Portland City Auditor
Hearings Office
1900 SW 4th Avenue, Room 3100, Portland, OR 97201
www.portlandoregon.gov/auditor/hearings
phone: (503) 823-7307
fax: (503) 823-4347

LU 24-017402 EN Hearings Office 4240007

RECORDER
Please stamp the County Recorder's copy of the recording sheet and return with the attached decision to City of Portland, BDS 299/4500/BDS LUR

Please bill City of Portland, Account #1113

Multnomah County Official Records
J.D. Riddle, Deputy Clerk

2024-031039
05/29/2024 08:54:11 AM
LUA-LUA Pgs=10 Stn=24 ATMB
$50.00 $11.00 $60.00
$121.00

Kimberly Tallant, Principal Planner

City of Portland
Bureau of Development Services
1900 SW Fourth Ave, #4500
Portland, OR 97201

Date: 5/29/24

Representative

Last date to Appeal:	**5/28/24**	**by 4:30 pm**
Effective Date (if no appeal):	**5/29/24**	Decision may be recorded on this date

***THIS RECORDED DOCUMENT ONLY INCLUDES EXCERPTS FROM THE DECISION.**

***A FULL COPY OF THE DECISION IS LOCATED ON THE BDS WEBSITE AT:**

https://www.portlandoregon.gov/bds/46429

Hearings Office
City of Portland
1900 SW 4th Avenue, Room 3100, Portland, OR 97201 phone: 503.823.7307
www.portland.gov/omf//hearings fax: 503.823.4347
email: HearingsOfficeClerks@portlandoregon.gov

DECISION OF THE HEARINGS OFFICER

File Number: LU 24-017402 EN (Hearings Office Case #4240007)

Applicant: Melissa Cowen
1001 Louisiana Street #1000
Houston, TX 77002

Property Owner: City of Portland | Parks & Recreation
Attn: Kendra Petersen-Morgan
1120 SW 5th Avenue #1302
Portland, OR 97204-1926

Hearings Officer: William Guzman

Bureau of Development Services (BDS) Staff Representative: Morgan Steele

Site Address: Multiple locations throughout Forest Park

Legal Description: TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W

Tax Account Number: R961140010, R961140020, R961140030

State ID Number: 1N1W14A 01200, 1N1W14A 01300, 1N1W14 00600

Quarter Section: 2219,2318,2319,2320, 2418,2419,2420

Neighborhood: Forest Park and Linnton

Business District: None

District Neighborhood Coalition: Neighbors West/Northwest

Plan District: Northwest Hills - Forest Park

Other Designations: *Natural Resources Inventory* – Resource Site FP16; Landslide Hazard Area; Wild Lands Fire Hazard

Zoning: *Base Zone:* Open Space (OS), *Overlay Zones*: Environmental Conservation (c), Environmental Protection (p)

Land Use Review: Type III, EN – Environmental Review

BDS Staff Recommendation to Hearings Officer: Approval with conditions.

Public Hearing: The hearing was opened at 1:31 p.m. on May 8, 2024, via the Zoom platform and was closed at 2:17 p.m. The record was closed at the end of the hearing.

Testified at the Hearing:
Morgan Steele, BDS planner
Rebecca Shell, AECOM
Andrew Holbrook, Kinder Morgan

Proposal: The Applicant is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (57 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The Applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, the Applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park's natural resources.

All joint sites are within the City's Environmental Conservation and Environmental Protection overlay zones within the City's *Forest Park Natural Resource Management Plan* (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

Relevant Approval Criteria: To be approved, this proposal must comply with the approval criteria of Title 33, Portland Zoning Code. The applicable approval criteria are:

- The "**Approval Criteria for Exceptions**" including criteria **A through E in Section B** on page 217 of the *Forest Park Natural Resources Management Plan*.
- Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in Zoning Code section **33.563.210 A, B, and C.**
- The proposal is also subject to the prohibition of clearing between October 1 and April 30 in section 33.563.200.

The Portland Zoning Code is available online at https://www.portland.gov/code/33.

Hearings Officer Decision: It is the decision of the Hearings Officer to adopt and incorporate into this decision the facts, findings, and conclusions of the Bureau of Development Services in their Staff Report and Recommendation to the Hearings Officer dated April 24, 2024, and to issue the following approval:

Approval of an Environmental Review for:

- An Exception to the Forest Park Natural Resources Management Plan to allow repair and maintenance of five joints along an existing underground pipeline within Forest Park; and
- Removal of 57 to 75 native trees over 6 inches (diameter at breast height);
- 39,060 square feet of temporary disturbance;

all within the Environmental Conservation and Environmental Protection overlay zones, and in substantial conformance with Exhibits C.1 through C.54. Approval is subject to the following conditions:

NOTE: Activities which expose soil to direct contact with stormwater between October 1 and April 30 are prohibited.

A. A Bureau of Development Services (BDS) Zoning Permit is required for inspection of required restoration plantings. The Conditions of Approval listed below shall be noted on appropriate plan sheets submitted for permits (building, Zoning, grading, Site Development, erosion control, etc.). Plans shall include the following statement, ***"Any field changes shall be in substantial conformance with approved LU 24-017402 EN Exhibits C.1 through C.54."***

The Zoning Permit shall not be finalized until the mitigation payment as required by Condition B below is paid.

B. Remittance must be made to Portland Parks and Recreation (PP&R) no later than one

month after the completion of construction activities to fund the mitigation described in Exhibit G.4. The payment will be based on the final tree removal amount and Table 1 below; the Applicant must provide a final inventory of tree removal on which to base the required payment amount. Further, the Applicant must provide a post-construction tree report from a certified arborist detailing the condition of the potential removal trees as shown in Exhibit A.4, Tree Protection Plan.

Table 1: Payment Breakdown for Tree Removal

<12"	**$675**
12-<20"	**$1,800**
20" or greater	**$450 per inch**

C. When potential removals are determined to be definite removals, this information must be communicated to the Portland Parks & Recreation (PP&R) arborist inspector and include documentation that justifies the removal. Any tree removal needs to be communicated within 48 hours. Tree 629, a 30-inch DBH Douglas fir near Joint 1600, must be preserved unless approved by the PP&R arborist. If root impacts are sufficient that tree mortality is a concern, the tree must be left intact to die naturally to create a wildlife snag unless approved by the PP&R arborist due to a safety concern to the construction project. Further, tree protection measures must also include the following:

1. All guidelines, tree protection plans, and specifications described in the project arborist's tree report shall be followed (Exhibit A.4).
2. Any pruning (either root or crown) shall be documented by the project arborist and submitted to Urban Forestry (Jason.Thaete@portlandoregon.gov).
3. Any changes to the tree protection plan shall be approved by Urban Forestry prior to work continuance.
4. If the project arborist determines retained trees undergo intolerable impacts, tree removal shall be approved by both Urban Forestry and the Bureau of Development Services prior to tree removal.
5. Either the contractor or the project arborist shall disclose any violations of the tree protection plan to Urban Forestry with 48 hours of the damage occurring.

D. Temporary, 4-foot high, bright orange construction fencing, silt fencing, straw wattles, or tree fencing shall be placed along the Limits of Disturbance as depicted on Exhibits C.21 to C.37, Construction Management Plan, to separate approved construction areas from areas to remain undisturbed.

1. All measures provided for sediment control, including sediment fencing, shall be placed inside of the approved "Limits of Construction Disturbance," delineated by the temporary construction fence.
2. No mechanized construction vehicles are permitted outside of the approved "Limits of Disturbance" delineated by the temporary construction fence. All planting work,

invasive vegetation removal, and other work to be done outside the Limits of Construction Disturbance shall be conducted using handheld equipment.

3. Trees shall be protected according to tree protection measures provided in Title 11 Tree Code, Chapter 11.60.030 Tree Protection Specifications, or as specifically depicted on Exhibit A.4, Tree Protection Plan.
4. Rolled non-synthetic erosion control fabrics must be installed on slopes greater than 10 percent. When slopes are greater than 30 percent, wattles with non-synthetic netting must be installed in addition to erosion control fabrics every 15 feet. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response to Portland Parks & Recreation for approval.

E. The Applicant shall obtain a Bureau of Development Services (BDS) Zoning Permit for approval and inspection of a restoration plan for a total of 50 new shrubs in addition to salvaged and replanted shrubs (Joints 1300, 1600, 1670, and 1680) in substantial conformance with Exhibits A.1 and C.38 to C.54, Restoration Plans. Any plant substitutions shall be selected from the *Portland Plant List* and shall be substantially equivalent in size to the original plant.

1. Permit plans shall show:
   a. The location of the trees, shrubs, and ground covers required by this condition to be planted in the restoration area and labeled as "new required landscaping." The plans shall be to scale and shall illustrate a naturalistic arrangement of plants and should include the location, species, quantity, and size of plants to be planted.
   b. The Applicant shall indicate on the plans selection of either tagging plants for identification or accompanying the BDS inspector for an on-site inspection.
2. Plantings shall be installed between October 1 and March 31 (the planting season).
3. Prior to installing required plantings, non-native invasive plants shall be removed from all areas within 10 feet of plantings, using handheld equipment.
4. If plantings are installed prior to completion of construction, a temporary bright orange, 4-foot high construction fence shall be placed to protect plantings from construction activities.
5. After installing the required restoration plantings, the Applicant shall request inspection of the plantings and finalize the BDS Zoning Permit.
6. All shrubs and trees shall be marked in the field by a tag attached to the top of the plant for easy identification by the City Inspector; or the Applicant shall arrange to accompany the BDS inspector to the site to locate plantings for inspection. If tape is used, it shall be a contrasting color that is easily seen and identified.

F. The Applicant shall monitor the required plantings for two years to ensure survival and replacement as described below. The Applicant is responsible for ongoing survival of required plantings beyond the designated two-year monitoring period.

1. Prior to issuance of the Bureau of Development Services Zoning Permit, the Applicant must submit and pay fees for review of the Landscape Monitoring Reports required below.
2. After installation and inspection of the initial restoration plantings, the Applicant must submit two annual monitoring and maintenance reports for review and approval to the Land Use Services Division of the Bureau of Development Services containing the monitoring information described below. Submit the first report within 12 months following the final inspection approval of the permit required under Condition A. Submit a second report 12 months following the date of the first monitoring report. Monitoring reports shall contain the following information:
   a. A count of the number of planted shrubs that have died. One replacement shrub must be planted for each dead shrub (replacement must occur within one planting season).
   b. The percent coverage of ground covers. If less than 80 percent of the mitigation planting area is covered with groundcovers at the time of the annual count, additional groundcovers shall be planted to reach 80 percent cover (replacement must occur within one planting season).
   c. A list of replacement plants that were installed.
   d. Photographs of the restoration area and a site plan, in conformance with approved Exhibits C.38 – C.54, Restoration Plan, showing the location and direction of photos.
   e. An estimate of percent cover of invasive species (ivy, blackberry, reed canarygrass, teasel, clematis) within 10 feet of all plantings. Invasive species must not exceed 15 percent cover during the monitoring period.

G. Failure to comply with any of these conditions may result in the City's reconsideration of this land use approval pursuant to Portland Zoning Code Section 33.700.040 and/or enforcement of these conditions in any manner authorized by law.

Basis for the Decision: BDS Staff Report in LU 24-017402 EN (Hearings Office case number 4240007), Exhibits A.1 through H.7, and the hearing testimony from those listed above.

William Guzman

William Guzman, Hearings Officer

May 14, 2024

Date

Application Determined Complete: March 20, 2024
Report to Hearings Officer: April 26, 2024

Decision Mailed: May 14, 2024
Last Date to Appeal: 4:30 p.m., May 28, 2024
Effective Date (if no appeal): May 29, 2024

Conditions of Approval. This project may be subject to a number of specific conditions, listed above. Compliance with the applicable conditions of approval must be documented in all related permit applications. Plans and drawings submitted during the permitting process must illustrate how applicable conditions of approval are met. Any project elements that are specifically required by conditions of approval must be shown on the plans and labeled as such.

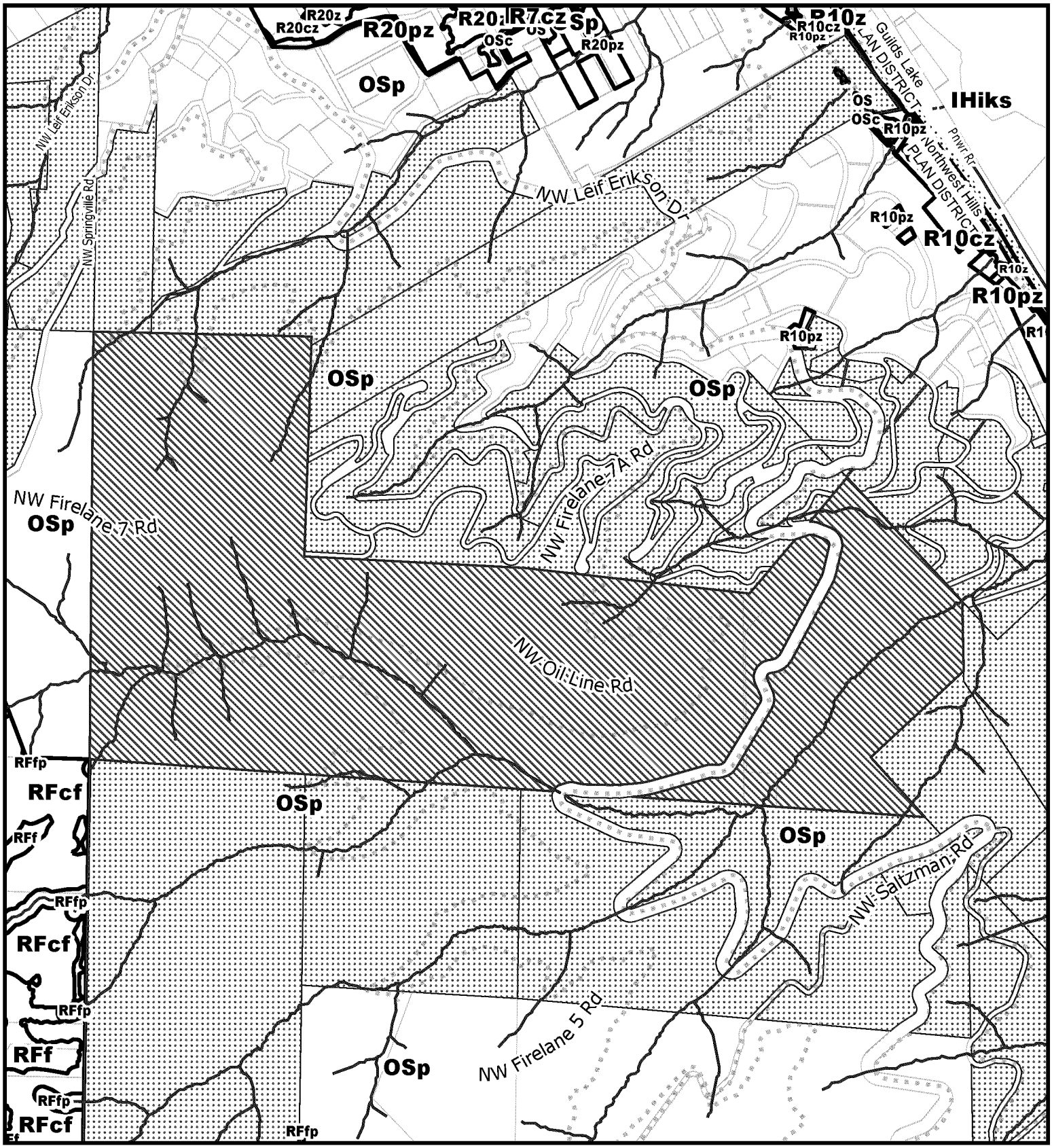
These conditions of approval run with the land, unless modified by future land use reviews. As used in the conditions, the term "applicant" includes the applicant for this land use review, any person undertaking development pursuant to this land use review, the proprietor of the use or development approved by this land use review, and the current owner and future owners of the property subject to this land use review.

Appeal of the decision. ANY APPEAL OF THE HEARINGS OFFICER'S DECISION MUST BE E-MAILED TO LANDUSEINTAKE@PORTLANDOREGON.GOV. The appeal application form can be accessed at : Land Use Review Appeals, Land Use Review Appeal Costs and Appeal Fee Waivers | Portland.gov. If you do not have access to e-mail, please telephone (503) 865-6744 for assistance on how to submit the appeal; please allow one business day for staff to respond. **An appeal fee of $5,789.00 will be charged.**

Who can appeal: You may appeal the decision only if you wrote a letter which is received before the close of the record on hearing or if you testified at the hearing, or if you are the property owner or applicant. If you or anyone else appeals the decision of the Hearings Officer, only evidence previously presented to the Hearings Officer will be considered by the City Council.

Appeal Fee Waivers: Neighborhood associations recognized by the Office of Community & Civic Life may qualify for a waiver of the appeal fee provided that the association has standing to appeal. The appeal must contain the signature of the Chairperson or other person authorized by the association, confirming the vote to appeal was done in accordance with the organization's bylaws.

Neighborhood associations, who wish to qualify for a fee waiver, must complete the Type III Appeal Fee Waiver Request for Organizations Form and submit it prior to the appeal deadline. The Type III Appeal Fee Waiver Request for Organizations Form contains instructions on how to apply for a fee waiver, including the required vote to appeal.



For Zoning Code in Effect Post October 1, 2022

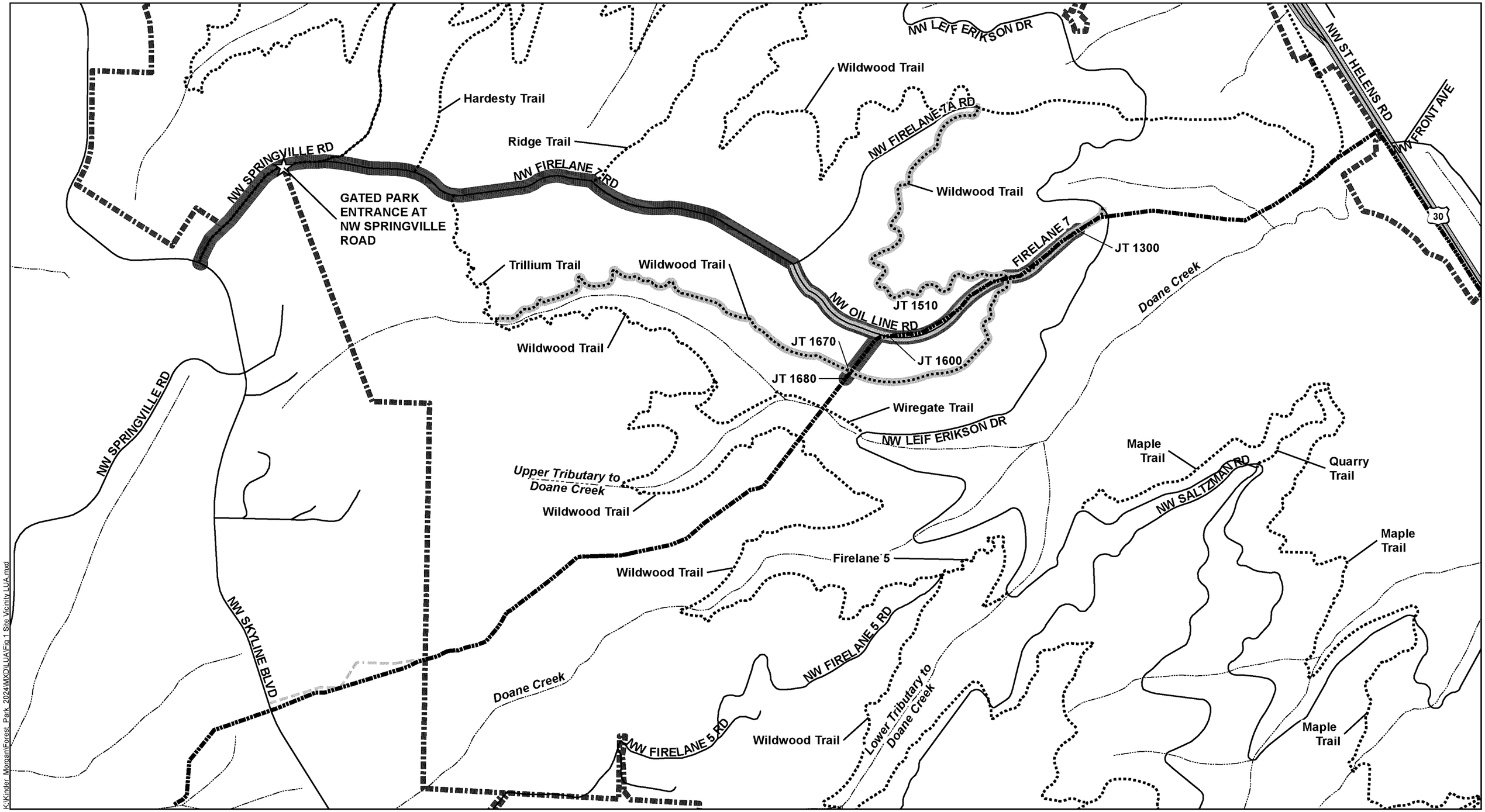
ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Stream
- Recreational Trails

File No. LU 24 - 017402 EN
1/4 Section Multiple
Scale 1 inch =800 feet
State ID 1N1W14A 1200
Exhibit B Feb 26, 2024

Portland Hearings Office
Case #LU 24-017402EN
Bureau Case #LU 24-017402EN
Exhibit #4
Page 25 of 26



K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 1 Site Vicinity LUA.mxd

LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 600 1,200 Feet

FIGURE 1: SITE VICINITY, CONSTRUCTION ACCESS, AND TRAIL CLOSURE

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

Portland Hearings Office
Case #LU 24-017402 EN
Exhibit #4
Page 26 of 26

LU 24-017402 EN

LU 24-017402 EN | Exhibit C.1

Hearings Office
City of Portland
1900 SW 4th Avenue, Room 3100, Portland, OR 97201
www.portland.gov/omf//hearings
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DECISION OF THE HEARINGS OFFICER

File Number: LU 24-017402 EN (Hearings Office Case #4240007)

Applicant: Melissa Cowen
1001 Louisiana Street #1000
Houston, TX 77002

Property Owner: City of Portland | Parks & Recreation
Attn: Kendra Petersen-Morgan
1120 SW 5th Avenue #1302
Portland, OR 97204-1926

Hearings Officer: William Guzman

Bureau of Development Services (BDS) Staff Representative: Morgan Steele

Site Address: Multiple locations throughout Forest Park

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State ID Number: 1N1W14A 01200, 1N1W14A 01300, 1N1W14 00600

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The Zoning Permit shall not be finalized until the mitigation payment as required by Condition B below is paid.

B. Remittance must be made to Portland Parks and Recreation (PP&R) no later than one

month after the completion of construction activities to fund the mitigation described in Exhibit G.4. The payment will be based on the final tree removal amount and Table 1 below; the Applicant must provide a final inventory of tree removal on which to base the required payment amount. Further, the Applicant must provide a post-construction tree report from a certified arborist detailing the condition of the potential removal trees as shown in Exhibit A.4, Tree Protection Plan.

Table 1: Payment Breakdown for Tree Removal

<12"	$675
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20" or greater	$450 per inch

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D. Temporary, 4-foot high, bright orange construction fencing, silt fencing, straw wattles, or tree fencing shall be placed along the Limits of Disturbance as depicted on Exhibits C.21 to C.37, Construction Management Plan, to separate approved construction areas from areas to remain undisturbed.

1. All measures provided for sediment control, including sediment fencing, shall be placed inside of the approved "Limits of Construction Disturbance," delineated by the temporary construction fence.
2. No mechanized construction vehicles are permitted outside of the approved "Limits of Disturbance" delineated by the temporary construction fence. All planting work,

invasive vegetation removal, and other work to be done outside the Limits of Construction Disturbance shall be conducted using handheld equipment.

3. Trees shall be protected according to tree protection measures provided in Title 11 Tree Code, Chapter 11.60.030 Tree Protection Specifications, or as specifically depicted on Exhibit A.4, Tree Protection Plan.
4. Rolled non-synthetic erosion control fabrics must be installed on slopes greater than 10 percent. When slopes are greater than 30 percent, wattles with non-synthetic netting must be installed in addition to erosion control fabrics every 15 feet. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response to Portland Parks & Recreation for approval.

E. The Applicant shall obtain a Bureau of Development Services (BDS) Zoning Permit for approval and inspection of a restoration plan for a total of 50 new shrubs in addition to salvaged and replanted shrubs (Joints 1300, 1600, 1670, and 1680) in substantial conformance with Exhibits A.1 and C.38 to C.54, Restoration Plans. Any plant substitutions shall be selected from the *Portland Plant List* and shall be substantially equivalent in size to the original plant.

1. Permit plans shall show:
   a. The location of the trees, shrubs, and ground covers required by this condition to be planted in the restoration area and labeled as "new required landscaping." The plans shall be to scale and shall illustrate a naturalistic arrangement of plants and should include the location, species, quantity, and size of plants to be planted.
   b. The Applicant shall indicate on the plans selection of either tagging plants for identification or accompanying the BDS inspector for an on-site inspection.
2. Plantings shall be installed between October 1 and March 31 (the planting season).
3. Prior to installing required plantings, non-native invasive plants shall be removed from all areas within 10 feet of plantings, using handheld equipment.
4. If plantings are installed prior to completion of construction, a temporary bright orange, 4-foot high construction fence shall be placed to protect plantings from construction activities.
5. After installing the required restoration plantings, the Applicant shall request inspection of the plantings and finalize the BDS Zoning Permit.
6. All shrubs and trees shall be marked in the field by a tag attached to the top of the plant for easy identification by the City Inspector; or the Applicant shall arrange to accompany the BDS inspector to the site to locate plantings for inspection. If tape is used, it shall be a contrasting color that is easily seen and identified.

F. The Applicant shall monitor the required plantings for two years to ensure survival and replacement as described below. The Applicant is responsible for ongoing survival of required plantings beyond the designated two-year monitoring period.

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   a. A count of the number of planted shrubs that have died. One replacement shrub must be planted for each dead shrub (replacement must occur within one planting season).
   b. The percent coverage of ground covers. If less than 80 percent of the mitigation planting area is covered with groundcovers at the time of the annual count, additional groundcovers shall be planted to reach 80 percent cover (replacement must occur within one planting season).
   c. A list of replacement plants that were installed.
   d. Photographs of the restoration area and a site plan, in conformance with approved Exhibits C.38 – C.54, Restoration Plan, showing the location and direction of photos.
   e. An estimate of percent cover of invasive species (ivy, blackberry, reed canarygrass, teasel, clematis) within 10 feet of all plantings. Invasive species must not exceed 15 percent cover during the monitoring period.

G. Failure to comply with any of these conditions may result in the City's reconsideration of this land use approval pursuant to Portland Zoning Code Section 33.700.040 and/or enforcement of these conditions in any manner authorized by law.

Basis for the Decision: BDS Staff Report in LU 24-017402 EN (Hearings Office case number 4240007), Exhibits A.1 through H.7, and the hearing testimony from those listed above.

William Guzman

William Guzman, Hearings Officer

May 14, 2024

Date

Application Determined Complete: March 20, 2024
Report to Hearings Officer: April 26, 2024

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Last Date to Appeal: 4:30 p.m., May 28, 2024
Effective Date (if no appeal): May 29, 2024

Conditions of Approval. This project may be subject to a number of specific conditions, listed above. Compliance with the applicable conditions of approval must be documented in all related permit applications. Plans and drawings submitted during the permitting process must illustrate how applicable conditions of approval are met. Any project elements that are specifically required by conditions of approval must be shown on the plans and labeled as such.

These conditions of approval run with the land, unless modified by future land use reviews. As used in the conditions, the term "applicant" includes the applicant for this land use review, any person undertaking development pursuant to this land use review, the proprietor of the use or development approved by this land use review, and the current owner and future owners of the property subject to this land use review.

Appeal of the decision. ANY APPEAL OF THE HEARINGS OFFICER'S DECISION MUST BE E-MAILED TO LANDUSEINTAKE@PORTLANDOREGON.GOV. The appeal application form can be accessed at : Land Use Review Appeals, Land Use Review Appeal Costs and Appeal Fee Waivers | Portland.gov. If you do not have access to e-mail, please telephone (503) 865-6744 for assistance on how to submit the appeal; please allow one business day for staff to respond. **An appeal fee of $5,789.00 will be charged.**

Who can appeal: You may appeal the decision only if you wrote a letter which is received before the close of the record on hearing or if you testified at the hearing, or if you are the property owner or applicant. If you or anyone else appeals the decision of the Hearings Officer, only evidence previously presented to the Hearings Officer will be considered by the City Council.

Appeal Fee Waivers: Neighborhood associations recognized by the Office of Community & Civic Life may qualify for a waiver of the appeal fee provided that the association has standing to appeal. The appeal must contain the signature of the Chairperson or other person authorized by the association, confirming the vote to appeal was done in accordance with the organization's bylaws.

Neighborhood associations, who wish to qualify for a fee waiver, must complete the Type III Appeal Fee Waiver Request for Organizations Form and submit it prior to the appeal deadline. The Type III Appeal Fee Waiver Request for Organizations Form contains instructions on how to apply for a fee waiver, including the required vote to appeal.

Assistance in filing the appeal and information on fee waivers are available from the Bureau of Development Services website: https://www.portland.gov/bds/zoning-land-use/land-use-review-fees-and-types/appeals-fees-and-fee-waivers.

Recording the final decision.
If this land use review is approved the final decision will be recorded with the County Recorder. *Unless appealed,* the final decision will be recorded by the Bureau of Development Services.

Expiration of this approval. Generally, land use approvals (except Comprehensive Plan and Zoning Map Amendments) expire five years from the date of the final decision unless one of the actions below has occurred (see Zoning Code Section 33.730.130 for specific expiration rules):

- A City permit has been issued for the approved development,
- The approved activity has begun (for situations not requiring a permit), or

In situations involving only the creation of lots, the final plat must be submitted within three years.

Where a site has received approval for multiple developments, and a building permit is not issued for all of the approved development within seven years of the date of the final decision, a new land use review will be required before a permit will be issued for the remaining development, subject to the Zoning Code in effect at that time.

Zone Change and Comprehensive Plan Map Amendment approvals do not expire.

Applying for permits. A building permit, occupancy permit, or development permit may be required before carrying out an approved project. At the time they apply for a permit, permittees must demonstrate compliance with:

- All conditions imposed herein;
- All applicable development standards, unless specifically exempted as part of this land use review;
- All requirements of the building code; and
- All provisions of the Municipal Code of the City of Portland, and all other applicable ordinances, provisions, and regulations of the City.

EXHIBITS RECEIVED IN THE HEARINGS OFFICE – *SEE NEXT PAGE*

(NOT ATTACHED UNLESS INDICATED)

The exhibits in the land use case file are all assigned a letter (example A-1). The Hearings Office accepts exhibits filed online in its case management system. These exhibits are marked in the lower right hand corner that identifies the exhibit as a "Portland Hearings Office" exhibit. All of these exhibits are designated "H Exhibits" (that is, Hearings Office Exhibits). See the BDS Staff Report for a list of exhibits prior to "H."

Hearing Office
City of Portland
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fax: 503.823.4347

Exhibits, Orders, and Other Attachments

Number	Title	Status
Exhibit 1	Land Use Hearing Intake Form	Accepted
Exhibit 2	Hearing Participation Information	Accepted
Exhibit 3	Land Use Hearing Scheduled Info.	Accepted
Exhibit 4 (attached)	STAFF REPORT	Accepted
Exhibit 5	Farrell Email	Accepted
Exhibit 6	STAFF PRESENTATION	Accepted
Exhibit 7	Record Closing Information	Accepted

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

STAFF REPORT AND RECOMMENDATION TO THE HEARINGS OFFICER

CASE FILE: LU 24-017402 EN
PC # 23-108454
HEARINGS OFFICE FILE # 4240007
REVIEW BY: Hearings Officer
WHEN: May 8, 2024, 1:30pm

This land use hearing will take place online using the Zoom platform. See the instructions on how to participate remotely (online or by phone) at this link: https://www.portland.gov/bds/zoning-land-use/events/2024/5/8/notice-land-use-hearing-lu-24-017402-en or contact the Hearings Office at HearingsOfficeClerks@portlandoregon.gov or 503-823-7307. Additional Hearings Office information is available at www.portland.gov/omf/hearings/land-use.

It is important to submit all evidence to the Hearings Officer. City Council will not accept additional evidence if there is an appeal of this proposal.

BUREAU OF DEVELOPMENT SERVICES STAFF: MORGAN STEELE / MORGAN.STEELE@PORTLANDOREGON.GOV

GENERAL INFORMATION

Applicant: Melissa Cowen | Sfpp Lp
1001 Louisiana St #1000 | Houston, TX 77002

Owner: City of Porltand | Parks & Recreation
Attn: Kendra Petersen-Morgan
1120 SW 5th Avenue #1302 | Portland, OR 97204-1926

Representative: Rebecca Shell | AECOM
888 SW 5th Avenue #600 | Portland, OR 97204
732.690.9933 | Rebecca.Shell@aecom.com

Site Address: Multiple locations throughout Forest Park

Legal Description: TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W
Tax Account No.: R961140010, R961140020, R961140030
State ID No.: 1N1W14A 01200, 1N1W14A 01300, 1N1W14 00600
Quarter Section: 2219,2318,2319,2320, 2418,2419,2420

Neighborhood: Forest Park, contact Jerry Grossnickle at landuse@forestparkneighbors.org & Linnton, contact Sarah Taylor at sarahsojourner@mac.com
Business District: None
District Coalition: Neighbors West/Northwest, contact Darlene Urban Garrett at darlene@nwnw.org
Plan District: Northwest Hills - Forest Park

Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #4
Page 1 of 26

Other Designations:	*Natural Resources Inventory* – Resource Site FP16; Landslide Hazard Area; Wild Lands Fire Hazard
Zoning:	*Base Zone:* Open Space (OS) *Overlay Zones*: Environmental Conservation (c), Environmental Protection (p)
Case Type:	EN – Environmental Review
Procedure:	Type III, with a public hearing before the Hearings Officer. The decision of the Hearings Officer can be appealed to City Council.

Proposal:
The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (57 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, the applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park's natural resources.

All joint sites are within the City's Environmental Conservation and Environmental Protection overlay zones within the City's *Forest Park Natural Resource Management Plan* (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

Approval Criteria:
To be approved, this proposal must comply with the approval criteria of Title 33, Portland Zoning Code. The applicable approval criteria are:

- The "**Approval Criteria for Exceptions**" including criteria **A through E in Section B** on page 217 of the *Forest Park Natural Resources Management Plan*
- Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in Zoning Code section **33.563.210 A, B, and C.**
- The proposal is also subject to the prohibition of clearing between October 1 and April 30 in section 33.563.200.

The Portland Zoning Code is available online at https://www.portland.gov/code/33.

ANALYSIS

Site and Vicinity: The pipeline crosses Forest Park about one-half mile south of the St. John's Bridge in Northwest Portland. The project area consists of an approximately 20-foot wide, 1.8-mile-long corridor extending southwest from the intersection of NW St. Helens Road/US Highway 30 and NW Front Avenue, across Forest Park, to NW Skyline Boulevard just north of NW Saltzman Road.

All five joint repair locations are within the Willamette River watershed and vegetated by a mixed upland coniferous and deciduous forest. The repair locations and surrounding area are characterized by predominantly hilly terrain. There are no

flood hazard areas mapped by the Federal Emergency Management Agency at the repair locations, and none of the repair locations are near a stream or associated flood zone. Based on review of the National Wetland Inventory (USFWS 2023) and site visits, no wetlands are present at or adjacent to these locations. All proposed repair work would occur within forested areas of the Doane Creek watershed; however, all repair locations are along upland slopes or ridges and are not adjacent to Doane Creek or any of its tributaries.

Zoning: The site is within Portland's Open Space (OS) base zone, as well as the Environmental Conservation (c) and Environmental Protection (p) overlay zones, and the Northwest Hills Plan District. All joint sites are also within Portland's *Forest Park Natural Resources Management Plan* area, which has specific environmental and open space regulations unique to Forest Park.

The Open Space base zone is intended to preserve public and private open and natural areas to provide opportunities for outdoor recreation and a contrast to the built environment, preserve scenic qualities and the capacity and water quality of the stormwater drainage system, and to protect sensitive or fragile environmental areas. No new uses are proposed within the OS base zone and the provisions of the zone do not apply to the proposal for repair of the existing pipeline. The OS zone regulations are therefore not addressed through this Environmental Review.

Environmental overlay zones protect environmental resources and functional values that have been identified by the City as providing benefits to the public. The environmental regulations encourage flexibility and innovation in site planning and provide for development that is carefully designed to be sensitive to the site's protected resources. They protect the most important environmental features and resources while allowing environmentally sensitive urban development where resources are less sensitive. The purpose of this land use review is to ensure compliance with the regulations of the Environmental Zones.

The Northwest Hills Plan District protects sites with sensitive and highly valued resources and functional values. The portions of the plan district that include the Balch Creek Watershed and the Forest Park Subdistrict contain unique, high quality resources and functional values that require additional protection beyond that of the Environmental Zone. These regulations provide the higher level of protection necessary for the plan district area and are addressed in this land use review.

The *Forest Park Natural Resources Management Plan* presents a set of goals and actions designed to guide management of natural resources and recreational uses. With preservation of natural resources as a primary goal, the plan recognizes that Forest Park is threatened by overuse unless recreational activities are actively managed and directed. The plan is a multi-purpose plan designed to identify and assess Forest Park natural resources; identify impacts to Forest Park natural resources; prescribe how to protect and enhance Forest Park natural resources; identify appropriate forms and levels of recreation and education for Forest Park; monitor natural resources and provide day to day management and public information; and satisfy the City's criteria for Natural Resource Management Plans. The purpose of this land use review is to ensure compliance with the Plan.

Environmental Resources: The application of the environmental overlay zones is based on detailed studies that have been carried out within eight separate areas of the City. Environmental resources and functional values present in Environmental Zones are described in environmental inventory reports for these study areas.

The project sites are mapped within the *Forest Park and Northwest District Natural Resources Inventory* within Resource Sites FP16, Doane Creek Watershed. Resources identified within these sites are generally similar and include year-round creeks, their headwaters, wildlife habitat, sensitive fauna, forest, open space, and groundwater resources. Identified habitat types include upland coniferous/broadleaf deciduous forest; riverine, intermittent streambed; and seasonally flooded.

Applicant's Statement: The applicant offers the following regarding the purpose and need for the project:

The purpose of the proposed project is to maintain the integrity and functionality of the existing Kinder Morgan pipeline within Forest Park by repairing anomalies near pipeline joints 1300, 1510, 1600, 1670, and 1680. The overall goal of the project is to ensure the long-term structural integrity of the pipeline while minimizing the number of times that construction will occur within Forest Park over the next decade. The following objectives are associated with the project:

Objective 1: Repair pipeline anomalies such that the return interval for future pipeline repairs and associated habitat disturbances are reduced.

Objective 2: Limit environmental encroachment to the maximum extent practicable during construction associated with pipeline anomaly repairs.

Impact Analysis and Mitigation Plan: A description of the proposal was provided on page two of this report. The following discusses development alternatives other than the one proposed, that were considered by the applicant. The following additionally describes the proposed construction management plan and mitigation proposal.

Development Alternatives:
The applicant provided a detailed alternatives analysis evaluation in their application case file (Exhibit A.1). The applicant evaluated the following pipeline repair and replacement approaches including equipment access and considered the anticipated benefits and limitations associated with each alternative.

Joint 1300 Construction Access:
As access to Joint 1300 from the Joint 1510 site would require removal of several live trees along Oil Line Road (which becomes very narrow in this area) for safe maneuvering of construction equipment, the Bureau of Development Services (BDS) City planner requested that SFPP look at an alternative route to access this site during the pre-application meeting for this project.

The applicant therefore explored two alternatives, Alternatives 1A and 1B, and reviewed their ability to meet the project objectives listed above, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs. Alternative 1A would access the Joint 1300 repair location from the Joint 1510 location on Oil Line Road, and Alternative 1B would access the Joint 1300 repair location from the east via NW Leif Erikson Drive. Both alternatives would access Joints 1600 and 1510 via Firelane 7 and Oil Line Road, which is already predominantly cleared of trees to this point, and Joints 1670/1680 via vegetation clearing in an area downslope from Joint 1600.

Table 1. Alternatives 1A and 1B Evaluation

Alternative	Objectives		Description	Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact		
1A: Access to Joint 1300 from NW Springville Road via Firelane 7/Oil Line Road	Meets	Meets	Access to Joint 1300 location would be along Oil Line Road, continuing east from Joint 1510.	This alternative would use park roads that are predominantly cleared of trees. However, this alternative would require removal of 27 live trees and potential removal of an additional 2 live trees[1] along Oil Line Road between the Joint 1510 and 1300 sites, where Oil Line Road is significantly narrower. Between the Joint 1510 and 1300 sites, Oil Line Road follows a flat to gently sloping ridgeline; therefore, no steep slope protection measures would be necessary along this access route. The understory vegetation in this route is not densely populated with groundcover forbs or ferns. Minimal to no salvage and replanting of ferns is anticipated to be required along this access route. This alternative would require closure of Fire Lane 7/Oil Line Road during access to all joints for a length of time of approximately 7.5 weeks (**Table 6**). This alternative meets Objective 1 (repair pipeline anomalies) and Objective 2 (limit environmental impact), as potential long-term erosion control issues would be minimal compared to Alternative 1B.
1B: Access to Joint 1300 from NW Leif	Meets	Does Not Meet	Access to Joint 1300 site would be from NW Leif Erikson Drive. As NW Leif Erikson Drive does not	Clearing of the 270-foot-long path to access Joint 1300 from NW Leif Erikson Drive would require removal of six trees and a large swath of ferns on a steep slope. A winch dozer would be needed to maneuver equipment up the steep slope to access Joint 1300 from NW Leif

Alternative	Objectives		Description	Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact		
Erikson Drive			directly abut the anomaly at Joint 1300, a path approximately 270 feet long through a forested area with a 41% slope would need to be cleared to connect the access road to the work site.	Erikson Drive; for safe operation, this winch dozer would require an area approximately 625 square feet just outside the Joint 1300 excavation site to be cleared of vegetation and graded. This option would expose soils and plant roots on a steep slope with high landslide risk, which would likely result in erosion concerns in the short- and long-term time frames. Additionally, the many exposed roots of plants adjacent to the cleared area would be at risk of damage from heavy equipment even with protective woodchips, which would be difficult to keep in position on a slope of this angle. This alternative would require closure of Fire Lane 7/Oil Line Road during access to all joints for a length of time of approximately 6.5 weeks and an additional closure of NW Leif Erickson Road for approximately 3 weeks. This is a more extensive and longer overall trail/road closure period than under Alternative 1A for all work planned in 2024. This alternative meets Objective 1 (repair pipeline anomalies) but does not meet Objective 2 (limit environmental impact), as erosion control issues on the steep slope are anticipated to have a greater long-term environmental impact at the site than the greater number of tree removals under Alternative 1A.

[1] Total does not include trees to be removed for excavation and equipment staging at the Joint 1300 pipeline repair location.

As indicated by the discussion in Table 3**,** Alternative 1A is the preferred alternative, as it satisfies both Objectives 1 and 2. Additionally, since it is possible that pipeline repairs could be required in future years on the portion of Oil Line Road between Joints 1510 and 1300, clearing of trees in this area may eventually be required even if Alternative 1A is not selected at this time.

Alternatives 2A and 2B: Definite vs. Potential Tree Removal:

Existing trees would require removal (e.g., felling) to enable access to and excavation of the proposed anomalies during repair work. Information on the location, species, and diameter at breast height of trees along the access route and near all joints has been completed by certified arborists from Sav-A-Tree. This assessment also included a field determination in coordination with construction contractor personnel of which trees would need to be removed for equipment access along the access route (Firelane 7 and Oil Line Road) and for excavation at all pipeline repair locations. The assessment by Sav-a-Tree also included a follow-up site visit with Urban Forestry on December 11, 2023, to verify identification of definite and potential tree removals.

It has been determined that a total of 57 trees would inhibit proposed anomaly repair work by blocking vehicle/equipment access to repair locations and/or by being located within proximity to anomaly locations that would require excavation. A total of 17 trees would potentially inhibit proposed anomaly repair work given the likelihood that their root systems would overlap with anomaly excavation locations (per root protection zone calculations). Determining whether these 17 trees would require removal would depend on two factors: 1) the actual length of the excavation trench (assumed at a maximum of 50 feet long for permitting purposes but determined upon examination of the anomaly severity after initial excavation), and 2) the actual root system overlap of the trees with the excavation area (that can only be determined after excavation begins).

There are two alternative approaches to address these tree removals. Alternative 2A would involve preemptively removing all trees that would definitely or potentially inhibit proposed anomaly repair work. Preemptive removal indicates removal during the vegetation clearing stage of work (prior to excavation work). Alternative 2B would involve preemptively removing only the 57 trees that would definitely inhibit proposed anomaly repair work as described above. The 17 trees flagged as potentially inhibiting proposed anomaly work would only be removed as needed on a case-by-case basis while excavation progresses, and the actual extent of their root systems can be examined by an on-site arborist.

Table 4 identifies Alternatives 2A and 2B, their ability to meet the project objectives listed above, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs.

Table 2. Alternatives 2A and 2B Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact	
2A: Preemptive Removal of All Trees with Potential to Inhibit Anomaly Repair Work	Meets	Does Not Meet	This alternative involves removal of 75 trees with potential to inhibit anomaly repair work prior to excavation. While preemptive removal of all 75 trees could expedite the construction timeline (by avoiding the need to pause excavation, as described under Alternative 2B), up to 17 of the 75 trees may not require removal if they are not ultimately impacted by excavation. Therefore, this alternative would likely result in the unnecessary removal of multiple trees. Forest cover functions to protect watershed resources, wildlife habitat, and open space, scenic, and recreational resources. Unnecessary reduction in the forest cover would impact the ability of the area to maintain these functional values and would also result in reduced shade, thereby altering microclimate regulation and existing understory vegetation. Per the project-specific Fire Prevention Measures included in the Fire Prevention Plan (Exhibit A.2), all downed wood from felled trees must be hauled away and disposed of off-site, thereby reducing the capability of removed trees to provide habitat as downed logs or woody debris. Therefore, this alternative meets Objective 1 (repair pipeline anomalies) but does not meet Objective 2 (limit environmental impact).
2B: Preemptive Removal of Only Trees with Definite Potential to Inhibit Anomaly Repair Work (and Removing Other Trees As Needed During Excavation)	Meets	Meets	This alternative involves removal of 57 trees flagged for definite removal prior to excavation. The remaining 17 trees with potential to impact anomaly repair would be removed as needed during excavation based on the extent of excavation and their actual root system overlap with the excavation trench (determined by the on-site arborist). This alternative could delay the construction schedule slightly (as excavation must pause each time a tree must be removed). However, avoidance of unnecessary tree removals would help preserve the site's existing resources and functional values associated with forest cover, as described above, to the maximum extent practicable while repairing pipeline anomalies. Therefore, this alternative meets Objective 1 (repair pipeline anomalies) and Objective 2 (limit environmental impact).

As indicated by the discussion in Table 4, Alternative 2B is the preferred alternative, as it satisfies both Objectives 1 and 2 listed above.

Alternatives 3A and 3B: Hand Excavation vs. Mechanized Excavation on Steep Slopes:

Anomaly repairs near Joints 1300, 1670, and 1680 are located on a steep (35–52 percent) slopes. These slopes are densely vegetated with trees and ferns. There are two potential approaches to excavate the existing pipeline and conduct anomaly repairs on steep slopes. Alternative 3A would involve hand excavation (i.e., the use of non-mechanized tools like shovels) to excavate the work areas. Alternative 3B would involve using mechanized excavation to repair the anomalies.

Table 5 identifies Alternatives 3A and 3B, their ability to meet the project objectives listed above, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs.

Table 3. Alternatives 3A and 3B Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact	
3A: Hand Excavation of Anomalies on Steep Slopes	Does Not Meet	Does Not Meet	This alternative involves hand excavation of the anomalies located on the steep slopes near Joints 1300, 1670, and 1680. Because no mechanized equipment would be used for excavation, vegetation, and soil disturbance around the trench during excavation would be limited to workers walking up and down the slope rather than heavy machinery running up and down the slope. Limiting vegetation and soil disturbance would help preserve the resources and functional values present on the site, including but not limited to preserving wildlife habitat. However, once excavation is complete, repair of the exposed anomaly would likely require the transportation of heavy equipment up and down the slope along the trench, thereby requiring a pathway cleared of trees and ferns like what would be required for a mechanized excavator. Additionally, given that these steep slopes are primarily composed of tough bedrock, hand excavation would take much longer than mechanized excavation, thereby leaving soil and an open trench exposed on a slope for a longer period when compared with mechanized excavation. There is also potential for hand excavation on a steep slope to simply not include enough force to break through bedrock to reach certain anomalies for repair, thereby requiring a mechanized excavator to be brought to the site to complete the job. Therefore, this alternative is not guaranteed to satisfy Objective 1 (repair proposed anomalies) in an efficient manner. The potential of this alternative to leave soil exposed for longer periods of time, and possibly require returning to the site with mechanized excavators if bedrock proves too tough, offsets any environmental benefit from minimizing soil disturbance during the excavation period of repair work. Therefore, this alternative would not satisfy Objective 2 (limit environmental impact).
3B: Mechanized Excavation of Anomalies on Steep Slopes	Meets	Meets	This alternative involves mechanized excavation of the anomalies located on the steep slopes near Joints 1300, 1670, and 1680. Although using heavy machinery on the steep slopes would disturb soil, mechanized excavation would expedite excavation so that soil exposure on a slope is minimized. Therefore, this alternative would satisfy Objective 1 (repair proposed anomalies) in an efficient manner while minimizing soil and vegetation disturbance to the maximum extent practicably, thereby satisfying Objective 2 (limit environmental impact).

As indicated by the discussion in Table 5, Alternative 3B is the preferred alternative, as it satisfies both Objectives 1 and 2.

Construction Management Plan (CMP):

Anomaly repair would begin by marking the limits of temporary disturbance with bright flagging and/or orange construction fencing. Temporary disturbance areas would include vegetation clearing areas; excavation areas; areas used for construction access, equipment movement, vehicle parking, and staging; and spoils (i.e., excavation material) storage areas. Trees identified for definite removal and potential removal would be flagged with two different flag colors during temporary disturbance area flagging.

Following temporary disturbance area marking, erosion and sediment control Best Management Practices (BMPs) will be placed down-gradient of the vegetation clearing and temporary disturbance areas to contain loose soils. Additional BMPs that will be used to ensure protection of resources outside of approved disturbance limits are detailed by the applicant in their application case file (Exhibit A.1).

Unavoidable Impacts:

The repair and maintenance work along the pipeline within the central portion of the park will require the removal of 57 to 75 trees and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. Potential short-term impacts from the project include disturbance to wildlife habitat, sensitive fauna, nesting/brooding areas, and vegetation in the vicinity of the pipeline replacement areas. Direct impacts include removal of vegetation, disturbance of ground surfaces, and increased noise. Impacts may also be indirect; degradation of surrounding wildlife habitat may occur due to increased noise and soil erosion. In addition, recreational uses within the project area will be

Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #4
Page 7 of 26

temporarily impacted by closing the Wildwood Trail. However, these potential short-term impacts would be minimized through the implementation of the BMPs detailed in the Construction Management Plan (described above).

Potential long-term impacts of pipeline joint replacements resulting from vegetation clearing, tree removal, and ground disturbance include a reduction in tree canopy cover, shade, microclimate regulation, wildlife refuge, and nesting/brooding areas associated with deciduous forest cover. However, the disturbance area and clearing areas would continue to be surrounded with dense, contiguous forested area that provides considerable ecological functions (e.g., wildlife habitat).

Proposed Mitigation:

To restore temporarily disturbed areas, the applicant proposes to plant native shrubs and seed mix throughout all construction work areas (Exhibit C.38 to C.54). Existing mature, established shrubs at Joints 1300, 1670, and 1680 will be salvaged, retained onsite, and replanted upon project completion. To mitigate for the permanent impacts of tree removal, the applicant has stated their intent to provide funding to support Restore Forest Park work in the Central Management Unit within the park, which will provide an amplified ecological benefit expanded over a larger net area. Detailed information on the mitigation work has been provided by Portland Parks & Recreation (PP&R) and can be found in Exhibit G.4.

Significant portions of Forest Park are currently degraded by the long-term encroachment of invasive species (primarily English ivy, clematis, Himalayan blackberry, English laurel, and holly) which have impacted native plant communities and the wildlife they support, reduced natural regeneration of conifers and contributed to erosion. The proposed mitigation work, which will be conducted by PP&R staff or contractors and funded by the applicant, will result in the reduction of invasive plant populations followed by revegetation with native plants. English ivy, clematis, and Himalayan blackberry will be reduced to less than 20% cover, and the English laurel and holly will be cut and treated within the project area.

Revegetation work will replace impacted understory species and restock conifers that have been inhibited during the past decades. An average of 400 native plants per acre will be installed in impacted areas. This will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

PP&R, through Ordinance 191314, has provided a payment breakdown in Table 1 below to determine the appropriate mitigation payment, based on the size of the tree proposed for removal. The mitigation amount increases with the size of the tree to account for the lost resource value that larger mature trees provide. The higher payment will result in a larger area of mitigation performed by PP&R elsewhere within the same management unit of the park. Since the applicant is aiming to save as many trees as possible, the proposed tree removal includes a range. The definitive and potential tree removal and the subsequent mitigation fee are found in Table 2 below. As part of this review and to satisfy the applicable approval criteria, the applicant will be required to provide compensatory payment for the final amount of tree removal upon construction completion. This will amount to at least $105,750 for definite tree removal and up to $158,400 if all potential tree removals are included.

Table 1: Payment Breakdown for Tree Removal

<12"	**$675**
12-<20"	**$1,800**
20" or greater	**$450 per inch**

Table 2: Proposed Tree Removals and Estimated Mitigation Fee

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
1300	966	48	*Acer macrophyllum*	Fair	Potential Removal	$21,600
	968	10	*Alnus rubra*	Fair	Potential Removal	$675
	969	11	*Alnus rubra*	Fair	Potential Removal	$675
	981	6	*Pseudotsuga menziesii*	Fair	Potential Removal	$675

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
	986	7	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	989	7	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	967	10	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	971	15	*Acer macrophyllum*	Fair	Definite removal	$1,800
	972	10	*Alnus rubra*	Fair	Definite removal	$675
	985	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
1510	881	13	*Alnus rubra*	Fair	Potential Removal	$1,800
	883	19	*Alnus rubra*	Fair	Potential Removal	$1,800
	481	15	*Alnus rubra*	Fair	Definite removal	$1,800
1600	629	30	*Pseudotsuga menziesii*	Fair	Potential Removal[4]	$13,500
1670/ 1680	462	21	*Alnus rubra*	Fair	Definite removal	$9,450
	464	17	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	465	18	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	466	23	*Pseudotsuga menziesii*	Fair	Definite removal	$10,350
	467	10	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	469	11	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	470	26	*Pseudotsuga menziesii*	Fair	Definite removal	$11,700
	471	15	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	472	18	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	473	16	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	477	18	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	820	7	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	821	13	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	831	8	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	837	7	*Acer macrophyllum*	Fair	Definite removal	$675
Oil Line Road	483	7	*Abies grandis*	Fair	Potential Removal	$675
	484	10	*Alnus rubra*	Fair	Potential Removal	$675
	486	18	*Pseudotsuga menziesii*	Good	Potential Removal	$1,800
	487	18	*Alnus rubra*	Fair	Potential Removal	$1,800
	488	10	*Alnus rubra*	Fair	Potential Removal	$675
	491	18	*Pseudotsuga menziesii*	Fair	Potential Removal	$1,800
	492	15	*Alnus rubra*	Fair	Potential Removal	$1,800
	922	10	*Alnus rubra*	Fair	Potential Removal	$675
	942	10	*Alnus rubra*	Fair	Potential Removal	$675
	497	13	*Alnus rubra*	Fair	Definite removal	$1,800
	498	22	*Acer macrophyllumAcer macrophyllum*	Fair	Definite removal	$9,900
	814	8	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	839	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	840	8	*Alnus rubra*	Poor	Definite removal	$675
	874	11	*Acer macrophyllum*	Poor	Definite removal	$675
	893	12	*Alnus rubra*	Fair	Definite removal	$1,800
	894	10	*Alnus rubra*	Fair	Definite removal	$675
	896	15	*Alnus rubra*	Fair	Definite removal	$1,800
	897	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	899	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
	902	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	909	8	*Alnus rubra*	Fair	Definite removal	$675
	910	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	911	10	*Alnus rubra*	Fair	Definite removal	$675
	912	15	*Alnus rubra*	Fair	Definite removal	$1,800
	914	11	*Alnus rubra*	Fair	Definite removal	$675
	916	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	918	15	*Alnus rubra*	Fair	Definite removal	$1,800
	919	12	*Alnus rubra*	Fair	Definite removal	$1,800
	920	8	*Alnus rubra*	Fair	Definite removal	$675
	924	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	938	8	*Alnus rubra*	Fair	Definite removal	$675
	945	12	*Alnus rubra*	Fair	Definite removal	$1,800
	946	11	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	948	9	*Alnus rubra*	Fair	Definite removal	$675
	949	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	950	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	951	11	*Alnus rubra*	Fair	Definite removal	$675
	952	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	953	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	954	17	*Alnus rubra*	Fair	Definite removal	$1,800
	960	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	1058	7	*Acer macrophyllum*	Fair	Definite removal	$675
	1065	13	*Alnus rubra*	Fair	Definite removal	$1,800
	1068	20	*Alnus rubra*	Fair	Definite removal	$9,000
	1069	11	*Alnus rubra*	Fair	Definite removal	$675
					Total Mitigation Fee	**$158,400**

[1] Tree ID corresponds with physical aluminum tree tag numbers added to trees during a tree survey in November 2021 and 2023.

[2] Tree Health corresponds with health designation of the tree as determined by site visits with the arborist and AECOM biologists in late 2023. The health of the tree was determined by comparing the natural growth (in an ideal situation) and age of the tree versus the condition of the trees at the time of the arborist's visit.

[3] Mitigation fees were calculated using the following stipulations specified in the City's staff report and Hearings Officer Decision for the associated land use permit application for this project: $675 for each tree with a DBH <12''; $1,800 for each tree with a DBH from 12'' – <20''; $450 per inch for each tree with a DBH of 20'' or greater. Although some trees are deemed potential (rather than definite) removals, all trees are assumed removed for mitigation calculation purposes.

[4] Tree 629 will be investigated using an airspade to allow for the project arborist to make a more precise determination as to its status. Should the tree need to be removed due to root damage, it will be left standing as a snag. Should the tree prove to be a safety hazard due to its proximity to the excavation, it will be removed fully. In both cases it will be mitigated as a full removal (at a cost of $13,500).

Acronyms: DBH = diameter at breast height; ID = identifier; in. = inch.

Land Use History: City records indicate prior land use reviews on the subject site as follows:

- LU 03-120560 EN: Approval of an Environmental Review for a pedestrian trail, including bridges over intermittent streams;
- LU 10-135572 EN: Emergency culvert repair in Forest Park – application voided;
- LU 11-153630 EN: Approval of an Environmental Review for the removal of 27 trees for the maintenance and management of the Kinder Morgan pipeline in Forest Park; and

- LU 16-187824 EN: Approval of an Environmental Review for an emergency culvert repair which was completed in 2011 and 2012.
- LU 20-136055 EN: Approval of an Environmental Review for joint replacement of an existing pipeline at one location within Forest Park. The work being reviewed for this current review is similar work approved as part of this past review.
- LU 21-056437 EN: Approval of an Environmental Review for joint repair and replacement of an existing pipeline at three separate locations within and adjacent to Forest Park. The work being reviewed for this current review is similar work approved as part of this past review.
- LU 23-021553 EN: Approval of an Environmental Review for joint repair and replacement of an existing pipeline at 11 separate locations within and adjacent to Forest Park. The work being reviewed for this current review is similar work approved as part of this past review.

Past land use reviews have no effect on the current proposal.

Agency Review: A "Request for Response" was mailed **March 25, 2024**. The following Bureaus have responded with no issues or concerns:

• Bureau of Environmental Services
• Life Safety
• Fire Bureau
• PBOT
• Site Development Section of BDS

Bureau of Parks & Recreation, Urban Forestry Division provided the following comment & conditions. The full response can be found in Exhibit E.6.

With the conditions recommended in this response, Urban Forestry does not object to approval of the land use proposal. The proposed development will be subject to Urban Forestry standards during the permit review process.

a. If the land use proposal is approved, Urban Forestry requires the following conditions be included in the decision:

i. All guidelines, tree protection plans and specifications described in the project arborist's tree report shall be followed.

ii. Any pruning (either root or crown) shall be documented by the project arborist and submitted to Urban Forestry (Jason.Thaete@portlandoregon.gov)

iii. Any changes to the tree protection plan shall be approved by Urban Forestry prior to work continuance.

iv. If the project arborist determines retained trees undergo intolerable impacts, tree removal shall be approved by both Urban Forestry and Bureau of Development Services prior to tree removal.

v. Either the contractor or the project arborist shall disclose any violations of the tree protection plan to Urban Forestry with 48 hours of the damage occurring.

Bureau of Parks & Recreation, City Nature Division responded with the following comment & conditions. The full response can be found in Exhibit E.7.

Install rolled non-synthetic erosion control fabrics any time slopes are greater than 10%. When slopes are greater than 30% request that wattles with non-synthetic netting are installed in addition to erosion control fabrics every 15'. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response.

When potential removals are determined to be definite removals this information must be communicated to the PP&R arborist inspector and include documentation that justifies the removal. Any tree removal needs to be communicated within 48 hours. Parks is requesting preservation of Tree 629, a 30" Doug fir near Joint 1600, if root impacts are sufficient that tree mortality is a concern, we request that the tree be left intact to die naturally to create a more

beneficial wildlife snag. If there is a safety concern to the construction project, this information must be communicated and approved by the PP&R arborist inspector.

Neighborhood Review: A Notice of a Public Hearing on a Proposal in Your Neighborhood was mailed on April 1, 2024. No written responses have been received from either the Neighborhood Association or notified property owners in response to the proposal.

ZONING CODE APPROVAL CRITERIA

The relevant approval criteria are listed in the Forest Park NRMP Chapter 8 and in Zoning Code chapters 33.430.250 and 33.563.

I. Forest Park NRMP "Approval Criteria for Exceptions"

A. The proposal meets all the criteria for minor amendments.

Approval Criteria for Minor Amendments:

A. There is a demonstrated need for the proposal.

Findings: The proposal is described on page 2 of this report, and more thoroughly by the applicant in Exhibit A.1. The applicant clearly demonstrates a need for the proposal as an existing underground pipeline needs maintenance and/or repair at 5 separate joints to ensure its structural integrity. Further, the applicant states the purpose and objective of the project is to ensure the long-term structural integrity of the pipeline while minimizing the number of times that construction will occur within Forest Park over the next decade. The following objectives are associated with the project:

Objective 1: Replace/repair joints containing anomalies such that the return interval for future pipeline repairs and associated habitat disturbances are reduced.

Objective 2: Limit environmental encroachment to the maximum extent practicable during construction associated with joint replacement/repair.

The applicant has demonstrated the need to replace and repair sections of an existing pipeline to ensure its structural integrity, *and this criterion is met*.

B. The proposed action is consistent with Forest Park Natural Resources Management Plan Goals and Strategies.

Findings: The *Forest Park Natural Resource Management Plan* identifies four goals and ten strategies. There are two Conservation Goals and two Recreational and Educational Goals.

Conservation Goals

1. Protect Forest Park's native plant and animal communities, its soil and its water resources while managing the forest ecosystem in order to grow a self-sustaining ancient forest for the enjoyment and benefit of future generations.

Findings: The project would involve maintenance and repair of existing pipeline joints, thereby ensuring the pipeline's continued functionality and avoiding impacts to the forest ecosystem. The project would involve site restoration actions that protect native plants, animals, soils, and water resources to the extent practicable by minimizing long-term ecosystem functions and habitat quality, providing soil stability, and replacing invasive vegetation within the temporary disturbance areas with native species.

2. Design management and restoration efforts to:
   - Maintain and enhance regional biodiversity

Findings: The proposed joint replacements and repairs are intended to support the long-term integrity of the pipeline itself while continuing to maintain, enhance, and create habitat features that support regional biodiversity.

   - Provide wildlife habitat and migration opportunities

Findings: As stated in the mitigation memo (Exhibit G.4) provided by PP&R, mitigation will be funded by the applicant and undertaken by PP&R and include measures that would incorporate a combination of ecological/wildlife habitat enhancement including removal of invasive species and planting of native plants. These measures would compensate for unavoidable permanent impacts such as tree removal. The plan for mitigation is addressed in-depth on pages 9 and 10 of this report.

- Improve water quality and aquatic habitat

Findings: No aquatic habitat is present near the proposed pipeline anomaly repairs. BMPs would be installed during construction, and proposed restoration would involve seeding and shrub planting in temporary disturbance areas, thereby minimizing erosion and sedimentation and protecting existing water quality and aquatic habitat.

- Repair damaged and fragmented natural systems.

Findings: Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation for tree removal would involve paying a fee to PP&R that will fund restoration of natural systems within the Park.

Recreational and Educational Goals

1. Protect and enhance the value of Forest Park as a regionally-significant recreational resource – a place that can accommodate recreational and educational use at appropriate seasons of the year without environmental damage.

Findings: Not applicable. The joint repair and maintenance proposal will not affect the ability to accommodate long-term recreational and educational use of the park. However, the applicant proposes restoration seeding and shrub planting along publicly accessible trails.

2. Enhance the value of Forest Park as a regionally-significant educational resource – an urban laboratory for environmental research and resource enhancement and restoration.

Findings: Not applicable. The proposal to repair and maintain the pipeline is unrelated to the use of Forest Park for educational purposes and does not affect the Park's educational functions one way or another.

The *Forest Park Natural Resource Management Plan* identifies 10 strategies to help reach the goals. They are:

1. Implement Sustainable Resources Program
2. Divide Forest Park into Management Units
3. Acquire and Protect Additional Land
4. Manage Recreation to Protect Natural Resources
5. Improve interpretive, educational and research opportunities
6. Improve Public Access
7. Improve Park Safety
8. Develop Recreational Opportunities at Other Sites
9. Improve Park Staffing and Funding
10. Continue Public Involvement

Only strategies 1, 6, 7, and 10 apply to the proposal, as the remaining strategies speak to recreational goals, or park administration, and are not related to the pipeline replacement activities.

Strategy 1 Implement Sustainable Resources Program

Findings: This project would support implementation of Strategy 1 where feasible. Resource management measures will include:

- ❖ Restoration of resources –Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation.

- ❖ Mitigation of impacts – The proposed mitigation, as funded by the applicant and conducted by PP&R, will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

Strategy 6 Improve Public Access

Findings: Anomaly repair near Joints 1300, 1510, 1600, 1670, and 1680 would require temporary closure of Oil Line Road from the intersection with Firelane 7A to Wildwood Trail (approximately 0.34 miles). Repair work would also require temporary closure of Wildwood Trail between Trillium Trail and Oil Line Road. These closures would be temporary and would not extend longer than the estimated duration of anomaly repairs near Joints 1300, 1510, 1600, 1670, and 1680 (approximately 7.5 weeks total). Notices regarding the temporary closure would be posted along Firelane 7, Oil Line Road, Wildwood Trail, and at their intersections with other roadways and trails. SFPP would provide regular updates to PP&R for use in posting information to the public via Forest Park website updates. Project restoration activities would include reconstructing Oil Line Road and Wildwood Trail to original widths, as well as replanting disturbed areas that were formerly vegetated with native plants. Therefore, the project would not alter the accessibility to disabled users, directions, transit access, or trailheads associated with these trails such that public access to Forest Park would be affected.

Strategy 7 Improve Park Safety

Findings: The overall purpose of the proposal is to ensure the existing pipeline is continuing to operate in a safe and secure manner. Therefore, it is anticipated that joint repair and maintenance will serve to maintain the safety of park users and wildlife.

Strategy 10 Continue Public Involvement

Findings: The applicant intends to conduct the following public outreach and involvement measures to inform the public of proposed project:

- ❖ An outreach mailing will be prepared by the applicant to be distributed by the City before any scheduled work to the following recipients : neighborhood association of Linnton, Forest Park, and the district neighborhood coalition of Neighbors West/Northwest (or as preferred by City).
- ❖ The applicant will work with PP&R and the City to coordinate review of any written materials to be included in the outreach mailing at least 1 week prior to it being mailed or posted.
- ❖ Signage about the project will be posted at major entrances to the area prior to the first day of work. The applicant will coordinate with PP&R to identify entrances where signs will be posted.
- ❖ The applicant contact will be available to address all public and media inquiries. The contact person will also coordinate with PP&R's Media and Events Officer as needed/requested.
- ❖ Once the precise project timeline is established, the dates will be communicated to PP&R's Customer Service Center to avoid potential conflicts with scheduled events.

The project, together with proposed construction management and mitigation fee payment, as well as public outreach, is consistent with the *Forest Park Natural Resources Management Plan* goals and strategies, to the extent that they apply, and *this criterion is met*.

C. Alternative locations and design modifications were evaluated to show that the proposal has the least significant detrimental environmental impacts of the practicable alternatives.

Findings: The applicant provided an alternatives analysis for the proposed pipeline repair and maintenance activities as well as construction access in Exhibit A.1 that are summarized above in this report (pages 4 through 8). The methods of pipeline repair and maintenance with the least environmental impact whilst meeting all project objectives (purpose), is the combination of utilizing existing access routes as well as minimizing work areas and thus tree removal to the greatest extent practical.

While the applicant's Preferred Alternative requires temporary disturbance (39,060 square feet) and tree removal (57 to 75 native trees) within the Environmental Protection overlay zone, it also allows for the restoration of the project area and vicinity. As shown on Exhibits C.38 to C.54, temporary disturbance areas will be restored by planting native vegetation in the disturbed areas. The Preferred Alternative not only satisfies the project purpose, but it also minimizes impact, to the greatest extent practicable, to identified resources and functional values and *this criterion is met*.

D. A construction management plan and a mitigation plan will minimize impacts on resources and restore adjacent disturbed areas.

Findings: The applicant provided a detailed description of proposed construction practices to minimize environmental impacts on Exhibit A.1. Construction management practices proposed are summarized in this report on pages 8 and 9 and shown on Exhibits C.21 to C.37. The Construction Management Plan will be effective because it provides realistic limits to disturbance while containing the necessary elements (e.g., sediment fencing, construction area demarcation, tree protection fencing) to effectively protect resources and functional values outside of designated disturbance areas.

To ensure the upmost protection for existing trees within Forest Park, Portland Parks & Recreation, Urban Forestry Division and City Nature Division (known collectively as PP&R), have provided guidance and conditions to be included as part of this Staff Report. These requested conditions include upfront communication with PP&R regarding tree removal or methods for tree protection as well as guidelines for the project arborist to follow to ensure tree protection practices align with PP&R regulations. Further, coordination around and the retention of Tree 629 (30-inch dbh Douglas fir) is required to allow the tree to remain and die in place if its roots are compromised. Staff has included the requested conditions in this review and finds them necessary to meeting this approval criterion specifically minimizing impacts to resources.

As noted above, the Construction Management Plan details measures that will be taken to ensure the adequate protection of resources to be left undisturbed. Due to the steep topography throughout much of the project alignment, PP&R has requested the use of specific erosion control measures for slopes of a certain steepness. Specifically, PP&R is requesting the applicant to install rolled non-synthetic erosion control fabrics on slopes greater than 10 percent. When slopes are greater than 30 percent, wattles with non-synthetic netting must be installed in addition to erosion control fabrics every 15 feet. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response. Staff takes no exception to PP&R's requested condition of approval and agrees the requested erosion control measures will ensure the applicant can meet this approval criterion.

The proposed plan for mitigation for permanent impacts, as discussed in detail on pages 9 and 10, will compensate for lost resources by providing funding for PP&R managed restoration and enhancement activities within the Central Management Unit of Forest Park, where the work will occur. Onsite mitigation planting by the applicant would be challenged by the fact that tree planting locations are limited in the forested areas along the pipeline where impacts would occur. Further, the likelihood of success for trees that are planted is low due to the existing dense canopy in the area. Due to these circumstances, restoration in other areas of the Park is recommended by PP&R and is agreed upon by BDS staff.

The proposed mitigation plan will result in the reduction of invasive plant populations followed by revegetation with native plants. English Ivy, clematis, and Himalayan blackberry will be reduced to less than 20% cover, and the English laurel and holly will be cut and treated within the project area. Revegetation work will replace impacted understory species and restock conifers that have been inhibited during the past decades. An average of 400 native plants per acre will be installed in impacted areas. This will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

The applicant indicates that the full scope of excavation and related tree removal will not be known until the work is complete. Based on the potential range of mitigation that will be required and the estimated per acre cost and planting density as provided by PP&R (Exhibit G.4), the applicant would provide mitigation in the form of funding for restoration of between 30 and 53 acres, including planting of between 12,000 and 22,000 native trees and shrubs.

With conditions to ensure that Best Management Practices are installed per the Construction Management Plan (Exhibits C.21 to C.37) as well as PP&R recommendations for additional erosion control discussed above, that tree protection is followed per the Tree Protection Plan (Exhibit A.4) as well as PP&R recommendations, that restoration plantings required for this Environmental Review are installed, maintained, and inspected, and that the payment for mitigation is paid in full, *this criterion can be met.*

B. The proposal is a park-related development, or no alternative locations exist outside of Forest Park for the proposal.

Findings: The proposal is to conduct repair and maintenance activities associated with an existing pipeline that crosses through Forest Park. Therefore, the proposal cannot be conducted in an alternative location outside of Forest Park. *This criterion is met.*

C. There are no practicable alternative locations within Forest Park suitable for the use in which the development will have less adverse impact on resource values.

Findings: The proposed activities are associated with an existing pipeline. Therefore, the proposal cannot be conducted in an alternative location within Forest Park. *This criterion is met.*

D. Any long-term adverse impacts of the proposed action on resource values are fully mitigated within the Management Unit.

Findings: The short and long-term impacts of the project were analyzed by the applicant and included as part of this report on page 9. Short-term impacts include disturbance to wildlife habitat, sensitive fauna, nesting/brooding areas, vegetation, and soil stability on the slope around the pipeline repair area. Potential long-term impacts of pipeline repair and maintenance resulting from vegetation clearing, tree removal, and ground disturbance include a reduction in tree canopy cover, shade, microclimate regulation, wildlife refuge, and nesting/brooding areas associated with deciduous forest cover.

As noted above under Minor Amendment Criterion D, the proposed plan for mitigation for permanent impacts will compensate for lost resources by providing funding for PP&R managed restoration and enhancement activities within the Central Management Unit of Forest Park where the work will occur.

With conditions to ensure that the restoration required for this Environmental Review is installed, maintained, and inspected, and the payment for mitigation is paid in full, *this criterion will be met.*

E. The proposal is consistent with the purpose of the Environmental Zones

Findings:

33.430.015 Purpose of the Environmental Protection Zone
The Environmental Protection zone provides the highest level of protection to the most important resources and functional values. These resources and functional values are identified and assigned value in the inventory and economic, social, environmental, and energy (ESEE) analysis for each specific study area. Development will be approved in the environmental protection zone only in rare and unusual circumstances.

33.430.015 Purpose of the Environmental Conservation Zone
The Environmental Conservation zone conserves important resources and functional values in areas where the resources and functional values can be protected while allowing environmentally sensitive urban development.

The preferred pipeline repair and maintenance approach has been determined to be the most environmentally sensitive of the practicable alternatives that provides the greatest protection of existing resource functions and values while conducting necessary repair and maintenance of components of an existing pipeline. The site restoration has been designed specifically to protect and enhance these functions and values over time, and *this criterion is met*.

II. Additional criteria required by Plan Districts (All Joints)
Section 33.563 Northwest Hills Plan District
According to the Northwest Hills Plan District Map 563-1, the subject site is in the Forest Park Subdistrict of the Northwest Hills Plan District.

Forest Park Subdistrict
33.563.210 Additional Approval Criterion. In addition to the applicable approval criteria of Section 33.430.250, an environmental review application will be approved if the review body finds that all the following approval criteria are met:

A. Wildlife. The location, quantity and structural characteristics of forest vegetation will be sufficient to provide habitat and maintain travel corridors for the following indicator species: pileated woodpecker, sharp-shinned hawk, Roosevelt elk, white-footed vole, and red-legged frog. Standards to meet this criterion are in the applicable Habitat Evaluation Procedure developed by the US Fish and Wildlife Service.

Findings: Ground disturbance (including excavation), vegetation clearing, selective tree removal, and vehicle and equipment staging would occur near the five pipeline joints for anomaly repair. Physical and auditory disturbances, along with increased human presence in these areas could deter wildlife use of existing wildlife corridors near the joints. Repair of anomalies near Joints 1670/1680 would occur adjacent to the Wildwood Trail, which is likely used as a travel corridor by wildlife.

Despite temporary impacts within and adjacent to potential wildlife corridors, restoration measures including seeding and planting native shrubs within the temporary disturbance area would help restore existing understory conditions. In addition, the Wildwood Trail would be restored to its preexisting conditions, preserving its long-term use as a likely wildlife corridor.

Mitigation measures would be implemented by PP&R using the proponent's in-lieu fee payment to compensate for unavoidable tree removal impacts and provide more diverse forest structure and habitat value over time. Mitigation could involve planting trees or a combination of trees and shrubs to compensate for proposed tree removals; the sapling/shrub planting area and species would be selected by PP&R at a later date.

Through these actions, the travel corridor characteristics and functions would be maintained for the indicator species. The proposed repair and maintenance activities will not obstruct travel corridors or significantly change the overall structural characteristics of the forest vegetation, and *this criterion is met.*

B. Parks and Open Space. Overall scenic, recreational, educational and open space values of Forest Park will not be diminished as a result of development activities; and

Findings: Construction activities associated with anomaly repair near all five joints would affect the scenery in these forested open space areas. However, these scenic impacts would be temporary. Construction activities associated with anomaly repair near Joints 1670/1680 would occur within and adjacent to the Wildwood Trail, thereby requiring temporary closure of the section of Wildwood Trail between its intersections with Trillium Trail and Oil Line Road. However, these scenic impacts would be temporary. Trail closures would not extend longer than the estimated duration of construction and restoration (approximately 7.5 weeks). Therefore, the temporary closure of Wildwood Trail is not expected to diminish recreational and educational values within the park. The project would not permanently alter the general character of the Wildwood Trail. *This criterion is met.*

C. Miller Creek Subarea.

Findings: The site does not include the Miller Creek Subarea and *this criterion does not apply*.

DEVELOPMENT STANDARDS

Unless specifically required in the approval criteria listed above, this proposal does not have to meet the development standards to be approved during this review process. The plans submitted for a building or zoning permit must demonstrate that all development standards of Title 33 can be met or have received an Adjustment or Modification via a land use review prior to the approval of a building or zoning permit.

CONCLUSIONS

The applicant, Kinder Morgan, and its subsidiary SFPP, L.P., proposes to maintain and repair portions of an existing pipeline for the continued safety and protection of the public and surrounding natural resources. The applicant considered alternative construction methods as well as equipment access approaches to determine that the proposed activities were practicable and would minimize impacts to the resource area of the Environmental Zone. Although it was unavoidable to remove native trees within the pipeline easement, the applicant proposes to provide compensatory mitigation through a payment to the Restore Forest Park Fund, which will pay for mitigation conducted by PP&R. The applicant and the above

findings have shown that the proposal meets the applicable approval criteria with conditions. Therefore, this proposal should be approved, subject to the conditions below.

TENTATIVE STAFF RECOMMENDATION

(May be revised upon receipt of new information at any time prior to the Hearings Officer decision)

Approval of an Environmental Review for:

- An Exception to the Forest Park Natural Resources Management Plan to allow repair and maintenance of five joints along an existing underground pipeline within Forest Park; and
- Removal of 57 to 75 native trees over 6 inches dbh;
- 39,060 square feet of temporary disturbance;

all within the Environmental Conservation and Environmental Protection overlay zones, and in substantial conformance with Exhibits C.1 through C.54. Approval is subject to the following conditions:

NOTE: Activities which expose soil to direct contact with stormwater between October 1 and April 30 are prohibited.

A. A BDS Zoning Permit is required for inspection of required restoration plantings. The Conditions of Approval listed below, shall be noted on appropriate plan sheets submitted for permits (building, Zoning, grading, Site Development, erosion control, etc.). Plans shall include the following statement, ***"Any field changes shall be in substantial conformance with approved LU 24-017402 EN Exhibits C.1 through C.54."***

The Zoning Permit shall not be finaled until the mitigation payment as required by Condition B below is paid.

B. Remittance must be made to Portland Parks and Recreation (PP&R) no later than one month after the completion of construction activities to fund the mitigation described in Exhibit G.4. The payment will be based on the final tree removal amount and Table 1 below; the applicant must provide a final inventory of tree removal on which to base the required payment amount. Further, the applicant must provide a post-construction tree report from a certified arborist detailing the condition of the potential removal trees as shown in Exhibit A.4, Tree Protection Plan.

Table 1: Payment Breakdown for Tree Removal

<12"	**$675**
12-<20"	**$1,800**
20" or greater	**$450 per inch**

C. When potential removals are determined to be definite removals this information must be communicated to the PP&R arborist inspector and include documentation that justifies the removal. Any tree removal needs to be communicated within 48 hours. Tree 629, a 30-inch DBH Douglas fir near Joint 1600, must be preserved unless approved by the PP&R arborist. If root impacts are sufficient that tree mortality is a concern, the tree must be left intact to die naturally to create a wildlife snag unless approved by the PP&R arborist due to a safety concern to the construction project. Further, tree protection measures must also include the following:

1. All guidelines, tree protection plans and specifications described in the project arborist's tree report shall be followed (Exhibit A.4).
2. Any pruning (either root or crown) shall be documented by the project arborist and submitted to Urban Forestry (Jason.Thaete@portlandoregon.gov).
3. Any changes to the tree protection plan shall be approved by Urban Forestry prior to work continuance.
4. If the project arborist determines retained trees undergo intolerable impacts, tree removal shall be approved by

both Urban Forestry and Bureau of Development Services prior to tree removal.

5. Either the contractor or the project arborist shall disclose any violations of the tree protection plan to Urban Forestry with 48 hours of the damage occurring.

D. Temporary, 4-foot high, bright orange construction fencing, silt fencing, straw wattles, or tree fencing shall be placed along the Limits of Disturbance as depicted on Exhibits C.21 to C.37, Construction Management Plan, to separate approved construction areas from areas to remain undisturbed.

1. All measures provided for sediment control, including sediment fencing, shall be placed inside of the approved "Limits of Construction Disturbance," delineated by the temporary construction fence.
2. No mechanized construction vehicles are permitted outside of the approved "Limits of Disturbance" delineated by the temporary construction fence. All planting work, invasive vegetation removal, and other work to be done outside the Limits of Construction Disturbance, shall be conducted using handheld equipment.
3. Trees shall be protected according to tree protection measures provided in Title 11 Tree Code, Chapter 11.60.030 Tree Protection Specifications, or as specifically depicted on Exhibit A.4, Tree Protection Plan.
4. Rolled non-synthetic erosion control fabrics must be installed on slopes greater than 10 percent. When slopes are greater than 30 percent, wattles with non-synthetic netting must be installed in addition to erosion control fabrics every 15 feet. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response to PP&R for approval.

E. The applicant shall obtain a BDS Zoning Permit for approval and inspection of a restoration plan for a total of 50 new shrubs in addition to salvaged and replanted shrubs (Joints 1300, 1600, 1670, and 1680) in substantial conformance with Exhibits A.1 and C.38 to C.54, Restoration Plans. Any plant substitutions shall be selected from the *Portland Plant List* and shall be substantially equivalent in size to the original plant.

1. Permit plans shall show:
   a. The location of the trees, shrubs and ground covers required by this condition to be planted in the restoration area and labeled as "new required landscaping". The plans shall be to scale and shall illustrate a naturalistic arrangement of plants and should include the location, species, quantity and size of plants to be planted.
   b. The applicant shall indicate on the plans selection of either tagging plants for identification or accompanying the BDS inspector for an on-site inspection.
2. Plantings shall be installed between October 1 and March 31 (the planting season).
3. Prior to installing required plantings, non-native invasive plants shall be removed from all areas within 10 feet of plantings, using handheld equipment.
4. If plantings are installed prior to completion of construction, a temporary bright orange, 4-foot high construction fence shall be placed to protect plantings from construction activities.
5. After installing the required restoration plantings, the applicant shall request inspection of the plantings and final the BDS Zoning Permit.
6. All shrubs and trees shall be marked in the field by a tag attached to the top of the plant for easy identification by the City Inspector; or the applicant shall arrange to accompany the BDS inspector to the site to locate plantings for inspection. If tape is used it shall be a contrasting color that is easily seen and identified.

F. The applicant shall monitor the required plantings for two years to ensure survival and replacement as described below. The applicant is responsible for ongoing survival of required plantings beyond the designated two-year monitoring period.

1. Prior to issuance of the BDS Zoning Permit, the applicant must submit and pay fees for review of the Landscape Monitoring Reports required below.
2. After installation and inspection of the initial restoration plantings, the applicant must submit 2 annual monitoring and maintenance reports for review and approval to the Land Use Services Division of the Bureau of

Development Services containing the monitoring information described below. Submit the first report within 12 months following the final inspection approval of the permit required under Condition A. Submit a second report 12 months following the date of the first monitoring report. Monitoring reports shall contain the following information:

a. A count of the number of planted shrubs that have died. One replacement shrub must be planted for each dead shrub (replacement must occur within one planting season).

b. The percent coverage of ground covers. If less than 80 percent of the mitigation planting area is covered with groundcovers at the time of the annual count, additional groundcovers shall be planted to reach 80 percent cover (replacement must occur within one planting season).

c. A list of replacement plants that were installed.

d. Photographs of the restoration area and a site plan, in conformance with approved Exhibits C.38 – C.54, Restoration Plan, showing the location and direction of photos.

e. An estimate of percent cover of invasive species (ivy, blackberry, reed canarygrass, teasel, clematis) within 10 feet of all plantings. Invasive species must not exceed 15 percent cover during the monitoring period.

G. Failure to comply with any of these conditions may result in the City's reconsideration of this land use approval pursuant to Portland Zoning Code Section 33.700.040 and/or enforcement of these conditions in any manner authorized by law.

PROCEDURAL INFORMATION

The application for this land use review was submitted on February 26, 2024, and was determined to be complete on March 20, 2024. Zoning Code Section 33.700.080 states that land use review applications are reviewed under the regulations in effect at the time the application was submitted, provided that the application is complete at the time of submittal, or complete within 180 days. Therefore, this application was reviewed against the Zoning Code in effect on February 26, 2024.

ORS 227.178 states the City must issue a final decision on land use review applications within 120 days of the application being deemed complete. The 120-day review period may be extended at the request of the applicant. In this case, the applicant did not extend the 120-day review period. Unless further extended by the applicant, **the 120 days will expire on July 18, 2024.**

Some of the information contained in this report was provided by the applicant.

As required by Zoning Code Section 33.800.060, the burden of proof is on the applicant to show that the approval criteria are met. The Bureau of Development Services has independently reviewed the information submitted by the applicant and has included this information only where the Bureau of Development Services has determined the information satisfactorily demonstrates compliance with the applicable approval criteria. This report is the recommendation of the Bureau of Development Services with input from other City and public agencies.

Conditions of Approval. If approved, this project may be subject to specific conditions of approval, listed above. Compliance with the applicable conditions of approval must be documented in all related permit applications. Plans and drawings submitted during the permitting process must illustrate how applicable conditions of approval are met. Any project elements that are specifically required by conditions of approval must be shown on the plans and labeled as such.

These conditions of approval run with the land, unless modified by future land use reviews. As used in the conditions, the term "applicant" includes the applicant for this land use review, any person undertaking development pursuant to this land use review, the proprietor of the use or development approved by this land use review, and the current owner and future owners of the property subject to this land use review.

This report is not a decision. The review body for this proposal is the Hearings Officer who will make the decision on this case. This report is a recommendation to the Hearings Officer by the Bureau of Development Services. The review body may adopt, modify, or reject this recommendation. The Hearings Officer will make a decision about this proposal within 17 days of the close of the record. To comment, you may testify at the hearing, submit comments at www.portland.gov/omf/hearings/land-use; email your comments to HearingsOfficeClerks@portlandoregon.gov; write to the Land Use Hearings Officer, 1900 SW Fourth Ave., Suite 3100, Portland, OR 97201; or FAX your comments to 503-823-4347.

You will receive mailed notice of the decision if you write a letter received before the hearing or testify at the hearing, or if you are the property owner or applicant. This Staff Report will be posted on the Bureau of Development Services website at https://www.portland.gov/bds/zoning-land-use/public-notices. Land use review notices are listed on the website by the District Coalition in which the site is located; the District Coalition for this site is identified at the beginning of this staff report.

Appeal of the decision. The decision of the Hearings Officer may be appealed to City Council, who will hold a public hearing. If you or anyone else appeals the decision of the Hearings Officer, only evidence previously presented to the Hearings Officer will be considered by the City Council.

Who can appeal: You may appeal the decision only if you write a letter which is received before the close of the record for the hearing, if you testify at the hearing, or if you are the property owner/applicant. **Appeals must be filed within 14 days of the decision. An appeal fee of $5,789 will be charged (one-half of the BDS LUS application fee, up to a maximum of $5,789).** Assistance in filing the appeal and information on fee waivers are available from the Bureau of Development Services website: https://www.portland.gov/bds/zoning-land-use/land-use-review-fees-and-types/appeals-fees-and-fee-waivers.

Appeal Fee Waivers: Neighborhood associations recognized by the Office of Community & Civic Life may qualify for a waiver of the appeal fee provided that the association has standing to appeal. The appeal must contain the signature of the Chair person or other person authorized by the association, confirming the vote to appeal was done in accordance with the organization's bylaws.

Neighborhood associations, who wish to qualify for a fee waiver, must complete the Type III Appeal Fee Waiver Request for Organizations Form and submit it prior to the appeal deadline. The Type III Appeal Fee Waiver Request for Organizations Form contains instructions on how to apply for a fee waiver, including the required vote to appeal.

Assistance in filing the appeal and information on fee waivers are available from the Bureau of Development Services website: https://www.portland.gov/bds/zoning-land-use/land-use-review-fees-and-types/appeals-fees-and-fee-waivers.

Recording the final decision.
If this land use review is approved the final decision will be recorded with the County Recorder. *Unless appealed,* the final decision will be recorded by the Bureau of Development Services.

Expiration of this approval. Generally, land use approvals (except Comprehensive Plan and Zoning Map Amendments) expire five years from the date of the final decision unless one of the actions below has occurred (see Zoning Code Section 33.730.130 for specific expiration rules):

- A City permit has been issued for the approved development,
- The approved activity has begun (for situations not requiring a permit), or

In situations involving only the creation of lots, the final plat must be submitted within three years.

Where a site has received approval for multiple developments, and a building permit is not issued for all of the approved development within seven years of the date of the final decision, a new land use review will be required before a permit will be issued for the remaining development, subject to the Zoning Code in effect at that time.

Zone Change and Comprehensive Plan Map Amendment approvals do not expire.

Applying for permits. A building permit, occupancy permit, or development permit may be required before carrying out an approved project. At the time they apply for a permit, permittees must demonstrate compliance with:

- All conditions imposed herein;
- All applicable development standards, unless specifically exempted as part of this land use review;
- All requirements of the building code; and
- All provisions of the Municipal Code of the City of Portland, and all other applicable ordinances, provisions, and regulations of the City.

Planner's Name: Morgan Steele
Date: April 24, 2024

EXHIBITS (not attached unless indicated)

A. Applicant's Statement:
   1. Applicant's Narrative
   2. Fire Prevention Plan
   3. Traffic Control Plan
   4. Tree Protection Plan
   5. Geotechnical Report
   6. Applicant Response to Completeness Items

B. Zoning Map (attached):

C. Plans & Drawings:
   1. Site Vicinity (attached)
   2. Existing Conditions Sheet 1 of 19
   3. Existing Conditions Sheet 2 of 19
   4. Existing Conditions Sheet 3 of 19
   5. Existing Conditions Sheet 4 of 19
   6. Existing Conditions Sheet 5 of 19
   7. Existing Conditions Sheet 6 of 19
   8. Existing Conditions Sheet 7 of 19
   9. Existing Conditions Sheet 8 of 19
   10. Existing Conditions Sheet 9 of 19
   11. Existing Conditions Sheet 10 of 19
   12. Existing Conditions Sheet 11 of 19
   13. Existing Conditions Sheet 12 of 19
   14. Existing Conditions Sheet 13 of 19
   15. Existing Conditions Sheet 14 of 19
   16. Existing Conditions Sheet 15 of 19
   17. Existing Conditions Sheet 16 of 19
   18. Existing Conditions Sheet 17 of 19
   19. Existing Conditions Sheet 18 of 19
   20. Existing Conditions Sheet 19 of 19
   21. Construction Management Sheet 1 of 17
   22. Construction Management Sheet 2 of 17
   23. Construction Management Sheet 3 of 17

24. Construction Management Sheet 4 of 17
25. Construction Management Sheet 5 of 17
26. Construction Management Sheet 6 of 17
27. Construction Management Sheet 7 of 17
28. Construction Management Sheet 8 of 17
29. Construction Management Sheet 9 of 17
30. Construction Management Sheet 10 of 17
31. Construction Management Sheet 11 of 17
32. Construction Management Sheet 12 of 17
33. Construction Management Sheet 13 of 17
34. Construction Management Sheet 14 of 17
35. Construction Management Sheet 15 of 17
36. Construction Management Sheet 16 of 17
37. Construction Management Sheet 17 of 17
38. Restoration Plan Sheet 1 of 17
39. Restoration Plan Sheet 2 of 17
40. Restoration Plan Sheet 3 of 17
41. Restoration Plan Sheet 4 of 17
42. Restoration Plan Sheet 5 of 17
43. Restoration Plan Sheet 6 of 17
44. Restoration Plan Sheet 7 of 17
45. Restoration Plan Sheet 8 of 17
46. Restoration Plan Sheet 9 of 17
47. Restoration Plan Sheet 10 of 17
48. Restoration Plan Sheet 11 of 17
49. Restoration Plan Sheet 12 of 17
50. Restoration Plan Sheet 13 of 17
51. Restoration Plan Sheet 14 of 17
52. Restoration Plan Sheet 15 of 17
53. Restoration Plan Sheet 16 of 17
54. Restoration Plan Sheet 17 of 17

D. Notification information:
1. Request for response
2. Posting letter sent to applicant
3. Notice to be posted
4. Applicant's statement certifying posting
5. Mailing list
6. Mailed notice

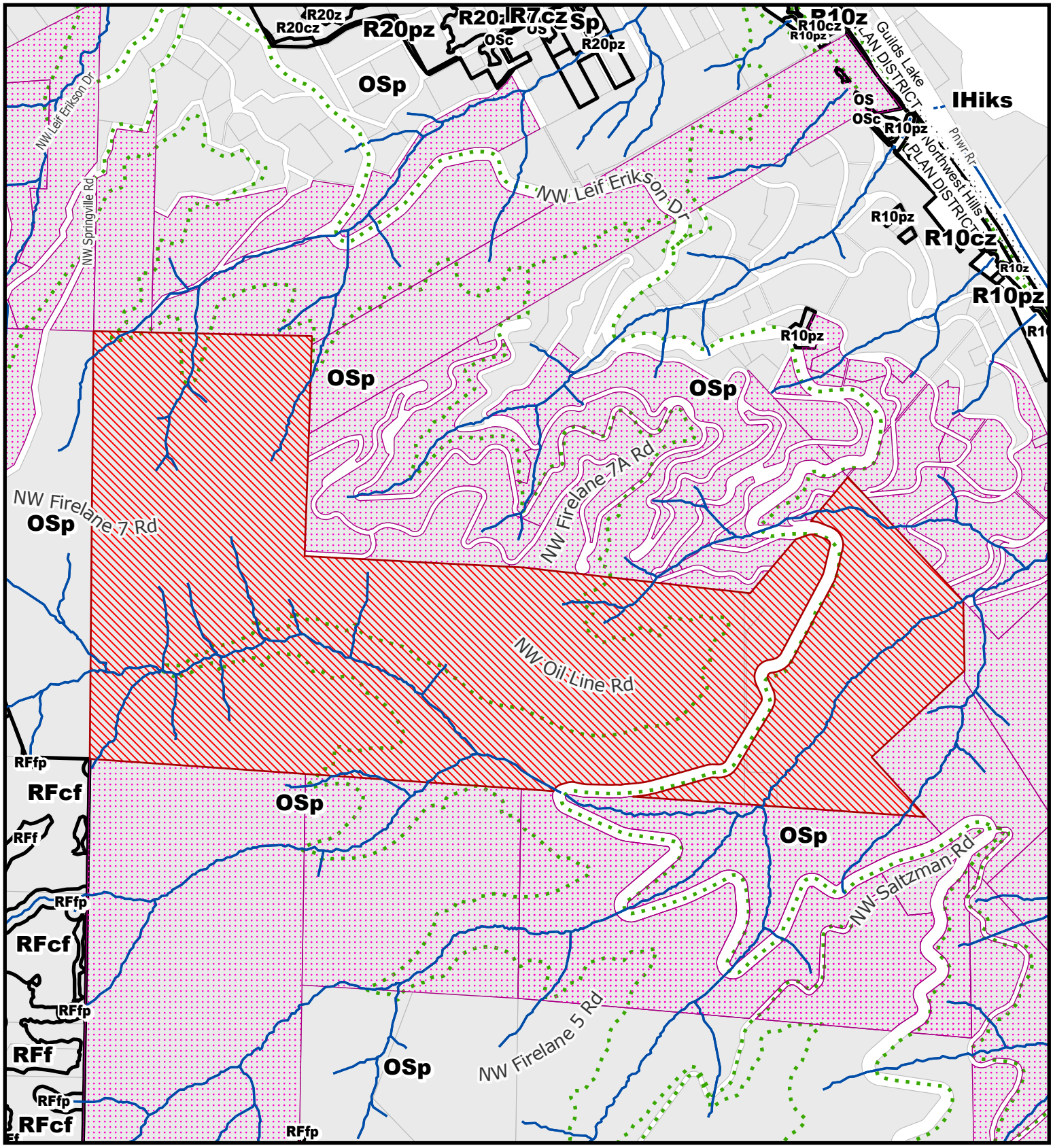
E. Agency Responses:
1. Bureau of Environmental Services
2. Bureau of Transportation
3. Life Safety
4. Fire Bureau
5. Site Development Review Section of Bureau of Development Services
6. Bureau of Parks, Forestry Division
7. Portland Parks and Recreation, City Nature

F. Letters: None Received

G. Other:
1. Original LUR Application
2. Incomplete Letter
3. Pre-Application Summary Notes
4. PP&R Memo re: Mitigation in Forest Park for Kinder-Morgan Pipeline Anomaly Repair Project

H.

The Bureau of Development Services is committed to providing equal access to information and hearings. To request an accommodation or alternative format of communication, please contact us at least five business days prior to the hearing at 503-823-7300 (TTY 503-823-6868).



For Zoning Code in Effect Post October 1, 2022

ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Stream
- Recreational Trails

File No. LU 24 - 017402 EN
1/4 Section Multiple
Scale 1 inch =800 feet
State ID 1N1W14A 1200
Exhibit B Feb 26, 2024

Portland Hearings Office
Case #LU 24-017402
Bureau Case #LU 24-017402EN
Exhibit #4
Page 25 of 26

NW LEIF ERIKSON DR
Wildwood Trail
Hardesty Trail
Ridge Trail
NW SPRINGVILLE RD
NW FIRELANE 7 RD
GATED PARK ENTRANCE AT NW SPRINGVILLE ROAD
NW FIRELANE 7A RD
Wildwood Trail
NW ST HELENS RD
NW FRONT AVE
30
FIRELANE 7
JT 1300
Trillium Trail
Wildwood Trail
JT 1510
NW OIL LINE RD
Doane Creek
JT 1670
JT 1600
JT 1680
Wildwood Trail
Wiregate Trail
NW LEIF ERIKSON DR
NW SPRINGVILLE RD
Maple Trail
Quarry Trail
NW SALTZMAN RD
Upper Tributary to Doane Creek
Wildwood Trail
Maple Trail
Wildwood Trail
Firelane 5
NW SKYLINE BLVD
NW FIRELANE 5 RD
Doane Creek
NW FIRELANE 5 RD
Lower Tributary to Doane Creek
Wildwood Trail
Maple Trail

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 1 Site Vicinity LUA.mxd

LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 600 1,200 Feet

FIGURE 1: SITE VICINITY, CONSTRUCTION ACCESS, AND TRAIL CLOSURE

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

Portland Hearings Office
Case #LU 24-017402 EN
Exhibit #4
Page 26 of 26
LU 24-017402 EN
Bureau Case File LU 24-017402EN
LU 24-017402 EN | Exhibit C.1

LU 24-017402 EN (4240007) Email Mailing List

morgan.steele@portlandoregon.gov; bdshearingsclerk@portlandoregon.gov; melissa_cowan@kindermorgan.com; rebecca.shell@aecom.com; dawn.krantz@portlandoregon.gov; landuse@forestparkneighbors.org; sarahsojourner@mac.com; darlene@nwnw.org; sandra_farrell@outlook.com

Name	NAME CONTINUED
City of Portland | Parks & Recreation	Attn: Kendra Petersen-Morgan
Andrew Holbrook	Kinder Morgan
MELISSA COWAN	Sfpp Lp
REBECCA SHELL	AECOM
HEARINGS OFFICE	

STREET ADDRESS	CITY, STATE, ZIP
1120 SW 5th Avenue #1302	Portland Oregon 97204-1926
5880 NW St. Helens Rd.	Portland Oregon 97210
1001 Louisiana st #1000	HOUSTON TX 77002
888 SW 5th Ave #600	PORTLAND OR 97204
1900 SW 4th AVENUE #3100	PORTLAND OR 97201

AECOM Imagine it. Delivered.

City of Portland Type III Environmental Consistency Review Application

Forest Park Anomaly Repairs Near Five LS-14 Pipeline Joints Accessed Via Firelane 7/Oil Line Road

TYPE III ENVIRONMENTAL REVIEW
CITY OF PORTLAND, OREGON

SFPP

March 2024

Prepared for:

Kinder Morgan Energy Partners, L.P.
1001 Louisiana Street, Suite 1000
Houston, Texas 77002

Prepared by:

AECOM
888 SW 5th Ave
Suite 600
Portland, Oregon 97204
aecom.com

Table of Contents

1 Introduction 1
1.1 Background 1
1.2 Project Purpose and Need 2
2 Existing Site Conditions 3
2.1 Topography, Vegetation, and Hydrology 3
2.2 Land Uses and Zoning 6
2.3 Resources and Functional Values 6
3 Alternatives Evaluation 7
3.1 Alternatives 1A and 1B: Joint 1300 Access Route 7
3.2 Alternatives 2A and 2B: Definite vs. Potential Tree Removal 8
3.3 Alternatives 3A and 3B: Hand Excavation vs. Mechanized Excavation on Steep Slopes 9
3.4 Alternatives 4A, 4B, and 4C: Post-Repair Steep Slope Stabilization 10
4 Project Description 12
4.1 Construction Timeline 12
4.2 Proposed Roadway/Trail Closures 12
4.3 Construction Details 13
4.3.1 Crew and Equipment 13
4.3.2 Disturbance Areas 13
4.3.3 Geotechnical Considerations 14
4.3.4 Construction Actions 14
4.4 Construction Management 16
4.4.1 Fire Prevention 17
4.4.2 Tree Protection 17
4.4.3 Disturbance Limits 17
4.4.4 Sensitive Resource Protection BMPs 17
4.4.5 Erosion and Sediment Control BMPs 17
4.4.6 Excavation Area Isolation BMPs (In the Event That Joint Replacement Is Required) 18
4.4.7 Construction Vehicles, Equipment, and Trail/Roadway Use BMPs 18
4.5 Restoration 18
4.5.1 Phase 1 19
4.5.2 Phase 2 19
5 Project Impacts 22
5.1 Short-Term Impacts 22
5.2 Long-Term Impacts 22
6 Mitigation 23
6.1 Nesting Birds 23
6.2 Trees 23
7 Project Findings 27
7.1 Conditions of Approval Compliance 27
7.2 Development Standards 32
8 Communication and Coordination 34
8.1 Public Outreach and Involvement 34
8.2 Agency Coordination 34
9 References 36

Exhibits

Exhibit 1. Representative Site Condition Photos: Joint 1300 4
Exhibit 2. Representative Site Condition Photos: Joint 1510 4
Exhibit 3. Representative Site Condition Photos: Joint 1600 5
Exhibit 4. Representative Site Condition Photos: Joints 1670 and 1680 5

Tables

Table 1. Summary of Pipeline Joint Sites for Anomaly Repairs 1
Table 2. Existing Topography and Vegetative Characteristics along the Access Route and at Pipeline Anomaly Repair Locations 3
Table 3. Alternatives 1A and 1B Evaluation 7
Table 4. Alternatives 2A and 2B Evaluation 9
Table 5. Alternatives 3A and 3B Evaluation 10
Table 6. Alternatives 4A, 4B, and 4C Evaluation 11
Table 7. Tentative Pipeline Anomaly Repair Schedule[1] 12
Table 8. Proposed Temporary Disturbance Area and Excavation for Anomaly Repair 13
Table 9. Proposed Restoration Actions 19
Table 10. Proposed Restoration Seed Mixes[1] 19
Table 11. Proposed Restoration Shrubs Proposed Near Joint 1510[1] 21
Table 12. Proposed Tree Removals and Estimated Mitigation Fee 24
Table 13. Proposed Temporary Tree Impacts (Mature Tree Pruning) 26

Appendices

Appendix A Figures
Appendix B Fire Prevention Plan
Appendix C Traffic Control Plan
Appendix D Geotechnical Report
Appendix E Tree Protection Plan

List of Acronyms

BDS	Bureau of Development Services
BMP	best management practice
City	City of Portland
LS-14	Line Section 14
NAPP	*Northwest Hills Natural Areas Protection Plan*
NPUP	Non-Park Use Permit
NRMP	*Forest Park Natural Resource Management Plan*
ODF	Oregon Department of Forestry
PP&R	Portland Parks & Recreation
ROW	right-of-way

1 Introduction

1.1 Background

SFPP, L.P., (applicant), a Kinder Morgan company, owns and operates an existing 115-mile refined petroleum products pipeline (Oregon Pipeline–Line Section 14 [LS-14]) that runs from Portland to Eugene, Oregon. Petroleum products are pumped downstream to Eugene in a generally southwest direction. Approximately 1.8 miles of the pipeline cross through the City of Portland's (City's) Forest Park. The pipeline is within right-of-way (ROW) easements[1] conveyed by private landowners and the City in 1962. These easements were established for purposes of constructing, maintaining, and operating the 8-inch liquid petroleum pipeline and appurtenances.

SFPP conducts routine inspections along the LS-14 pipeline using an in-line inspection tool, which is a device used to check internal pipeline integrity. To precisely record locations of potential anomalies, the pipeline is divided into various 50-foot segments separated by numbered joints. During recent inspections, multiple anomalies requiring repair were detected near seven joint locations within Forest Park. Repair of eight anomalies detected near five of the joints (Joints 1300, 1510, 1600, 1670, and 1680[2]) is described in this Type III Environmental Consistency Review Application. These anomalies are listed in **Table 1** and shown in **Figures 2 through 4** of **Appendix A**. All excavations would occur to a depth of approximately 8 feet.

Table 1. Summary of Pipeline Joint Sites for Anomaly Repairs

Nearby Pipeline Joint IDs[1]	Anomaly IDs Requiring Repair	Average Slope Gradient (percent)[1]	Anticipated Maximum Excavation Width (feet)	Anticipated Length of Excavation along the Slope (feet)[2]	Approximate Total Excavation/Backfill (Cubic Yards)[3]
1300	SCC-26, SCC-27	41	10	70	207
1510	OR-003	10	10	70	207
1600	29-UCC	10	10	70	207
1670/1680	OR-004, OR-005, OR-006, KM-91	52	10	120	356

[1] Joints are listed from northeast to southwest (in the direction of pipeline content flow).

[2] Excavation area was calculated by multiplying the maximum possible excavation length by the excavation width (10 feet). Maximum possible excavation length for work at each individual joint is estimated at 70 feet in length (joint lengths are 50 feet each, plus 10 feet on each end). Maximum excavation length for Joints 1670 and 1680 is 120 feet (two joint lengths of 50 feet each, plus 10 feet on each end).

[3] Excavation/fill volume was calculated by multiplying the excavation area by the excavation depth (8 feet) and dividing by 27. All excavated soils would be reused as backfill. Therefore, excavation and fill totals are the same.

Acronyms: ID = identifier.

Repair of the pipeline anomalies would most likely involve external treatment and covering with a welded sleeve for added protection, allowing for existing pipeline segments to remain in place. However, if after excavation and inspection these anomalies are deemed severe or more anomalies are discovered, each entire 50-foot pipeline segment may require replacement (cut-out and installation of a new pipeline segment in the same location). Therefore, the permits obtained must cover the maximum potential

[1] The anomaly repair locations are located within 20-foot-wide easements conveyed by the City Agreement.

[2] New anomalies were also detected at Joints 2100 and 2360; however, disturbance at these locations would be in the same footprint as authorized under the 2023 land use authorization process (LU-23-021553 EN). Slope repairs at Joints 1730 and 1810 are also planned to occur in 2024; work at these locations has been authorized under the 2022 (LU-21-056437 EN) and 2023 (LU-23-021553 EN) land use authorization processes, respectively. As such, planned work at these sites is not included in this application.

disturbance that could occur associated with replacement of the entire 50-foot pipeline segments containing the anomalies.

1.2 Project Purpose and Need

The purpose of the proposed project is to maintain the integrity and functionality of SFPP's LS-14 pipeline by repairing anomalies near pipeline Joints 1300, 1510, 1600, 1670, and 1680. The overall goal of the project is to ensure the long-term structural integrity of the pipeline while minimizing the number of times that construction would occur within Forest Park over the next decade. The following objectives are associated with the project:

Objective 1: Repair anomalies such that the return interval for future pipeline repairs and associated habitat disturbances is reduced.

Objective 2: Limit environmental encroachment to the maximum extent practicable during construction associated with anomaly repairs.

2 Existing Site Conditions

2.1 Topography, Vegetation, and Hydrology

All anomaly repair locations are within the Willamette River watershed and vegetated by a mixed upland coniferous/deciduous forest. The repair locations and surrounding area are characterized by predominantly hilly terrain. There are no flood hazard areas mapped by the Federal Emergency Management Agency at the repair locations, and none of the repair locations are near a stream or associated flood zone. Based on review of the National Wetland Inventory (USFWS 2023) and site visits, no wetlands are present at or adjacent to these locations. All proposed repair work would occur within forested areas of the Doane Creek watershed; however, all anomaly repair locations are along upland slopes or ridges and are not adjacent to Doane Creek or any of its tributaries.

Specific topography and vegetative characteristics for the access route and pipeline repair locations are described in **Table 2**. Representative site condition photos for the repair locations are included in **Exhibits 1 through 4.**

Table 2. Existing Topography and Vegetative Characteristics along the Access Route and at Pipeline Anomaly Repair Locations

Anomalies Requiring Repair	Location or Nearby Pipeline Joint(s)	Topography	Topography and Vegetative Characteristics
N/A	Access Route (Firelane 7 and Oil Line Road)	Flat/gently sloping	Sword fern (*Polystichum munitum*), red alder (*Alnus rubra*), Douglas fir (*Pseudotsuga menziesii*), and trailing blackberry (*Rubus ursinus*) are dominant species. Some reed canarygrass (*Phalaris arundinacea*) occasional at trail edges.
SCC-26, SCC-27	1300	Moderately to steeply sloped (19.3°, 35% slope)	Tree species include mature red alder, mature bigleaf maple (*Acer macrophyllum*), Douglas fir, and *Prunus* spp. Shrub species include salmonberry (*Rubus spectabilis*); vine species include trailing blackberry. Fern species include sword fern, which is the dominant species through the site. Herb species include fairy bells (*Prosartes hookeri*). Representative conditions at Joint 1300 are shown in **Exhibit 1.**
OR-003	1510	Generally flat (4.8°, 8.3% slope)	Tree species include red alder and Douglas fir. Vine species include trailing blackberry. Fern species include sword fern. Herb species include reed canarygrass. Representative conditions at Joint 1510 are shown in **Exhibit 2.**
29-UCC	1600	Generally flat (3.7°, 6.5% slope)	Dominant species at the site are Douglas fir and sword fern. Tree species include Douglas fir, vine maple, and red alder. Vine species include trailing blackberry. Fern species include sword fern (dominant) and scattered lady fern (*Athyrium filix-femina*). No herb species observed. Representative conditions at Joint 1600 are shown in **Exhibit 3.**
OR-006, OR-005, OR-004, KM-91	1670, 1680	Steeply sloped (25.6–27.4°, 48%–52% slope)	The site is dominated by thickets of trailing blackberry and sword fern. Tree species include mature and sapling bigleaf maple and red alder, mature Douglas fir, and sapling vine maple (*Acer circinatum*). Shrub species include salmonberry, vine species include trailing blackberry, and fern species include sword fern and lady fern. Herb species include sedges (*Carex* spp.), fairy bells, and fescue (*Festuca* spp.). Representative conditions at Joint 1670 and 1680 are shown in **Exhibit 4.**

Exhibit 1. Representative Site Condition Photos: Joint 1300[3]



Photos of Joint 1300 face (a) northeast and (b) southwest. Anomaly SCC-26 is clearly marked in photo (b). Note availability of healthy, mature ferns for salvage and lack of mature Douglas fir trees.

Exhibit 2. Representative Site Condition Photos: Joint 1510



Joint 1510 photo (a) was taken facing northwest standing on Oil Line Road. Photo (b) was taken facing northeast on Oil Line Road. The stakes visible in the photos mark the end of Joint 1510 and the estimated location of the anomaly requiring repair (OR-003).

[3] All photos in Exhibits 1 through 4 taken October 6, 2023.

Exhibit 3. Representative Site Condition Photos: Joint 1600





Joint 1600 photo (a) was taken facing east at the Joint 1600 excavation location on Oil Line Road. Photo (b) was taken northeast facing uphill downslope of the Joint 1600 excavation location. The pipeline excavation site can be seen in photo (a) marked by wooden stakes and yellow flagging. Note the high density of mature ferns suitable for salvage alongside and downslope of the Joint 1600 excavation area.

Exhibit 4. Representative Site Condition Photos: Joints 1670 and 1680





Photos near Joint 1670 (photo a) and Joint 1680 (photo b) were taken facing southwest, looking downhill. Note dense sword fern growth, suitable for salvage.

2.2 Land Uses and Zoning

All joints listed in this application are located within Forest Park. Forest Park is regulated by the Forest Park Natural Resources Management Plan (NRMP), adopted by the City Council on February 8, 1995 (PP&R 1995). Chapter 8 of the NRMP lists specific projects that are allowed outright, allowed through a land use review, or would be an exception to the plan. Per the stipulations of the NRMP, pipeline maintenance requiring excavation in Forest Park is considered an exception to the NRMP.

All anomaly repair locations are in an area managed per the Northwest Hills Plan District and the *Northwest Hills Natural Areas Protection Plan* (NAPP) (BPS 1992). Based on maps included in the NAPP, repair locations are all within "Site 94–Lower Doane Creek/Quarry," which includes the lower half of the Doane Creek sub-watershed.

Land uses in Forest Park are predominantly open space preservation and conservation and recreation (including a network of recreational gravel roads and trails). Existing development near the repair locations includes the Wildwood Trail, Firelane 7, Oil Line Road, and residences. All anomaly repair locations are zoned as Open Space and are within the City of Portland environmental overlay zones. All of the anomaly repair locations are within the City's designated landslide hazard areas (Portland Maps 2024).

2.3 Resources and Functional Values

According to the NAPP, the Doane Creek watershed contains several environmental resources and functions including creeks, wildlife habitat, sensitive fauna, forest, open space, and groundwater recharge. Forest cover consists of mid-aged conifer, conifer-topping hardwood, and hardwood with young conifer; these forest stages are interspersed with small stands of mature hardwood. Forest cover in the area protects watershed resources, serves as habitat for wildlife, and provides open space and scenic and recreational resources. Snags, downed logs, and woody debris found in the area are critical structural and functional components of the watershed ecosystem. This area also provides scenic views and passive recreational opportunities from the existing trail network (BPS 1992). In addition, this area includes regionally significant wildlife habitat, which provides important feeding, breeding, and nesting habitat for native wildlife. Functions provided by this habitat include larger habitat patch size, interior habitat area, and connectivity between various habitats.

The anomaly repairs are within the Lower Doane Creek/Quarry (Resource Site 94 identified in the NAPP). Approximately 95 percent of the site is in forest cover. The area provides high-quality food, moderately high-quality cover, and high-quality water for resident and migratory wildlife. This site has a diverse riparian habitat, and climax conifer species are well established in the uplands. Fauna using this site include black bear, porcupines, pileated woodpecker, pygmy owl, red-tailed hawk and a variety of songbirds. Forest cover protects watershed resources, serves as habitat for wildlife, and provides open space, scenic, and recreational resources. Scenic views and passive recreational opportunities are provided along Leif Erikson Drive (scenic corridor) and Wildwood Trail (40-Mile Loop) (BPS 1992).

3 Alternatives Evaluation

The pipeline's permanent in situ location does not allow for consideration of alternative locations to repair anomalies along the pipeline; however, alternatives for site access, tree removals, and excavation methods are presented in the following subsections.

3.1 Alternatives 1A and 1B: Joint 1300 Access Route

As access to Joint 1300 from the Joint 1510 site would require removal of several live trees along Oil Line Road (which becomes very narrow in this area) for safe maneuvering of construction equipment, the Bureau of Development Services (BDS) City planner requested that SFPP look at an alternative route to access this site during the pre-application meeting for this project.

Table 3 identifies Alternatives 1A and 1B, their ability to meet the project objectives listed in Section 1.2, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs. Alternative 1A would access the Joint 1300 repair location from the Joint 1510 location on Oil Line Road, and Alternative 1B would access the Joint 1300 repair location from the east via NW Leif Erikson Drive. Both alternatives would access Joints 1600 and 1510 via Firelane 7 and Oil Line Road, which is already predominantly cleared of trees to this point, and Joints 1670/1680 via vegetation clearing in an area downslope from Joint 1600.

Table 3. Alternatives 1A and 1B Evaluation

Alternative	Objectives		Description	Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact		
1A: Access to Joint 1300 from NW Springville Road via Firelane 7/Oil Line Road	Meets	Meets	Access to Joint 1300 location would be along Oil Line Road, continuing east from Joint 1510.	This alternative would use park roads that are predominantly cleared of trees. However, this alternative would require removal of 27 live trees and potential removal of an additional 2 live trees[1] along Oil Line Road between the Joint 1510 and 1300 sites, where Oil Line Road is significantly narrower. Between the Joint 1510 and 1300 sites, Oil Line Road follows a flat to gently sloping ridgeline; therefore, no steep slope protection measures would be necessary along this access route. The understory vegetation in this route is not densely populated with groundcover forbs or ferns. Minimal to no salvage and replanting of ferns is anticipated to be required along this access route. This alternative would require closure of Fire Lane 7/Oil Line Road during access to all joints for a length of time of approximately 7.5 weeks (**Table 6**). This alternative meets Objective 1 (repair pipeline anomalies) and Objective 2 (limit environmental impact), as potential long-term erosion control issues would be minimal compared to Alternative 1B.
1B: Access to Joint 1300 from NW Leif Erikson Drive	Meets	Does Not Meet	Access to Joint 1300 site would be from NW Leif Erikson Drive. As NW Leif Erikson Drive does not directly abut the anomaly at Joint 1300, a path approximately 270	Clearing of the 270-foot-long path to access Joint 1300 from NW Leif Erikson Drive would require removal of six trees and a large swath of ferns on a steep slope. A winch dozer would be needed to maneuver equipment up the steep slope to access Joint 1300 from NW Leif Erikson Drive; for safe operation, this winch dozer would require an area approximately 625 square feet just outside the Joint 1300 excavation site to be cleared of vegetation and graded.

Alternative	Objectives		Description	Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact		
			feet long through a forested area with a 41% slope would need to be cleared to connect the access road to the work site.	This option would expose soils and plant roots on a steep slope with high landslide risk, which would likely result in erosion concerns in the short- and long-term time frames. Additionally, the many exposed roots of plants adjacent to the cleared area would be at risk of damage from heavy equipment even with protective woodchips, which would be difficult to keep in position on a slope of this angle. This alternative would require closure of Fire Lane 7/Oil Line Road during access to all joints for a length of time of approximately 6.5 weeks and an additional closure of NW Leif Erickson Road for approximately 3 weeks. This is a more extensive and longer overall trail/road closure period than under Alternative 1A for all work planned in 2024. This alternative meets Objective 1 (repair pipeline anomalies) but does not meet Objective 2 (limit environmental impact), as erosion control issues on the steep slope are anticipated to have a greater long-term environmental impact at the site than the greater number of tree removals under Alternative 1A.

[1] Total does not include trees to be removed for excavation and equipment staging at the Joint 1300 pipeline repair location.

As indicated by the discussion in **Table 3**, Alternative 1A is the preferred alternative, as it satisfies both Objectives 1 and 2. Additionally, since it is possible that pipeline repairs could be required in future years on the portion of Oil Line Road between Joints 1510 and 1300, clearing of trees in this area may eventually be required even if Alternative 1A is not selected at this time.

3.2 Alternatives 2A and 2B: Definite vs. Potential Tree Removal

Existing trees would require removal (e.g., felling) to enable access to and excavation of the proposed anomalies during repair work. Information on the location, species, and diameter at breast height of trees along the access route and near all joints has been completed by certified arborists from Sav-A-Tree. This assessment also included a field determination in coordination with construction contractor personnel of which trees would need to be removed for equipment access along the access route (Firelane 7 and Oil Line Road) and for excavation at all pipeline repair locations. The assessment by Sav-a-Tree also included a follow-up site visit with Urban Forestry on December 11, 2023, to verify identification of definite and potential tree removals.

It has been determined that total of 58 trees would definitely inhibit proposed anomaly repair work by blocking vehicle/equipment access to repair locations and/or by being located within close proximity to anomaly locations that would require excavation. A total of 17 trees would potentially inhibit proposed anomaly repair work given the likelihood that their root systems would overlap with anomaly excavation locations (per root protection zone calculations). Determining whether these 17 trees would actually require removal would depend on two factors: 1) the actual length of the excavation trench (assumed at a maximum of 50 feet long for permitting purposes but actually determined upon examination of the anomaly severity after initial excavation), and 2) the actual root system overlap of the trees with the excavation area (that can only be determined after excavation begins).

There are two alternative approaches to address these tree removals. Alternative 2A would involve preemptively removing all trees that would definitely or potentially inhibit proposed anomaly repair work. Preemptive removal indicates removal during the vegetation clearing stage of work (prior to excavation work). Alternative 2B would involve preemptively removing only the 58 trees that would definitely inhibit proposed anomaly repair work as described above. The 17 trees flagged as potentially inhibiting proposed anomaly work would only be removed as needed on a case-by-case basis while excavation progresses and the actual extent of their root systems can be examined by an on-site arborist.

Table 4 identifies Alternatives 2A and 2B, their ability to meet the project objectives listed in Section 1.2, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs.

Table 4. Alternatives 2A and 2B Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact	
2A: Preemptive Removal of All Trees with Potential to Inhibit Anomaly Repair Work	Meets	Does Not Meet	This alternative involves removal of 75 trees with potential to inhibit anomaly repair work prior to excavation. While preemptive removal of all 75 trees could expedite the construction timeline (by avoiding the need to pause excavation, as described under Alternative 2B), up to 17 of the 75 trees may not require removal if they are not ultimately impacted by excavation. Therefore, this alternative would likely result in the unnecessary removal of multiple trees. Forest cover functions to protect watershed resources, wildlife habitat, and open space, scenic, and recreational resources. Unnecessary reduction in the forest cover would impact the ability of the area to maintain these functional values and would also result in reduced shade, thereby altering microclimate regulation and existing understory vegetation. Per the project-specific Fire Prevention Measures included in the Fire Prevention Plan (**Appendix B**), all downed wood from felled trees must be hauled away and disposed of off-site, thereby reducing the capability of removed trees to provide habitat as downed logs or woody debris. Therefore, this alternative meets Objective 1 (repair pipeline anomalies) but does not meet Objective 2 (limit environmental impact).
2B: Preemptive Removal of Only Trees with Definite Potential to Inhibit Anomaly Repair Work (and Removing Other Trees As Needed During Excavation)	Meets	Meets	This alternative involves removal of 58 trees flagged for definite removal prior to excavation. The remaining 17 trees with potential to impact anomaly repair would be removed as needed during excavation based on the extent of excavation and their actual root system overlap with the excavation trench (determined by the on-site arborist). This alternative could delay the construction schedule slightly (as excavation must pause each time a tree must be removed). However, avoidance of unnecessary tree removals would help preserve the site's existing resources and functional values associated with forest cover, as described above, to the maximum extent practicable while repairing pipeline anomalies. Therefore, this alternative meets Objective 1 (repair pipeline anomalies) and Objective 2 (limit environmental impact).

As indicated by the discussion in **Table 4,** Alternative 2B is the preferred alternative, as it satisfies both Objectives 1 and 2.

3.3 Alternatives 3A and 3B: Hand Excavation vs. Mechanized Excavation on Steep Slopes

Anomaly repairs near Joints 1300, 1670, and 1680 are located on a steep (35–52 percent) slopes. These slopes are densely vegetated with trees and ferns.

There are two potential approaches to excavate the existing pipeline and conduct anomaly repairs on steep slopes. Alternative 3A would involve hand excavation (i.e., the use of non-mechanized tools like shovels) to excavate the work areas. Alternative 3B would involve using mechanized excavation to repair the anomalies.

Table 5 identifies Alternatives 3A and 3B, their ability to meet the project objectives listed in Section 1.2, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs.

Table 5. Alternatives 3A and 3B Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact	
3A: Hand Excavation of Anomalies on Steep Slopes	Does Not Meet	Does Not Meet	This alternative involves hand excavation of the anomalies located on the steep slopes near Joints 1300, 1670, and 1680. Because no mechanized equipment would be used for excavation, vegetation and soil disturbance around the trench during excavation would be limited to workers walking up and down the slope rather than heavy machinery running up and down the slope. Limiting vegetation and soil disturbance would help preserve the resources and functional values present on the site, including but not limited to preserving wildlife habitat. However, once excavation is complete, repair of the exposed anomaly would likely require the transportation of heavy equipment up and down the slope along the trench, thereby requiring a pathway cleared of trees and ferns similar to what would be required for a mechanized excavator. Additionally, given that these steep slopes are primarily composed of tough bedrock, hand excavation would take much longer than mechanized excavation, thereby leaving soil and an open trench exposed on a slope for a longer period of time when compared with mechanized excavation. There is also potential for hand excavation on a steep slope to simply not include enough force to break through bedrock to reach certain anomalies for repair, thereby requiring a mechanized excavator to be brought to the site to complete the job. Therefore, this alternative is not guaranteed to satisfy Objective 1 (repair proposed anomalies) in an efficient manner. The potential of this alternative to leave soil exposed for longer periods of time, and possibly require returning to the site with mechanized excavators if bedrock proves too tough, offsets any environmental benefit from minimizing soil disturbance during the excavation period of repair work. Therefore, this alternative would not satisfy Objective 2 (limit environmental impact).
3B: Mechanized Excavation of Anomalies on Steep Slopes	Meets	Meets	This alternative involves mechanized excavation of the anomalies located on the steep slopes near Joints 1300, 1670, and 1680. Although using heavy machinery on the steep slopes would disturb soil, mechanized excavation would expedite excavation so that soil exposure on a slope is minimized. Therefore, this alternative would satisfy Objective 1 (repair proposed anomalies) in an efficient manner while minimizing soil and vegetation disturbance to the maximum extent practicably, thereby satisfying Objective 2 (limit environmental impact).

As indicated by the discussion in **Table 5**, Alternative 3B is the preferred alternative, as it satisfies both Objectives 1 and 2.

3.4 Alternatives 4A, 4B, and 4C: Post-Repair Steep Slope Stabilization

Anomaly repairs near Joints 1300, 1670, and 1680 are located on steep (35–52 percent) slopes. These slopes are similar in gradient to Joint 1730 and Joint 1810, which each experienced slope failure and slumping after pipeline repair. In an effort to mitigate potential slope stability issues at Joints 1300, 1670, and 1680, slope stabilization alternatives have been assessed for implementation after backfilling of excavation areas.

There are three potential approaches to stabilize slopes along Joints 1300, 1670, and 1680, each installing a different slope stabilizing product across the slope surface after backfilling. Alternative 4A would install Curlex (as was completed in previous excavations at Joint 1810 and Joint 1730), Alternative 4B would install Geocells, and Alternative 4C would install armor stone (i.e. riprap). **Table 6** provides detailed information on Alternatives 4A, 4B, and 4C and their ability to optimally stabilize slopes and limit environmental impact within and adjacent to the anomaly repairs.

Table 6. Alternatives 4A, 4B, and 4C Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Stabilize Steep Slopes	2: Limit Environmental Impact	
4A: Curlex	Does Not Meet	Meets	This alternative would maintain the procedures from joint repair work permitted in 2024 along the pipeline with the installation of Curlex turf-reinforcing matting at steep slopes. Curlex installation was completed after backfilling at steep slopes in 2024 pipeline repair work at Joint 1810. This location experienced slope failure within 6 months of work completion. Curlex is a biodegradable (or photo-degradable) erosion-control product designed to provide longer-term protection from erosion over layered straw. Slits are cut into the Curlex matting to allow for planting without damage to the overall integrity of the product. While it does slow water flow over a slope surface, it does not provide year-over-year slope stabilization. Therefore, this alternative satisfies Objective 2 (limit environmental impact but does not meet Objective 1 (stabilize steep slopes).
4B: Geocells	Meets	Meets	Geocells are a flexible, porous web of durable high density polyethylene (HDPE) cells that hold soil in place on slopes and other areas with potentially unstable soils, including temporary unpaved roads, embankments, and shoreline areas. Geocells are ISO 9001 quality-certified and are resistant to both oxidation and weathering.[1] Geocells are designed to be infilled with topsoil and then planted and seeded with desired vegetation, thereby further increasing soil stability over time as plants become established. This alternative would install Geocells on slopes at Joints 1300, 1670, and 1680 after excavations are backfilled. Wooden stakes would be inserted in regular intervals to hold the Geocells in place on the slopes. Geocells would be filled with stockpiled topsoil, salvaged ferns would be planted into Geocells, and the approved seed mix would be distributed at the sites. Over time, roots of seeded species and planted ferns would further support the stability of these slopes. This alternative therefore satisfies both Objective 1 (stabilize steep slopes) and Objective 2 (limit environmental impact).
4C: Riprap	Meets	Does Not Meet	Riprap (also called armor stone, or shot rock) is a layer of stones installed on a surface to prevent the erosion of soil and protect the slope underneath. Riprap comes in many forms, types, and sizes. It is generally useful in areas where other erosion control measures are inappropriate or have exceeded their stabilization utility. If the excavation sites in question were not situated in a location of high ecological value, riprap would be the obvious choice for slope failure prevention. This alternative clearly meets Objective 1 (stabilize steep slopes). Riprap is a natural option, in that it consists of natural, quarried stone rather than concrete; however, the US Environmental Protection Agency recommends[2] installing a geotextile or gravel layer under riprap, which introduces a non-natural element. It would also require many trucks to haul in the stone over unimproved roads, potentially not possible in the event of schedule overruns, and does not allow for any revegetation within the disturbance area. This alternative does not meet Objective 2 (limit environmental impact).

[1] Product Specification – GEOWEB® Geocells. 2016. https://prestogeo.wpenginepowered.com/wp-content/uploads/2016/10/Geoweb-Specification-Summary.pdf

[2] Stormwater Best Management Practice – Riprap. 2021. https://www.epa.gov/system/files/documents/2021-11/bmp-riprap.pdf.

As indicated by the discussion in **Table 6**, Alternative 4B is the preferred alternative, as it satisfies both Objectives 1 and 2.

4 Project Description

4.1 Construction Timeline

Anomaly repairs described in this application are proposed to occur in spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (annually from October 1 through May 1).[4] **Table 7** details the proposed timeline to complete anomaly repairs. The table details each joint location and the duration of anticipated work to be completed in 2024.

Table 7. Tentative Pipeline Anomaly Repair Schedule[1]

Anomalies Identified	Nearby Pipeline Joint(s)	BMP Install/ Vegetation Removal[2,5]	Excavation/Repair	Restoration Phase 1[2,5]	Total Consecutive Days[3]	Tentative Dates[2,4]
SCC-26 SCC-27	1300	2 days	9 days	2 days	13 days	May 1 – May 15
OR-003	1510	1 day	6 days	1 day	8 days	May 15 – May 23
KM-91 OR-004 OR-005 OR-006	1680 1670	2 days	18 days	2 days	22 days	May 23 – June 18
29-UCC	1600	2 days	6 days	2 days	10 days	June 20 – June 28
TOTAL DAYS OF WORK/WORK WINDOW DATES					**53 days[2]**	**May 1 – June 28**

[1] Joint excavations are listed in order of repair.

[2] BMP Install/Vegetation Removal, Excavation/Repair, and Restoration Phase 1 must occur concurrently at subsequent locations for erosion/sedimentation control and safety purposes. Tentative dates for work at subsequent joints therefore overlap during the BMP Install/Vegetation Removal and Restoration Phase 1 phases of work. Backfill and Phase 1 restoration of excavated/disturbed areas must occur immediately after completion of each anomaly repair.

[3] It is assumed crew would work 6-day weeks, with Sundays off. However should schedule delays occur, Sundays would be incorporated into the schedule so as to avoid extensions later into summer.

[4] This schedule was drafted with the assumption that only anomaly repairs (rather than entire segment replacements) would occur near each joint. Every 50-foot segment of pipeline that requires entire replacement (rather than repair) would extend the "Excavation/Repair" days by 1 week. This schedule also assumes no significant weather or work delays due to high winds, fire, rain, numerous removals of trees designated as potential removals (that require excavation to pause), etc.

[5] Locations with greater than 1 day of BMP Install/Vegetation Removal and/or Restoration have more extensive natural vegetation (primarily ferns) to salvage and/or replant.

Acronyms: BMP = best management practices.

4.2 Proposed Roadway/Trail Closures

Repair work described in this land use review application narrative would require closure of Oil Line Road from its intersection with Firelane 7A east to its intersection with Wildwood Trail (approximately 0.34 miles). The time frame for this closure would be the same duration of length of work at pipeline Joints 1300, 1510, 1600, and 1670/1680—approximately 7.5 weeks from May 1 to June 28 (**Table 7**). A section of Wildwood Trail would also require closure during repair of anomalies at Joints 1670 and 1680 (May 23–June 18). Additional trail closures would be required for work occurring in other locations within Forest Park that are still authorized under previous years' land use review processes (see Section 1.1).[5] Closures are described in the Traffic Control Plan included as **Appendix C**.

[4] Although work is expected to occur outside of the dry season, SFPP understands that fire risk is a substantial concern for residents in the area and park users. A Fire Prevention Plan prepared in 2022 for other pipeline work was reviewed and approved by the Oregon Department of Forestry (ODF); this plan was written for all SFPP pipeline segment replacement and anomaly repair work in perpetuity. Updates to the plan would only be required if Portland Parks and Recreation (PP&R) requests changes. This Fire Prevention Plan and Additional Fire Prevention Details for Construction Personnel based on the Fire Prevention Plan and PP&R guidance during previous pipeline work in Forest Park are included as **Appendix B.**

[5] New anomalies requiring repair in 2024 were detected at Joints 2100 and 2360; however, disturbance at these locations would be in the same footprint as those authorized under the 2023 land use authorization process (LU-23-021553 EN). Repairs of slope

Signage, coning, and/or fencing would be used along closed trails and roads as deemed necessary and appropriate by PP&R to keep people away from construction vehicles, equipment, and disturbance areas and to warn park users of any hazards while the activities are taking place. All trail and road closures would be temporary; roadways and trails would be reopened immediately following anomaly repair. Road or trail closures will require payment of an impact fee to PP&R, total to be calculated as part of the Non-Parks Use Permit (NPUP) process.

4.3 Construction Details

4.3.1 Crew and Equipment

In order to complete all anomaly repairs in a 7.5-week timeline outlined in **Table 7**, one construction crew would be working Monday through Saturday from 8 am through 8 pm. The construction crew would consist of five workers and an inspector. Construction equipment would likely include a skid steer, a John Deere 135 excavator, an F-550 pickup weld truck, four F-250 pickup trucks, and potentially a hydroseed truck. One SFPP and one AECOM inspector vehicle would also be on-site intermittently. If it is determined that a welding rig is required, six additional workers would be required on-site.

Because of the limited space, vehicles and equipment that are unnecessary or do not fit in designated staging areas would be kept at the SFPP facility until needed on-site. At construction sites, vehicles and all unused equipment would be staged within Oil Line Road and the footprint of the Wildwood Trail so as to minimize vegetation clearing.

Construction vehicle and equipment fueling is anticipated to occur within Forest Park, with associated best management practices (BMPs) to be installed in all sensitive areas. Towable equipment would be fueled off-site. Larger equipment would be refueled using safety cans. Environmental spill kits would be available on-site.

4.3.2 Disturbance Areas

The approximate sizes of temporary disturbance areas associated with construction at each repair location, along with the vegetation clearing area sizes, are provided in **Table 8**. Excavation of each pipeline segment would be approximately 10 feet in width (centered on the pipeline) and 8 feet in depth (to approximately 2 feet below the pipeline). Estimated temporary disturbance boundaries for all joints are shown in **Figure 3 of Appendix A**.

Table 8. Proposed Temporary Disturbance Area and Excavation for Anomaly Repair

Anomalies Requiring Repair	Nearby Pipeline Joint[1]	Temporary Disturbance[2] (sf)			Excavation Length (ft)[3]	Excavation Area (sf)[3]	Excavation/ Fill Volume (cy)[4]
		Vegetation Clearing Area	Trail Disturbance	Access Route Disturbance (Unpaved Roadways)			
SCC-26, SCC-27	1300	1,350	0	23,682 (Oil Line Road)	70	700	207
OR-003	1510	1,787	0		70	700	207
29-UCC	1600	1,456	0		70	700	207
OR-004, OR-005, OR-006, KM-91	1670, 1680	10,582	203 (Wildwood Trail)	0	120	1,200	356

failures or slumping at Joints 1730 and 1810 are also planned to occur in 2024; work at these locations has been authorized under the 2022 (LU-21-056437 EN) and 2023 (LU-23-021553 EN) land use authorization processes. respectively. As such, planned work at these sites is not included in this application.

Anomalies Requiring Repair	Nearby Pipeline Joint[1]	Temporary Disturbance[2] (sf)			Excavation Length (ft)[3]	Excavation Area (sf)[3]	Excavation/ Fill Volume (cy)[4]
		Vegetation Clearing Area	Trail Disturbance	Access Route Disturbance (Unpaved Roadways)			
Total Temporary Disturbance		**15,175 sf**	**203 sf**	**23,682 sf**	**Total Excavation**		**977 cy**
Total Temporary Disturbance (all types)				**39,060 sf (0.897 acres)**			

[1] Joints are listed from northeast to southwest (in the direction of pipeline content flow).

[2] Maximum temporary disturbance areas are estimated at 100 feet by 20 feet for single joints. The maximum temporary disturbance area for the combined Joint 1670/1680 is estimated at 150 feet by 20 feet. Portions of Firelane 7 and Oil Line Road used for construction access eastward to the Joint 1510 location are not considered part of the vegetation clearing areas, as they are actively maintained as a roadway. The portion of Oil Line Road between Joint 1510 and Joint 1300 is narrow and densely vegetated, and will therefore require disturbance as well as tree clearing for equipment to access Joint 1300.

[3] Excavation area was calculated by multiplying the maximum possible excavation length by the excavation width (10 feet). Maximum possible excavation length for work at each individual joint is estimated at 70 feet (joint lengths are 50 feet each, plus 10 feet on each end). Maximum excavation length for Joints 1670 and 1680 is 120 feet (two joint lengths of 50 feet each, plus 10 feet on each end).

[4] Excavation/fill volume was calculated by multiplying the excavation area by the excavation depth (8 feet) and dividing by 27. All excavated soils would be reused as backfill unless specific conditions warrant. Therefore, excavation and fill totals are the same.

Acronyms: cy = cubic yards; ft = feet; sf = square feet.

4.3.3 Geotechnical Considerations

General geotechnical recommendations are included in **Appendix D,** *LS-14 Pipeline – 2024 Joints Replacement and Repair Geotechnical Memorandum***.** Measures presented in this report will be implemented as needed throughout the construction process.

4.3.4 Construction Actions

Specific construction details are presented in the subsections below, in the general order of operations.

4.3.4.1 Site Access

The excavation locations would be accessed via Firelane 7 and Oil Line Road, both of which are fire lanes within the park. Firelane 7 is generally wider, less vegetated, and more easily passible than Oil Line Road. In the locations of Joints 1300 and 1510, Oil Line Road is more equivalent to a footpath rather than an actual road, and as such, will require vegetation and tree clearing so that movement of machinery is possible in this area. Oil Line Road in these areas also provides drainage for surface water, and soils around tree roots have eroded in some locations. If conditions warrant, the contractor would lay approximately 14-foot-wide composite matting on top of Oil Line Road to minimize soil disturbance to the maximum extent practicable. Some soil redistribution and/or bark chip deposit may still be required prior to matting installation to create an even ground surface.

4.3.4.2 Tree Clearing – Definite Removals

The 58 trees identified for “Definite Removal” would be felled prior to excavation. All downed wood from felled trees would be hauled away and disposed of off-site. A certified arborist would be on-site during all tree removals. Tree impacts and subsequent mitigation are described in more detail in Section 6.2. Any existing fallen trees would be cleared from the access routes and temporary disturbance area but retained on-site.

4.3.4.3 Vegetation Clearing and Fern Salvage

Vegetation clearing is required within portions of the temporary disturbance areas to make room for excavation, vehicle/equipment access, stockpiles, and potential composite mats. Existing shrubs and forbs would be grubbed within vegetation clearing areas.

Anomalies located near Joints 1300, 1670, and 1680 are in steeply sloped areas densely vegetated with large sword ferns. Ferns in these areas would be salvaged (e.g., dug up prior to excavation, placed outside of the temporary disturbance area during repair work, and replanted after backfill completion). If composite matting is used where ferns are present, ferns within matting areas would be left in place (i.e., not salvaged).

4.3.4.4 Grading

Temporary cut and fill grading may be required to flatten slopes and/or create work benches around the proposed excavation areas for constructability purposes. To minimize the risk of destabilizing existing slopes, the lateral extent of cut/fill grading would be limited to the extent possible, and the height of cut/fill grading outside the immediate pipeline trench excavation footprint would be limited to less than 2 feet below/above existing grade.

4.3.4.5 BMP Installation

Erosion and sediment control BMPs would be placed at the limits of temporary disturbance and downgradient of vegetation clearing areas. Orange construction fencing would be used to demarcate the maximum extents of ground disturbance so tree protection can be established (refer to Tree Protection Plan, **Appendix E**). BMPs are described in more detail in the Construction Management Plan (**Figure 3 of Appendix A**) and listed in Section 4.4.

4.3.4.6 Tree Clearing – Potential Removals

The 17 trees identified for “Potential Removal” would only be felled prior to or during excavation if deemed absolutely necessary from a worker safety standpoint. If the arborist on-site approves the removal of one of these trees, work near the tree would cease until tree removal is complete. The arborist would be required to send photos and a summary of the impacts that forced the tree to be removed (e.g., number and size of roots pruned, proximity to the tree, tree’s condition) to Urban Forestry and PP&R. This information must be submitted as soon as possible following the removal. Tree impacts and subsequent mitigation are described in more detail in Section 6.2.

4.3.4.7 Excavation and Stockpiling

An excavator would be used to excavate soils around the pipeline at the anomaly locations. Anomalies at Joints 1300, 1670, and 1680 are in steeply sloped areas; excavation of these anomalies could require tying the working excavator to a stationary upslope excavator for stabilization on steep slopes. Vehicles and all unused equipment at excavation locations would be staged within Oil Line Road and the footprint of the Wildwood Trail, as appropriate.

Excavated soils would be stockpiled, keeping topsoil (the upper 12 inches) segregated from subsoils. Preservation of the topsoil is important for restoration planting survival and maintaining site ecology, as topsoil contains vital nutrients, fungi, and microbes that facilitate plant growth. Stockpiles would be located on either side of the excavation area on flat ground or be compacted until stable if no flat ground is available. Maximum stockpile height would be 3 feet or less, and stockpile slope angles would be limited to reduce the risk of slope instability. Excavated soil stockpiles would be kept at least 2 feet away from the edge of the trench walls, excavation side slopes, and steep natural slopes to reduce the risk of slope instability.

No stockpiling of soils on Wildwood Trail (in the area of Joints 1670 and 1680) would occur. Stockpiles near Joints 1510 and 1600 would be located on the nearest flat, stable ground to the anomaly location. In the event of anticipated rain, stockpiles would be covered with plastic sheeting held down with sandbags to be protected from wind and rain erosion.

Surface drainage will be maintained away from excavations, and ponding will not be permitted to occur. Excavations will be left open for the shortest possible duration to minimize moisture changes in exposed soils. Open excavations will be protected to prevent entry of surface water. Site areas would be graded to prevent ponding of water, and special attention will be paid to surface drainage near existing steep slopes.

4.3.4.8 Dewatering

If excavation occurs during wet weather, limited construction dewatering may be needed to control localized seepage from perched water zones. This seepage can be managed by collecting in sumps, pumping out of the excavation, and discharging away from the work zone to limit the deterioration of exposed surfaces. Concentrated discharge onto slopes would be avoided so as to reduce the risk of erosion and/or initiation of slope instability.

4.3.4.9 Anomaly Repair

After excavation, the detected anomaly would be inspected to determine the extent of repair needed. Repair of discrete anomalies would occur either via a composite wrap or metal sleeve around the anomaly. Replacement of the entire pipeline segment may be required if the anomaly is extensive. Pipeline segment replacement would involve excavating, cutting out, and removing the damaged pipeline segment containing the anomalies. A new pipeline segment would then be installed, and a new protective coating would be wrapped around the pipeline. A vacuum truck, an x-ray rig, and shoring trucks would be required in the event of pipeline segment replacement.

4.3.4.10 Backfilling

Following anomaly repairs, the excavation areas would be backfilled and compacted using existing spoils piles on-site, with topsoil placed above excavated subsoil, and all construction equipment would be removed. Measures presented in the report in **Appendix D** would be implemented as needed as part of the backfilling and compaction process.

It is highly likely that soils with high moisture contents and/or saturated soils will be encountered during the pipeline repair. For sites on steep slopes, it will be necessary to dry the excavated soils to an acceptable placement moisture content before reuse as backfill so that landslide risk is reduced. Drying will preferably be done by mixing excavated soils with dry Portland cement (dry form) and/or pebble quicklime (i.e., chemical soil drying). These materials would be mixed into excavated subsoil in batches so that a permanent chemical reaction is produced. Treated subsoil would then be placed in horizontal lifts and would be keyed-in by benching the cut slopes of excavations to reduce the risk of developing preferential slip planes. Geocells (such as GEOWEB 3D Slope Protection System) will be installed on steep slope areas, and a final layer of the on-site topsoil would be placed inside the Geocells to promote vegetation growth (**Figure 6 of Appendix D**).

4.3.4.11 Site Restoration and Revegetation

Restoration would occur at all repair locations, and access routes would occur in two phases following construction. Phase 1 would occur immediately following construction and involves restoring affected trails/roadways, replanting salvaged shrubs and mitigation saplings, and seeding disturbed areas. Phase 2 would occur in late fall/early winter 2024 and involves planting shrubs as restoration for vegetation clearing. Tree removals would be mitigated via fee in lieu payment. Post-construction restoration is described in more detail in Section 4.5. Mitigation is described in more detail in Section 6.

4.4 Construction Management

Construction management consists of the BMPs listed below, as well as the following plans:

- Construction Management Plan (**Figure 3 of Appendix A**)
- Restoration Plan: Seeding, Shrub Planting, and Fern Replanting (**Figure 4 of Appendix A**)
- Fire Prevention Plan (**Appendix B**)
- Geotechnical Report (**Appendix D**)
- Tree Protection Plan (**Appendix E**)

Several of the BMPs listed are reflected in the aforementioned plans. These BMPs and plans would be implemented to minimize short-term impacts to site resources and functional values.

4.4.1 Fire Prevention

Repair work included in this application is anticipated to be completed in spring 2024 prior to the start of the dry season. However, if any work extends into the fire season, all work will comply with the Fire Prevention Plan included as **Appendix B**. Regardless of season, all pruned tree limbs and felled trees will be hauled off-site the day they are cut so as not to contribute to the accumulation of flammable materials in the park.

4.4.2 Tree Protection

A certified arborist has prepared a Tree Protection Plan that details various measures to be implemented to protect trees during construction. Refer to **Appendix E** for a complete list of tree protection measures.

4.4.3 Disturbance Limits

Construction work (including vegetation clearing; excavation; anomaly repair/replacement; vehicle/equipment laydown, staging, and movement) will be conducted within orange construction fencing (that will also act as tree protection fencing) to minimize potential impacts to vegetation and ground surfaces. (See **Figure 3 of Appendix A**.)

4.4.4 Sensitive Resource Protection BMPs

- All motor vehicles will be clean and weed-free upon entering Forest Park.
- Construction vehicles will be fueled from safety cans. Environmental spill kits will be available on-site and around the fuel spout each time fueling occurs.
- Machinery will be staged on the nearest stable, flat ground to the active repair site.
- Vegetation clearing will be compensated for through restoration (seeding of disturbed areas and shrub planting per City code). Tree removal will be compensated for through mitigation as negotiated with the City and BDS. Prior to restoration, non-native invasive species (specifically, reed canarygrass [*Phalaris arundinacea*] and Himalayan blackberry [*Rubus armeniacus*]) will be removed from all areas within 10 feet of restoration planting areas using handheld equipment. (See **Figure 4 of Appendix A**.)

4.4.5 Erosion and Sediment Control BMPs

- Temporary disturbance area boundaries will be installed using temporary orange construction fencing, as shown in the Tree Protection Plan (**Appendix E**) to avoid ground disturbance outside of the designated temporary disturbance areas. (See **Figure 3 of Appendix A**.)
- Silt fencing that is properly keyed into the excavation and surrounding disturbance areas will be installed downslope of all excavation and temporary disturbance work (see **Figure 3 of Appendix A**.) These silt fences will remain in place until after Phase 1 restoration seeding at the site has established, as determined during site compliance visits to occur until late spring/early summer of 2025.
- Silt fences will be installed for erosion and sediment control on steep slopes (near Joints 1300 and 1670/1680), and straw wattles will be installed at other sites (see **Figure 3 of Appendix A**.)
- Excavated materials to be used as trench backfill will be covered with plastic sheeting and protected from precipitation during rainy or windy conditions.
- Temporary excavations will be left open for the shortest time period possible to minimize subgrade saturation, sidewall sloughing, and/or infiltration into the subsurface, which could increase porewater pressures and contribute to slope instability.
- Excavations will be maintained dry. Any groundwater seepage into excavations will be collected and pumped out. Surface water should be controlled and directed away from excavations and steep slopes.

- Backfill materials will be compacted in thin horizontal lifts and be keyed-in to any cut slopes to reduce the risk of developing preferential slip planes.
- Vegetation seeding and replanting of salvaged ferns will occur immediately after backfilling to reduce the risk of washout and erosion due to precipitation. Details about replanting and reseeding efforts are included in Section 4.5.
- Following application of seed mixes during Phase 1 of restoration, seeded areas will be covered by a thick layer of weed-free straw. (See **Figure 4 of Appendix A**.)
- Biodegradable fiber matting will be installed on seeded and strawed slopes to further reduce the potential for soil erosion and increase the likelihood of seedling establishment.
- Native shrubs will be planted during Phase 2 restoration in portions of the disturbance areas associated with anomaly repairs near Joints 1510 and 1600 (see **Figure 4 of Appendix A**). The density of replanted ferns near Joints 1300, 1670, and 1680 precludes the need for additional shrub plantings.

4.4.6 Excavation Area Isolation BMPs (In the Event That Joint Replacement Is Required)

- The excavation area will be isolated with impervious plastic sheeting that can capture and contain any residual fuels that may leak from the pipeline after cutting.
- Absorbent materials will be retained on-site to quickly absorb any fuels that drip into the plastic-lined trench.
- Open pipe ends will be temporarily capped while preparing to install replacement pipe to minimize fumes.

4.4.7 Construction Vehicles, Equipment, and Trail/Roadway Use BMPs

- Construction workers will only access the anomaly repair locations via the designated construction access route as shown in **Figure 3 of Appendix A**.
- Low-ground pressure equipment will be utilized to the extent possible, and construction vibrations will be minimized.
- Signage, coning, and/or fencing will be used along park roads and trails as deemed necessary and appropriate by PP&R to keep people away from construction vehicles, equipment, and disturbance areas and to warn park users of any hazards while the activities are taking place.

4.5 Restoration

Restoration is proposed in two phases as detailed in Sections 4.5.1 and 4.5.2. Specifications for steep slope areas associated with anomaly repair sites near Joints 1300, 1670, and 1680 are provided in **Table 9**.

Table 9. Proposed Restoration Actions

Restoration Phase	Action
Phase 1 (Summer 2024; Immediately Following Repair Work)	• Install Geocells on slope. • Remove all reed canarygrass and Himalayan blackberry within 10 feet of temporary disturbance area and dispose of in a landfill off-site. • Broadcast seed in Geocells and in disturbed upland areas outside of trail with approved upland seed mix. Cover newly seeded upland areas with weed-free straw. • Replant salvaged ferns into Geocells on slope.
Phase 2 (Late Fall/ Early Winter 2024)	• Plant shrubs in upland areas (species, spacing and quantity detailed in **Table 8**).

4.5.1 Phase 1

Restoration for the anomaly repairs would be divided into two phases. Phase 1 of restoration would occur immediately after excavation backfill and consists of restoring any excessively disturbed areas of Firelane 7, Oil Line Road, and Wildwood Trail by scraping excess mud, smoothing, and compacting these areas. Phase 1 also involves broadcast seeding all temporary disturbance areas with a native seed mix considered sufficient to provide soil stability following construction. As recommended in the Geotechnical Report (**Appendix D**) Geocells may be installed to increase long term slope stability on steep slope sites. Following seeding, salvaged ferns would be replanted along with nursery ferns as necessary to supplement any salvaged ferns that did not survive being out of the ground. Erosion control BMPs would remain in place until the completion of Phase 1 of restoration.

Two seed mixes were selected using species that would provide the best erosion control according to unique habitat and topography (**Table 10**). Seed Mix A is proposed for temporary disturbance areas on steeper slopes near Joints 1300, 1670, and 1680. Seed Mix B is proposed for the temporary disturbances near Joints 1510 and 1600 and the portions of Firelane 7 and Oil Line Road used for construction access. Seed mixes would be applied via hand seeding, and all seeded areas would then be covered by straw.

Table 10. Proposed Restoration Seed Mixes[1]

	Common Name	Scientific Name	Percentage Composition of Mix Bulk
Seed Mix A: Joints 1300, 1670, and 1680 (Steep Slopes)	Vanillaleaf	*Achlys triphylla*	20
	Miner's lettuce	*Claytonia perfoliata*	10
	Blue wildrye	*Elymus glaucus* ssp. *glaucus*	10
	Pacific waterleaf	*Hydrophyllum tenuipes*	20
	Twinflower	*Linnaea borealis*	20
		TOTAL:	**100**
Seed Mix B: Joints 1510, 1600, and Access Route	Blue wildrye	*Elymus glaucus*	20
	Yarrow	*Achillea millefolium*	80
		TOTAL:	**100**

[1] Seed mix species and proportions are based on email consultation with PP&R and may be subject to modification depending on PP&R consultation during the NPUP application process. Species have been selected for short germination period, shade and drought tolerance, and capacity to provide erosion control. PP&R would be consulted for the appropriate seed application rate (pounds of seed per square foot of seeding area).

Acronyms: NPUP = Non-Park Use Permit; PP&R = Portland Parks and Recreation.

4.5.2 Phase 2

Phase 2 of restoration involves planting native shrubs to compensate for vegetation clearing done prior to pipeline excavation work at each of the anomaly repair locations. Given the dry conditions that are likely to be present at the end of Phase 1 of restoration, Phase 2 of restoration would not occur until late fall/early winter of 2024.

Per Section 33.430.150 of Portland City Code, which details standards for utility corridors, at least three different native shrub species are required, in either bareroot condition (if available at time of planting) or at a minimum 1-gallon size, planted at a density of three shrubs and/or per 10 square feet (about 3–5 feet on center).[6] All shrub species proposed for planting are included in the Portland Plant List and were chosen based on reference site conditions, light, and moisture profiles for the applicable planting zone.

Given the dense concentration of existing mature ferns near Joints 1300, 1600, 1670, and 1680, no shrubs are proposed for planting in these areas. Any new shrubs would likely not thrive given the high shade in these areas and would be covered by dense fern foliage from replanted salvaged/nursery ferns, thereby limiting light availability and soil resource availability. Shrubs are proposed for planting in the temporary disturbance areas near Joint 1510 (**Table 11**).

Commented [FL1]: @danni It's BROKEN ☹

Commented [DK2R1]: Not any more—it's ready to rock and/or roll!

Given the planting timing in late fall of 2024 when there is sufficient rain, it is assumed any newly planted shrubs and trees would not require watering to be established. Any newly planted shrubs or ferns that die within the 2-year mitigation monitoring period would be replaced in kind.

[6] Based on a review of site conditions at the joints, shrub spacing of 6 feet on center is recommended. This spacing does not include any salvaged ferns and shrubs/saplings replanted as part of Phase 1.

Table 11. Proposed Restoration Shrubs Proposed Near Joint 1510[1]

Habitat Type	Vegetation Clearing Area (Square Feet)[2]	No. Shrubs Needed[3]	Scientific Name	Common Name	Quantity
Upland, shade	1,787	50	*Symphoricarpos albus*	common snowberry	2
			Frangula purshiana	bitter cascara	5
			Berberis aquifolium	tall Oregon grape	8
			Vaccinium parviflorum	red mountain huckleberry	10
			Oemleria cerasiformis	Indian plum	25

[1] Shrubs were selected to both assist with slope stability and create appropriate native habitat and/or showed good survivability in the vicinity of the disturbance after previous mitigation plantings in 2022 and 2023.

[2] Planting zone square footage does not include the 3-foot-wide Wildwood Trail, as no plants would be planted in this area.

[3] Replacement shrub quantities were calculated by dividing the size of each zone by 36 (as shrubs would be planted 6 feet apart on center and thus each require 36 square feet of space), and then dividing that number by the number of shrub species proposed for planting in each zone. Shrub quantities subject to specimen availability at time of planting.

5 Project Impacts

5.1 Short-Term Impacts

Potential short-term impacts from the proposed construction include disturbance to wildlife habitat, sensitive fauna, nesting/brooding areas, vegetation, and soil stability within the temporary disturbance areas. Direct impacts include disturbance of ground surfaces, vegetation clearing, tree removal, and increased noise. Total estimated temporary disturbance associated with the anomaly repairs is approximately 0.897 acre for all actions (**Table 8**). Up to 75 trees would be removed. Impacts may also be indirect and could include degradation of surrounding wildlife habitat due to increased noise and increased soil erosion during construction. In addition, recreational uses within the project area would be temporarily impacted by closing of Oil Line Road and the Wildwood Trail. However, these potential short-term impacts would be minimized through the implementation of the BMPs detailed in the Construction Management Plan (described in Section 4.4). Further, as described in Section 4.4 and Section 6, the loss of vegetation and trees in the temporary disturbance areas would be considered a temporary loss; many ferns would be salvaged and replanted, and shrubs would be planted to restore vegetation.

Site access and disturbance for the anomaly repairs are located at a sufficient distance from Doane Creek such that creek impacts are not anticipated. Proposed anomaly repairs would require a closure of Oil Line Road (0.34 miles) from the NW Firelane 7A intersection east to the intersection with Wildwood Trail. Further, a section of Wildwood Trail between Trillium Trail and Oil Line Road would require closure during repair of anomalies at Joints 1670 and 1680. However, these closures would be temporary, and these roadways and trail would be reopened immediately following anomaly repair.

5.2 Long-Term Impacts

Potential long-term impacts from the project's proposed vegetation clearing, tree removal, and ground disturbance include a reduction in tree canopy cover, shade, microclimate regulation, wildlife refuge, and nesting/brooding areas associated with deciduous forest cover. However, the temporary disturbance areas are partially within or adjacent to an existing pipeline ROW, some of which is routinely cleared to ensure pipeline accessibility. All anomaly repair locations would continue to be surrounded with dense, contiguous forested area that provides considerable ecological functions (e.g., wildlife habitat). As described in Section 6, payment of a fee to PP&R is proposed to compensate for tree removals required for the proposed work. This fee would be used by PP&R for habitat projects at its discretion. Existing trees that are not removed but experience mortality due to root damage from excavation would be left in place (if not a safety hazard, as determined by the arborist), thereby maintaining habitat complexity.

The pipeline ROW would continue to be used as a ROW following the proposed anomaly repairs. Wildwood Trail would be restored to its original width and condition after the completion of repairs near Joints 1670 and 1680 and would continue to be used as a recreational trail following construction. All disturbed areas would be reseeded with native plant species. Native shrubs would be planted within vegetation clearing areas near Joint 1510. Areas near other joints would be replanted with existing salvaged ferns. Invasive species (primarily reed canarygrass and Himalayan blackberry) would be removed via handheld equipment from all areas within 10 feet of restoration plantings. As a result of the proposed native herb, shrub, and tree plantings, the overall scenic and open space character of the temporary disturbance areas would not be impacted by the proposed project over the long term.

6 Mitigation

6.1 Nesting Birds

The repair work proposed for 2024 would occur during the Primary Breeding Season (between April 15 and July 31 [City of Portland 2022]). Proposed project work would also occur in heavily forested areas that could support breeding of birds protected under the Migratory Bird Treaty Act. As some live tree removal, shrub removal, grassland mowing, and ground cover removal would be needed to conduct this work, pre-construction nesting surveys are required to be conducted by qualified environmental biologists.

Two pre-construction nesting surveys are planned prior to the onset of nesting season. Although joints are not being excavated simultaneously, the full extent of the project area would see disturbance by trucks and heavy machinery at the start of the project. Therefore, the whole of the project area would be surveyed.

Two AECOM biologists would perform a pre-construction bird nest survey to determine if any nests are present within the project area that would require avoidance measures (as described in City of Portland 2022) to be implemented. If no nests are present, biologists would install Mylar flagging tape to dissuade birds from nesting in planned impact areas.

Survey methodology would follow survey protocols described in Appendix D of *Protecting Nesting Birds: Best Management Practices for Vegetation and Construction Projects* (City of Portland 2022). Surveys would involve looking for active nests on the ground and in trees (branches or cavities) in and adjacent to the project area (i.e., within and up to 15 meters beyond the clearing limits) and would be conducted during the morning hours. Any observed nest sites would be evaluated for status (e.g., active, inactive, or unknown), and the species type would be recorded and mapped using the SRI Survey123 mobile app. Photos of the nest would be taken, if possible. In addition, several highly visible stakes would be used to delineate a species-specific buffer around any active nest site. The distance and direction to the nest would be indicated on the stakes.

If any active nests are found in trees requiring removal, PP&R biologists would be contacted immediately. Active nests located in other vegetation would be monitored regularly, as detailed in the nest monitoring section of Appendix D of *Protecting Nesting Birds: Best Management Practices for Vegetation and Construction Projects* (City of Portland 2022) until fledging occurs.

6.2 Trees

Excavation at the repair locations would result in the removal of several trees; these trees are shown in **Figure 3 of Appendix A**. Tree removals have been designated as “definite” or “potential.” As described in Section 3.2, a total of 58 trees designated for definite removal would be removed prior to excavation due to their locations intersecting directly with excavation and disturbance zones. A total of 17 trees designated for potential removal are located sufficiently close to disturbance zones that removal is a possibility. However, these trees would be removed at the recommendation of the on-site arborist only if excavation reveals excessive root damage.

All anomaly repair work would occur within an environmental overlay zone. Title 33 of City Code states that tree removals proposed in an environmental overlay zone require mitigation in the form of planting trees or a combination of trees or shrubs.

During a former land use permit application review process (LU- 23-021553 EN), the City determined that payment of a fee for each removed tree rather than replacing trees per Portland City Code is more efficient and beneficial to the health of Forest Park. **Table 12** details the mitigation fee associated with each definite and potential tree removal.

Table 12. Proposed Tree Removals and Estimated Mitigation Fee

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
1300	966	48	*Acer macrophyllum*	Fair	Potential Removal	$21,600
	968	10	*Alnus rubra*	Fair	Potential Removal	$675
	969	11	*Alnus rubra*	Fair	Potential Removal	$675
	981	6	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	986	7	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	989	7	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	967	**10**	***Pseudotsuga menziesii***	**Poor**	**Definite removal**	**$675**
	971	**15**	***Acer macrophyllum***	**Fair**	**Definite removal**	**$1,800**
	972	**10**	***Alnus rubra***	**Fair**	**Definite removal**	**$675**
	985	**6**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$675**
1510	881	13	*Alnus rubra*	Fair	Potential Removal	$1,800
	883	19	*Alnus rubra*	Fair	Potential Removal	$1,800
	481	**15**	***Alnus rubra***	**Fair**	**Definite removal**	**$1,800**
1600	**629**	**30**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$13,500**
1670/ 1680	**462**	**21**	***Alnus rubra***	**Fair**	**Definite removal**	**$9,450**
	464	**17**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	465	**18**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	466	**23**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$10,350**
	467	**10**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$675**
	469	**11**	***Pseudotsuga menziesii***	**Poor**	**Definite removal**	**$675**
	470	**26**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$11,700**
	471	**15**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	472	**18**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	473	**16**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	477	**18**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	820	**7**	***Pseudotsuga menziesii***	**Poor**	**Definite removal**	**$675**
	821	**13**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$1,800**
	831	**8**	***Pseudotsuga menziesii***	**Poor**	**Definite removal**	**$675**
	837	**7**	***Acer macrophyllum***	**Fair**	**Definite removal**	**$675**
Oil Line Road	483	7	*Abies grandis*	Fair	Potential Removal	$675
	484	10	*Alnus rubra*	Fair	Potential Removal	$675
	486	18	*Pseudotsuga menziesii*	Good	Potential Removal	$1,800
	487	18	*Alnus rubra*	Fair	Potential Removal	$1,800
	488	10	*Alnus rubra*	Fair	Potential Removal	$675
	491	18	*Pseudotsuga menziesii*	Fair	Potential Removal	$1,800
	492	15	*Alnus rubra*	Fair	Potential Removal	$1,800
	922	10	*Alnus rubra*	Fair	Potential Removal	$675
	942	10	*Alnus rubra*	Fair	Potential Removal	$675
	497	**13**	***Alnus rubra***	**Fair**	**Definite removal**	**$1,800**
	498	**22**	***Alnus rubra***	**Fair**	**Definite removal**	**$9,900**
	814	**8**	***Pseudotsuga menziesii***	**Poor**	**Definite removal**	**$675**
	839	**9**	***Pseudotsuga menziesii***	**Fair**	**Definite removal**	**$675**
	840	**8**	***Alnus rubra***	**Poor**	**Definite removal**	**$675**
	874	**11**	***Acer macrophyllum***	**Poor**	**Definite removal**	**$675**
	893	**12**	***Alnus rubra***	**Fair**	**Definite removal**	**$1,800**
	894	**10**	***Alnus rubra***	**Fair**	**Definite removal**	**$675**

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
	896	15	*Alnus rubra*	Fair	Definite removal	$1,800
	897	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	899	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	902	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	909	8	*Alnus rubra*	Fair	Definite removal	$675
	910	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	911	10	*Alnus rubra*	Fair	Definite removal	$675
	912	15	*Alnus rubra*	Fair	Definite removal	$1,800
	914	11	*Alnus rubra*	Fair	Definite removal	$675
	916	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	918	15	*Alnus rubra*	Fair	Definite removal	$1,800
	919	12	*Alnus rubra*	Fair	Definite removal	$1,800
	920	8	*Alnus rubra*	Fair	Definite removal	$675
	924	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	938	8	*Alnus rubra*	Fair	Definite removal	$675
	945	12	*Alnus rubra*	Fair	Definite removal	$1,800
	946	11	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	948	9	*Alnus rubra*	Fair	Definite removal	$675
	949	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	950	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	951	11	*Alnus rubra*	Fair	Definite removal	$675
	952	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	953	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	954	17	*Alnus rubra*	Fair	Definite removal	$1,800
	960	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	1058	7	*Acer macrophyllum*	Fair	Definite removal	$675
	1065	13	*Alnus rubra*	Fair	Definite removal	$1,800
	1068	20	*Alnus rubra*	Fair	Definite removal	$9,000
	1068	11	*Alnus rubra*	Fair	Definite removal	$675
					Total Mitigation Fee	**$158,400**

[1] Tree ID corresponds with physical aluminum tree tag numbers added to trees during a tree survey in November 2021 and 2023. It also corresponds with tree numbers shown in **Figures 2 through 4 of Appendix A**.

[2] Tree Health corresponds with health designation of the tree as determined by site visits with the arborist and AECOM biologists in late 2023. The health of the tree was determined by comparing the natural growth (in an ideal situation) and age of the tree versus the condition of the trees at the time of the arborist's visit.

[3] Mitigation fees were calculated using the following stipulations specified in the City's staff report and Hearings Officer Decision for the associated land use permit application for this project: $675 for each tree with a DBH <12''; $1,800 for each tree with a DBH from 12'' – <20''; $450 per inch for each tree with a DBH of 20'' or greater. Although some trees are deemed potential (rather than definite) removals, all trees are assumed removed for mitigation calculation purposes.

Acronyms: DBH = diameter at breast height; ID = identifier; in. = inch.

In addition to permanent impacts, temporary impacts to trees are also proposed, as detailed in **Table 13**. Temporary impacts involve pruning of existing mature trees to allow sufficient vehicle/equipment clearance along Oil Line Road.

Table 13. Proposed Temporary Tree Impacts (Mature Tree Pruning)

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact[3]
1510	480	30	*Alnus rubra*	Fair	Pruning
	485	13	*Alnus rubra*	Fair	Pruning (dead stem)

[1] Tree ID corresponds with physical aluminum tree tag numbers added to trees during a tree survey in November 2023. It also corresponds with tree numbers shown in **Figures 2 through 4 of Appendix A**.

[2] Tree Health corresponds with health designation of the tree as determined by arborists and AECOM biologists. The health of the tree was determined by comparing the natural growth (in an ideal situation) and age of the tree versus the condition of the trees at the time of the arborist's visit.

[3] Trees identified for "Pruning" are proposed for minor pruning to provide sufficient space for equipment access and/or excavation; these trees would be pruned prior to excavation as part of vegetation clearing efforts. Pruning would not be of a sufficient extent such that tree health would be impacted.

Acronyms: DBH = diameter at breast height; ID = identifier; in. = inch.

7 Project Findings

It is anticipated that the proposed anomaly repairs would be consistent with the findings detailed below.

7.1 Conditions of Approval Compliance

BDS summary notes of the Pre-Application Conference include the Land Use Planner Response dated January 12, 2024. In the Land Use Planner Response, BDS identified historical land use reviews and their associated approval criteria with which the project must demonstrate compliance (BDS 2024). These land use reviews and actual relevance to this project are described in more detail below. The third, fifth, and sixth land use review listed below would apply to this project.

- LU 03-120560 EN: Approval of a pedestrian trail, including bridges over intermittent streams. This project involved connections to NW Leif Erikson Drive. The proposed anomaly repair project is not anticipated to require any incidental road improvements along NW Leif Erikson Drive for construction access; therefore, approval criteria associated with LU 03-120560 EN are not applicable to this land use application.
- LU 10-135572 EN: Emergency culvert repair in Forest Park. This project resulted in a voided application and is thus not considered relevant to this land use application.
- LU 11-153630 EN: Approval for the removal of 27 trees for the maintenance and management of the pipeline in Forest Park. Project scope is similar to that described in this land use application; therefore, the approval criteria associated with LU 11-153630 are expected to apply to the proposed project.
- LU 16-187824 EN: Approval for an emergency culvert repair, completed in 2011. This project was mistakenly mapped within the pipeline repair project vicinity due to a clerical error (pers. comm., Marshall Johnson, PP&R); therefore, approval criteria associated with LU 16-187824 EN are not applicable to this land use application.
- LU 21-056437 EN: Approval of an Environmental Review for an Exception to the Forest Park NRMP for the replacement and repair of joints along an existing fuel pipeline. This proposed pipeline repair project covers the Joint 2160 emergency repair completed in 2021 (in the same general area as the anomalies detected for this project). It also covers the Joint 1730 repair completed in 2022 further northwest of the anomalies proposed as part of this project. Therefore, the approval criteria associated with LU 21-056437 are expected to apply to the proposed project.
- LU 23-021553 EN: Approval of an Environmental Review for an Exception to the Forest Park NRMP for the replacement and repair of joints along an existing fuel pipeline. This proposed pipeline repair project covers work at several locations in Forest Park accessed off of Skyline Drive. The approval criteria associated with LU 21-056437 are expected to apply to the proposed project.

The Land Use Planner Response also stated the project must comply with approval criteria specified within the Forest Park NRMP—specifically “Approval Criteria for Exceptions” and “Approval Criteria for Minor Amendments.” These approval criteria are listed below. As shown in a), minor amendment criteria are nested within the exception criteria.

- Approval Criteria for Exceptions to the Plan: The exception will be approved if:
  a) The proposal meets all the criteria for minor amendments.
  b) The proposal is a park-related development, or no alternative locations exist outside of Forest Park for the proposal.
  c) There are no practicable alternative locations within Forest Park suitable for the use in which the development will have less adverse impact on resource values.

d) Any long-term adverse impacts of the proposed action on resource values are fully mitigated within the Management Unit.

e) The proposal is consistent with the purpose of the Environmental Zones.

The BDS Land Use Planner Response also stated the project must comply with Northwest Hills Plan District Regulations, which include their own Approval Criteria (Zoning Code section 33.563.210 A, B, and C).

The project's compliance with these approval criteria is described below.

Forest Park NRMP Approval Criteria for Exceptions

A. The proposal meets all the criteria for minor amendments:

(A) There is a demonstrated need for the proposal.

Section 1.2 provides a discussion of why the proposed anomaly repairs must be performed.

(B) The proposed action is consistent with Forest Park Natural Resources Management Plan Goals and Strategies.

- *Conservation Goals*

1. *Protect Forest Park's native plant and animal communities, its soil and its water resources while managing the forest ecosystem in order to grow a self-sustaining ancient forest for the enjoyment and benefit of future generations.*

   The project would involve repair of pipeline anomalies, thereby ensuring the pipeline's continued functionality and avoiding impacts to the forest ecosystem. Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation would involve paying a fee to PP&R for tree removals. These restoration and mitigation actions would protect native plants, animals, and soils to the extent practicable by minimizing long-term ecosystem functions and habitat quality, providing soil stability, and replacing invasive vegetation within the temporary disturbance areas with native species. Refer to Section 4.5 and Section 6 for additional information.

2. *Design management and restoration efforts to:*

   - *Maintain and enhance regional biodiversity*

     The proposed anomaly repairs are intended to support the long-term integrity of the pipeline itself while continuing to maintain, enhance, and create habitat features that support regional biodiversity.

   - *Provide wildlife habitat and migration opportunities*

     Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation would involve paying a fee to PP&R for tree removals. Refer to Section 4.5 and Section 6 for additional information.

   - *Improve water quality and aquatic habitat*

     No aquatic habitat is present near the proposed anomaly repairs. BMPs installed during construction and restoration would prevent erosion and sedimentation. Restoration would involve reconstructing any impacted

trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation would involve paying a fee to PP&R for tree removals. All of these actions would minimize erosion and sedimentation and protect existing water quality and aquatic habitat. Refer to Section 4.5 and Section 6 for additional information.

- *Repair damaged and fragmented natural systems.*

  Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation would involve paying a fee to PP&R for tree removals. Refer to Section 4.5 and Section 6 for additional information.

- *Recreational and Educational Goals*

1. *Protect and enhance the value of Forest Park as a regionally-significant recreational resource – a place that can accommodate recreational and educational use at appropriate seasons of the year without environmental damage.*
2. Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation would involve paying a fee to PP&R for tree removals. These restoration and mitigation actions would enhance native plant communities along publicly accessible trails. Refer to Section 4.5 and Section 6 for additional information.
3. *Enhance the value of Forest Park as a regionally-significant educational resource – an urban laboratory for environmental research and resource enhancement and restoration.*

   Not applicable. Repair of anomalies would not affect educational uses of the park.

- *Management Plan Strategy 1: Implement Sustainable Resources Program*

  This project would support implementation of Strategy 1 where feasible. Resource management measures would include the following:

  - Restoration of resources – Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. See Section 4.5 for additional information.
  - Mitigation of impacts – Mitigation would involve paying a fee to PP&R for tree removals. See Section 6 for additional information.

- *Management Plan Strategy 2: Divide Forest Park into Management Units*

  The project would not affect the existing management unit strategy of Forest Park.

- *Management Plan Strategy 3: Acquire and Protect Additional Land*

  Not applicable. No additional park lands would be acquired as a part of this project, nor would the project interfere with implementation of this strategy.

- *Management Plan Strategy 4: Manage Recreation to Protect Natural Resources*

Not applicable. Proposed anomaly repairs do not relate to management of recreation or interfere with implementation of this strategy.

- *Management Plan Strategy 5: Improve Interpretive, Educational and Research Opportunities*

  Not applicable. Proposed anomaly repairs are not associated with any of the above listed opportunities or interfere with implementation of this strategy.

- *Management Plan Strategy 6: Improve Public Access*

  Anomaly repair near Joints 1300, 1510, 1600, 1670, and 1680 would require temporary closure of Oil Line Road from the intersection with Firelane 7A to Wildwood Trail (approximately 0.34 miles). Repair work would also require temporary closure of Wildwood Trail between Trillium Trail and Oil Line Road. These closures would be temporary and would not extend longer than the estimated duration of anomaly repairs near Joints 1300, 1510, 1600, 1670, and 1680 (approximately 7.5 weeks total). Notices regarding the temporary closure would be posted along Firelane 7, Oil Line Road, Wildwood Trail, and at their intersections with other roadways and trails. SFPP would provide regular updates to PP&R for use in posting information to the public via Forest Park website updates. Project restoration activities would include reconstructing Oil Line Road and Wildwood Trail to original widths, as well as replanting disturbed areas that were formerly vegetated with native plants. Therefore, the project would not alter the accessibility to disabled users, directions, transit access, or trailheads associated with these trails such that public access to Forest Park would be affected.

- *Management Plan Strategy 7: Improve Park Safety*

  The overall purpose of anomaly repairs is to ensure the existing pipeline is continuing to operate in a safe and secure manner. Therefore, it is anticipated anomaly repairs would serve to maintain the safety of park users and wildlife.

- *Management Plan Strategy 8: Develop Recreation Opportunities at Other Sites*

  Not applicable. The anomaly repairs proposed do not include provision of additional recreational opportunities at other locations or interfere with implementation of this strategy.

- *Management Plan Strategy 9: Improve Park Staffing and Funding*

  Mitigation would involve paying a fee to PP&R for tree removals. This may be considered an Urban Forestry mitigation fee.

- *Management Plan Strategy 10: Continue Public Involvement*

  Refer to Section 8.1 for a description of public outreach and involvement efforts that would be conducted in association with the project.

(C) Alternative locations and design modifications were evaluated to show that the proposal has the least significant detrimental environmental impact of the practicable alternatives.

Refer to Section 3 for discussion of project alternatives evaluated.

(D) A construction management plan and mitigation plan will minimize impacts on resource and restore adjacent disturbed areas.

Various BMPs would be implemented during construction. Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory

vegetation. Mitigation would involve paying a fee to PP&R for tree removals. Refer to Section 4.4, Section 4.5, and Section 6 for more details.

B. The proposal is a park-related development or no alternative locations exist outside of Forest Park for the proposal.

The purpose of the project is to repair anomalies within an existing pipeline that crosses through Forest Park. Therefore, the proposal cannot be conducted in an alternative location outside of Forest Park.

C. There are no practicable alternative locations within Forest Park suitable for the use in which the development will have less adverse impact on resource values.

The proposed anomaly repairs must occur at the location of existing anomalies detected along the pipeline within Forest Park. Therefore, the proposal cannot be conducted in an alternative location within Forest Park.

D. Any long-term adverse impacts of the proposed action on resource values are fully mitigated within the Management Unit.

Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation would involve paying a fee to PP&R for tree removals. Refer to Section 4.5 and Section 6 for additional information.

E. The proposal is consistent with the purpose of the Environmental Zones.

33.430.015 Purpose of the Environmental Protection Zone

The Environmental Protection zone provides the highest level of protection to the most important resources and functional values. These resources and functional values are identified and assigned value in the inventory and economic, social, environmental, and energy (ESEE) analysis for each specific study area. Development will be approved in the environmental protection zone only in rare and unusual circumstances.

33.430.017 Purpose of the Environmental Conservation Zone

The Environmental Conservation zone conserves important resources and functional values in areas where the resources and functional values can be protected while allowing environmentally sensitive urban development.

As described in Section 3, the preferred anomaly repair alternative has been determined to be the most environmentally sensitive of the practicable alternatives. This alternative provides the greatest protection of existing resource functions and values while conducting necessary joint replacements and repairs. The purpose of the Environmental Protection and Conservation Overlay Zones is to protect and conserve existing resource functions and values. Site restoration has been designed specifically to protect and enhance existing functions and values over time.

Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District (Zoning Code section 33.563.210 A, B, and C)

A. Wildlife. The location, quantity, quality and structural characteristics of forest vegetation will be sufficient to provide habitat and maintain travel corridors for the following indicator species: pileated woodpecker, sharp-shinned hawk, Roosevelt elk, white-footed vole, and red-legged frog. Standards to meet this criterion are in the applicable Habitat Evaluation Procedure developed by the United States Fish and Wildlife Service.

Ground disturbance (including excavation), vegetation clearing, selective tree removal, and vehicle/equipment staging would occur near the five pipeline joints for anomaly repair. Physical and auditory disturbances, along with increased human presence in these areas could deter wildlife use of existing wildlife corridors near the joints. Repair of anomalies near Joints 1670/1680 would occur

adjacent to the Wildwood Trail, which is likely used as a travel corridor by wildlife.

Despite temporary impacts within and adjacent to potential wildlife corridors, restoration measures including seeding and planting native shrubs within the temporary disturbance area would help restore existing understory conditions. In addition, the Wildwood Trail would be restored to its preexisting conditions, preserving its long-term use as a likely wildlife corridor. (See Section 4.5 for more details.)

Mitigation measures would be implemented by PP&R using the proponent's in-lieu fee payment to compensate for unavoidable tree removal impacts and provide more diverse forest structure and habitat value over time. Mitigation could involve planting trees or a combination of trees and shrubs to compensate for proposed tree removals; the sapling/shrub planting area and species would be selected by PP&R at a later date. Through these actions, the travel corridor characteristics and functions would be maintained for the indicator species. (See Section 6 for mitigation details.)

B. ***Parks and Open Space. Overall scenic, recreational, educational and open space values of Forest Park will not be diminished as a result of development activities.***

Construction activities associated with anomaly repair near all five joints would affect the scenery in these forested open space areas. However, these scenic impacts would be temporary. Construction activities associated with anomaly repair near Joints 1670/1680 would occur within and adjacent to the Wildwood Trail, thereby requiring temporary closure of the section of Wildwood Trail between its intersections with Trillium Trail and Oil Line Road. However, these scenic impacts would be temporary. Trail closures would not extend longer than the estimated duration of construction and restoration (approximately 7.5 weeks). Therefore, the temporary closure of Wildwood Trail is not expected to diminish recreational and educational values within the park. The project would not permanently alter the general character of the Wildwood Trail.

C. ***Miller Creek Subarea. Within the Miller Creek Subarea, shown on Map 563-1, development activities will not degrade natural water quality, quantity, and seasonal flow conditions, and will not increase water temperatures above 68°F. In addition, development activities will not decrease opportunities for fish and amphibian passage.***

No project activities are proposed within the Miller Creek subarea.

7.2 Development Standards

The Pre-Application Conference conducted for the project and subsequent summary memo (BDS 2024) identified development standards that would apply to the project. These standards are listed below:

- Open Space Zones (Zoning Code Section 33.100)
- Northwest Hills Plan District (Zoning Code Section 33.563.210)
- Environmental Conservation and Protection Overlay Zones Regulations (Zoning Code Section 33.430)

The Urban Forestry Response identified the following development standard with which the project must comply:

- Title 11, Trees

The project was found to be consistent with these standards as described below.

Open Space Zone: All temporary disturbance areas associated with anomaly repair are located entirely within the Open Space base zone. The LS-14 pipeline is a petroleum products pipeline and is a Utility Corridors Use. Because all aspects of the anomaly repairs would be at or below grade, a Conditional Use would not be triggered, and the project would be consistent with this development standard.

Northwest Hills Plan District: All proposed temporary disturbance areas are within the Northwest Hills Plan District within the Forest Park Subdistrict. Activities exposing soil to direct contact with stormwater between October 1 and April 30 are typically prohibited in this subdistrict. Anomaly repairs would

commence on May 1, 2024, after the end of the soil disturbance moratorium. Repairs would be complete prior to October 1, 2024.

Proposed anomaly repairs would not increase impervious areas; no additional stormwater is anticipated to be generated from the repairs. Following completion of the anomaly repairs, disturbed areas would be seeded with an erosion control seed mix, salvaged ferns would be replanted, and native ferns and/or shrubs would be planted in temporary disturbance areas to help stabilize soils (see Section 4.5). To compensate for up to 75 tree removals, a mitigation fee would be paid to PP&R (see Section 6.2).

Anomaly repairs would retain most of the existing forest canopy. The location, quantity, and quality of forest and contiguous forest cover would continue to be enough to provide habitat and passage for deer and elk.

Environmental Zone: Temporary disturbance areas for proposed anomaly repairs near the five joints are located within the environmental preservation overlay zone.

According to the Northwest Hills NAPP, the project area is located partially within Resource Site 95/FP15 (Doane Creek Headwaters). Resources identified within the Doane Creek Headwaters resource site include creeks, wildlife habitat, sensitive fauna, forest, open space, and groundwater recharge. Forest cover protects watershed resources, serves as habitat for wildlife, and provides open space and scenic and recreational resources. The creek headwaters sustain water quality for sensitive amphibian species and a seasonal water source for terrestrial vertebrates. Because it is connected to surrounding forest, the site allows for free migration of wildlife, and it includes a principal deer crossing location along NW Skyline Boulevard (that is also a scenic corridor). Passive recreational opportunities are provided by trails and fire lanes. Conflicting uses identified in the NAPP include residential, landscaping, agriculture, and forestry uses, as they would interfere with the site's interspersion with surrounding forest. Pipeline replacement/repair would not qualify as one of these conflicting uses. Impacts to forest cover and the tributary are anticipated to be temporary and minimal, while resulting in a long-term improvement in pipeline safety, soil stability, and native vegetation cover.

The project area is also located within NAPP Resource Site 94 (Lower Doane Creek/Quarry). Resources identified within this site include creeks, wildlife habitat, sensitive fauna, forest, open space and groundwater resources. Forest cover protects watershed resources, providing wildlife, water temperature mitigation services, and provides open space, scenic and recreational resources habitat. Doane Creek and its tributaries and adjacent forested upland area drain into the Tualatin River, serving as habitat and as a seasonal water source. The creek headwaters serve a critical function in preserving water quality for sensitive aquatic and amphibian species in the watershed. Snags, downed logs, and woody debris found at the site are also critical structural and functional ecosystem structures. Large areas of cleared land are located along NW Skyline Boulevard. Non-native plants have begun to spread into the forest. Recreational opportunities are provided by trails, including Wildwood Trail, and fire lanes. Conflicting uses for this site include residential, landscaping, agriculture, and forestry uses. As stated above, pipeline replacement/repair would not qualify as one of these conflicting uses. Impacts to forest cover are anticipated to be temporary and minimal, while resulting in a long-term improvement in pipeline safety, soil stability, and native vegetation cover.

The standards in Zoning Code Section 33.430 (for Environmental Zones) do not directly apply to the eight anomaly repairs due to their location within the NRMP. The LS-14 pipeline repairs authorized by LU 20-136055 EN, LU 21-056437 EN, and LU 23-0121553 EN were all considered exceptions to the NRMP and required approval through a Type III Environmental Review procedure, which included a land use hearing. The proposed anomaly repairs near the five joints within Forest Park as described herein are consistent with the nature of this approval and associated conditions.

Title 11, Trees: A maximum of 75 tree removals are proposed. Plans showing tree impacts are included in **Figure 3 of Appendix A.** In addition, a Tree Protection Plan is being drafted by a certified arborist per PP&R requirements; the Tree Protection Plan will be included as part of the NPUP application submitted to PP&R. The project would comply with tree protection specifications, including establishing critical root zones (see Section 4.4). The project would comply with tree removal specifications, including avoidance of damaging adjacent trees and completion of work in a timely matter.

8 Communication and Coordination

8.1 Public Outreach and Involvement

SFPP plans to conduct the following public outreach and involvement measures to inform the public of proposed project:

- An outreach mailing will be prepared by SFPP to be distributed by the City before any scheduled work to the following recipients (as listed in the BDS Pre-Application Summary Notes) neighborhood association of Linnton, Forest Park, and the district neighborhood coalition of Neighbors West/Northwest (or as preferred by City).
- SFPP will work with PP&R and the City to coordinate review of any written materials to be included in the outreach mailing at least 1 week prior to it being mailed or posted.
- Signage about the project will be posted at major entrances to the area prior to the first day of work. SFPP will coordinate with PP&R to identify entrances where signs will be posted.
- The applicant contact will be available to address all public and media inquiries. The contact person will also coordinate with PP&R's Media and Events Officer as needed/requested.
- Once the precise project timeline is established, the dates will be communicated to PP&R's Customer Service Center to avoid potential conflicts with scheduled events.

8.2 Agency Coordination

An NPUP was submitted to PP&R in March 2022 for proposed work at 16 joints located within the Forest Park boundary (including replacement of a pipeline segment near Joint 1730 and repairs near 15 other joints [1510, 1600, 1670, 1680, 1810, 1820, 1830, 1840, 1870, 1880, 1910, 2100, 2260, 2360, 2410]). PP&R provided comments on this NPUP, including a request for the preparation and submittal of an ODF-approved Fire Prevention Plan as well as a Tree Protection Plan written by a certified arborist for proposed joint work. PP&R and Urban Forestry visited some proposed joint work locations with SFPP in April 2022 to voice their desired changes to the project, including fire risk minimization, reduction of vegetation and soil impacts on slopes, reassessment of tree impacts by a certified arborist, and reduction of the overall scope of work. Based on this feedback, two revised project options were proposed to PP&R via a virtual meeting in May 2022 (Joint 1730 replacement or repairs at 11 other joints within Forest Park).

Joint 1730 replacement was selected as the preferred option by PP&R; this option was formally presented to PP&R and Urban Forestry via a virtual meeting in June 2022. PP&R and Urban Forestry communicated their tentative approval of Joint 1730 replacement during this meeting. A land use permit (LU 21-056437 EN) and NPUP (2022-16) were later secured for this work, which was completed in late 2022.

On October 19, 2022 (after Joint 1730 replacement completion), a virtual meeting occurred with PP&R to discuss its preference in sequencing the remaining repairs needed near 15 joints in Forest Park. As a result of these discussions, the remaining anomaly repair efforts were divided into two phrases. The first phase proposed for 2023 included repair of anomalies near 11 joints (1810, 1820, 1830, 1840, 1870, 1880, 19210, 2100, 2260, 2360, and 2410). A land use permit (LU 23-0121553 EN) and NPUP (2023-04) were later secured for this work, and anomaly repairs were completed at these locations in summer 2023. This application covers the second phase proposed for 2024, which includes repairs of anomalies at the remaining four joints (1510, 1600, 1670, 1680), along with a newly discovered anomaly near one other joint (Joint 1300).

A Pre-Application Conference for work in 2024 was held on January 3, 2024. Per correspondence with BDS during the Pre-Application Meeting, a site development permit was not deemed necessary for the proposed anomaly repairs.

Following submittal of this land use application, an NPUP application will be submitted to PP&R for the same project. The NPUP application will also include information for repairs of slopes around previously permitted work areas (Joint 1730[7] and 1810[8]) and pipeline repair at two additional repair locations (Joints 2100 and 2360) accessed off of NW Skyline Drive. Disturbance at Joints 1810, 2100, and 2360 would be within the same areas where work was authorized under the 2023 land use authorization process, documented in LU-23-021553 EN. Disturbance at Joint 1730 would be within the same areas where work was authorized under the 2022 Land Use authorization process, documented in LU-21-056437 EN.

[7] During December 2022, a landslide occurred at the Joint 1730 replacement site. Proposed repair of this slope was initially submitted as an addendum the NPUP for the 2023 joint repairs (NPUP 23-3-04); however, feedback from PP&R determined soil moisture testing and revisions to geotechnical design were needed. Therefore, repair of the Joint 1730 slope will be included as part of the NPUP submitted for the 2024 anomaly repairs.

[8] A minor slope failure occurred at the Joint 1810 slope site in December 2023. This site has received temporary stabilization, but permanent stabilization is needed to ensure that a landslide does not occur at this location. Repair of this area will be included as part of the NPUP to be submitted for the 2024 anomaly repairs.

9 References

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USFWS (US Fish and Wildlife Service). 2023. National Wetlands Inventory. Accessed on October 13, 2023. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/.

Appendix A
Figures

Appendix B
Fire Prevention Plan

Appendix C
Traffic Control Plan

Appendix D
Geotechnical Report

Appendix E
Tree Protection Plan

Fire Prevention Plan

Forest Park Pipeline Repair and Replacement Actions

SFPP

June 28, 2022

Delivering a better world

LU 24-017402 EN
Exhibit A.2

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Table of Contents

1. Introduction 1
   1.1 Project Details 2
   1.2 Purpose of Plan 2
2. Regulations and Guidance 5
   2.1 Oregon Administrative Rules and Oregon Revised Statutes 5
   2.2 Portland Parks and Recreation 5
3. Project-Specific Fire Prevention Measures 6
4. Required Tools and Equipment 9
5. Stop Work Actions 11
6. Reporting 11
7. Signatures 12

Figures

Figure 1. Vicinity Map 3
Figure 2. Project Location 4

Appendices

Appendix A. Oregon Department of Forestry Fire Season Requirements for Industrial Operations

Appendix B. City of Portland Parks and Recreation – Fire Safety Restrictions for Staff, Contractors, and NPUP Permittees Working in Natural Area Parks

Appendix C. Example Hourly Climate Conditions Log

1. Introduction

SFPP, L.P., a Kinder Morgan company, owns and operates an existing 115-mile refined petroleum products pipeline (Oregon Pipeline–Line Section 14 [LS-14]) that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline cross through the City of Portland's (City) Forest Park. SFPP is planning on performing pipeline repair and replacement maintenance activities in this area during the fire season[1] in 2022 and subsequent years.

Vegetation in Forest Park and the project sites is a dense community of grasses, forbs, shrubs, and trees. Project actions have the potential to cause sparking, which could result in fires under hot, dry, and/or windy conditions. Project actions also include a proposal to remove a large number of existing trees from this mature closed canopy forest, which could increase potential wildfire risks in the near- and long-term time frame by increasing solar exposure and reducing shade and moisture of the surrounding forest.

Forest Park and the surrounding private forest lands are within a Wildfire Hazard Zone where it is critical to minimize the risk of catastrophic wildfire as a priority to protect nearby communities and valuable natural resources. The City has required this Fire Prevention Plan (Plan) to be prepared for approval by the City as part of the permitting process.

Forest Park is a public park managed by Portland Parks and Recreation (PP&R). A portion of Forest Park is within the Oregon Department of Forestry (ODF) Northwest Oregon Fire Protection District, though project actions will occur in an area approximately 2.5 miles south the ODF Fire Protection District boundary (Figure 1). Even though the project would occur outside this boundary, ODF stewardship foresters have full jurisdiction across the state on public and private ownership and ODF is an advisor for fire-related considerations of this project. Portland Fire and Rescue (Fire Bureau) is the responding fire agency for fires within Forest Park, though it is likely that ODF would also be called to aid in the event of a fire incident in the area.

The following are requirements of this Plan:

- SFPP and its contractors shall abide by the requirements of this Plan for the duration of project work occurring in Forest Park during the fire season.
- SFPP and its contractors shall take reasonable steps necessary to ensure that their employees are knowledgeable and comply with requirements of the Plan.
- A hardcopy of this Plan will be kept at each individual work site at all times.
- SFPP and its contractors shall be responsible for preventing the escape of fires set indirectly as a result of operations and shall take reasonable steps to extinguish all such fires that may escape.
- SFPP and its contractors shall certify compliance with the specific fire precautionary measures of this Plan before beginning work activities by signing the signatory page (**Section 7**).

Periodic site checks will be conducted by the Fire Bureau and a City inspector in order to determine compliance with the terms of this Plan. Such site checks will be unannounced. Inspectors will have the authority to inspect all work activities and equipment and stop work if any of the requirements of this Plan are not being met.

[1] The start and end dates of a year's fire season are determined by the local ODF forest protection district and are based on fuel and weather conditions. Historically, fire seasons have generally begun in early July and concluded in early October, though this season can vary greatly depending on precipitation and temperature patterns in a given year.

1.1 Project Details

SFPP has identified 16 pipeline joint locations within Forest Park that will require repair or replacement (Figure 2). Repair or replacement work would involve clearing of individual trees using chainsaws, clearing of surface vegetation at dig locations, excavation of joints, and either (1) replacing the whole joint, which would require grinding and welding, or (2) repairing the joint by grinding and then welding a metal sleeve in place or placing a composite wrap on the pipe. Torches would be used to cut sleeve material for use in pipeline repairs. Following joint replacement or repair, excavated areas would be backfilled with stockpiled soil and revegetated.

Construction equipment at each joint would likely include a skid steer, an excavator Cat 315 Size x2, an F-550 pickup weld truck, a welding rig, four F-250 pickup trucks, a hydroseed truck, and two vehicles for site inspectors (one SFPP and one AECOM). Additional equipment would include grinders to grind welds and prep sleeves for welding, two generators to supply power to power tools, and two torches connected to the weld truck or welding rig. Access to repair/replacement sites would occur via established roads and trails within Forest Park.

1.2 Purpose of Plan

This Plan presents regulations and guidance pertaining to fire prevention (**Section 2**), project-specific fire prevention measures (**Section 3**), and hand tool/equipment requirements (**Section 4**) to reduce or eliminate fire risk due to project actions occurring in Forest Park. This information has been developed in coordination with ODF and through referencing other regulatory and permittee requirements related to fire prevention actions for industrial operations in forests. This Plan also identifies conditions under which pipeline repair/replacement work will be curtailed or shut down due to fire risks that cannot be otherwise mitigated (**Section 5**).

The fire prevention measures in this Plan are consistent with ODF *Fire Season Requirements for Industrial Operations*, Oregon Administrative Rules (OAR), Oregon Revised Statutes (ORS), and PP&R's *Fire Safety Regulations for Staff, Contractors, and NPUP Permittees Working in Natural Area Parks*.

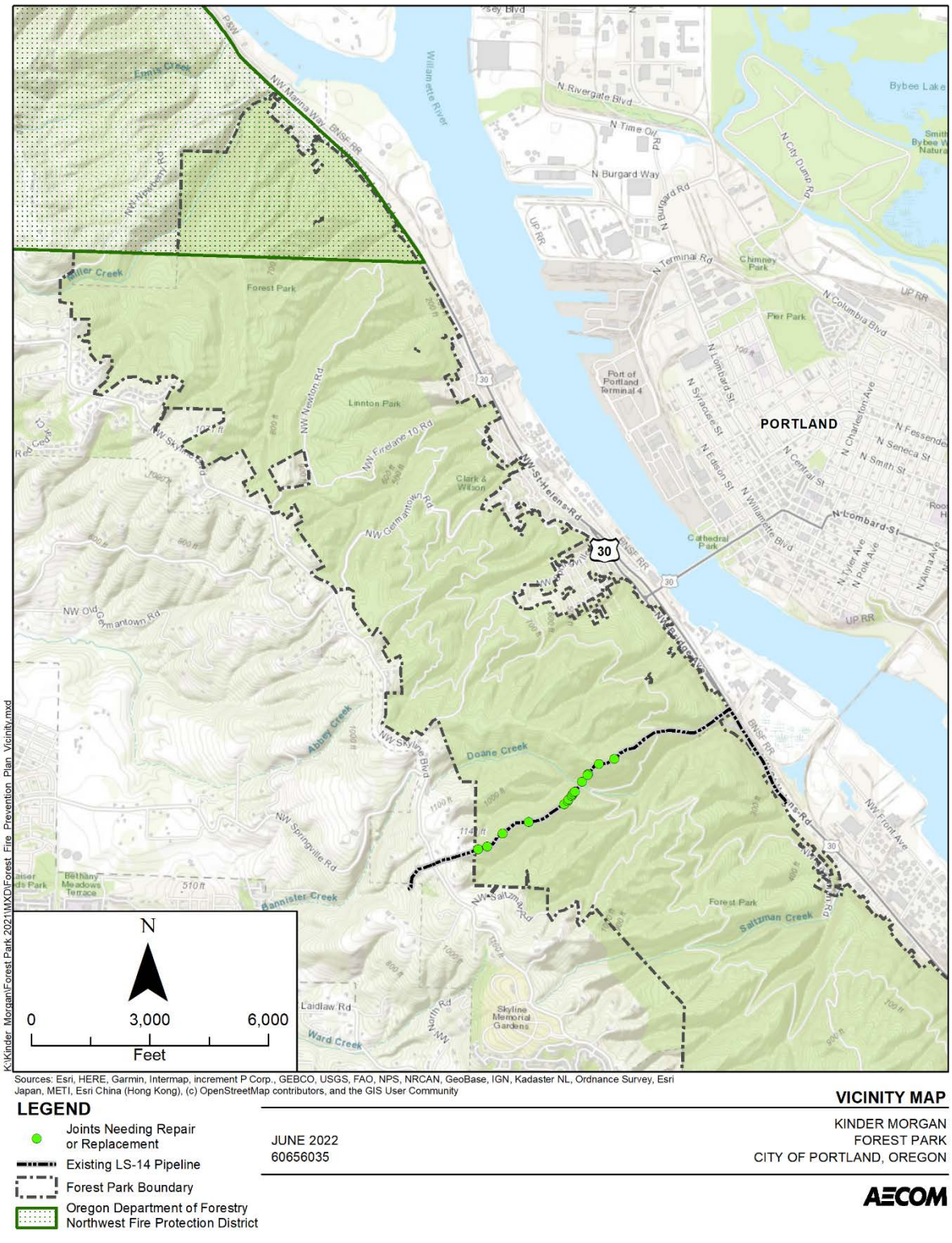


Figure 1. Vicinity Map

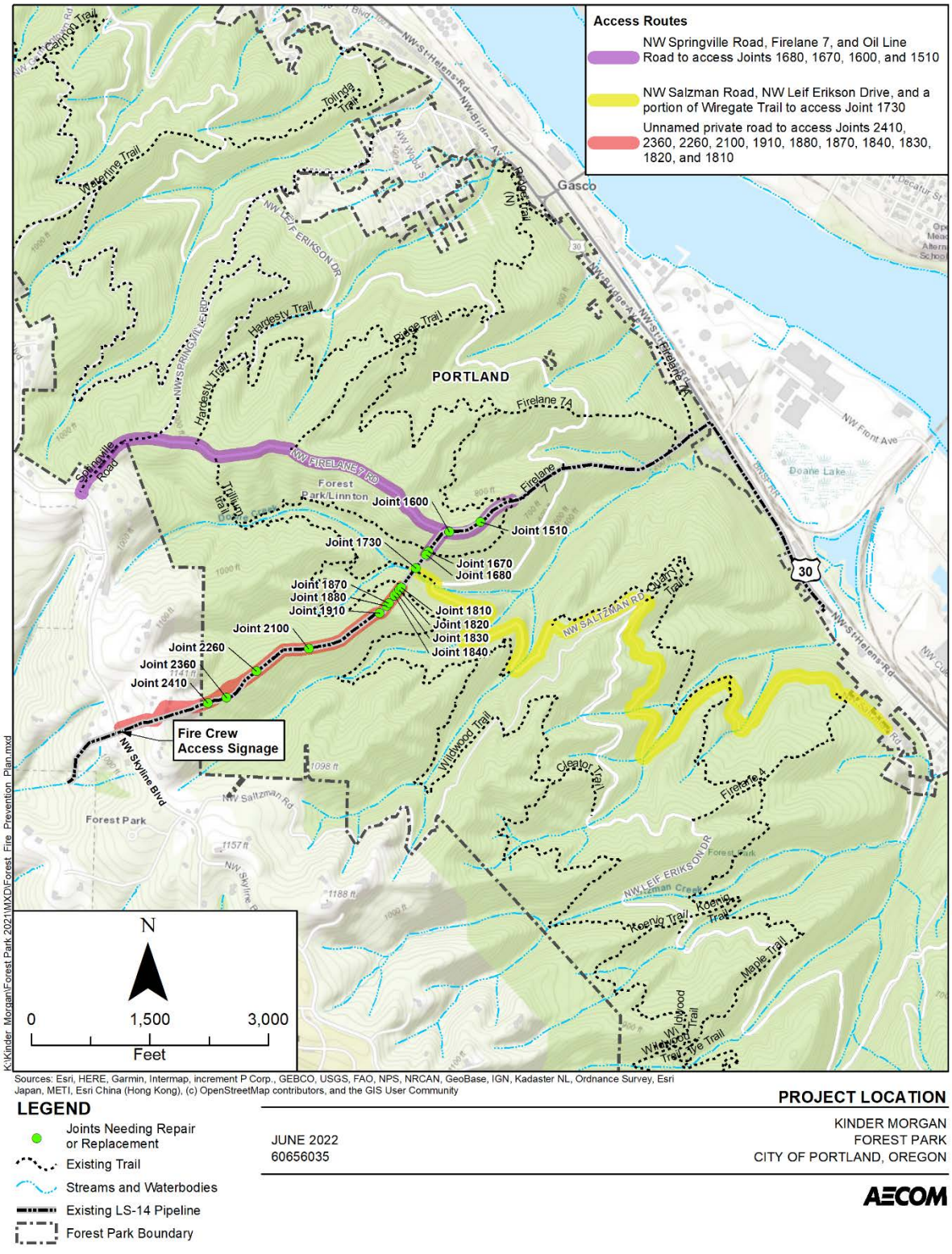


Figure 2. Project Location

2. Regulations and Guidance

The following regulations and guidance pertain to SFPP's pipeline repair and/or replacement work in Forest Park.

2.1 Oregon Administrative Rules and Oregon Revised Statutes

The ODF guidance document *Fire Season Requirements for Industrial Operations* (**Appendix A**) includes summaries of the following OAR and ORS provide minimum fire season requirements, which are relevant when fire season is declared:

- **ORS 477.510**, *Acts Prohibited During Fire Season.*
- **ORS 477.665** and **OAR 629-043-0030**, *Fire Watch Service*.
- **OAR 629-043-0026**, *Operation Area Fire Prevention*.
- **ORS 477.670**, *When Use of Fire or Power-Driven Machinery is Prohibited.*
- **ORS 477.625**, *Permit to Use Fire or Power-Driven Machinery*.
- **ORS 477.655**, *Fire-fighting Tools and Equipment at Operation Area and on Trucks.*
- **OAR 629-43-0025**, *Fire Tools and Fire Extinguishers.*
- **ORS 477.640**, *Use and Refueling of Power Saws.*
- **OAR 629-043-036**, *Power Saws.*
- **ORS 477.645**, *Internal Combustion Engines.*
- **OAR 629-043-0015**, *Spark Arresters.*
- **ORS 477.650**, *Stationary Internal Combustion Engines.*
- **OAR 629-043-0026**, *Operation Area Fire Prevention*.
- **OAR 629-43-0020**, *Water Supply and Equipment for Fire Suppression*.

The list of project-specific fire prevention measures in **Section 3** and required fire prevention and suppression tools and equipment in **Section 4** incorporate these requirements.

2.2 Portland Parks and Recreation

Work within Forest Park will be implemented in accordance with a Non-Park Use Permit (NPUP) from PP&R, to which this document is an appendix. The PP&R document *Fire Safety Regulations for Staff, Contractors, and NPUP Permittees working in Natural Area Park* (**Appendix B**), last revised in April 2022, presents restrictions on activities based on fire danger levels, which are reported on ODF's public fire restrictions map (https://gisapps.odf.oregon.gov/firerestrictions/PFR.html). A summary of restrictions that could pertain to SFPP's actions in Forest Park is presented in the following list.

- **Smoking and Fires**: Smoking and intentional setting of fires (including debris burning) is prohibited under all fire danger levels on PP&R property.
- **Power Saws**[2]: The use of power saws is allowed under *Low* and *Moderate* fire danger levels, allowed before 1:00 pm with a fire watch under *High* and *Very High* fire danger levels, and prohibited under *Extreme* fire danger levels. When use of power saws is allowed, each saw

[2] Note that ODF does not prohibit or restrict the use of electric or hydraulic chainsaws at any time of the day or under any fire danger level conditions.

operator must also be equipped with one shovel and one fire extinguisher of at least 8-ounce capacity, and each saw must be equipped with a 0.23-inch spark arresting screen. This equipment must be taken to the work location and may not be left on a vehicle if the vehicle is not adjacent to the work location. When a fire watch is required, it is required for 1 hour following the use of a saw.

- **Motor Vehicles on Improved Roads (NW Leif Erikson Drive, NW Saltzman Road, and Water Bureau Access Road in Marquam Nature Park)**: Driving on these roads is allowed under all fire danger levels except *Extreme*. Any vehicle traveling within PP&R natural areas must have one shovel and 1 gallon of water or a 2.5-pound or larger ABC fire extinguisher.
- **Motor Vehicles on Unimproved Roads (Springville Road, BPA Road, Holman Lane, Newton Road, and all fire lanes in Forest Park)**: Driving on these roads is allowed under *Low* and *Moderate* fire danger levels and prohibited under *High*, *Very High*, or *Extreme* fire danger levels. Any vehicle traveling within PP&R natural areas must have one shovel and 1 gallon of water or a 2.5-pound or larger ABC fire extinguisher.
- **Cutting, Grinding, or Welding of Metal**: These actions are allowed without timing restrictions under *Low* fire danger level conditions, allowed before 1:00 pm under *Moderate* fire danger level conditions, allowed before 10:00 am under *High* and *Very High* fire danger level conditions, and prohibited under *Extreme* fire danger level conditions. When allowed, these actions are restricted to areas that are cleared of flammable materials and have either a charged hose or a 2.5-pound or larger ABC fire extinguisher.
- **Pruning and Clearing of Woody Material**: These actions are allowed without timing restrictions under *Low* and *Moderate* fire danger level conditions, allowed without the creation of debris piles under *High* and *Very High* fire danger level conditions, and prohibited under *Extreme* fire danger conditions. When creation of debris piles is allowed, debris piles must be removed when work at the site is completed.
- **Tall Grass Mowing**: These actions are allowed without timing restrictions under *Low* and *Moderate* fire danger level conditions, allowed before 1:00 pm under *High* and *Very High* fire danger level conditions, and prohibited under *Extreme* fire danger conditions. When allowed, trucks used to trailer mowers must be equipped with a 2.5-pound or larger ABC fire extinguisher, and mowers that do not require a truck and trailer must carry a 2.5-pound or larger ABC fire extinguisher on the mower.

3. Project-Specific Fire Prevention Measures

The following is a comprehensive list of fire prevention measures for all pipeline repair and/or replacement work in Forest Park performed by SFPP and its contractors. This list incorporates all relevant regulatory requirements and guidance presented in **Section 2**, even if the original regulations pertain only to inside or within 1/8th of 1 mile of ODF Fire Protection Districts. This list also incorporates stipulations, developed through coordination with ODF, for project actions that may need to occur outside some fire danger level-related timing restrictions[3] in order to complete the project in a timely manner.

1. A *Permit to Use Fire or Power-Driven Machinery* must be obtained by filing a notification via ODF's online system (https://www.oregon.gov/odf/working/pages/enotification.aspx) at least 15 days before starting the operation (ORS 477.625).

[3] Note that ODF no longer uses the *Very High* fire danger level category. However, as all PP&R requirements relating to *Very High* fire danger levels were identical to those under *High* fire danger levels, these requirements were able to be grouped in this list.

2. Smoking and intentional setting of fires is not allowed under any condition (ORS 477.510 and PP&R requirements).

3. The construction crew lead will check ODF's public fire restrictions map (https://gisapps.odf.oregon.gov/firerestrictions/PFR.html) every morning before commencement of project actions.

4. A designated fire watch service person will be provided (ORS 477.665 and OAR 629-043-0030) at each individual work site (i.e., more than one watch person is required if simultaneous project work is occurring in different areas). The fire watch service person will be constantly on duty at such times and at such places as the spread of fire on or from the operation area to forestland reasonably may be expected. This person must have adequate facilities for transportation and communication and have full line-of-sight to the area for which they are performing watch services. A person performing fire watch service must:

    a. Have a cell phone and radio and have confirmed radio service back to a continuously monitored location where an attendant can call 9-1-1 on their behalf as a backup for poor cell coverage;

    b. Constantly observe the operation area during any breaks (up to 3 hours) in operation activity and for up to 3 hours after the power-driven machinery (PDM) used by the operator has been shut down for the day[4];

    c. Visually observe all portions of the operation area on which operation activity occurred during the preceding period of activity; and

    d. Be qualified in the use and operation of assigned firefighting equipment and tools; be physically capable of performing assigned fire suppression activities; and be advised of single employee assignment responsibilities (OAR 437-007-1315), when working alone.

5. The fire watch service person will carry a Kestrel 2500 Weather Meter (or similar) to monitor relative humidity levels and wind speeds and will order a cessation of project work under conditions described in **Section 5**. Under *Moderate* or higher fire danger levels, relative humidity levels, temperature, and wind speed and direction must be collected in hourly intervals and documented in a log such as presented in **Appendix C**. Documentation of the hourly humidity levels are required to be kept on-site and readily available upon request.

6. Upon discovery of a fire, fire watch service person must:

    a. Report the fire by calling 9-1-1 or communicating via radio to a continuously monitored location where an attendant can call 9-1-1. All fires must be reported to 9-1-1, even those that are extinguished by the contractors (i.e., "cold fires"[5]). The following information should be reported to 9-1-1:

        i. The best access to the reported fire location including nearest cross street;

        ii. The approximate size of reported fire and direction of fire spread;

        iii. Any fire suppression activities that have been performed or will be performed;

        iv. Number of personnel on-site; and

        v. Location of predesignated safety zone.

[4] Note that length of time required for fire watch is based on the ODF Industrial Fire Precaution Level (IFPL) for an area. IFPL 1 requires a 1-hour fire watch, and IFPL 2 and IFPL 3 require a 2-hour fire watch. IFPL can be obtained during the fire season by checking the following website: https://gisapps.odf.oregon.gov/firerestrictions/ifpl.html.

[5] Cold fires need to be captured in the Fire Bureau's Incident System for tracking purposes. Crews will respond to the cold fire incident and check the area with a thermal imaging camera to be sure there are no hot spots that could smolder and start up another fire several hours later.

b. Report all fires to PP&R project manager Kendra Petersen-Morgan at 503-823-4492 (office) or 503-823-6225 (cell) after calling 9-1-1.

7. After reporting the fire and determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, construction crews must immediately proceed to control and extinguish the fire, consistent with firefighting training and safety and under the direction of the fire watch service person.

8. Signage will be installed at the unnamed private road off of NW Skyline Boulevard used to access Joints 2410, 2360, 2260, 2100, 1910, 1880, 1870, 1840, 1830, 1820, and 1810 (see Figure 2) so responding fire crews can easily identify the turnoff to these specific joint work site locations, if needed.

9. All tree biomass (pruned limbs, felled trees) removed for the purpose of this project will be hauled off-site the day it is cut.

10. All PDM must be kept free of excess flammable material that may create a risk of fire, and all batteries for PDM must be disconnected from powered components (other than what may be necessary to retain computer memory) through a shut-off switch or other means. If battery power is not able to be disconnected, unattended PDM must be left on ground cleared of flammable material (OAR 629-043-0026).

11. The use of power saws (with the exception of electric or hydraulic chainsaws) will adhere to PP&R's timing restrictions, which are:
    a. Allowed under *Low* and *Moderate* fire danger level conditions,
    b. Allowed before 1:00 pm with a fire watch under *High* fire danger level conditions, and
    c. Prohibited under *Extreme* fire danger level conditions.

12. Driving of motor vehicles on improved roads (NW Leif Erikson Drive, NW Saltzman Road, and Water Bureau Access Road in Marquam Nature Park) will adhere to PP&R's timing restrictions, which are:
    a. Allowed under *Low*, *Moderate*, and *High* fire danger level conditions, and
    b. Prohibited under *Extreme* fire danger level conditions.

13. Driving of motor vehicles on unimproved roads (including all fire lanes in Forest Park) will adhere to PP&R's timing restrictions, which are:
    a. Allowed under *Low* and *Moderate* fire danger level conditions, and
    b. Prohibited under *High* or *Extreme* fire danger level conditions.

       Note: Unimproved roads will be required for access to Joints 1680, 1670, 1600, and 1510. Work at these locations will be prioritized to occur early in the year (optimally before fire season begins) and would not occur under *High* or *Extreme* fire danger levels.

14. Cutting, grinding, or welding of metal will adhere to PP&R's timing restrictions, with the following modifications:
    a. Allowed under *Low* fire danger level conditions;
    b. Allowed before 1:00 pm under *Moderate* fire danger level conditions, and allowed after 1:00 pm if the following conditions are met:
        i. Fine fuels (grass, pine needles, leaves, etc.) are cleared down to bare mineral soil for a *minimum* of 30 feet around the excavation area.
        ii. Sustained eye level windspeeds are less than 10 miles per hour.

iii. A fire watch is continuously assigned during all welding/grinding operations.

iv. Firefighting hand tools (see **Section 4**) are available on-site; and a chainsaw is also available if surface dead fuel larger than 3 inches in diameter is present within 30 feet of the excavation area.

v. A “confinement tent” is established around welding/cutting area.

c. Allowed before 10:00 am under *High* fire danger level conditions, and allowed after 10:00 am and until 1:00 pm if the same conditions under 14(b) are met; and

d. Prohibited under *Extreme* fire danger level conditions.

15. Pruning and clearing of woody material will adhere to PP&R’s timing restrictions, with the following modifications:

    a. Allowed without timing restrictions under *Low*, *Moderate*, and *High* fire danger level conditions, and

    b. Prohibited under *Extreme* fire danger conditions.

16. Tall grass mowing will adhere to PP&R’s timing restrictions, which are:

    a. Allowed without timing restrictions under *Low* and *Moderate* fire danger level conditions,

    b. Allowed before 1:00 pm under *High* fire danger level conditions, and

    c. Prohibited under *Extreme* fire danger conditions.

17. Requirements for tools and equipment presented in **Section 4** will be adhered to.

4. Required Tools and Equipment

The following tools and equipment are required at the site, in accordance with PP&R requirements and OAR and ORS regulations, and as described in ODF guidance (even if the original regulations pertain only to inside or within 1/8th of 1 mile of ODF Fire Protection Districts):

- **Firefighting Hand Tools** (ORS 477.655 and OAR 629-43-0025, modified to suggest additional tool for inclusion): At least one box of firefighting hand tools consisting of Pulaskis, axes, shovels, and hazel hoes will be supplied on-site per operation area. The number of hand tools should equal the number of personnel at a site. All hand tools should be stored in a fire sturdy box clearly identified as containing firefighting tools. Crews of four or less are not required to have a fire tools box as long as each person has a shovel suitable for firefighting and available for immediate use while working on the operation. Though not specifically listed in the above regulations, a McLeod tool is also recommended for inclusion in boxes of firefighting hand tools.
- **Fire Tools, Extinguishers for Trucks** (ORS 477.655, OAR 629-043-0025, and PP&R requirements, modified to include a greater amount of water to be carried): Each truck driven in forest areas for industrial purposes must be equipped with one round pointed shovel at least 8 inches wide with a handle at least 26 inches long, one axe or Pulaski with a 26-inch handle or longer, 5 gallons of water, and one fire extinguisher rated not less than 2A:10BC (5 pounds).
- **Fire Extinguishers for Internal Combustion Engines** (ORS 477.655 and OAR 629-43-0025): Each internal engine used in an operation, except power saws, shall be equipped with a chemical fire extinguisher rated as not less than 2A:10BC (5 pounds).
- **Fire Extinguishers for Mowing Activities** (PP&R requirements, modified to include a larger extinguisher size to be carried and possibility of equipping mowers and trucks with charged fire hoses in lieu of extinguishers): When mowing is allowed, trucks used to trailer mowers must be equipped with a 5-pound or larger ABC fire extinguisher, and mowers that do not require a truck

and trailer must carry a 5-pound or larger ABC fire extinguisher on the mower. If the truck or mower is equipped with a charged fire hose, the need for a fire extinguisher would be negated.

- **Power Saws** (ORS 477.640 and OAR 629-043-036, modified to include a greater amount of water to be carried): Power saws must meet Spark Arrester Guide specifications, i.e., a stock exhaust system and screen with less than or equal to 0.023-inch holes. The following shall be immediately available for prevention and suppression of fire:

  1. Five gallons of water or pressurized container of fire suppressant of at least 8-ounce capacity;
  2. One round pointed shovel at least 8 inches wide with a handle at least 26 inches long; and
  3. The power saw must be moved at least 20 feet from the place of fueling before it is started.

- **Spark Arresters and Mufflers** (ORS 477.645 and OAR 629-043-0015): All non-turbo charged engines must be in good operating condition and meet specifications in the most recent edition of a publication of the National Wildfire Coordinating Group and the USDA Forest Service, entitled *Spark Arrester Guide*.

  The following are exemptions to spark arrester requirements:

  1. Fully turbo charged engines;
  2. Engines in motor vehicles operating on improved roads equipped with an adequate muffler and exhaust system;
  3. Engines in light trucks (26,000 gross vehicle weight [GVW] or less) that are equipped with an adequate muffler and exhaust system;
  4. Engines in heavy trucks (greater than 26,000 GVW) that are equipped with an adequate muffler and exhaust system;
  5. If a truck engine is not fully turbo-charged, then the exhaust must extend above the cab and discharge upward or to the rear, or to the end of the truck frame;
  6. Water pumping equipment used exclusively for firefighting;
  7. Engines of 50 cubic inch displacement or less, except all-terrain vehicles (ATVs) and motorcycles, shall be equipped with an adequate muffler and exhaust system;
  8. Engines in ATVs and motorcycles must be equipped with an adequate muffler and exhaust system or an approved screen, which completely endorses exhaust system; or
  9. Power saws (see power saw requirements).

- **Pump, Hose, and Water Supply** (ORS 477.650, 477.625 and OAR 629-043-0026, 629-43-0020): A pump, hose, and water supply for equipment will be supplied at each project location. The following conditions will be met:

  1. Pump will be maintained, ready to operate, and capable to provide a discharge of not less than 20 gallons per minute at 115 pounds per square inch at pump level. *Note*: Volume pumps will not produce the necessary pressure to effectively attack a fire. Pressure pumps are recommended.
  2. Water supply will be a minimum of 300 gallons if a self-propelled engine. Water supply will be a minimum of 500 gallons if not self-propelled (pond, stream, tank, etc.).
  3. One water supply is adequate as long as the operator can deliver water to the fire within 10 minutes under *Low* fire danger levels, within 5 minutes under *Moderate* fire danger levels, and under 1 minute under *High* fire danger levels.
  4. Adequate hose (500 feet minimum and not less than 3/4-inch inside diameter) will be available to reach areas where PDM has been in operation.

5. Water supply, pump, and at least 250 feet of hose with nozzle will be maintained as a connected, operating unit ready for immediate use.

Note: Should a fire occur, the operator will be required to be able to position the water supply in a location where enough hose is available to reach the area worked by PDM (including mobile equipment as well as motorized carriages and their moving lines). This can be achieved in many ways, including the practice of having a water tank and hose attached to a piece of equipment, such as a skidgen or skidder, that can transport water to the fire.

5. Stop Work Actions

The following conditions would necessitate a complete stop to all use of all motorized equipment and/or tools:

1. Relative humidity levels of less than or equal to 30 percent, or relative humidity levels of less than or equal to 35 percent and winds greater than 5 miles per hour. Work would not resume until wind and/or humidity conditions improve. Stop work actions due to low relative humidity levels will be reported to the PP&R project manager Kendra Pedersen-Morgan at 503-823-4492 (office) or 503-823-6225 (cell).
2. Active fire in the area. Permission to resume work can only be issued by ODF.
3. Violation of any project requirements, as determined by ODF. Permission to resume work can only be issued in writing by ODF.

Additionally, Fire Bureau and City inspectors will have the authority to inspect all work activities and equipment and stop work if any of the elements of this Plan are not being met.

6. Reporting

The designated fire watch service person will report all fire emergencies by calling 9-1-1 or communicating via radio to a continuously monitored location where an attendant can call 9-1-1. All fires must be reported to 9-1-1, even those that are extinguished by the contractors (i.e., “cold fires”). The following information should be reported to 9-1-1:

1. The best access to the reported fire location including nearest cross street;
2. The approximate size of reported fire and direction of fire spread;
3. Any fire suppression activities that have been performed or will be performed;
4. Number of personnel on-site; and
5. Location of predesignated safety zone.

All fires should also be reported to PP&R project manager Kendra Petersen-Morgan after calling 9-1-1.

7. Signatures

Date	Name (Print)	Signature	Firm

Appendix A
Oregon Department of Forestry Fire Season Requirements for Industrial Operations

FIRE SEASON REQUIREMENTS

The following fire season requirements become effective when fire season is declared in each Oregon Department of Forestry Fire Protection District, including those protected by associations (DFPA, CFPA, WRPA).

NO SMOKING **(477.510)**



No smoking while working or traveling in an operation area.

HAND TOOLS **(ORS 477.655, OAR 629-43-0025)**

Supply hand tools for each operation site - 1 tool per person with a mix of pulaskis, axes, shovels, hazel hoes.
Store all hand tools for fire in a sturdy box clearly identified as containing firefighting tools. Supply at least one box for each operation area. Crews of 4 or less are not required to have a fire tools box as long as each person has a shovel, suitable for fire-fighting and available for immediate use while working on the operation.



FIRE EXTINGUISHERS **(ORS 477.655, OAR 629-43-0025)**

Each internal combustion engine used in an operation, except power saws, shall be equipped with a chemical fire extinguisher rated as not less than 2A:10BC (5 pound).



POWER SAWS **(ORS 477.640, OAR 629-043-0036)**

Power saws must meet Spark Arrester Guide specifications - a stock exhaust system and screen with ≤ .023 inch holes.

The following shall be immediately available for prevention and suppression of fire:

- One gallon of water or pressurized container of fire suppressant of at least eight ounce capacity
- 1 round pointed shovel at least 8 inches wide with a handle at least 26 inches long
- The power saw must be moved at least 20' from the place of fueling before it is started.



FIRE TOOLS, EXTINGUISHERS FOR TRUCKS **(ORS 477.655, OAR 629-043-0025)**

Equip each truck driven in forest areas for industrial purposes with:

- 1 round pointed shovel at least 8 inches wide, with a handle at least 26 inches long
- 1 axe or Pulaski with 26 inch handle or longer
- 1 fire extinguisher rated not less than 2A:10BC (5 pound).



SPARK ARRESTERS AND MUFFLERS **(ORS 477.645, OAR 629-043-0015)**

All non-turbo charged engines must meet Spark Arrester Guide specifications except:



- Fully turbo charged engines.
- Engines in motor vehicles operating on improved roads equipped with an adequate muffler and exhaust system.
- Engines in light trucks (26,000 GVW or less) that are equipped with an adequate muffler and an exhaust system.
- Engines in heavy trucks (greater than 26,000 GVW) that are equipped with an adequate muffler and exhaust system.
- If a truck engine is not fully turbo-charged, then the exhaust must extend above the cab and discharge upward or to the rear, or to the end of the truck frame.
- Water pumping equipment used exclusively for fighting fire.
- Engines of 50 cubic inch displacement or less, except ATV's and motorcycles, shall be equipped with an adequate muffler and an exhaust system.
- Engines in ATV's and motorcycles must be equipped with an adequate muffler and exhaust system or an approved screen, which completely encloses exhaust system.
- Power saws. (See power saw requirements)

PUMP, HOSE, AND WATER SUPPLY **(ORS 477.650, 477.625, OAR 629-043-0026, 629-43-0020)**

Supply a pump, hose and water supply for equipment used on an operation.



- Pump must be maintained ready to operate and capable to provide a discharge of not less than 20 gallons per minute at 115 psi at pump level. **Note: Volume pumps will not produce the necessary pressure to effectively attack a fire start. Pressure pumps are recommended.**
- Water supply shall be a minimum of 300 gallons if a self-propelled engine.
  Water supply shall be a minimum of 500 gallons if not self-propelled (pond, stream, tank, sump, trailer, etc.)
- One water supply is adequate as long as the operator can deliver water to the fire within 10 minutes
- Provide enough hose (500 feet minimum) not less than 3/4" inside diameter to reach areas where power driven machinery has worked.

Note: Should a fire occur, the operator must be able to position the water supply in a location where enough hose is available to reach the area worked by power driven machinery. This includes mobile equipment as well as motorized carriages and their moving lines. Moving lines are defined as main lines and haul back lines. This can be achieved in many ways, including the practice of having a water tank and hose attached to a piece of equipment, like a skidgen or skidder, that can get the water to the fire.

- Water supply, pump, and at least 250' of hose with nozzle must be maintained as a connected, operating unit ready for immediate use.

CABLE LOGGING OPERATIONS **(ORS 477.625, 477.655, OAR 629-043-0026, 629-043-0025)**

Clear the ground of flammable debris within a 10-foot radius around any block. This cleared area shall be kept free of flammable debris while the block is in use.

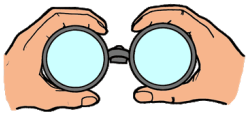
Provide at each block:

- 5 gallon pump can filled with water
- 1 round pointed shovel at least 8 inches wide with a handle at least 26 inches long.

FIRE WATCH SERVICE **(477.665, 629-043-0030)**

Each operation area is to have a Firewatch.

Fire watch shall be on duty during any breaks (up to 3 hours) and for three hours after all power driven machinery used by the operator has been shut down for the day. ***Note: Some ODF districts waive this requirement based on the IFPL in place. Check with the district in which you are working.***



Fire watch shall:

- Be physically capable and experienced to operate firefighting equipment.
- Have facilities for transportation and communications to summon assistance.
- Observe all portions of the operation on which activity occurred during the day.

Upon discovery of a fire, Firewatch personnel must: First report the fire, summon any necessary firefighting assistance, describe intended fire suppression activities and agree on a checking system; then, after determining a safety zone and an escape route that will not be cut off if the fire increases or changes direction, immediately proceed to control and extinguish the fire, consistent with firefighting training and safety.

OPERATION AREA FIRE PREVENTION **(477.625, 629-043-0026)**

- Keep all power driven machinery free on excess flammable material which may create a risk of fire.
- Avoid line-rub on rock or woody material, which may result in sparks or sufficient heat to cause ignition of a fire.
- Disconnect main batteries from powered components (other than what may be necessary to retain computer memory) through a shut-off switch or other means or, leave equipment on ground cleared of flammable material.

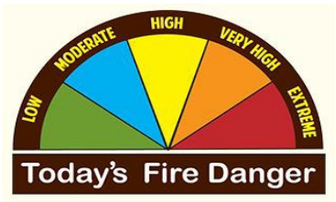
NOTICE**:**

THESE ARE MINIMUM STANDARDS BY LAW. MANY LANDOWNERS REQUIRE ADDITIONAL REQUIREMENTS.

Appendix B

City of Portland Parks and Recreation – Fire Safety Restrictions for Staff, Contractors, and NPUP Permittees Working in Natural Area Parks

City of Portland Parks and Recreation
Fire Safety Restrictions for Staff, Contractors, and NPUP Permittees working in Natural Area Parks



April 2022	Fire Danger Level Low	Moderate	High	Very High	Extreme
Smoking is <u>Prohibited</u> Smoking is prohibited on all PP&R property.	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
Fires are <u>Prohibited</u>. Including debris burning.	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
<u>The Following Activities have Various Restrictions - See additional notes below.</u>					
Power Saws When allowed each saw must have one shovel and one fire extinguisher of at least 8 ounce capacity, and be equipped with a spark arresting screen (0.23"). These must be taken to the work location and may not be left on a vehicle if the vehicle is not adjacent to the work location. When a fire watch is required, it is required for one hour following the use of a saw.	Allowed	Allowed	Allowed Before 1 pm - fire watch required	Allowed Before 1 pm - fire watch required	Prohibited
Motor Vehicles on Improved Roads Improved roads are hard surfaced or graveled. A road that was once graveled but now has vegetation growing in the road bed is not considered improved for the purpose of these requirements. A list of specific roads is below this table for reference. Any vehicle traveling within PP&R natural areas must have one shovel and one gallon of water or a 2.5 lb. or larger ABC fire extinguisher.	Allowed	Allowed	Allowed	Allowed	Prohibited
Motor Vehicles on Unimproved Roads Unimproved roads are all roads that are not hard surfaced or graveled, including formerly graveled roads with vegetation growing in the roadbed. A list of specific roads is below this table for reference. Any vehicle traveling within PP&R natural areas must have one shovel and one gallon of water or a 2.5 lb. or larger ABC fire extinguisher.	Allowed	Allowed	Prohibited	Prohibited	Prohibited
All Terrain Vehicles Must have a 2.5 lb. or larger ABC fire extinguisher.	Allowed	Allowed	Only on Improved Roads	Only on Improved Roads	Prohibited
Cutting, Grinding, or Welding of Metal When allowed, is restricted to areas that are cleared of flammable materials and have either a charged hose or 2.5 lb. or larger ABC fire extinguisher.	Allowed	Allowed Before 1 pm	Allowed Before 10 am	Allowed Before 10 am	Prohibited
Pruning and Clearing of Woody Material Debris piles are always prohibited within 200 feet of a structure. Debris piles in other locations must be removed when work on the site is completed.	Allowed	Alllowed	Allowed - No Debris Piles	Allowed - No Debris Piles	Prohibited
Tall Grass Mowing Trucks used to trailer mowers must be equipped with a 2.5 lb. or larger ABC fire extinguisher, and mowers that do not require a truck and trailer must carry a 2.5 lb. or larger ABC fire extinguisher on the mower.	Allowed	Allowed	Allowed Before 1 pm	Allowed Before 1 pm	Prohibited

Notes: Emergency response personnel and vehicles are exempt from these restrictions. These restrictions do not apply to work on existing hard surfaces, public roads that pass through natural areas, or large non-vegetated areas such as parking lots.

<u>Contacts</u>

In an emergency or if you see a fire, call 911.

Park Rangers: 503-823-1637
West side natural areas supervisor: Kendra Petersen-Morgan, 503-823-4492
East side natural areas supervisor: Michael Oliver, 503-823-2763
Regional trails supervisor: Jeremy Nelson, 503-823-1620

For Current Public Fire Danger Level: https://www.oregon.gov/odf/fire/pages/restrictions.aspx

Road types: Improved roads are hard surfaced or graveled. A road that was once graveled but now has vegetation is not considered improved for the purpose of these requirements. Specific roads are listed below.

Improved Roads:
Leif Erickson Road
Saltzman Road
Water Bureau Access Road in Marquam Nature Park

Unimproved Roads:
Springville Road
BPA Road
Holman Lane
All firelanes in Forest Park
Newton Road

Appendix C
Example Hourly Climate Conditions Log

Hourly Climate Conditions Log

Date: _____ Start Time: _____ End Time: _____

Fire Danger Level: _____ Fire Watch Person Name: _____

Time	Relative Humidity	Wind Speed	Wind Direction	Temperature

aecom.com

Traffic Control Plan Memorandum

This memorandum (memo) presents information relating to traffic control for construction access to perform repairs of the Oregon Pipeline–Line Section 14 (LS-14) pipeline within Forest Park. Project details are presented in the Non-Parks Use Permit (NPUP) application, to which this memo is an attachment.

The following signs will be posted within Forest Park, both in English and Spanish. All sign locations and sign details have undergone an initial review by Portland Parks and Recreation. All signs will be printed in high resolution on double-sided 18-inch x 24-inch corrugated plastic and fixed to the ground using "H"-wire stakes.

1) "Caution – Construction Ahead" signs (**Exhibit A**) will be posted at the following locations:
    - At NW Leif Erikson Drive and NW Saltzman Rd intersection
    - At Springville Road and NW Leif Erikson intersection
    - At Springville Road Trailhead park entrance
    - On Trillium Trail at intersection with Firelane 7 (Oil Line Road)
    - On Wildwood Trail at intersection with Firelane 7A
    - On Wildwood Trail at intersection with Firelane 5
    - On Wiregate Trail at intersection with NW Leif Erikson Drive
    - On Wiregate Trail at intersection with Wildwood Trail
    - At NW Saltzman Road park entrance, Lower Saltzman Road trailhead
    - At NW Saltzman Road park entrance, Upper Saltzman Road trailhead
    - On Wildwood Trail at Intersection with Saltzman Road
    - At the intersection of Trillium and Wildwood Trails

2) "Trail Closed" signs (**Exhibit B**) will be posted at the following locations:

    <u>Phase 1 – Wildwood Trail Closures</u>
    - At intersection of Trillium Trail and Wildwood Trail
    - At intersection of NW Oil Line Rd and Wildwood Trail
    - At intersection of Firelane 7A and Wildwood Trail
    - On Wildwood Trail approx. 50 ft west of Wildwood Trail pipeline crossing
    - On Wildwood Trail approx. 50 ft east of Wildwood Trail pipeline crossing

    <u>Phase 2 – Wildwood Trail Closures</u>
    - At intersection of Wildwood Trail and Wiregate Trail
    - At intersection of Wildwood Trail and Firelane 5
    - On Wildwood Trail approx. 50 ft west of Wildwood Trail pipeline crossing
    - On Wildwood Trail approx. 50 ft east of Wildwood Trail pipeline crossing

Phase 3 – Wiregate Trail Closures

- At intersection of Wiregate Trail and Wildwood Trail
- At intersection of NW Leit Erikson Drive and Wiregate Trail
- On Wiregate Trail approx. 50 ft west of Wiregate Trail pipeline crossing
- On Wiregate Trail approx. 50 ft east of Wiregate Trail pipeline crossing

3) "Caution – Truck Crossing" signs (**Exhibit C**) will be posted at the following locations:

- Forest Park entrance at the beginning of the Shared Utility Maintenance Route.
- On NW Leif Erikson Dr south of intersection of Germantown Road
- On Tolinda Trail at intersection of NW Leif Erikson Dr
- On Waterline Road at intersection of NW Leif Erikson Dr
- On NW Old Springville Road at intersection of NW Leif Erikson Dr (north)
- On NW Old Springville Road at intersection of NW Leif Erikson Dr (south)
- On Hardesty Trail at intersection of NW Leif Erikson Drive
- On Ridge Trail at intersection of NW Leif Erikson Drive (north)
- On Ridge Trail at intersection of Leif Erikson Dr (south)
- On Firelane 7A at intersection of Leif Erickson Dr (north)
- On Firelane 5 at intersection of NW Leif Erikson Drive
- On Maple Trail at intersection of Leif Erickson Dr (south)
- On Saltzman at Leif Erickson Dr (south – coming from Skyline)
- On Leif Erickson Dr at Saltzman (south – coming from Thurman)
- On Maple Trail at intersection of Saltzman Rd (east)
- On Maple Trail at intersection of Saltzman Rd (west)
- On Firelane 7 at intersection of Hardesty Trail
- On Oil Line Rd at intersection of Wildwood Trail

The following traffic-related Best Management Practices will be followed during construction:

- Construction workers will only access the pipeline anomaly repair locations via designated construction access routes (see **Figure 3** of **Attachment A** of the NPUP application).
- Low-ground pressure equipment will be utilized to the extent possible, and construction vibrations will be minimized.
- Signage, coning, and/or fencing will be used along Wildwood Trail as deemed necessary and appropriate by PP&R to keep people away from construction vehicles, equipment, and disturbance areas and to warn park users of any hazards while the activities are taking place.

Exhibit A – "Caution – Construction Ahead" Signs





Exhibit B – "Trail Closed" Signs

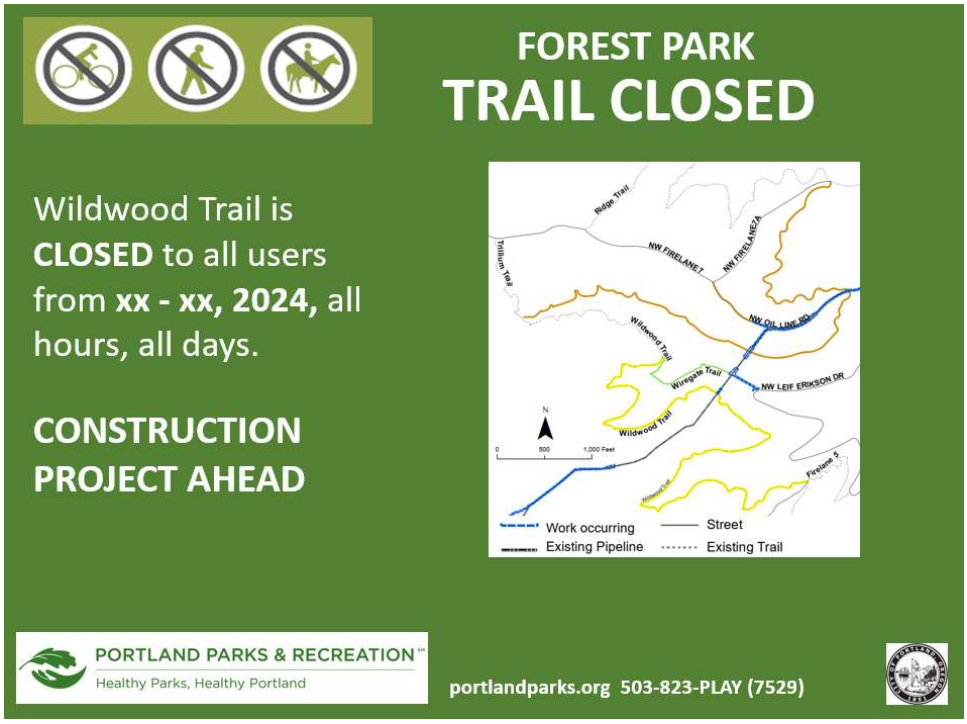
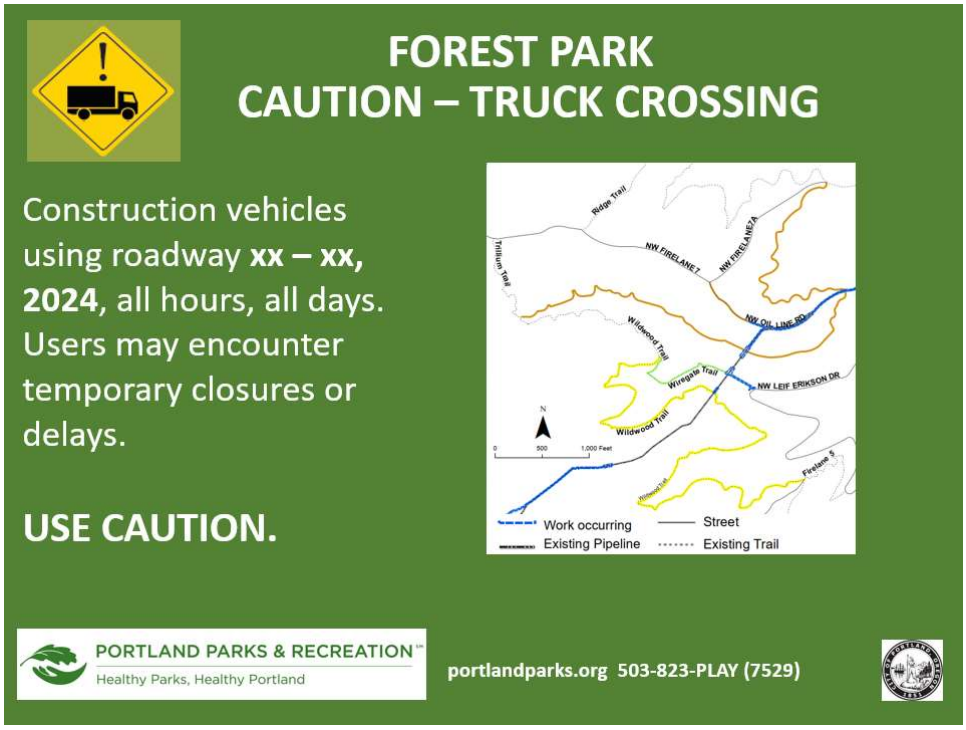




Exhibit C – "Caution – Truck Crossing" Signs





2024 Tree Protection Plan

For

Michel's Pipeline Inc.

For Service At

Forest Park

Portland, OR

SAVAYREE®
Consulting Group

AECOM- Michel's Pipeline, INC
Contact: Ben Brock *Superintendent*
bbrock@michels.us
920-206-5379

RE: Tree Protection Plan for Forest Park in 2024

Summary

This report is a Tree Protection Plan for Michel's Pipeline Inc. The report includes the location, status, and recommendations of trees located within the construction zone of Michel's Pipeline infrastructure improvements in Forest Park, Portland, OR. The nearest access point is Springville Road Trailhead at 10937 NW Old Springville Rd, Portland, OR 97229.

Assignment

- Locate and identify the trees that will be affected based on the proposed construction according to the provided site plans (Appendix A).
- Provide findings/recommendations pertaining to the trees.

Background

The construction project is to address the anomalies at 11 joint sites along Michel's Pipeline in Forest Park. Each site requires excavation and replacement of joints in the pipeline. The 8-inch pipe will need an excavation trench 4-8 feet in depth with a minimum of 5 feet width on either side of the pipeline (10 feet width total). The length of the excavation can extend up to 50 feet depending on if the welders can find good metal to attach the metal sleeve. There are a few sites where there are multiple joints in one excavation site.

Pipeline Repair Process

1. The anomalies are found by measuring the distance from the girth weld on the pipe.
    a. The pipeline surveyor uses a machine to detect the girth weld without having to dig. Unfortunately, the machine's accuracy is not 100% and can be a couple feet off of what was marked.
    b. Once the crew (4-10 people) find the girth weld, they use that to measure where the anomaly is located and the excavation begins.
2. The excavation provides a minimum of 5 feet on each side of the pipeline. The excavation hole must use shoring equipment to prevent the hole from collapsing on the crew. It is also a requirement to have space on each side of the excavation hole to allow the crew of 4-10 people space from the hole and multiple excavators.

3. Once the excavation site is open, welders will come to test the metal on the pipeline to ensure that the repair kit they attach to the pipe is on good metal. If the metal is deemed unsuitable for welding, they must "chase the pipe" to find good metal.
    a. This is why there are so many potential trees to remove since there is no guarantee that the initial excavation site will have good metal for welding.
4. When the metal sleeves are attached, and everything is stable/checked then the hole is backfilled with soil.

Other requirements needed for safety:

- All hazardous trees must be removed along the access path and on the jobsites. We can remove the tops of some of the hazardous trees to provide wildlife snags.
- There must be room on each side of the excavation site to provide space for the crew to safely move around the site and excavators.
    - This is particularly important on the steeper slopes as it requires more space than on a flat surface.
- The excavators have a 20-foot swing and require space to work at full capacity.
- There must be room for all equipment and excavated soil on each jobsite as well.

Limitations of Assignment

The trees were evaluated from ground level. No special tools were used to examine any tree or tree parts. Limitations include limited visual assessment of tree canopies and root systems. The project area is located in a dense canopy in Forest Park. There were limitations on the accuracy of the GPS locations of trees. The accuracy ranges from 30-50 ft. The accuracy of tree location data was improved by the follow-up site visit on December 11th, 2023 to ground truth and correct GPS data; this corrected data was used for the figures in this plan.

Observations

I visited the site on October 6th, 2023 at approximately 8am. The nearest access point is the Springville Road Trailhead at 10937 NW Springville Rd, Portland, OR 97229. There were 311 trees that were inventoried by me with assistance from Mike Fontenot, another Certified Arborist, in 2023. There were 709 trees inventoried by Peter Van Oss in 2021. The majority of species found in the inventory are Douglas-fir (*Pseudotsuga menziesii)*, red alder (*Alnus rubra)*, bigleaf maple (*Acer macrophyllum)*, Western red cedar (*Thuja plicata)*, and Oregon ash (*Fraxinus latifolia)*. The average DBH is 15 inches. A majority of the trees are in poor to fair condition. A portion of the jobsites are on a flat slope while others are on a steep slope. The access trail from Springville Road Trailhead is wide enough for machinery, equipment, and truck access.

Tree Removals

There are 70 trees proposed for removal and are broken down into the following: 33 trees removed for access, 21 trees removed because a majority of their root zones are within the excavation zone, and 16 trees removed because they are hazardous. Hazardous trees are defined as trees that are defective, diseased, dying, or dead that pose a high risk of failure with the potential to cause injury/death to people and damage to structures. There are 17 potential removal trees depending on a couple factors. The first factor is if the survey equipment was accurate in location of the girth weld and the anomaly. The second factor is whether the welders are able to find good metal to weld the metal sleeve to. A majority of the trees proposed for removal are 15" and under. There are 13 trees that are over 15" in diameter but they are not an uncommon size for these particular species. A majority of these trees over 15" are Douglas-firs which are fairly common species and size maturity in this area.

There are two trees that will require partial removal. There are Tree 480 and 485 which are both alders in fair health condition. Both of these trees are codominant stemmed and one of their leaders is in the way of access and/or within the pipeline excavation.

For more information on proposed removals, please visit the appendix.

Tree Protection Methods

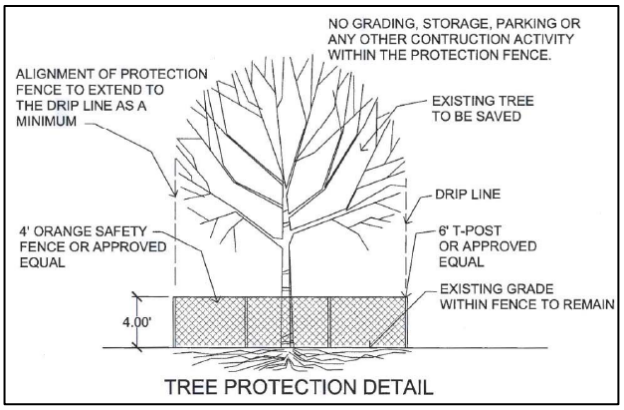
The Root Protection Zone (RPZ) for each tree is equal to 1 foot radius for every 1 inch of the tree's DBH (per City Code Section 11.60.030). For example: a 24" DBH tree has a tree protection radius of 24-feet.

Tree Protection Fencing Around Temporary Disturbance Areas

Due to the close proximity of multiple mature trees to the proposed pipeline repair sites, the performance path method of tree protection will be used. A temporary disturbance boundary around each proposed excavation area was estimated to allow for pipeline repairs to occur while minimizing ground and vegetation disturbance, including disturbance to adjacent trees. Therefore, temporary tree protection fencing shall be installed to designate the proposed temporary disturbance area boundaries, which will protect a majority of the nearby tree's root zones and will prevent equipment damaging their trunks. Trees whose root protection zones are estimated to overlap largely with the excavation area have already been deemed definite or potential tree removals by the arborist. The fencing shall protect a majority of the trees' root zones and will prevent equipment damaging the trunk. Any disturbance outside the fencing, but inside the root protection zone will have an Arborist onsite to monitor.

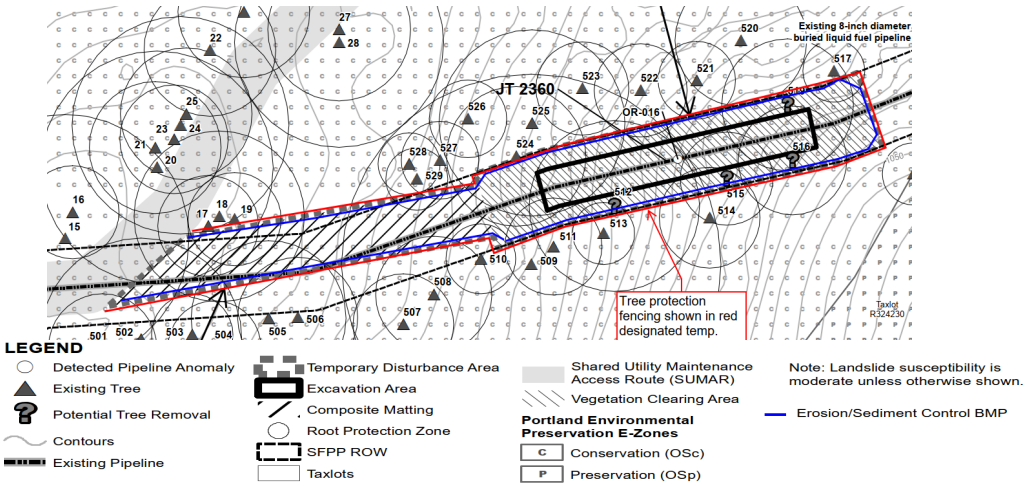
Tree Protection Fencing shall abide by the following stipulations:

- The fencing shall be 4-foot orange fencing secured with 6-foot metal posts placed 8-feet apart.
- The City of Portland's tree protection sign (downloadable at the following link) shall be placed prominently on the fencing installed at each excavation area.
- The web address for this sign is: https://www.portland.gov/bds/documents/tree-root-protection-zone-sign/download
- The fencing shall be installed prior to any ground disturbance taking place including vegetation clearing (and tree removal) and excavation.



- BMPs (e.g., silt fences) are proposed around portions of the temporary disturbance area perimeter. These BMPs must be installed within (e.g., not outside of) the fencing to ensure all disturbance, including BMP installation, occurs within the proposed temporary disturbance area boundaries.
- The fencing may only be removed after the final City inspection and approval of Phase 1 of restoration (seeding/fern replanting) is completed at all pipeline repair sites.
- No disturbance outside the fencing permitted. If temporary disturbance outside of the fencing is required, the contractor must contact the Arborist. The Arborist must be on site to monitor disturbance and ensure no additional tree impacts would occur.

Tree Protection Fencing Example



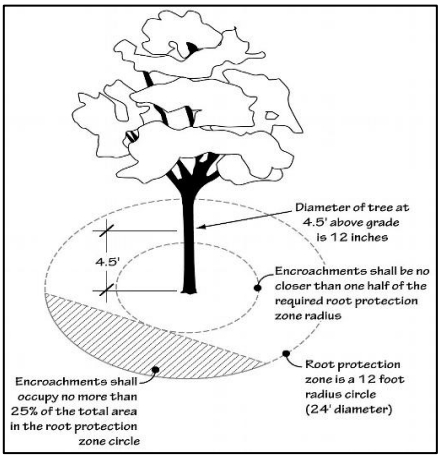
**Note: The excavation areas proposed (and shown in the graphic above) indicate the maximum estimated excavation needed; there is potential for excavation areas to be smaller depending on the severity of the anomaly after excavation near the detected anomaly begins.*

Arborist on Site During Excavation

As mentioned above in the "Tree Removals" section on Page 3, an Arborist will be on site during excavation to determine if any potential removal trees need to be removed based on the extent of root damage observed from excavation activities. I will document the excavation with details on which roots were cut from what tree. I will also document if a potential removal needs to be removed with pictures and reasoning as to why it needs to be removed.

- The arborist would be required to send photos and a summary of the impacts that forced the tree to be removed (e.g., number and size of roots pruned, proximity to the tree, tree's condition) to Urban Forestry and PP&R. This information can be submitted following the removal of the 'potential removal' but would be done as soon as possible.

Excavation near the Root Protection Zone (RPZ)



- All excavation within 1 foot per diameter inch shall be monitored by a Certified Arborist.
- The excavator and/or equipment will be permitted within the protection zone but will be monitored by a Certified Arborist to assess the least impacted path.
- During excavation, the equipment shall carefully remove layers of soil while Certified Arborist monitors for roots 2" and larger.
- Any root pruning between 2" and 4" shall be done using proper root pruning techniques.
    - Proper technique includes diagonal flush cuts to promote growth.
- Roots over 4" shall be preserved and recorded to apply for root pruning approval by Urban Forestry.
- If a potential removal tree requires more than 20% of roots to be cut, the entire tree will be removed and counted as a definite removal.

Prohibited Activities Outside of Tree Protection Fencing

Within Forest Park, construction activities are prohibited outside of the tree protection fencing (that marks the temporary disturbance area boundaries) as well as the construction access route along the shared utility maintenance access route. Construction activities that are prohibited outside of the fencing and access route include but are not limited to:

- Ground disturbance (including vegetation clearing and excavation)
- Vehicular or equipment access.
- Storage of equipment and materials (including soil and gravel)
- Temporary or permanent stockpiling

- Underground utilities
- Excavation or fill
- Trenching

Violations of these provisions may result in liability for damages and applicable fines

Conclusion

The trees of concern are in fair to good condition taking species and age into consideration. Provided with the information I received, it is my professional opinion that this tree plan suffices in the protection of the trees. Care should be taken to adhere to the tree protection recommendations to have a positive outcome of the retention efforts.

Recommendations

Based on my findings and conclusions I am recommending the following course of action regarding the retention efforts:

- Any excavation within the Root Protection Zone must have a Certified Arborist present.
- Tree pruning be conducted by ISA certified arborist; pruning limited to 3-inch cuts and 15% of canopy wood; directional felling; exposed roots covered by woodchip mulch.
- Monitor trees affected by the excavation for future decline by visiting site one month post construction and every 6 months for 3 years.
- Holding a pre-con site meeting with all contractors involved and Urban Forestry to go over the details of the Tree Protection Plan.

Appendix A- Assumptions and Limitations

Appendix B- Certification of Performance

Appendix C- Site Maps

Appendix D- Inventory

Appendix A- Assumptions and Limitations

1. A field examination of the site was made. My observations and conclusions are as of that date.
2. Care has been taken to obtain all information from a reliable source, however the Arborist can neither guarantee nor be responsible for accuracy of information provided by others.
3. Unless stated otherwise, information contained in this report covers only those trees that were examined and reflects the condition of those trees at the time of inspection. The inspection is limited to visual examination of the subject trees without dissection, excavation, probing, or coring. There is no warranty or guarantee that problems or deficiencies of the subject tree may not arise in the future.
4. All trees possess the risk of failure. Trees can fail at any time, with or without obvious defects or applied stress. Trees are living biological organisms, and I cannot predict nor guarantee their stability or failure.
5. Sketches or drawings in this report are intended as visual aids and are not necessarily to scale and should not be used as engineering or architectural reports or surveys.
6. This report and any values/opinions expressed herein represents my opinion as an arborist. Inaction on the part of those receiving the report is not the responsibility of the Arborist.
7. Loss or alteration of this report invalidates the entire report.

Appendix B - Certification of Performance

I, Sibyl Weise, certify that:

- I have personally inspected the trees and the property referred to in this report and have stated my findings accurately. The extent of the evaluation or appraisal is stated in the attached report and the Terms of the Assignment.
- I have no current or prospective interest in the vegetation or the property that is subject of this report and have no personal interest or bias with respect to the parties involved.
- The analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts.
- My analysis, opinions 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 in the report.
- My compensation is not contingent upon reporting of a predetermined conclusion that favors the cause of the client or 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 an ISA Certified Arborist with Tree Risk Assessment Qualifications. I have been involved in the arboricultural field in a full- time capacity for a period of 8 years.

Sincerely,

Sibyl Weise
NW SavATree
Certified Arborist PN-8718A
Registered Consulting Arborist RCA #817
ISA Qualified Tree Risk Assessor
971-375-7280 (Direct/ Cell)
sweise@savatree.com

ISA QUALIFICATIONS TREE RISK ASSESSMENT

CERTIFIED ARBORIST ISA

asca RCA #817
Registered Consulting Arborist®

Sibyl Weise
Arborist Consultant
ISA Cert# PN-8718A TRAQ
971-375-7280 I sweise@savatree.com

Appendix C- Site Maps

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

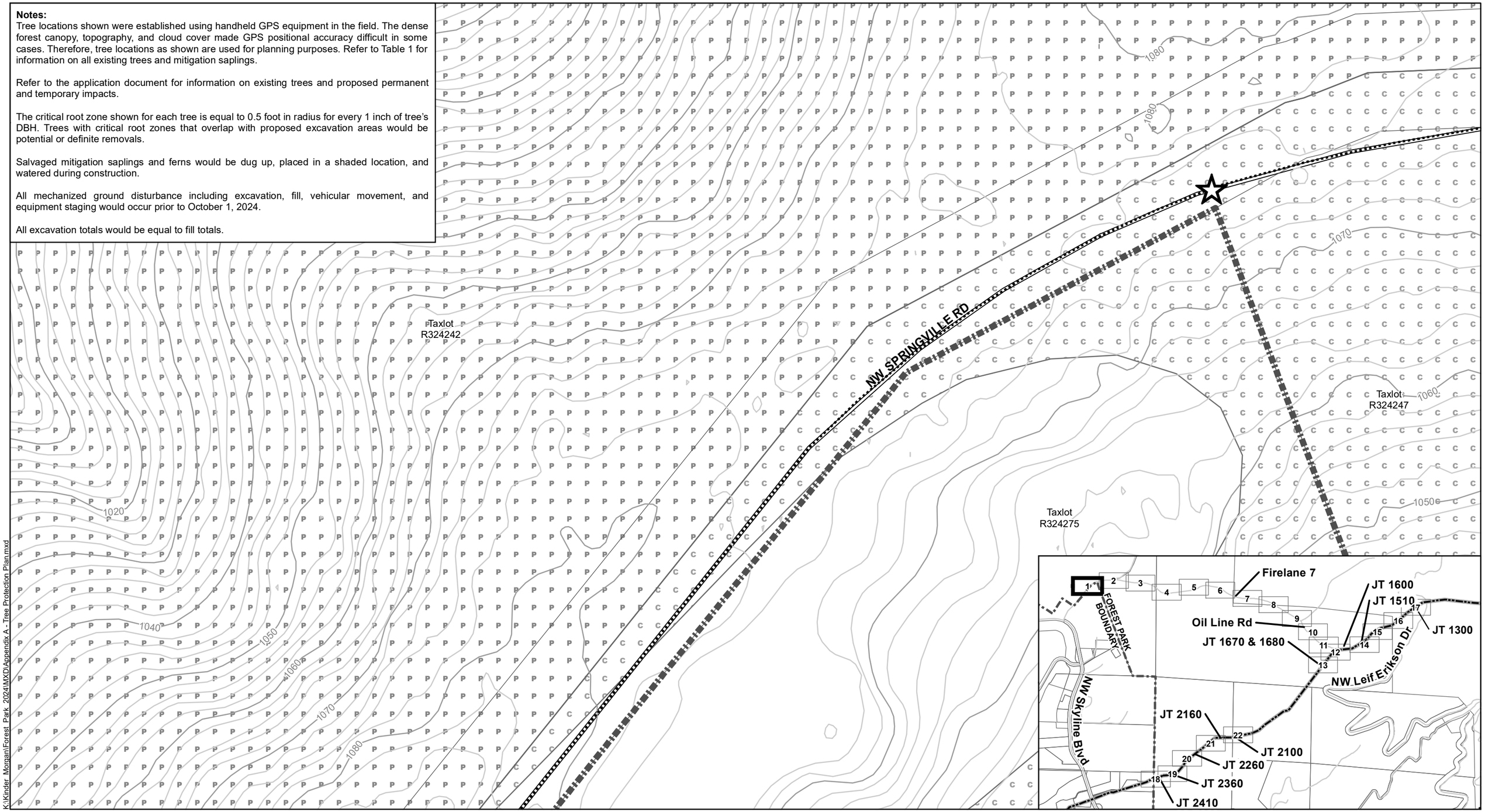
Refer to the application document for information on existing trees and proposed permanent and temporary impacts.

The critical root zone shown for each tree is equal to 0.5 foot in radius for every 1 inch of tree's DBH. Trees with critical root zones that overlap with proposed excavation areas would be potential or definite removals.

Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.



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LEGEND

- Gated Forest Park Entrance
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Trail
- Street
- Taxlots

Portland Environmental Preservation E-Zones

- C Conservation (OSc)
- P Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 1 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN | Exhibit A.4

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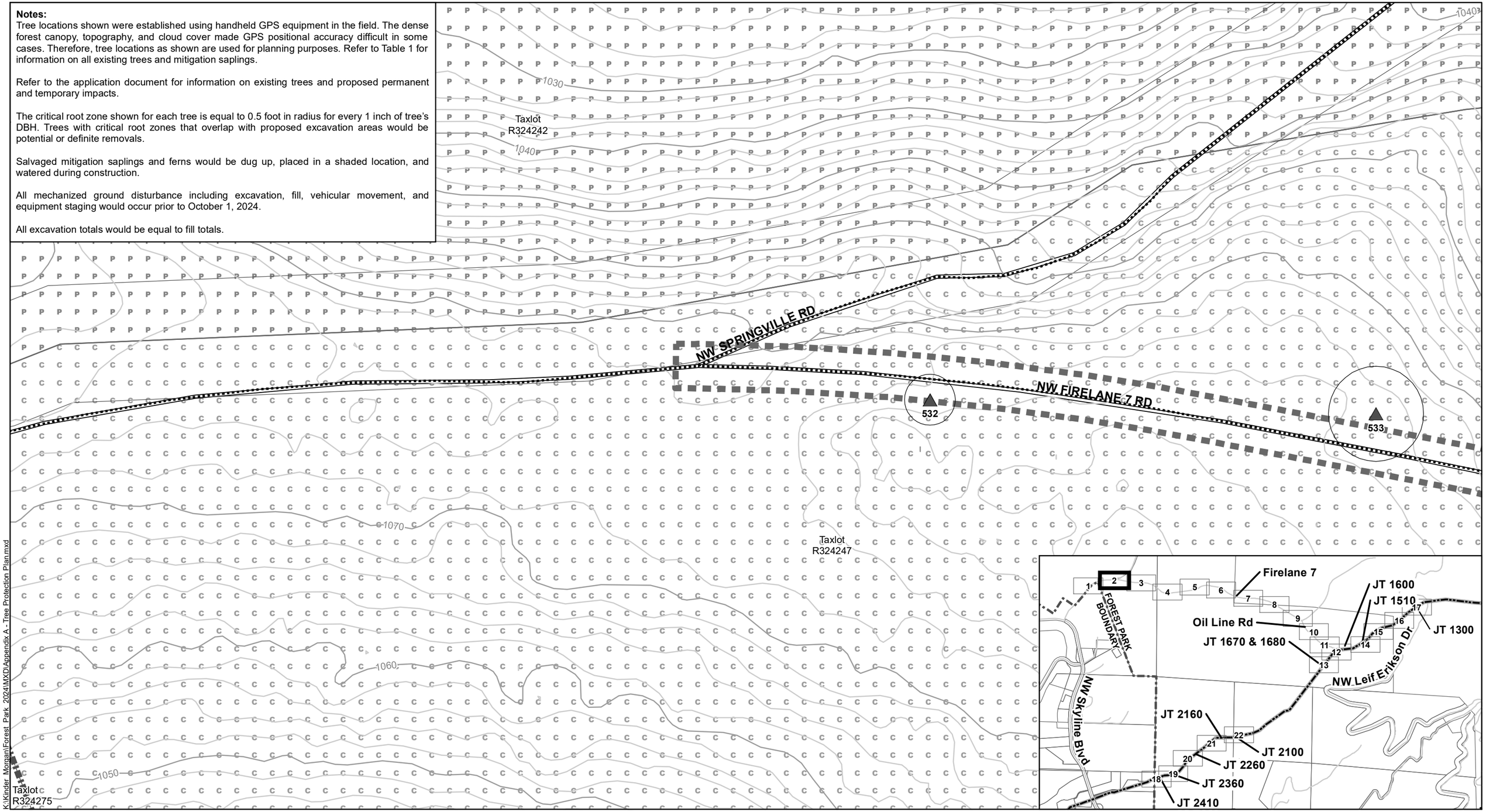

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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 2 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN | Exhibit A.4

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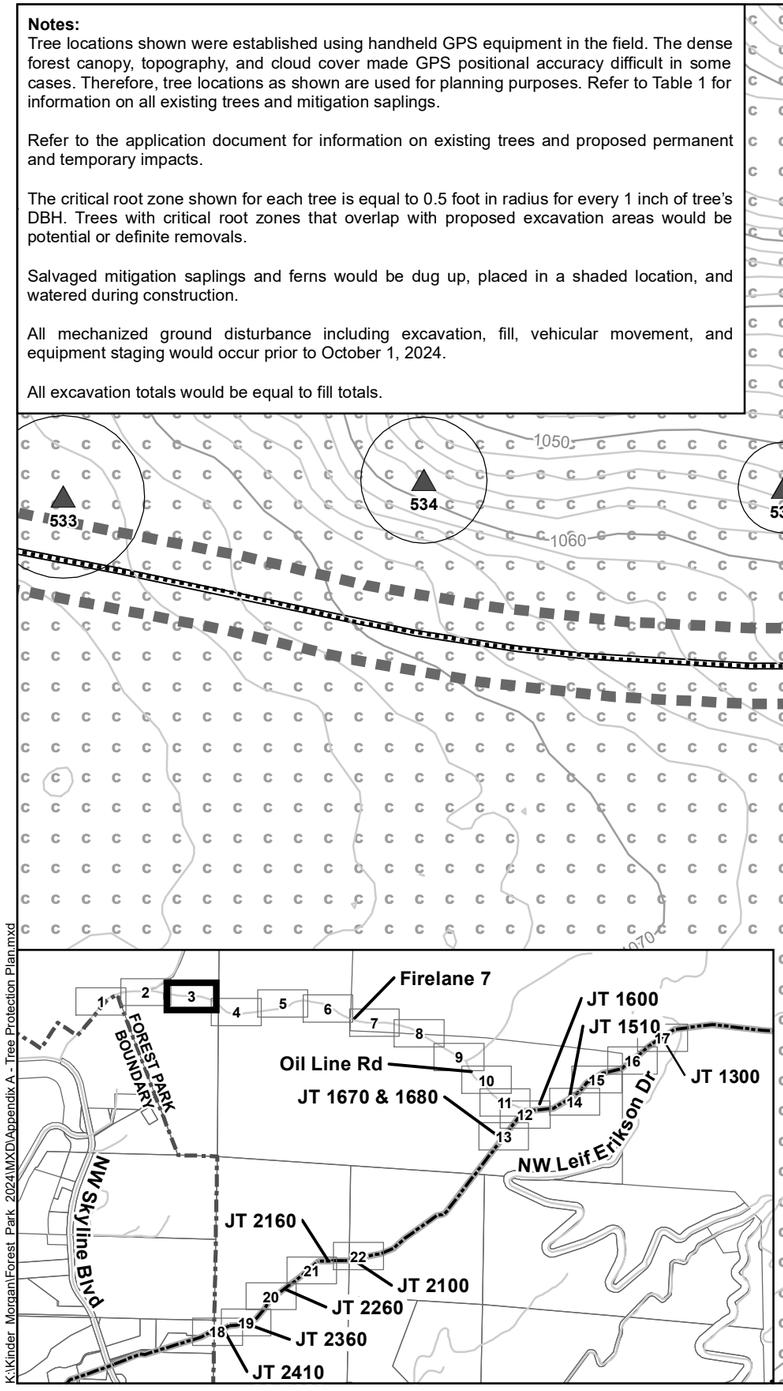
The critical root zone shown for each tree is equal to 0.5 foot in radius for every 1 inch of tree's DBH. Trees with critical root zones that overlap with proposed excavation areas would be potential or definite removals.

Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.



K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

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N

0 15 30 Feet

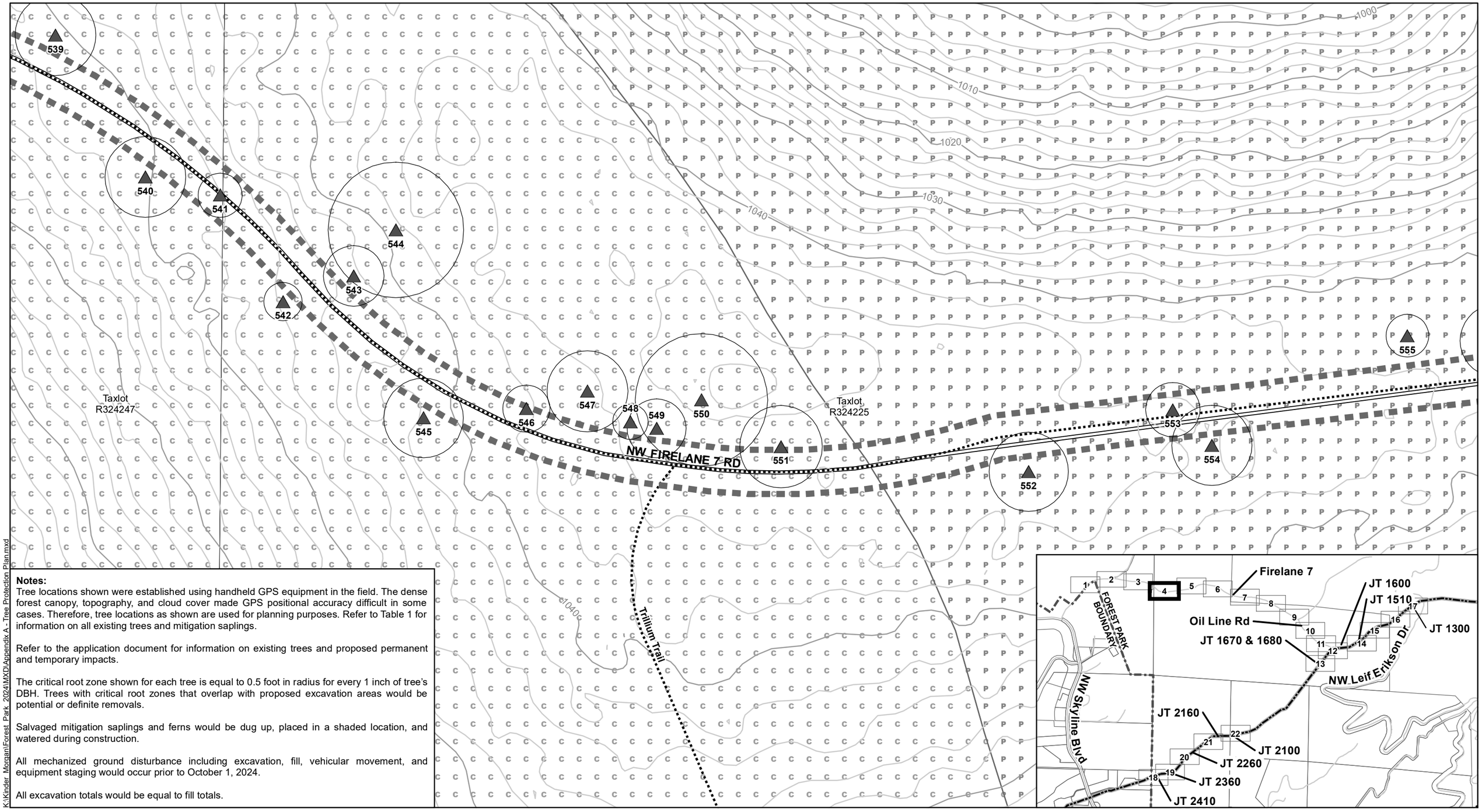
APPENDIX C - TREE PROTECTION PLAN - SHEET 3 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4



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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

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K:\Kinder_Morgan\Forest_Park_2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 4 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

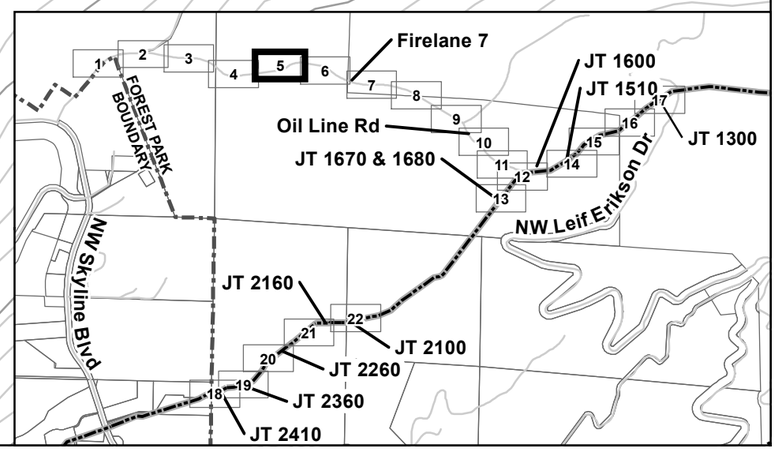
All excavation totals would be equal to fill totals.

980
990
1000
1010
1020
1030
1040

555
556
557
558
559
560
561
562
563
564
565
566
567
568

Taxlot
R324225

NW FIRELANE 7 RD



K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 5 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

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All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

1000
1020
1020
1020
1010
1000
990
1000
568
569
570
571
572
573
574
575
576
Ridge Trail
NW FIRELANE 7 RD
Taxlot
R324225
Taxlot
R255581
Firelane 7
JT 1600
JT 1510
JT 1300
Oil Line Rd
JT 1670 & 1680
NW Leif Erikson Dr
FOREST PARK BOUNDARY
NW Skyline Blvd
JT 2160
JT 2100
JT 2260
JT 2360
JT 2410

K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 6 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
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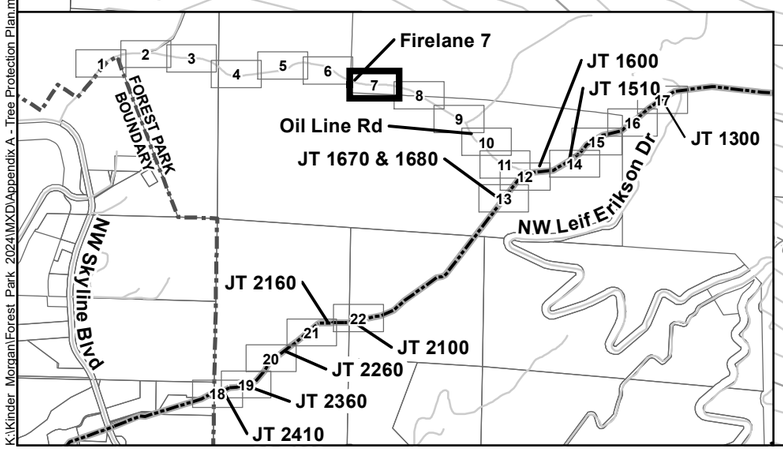
All excavation totals would be equal to fill totals.

990
960
980
1000
1000
576
577
578
579
Taxlot
R255581
580
581
NW FIRELANE 7 RD
582
583
980
Taxlot
R505187
960
950
940
Taxlot
R324225



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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 7 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

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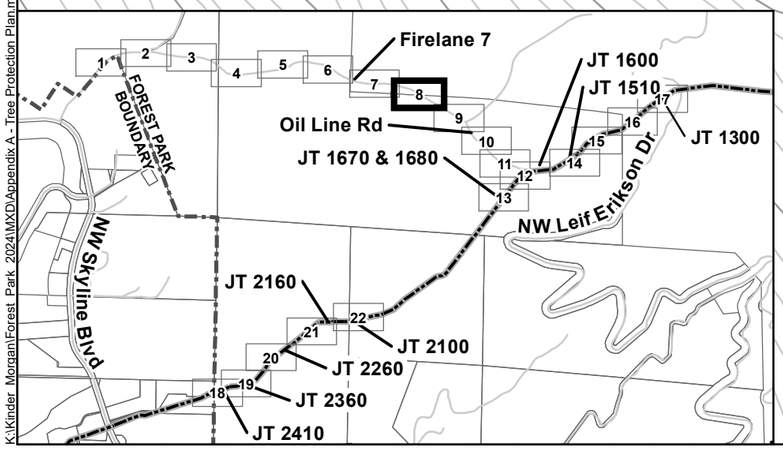
582
583
584
585
586
587
588
589
590
591
592
593
594

Taxlot
R505187

Taxlot
R324225

NW FIRELANE 7 RD

980
970
960
950
990
1000



LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 8 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

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K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

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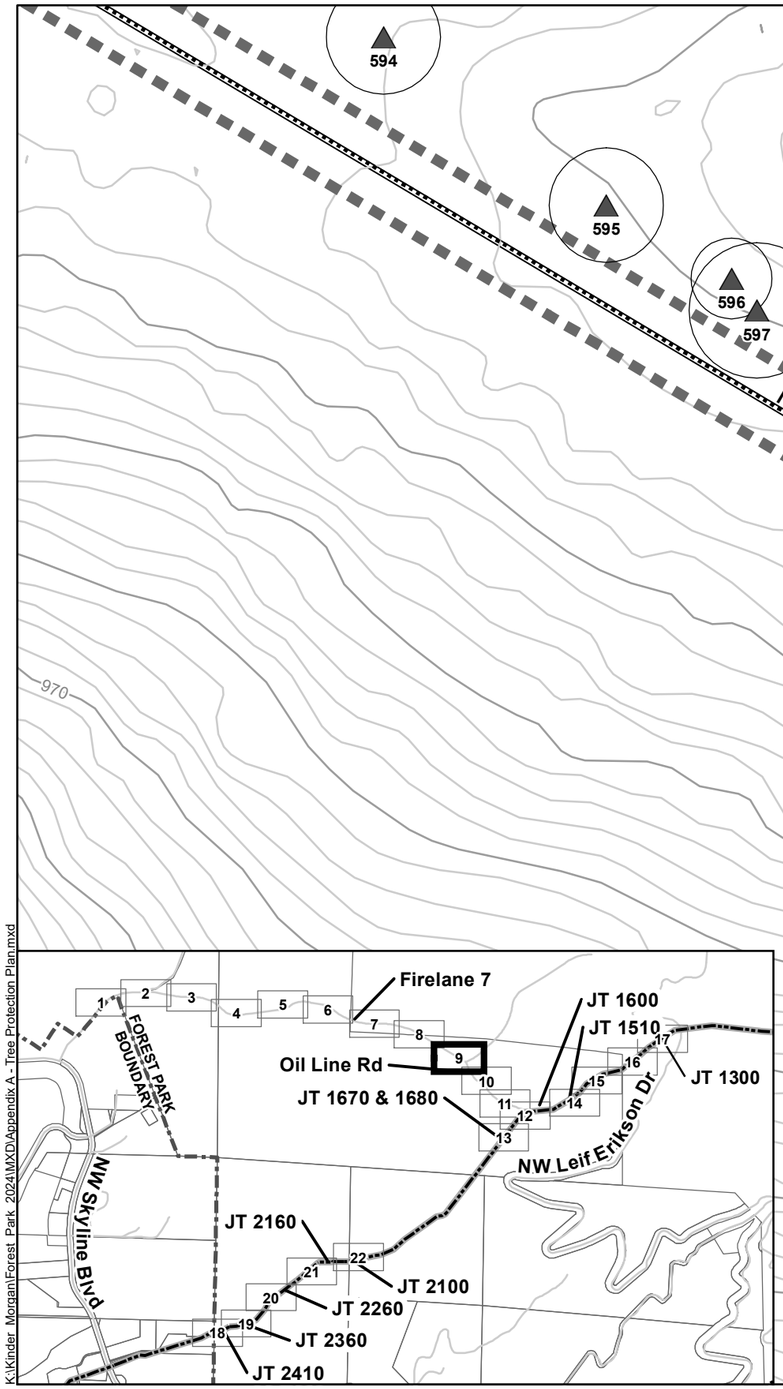

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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 9 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

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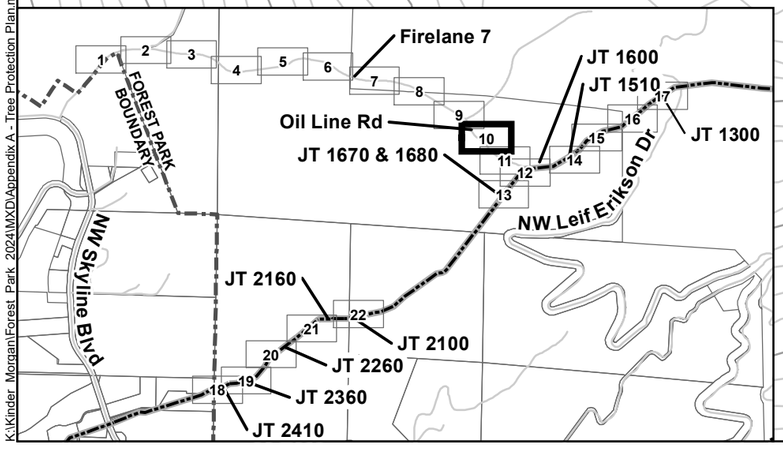
All excavation totals would be equal to fill totals.

603
604
605
606
607
608
609
610
611
612
613
614
615
OIL LINE RD
Taxlot
R324225
930
940
950
960
970
980
990
910
920
930



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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 10 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
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All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 647 648 649 650 651 847 652 653 656 657 655 642 641 644 800 646 645 643 802 801

OIL LINE RD

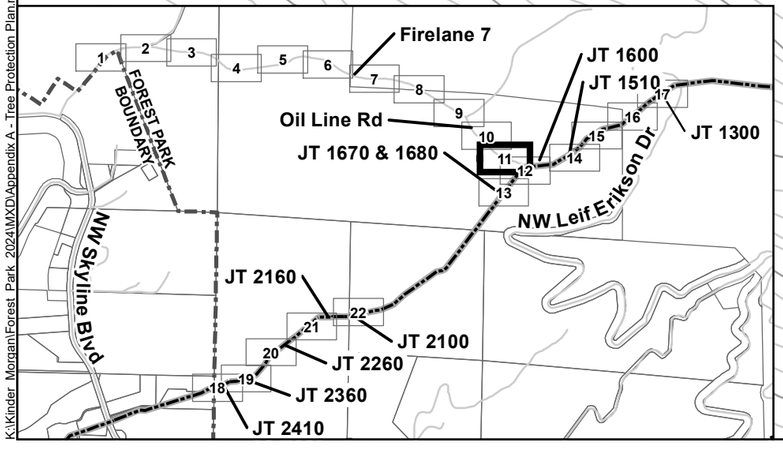
Taxlot
R324225

960 950 920 940 900 930 890 910

Existing 8-inch diameter buried liquid fuel pipeline

29-UCC

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN



K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Street
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 11 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

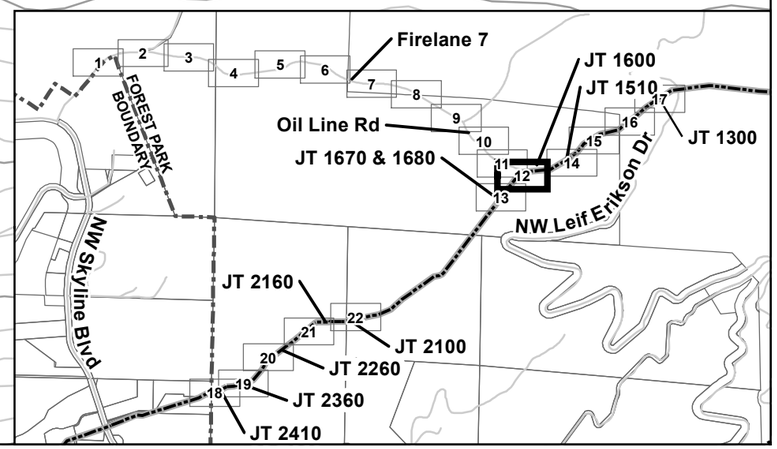
JT 1600

29-UCC

Taxlot R324225

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

Joint 1600 Disturbance Details
Temporary Disturbance Area (ft^2): 1,456
Definite Tree Removals and Total DBH: 1; 30"



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Street
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 12 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4

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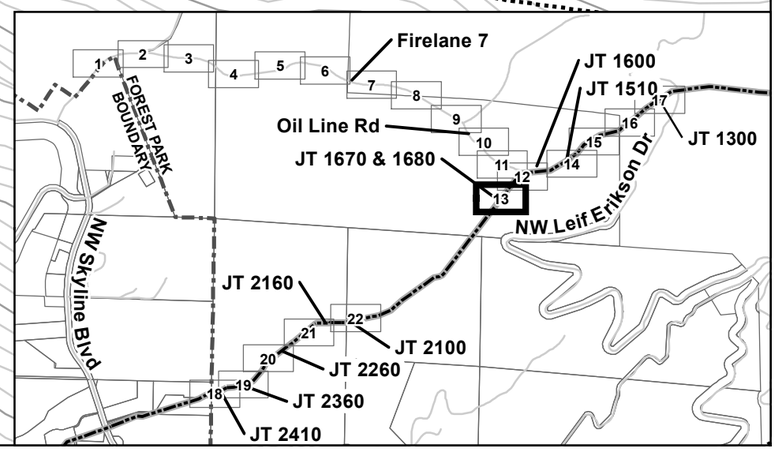
All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

Joint 1670/1680 Disturbance Details
Temporary Disturbance Area (ft^2): 10,582
Definite Tree Removals and Total DBH: 15; 228"
Note: 3 additional trees with a total of 25" DBH are classified as definite removal in the ROW leading to Joint 1670.

Wildwood Trail
JT 1670
JT 1680
OR-004
OR-005
OR-006
KM-091
Taxlot R324225
Existing 8-inch diameter buried liquid fuel pipeline
STEEP SLOPE SITE: INSTALL SILT FENCE DOWNSLOPE OF ACTIVE GROUND DISTURBANCE AS SHOWN



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 13 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

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All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

JT 1510

OR-003

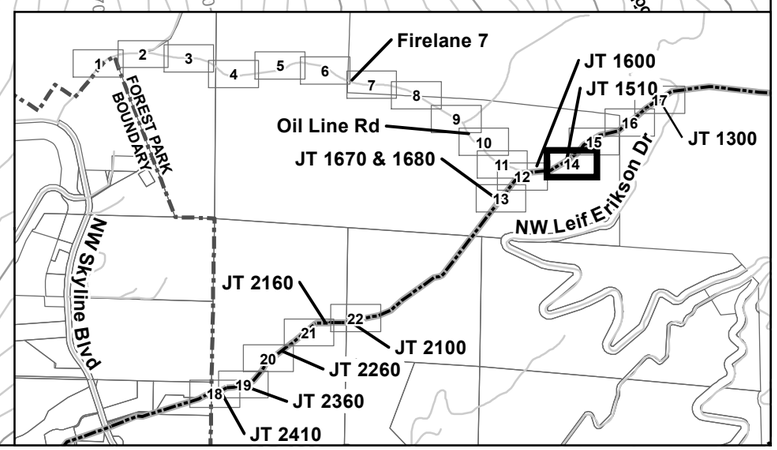
Existing 8-inch diameter buried liquid fuel pipeline

OIL LINE RD

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

Taxlot R324225

Joint 1510 Disturbance Details
Temporary Disturbance Area (ft^2): 1,787
Possible Tree Removals and Total DBH: 2; 32
Definite Tree Removals and Total DBH: 1; 15"
Total Possible and Definite Tree Removals and Total DBH: 3; 47"
Note: 1 additional live tree with an 11" DBH is classified as a definite removal in the ROW leading to Joint 1510 from the southwest.



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Existing Tree Pruning
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 14 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4

K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

Notes:
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Refer to the application document for information on existing trees and proposed permanent and temporary impacts.

The critical root zone shown for each tree is equal to 0.5 foot in radius for every 1 inch of tree's DBH. Trees with critical root zones that overlap with proposed excavation areas would be potential or definite removals.

Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

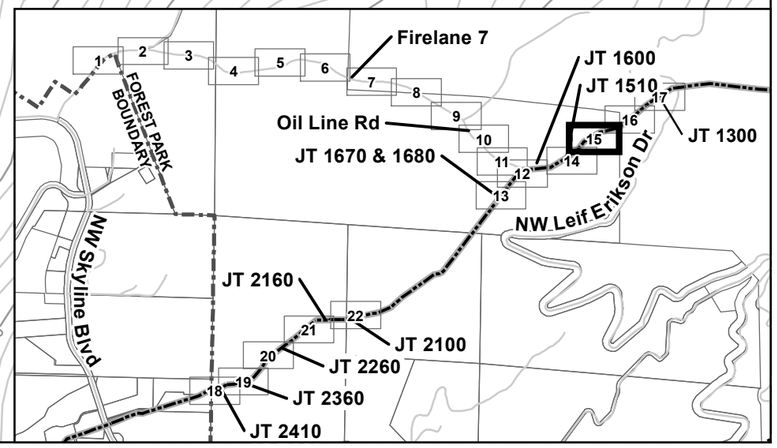
Wildwood Trail

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

Taxlot R324225

Wildwood Trail



LEGEND

- Existing Tree
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Temporary Disturbance Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 15 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN | Exhibit A.4

K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

Existing 8-inch diameter buried liquid fuel pipeline

Taxlot R324223

Taxlot R324225

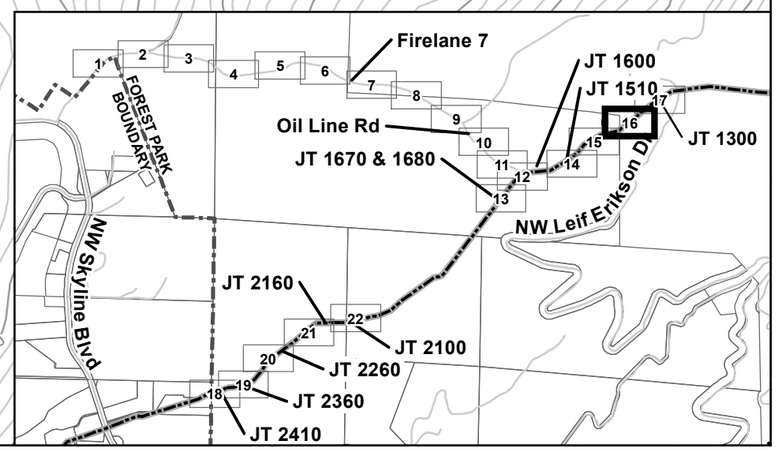
Taxlot R324224

Wildwood Trail

OIL LINE RD

Wildwood Trail

710 720 730 830 820 810 800 790 780 770 760 750 740 730



LEGEND

- Existing Tree
- Existing Tree Pruning
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Temporary Disturbance Area
- SFPP ROW
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

APPENDIX C - TREE PROTECTION PLAN - SHEET 16 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4

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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

Joint 1300 Disturbance Details
Temporary Disturbance Area (ft^2): 1,350
Possible Tree Removals and Total DBH: 6; 89"
Definite Tree Removals and Total DBH: 4; 41"
Total Potential and Definite Tree Removals and Total DBH: 10; 130"
Note: 33 live additional trees with a total of 352" DBH are classified as definite removals and 9 additional live trees with a total DBH of 96" are classified as potential removals in the ROW leading to Joint 1300 from the southwest.

Existing 8-inch diameter buried liquid fuel pipeline

JT 1300

STEEP SLOPE SITE: INSTALL SILT FENCE DOWNSLOPE OF ACTIVE GROUND DISTURBANCE AS SHOWN

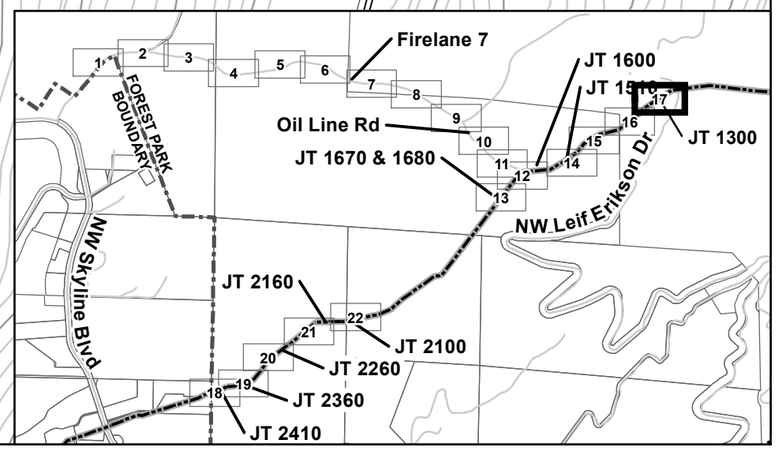
NW LEIF ERIKSON DR

Taxlot R506789

Taxlot R324223

Taxlot R324223

630 620 610 720 730 740 750 710 700 690 680 670 660 650 640 630



K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 17 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4

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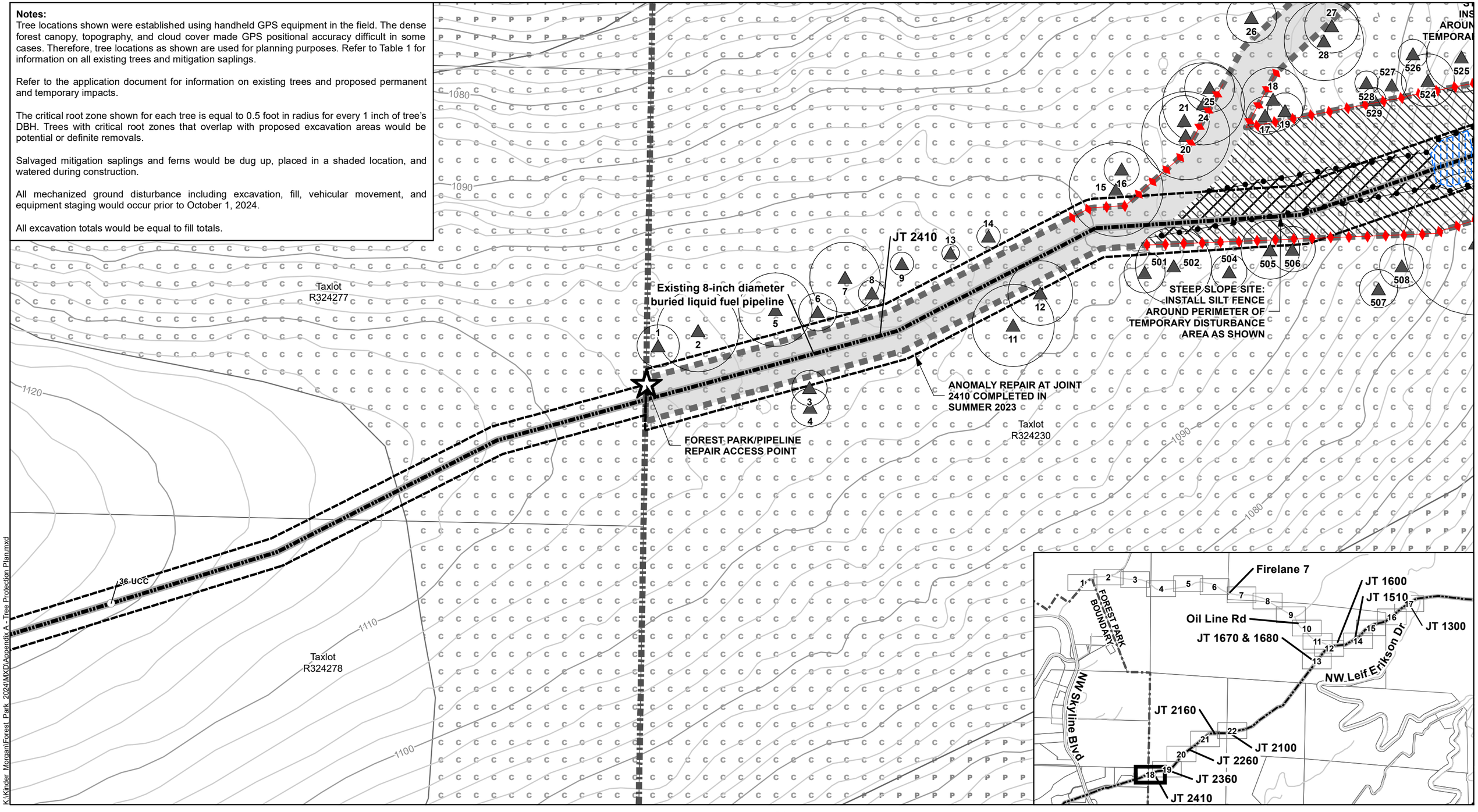
Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.



LEGEND

- Gated Forest Park Entrance
- Detected Pipeline Anomaly
- Existing Tree
- Critical Root Zone
- Tree_Protection_Fencing
- Silt Fence
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Pipeline
- Stockpiles
- Temporary Disturbance Area
- Composite Matting
- SFPP ROW
- Vegetation Clearing Area
- Shared Utility Maintenance Access Route (SUMAR)
- Taxlots

Portland Environmental Preservation E-Zones

- C Conservation (OSc)
- P Preservation (OSp)

N

0 15 30 Feet

Note: Landslide susceptibility is moderate unless otherwise shown.

APPENDIX C - TREE PROTECTION PLAN - SHEET 18 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN | Exhibit A.4

K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

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All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

Joint 2360 Disturbance Details
Temporary Disturbance Area (ft^2): 6,410
-- already cleared in 2023.

STEEP SLOPE SITE: INSTALL SILT FENCE AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

Existing 8-inch diameter buried liquid fuel pipeline

KM-095

JT 2360

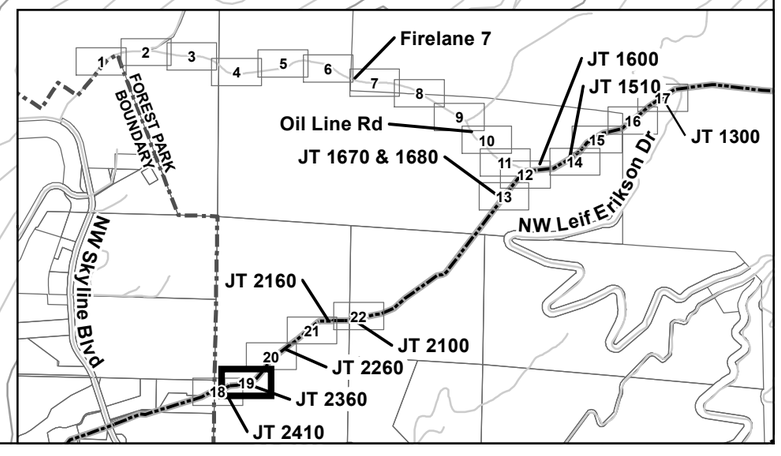
JT 2410

STEEP SLOPE SITE: INSTALL SILT FENCE AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

ANOMALY REPAIR AT JOINT 2410 COMPLETED IN SUMMER 2023

Taxlot R324230

1090 1100 1030 1040 1010 1060 1050 1080 1090 1070



K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- Tree_Protection_Fencing
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- Composite Matting
- SFPP ROW
- Vegetation Clearing Area
- Shared Utility Maintenance Access Route (SUMAR)
- Taxlots

Portland Environmental Preservation E-Zones
- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 19 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN | Exhibit A.4

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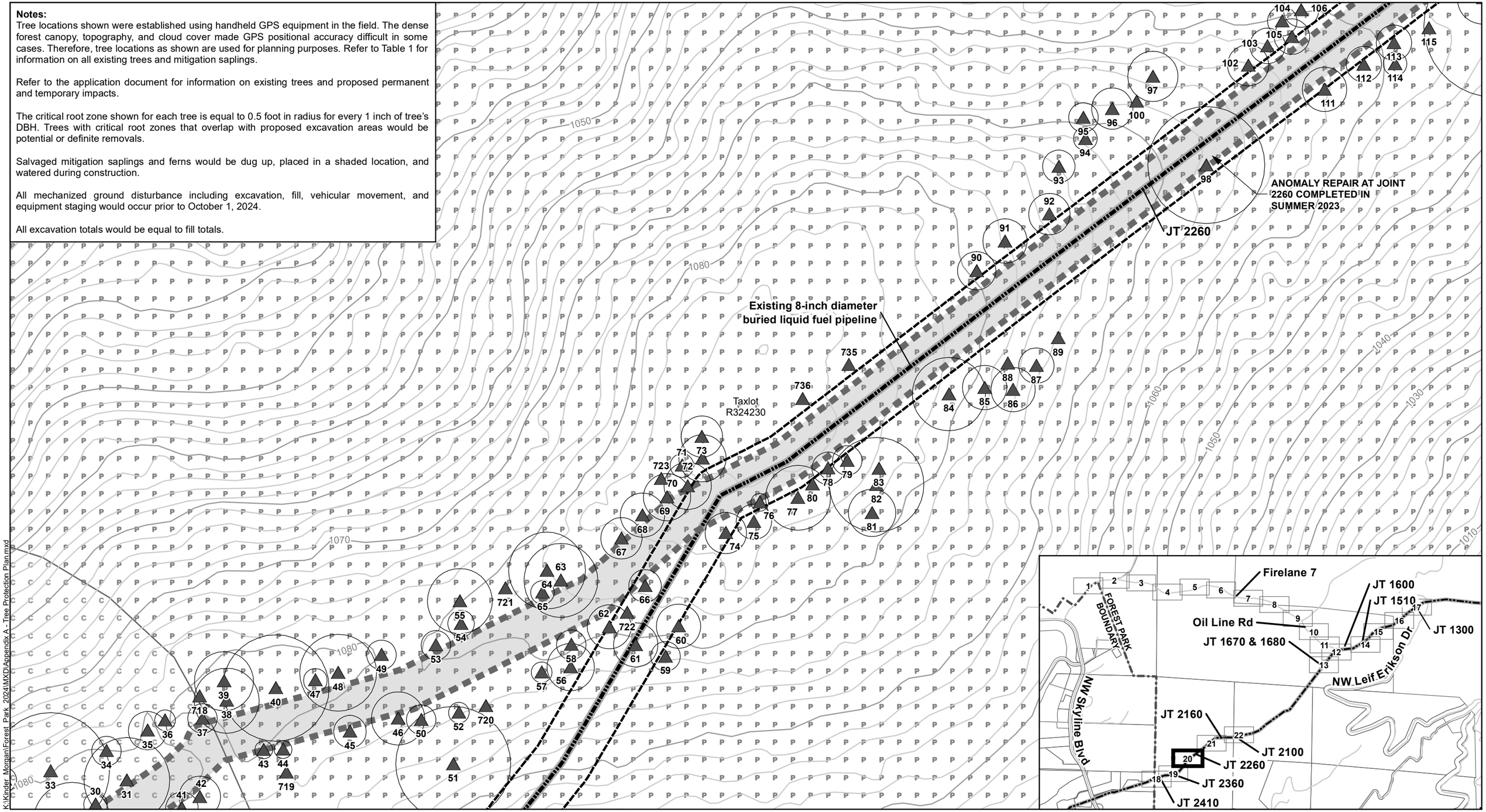
All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.



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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Pipeline
- Temporary Disturbance Area
- SFPP ROW
- Shared Utility Maintenance Access Route (SUMAR)
- Taxlots

Portland Environmental Preservation E-Zones

- C Conservation (OSc)
- P Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 20 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4

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All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

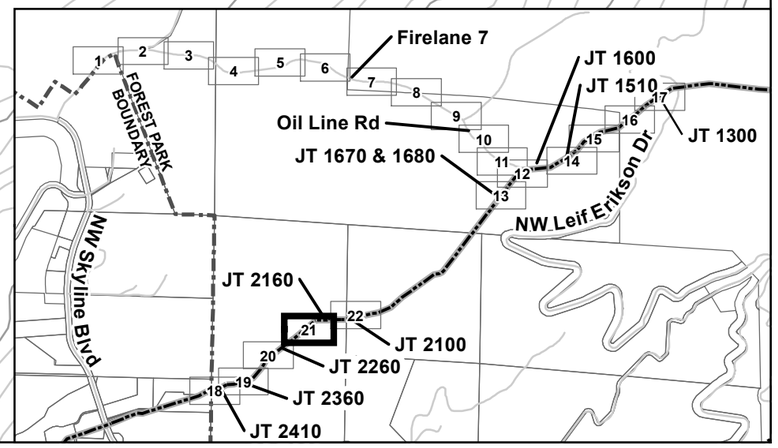
All excavation totals would be equal to fill totals.

Existing 8-inch diameter buried liquid fuel pipeline

JT 2160

ANOMALY REPAIR AT JOINT 2160 COMPLETED IN SUMMER 2022

Taxlot R324230



LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Pipeline
- Temporary Disturbance Area
- SFPP ROW
- Shared Utility Maintenance Access Route (SUMAR)
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 21 OF 22

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit A.4

K:\Kinder Morgan\Forest Park 2024\MXD\Appendix A - Tree Protection Plan.mxd

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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

Joint 2100 Disturbance Details
Temporary Disturbance Area (ft^2): 1,440
No trees are planned for removal at this joint.

Taxlot R324230

Taxlot R324231

Existing 8-inch diameter buried liquid fuel pipeline

Existing 8-inch diameter buried liquid fuel pipeline

KM-094

JT 2100

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

Firelane 7

JT 1600

JT 1510

JT 1300

Oil Line Rd

JT 1670 & 1680

FOREST PARK BOUNDARY

NW Skyline Blvd

NW Leif Erikson Dr

JT 2160

JT 2100

JT 2260

JT 2360

JT 2410

K:\Kinder_Morgan\Forest_Park_2024\MXD\Appendix A - Tree Protection Plan.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- Tree_Protection_Fencing
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Shared Utility Maintenance Access Route (SUMAR)
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 22 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN | Exhibit A.4

Appendix D- Inventory

Inventory collected 2023

Tag #	Tree Species	DBH	Crown Radius	Health	Risk	Protect vs Remove	Why Remove?	Notes
462	Doug fir	21	20	Fair	Moderate	Remove	Next to pipe	
464	Doug fir	17	15	Fair	Moderate	Remove	Next to pipe	
465	Doug fir	18	25	Fair	Moderate	Remove	Next to pipe	
467	Doug fir	10	5	Fair	Low	Remove	Next to pipe	
468	Doug fir	11	5	Dead	Moderate	Remove	Next to pipe	
469	Doug fir	11	10	Poor	Moderate	Remove	Next to pipe	
471	Doug fir	15	20	Fair	Moderate	Remove	Next to pipe	
472	Doug fir	18	15	Fair	Moderate	Remove	Next to pipe	
473	Doug fir	16	20	Fair	Moderate	Remove	Next to pipe	
474	Doug fir	15	15	Fair	Moderate	Protect	NA	
475	Doug fir	24	15	Fair	Moderate	Protect	NA	
476	Doug fir	15	10	Poor	Moderate	Protect	NA	
477	Doug fir	18	15	Fair	Moderate	Remove	Next to pipe	Small canopy
480	Alder	30	40	Fair	Moderate	Remove	Access	Co-dominant stem, partial removal (stem 18")
481	Alder	15	15	Fair	Moderate	Remove	Access	
483	Grand fir	7	8	Fair	Low	Potential removal	Next to pipe	
484	Alder	10	10	Fair	Low	Potential removal	Next to pipe	
485	Alder	13	30	Fair	Moderate	Remove	Next to pipe	Co-dominant, one dead stem
486	Doug fir	18	15	Good	Low	Potential removal	Next to pipe	
487	Alder	18	15	Fair	Moderate	Potential removal	Next to pipe	
488	Alder	10	15	Fair	Low	Potential removal	Next to pipe	
489	Alder	12	10	Fair	Low	Protect	NA	
490	Doug fir	8	10	Fair	Low	Protect	NA	
491	Doug fir	18	15	Fair	Low	Potential removal	Next to pipe	
492	Alder	15	20	Fair	Low	Potential removal	Next to pipe	
493	Alder	12	15	Fair	Low	Protect	NA	
494	Alder	13	15	Fair	Low	Protect	NA	
496	Alder	14	15	Fair	Low	Protect	NA	
497	Alder	13	15	Fair	Low	Remove	Access	
498	Alder	22	20	Fair	Moderate	Remove	Access	
629	Doug fir	30	45	Fair	Moderate	Remove	Next to pipe	
630	Doug Fir	33	45	Fair	Moderate	Protect	NA	
631	Doug	29	25	Fair	Moderate	Protect	NA	
632	Alder	18	20	Fair	Moderate	Protect	NA	
636	Alder	15	0	Dead	High	Remove	Hazard	Bark falling off stem
641	Alder	18	20	Fair	Low	Protect	NA	
642	Big leaf maple	16	20	Fair	Low	Protect	NA	
643	Bigleaf Maple	11	5	Fai	Low	Protect	NA	
645	Alder	13	5	Poor	Moderate	Protect	NA	
646	Alder	23	20	Fair	Moderate	Protect	NA	
647	Alder	11	10	Fair	Low	Protect	NA	
648	Alder	11	5	Dead	High	Remove	Hazard	Co-dominant one failed stem
649	Alder	20	20	Fair	Moderate	Protect	NA	
650	Doug fir	31	25	Fair	Moderate	Protect	NA	
651	Alder	17	15	Fair	Moderate	Protect	NA	
652	Doug fir	11	15	Fair	Low	Protect	NA	
653	Alder	11	15	Fair	Moderate	Protect	NA	
655	Alder	11	10	Fair	Moderate	Protect	NA	
656	Doug fir	11	10	Fair	Low	Protect	NA	
657	Alder	19	30	Fair	Moderate	Protect	NA	
658	Doug fir	13	15	Fair	Moderate	Protect	NA	
659	Doug fir	12	15	Fair	Low	Protect	NA	
661	Doug fir	17	20	Fair	Moderate	Protect	NA	
662	Alder	8	10	Fair	Low	Protect	NA	
663	Doug fir	14	15	Fai	Low	Protect	NA	
800	Bigleaf Maple	22	20	Fair	Moderate	Protect	NA	Codominate
801	Alder	14	15	Fair	Moderate	Protect	NA	
802	Bigleaf Maple	29	25	Fair	Moderate	Protect	NA	Codominate
803	Bigleaf Maple	44	35	Fair	Moderate	Protect	NA	Codominate
804	Bigleaf Maple	45	50	Good	High	Protect	NA	Co-dominant
805	Bigleaf Maple	44	45	Fair	Moderate	Protect	NA	Co-dominant
806	Bigleaf Maple	30	25	Fair	Moderate	Protect	NA	Codominate
807	Bigleaf Maple	42	40	Fair	Moderate	Protect	NA	Co-dominant
808	Doug fir	24	25	Fair	Moderate	Protect	NA	
809	Doug fir	26	20	Fair	Moderate	Protect	NA	
810	Doug fir	7	5	Poor	Low	Protect	NA	

812	Doug fir	8	3	Dead	Moderate	Remove	Hazard	
813	Doug fir	21	25	Fair	Moderate	Protect	NA	
814	Doug fir	8	10	Poor	High	Remove	Hazard	Fungi
815	Doug Fir	23	25	Fair	Moderate	Protect	NA	
816	Doug fir	23	30	Fair	Moderate	Protect	NA	
817	Bigleaf Maple	39	45	Fair	Moderate	Protect	NA	Co-dominant
818	Doug fir	24	20	Fair	Moderate	Protect	NA	
819	Doug fir	16	15	Fair	Low	Protect	NA	
820	Doug fir	7	10	Poor	Low	Remove	Access	Broken top
821	Doug fir	13	15	Fair	Moderate	Remove	Access	
822	Alder	9	15	Fair	Low	Protect	NA	
823	Doug fir	17	15	Fair	Low	Protect	NA	
827	Doug fir	26	20	Fair	Moderate	Protect	NA	
828	Doug fir	12	5	Poor	Low	Protect	NA	
829	Doug fir	25	15	Fair	Moderate	Protect	NA	
834	Doug fir	19	25	Fair	Moderate	Protect	NA	
835	Doug fir	16	15	Fair	Low	Protect	NA	
836	Doug	24	20	Fair	Moderate	Protect	NA	
838	Doug fir	15	20	Fair	Moderate	Protect	NA	
840	Alder	8	10	Poor	High	Remove	Hazard	
841	Bigleaf Maple	50	35	Fair	Moderate	Protect	NA	Co-dominant
842	Alder	13	15	Fair	Moderate	Protect	NA	Co-dominant
843	Alder	12	10	Fair	Low	Protect	NA	
844	Doug fir	10	15	Fair	Low	Protect	NA	
845	Alder	15	10	Fair	Moderate	Protect	NA	
847	Alder	16	15	Fair	Moderate	Protect	NA	
848	Alder	12	3	Dead	High	Remove	Hazard	Hallow cavity at main stem
849	Bigleaf maple	31	25	Fair	Moderate	Protect	NA	Codominant, some deadwood
850	Doug fir	13	10	Fair	Low	Protect	NA	
851	Doug fir	23	20	Fair	Moderate	Protect	NA	
852	Doug fir	28	25	Fair	Moderate	Protect	NA	
853	Doug fir	6	5	Good	Low	Protect	NA	
854	Alder	12	20	Poor	Moderate	Protect	NA	Some dead
855	Alder	12	10	Fair	Low	Protect	NA	
856	Doug fir	31	25	Fair	Moderate	Protect	NA	
857	Alder	16	20	Fair	Low	Protect	NA	
858	Doug fir	13	15	Fair	Low	Protect	NA	
859	Alder	20	20	Fair	Low	Protect	NA	Codominant
860	Doug fir	9	10	Fair	Low	Protect	NA	
861	Alder	14	15	Fair		Protect	NA	
862	Doug fir	6	4	Poor	Low	Protect	NA	Top broke off
863	Doug fir	13	15	Fair	Low	Protect	NA	
864	Alder	11	2	Dead	High	Remove	Hazard	Bark falling off stem
865	Alder	18	20	Fair	Moderate	Protect	NA	Uneven canopy
866	Doug fir	9	8	Fair	Low	Protect	NA	
867	Alder	10	2	Dead	Moderate	Remove	Hazard	
868	Bigleaf Maple	33	15	Fair	Low	Protect	NA	
869	Bigleaf Maple	10	8	Fair	Low	Protect	NA	
870	Doug fir	8	6	Fair	Low	Protect	NA	
871	Bigleaf Maple	32	20	Fair	Moderate	Protect	NA	Codominant
872	Doug fir	7	5	Fair	Low	Protect	NA	
873	Bigleaf Maple	30	25	Fair	Moderate	Protect	NA	Codominant
874	Bigleaf maple	11	3	Poor	Moderate	Remove	Hazard	Dead top, epicormic shoots
875	Bigleaf Maple	25	25	Fair	Moderate	Protect	NA	Codominant
876	Doug fir	20	25	Fair	Low	Protect	NA	
877	Doug fir	27	20	Fair	Low	Protect	NA	
878	Bigleaf Maple	45	30	Fair	Moderate	Protect	NA	Co-dominant
879	Doug fir	27	20	Fair	Low	Protect	NA	
880	Doug fir	11	10	Fair	Low	Protect	NA	
881	Alder	13	10	Fair	Low	Potential removal	Next to pipe	
882	Doug fir	28	30	Good	Low	Protect	NA	Co-dominant
883	Alder	19	30	Fair	Moderate	Potential removal	Next to pipe	Co-dominant
884	Doug fir	6	8	Fair	Low	Protect	NA	Suppressed
885	Doug fir	6	8	Fair	Low	Protect	NA	Suppressed canopy
886	Doug fir	11	10	Fair	Low	Protect	NA	

887	Doug fir	26	20	Fair	Moderate	Protect	NA	
888	Alder	12	15	Poor	Moderate	Protect	NA	
889	Doug Fir	23	25	Fair	Low	Protect	NA	
890	Doug fir	7	15	Fair	Low	Protect	NA	
891	Alder	16	20	Fair	Low	Protect	NA	
892	Doug fir	10	15	Fair	Low	Protect	NA	
893	Alder	12	5	Fair	Low	Remove	Access	
894	Alder	10	10	Fair	Low	Remove	Access	
895	Doug fir	6	5	Dead	Low	Protect	NA	
896	Alder	15	15	Fair	Moderate	Remove	Access	
897	Doug fir	7	10	Fair	Low	Remove	Access	
898	Alder	10	10	Fair	Low	Protect	NA	
899	Doug Fir	8	10	Fair	Low	Remove	Access	
900	Alder	12	15	Fair	Low	Protect	NA	
901	Doug fir	8	10	Fair	Low	Protect	NA	
902	Doug fir	9	10	Fair	Low	Remove	Access	
903	Alder	11	5	Fair	Low	Protect	NA	
904	Doug fir	9	5	Poor	Low	Protect	NA	Uneven canopy
905	Alder	16	15	Fair	Low	Protect	NA	
906	Doug fir	7	8	Poor	Low	Protect	NA	
907	Doug fir	8	8	Fair	Low	Protect	NA	
908	Alder	17	15	Dead	High	Remove	Hazard	Either removal fully or top for wildlife habitat
909	Alder	8	10	Fair	Moderate	Remove	Access	Lean towards road
910	Doug fir	8	10	Fair	Low	Remove	Access	
911	Alder	10	10	Fair	Low	Remove	Access	
912	Alder	15	15	Fair	Low	Remove	Access	
913	Alder	13	10	Dead	High	Remove	Hazard	
914	Alder	11	10	Fair	Low	Remove	Access	Lean
915	Alder	15	15	Fair	Moderate	Protect	NA	
916	Doug fir	9	10	Fair	Low	Remove	Access	
917	Alder	14	15	Fair	Moderate	Protect	NA	
918	Alder	15	15	Fair	Moderate	Remove	Access	Lean
919	Alder	12	15	Fair	Moderate	Remove	Access	
920	Alder	8	10	Fair	Low	Remove	Access	Lean
921	Doug fir	15	15	Fair	Moderate	Protect	NA	
922	Alder	10	10	Fair	Low	Potential removal	Access	
923	Alder	9	5	Fair	Low	Protect	NA	
924	Doug fir	8	10	Fair	Low	Remove	Access	
925	Bigleaf Maple	36	35	Fair	Moderate	Protect	NA	Co-dominant
926	Bigleaf Maple	40	40	Good	Moderate	Protect	NA	Co-dominant
927	Doug fir	11	15	Dead	High	Remove	Hazard	
928	Bigleaf Maple	31	25	Fair	Moderate	Protect	NA	Co-dominant, two small dead leaders
929	Doug fir	6	5	Fair	Low	Protect	NA	
930	Doug fir	7	15	Fair	Low	Protect	NA	Prune for clearance
931	Doug Fir	6	10	Fair	Low	Protect	NA	Prune for clearance
932	Alder	11	10	Fair	Low	Protect	NA	Will need chips
933	Doug fir	6	5	Fair	Low	Protect	NA	
934	Doug fir	8	15	Fair	Low	Protect	NA	
935	Bigleaf Maple	23	25	Good	Moderate	Protect	NA	Co-dominant
936	Alder	8	4	Dead	High	Remove	Hazard	
938	Alder	8	5	Fair	Low	Remove	Access	
939	Doug fir	6	8	Dead	Low	Protect	NA	
940	Doug fir	8	10	Fair	Low	Protect	NA	
941	Alder	11	10	Fair	Low	Protect	NA	
942	Alder	10	15	Fair	Low	Potential removal	Access	
943	Doug fir	9	10	Fair	Low	Protect	NA	
944	Alder	18	10	Dead	High	Protect but remove top	NA	Remove dead top, wildlife habitat
945	Alder	12	15	Fair	Moderate	Remove	Access	
946	Doug fir	11	15	Fair	Low	Remove	Access	
947	Bigleaf Maple	41	20	Fair	Moderate	Protect	NA	Co-dominant
948	Alder	9	8	Fair	Moderate	Remove	Access	
949	Doug fir	7	10	Fair	Low	Remove	Access	
950	Doug fir	7	0	Fair	Low	Remove	Access	
951	alder	11	10	Fair	Low	Remove	Access	
952	Doug fir	6	8	Fair	Low	Remove	Access	
953	Doug fir	6	5	Fair	Low	Remove	Access	
954	Alder	17	20	Fair	Moderate	Remove	Access	Bend in stem
955	Doug fir	11	8	Fair	Low	Protect	NA	
956	Bigleaf Maple	38	30	Fair	Moderate	Protect	NA	Co-dominant
957	Bigleaf Maple	38	40	Fair	Moderate	Protect	NA	Co-dominant

958	Alder	8	0	Dead	High	Remove	Hazard	Dead leaning against tree 957
959	Doug fir	7	8	Fair	Low	Protect	NA	
960	Doug Fir	7	10	Fair	Low	Remove	Access	
961	Bigleaf Maple	27	20	Fair	Moderate	Protect	NA	Co-dominant
962	Doug fir	7	8	Fair	Low	Protect	NA	
963	Doug fir	7	5	Fair	Low	Protect	NA	
964	Bigleaf Maple	38	30	Fair	Moderate	Protect	NA	Co-dominant
965	Doug fir	7	8	Fair	Low	Protect	NA	
966	Bigleaf maple	48	40	Fair	Moderate	Potential removal	Next to pipe	
967	Doug fir	10	8	Poor	Low	Remove	Next to pipe	
968	Alder	10	10	Fair	Low	Potential removal	Next to pipe	
969	Alder	11	8	Fair	Low	Potential removal	Next to pipe	
970	Doug fir	9	10	Fair	Low	Protect	NA	
971	Bigleaf Maple	15	20	Fair	Low	Remove	Next to pipe	Uneven canopy
972	Alder	10	15	Fair	Low	Remove	Next to pipe	
973	Alder	12	10	Fair	Low	Protect	NA	
974	Alder	13	0	Poor	Low	Protect	NA	
975	Bigleaf maple	11	15	Fair	Low	Protect	NA	
976	Bigleaf maple	9	10	Fair	Low	Protect	NA	
977	Alder	10	10	Fair	Low	Protect	NA	
978	Doug fir	7	5	Poor	Low	Protect	NA	Thin canopy
979	Bigleaf maple	13	10	Fair	Low	Protect	NA	Small canopy
980	Bigleaf maple	38	25	Fair	Moderate	Protect	NA	Co-dominant
981	Doug fir	6	10	Fair	Low	Potential removal	Next to pipe	
982	Bigleaf Maple	16	15	Fair	Moderate	Protect	NA	
983	Bigleaf maple	23	20	Fair	Moderate	Protect	NA	Co-dominant
984	Bigleaf maple	10	15	Fair	Low	Protect	NA	
985	Doug fir	6	5	Fair	Low	Remove	Next to pipe	
986	Doug fir	7	10	Fair	Low	Potential removal	Next to pipe	
987	Bigleaf maple	27	40	Fair	Moderate	Protect	NA	Co-dominant, lean
988	Bigleaf maple	12	15	Fair	Low	Protect	NA	
989	Doug fir	7	8	Fair	Low	Potential removal	Next to pipe	
990	Bigleaf maple	56	35	Fair	Moderate	Protect	NA	Co-dominant
991	Alder	12	20	Fair	Moderate	Protect	NA	Co-dominant
992	Alder	11	10	Fair	Moderate	Protect	NA	
993	Alder	9	15	Fair		Protect	NA	
994	Bigleaf maple	7	5	Fair	Low	Protect	NA	Co-dominant
995	Bigleaf maple	13	15	Fair	Moderate	Protect	NA	
996	Bigleaf maple	40	20	Fair	Moderate	Protect	NA	Co-dominant, on steep slope, limited access
997	Doug fir	10	15	Fair	Low	Protect	NA	
998	Alder	11	3	Poor	Moderate	Protect	NA	
999	Doug fir	13	15	Good	Low	Protect	NA	
1000	Alder	17	20	Fair	Moderate	Protect	NA	Co-dominant
1001	Alder	18	15	Fair	Moderate	Protect	NA	Co-dominant
1002	Alder	15	20	Fair	Moderate	Protect	NA	
1003	Alder	12	0	Dead	Moderate	Protect	NA	Broken top
1004	Alder	17	15	Fair	Moderate	Protect	NA	
1005	Doug fir	7	10	Fair	Low	Protect	NA	
1007	Doug fir	7	8	Fair	Low	Protect	NA	
1008	Doug fir	9	15	Fair	Low	Protect	NA	
1009	Alder	14	15	Fair	Moderate	Protect	NA	Lean
1010	Alder	11	15	Fair	Low	Protect	NA	
1011	Alder	17	15	Fair	Moderate	Protect	NA	Co-dominant
1012	Alder	14	10	Fair	Low	Protect	NA	
1013	Doug fir	13	15	Fair	Low	Protect	NA	
1014	Doug fir	8	5	Dead	Low	Protect	NA	
1015	Alder	16	15	Fair	Low	Protect	NA	
1016	Doug fir	9	10	Fair	Low	Protect	NA	
1017	Alder	12	15	Fair	Low	Protect	NA	
1018	Doug fir	8	8	Fair	Low	Protect	NA	
1019	Alder	9	10	Fair	Low	Protect	NA	
1020	Doug fir	12	15	Fair	Low	Protect	NA	
1021	Alder	19	10	Fair	Moderate	Protect	NA	
1022	Alder	14	8	Fair	Low	Protect	NA	
1023	Doug fir	7	4	Dead	Low	Protect	NA	
1024	Doug fir	14	15	Fair	Moderate	Protect	NA	
1025	Doug fir	6	2	Dead	Moderate	Remove	Hazard	
1026	Alder	11	10	Fair	Moderate	Protect	NA	
1027	Doug fir	6	4	Dead	Low	Protect	NA	

1028	Bigleaf maple	25	20	Fair	Moderate	Protect	NA	
1029	Bigleaf maple	15	15	Fair	Moderate	Protect	NA	
1030	Bigleaf maple	14	15	Fair	Low	Protect	NA	
1031	Bigleaf maple	35	25	Fair	Moderate	Protect	NA	Co-dominant
1032	Alder	8	10	Fair	Low	Protect	NA	
1033	Doug fir	11	8	Dead	Moderate	Protect	NA	
1034	Doug fir	16	15	Fair	Low	Protect	NA	
1035	Doug fir	16	15	Fair	Low	Protect	NA	
1036	Bigleaf maple	52	30	Fair	Moderate	Protect	NA	Co-dominant
1037	Doug fir	11	5	Dead	Low	Protect	NA	
1038	Doug fir	14	15	Fair	Moderate	Protect	NA	
1039	Doug fir	11	10	Fair	Moderate	Protect	NA	
1040	Doug fir	9	3	Dead	Low	Protect	NA	
1041	Alder	12	10	Fair	Low	Protect	NA	
1096	Alder	16	15	Fair	Low	Protect	NA	
1195	Alder	13	15	Fair	Low	Protect	NA	
1046	Alder	13	10	Fair	Low	Protect	NA	
466A	Doug fir	23	25	Fair	Moderate	Remove	Next to pipe	
466B	Doug fir	23	25	Fair	Moderate	Remove	Next to pipe	
470A	Doug fir	23	25	Fair	Moderate	Remove	Next to pipe	
470B	Doug fir	26	25	Fair	Moderate	Remove	Next to pipe	
811A	Doug fir	21	25	Good	Low	Protect	NA	
811B	Doug fir	21	25	Good	Low	Protect	NA	
824A	Bigleaf Maple	21	35	Fair	Moderate	Protect	NA	Co-dominant
824B	Doug fir	28	30	Fair	Moderate	Protect	NA	
825A	Bigleaf Maple	9	35	Fair	Moderate	Protect	NA	Co-dominant
825B	Doug fir	14	15	Poor	Moderate	Protect	NA	Small canopy
826A	Big leaf maple	18	20	Fair	Moderate	Protect	NA	
826B	Doug fir	14	20	Fair	Low	Protect	NA	
830A	Doug fir	23	20	Fair	Moderate	Protect	NA	
830B	Doug Fir	19	15	Fair	Moderate	Protect	NA	
831A	Doug fir	8	5	Poor	Low	Remove	Next to pipe	
831B	Doug fir	8	3	Dead	Moderate	Remove	Hazard	
832A	Doug fir	27	25	Fair	Low	Protect	NA	
832B	Doug fir	15	20	Fair	Moderate	Protect	NA	
833A	Doug fir	9	15	Poor	Low	Protect	NA	
833B	Doug fir	26	25	Fair	Moderate	Protect	NA	
837A	Bigleaf Maple	7	15	Fair	Low	Remove	Next to pipe	
837B	Doug fir	23	25	Fair	Moderate	Protect	NA	
839A	Doug fir	24	20	Fair	Moderate	Protect	NA	
839B	Doug fir	9	10	Fair	Low	Remove	Access	

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LS-14 Pipeline – 2024 Geotechnical Memorandum for Work on Slopes

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March 8, 2024



LS-14 Pipeline – 2024 Geotechnical Memorandum for Work on Slopes

Portland, Oregon

1 Introduction

AECOM Technical Services Inc. (AECOM) understands that Kinder Morgan Inc. (Kinder Morgan) plans to repair and/or replace pipeline segments near seven pipeline joints (Joint Sites) along the LS-14 pipeline located at Forest Park in Portland, Oregon. All of the seven joints are located within the City of Portland's Regulatory Landslide Hazard Area, and four of the seven joints are located on steep slopes (i.e., slopes equal to or steeper than 25 percent). This memo presents the geotechnical evaluation of existing conditions at the four Joint Sites with steep slopes. AECOM performed the geotechnical evaluation according to the terms and conditions of our Master Services Agreement 165720 with Kinder Morgan dated December 22, 2020.

1.1 Project Description

Kinder Morgan's LS-14 liquid fuel pipeline extends through Forest Park in Portland, Oregon. Recent non-destructive remote testing performed by Kinder Morgan's Contractor has identified anomalies in the pipeline that require maintenance repair. Kinder Morgan has contracted with Michels Pipeline Inc. (Michels) to perform maintenance activities for portions of the pipeline with noted anomalies. Kinder Morgan has contracted with AECOM to assist in obtaining City of Portland and Portland Parks and Recreation approvals/permits necessary for Michels to perform the proposed maintenance activities. The anticipated construction sequence to be performed by Michels for this project includes accessing the Joint Sites, clearing vegetation, performing soil excavation to expose the existing pipeline joint, temporarily storing excavation spoils, repairing and/or replacing the pipeline segment, backfilling the excavation, and restoring vegetation. Temporary composite matting may be used in sensitive areas to limit vegetation disturbance. Project work is scheduled to begin no earlier than May 1, 2024.

The slope gradients, anticipated excavation length, and excavation volume all seven Joint Sites are summarized in **Table 1**. This geotechnical memo addresses only the four Joint Sites with slopes greater than 25 percent (1300, 1670/1680, and 2360). The remaining three Joint Sites (1510, 1600, and 2100) have average slope gradients less than 25 percent (denoted in gray italics in the table); therefore, no site-specific evaluation is included in this memo for those Joint Sites.

LU 24-017402 EN
Exhibit A.5

Table 1. Summary of Pipeline Joint Sites

Nearby Pipeline Joint ID's	Anomaly ID's Requiring Repair	Approximate Average Slope Gradient (percent)[1]	Anticipated Maximum Excavation Depth x Width (feet)	Anticipated Length of Excavation Along the Slope (feet)[2]	Approximate Total Excavation/Backfill (Cubic Yards)[3]
1300	SCC-26, SCC-27	41	8 x 10	70	207
1510	OR-003	10	8 x 10	70	207
1600	29-UCC	10	8 x 10	70	207
1670, 1680	OR-004, OR-005, OR-006, KM-91	52	8 x 10	120[4]	356
2100	KM-094	5	8 x 10	70	207
2360	KM-095	33	8 x 10	70	207

Light gray italics denote Joint Sites where the slope gradient is less than 25 percent, and site-specific evaluations are not included in this memorandum.

Notes:
1. Calculated as the mean ground slope of a 30 foot by 30 foot area centered at each of the joint locations.
2. Excavation length along the slope was calculated using the average gradient and horizontal excavation length.
3. Excavated soils are anticipated to be reused as backfill.
4. Joints 1670 and 1680 are anticipated to be repaired as one continuous excavation.

Temporary excavations for pipeline repair at each Joint Site are assumed to be a maximum of 10 feet in width and approximately 8 feet in depth. The project footprint includes disturbance associated with construction access and staging, vegetation clearing, and spoils storage. It is assumed that all excavated materials (i.e., soil/cobbles/boulders) will be temporarily stored on-site and then reused as backfill. AECOM understand that the Contractor will attempt to access the Joint Sites and repair or replace the joints with minimal impact to existing trees and vegetation by using relatively small, mechanized equipment (e.g., mini-excavator).

1.2 Regulatory Framework

The Park is regulated by the Forest Park Natural Resources Management Plan (NRMP), adopted by the City Council on February 8, 1995 (City of Portland 1995). Chapter 8 of the NRMP lists specific projects that are allowed outright, those that are allowed through a land use review, or those that would be an exception to the plan. Per the stipulations of the NRMP, the proposed excavations would be considered exceptions to the NRMP and would require a Type III land use review, a Site Development Permit, and a Non-Park Use Permit.

The project area is regulated by the City of Portland Code Title 33, Planning and Zoning, Chapter 33.632, Sites in Potential Landslide Hazard Areas (last revised March 31, 2017). The intent of the code is to regulate development in areas that have an elevated risk of landslide hazard to minimize public and private losses caused by landslides. The code established a Regulatory Landslide Hazard Areas Map, within which the entire project site lies. The hazard areas were defined as those which (1) have ground slope of 15 percent or greater; (2) are mapped as earthquake hazard areas; and/or (3) have a documented history of landslides following a study performed after the February 1996 storms.

It is unknown whether any contaminated soils exist around the pipeline. If contaminated soils are present, the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations will apply. This memorandum does not address environmental or biological contamination.

2 Site Setting

This section provides a general summary of the site surface and subsurface conditions based on desktop review of information available to AECOM.

2.1 Topography and Surface Conditions

The Joint Sites are located in Forest Park in Portland, Oregon. The park is heavily forested with areas of steeply sloping terrain. The park is located on the northeast slope of Portland's West Hills, which is the southernmost segment of the Tualatin Mountains. The mountains trend approximately northwest-southeast and are located west of and nearly parallel to the Willamette River in the vicinity of the project site.

The pipeline alignment generally follows a topographic ridgeline through the park between Joint Sites 2410 and 1910, where it approximately parallels Doane Creek, located about 600 feet south. Beginning at Joint Site 1880, the alignment then

LU 24-017402 EN
Exhibit A.5

descends downslope to cross the Upper Tributary to Doane Creek, and then ascends upslope to the top of another ridgeline at Joint Site 1600. East of the considered Joint Sites, the pipeline alignment descends the foothills into the Willamette River floodplain.

An overall project area map with aerial image and overlays of landslide hazards zones is provided in **Figure 1**.

2.2 Geologic Setting

The project site is located in the Portland Basin, which is a forearc basin that lies between the Coast Range mountains and the active volcanic arc of the Cascade Range (Wells et al. 2020). More specifically, the project is located in Portland's West Hills (part of Tualatin Mountains), which consist of a faulted anticline of the Middle Miocene age Columbia River Basalt Group located along the southwest margin of the Portland basin. The east side of the hills forms a distinct northwest-trending lineament where it meets the Willamette River floodplain; this lineament has been interpreted as the parallel Portland Hills Fault which continues north of downtown Portland (Beeson et al. 1991; Evarts et al. 2009).

2.3 Site Geology

Geologic mapping of the project site is publicly available from the Oregon Department of Geology and Mineral Industries (DOGAMI). A geologic map of the project area is provided in **Figure 2**.

Published geologic mapping (Wells et al. 2020) indicates the considered Joint Sites are underlain by a sequence of Columbia River Basalt Group (CRBG) lavas. The uppermost unit that is exposed throughout Forrest Park is the Sentinel Bluffs Member (Tgsb) of the Grande Ronde Basalt Formation of the CRBG. The CRBG consists of basalt and basaltic andesite lavas and is the most widely distributed geologic unit in the Pacific Northwest. The CRBG was emplaced as multiple voluminous lava flows which erupted from vents in eastern Oregon and Washington and western Idaho, some of which traveled over 400 miles as they flowed through the Portland region and into the Pacific Ocean. The Grande Ronde unit (Tgsb) is generally gray or black in color and weathers to grayish brown. The weathering profile of the CRBG often includes a completely weathered mantle of residual fine-grained (silt/clay) soils at the near surface.

Several instances of Quaternary landslide deposits (Qls2 and Qlb) are mapped in close proximity to the pipeline alignment. Landslide deposits consist of mixed unconsolidated sediments that may be highly variable depending on the geometry of the landslide mass. The mapped landslide deposits are associated with distinct slide masses present on steep slopes within the project area.

Quaternary loess (Ql) is mapped immediately west of Joint Site 2360. The loess consists of silt and fine sand that was deposited by continental glaciers to the north and east during the Pleistocene and subsequently re-distributed by prevailing winds to the Portland area. The loess is described as generally massive, micaceous, quartzofeldspathic silt and fine sand forming a widespread mantle on uplands. The upper few meters are typically pale gray to tan and becomes firm reddish-brown silt with iron oxide concretions. The reported thickness of the loess on the Portland West Hills is up to 120 feet and decreases westward.

Quaternary alluvium (Qal) and terrace deposits (Qt) are also mapped along creeks and creekbanks near the pipeline alignment. These units generally consist of stratified clay, silt, sand, and gravel in varying proportions that are deposited along rivers and streams. The terrace deposits tend to be coarser grained with less clay and silt than the alluvium.

2.4 Soils

Near-surface soil mapping (NRCS 2023) indicates soil units within the upper 5 feet of the ground surface along the considered Joint Sites generally include the following:

- Cascade silt loam, 3 to 30 percent slopes (Map units 7A, 7B, 7C)
- Goble silt loam, 3 to 60 percent slopes (Map units 17A, 17B, 17C)

The Cascade silt loam is derived from Loess, and Goble silt loam is derived from unspecified silty soils. Both soil units predominantly consist of low-plasticity silt (ML) according to the Unified Soil Classification System (USCS). Reported liquid limit ranges from about 25 to 40, and plasticity index (PI) ranges from non-plastic to about 15. The reported fines content (percent passing the No. 200 sieve) typically ranges from about 70 to 95 percent, and contains very little gravel or cobbles. Areas mapped as Goble silt loam may also contain a surficial layer of decomposed organic matter or "peat." "Fragipan," a compacted subsurface zone that restricts water flow and root penetration, is typically encountered at depth of about 1.5 to 2.5 feet below ground surface (bgs) in Cascade silt loam or about 2.5 to 4 feet bgs in Goble silt loam.

2.5 Geologic Hazards and Landslide Risks

The principal geologic hazards at the site include landslides and potential debris flows during heavy rainfall events. The project site also lies within a zone of high seismic hazard with the potential for strong earthquakes from multiple seismic sources, which could also trigger landslides/debris flows. A detailed review of the seismic hazards or seismic mitigations at the pipeline Joint Sites are outside the scope of this memo.

According to published landslide hazard maps by DOGAMI, much of the pipeline alignment is identified as having “Moderate” risk of deep landslides. Zones of “High” risk are also identified in the vicinity of Joint Site 2160 (pipeline segment repaired under a previous Kinder Morgan project) and 2260. DOGAMI’s published landslide inventory identifies several pre-existing mapped landslides within about 20 to 1,000 feet from the pipeline alignment, including a particularly large landslide mass measuring more than 500 feet in width at its headscarp between Joint Sites 2160 and 2260. The pre-existing mapped landslides include those characterized as “pre-historic” (movement prior to the last 150 years) and “historic” (movement within the last 150 years). A map of the project site including both the landslide hazard zones and inventory of mapped pre-existing landslides is provided as **Figure 1**.

Using publicly available lidar survey data, dated 2014, a shaded-relief map was generated and is presented as **Figure 3**. A version of this map with the landslide inventory data is presented as **Figure 4**. AECOM also performed a preliminary desktop analysis to identify topographic anomalies that may represent potential pre-existing unmapped landslides not contained within the DOGAMI landslide inventory. A shaded-relief map of the lidar data (without the DOGAMI landslide inventory) annotated with anomalies representing AECOM’s interpretation of potential landslides (in yellow) is presented as **Figure 5**.

2.5.1 Joint Site 1300

Joint Site 1300 has two identified anomalies along the pipeline located approximately 230 feet upslope and west of the intersection of the LS-14 pipeline with NW Leif Erikson Dr, with an estimated combined excavation length of about 70 feet required for the proposed repairs. The site elevation along the proposed excavation footprint ranges from elevation (El.) 700 feet at the southwest end to El. 674 feet at the northeast end. The orientation of the pipe alignment through this Joint Site is nearly perpendicular to the ground slope contours (i.e., upslope/downslope) in a southwest-northeast direction. The gradient along the pipe alignment is a nearly continuous slope with a vertical relief of about 98 feet and an average slope gradient of approximately 41 percent (about 22 degrees from horizontal).

Joint Site 1300 is situated on a relatively narrow ridge that also trends downslope to the south-east (i.e, perpendicular to the pipeline alignment). The average slope gradient of the slope to the south-east of Joint Site 1300 is approximately 55 percent (about 29 degrees from horizontal). Based on the LiDAR-derived digital terrain model, there do not appear to be any notable topographic anomalies that would indicate the presence of a previous significant landslide in the vicinity of Joint Site 1300.

2.5.2 Joint Sites 1670 and 1680

Joint Sites 1670 and 1680 are located within about 45 feet of each other, with an estimated combined excavation length of about 120 feet required for proposed repairs. The site elevations along the proposed excavation footprint range from El. 832 feet at the northeast end upslope from Joint Site 1670 to El. 766 feet at the southwest end beyond Joint Site 1680. The orientation of the pipe alignment through these Joint Sites is a northeast-southwest direction that is nearly perpendicular to the ground slope contours. The ground slope along the pipe alignment here has a vertical relief of about 66 feet and an average slope gradient of approximately 52 percent (about 27 degrees from horizontal). Wildwood Trail crosses the pipeline alignment within the proposed excavation footprint, immediately upslope from pipeline joint 1670.

The LiDAR-derived digital terrain model indicates the presence of an arcuate topographic feature to the east of the pipeline alignment in the vicinity of Joint Sites 1670 and 1680. The shape of the anomaly suggests it may be a relatively large, unmapped, landslide headscarp with slope movement to the southwest. This feature, if it is indeed a landslide, appears to be significantly weathered, indicating that a relatively older slope failure may have occurred.

2.5.3 Joint Site 2360

Joint Site 2360 has an estimated excavation length of about 70 feet required for proposed repairs. The site elevations along the proposed excavation footprint range from El. 1055 feet at the east end to El. 1078 at the west end. The orientation of the pipe alignment through this Joint Site is an east-west direction that partially follows a ridgeline, and the pipe alignment is nearly perpendicular to the ground slope contours of the ridgeline (i.e., upslope/downslope). The ground slope along the pipe

LU 24-017402 EN
Exhibit A.5

alignment/ridgeline here is relatively constant and has a vertical relief of about 23 feet and an average slope gradient of approximately 33 percent (about 18 degrees from horizontal).

Lidar-derived digital terrain model indicates the presence of an arcuate topographic feature crossing the pipeline alignment in the vicinity of Joint Site 2360. The shape of the anomaly suggests it may be a relatively large, unmapped, landslide headscarp with slope movement to the southeast. This feature, if it is indeed a landslide, appears to be significantly weathered, indicating that a relatively older slope failure may have occurred.

3 Analysis and Discussion

This section provides discussion of AECOM's interpretations and preliminary conclusions regarding existing conditions at the considered Joint Sites.

3.1 Limited Geotechnical Investigation

AECOM performed a limited geotechnical investigation in January and February 2024 near the Joint Sites 1670/1680 and 1810/1820 (a location where pipeline repair work occurred in 2023) which included logging and sampling four hand auger borings, and subsequent geotechnical laboratory testing. The purpose of this limited investigation was to provide site-specific geotechnical data needed to provide geotechnical recommendations for future LS-14 pipe repairs. The evaluations and recommendations in this memorandum consider the results of this investigation, as well as a prior investigation at Joint Site 1730 Report documented in our January 19, 2024 report titled, "LS-14 Pipeline - Joint Site 1730 Geotechnical Investigation" (Joint Site 1730 Investigation Memo). The subsequent subsections discuss the details of this limited geotechnical investigation.

3.1.1 Limited Field Investigation

The field investigation was performed on January 26, 2023 and January 30, 2023. Two (2) hand auger borings were performed within the estimated footprints of the (backfilled) excavation that had been made for the previous Joint Site 1810/1820 repair work, and two (2) hand auger borings were performed in the planned excavation footprint of the upcoming Joint Site 1670/1680 repair. The approximate investigation locations are shown on the Plan of Investigation included as Attachment 1. AECOM contacted the state-wide utility notification system Oregon 811 prior to the start of excavation activities.

An AECOM geotechnical engineer performed the four (4) hand auger borings, designated as HA-03 and HA-06. Borings HA-03 and HA-04 were located near Joint Site 1810/1820 and were advanced to depths of 5 and 2.5 feet below ground surface (bgs), respectively. Borings HA-05 and HA-06 were located near Joint Site 1670/1680 and were advanced to depths of 3 and 3.5 feet bgs, respectively. All borings were terminated prior to reaching the planned depth of 10 feet bgs due to shallow refusal on cobbles measuring 4 inches or greater in diameter. The borehole diameter was about 3 inches. Each hand auger excavation was backfilled with the soil cuttings from the excavation.

The AECOM engineer prepared logs of the borings, classified the soil samples according to ASTM D2488 *Standard Practice for Description and Identification of Soils (Visual-Manual Procedures)*, and packaged and labeled the soil samples. Soil sampling in the hand auger borings consisted of small grab samples (1-gallon plastic bags) collected at 1 foot intervals. Near-surface large bulk samples (5-gallon buckets) were also collected at HA-03 and HA-05 using a shovel to excavate about 1.5 feet deep around the hand auger borings.

Logs of the hand auger borings are provided in Attachment 2. Note that the logs present the soil classifications according to the visual-manual procedure (ASTM D2488), which in some cases differs slightly from the Unified Soil Classification System (USCS) classifications based on laboratory test results (ASTM D2487).

3.1.2 Laboratory Testing

Soil samples recovered from the borings were transported to AECOM's warehouse in Portland, Oregon for staging. Select samples were packaged and shipped to AECOM's geotechnical laboratory in Anaheim, California for testing. The laboratory tests performed and corresponding test methods are listed below:

- Moisture content (ASTM D2216)
- Atterberg limits (ASTM D4318)
- Sieve Analysis (ASTM D6913)

LU 24-017402 EN

- Sieve and Hydrometer Analysis (ASTM D7928)
- Sieve No. 200 Wash (ASTM D1140)
- Standard Proctor (ASTM D698)

Laboratory test data sheets and results are included in Attachment 3.

3.1.3 Stratigraphy

The investigation encountered Fill materials classified in the field as dark brown, soft to medium stiff, low to medium plasticity silt (ML) according to ASTM D2488, with trace fine to coarse angular to subrounded gravel, and trace organics and roots. The relative moisture content of the site soils was generally moist. Trace cobbles 4 inches or greater in diameter was encountered in each investigation location. As previously noted, the laboratory classification of the soils per ASTM D2487 *Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)* differed slightly from the field classification (discussed further in Section 5.3).

3.1.4 Groundwater

Groundwater was encountered in HA-05 and HA-06 at approximately 3 and 3.5 feet bgs, respectively, at the interface between the upper clayey soils and the underlying bedrock. However, groundwater levels may vary seasonally and over time in response to precipitation and runoff events. Zones of transient perched groundwater may occur locally as was likely encountered in borings HA-05 and HA-06.

3.1.5 Soil Properties

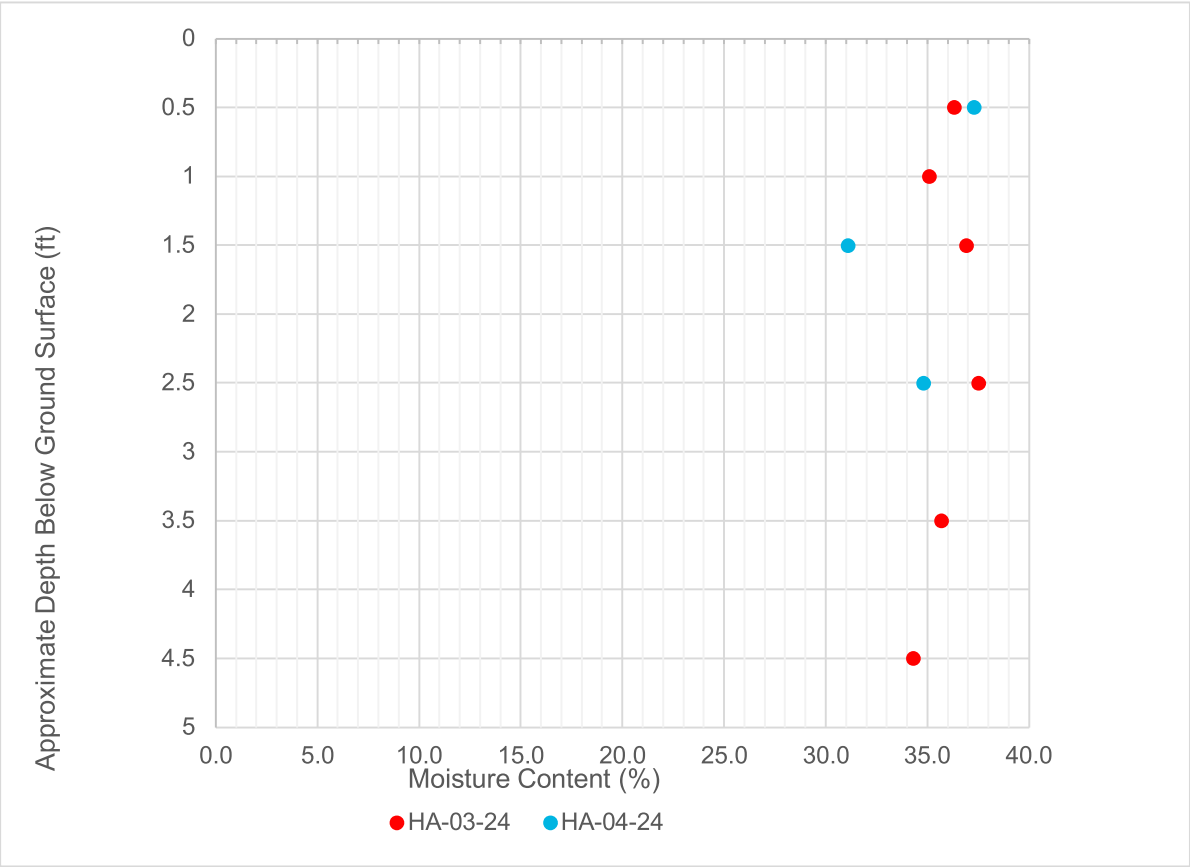
Based on the results of the Atterberg limits and sieve analysis testing performed on soil samples, the laboratory classification of the soils was generally lean clay (CL) with one sample classified as silt (ML) according to ASTM D2487. The Atterberg limits and sieve analysis results are summarized below in Table 2:

Table 2 - Summary of Atterberg Limits and Sieve Analysis Testing

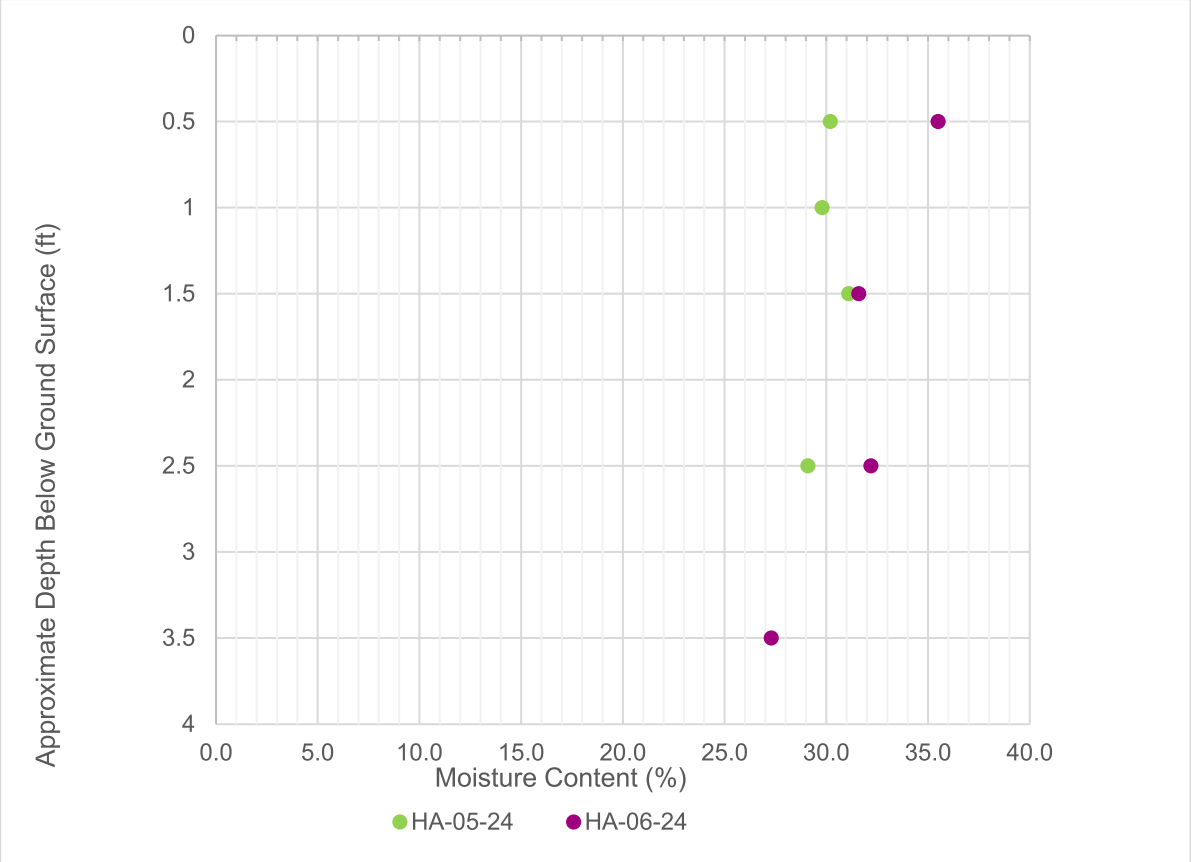
Boring ID	Sample ID	Depth Interval (ft bgs)	Plasticity Index (PI)	Liquid Limit (LL)	Gravel Content (%)	Sand Content (%)	Fines Content (%)	USCS Classification
HA-03-24	G-4	3.0-4.0					90.1	CL
HA-03-24	G-5	4.0-5.0	15	38				CL
HA-03-24	B-1	0.0-1.5	15	38	0.1	9.7	90.2	CL
HA-04-24	G-2	1.0-2.0	15	35				CL
HA-04-24	G-3	2.0-3.0					90.2	CL
HA-05-24	B-1	0.0-1.5	10	38			65.7	ML

Natural moisture content was found to vary with depth. Moisture content ranged from 31.1 to 37.5 percent at Joint Site 1810/1820 and from 27.3 to 35.5 percent at Joint Site 1670/1680. Plots of natural moisture content versus depth are provided below in Graph 1 and Graph 2.

LU 24-017402 EN



Graph 1. Natural moisture content versus depth at Joint Site 1810/1820



Graph 2. Natural moisture content versus depth at Joint Site 1670/1680

Proctor tests were performed on the near-surface bulk samples obtained from the site. Results of the Proctor testing are summarized below in Table 3.

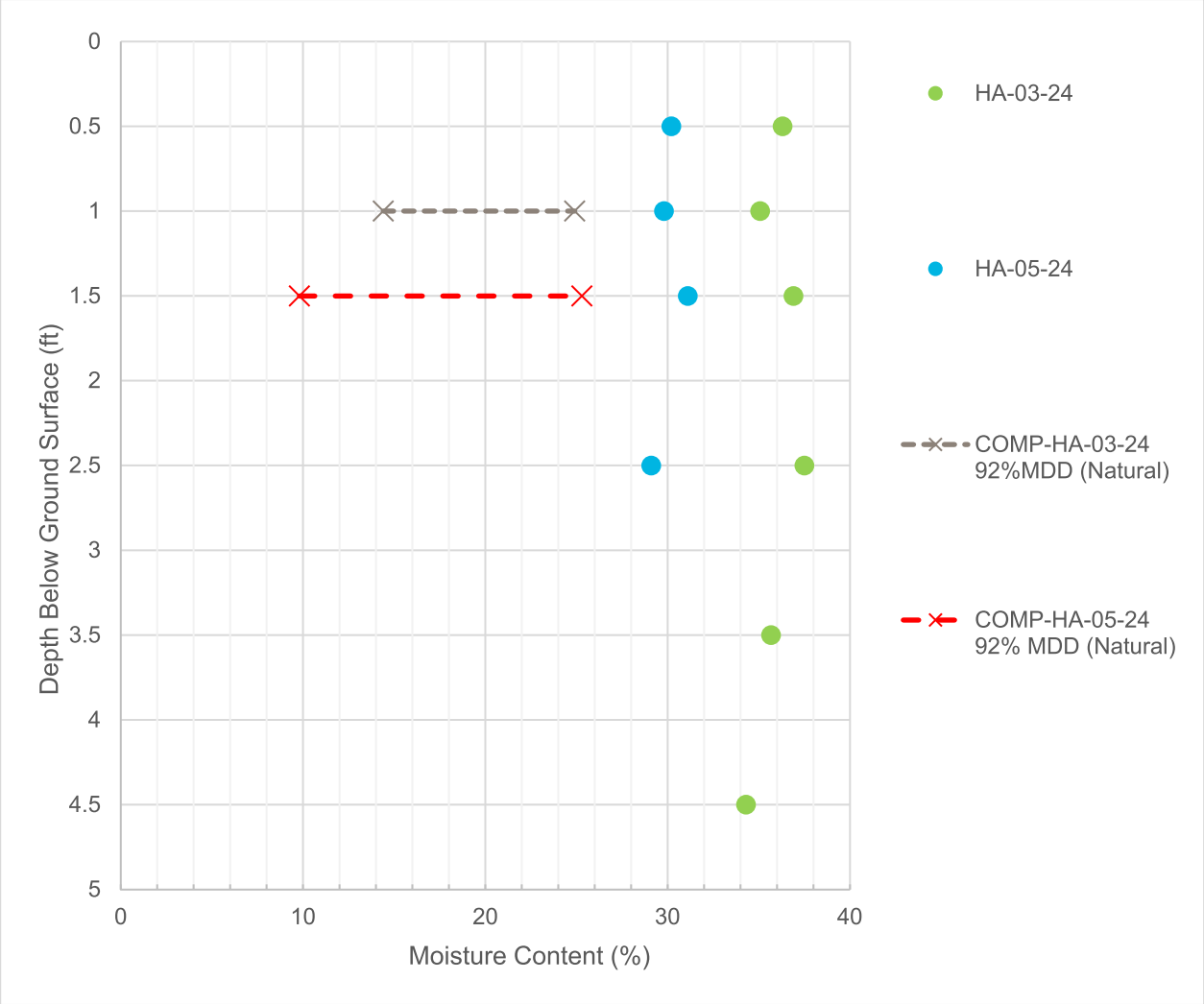
Table 3 - Summary of Proctor Testing

Boring ID	Sample ID	Depth Interval (ft bgs)	USCS Classification	Maximum Dry Density, MDD (pcf)	Optimum Moisture Content, OMC (%)
HA-03-24	B-1	0.0-1.5	CL	100.8	19.7
HA-05-24	B-1	0.0-1.5	ML	99.3	19.2

3.1.6 Discussion of Moisture-Density Testing and Compaction Implications

Recommendations in AECOM's 2024 Memo state that on-site backfill should be compacted to at least 92% of the MDD at ±3% of OMC. Based on the test results' OMC of 19.2 to 19.7%, the corresponding compaction moisture contents would need to range between about 16 and 23%. The moisture content plot above (Graphs 1 and 2) indicates that in situ soils are not within the required moisture content range for compaction to 92% of the MDD. These results suggest soil drying would be needed prior to re-compaction of soils encountered at the site.

It should be noted that shape of the site-specific Proctor moisture-density curves are relatively broad, suggesting that a compaction moisture content range wider than ±3% OMC could still achieve target density values. AECOM's review of the moisture-density curves suggests that a minimum compacted density of 95% MDD could be achieved over a range of approximately ±7% to ±10% OMC, and a minimum compacted density of 92% MDD could be achieved over a range of approximately ±10% and ±15% OMC. The 92% MDD ranges are represented for each of the Proctor curves on Graph 3. Also on Graph 3, the natural moisture contents (circles) are shown for reference.



Graph 3. Natural moisture content profile (solid dots) compared with estimated moisture content range needed to meet 92% MDD (dashed lines)

3.2 Slope Stability Analysis

A limited slope stability analysis was performed to evaluate the risk of slope instability at select joint sites for both existing and post-repair conditions. Idealized subsurface profiles were developed to representing existing conditions at the slopes for Joint Sites 1300, 1670/1680, and 2360. Given that the hand auger borings conducted in the 2024 geotechnical investigation could only be advanced to shallow depth and could not confirm the depth and/or quality of bedrock, the subsurface profiles were developed based on knowledge of the geology, reported observations during nearby prior joint site repairs, and engineering judgement. In general, subsurface conditions are expected to consist of a relatively thin veneer of silty/clayey soils (loess or residual soils) about 5 feet thick or less overlying relatively intact basalt bedrock. Slope stability analyses were performed using the limit-equilibrium software program, SLOPE/W.

Soil and bedrock engineering properties, including unit weight and shear strength parameters, were developed by on laboratory test data, empirical correlations, published ranges of values for silty/clayey soils in the Willamette valley, and experience on other projects in the area. Only static long-term drained (effective stress) slope stability analyses were performed as part of this report; undrained (total stress) analyses were judged to be not applicable, and seismic slope stability analyses were outside the scope of this memorandum and were not performed. Pore water pressures were modeled as a function of overburden stress using a ratio called R_u. An R_u of 0 was used to estimate “dry-weather” conditions with unsaturated soils, and an R_u of 0.4 was used to estimate “wet-weather” conditions with saturated soils. A summary of the slope stability analysis results is presented in Table 1:

100 psf, which is believed to be conservative because the effects of vegetation and unsaturated conditions may produce higher apparent cohesion values in the field. Additionally, a "back-analysis" stability case was performed which involved iteratively adjusting the strength parameters until a factor of safety (FOS) equal to 1.0 was achieved, representing an imminently unstable condition. Since slope failures have not occurred at the analysis cross-sections to date (to AECOM's knowledge), the actual FOS for dry and/or wet conditions must be greater than 1.0. Hence, the "back-analysis" case was used as a calibration to evaluate the reasonability of the lower-bound set of strength parameters. Only static long-term drained (effective stress) slope stability analyses were performed as part of this report; undrained (total stress) analyses were judged to be not applicable, and seismic slope stability analyses were outside the scope of this memorandum and were not performed. Pore water pressures were modeled as a function of overburden stress using a ratio called R_u. An R_u of 0 was used to estimate "dry-weather" conditions with unsaturated soils, and an R_u of 0.4 was used to estimate "wet-weather" conditions with saturated soils. A summary of the slope stability analysis results is presented in Table 1:

Table 1. Slope Stability Analysis Results

Nearby Pipeline Joint IDs	Scenario	Upper Soil Layer Total Unit Weight (pcf)	Upper Soil Layer Friction Angle (°)	Upper Soil Layer Cohesion (psf)	Ru	Factor of Safety (FOS) of Critical Slip Plane
1300	Lower-bound (Dry)	110	28	0	0	0.95
	Lower-bound (Wet)	110	28	0	0.4	0.45
	FOS = 1.0 (Dry)	110	29.4	0	0	1.0
	FOS = 1.0 (Wet)	115	34	100	0.4	1.0
	Upper-bound (Dry)	115	32	100	0	1.55
	Upper-bound (Wet)	115	32	100	0.4	0.96
1670/1680	Lower-bound (Dry)	110	28	0	0	1.02
	Lower-bound (Wet)	110	28	0	0.4	0.50
	FOS = 1.0 (Dry)	110	27.6	0	0	1.0
	FOS = 1.0 (Wet)	115	30.6	100	0.4	1.0
	Upper-bound (Dry)	115	32	100	0	1.65
	Upper-bound (Wet)	115	32	100	0.4	1.04
2360	Lower-bound (Dry)	110	28	0	0	1.57
	Lower-bound (Wet)	110	28	0	0.4	0.87
	FOS = 1.0 (Dry)	110	25	0	0	1.0
	FOS = 1.0 (Wet)	110	31.5	0	0.4	1.0
	Upper-bound (Dry)	115	32	100	0	2.46
	Upper-bound (Wet)	115	32	100	0.4	1.63

For Joints 1300 and 1670/1680, the analysis results generally indicate that the estimated FOS is near 1.0 or greater when considering the lower-bound strength parameters for dry weather conditions. For wet weather conditions, the estimated FOS is near 1.0 or greater when considering the upper-bound strength parameters. For the purposes of this analysis, factors of safety less than 1.1 suggest susceptibility to slope instability. Factors of safety equal to or greater than 1.3 are typically set as target values. Based on the slope stability analysis, it appears all three slopes could be unstable at the lower-bound parameters in "wet-weather conditions". The slopes at Joint Sites 1300 and 1670/1680 could be marginally stable to unstable both at the lower-bound parameters in "dry-weather conditions" and upper-bound parameters in "wet-weather conditions", but adequately stable at the upper-bound parameters in "dry-weather conditions". These results indicate that backfill soils placed following pipeline repairs at these joint sites needs to be well-compacted to achieve strength parameters that will produce adequate factors of safety.

In contrast, the results of the Joint Site 2360 slope stability analysis suggest adequate factors of safety for the lower-bound strengths in "dry-weather conditions" and for upper-bound parameters in "wet-weather conditions", which is primarily due to the relatively flatter slopes at this location. These results suggest that this joint site is less susceptible to slope instability, and a somewhat lower degree of compaction for backfill soils may be adequate to maintain stable slopes.

In conclusion, AECOM recommends that backfill material placed as part of the pipe repair should be compacted to the minimum density specified later in this memorandum. Given the steep and tall slopes of the site and uncertainty in subsurface conditions, it is not practical to set minimum FOS criteria, and the objective should be provide post-repair slope stability equal to or better than existing conditions. As discussed later in this memorandum, the alternative of using chemically-amended backfill soils for the repair site will not only chemically dry the soils, but will generally increase the shear strength of the soils. Likewise, the shear strength of imported granular backfill is higher than that of the on-site soils.

4 Construction Considerations

The following section describes AECOM's geotechnical recommendations for construction activities at Joint Sites with steep slopes. As discussed previously, the site is located within a zone of moderate to high risk for landslide activity and unstable slopes. Mapped and unmapped pre-existing landslides may be present within or near the proposed improvements. The Contractor should be made aware of these risks so that they can select appropriate means and methods of construction suitable for landslide topography.

The following general principles should be adopted for construction activities at the Joint Sites on steep slopes discussed in this report:

- Surface vegetation disturbance and site grading should be minimized to the extent possible.
- Low-ground pressure equipment should be utilized to the extent possible, and construction vibrations should be minimized.
- Temporary excavations should be left open for the shortest time period possible to minimize subgrade saturation, sidewall sloughing, and/or infiltration into the subsurface, which could increase porewater pressures and contribute to slope instability.
- Excavated materials (and/or imported materials) proposed as trench backfill should be covered with plastic sheeting and protected from precipitation.
- Stockpile height and slope angles should be limited, and should be placed away from the sides of excavations or steep existing slopes.
- Surface water should be controlled and directed away from excavations and steep slopes.
- Excavations should be maintained dry, and groundwater seepage into excavations should be pumped out.
- Backfill materials should be compacted in thin horizontal lifts, and be keyed-in to any cut slopes to reduce the risk of developing preferential slip planes.
- Vegetation seeding and aggressive erosion controls should be installed immediately after backfilling to finish grades to reduce the risk of washout and erosion due to precipitation; use of geocells may be necessary to maintain surficial stability until vegetation is established.

Additional detailed recommendations are provided in the following subsections. A General Post-Repair Slope Grading Schematic is included as Figure 6 to present potential post-repair backfill and grading recommendations that could be implemented on a case-by-case basis depending on actual conditions observed in the field.

4.1 Site Preparation

Site preparation will require some tree removal and vegetation/brush clearing at each proposed Joint Site. Because vegetation promotes surficial stability on steeply sloping terrain, surface vegetation disturbance and site grading should be minimized to the extent possible.

AECOM anticipates that there are no underground utilities present (except the Kinder Morgan pipeline) at each Joint Site, but the Contractor is required by state law to verify underground utilities using Oregon 811 (One Call) prior to beginning excavation.

Each of the considered Joint Sites has existing ground slopes equal to or steeper than 25 percent. Temporary cut and fill grading may be required to flatten slopes and/or create work benches around the proposed excavation areas for constructability purposes. To minimize the risk of destabilizing existing slopes, the lateral extent of cut/fill grading should be limited to the extent possible, and the height of cut/fill grading outside the immediate pipeline trench excavation footprint should be limited to less than 2 feet below/above existing grade.

LU 24-017402 EN

4.2 Excavation

Temporary excavations will be required to access the pipeline to make the required repairs. No as-built profile drawings for the pipeline were available for review, but AECOM understands the depth of the planned excavations are expected to not exceed 8 feet bgs.

Based on available geotechnical information and depths of the buried pipeline, AECOM anticipates that natural soils will consist of 3 to 5 feet or more of brown to gray silt and sandy silt, occasionally containing gravel or cobbles. Highly organic soils may be encountered in the upper 1 to 2 feet. The upper 12 inches of topsoil uncovered during excavation is to be segregated from subsoils and used to backfill the final 12 inches of the excavation after pipeline repair. Weathered basalt bedrock is likely present below the silt.

4.2.1 Excavatability

AECOM understands that mechanical excavation is proposed for the Joint Sites using a mini-excavator or similar tracked equipment. Because this project involves repair of existing pipeline, it is expected that excavations will encounter mostly original trench backfill. Although no documentation is available regarding composition of existing trench backfill, it likely consists of compacted on-site soils associated with original excavation and/or imported structural fill and should be readily excavatable using modern earth-moving equipment. However, the width and side slopes angles of the original excavations for the pipeline are unknown, and natural soils may be encountered near the outer edges of excavations.

Jackhammers and rock-breaking tools may be required to reach the proposed depths if basalt bedrock and/or dense pockets of coarse gravels or cobbles are encountered.

4.2.2 Temporary Slopes

Stability of temporary excavations is the sole responsibility of the Contractor. Temporary excavations should comply with OSHA guidelines contained in 29 Code of Federal Regulations Part 1926, Subpart P. Permissible excavation slope inclinations and/or the need for temporary shoring will be determined by the Contractor, subject to compatibility with existing soil and groundwater conditions and design and performance criteria established in the construction specifications.

For planning purposes, AECOM anticipates soils will be classified as OSHA Type B soils, which have a maximum permissible temporary slope inclination of 1H:1V for cuts deeper than 4 feet. If excavations encounter coarse-grained backfill soils (e.g., poorly graded sand or gravel) associated with original construction, these materials will likely be classified as OSHA Type C soils, which has a maximum permissible temporary slope inclination of 1.5H:1V for cuts deeper than 4 feet.

Surface compaction of the slopes prior to excavation may be needed to control localized sloughing. If perched water is present and seeps out during the excavation process, the excavation sidewalls may need to be flattened beyond the required OSHA slopes.

4.2.3 Benching

Based on the anticipated width of excavations (up to 8 feet) and the steeply sloping terrain of the proposed excavation sites, the upslope three sides of the excavations should be benched horizontally to “key-in” the backfill and reduce the risk of developing preferential slip planes that may result in slope instability. The dimensions of excavation benches should be at least 3 feet horizontal and no greater than 2 feet vertical.

4.2.4 Stockpiles

Suitable materials removed from excavations should be stockpiled for re-use as backfill. Organic soils and soils with high organic content are not suitable for excavation backfill due to their low shear strength and should be removed from any stockpiles planned for use as backfill. Frozen soils, debris, and other deleterious materials should also be removed from any stockpiles. Saturated natural soils should either be spread out and aerated to dry to a suitable moisture content before stockpiling as planned backfill material or removed from the project site and replaced with imported structural fill.

Temporary stockpile height and slope angles should be limited to reduce the risk of slope instability, and stockpiles should be placed away from the sides of excavations or steep existing slopes. Maximum stockpile height should generally be 3 feet or less. Excavated soil stockpiles should be kept at least 2 feet away from the edge of the trench walls, excavation side slopes, and steep natural slopes to reduce the risk of slope instability.

LU 24-017402 EN

Stockpiles of excavated materials and any imported structural fill should be covered with plastic sheeting to prevent saturation during precipitation events. Covering stockpiles with sheeting will also serve to reduce washout of fines from stockpiled material and reduce the potential for erosion and stormwater pollution.

4.2.5 Subgrades

Temporary excavations should be left open for the shortest time period possible. The purpose is to minimize subgrade saturation, sidewall sloughing, and/or infiltration into the subsurface, which could increase porewater pressures and contribute to slope instability. Surface water should be controlled and directed away from excavations and steep slopes using erosion control Best Management Practices (BMP), and any groundwater seepage into excavations should be collected and pumped out. Excavations should be maintained dry.

Excavations for pipeline repairs should terminate in firm soils to provide suitable support for pipe bedding and compaction. Excessively wet or soft soils below the pipeline should be overexcavated and replaced with suitable compacted backfill.

4.2.6 Wet Weather Earthwork

If the excavation occurs during wet weather, limited construction dewatering may be needed to control localized seepage from perched water zones. This seepage can be managed by collecting in sumps, pumping out of the excavation, and discharging away from the work zone to limit the deterioration of exposed surfaces.

AECOM recommends that the Contractor minimize soil exposure during the rainy season by proper timing of grading and construction activities, and be prepared to shut down all earthwork if heavy precipitation occurs. AECOM also recommends that water runoff be diverted to proper drainage areas and not be allowed to pond in excavations as discussed below in Section 4.5.

4.2.7 Surface Drainage and Dewatering

Surface drainage should be maintained away from excavations during the construction at each Joint Site. Ponding should not be permitted to occur. Excavations should be left open for the shortest possible duration to minimize moisture changes in exposed soils. Open excavations should be protected to prevent entry of surface water. Site areas should be graded to prevent ponding of water. Soft areas should be over-excavated and replaced and compacted with suitable on-site soil or structural fill.

Special attention should be paid to surface drainage near existing steep slopes. Concentrated discharge onto slopes should be avoided to reduce the risk of erosion and/or initiation of slope instability.

AECOM does not anticipate that proposed excavations will encounter significant volumes of groundwater. However, continuous sumping and pumping may be required in excavations if wet conditions are encountered.

4.3 Backfill Materials and Techniques

The following sections address recommendations for backfill materials and techniques. Generalized schematics of backfill recommendations are presented in **Figure 6.**

4.3.1 Pipe Bedding

Pipeline bedding materials, dimensions, and compaction moisture and density should conform to Kinder Morgan standard specifications. AECOM recommends coarse-grained bedding materials to provide suitable pipeline support, compacted to a minimum density of 95 percent of maximum dry density according to Standard Proctor effort (ASTM D698).

4.3.2 On-Site Natural Backfill

AECOM understands the Contractor plans to re-use excavated material as backfill. In general, the on-site natural low-plasticity silty soils expected to be encountered in excavations may be suitable as backfill, provided that the soils are not excessively wet and moisture can be controlled. Organic soils, frozen soils, debris, and other deleterious materials should not be incorporated into the backfill. If the excavated materials can be sufficiently dried to an acceptable placement moisture content, on-site natural backfill materials should be compacted in uniform lifts not exceeding 9 inches in loose lift thickness. The backfill should be placed in horizontal lifts up to the proposed grade and should be keyed-in by benching the cut slopes of excavations to reduce the risk of developing preferential slip planes.

Based on AECOM's 2024 limited geotechnical investigation, it is highly likely that wet and/or saturated soils with moisture contents much higher than optimum moisture will be encountered during the pipeline repair. Moisture contents of about 10 to 19% above optimum moisture were reported based on lab testing. Suitable moisture contents to achieve desired compaction density are likely in the range of about ±6% of optimum moisture. Drying the excavated wet soils by aeration and/or replacing with imported structural fill will likely be required to achieve the required compaction density. Alternatively, mixing the on-site soils with dry Portland cement and/or pebble quicklime (as discussed in Section 4.3.4) may also be possible to chemically dry the soils to a suitable moisture content for re-use, if allowed by environmental regulations.

Considering that no structures are present or planned at the ground surface, a high degree of compaction for the trench backfill may not be necessary. However, a nominal degree of compaction is essential to maintain stability of the backfill on the relatively steep slopes of the site. Means and methods of compaction are the responsibility of the Contractor. However, suitable compaction of the natural backfill materials may be achieved using the bucket of the excavator, either by impact tamping or using a pad-foot roller attachment, to reach a dense unyielding condition. The backfill should be "mounded" a few inches higher than surrounding grade to compensate for potential future backfill settlement. If the backfill has elevated moisture content and experiences "pumping" during compaction, the material is too wet to achieve the necessary degree of compaction and should be removed. Compaction should be observed by a qualified representative of the Engineer.

If a higher degree of compaction is desired to limit backfill settlement and/or to improve slope stability of the backfill, density control testing should be performed. This will require sampling and testing representative samples of the proposed backfill materials in the laboratory either before or during early stages of mass excavation to obtain moisture-density curves (i.e., Proctor tests) for density control. In this case, backfill should be compacted to at least 92 percent of the maximum dry density at a moisture content of ±3 percent of optimum moisture according to Standard Proctor effort (ASTM D698). Compaction testing should be performed to verity effectiveness of compaction operations.

4.3.3 Structural Backfill

Compaction of the on-site natural silty soils may not be possible during wet weather conditions. If the excavation subgrade soils become wet and disturbed, the wet subgrade soil should be overexcavated and replaced with imported structural backfill. There may be other reasons to use imported structural fill as backfill beyond soil moisture content. Structural fill should consist of a well-graded, durable, crushed aggregate material. The structural fill should be free of vegetation, roots, debris, excessive clay clods, frozen material, and other deleterious material. The amount of material passing the U.S. No. 200 Sieve should be between 5 and 15 percent, and the fine fraction should have a plasticity index (PI) < 5. The maximum particle size of structural fill should not exceed 2 inches. Structural fill should be compacted to at least 95 percent of maximum dry density at a moisture content ±2 percent of optimum moisture in accordance with ASTM D698 (Standard Proctor Compaction Effort). Fill should be placed in lifts not exceeding 4 inches in compacted thickness for hand-operated mechanical compactors or 6 inches for mechanical compaction. Vibratory compaction methods are required for structural backfill. Compaction tests should be performed at regular intervals to determine the effectiveness of the compaction operations.

It is noted that structural backfill has relatively high permeability as compared to the lower permeability natural silty soils at the site. Surface water infiltration into the structural backfill could allow accumulation of perched water due to the comparatively slower infiltration rates into the natural subgrade soils (i.e., "bathtub" effect), which could cause slope instability in the backfill and/or adjacent soils. Consequently, a minimum 2-foot-thick cap of low-permeability soils is recommended on top of the structural backfill to limit surface water infiltration into the structural backfill. The low-permeability cap should also promote vegetation establishment, which will further serve to improve slope stability. The low-permeability soils should have a PI greater than 4 and fraction passing the No. 200 sieve greater than 40 percent; the natural silty soils at the site are expected to meet these requirements.

4.3.4 Chemical Soil Drying

Given the wet soils encountered in the investigation and wet weather and shaded conditions typical at the site, it is unlikely that excavated materials will experience any significant drying while being stockpiled. Chemical drying with quicklime or Portland cement may be required to be performed. If chemical drying is not permitted, the use of imported structural backfill should be considered.

The lime or cement treatment approach is typically quite successful for drying soil. Lime or cement treatment also increases the shear strength of treated soils, which in turn enhance the stability of backfilled slopes. A permanent chemical reaction is produced, so there is very minimal risk of lime or cement leaching during subsequent precipitation events. However, chemical

soil drying requires introducing new inorganic materials into soil material, which could result in minimal but permanent changes to soil microfauna and flora that could alter site ecology in the immediate site vicinity. While the lime/cement is delivered in dry form, BMPs are needed to contain precipitation/runoff that infiltrates stockpiled lime or cement-treated subsoil.

AECOM's Joint Site 1730 Investigation Memo provided our analysis and recommendations for chemical soil drying at the Joint Site 1730 slope failure. Based on the conclusions of the memo, we believe chemical soil drying is also practical for implementation at other Joint Sites.

If chemical soil drying is implemented, pebble quick lime or Portland cement (dry form) would be mixed into excavated subsoil in batches to reduce the moisture content. Treated subsoil would then be placed in lifts and compacted to backfill the excavation, and a final layer of the on-site topsoil would be placed on top to promote vegetation growth. Based on AECOM's Joint Site 1730 Investigation Memo, we anticipate a mixture of 8% to 10% pebble quick lime or Portland cement on a dry weight of soil basis with the onsite excavated soil to achieve adequate soil drying. However, specific soil drying laboratory testing was not performed at other joint site locations, and the mixture ratio may need to be adjusted in the field based on initial drying/compaction results.

4.4 Erosion Control and Site Restoration

Erosion control efforts on temporary slopes during construction should be adopted. Erosion control BMPs should be applied as necessary including protecting natural and cut slopes against saturation, ponding water, sloughing, and erosion by covering with Visqueen or other protective materials; stabilizing excavation entrances with benches; mulching exposed surfaces; erecting silt fencing that is properly keyed into the excavation and surrounding disturbance areas; and applying final seeding upon completion of construction. Erosion control BMPs should comply with all City of Portland requirements, which are addressed in City Code Title 10, Erosion and Sediment Control Regulations. Upon completion of construction, final grading of backfill materials should promote positive drainage and prevent ponding of water. If deemed practical in the field, we also recommend constructing small (approximately 6 inches high) berms using onsite soil at the top of steep slopes where pipeline repair occurred slopes to direct excessive water away from the repaired areas during storm events.

Vegetation seeding and aggressive erosion controls should be installed immediately after excavation backfilling to reduce the risk of slope washout and erosion due to precipitation. For enhanced erosion control, geocells can be installed at the surface of the slope failure repair. Geocells are three-dimensional, expandable panels mad of high-density polyethylene (HDPE), polyester or other polymer materials, often used to improve soil erosion control. The geocell panels should be placed on the slope and anchored to the underlying soils per manufacturer recommendations with steel pins typically 1 to 5 feet in length. Once the geocells are anchored properly to the slope per the design, the cells can be filled with topsoil, or any other material such as soil/grass, gravel or concrete. The topsoil may be seeded to provide root penetration and further enhance the surficial stability of the slope.

Additional generalized geocell recommendations are provided in Figure 6. The geocell recommendations in Figure 6 are presented as optional (not required for every joint site), and the implementation of geocell installation at a given joint site will depend on actual field conditions identified by the contractor on a case-by-case basis.

5 Addressing Slope Failures

In the event of slope failure after pipeline repair, the entire slide mass down to underlying firm/stable soils should be excavated. Excavated topsoil (highly organic soils expected to occur at 1-2 feet in depth) would be kept separate from excavated subsoil (brown to gray silt/sandy silt soils expected to occur at up to 5 feet in depth). Following excavation of the slide mass, the geotechnical recommendations in this report should followed to backfill the excavation. The details in Figure 6 provide general slope stabilization practices that may be implemented as part of slope failure repair.

6 Limitations and Closure

This memo was prepared for the exclusive use of Kinder Morgan in the design of the subject project. The data and memo should be provided to the Contractors for their information, but this memo, interpretations, and conclusions should not be construed as a warranty of subsurface conditions included in this report. The recommendations in this memorandum are not intended to address deep-seated landslides, which are known to occur in the vicinity of the project site.

The data contained in this report only presents the field observations and laboratory test results obtained during our limited geotechnical investigation. The findings in this report are believed to describe site conditions to the extent practical given the scope of the investigation. However, this investigation, like all such investigations, can directly explore subsurface conditions only at the boring locations within the site. Soil and geologic conditions can vary greatly between or beyond the investigation sites, and different conditions may be found during subsequent investigations or project construction.

The analyses, conclusions, and recommendations contained in this memo are based on observed surface conditions as they existed at the time of AECOM's site visit. Within the limitations of scope, schedule, and budget, the analyses, conclusions, and recommendations presented in this memo were prepared in accordance with generally accepted professional geotechnical engineering principles and practice in this area at the time this memo was prepared. AECOM makes no other warranty, either express or implied. These conclusions and recommendations were based on AECOM's understanding of the project as described in this memo and the observed site conditions.

There is no intention that this report addresses any environmental issues (for example, environmentally impacted soil or groundwater, or historic site uses) related to this site. Such evaluations are outside the scope of this work and should be addressed in separate studies (if required).

7 References

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Wells, R. E., R. A. Haugerud, A. R. Niem, W. A. Niem, L. Ma, R. C. Evarts, J. E. O'Connor, I. P. Madin, D. R. Sherrod, M. H. Beeson, T. L. Tolan, K. L. Wheeler, W. B. Hanson, and M. G. Sawlan. 2020. *Geologic Map of the Greater Portland Metropolitan Area and Surrounding Region, Oregon and Washington*.

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Figures

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Figure 1 – Aerial Image and Landslide Hazards Map

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JT 1600
JT 1670
JT 1680
JT 2100
Doane Creek
Upper Tr
Doane
Exhibit A-5
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Figure 2 – Geologic Map

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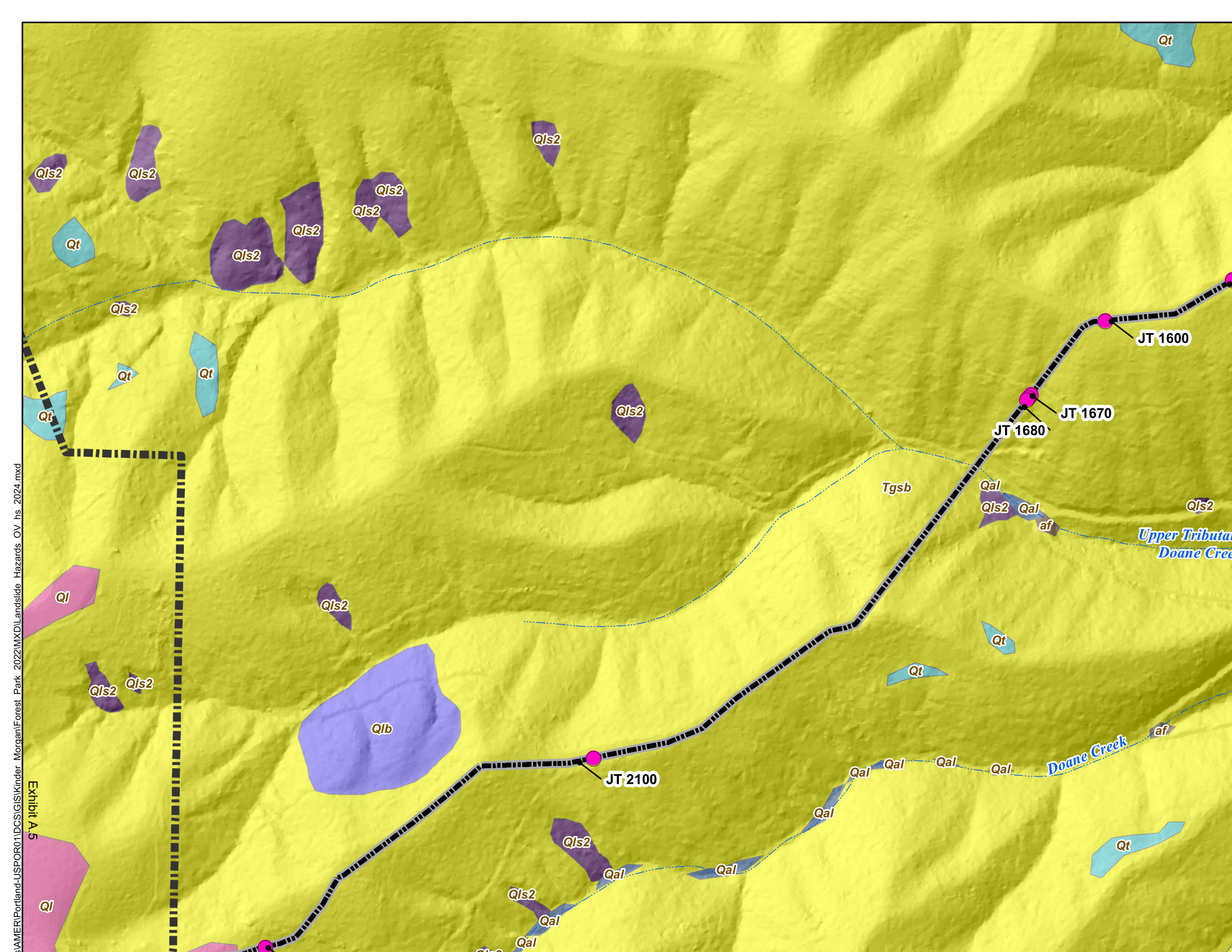
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Figure 3 – Hillshade Map

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Exhibit A.5

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Figure 4 – Hillshade Map with Landslide Hazards

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Figure 5 – Hillshade Map with Interpreted Landslide Features

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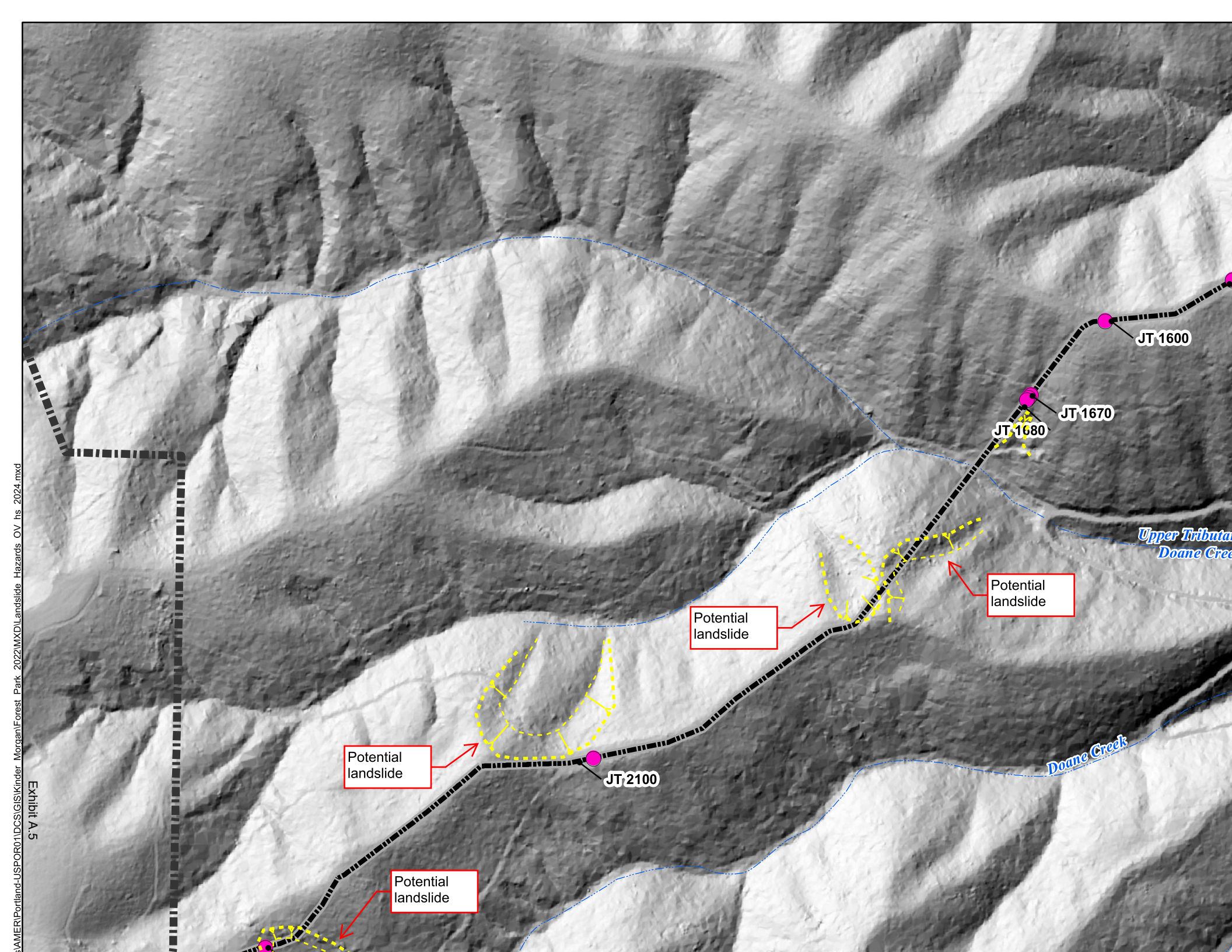

Exhibit A.5

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Figure 6 – General Post-Repair Slope Grading Schematic

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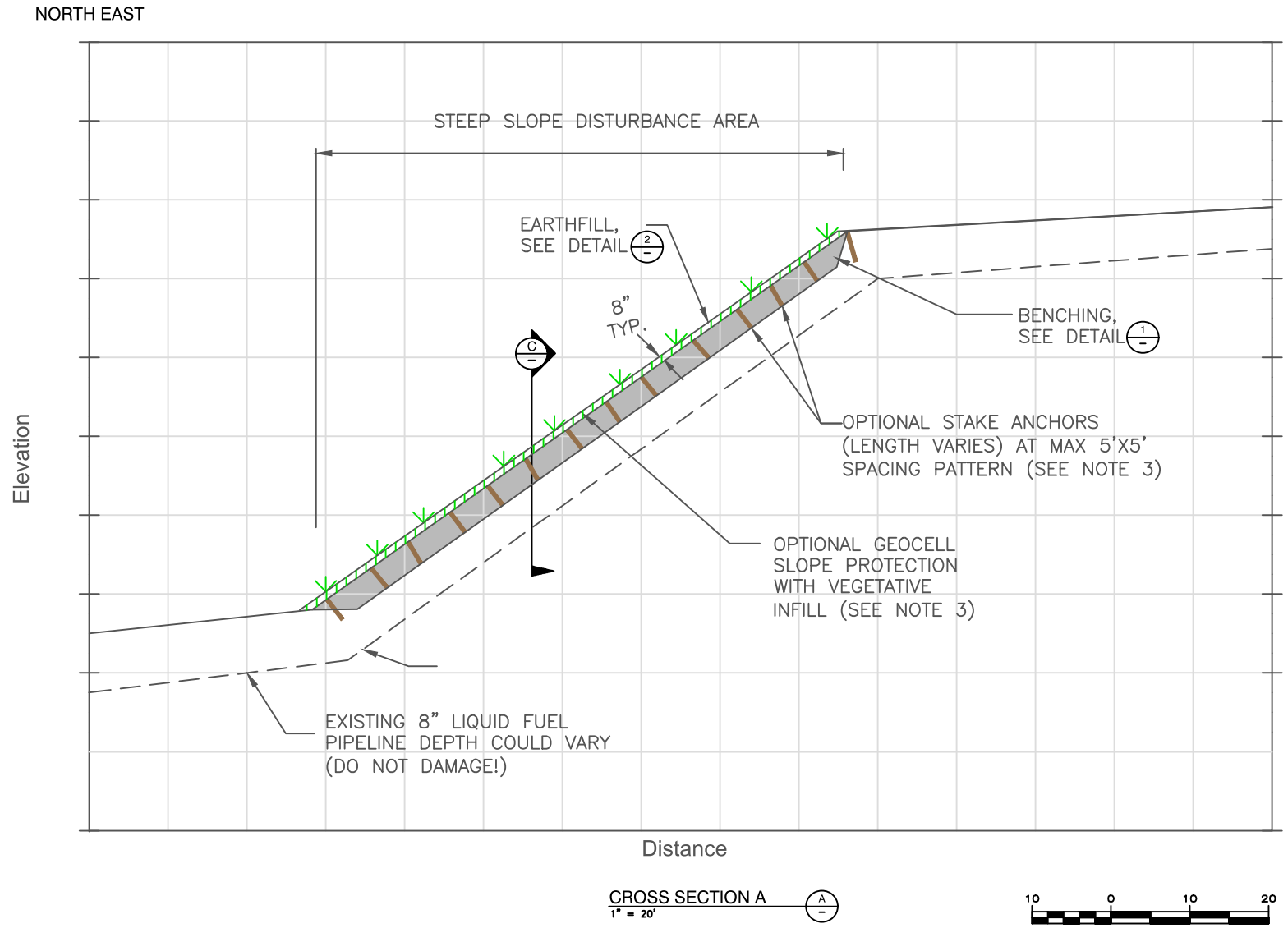
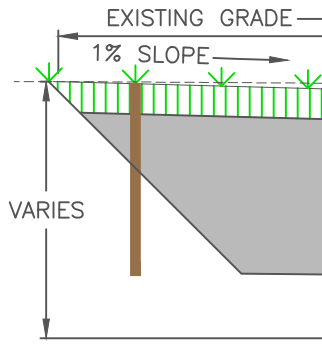


CROSS SECTION A
1" = 20'

10 0 10 20
HORIZONTAL AND VERTICAL SCALE IN FEET



EXISTING 8" LIQUID
PIPELINE DEPTH MAY
(DO NOT DAM

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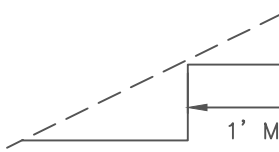
N.T.S.



TYPICAL EXCAVATION E
N.T.S.

LEGEND

- EXCAVATION AND COMPACTED EARTHFILL
- OPTIONAL GEOCELL SLOPE LINING WITH VEGETATIVE INFILL
- PRE-SLIDE EXISTING GROUND SURFACE (SEE NOTE 4)

NOTES

1. RE-USE OF ON-SITE MATERIAL AS EARTHFILL MAY REQUIRE MIXING WITH EITHER PORTL GRANULAR PEBBLE QUICKLIME. SOIL-CEMENT OR SOIL-LIME MIXING SHALL BE ACCORDIN STANDARD CONSTRUCTION SPECIFICATIONS SECTION 00344 AS APPLICABLE.

2. FINISH GRADE ELEVATIONS SHALL BE FIELD-ADJUSTED TO BLEND IN WITH SURROUNDIN OUTSIDE OF THE SLIDE REPAIR AREA. FINISH GRADE SLOPE INCLINATIONS SHALL BE NO S THAN EXISTING GRADE, AND SHALL BE SMOOTHED.

3. REQUIRED SPECIFICATIONS FOR OPTIONAL GEOCELLS AND STAKE ANCHORS WILL VARY ACTUAL FIELD CONDITIONS. INSTALL PER MANUFACTURER INSTRUCTIONS.

Exhibit A.5
...ts\KM Forrest Park\Report\2024 Joint Repair Slope Stabalization Memo\Figures\Cross_Section_General Schematic.dwg Mar 06, 2024 - 8:03am

Attachment 1 – Plans of Geotechnical Investigation

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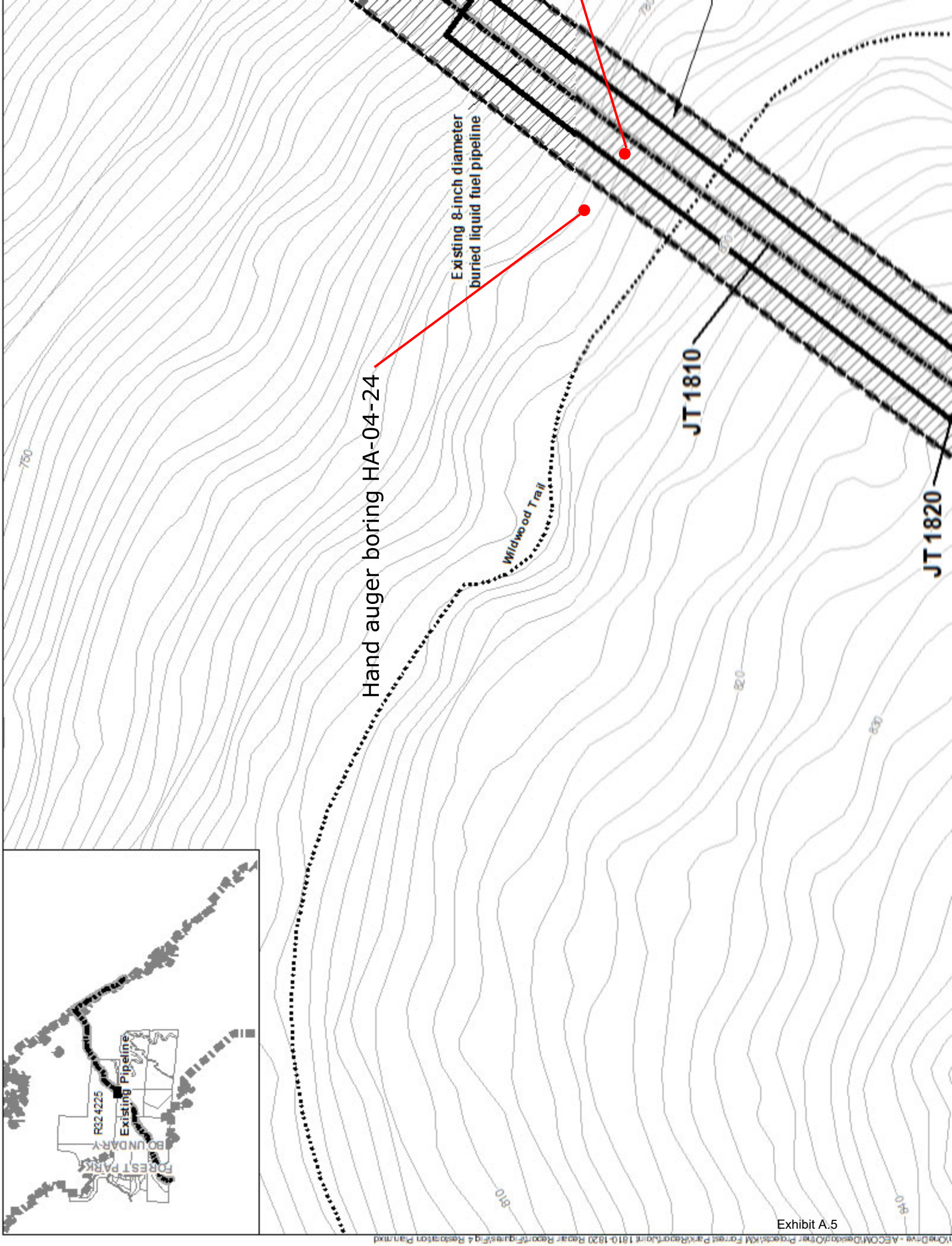
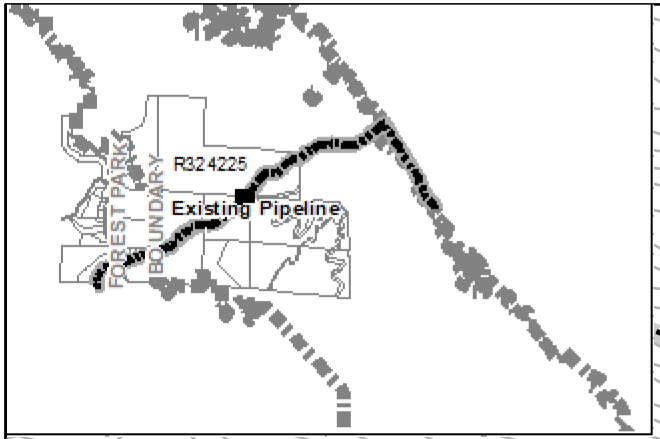

Hand auger boring HA-04-24
Existing 8-inch diameter
buried liquid fuel pipeline
JT 1810
JT 1820
Wildwood Trail
750
820
830
810
840
R32 4225
Existing Pipeline
BOUNDARY
FOREST PARK

Exhibit A.5



870
850
860
840
830
820
810
800
790
780
770
760
750
740
730
720
710
690

Wildwood Trail

Hand auger boring HA-05-24

OR-004
OR-005
OR-006

JT 1670
JT 1680

Existing 8-inch diameter
buried liquid fuel pipeline

H

Exhibit A-5

G:\Documents\Forest Park\Fig 2 Existing Conditions_20231129_NEW.mxd

Attachment 2 – Boring Logs

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PROJECT NAME: Joint 1730 Slope Repair	**DATES DRILLED:** 8/29/2023	**TEST HOLE LEGEND**
PROJECT NO: 60656035	**NUMBER OF HOLES DRILLED:** 2	PAGE 1 OF 1
LOCATION: Forest Park, Portland OR	**TOTAL LENGTH DRILLED (ft):** 6	

DEPTH (ft)	SOIL SAMPLES: SAMPLE SYMBOL	SOIL SAMPLES: SAMPLE TYPE AND NUMBER	SOIL SAMPLES: BLOW COUNTS (N VALUE)	SOIL SAMPLES: RECOVERY (%)	STRATIGRAPHY	MATERIAL DESCRIPTION AND REMARKS	LITHOLOGY	ROCK CORE: BOX NUMBER	ROCK CORE: RUN NUMBER	ROCK CORE: RECOVERY (%)	ROCK CORE: RQD (%)	ROCK CORE: FRACTURES PER FOOT
1	2	3	4	5	6	7	8	9	10	11	12	13

COLUMN DESCRIPTIONS

1. **Depth:** Depth in feet below the ground surface.
2. **Sample Symbol:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.
3. **Sample Type and Number:** Indicates the type of sampler used and identification number.
4. **Blow Counts:** Number of blows required to advance sampler each 6-inch interval, or length noted, using a 140-lb hammer falling 30-inches. N-value reported for SPT samples.
5. **Recovery:** Percentage of driven soil sample length actually recovered.
6. **Stratigraphy:** Abbreviation for soil depositional environment of rock formation name.
7. **Material Description and Remarks:** Description of material encountered; may include density/consistency, moisture, color, material type, grain size and other remarks.
8. **Lithology:** Graphic depiction of soil material or rock type encountered; typical symbols are explained below..
9. **Box Number:** Indicates core sample box number.
10. **Run Number:** Indicates core sample run number.
11. **Recovery:** Percentage of core run length actually recovered.
12. **RQD:** Rock Quality Designation; Percentage of intact rock core (pieces of sound core greater than 100 millimeters or about 4 inches long) in each core run.
13. **Fractures per Foot:** Approximate number of rock core fractures per foot.

TYPICAL SOIL MATERIAL GRAPHIC SYMBOLS

Silt

TYPICAL ROCK MATERIAL GRAPHIC SYMBOLS

TYPICAL SAMPLER GRAPHIC SYMBOLS

GRAB: Grab Sample

WATER LEVEL LEGEND

- Water Level at Time of Drilling, or as Shown
- Water Level at End of Drilling, or as Shown
- Water Level After 24 Hours, or as Shown

Recovered Sample Length

Driven Sample Length

ABBREVIATIONS

ATD: At Time of Drilling
NR: No Recovery
NA: Not Applicable
bgs: Below Ground Surface

MINOR SOIL TYPE(s)

"trace" When the soil type's percentage is estimated, using visual/manual procedures, to be between 1 and 15 percent of the total sample.

"with" When the soil type's percentage is estimated, using visual/manual procedures, to be greater than 15 percent and less than 30 percent of the total sample.

"y" When the soil type's percentage is estimated, using visual/manual procedures, to be greater than 30 percent of the total sample.

Soil classifications are based on the Unified Soil Classification System. Descriptions and stratum lines are interpretive; field descriptions may have been modified to reflect lab test results. Descriptions on these logs apply only at the specific boring locations and at the time the borings were advanced; they are not warranted to be representative of subsurface conditions at other locations or times.

PROJECT NAME: KM Forest Park Repair	**DATES DRILLED:** 1/26/24 - 1/26/24	**LOG NO: HA-03-24**
PROJECT NO: 60656035	**SURFACE ELEVATION (ft):** 793	PAGE 1 OF 1 AECOM
LOCATION: Portland, Oregon	**TOTAL DEPTH (ft):** 5	

DRILL COMPANY / DRILLER: /	**GROUNDWATER LEVELS:**	**LOGGED BY:** T. Lydick
DRILL EQUIP: Hand auger	**AT TIME OF:** ---	**CHECKED BY:**
DRILL METHOD: Hand Auger	**AT END OF DRILLING** ---	**HOLE LOCATION:** ~3 feet west of pipeline.
BIT SIZE/TYPE: 3-inch Hand Auger	**AFTER DRILLING** ---	**LATITUDE (deg) or NORTHING (ft):** 45.569669 (deg)
CASING DEPTH (ft bgs): N/A	**COMPLETION:** Cuttings	**LONGITUDE (deg) or EASTING (ft):** -122.775093 (deg)

ELEVATION (ft)	DEPTH (ft)	SOIL SAMPLES: SAMPLE SYMBOL	SAMPLE TYPE AND NUMBER	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	RECOVERY (%)	MATERIAL DESCRIPTION AND REMARKS	STRATIGRAPHY	LABORATORY TESTING RESULTS: Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	GRAVEL (%)	SAND (%)	FINES - Passing No. 200 Sieve (%)	CLAY - Passing 2 microns (%)
793	0				0.5 - 0.75		No recovery for first 8 inches. 50% straw mixed with 50% silt. [T-probe test#: T-01-24; average of 3 meaurements (19.25", 35.0", 18.0") is 24.1 inches.] [Bulk sample HA-03-24, B-1, collected from upper 18" of soil.]		35.1		38	15	0.1	9.7	90.2	
792	1		GRAB G-1			100	Dark brown, moist to wet, no to low plasticity, SILT, with minor angular to subangular gravels less-than 2 cm in diameter, trace straw, trace roots., (ML)		36.3							
791	2		GRAB G-2		0.5 - 0.75	100	Soil includes minor angular to subangular gravels up to 3 cm in diameter, and contains minor, course sand. Slight increase in plasticity (still low plasticity) likely correlated with slight decrease in water content., (ML)		36.9							
790	3		GRAB G-3		< 0.25	100	Soil includes minor course sand and minor gravels less than 1 cm in diameter. Trace roots are present., (ML)		37.5							
789	4		GRAB G-4		0.25	100	Soil has increasing minor course sand and gravels up to 3 cm in diameter., (ML)		35.7						90.1	
788	5		GRAB G-5		0.25	100			34.3		38	15				

Auger bit refusal at 5.0 feet.
Bottom of hole at 5.0 feet. Borefole terminated due to auger refusal.

AECOM-SMART-SOIL-LAB-ELEV_SOIL_PP+TV_GWR - URS_DENVER STD US LAB.GDT - 2/15/24 10:40 - C:\USERS\WEBBB1\DOCUMENTS\GINT\60656035_KM_FOREST PARK_20240209.GPJ

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Exhibit A.5

PROJECT NAME: KM Forest Park Repair	**DATES DRILLED:** 1/26/24 - 1/26/24	**LOG NO: HA-04-24**
PROJECT NO: 60656035	**SURFACE ELEVATION (ft):** 792	PAGE 1 OF 1 AECOM
LOCATION: Portland, Oregon	**TOTAL DEPTH (ft):** 2.33	

DRILL COMPANY / DRILLER: /	**GROUNDWATER LEVELS:**	**LOGGED BY:** T. Lydick
DRILL EQUIP: Hand auger	**AT TIME OF:** ---	**CHECKED BY:**
DRILL METHOD: Hand Auger	**AT END OF DRILLING** ---	**HOLE LOCATION:** ~12 feet west of pipeline.
BIT SIZE/TYPE: 3-inch Hand Auger	**AFTER DRILLING** ---	**LATITUDE (deg) or NORTHING (ft):** 45.569684 (deg)
CASING DEPTH (ft bgs): N/A	**COMPLETION:** Cuttings	**LONGITUDE (deg) or EASTING (ft):** -122.775129 (deg)

ELEVATION (ft)	DEPTH (ft)	SOIL SAMPLES: SAMPLE SYMBOL	SAMPLE TYPE AND NUMBER	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	RECOVERY (%)	MATERIAL DESCRIPTION AND REMARKS	STRATIGRAPHY	LABORATORY TESTING RESULTS: Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	GRAVEL (%)	SAND (%)	FINES - Passing No. 200 Sieve (%)	CLAY - Passing 2 microns (%)
792	0															
			GRAB G-1		0.0	100	Dark brown, wet, soft, non-low plasticity, SILT, with minor organic matter, trace roots, and trace twigs., (ML)		37.3							
791	1						Soil becomes moist.									
			GRAB G-2		0.0	100	Soil becomes slightly drier, medium stiff, and less plastic (crumbling)., (ML)		31.1		35	15				
790	2															
			GRAB G-3		0.25	100	Soil includes minor angular to subangluar gravels less than 2 cm in diameter., (ML)		34.8						90.2	

Auger bit refusal at 2.3 feet.
Bottom of hole at 2.3 feet. Borefole terminated due to auger refusal.

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Exhibit A.5

PROJECT NAME: KM Forest Park Repair	**DATES DRILLED:** 1/30/24 - 1/30/24	**LOG NO: HA-05-24**
PROJECT NO: 60656035	**SURFACE ELEVATION (ft):** 798	PAGE 1 OF 1 AECOM
LOCATION: Portland, Oregon	**TOTAL DEPTH (ft):** 2.9	

DRILL COMPANY / DRILLER: /	**GROUNDWATER LEVELS:**	**LOGGED BY:** B. Webb
DRILL EQUIP: Hand auger	**AT TIME OF:** ---	**CHECKED BY:**
DRILL METHOD: Hand Auger	**AT END OF DRILLING** ---	**HOLE LOCATION:** ~3 feet east of pipeline.
BIT SIZE/TYPE: 3-inch Hand Auger	**AFTER DRILLING** ---	**LATITUDE (deg) or NORTHING (ft):** 45.570805 (deg)
CASING DEPTH (ft bgs): N/A	**COMPLETION:** Cuttings	**LONGITUDE (deg) or EASTING (ft):** -122.773905 (deg)

ELEVATION (ft)	DEPTH (ft)	SOIL SAMPLES: SAMPLE SYMBOL	SAMPLE TYPE AND NUMBER	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	RECOVERY (%)	MATERIAL DESCRIPTION AND REMARKS	STRATIGRAPHY	LABORATORY TESTING RESULTS: Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	GRAVEL (%)	SAND (%)	FINES - Passing No. 200 Sieve (%)	CLAY - Passing 2 microns (%)
798	0															
			GRAB G-1		0.75	100	Dark brown, moist, non-low plasticity SILT, with trace angular to sub-angular graavels up to 2.5 cm in diameter. Minor roots and organic matter., (ML) [T-probe test#: T-02-24; average of 3 meaurements (12.5", 10.0", 4.75") is 9.1 inches.] [Bulk sample HA-05-24, B-1, collected from upper 18" of soil.]		29.8 30.2		38	10			65.7	
797	1															
			GRAB G-2		0.5	100	Soil becomes slightly drier and includes minor angular to sub-angular gravels less than 1 cm in diameter., (ML)		31.1							
796	2															
			GRAB G-3		0.5	100	Soil becomes wet a few inches prior to hardrock/saprolite refusal at 2.9 feet bgs.		29.1							

Auger bit refusal at 2.9 feet.
Bottom of hole at 2.9 feet. Borefole terminated due to auger refusal.

AECOM-SMART-SOIL-LAB-ELEV_SOIL_PP+TV_GWR - URS_DENVER STD US LAB.GDT - 2/15/24 10:40 - C:\USERS\WEBBB1\DOCUMENTS\GINT\60656035_KM_FOREST PARK_20240209.GPJ

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Exhibit A.5

PROJECT NAME: KM Forest Park Repair	**DATES DRILLED:** 1/30/24 - 1/30/24	**LOG NO: HA-06-24**
PROJECT NO: 60656035	**SURFACE ELEVATION (ft):** 797	PAGE 1 OF 1 AECOM
LOCATION: Portland, Oregon	**TOTAL DEPTH (ft):** 3.4	

DRILL COMPANY / DRILLER: /	**GROUNDWATER LEVELS:**	**LOGGED BY:** B. Webb
DRILL EQUIP: Hand auger	**AT TIME OF:** ---	**CHECKED BY:**
DRILL METHOD: Hand Auger	**AT END OF DRILLING** ---	**HOLE LOCATION:** ~15 feet east of pipeline.
BIT SIZE/TYPE: 3-inch Hand Auger	**AFTER DRILLING** ---	**LATITUDE (deg) or NORTHING (ft):** 45.570792 (deg)
CASING DEPTH (ft bgs): N/A	**COMPLETION:** Cuttings	**LONGITUDE (deg) or EASTING (ft):** -122.773868 (deg)

ELEVATION (ft)	DEPTH (ft)	SOIL SAMPLES: SAMPLE SYMBOL	SAMPLE TYPE AND NUMBER	BLOW COUNTS (N VALUE)	POCKET PEN (tsf)	RECOVERY (%)	MATERIAL DESCRIPTION AND REMARKS	STRATIGRAPHY	LABORATORY TESTING RESULTS: Natural Moisture Content (%)	Total Unit Weight (pcf)	Liquid Limit	Plasticity Index	GRAVEL (%)	SAND (%)	FINES - Passing No. 200 Sieve (%)	CLAY - Passing 2 microns (%)
797	0															
			GRAB G-1		0.25	100	Dark brown, moist, low plasticity, gravelly SILT, with approximately 15% angular to sub-angular gravels up to 2.5 cm in diameter (with most less-than 1 cm in diameter). Trace roots., (ML)		35.5							
796	1															
			GRAB G-2		0.25	100	Dark brown, moist, low plasticity, SILT, with minor angular to sub-angular gravels up to 2.5 cm in diameter (with most less-than 1 cm in diameter). Trace roots., (ML)		31.6							
795	2															
			GRAB G-3		0.25	100			32.2							
794	3						Becomes wet									
			GRAB G-4		0.25	100			27.3							

Auger bit refusal at 3.4 feet.
Bottom of hole at 3.4 feet. Borefole terminated due to auger refusal.

AECOM-SMART-SOIL-LAB-ELEV_SOIL_PP+TV_GWR - URS_DENVER STD US LAB.GDT - 2/15/24 10:40 - C:\USERS\WEBBB1\DOCUMENTS\GINT\60656035_KM_FOREST PARK_20240209.GPJ

LU 24-017402 EN

Attachment 3 – Laboratory Test Results

LU 24-017402 EN

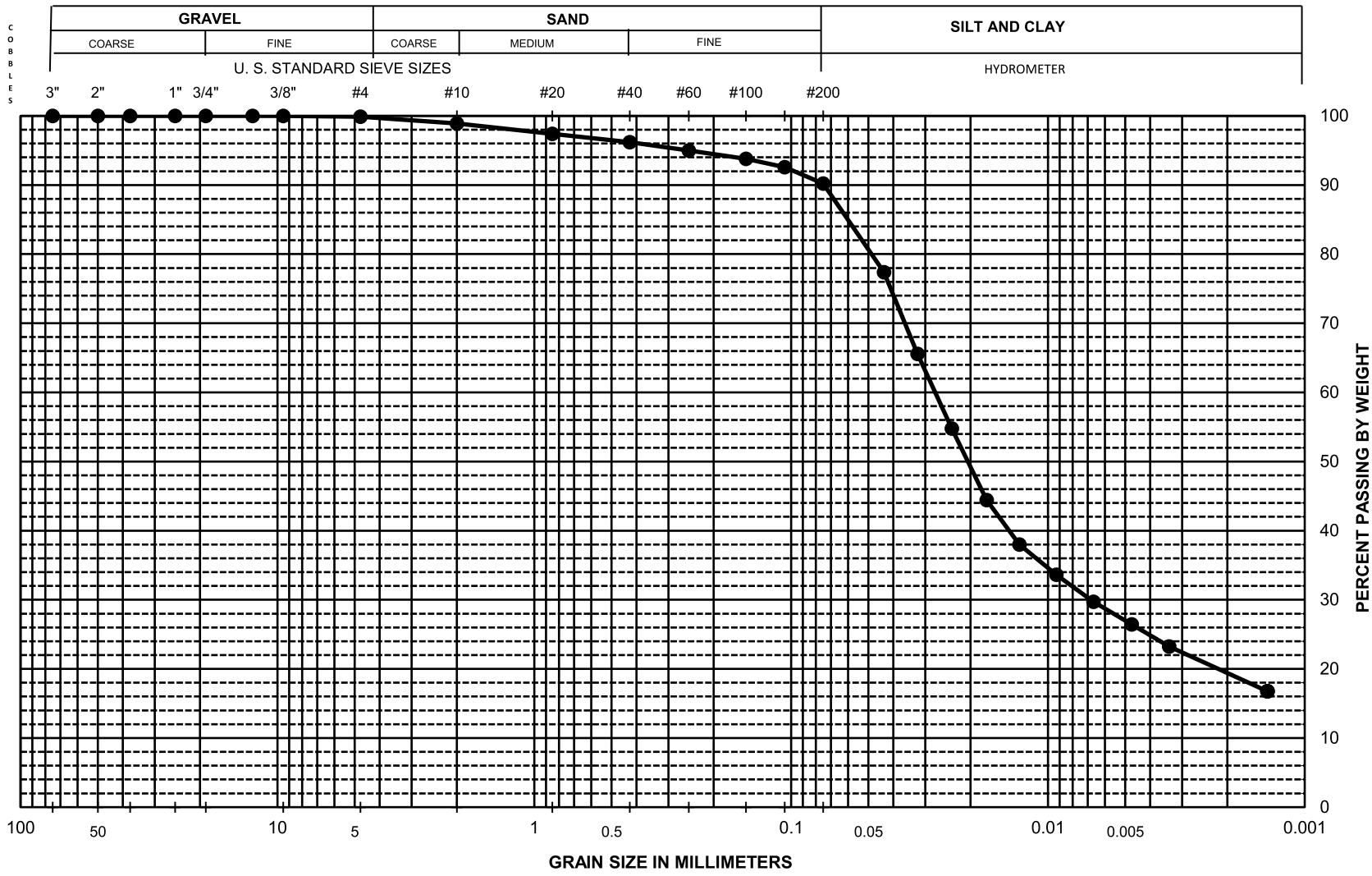
Anaheim Geotechnical Laboratory Testing Summary

Project Name: KN Forest Park Repair
Project Number: 60656035
Project Engineer: R. Shell

Location				Initial Condition			Limits			Gradation				Compaction		
												Fines				
Boring Number	Sample Number	Depth (ft)	USCS Symbol	Water Content (%)	Total Unit Weight (pcf)	Dry Unit Weight (pcf)	Liquid Limit	Plasticity Index	Liquidity Index	Gravel (%)	Sand (%)	Silt (%)	Clay (%)	ASTM Test Method	Max. Dry Unit Weight (pcf)	Opt. Water Content (%)
HA-03-24	G-1	0.0-1.0	CL	36.3												
HA-03-24	G-2	1.0-2.0	CL	36.9												
HA-03-24	G-3	2.0-3.0	CL	37.5												
HA-03-24	G-4	3.0-4.0	CL	35.7								90.1				
HA-03-24	G-5	4.0-5.0	CL	34.3			38	15	0.75							
HA-03-24	B-1	0.0-1.5	CL	35.1			38	15	0.81	0.1	9.7	70.8	19.4	D698-A	100.8	19.7
HA-04-24	G-1	0.0-1.0	CL	37.3												
HA-04-24	G-2	1.0-2.0	CL	31.1			35	15	0.74							
HA-04-24	G-3	2.0-3.0	CL	34.8								90.2				
HA-05-24	G-1	0.0-1.0	ML	30.2												
HA-05-24	G-2	1.0-2.0	ML	31.1												
HA-05-24	G-3	2.0-2.9	ML	29.1												
HA-05-24	B-1	0.0-1.5	ML	29.8			38	10	-1.95			65.7		D698-B	99.3	19.2
HA-06-24	G-1	0.0-1.0	CL	35.5												
HA-06-24	G-2	1.0-2.0	CL	31.6												
HA-06-24	G-3	2.0-3.0	CL/ML	32.2												
HA-06-24	G-4	3.0-3.4	CL	27.3												

LU 24-017402 EN

UNIFIED SOIL CLASSIFICATION



Sieve No.	Dia. mm	% Finer
3"	75.0	100.0
2"	50.0	100.0
1.5"	37.5	100.0
1"	25.0	100.0
3/4"	19.00	100.0
1/2"	12.50	100.0
3/8"	9.50	100.0
#4	4.75	99.9
#10	2.00	98.9
#20	0.850	97.4
#40	0.425	96.2
#60	0.250	95.0
#100	0.150	93.8
#140	0.106	92.6
#200	0.075	90.2
Hydrometer Analysis	0.0435	77.4
	0.0322	65.6
	0.0237	54.8
	0.0173	44.4
	0.0129	38.0
	0.0093	33.6
	0.0066	29.7
	0.0047	26.4
	0.0034	23.2
	0.0014	16.8

% Cobbles	---
% Gravel	0.1
% Sand	9.7
% Fines	90.2
D_{85}	0.060
D_{60}	0.027
D_{30}	0.007
D_{15}	----
D_{10}	----
C_u	----
C_c	----

Boring No.	Sample No.	Depth (ft)	SYMBOL	Wn (%)	LL	PI	% 2 μm	Description and Classification
HA-03-24	B-1	0.0-1.5	●	35.1	38	15	19.4	**Yellowish brown Lean CLAY (CL)**

PROJECT NAME: **KM Forest Park Repair**

PROJECT NUMBER: **60656035**

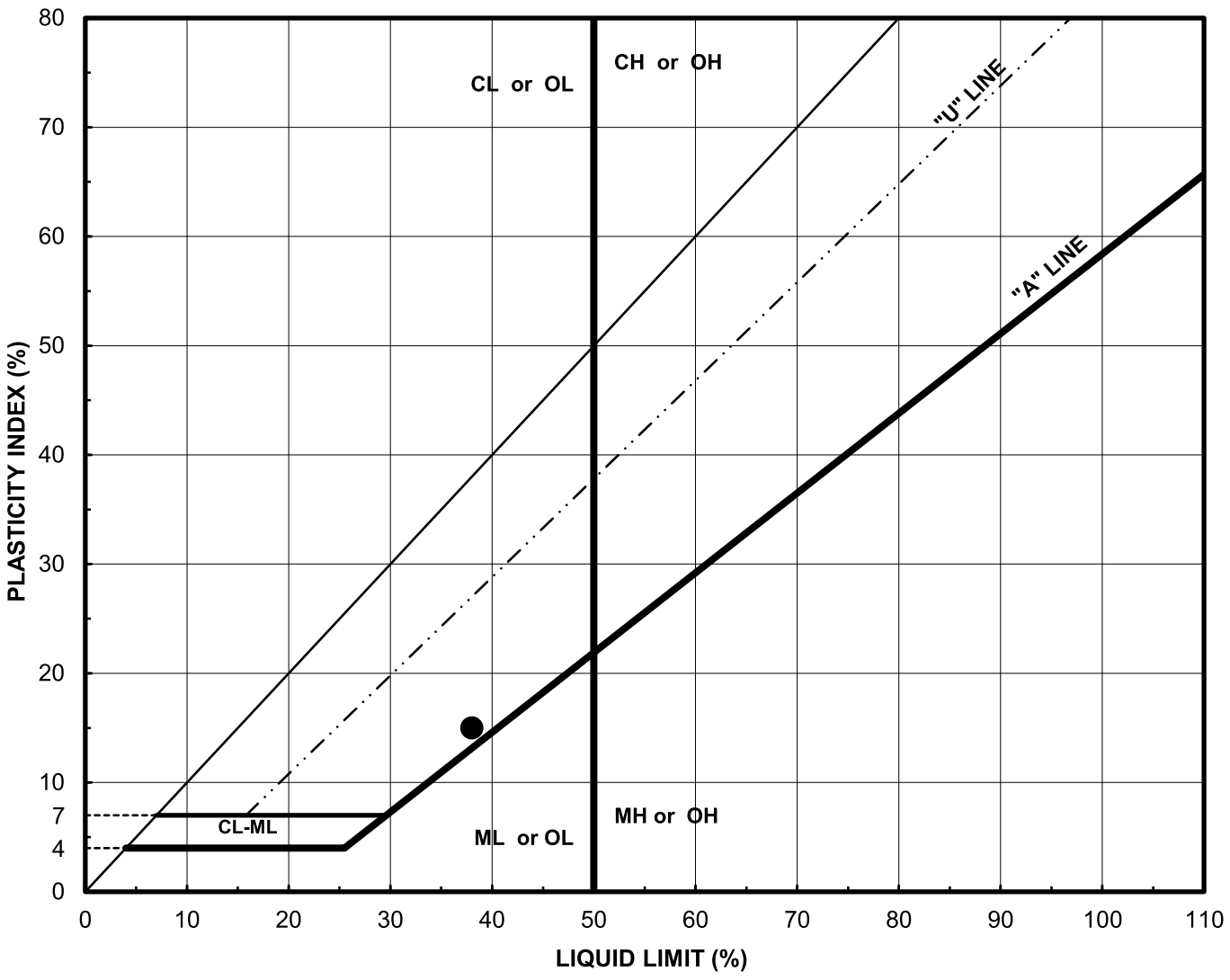
PARTICLE-SIZE DISTRIBUTION CURVES

Exhibit A.5

Sieve Hydrometer KM Forest Park Repair HA-03-24 0.0-1.5 ft.xlsx

LU 24-017402 EN

AECOM



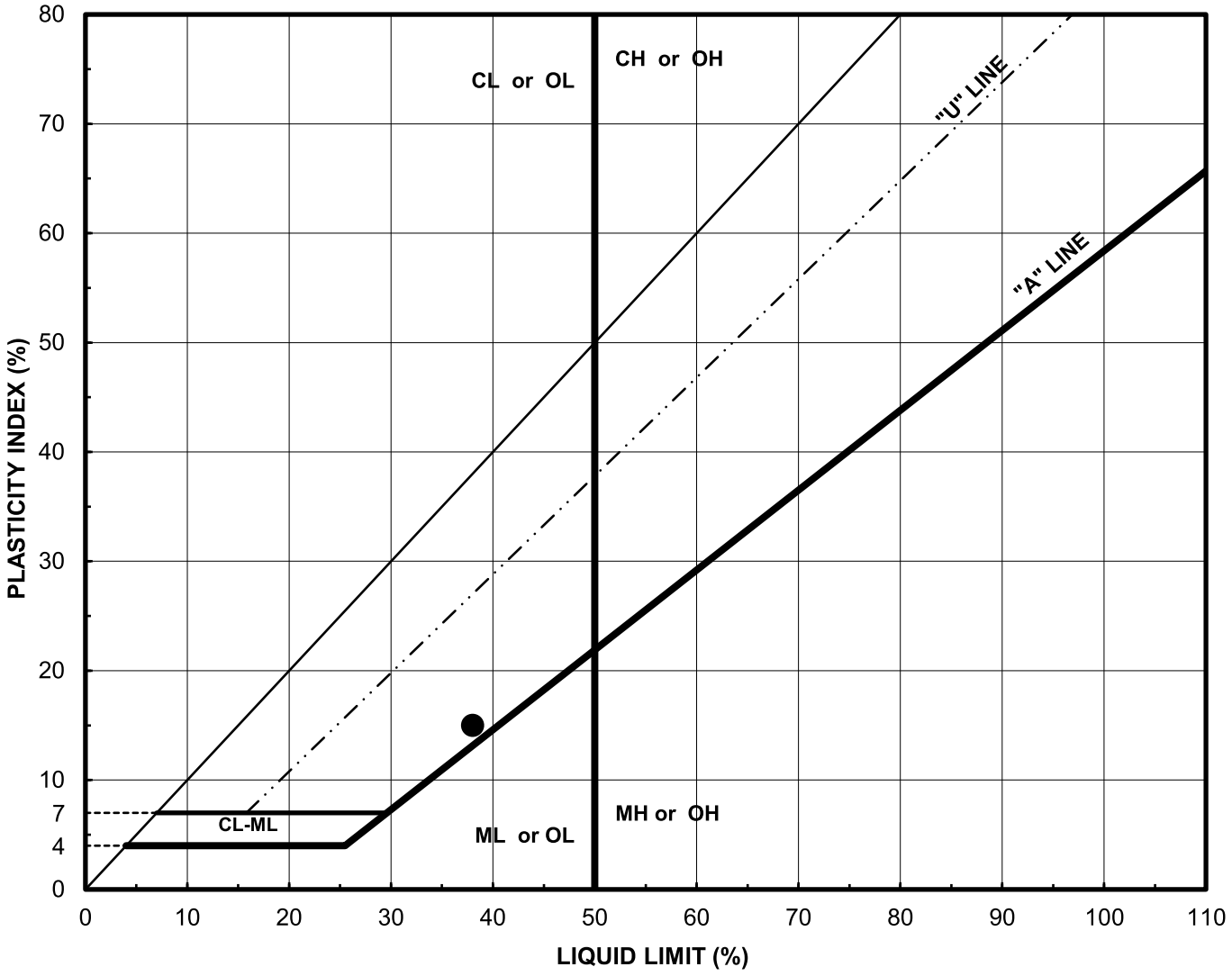
Boring Number	Sample Number	Depth (ft)	Water Content (%)	LL	PI	DESCRIPTION / CLASSIFICATION
HA-03-24	B-1	0.0-1.5	35.1	38	15	Yellowish brown Lean CLAY (CL)

Project Name: KM Forest Park Repair

Project Number: 60656035

PLASTICITY CHART

LU 24-017402 EN



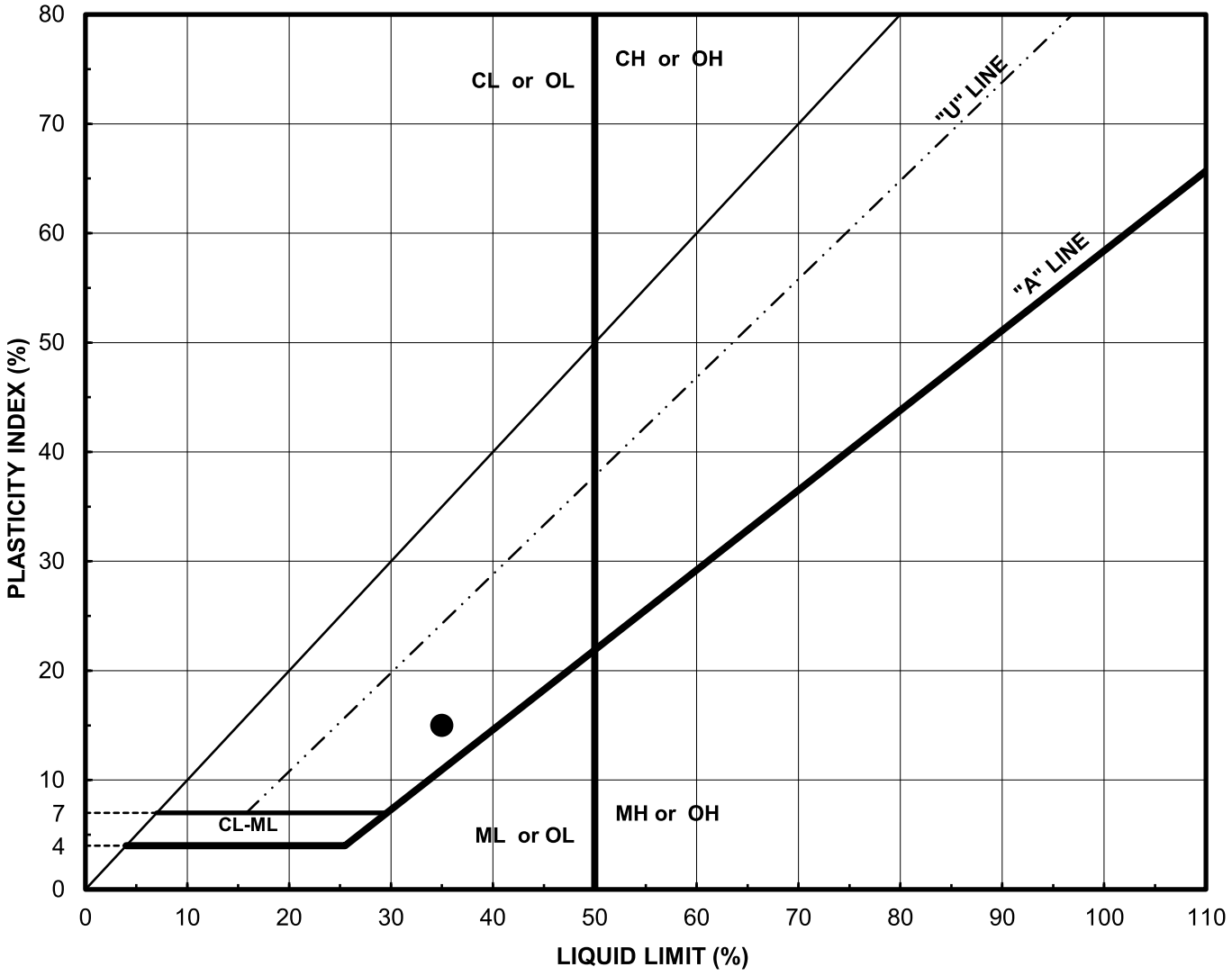
Boring Number	Sample Number	Depth (ft)	Water Content (%)	LL	PI	DESCRIPTION / CLASSIFICATION
HA-03-24	G-5	4.0-5.0	34.3	38	15	Yellowish brown Lean CLAY (CL)

Project Name: KM Forest Park Repair

Project Number: 60656035

PLASTICITY CHART

LU 24-017402 EN



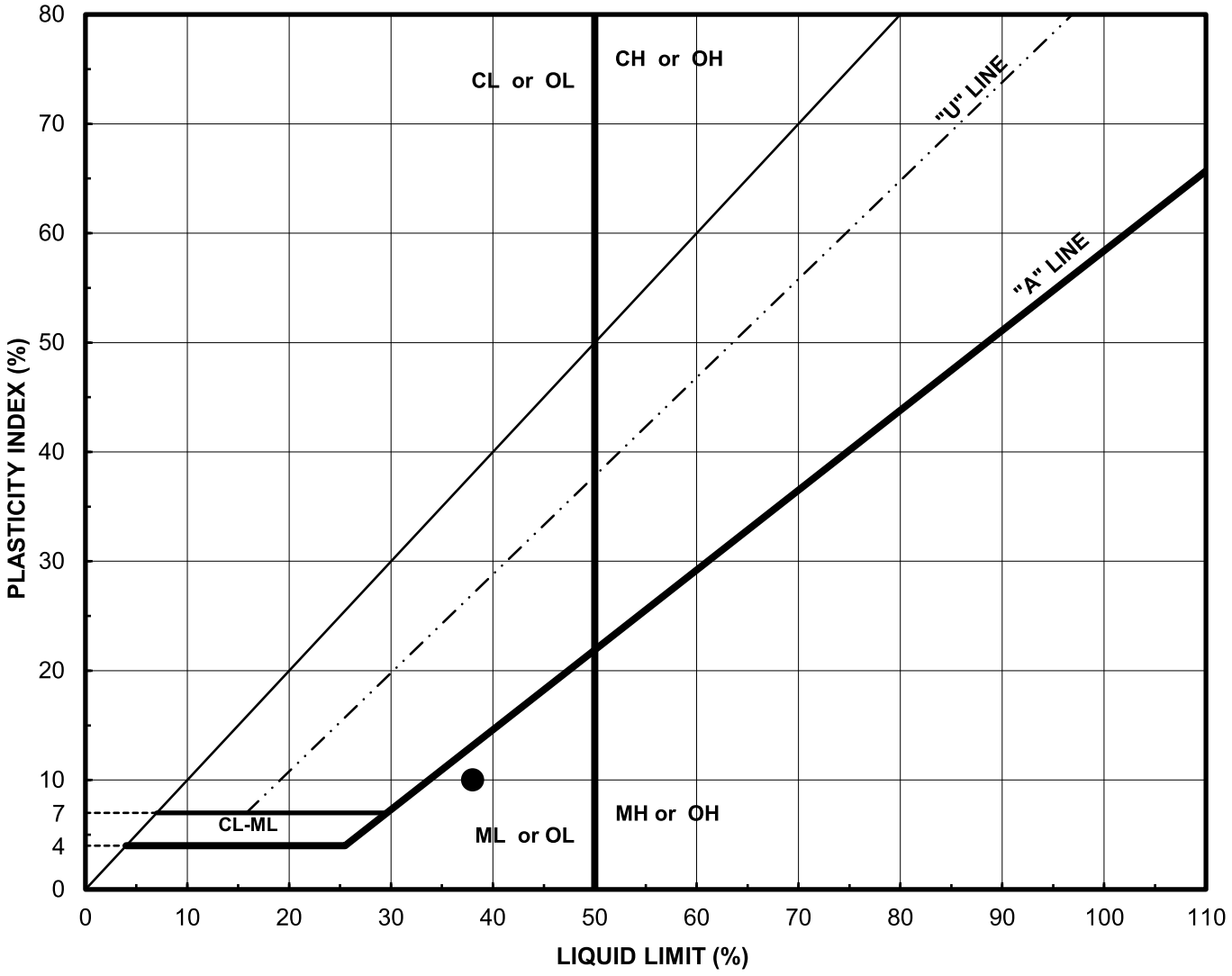
Boring Number	Sample Number	Depth (ft)	Water Content (%)	LL	PI	DESCRIPTION / CLASSIFICATION
HA-04-24	G-2	1.0-2.0	31.1	35	15	Yellowish brown Lean CLAY (CL)

Project Name: KM Forest Park Repair

Project Number: 60656035

PLASTICITY CHART

LU 24-017402 EN



Boring Number	Sample Number	Depth (ft)	Water Content (%)	LL	PI	DESCRIPTION / CLASSIFICATION
HA-05-24	B-1	0.0-1.5	8.5	38	10	Yellowish brown Sandy SILT with Gravel (ML)

Project Name: KM Forest Park Repair

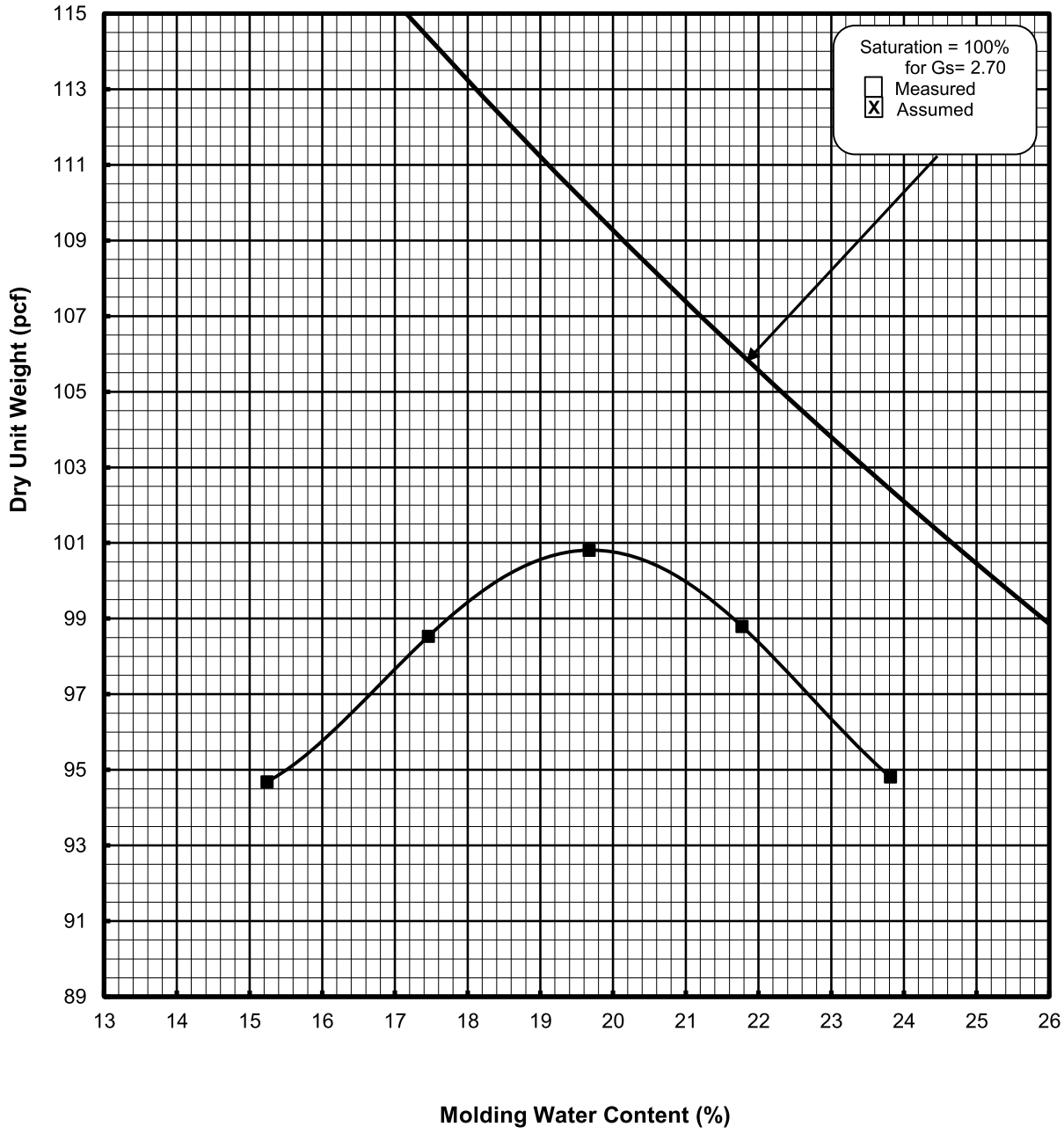
Project Number: 60656035

PLASTICITY CHART

LU 24-017402 EN

COMPACTION CURVE

Test Method: ● ASTM D 1557 ■ ASTM D 698 ◆ CA-DWR: S-10 ❍ Other Effort
Compaction Procedure: **A** Specimen Preparation Method: **Moist**



Boring Number	Sample Number	Depth (ft.)	Optimum WC (%)	Maximum DUW (pcf)	Description and/or Classification
HA-03-24	B-1	0.0-1.5	19.7	100.8	Yellowish brown Lean CLAY (CL)

PROJECT NAME: **KM Forest Park Repair**
PROJECT NUMBER: **60656035**

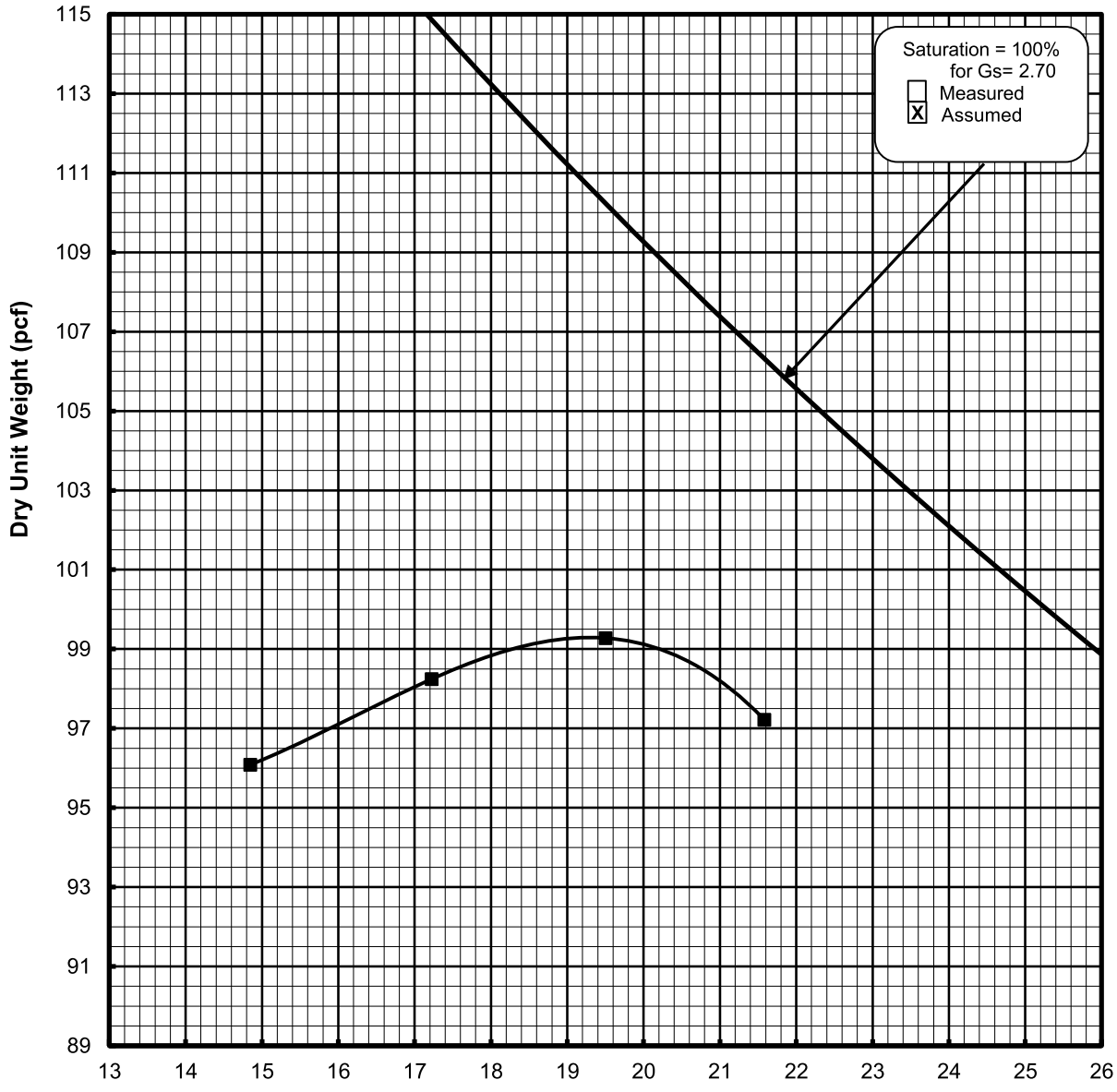
COMPACTION AND INDEX PROPERTY DATA

SUBMITTED BY: A. D. Camacho

https://aecom-my.sharepoint.com/personal/tyus_hanson_aecom_com/Documents/Desktop/Other Projects/KM Forrest Park/Field/Lab/KM Forest Park Repair Lab Results/Compaction KM Forest Park Repair HA-03-24 0.0-1.5 ft.xlsx

COMPACTION CURVE

Test Method: ● ASTM D 1557 ■ ASTM D 698 ◆ CA-DWR: S-10 ❍ Other Effort
Compaction Procedure: **B** Specimen Preparation Method: **Moist**



LU 24-017402 EN

Boring Number	Sample Number	Depth (ft.)	Optimum WC (%)	Maximum DUW (pcf)	Description and/or Classification
HA-05-24	B-1	0.0-1.5	19.4	99.3	Yellowish brown Sandy SILT with Gravel (ML)

PROJECT NAME: **KM Forest Park Repair**
PROJECT NUMBER: **60656035**

COMPACTION AND INDEX PROPERTY DATA

SUBMITTED BY: A. D. Camacho

https://aecom-my.sharepoint.com/personal/tyus_hanson_aecom_com/Documents/Desktop/Other Projects/KM Forrest Park/Field/Lab/KM Forest Park Repair Lab Results/Compaction KM Forest Park Repair HA-05-24 0.0-1.5 ft.xlsx

Plan Set Review	Comment	Response
General	The applicant will be required to complete a Non Parks Use Permit for PP&R.	Submittal of the NPUP application is anticipated 03/22/2024.
General	Review 2022 Permit of Entry for Park Property and provide updated versions of those conditions for the current proposal to ensure efficiency of permitting.	See attached Permit Matrix.
Traffic Control Plan	Maps are confusing for trail users. More details need to be provided to make it clear which trail or sections of trail are closed on which dates.	A draft Traffic Control Plan (TCP) was submitted for an initial review on 2/13/2024, and a final TCP that incorporated edits was approved by Parks on 2/16/2024. As part of the initial TCP review, Parks requested that specific trail closure timeframes be presented on the trail closure maps. At that time, AECOM explained that it would not be feasible to include specific closure dates due to the potential variability to the work schedule, as the schedule is contingent on the severity and extent of anomalies, the potential for delays related to fire season constraints or equipment issues, etc. As such, it was determined via email correspondence on 2/16/2024 that schedules for trail closures would be best omitted from pre-ordered signage. We haven't yet received a markup on the proposed signs in the TCP but would be happy to consider specific edits.
Access Plan	Concern over authority to access easement along FL7 and why the SFPP ROW is not being used for access.	BDS and PP&R have expressed a strong preference for limiting tree removals and minimizing potential slope destabilization and erosion. In areas not overlapping existing access pathways (such as the SUMAR) or outside areas where previous clearing has occurred, the SFPP ROW is generally densely forested and in areas with a high degree of landslide risk. Accessing proposed 2024 work sites via the SFPP ROW (which would require site access via NW Leif Erikson Drive and Wiregate Trail) would require equipment travel up steep, densely vegetated slopes at 1) an existing slope failure at Joint 1730 (including 250 feet of currently forested slope upslope from the 1730 site) to access Joint 1680, and 2) a densely vegetated, steep slope to access Joint 1300. Several trees, including larger bigleaf maple and Douglas-fir, and a dense forest understory would have to be removed if access proceeded via these routes, furthering the potential for destabilizing these slopes. Accessing the proposed 2024 excavation sites via Firelane 7/Oil Line Road minimizes tree removals, understory vegetation clearing, and slope destabilization due to the project as compared to these alternative access routes. Section 3 (Project-Specific Fire Prevention Measures) of the Fire Prevention Plan approved in 2022 specifically mentions the use of unimproved roads such as firelanes for access to joints in this application. If there is an access authority question regarding Firelane 7, please provide more information.
Restoration Plan	Tree locations are noted to be marked with handheld GPS with reduced accuracy for planning purposes. Please confirm that exact tree locations will be adjusted in the field and updated on the final mapped tree plan submittal.	Consistent with previous year of permitting for this project, it has not been possible for the consulting arborist (Sav-A-Tree) to obtain highly precise GPS tree location data due to the dense tree canopy at the site. This constraint has also been discussed between Urban Forestry and the arborist. Additionally, manually measuring tree locations is also not possible due to the lack of geolocated stationary reference points as well as the large number of trees. All efforts have been made during map preparation to correct obviously incorrect GPS tree locations with the intent to present as accurate mapping as possible within these limitations. As with all work on this project in previous years, determinations of whether or not a tree would need to be removed (or potentially removed) were made via on-the-ground assessment in coordination by the arborist and the pipeline repair contractor, not by desktop exercise or map review. Additionally, all site-specific actions (installation of tree protection fencing, removal of trees, etc.) will be completed under the observation of the arborist following the intent and specifications included in the Tree Protection Plan, and all on-the-ground decision-making will be made in consultation with Urban Forestry.
Tree Protection Plan	Concerned about the number of trees proposed for removal, 33 trees identified for removal due to access needs. Can the footprint of access be minimized to reduce tree removals?	Trees identified as "definite removals" are only those that would absolutely need to be removed due to the track size of necessary equipment (excavators, welding equipment, etc.). The width of the access pathway has been kept to a minimum, and available un-wooded access ways utilized where available in order to lessen overall tree removals. Several of the trees along the access route were identified as "potential removals"; these trees will be preserved during access if at all possible, and only removed under the supervision by the arborist and in coordination with Urban Forestry. All but six of the trees deemed "definite removals" for access are under 15" DBH, and all six of these larger trees (>15") are red alders in only fair condition as determined by the arborist. Removing young, unhealthy trees within Kinder Morgan's pipeline right-of-way prevents more complicated and ecologically significant tree removals in the future, while also lessening the potential negative risks that large root systems could pose to the pipeline over time. An alternative access way to Joint 1300 (from NW Leif Erikson Road Drive rather than east from Joint 1510) was considered; however, concerns regarding slope stability, erosion, and increased vegetation removal necessary at the junction of the SFPP ROW and NW Leif Erikson Rd Drive weighted the proposed access via the SPFF ROW along Oil Line Road as preferable.
Geotechnical Report	Concerned about the proposal for chemical drying, geocell use and moisture content analysis. Requesting input from Geotechnical engineers.	**Feedback from geotechnical engineers, including chemical soil drying information:** Geotechnical memos for slope stabilization at the Joint 1730 and 1810 site will be included as Attachments F and G, respectively, of the current NPUP application. These memos present the results of site-specific soil testing (including moisture content analysis) to determine optimal soil drying methods, as a response to Materials Testing Laboratory (LaVielle and Lai) April 10, 2023, comments on the 2023 NPUP. The matrix of soil drying alternatives (including chemical soil drying; i.e., the addition of cement or lime/quicklime), which was previously sent to Parks on June 26 and August 2, 2023, is also included in both of these documents. **Geocells:** Geocells are a flexible, porous web of durable HDPE cells that are the industry standard for holding soil in place on slopes and other potentially unstable areas. Although Geocells are made of a non-biodegradable synthetic material, they are chemically inert and resistent to leaching, oxidation, and weathering. In testing, the Geocells show durability of over 100 years. Additionally, since plants can be installed directly into the Geocells, completely vegetated hillsides would be anticipated over time where they are installed. Compared to the other options for slope stabilization (i.e., Curlex and riprap), Geocells would allow for greater slope stabilization and a more robust reestablishment of plants over time. It is the opinion of our geotechnical engineers that Geocells would allow for the strongest hillslope reinforcement to protect the pipeline and surrounding area. Geocells are recommended in Att G (Joint 1810 Slope Failure Geotechnical Memorandum) report and Att C (2024 Geotechnical Memo). A cutsheet with Geocell installation specifications is included in Figure 6 of Att C.

Master Table for Construction Conditions

Agency	Permit**	Topic	Condition	Responsible Party	Phase
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-18	Access	Permittee shall comply with the following Forest Park Access Protocols: • Operate vehicles at 10 MPH or less; • At staging areas, provide space for emergency vehicle access at all times. Emergency access roads are Leif Erikson Drive, Saltzman Road and all Fire Lanes; • Clean and ensure all motor vehicles and equipment are weed-free upon entering Forest Park; • When the winds are less than 10 mph, do not use motorized equipment and/or tools if the relative humidity is less than or equal to 30%; • When winds are greater than 20 mph, do not use motorized equipment and/or tools if the relative humidity is less than or equal to 35%; • Provide a 200-gallon (minimum) water tank at the construction location. Water tanks are only to be used for firefighting.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-20	Siteplans/ As-Builts	Permittee shall keep accurate maps and records, including the approved as-built construction plans and specifications of its facilities and improvements located on the Property. Permittee shall provide to PP&R, within sixty (60) days of the project's completion, copies of such maps, records and as-builts, in a form (digital and/or paper) that is to the complete satisfaction of PP&R, unless an agreement to do otherwise is memorialized. As-built specifications will be discussed with the PP&R Project Manager and, if necessary, will be included as an attachment to this Permit.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-21	Fire	The seasonal risk for fire increases when relative humidity is 30% or less (35% with wind). In the event that conditions reach this level on any day, or if published reports anticipate that this level will be reached during the day, Permittee shall not use motorized equipment or tools in Forest Park during that day of work under this Permit. Additionally, Permittee shall locate portable water tanks containing a minimum of 200 total gallons of water within a reasonable distance of the Work Site. This portable water shall be used for firefighting, only. It shall be Permittee's obligation to comply with the specific guidance of the PP&R Project Manager as pertaining to the placement of water for fire-fighting use and exclusion of motorized equipment or tools. In addition, Leif Erickson Road must remain accessible to emergency services vehicles at all times and Permittee shall ensure that Leif Erickson Road is not obstructed or blocked by Permittee's vehicles or equipment.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-22	Signage	Permittee shall place PP&R approved signage at all entry points to the Work Site. Permittee shall be responsible for maintaining all signage throughout the permitted Term. All signage shall be mounted per the direction of the PP&R Project Manager and shall include the Permittee's contact information for the public to direct questions.	Michels	BC/DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-25	Staging	Permittee shall not leave any fuel containers on the Property overnight.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-27	Locates	Permittee shall not begin any excavation or other subsurface activity in the Work Site without first contacting the One-Call Locates number and shall expressly indicate the property is managed by PP&R. One-Call Locates phone number is 1-800-332-2344. Permittee shall also contact Mike Van Yserloo, PP&R Locates, at (503) 823-1611 at least three business days before commencing excavation or other subsurface activities at the Work Site. For all locates calls regarding work within the scope of this permit, disclose the NPUP permit number, which is #2022-16.	Michels	BC/DC

** Conditions for previously issued Permits for Entry assumed relevant unless contradicted by future-issued Permits

Note: BC = Before Construction, DC = During Construction, and PC = Post Construction

Master Table for Construction Conditions

Portland Parks & Recreation	Permit of Entry for Park Property - #2022-30	Trees	a. All guidelines, tree protection plans and specifications described in the Urban Forestry Approved Tree Protection Plan shall be followed. b. Any pruning (either root or crown) shall be documented by the Permittee, in consultation with the Project's arborist, and submitted to Urban Forestry (Brandon.Namm@portlandoregon.gov). c. Any changes to the Tree Protection Plan shall be approved by Urban Forestry prior to work continuance. d. If the Permittee, in consultation with the Project's arborist, determines retained trees undergo intolerable impacts, tree removal shall be approved by both Urban Forestry and Bureau of Development Services prior to tree removal. e. Permittee shall disclose any violations of the Tree Protection Plan to Urban Forestry with 48 hours of the damage occurring.	Michels/ Sav-A-Tree	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-31	Access	Permittee shall keep all equipment within the confined Work Site. All vehicles brought into the Property must be marked as corporate vehicles belonging to the Permittee, or its subcontractors, if any. Personal vehicles belonging to Permittee's employees shall not be parked on the Property.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-32	Staging	Permittee, at their cost, shall maintain the Work Site in a neat condition, free of trash and debris, in good and substantial condition, order and repair. Permittee shall repair, at their cost and with prior written approval of PP&R, any damage to the Property or surrounding City property caused by Permittee's work, entry or occupancy of the Property under this Permit. Restoration shall be made to conditions equal to or better than those pre-existing the Permittee's work.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-33	Inspection	Upon completion of the work authorized under this Permit, Permittee shall contact the PP&R Project Manager to schedule a post-work inspection. If, upon inspection, PP&R determines that the restoration work has any deficiencies and/or is not to PP&R specifications, Permittee agrees to make all necessary corrections within 30 days of receiving written notice from PP&R.	Michels/AECOM	AC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-34	Environment/ Restoration	In the event that work authorized under this permit requires the use of Pesticides (herbicides, insecticides etc.), PP&R requires that all pesticide applications made to the Property are in congruence with our Integrated Pest Management (IPM) policies. Any contractors, other city bureaus, partner organizations, state and county agencies desiring to apply pesticides to PP&R property must submit a completed Application for Pesticide Use on Park Lands form to the IPM Program Coordinator for evaluation.	Michels	DC
Portland Parks & Recreation	Permit of Entry for Park Property - #2022-35	Safety	Permittee must take appropriate safety measures, including without limitation signage, coning, and fencing, to keep people away from equipment and work areas and to warn people of any hazards. Permittee's safety measures are subject PP&R's approval. Permittee shall give PP&R immediate notice of any hazardous condition, disturbance, accident or occurrence related to Permittee's use or occupancy of the Property. Concurrently, Permittee shall take all reasonable action to mitigate or resolve any such damage caused by any such condition, disturbance, accident or occurrence, as soon as is practicable, under the circumstances.	Michels	DC
AECOM[1]	Fire Prevention Plan	Fire	Driving on Springville Road, BPA Road, Holman Lane, Newton Road, and all fire lanes in Forest Park is allowed under Low and Moderate fire danger levels and prohibited under High, Very High, or Extreme fire danger levels. Any vehicle traveling within PP&R natural areas must have one shovel and 1 gallon of water or a 2.5-pound or larger ABC fire extinguisher.	Michels	DC
AECOM[1]	Fire Prevention Plan	Fire	The construction crew lead will check ODF's public fire restrictions map (https://gisapps.odf.oregon.gov/firerestrictions/PFR.html) every morning before commencement of project actions.	Michels	DC

** Conditions for previously issued Permits for Entry assumed relevant unless contradicted by future-issued Permits

Note: BC = Before Construction, DC = During Construction, and PC = Post Construction

Master Table for Construction Conditions

AECOM[1]	Fire Prevention Plan	Fire	A designated fire watch service person will be provided (ORS 477.665 and OAR 629-043-0030) at each individual work site (i.e., more than one watch person is required if simultaneous project work is occurring in different areas). The fire watch service person will be constantly on duty at such times and at such places as the spread of fire on or from the operation area to forestland reasonably may be expected. This person must have adequate facilities for transportation and communication and have full line-of-sight to the area for which they are performing watch services. A person performing fire watch service must: a. Have a cell phone and radio and have confirmed radio service back to a continuously monitored location where an attendant can call 9-1-1 on their behalf as a backup for poor cell coverage; b. Constantly observe the operation area during any breaks (up to 3 hours) in operation activity and for up to 3 hours after the power-driven machinery (PDM) used by the operator has been shut down for the day4; c. Visually observe all portions of the operation area on which operation activity occurred during the preceding period of activity; and d. Be qualified in the use and operation of assigned firefighting equipment and tools; be physically capable of performing assigned fire suppression activities; and be advised of single employee assignment responsibilities (OAR 437-007-1315), when working alone.	Michels/KM	DC
AECOM[1]	Fire Prevention Plan	Fire	All tree biomass (pruned limbs, felled trees) removed for the purpose of this project will be hauled off-site the day it is cut.	Michels/ Sav-A-Tree	DC
AECOM[1]	Fire Prevention Plan	Fire	Firefighting Hand Tools (ORS 477.655 and OAR 629-43-0025, modified to suggest additional tool for inclusion): At least one box of firefighting hand tools consisting of Pulaskis, axes, shovels, and hazel hoes will be supplied on-site per operation area. The number of hand tools should equal the number of personnel at a site. All hand tools should be stored in a fire sturdy box clearly identified as containing firefighting tools. Crews of four or less are not required to have a fire tools box as long as each person has a shovel suitable for firefighting and available for immediate use while working on the operation. Though not specifically listed in the above regulations, a McLeod tool is also recommended for inclusion in boxes of firefighting hand tools.	Michels/KM	DC
AECOM[1]	Fire Prevention Plan	Fire	Fire Tools, Extinguishers for Trucks (ORS 477.655, OAR 629-043-0025, and PP&R requirements, modified to include a greater amount of water to be carried): Each truck driven in forest areas for industrial purposes must be equipped with one round pointed shovel at least 8 inches wide with a handle at least 26 inches long, one axe or Pulaski with a 26-inch handle or longer, 5 gallons of water, and one fire extinguisher rated not less than 2A:10BC (5 pounds).	Michels/KM	DC
AECOM[1]	Fire Prevention Plan	Fire	Pump, Hose, and Water Supply (ORS 477.650, 477.625 and OAR 629-043-0026, 629-43-0020): A pump, hose, and water supply for equipment will be supplied at each project location. The following conditions will be met: 1. Pump will be maintained, ready to operate, and capable to provide a discharge of not less than 20 gallons per minute at 115 pounds per square inch at pump level. Note: Volume pumps will not produce the necessary pressure to effectively attack a fire. Pressure pumps are recommended. 2. Water supply will be a minimum of 300 gallons if a self-propelled engine. Water supply will be a minimum of 500 gallons if not self-propelled (pond, stream, tank, etc.). 3. One water supply is adequate as long as the operator can deliver water to the fire within 10 minutes under Low fire danger levels, within 5 minutes under Moderate fire danger levels, and under 1 minute under High fire danger levels. 4. Adequate hose (500 feet minimum and not less than 3/4-inch inside diameter) will be available to reach areas where PDM has been in operation. 5. Water supply, pump, and at least 250 feet of hose with nozzle will be maintained as a connected, operating unit ready for immediate use.	Michels/KM	DC

** Conditions for previously issued Permits for Entry assumed relevant unless contradicted by future-issued Permits

Master Table for Construction Conditions

AECOM[1]	Fire Prevention Plan	Fire	The following conditions would necessitate a complete stop to all use of all motorized equipment and/or tools: 1. Relative humidity levels of less than or equal to 30 percent, or relative humidity levels of less than or equal to 35 percent and winds greater than 5 miles per hour. Work would not resume until wind and/or humidity conditions improve. Stop work actions due to low relative humidity levels will be reported to the PP&R project manager Kendra Pedersen-Morgan at 503-823-4492 (office) or 503-823-6225 (cell). 2. Active fire in the area. Permission to resume work can only be issued by ODF. 3. Violation of any project requirements, as determined by ODF. Permission to resume work can only be issued in writing by ODF. Additionally, Fire Bureau and City inspectors will have the authority to inspect all work activities and equipment and stop work if any of the elements of this Plan are not being met.	Michels/KM	DC
Sav-A-Tree	Tree Protection Plan	Trees	Tree Protection Fencing shall abide by the following stipulations: • The fencing shall be 4-foot orange fencing secured with 6-foot metal posts placed 8-feet apart. The fencing shall be installed prior to any ground disturbance taking place including vegetation clearing (and tree removal) and excavation. • BMPs (e.g., silt fences) are proposed around portions of the temporary disturbance area perimeter. These BMPs must be installed within (e.g., not outside of) the fencing to ensure all disturbance, including BMP installation, occurs within the proposed temporary disturbance area boundaries. • The fencing may only be removed after the final City inspection and approval of Phase 1 of restoration (seeding/fern replanting) is completed at all pipeline repair sites. • No disturbance outside the fencing permitted. If temporary disturbance outside of the fencing is required, the contractor must contact the Arborist. The Arborist must be on site to monitor disturbance and ensure no additional tree impacts would occur.	Michels/ Sav-A-Tree	DC
Sav-A-Tree	Tree Protection Plan	Trees	An Arborist will be on site during excavation to determine if any potential removal trees need to be removed based on the extent of root damage observed from excavation activities. The Arborist would be required to send photos and a summary of the impacts that forced the tree to be removed (e.g., number and size of roots pruned, proximity to the tree, tree's condition) to Urban Forestry and PP&R. This information can be submitted following the removal of the 'potential removal' but would be done as soon as possible.	Michels/ Sav-A-Tree	DC
Sav-A-Tree	Tree Protection Plan	Trees	Excavation near the Root Protection Zone (RPZ): • All excavation within 1 foot per diameter inch shall be monitored by a Certified Arborist. • The excavator and/or equipment will be permitted within the protection zone but will be monitored by a Certified Arborist to assess the least impacted path. • During excavation, the equipment shall carefully remove layers of soil while Certified Arborist monitors for roots 2" and larger. • Any root pruning between 2" and 4" shall be done using proper root pruning techniques. Proper technique includes diagonal flush cuts to promote growth. • Roots over 4" shall be preserved and recorded to apply for root pruning approval by Urban Forestry. • If a potential removal tree requires more than 20% of roots to be cut, the entire tree will be removed and counted as a definite removal.	Michels/ Sav-A-Tree	DC

** Conditions for previously issued Permits for Entry assumed relevant unless contradicted by future-issued Permits

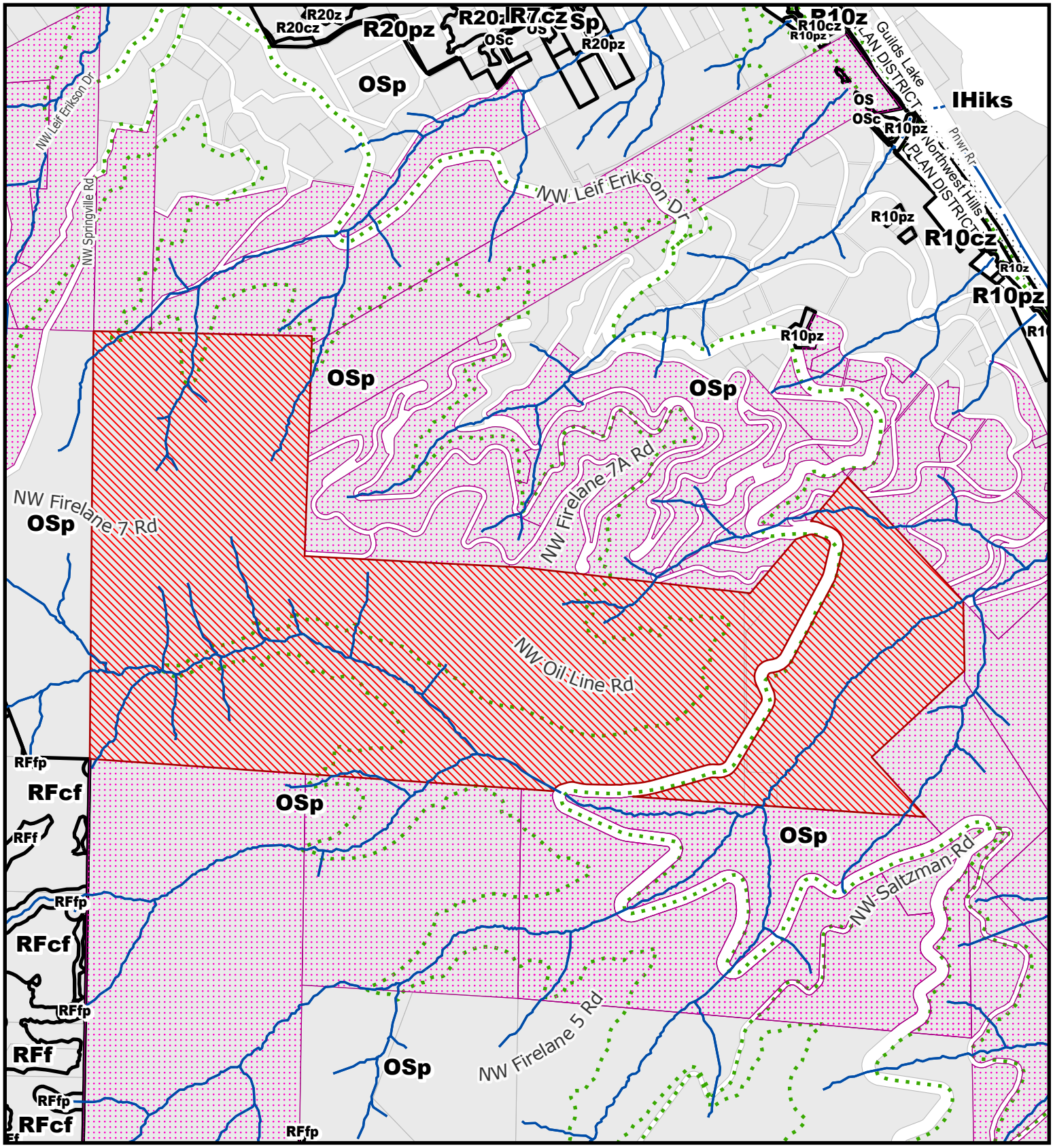
Note: BC = Before Construction, DC = During Construction, and PC = Post Construction

Master Table for Construction Conditions

Sav-A-Tree	Tree Protection Plan	Trees	Recommendations: • Any excavation within the Root Protection Zone must have a Certified Arborist present. • Tree pruning be conducted by ISA certified arborist; pruning limited to 3-inch cuts and 15% of canopy wood; directional felling; exposed roots covered by woodchip mulch. • Monitor trees affected by the excavation for future decline by visiting site one month post construction and every 6 months for 3 years. • Holding a pre-con site meeting with all contractors involved and Urban Forestry to go over the details of the Tree Protection Plan.	Michels/ Sav-A-Tree	DC

** Conditions for previously issued Permits for Entry assumed relevant unless contradicted by future-issued Permits

Note: BC = Before Construction, DC = During Construction, and PC = Post Construction



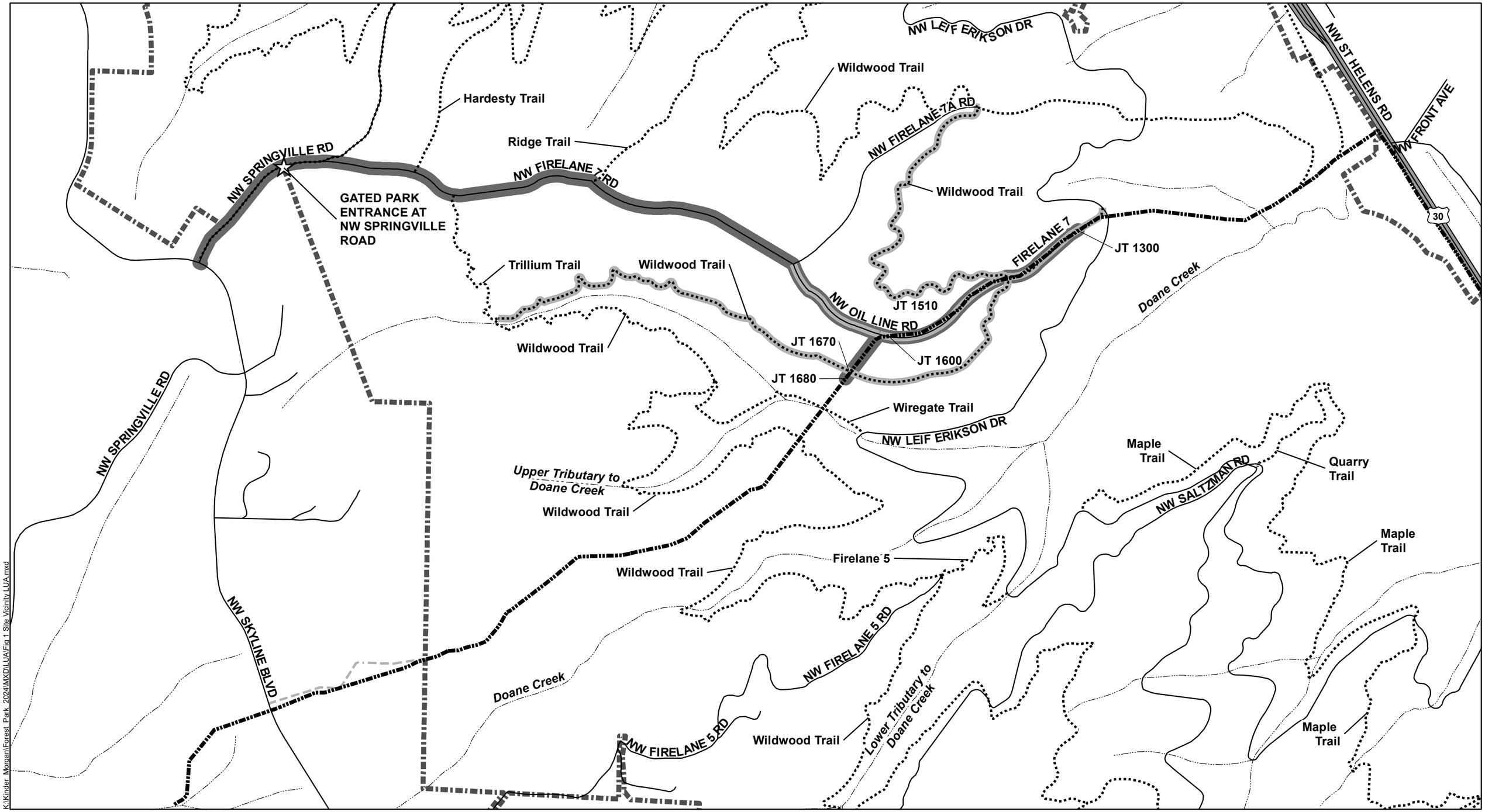
For Zoning Code in Effect Post October 1, 2022

ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Stream
- Recreational Trails

File No.	LU 24 - 017402 EN
1/4 Section	Multiple
Scale	1 inch =800 feet
State ID	1N1W14A 1200
Exhibit	B Feb 26, 2024



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 1 Site Vicinity LUA.mxd

LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 600 1,200 Feet

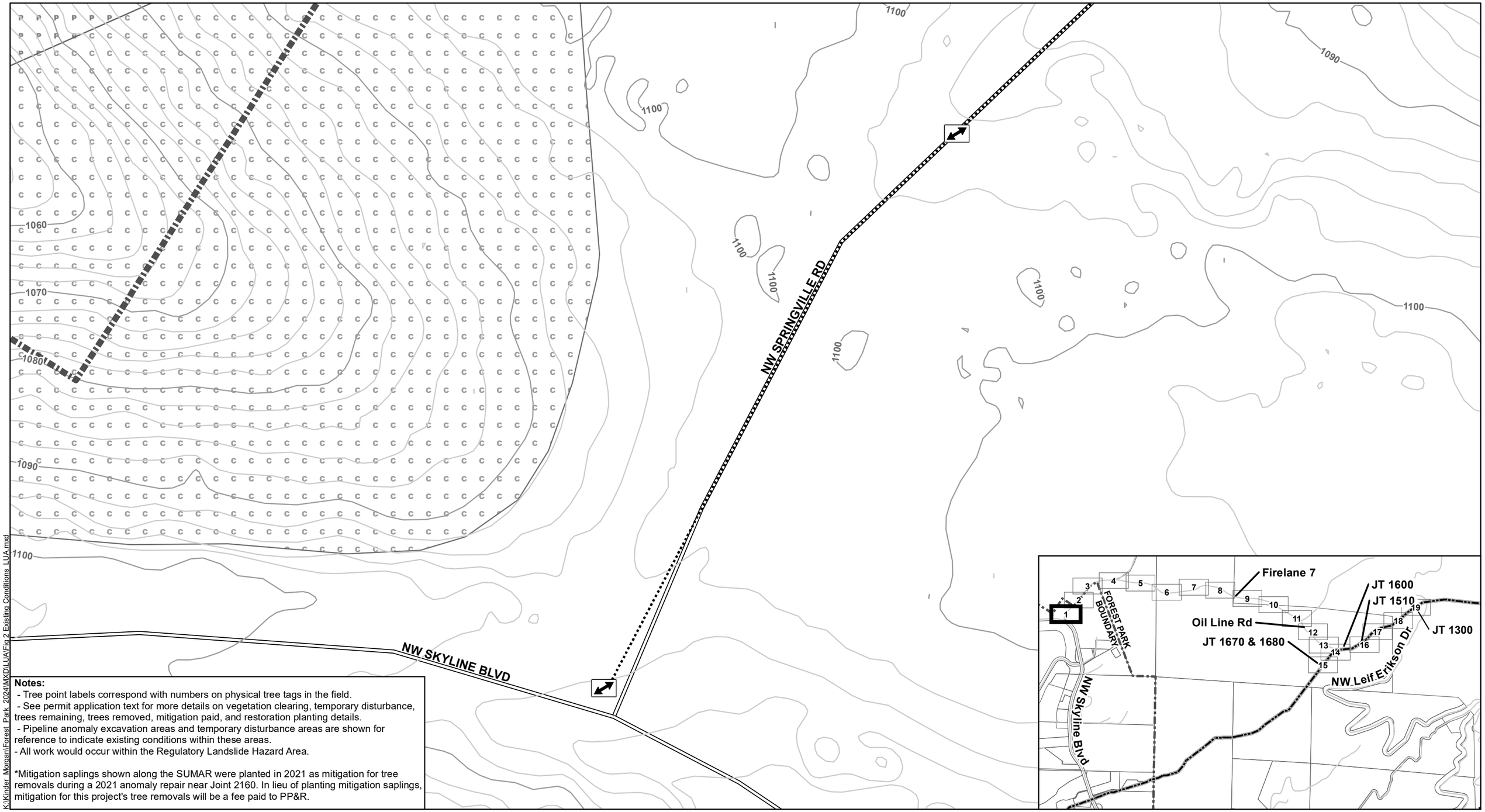
FIGURE 1: SITE VICINITY, CONSTRUCTION ACCESS, AND TRAIL CLOSURE

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN



Notes:
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- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 2 Existing Conditions_LUA.mxd

LEGEND

- Repair Vehicle and Equipment Ingress/Egress
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Forest Park Boundary

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

N

0 15 30

Feet

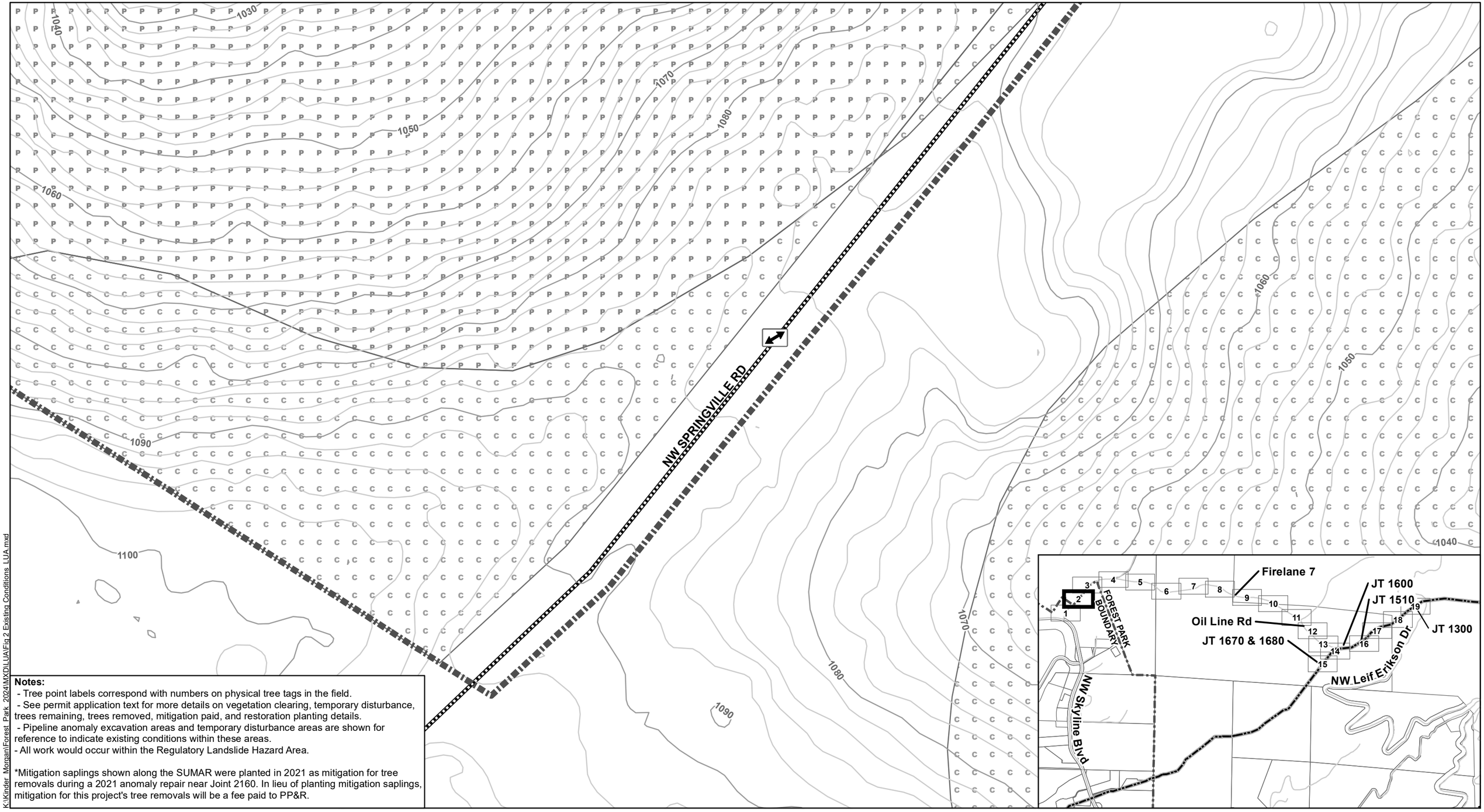
FIGURE 2: EXISTING CONDITIONS - SHEET 1 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.2



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K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 2 Existing Conditions_LUA.mxd

LEGEND

- Repair Vehicle and Equipment Ingress/Egress
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Forest Park Boundary

Portland Environmental Preservation E-Zones

- C Conservation (OSc)
- P Preservation (OSp)

N

0 15 30
Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 2 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.3

NW SPRINGVILLE RD

NW Skyline Blvd

NW Leif Erikson Dr

Oil Line Rd

JT 1670 & 1680

JT 1600

JT 1510

JT 1300

Firelane 7

FOREST PARK BOUNDARY

Notes:
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LEGEND

- Repair Vehicle and Equipment Ingress/Egress
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Forest Park Boundary

Deep Landslide Susceptibility
- High

Portland Environmental Preservation E-Zones
- C: Conservation (OSc)
- P: Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 3 OF 19

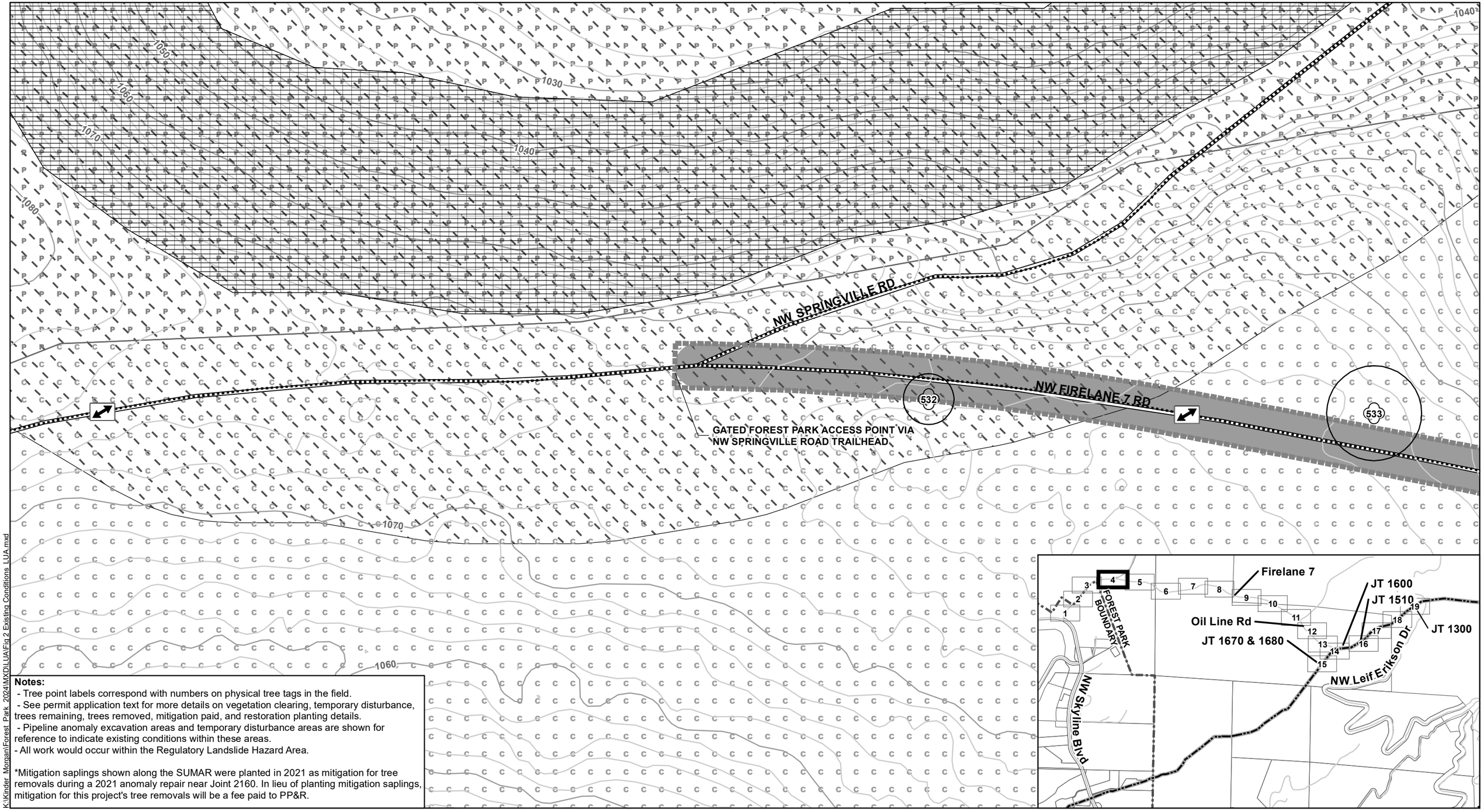
PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.4

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd



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K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 2 Existing Conditions_LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Forest Park Boundary
- Deposits - Fan
- Head Scarp

Deep Landslide Susceptibility
- High
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones
- C Conservation (OSc)
- P Preservation (OSp)

N

0 15 30
Feet

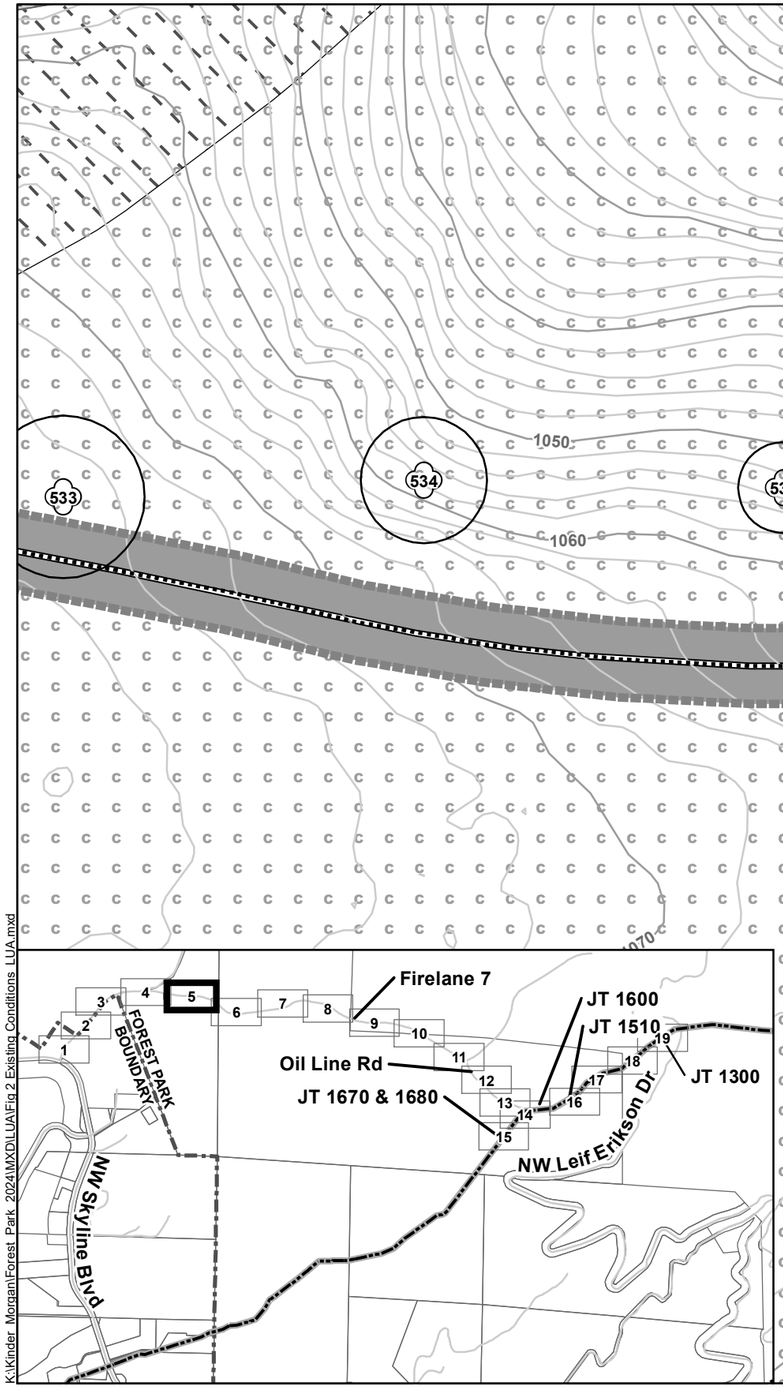
FIGURE 2: EXISTING CONDITIONS - SHEET 4 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.5



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

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LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area

Deep Landslide Susceptibility

- High
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

N

0 15 30

Feet

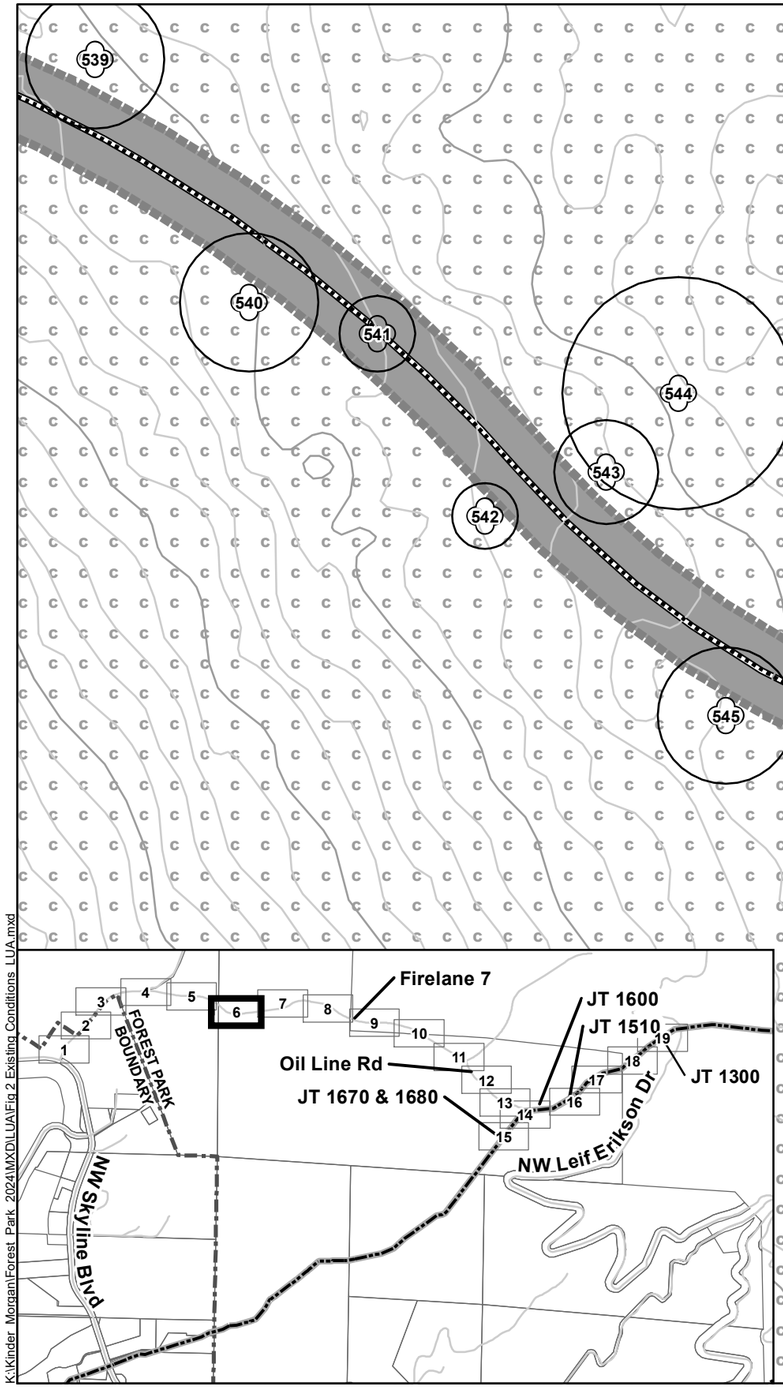
FIGURE 2: EXISTING CONDITIONS - SHEET 5 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.6



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

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LEGEND

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- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

N

0 15 30

Feet

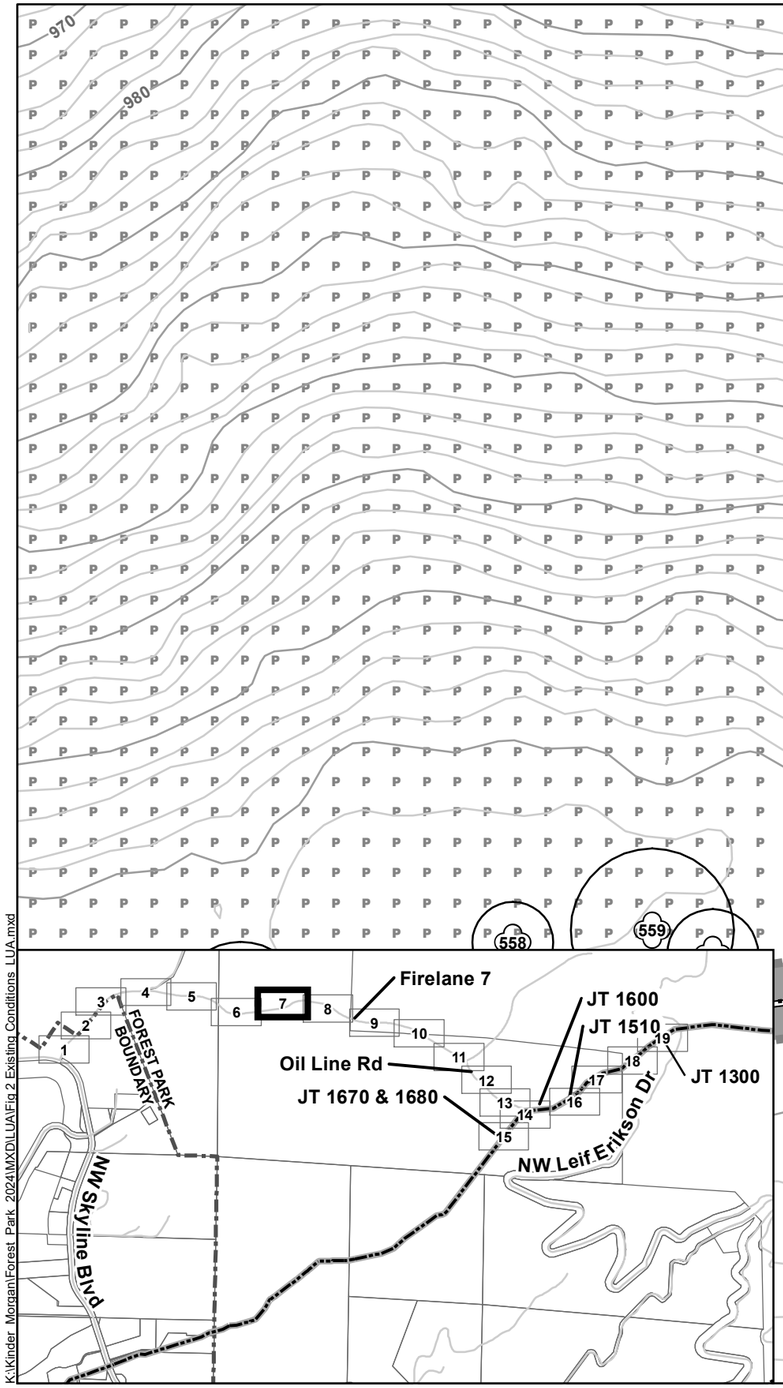
FIGURE 2: EXISTING CONDITIONS - SHEET 6 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.7



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LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 7 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.8

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

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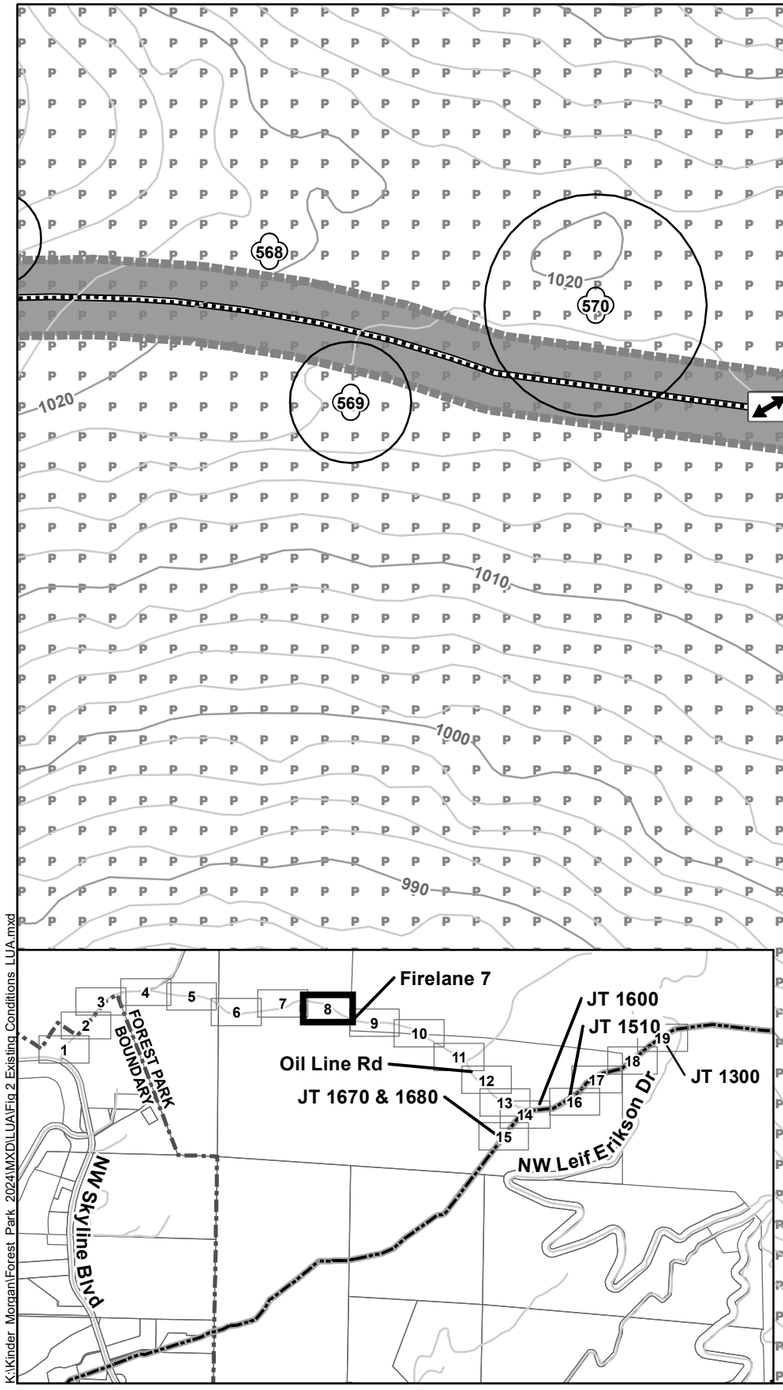

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LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 8 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.9

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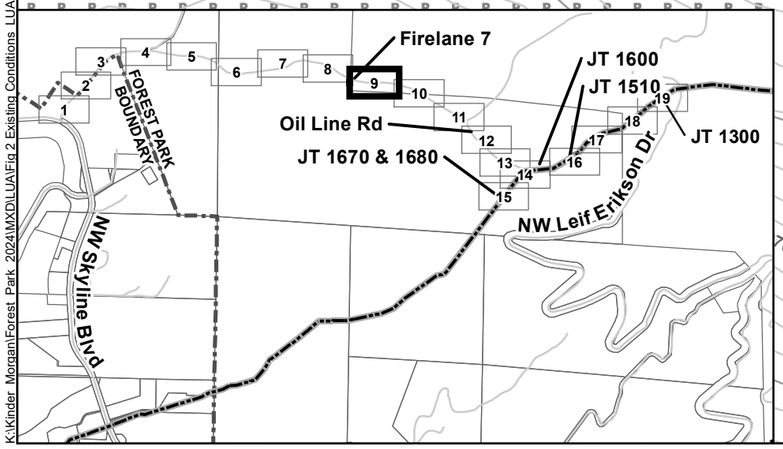
NW FIRELANE 7 RD



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 9 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.10

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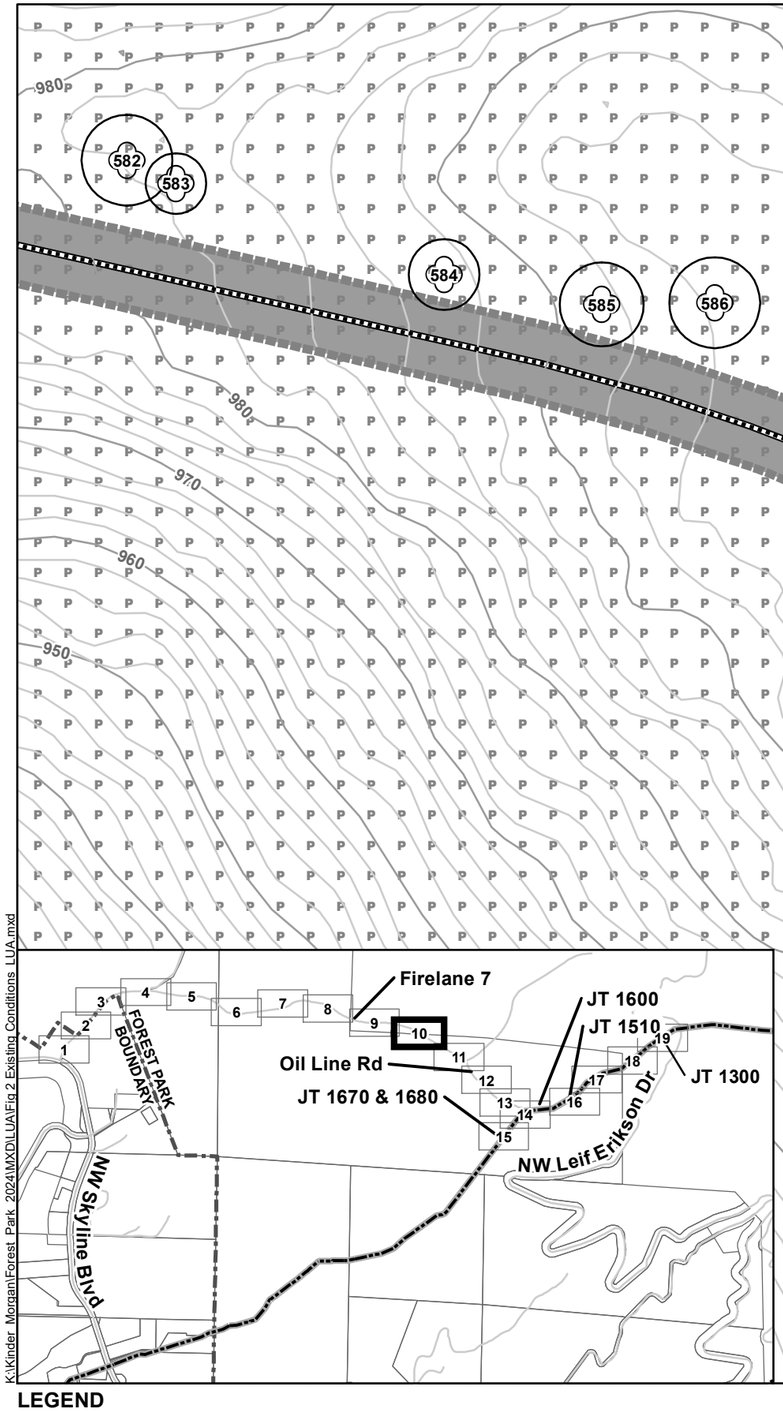

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LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 10 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.11

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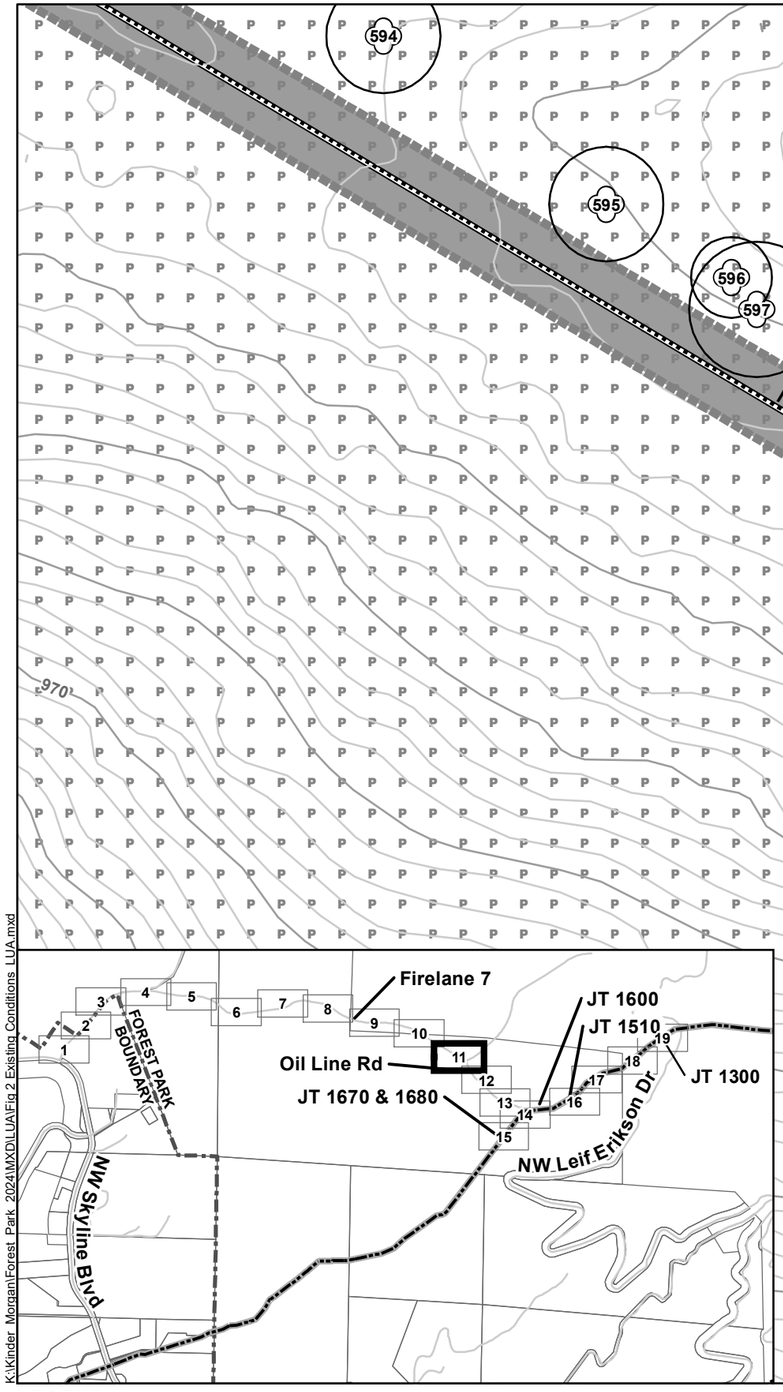

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 11 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.12

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

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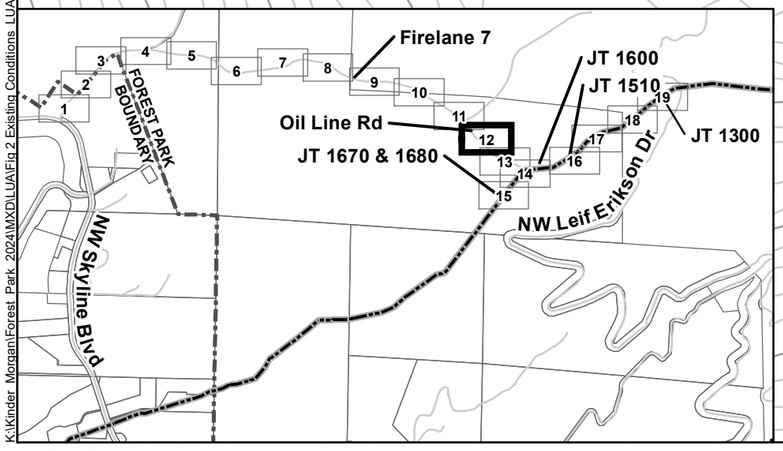
- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

603 604 605 606 607 608 609 610 611 612 613 614 615

OIL LINE RD

910 920 930 940 950 960 970 980 990



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 12 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.13

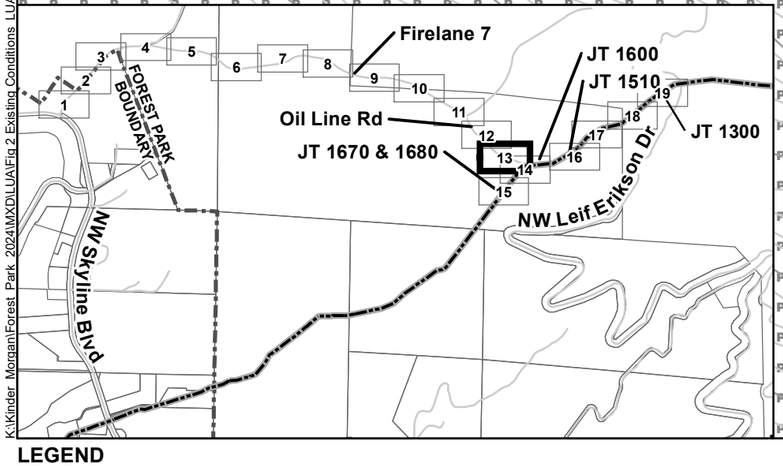
Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
- See permit application text for more details on vegetation clearing, temporary disturbance, trees remaining, trees removed, mitigation paid, and restoration planting details.
- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

29-UCC



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Anomalies Proposed for 2024 Repair
- Critical Root Zone
- Existing Pipeline
- 2' Contours
- 10' Contours
- Street
- Proposed Excavaton Areas 2024
- Proposed Temporary Disturbance Area
- SFPP ROW
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 13 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.14

Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
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- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

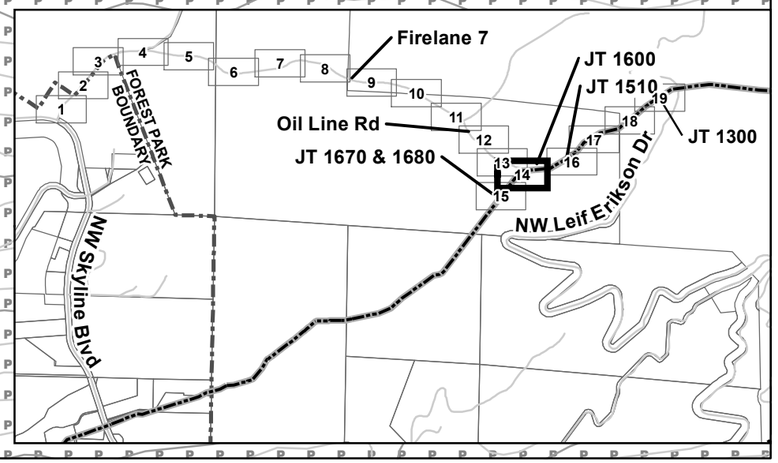
*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

OIL LINE RD

29-UCC

JT 1600

Existing 8-inch diameter buried liquid fuel pipeline



LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Anomalies Proposed for 2024 Repair
- Critical Root Zone
- Existing Pipeline
- 2' Contours
- 10' Contours
- Street
- Proposed Excavaton Areas 2024
- Proposed Temporary Disturbance Area
- SFPP ROW
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 14 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.15

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
- See permit application text for more details on vegetation clearing, temporary disturbance, trees remaining, trees removed, mitigation paid, and restoration planting details.
- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

Existing 8-inch diameter buried liquid fuel pipeline

Wildwood Trail

JT 1680

JT 1670

OR-005

OR-006

OR-004

Firelane 7

JT 1600

JT 1510

JT 1300

Oil Line Rd

JT 1670 & 1680

FOREST PARK BOUNDARY

NW Skyline Blvd

NW Leif Erikson Dr

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Anomalies Proposed for 2024 Repair
- Critical Root Zone
- Existing Pipeline
- Existing Trail
- 2' Contours
- 10' Contours
- Proposed Excavaton Areas 2024
- Proposed Temporary Disturbance Area
- SFPP ROW

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 15 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.16

Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
- See permit application text for more details on vegetation clearing, temporary disturbance, trees remaining, trees removed, mitigation paid, and restoration planting details.
- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

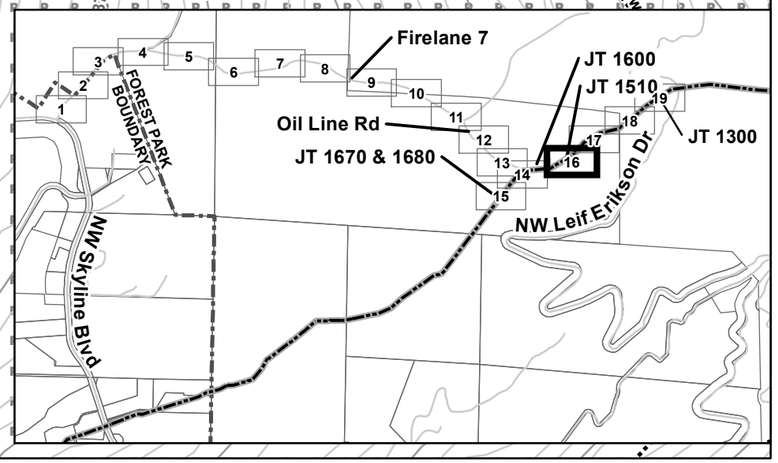
*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

OR-003

JT 1510

Existing 8-inch diameter buried liquid fuel pipeline

OIL LINE RD



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LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Anomalies Proposed for 2024 Repair
- Critical Root Zone
- Existing Pipeline
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Excavaton Areas 2024
- Proposed Temporary Disturbance Area
- SFPP ROW
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 16 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.17

Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
- See permit application text for more details on vegetation clearing, temporary disturbance, trees remaining, trees removed, mitigation paid, and restoration planting details.
- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

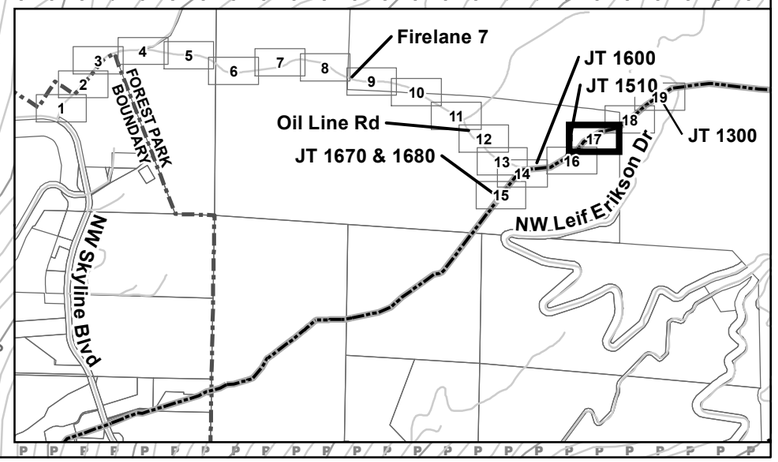
*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

Wildwood Trail

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

Wildwood Trail



LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Pipeline
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- SFPP ROW
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 17 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.18

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
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- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

Existing 8-inch diameter buried liquid fuel pipeline

Wildwood Trail

OIL LINE RD

Wildwood Trail

NW Skyline Blvd

NW Leif Erikson Dr

Firelane 7

Oil Line Rd

JT 1670 & 1680

JT 1600

JT 1510

JT 1300

FOREST PARK BOUNDARY

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Critical Root Zone
- Existing Pipeline
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Temporary Disturbance Area
- SFPP ROW
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P — Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 18 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.19

Notes:
- Tree point labels correspond with numbers on physical tree tags in the field.
- See permit application text for more details on vegetation clearing, temporary disturbance, trees remaining, trees removed, mitigation paid, and restoration planting details.
- Pipeline anomaly excavation areas and temporary disturbance areas are shown for reference to indicate existing conditions within these areas.
- All work would occur within the Regulatory Landslide Hazard Area.

*Mitigation saplings shown along the SUMAR were planted in 2021 as mitigation for tree removals during a 2021 anomaly repair near Joint 2160. In lieu of planting mitigation saplings, mitigation for this project's tree removals will be a fee paid to PP&R.

Existing 8-inch diameter buried liquid fuel pipeline

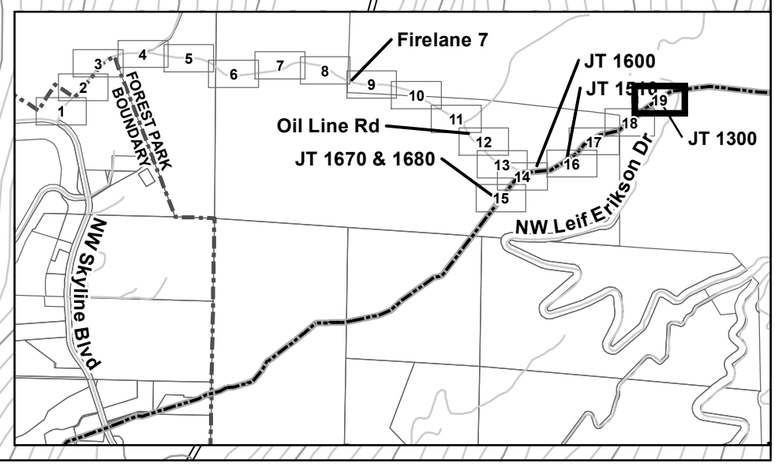
NW LEIF ERIKSON DR

JT 1300

SCC-26

SCC-27

630 620 610 740 730 720 710 700 690 680 670 660 650 640 750



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 2 Existing Conditions LUA.mxd

LEGEND

- Existing Tree
- Repair Vehicle and Equipment Ingress/Egress
- Anomalies Proposed for 2024 Repair
- Critical Root Zone
- Existing Pipeline
- Existing Trail
- 2' Contours
- 10' Contours
- Street
- Proposed Excavaton Areas 2024
- Proposed Temporary Disturbance Area
- SFPP ROW
- Deposits - Fan
- Head Scarp
- Firelane 7 / Oil Line Road

Portland Environmental Preservation E-Zones

- P Preservation (OSp)

N

0 15 30

Feet

FIGURE 2: EXISTING CONDITIONS - SHEET 19 OF 19

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.20

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

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The critical root zone shown for each tree is equal to 0.5 foot in radius for every 1 inch of tree's DBH. Trees with critical root zones that overlap with proposed excavation areas would be potential or definite removals.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

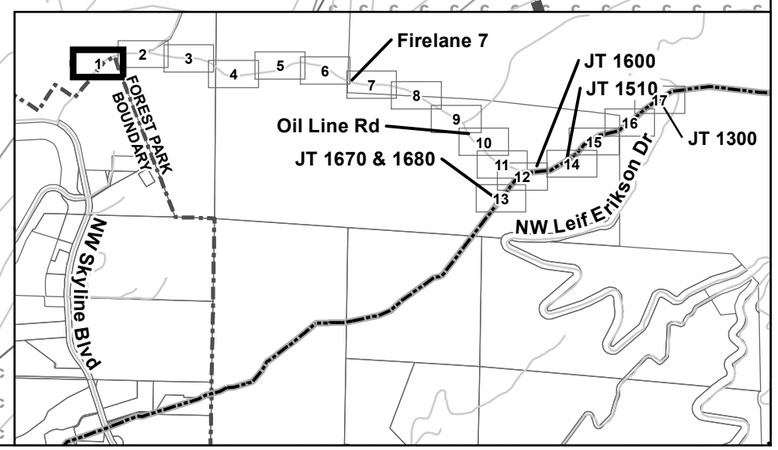
Taxlot
R324242

NW SPRINGVILLE RD

Taxlot
R324247

Taxlot
R324275

1020
1040
1050
1060
1070
1080



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 3 Construction Management Plan LUA.mxd

LEGEND

- Gated Forest Park Entrance
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Trail
- Street
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 1 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.21

Notes:
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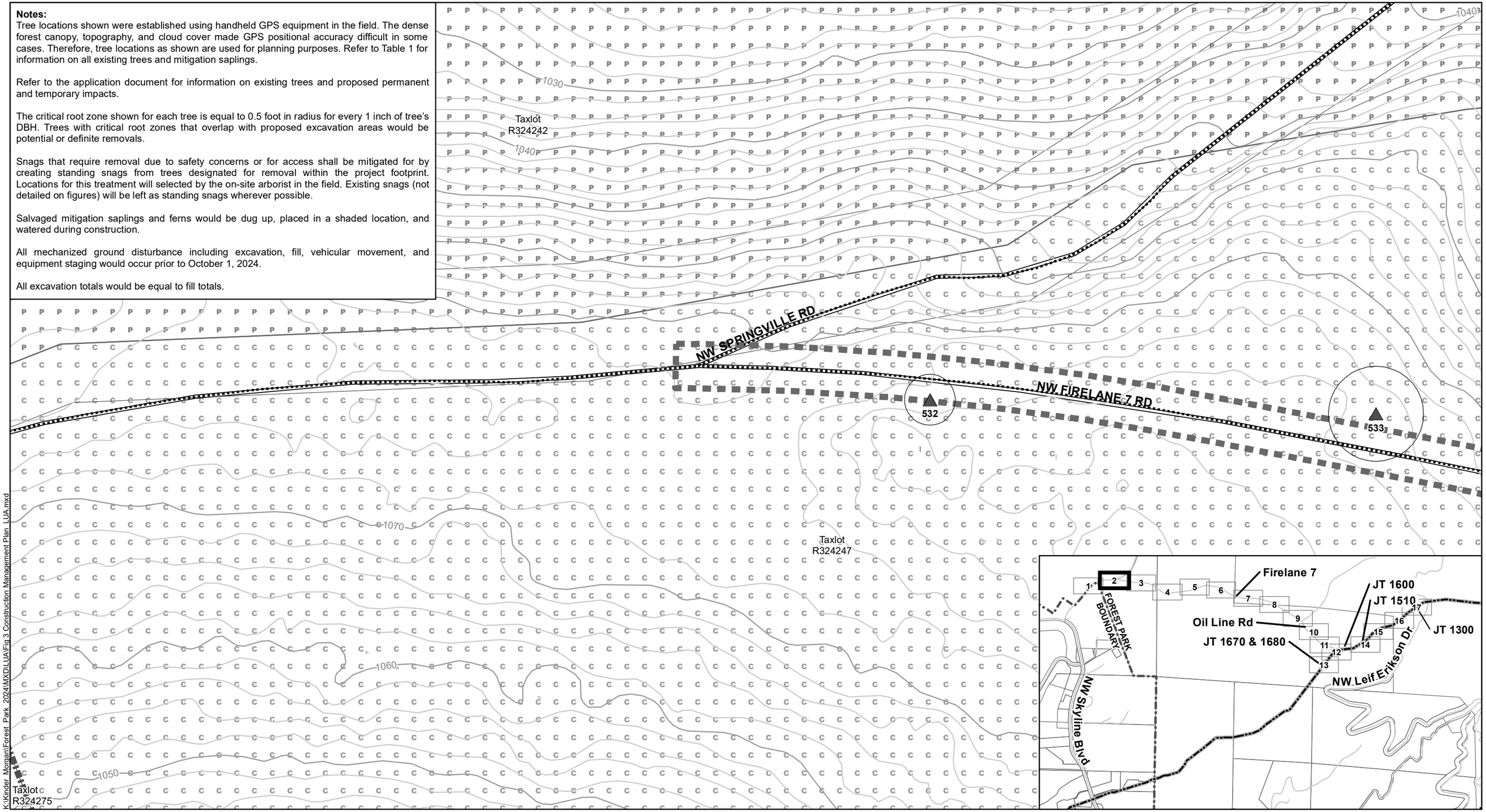
All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 3 Construction Management Plan LUA.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Portland Environmental Preservation E-Zones

- C Conservation (OSc)
- P Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

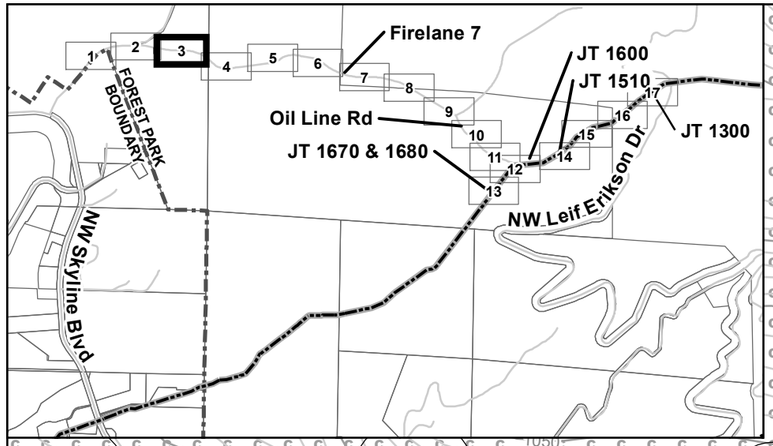
FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 2 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.22



Notes:
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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 3 Construction Management Plan_LUA.mxd



LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 3 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.23

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 3 Construction Management Plan LUA.mxd

Notes:

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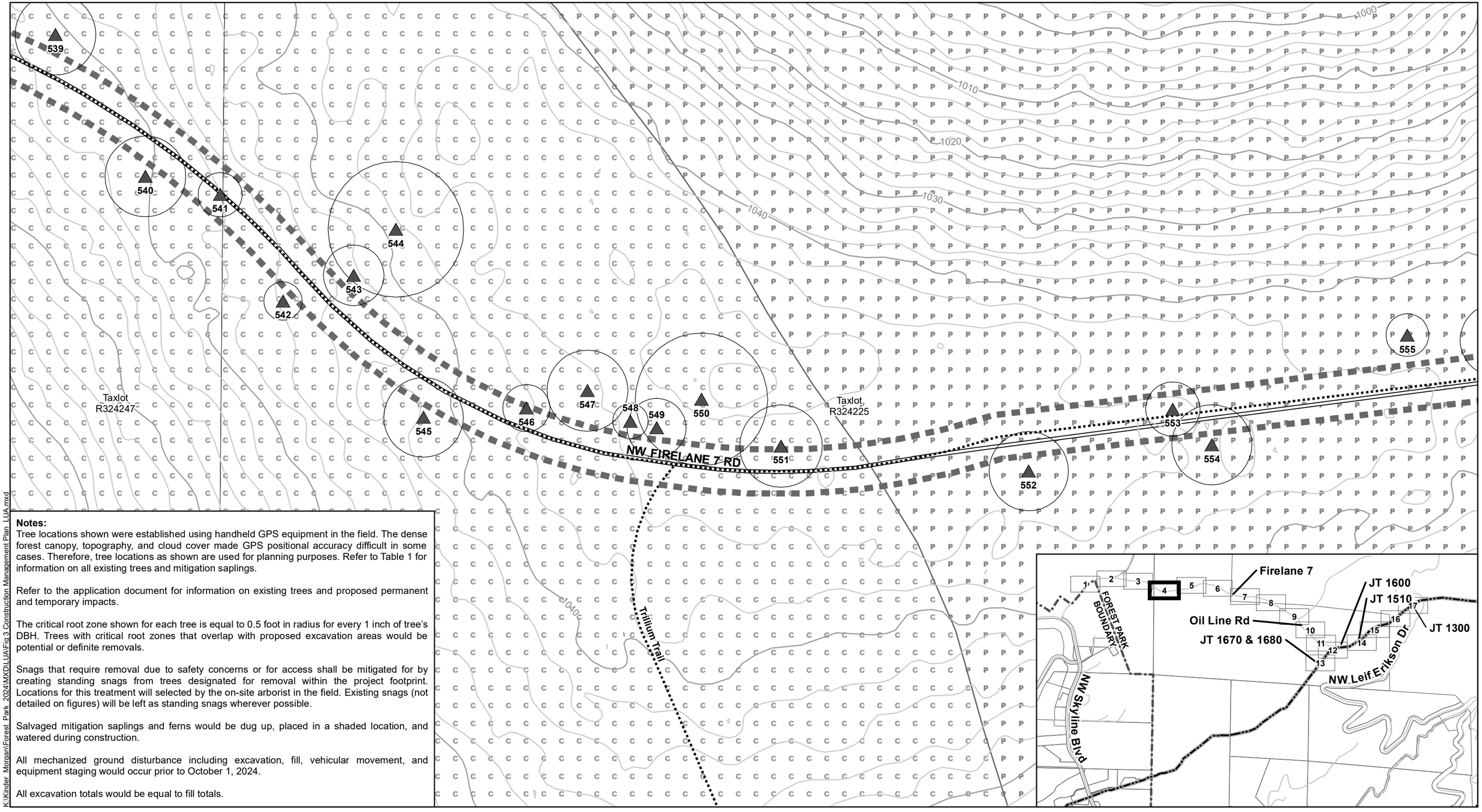
Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.



LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 4 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.24

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Refer to the application document for information on existing trees and proposed permanent and temporary impacts.

The critical root zone shown for each tree is equal to 0.5 foot in radius for every 1 inch of tree's DBH. Trees with critical root zones that overlap with proposed excavation areas would be potential or definite removals.

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Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

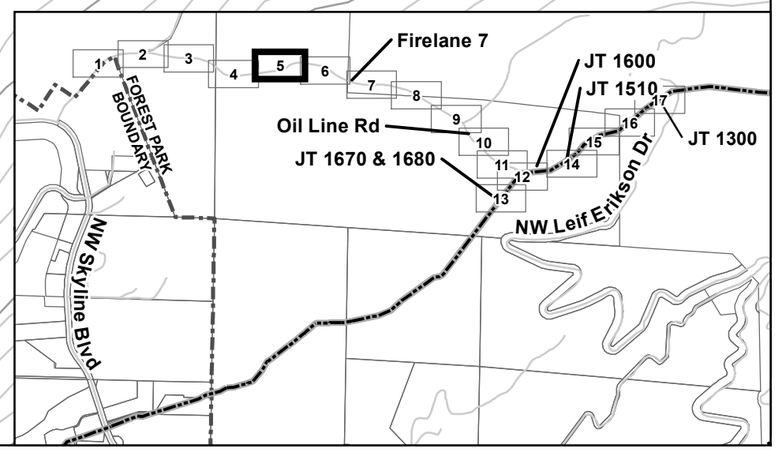
All excavation totals would be equal to fill totals.

980
990
1000
1010
1020
1030
1040

555
556
557
558
559
560
561
562
563
564
565
566
567
568

Taxlot
R324225

NW FIRELANE 7 RD



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 3 Construction Management Plan_LUA.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 5 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.25

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

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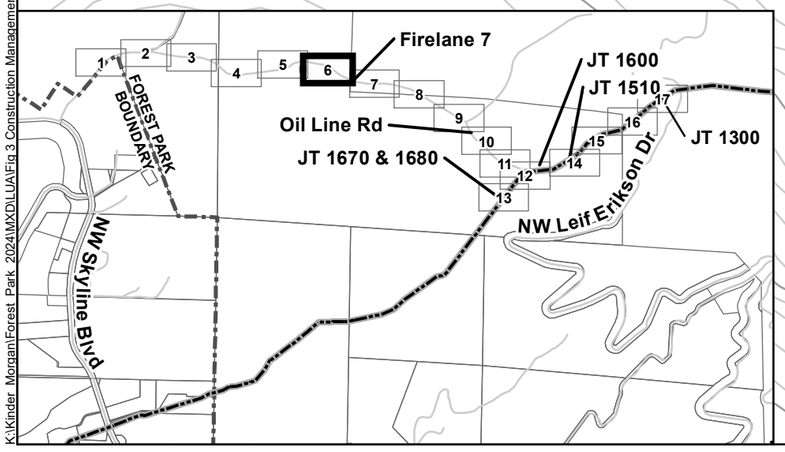
Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

1000
1020
1010
990
568
569
570
571
572
573
574
575
576
Ridge Trail
NW FIRELANE 7 RD
Taxlot
R324225
Taxlot
R255581



LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 6 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.26

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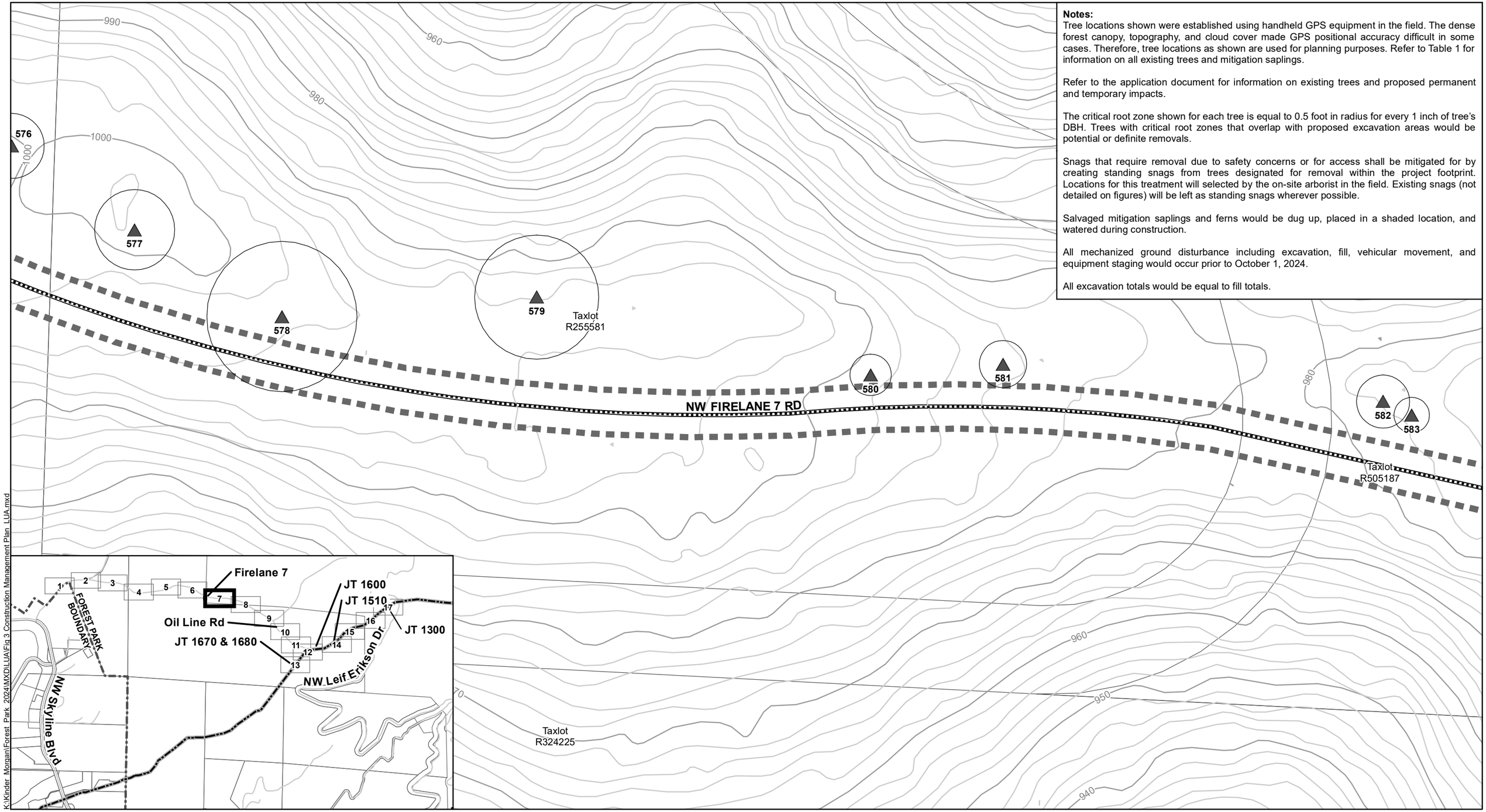

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All excavation totals would be equal to fill totals.

K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 3 Construction Management Plan_LUA.mxd

LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 7 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.27

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All excavation totals would be equal to fill totals.

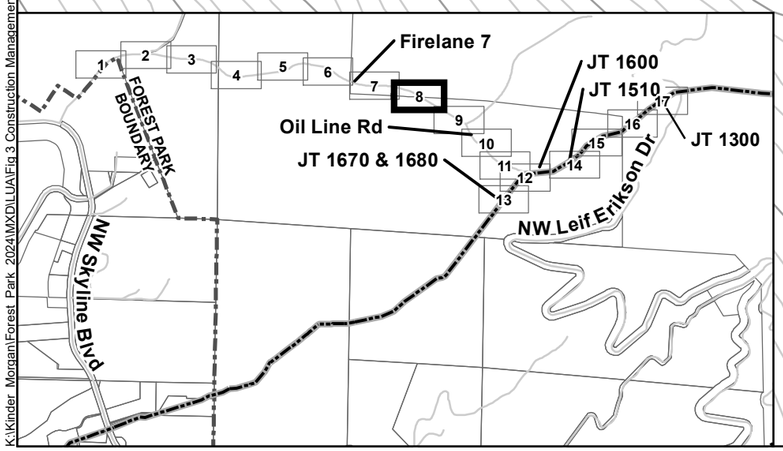
582
583
584
585
586
587
588
589
590
591
592
593
594

NW FIRELANE 7 RD

Taxlot
R505187

Taxlot
R324225

980
970
960
950
990
1000



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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 8 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.28

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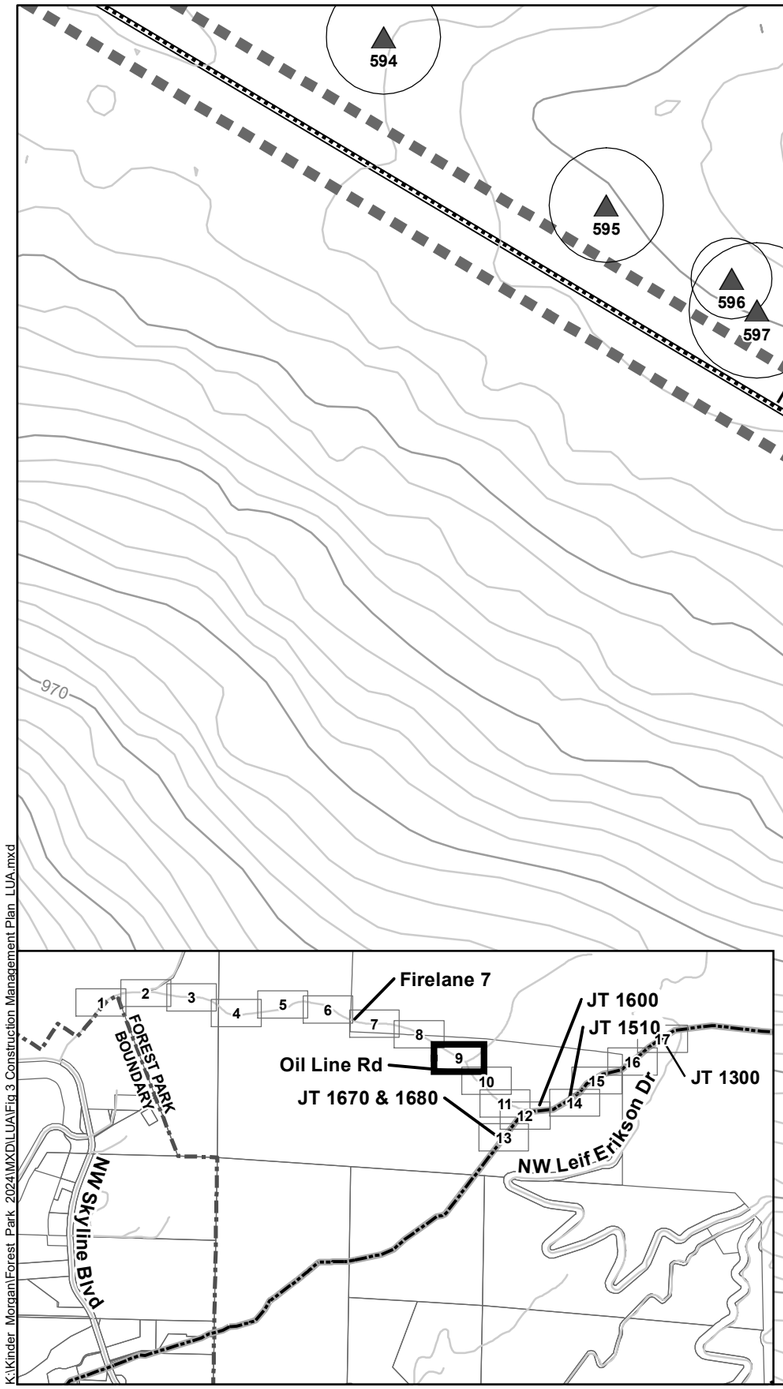
All excavation totals would be equal to fill totals.



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LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Temporary Disturbance Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 9 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.29

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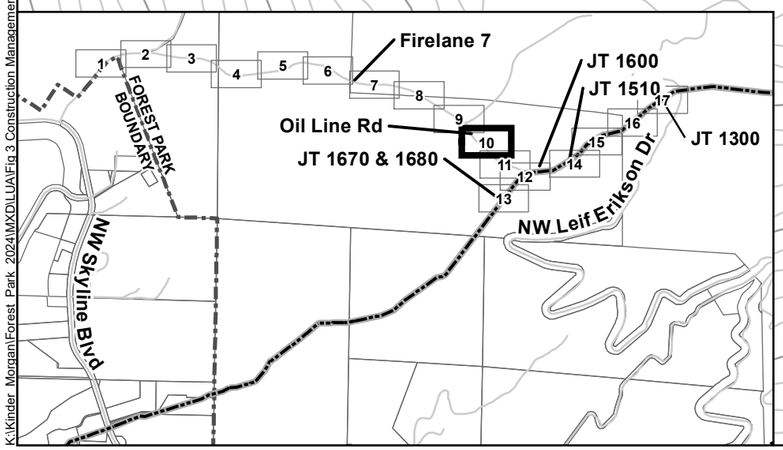
All excavation totals would be equal to fill totals.

603 604 605 606 607 608 609 610 611 612 613 614 615

OIL LINE RD

Taxlot
R324225

930 940 950 960 970 980 990 910 920 930



LEGEND

- Existing Tree
- Critical Root Zone
- 2' Contours
- 10' Contours
- Street
- Temporary Disturbance Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 10 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.30

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All excavation totals would be equal to fill totals.

615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 641 642 643 644 645 646 647 648 649 650 651 652 653 655 656 657 800 801 802 847

OIL LINE RD

Taxlot
R324225

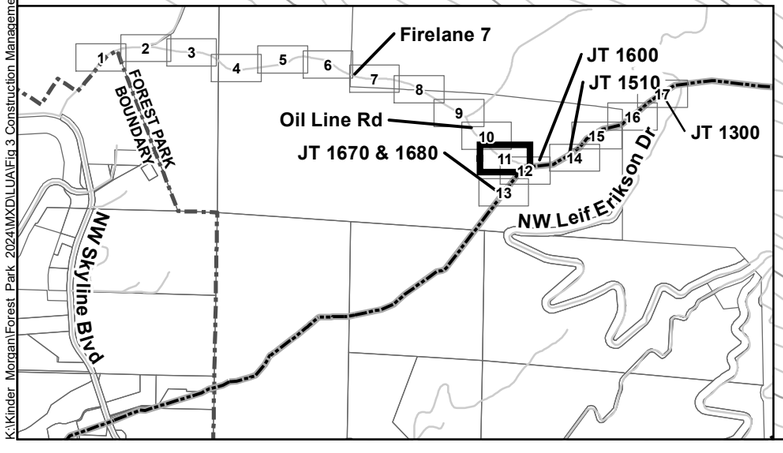
POTENTIAL TREE REMOVAL

Existing 8-inch diameter buried liquid fuel pipeline

29-UCC

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

920 960 950 940 930 910 900 890



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LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Definite Tree Removal
- Critical Root Zone
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Street
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 11 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.31

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All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

POTENTIAL TREE REMOVAL

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

JT 1600

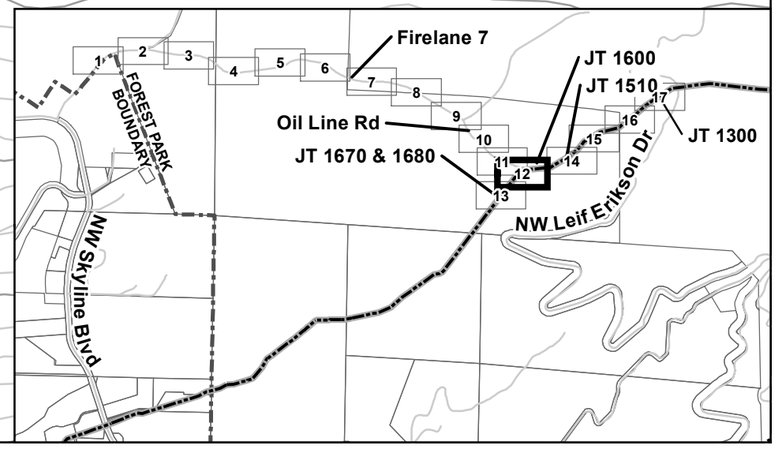
29-UCC

Taxlot R324225

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

Joint 1600 Disturbance Details
Temporary Disturbance Area (ft^2): 1,456
Potential Tree Removals and Total DBH: 1; 30"

Note:
Tree 629 requires air-spade investigation with alternative to leave as snag if removal proves necessary.



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Street
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 12 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.32

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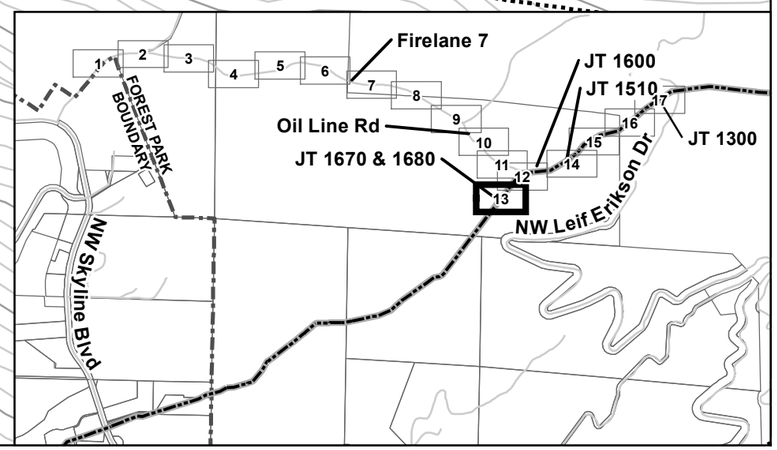
All excavation totals would be equal to fill totals.

Joint 1670/1680 Disturbance Details
Temporary Disturbance Area (ft^2): 10,582
Definite Tree Removals and Total DBH: 15; 228"
Note: 3 additional trees with a total of 25" DBH are classified as definite removal in the ROW leading to Joint 1670.

Wildwood Trail
JT 1670
JT 1680
OR-004
OR-005
OR-006
KM-091
Taxlot
R324225
Existing 8-inch diameter buried liquid fuel pipeline
STEEP SLOPE SITE: INSTALL SILT FENCE DOWNSLOPE OF ACTIVE GROUND DISTURBANCE AS SHOWN



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 13 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.33

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All excavation totals would be equal to fill totals.

JT 1510

OR-003

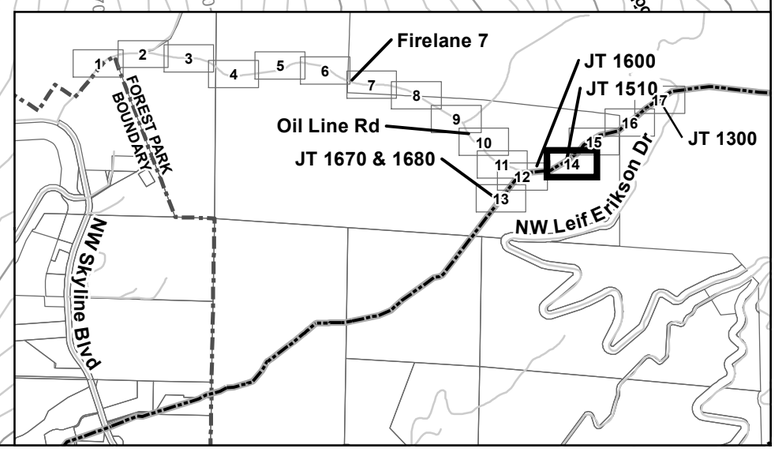
Existing 8-inch diameter buried liquid fuel pipeline

OIL LINE RD

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

Taxlot R324225

Joint 1510 Disturbance Details
Temporary Disturbance Area (ft^2): 1,787
Possible Tree Removals and Total DBH: 2; 32
Definite Tree Removals and Total DBH: 1; 15"
Total Possible and Definite Tree Removals and Total DBH: 3; 47"
Note: 1 additional live tree with an 11" DBH is classified as a definite removal in the ROW leading to Joint 1510 from the southwest.



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Existing Tree Pruning
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 14 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.34

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All excavation totals would be equal to fill totals.

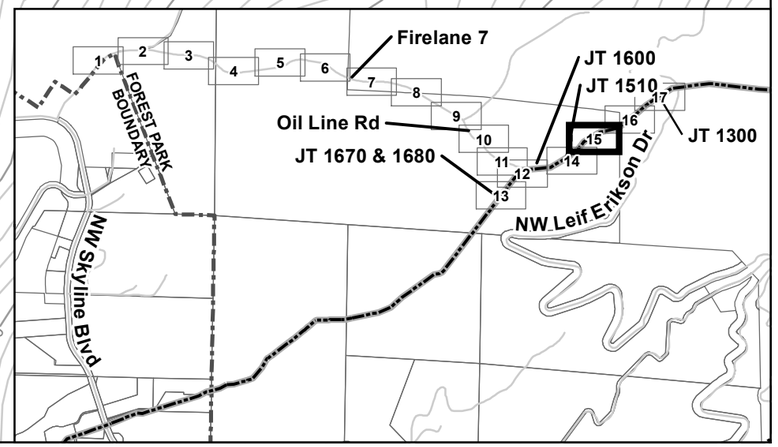
Wildwood Trail

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

Taxlot R324225

Wildwood Trail



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LEGEND

- Existing Tree
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Temporary Disturbance Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 15 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

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All excavation totals would be equal to fill totals.

Existing 8-inch diameter buried liquid fuel pipeline

Taxlot R324223

Taxlot R324225

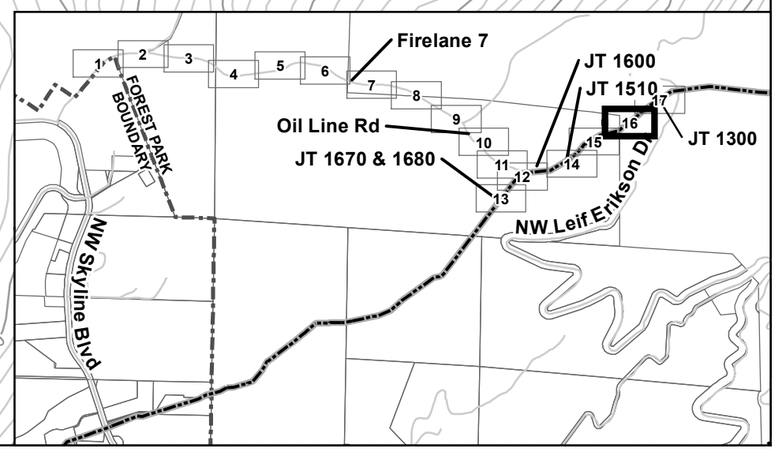
Taxlot R324224

Wildwood Trail

OIL LINE RD

Wildwood Trail

710 720 730 740 750 760 770 780 790 800 810 820 830



LEGEND

- Existing Tree
- Existing Tree Pruning
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Temporary Disturbance Area
- SFPP ROW
- Taxlots

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N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 16 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.36

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 3.Construction Management Plan_LUA.mxd

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Refer to the application document for information on existing trees and proposed permanent and temporary impacts.

The critical root zone shown for each tree is equal to 0.5 foot in radius for every 1 inch of tree's DBH. Trees with critical root zones that overlap with proposed excavation areas would be potential or definite removals.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

Salvaged mitigation saplings and ferns would be dug up, placed in a shaded location, and watered during construction.

All mechanized ground disturbance including excavation, fill, vehicular movement, and equipment staging would occur prior to October 1, 2024.

All excavation totals would be equal to fill totals.

Joint 1300 Disturbance Details
Temporary Disturbance Area (ft^2): 1,350
Possible Tree Removals and Total DBH: 6; 89"
Definite Tree Removals and Total DBH: 4; 41"
Total Potential and Definite Tree Removals and Total DBH: 10; 130"
Note: 33 live additional trees with a total of 352" DBH are classified as definite removals and 9 additional live trees with a total DBH of 96" are classified as potential removals in the ROW leading to Joint 1300 from the southwest.

Existing 8-inch diameter buried liquid fuel pipeline

JT 1300

STEEP SLOPE SITE: INSTALL SILT FENCE DOWNSLOPE OF ACTIVE GROUND DISTURBANCE AS SHOWN

NW LEIF ERIKSON DR

Taxlot R506789

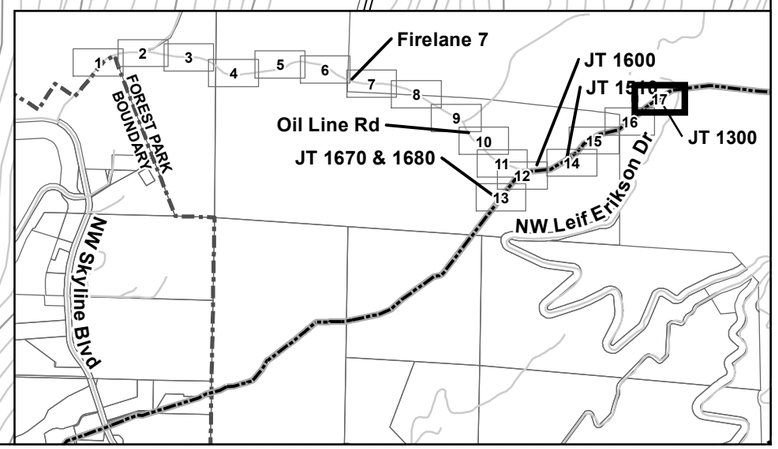
Taxlot R324223

Taxlot R324223

SCC-24

SCC-25

630 620 610 720 730 740 750 710 700 690 680 670 660 650 640 630



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 3 Construction Management Plan LUA.mxd

LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 3 - CONSTRUCTION MANAGEMENT PLAN - SHEET 17 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.37

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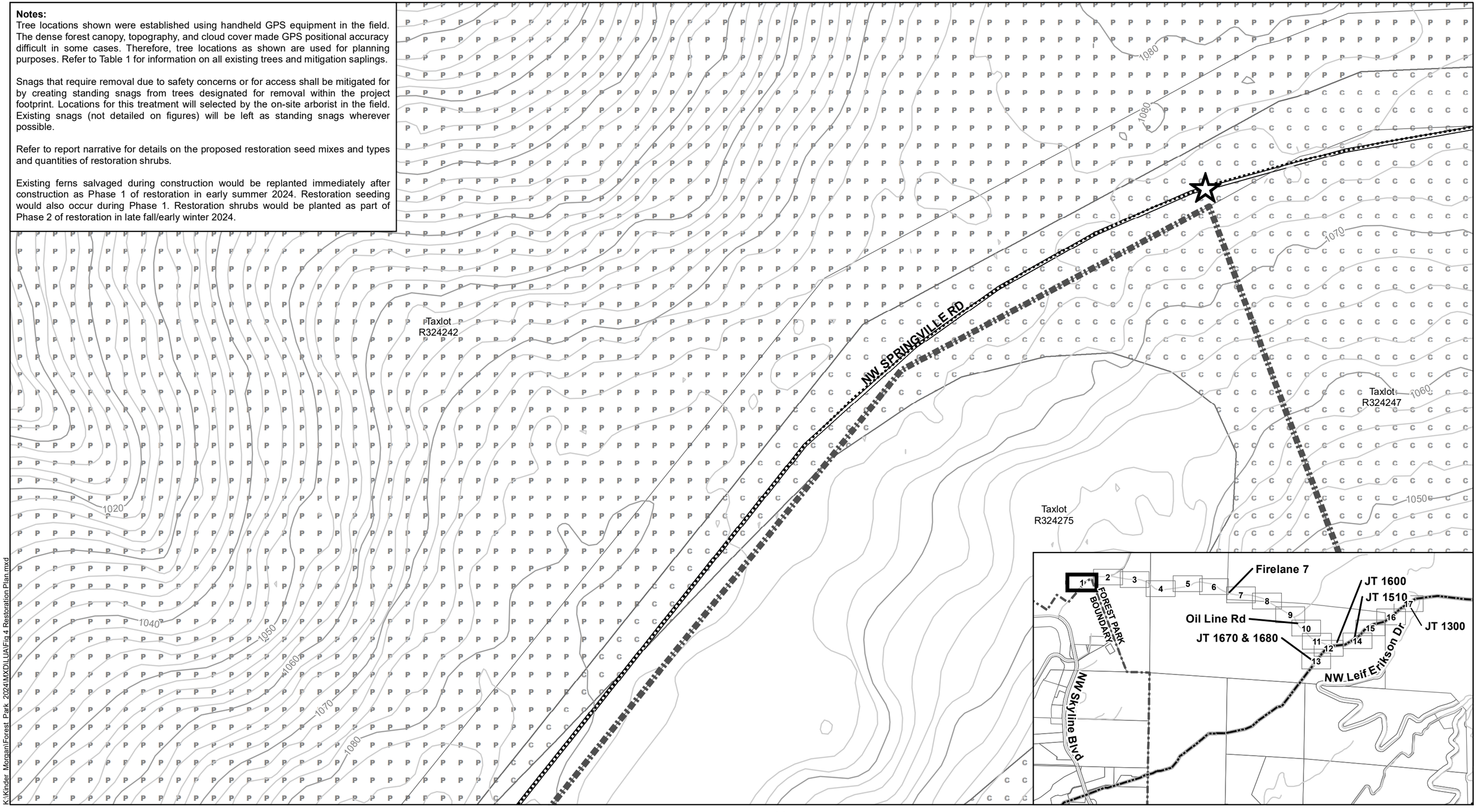
Refer to report narrative for details on the proposed restoration seed mixes and types and quantities of restoration shrubs.

Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Gated Forest Park Entrance
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Trail
- Street
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 1 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN

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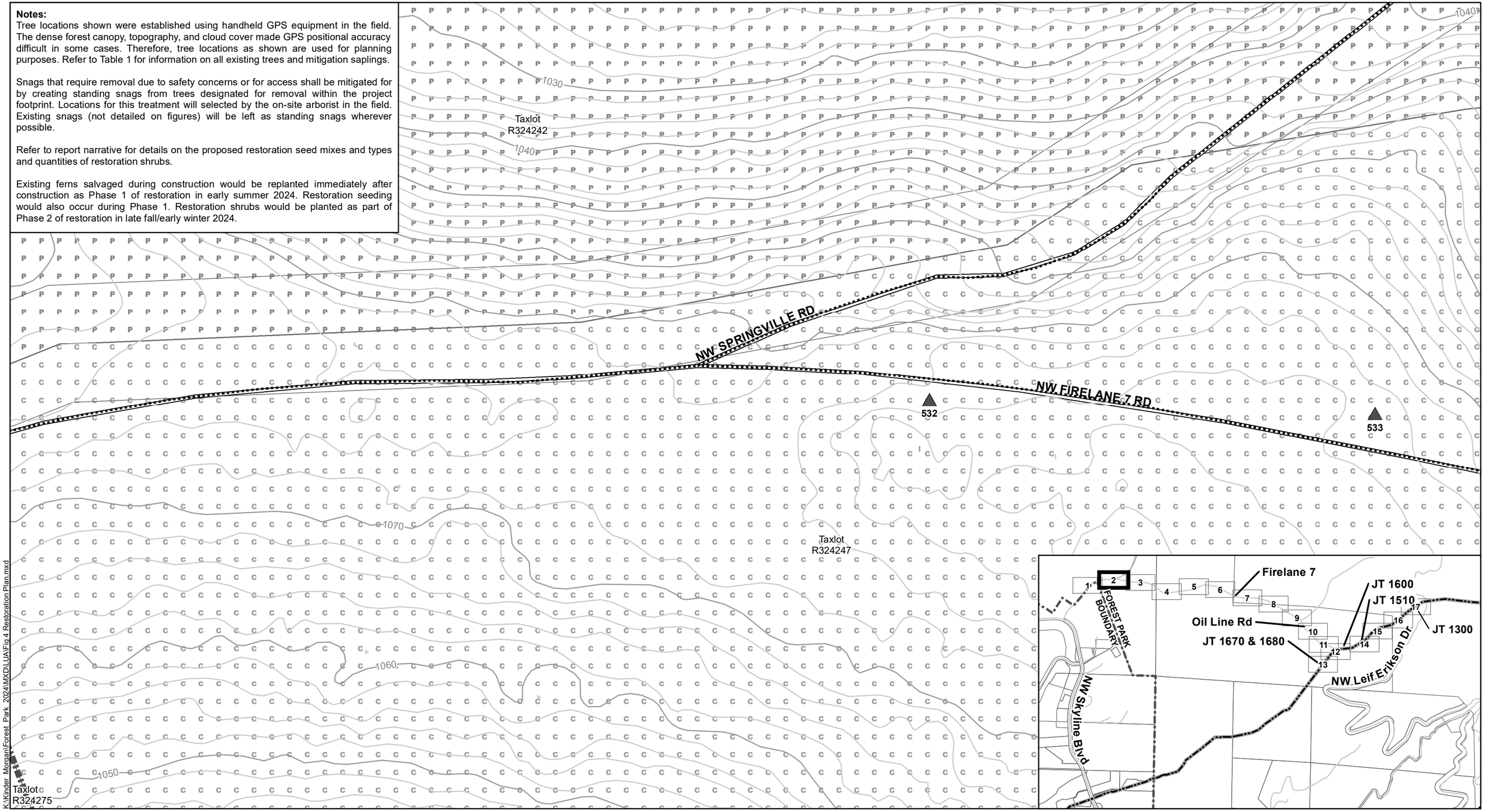

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Forest Park Boundary
- Existing Trail
- Street
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 2 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.39

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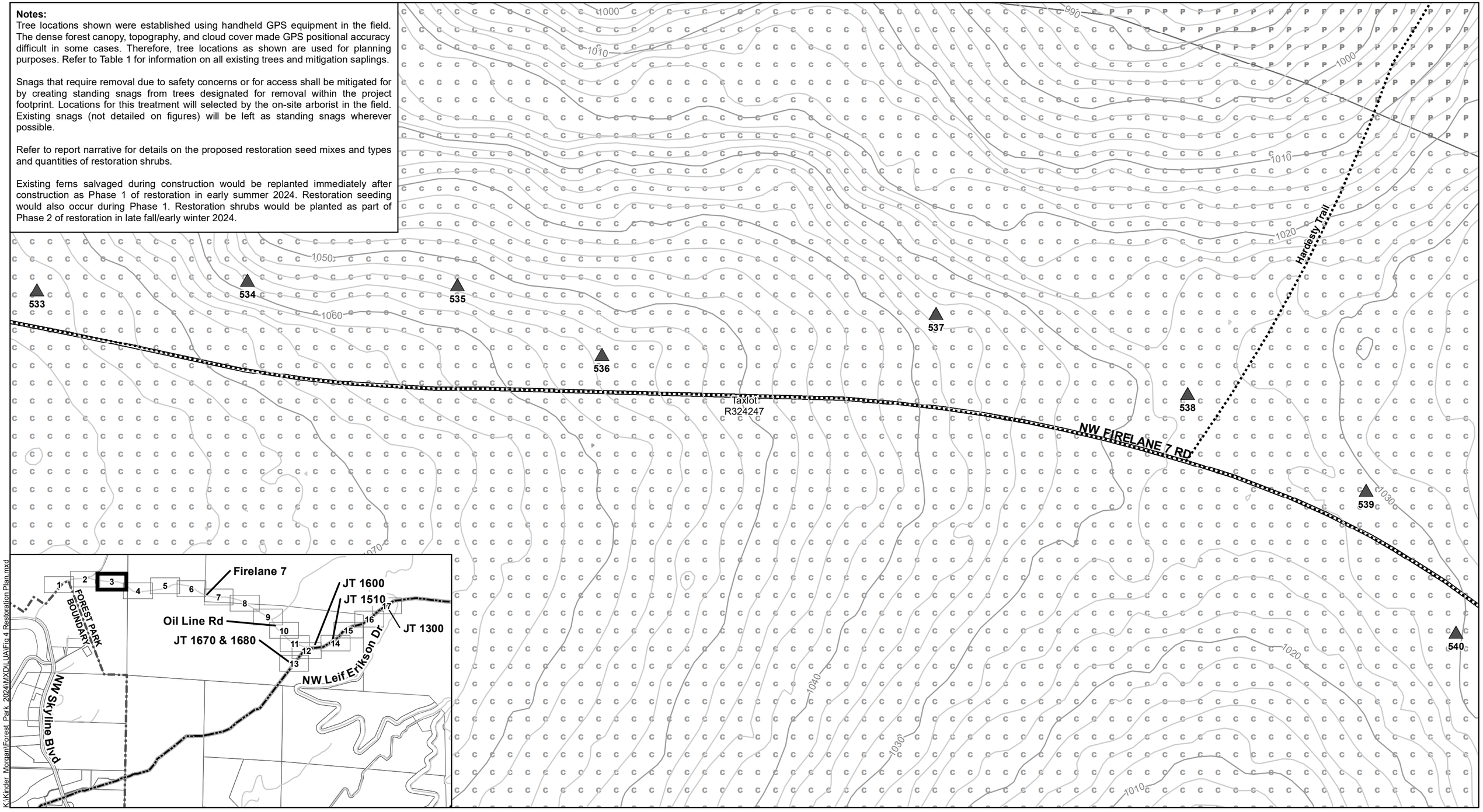

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 3 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.40

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

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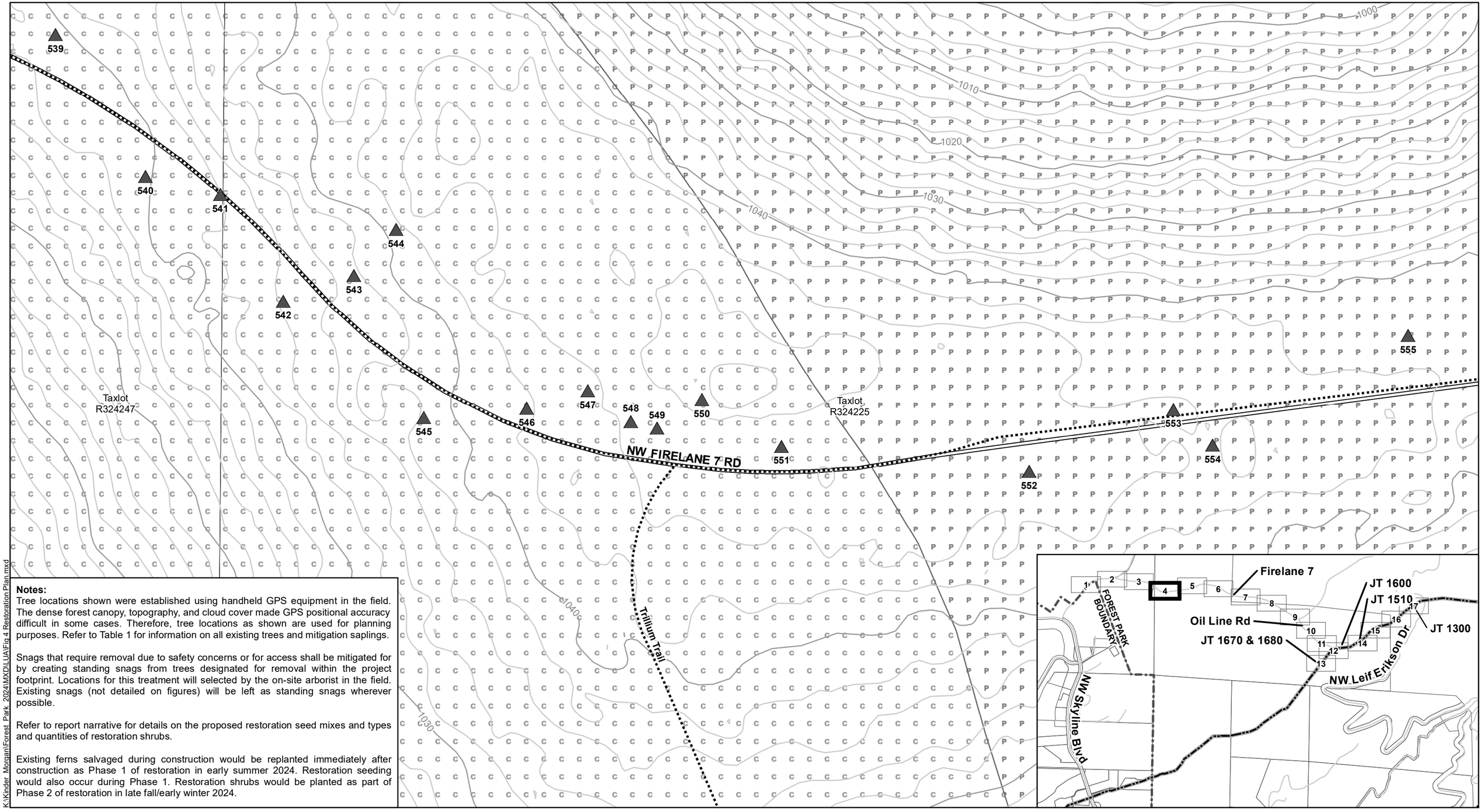

LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

Portland Environmental Preservation E-Zones

- C — Conservation (OSc)
- P — Preservation (OSp)

Note: Landslide susceptibility is moderate unless otherwise shown.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 4 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.41

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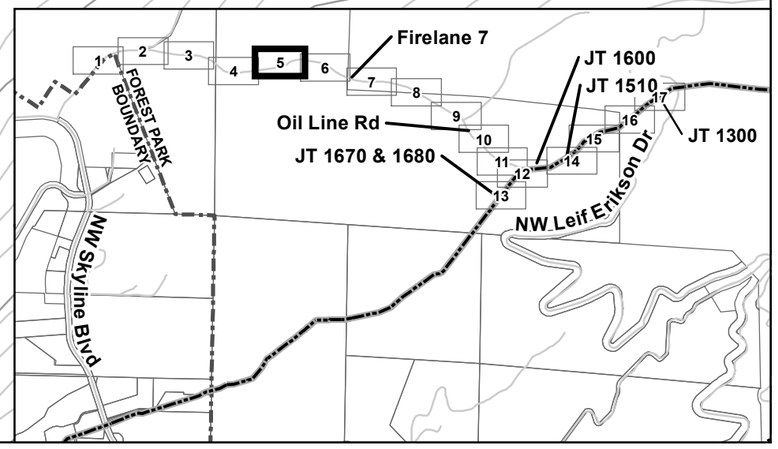
980
990
1000
1010
1020
1030
1040
Taxlot
R324225
NW FIRELANE 7 RD
555
556
557
558
559
560
561
562
563
564
565
566
567
568



LEGEND
- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 5 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.42

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

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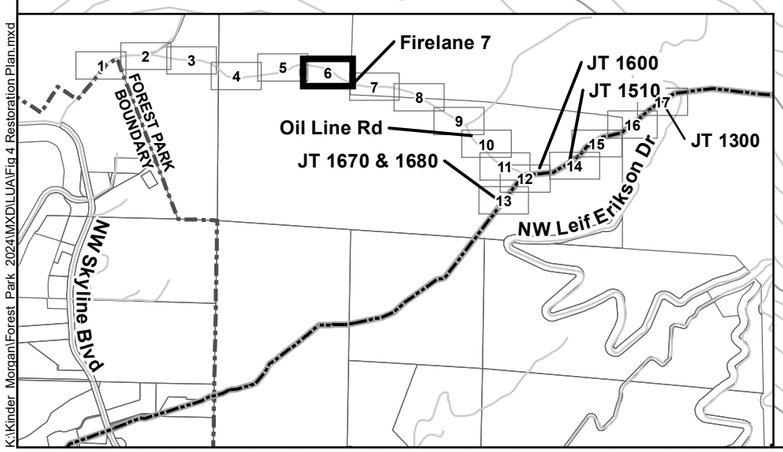
1000
1020
1020
1020
1010
1000
990
1000

568
569
570
571
573
572
574
575
576

Ridge Trail
NW FIRELANE 7 RD

Taxlot
R324225

Taxlot
R255581



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND
- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

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N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 6 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.43

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990
960
940
980
1000
1000
960
950
940

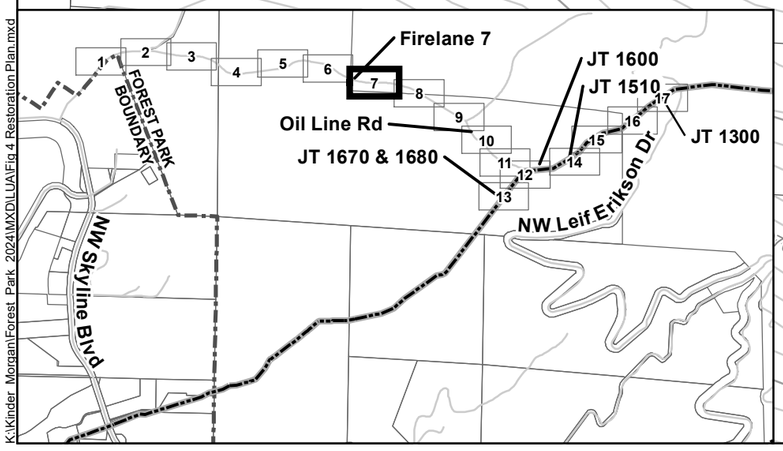
576
577
578
579
580
581
582
583

Taxlot
R255581

Taxlot
R505187

Taxlot
R324225

NW FIRELANE 7 RD



K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

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N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 7 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.44

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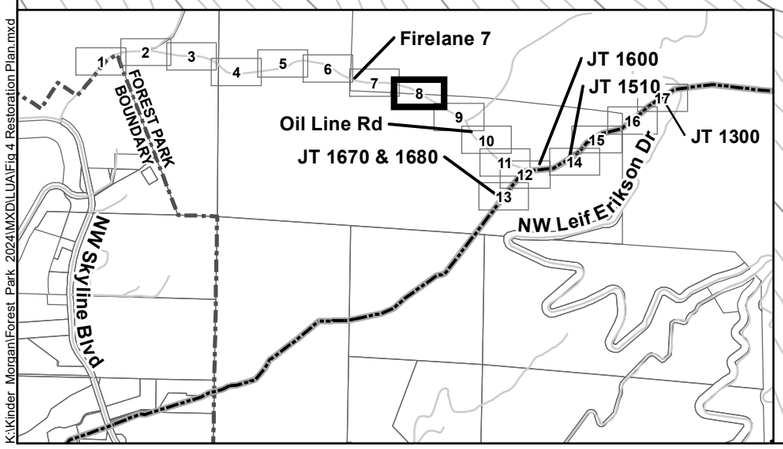
582
583
584
585
586
587
588
589
590
591
592
593
594

NW FIRELANE 7 RD

Taxlot
R505187

Taxlot
R324225

970
980
990
1000
960
950



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

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N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 8 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.45

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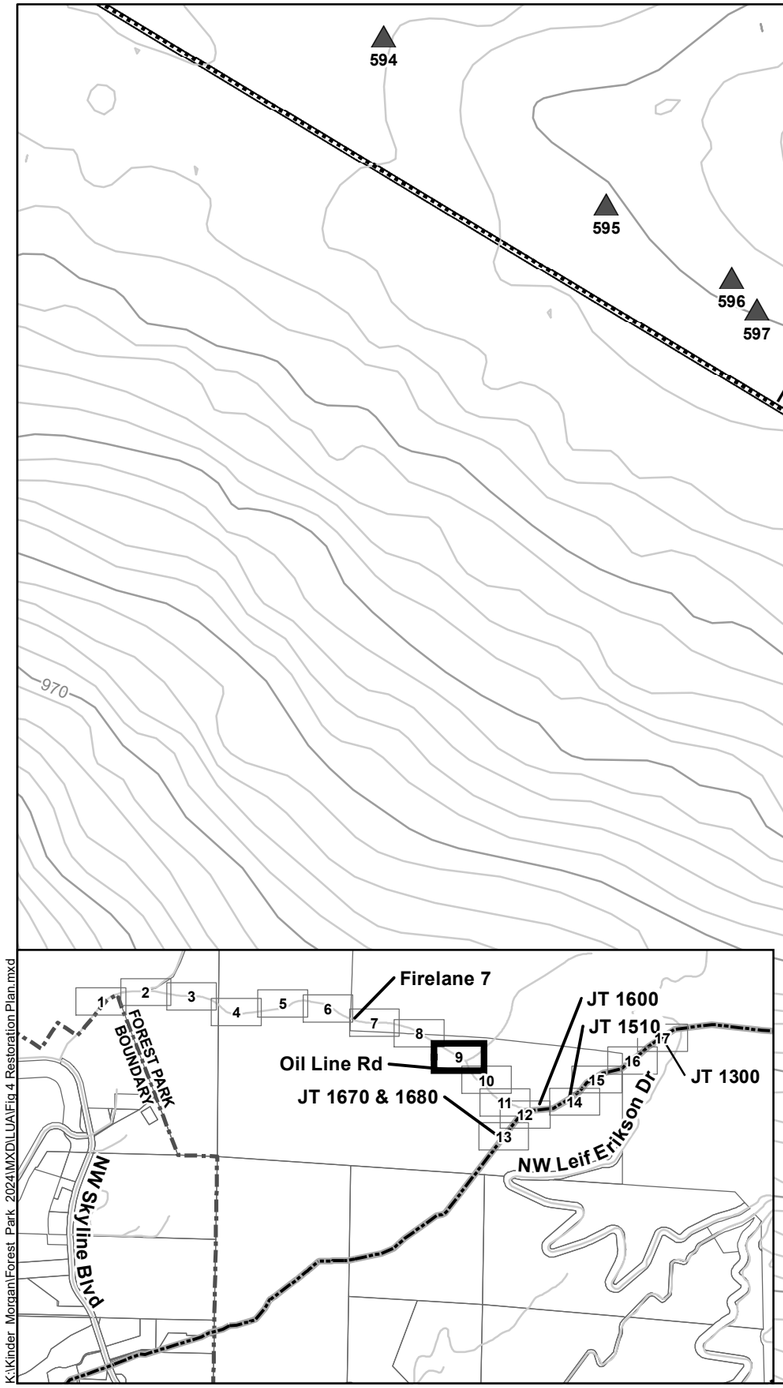

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Existing Trail
- Street
- Taxlots

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N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 9 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.46

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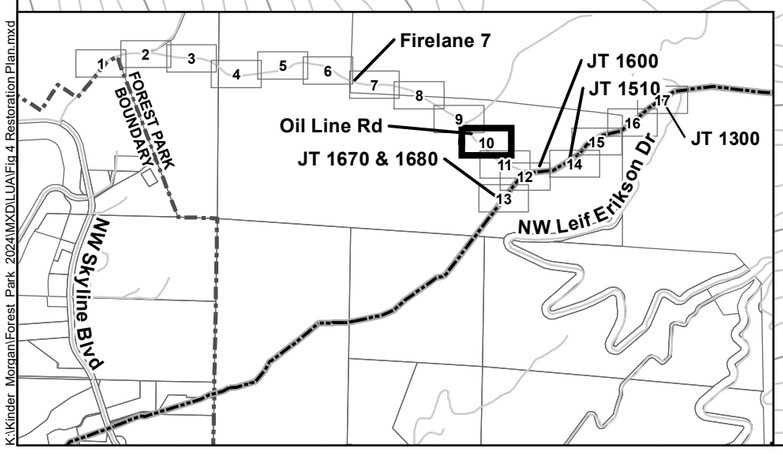
603 604 605 606 607 608 609 610 611 612 613 614 615

OIL LINE RD

Taxlot
R324225

990 980 960 970 930 960 950 940 950 910 920 930



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND
- Existing Tree
- 2' Contours
- 10' Contours
- Street
- Taxlots

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N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 10 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

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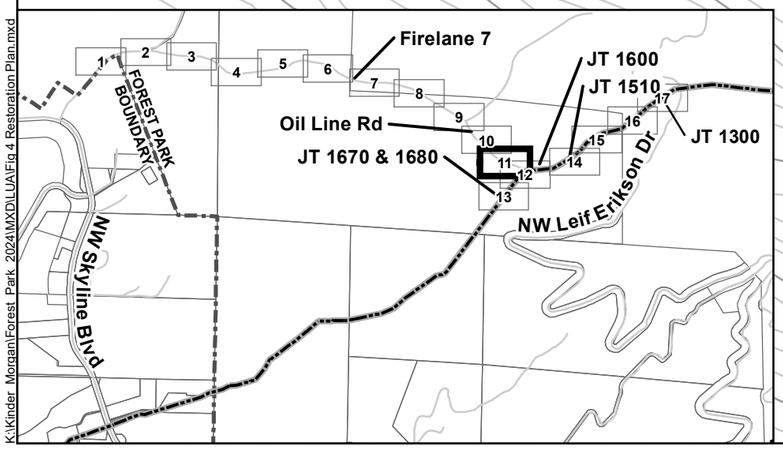
615
616
617
618
619
620
621
622
623
624
625
626
627
628
847
OIL LINE RD
Taxlot
R324225
960
950
940
930
920
910
900
890
Existing 8-inch diameter
buried liquid fuel pipeline
29" UCC
INSTALL STRAW WATTLES
AROUND PERIMETER OF
TEMPORARY DISTURBANCE
AREA AS SHOWN



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Repaired Pipeline Anomaly
- Existing Tree
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Proposed Seeding Area
- Excavation Area
- SFPP ROW

Replanting Areas

- Salvaged Fern Replanting
- Road Restoration Area
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 11 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.48

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Refer to report narrative for details on the proposed restoration seed mixes and types and quantities of restoration shrubs.

Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.

OIL LINE RD

Existing 8-inch diameter buried liquid fuel pipeline

JT 1600

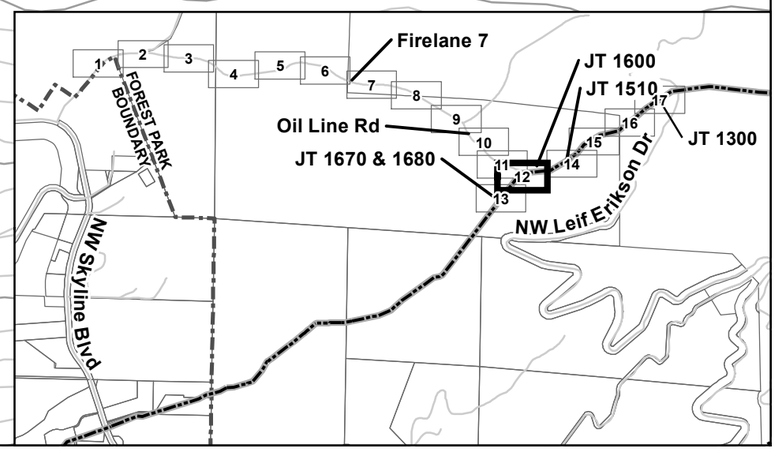
29-UCC

Taxlot R324225

INSTALL STRAW WATTLES AROUND PERIMETER OF TEMPORARY DISTURBANCE AREA AS SHOWN

TRAILS WILL BE RESTORED TO PP&R SPECIFICATIONS

Joint 1600 Restoration Area Details
Restoration Area (ft^2): 1,456



LEGEND

- Repaired Pipeline Anomaly
- Existing Tree
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Proposed Seeding Area
- Excavation Area
- SFPP ROW
- **Replanting Areas**
- Salvaged Fern Replanting
- Road Restoration Area
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 12 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.49

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

Refer to report narrative for details on the proposed restoration seed mixes and types and quantities of restoration shrubs.

Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.

Joint 1670/1680 Restoration Area Details:
Restoration Area (ft^2): 10,582

Wildwood Trail

Existing 8-inch diameter buried liquid fuel pipeline

JT 1670

JT 1680

OR-004

OR-005

OR-006

KM-091

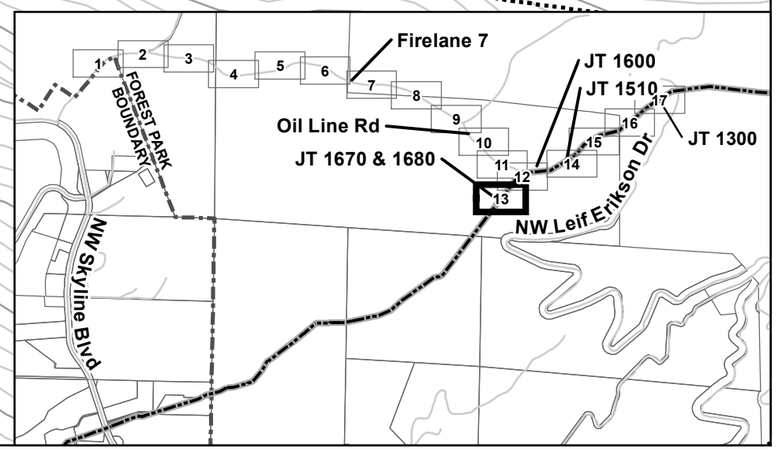
Taxlot R324225

TRAILS WILL BE RESTORED TO PP&R SPECIFICATIONS

STEEP SLOPE SITE: INSTALL SILT FENCE DOWNSLOPE OF ACTIVE GROUND DISTURBANCE AS SHOWN

839A 838 667 808 665 664 666 663 810 681 680 809 811 813 679 668 833 832 837 678 677 815 816 817 671 672 676 834 819 818 673 670 822 675 674 823 479 669 478 461 836 835 463 830 829 828 474 476 475 827 826 825 824

870 850 860 880 890 900 810 800 790 780 770 760 750 740 730 720 710 700 690 680 840



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Repaired Pipeline Anomaly
- Existing Tree
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Proposed Seeding Area
- Excavation Area
- SFPP ROW

Replanting Areas

- Salvaged Fern Replanting
- Curlex and Sandbag Compaction
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 13 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

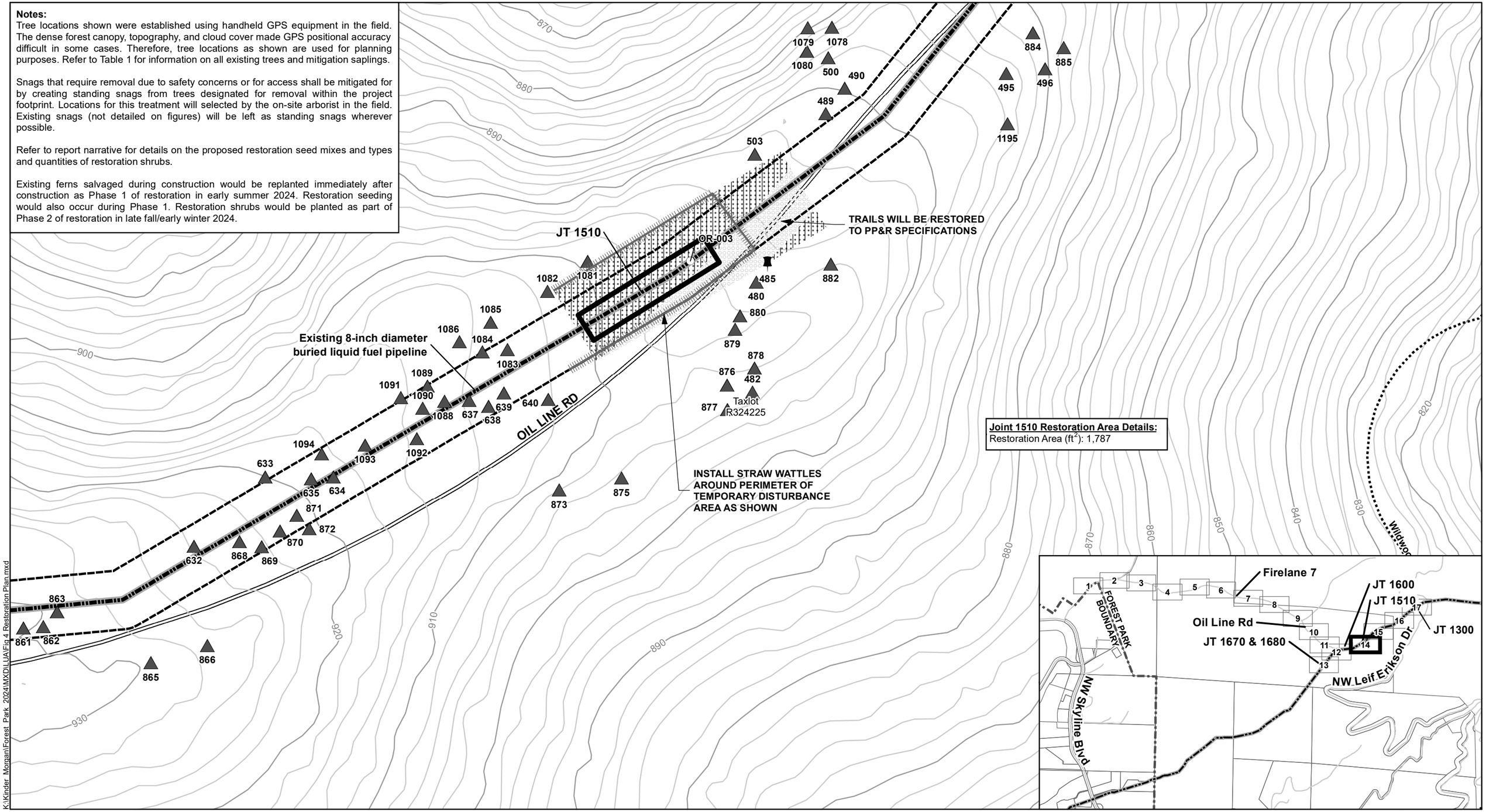
LU 24-017402 EN | Exhibit C.50

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

Refer to report narrative for details on the proposed restoration seed mixes and types and quantities of restoration shrubs.

Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Repaired Pipeline Anomaly
- Existing Tree
- Existing Tree Pruning
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Proposed Seeding Area
- Excavation Area
- SFPP ROW

Replanting Areas

- Native Shrub Planting
- Road Restoration Area
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 14 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.51

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

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Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.

Wildwood Trail
OIL LINE RD
Existing 8-inch diameter buried liquid fuel pipeline
Taxlot R324225
Wildwood Trail
1055
1956
1056
1057
1060
1059
915
1062
1061
1063
1066
1067
917
891
892
898
904
905
906
903
907
900
901
895
1072
890
888
889
1073
887
886
1076
1075
499
1077
493
494
1079
1078
1080
500
490
489
884
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496
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1195
503
800
900
890
880
870
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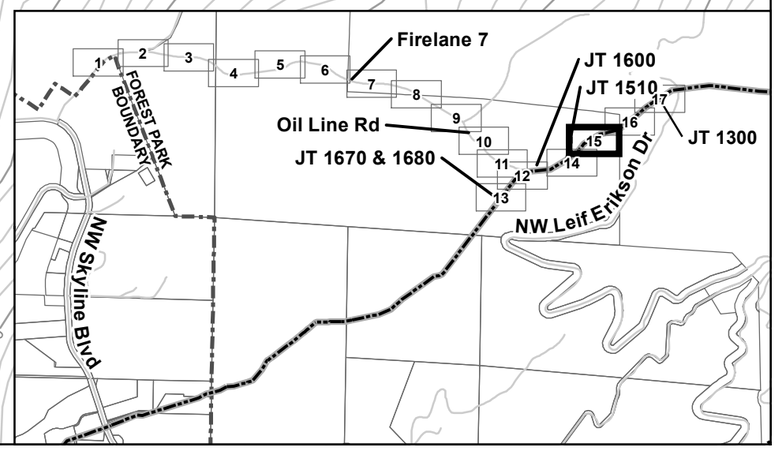
850
840
830
820
810
800



LEGEND

- Existing Tree
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Proposed Seeding Area
- SFPP ROW

Replanting Areas

- Native Shrub Planting
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 15 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.52

K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig.4 Restoration Plan.mxd

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

Refer to report narrative for details on the proposed restoration seed mixes and types and quantities of restoration shrubs.

Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.

Existing 8-inch diameter buried liquid fuel pipeline

Taxlot R324223

Taxlot R324225

Taxlot R324224

Wildwood Trail

OIL LINE RD

Wildwood Trail

Firelane 7

JT 1600

JT 1510

JT 1300

Oil Line Rd

JT 1670 & 1680

FOREST PARK BOUNDARY

NW Skyline Blvd

NW Leif Erikson Dr

K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Existing Tree
- Existing Tree Pruning
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- SFPP ROW
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 16 OF 17

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

APRIL 2024
60656035

AECOM

LU 24-017402 EN | Exhibit C.53

Notes:
Tree locations shown were established using handheld GPS equipment in the field. The dense forest canopy, topography, and cloud cover made GPS positional accuracy difficult in some cases. Therefore, tree locations as shown are used for planning purposes. Refer to Table 1 for information on all existing trees and mitigation saplings.

Snags that require removal due to safety concerns or for access shall be mitigated for by creating standing snags from trees designated for removal within the project footprint. Locations for this treatment will selected by the on-site arborist in the field. Existing snags (not detailed on figures) will be left as standing snags wherever possible.

Refer to report narrative for details on the proposed restoration seed mixes and types and quantities of restoration shrubs.

Existing ferns salvaged during construction would be replanted immediately after construction as Phase 1 of restoration in early summer 2024. Restoration seeding would also occur during Phase 1. Restoration shrubs would be planted as part of Phase 2 of restoration in late fall/early winter 2024.

Joint 1300 Restoration Area Details:
Restoration Area (ft^2): 1,350

Existing 8-inch diameter buried liquid fuel pipeline

JT 1300

TRAILS WILL BE RESTORED TO PP&R SPECIFICATIONS

STEEP SLOPE SITE: INSTALL SILT FENCE DOWNSLOPE OF ACTIVE GROUND DISTURBANCE AS SHOWN

SCC-24

SCC-25

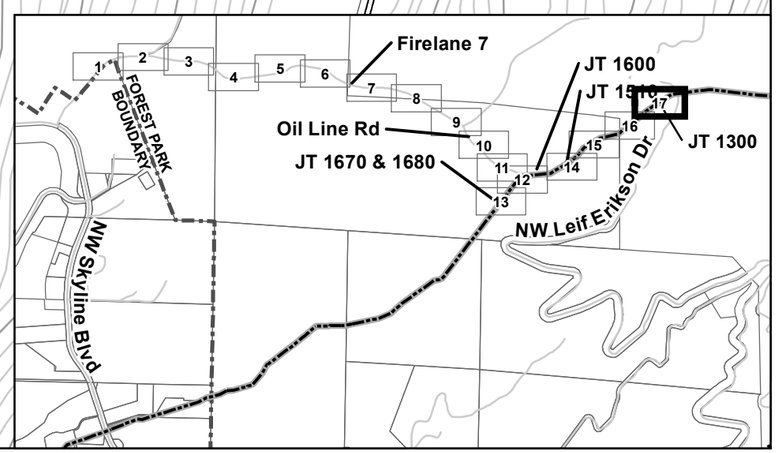
Taxlot R324223

Taxlot R506789

NW LEIF ERIKSON DR

630 620 610 720 730 740 750 710 700 690 680 670 660 650 640 630

990 991 992 993 994 995 996 997 988 987 984 983 982 973 976 974 977 975 970 978 980 979 999 1000 1001 998 1002 1003 1004 1005 1006 1007 1009 1010 1008 955 963 962 961 965 959 964 957 956 947 1011 1015 1012 1013 1014 1016 1017 1020 1018 1022 1021 1023 1019



K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 4 Restoration Plan.mxd

LEGEND

- Repaired Pipeline Anomaly
- Existing Tree
- Silt Fence
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Proposed Seeding Area
- Excavation Area
- SFPP ROW
- **Replanting Areas**
- Salvaged Fern Replanting
- Road Restoration Area
- Curlex and Sandbag Compaction
- Street
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

FIGURE 4 - RESTORATION PLAN - SHEET 17 OF 17

APRIL 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

AECOM

LU 24-017402 EN | Exhibit C.54

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

Date: March 25, 2024

From: Morgan Steele | Land Use Services
503-865-6437 | Morgan.Steele@portlandoregon.gov

REQUEST FOR RESPONSE

Case File: **LU 24-017402 EN**
Pre App: **PC # 23-108454**

This notice is being sent to all service and technical review agencies for their input on the proposal described below. Neighborhood Associations also receive this advance notice via e-mail. *Your timely response, as indicated below, will help the assigned planner determine if applicable approval criteria can be met, or what conditions might be required*.

- The approval criteria are listed below. Although we are interested in any comments you may have, please consider your response in terms of these criteria.

- All agencies are encouraged to use this as an opportunity to inform the applicant of any additional requirements that may be imposed by your agency during building permit phase – especially those that would significantly affect the proposal.

- Please note in your response which requirements are specifically associated with the applicable land use review approval criteria, and which requirements you have the independent authority to impose at time of building permits.

- Neighborhood Associations are encouraged to submit comments by the deadline noted below. To comment, you may write to Morgan Steele at 1900 SW Fourth Ave., Suite 4500, Portland, OR 97201. You can also e-mail your comments to me at my e-mail address identified above. After the staff report is published, please submit your comments to the Hearings Officer at 1900 SW Fourth Ave., Suite 3100, Portland, OR 97201 and fax them to 503-823-4347.

The Bureau of Development Services recommendation will be published ten days before the scheduled hearing date. You will also receive a Notice of Public Hearing for this proposal, with hearing date and time confirmed, mailed twenty days prior to the hearing.

- **Please send your response to BDS no later than: April 24, 2024 – 30 days after the date of this RFR** (If I receive comments after this date, I may not have enough time to include them in the staff report).
- **We must publish our report by: To be determined.**
- **A public hearing before the Hearings Officer is tentatively scheduled for: To be determined.**

Applicant:	Melissa Cowen | Sfpp Lp 1001 Louisiana St #1000 | Houston, Tx 77002
Owner/Agent:	City of Porltand | Parks & Recreation Attn: Kendra Petersen-Morgan 1120 SW 5th Avenue #1302 | Portland, OR 97204-1926
Representative:	Rebecca Shell | AECOM 888 SW 5th Avenue #600 | Portland, OR 97204 971.323.6318 | Rebecca.Shell@aecom.com
Site Address:	Multiple locations throughout Forest Park
Legal Description:	TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W
Tax Account No.:	R961140010, R961140020, R961140030
State ID No.:	1N1W14A 01200, 1N1W14A 01300, 1N1W14 00600
Quarter Section:	2219,2318,2319,2320, 2418,2419,2420
Neighborhood:	Forest Park, contact Jerry Grossnickle at landuse@forestparkneighbors.org & Linnton, contact Sarah Taylor at sarahsojourner@mac.com
Business District:	None
District Coalition:	Neighbors West/Northwest, contact Darlene Urban Garrett at darlene@nwnw.org
Plan District:	Northwest Hills - Forest Park
Other Designations:	*Natural Resources Inventory* – Resource Site FP16; Landslide Hazard Area; Wild Lands Fire Hazard
Zoning:	*Base Zone:* Open Space (OS) *Overlay Zones*: Environmental Conservation (c), Environmental Protection (p)
Case Type:	EN – Environmental Review
Procedure:	Type III, with a public hearing before the Hearings Officer. The decision of the Hearings Officer can be appealed to City Council.

Proposal:
The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (58 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, The applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park's natural resources.

All joint sites are within the City's Environmental Conservation and Environmental Protection overlay zones within the City's *Forest Park Natural Resource Management Plan* (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline.

Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

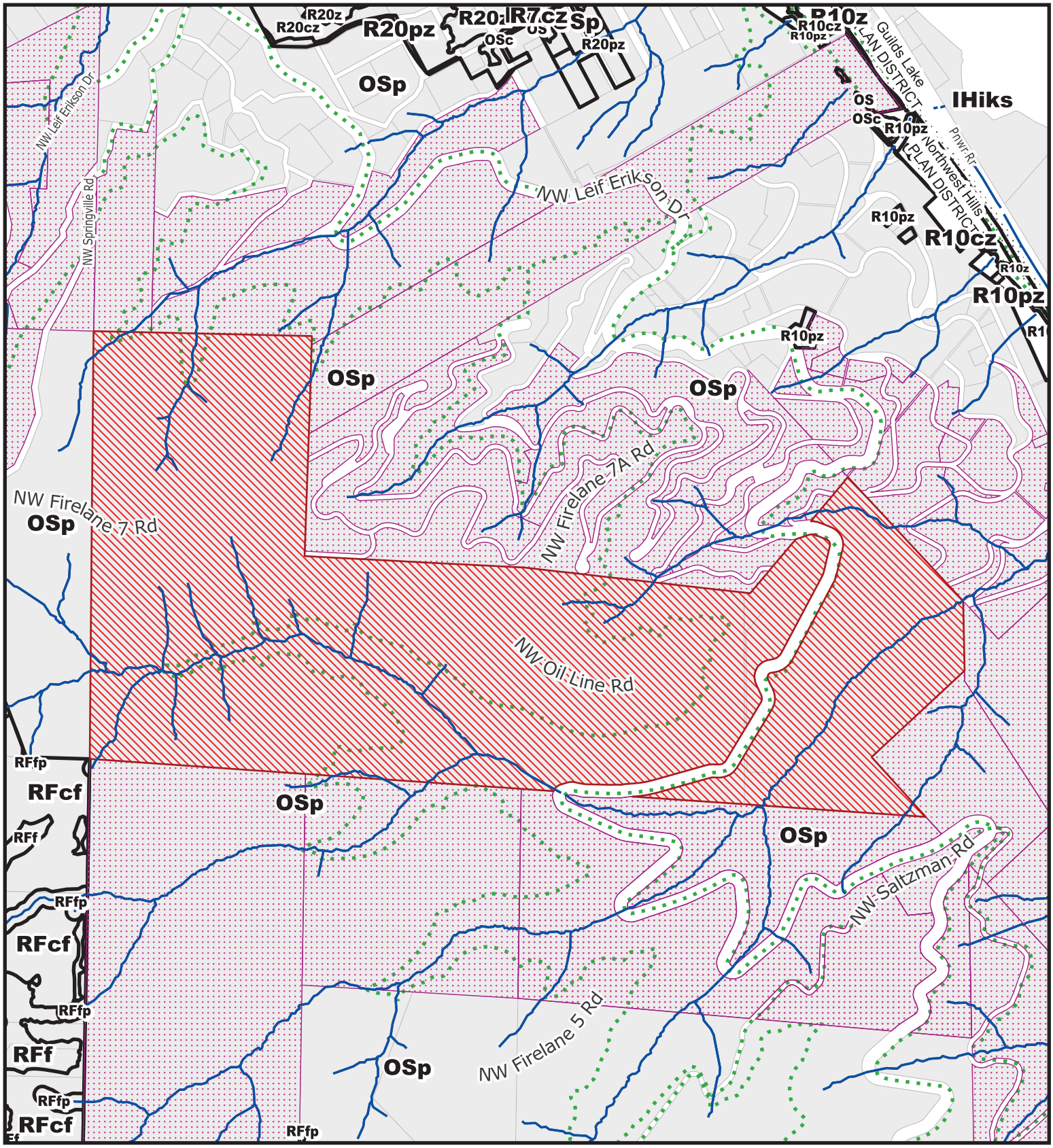
Approval Criteria:
To be approved, this proposal must comply with the approval criteria of Title 33, Portland Zoning Code. The applicable approval criteria are:

- The "**Approval Criteria for Exceptions**" including criteria **A through E in Section B** on page 217 of the *Forest Park Natural Resources Management Plan*
- Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in Zoning Code section **33.563.210 A, B, and C.**
- The proposal is also subject to the prohibition of clearing between October 1 and April 30 in section 33.563.200.

Zoning Code Section 33.700.080 states that Land Use Review applications are reviewed under the regulations in effect at the time the application was filed, provided that the application is complete at the time of filing, or complete within 180 days. This application was filed on February 26, 2024 and determined to be complete on March 20, 2024.

It is important to submit all evidence to the Hearings Officer. City Council will not accept additional evidence if there is an appeal of this proposal.

Enclosures: Zoning Map, Site Plan



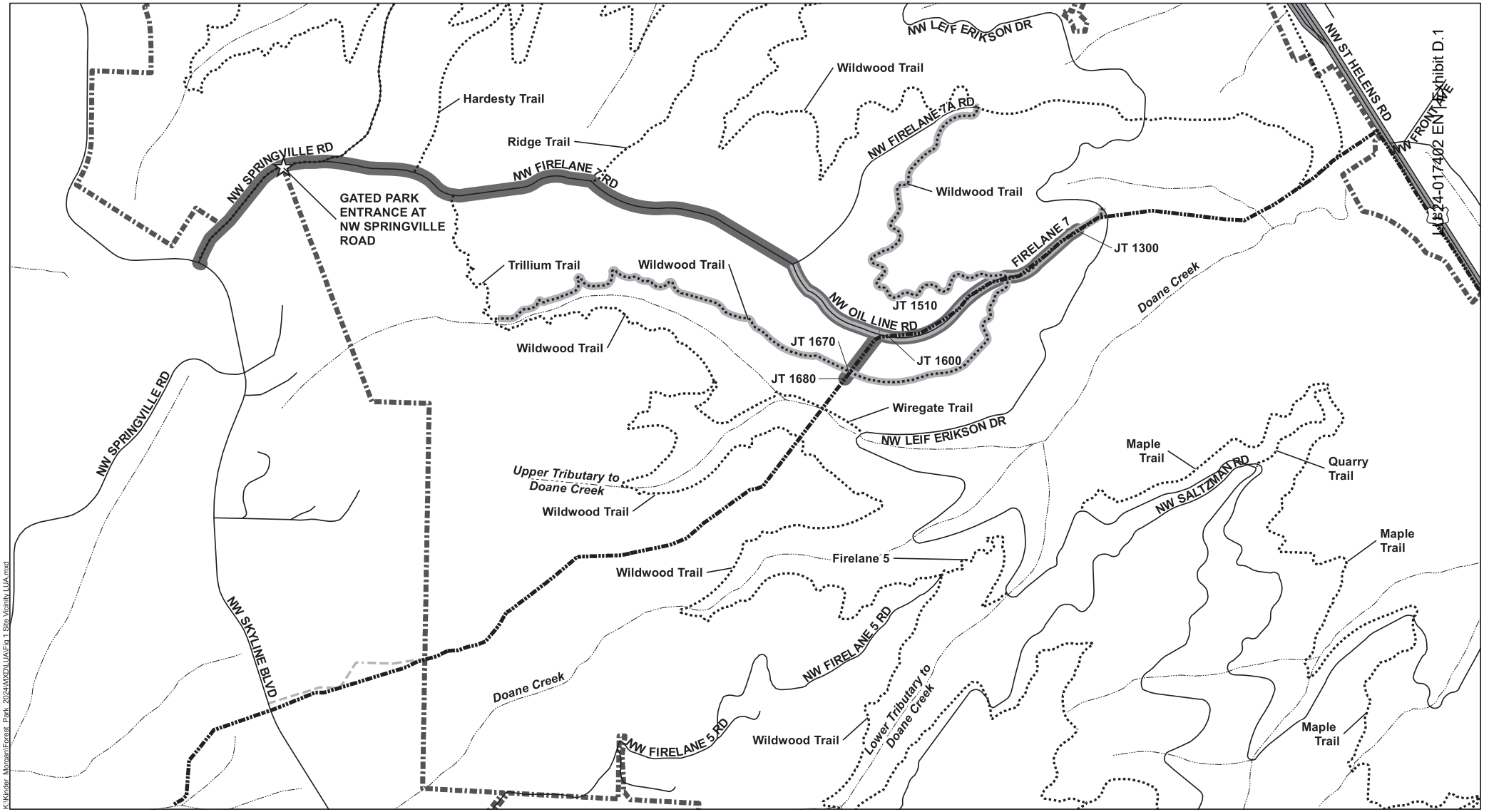
For Zoning Code in Effect Post October 1, 2022

ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Stream
- Recreational Trails

File No.	LU 24 - 017402 EN
1/4 Section	Multiple
Scale	1 inch =800 feet
State ID	1N1W14A 1200
Exhibit	B Feb 26, 2024



LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 600 1,200 Feet

FIGURE 1: SITE VICINITY, CONSTRUCTION ACCESS, AND TRAIL CLOSURE

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

Date: March 27, 2024

To: Melissa Cowan, SFPP., L.P., a subsidiary of Kinder Morgan
1001 Louisiana Street, Suite 1000
Houston, TX, 77002
(701) 774-6110

From: Morgan Steele
503-865-6437
Morgan.Steele@portlandoregon.gov

RE: LU 24-017402 EN

Dear Applicant:

I have received your application for an Environmental Review at Forest Park. Your application was deemed complete on **March 20, 2024,** and the hearing is scheduled for **May 8, 2024, at 1:30pm**.

The Zoning Code requires you to post notices on the site of your proposal 30 days before the hearing. The information below will help you do this. It is recommended that you work with a sign manufacturer to prepare the posting board. I am enclosing a digital copy of the posting board, a copy of the notice that must be placed on the posting boards, and instructions for printing and installation.

A. Your site has 50 feet of frontage on NW Springville Road. You must post one sign along this street. There must be at least one sign every 600 feet.

Your site has 10 feet of frontage on either side of the Wildwood Trail. You must post one sign at each entrance to this trail. There must be at least one sign every 600 feet.

B. These signs must be placed within 10 feet of the street frontage line and must be visible to pedestrians and motorists. You may not post in the public right-of-way.

D. These signs must be placed within 10 feet of the street frontage line and must be visible to pedestrians and motorists. You may not post in the public right-of-way.

E. You should not remove the notice before the hearing, but it must be taken down within two weeks after the final decision is made on your request.

Encl: Posting Notice
Statement Certifying Posting

cc: Application Case File

POSTING NOTICE

CASE FILE: LU 24-017402 EN
PC # 23-108454
REVIEW BY: Hearings Officer
WHEN: May 8, 2024, 1:30PM

More information on how to participate remotely is available at www.portland.gov/omf/hearings/land-use and will be provided with the Notice of Public Hearing mailed 20 days before the hearing and posted at http://www.portlandoregon.gov/bds/35625. You may also contact the planner at the phone number or email address at the bottom of this page.

It is important to submit all evidence to the Hearings Officer. City Council will not accept additional evidence if there is an appeal of this proposal.

Location: Multiple Locations throughout Forest Park

Legal Description: TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W

Zoning/Designation: *Base Zone*: Open Space (OS)
Overlay Zones: Environmental Conservatin (c), Enviornmental Protection (p)

Proposal: Replacement of joints at an existing Kinder Morgan pipeline at 5 locations within Forest Park. Repair and replacement of the pipeline joints will require a total of 39,060 square feet of temporary disturbance and require the removal of several native trees (58-75 depending on final construction work areas). To restore areas of temporary impacts, the applicant is proposing to plant native shrubs and spread native seed mix within the disturbed work areas. Further, to mitigate for permanent impacts such as tree removal, the applicant will submit payment to Portland Parks & Recreation to conduct compensatory mitigation within Forest Park.

Further information is available from the Bureau of Development Services. Please contact Morgan Steele at 503.865.6437 or at Morgan.Steele@portlandoregon.gov.

The Bureau of Development Services is committed to providing equal access to information and hearings. To request an accommodation or alternative format of communication, please contact us at least five business days prior to the hearing at 503-823-7300 (TTY 503-823-6868).

SFPP, LP *Brittany Stolte*
Applicant
SFPP LP
1001 Louisiana St #1000
Houston, Tx 77002
(701) 774-6110

DATE: 4/23/2024

TO: Morgan Steele
Bureau of Development Services
1900 SW Fourth Avenue, Suite 5000
Portland, OR 97201

APPLICANT'S STATEMENT CERTIFYING POSTING

Case File LU 24-017402

This certifies that I have posted notice on my site as required by the Zoning Code. I understand that the hearing is scheduled for TBD, and that I was required to post the property at least 30 days before the hearing.

The required number of poster boards, with the notices attached, were set up on April 4, 2024. These were placed within 10 feet of the street frontage line so that they were visible to pedestrians and motorists.

I understand that this form must be returned to the Bureau of Development Services no later than April 24, 2024, 14 days before the scheduled hearing. I also understand that if I do not post the notices by 30 days before the hearing or return this form by 14 days before the hearing, my hearing will automatically be postponed. I also understand this will result in a waiver of the time limits for processing my case.

In addition, I understand that I may not remove the notices before the hearing but am required to remove them within two weeks of the final decision on my request.

Brittany Stolte
Signature

Brittany Stolte, Attorney in fact
Print Name

1001 Louisiana Street
Address

Houston TX 77002
City/State/Zip Code

	A	B	C	D	E	F
1	ENDORSEMENT	INFO1	INFO2	NAME	ADDRESS/IO ADDRESS	CITYSTATEZIP/ADDRESSEE
2	RETURN SERVICE REQUESTED		1N1W10D 4200	PORTLAND CITY OF	1221 SW 4TH AVE #130	PORTLAND OR 97204-1900
3	RETURN SERVICE REQUESTED		1N1W10D 4300	PORTLAND CITY OF	1120 SW 5TH AVE #1204	PORTLAND OR 97204-1912
4	RETURN SERVICE REQUESTED		1N1W13 1600	PORTLAND CITY OF	1120 SW 5TH AVE #858	PORTLAND OR 97204-1912
5	RETURN SERVICE REQUESTED		1N1W15A 100	METRO	600 NE GRAND AVE	PORTLAND OR 97232-2735
6	RETURN SERVICE REQUESTED	1N1W15AD 500	NORVELL DISCLAIMER TRUST &	NORVELL LORELEI L	6720 NW SKYLINE BLVD	PORTLAND OR 97229
7	RETURN SERVICE REQUESTED		1N1W15D 100	AT&T	PO BOX 25	NEW PROVIDENCE NJ 07974-0025
8	RETURN SERVICE REQUESTED		1N1W15D 100	FOXRIDGE FARMS LLC KW VENTURES INC	9775 SW WILSHIRE ST #200	PORTLAND OR 97225
9	RETURN SERVICE REQUESTED		1N1W15D 100	KATHLEEN A WALDORF REV LIV TR	3000 SW HOMESTEAD RD	WEST LINN OR 97068
10				CURRENT RESIDENT	6220 NW SKYLINE BLVD	PORTLAND OR 97229
11				CURRENT RESIDENT	6330 NW SKYLINE BLVD	PORTLAND OR 97229
12	RETURN SERVICE REQUESTED	OWNER/AGENT	PORTLAND CITY OF - PARKS & REC	PETERSEN-MORGAN KENDRA	1120 SW 5TH AVE #1302	PORTLAND OR 97204-1926
13	RETURN SERVICE REQUESTED	APPLICANT	SFPP LP	COWEN MELISSA	1001 LOUISIANA ST #1000	HOUSTON TX 77002
14	RETURN SERVICE REQUESTED	CONTACT PERSON/CONSULTANT	AECOM	SHELL REBECCA	888 SW 5TH AVE #600	PORTLAND OR 97204
15	RETURN SERVICE REQUESTED		LINNTON NEIGHBORHOOD ASSOCIATION	TAYLOR SARAH C/O NWNW	434 NW 6TH AVE #202	PORTLAND OR 97209
16	RETURN SERVICE REQUESTED		NEIGHBORS WEST-NORTHWEST	GARRETT DARLENE URBAN	434 NW 6TH AVE #202	PORTLAND OR 97209
17	RETURN SERVICE REQUESTED		FOREST PARK NEIGHBORHOOD ASSOC	JERRY GROSSNICKLE	13510 NW OLD GERMANTOWN RD	PORTLAND OR 97231
18	RETURN SERVICE REQUESTED		LAND USE CONTACT	FOREST HEIGHTS HOA	2061 NW MILLER RD	PORTLAND OR 97229-7515
19	RETURN SERVICE REQUESTED		LAND USE CONTACT	WASHINGTON CO - TRANSPORTATION	1400 SW WALNUT ST	HILLSBORO OR 97123
20	RETURN SERVICE REQUESTED		LAND USE CONTACT	CLEAN WATER SERVICES	2550 SW HILLSBORO HIGHWAY	HILLSBORO OR 97213
21	RETURN SERVICE REQUESTED		LAND USE CONTACT	PSU DEPT OF ANTHROPOLOGY	PO BOX 751	PORTLAND OR 97207
22	RETURN SERVICE REQUESTED		LAND USE CONTACT	WILKES COMMUNITY GROUP	1017 NE 117TH AVE	PORTLAND OR 97220
23	RETURN SERVICE REQUESTED			JUDY PETERS	6916 NE 40TH ST	VANCOUVER WA 98661
24	RETURN SERVICE REQUESTED		PORTLAND METRO REGIONAL SOLUTIONS	C/O DLCD REGIONAL REPRESENTATIVE	1600 SW FOURTH AVE #109	PORTLAND OR 97201
25	RETURN SERVICE REQUESTED		LAND USE CONTACT	PORT OF PORTLAND PLANNING	PO BOX 3529	PORTLAND OR 97208
26	RETURN SERVICE REQUESTED		LAND USE CONTACT	STATE FISH & WILDLIFE	18330 NW SAUVIE ISL RD	PORTLAND OR 97231
27	RETURN SERVICE REQUESTED		LAND USE CONTACT	TRANSIT DEVELOPMENT	1800 SW FIRST AVE #300	PORTLAND OR 97201
28	RETURN SERVICE REQUESTED		LAND USE CONTACT	WETLANDS CONSERVANCY	4640 SW MACADAM #50	PORTLAND OR 97239
29	RETURN SERVICE REQUESTED			KARLA MOORE-LOVE (CITY HALL)	1221 SW 4TH AVE #130	PORTLAND OR 97204
30	RETURN SERVICE REQUESTED		RISK & LAND DEPARTMENT	NW NATURAL	250 SW TAYLOR ST	PORTLAND OR 97204-3038
31	RETURN SERVICE REQUESTED		LAND USE CONTACT	PACIFIC POWER & LIGHT	7544 NE 33RD DR	PORTLAND OR 97211
32	RETURN SERVICE REQUESTED		LAND USE CONTACT	THE SIERRA CLUB	1821 SE ANKENY ST	PORTLAND OR 97214
33	RETURN SERVICE REQUESTED		LAND USE CONTACT	US ARMY CORPS OF ENGINEERS	PO BOX 2946	PORTLAND OR 97208-2946
34	RETURN SERVICE REQUESTED		PORTLAND SCHOOL DISTRICT	LAND USE NOTICE CONTACT	501 N DIXON	PORTLAND OR 97227
35				PORTLAND HARBOR OUTFALL BASIN	DIRECTORS OFFICE BES	113/400
36				PORTLAND PARK TRAIL	TATE WHITE	B106/R1302/TRAILS
37				LAND USE CONTACT	PROSPER PORTLAND	129/PROSPER

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

Date: April 1, 2024

To: Interested Person

From: Morgan Steele, Land Use Services
503-865-6437 / Morgan.Steele@portlandoregon.gov

NOTICE OF A PUBLIC HEARING ON A PROPOSAL IN YOUR NEIGHBORHOOD

CASE FILE: LU 24-017402 EN
PC # 23-108454

REVIEW BY: Hearings Officer
WHEN: May 8, 2024, 1:30PM

This land use hearing will be limited to remote participation via Zoom. Please refer to the instructions included with this notice to observe and participate remotely (online or by phone).

Additional Hearings Office information is available at www.portland.gov/omf/hearings/land-use.

It is important to submit all evidence to the Hearings Officer. City Council will not accept additional evidence if there is an appeal of this proposal.

The development proposal, review process, and information on how to respond to this notice are described below. A copy of the site plan and zoning map are attached. I am the staff person handling the case. Please contact me if you have questions regarding this proposal. Please contact the applicant if you have questions regarding any future development on the site.

Applicant: Melissa Cowen | SFPP Lp
1001 Louisiana St #1000 | Houston, TX 77002
701.774.6110 | Melissa_Cowan@kindermorgan.com

Owner: City of Portland | Parks & Recreation
Attn: Kendra Petersen-Morgan
1120 SW 5th Avenue #1302 | Portland, OR 97204-1926

Representative: Rebecca Shell | AECOM
888 SW 5th Avenue #600 | Portland, OR 97204
971.323.6318 | Rebecca.Shell@aecom.com

Site Address: Multiple locations throughout Forest Park

Legal Description: TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W
Tax Account No.: R961140010, R961140020, R961140030
State ID No.: 1N1W14A 01200, 1N1W14A 01300, 1N1W14 00600

Quarter Section:	2219,2318,2319,2320, 2418,2419,2420
Neighborhood:	Forest Park, contact Jerry Grossnickle at landuse@forestparkneighbors.org & Linnton, contact Sarah Taylor at sarahsojourner@mac.com
Business District:	None
District Coalition:	Neighbors West/Northwest, contact Darlene Urban Garrett at darlene@nwnw.org
Plan District:	Northwest Hills - Forest Park
Other Designations:	*Natural Resources Inventory* – Resource Site FP16; Landslide Hazard Area; Wild Lands Fire Hazard
Zoning:	*Base Zone:* Open Space (OS) *Overlay Zones*: Environmental Conservation (c), Environmental Protection (p)
Case Type:	EN – Environmental Review
Procedure:	Type III, with a public hearing before the Hearings Officer. The decision of the Hearings Officer can be appealed to City Council.

Proposal:
The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (58 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, The applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park's natural resources.

All joint sites are within the City's Environmental Conservation and Environmental Protection overlay zones within the City's *Forest Park Natural Resource Management Plan* (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

Approval Criteria:
To be approved, this proposal must comply with the approval criteria of Title 33, Portland Zoning Code. The applicable approval criteria are:

- The "**Approval Criteria for Exceptions**" including criteria **A through E in Section B** on page 217 of the *Forest Park Natural Resources Management Plan*
- Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in Zoning Code section **33.563.210 A, B, and C.**
- The proposal is also subject to the prohibition of clearing between October 1 and April 30 in section 33.563.200.

The Portland Zoning Code is available online at https://www.portland.gov/code/33.

Zoning Code Section 33.700.080 states that land use review applications are reviewed under the regulations in effect at the time the application was submitted, provided that the application is complete at the time of submittal, or

complete within 180 days. This application was submitted on February 26, 2024 and determined to be complete on March 20, 2024.

Decision Making Process: The Bureau of Development Services will make a recommendation on this proposal; our report and recommendation will be available 10 days before the hearing. The staff report will be posted on the Bureau of Development Services website at https://www.portland.gov/bds/zoning-land-use/public-notices. Land use review notices are listed on the website by the District Coalition in which the site is located; the District Coalition for this site is identified at the beginning of this notice. If you are interested in viewing the file, please contact the planner listed on the front of this notice. The planner can provide information over the phone or via email. Only digital copies of the material in the file are available for viewing.

The proceeding before the Hearings Officer will be the only opportunity for the parties to submit oral and written evidence in this matter. Any appeal to the City Council will be limited to legal arguments concerning the Hearings Officer decision and the evidence in the record compiled by the Hearings Officer in support of that decision.

To comment, you may testify at the hearing, submit comments at www.portland.gov/omf/hearings/land-use; email your comments to HearingsOfficeClerks@portlandoregon.gov; write to the Land Use Hearings Officer, 1900 SW Fourth Ave., Suite 3100, Portland, OR 97201; or FAX your comments to 503-823-4347. **Please see the enclosed insert for further information on how to testify.** In your comments, you should address the approval criteria. Please refer to the file number when seeking information or submitting testimony. Written comments must be received by the end of the hearing. Please note that all correspondence and testimony received will become part of the public record. The applicant and Bureau of Development Services staff will be available during the hearing to answer questions and respond to comments. The general order of appearance for oral testimony at the hearing is as follows: Bureau of Development Services staff report, applicant testimony, testimony of interested parties who wish to ask questions or testify, staff response and closing comments, and applicant's closing comments. The Hearings Officer will make a decision about this proposal within 17 days of the close of the record.

ORS 227.178 states the City must issue a final decision on land use review applications within 120 days of the application being deemed complete. The 120-day review period may be extended at the request of the applicant.

Appeal Process: You can appeal the Hearings Officer decision to City Council. However, the appeal to City Council will be conducted as an on-the-record review of the Hearings Officer decision. The City Council will consider legal arguments (for example arguments pointing out ways the Hearings Officer decision improperly interprets or applies relevant approval criteria). The City Council will also consider arguments that the Hearings Officer findings are not supported by the evidence submitted to the Hearings Officer. However, the City Council will not accept or consider new evidence that was not submitted to the Hearings Officer.

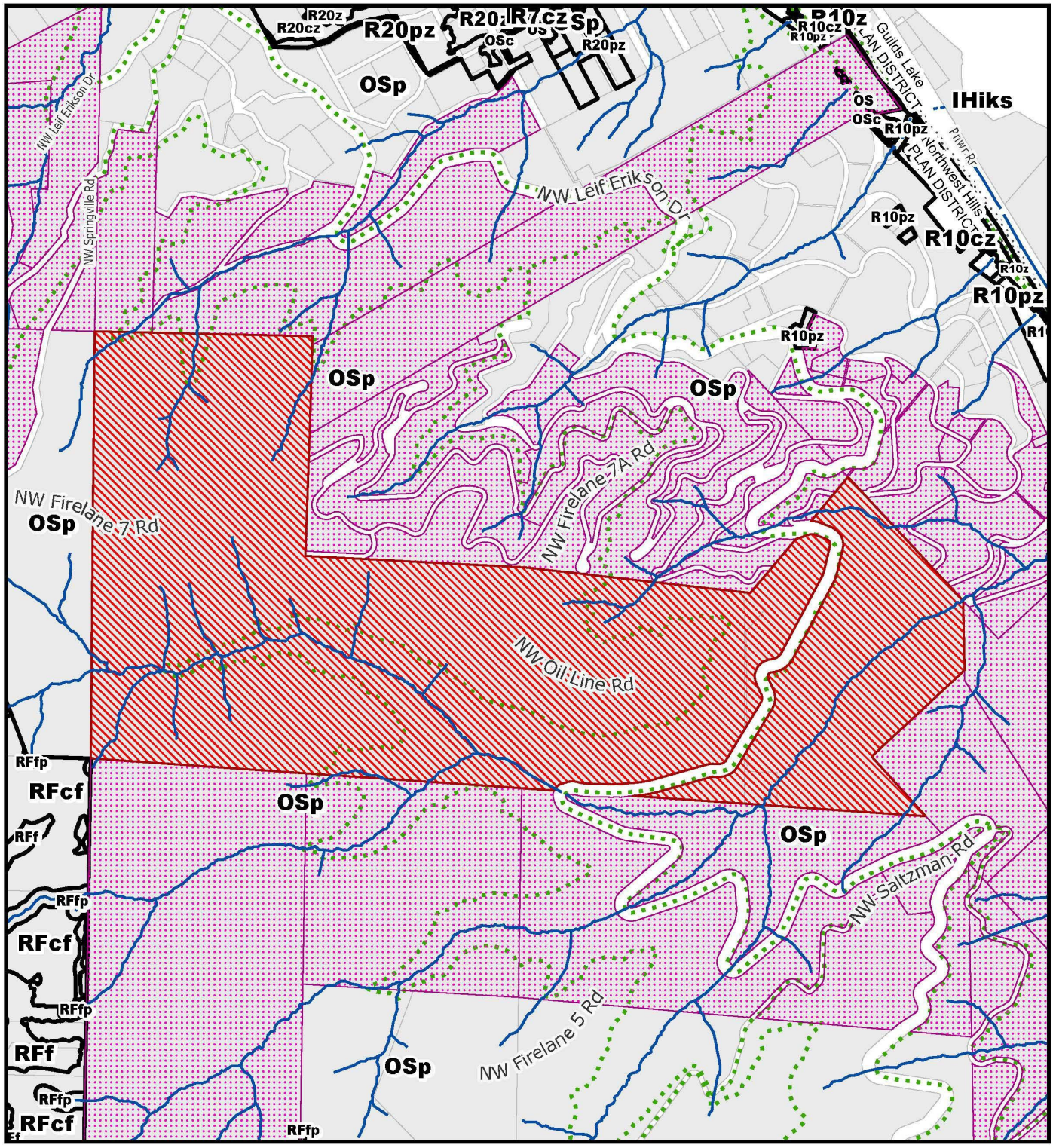
A fee is charged for appeals. Recognized neighborhood associations may qualify for an appeal fee waiver. City Council's decision may be appealed to the Oregon Land Use Board of Appeals (LUBA).

Failure to raise an issue, in person or in writing, by the close of the record by the Hearings Officer in this case may preclude an appeal to LUBA on that issue. If you do not provide enough detailed information to the Hearings Officer, they may not be able to respond to the issue you are trying to raise. In such a situation, an appeal to LUBA on that issue may not be allowed.

Hearing Cancellation: This public hearing may be canceled due to inclement weather or other emergency. Contact the Hearings Office at 503-823-7307 or HearingsOfficeClerks@portlandoregon.gov for immediate information regarding cancellations or rescheduling. If canceled, the hearing will be rescheduled for the earliest possible date. A renotification notice will not be sent. Additional information about the Hearings Office is available at www.portland.gov/omf/hearings/land-use.

The Bureau of Development Services is committed to providing equal access to information and hearings. To request an accommodation or alternative format of communication, please contact us at least five business days prior to the hearing at 503-823-7300 (TTY 503-823-6868).

Enclosures:
Zoning Map
Site Plan
Land Use Hearing Participation Information



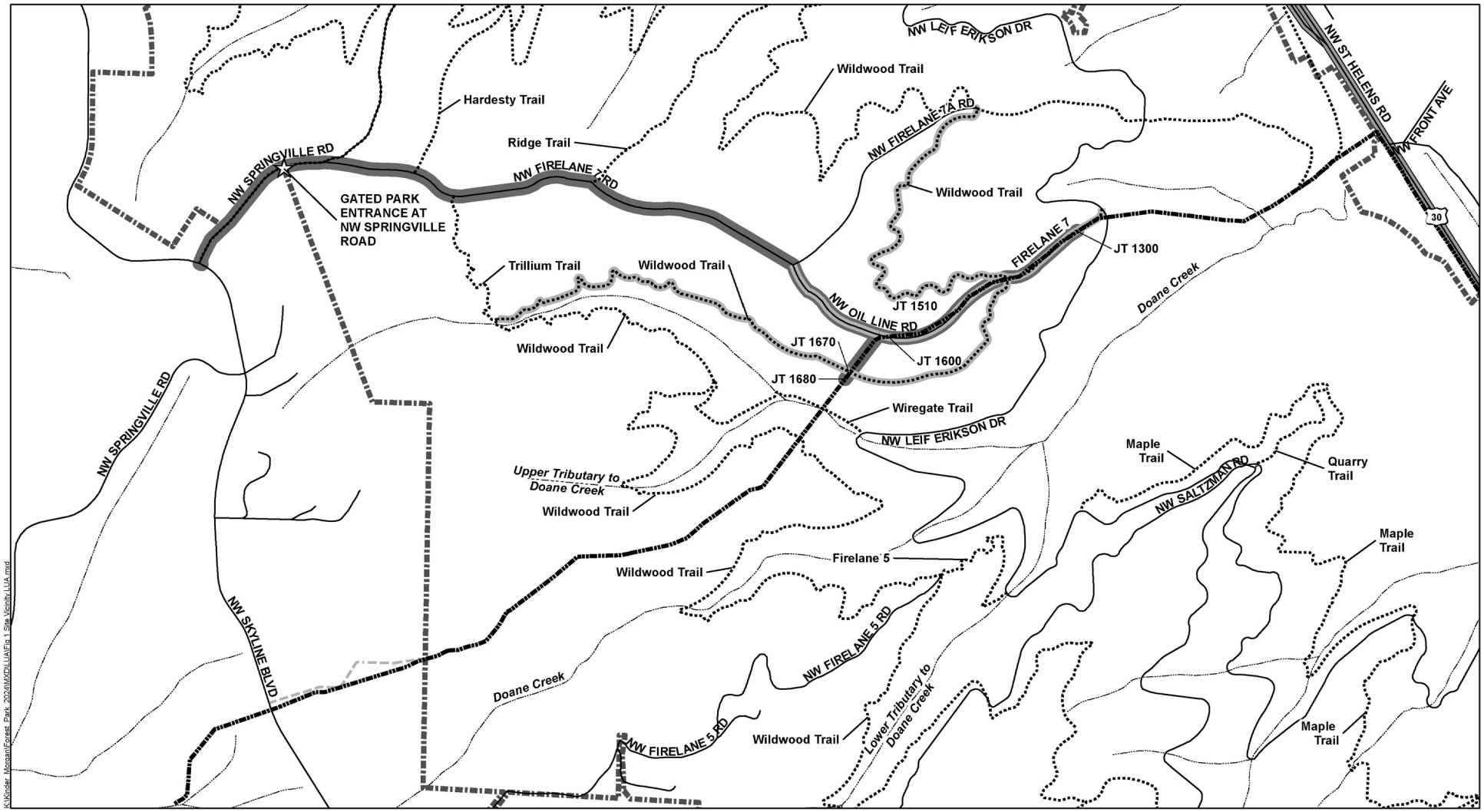
For Zoning Code in Effect Post October 1, 2022

ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Stream
- Recreational Trails

File No.	LU 24 - 017402 EN
1/4 Section	Multiple
Scale	1 inch =800 feet
State ID	1N1W14A 1200
Exhibit	B Feb 26, 2024



K:\Kinder_Morgan\Forest_Park_2024\MXD\LUA\Fig 1 Site Vicinity_LUA.mxd

LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 600 1,200 Feet

FIGURE 1: SITE VICINITY, CONSTRUCTION ACCESS, AND TRAIL CLOSURE

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

LU 24-017402 EN

Hearings Office
City of Portland
1900 SW 4th Avenue, Room 3100, Portland, OR 97201 phone: 503.823.7307
www.portland.gov/omf/hearings fax: 503.823.4347
email: HearingsOfficeClerks@portlandoregon.gov

Land Use Hearing Participation Information

Case Number: 24-017402 EN (Hearings Office Case Number 4240007)
Site Address: Forest Park (multiple locations)
Hearing Date: May 8, 2024
Hearing Time: 1:30 PM

The above-referenced land use hearing will take place via the Zoom platform.

Zoom Participation Options and Instructions

Zoom Option

- You will need an internet connection and a personal computer or other internet capable device.
- You can listen, view the City Planner's PowerPoint presentation, and you have the opportunity to provide oral testimony.
- Instructions:

Go to:
https://us06web.zoom.us/j/84338894765

Telephone Option

- You will need a telephone.
- You will be able to listen and testify but you will not be able to view documents and presentations shared on the Zoom platform (if any).
- Instructions:

Dial: +1 669 900 6833
Meeting ID: 843 3889 4765#

Written Testimony

- Prior to the Hearing and until the close of evidence, you may submit written testimony. In other words, written testimony can be provided up to the close of the record, which will be announced at the hearing.
- *Note: A document's timeliness is determined by the date/time when it is received by the Hearings Office Clerks.*
- Please reference the case number in any documents you wish to submit.

Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #2
Page 1 of 2

- Instructions/Options:

Online Case Management System
https://www.portland.gov/omf/hearings/land-use

SCAN ME

Email: HearingsOfficeClerks@portlandoregon.gov
Fax: 503-823-4347
Mail: Hearings Office, 1900 SW 4th Avenue, Room 3100,
Portland, OR 97201

View File Contents

We use a fully electronic case file. Your online viewing options are available at our website: https://www.portland.gov/omf/hearings/land-use
If you do not have online access, you may make a written request for a hard copy of any exhibit to be mailed to you.

Meaningful Access

The City of Portland is committed to providing meaningful access.
For accommodations, modifications, translation, interpretation, or other services, please call 503-823-7307, the TTY at 503-823-6868 or the Oregon Relay Service: 711. Traducción e interpretación | Chuyển Ngữ hoặc Phiên Dịch | 翻译或传译

Письменныйили устный перевод | 翻訳または通訳 | Traducere sau Interpretare 번역 및 통역 | Письмовий або усний переклад | Turjumida ama Fasiraadda|

Questions or Concerns

You may contact the Hearings Clerks via email at HearingsOfficeClerks@portlandoregon.gov or by calling 503-823-7307.

Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #2
Page 2 of 2

Land Use Response

Date: April 9, 2024
To: Morgan Steele, BDS Land Use Services
503-865-6437, Morgan.Steele@portlandoregon.gov
From: Ella Ruth, BES Systems Development
503-823-8068, Ella.Ruth@portlandoregon.gov
Case File: LU 24-017402
Location: NW LEIF ERIKSON DR
R#: R324223, R324224, R324225
Proposal: HO HEARING - The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park.

The following comments are based on the land use review plans and documents provided to the Bureau of Environmental Services (BES). Some references to Portland City Code (PCC) are included below; the applicant may also refer to the Auditor's Office Online Charter and Code page.

A. Response Summary

BES does not object to approval of the environmental review application. The proposed development will be subject to BES standards and requirements during the permit review process.

B. Sanitary Service

For BES to recommend approval of the environmental review application, the applicant must demonstrate that the proposed project will accommodate sanitary disposal facilities that are approvable under PCC 17.32 and that are reflected in the project's proposed disturbance limits. The comments below relate to this requirement.

1. *Existing Sanitary Infrastructure*: According to available GIS data, the following sewer infrastructure is located in the vicinity of the project site:

    a. There are no public sanitary sewers within the vicinity of the proposed project.

    Based on the provided project scope, it does not appear that any connections to the sanitary sewer are proposed.

Staff finds the applicant's proposed sanitary sewer service acceptable for the purpose of reviewing the environmental review application.

C. Stormwater Management

For BES to recommend approval of the environmental review application, the applicant must demonstrate that the proposed project will accommodate stormwater management facilities that are approvable under PCC 17.38 and that are reflected in the project's proposed disturbance limits. The comments below relate to this requirement.

1. *Existing Stormwater Infrastructure*: According to available GIS data, the following stormwater infrastructure is located in the vicinity of the project site:

    a. There are no public storm-only sewers available to this property.

2. *General Stormwater Management Requirements*: Development and redevelopment sites

that include any of the triggers listed in PCC 17.38.040 are subject to the policies and standards of PCC 17.38.035, Portland's Stormwater Management Manual (SWMM) and Source Control Manual (SCM). Projects must comply with the current adopted version of the SWMM as of the permit application date. A fundamental evaluation factor in the SWMM is the Stormwater Infiltration and Discharge Hierarchy (Section 1.3.3), which sets the framework that will be used to determine when a project's stormwater runoff must be infiltrated onsite and when offsite discharge will be permitted, and the parameters that must be met for either scenario. If tested infiltration rates on a property are greater than or equal to 2 inches per hour, onsite infiltration will be required unless the site qualifies for the ecoroof exception per Section 3.2.1 or infiltration is determined infeasible based on site conditions described in Chapter 2 of the SWMM. Note that maximum building coverage allowed by the zoning code, including below grade development, does not exempt the applicant from stormwater requirements. Pollution reduction and flow control requirements must be met using vegetated facilities to the maximum extent feasible, though roof runoff and some paved impervious surfaces are exempt when discharging directly to a UIC (refer to Sections 1.3.2, 1.3.4, 3.2.4 and 4.2.2 of the SWMM).

3. *Private Property Stormwater Management*: Stormwater runoff from this project must comply with all applicable standards of the SWMM and be conveyed to a discharge point along a route of service approved by the BES Director or the Director's designee.

    a. From the submitted site plans, it appears that the proposed project will add or redevelop less than 500 square feet of impervious area. Therefore, stormwater management requirements of the SWMM are not triggered.

4. *Public Right-of-Way Stormwater Management*: Stormwater runoff from public right-of-way improvements as required by the City of Portland Bureau of Transportation (PBOT) must be managed according to the standards of the SWMM and the Sewer and Drainage Facilities Design Manual. There are no public right-of-way improvements that will trigger BES public stormwater drainage improvements.

Staff finds the applicant's proposed stormwater management plan acceptable for the purpose of reviewing the environmental review application.

D. Conditions of Approval

BES has no recommended conditions of approval.

E. Permit Information

At the time of permit review the applicant should be aware of the following:

1. *Building Plans*: Building plans for this project must include a detailed site utility plan which shows proposed and existing sanitary connections, as well as stormwater management that meets the requirements of the version of the SWMM that is in effect at the time permit applications are submitted.

G. Administrative Review

The applicant may request a modification of a decision presented in this response, as applicable, via an administrative review as outlined in PCC sections 17.06.050, 17.32.150, 17.33.100, 17.34.115, 17.36.110, 17.38.060 and 17.39.120 and in those sections' associated administrative rules. Some portions of this response are not decisions, but guidance related to requirements that this proposal may be subject to during City review of other processes, such as a building permit or public works permit review. While these are not decisions that are ripe to be considered through an administrative review, if the outcome of a future administrative review needs to be anticipated at this time in order to inform the land use action, the administrative review process

may be utilized. Some items, such as technical standards, are not reviewable. For guidance on whether a modification can be requested and whether the land use process is the proper time to request it, consult with the BES staff identified above prior to submitting a request.

There is no fee charged for an administrative review, and all BES penalties and late fees will be stayed pending the outcome of the review process, as applicable. To request an administrative review, the applicant must complete the Administrative Review Request Form (located here: www.portlandoregon.gov/bes/68285) and submit it to the Systems Development staff listed above within 20 business days of the mailing date of this response. The applicant should coordinate with the BDS planner to determine whether applying for an administrative review would have an impact on state-mandated land use timelines.

Completeness Response

Date: March 6, 2024

To: Morgan Steele, BDS Land Use Services
503-865-6437, Morgan.Steele@portlandoregon.gov

From: Ella Ruth, BES Systems Development
503-823-8068, Ella.Ruth@portlandoregon.gov

Case File: LU 24-017402

Location: NW LEIF ERIKSON DR

Proposal: Inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repairs may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

BES provides the following comments in response to materials received for the purpose of determining completeness of the above-referenced Land Use application. Items requested in this memo should not be considered final, as staff reserves the right to request additional materials during the formal review period.

1. The applicant has submitted the minimum level of information for BES to recommend the application be deemed complete and to begin conducting a full review of the land use application. As staff begins reviewing the application against relevant approval criteria and BES code requirements, additional information may be requested.

RESPONSE TO THE BUREAU OF DEVELOPMENT SERVICES
LAND USE REVIEW REQUEST

LU: 24-017402-000-00-LU Date: March 4, 2024

To: Morgan Steele, Bureau of Development Services, B299/R5000

From: Tammy Boren-King, B106/800, 503-823-2948, tammy.boren-king@portlandoregon.gov

Applicant: Sfpp Lp *Melissa Cowen*
SFPP LP
1001 LOUISIANA ST #1000
HOUSTON, TX 77002

Location: NW LEIF ERIKSON DR

TYPE OF REQUEST: Type 3 procedure EN - Environmental Review

DESCRIPTION OF PROJECT

Inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repairs may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

RESPONSE

Portland Transportation/Development Review has reviewed the application for its potential impacts regarding the public right-of-way, traffic impacts and conformance with adopted policies, street designations, Title 33, Title 17, and for potential impacts upon transportation services.

There are no transportation related approval criteria for the subject environmental review.

The proposal does not trigger either of the public improvement requirements of 17.88.020. No public improvements or dedication are required.

The submitted materials do not call out any work in the public right-of-way. As such, it is not anticipated that any public works permits or minor improvement permits will be necessary.

RECOMMENDATION

PBOT has no objection to the application being deemed complete.

RESPONSE TO THE BUREAU OF DEVELOPMENT SERVICES
LAND USE REVIEW REQUEST

LU: 24-017402-000-00-LU Date: April 2, 2024

To: Morgan Steele, Bureau of Development Services, B299/R5000

From: Tammy Boren-King, B106/800, 503-823-2948, tammy.boren-king@portlandoregon.gov

Applicant: Sfpp Lp *Melissa Cowen*
SFPP LP
1001 LOUISIANA ST #1000
HOUSTON, TX 77002

Location: NW LEIF ERIKSON DR

TYPE OF REQUEST: Type 3 procedure EN - Environmental Review

DESCRIPTION OF PROJECT

HO HEARING - The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1). The proposed pipeline work will require the removal of several native trees (58 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, The applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park¿s natural resources.All joint sites are within the City¿s Environmental Conservation and Environmental Protection overlay zones within the City¿s Forest Park Natural Resource Management Plan (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review. All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

RESPONSE

Portland Transportation/Development Review has reviewed the application for its potential impacts regarding the public right-of-way, traffic impacts and conformance with adopted policies, street designations, Title 33, Title 17, and for potential impacts upon transportation services.

There are no transportation related approval criteria for the subject environmental review.

The proposal does not trigger either of the public improvement requirements of 17.88.020. No public improvements or dedication are required.

The submitted materials do not call out any work in the public right-of-way. As such, it is not anticipated that any public works permits or minor improvement permits will be necessary.

RECOMMENDATION

PBOT has no objection to the request.

RESPONSE TO THE BUREAU OF DEVELOPMENT SERVICES
LAND USE REVIEW REQUEST

LU: 24-017402-000-00-LU Date: April 2, 2024

To: Morgan Steele, Bureau of Development Services, B299/R5000

From: Tammy Boren-King, B106/800, 503-823-2948, tammy.boren-king@portlandoregon.gov

Applicant: Sfpp Lp *Melissa Cowen*
SFPP LP
1001 LOUISIANA ST #1000
HOUSTON, TX 77002

Location: NW LEIF ERIKSON DR

TYPE OF REQUEST: Type 3 procedure EN - Environmental Review

DESCRIPTION OF PROJECT

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RESPONSE

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The proposal does not trigger either of the public improvement requirements of 17.88.020. No public improvements or dedication are required.

The submitted materials do not call out any work in the public right-of-way. As such, it is not anticipated that any public works permits or minor improvement permits will be necessary.

RECOMMENDATION

PBOT has no objection to the request.

– Life Safety (1)								
☐	Life Safety Review - LU	LIFE SAFETY - LU	No concerns	03/25/2024	04/15/2024	04/10/2024	04/10/2024	
– Fire Bureau (1)								
☐	Fire Review - LU	Krantz,Dawn	No concerns	03/25/2024	04/15/2024	04/05/2024	04/05/2024	

– Life Safety (1)								
☐	Life Safety Review - LU	LIFE SAFETY - LU	No concerns	03/25/2024	04/15/2024	04/10/2024	04/10/2024	
– Fire Bureau (1)								
☐	Fire Review - LU	Krantz,Dawn	No concerns	03/25/2024	04/15/2024	04/05/2024	04/05/2024	

City of
Portland, Oregon
Bureau of Development Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

Land Use Review Response

Site Development Section, BDS

To:	Morgan Steele, LUR Division
From:	Ericka Koss, Site Development (503-823-7537)
Location/Legal:	TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W
Land Use Review:	LU 24-017402
Proposal:	HO HEARING - The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1). The proposed pipeline work will require the removal of several native trees (58 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, The applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park¿s natural resources. All joint sites are within the City¿s Environmental Conservation and Environmental Protection overlay zones within the City¿s Forest Park Natural Resource Management Plan (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review. All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.
Quarter Sec. Map:	2219,2318,2319,2320, 2418,2419,2420
Date:	April 15, 2024

Construction Management Plan

A construction management plan must be submitted for all environmental reviews. Site Development reviewed the erosion control elements of the construction management plans and take no exceptions to the plans for the purpose of satisfying the land use application requirements of PCC 33.430.240.

Conclusion

Site Development section staff have reviewed the land use submittal documents and take no exception to approval of the environmental land use review. We do not request any conditions of approval as part of the land use decision.

Urban Forestry
Land Use Review Response

Date: April 12, 2024
From: Jason Thaete
971-277-0799, Jason.Thaete@portlandoregon.gov
Case File: 24-017402-000-00-LU
Location NW LEIF ERIKSON DR
Proposal: HO HEARING - The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (58 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, The applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park¿s natural resources.

All joint sites are within the City¿s Environmental Conservation and Environmental Protection overlay zones within the City¿s Forest Park Natural Resource Management Plan (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

Urban Forestry has reviewed the proposal for its impact on existing city trees, street trees and heritage trees, street tree planting requirements and related mitigation in accordance with Title 11, Trees and for potential impacts upon urban tree canopy. It is the applicant’s responsibility to disclose all aspects of their land use proposal that may impact required street tree plantings and existing street trees during the land use review process.

UNLESS EXPLICITLY STATED HEREIN, THIS REVIEW DOES NOT APPROVE STREET TREE REMOVALS AND DOES NOT PROVIDE ANY EXEMPTIONS TO TITLE 11 REQUIRMENTS.

Permits required after land use approval are subject to all applicable development standards and all provisions of the City Code, including Title 11. Title 11 regulations will be applied during the permit review process.

PLEASE NOTE THERE MAY BE OTHER APPLICABLE TREE REQUIREMENTS AS PER TITLE 33 PLANNING & ZONING.

A. Response Summary

Urban Forestry does not recommend approval of the land use proposal due to insufficient information provided to adequately demonstrate how the proposal will impact regulated trees. Prior to issuing a recommendation of approval Urban Forestry requires additional information as described below and summarized here: Tree Protection Plan needs to provide a narrative for why the access route was chosen for the repairs, showing that this route has the least impacts to trees. The plan must list the equipment size and required path width for access and the rationale behind why certain trees were selected to be remove. The plan needs to discuss why each tree planned for removal cannot be retained.

Title 11 permit will be required to permit all regulated tree removals for this project. A Preliminary Project Design Form must be submitted with Urban Forestry prior Land Use approval. The Preliminary Design Form can be found here: https://www.portland.gov/trees/trees-development/documents/urban-forestry-preliminary-project-design-form

A. Tree Plan (11.50.070)

A Title 11 compliant tree plan must be submitted with each phase of development review and permitting including land use reviews, building permits, and public works permits. The same tree plan shall be included with each permit.
A tree plan was submitted with the land use proposal, and additional tree information is required.
The following information is required for trees on city owned property and was not included with the proposal:

a. Technical Analysis
   - Provide details about stockpile zones and what equipment and materials will be stored. How will these zones impact trees?
   - Alternate paths need to be addressed. Narrative analysis in report needs to justify the path chosen and why certain trees were chosen to be removed instead of others, or none.
   - See markups on submitted arborist report (SavATree Arborist Report).

B. On Site Trees

City Managed Sites (11.50.040.C.2.a)
For development on City owned or managed sites applicants are required to consult with the City Forester at the preliminary project design phase if City or Street Tree removal is likely to occur to complete the project. The purpose of this consultation is to identify potential impacts and opportunities to retain existing trees, as well as any measures required to protect trees on site. (11.50.040)

There is no record of Urban Forestry having been consulted in regards to this project. A Preliminary Project Design Form must be submitted with Urban Forestry. The Preliminary Design Form can be found here: https://www.portland.gov/trees/trees-development/documents/urban-forestry-preliminary-project-design-form

1. *On-Site Tree Preservation* (11.50.040)

The on-site trees are subject to Title 33 standards and review factors. The Bureau of Development services will review these trees.

The proposed tree removal(s) may be permitted for removal during the appropriate development permit. On City-owned or managed sites, healthy, non-nuisance trees ≥ 6" DBH that are approved for removal shall be replanted in accordance with the Administrative Rule PRK-2.04 to mitigate the tree canopy loss as a result of the project. Mitigation for trees removed shall occur in the street planter strip, on site, or in the same watershed either by planting or by paying fees-in-lieu of planting for each tree not planted. Mitigation will be required through the appropriate development permit. Fees-in-lieu will be charged in accordance with the Title 11 Trees Fee Schedule through the title 11 permit.

The land use proposal has not provided adequate information to determine if existing trees may be approved and permitted for removal as part of the proposed development during the permit review process.

All trees not approved for removal are required to be retained and protected during all stages of the development.

1. *On-Site Tree Protection Specifications* (11.60.030)
   Tree Protection Plan has been submitted through arborist report.

C. Recommendations

Urban Forestry does not recommend approval of the land use proposal at this time. Provide additional information as noted in technical analysis.

PPDF must be submitted.

Sibyl Weise
Arborist Consultant
ISA Cert# PN-8718A TRAQ
971-375-7280 I sweise@savatree.com

Minimum access requirements need to be addressed in order to justify trees removals due to insufficient space

Tree Removals

There are 70 trees proposed for removal and are broken down into the following: 33 trees removed for access, 21 trees removed because a majority of their root zones are within the excavation zone, and 16 trees removed because they are hazardous. Hazardous trees are defined as trees that are defective, diseased, dying, or dead that pose a high risk of failure with the potential to cause injury/death to people and damage to structures. There are 17 potential removal trees depending on a couple factors. The first factor is if the survey equipment was accurate in location of the girth weld and the anomaly. The second factor is whether the welders are able to find good metal to weld the metal sleeve to. A majority of the trees proposed for removal are 15" and under. There are 13 trees that are over 15" in diameter but they are not an uncommon size for these particular species. A majority of these trees over 15" are Douglas-firs which are fairly common species and size maturity in this area.

There are two trees that will require partial removal. There are Tree 480 and 485 which are both alders in fair health condition. Both of these trees are codominant stemmed and one of their leaders is in the way of access and/or within the pipeline excavation.

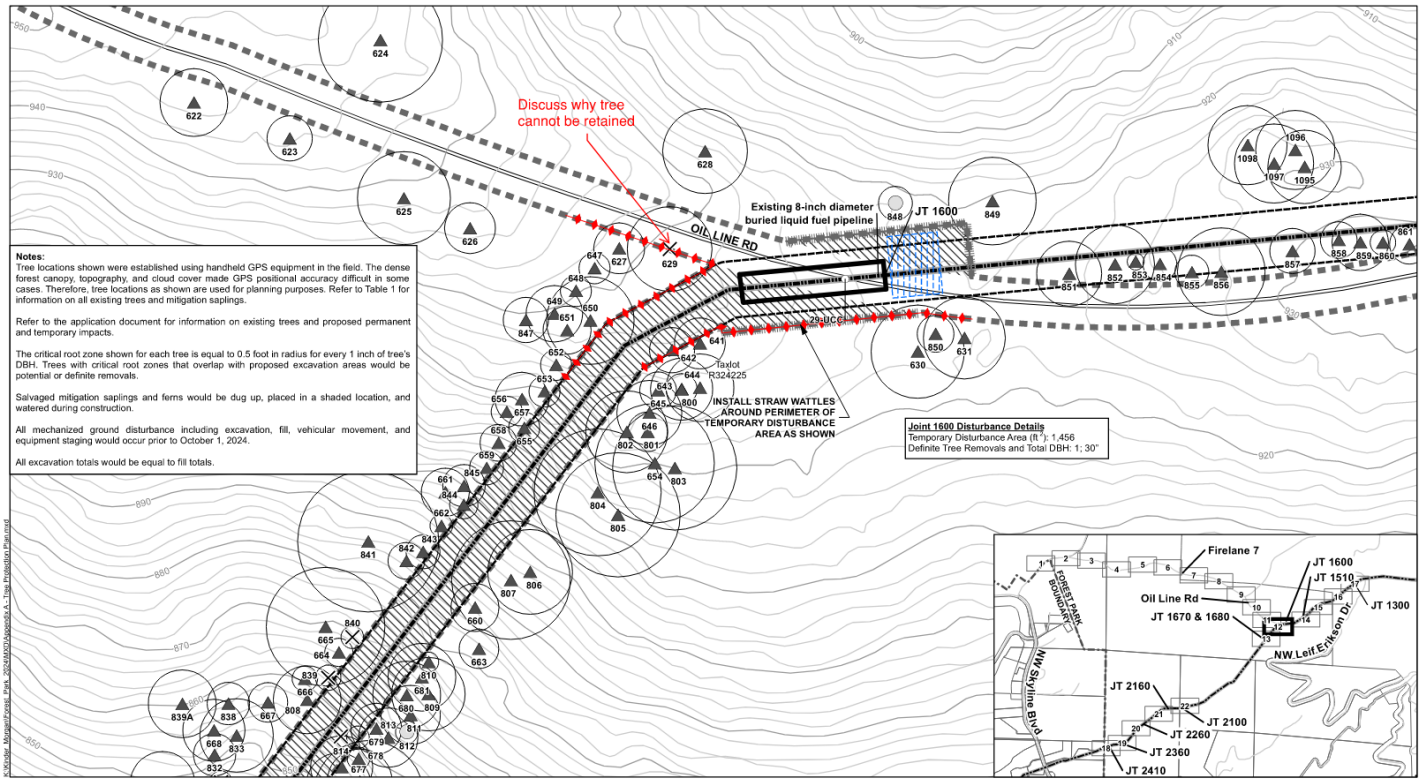
For more information on proposed removals, please visit the appendix.

Tree Protection Methods

The Root Protection Zone (RPZ) for each tree is equal to 1 foot radius for every 1 inch of the tree's DBH (per City Code Section 11.60.030). For example: a 24" DBH tree has a tree protection radius of 24-feet.

Tree Protection Fencing Around Temporary Disturbance Areas

Due to the close proximity of multiple mature trees to the proposed pipeline repair sites, the performance path method of tree protection will be used. A temporary disturbance boundary around each proposed excavation area was estimated to allow for pipeline repairs to occur while minimizing ground and vegetation disturbance, including disturbance to adjacent trees. Therefore, temporary tree protection fencing shall be installed to designate the proposed temporary disturbance area boundaries, which will protect a majority of the nearby tree's root zones and will prevent equipment damaging their trunks. Trees whose root protection zones are estimated to overlap largely with the excavation area have already been deemed definite or potential tree removals by the arborist. The fencing shall protect a majority of the trees' root zones and will prevent equipment damaging the trunk. Any disturbance outside the fencing, but inside the root protection zone will have an Arborist onsite to monitor.



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Street
- Stockpiles
- Temporary Disturbance Area
- Excavation Area
- SFPP ROW
- Vegetation Clearing Area
- Taxlots

Note: Landslide susceptibility is moderate unless otherwise shown. Unless otherwise indicated, the areas shown are within a City of Portland Preservation Zone Overlay.

N

0 15 30 Feet

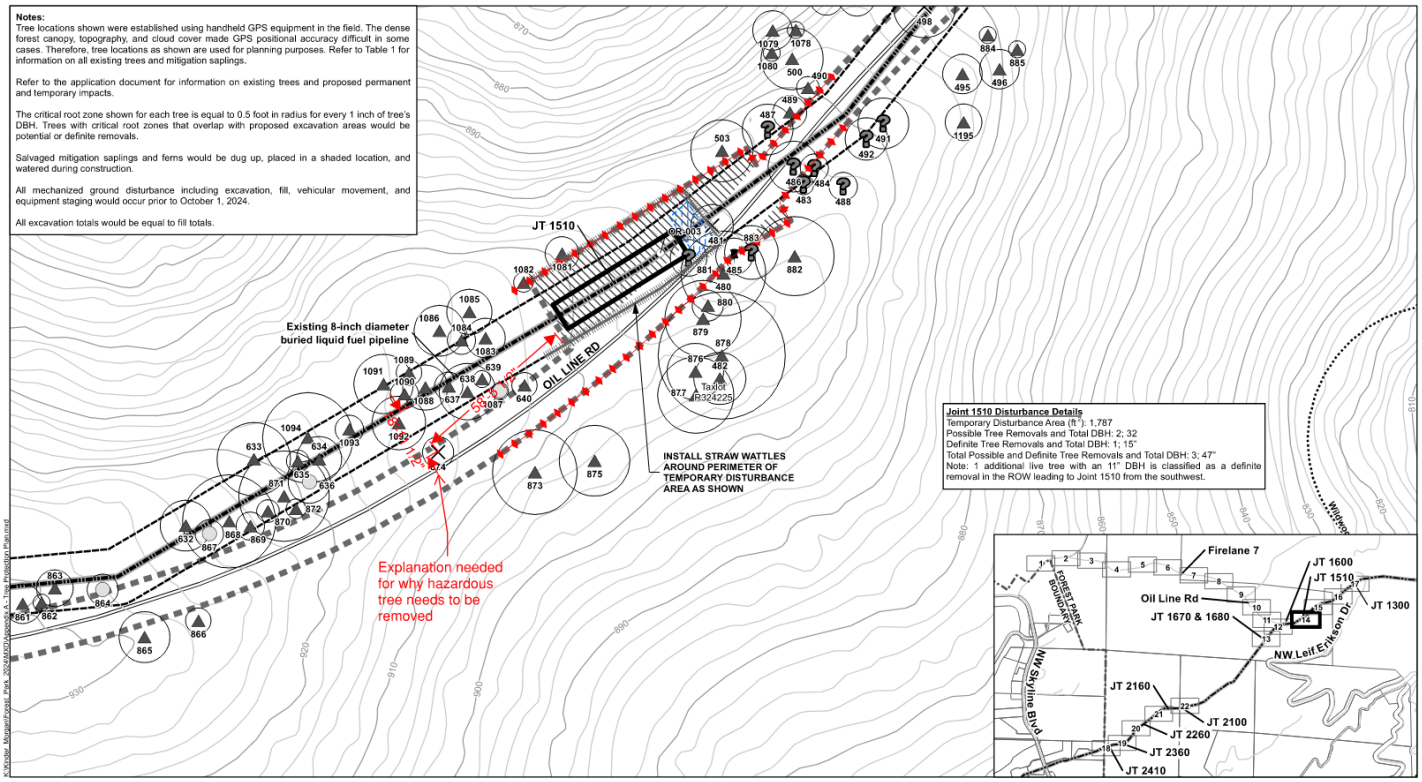
APPENDIX C - TREE PROTECTION PLAN - SHEET 12 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN



LEGEND

- Detected Pipeline Anomaly
- Existing Tree
- Existing Tree Pruning
- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
- Critical Root Zone
- Tree_Protection_Fencing
- Straw Wattle
- 2' Contours
- 10' Contours
- Existing Pipeline
- Existing Trail
- Street
- Stockpiles
- Temporary Disturbance Area
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- Vegetation Clearing Area
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N

0 15 30 Feet

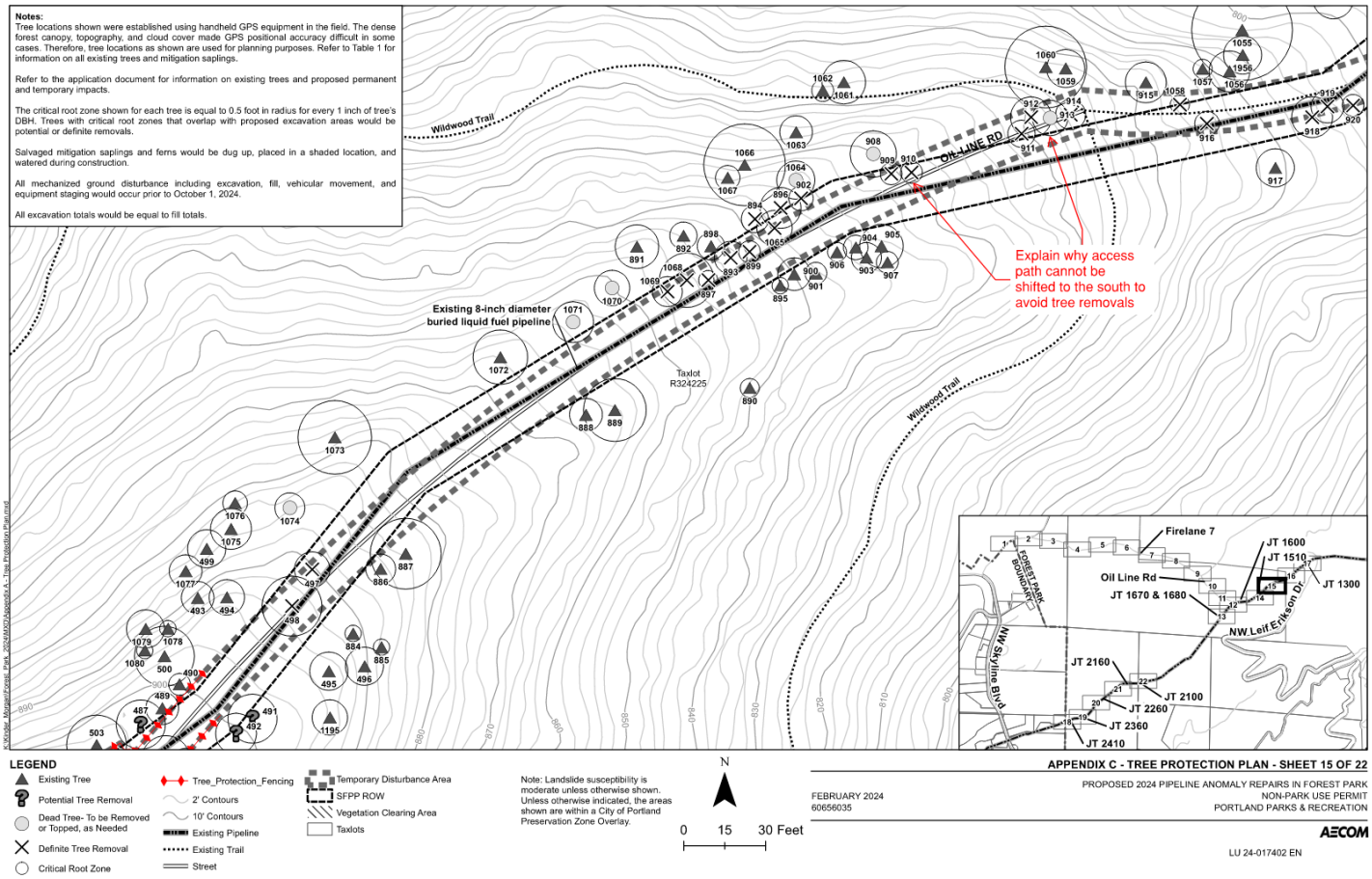
APPENDIX C - TREE PROTECTION PLAN - SHEET 14 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN



LEGEND

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- Potential Tree Removal
- Dead Tree- To be Removed or Topped, as Needed
- Definite Tree Removal
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N

0 15 30 Feet

APPENDIX C - TREE PROTECTION PLAN - SHEET 15 OF 22

FEBRUARY 2024
60656035

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
NON-PARK USE PERMIT
PORTLAND PARKS & RECREATION

AECOM

LU 24-017402 EN

Urban Forestry
Land Use Review Response

Date: April 18, 2024
From: Jason Thaete
971-277-0799, Jason.Thaete@portlandoregon.gov
Case File: 24-017402-000-00-LU
Location NW LEIF ERIKSON DR
Proposal: HO HEARING - The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (58 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, The applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park¿s natural resources.

All joint sites are within the City¿s Environmental Conservation and Environmental Protection overlay zones within the City¿s Forest Park Natural Resource Management Plan (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

Urban Forestry has reviewed the proposal for its impact on existing city trees, street trees and heritage trees, street tree planting requirements and related mitigation in accordance with Title 11, Trees and for potential impacts upon urban tree canopy. It is the applicant’s responsibility to disclose all aspects of their land use proposal that may impact required street tree plantings and existing street trees during the land use review process.

UNLESS EXPLICITLY STATED HEREIN, THIS REVIEW DOES NOT APPROVE STREET TREE REMOVALS AND DOES NOT PROVIDE ANY EXEMPTIONS TO TITLE 11 REQUIRMENTS.

Permits required after land use approval are subject to all applicable development standards and all provisions of the City Code, including Title 11. Title 11 regulations will be applied during the permit review process.

PLEASE NOTE THERE MAY BE OTHER APPLICABLE TREE REQUIREMENTS AS PER TITLE 33 PLANNING & ZONING.

Response Summary

With the conditions recommended in this response, Urban Forestry does not object to approval of the land use proposal. The proposed development will be subject to Urban Forestry standards during the permit review process.

A. Tree Plan (11.50.070)
A tree plan must be submitted with each phase of development review and permitting including land use reviews, building permits, and public works permits. The same tree plan shall be included with each permit.

A tree plan was submitted with the land use application. The plan must include the following information for street trees, Heritage trees, and trees on city owned property:

1. Existing improvements
2. Construction staging areas
3. Proposed alterations including structures, impervious areas, grading, and utilities
4. Exiting trees
    a. Heritage trees
    b. Private trees at least 12 inches in diameter
    c. City trees at least 6 inches in diameter
    d. Street trees at least 3 inches in diameter
5. Proposed tree activity
    a. Indicate trees to be retained and proposed tree protection
    b. Indicate trees to be removed
    c. Show location, species, planting size and number of trees to be planted
6. Protection plan
    a. The protection plan must describe the potential impacts of construction methods, staging areas, equipment usage, loading areas, and building materials that will impact regulated trees. The plan must describe how the existing City trees will have continued protection during the proposed development.

A. On Site Trees

City Managed Sites (11.50.040.C.2.a)

1. *Existing On-Site Conditions*
   Project is shown to be conducted within Environmental Protection zone (OSp) located in Forest Park.
2. *On-Site Tree Preservation* (11.50.040)
   The applicant proposes to remove 57 trees (tree species, DBH and conditions noted SavATree 2024 Tree Protection Plan). An additional 14 trees are planned to be removed that are exempt from Title 33 due to being dead. 34 trees will be removed for access, 21 trees will be removed due to excavation, and 16 trees will be removed because of hazardous conditions.

   The proposed tree removal(s) will be allowed for the project to access and repair joints along the existing pipeline. On City-owned or managed sites within designated environmental overlay zones, Portland Title 33 (administered by the Bureau of Development Services) designate mitigation required for tree removals.

All trees not approved for removal are required to be retained and protected during all stages of the development.

1. *On-Site Tree Protection Specifications* (11.60.030)
   Tree protection is required in accordance with Title 11 Trees, Protection Methods (11.60.030). Tree protection shall follow either the Prescriptive or Performance path. Protection methods must be shown on the tree plan. If using the Performance path, the alternate tree protection plan must be prepared by an arborist who has visited the site. The protection plan must describe the potential impacts of construction methods, staging areas, equipment usage, loading areas, and building materials that will impact regulated trees.

1. *On-Site Tree Density Standards* (11.50.050.D)
   The applicant does not need to provide a conceptual tree planting plan. The on-site tree preserved exceeds tree density requirements.

B. Recommendations

a. If the land use proposal is approved, Urban Forestry requires the following conditions be included in the decision:
   i. All guidelines, tree protection plans and specifications described in the project arborist's tree report shall be followed.
   ii. Any pruning (either root or crown) shall be documented by the project arborist and submitted to Urban Forestry (Jason.Thaete@portlandoregon.gov)
   iii. Any changes to the tree protection plan shall be approved by Urban Forestry prior to work continuance.
   iv. If the project arborist determines retained trees undergo intolerable impacts, tree removal shall be approved by both Urban Forestry and Bureau of Development Services prior to tree removal.
   v. Either the contractor or the project arborist shall disclose any violations of the tree protection plan to Urban Forestry with 48 hours of the damage occurring.

Plan Set Review	Comment	Author	Resolution
General	Please remind AECOM that they will be required to complete a Non Parks Use Permit for PP&R.	Laura Lehman	
General	Review 2022 Permit of Entry for Park Property and provide updated versions of those conditions for the current proposal to ensure efficiency of permitting.	Marshall Johnson (MJ)	
Traffic Control Plan	Maps are confusing for trail users. More details need to be provided to make it clear which trail or sections of trail are closed on which dates.	Jill VanWinkle	
Access Plan	Concern over authority to access easement along FL7 and why the SFPP ROW is not being used for access.	MJ	
Restoration Plan	Tree locations are noted to be marked with handheld GPS with reduced accuracy for planning purposes. Please confirm that exact tree locations will be adjusted in the field and updated on the final mapped tree plan submittal.	Kendra Petersen-Morgan	
Tree Protection Plan	Concerned about the number of trees proposed for removal, 33 trees identified for removal due to access needs. Can the footprint of access be minimized to reduce tree removals?	KPM	
Geotechnical Report	Concerned about the proposal for chemical drying, geocell use and moisture content analysis. Requesting input from Geotechnical engineers.	KPM	

From: Petersen-Morgan, Kendra
To: Steele, Morgan
Cc: Johnson, Marshall; Lehman, Laura
Subject: Kinder Morgan follow up
Date: Wednesday, April 17, 2024 3:54:28 PM

Hi Morgan,

I was able to get out to last year's site for Kinder Morgan, specifically 1810 where there was a small slope failure last year. As you can see from the photo, the site is stable, although minimally revegetated. I do think using this slope failure as justification for the use of geocells is an overcorrection. It sounds like this is a bit of a moot point since Rebecca's message this morning indicated they are not moving forward with the geocell option, nor chemical treatment for that matter.



Large portions of this corridor did not end up with a curlex treatment, so I would like to include specific language that refers back to the Erosion Control Manual and specifically requests that any times that slopes are greater than 10% they are installing rolled erosional control fabrics.

Please include this language in your final staff report:

Install rolled non-synthetic erosion control fabrics any time slopes are greater than 10%. When slopes are greater than 30% request that wattles with non-synthetic netting are installed in addition to erosion control fabrics every 15'. Alternatively, they can work with a licensed engineer with a certification in erosion control to submit an alternative adequate erosion control response.

Finally, it was unfortunate that Tree 10 was removed. I am very concerned about losing more high-quality conifers. I would like to include the language below:

When potential removals are determined to be removals this information needs to be communicated to the PP&R arborist inspector and include documentation that justifies the removal. Any tree removal needs to be communicated within 48 hours. We are requesting preservation of Tree 629, a 30" Doug fir near Joint 1600, if root impacts are sufficient that tree mortality is a concern, we request that the tree be left intact to die naturally to create a more beneficial wildlife snag. If there is a safety concern to the construction project, this information needs to be communicated and approved by the PP&R arborist inspector.

Thanks,

Kendra Petersen-Morgan *(she, her, hers) Why do I list my pronouns?*
City Nature West Supervisor | Land Stewardship
503-823-4492 (office) | 503-823-6225 (cell)
4000 SW Fairview Blvd. | Portland, Oregon 972221

portlandparks.org | Facebook | Twitter | YouTube | Instagram

The City of Portland ensures meaningful access to City programs, services, and activities to comply with Civil Rights Title VI and ADA Title II laws and reasonably provides: translation, interpretation, modifications, accommodations, alternative formats, auxiliary aids, and services. To request these services, contact 503-823-2525, City TTY 503-823-6868, Relay Service: 711.

503-823-2525 (Translation and Interpretation) | Traducción e Interpretación | Biên Dịch và Thông Dịch | अनुवादन तथा व्याख्या | 口笔译服务 | Устный и письменный перевод | Turjumaad iyo Fasiraad | Письмовий і усний переклад | Traducere și interpretariat | Chiaku me Awewen Kapas

City of Portland, Oregon - Bureau of Development Services

1900 SW Fourth Avenue • Portland, Oregon 97201 | 503-823-7300 | www.portland.gov/bds

Land Use Review Application

File Number: LU 24-017402 EN

FOR INTAKE, STAFF USE ONLY

Date Rec 2/26/24 by Mary

☐ Type I ☐ Type Ix ☐ Type II ☐ Type IIx ☒ Type III ☐ Type IV ☐ ELD

LU Reviews EN

[Y] [N] Unincorporated MC

[Y] [N] Flood Hazard Area (LD & PD only)

[Y] [N] Potential Landslide Hazard Area (LD & PD only)

[Y] [N] 100-year Flood Plain [Y] [N] DOGAMI

Qtr Sec Map(s) 2219,2318, 2319 & 2320, 2418, 2419, & 2420 Zoning OSp

Plan District Northwest Hills - Forest Park

Historic and/or Design District None

Neighborhood Forest Park & Linnton

District Coalition NWNW

Business Assoc None

Related File # PC 23-108454

APPLICANT: Complete all sections below that apply to the proposal. Please print legibly.
Email this application and supporting documents to: LandUseIntake@portlandoregon.gov

Development Site Address or Location Forest Park, Central Management Unit

Cross Street NW Skyline Blvd **Sq. ft./Acreage** 39,060 SF (0.897 ac)

Site tax account number(s)

R 324225 **R** 324223 **R** 324224

R **R** **R**

Describe project (attach additional page if necessary)

See attached supplemental information.

Describe proposed stormwater disposal methods

Not applicable.

Identify requested land use reviews

Type III Environmental Review

- **Design & Historic Reviews -** For **new development**, provide project valuation. $
  For **renovation**, provide exterior alteration value. $
  AND provide total project valuation. $
- **Land Divisions -** Identify number of lots (include lots for existing development).
  New street (public or private)? ☐ yes ☑ no
- **Affordable Housing -** For buildings containing five or more dwelling units, will 50% or more of the units be affordable to households with incomes equal to or less than 60% of the median family income for the county or state, whichever is greater? ☐ yes ☐ no ☑ N/A

continued / over

Applicant Information

- Identify the primary contact person, applicant, property owner and contract purchaser. Include any person that has an interest in your property or anyone you want to be notified. Information provided, including telephone numbers and e-mail addresses, will be included in public notices.
- For all reviews, the applicant must sign the Responsibility Statement.
- For land divisions, all property owners must sign the application.

PRIMARY CONTACT:

Typed Full Name Rebecca Shell ☑ I acknowledge this typed name as my signature

Company/Organization AECOM

Mailing Address 888 SW 5th Ave, Suite 600

City Portland State OR Zip Code 97204

Day Phone 971.323.6318 FAX - email rebecca.shell@aecom.com

Check all that apply ☐ Applicant ☐ Owner ☒ Other Consultant

Typed Full Name Melissa Cowen ☑ I acknowledge this typed name as my signature

Company/Organization SFPP, L.P., a subsidiary of Kinder Morgan

Mailing Address 1001 Louisiana Street, Suite 1000

City Houston State TX Zip Code 77002

Day Phone 701.774.6110 FAX email melissa_cowan@kindermorgan.com

Check all that apply ☒ Applicant ☐ Owner ☐ Other

Typed Full Name ☐ I acknowledge this typed name as my signature

Company/Organization

Mailing Address

City State Zip Code

Day Phone FAX email

Check all that apply ☐ Applicant ☐ Owner ☐ Other

Typed Full Name ☐ I acknowledge this typed name as my signature

Company/Organization

Mailing Address

City State Zip Code

Day Phone FAX email

Check all that apply ☐ Applicant ☐ Owner ☐ Other

Responsibility Statement As the applicant submitting this application for a land use review, I am responsible for the accuracy of the information submitted. The information being submitted includes a description of the site conditions. I am also responsible for gaining the permission of the owner(s) of the property listed above in order to apply for this review and for reviewing the responsibility statement with them. If the proposal is approved, the decision and any conditions of the approval must be recorded in the County Deed Records for the property. The City of Portland is not liable if any of these actions are taken without the consent of the owner(s) of the property. In order to process this review, City staff may visit the site, photograph the property, or otherwise document the site as part of the review. I understand that the completeness of this application is determined by the Director. By my signature, I indicate my under-standing and agreement to the Responsibility Statement.

Name of person submitting this application agrees to the above Responsibility Statement and acknowledges typed name as signature:

Rebecca Shell Date: 02/23/2024

Phone number: 971.323.6318

Email this application and supporting documents to LandUseIntake@portlandoregon.gov

Submittal of locked or password protected documents will delay intake of your application.

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

March 14, 2024

Melissa Cowen
SFPP LP
1001 Louisiana St #1000
Houston, TX 77002

Re: Land Use Review LU 24-017402 EN

Dear Melissa Cowen:

The Bureau of Development Services received your application for an Environmental Review located at Forest Park on February 26, 2024. Your case has been assigned to me, Morgan Steele. To continue to review your application, additional information is needed. Once you submit this information, your application will be considered complete, and I will proceed with a full review of your proposal. Up to this point, your application has been reviewed only to determine if all required information has been submitted. The application has not been fully reviewed to determine if it meets the relevant approval criteria, however some issues you may want to consider are identified in Section II below.

I. Information Necessary to Complete Application
The following information must be submitted before your proposal can be evaluated:

1. As noted at the Pre-Application Conference, staff has concerns about the significant tree removal proposed for access along Oil Line Road. While the narrative contains an alternatives analysis for this portion of the work, staff would like to see coordination with Parks & Recreation permitting staff to ensure all alternatives have been explored.

2. Staff also has concerns about the proposed use of plastic geocells and chemical drying methods for slope stabilization. Please provide an alternative analysis evaluating more natural/eco-friendly methods for stabilizing the steep slopes.

II. Issues to Consider
While not necessary to determine the application complete, additional information may be needed to show that your proposal meets the applicable approval criteria. You are encouraged to address the following issues regarding the approvability of your proposal:

- ❖ Parks & Recreation has reviewed your application and provided comments attached to this letter. They also note concerns about tree removal for access into the joint sites. See comment #1 above for similar concerns from staff.
- ❖ Additional information may be forthcoming from Parks Geotechnical staff regarding the proposed methods for site stabilization. I will forward those comments as soon as I have them.

III. Time to Complete Application
The Portland Zoning Code allows you up to 180 days to complete your application. Since the 180-day period began on the day we received the application, the deadline to make your application complete is **Monday August 26, 2024.**

IV. Determination of a Complete Application
The application will be determined complete when you have submitted:

1. All the requested information included in Section I, above. If you cannot provide all of the requested information at one time and intend to submit additional information, please include a written statement with each separate submittal indicating that you still intend to provide the additional missing information by the **Monday August 26, 2024** deadline, **or**

2. Some of the requested information included in Section I, above, and a written statement that no additional information will be provided; **or**

3. A written statement that none of the requested information included in Section I, above, will be provided.

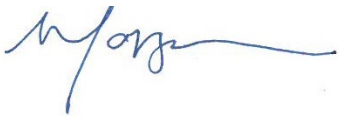
Please be aware that not submitting the requested information may result in your application being denied. The information is needed to demonstrate the approval criteria are met. Once the application is deemed complete, review of your application can proceed using the information you have provided.

Your application will be approved if it meets the relevant land use review approval criteria. It is your responsibility to document how the approval criteria are met. The items listed above will help provide that documentation.

Voiding of Application
If your application is not complete by **Monday August 26, 2024**, it will be voided, and the application fee will not be refunded. The City's land use review procedures are outlined in Chapter 33.730 of the Portland Zoning Code.

Please contact me if you have any questions about this letter. My telephone number is **503-865-6437**, and my e-mail address is Morgan.Steele@portlandoregon.gov. Requested information noted above should be emailed to me. Please e-mail me for file dropbox instructions if document or drawing file sizes are greater than 5MB. Please label all correspondence and materials you submit with the case number LU 24-017402.

Sincerely,



Morgan Steele, Planner
Land Use Services Division

cc: Jan Reed
Rebecca Shell
Lex Francis
Application Case File

Attachment:
Parks Comments

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

BDS – Conference Facilitator Summary Memo

Pre-Application Conference

Date: January 18, 2024

To: Rebecca Shell, AECOM, rebecca.shell@aecom.com
Todd Gupton, SFPP (a subsidiary of Kinder Morgan), todd_gupton@kindermorgan.com
Joshua Calkins, Michels Pipeline Inc., jcalkins@michels.us

From: Matt Wickstrom, Conference Facilitator
Matt.Wickstrom@portlandoregon.gov, 503-865-6513

Case File: EA 23-108454

Location: Forest Park with proximity to Wildwood Trail (see Zoning Map)

Property ID: R324223, R324225, R324230, R324231

Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

This conference summary report identifies the participants at the conference, provides an initial response to the issues and requirements for the proposed project with separate response from key bureau representatives. This memo identifies current land use review fee information and provides related information that may be helpful as the project moves from concept to completion.

Pre-Application Conferences are required for all major (Type III and IV procedure) land use reviews. The purpose of the conference is to inform the applicant of the substantive and procedural requirements of the Land Use Review, to identify the submittal requirements and documents this information for the applicant and all interested persons.

The information provided at the conference and included in this summary is based on the information that was submitted prior to and at the meeting and reflects regulations in effect at the time of the conference. The meeting is intended to convey information. It is not a public hearing and no land use decision is rendered at the conference. Interested persons may attend the conference and obtain copies of all the written information that is submitted and prepared for it.

You must submit your Land Use Review application within two-years of the Conference.

Conference date: January 3, 2024
Expiration of Conference: January 2, 2026

A. Comments from Bureau Representatives: The chart below identifies the staff who participated in the conference and/or who submitted written comments:

Response attached	Bureau	Responsibilities	Contact
Yes	BDS Land Use Services	Review of land use review	Morgan Steele 503-865-6437
Yes	PBOT	Public Streets	Tammy Boren-King 503-823-2948
Yes	BES	Sanitary sewer service, public and private stormwater management, drainageways and drainage reserves, source controls	Ella Ruth 503-823-8068
Yes	BDS Site Development	Septic systems, private rights-of-way, geotechnical requirements, erosion control	Ericka Koss 503-823-7537
Yes	Water Bureau	Connections to public water	Bryan Vittori 971-917-5458
Yes	Fire Bureau	Access grades, fire hydrants, turnarounds	Zach Parrish 503-991-2764
Yes	Urban Forestry	Street trees	Jason Thaete 971-277-0799
No	devTeam Portland, BDS	Further information on devTeam Portland can be accessed at: Process Management - Major Projects Group | Portland.gov	Alice Nielsen 503-823-3448

Please refer to the memo from Morgan Steele, BDS Land Use Services, for the list of application submittal requirements for the required land use review(s). Also, the attached responses from the City bureaus identify additional requirements that are pertinent to the land use review or a later Building Permit submittal.

If you have questions about comments included in this Pre-Application Summary Report, please contact the representative identified in the respective memo. Please note that staff comments are based on the information submitted at the time of application. If you have questions regarding the proposal beyond those covered in this summary report, or if your proposal changes in scope or configuration, a new Pre-Application Conference may be required or an additional Early Assistance application may be needed to provide responses to your follow-up questions.

B. Fees

Below is an estimate of land use fees that may apply to your proposal. Fees charged will be those in effect when the Land Use Review application is submitted. When more than one Land Use Review is requested, full fees are charged for each additional review. The fees below are current; however, fees will increase effective July 1, 2024. You may view the current Land Use Review fees at the following link: Fee Schedules - Building Permit Costs, Trade Permit Costs and Other BDS Fees | Portland.gov

Land Use Review Type	Estimated Fee
Type III Environmental Review – Protection	$11,244

Zone	

During the building permit process, Permit Fees will be charged for review of your permits and Systems Development Charges (SDCs) may be assessed for new development. An online fee estimator is available on the BDS website at the following link: Estimate the Cost of Your Building Permit | Portland.gov.

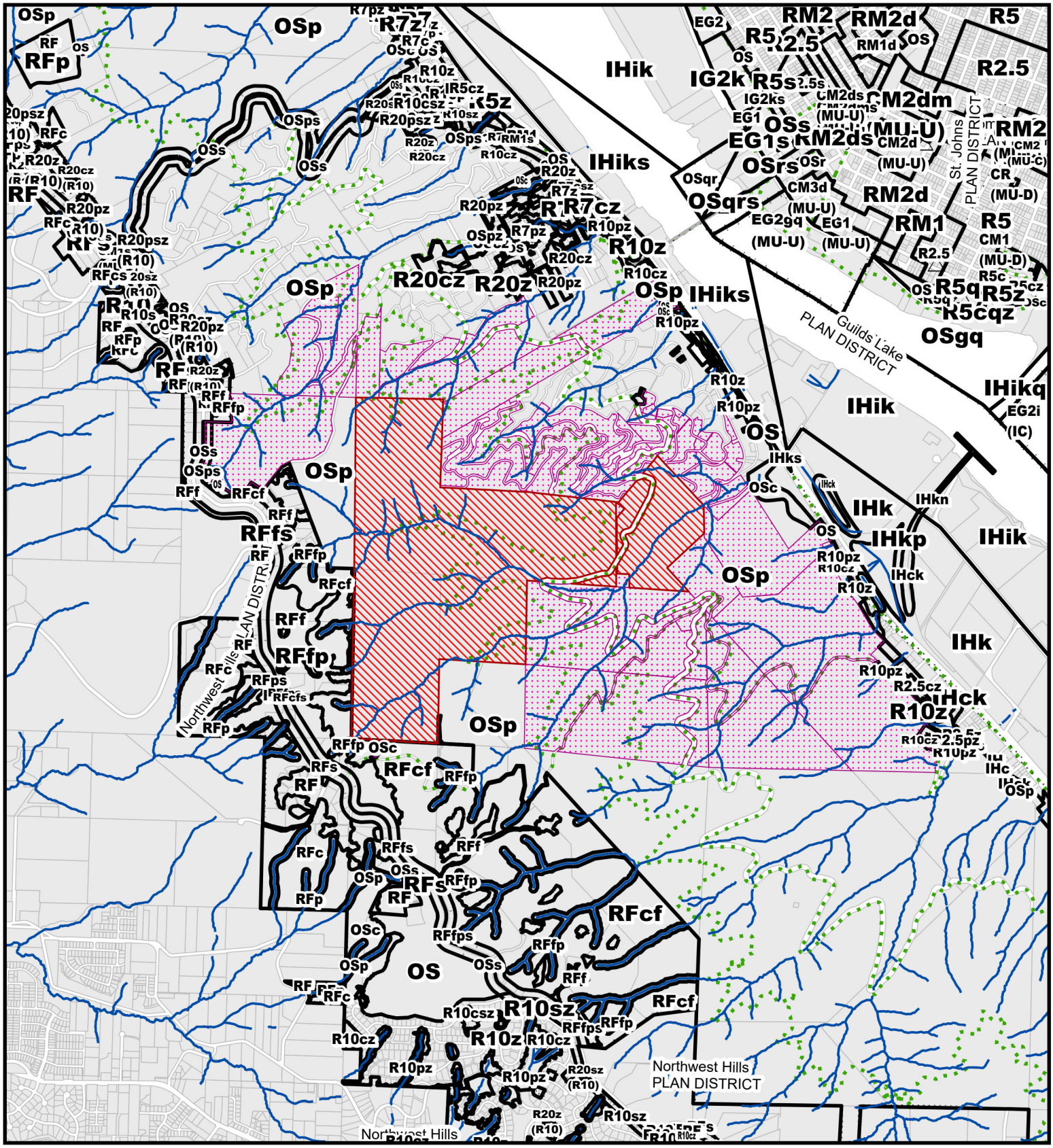
C. Other Information

1. Preliminary Life Safety Plan Review Consultation: For Building Code/Life Safety information, you may sign up for a Preliminary Life Safety meeting. Information can be found at the following link: Life Safety Preliminary Meeting Request Packet | Portland.gov
2. Electric Service Requirements. Information on electric service requirements for properties served by PGE can be found at the following link: https://www.portlandgeneral.com/construction/electric-service-requirements; and information on electric service requirements for properties served by Pacific Power can be found at the following link: https://www.pacificpower.net/working-with-us/builders-contractors/electric-service-requirements.html

   Please note that the service requirements included in these links may not cover all requirements associated with your project. Applicants should contact the PGE Service Coordinator at 503-736-5450 or the Pacific Power Business Center at 888-221-7070 to identify issues that are specific to your project and to coordinate electric service requirements.
3. PGE requires minimum clearances from electric wires, conductors and cables. Before building, please be aware of these clearances by calling PGE at 503-736-5450. For more information on the PGE Minimum Clearance Requirements use the following link: Why You Should Respect Portland General Electric's Power Line Clearances | Portland.gov.
4. Portland Housing Bureau. The Housing Bureau provides financial assistance for various development phases to both nonprofit and for-profit affordable housing developers (typically multi-dwelling rental housing). For more information, go to the following link: https://www.portland.gov/phb.
5. Bureau of Planning and Sustainability. The Bureau of Planning and Sustainability delivers policy and programs related to green buildings, energy efficiency, renewable resources, waste reduction, and recycling. For more information on Sustainability Programs and Services in the Bureau of Planning and Sustainability go to the following link: https://www.portlandoregon.gov/bps/67121.
6. Energy Trust of Oregon. The Energy Trust of Oregon provides technical assistance and cash incentives for energy efficient design. For more information, go to the following link: https://www.energytrust.org/
7. Oregon Department of Energy. The Oregon Department of Energy Conservation Division provides information on a variety of programs to encourage energy conservation, including tax rebates and low-interest energy loans. For more information, go to the following link: http://www.oregon.gov/energy/Pages/index.aspx

Attachments:
Zoning Map
Site Vicinity, Repair Access, and Road/Trail Closures
BDS Land Use Services Response
PBOT Response
BES Response

BDS Site Development Response
Water Bureau Response
Fire Bureau Response
Urban Forestry Response
Sign-in Sheet



For Zoning Code in Effect Post October 1, 2022

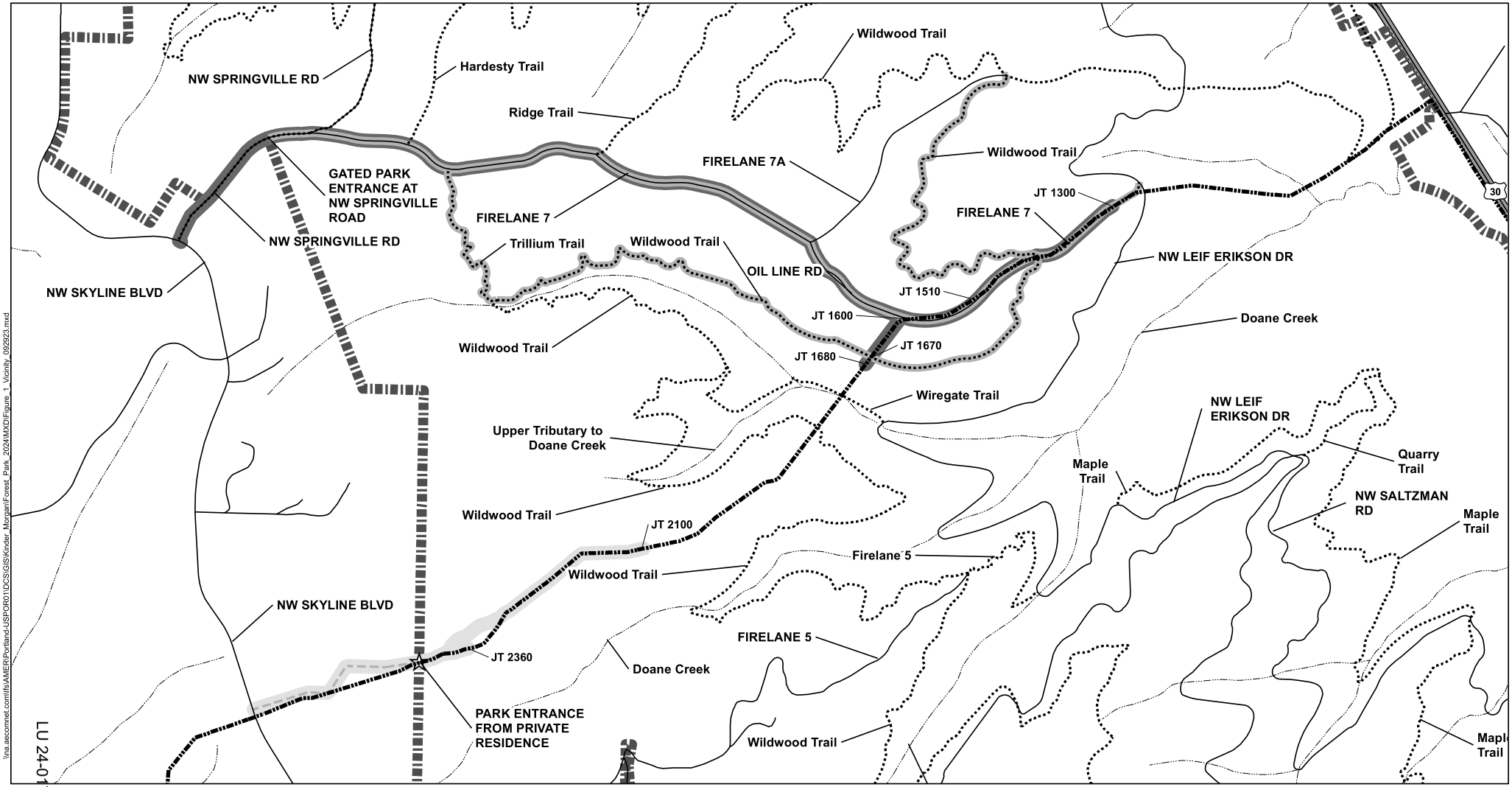
ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Historic Landmark
- Stream
- Recreational Trails

File No.	EA 23 - 108454 PC
1/4 Section	MULTIPLE
Scale	1 inch =2,000 feet
State ID	1N1W14 700
Exhibit	B Dec 12, 2023

LU 24-017402 EN | Exhibit G.3



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LU 24-017402 EN | Exhibit G-3

LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Access: Joints 2100 and 2360
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 500 1,000 Feet

FIGURE 1 - SITE VICINITY, REPAIR ACCESS, AND ROAD/TRAIL CLOSURES

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW
PORTLAND, OREGON

DECEMBER 2023

60656035

EA 23-108454 PC

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

BDS – Land Use Planner Response

Pre-Application Conference

Date: January 12, 2024

To: Rebecca Shell | Aecom
(732) 690-9933 | Rebecca.Shell@Aecom.Com

From: Morgan Steele | City Planner
503-865-6437 | Morgan.Steele@portlandoregon.gov

File No.: 23-108454

Location: Multiple locations throughout Forest Park

Tax Account: R324223, R324225, R324230, R324231

State ID Number: 1N1W14A 01200, 1N1W14 00600, 1N1W14 00700, 1N1W14 00500

Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

The information provided at the conference and included in this response is based on the information you provided prior to and at the conference and reflects regulations in effect at the time of the conference. This response provides information and guidance only. It is preliminary in nature and based on the information the applicant provided to BDS staff. It is neither a land use review nor a final decision regarding this project. References are to the Portland Zoning Code available online at www.portland.gov/code/33.

Zoning: *Base Zone:* Open Space (OS)
Overlay Zones: Environmental Conservation (c), Environmental Protection (p)
Plan District: Northwest Hills – Forest Park Subdistrict

Relevant Land Use History:
It is the applicant's responsibility to demonstrate compliance with conditions of approval from previous land use reviews. City records indicate the following previous land use reviews on this site:

- LU 03-120560 EN: Approval of a pedestrian trail, including bridges over intermittent streams;
- LU 10-135572 EN: Emergency culvert repair in Forest Park – application voided;
- LU 11-153630 EN: Approval for the removal of 27 trees for the maintenance and management of the Kinder Morgan pipeline in Forest Park;
- LU 16-187824 EN: Approval for an emergency culvert repair which was completed in 2011 and 2012;

- ❖ LU 21-056437 EN: Approval of an Environmental Review for an Exception to the Forest Park NRMP for the replacement and repair of joints along an existing fuel pipeline; and
- ❖ LU 23-021553 EN: Approval of an Environmental Review for an Exception to the Forest Park NRMP for the replacement and repair of joints along an existing fuel pipeline.

A. Key Issues Applicable to this Project/Site:
The key issues for the proposal include those related to the standards and approval criteria for the Open Space base zone, and Environmental Conservation, Environmental Protection overlay zones and the Northwest Hills Plan District on the property. These are summarized below:

Open Space Base Zone Regulations: Found at
https://www.portlandoregon.gov/bps/article/53294

The project area is located within the Open Space (OS) base zone. Regulations within the OS zone are found in Zoning Code Section 33.100, *Open Space*. The petroleum products pipeline is a Utility Corridors Use and is subject to Conditional Use in the Open Space base zone (see Table 100-1). However, if all aspects of the proposal can be kept below grade, a Conditional Use will not be triggered. If any new above-ground development is proposed, the project will trigger a Conditional Use Review per 33.815.040. Approval Criteria for Conditional Uses in the Open Space Zone are found in Zoning Code Section 33.815.100.

Northwest Hills Plan District Regulations: Found at
https://www.portlandoregon.gov/bps/article/53417

The project area is in the Northwest Hills Plan District within the Forest Park Subdistrict. Regulations that apply to this proposal can be found in Zoning Code Section 33.563.210, *Additional Approval Criteria* and Zoning Code Section 33.563.200, ***Prohibitions*: activities which expose soil to direct contact with stormwater between October 1 and April 30 are prohibited**.

Environmental Conservation and Protection Overlay Zones Regulations: Found at
https://www.portlandoregon.gov/bps/article/53343

This property is in Environmental Conservation and Environmental Protection overlay zones. Be sure to copy these zoning lines and designations precisely onto all site plans.

- **Resource Inventory and Site:** Natural resources which have been identified by the City for protection in the Environmental Zones are listed in the *Forest Park and Northwest District Natural Resources Inventory* within Resource Site FP16 (Doane Creek Watershed). You should include this information in your application for Environmental Review, in the description of resources which might be impacted by the proposed development.
- **Environmental Development Standards:** The standards in Zoning Code Section 33.430 do not directly apply to this proposal due to its location within the *Forest Park Natural Resources Management Plan* (NRMP). The proposed pipeline maintenance and repair appears to be an Exception to the Plan, requiring approval through a Type III Environmental Review procedure.
- **Environmental Review Approval Criteria:** Your proposal will require Environmental Review, as such you will need to demonstrate how the pipeline maintenance and management project will meet the Approval Criteria for Exceptions listed in Chapter 8 of the NRMP (page 217, listed below). These approval criteria supersede the approval criteria of 33.430.
    - ❖ Approval Criteria for Minor Amendments: The amendment will be approved if:
        a) There is a demonstrated need for the proposal.
        b) The proposed action is consistent with the Forest Park Natural Resources Plan Goals and Strategies (found in Chapter 6 of the NRMP). Please provide responses to each of the Goals (Conservation and Recreational and Educational) and all 10 Strategies.

c) Alternative locations and design modifications were evaluated to show that the proposal has the least significant environmental impact of the practicable alternatives.

d) A construction management plan and a mitigation plan will minimize impacts on resource and restore adjacent disturbed areas.

❖ Approval Criteria for Exceptions to the Plan: The exception will be approved if:

a) The proposal meets all the criteria for minor amendments.

b) The proposal is a park-related development, or no alternative locations exist outside of Forest Park for the proposal.

c) There are no practicable alternative locations within Forest Park suitable for the use in which the development will have less adverse impact on resource values.

d) Any long-term adverse impacts of the proposed action on resource values are fully mitigated within the Management Unit.

e) The proposal is consistent with the purpose of the Environmental Zones.

- An application for Environmental Review must include an alternatives analysis that will satisfy Criteria C above. This analysis should consider alternative methods for the pipeline maintenance and repair work, and evaluate each alternative based on its impact on the resources and functional values at the site—creeks, trees, and habitat. Alternatives may be limited based on the fixed location of the pipeline; however, **alternative access routes**, construction methods, and stockpile locations should be considered to avoid and minimize impacts – specifically tree removal. As discussed at the meeting, **staff encourages the applicant to explore options for alternative access routes that can help minimize tree removal.**
- A narrative (and graphic) construction plan is required that identifies measures that will be taken during construction to protect the remaining resources and functional values at and near the construction site. Plans must clearly show where construction access will be for the development, as well as where materials will be stockpiled during construction. Plans must show a temporary construction fence surrounding these construction areas. Plans must show all proposed grading and areas of cut and fill.
- Removal of trees and disturbance of soil within the Environmental zone must be mitigated and restored appropriately. Mitigation for tree removal may be completed by making a payment into the Parks & Recreation Restore Forest Park Fund per tree removed (currently $675 per tree for trees DBH <12”-<20”; $450 per inch for DBH >20”). Restoration of disturbed soils must be completed post construction by either installing native plants or replanting of salvaged ferns.

- **Required Site Plans:** You will need to prepare an Existing Conditions Plan, a Proposed Development Plan, a Construction Management Plan, and a Restoration Plan for your Environmental Review application. Please use the Environmental Review Submittal Checklist as a guide in preparing site plans for your application.

Process: This is a proposal for pipeline repair and maintenance in the Environmental Conservation and Environmental Protection overlay zones within the Forest Park NRMP. According to the NRMP, Environmental Reviews for Exceptions to the Plan may be approved through a Type III review procedure.

B. Neighborhood Notification

When you apply for a Type III Land Use Review, all property owners within 400 feet, and all neighborhood associations and recognized organizations within 1,000 feet of your site will receive notification of your proposal.

- The site is located within the neighborhood association of Linnton, contact Sarah Taylor at sarahsojourner@mac.com, Forest Park, contact Jerry Grossnickle at landuse@forestparkneighbors.org
- The site is located within the district neighborhood coalition of Neighbors West/Northwest, contact at admin@nwnw.org

- Contact information for neighborhood associations, neighborhood district coalitions, and business associations is available at www.portlandonline.com/oni/search/.

C. Submittal Requirements for Land Use

This list identifies the materials you must submit for your application to be considered complete.

	Item to submit	Details
1.	**Completed application form**	Application Form available at: land_use_review_application_070122.pdf (portland.gov)
2.	**Fees**	Land Use Review fees online at: Fee Schedules - Building Permit Costs, Trade Permit Costs and Other BDS Fees | Portland.gov
3.	**Requirements for written narrative, maps, plans, etc.**	General Submittal Requirements (Zoning Code Chapter 33.730.060) accessible online at: 33.730 Quasi-Judicial Procedures | Portland.gov
4.	**Optional: Request for an Evidentiary Hearing and Waiver of Right to a Decision within 120 Days**	Allows new facts and evidence (an "evidentiary hearing") to be presented if your project is appealed to City Council. You must submit the request form within 21 days of submitting your land use review application. The 120-day waiver can be accessed at: waiver_within_120days.pmd (portland.gov)

To submit Land Use Reviews and other LUS applications:

When you are ready to submit a land use review application, please see the BDS Website for current submittal requirements: Apply for Land Use Reviews and Final Plat Applications | Portland.gov. Currently, we are accepting electronic land use applications via email at LandUseIntake@portlandoregon.gov. A Land Use Services technician will contact you with instructions for providing payment for emailed applications.

To submit Permits:

When you are ready to submit a permit, please see our website for updated information on how to apply for permits: Apply or Pay for a Building or Trade Permit | Portland.gov

PBOT
PORTLAND BUREAU OF TRANSPORTATION
1900 SW Fourth Ave., Suite 5000 Portland, OR 97201 503-823-5185
Fax 503-823-7576 TTY 503-823-6868 www.portlandoregon.gov/transportation

PBOT – Development Review

Pre-Application Conference Response

Date: January 3, 2024
To: Matt Wickstrom, Conference Facilitator
503-865-6513, Matt.Wickstrom@portlandoregon.gov
From: Tammy Boren-King, PBOT Development Review
503-823-2948, Tammy.Boren-King@portlandoregon.gov
Case File: EA 23-108454
Location: NW SALTZMAN RD
R#: R324223, R324225, R324230, R324231
Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

Portland Bureau of Transportation/Development Review (PBOT) staff has reviewed the pre-application conference materials to identify potential issues and requirements.

1. There are no transportation related approval criteria for the subject environmental review.
2. The proposal does not trigger either of the public improvement requirements of 17.88.020. No public improvements or dedication are required.
3. The zone map generated with this application does not show the site as having any frontage on a public street or public street right-of-way controlled by PBOT. The submitted materials do not show any work in a public street right-of-way. As such, it is not anticipated that a public works permit or minor improvement permit will be necessary.
4. In most cases, work which will result in a public right-of-way being closed to the public requires the issuance of a Temporary Street Use Permit (TSUP). This is mentioned in case construction staging is needed that impacts a public right-of-way, such as NW Leif Erickson Dr. No TSUP permit is needed for rights-of-way within the boundaries of Forest Park. There is a formal agreement in place which gives authority for access management to the Parks Bureau inside the boundaries of Forest Park. The non-park use permit will be the mechanism for permitting the temporary closures of any public right-of-way inside the park, such as NW Lief Erickson Dr.

Pre-Application Conference Response

Date: January 12, 2024

To: Matt Wickstrom, Conference Facilitator
503-865-6513, Matt.Wickstrom@portlandoregon.gov

From: Ella Ruth, BES Systems Development
503-823-8068, Ella.Ruth@portlandoregon.gov

Case File: EA 23-108454

Location: NW SALTZMAN RD

R#: R324223, R324225, R324230, R324231

Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

The Bureau of Environmental Services (BES) has reviewed the submitted materials to identify potential issues and requirements and provide the following comments. Some references to Portland City Code (PCC) are included below; the applicant may refer to the Auditor's Office Online Charter and Code.

A. Key Issues and Requirements

Following is a brief summary of issues and requirements that may impact your proposed project or are submittal requirements that will require time to prepare prior to submittal of the application.

1. None anticipated.

B. Sanitary Service

1. *Sanitary Infrastructure*: According to available GIS data, the following sewer infrastructure is located in the vicinity of the project site:

   a. There are no public storm sewers within the vicinity of the proposed project.

   Based on the project scope, it does not appear that any connections to the sanitary sewer are proposed.

C. Stormwater Management

1. *Stormwater Infrastructure*: According to available GIS data, the following stormwater infrastructure is located in the vicinity of the project site:

   a. There are no public storm-only sewers available to this property and a public storm main extension is not required.

2. *General Stormwater Management Requirements*: Development and redevelopment sites that include any of the triggers listed in PCC 17.38.040 are subject to the policies and standards of PCC 17.38.035, Portland's Stormwater Management Manual (SWMM) and Source Control Manual (SCM). Projects must comply with the current adopted version of the

The City of Portland complies with all non-discrimination laws including Title VI (Civil Rights) and Title II (ADA).
To request a translation, accommodation or additional information, please call 503-823-7740, or use City TTY 503-823-6868, or Oregon Relay Service: 711.

SWMM as of the permit application date. A fundamental evaluation factor in the SWMM is the Stormwater Infiltration and Discharge Hierarchy (Section 1.3.3), which sets the framework that will be used to determine when a project's stormwater runoff must be infiltrated onsite and when offsite discharge will be permitted, and the parameters that must be met for either scenario. If tested infiltration rates on a property are greater than or equal to 2 inches per hour, onsite infiltration will be required unless the site qualifies for the ecoroof exception per Section 3.2.1 or infiltration is determined infeasible based on site conditions described in Chapter 2 of the SWMM. Note that maximum building coverage allowed by the zoning code, including below grade development, does not exempt the applicant from stormwater requirements. Pollution reduction and flow control requirements must be met using vegetated facilities to the maximum extent feasible, though roof runoff and some paved impervious surfaces are exempt when discharging directly to a UIC (refer to Sections 1.3.2, 1.3.4, 3.2.4 and 4.2.2 of the SWMM).

3. *Public Right-of-Way Stormwater Management:* Stormwater runoff from the public right-of-way must comply with all applicable standards of the SWMM and Sewer and Drainage Facilities Design Manual and be conveyed to a discharge point along a route of service approved by the BES Director or the Director's designee. Additional guidance on meeting the 2020 SWMM for projects in the public right-of-way is available at https://www.portland.gov/bes/stormwater/swmm-and-right-way-projects.

    a. Based on the scope of PBOT requirements, no public stormwater management facilities are required because public frontage improvements are not required. Note that if changes in the scope of the proposed development alter PBOT requirements for public improvements, then public stormwater management facilities that conform with the SWMM or payment of an Offsite Stormwater Management Fee may be required.

4. *Private Property Stormwater Management*: Stormwater runoff from this project must comply with all applicable standards of the SWMM and SCM and be conveyed to a discharge point along a route of service approved by the BES Director or the Director's designee.

    a. *SWMM Triggers:* Stormwater management requirements described in the SWMM are triggered for projects that develop or redevelop greater than 500 SF of impervious area. Pavement removal and replacement within an existing paved area will trigger stormwater management requirements only if soil (subgrade) is exposed or the pavement is replaced with a different material. Vertical additions to a structure within the existing building footprint will trigger the SWMM if the addition exceeds 10,000 SF. Stormwater management requirements are not triggered for re-roofing or repairs of an existing roof. Adding or modifying decking or paving material over an existing impervious surface does not trigger SWMM requirements. The applicant may refer to Section 1.2.1 of the SWMM and coordinate with BES staff for information on what qualifies as development and redevelopment for this project. If stormwater management requirements of the SWMM are triggered, a stormwater report will be required.

D. General Public Works Permit Information

For questions related to the public improvements described throughout these notes, please contact Rod Krauter at (503) 823-7064 or rodney.krauter@portlandoregon.gov or the BES Development Engineering hotline at (503) 823-7761, option 3.

1. *General Public Works Permit Information:* Information on the City's public works permit (PWP) process, including submittal requirements and review timelines, is available at www.portlandoregon.gov/publicworks. All submitted public works plans must meet the City's Sewer and Drainage Facilities Design Manual (SDFDM), SWMM, and public works permitting plan submittal requirements and drafting standards. Contact Public Works Permitting at (503) 823-1987 or pwp@portlandoregon.gov with questions related to the general public works permit process.

2. *Hazardous Substances Code:* The City's Hazardous Substances Code (PCC 17.24.067) requires the excavation and removal of disturbed contaminated soils from right-of-way access areas and utility corridors. The soils must be replaced with clean fill at a minimum depth of 5 feet. A demarcation/contaminant barrier is also required when it has been determined the soils are contaminated at depth. Erosion control measures for contaminated soils (Section 8.2.1 of the SCM) must be met. Soil stockpiles must be covered and contained with a barrier on all four sides, with an impervious layer underneath the stockpile to inhibit contaminants from leaching back into the soil.

E. NATURAL RESOURCE PROTECTION RECOMMENDATIONS

1. *Natural Resource Impacts:* Pursuant to the Environmental Zones chapter of PCC (33.430.250), the applicant will need to show that the proposed development will have the least possible detrimental impact on resources and/or functional values.

F. SUBMITTAL REQUIREMENTS FOR LAND USE

1. Full land use plan set, including preliminary utility plan showing all existing and any proposed sanitary and storm facilities and connections.

City of Portland, Oregon
Bureau of Development Services
Land Use Services
FROM CONCEPT TO CONSTRUCTION

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

Site Development

Early Assistance Conference Response

Date:	January 12, 2024
To:	Matt Wickstrom, Conference Facilitator
	503-865-6513, Matt.Wickstrom@portlandoregon.gov
From:	Ericka Koss, 503-823-7537
Case File:	EA 23-108454
Location:	NW SALTZMAN RD
R#:	R324223, R324225, R324230, R324231
Proposal:	A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

Site Development Section staff of the Bureau of Development Services have reviewed the pre-application conference materials to identify potential issues and requirements.

Site Development Building Permit Requirements

It's our understanding that the scope of earthwork at each location is limited to excavation and backfilling for pipe repair. Where the proposed repairs are limited to excavation and backfilling for pipe repair, a site development permit is not required.

If the scope of work is amended to include engineering solutions such as grading or drainage improvements for slope stabilization, a site development permit may be required. Additional requirements such as erosion control plans and geotechnical reports may be required. If the scope of work expands to include additional engineering solutions, staff can provide additional feedback regarding requirements at your request.

Construction Management Plan

If an environmental review is required, then Site Development staff will participate in the review of construction management plans required to comply with Section 33.430.240.A.3 of Title 33. Tree protection areas, required limits of disturbance, erosion control measures, and mitigation areas should be shown on the construction management plan. Please direct questions regarding construction management plans to the Environmental Review team.

PORTLAND WATER BUREAU
FROM FOREST TO FAUCET

Mingus Mapps, Commissioner
Gabriel Solmer, Administrator

1120 SW Fifth Avenue, Suite 405
Portland, Oregon 97204-1926
Information: 503-823-7404
portlandoregon.gov/water

Water Bureau

Early Assistance Appointment Response

Date: January 3, 2024

To: Matt Wickstrom, 503-865-6573 Matt.Wickstrom@portlandoregon.gov

From: Bryan Vittori, 971-917-5458, Bryan.Vittori@portlandoregon.gov

Case File: EA 23-108454

Location: NW SALTZMAN RD

Property ID: R324223, R324225, R324230, R324231

Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

The Water Bureau has no review criteria for the proposed action, therefore, will offer no comments.

PORTLAND FIRE & RESCUE

Rene Gonzalez, Commissioner
Sara Boone, Fire Chief
Kari Schimel, Fire Marshal
Prevention Division
1300 SE Gideon St.
Portland, OR, 97202
Phone: (503)823-3770

Fire Bureau

Pre-Application Conference Response

Date: December 28, 2023

To: Matt Wickstrom, Conference Facilitator

503-865-6513, Matt.Wickstrom@portlandoregon.gov

From: Zach Parrish, 503-991-2764

Zach.Parrish@portlandoregon.gov

Case File: EA 23-108454

Location: NW SALTZMAN RD

Property ID: R324223, R324225, R324230, R324231

Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

Portland Fire & Rescue has reviewed the pre-application conference materials to identify potential issues and requirements in regard to **fire access and water supply**. Final determination of compliance with applicable codes and standards will be made during plan review, after building permit application has been submitted.

PORTLAND PARKS & RECREATION
Healthy Parks, Healthy Portland

Urban Forestry
1900 SW 4th Ave. Ste 5000, Portland, OR 97201
Tel: 503-823-TREE (8733) Fax: 503-823-4493
email: trees@portlandoregon.gov
web: portlandoregon.gov/trees

Urban Forestry
Early Assistance Response

Date: January 02, 2024
From: Jason Thaete
971-277-0799, Jason.Thaete@portlandoregon.gov
Case File: EA 23-108454
Location: NW SALTZMAN RD
Proposal: A Pre-Application Conference to discuss the inspection and necessary repairs of a petroleum products pipeline within an area of Forest Park. Repair may include replacing joints between segments of pipe and/or replacement of full segments of pipe between neighboring joints. Anticipated disturbance includes soil excavation and clearing of vegetation (mowing of grass, clearing of understory vegetation and digging of ferns to be salvaged for replanting) as well as selective minor pruning and tree removal where joints are blocking access or are in proximity to proposed joint excavation areas. Work is proposed to occur in Spring 2024 with replanting activities occurring in Fall 2024.

Portland Parks, Urban Forestry staff has reviewed the Early Assistance materials to identify potential issues and requirements in accordance with Title 11, Trees. This response identifies potential issues and/or impacts on existing street and heritage trees, and trees on city-owned or managed sites, if applicable. Trees on private property are subject to development standards from the Bureau of Development Services. See planner requirements for private property trees.

Please note that there may be other applicable tree requirements in Title 33 Planning & Zoning.

A. Response Summary
The development will be subject to Urban Forestry standards and requirements during the permit review process as detailed below.

B. Tree Plan (11.50.060)
A tree plan must be submitted with each phase of review including land use reviews, building permit applications, and public works permits. A tree plan was not submitted with the EA application.
The plan must include the following information for trees on city owned property:

a. The size and location of trees on site of city owned property.
b. Trees proposed to be preserved including tree protection specifications in accordance with 11.60.030.
c. Tree(s) proposed for removal.
d. Tree planting plan (tree species and location(s)).

C. On Site Trees

City Managed Sites (11.50.040.C.2.a)

For development on City owned or managed sites, applicants are required to consult with the City Forester at the preliminary project design phase if City or Street Tree removal is likely to occur to complete the project. The purpose of this consultation is to identify potential impacts and opportunities to retain existing trees, as well as any measures required to protect trees on site, on adjacent sites, or in the street. In order to meet this requirement, you must go through a review with Urban Forestry.

1. *Existing On-Site Conditions*
   The shared utility maintenance access route runs through a dense forest along the existing pipeline. Trees species almost completely consists of Douglas-fir, red alder and bigleaf maples. Both branches extending over the path and exposed roots must be addressed in the project's tree protection access plan. Large trees located in very close proximity to proposed excavation must be correctly geolocated and preserved where possible.

2. *On-Site Tree Preservation* (11.50.040)
   Based on the proposed development it appears existing trees may be impacted. Development proposals must be configured to avoid city trees where possible.

   City trees blocking access or are in proximity to proposed joint excavation areas that cannot tolerate impacts can be approved for removal if necessary to facilitate development. Tree removals may be unavoidable where pipe connections require excavation and repair. The proposed repair sites are located inside Environmental Protection or Conservation Zones as defined by the Bureau of Development Services (BDS).

   If any work is to occur outside the BDS defined Environmental Protection or Conservation Zones, Portland Title 11 would regulate tree removals and mitigation. Healthy, non-nuisance trees ≥ 6" DBH that are approved for removal shall be replanted per the Administrative Rule PRK-2.04. Tree replacement for trees removed shall occur on site, or in the same watershed either by planting or by paying a fee in lieu of planting of $675.00, for each tree not planted. Trees will be required to be planted through the Non-Parks Use Permit and the Land Use Permit.

   Correctly geolocating proposed excavation and existing trees as well requiring arborist oversight at select locations during construction should help maximize tree preservation.

3. *On-Site Tree Protection Specifications* (11.60.030)
   Tree protection is required in accordance with Title 11 Trees, Protection Methods (11.60.030). Tree protection shall follow either the Prescriptive or Performance path. Protection methods must be shown on the tree plan. If using the Performance path, the alternate tree protection plan must be prepared by an arborist who has visited the site.

   A Prescriptive path protection zone is established as follows; a minimum of 1 foot radius (measured horizontally away from the face of the tree trunk) for each inch of tree diameter. Protection fencing shall be a minimum 6-foot high metal chain link construction fence, secured with 8-foot metal posts established at the edge of the root protection zone and permissible encroachment area. If terrain and slope impediment do not allow for the installation of 6-foot chain link fence, installation of 3.5 foot orange mesh construction fencing is acceptable.

4. *On-Site Tree Density Standards* (11.50.050.D)
   The applicant has not provided a conceptual tree planting plan. The required tree area is based on the size and the type of proposed existing development as shown in Table 50-2. Trees will be required to be planted through the Land Use permit.

Table 50-2
Determining Required Tree Area

Development Type	Option A	Option B
One to Four Family Residential	40 percent of site or development impact area	Site area minus building coverage of existing and proposed development
Multi Dwelling Residential	20 percent of site or development impact area	
Commercial/Office/ Retail/Mixed Use	15 percent of site or development impact area	
Industrial	10 percent of site or development impact area	
Institutional	25 percent of site or development impact area	
Other	25 percent of site or development impact area	

PORTLAND PARKS & RECREATION
Healthy Parks, Healthy Portland

Urban Forestry
1900 SW 4th Ave. Ste 5000, Portland, OR 97201
Tel: 503-823-TREE (8733) Fax: 503-823-4493
email: trees@portlandoregon.gov
web: portlandoregon.gov/trees

URBAN FORESTRY TREE REQUIREMENTS
Early Assistance and Land Use Review

Portland Parks & Recreation Urban Forestry staff review Early Assistance and Land Use Review materials to identify potential issues and requirements in accordance with Title 11, Trees and Title 33, Zoning Code. The purpose of these reviews is to identify potential issues and/or impacts on existing street trees, heritage trees, and trees on City-owned or managed sites (if applicable), as well as to provide adequate areas for future street tree planting on existing and proposed public streets. Trees on private property are subject to development standards from the Bureau of Development Services. See planning requirements for private property trees or call the Zoning Hotline at 503-823-7526.

Tree Plan Submittal Requirements (11.50.070)

A tree plan must be submitted with each phase of review including land use reviews, building permit applications, and public works permits. The tree plan information may be combined with other relevant plan sheets. The tree plan submittal shall include the following information:

- ☐ existing improvements;
- ☐ proposed alterations;
- ☐ existing street trees ≥ 3” DBH including size and location;
- ☐ existing on-site trees ≥ 6” DBH within 15’ of the limits of disturbance;
- ☐ trees proposed for removal;
- ☐ tree planting proposal, including tree size, species and location; and
- ☐ trees to be retained and proposed tree protection measures meeting the specification in Chapter 11.60.

Any changes to an approved Tree Plan, including amending tree species must be approved by the City Forester. Please note that the City Forester may not approve revised tree planting plans based on the lack of species availability. To facilitate species availability, it is recommended that tree procurement occur approximately 6 months prior to installation.

Tree Mitigation (11.50.040.C.2)

Healthy street trees ≥ 6” DBH that are approved for removal shall be replanted with two trees in addition to trees required to be planted to meet Street Tree Planting Standards, below. When street improvements are to partially or fully unimproved streets, healthy street trees ≥12” DBH approved for removal shall be replanted with two trees, with trees planted to meet Street Tree Planting Standards credited towards meeting this requirement. Tree replacement for trees removed shall occur in the street planter strip, on site, or in the same watershed either by planting or by paying a fee in lieu of planting in accordance with table 60-1, below.

On City-owned or managed sites, healthy, non-nuisance trees ≥ 6” DBH that are approved for removal shall be replanted per the Administrative Rule for tree replacement standards, below:

Tree Replacement for Development on City Owned or Managed Sites

Size of tree to be removed (inches in diameter)	Number of trees to be planted
6 and up to 12	Up to 2
More than 12 and up to 20	Up to 3
More than 20 and up to 25	Up to 5
More than 25	Up to 6

Street Tree Planting Standards (11.50.050)

One street tree shall be planted or retained for each full increment of 25 linear feet per side of street frontage. Planting is exempt when existing above or below grade utilities prevent planting of street trees, or if the existing design of the street will not accommodate street tree planting because the planting strip is less than 3 feet wide, there is not a planting strip, or there is insufficient space to add tree wells. Trees planted to meet street tree planting standards are credited toward mitigation requirements when street improvements are to partially or fully unimproved streets. When the required number of trees cannot be planted, a fee in lieu of planting will be required, in accordance with Table 60-1, below.

Table 60-1 Broadleaf Tree Size Requirements

Development Type	Tree Size	
	On Site	Street
One and Two Family Residential	1.5”	1.5”
Multi Dwelling Residential	1.5”	2”
All others	1.5”	2.5”

Tree Planting Specifications

If there are fewer than 8 required trees, they may all be the same species. If there are between 8 and 24 required trees, no more than 40 percent can be of one species. If there are more than 24 required trees, no more than 24 percent can be of one species. Street tree species shall conform to the appropriate “City of Portland Approved Street Tree Planting List.” The City Forester may approve or require an alternate or unlisted species.

All required street trees shall be planted in-ground following Standard Drawing Number P-581 “Typical Street Tree installation,” except when in raised planters that are used to meet Bureau of Environmental Services storm water management requirements. Please include the Standard Drawing Number P-581 as part of the Public Works permit application. Plant materials shall be installed to current nursery industry standards and proper arboricultural practices [American National

Standards Institute, *ANSI A300 Part 6: Tree, Shrub, and Other Woody Plant Maintenance-Standard Practices (Planting and Transplanting)* 2012, Tree Care Industry Association, Inc. Londonderry, NH]. Plant materials shall be properly supported to ensure survival.

All trees required or approved to be planted by Title 11 shall be planted or payment in lieu of planting made prior to the expiration of the permit or City's final acceptance of the project, as applicable. However, it is encouraged that planting occur during the wet months or as per City Forester recommendations. Street tree planting may be deferred between May 1 and September 30 upon filing a performance guarantee as provided in Section 11.10.060 or other assurance deemed acceptable by the City Forester or BDS Director as applicable.

Tree Protection Specifications (11.60.030)

Trees to be retained shall be protected in accordance with Title 11 Trees, Protection Specifications (11.60.030.C). Tree protection shall be shown on the tree plan and include the distance from the trunk of the tree to the fence. A standard root protection zone is established as follows; a minimum of 1 foot radius (measured horizontally away from the face of the tree trunk) for each inch of tree diameter. Protection fencing shall be a minimum 6-foot high metal chain link construction fence, secured with 8-foot metal posts established at the edge of the root protection zone and permissible encroachment area.

23-108454 PC
Kinder Morgan Pipeline
Sign-in Sheet
January 3, 2024

Matt Wickstrom, BDS Pre-Application Conference Coordinator, matt.wickstrom@portlandoregon.gov, 503-865-6513

Morgan Steele, BDS Land Division/Environmental Team, morgan.steele@portlandoregon.gov

Tammy Boren-King, PBOT Development Review, tammy.boren-king@portlandoregon.gov, 503-823-2948

Ella Ruth, Bureau of Environmental Services, ella.ruth@portlandoregon.gov, 503-823-8068

Bryan Vittori, Water Bureau, bryan.vittori@portlandoregon.gov, 971-917-5458

Jason Thaete, Urban Forestry, jason.thaete@portlandoregon.gov

Rebecca Shell, AECOM, Rebecca.shell@aecom.com, 732-690-9933

Jan Reed, AECOM, jan.reed@aecom.com

Lex Francis, AECOM, Biologist & DPM, lex.francis@aecom.com

Bryan Connick, Kinder Morgan, Chief Inspector, bryonconnick@gmail.com

Todd Gupton, Kinder Morgan, todd_gupton@kindermorgan.com

PORTLAND PARKS & RECREATION[SM]
Healthy Parks, Healthy Portland

MEMORANDUM

DATE: April 19, 2024

TO: Morgan Steele, Planner, City of Portland Bureau of Development Services

FROM: Marshall Johnson, Ecologist, City of Portland Parks & Recreation

SUBJECT: Mitigation in Forest Park for Kinder-Morgan Pipeline Anomaly Repair Project: 2024

Portland Parks & Recreation (PP&R) proposes to partner on the current 2024 land-use proposal by SFPP, L.P., a subsidiary of Kinder Morgan (SFPP), for additional repair of anomalies in a pipeline running through a portion of Forest Park, by allowing SFPP to meet mitigation requirements for environmental impacts through a payment into the Restore Forest Park Fund. This funding will be used to support implementation of the Restore Forest Park project, which is an ongoing long-term effort to improve the ecological health of the Park by removing invasive species and re-planting native plants.

Beginning in fall 2025, PP&R will utilize the funds to implement a new portion of the Restore Forest Park project. Specifically, PP&R proposes to control targeted invasive plants (such as ivy, clematis, non-native blackberry, laurel and holly) and enhance the native vegetation with plantings within the Central Management Unit of Forest Park (see map Attachment A). This will help achieve a greater ecological uplift in Forest Park than the standard tree planting mitigation requirement that would otherwise take place at the location of the proposed work along the pipeline and its access roadway. It should be noted that the pipeline is within an easement which allows the owner to continually maintain access to and repair of the pipeline within the easement. On site mitigation planting by the applicant would be challenged by the fact that tree planting locations are limited in the forested areas along the pipeline where impacts would occur. Further, the likelihood of success for trees that are planted is low due to the existing dense canopy. Due to these circumstances, restoration in other areas of the Park is recommended by PP&R. If approved by the Bureau of Development Services (BDS), the applicant will

provide funding to support Restore Forest Park work in the same management unit of Forest Park where the impacts will occur, which will provide an amplified ecological benefit expanded over a larger net area.

Significant portions of Forest Park are currently degraded by the long-term encroachment of invasive species (primarily ivy, clematis, non-native blackberry, laurel and holly) which have impacted native plant communities and the wildlife they support, reduced natural regeneration of conifers and contributed to erosion. The proposed mitigation activities will result in the reduction of invasive plant populations followed by revegetation with native plants. Ivy, clematis and non-native blackberry will be reduced to less than 20% cover, and the laurel and holly will be cut and treated within the project area. Revegetation work will replace impacted understory species and restock conifers that have been inhibited during the past decades. An average of 400 native plants per acre will be installed in impacted areas. This will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

Table 1. Mitigation Plan Actions

Task	Description	Schedule
Site preparation	Manual, mechanical, and chemical control of invasive ground cover and shrubs (ivy, clematis and non-native blackberry). Cut and stump treat with herbicide to control invasive vines and trees (ivy, clematis, holly and laurel).	August - December 2025
Follow up site preparation	Spot treatment with manual, mechanical, and chemical control to address remaining invasives in the project area.	August – December 2026

Planting	Plant with native plants (including ground cover, shrubs, and trees as appropriate to the site) where invasives have been removed, at approximately 400 plants/acre.	October 2026 – March 2027
Maintenance/ establishment	Maintenance treatment of remaining invasive plants (manual, mechanical, and chemical treatment as needed) to reduce competition from invasives and ensure plant establishment.	August - December 2027
Infill planting	Provide infill planting where losses exceed approximately 25%.	October 2027 – March 2028

Location:

All mitigation will take place in the Central Management Unit of Forest Park.

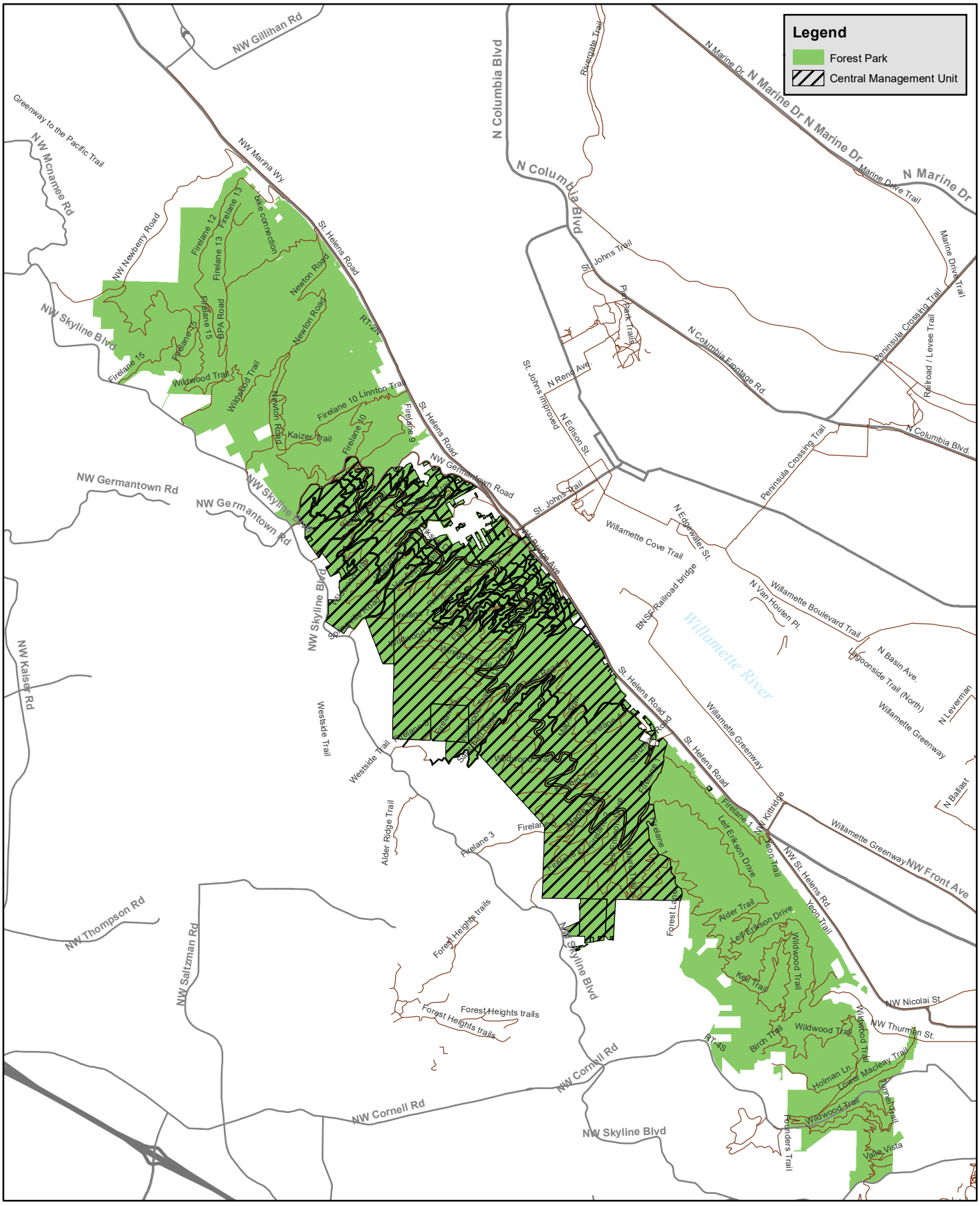
Cost estimate:

Cost estimate to implement the mitigation will vary according to site conditions and is based on the premise that sites with poor conditions require more work than sites with better conditions. Cost estimate for work on sites that are characterized by ideal or average conditions (low invasive cover, good soil, and less steep topography) is $3,000/acre. Cost estimate for work on sites that are characterized by poor conditions (high invasive cover, poor soil, and more steep topography) is $3,500/acre.

Estimated costs are based on current contractor rates and estimates for similar work occurring in Forest Park. It includes costs for: site assessment, project design, contracting, contractor work (site prep, planting, maintenance, supplies, plants, mobilization, and project management).

Based on the potential range of mitigation that will be required and the estimated per acre cost and planting density, the applicant would provide mitigation in the form of funding for restoration of between 30 and 53 acres, including planting of between 12,000 and 22,000 native trees and shrubs.

Attachment A



Portland Parks & Recreation
Forest Park

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LU 24-017402 EN | Exhibit G.4

Land Use Hearing Intake Form Template

- Hearings Office Case No.: 4240007
- BDS Assigned Case Number: LU 24-017402EN
- Applicant/Owner: Melissa Cowan
- Appellant: _____
- Site Address: Forest Park (multiple locations)
- Planner: Morgan Steele
- Planner's Phone Number: (503) 865-6437
- Deemed complete date: March 20, 2024
- Length of time needed: 1 hour
- Level of complexity: Low
- Level of controversy: Low
- Type: III
- Is the HO Hearings Room 3000 large enough? (Capacity: 49)
  Yes
- Is this case subject to 100 day clock?: No
- Current date of 120th-day (re-calculate if necessary): July 18, 2023
- What date is the 51st day?: _____
- Do you have a signed waiver or extension: No
- Preferred hearing dates (include 3): May 10, 2024, May 13, 2024, May 20, 2024, (Monday or Wednesday priority days)

Hearings Office
City of Portland
1900 SW 4th Avenue, Room 3100, Portland, OR 97201 phone: 503.823.7307
www.portland.gov/omf/hearings fax: 503.823.4347
email: HearingsOfficeClerks@portlandoregon.gov

Land Use Hearing Participation Information

Case Number: 24-017401 EN (Hearings Office Case Number 4240007)
Site Address: Forest Park (multiple locations)
Hearing Date: May 8, 2024
Hearing Time: 1:30 PM

The above-referenced land use hearing will take place via the Zoom platform.

Zoom Participation Options and Instructions

Zoom Option

- You will need an internet connection and a personal computer or other internet capable device.
- You can listen, view the City Planner's PowerPoint presentation, and you have the opportunity to provide oral testimony.
- Instructions:

Go to:
https://us06web.zoom.us/j/84338894765

Telephone Option

- You will need a telephone.
- You will be able to listen and testify but you will not be able to view documents and presentations shared on the Zoom platform (if any).
- Instructions:

Dial: +1 669 900 6833
Meeting ID: 843 3889 4765#

Written Testimony

- Prior to the Hearing and until the close of evidence, you may submit written testimony. In other words, written testimony can be provided up to the close of the record, which will be announced at the hearing.
- *Note: A document's timeliness is determined by the date/time when it is received by the Hearings Office Clerks.*
- Please reference the case number in any documents you wish to submit.

- Instructions/Options:

Online Case Management System
https://www.portland.gov/omf/hearings/land-use

SCAN ME

Email: HearingsOfficeClerks@portlandoregon.gov
Fax: 503-823-4347
Mail: Hearings Office, 1900 SW 4th Avenue, Room 3100,
Portland, OR 97201

View File Contents

We use a fully electronic case file. Your online viewing options are available at our website: https://www.portland.gov/omf/hearings/land-use
If you do not have online access, you may make a written request for a hard copy of any exhibit to be mailed to you.

Meaningful Access

The City of Portland is committed to providing meaningful access.
For accommodations, modifications, translation, interpretation, or other services, please call 503-823-7307, the TTY at 503-823-6868 or the Oregon Relay Service: 711. Traducción e interpretación | Chuyển Ngữ hoặc Phiên Dịch | 翻译或传译

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Questions or Concerns

You may contact the Hearings Clerks via email at HearingsOfficeClerks@portlandoregon.gov or by calling 503-823-7307.

Hearing Office
City of Portland
1900 SW 4th Avenue, Room 3100, Portland, OR 97201
www.portlandoregon.gov/hearings
email: HearingsOfficeClerks@portlandoregon.gov
phone: 503.823.7307
fax: 503.823.4347

Land Use Hearing scheduled

A public hearing in land use case no. 4240007 has been scheduled for 1:30 PM, May 8 2024The Hearings Office Land Use Administrative Rules require that the Bureau of Development Services make available a copy of its staff report and recommendation in a Type III proceeding at least 10 days before the date of the hearing, and the administrative decision and appeal in a Type II proceeding at least 7 days before the date of the hearing.

In the discretion of the Hearings Officer, failure of the Bureau of Development Services to make available the report or administrative decision and appeal within the time required by the Code may constitute grounds for continuing the hearing or holding the record open. In so determining, the Hearings Officer will consider the particular circumstances of the case, the possible prejudice to the persons failing to receive a copy of the material or to any other party, and the reason for the failure to comply.

Carmen Rubio, Commissioner
David Kuhnhausen, Interim Director
Phone: (503) 823-7300
TTY: 711
www.portland.gov/bds

STAFF REPORT AND RECOMMENDATION TO THE HEARINGS OFFICER

CASE FILE: LU 24-017402 EN
PC # 23-108454
HEARINGS OFFICE FILE # 4240007
REVIEW BY: Hearings Officer
WHEN: May 8, 2024, 1:30pm

This land use hearing will take place online using the Zoom platform. See the instructions on how to participate remotely (online or by phone) at this link: https://www.portland.gov/bds/zoning-land-use/events/2024/5/8/notice-land-use-hearing-lu-24-017402-en or contact the Hearings Office at HearingsOfficeClerks@portlandoregon.gov or 503-823-7307. Additional Hearings Office information is available at www.portland.gov/omf/hearings/land-use.

It is important to submit all evidence to the Hearings Officer. City Council will not accept additional evidence if there is an appeal of this proposal.

BUREAU OF DEVELOPMENT SERVICES STAFF: MORGAN STEELE / MORGAN.STEELE@PORTLANDOREGON.GOV

GENERAL INFORMATION

Applicant: Melissa Cowen | Sfpp Lp
1001 Louisiana St #1000 | Houston, TX 77002

Owner: City of Porltand | Parks & Recreation
Attn: Kendra Petersen-Morgan
1120 SW 5th Avenue #1302 | Portland, OR 97204-1926

Representative: Rebecca Shell | AECOM
888 SW 5th Avenue #600 | Portland, OR 97204
732.690.9933 | Rebecca.Shell@aecom.com

Site Address: Multiple locations throughout Forest Park

Legal Description: TL 1200 40.76 ACRES, SECTION 14 1N 1W; TL 1300 2.00 ACRES, SECTION 14 1N 1W; TL 600 157.63 ACRES, SECTION 14 1N 1W
Tax Account No.: R961140010, R961140020, R961140030
State ID No.: 1N1W14A 01200, 1N1W14A 01300, 1N1W14 00600
Quarter Section: 2219,2318,2319,2320, 2418,2419,2420

Neighborhood: Forest Park, contact Jerry Grossnickle at landuse@forestparkneighbors.org & Linnton, contact Sarah Taylor at sarahsojourner@mac.com
Business District: None
District Coalition: Neighbors West/Northwest, contact Darlene Urban Garrett at darlene@nwnw.org
Plan District: Northwest Hills - Forest Park

Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #4
Page 1 of 26

Other Designations:	*Natural Resources Inventory* – Resource Site FP16; Landslide Hazard Area; Wild Lands Fire Hazard
Zoning:	*Base Zone:* Open Space (OS) *Overlay Zones*: Environmental Conservation (c), Environmental Protection (p)
Case Type:	EN – Environmental Review
Procedure:	Type III, with a public hearing before the Hearings Officer. The decision of the Hearings Officer can be appealed to City Council.

Proposal:
The applicant, Kinder Morgan, is requesting approval for the repair or replacement of joint sites at five different locations along an existing pipeline right-of-way in Forest Park. Kinder Morgan owns and operates an existing 115-mile refined petroleum products pipeline that runs from Portland to Eugene, Oregon. Approximately 1.8 miles of the pipeline runs through Forest Park and adjacent right-of-way. The pipeline maintenance activities are proposed to occur in Spring 2024 after the close of the Northwest Hills Plan District annual soil disturbance moratorium (May 1).

The proposed pipeline work will require the removal of several native trees (57 to 75) depending on final construction work areas and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. The applicant proposes to restore temporary disturbance areas and compensate for vegetation clearing caused by the construction activities by spreading native seed mix as well as planting native shrubs upon project completion. Further, the applicant intends to fully mitigate for the permanent impact of tree removal by paying into the Restore Forest Park Fund which is a restoration program run by Portland Parks & Recreation aimed at enhancing and restoring Forest Park's natural resources.

All joint sites are within the City's Environmental Conservation and Environmental Protection overlay zones within the City's *Forest Park Natural Resource Management Plan* (Forest Park NRMP). The Forest Park NRMP includes a list of certain projects/actions that are in conformance with the NRMP, and which are allowed without a land use review. The NRMP does not specifically address the repair and replacement of the Kinder Morgan pipeline. Therefore, this proposal is considered an "exception" to the NRMP and is required to go through a Type III Environmental Review.

All sites are also within the Forest Park Subdistrict of the Northwest Hills Plan District and must meet the additional approval criteria for that subdistrict.

Approval Criteria:
To be approved, this proposal must comply with the approval criteria of Title 33, Portland Zoning Code. The applicable approval criteria are:

- The "**Approval Criteria for Exceptions**" including criteria **A through E in Section B** on page 217 of the *Forest Park Natural Resources Management Plan*
- Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in Zoning Code section **33.563.210 A, B, and C.**
- The proposal is also subject to the prohibition of clearing between October 1 and April 30 in section 33.563.200.

The Portland Zoning Code is available online at https://www.portland.gov/code/33.

ANALYSIS

Site and Vicinity: The pipeline crosses Forest Park about one-half mile south of the St. John's Bridge in Northwest Portland. The project area consists of an approximately 20-foot wide, 1.8-mile-long corridor extending southwest from the intersection of NW St. Helens Road/US Highway 30 and NW Front Avenue, across Forest Park, to NW Skyline Boulevard just north of NW Saltzman Road.

All five joint repair locations are within the Willamette River watershed and vegetated by a mixed upland coniferous and deciduous forest. The repair locations and surrounding area are characterized by predominantly hilly terrain. There are no

flood hazard areas mapped by the Federal Emergency Management Agency at the repair locations, and none of the repair locations are near a stream or associated flood zone. Based on review of the National Wetland Inventory (USFWS 2023) and site visits, no wetlands are present at or adjacent to these locations. All proposed repair work would occur within forested areas of the Doane Creek watershed; however, all repair locations are along upland slopes or ridges and are not adjacent to Doane Creek or any of its tributaries.

Zoning: The site is within Portland's Open Space (OS) base zone, as well as the Environmental Conservation (c) and Environmental Protection (p) overlay zones, and the Northwest Hills Plan District. All joint sites are also within Portland's *Forest Park Natural Resources Management Plan* area, which has specific environmental and open space regulations unique to Forest Park.

The Open Space base zone is intended to preserve public and private open and natural areas to provide opportunities for outdoor recreation and a contrast to the built environment, preserve scenic qualities and the capacity and water quality of the stormwater drainage system, and to protect sensitive or fragile environmental areas. No new uses are proposed within the OS base zone and the provisions of the zone do not apply to the proposal for repair of the existing pipeline. The OS zone regulations are therefore not addressed through this Environmental Review.

Environmental overlay zones protect environmental resources and functional values that have been identified by the City as providing benefits to the public. The environmental regulations encourage flexibility and innovation in site planning and provide for development that is carefully designed to be sensitive to the site's protected resources. They protect the most important environmental features and resources while allowing environmentally sensitive urban development where resources are less sensitive. The purpose of this land use review is to ensure compliance with the regulations of the Environmental Zones.

The Northwest Hills Plan District protects sites with sensitive and highly valued resources and functional values. The portions of the plan district that include the Balch Creek Watershed and the Forest Park Subdistrict contain unique, high quality resources and functional values that require additional protection beyond that of the Environmental Zone. These regulations provide the higher level of protection necessary for the plan district area and are addressed in this land use review.

The *Forest Park Natural Resources Management Plan* presents a set of goals and actions designed to guide management of natural resources and recreational uses. With preservation of natural resources as a primary goal, the plan recognizes that Forest Park is threatened by overuse unless recreational activities are actively managed and directed. The plan is a multi-purpose plan designed to identify and assess Forest Park natural resources; identify impacts to Forest Park natural resources; prescribe how to protect and enhance Forest Park natural resources; identify appropriate forms and levels of recreation and education for Forest Park; monitor natural resources and provide day to day management and public information; and satisfy the City's criteria for Natural Resource Management Plans. The purpose of this land use review is to ensure compliance with the Plan.

Environmental Resources: The application of the environmental overlay zones is based on detailed studies that have been carried out within eight separate areas of the City. Environmental resources and functional values present in Environmental Zones are described in environmental inventory reports for these study areas.

The project sites are mapped within the *Forest Park and Northwest District Natural Resources Inventory* within Resource Sites FP16, Doane Creek Watershed. Resources identified within these sites are generally similar and include year-round creeks, their headwaters, wildlife habitat, sensitive fauna, forest, open space, and groundwater resources. Identified habitat types include upland coniferous/broadleaf deciduous forest; riverine, intermittent streambed; and seasonally flooded.

Applicant's Statement: The applicant offers the following regarding the purpose and need for the project:

The purpose of the proposed project is to maintain the integrity and functionality of the existing Kinder Morgan pipeline within Forest Park by repairing anomalies near pipeline joints 1300, 1510, 1600, 1670, and 1680. The overall goal of the project is to ensure the long-term structural integrity of the pipeline while minimizing the number of times that construction will occur within Forest Park over the next decade. The following objectives are associated with the project:

Objective 1: Repair pipeline anomalies such that the return interval for future pipeline repairs and associated habitat disturbances are reduced.

Objective 2: Limit environmental encroachment to the maximum extent practicable during construction associated with pipeline anomaly repairs.

Impact Analysis and Mitigation Plan: A description of the proposal was provided on page two of this report. The following discusses development alternatives other than the one proposed, that were considered by the applicant. The following additionally describes the proposed construction management plan and mitigation proposal.

Development Alternatives:
The applicant provided a detailed alternatives analysis evaluation in their application case file (Exhibit A.1). The applicant evaluated the following pipeline repair and replacement approaches including equipment access and considered the anticipated benefits and limitations associated with each alternative.

Joint 1300 Construction Access:
As access to Joint 1300 from the Joint 1510 site would require removal of several live trees along Oil Line Road (which becomes very narrow in this area) for safe maneuvering of construction equipment, the Bureau of Development Services (BDS) City planner requested that SFPP look at an alternative route to access this site during the pre-application meeting for this project.

The applicant therefore explored two alternatives, Alternatives 1A and 1B, and reviewed their ability to meet the project objectives listed above, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs. Alternative 1A would access the Joint 1300 repair location from the Joint 1510 location on Oil Line Road, and Alternative 1B would access the Joint 1300 repair location from the east via NW Leif Erikson Drive. Both alternatives would access Joints 1600 and 1510 via Firelane 7 and Oil Line Road, which is already predominantly cleared of trees to this point, and Joints 1670/1680 via vegetation clearing in an area downslope from Joint 1600.

Table 1. Alternatives 1A and 1B Evaluation

Alternative	Objectives		Description	Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact		
1A: Access to Joint 1300 from NW Springville Road via Firelane 7/Oil Line Road	Meets	Meets	Access to Joint 1300 location would be along Oil Line Road, continuing east from Joint 1510.	This alternative would use park roads that are predominantly cleared of trees. However, this alternative would require removal of 27 live trees and potential removal of an additional 2 live trees[1] along Oil Line Road between the Joint 1510 and 1300 sites, where Oil Line Road is significantly narrower. Between the Joint 1510 and 1300 sites, Oil Line Road follows a flat to gently sloping ridgeline; therefore, no steep slope protection measures would be necessary along this access route. The understory vegetation in this route is not densely populated with groundcover forbs or ferns. Minimal to no salvage and replanting of ferns is anticipated to be required along this access route. This alternative would require closure of Fire Lane 7/Oil Line Road during access to all joints for a length of time of approximately 7.5 weeks (**Table 6**). This alternative meets Objective 1 (repair pipeline anomalies) and Objective 2 (limit environmental impact), as potential long-term erosion control issues would be minimal compared to Alternative 1B.
1B: Access to Joint 1300 from NW Leif	Meets	Does Not Meet	Access to Joint 1300 site would be from NW Leif Erikson Drive. As NW Leif Erikson Drive does not	Clearing of the 270-foot-long path to access Joint 1300 from NW Leif Erikson Drive would require removal of six trees and a large swath of ferns on a steep slope. A winch dozer would be needed to maneuver equipment up the steep slope to access Joint 1300 from NW Leif

Alternative	Objectives		Description	Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact		
Erikson Drive			directly abut the anomaly at Joint 1300, a path approximately 270 feet long through a forested area with a 41% slope would need to be cleared to connect the access road to the work site.	Erikson Drive; for safe operation, this winch dozer would require an area approximately 625 square feet just outside the Joint 1300 excavation site to be cleared of vegetation and graded. This option would expose soils and plant roots on a steep slope with high landslide risk, which would likely result in erosion concerns in the short- and long-term time frames. Additionally, the many exposed roots of plants adjacent to the cleared area would be at risk of damage from heavy equipment even with protective woodchips, which would be difficult to keep in position on a slope of this angle. This alternative would require closure of Fire Lane 7/Oil Line Road during access to all joints for a length of time of approximately 6.5 weeks and an additional closure of NW Leif Erickson Road for approximately 3 weeks. This is a more extensive and longer overall trail/road closure period than under Alternative 1A for all work planned in 2024. This alternative meets Objective 1 (repair pipeline anomalies) but does not meet Objective 2 (limit environmental impact), as erosion control issues on the steep slope are anticipated to have a greater long-term environmental impact at the site than the greater number of tree removals under Alternative 1A.

[1] Total does not include trees to be removed for excavation and equipment staging at the Joint 1300 pipeline repair location.

As indicated by the discussion in Table 3**,** Alternative 1A is the preferred alternative, as it satisfies both Objectives 1 and 2. Additionally, since it is possible that pipeline repairs could be required in future years on the portion of Oil Line Road between Joints 1510 and 1300, clearing of trees in this area may eventually be required even if Alternative 1A is not selected at this time.

Alternatives 2A and 2B: Definite vs. Potential Tree Removal:

Existing trees would require removal (e.g., felling) to enable access to and excavation of the proposed anomalies during repair work. Information on the location, species, and diameter at breast height of trees along the access route and near all joints has been completed by certified arborists from Sav-A-Tree. This assessment also included a field determination in coordination with construction contractor personnel of which trees would need to be removed for equipment access along the access route (Firelane 7 and Oil Line Road) and for excavation at all pipeline repair locations. The assessment by Sav-a-Tree also included a follow-up site visit with Urban Forestry on December 11, 2023, to verify identification of definite and potential tree removals.

It has been determined that a total of 57 trees would inhibit proposed anomaly repair work by blocking vehicle/equipment access to repair locations and/or by being located within proximity to anomaly locations that would require excavation. A total of 17 trees would potentially inhibit proposed anomaly repair work given the likelihood that their root systems would overlap with anomaly excavation locations (per root protection zone calculations). Determining whether these 17 trees would require removal would depend on two factors: 1) the actual length of the excavation trench (assumed at a maximum of 50 feet long for permitting purposes but determined upon examination of the anomaly severity after initial excavation), and 2) the actual root system overlap of the trees with the excavation area (that can only be determined after excavation begins).

There are two alternative approaches to address these tree removals. Alternative 2A would involve preemptively removing all trees that would definitely or potentially inhibit proposed anomaly repair work. Preemptive removal indicates removal during the vegetation clearing stage of work (prior to excavation work). Alternative 2B would involve preemptively removing only the 57 trees that would definitely inhibit proposed anomaly repair work as described above. The 17 trees flagged as potentially inhibiting proposed anomaly work would only be removed as needed on a case-by-case basis while excavation progresses, and the actual extent of their root systems can be examined by an on-site arborist.

Table 4 identifies Alternatives 2A and 2B, their ability to meet the project objectives listed above, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs.

Table 2. Alternatives 2A and 2B Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact	
2A: Preemptive Removal of All Trees with Potential to Inhibit Anomaly Repair Work	Meets	Does Not Meet	This alternative involves removal of 75 trees with potential to inhibit anomaly repair work prior to excavation. While preemptive removal of all 75 trees could expedite the construction timeline (by avoiding the need to pause excavation, as described under Alternative 2B), up to 17 of the 75 trees may not require removal if they are not ultimately impacted by excavation. Therefore, this alternative would likely result in the unnecessary removal of multiple trees. Forest cover functions to protect watershed resources, wildlife habitat, and open space, scenic, and recreational resources. Unnecessary reduction in the forest cover would impact the ability of the area to maintain these functional values and would also result in reduced shade, thereby altering microclimate regulation and existing understory vegetation. Per the project-specific Fire Prevention Measures included in the Fire Prevention Plan (Exhibit A.2), all downed wood from felled trees must be hauled away and disposed of off-site, thereby reducing the capability of removed trees to provide habitat as downed logs or woody debris. Therefore, this alternative meets Objective 1 (repair pipeline anomalies) but does not meet Objective 2 (limit environmental impact).
2B: Preemptive Removal of Only Trees with Definite Potential to Inhibit Anomaly Repair Work (and Removing Other Trees As Needed During Excavation)	Meets	Meets	This alternative involves removal of 57 trees flagged for definite removal prior to excavation. The remaining 17 trees with potential to impact anomaly repair would be removed as needed during excavation based on the extent of excavation and their actual root system overlap with the excavation trench (determined by the on-site arborist). This alternative could delay the construction schedule slightly (as excavation must pause each time a tree must be removed). However, avoidance of unnecessary tree removals would help preserve the site's existing resources and functional values associated with forest cover, as described above, to the maximum extent practicable while repairing pipeline anomalies. Therefore, this alternative meets Objective 1 (repair pipeline anomalies) and Objective 2 (limit environmental impact).

As indicated by the discussion in Table 4, Alternative 2B is the preferred alternative, as it satisfies both Objectives 1 and 2 listed above.

Alternatives 3A and 3B: Hand Excavation vs. Mechanized Excavation on Steep Slopes:

Anomaly repairs near Joints 1300, 1670, and 1680 are located on a steep (35–52 percent) slopes. These slopes are densely vegetated with trees and ferns. There are two potential approaches to excavate the existing pipeline and conduct anomaly repairs on steep slopes. Alternative 3A would involve hand excavation (i.e., the use of non-mechanized tools like shovels) to excavate the work areas. Alternative 3B would involve using mechanized excavation to repair the anomalies.

Table 5 identifies Alternatives 3A and 3B, their ability to meet the project objectives listed above, and their anticipated impact on resources and functional values within and adjacent to the anomaly repairs.

Table 3. Alternatives 3A and 3B Evaluation

Alternative	Objectives		Impact on Resources and Functional Values
	1: Repair Pipeline Anomalies	2: Limit Environmental Impact	
3A: Hand Excavation of Anomalies on Steep Slopes	Does Not Meet	Does Not Meet	This alternative involves hand excavation of the anomalies located on the steep slopes near Joints 1300, 1670, and 1680. Because no mechanized equipment would be used for excavation, vegetation, and soil disturbance around the trench during excavation would be limited to workers walking up and down the slope rather than heavy machinery running up and down the slope. Limiting vegetation and soil disturbance would help preserve the resources and functional values present on the site, including but not limited to preserving wildlife habitat. However, once excavation is complete, repair of the exposed anomaly would likely require the transportation of heavy equipment up and down the slope along the trench, thereby requiring a pathway cleared of trees and ferns like what would be required for a mechanized excavator. Additionally, given that these steep slopes are primarily composed of tough bedrock, hand excavation would take much longer than mechanized excavation, thereby leaving soil and an open trench exposed on a slope for a longer period when compared with mechanized excavation. There is also potential for hand excavation on a steep slope to simply not include enough force to break through bedrock to reach certain anomalies for repair, thereby requiring a mechanized excavator to be brought to the site to complete the job. Therefore, this alternative is not guaranteed to satisfy Objective 1 (repair proposed anomalies) in an efficient manner. The potential of this alternative to leave soil exposed for longer periods of time, and possibly require returning to the site with mechanized excavators if bedrock proves too tough, offsets any environmental benefit from minimizing soil disturbance during the excavation period of repair work. Therefore, this alternative would not satisfy Objective 2 (limit environmental impact).
3B: Mechanized Excavation of Anomalies on Steep Slopes	Meets	Meets	This alternative involves mechanized excavation of the anomalies located on the steep slopes near Joints 1300, 1670, and 1680. Although using heavy machinery on the steep slopes would disturb soil, mechanized excavation would expedite excavation so that soil exposure on a slope is minimized. Therefore, this alternative would satisfy Objective 1 (repair proposed anomalies) in an efficient manner while minimizing soil and vegetation disturbance to the maximum extent practicably, thereby satisfying Objective 2 (limit environmental impact).

As indicated by the discussion in Table 5, Alternative 3B is the preferred alternative, as it satisfies both Objectives 1 and 2.

Construction Management Plan (CMP):

Anomaly repair would begin by marking the limits of temporary disturbance with bright flagging and/or orange construction fencing. Temporary disturbance areas would include vegetation clearing areas; excavation areas; areas used for construction access, equipment movement, vehicle parking, and staging; and spoils (i.e., excavation material) storage areas. Trees identified for definite removal and potential removal would be flagged with two different flag colors during temporary disturbance area flagging.

Following temporary disturbance area marking, erosion and sediment control Best Management Practices (BMPs) will be placed down-gradient of the vegetation clearing and temporary disturbance areas to contain loose soils. Additional BMPs that will be used to ensure protection of resources outside of approved disturbance limits are detailed by the applicant in their application case file (Exhibit A.1).

Unavoidable Impacts:

The repair and maintenance work along the pipeline within the central portion of the park will require the removal of 57 to 75 trees and temporarily disturb a total of 39,060 square feet of area within the Environmental Protection overlay zone. Potential short-term impacts from the project include disturbance to wildlife habitat, sensitive fauna, nesting/brooding areas, and vegetation in the vicinity of the pipeline replacement areas. Direct impacts include removal of vegetation, disturbance of ground surfaces, and increased noise. Impacts may also be indirect; degradation of surrounding wildlife habitat may occur due to increased noise and soil erosion. In addition, recreational uses within the project area will be

Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #4
Page 7 of 26

temporarily impacted by closing the Wildwood Trail. However, these potential short-term impacts would be minimized through the implementation of the BMPs detailed in the Construction Management Plan (described above).

Potential long-term impacts of pipeline joint replacements resulting from vegetation clearing, tree removal, and ground disturbance include a reduction in tree canopy cover, shade, microclimate regulation, wildlife refuge, and nesting/brooding areas associated with deciduous forest cover. However, the disturbance area and clearing areas would continue to be surrounded with dense, contiguous forested area that provides considerable ecological functions (e.g., wildlife habitat).

Proposed Mitigation:

To restore temporarily disturbed areas, the applicant proposes to plant native shrubs and seed mix throughout all construction work areas (Exhibit C.38 to C.54). Existing mature, established shrubs at Joints 1300, 1670, and 1680 will be salvaged, retained onsite, and replanted upon project completion. To mitigate for the permanent impacts of tree removal, the applicant has stated their intent to provide funding to support Restore Forest Park work in the Central Management Unit within the park, which will provide an amplified ecological benefit expanded over a larger net area. Detailed information on the mitigation work has been provided by Portland Parks & Recreation (PP&R) and can be found in Exhibit G.4.

Significant portions of Forest Park are currently degraded by the long-term encroachment of invasive species (primarily English ivy, clematis, Himalayan blackberry, English laurel, and holly) which have impacted native plant communities and the wildlife they support, reduced natural regeneration of conifers and contributed to erosion. The proposed mitigation work, which will be conducted by PP&R staff or contractors and funded by the applicant, will result in the reduction of invasive plant populations followed by revegetation with native plants. English ivy, clematis, and Himalayan blackberry will be reduced to less than 20% cover, and the English laurel and holly will be cut and treated within the project area.

Revegetation work will replace impacted understory species and restock conifers that have been inhibited during the past decades. An average of 400 native plants per acre will be installed in impacted areas. This will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

PP&R, through Ordinance 191314, has provided a payment breakdown in Table 1 below to determine the appropriate mitigation payment, based on the size of the tree proposed for removal. The mitigation amount increases with the size of the tree to account for the lost resource value that larger mature trees provide. The higher payment will result in a larger area of mitigation performed by PP&R elsewhere within the same management unit of the park. Since the applicant is aiming to save as many trees as possible, the proposed tree removal includes a range. The definitive and potential tree removal and the subsequent mitigation fee are found in Table 2 below. As part of this review and to satisfy the applicable approval criteria, the applicant will be required to provide compensatory payment for the final amount of tree removal upon construction completion. This will amount to at least $105,750 for definite tree removal and up to $158,400 if all potential tree removals are included.

Table 1: Payment Breakdown for Tree Removal

<12"	**$675**
12-<20"	**$1,800**
20" or greater	**$450 per inch**

Table 2: Proposed Tree Removals and Estimated Mitigation Fee

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
1300	966	48	*Acer macrophyllum*	Fair	Potential Removal	$21,600
	968	10	*Alnus rubra*	Fair	Potential Removal	$675
	969	11	*Alnus rubra*	Fair	Potential Removal	$675
	981	6	*Pseudotsuga menziesii*	Fair	Potential Removal	$675

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
	986	7	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	989	7	*Pseudotsuga menziesii*	Fair	Potential Removal	$675
	967	10	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	971	15	*Acer macrophyllum*	Fair	Definite removal	$1,800
	972	10	*Alnus rubra*	Fair	Definite removal	$675
	985	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
1510	881	13	*Alnus rubra*	Fair	Potential Removal	$1,800
	883	19	*Alnus rubra*	Fair	Potential Removal	$1,800
	481	15	*Alnus rubra*	Fair	Definite removal	$1,800
1600	629	30	*Pseudotsuga menziesii*	Fair	Potential Removal[4]	$13,500
1670/ 1680	462	21	*Alnus rubra*	Fair	Definite removal	$9,450
	464	17	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	465	18	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	466	23	*Pseudotsuga menziesii*	Fair	Definite removal	$10,350
	467	10	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	469	11	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	470	26	*Pseudotsuga menziesii*	Fair	Definite removal	$11,700
	471	15	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	472	18	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	473	16	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	477	18	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	820	7	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	821	13	*Pseudotsuga menziesii*	Fair	Definite removal	$1,800
	831	8	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	837	7	*Acer macrophyllum*	Fair	Definite removal	$675
Oil Line Road	483	7	*Abies grandis*	Fair	Potential Removal	$675
	484	10	*Alnus rubra*	Fair	Potential Removal	$675
	486	18	*Pseudotsuga menziesii*	Good	Potential Removal	$1,800
	487	18	*Alnus rubra*	Fair	Potential Removal	$1,800
	488	10	*Alnus rubra*	Fair	Potential Removal	$675
	491	18	*Pseudotsuga menziesii*	Fair	Potential Removal	$1,800
	492	15	*Alnus rubra*	Fair	Potential Removal	$1,800
	922	10	*Alnus rubra*	Fair	Potential Removal	$675
	942	10	*Alnus rubra*	Fair	Potential Removal	$675
	497	13	*Alnus rubra*	Fair	Definite removal	$1,800
	498	22	*Acer macrophyllumAcer macrophyllum*	Fair	Definite removal	$9,900
	814	8	*Pseudotsuga menziesii*	Poor	Definite removal	$675
	839	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	840	8	*Alnus rubra*	Poor	Definite removal	$675
	874	11	*Acer macrophyllum*	Poor	Definite removal	$675
	893	12	*Alnus rubra*	Fair	Definite removal	$1,800
	894	10	*Alnus rubra*	Fair	Definite removal	$675
	896	15	*Alnus rubra*	Fair	Definite removal	$1,800
	897	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	899	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675

Nearby Pipeline Joint	Tree ID[1]	DBH (in.)	Species	Tree Health[2]	Impact	Mitigation Fee[3]
	902	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	909	8	*Alnus rubra*	Fair	Definite removal	$675
	910	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	911	10	*Alnus rubra*	Fair	Definite removal	$675
	912	15	*Alnus rubra*	Fair	Definite removal	$1,800
	914	11	*Alnus rubra*	Fair	Definite removal	$675
	916	9	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	918	15	*Alnus rubra*	Fair	Definite removal	$1,800
	919	12	*Alnus rubra*	Fair	Definite removal	$1,800
	920	8	*Alnus rubra*	Fair	Definite removal	$675
	924	8	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	938	8	*Alnus rubra*	Fair	Definite removal	$675
	945	12	*Alnus rubra*	Fair	Definite removal	$1,800
	946	11	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	948	9	*Alnus rubra*	Fair	Definite removal	$675
	949	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	950	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	951	11	*Alnus rubra*	Fair	Definite removal	$675
	952	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	953	6	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	954	17	*Alnus rubra*	Fair	Definite removal	$1,800
	960	7	*Pseudotsuga menziesii*	Fair	Definite removal	$675
	1058	7	*Acer macrophyllum*	Fair	Definite removal	$675
	1065	13	*Alnus rubra*	Fair	Definite removal	$1,800
	1068	20	*Alnus rubra*	Fair	Definite removal	$9,000
	1069	11	*Alnus rubra*	Fair	Definite removal	$675
					Total Mitigation Fee	**$158,400**

[1] Tree ID corresponds with physical aluminum tree tag numbers added to trees during a tree survey in November 2021 and 2023.

[2] Tree Health corresponds with health designation of the tree as determined by site visits with the arborist and AECOM biologists in late 2023. The health of the tree was determined by comparing the natural growth (in an ideal situation) and age of the tree versus the condition of the trees at the time of the arborist's visit.

[3] Mitigation fees were calculated using the following stipulations specified in the City's staff report and Hearings Officer Decision for the associated land use permit application for this project: $675 for each tree with a DBH <12''; $1,800 for each tree with a DBH from 12'' – <20''; $450 per inch for each tree with a DBH of 20'' or greater. Although some trees are deemed potential (rather than definite) removals, all trees are assumed removed for mitigation calculation purposes.

[4] Tree 629 will be investigated using an airspade to allow for the project arborist to make a more precise determination as to its status. Should the tree need to be removed due to root damage, it will be left standing as a snag. Should the tree prove to be a safety hazard due to its proximity to the excavation, it will be removed fully. In both cases it will be mitigated as a full removal (at a cost of $13,500).

Acronyms: DBH = diameter at breast height; ID = identifier; in. = inch.

Land Use History: City records indicate prior land use reviews on the subject site as follows:

- LU 03-120560 EN: Approval of an Environmental Review for a pedestrian trail, including bridges over intermittent streams;
- LU 10-135572 EN: Emergency culvert repair in Forest Park – application voided;
- LU 11-153630 EN: Approval of an Environmental Review for the removal of 27 trees for the maintenance and management of the Kinder Morgan pipeline in Forest Park; and

- LU 16-187824 EN: Approval of an Environmental Review for an emergency culvert repair which was completed in 2011 and 2012.
- LU 20-136055 EN: Approval of an Environmental Review for joint replacement of an existing pipeline at one location within Forest Park. The work being reviewed for this current review is similar work approved as part of this past review.
- LU 21-056437 EN: Approval of an Environmental Review for joint repair and replacement of an existing pipeline at three separate locations within and adjacent to Forest Park. The work being reviewed for this current review is similar work approved as part of this past review.
- LU 23-021553 EN: Approval of an Environmental Review for joint repair and replacement of an existing pipeline at 11 separate locations within and adjacent to Forest Park. The work being reviewed for this current review is similar work approved as part of this past review.

Past land use reviews have no effect on the current proposal.

Agency Review: A "Request for Response" was mailed **March 25, 2024**. The following Bureaus have responded with no issues or concerns:

• Bureau of Environmental Services
• Life Safety
• Fire Bureau
• PBOT
• Site Development Section of BDS

Bureau of Parks & Recreation, Urban Forestry Division provided the following comment & conditions. The full response can be found in Exhibit E.6.

With the conditions recommended in this response, Urban Forestry does not object to approval of the land use proposal. The proposed development will be subject to Urban Forestry standards during the permit review process.

a. If the land use proposal is approved, Urban Forestry requires the following conditions be included in the decision:

i. All guidelines, tree protection plans and specifications described in the project arborist's tree report shall be followed.

ii. Any pruning (either root or crown) shall be documented by the project arborist and submitted to Urban Forestry (Jason.Thaete@portlandoregon.gov)

iii. Any changes to the tree protection plan shall be approved by Urban Forestry prior to work continuance.

iv. If the project arborist determines retained trees undergo intolerable impacts, tree removal shall be approved by both Urban Forestry and Bureau of Development Services prior to tree removal.

v. Either the contractor or the project arborist shall disclose any violations of the tree protection plan to Urban Forestry with 48 hours of the damage occurring.

Bureau of Parks & Recreation, City Nature Division responded with the following comment & conditions. The full response can be found in Exhibit E.7.

Install rolled non-synthetic erosion control fabrics any time slopes are greater than 10%. When slopes are greater than 30% request that wattles with non-synthetic netting are installed in addition to erosion control fabrics every 15'. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response.

When potential removals are determined to be definite removals this information must be communicated to the PP&R arborist inspector and include documentation that justifies the removal. Any tree removal needs to be communicated within 48 hours. Parks is requesting preservation of Tree 629, a 30" Doug fir near Joint 1600, if root impacts are sufficient that tree mortality is a concern, we request that the tree be left intact to die naturally to create a more

beneficial wildlife snag. If there is a safety concern to the construction project, this information must be communicated and approved by the PP&R arborist inspector.

Neighborhood Review: A Notice of a Public Hearing on a Proposal in Your Neighborhood was mailed on April 1, 2024. No written responses have been received from either the Neighborhood Association or notified property owners in response to the proposal.

ZONING CODE APPROVAL CRITERIA

The relevant approval criteria are listed in the Forest Park NRMP Chapter 8 and in Zoning Code chapters 33.430.250 and 33.563.

I. Forest Park NRMP "Approval Criteria for Exceptions"

A. The proposal meets all the criteria for minor amendments.

Approval Criteria for Minor Amendments:

A. There is a demonstrated need for the proposal.

Findings: The proposal is described on page 2 of this report, and more thoroughly by the applicant in Exhibit A.1. The applicant clearly demonstrates a need for the proposal as an existing underground pipeline needs maintenance and/or repair at 5 separate joints to ensure its structural integrity. Further, the applicant states the purpose and objective of the project is to ensure the long-term structural integrity of the pipeline while minimizing the number of times that construction will occur within Forest Park over the next decade. The following objectives are associated with the project:

Objective 1: Replace/repair joints containing anomalies such that the return interval for future pipeline repairs and associated habitat disturbances are reduced.

Objective 2: Limit environmental encroachment to the maximum extent practicable during construction associated with joint replacement/repair.

The applicant has demonstrated the need to replace and repair sections of an existing pipeline to ensure its structural integrity, *and this criterion is met*.

B. The proposed action is consistent with Forest Park Natural Resources Management Plan Goals and Strategies.

Findings: The *Forest Park Natural Resource Management Plan* identifies four goals and ten strategies. There are two Conservation Goals and two Recreational and Educational Goals.

Conservation Goals

1. Protect Forest Park's native plant and animal communities, its soil and its water resources while managing the forest ecosystem in order to grow a self-sustaining ancient forest for the enjoyment and benefit of future generations.

Findings: The project would involve maintenance and repair of existing pipeline joints, thereby ensuring the pipeline's continued functionality and avoiding impacts to the forest ecosystem. The project would involve site restoration actions that protect native plants, animals, soils, and water resources to the extent practicable by minimizing long-term ecosystem functions and habitat quality, providing soil stability, and replacing invasive vegetation within the temporary disturbance areas with native species.

2. Design management and restoration efforts to:
   - Maintain and enhance regional biodiversity

Findings: The proposed joint replacements and repairs are intended to support the long-term integrity of the pipeline itself while continuing to maintain, enhance, and create habitat features that support regional biodiversity.

   - Provide wildlife habitat and migration opportunities

Findings: As stated in the mitigation memo (Exhibit G.4) provided by PP&R, mitigation will be funded by the applicant and undertaken by PP&R and include measures that would incorporate a combination of ecological/wildlife habitat enhancement including removal of invasive species and planting of native plants. These measures would compensate for unavoidable permanent impacts such as tree removal. The plan for mitigation is addressed in-depth on pages 9 and 10 of this report.

- Improve water quality and aquatic habitat

Findings: No aquatic habitat is present near the proposed pipeline anomaly repairs. BMPs would be installed during construction, and proposed restoration would involve seeding and shrub planting in temporary disturbance areas, thereby minimizing erosion and sedimentation and protecting existing water quality and aquatic habitat.

- Repair damaged and fragmented natural systems.

Findings: Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation. Mitigation for tree removal would involve paying a fee to PP&R that will fund restoration of natural systems within the Park.

Recreational and Educational Goals

1. Protect and enhance the value of Forest Park as a regionally-significant recreational resource – a place that can accommodate recreational and educational use at appropriate seasons of the year without environmental damage.

Findings: Not applicable. The joint repair and maintenance proposal will not affect the ability to accommodate long-term recreational and educational use of the park. However, the applicant proposes restoration seeding and shrub planting along publicly accessible trails.

2. Enhance the value of Forest Park as a regionally-significant educational resource – an urban laboratory for environmental research and resource enhancement and restoration.

Findings: Not applicable. The proposal to repair and maintain the pipeline is unrelated to the use of Forest Park for educational purposes and does not affect the Park's educational functions one way or another.

The *Forest Park Natural Resource Management Plan* identifies 10 strategies to help reach the goals. They are:

1. Implement Sustainable Resources Program
2. Divide Forest Park into Management Units
3. Acquire and Protect Additional Land
4. Manage Recreation to Protect Natural Resources
5. Improve interpretive, educational and research opportunities
6. Improve Public Access
7. Improve Park Safety
8. Develop Recreational Opportunities at Other Sites
9. Improve Park Staffing and Funding
10. Continue Public Involvement

Only strategies 1, 6, 7, and 10 apply to the proposal, as the remaining strategies speak to recreational goals, or park administration, and are not related to the pipeline replacement activities.

Strategy 1 Implement Sustainable Resources Program

Findings: This project would support implementation of Strategy 1 where feasible. Resource management measures will include:

- ❖ Restoration of resources –Restoration would involve reconstructing any impacted trail or roadway surfaces, seeding disturbed areas, planting salvaged and nursery ferns and shrubs, and removing invasive species within 10 feet of restoration plantings to compensate for removed understory vegetation.

- ❖ Mitigation of impacts – The proposed mitigation, as funded by the applicant and conducted by PP&R, will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

Strategy 6 Improve Public Access

Findings: Anomaly repair near Joints 1300, 1510, 1600, 1670, and 1680 would require temporary closure of Oil Line Road from the intersection with Firelane 7A to Wildwood Trail (approximately 0.34 miles). Repair work would also require temporary closure of Wildwood Trail between Trillium Trail and Oil Line Road. These closures would be temporary and would not extend longer than the estimated duration of anomaly repairs near Joints 1300, 1510, 1600, 1670, and 1680 (approximately 7.5 weeks total). Notices regarding the temporary closure would be posted along Firelane 7, Oil Line Road, Wildwood Trail, and at their intersections with other roadways and trails. SFPP would provide regular updates to PP&R for use in posting information to the public via Forest Park website updates. Project restoration activities would include reconstructing Oil Line Road and Wildwood Trail to original widths, as well as replanting disturbed areas that were formerly vegetated with native plants. Therefore, the project would not alter the accessibility to disabled users, directions, transit access, or trailheads associated with these trails such that public access to Forest Park would be affected.

Strategy 7 Improve Park Safety

Findings: The overall purpose of the proposal is to ensure the existing pipeline is continuing to operate in a safe and secure manner. Therefore, it is anticipated that joint repair and maintenance will serve to maintain the safety of park users and wildlife.

Strategy 10 Continue Public Involvement

Findings: The applicant intends to conduct the following public outreach and involvement measures to inform the public of proposed project:

- ❖ An outreach mailing will be prepared by the applicant to be distributed by the City before any scheduled work to the following recipients : neighborhood association of Linnton, Forest Park, and the district neighborhood coalition of Neighbors West/Northwest (or as preferred by City).
- ❖ The applicant will work with PP&R and the City to coordinate review of any written materials to be included in the outreach mailing at least 1 week prior to it being mailed or posted.
- ❖ Signage about the project will be posted at major entrances to the area prior to the first day of work. The applicant will coordinate with PP&R to identify entrances where signs will be posted.
- ❖ The applicant contact will be available to address all public and media inquiries. The contact person will also coordinate with PP&R's Media and Events Officer as needed/requested.
- ❖ Once the precise project timeline is established, the dates will be communicated to PP&R's Customer Service Center to avoid potential conflicts with scheduled events.

The project, together with proposed construction management and mitigation fee payment, as well as public outreach, is consistent with the *Forest Park Natural Resources Management Plan* goals and strategies, to the extent that they apply, and *this criterion is met*.

C. Alternative locations and design modifications were evaluated to show that the proposal has the least significant detrimental environmental impacts of the practicable alternatives.

Findings: The applicant provided an alternatives analysis for the proposed pipeline repair and maintenance activities as well as construction access in Exhibit A.1 that are summarized above in this report (pages 4 through 8). The methods of pipeline repair and maintenance with the least environmental impact whilst meeting all project objectives (purpose), is the combination of utilizing existing access routes as well as minimizing work areas and thus tree removal to the greatest extent practical.

While the applicant's Preferred Alternative requires temporary disturbance (39,060 square feet) and tree removal (57 to 75 native trees) within the Environmental Protection overlay zone, it also allows for the restoration of the project area and vicinity. As shown on Exhibits C.38 to C.54, temporary disturbance areas will be restored by planting native vegetation in the disturbed areas. The Preferred Alternative not only satisfies the project purpose, but it also minimizes impact, to the greatest extent practicable, to identified resources and functional values and *this criterion is met*.

D. A construction management plan and a mitigation plan will minimize impacts on resources and restore adjacent disturbed areas.

Findings: The applicant provided a detailed description of proposed construction practices to minimize environmental impacts on Exhibit A.1. Construction management practices proposed are summarized in this report on pages 8 and 9 and shown on Exhibits C.21 to C.37. The Construction Management Plan will be effective because it provides realistic limits to disturbance while containing the necessary elements (e.g., sediment fencing, construction area demarcation, tree protection fencing) to effectively protect resources and functional values outside of designated disturbance areas.

To ensure the upmost protection for existing trees within Forest Park, Portland Parks & Recreation, Urban Forestry Division and City Nature Division (known collectively as PP&R), have provided guidance and conditions to be included as part of this Staff Report. These requested conditions include upfront communication with PP&R regarding tree removal or methods for tree protection as well as guidelines for the project arborist to follow to ensure tree protection practices align with PP&R regulations. Further, coordination around and the retention of Tree 629 (30-inch dbh Douglas fir) is required to allow the tree to remain and die in place if its roots are compromised. Staff has included the requested conditions in this review and finds them necessary to meeting this approval criterion specifically minimizing impacts to resources.

As noted above, the Construction Management Plan details measures that will be taken to ensure the adequate protection of resources to be left undisturbed. Due to the steep topography throughout much of the project alignment, PP&R has requested the use of specific erosion control measures for slopes of a certain steepness. Specifically, PP&R is requesting the applicant to install rolled non-synthetic erosion control fabrics on slopes greater than 10 percent. When slopes are greater than 30 percent, wattles with non-synthetic netting must be installed in addition to erosion control fabrics every 15 feet. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response. Staff takes no exception to PP&R's requested condition of approval and agrees the requested erosion control measures will ensure the applicant can meet this approval criterion.

The proposed plan for mitigation for permanent impacts, as discussed in detail on pages 9 and 10, will compensate for lost resources by providing funding for PP&R managed restoration and enhancement activities within the Central Management Unit of Forest Park, where the work will occur. Onsite mitigation planting by the applicant would be challenged by the fact that tree planting locations are limited in the forested areas along the pipeline where impacts would occur. Further, the likelihood of success for trees that are planted is low due to the existing dense canopy in the area. Due to these circumstances, restoration in other areas of the Park is recommended by PP&R and is agreed upon by BDS staff.

The proposed mitigation plan will result in the reduction of invasive plant populations followed by revegetation with native plants. English Ivy, clematis, and Himalayan blackberry will be reduced to less than 20% cover, and the English laurel and holly will be cut and treated within the project area. Revegetation work will replace impacted understory species and restock conifers that have been inhibited during the past decades. An average of 400 native plants per acre will be installed in impacted areas. This will provide lasting improvements to the forest ecosystem by decreasing the presence of invasives to the point where they no longer impact the health of the forest, while restoring a diverse native plant community that enhances wildlife habitat, helps reduce erosion and contributes to the long-term sustainability of the forest.

The applicant indicates that the full scope of excavation and related tree removal will not be known until the work is complete. Based on the potential range of mitigation that will be required and the estimated per acre cost and planting density as provided by PP&R (Exhibit G.4), the applicant would provide mitigation in the form of funding for restoration of between 30 and 53 acres, including planting of between 12,000 and 22,000 native trees and shrubs.

With conditions to ensure that Best Management Practices are installed per the Construction Management Plan (Exhibits C.21 to C.37) as well as PP&R recommendations for additional erosion control discussed above, that tree protection is followed per the Tree Protection Plan (Exhibit A.4) as well as PP&R recommendations, that restoration plantings required for this Environmental Review are installed, maintained, and inspected, and that the payment for mitigation is paid in full, *this criterion can be met.*

B. The proposal is a park-related development, or no alternative locations exist outside of Forest Park for the proposal.

Findings: The proposal is to conduct repair and maintenance activities associated with an existing pipeline that crosses through Forest Park. Therefore, the proposal cannot be conducted in an alternative location outside of Forest Park. *This criterion is met.*

C. There are no practicable alternative locations within Forest Park suitable for the use in which the development will have less adverse impact on resource values.

Findings: The proposed activities are associated with an existing pipeline. Therefore, the proposal cannot be conducted in an alternative location within Forest Park. *This criterion is met.*

D. Any long-term adverse impacts of the proposed action on resource values are fully mitigated within the Management Unit.

Findings: The short and long-term impacts of the project were analyzed by the applicant and included as part of this report on page 9. Short-term impacts include disturbance to wildlife habitat, sensitive fauna, nesting/brooding areas, vegetation, and soil stability on the slope around the pipeline repair area. Potential long-term impacts of pipeline repair and maintenance resulting from vegetation clearing, tree removal, and ground disturbance include a reduction in tree canopy cover, shade, microclimate regulation, wildlife refuge, and nesting/brooding areas associated with deciduous forest cover.

As noted above under Minor Amendment Criterion D, the proposed plan for mitigation for permanent impacts will compensate for lost resources by providing funding for PP&R managed restoration and enhancement activities within the Central Management Unit of Forest Park where the work will occur.

With conditions to ensure that the restoration required for this Environmental Review is installed, maintained, and inspected, and the payment for mitigation is paid in full, *this criterion will be met.*

E. The proposal is consistent with the purpose of the Environmental Zones

Findings:

33.430.015 Purpose of the Environmental Protection Zone
The Environmental Protection zone provides the highest level of protection to the most important resources and functional values. These resources and functional values are identified and assigned value in the inventory and economic, social, environmental, and energy (ESEE) analysis for each specific study area. Development will be approved in the environmental protection zone only in rare and unusual circumstances.

33.430.015 Purpose of the Environmental Conservation Zone
The Environmental Conservation zone conserves important resources and functional values in areas where the resources and functional values can be protected while allowing environmentally sensitive urban development.

The preferred pipeline repair and maintenance approach has been determined to be the most environmentally sensitive of the practicable alternatives that provides the greatest protection of existing resource functions and values while conducting necessary repair and maintenance of components of an existing pipeline. The site restoration has been designed specifically to protect and enhance these functions and values over time, and *this criterion is met*.

II. Additional criteria required by Plan Districts (All Joints)
Section 33.563 Northwest Hills Plan District
According to the Northwest Hills Plan District Map 563-1, the subject site is in the Forest Park Subdistrict of the Northwest Hills Plan District.

Forest Park Subdistrict
33.563.210 Additional Approval Criterion. In addition to the applicable approval criteria of Section 33.430.250, an environmental review application will be approved if the review body finds that all the following approval criteria are met:

A. Wildlife. The location, quantity and structural characteristics of forest vegetation will be sufficient to provide habitat and maintain travel corridors for the following indicator species: pileated woodpecker, sharp-shinned hawk, Roosevelt elk, white-footed vole, and red-legged frog. Standards to meet this criterion are in the applicable Habitat Evaluation Procedure developed by the US Fish and Wildlife Service.

Findings: Ground disturbance (including excavation), vegetation clearing, selective tree removal, and vehicle and equipment staging would occur near the five pipeline joints for anomaly repair. Physical and auditory disturbances, along with increased human presence in these areas could deter wildlife use of existing wildlife corridors near the joints. Repair of anomalies near Joints 1670/1680 would occur adjacent to the Wildwood Trail, which is likely used as a travel corridor by wildlife.

Despite temporary impacts within and adjacent to potential wildlife corridors, restoration measures including seeding and planting native shrubs within the temporary disturbance area would help restore existing understory conditions. In addition, the Wildwood Trail would be restored to its preexisting conditions, preserving its long-term use as a likely wildlife corridor.

Mitigation measures would be implemented by PP&R using the proponent's in-lieu fee payment to compensate for unavoidable tree removal impacts and provide more diverse forest structure and habitat value over time. Mitigation could involve planting trees or a combination of trees and shrubs to compensate for proposed tree removals; the sapling/shrub planting area and species would be selected by PP&R at a later date.

Through these actions, the travel corridor characteristics and functions would be maintained for the indicator species. The proposed repair and maintenance activities will not obstruct travel corridors or significantly change the overall structural characteristics of the forest vegetation, and *this criterion is met.*

B. Parks and Open Space. Overall scenic, recreational, educational and open space values of Forest Park will not be diminished as a result of development activities; and

Findings: Construction activities associated with anomaly repair near all five joints would affect the scenery in these forested open space areas. However, these scenic impacts would be temporary. Construction activities associated with anomaly repair near Joints 1670/1680 would occur within and adjacent to the Wildwood Trail, thereby requiring temporary closure of the section of Wildwood Trail between its intersections with Trillium Trail and Oil Line Road. However, these scenic impacts would be temporary. Trail closures would not extend longer than the estimated duration of construction and restoration (approximately 7.5 weeks). Therefore, the temporary closure of Wildwood Trail is not expected to diminish recreational and educational values within the park. The project would not permanently alter the general character of the Wildwood Trail. *This criterion is met.*

C. Miller Creek Subarea.

Findings: The site does not include the Miller Creek Subarea and *this criterion does not apply*.

DEVELOPMENT STANDARDS

Unless specifically required in the approval criteria listed above, this proposal does not have to meet the development standards to be approved during this review process. The plans submitted for a building or zoning permit must demonstrate that all development standards of Title 33 can be met or have received an Adjustment or Modification via a land use review prior to the approval of a building or zoning permit.

CONCLUSIONS

The applicant, Kinder Morgan, and its subsidiary SFPP, L.P., proposes to maintain and repair portions of an existing pipeline for the continued safety and protection of the public and surrounding natural resources. The applicant considered alternative construction methods as well as equipment access approaches to determine that the proposed activities were practicable and would minimize impacts to the resource area of the Environmental Zone. Although it was unavoidable to remove native trees within the pipeline easement, the applicant proposes to provide compensatory mitigation through a payment to the Restore Forest Park Fund, which will pay for mitigation conducted by PP&R. The applicant and the above

findings have shown that the proposal meets the applicable approval criteria with conditions. Therefore, this proposal should be approved, subject to the conditions below.

TENTATIVE STAFF RECOMMENDATION

(May be revised upon receipt of new information at any time prior to the Hearings Officer decision)

Approval of an Environmental Review for:

- An Exception to the Forest Park Natural Resources Management Plan to allow repair and maintenance of five joints along an existing underground pipeline within Forest Park; and
- Removal of 57 to 75 native trees over 6 inches dbh;
- 39,060 square feet of temporary disturbance;

all within the Environmental Conservation and Environmental Protection overlay zones, and in substantial conformance with Exhibits C.1 through C.54. Approval is subject to the following conditions:

NOTE: Activities which expose soil to direct contact with stormwater between October 1 and April 30 are prohibited.

A. A BDS Zoning Permit is required for inspection of required restoration plantings. The Conditions of Approval listed below, shall be noted on appropriate plan sheets submitted for permits (building, Zoning, grading, Site Development, erosion control, etc.). Plans shall include the following statement, ***"Any field changes shall be in substantial conformance with approved LU 24-017402 EN Exhibits C.1 through C.54."***

The Zoning Permit shall not be finaled until the mitigation payment as required by Condition B below is paid.

B. Remittance must be made to Portland Parks and Recreation (PP&R) no later than one month after the completion of construction activities to fund the mitigation described in Exhibit G.4. The payment will be based on the final tree removal amount and Table 1 below; the applicant must provide a final inventory of tree removal on which to base the required payment amount. Further, the applicant must provide a post-construction tree report from a certified arborist detailing the condition of the potential removal trees as shown in Exhibit A.4, Tree Protection Plan.

Table 1: Payment Breakdown for Tree Removal

<12"	**$675**
12-<20"	**$1,800**
20" or greater	**$450 per inch**

C. When potential removals are determined to be definite removals this information must be communicated to the PP&R arborist inspector and include documentation that justifies the removal. Any tree removal needs to be communicated within 48 hours. Tree 629, a 30-inch DBH Douglas fir near Joint 1600, must be preserved unless approved by the PP&R arborist. If root impacts are sufficient that tree mortality is a concern, the tree must be left intact to die naturally to create a wildlife snag unless approved by the PP&R arborist due to a safety concern to the construction project. Further, tree protection measures must also include the following:

1. All guidelines, tree protection plans and specifications described in the project arborist's tree report shall be followed (Exhibit A.4).
2. Any pruning (either root or crown) shall be documented by the project arborist and submitted to Urban Forestry (Jason.Thaete@portlandoregon.gov).
3. Any changes to the tree protection plan shall be approved by Urban Forestry prior to work continuance.
4. If the project arborist determines retained trees undergo intolerable impacts, tree removal shall be approved by

both Urban Forestry and Bureau of Development Services prior to tree removal.

5. Either the contractor or the project arborist shall disclose any violations of the tree protection plan to Urban Forestry with 48 hours of the damage occurring.

D. Temporary, 4-foot high, bright orange construction fencing, silt fencing, straw wattles, or tree fencing shall be placed along the Limits of Disturbance as depicted on Exhibits C.21 to C.37, Construction Management Plan, to separate approved construction areas from areas to remain undisturbed.

1. All measures provided for sediment control, including sediment fencing, shall be placed inside of the approved "Limits of Construction Disturbance," delineated by the temporary construction fence.
2. No mechanized construction vehicles are permitted outside of the approved "Limits of Disturbance" delineated by the temporary construction fence. All planting work, invasive vegetation removal, and other work to be done outside the Limits of Construction Disturbance, shall be conducted using handheld equipment.
3. Trees shall be protected according to tree protection measures provided in Title 11 Tree Code, Chapter 11.60.030 Tree Protection Specifications, or as specifically depicted on Exhibit A.4, Tree Protection Plan.
4. Rolled non-synthetic erosion control fabrics must be installed on slopes greater than 10 percent. When slopes are greater than 30 percent, wattles with non-synthetic netting must be installed in addition to erosion control fabrics every 15 feet. Alternatively, a licensed engineer with a certification in erosion control may submit an alternative adequate erosion control response to PP&R for approval.

E. The applicant shall obtain a BDS Zoning Permit for approval and inspection of a restoration plan for a total of 50 new shrubs in addition to salvaged and replanted shrubs (Joints 1300, 1600, 1670, and 1680) in substantial conformance with Exhibits A.1 and C.38 to C.54, Restoration Plans. Any plant substitutions shall be selected from the *Portland Plant List* and shall be substantially equivalent in size to the original plant.

1. Permit plans shall show:
   a. The location of the trees, shrubs and ground covers required by this condition to be planted in the restoration area and labeled as "new required landscaping". The plans shall be to scale and shall illustrate a naturalistic arrangement of plants and should include the location, species, quantity and size of plants to be planted.
   b. The applicant shall indicate on the plans selection of either tagging plants for identification or accompanying the BDS inspector for an on-site inspection.
2. Plantings shall be installed between October 1 and March 31 (the planting season).
3. Prior to installing required plantings, non-native invasive plants shall be removed from all areas within 10 feet of plantings, using handheld equipment.
4. If plantings are installed prior to completion of construction, a temporary bright orange, 4-foot high construction fence shall be placed to protect plantings from construction activities.
5. After installing the required restoration plantings, the applicant shall request inspection of the plantings and final the BDS Zoning Permit.
6. All shrubs and trees shall be marked in the field by a tag attached to the top of the plant for easy identification by the City Inspector; or the applicant shall arrange to accompany the BDS inspector to the site to locate plantings for inspection. If tape is used it shall be a contrasting color that is easily seen and identified.

F. The applicant shall monitor the required plantings for two years to ensure survival and replacement as described below. The applicant is responsible for ongoing survival of required plantings beyond the designated two-year monitoring period.

1. Prior to issuance of the BDS Zoning Permit, the applicant must submit and pay fees for review of the Landscape Monitoring Reports required below.
2. After installation and inspection of the initial restoration plantings, the applicant must submit 2 annual monitoring and maintenance reports for review and approval to the Land Use Services Division of the Bureau of

Development Services containing the monitoring information described below. Submit the first report within 12 months following the final inspection approval of the permit required under Condition A. Submit a second report 12 months following the date of the first monitoring report. Monitoring reports shall contain the following information:

a. A count of the number of planted shrubs that have died. One replacement shrub must be planted for each dead shrub (replacement must occur within one planting season).

b. The percent coverage of ground covers. If less than 80 percent of the mitigation planting area is covered with groundcovers at the time of the annual count, additional groundcovers shall be planted to reach 80 percent cover (replacement must occur within one planting season).

c. A list of replacement plants that were installed.

d. Photographs of the restoration area and a site plan, in conformance with approved Exhibits C.38 – C.54, Restoration Plan, showing the location and direction of photos.

e. An estimate of percent cover of invasive species (ivy, blackberry, reed canarygrass, teasel, clematis) within 10 feet of all plantings. Invasive species must not exceed 15 percent cover during the monitoring period.

G. Failure to comply with any of these conditions may result in the City's reconsideration of this land use approval pursuant to Portland Zoning Code Section 33.700.040 and/or enforcement of these conditions in any manner authorized by law.

PROCEDURAL INFORMATION

The application for this land use review was submitted on February 26, 2024, and was determined to be complete on March 20, 2024. Zoning Code Section 33.700.080 states that land use review applications are reviewed under the regulations in effect at the time the application was submitted, provided that the application is complete at the time of submittal, or complete within 180 days. Therefore, this application was reviewed against the Zoning Code in effect on February 26, 2024.

ORS 227.178 states the City must issue a final decision on land use review applications within 120 days of the application being deemed complete. The 120-day review period may be extended at the request of the applicant. In this case, the applicant did not extend the 120-day review period. Unless further extended by the applicant, **the 120 days will expire on July 18, 2024.**

Some of the information contained in this report was provided by the applicant.

As required by Zoning Code Section 33.800.060, the burden of proof is on the applicant to show that the approval criteria are met. The Bureau of Development Services has independently reviewed the information submitted by the applicant and has included this information only where the Bureau of Development Services has determined the information satisfactorily demonstrates compliance with the applicable approval criteria. This report is the recommendation of the Bureau of Development Services with input from other City and public agencies.

Conditions of Approval. If approved, this project may be subject to specific conditions of approval, listed above. Compliance with the applicable conditions of approval must be documented in all related permit applications. Plans and drawings submitted during the permitting process must illustrate how applicable conditions of approval are met. Any project elements that are specifically required by conditions of approval must be shown on the plans and labeled as such.

These conditions of approval run with the land, unless modified by future land use reviews. As used in the conditions, the term "applicant" includes the applicant for this land use review, any person undertaking development pursuant to this land use review, the proprietor of the use or development approved by this land use review, and the current owner and future owners of the property subject to this land use review.

This report is not a decision. The review body for this proposal is the Hearings Officer who will make the decision on this case. This report is a recommendation to the Hearings Officer by the Bureau of Development Services. The review body may adopt, modify, or reject this recommendation. The Hearings Officer will make a decision about this proposal within 17 days of the close of the record. To comment, you may testify at the hearing, submit comments at www.portland.gov/omf/hearings/land-use; email your comments to HearingsOfficeClerks@portlandoregon.gov; write to the Land Use Hearings Officer, 1900 SW Fourth Ave., Suite 3100, Portland, OR 97201; or FAX your comments to 503-823-4347.

You will receive mailed notice of the decision if you write a letter received before the hearing or testify at the hearing, or if you are the property owner or applicant. This Staff Report will be posted on the Bureau of Development Services website at https://www.portland.gov/bds/zoning-land-use/public-notices. Land use review notices are listed on the website by the District Coalition in which the site is located; the District Coalition for this site is identified at the beginning of this staff report.

Appeal of the decision. The decision of the Hearings Officer may be appealed to City Council, who will hold a public hearing. If you or anyone else appeals the decision of the Hearings Officer, only evidence previously presented to the Hearings Officer will be considered by the City Council.

Who can appeal: You may appeal the decision only if you write a letter which is received before the close of the record for the hearing, if you testify at the hearing, or if you are the property owner/applicant. **Appeals must be filed within 14 days of the decision. An appeal fee of $5,789 will be charged (one-half of the BDS LUS application fee, up to a maximum of $5,789).** Assistance in filing the appeal and information on fee waivers are available from the Bureau of Development Services website: https://www.portland.gov/bds/zoning-land-use/land-use-review-fees-and-types/appeals-fees-and-fee-waivers.

Appeal Fee Waivers: Neighborhood associations recognized by the Office of Community & Civic Life may qualify for a waiver of the appeal fee provided that the association has standing to appeal. The appeal must contain the signature of the Chair person or other person authorized by the association, confirming the vote to appeal was done in accordance with the organization's bylaws.

Neighborhood associations, who wish to qualify for a fee waiver, must complete the Type III Appeal Fee Waiver Request for Organizations Form and submit it prior to the appeal deadline. The Type III Appeal Fee Waiver Request for Organizations Form contains instructions on how to apply for a fee waiver, including the required vote to appeal.

Assistance in filing the appeal and information on fee waivers are available from the Bureau of Development Services website: https://www.portland.gov/bds/zoning-land-use/land-use-review-fees-and-types/appeals-fees-and-fee-waivers.

Recording the final decision.
If this land use review is approved the final decision will be recorded with the County Recorder. *Unless appealed,* the final decision will be recorded by the Bureau of Development Services.

Expiration of this approval. Generally, land use approvals (except Comprehensive Plan and Zoning Map Amendments) expire five years from the date of the final decision unless one of the actions below has occurred (see Zoning Code Section 33.730.130 for specific expiration rules):

- A City permit has been issued for the approved development,
- The approved activity has begun (for situations not requiring a permit), or

In situations involving only the creation of lots, the final plat must be submitted within three years.

Where a site has received approval for multiple developments, and a building permit is not issued for all of the approved development within seven years of the date of the final decision, a new land use review will be required before a permit will be issued for the remaining development, subject to the Zoning Code in effect at that time.

Zone Change and Comprehensive Plan Map Amendment approvals do not expire.

Applying for permits. A building permit, occupancy permit, or development permit may be required before carrying out an approved project. At the time they apply for a permit, permittees must demonstrate compliance with:

- All conditions imposed herein;
- All applicable development standards, unless specifically exempted as part of this land use review;
- All requirements of the building code; and
- All provisions of the Municipal Code of the City of Portland, and all other applicable ordinances, provisions, and regulations of the City.

Planner's Name: Morgan Steele
Date: April 24, 2024

EXHIBITS (not attached unless indicated)

A. Applicant's Statement:
   1. Applicant's Narrative
   2. Fire Prevention Plan
   3. Traffic Control Plan
   4. Tree Protection Plan
   5. Geotechnical Report
   6. Applicant Response to Completeness Items

B. Zoning Map (attached):

C. Plans & Drawings:
   1. Site Vicinity (attached)
   2. Existing Conditions Sheet 1 of 19
   3. Existing Conditions Sheet 2 of 19
   4. Existing Conditions Sheet 3 of 19
   5. Existing Conditions Sheet 4 of 19
   6. Existing Conditions Sheet 5 of 19
   7. Existing Conditions Sheet 6 of 19
   8. Existing Conditions Sheet 7 of 19
   9. Existing Conditions Sheet 8 of 19
   10. Existing Conditions Sheet 9 of 19
   11. Existing Conditions Sheet 10 of 19
   12. Existing Conditions Sheet 11 of 19
   13. Existing Conditions Sheet 12 of 19
   14. Existing Conditions Sheet 13 of 19
   15. Existing Conditions Sheet 14 of 19
   16. Existing Conditions Sheet 15 of 19
   17. Existing Conditions Sheet 16 of 19
   18. Existing Conditions Sheet 17 of 19
   19. Existing Conditions Sheet 18 of 19
   20. Existing Conditions Sheet 19 of 19
   21. Construction Management Sheet 1 of 17
   22. Construction Management Sheet 2 of 17
   23. Construction Management Sheet 3 of 17

24. Construction Management Sheet 4 of 17
25. Construction Management Sheet 5 of 17
26. Construction Management Sheet 6 of 17
27. Construction Management Sheet 7 of 17
28. Construction Management Sheet 8 of 17
29. Construction Management Sheet 9 of 17
30. Construction Management Sheet 10 of 17
31. Construction Management Sheet 11 of 17
32. Construction Management Sheet 12 of 17
33. Construction Management Sheet 13 of 17
34. Construction Management Sheet 14 of 17
35. Construction Management Sheet 15 of 17
36. Construction Management Sheet 16 of 17
37. Construction Management Sheet 17 of 17
38. Restoration Plan Sheet 1 of 17
39. Restoration Plan Sheet 2 of 17
40. Restoration Plan Sheet 3 of 17
41. Restoration Plan Sheet 4 of 17
42. Restoration Plan Sheet 5 of 17
43. Restoration Plan Sheet 6 of 17
44. Restoration Plan Sheet 7 of 17
45. Restoration Plan Sheet 8 of 17
46. Restoration Plan Sheet 9 of 17
47. Restoration Plan Sheet 10 of 17
48. Restoration Plan Sheet 11 of 17
49. Restoration Plan Sheet 12 of 17
50. Restoration Plan Sheet 13 of 17
51. Restoration Plan Sheet 14 of 17
52. Restoration Plan Sheet 15 of 17
53. Restoration Plan Sheet 16 of 17
54. Restoration Plan Sheet 17 of 17

D. Notification information:
1. Request for response
2. Posting letter sent to applicant
3. Notice to be posted
4. Applicant's statement certifying posting
5. Mailing list
6. Mailed notice

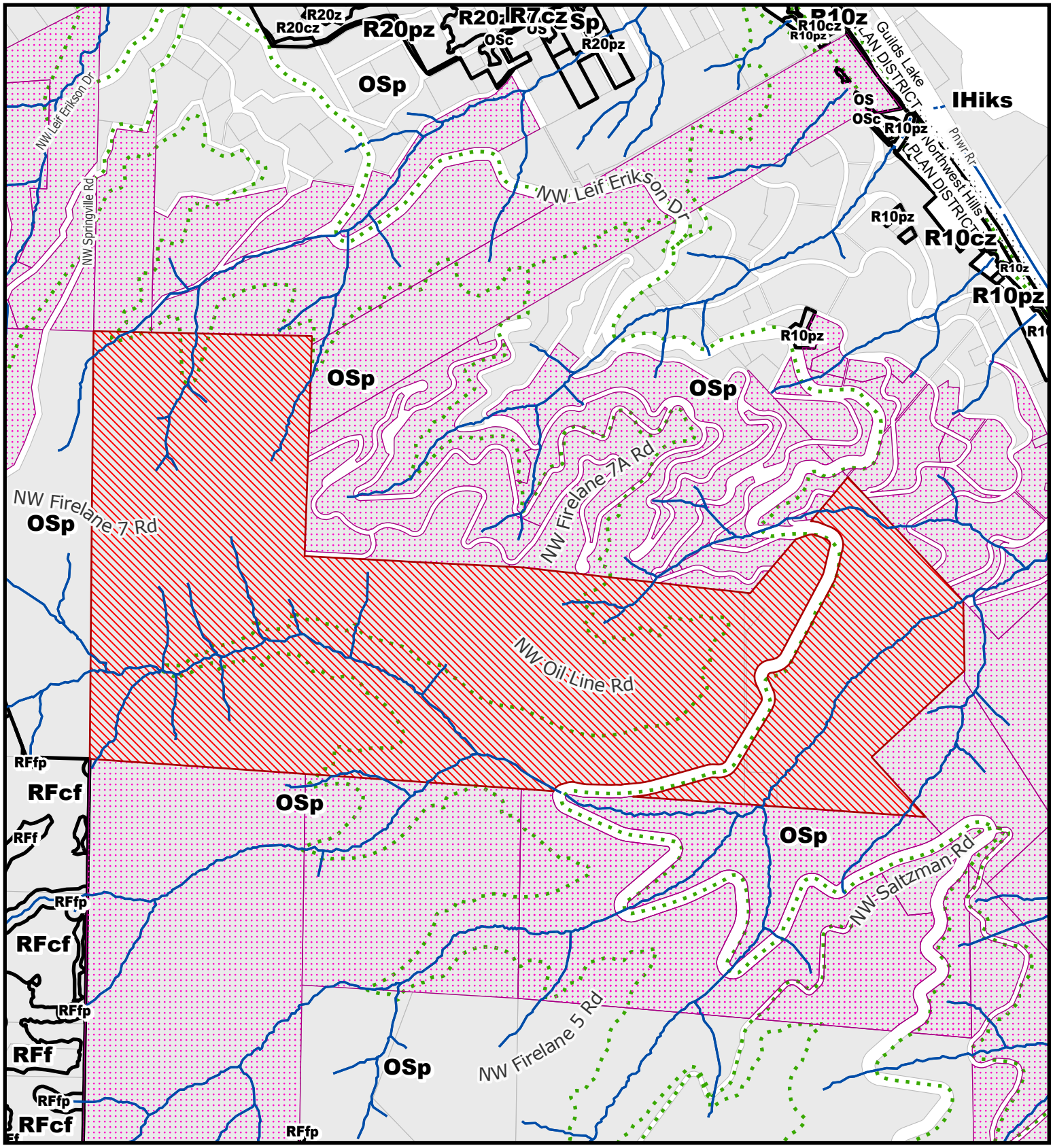
E. Agency Responses:
1. Bureau of Environmental Services
2. Bureau of Transportation
3. Life Safety
4. Fire Bureau
5. Site Development Review Section of Bureau of Development Services
6. Bureau of Parks, Forestry Division
7. Portland Parks and Recreation, City Nature

F. Letters: None Received

G. Other:
1. Original LUR Application
2. Incomplete Letter
3. Pre-Application Summary Notes
4. PP&R Memo re: Mitigation in Forest Park for Kinder-Morgan Pipeline Anomaly Repair Project

H.

The Bureau of Development Services is committed to providing equal access to information and hearings. To request an accommodation or alternative format of communication, please contact us at least five business days prior to the hearing at 503-823-7300 (TTY 503-823-6868).



For Zoning Code in Effect Post October 1, 2022

ZONING

THIS SITE LIES WITHIN THE:
NORTHWEST HILLS PLAN DISTRICT
FOREST PARK SUBDISTRICT

- Site
- Also Owned Parcels
- Plan District
- Stream
- Recreational Trails

File No. LU 24 - 017402 EN
1/4 Section Multiple
Scale 1 inch =800 feet
State ID 1N1W14A 1200
Exhibit B Feb 26, 2024

Portland Hearings Office
Case #LU 24-017402
Bureau Case #LU 24-017402EN
Exhibit #4
Page 25 of 26

NW LEIF ERIKSON DR
Wildwood Trail
Hardesty Trail
Ridge Trail
NW SPRINGVILLE RD
NW FIRELANE 7 RD
GATED PARK ENTRANCE AT NW SPRINGVILLE ROAD
NW FIRELANE 7A RD
Wildwood Trail
NW ST HELENS RD
NW FRONT AVE
30
FIRELANE 7
JT 1300
Trillium Trail
Wildwood Trail
JT 1510
NW OIL LINE RD
Doane Creek
JT 1670
JT 1600
JT 1680
Wildwood Trail
Wiregate Trail
NW LEIF ERIKSON DR
NW SPRINGVILLE RD
Maple Trail
Quarry Trail
NW SALTZMAN RD
Upper Tributary to Doane Creek
Wildwood Trail
Maple Trail
Wildwood Trail
Firelane 5
NW SKYLINE BLVD
NW FIRELANE 5 RD
Doane Creek
NW FIRELANE 5 RD
Lower Tributary to Doane Creek
Wildwood Trail
Maple Trail

K:\Kinder Morgan\Forest Park 2024\MXD\LUA\Fig 1 Site Vicinity LUA.mxd

LEGEND

- Existing LS-14 Pipeline
- Forest Park Boundary
- Forest Park Entrance
- Existing Trail
- Existing Private Roadway
- Streams and Waterbodies
- Highway
- Street
- Access: Joints 1300, 1510, 1600, 1670, 1680
- Proposed Roadway and Trail Closures

Note:
Trail closure details (including locations and signage details) would be coordinated and finalized with Portland Parks and Recreation during the Non-Park Use Permit application process.

N

0 600 1,200 Feet

FIGURE 1: SITE VICINITY, CONSTRUCTION ACCESS, AND TRAIL CLOSURE

PROPOSED 2024 PIPELINE ANOMALY REPAIRS IN FOREST PARK
TYPE III ENVIRONMENTAL REVIEW APPLICATION
CITY OF PORTLAND

FEBRUARY 2024
60656035

AECOM

Portland Hearings Office
Case #LU 24-017402 EN
Exhibit #4
Page 26 of 26
LU 24-017402 EN
Bureau Case File LU 24-017402EN
LU 24-017402 EN | Exhibit C.1

From: Sandra Farrell
To: Hearings Office Clerks
Cc: Steele, Morgan; Sandra Farrell
Subject: May 8 hearing, preventing tree loss in Forest Park, public comments
Date: Wednesday, May 8, 2024 12:20:15 PM

Hello,
There is a proposal to remove up to 75 trees in Forest Park to fix gas leaks. Unfortunately I am unable to attend the hearing today but I would like to have my comments added to the public record:

I am an avid runner in Forest Park and would like the company to explore other options for pipe repair than removing trees.

- We cannot afford to lose more than 5-10 trees as the proposed 60-75 is a significant part of the forest. Killing mature trees that support carbon sequestration is not an option. They are desperately needed to help fight the climate crises.
- In addition, replacing with bushes is in no way the equivalent of 75 mature trees.
- Replanting of trees (not just bushes) needs to be incorporated into the plan, at minimum the equivalent of the number removed if not double as you're removing mature trees and replacing with younger trees.

If a small number of trees must be removed (no more than 10, due to carbon sequestration loss) what is the proposal to plant trees to replace the ones removed?

If more than 10 trees need to be removed, I request that the company and public agencies involved look for a way to turn off the pipes through Forest Park and re route them to more accessible areas. If you fix the pipes in the forest, you'll have to maintain them and therefore likely pull down more trees in the future.

Please work to solve the long-term problem and find another area for the pipes than Forest Park. We will all have cleaner air for it.

Thank you,
Sandra Farrell
Portland, OR

From: Steele, Morgan <Morgan.Steele@portlandoregon.gov>
Date: Wednesday, May 1, 2024 at 12:03 PM
To: Sandra Farrell <sandra_farrell@outlook.com>
Cc: Petersen-Morgan, Kendra <Kendra.Petersen-Morgan@portlandoregon.gov>
Subject: RE: May 8 hearing, tree loss in forest park

Hi Sandra,

Thank you for your email and subsequent phone call. It was nice talking through your questions and concerns regarding the on-going pipeline maintenance work within Forest Park including the proposed tree removal. As discussed, I have included my Staff Report for your reference. The Staff Report has a link to the Zoom hearing on May 8th at 1:30pm (let me know if you have any issues finding it). It also contains information on the Approval Criteria which I use to determine whether a proposal is approvable or not. In this case, I recommended approval to the Hearings Officer who will be the decision maker in this case.

To ensure your comments are entered into the public record, email them to HearingsOfficeClerks@portlandoregon.gov, please copy me so I know they were received (see page 21 of the Staff Report for detailed information on comment submittal and testifying at the hearing).

Lastly, I have copied the Portland Parks & Recreation manager, Kendra Petersen-Morgan, who oversees Forest Park and is familiar with this proposal. She is a great person to speak to as well to understand the easement and mitigation components of this project. Her full contact information is below.

Kendra Petersen-Morgan *(she, her, hers)* *Why do I list my pronouns?*
City Nature West Supervisor | Land Stewardship
503-823-4492 (office) | 503-823-6225 (cell)
4000 SW Fairview Blvd. | Portland, Oregon 972221

Morgan Steele
Senior Environmental Planner
Land Use Services, Environmental/Land Division Team

City of Portland - Bureau of Development Services
1900 SW Fourth Ave., Suite 5000
Portland, OR 97201
503.865.6437
Morgan.Steele@portlandoregon.gov
www.portland.gov/bds
Work Hours: Monday – Thursday, 6:30am – 5:00pm

The City of Portland ensures meaningful access to City programs, services, and activities to comply with Civil Rights Title VI and ADA Title II laws and reasonably provides: translation, interpretation, modifications, accommodations, alternative formats, auxiliary aids and services. Request these services online or call 503-823-4000, Relay Service: 711.
503-823-4000 Traducción e Interpretación | Biên Dịch và Thông Dịch | 口笔译服务 | Устный и письменный перевод | Turjumaad iyo Fasiraad | Письмовий і усний переклад | Traducere și interpretariat | Chiaku me Awewen Kapas | अनुवादन तथा व्याख्या

From: Sandra Farrell <sandra_farrell@outlook.com>
Sent: Wednesday, May 1, 2024 10:39 AM
To: Steele, Morgan <Morgan.Steele@portlandoregon.gov>
Subject: May 8 hearing, tree loss in forest park

Hi Morgan, I saw this posted in forest park and would like to attend the may 8 hearing. Could you please provide details, or link in zoom?

And is it possible for you to add this to the record?

I am an avid runner in forest park and would like the company to explore other options for pipe repair. We cannot afford to lose more than 5-10 trees as the proposed 60-75 is a significant part of the forest. In addition, replacing with bushes is in no way the equivalent of 75 mature trees.

If a small number of trees must be removed (no more than 10, due to carbon sequestration loss) what is the proposal to plant trees to replace the ones removed? Replanting of trees needs to be incorporated into the plan.

Thank you.
Sandy
Portland, or

City of Portland
Bureau of Development Services

Staff Presentation to the

Hearings Officer

May 08, 2024, 1:30PM

Land Use Review 24-017402 EN

Environmental Review

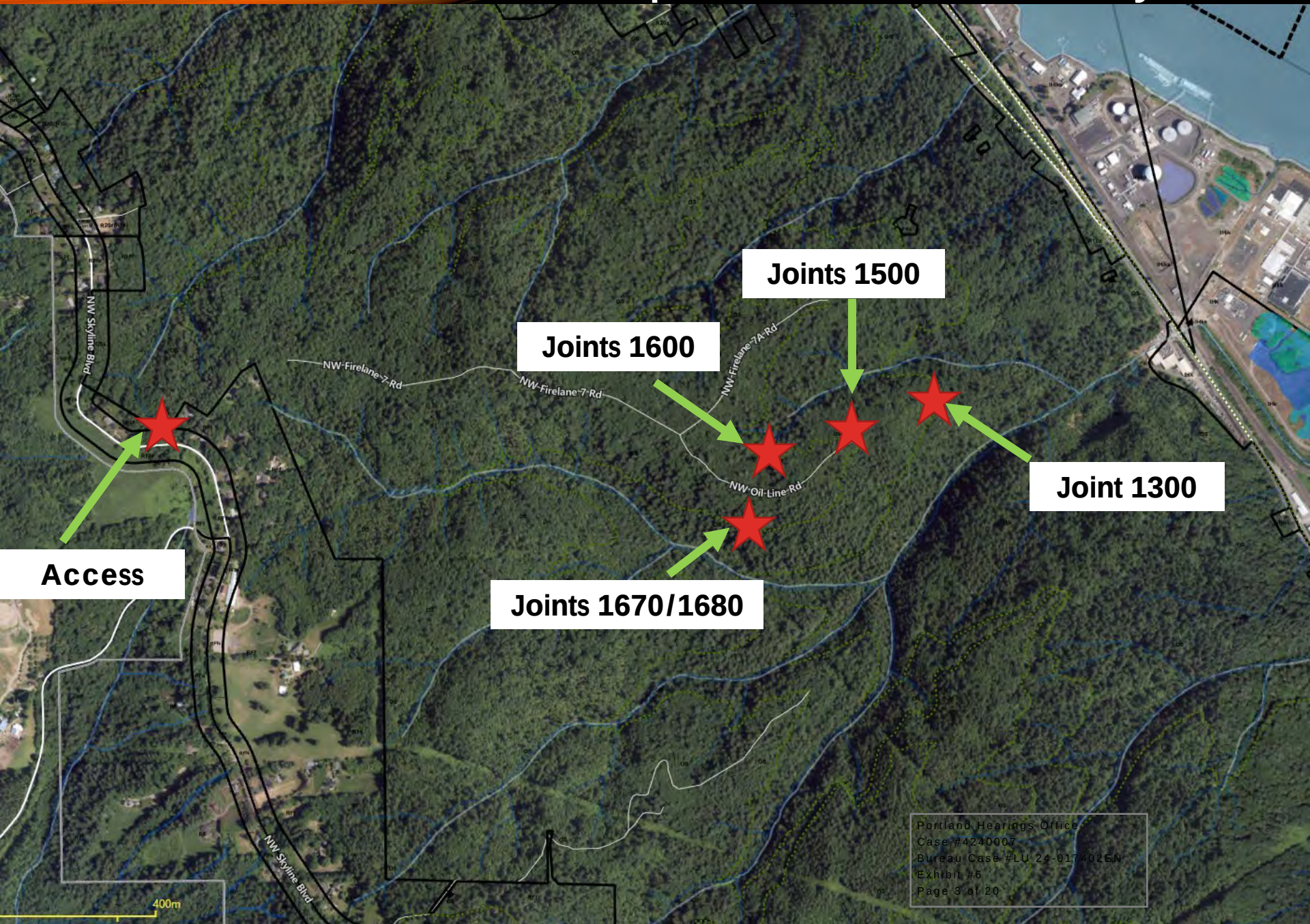
Site Address: Forest Park

SUMMARY OF THE PROPOSAL

Environmental Review Details:

- All work is related to repair or maintenance of components of an existing pipeline which runs through Forest Park – specifically 5 joint locations.
- All joints are regulated by the Forest Park Natural Resources Management Plan.
- Proposal is considered an “exception” to the NRMP.
- Type III Environmental Review required.

Site Information – aerial photo of site & vicinity



ENVIRONMENTAL REVIEW
APPROVAL CRITERIA

- The "Approval Criteria for Exceptions" including criteria A through E in Section B **on** page 217 of the *Forest Park Natural Resources Management Plan*

- Approval Criteria for Environmental Review within the Forest Park Subdistrict in the Northwest Hills Plan District in Zoning Code section 33.563.210.A, B, and C

- The proposal is also subject to the prohibition of clearing between October 1 and April 30 in section 33.563.200

Site Information

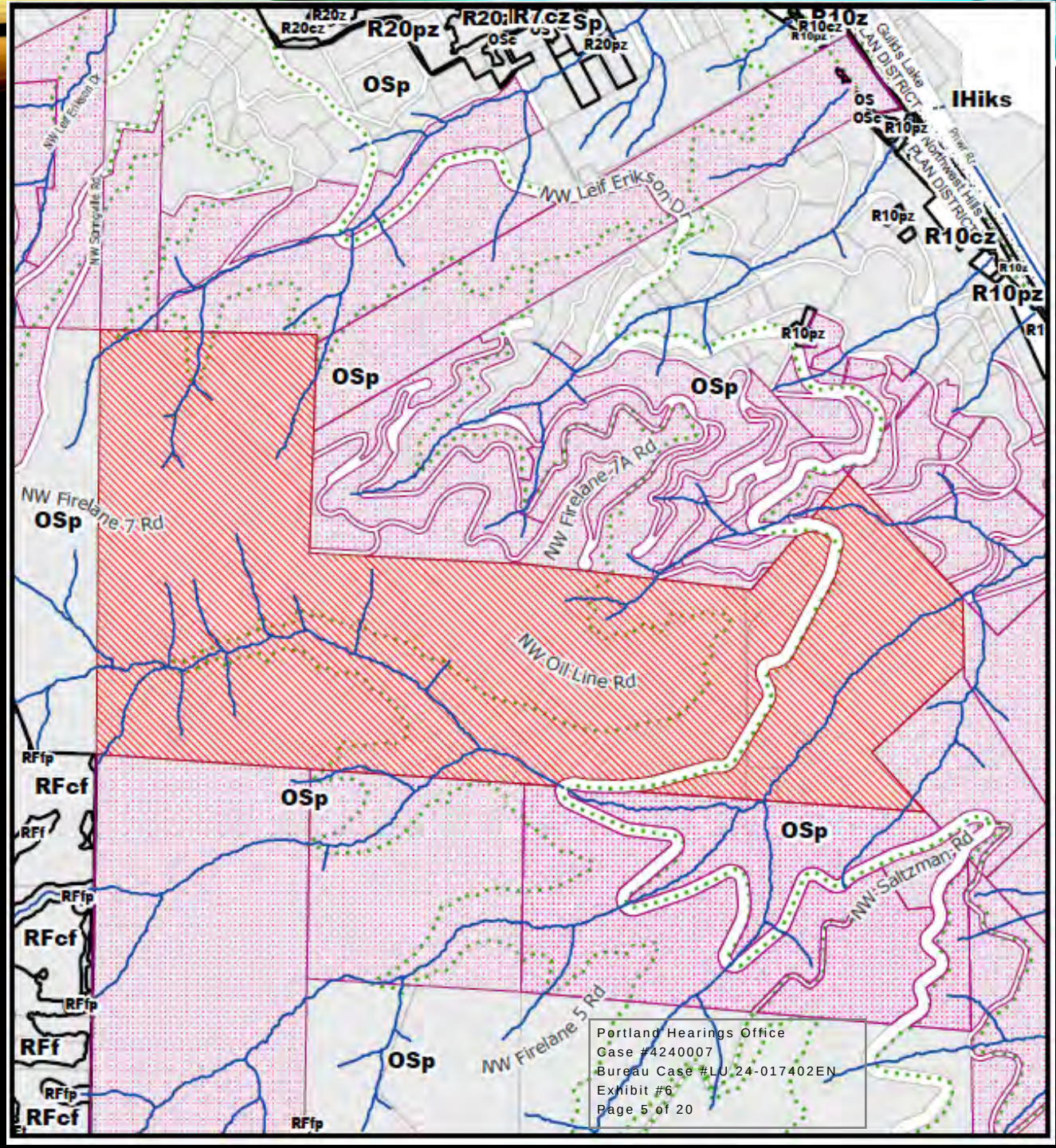
Zoning Map – <u>OScp zones</u>:

Open Space Base Zone

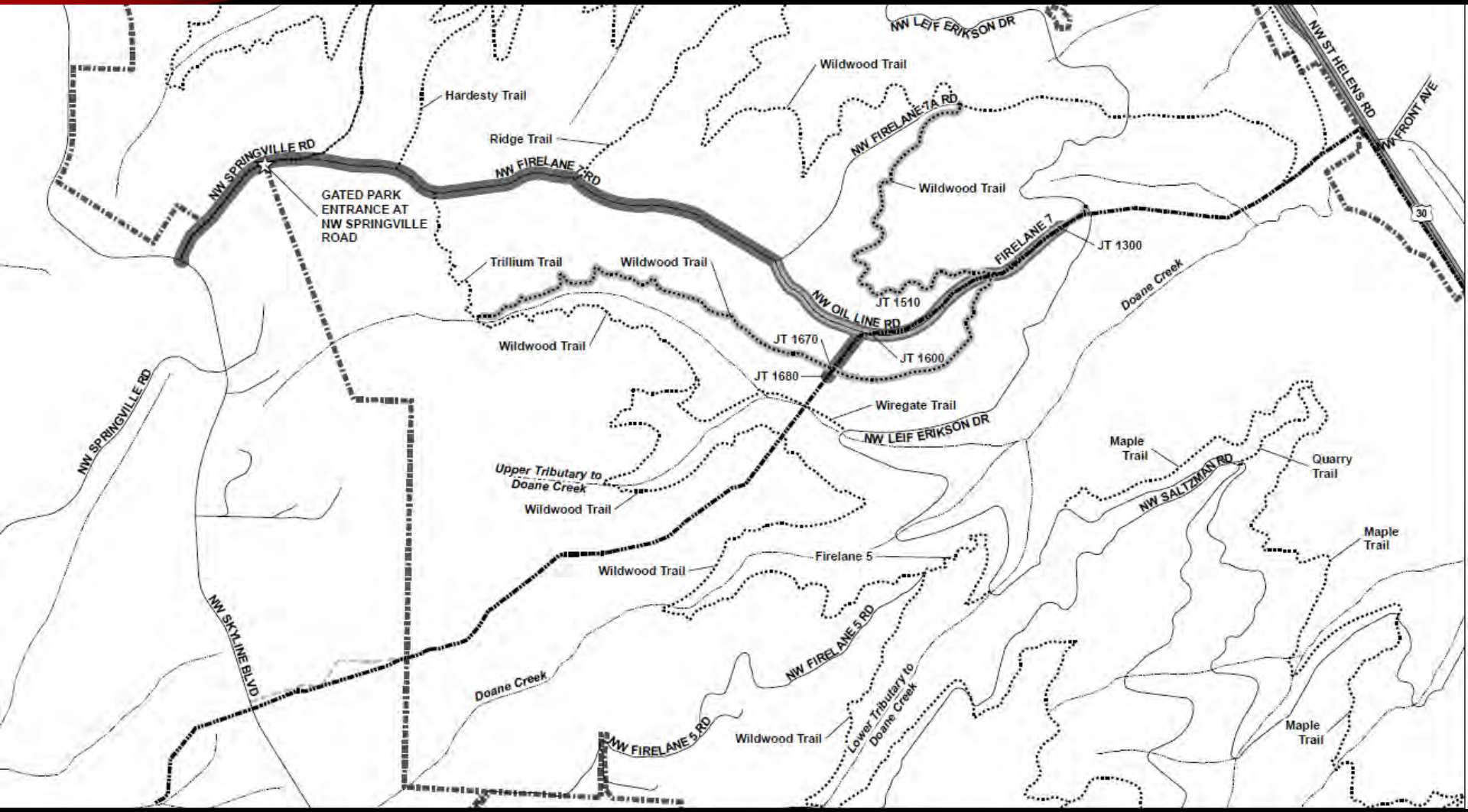
Environmental Conservation & Protection overlay zones

NW Hills Plan District – Forest Park Subdistrict

Forest Park Natural Resources Protection Plan



Proposal Overview



Firelane 7 Access – Heading into the Park





Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402EM
Exhibit #6
Page 8 of 20

Looking south to Joints 1670/1680



Portland Hearings Office
Case #4240007
Bureau Case #LU 24-017402LM
Exhibit #6
Page 9 of 20



Joint 1510 – Adjacent to Oil Line Road

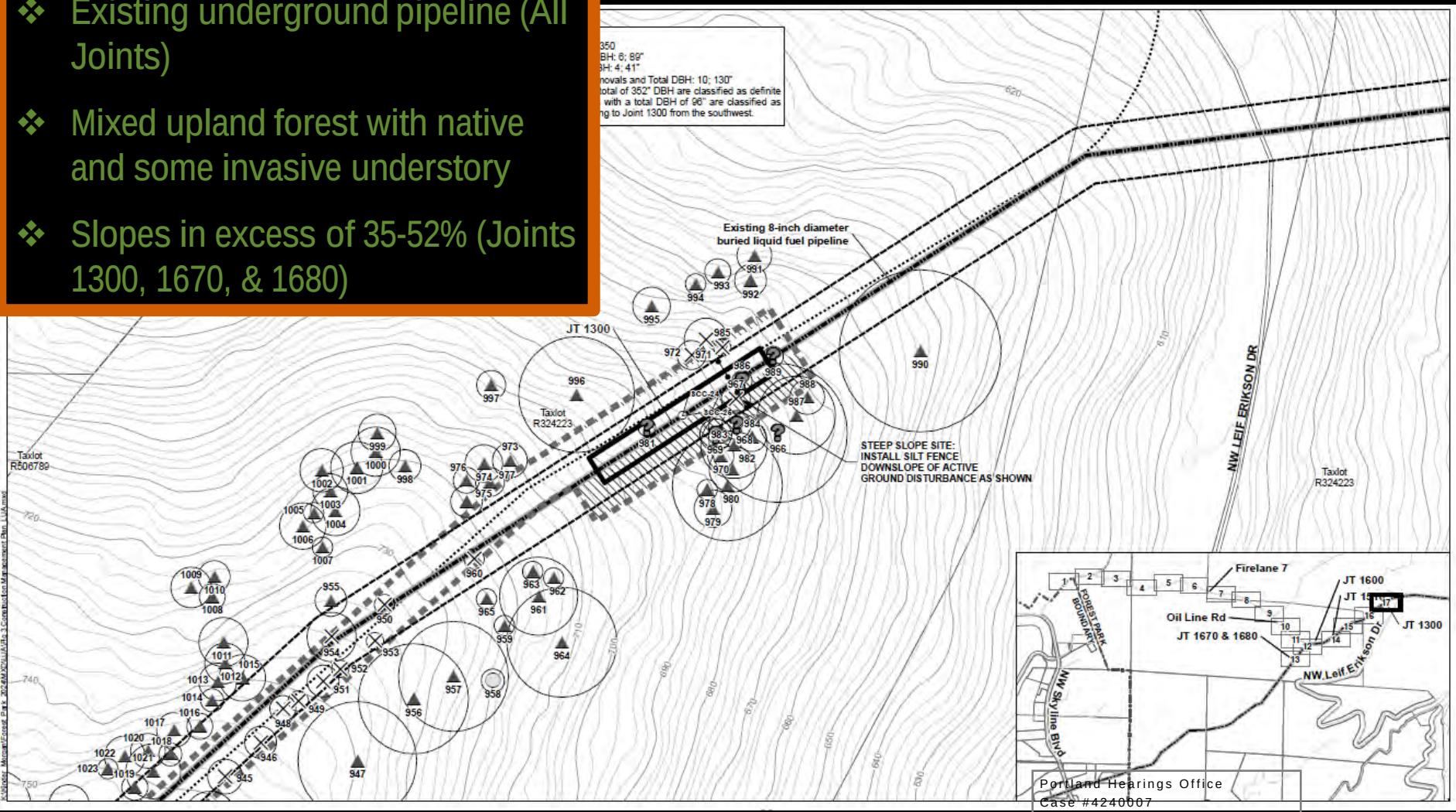




Portland Hearings Office
Case #4240007
Bureau Case #TU 24-0174-021
Exhibit 7
Page 12 of 20

Site Information – Existing Conditions

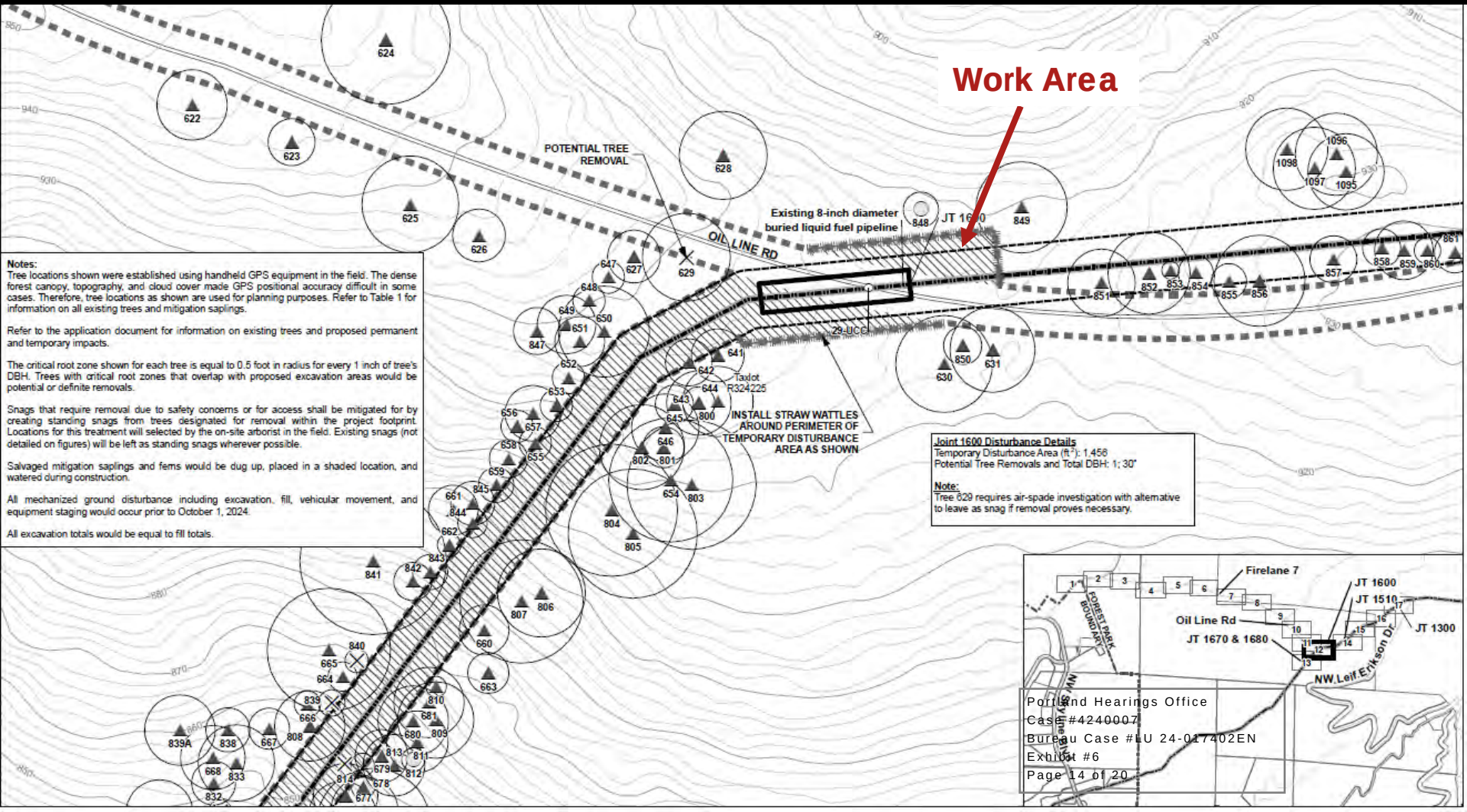
- Existing underground pipeline (All Joints)
- Mixed upland forest with native and some invasive understory
- Slopes in excess of 35-52% (Joints 1300, 1670, & 1680)



Proposed Development Plan

Impacts Include:

- Temporary disturbance at each joint location
- Tree removal between 57-75 trees



Alternatives Analysis

Construction Methods & Site Access:

Methods for completing work on steep slopes were explored – determined using construction equipment limits impacts.

Construction vehicles to access all joints using the shortest and most direct routes possible along and adjacent to roads within the Park.

Definitive vs. Potential Tree Removal:

Some of the trees will only be removed on an as-needed basis to prevent unnecessary removal of trees.

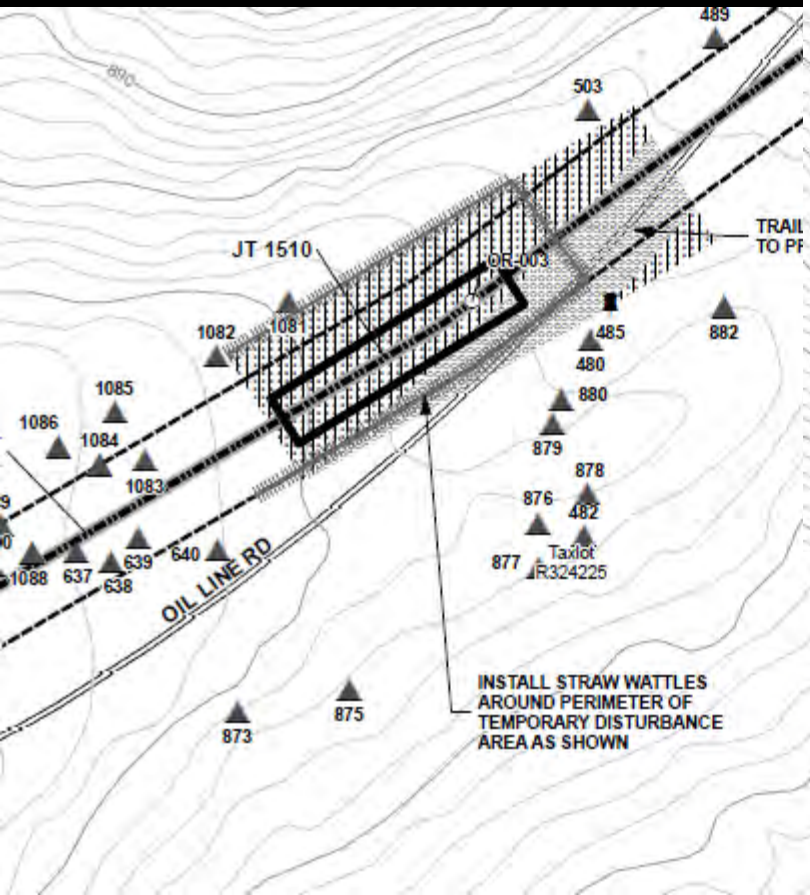
57 trees flagged for definitive removal.

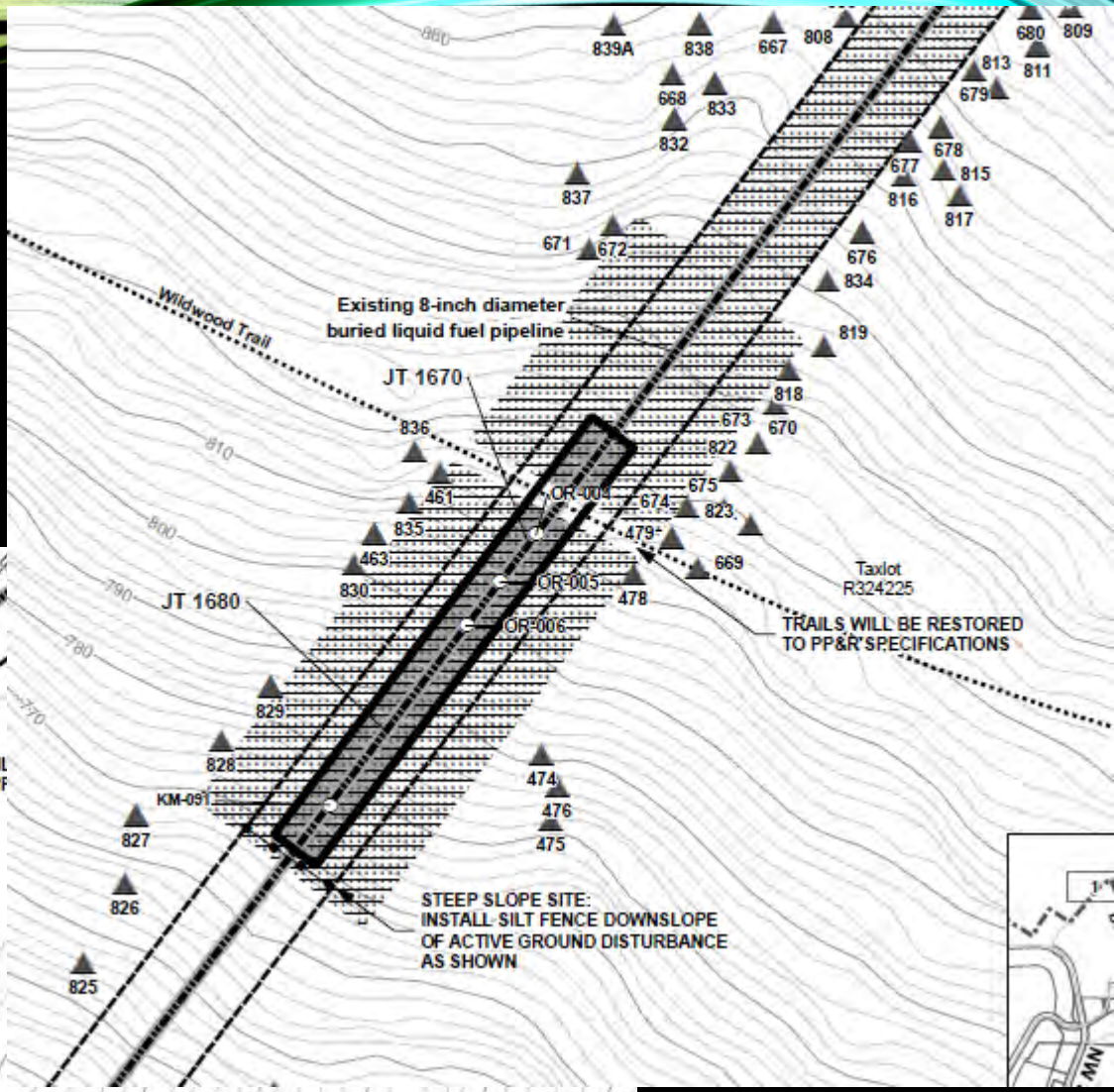
18 trees will be retained and only removed, if necessary, as excavation progresses.

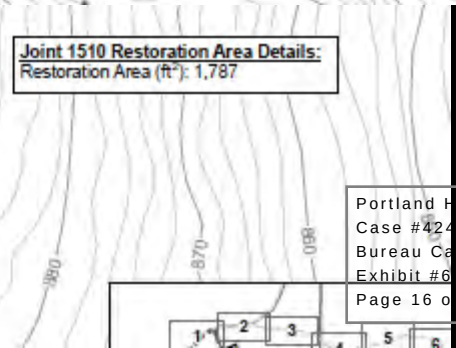


Restoration Plan

- Salvaged ferns replanted at Joints 1300, 1600b 1670, & 1680
- New plantings at Joint 1510







Portland H
Case #424
Bureau Ca
Exhibit #6
Page 16 o

Mitigation Approach

Table 1: Payment Breakdown for Tree Removal

<12"	$675
12-<20"	$1,800
20" or greater	$450 per inch

Table 2: Estimated Mitigation Payments

MAXIMUM MITIGATION PAYMENT (DEFINITE + POTENTIAL REMOVALS)	$158,400
MINIMUM MITIGATION PAYMENT (DEFINITE REMOVALS ONLY)	$105,750

- The applicant will provide funding for restoration of between 30 and 53 acres, including planting of between 12,000 and 22,000 native plants

PORTLAND PARKS & RECREATION
Healthy Parks, Healthy Portland

MEMORANDUM

DATE: April 19, 2024

TO: Morgan Steele, Planner, City of Portland Bureau of Development Services

FROM: Marshall Johnson, Ecologist, City of Portland Parks & Recreation

SUBJECT: Mitigation in Forest Park for Kinder-Morgan Pipeline Anomaly Repair Project: 2024

Portland Parks & Recreation (PP&R) proposes to partner on the current 2024 land-use proposal by SFPP, L.P., a subsidiary of Kinder Morgan (SFPP), for additional repair of anomalies in a pipeline running through a portion of Forest Park, by allowing SFPP to meet mitigation requirements for environmental impacts through a payment into the Restore Forest Park Fund. This funding will be used to support implementation of the Restore Forest Park project, which is an ongoing long-term effort to improve the ecological health of the Park by removing invasive species and re-planting native plants.

Beginning in fall 2025, PP&R will utilize the funds to implement a new portion of the Restore Forest Park project. Specifically, PP&R proposes to control targeted invasive plants (such as ivy, clematis, non-native blackberry, laurel and holly) and enhance the native vegetation with plantings within the Central Management Unit of Forest Park (see map Attachment A). This will help achieve a greater ecological uplift in Forest Park than the standard tree planting mitigation requirement that would otherwise take place at the location of the proposed work along the pipeline and its access roadway. It should be noted that the pipeline is within an easement which allows the owner to continually maintain access to and repair of the pipeline within the easement. On site mitigation planting by the applicant would be challenged by the fact that tree planting locations are limited in the forested areas along the pipeline where impacts would occur. Further, the likelihood of success for trees that are planted is low due to the existing dense canopy. Due to these circumstances, restoration in other areas of the Park is recommended by PP&R. If approved by the Bureau of Development Services (BDS), the applicant will

Portland Hearings Office
Case #LU 24-017402EN
Bureau Case #LU 24-017402EN
Exhibit #6
Page 17 of 20

STAFF RECOMMENDATION

Approval of an Environmental Review for:

- An Exception to the Forest Park Natural Resources Management Plan to allow repair and maintenance of 5 joints within Forest Park;
- Removal of 57-75 native trees over 6 inches dbh; and
- 39,060 square feet of temporary disturbance;

All within the Environmental Conservation & Environmental Protection overlay zones, and in substantial conformance with Exhibits C.1 through C.54.

CONDITIONS OF APPROVAL

- **Compliance with Construction Management Site Plan – specifically tree protection and disturbance limits**
- **Compliance with Restoration Site Plans – specifically shrub salvage and plantings**
- **Compliance with requirement to pay the fee for mitigation**

CONCLUSIONS

Staff recommendation of approval of an Environmental Review with Conditions.

Questions?

Hearings Office
City of Portland
1900 SW 4th Avenue, Room 3100, Portland, OR 97201 phone: 503.823.7307
www.portland.gov/omf/hearings fax: 503.823.4347
hearingsofficeclerks@portlandoregon.gov

RECORD CLOSING INFORMATION

LU CASE # 24-017402 EN

Hearings Officer: William Guzman

HO CASE # 4240007

Hearing began at 1:31 ☐ a.m. ☑ p.m. on May 8, 2024 and closed at 2:17 ☐ a.m. ☑ p.m.

☑ THE RECORD WAS CLOSED AT THAT TIME.

Hearing is continued to _____ ☐ a.m. ☐ p.m. on _____ because:

_____

Record was held open until:

4:00 p.m. _____ for _____

4:00 p.m. _____ for _____

4:00 p.m. _____ for _____

4:00 p.m. _____ for _____

▪▪ The record will close at 4:00 p.m. on the latest date shown. If, in the applicant's final rebuttal, the Hearings Officer receives a request from the applicant to close the record early, the Hearings Officer has discretion to grant or deny the request.

☐ The applicant waived applicant's rights granted by ORS 197.763 (6)(e), if any, to an additional seven day time period to submit written rebuttal into the record.

Internal Use Only

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Case #4240007
Bureau Case #LU 24-017402EN
Exhibit #7
Page 1 of 1