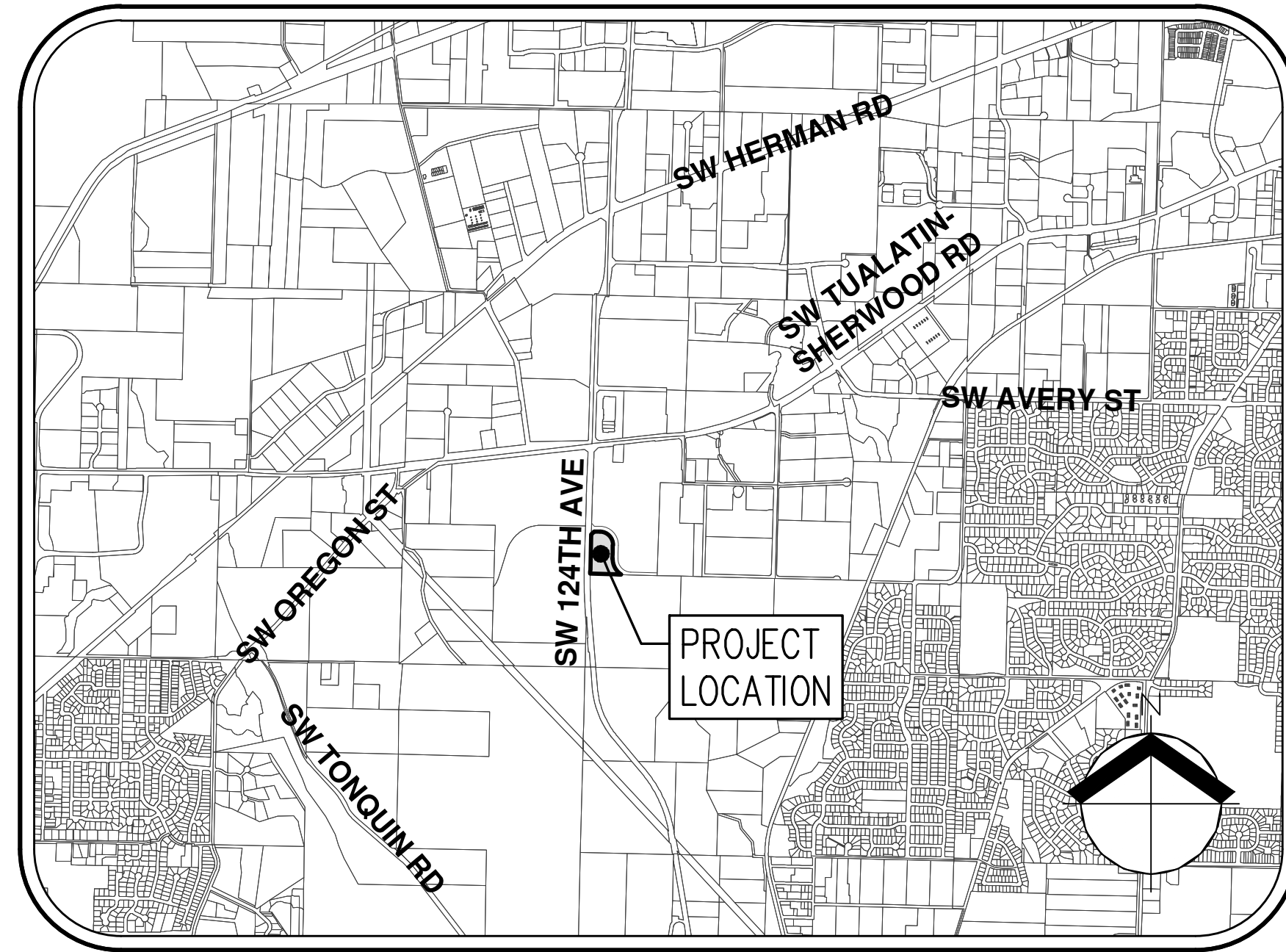
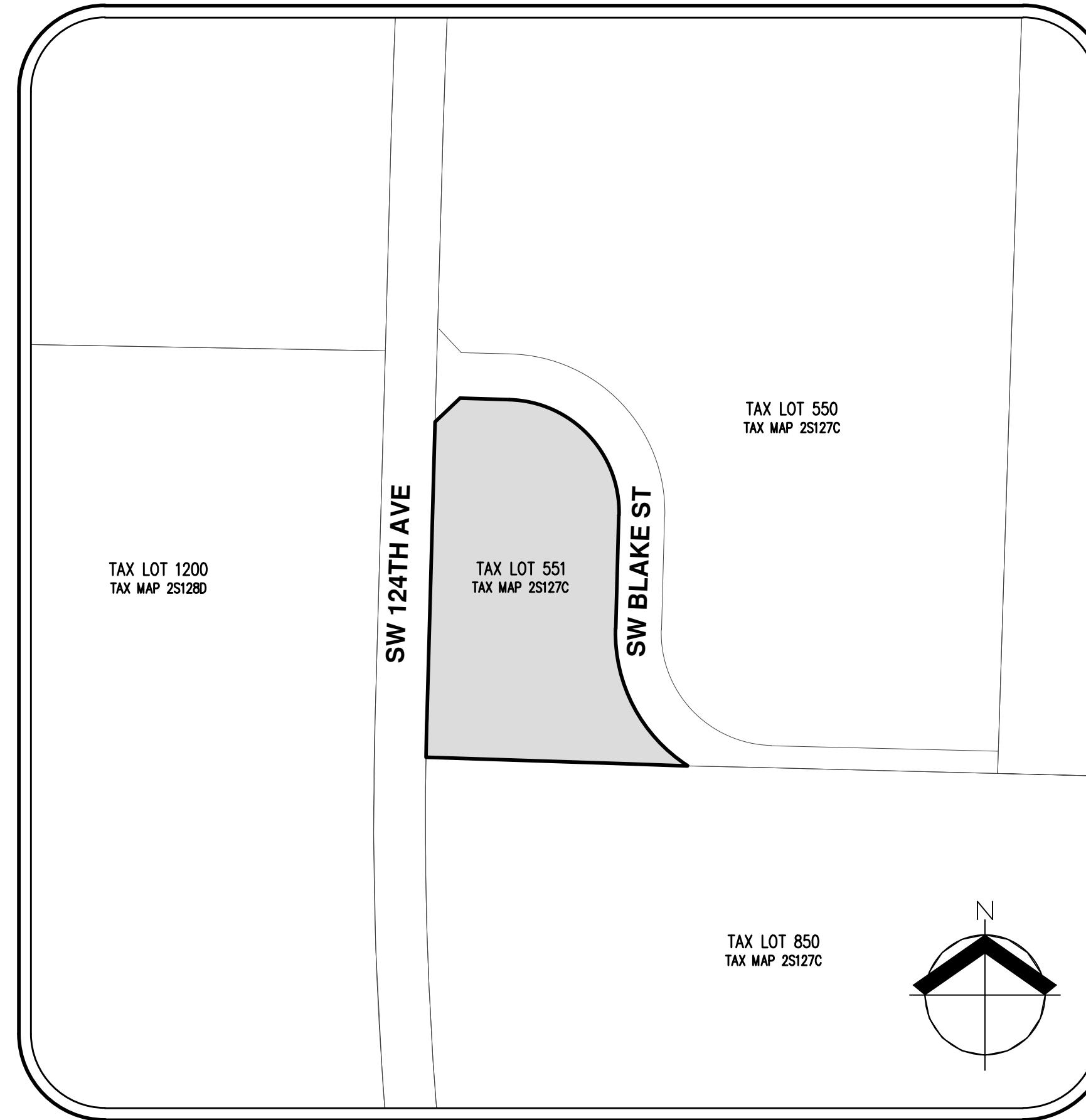


# PGE TONQUIN SUBSTATION

## ARCHITECTURAL REVIEW PLANS



**VICINITY MAP**  
NOT TO SCALE



**SITE MAP**  
SCALE: 1" = 200'

### PROJECT TEAM

#### APPLICANT/OWNER

PORTLAND GENERAL ELECTRIC  
121 SW SALMON ST  
PORTLAND, OR 97204

#### CIVIL ENGINEERING/ARBORIST/ LANDSCAPE ARCHITECTURE

AKS ENGINEERING & FORESTRY, LLC  
12965 SW HERMAN ROAD, SUITE 100  
TUALATIN, OR 97062  
CONTACT: BRUCE BALDWIN  
PH: 503-563-6151  
FAX: 503-563-6152  
EMAIL: BRUCE@AKS-ENG.COM

#### PLANNING

ANGELO PLANNING GROUP  
921 SW WASHINGTON STREET, SUITE 468  
PORTLAND, OR 97205  
CONTACT: FRANK ANGELO  
PH: 503-227-3664  
EMAIL: FANGELO@ANGELOPLANNING.COM

#### PROJECT DESCRIPTION

NEW PGE SUBSTATION

#### PROJECT ADDRESS

12150 SW TUALATIN-SHERWOOD ROAD  
TUALATIN, OR 97062

#### PROPERTY DESCRIPTION:

TAX LOT 500 (WASHINGTON COUNTY TAX ASSESSOR'S MAP 2S127C)  
LOCATED IN THE SOUTHWEST 1/4 OF SECTION 27, TOWNSHIP 2 SOUTH,  
RANGE 1 WEST, WILLAMETTE MERIDIAN, CITY OF TUALATIN, WASHINGTON  
COUNTY, OREGON.

### LEGEND

|                          | EXISTING | PROPOSED |                             | EXISTING | PROPOSED |
|--------------------------|----------|----------|-----------------------------|----------|----------|
| DECIDUOUS TREE           |          |          | STORM SEWER CLEAN OUT       |          |          |
| CONIFEROUS TREE          |          |          | STORM SEWER CATCH BASIN     |          |          |
| FIRE HYDRANT             |          |          | STORM SEWER AREA DRAIN      |          |          |
| WATER BLOWOFF            |          |          | STORM SEWER MANHOLE         |          |          |
| WATER METER              |          |          | GAS METER                   |          |          |
| WATER VALVE              |          |          | GAS VALVE                   |          |          |
| DOUBLE CHECK VALVE       |          |          | GUY WIRE ANCHOR             |          |          |
| AIR RELEASE VALVE        |          |          | UTILITY POLE                |          |          |
| SANITARY SEWER CLEAN OUT |          |          | POWER VAULT                 |          |          |
| SANITARY SEWER MANHOLE   |          |          | POWER JUNCTION BOX          |          |          |
| SIGN                     |          |          | POWER PEDESTAL              |          |          |
| STREET LIGHT             |          |          | COMMUNICATIONS VAULT        |          |          |
| MAILBOX                  |          |          | COMMUNICATIONS JUNCTION BOX |          |          |
|                          |          |          | COMMUNICATIONS RISER        |          |          |

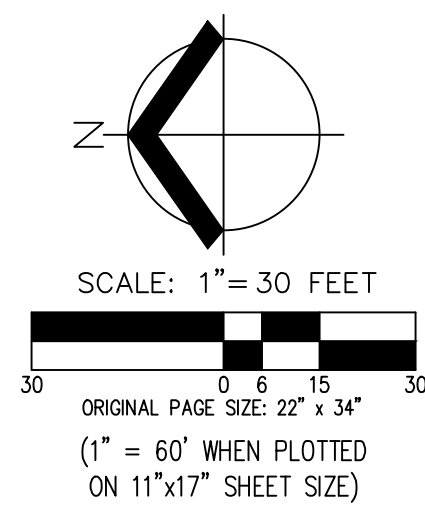
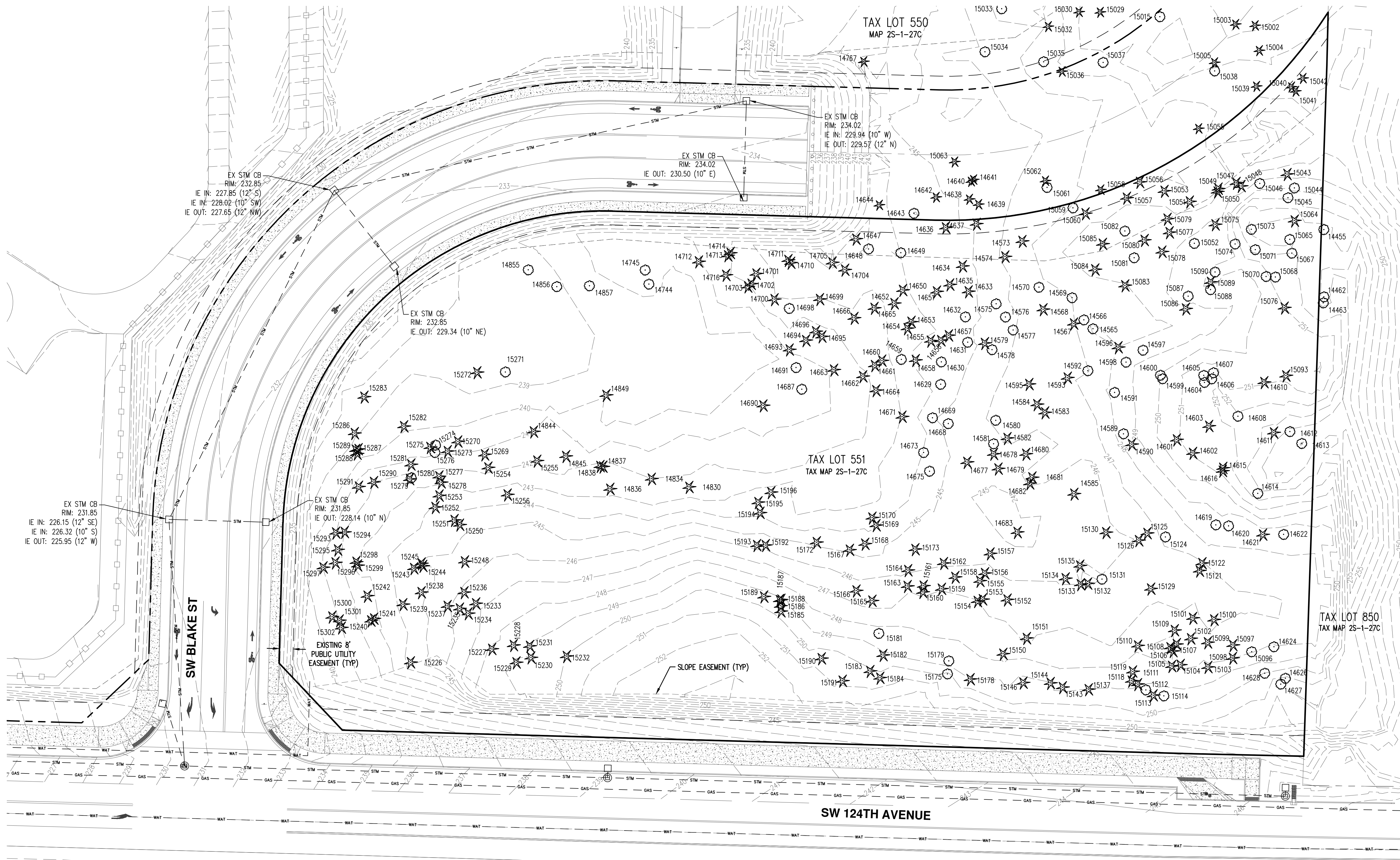
#### EXISTING

#### PROPOSED

|                     | EXISTING | PROPOSED |
|---------------------|----------|----------|
| RIGHT-OF-WAY LINE   |          |          |
| BOUNDARY LINE       |          |          |
| PROPERTY LINE       |          |          |
| CENTERLINE          |          |          |
| DITCH               |          |          |
| CURB                |          |          |
| EDGE OF PAVEMENT    |          |          |
| EASEMENT            |          |          |
| FENCE LINE          |          |          |
| GRAVEL EDGE         |          |          |
| POWER LINE          |          |          |
| OVERHEAD WIRE       |          |          |
| COMMUNICATIONS LINE |          |          |
| FIBER OPTIC LINE    |          |          |
| GAS LINE            |          |          |
| STORM SEWER LINE    |          |          |
| SANITARY SEWER LINE |          |          |
| WATER LINE          |          |          |

### SHEET INDEX

- P1 COVER SHEET WITH VICINITY AND SITE MAPS
- P2 PRELIMINARY EXISTING CONDITIONS PLAN
- P3 PRELIMINARY SITE AND UTILITY PLAN
- P4 PRELIMINARY GRADING PLAN
- P5 PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN
- P6 PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE
- P7 PRELIMINARY TREE PRESERVATION AND REMOVAL TABLE
- P8 PRELIMINARY LANDSCAPE PLAN



**PRELIMINARY EXISTING CONDITIONS PLAN**  
**PGE TONQUIN SUBSTATION**  
**PORTLAND GENERAL ELECTRIC**  
**TUALATIN, OREGON**

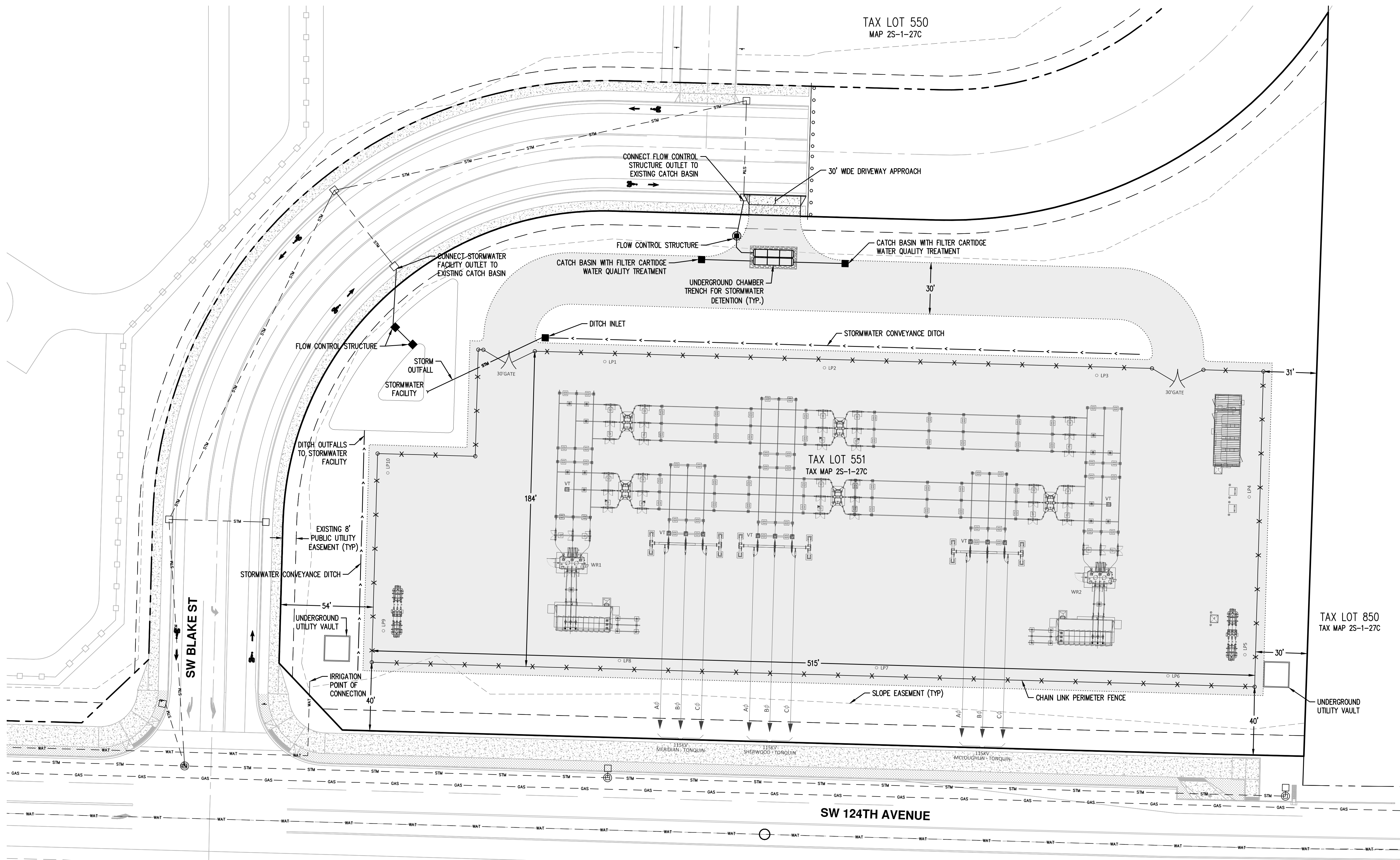
**AKS**  
 AKS ENGINEERING & FORESTRY, LLC  
 12965 SW HERMAN RD., STE. 100  
 TUALATIN, OR 97062  
 503.563.6151  
 WWW.AKS-ENG.COM  
 ENGINEERING - SURVEYING - NATURAL RESOURCES  
 FORESTRY - PLANNING - LANDSCAPE ARCHITECTURE

- NOTES:**
1. THIS PRELIMINARY EXISTING CONDITIONS PLAN IS BASED ON SURVEY, AS-BUILT, AND DESIGN PLANS PROVIDED BY THE CLIENT AND IS APPROXIMATE.
  2. THIS MAP DOES NOT CONSTITUTE A PROPERTY BOUNDARY SURVEY.
  3. CONTOUR INTERVAL IS 1 FOOT.
  4. TREES WITH DIAMETER OF 6" AND GREATER ARE SHOWN. TREE DIAMETERS WERE DETERMINED BY VISUAL INSPECTION. SEE THE TREE PRESERVATION AND REMOVAL PLAN AND TABLE FOR ADDITIONAL TREE RELATED INFORMATION.

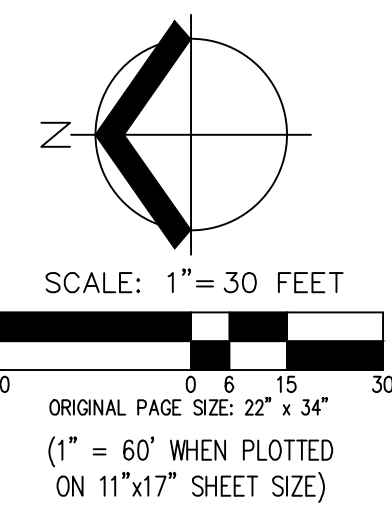
**PRELIMINARY**  
**NOT FOR**  
**CONSTRUCTION**

|              |          |
|--------------|----------|
| JOB NUMBER:  | 8464     |
| DATE:        | 7/7/2022 |
| DESIGNED BY: | DJS      |
| DRAWN BY:    | DJS      |
| CHECKED BY:  | BRB      |





TAX LOT 550  
MAP 2S-1-27C



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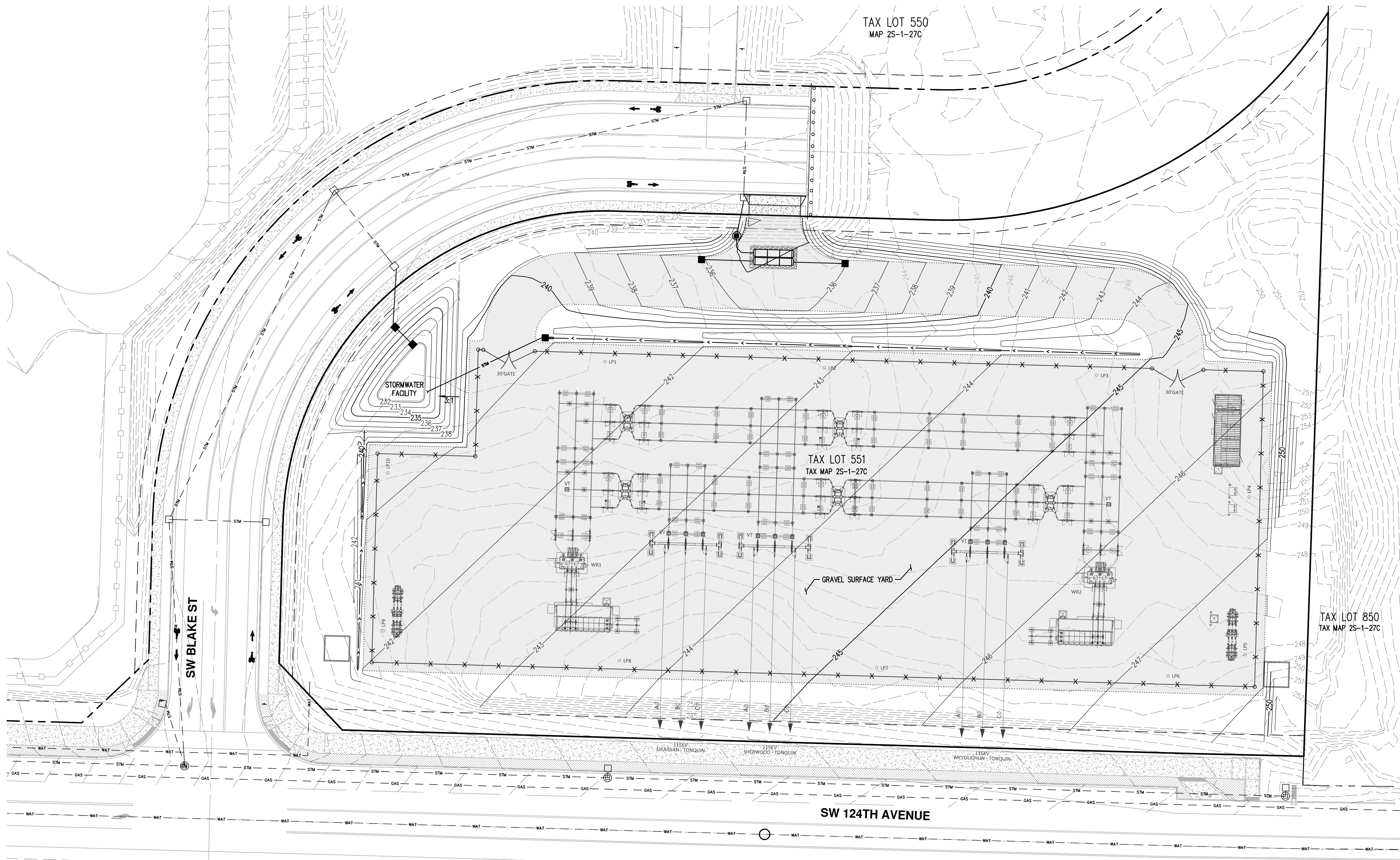
**PRELIMINARY SITE AND UTILITY PLAN  
PGE TONQUIN SUBSTATION  
PORTLAND GENERAL ELECTRIC  
TUALATIN, OREGON**

**SITE DATA**

PLANNING DISTRICT: MANUFACTURING BUSINESS PARK (MBP)  
TOTAL SITE AREA: 184,125± SF  
TOTAL LANDSCAPE AREA: 71,680± SF (39%)

PRELIMINARY  
NOT FOR  
CONSTRUCTION

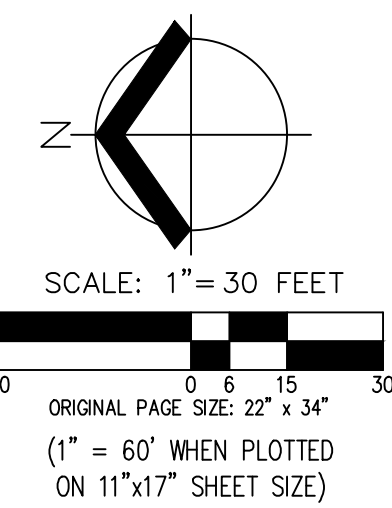
|              |          |
|--------------|----------|
| JOB NUMBER:  | 8464     |
| DATE:        | 7/7/2022 |
| DESIGNED BY: | DJS      |
| DRAWN BY:    | DJS      |
| CHECKED BY:  | BRB      |



TAX LOT 550  
MAP 25-1-27C

TAX LOT 551  
TAX MAP 25-1-27C

TAX LOT 850  
TAX MAP 25-1-27C



**PRELIMINARY GRADING PLAN  
PGE TONQUIN SUBSTATION  
PORTLAND GENERAL ELECTRIC  
TUALATIN, OREGON**

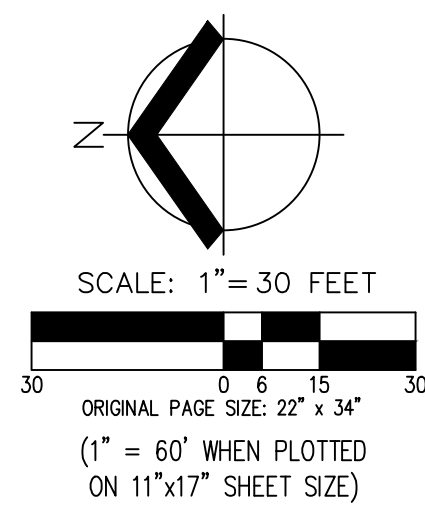
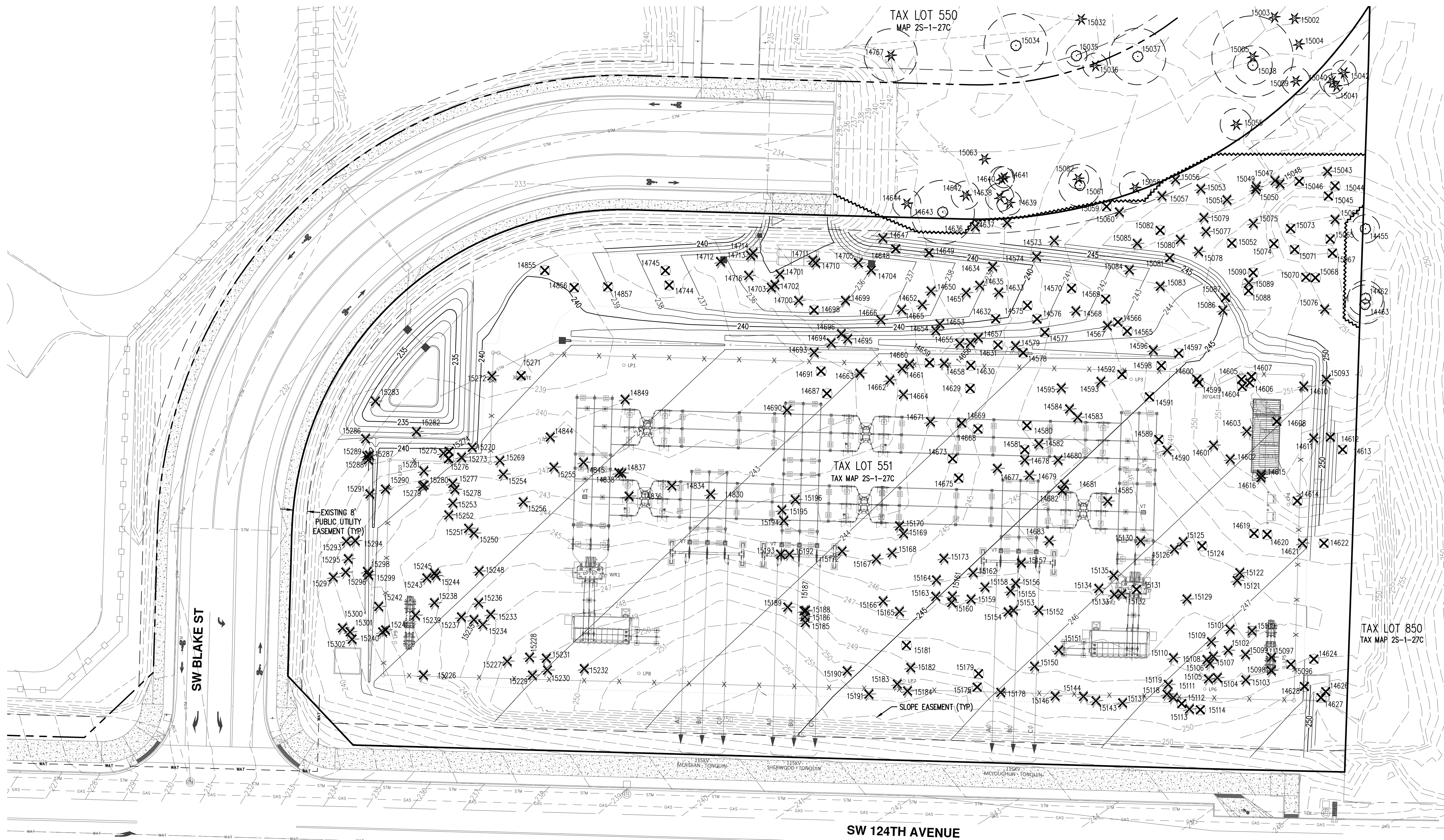
**PRELIMINARY  
NOT FOR  
CONSTRUCTION**

|              |          |
|--------------|----------|
| JOB NUMBER:  | 8464     |
| DATE:        | 7/7/2022 |
| DESIGNED BY: | DJS      |
| DRAWN BY:    | DJS      |
| CHECKED BY:  | BRB      |

**P4**

**AKS**  
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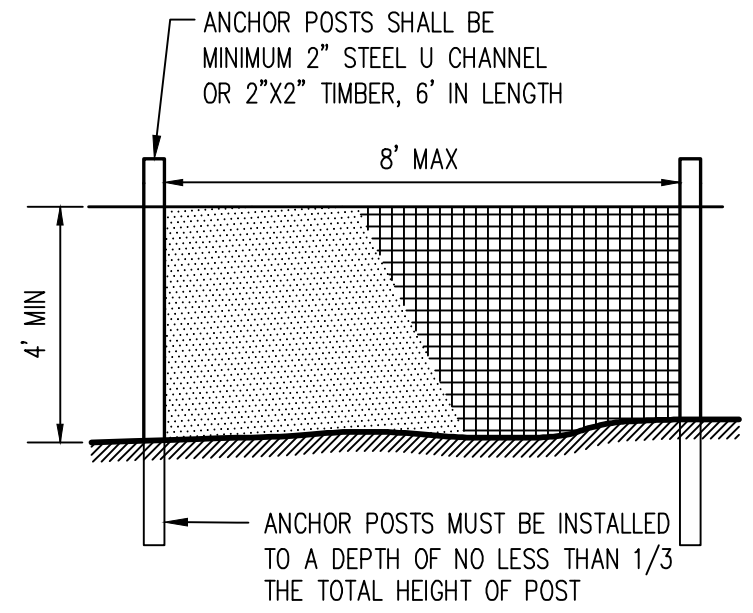




**PRELIMINARY TREE PRESERVATION AND REMOVAL PLAN  
 PGE TONQUIN SUBSTATION  
 PORTLAND GENERAL ELECTRIC  
 TUALATIN, OREGON**

| LEGEND   |                               |
|--|-------------------------------|
| EXISTING GROUND CONTOUR (1 FT)                       | --- 149 ---                   |
| EXISTING GROUND CONTOUR (5 FT)                       | --- 150 ---                   |
| FINISHED GRADE CONTOUR (1 FT)                        | --- 149 ---                   |
| FINISHED GRADE CONTOUR (5 FT)                        | --- 150 ---                   |
| EXISTING CONIFEROUS TREE                             | * (with star symbol)          |
| EXISTING DECIDUOUS TREE                              | ○ (with circle symbol)        |
| TREE REMOVAL   | ✕ (with X symbol)             |
| TREE PROTECTION FENCE (TREE PROTECTION AREA)         | ~ (with wavy line symbol)     |
| ASSUMED TREE ROOT ZONE (1-FT RADIUS PER 1-IN OF DBH) | ○ (with dashed circle symbol) |

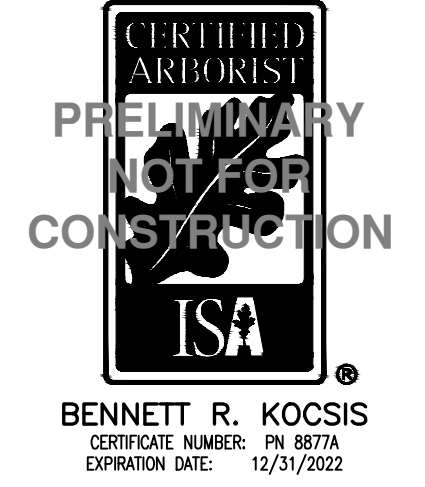
- NOTES:**
- TREE SURVEY PERFORMED BY NORTHWEST SURVEYING, INC. IN JANUARY/FEBRUARY 2019.
  - ENCROACHMENTS (GRADING, CONSTRUCTION, ETC.) INTO OPTIMAL TREE ROOT ZONES OUTSIDE OF THE TREE PROTECTION AREA OF TREES TO BE PRESERVED AS SHOWN SHOULD NOT HAVE SIGNIFICANT NEGATIVE IMPACTS TO TREE HEALTH. THIS PLAN HAS BEEN REVIEWED BY A CERTIFIED ARBORIST PER TDC 73.250(2)(E).
  - GRADING ACTIVITIES SHALL NOT INCLUDE ALLOWING TREE ROOTS FROM PRESERVED TREES TO REMAIN EXPOSED PER TDC 73.250(2)(F).
  - PER TDC 31.060, A TREE IS DEFINED AS AT LEAST EIGHT (8) INCHES IN DIAMETER AT BREAST HEIGHT (DBH). THEREFORE, ALL TREES WITH A DBH OF 8 INCHES OR GREATER ARE SHOWN. SOME ADDITIONAL TREES UNDER 8 INCHES IN DBH ARE SHOWN. SEE SHEET P6-P7 FOR ADDITIONAL INFORMATION.
  - PER TDC 33.110(4)(b)(iii), EACH TREE PROPOSED FOR REMOVAL IS BEING REMOVED TO FACILITATE PROPOSED IMPROVEMENTS OR BECAUSE IT IS IN POOR CONDITION.



- NOTES:**
- CHAIN LINK FENCE FOR TREE PROTECTION DEVICE OR APPROVED EQUAL.
  - AVOID DAMAGE TO TREE ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
  - DEVICE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
- TREE PROTECTION FENCE**

I, BENNETT KOCSIS, ATTEST THAT THIS TREE PRESERVATION AND REMOVAL PLAN IS IN ACCORDANCE WITH TYPICAL ARBORICULTURAL AND URBAN FORESTRY STANDARDS.

*Bennett Kocsis*  
 BENNETT KOCSIS, CERTIFIED ARBORIST  
 PN-8877A



**PRELIMINARY  
 NOT FOR  
 CONSTRUCTION**

|              |          |
|--------------|----------|
| JOB NUMBER:  | 8464     |
| DATE:        | 7/7/2022 |
| DESIGNED BY: | DJS      |
| DRAWN BY:    | DJS      |
| CHECKED BY:  | BRB      |



**Detailed Tree Inventory for PGE Tonquin Substation**

AKS Job No. 8464 - Evaluation Date: 11/8/2021 - Evaluated by: BRK

| Tree # | DBH (in.) | Avg. Crown Radius (ft) | Tree Species<br>Common Name (Scientific name) | Comments                                      | Health Rating* | Structure Rating** | Remove/Preserve |
|--------|-----------|------------------------|---|---|----------------|--------------------|-----------------|
| 14455  | 8         | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | OFFSITE; Lean (W)                             | 1              | 2                  | Preserve        |
| 14462  | 10        | 16                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | OFFSITE; Lean (S)                             | 1              | 2                  | Preserve        |
| 14463  | 11        | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | OFFSITE                                       | 1              | 1                  | Preserve        |
| 14565  | 9         | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14566  | 12        | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14567  | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14568  | 8         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14569  | 16        | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14570  | 10        | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14573  | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14574  | 10        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14575  | 6         | 10                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (N)                                      | 1              | 2                  | Remove          |
| 14576  | 9         | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14577  | 10        | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | large cavity with decay                       | 2              | 2                  | Remove          |
| 14578  | 12        | 16                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14579  | 8         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14580  | 13        | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14581  | 9         | 10                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14582  | 14        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14583  | 7         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead  | 3              | 3                  | Remove          |
| 14584  | 9         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead  | 3              | 3                  | Remove          |
| 14585  | 10        | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14589  | 12        | 18                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14590  | 15        | 14                     | Oregon White Oak ( <i>Quercus garryana</i> )  |   | 1              | 1                  | Remove          |
| 14591  | 10,12     | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14592  | 7,10      | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (S)                                      | 1              | 2                  | Remove          |
| 14593  | 11        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14595  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14596  | 16        | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead branches; Sparse canopy                  | 2              | 2                  | Remove          |
| 14597  | 10        | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14598  | 12        | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14599  | 7,10      | 12                     | Oregon White Oak ( <i>Quercus garryana</i> )  |   | 1              | 1                  | Remove          |
| 14600  | 11        | 12                     | Oregon White Oak ( <i>Quercus garryana</i> )  |   | 1              | 1                  | Remove          |
| 14601  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead branches; Sparse canopy                  | 2              | 2                  | Remove          |
| 14602  | 10        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Sparse canopy                                 | 2              | 2                  | Remove          |
| 14603  | 9         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14604  | 8         | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14605  | 6         | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14606  | 9         | 10                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14607  | 6,10      | 16                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (S)                                      | 1              | 2                  | Remove          |
| 14608  | 12        | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Dead top on one codominant stem               | 2              | 2                  | Remove          |
| 14610  | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14611  | 11        | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Many dead branches; Sparse canopy; In decline | 3              | 2                  | Remove          |
| 14612  | 9,13      | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Several cavities with decay                   | 2              | 2                  | Remove          |
| 14613  | 12        | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14614  | 13        | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14615  | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead top; In decline                          | 3              | 2                  | Remove          |
| 14616  | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14619  | 13        | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14620  | 13        | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14621  | 8         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14622  | 12        | 20                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (S); 1-sided canopy (S)                  | 1              | 2                  | Remove          |
| 14624  | 12        | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Broken limbs                                  | 1              | 2                  | Remove          |
| 14626  | 14        | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14627  | 7         | 0                      | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Broken at 5'                                  | 3              | 3                  | Remove          |
| 14628  | 10        | 16                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14629  | 9         | 19                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (W); Broken limbs                        | 1              | 2                  | Remove          |
| 14630  | 10,10     | 16                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Large cavity with decay; lean (S)             | 2              | 2                  | Remove          |
| 14631  | 10        | 10                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14632  | 13        | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14633  | 6         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead  | 3              | 3                  | Remove          |
| 14634  | 7         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead  | 3              | 3                  | Remove          |
| 14635  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant base                               | 1              | 2                  | Remove          |
| 14636  | 10        | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14637  | 8         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14638  | 6,8       | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | OFFSITE; Codominant base                      | 1              | 2                  | Preserve        |
| 14639  | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | OFFSITE                                       | 1              | 1                  | Preserve        |
| 14640  | 7         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | OFFSITE; Dead                                 | 3              | 3                  | Preserve        |
| 14641  | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | OFFSITE                                       | 1              | 1                  | Preserve        |
| 14642  | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | OFFSITE                                       | 1              | 1                  | Preserve        |
| 14643  | 18        | 19                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | OFFSITE                                       | 1              | 1                  | Preserve        |
| 14644  | 8         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | OFFSITE                                       | 1              | 1                  | Preserve        |
| 14647  | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14648  | 13        | 23                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (SE)                                     | 1              | 2                  | Remove          |
| 14649  | 15        | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14650  | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14651  | 6         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14652  | 10        | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14653  | 8         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14654  | 9         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14655  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14656  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14657  | 10        | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14658  | 8         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14659  | 13        | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14660  | 10        | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14661  | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14662  | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14663  | 10        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14664  | 9         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14665  | 11        | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14666  | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14668  | 11        | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 14669  | 10        | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Broken limbs                                  | 1              | 2                  | Remove          |
| 14671  | 7         | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |

**Detailed Tree Inventory for PGE Tonquin Substation**

AKS Job No. 8464 - Evaluation Date: 11/8/2021 - Evaluated by: BRK

| Tree # | DBH (in.) | Avg. Crown Radius (ft) | Tree Species<br>Common Name (Scientific name)   | Comments   | Health Rating* | Structure Rating** | Remove/Preserve |
|--------|-----------|------------------------|---|--|----------------|--------------------|-----------------|
| 14673  | 6         | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | Lean (W); Broken limbs                                 | 1              | 2                  | Remove          |
| 14675  | 10        | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14677  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | Dead top; In decline                                   | 3              | 2                  | Remove          |
| 14678  | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14679  | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14680  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14681  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | Dead top; In decline                                   | 3              | 2                  | Remove          |
| 14682  | 7         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14683  | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14687  | 6         | 6                      | Black Cottonwood ( <i>Populus trichocarpa</i> ) |  | 1              | 1                  | Remove          |
| 14690  | 6         | 5                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14691  | 12        | 9                      | Black Cottonwood ( <i>Populus trichocarpa</i> ) |  | 1              | 1                  | Remove          |
| 14693  | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14694  | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14695  | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14696  | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14698  | 5,6,7     | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14699  | 9         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14700  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14701  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14702  | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14703  | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14704  | 7         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14705  | 7         | 4                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14710  | 10        | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14711  | 7         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14712  | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14713  | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | 1-sided (W)  | 1              | 2                  | Remove          |
| 14714  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | 1-sided (W)  | 1              | 2                  | Remove          |
| 14716  | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14744  | 9         | 18                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | Crooked bole; lean (W)                                 | 1              | 2                  | Remove          |
| 14745  | 7,12      | 20                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | lean (S)   | 1              | 2                  | Remove          |
| 14767  | 15        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | OFFSITE  | 1              | 1                  | Preserve        |
| 14830  | 13        | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | Dead (~45')  | 3              | 3                  | Remove          |
| 14834  | 15        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14836  | 10        | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14837  | 11        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14838  | 14        | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14844  | 8         | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14845  | 11        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14849  | 15,22     | 22                     | Oregon White Oak ( <i>Quercus garryana</i> )    |  | 1              | 1                  | Remove          |
| 14855  | 9         | 7                      | Pacific Madrone ( <i>Arbutus menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14856  | 12        | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    |  | 1              | 1                  | Remove          |
| 14857  | 7         | 7                      | Pacific Madrone ( <i>Arbutus menziesii</i> )    | Dead top; In decline                                   | 3              | 2                  | Remove          |
| 15002  | -         | -                      | Coniferous                                      | OFFSITE; Not evaluated by an arborist                  | -              | -                  | Preserve        |
| 15003  | -         | -                      | Coniferous                                      | OFFSITE; Not evaluated by an arborist                  | -              | -                  | Preserve        |
| 15004  | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | OFFSITE; Sparse canopy; Dead branches                  | 2              | 2                  | Preserve        |
| 15005  | 23        | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | OFFSITE; Many dead branches; Sparse canopy; In decline | 3              | 2                  | Preserve        |
| 15032  | -         | -                      | Coniferous                                      | OFFSITE; Not evaluated by an arborist                  | -              | -                  | Preserve        |
| 15034  | 18        | 18                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | OFFSITE  | 1              | 1                  | Preserve        |
| 15035  | 6         | 10                     | English Hawthorn ( <i>Crataegus monogyna</i> )  | OFFSITE  | 1              | 1                  | Preserve        |
| 15036  | 7         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | OFFSITE; Codominant top; Dead branches                 | 2              | 2                  | Preserve        |
| 15037  | 16        | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | OFFSITE  | 1              | 1                  | Preserve        |
| 15038  | 11        | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | OFFSITE; Lean (E)                                      | 1              | 2                  | Preserve        |
| 15039  | 8         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | OFFSITE; Codominant top; Dead branches                 | 2              | 2                  | Preserve        |
| 15040  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | Dead top; In decline                                   | 3              | 2                  | Preserve        |
| 15041  | 7         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Preserve        |
| 15042  | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Preserve        |
| 15043  | 11        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 15044  | 8         | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | Cavity with decay in base                              | 2              | 2                  | Remove          |
| 15045  | 12        | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    |  | 1              | 1                  | Remove          |
| 15046  | 13        | 18                     | Pacific Madrone ( <i>Arbutus menziesii</i> )    | lean (S)   | 1              | 2                  | Remove          |
| 15047  | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | Codominant with included bark                          | 1              | 2                  | Remove          |
| 15048  | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    | Codominant with included bark                          | 1              | 2                  | Remove          |
| 15049  | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 15050  | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )    |  | 1              | 1                  | Remove          |
| 15051  | 11        | 10                     | Douglas-fir                                     |  |                |                    |                 |

| Detailed Tree Inventory for PGE Tonquin Substation                |           |                        |   |   |                |                    |                 |
|---|-----------|------------------------|---|---|----------------|--------------------|-----------------|
| AKS Job No. 8464 - Evaluation Date: 11/8/2021 - Evaluated by: BRK |           |                        |   |   |                |                    |                 |
| Tree #  | DBH (in.) | Avg. Crown Radius (ft) | Tree Species<br>Common Name (Scientific name) | Comments                                    | Health Rating* | Structure Rating** | Remove/Preserve |
| 15083   | 9         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15084   | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15085   | 10        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15086   | 9         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15087   | 11        | 11                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15088   | 13        | 19                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (W)                                    | 1              | 2                  | Remove          |
| 15089   | 14        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15090   | 10,12     | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15093   | 9         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15096   | 9         | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15097   | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15098   | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15099   | 9         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15100   | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15101   | 8         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15102   | 9         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15103   | 6         | 5                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Sparse canopy                               | 2              | 2                  | Remove          |
| *** 15104   | 7         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15105   | 7         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15106   | 8         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15107   | 6         | 5                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15108   | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15109   | 13        | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15110   | 8         | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15111   | 9         | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15112   | 8         | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | large cavity with significant decay up bole | 2              | 3                  | Remove          |
| *** 15113   | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead branches                               | 2              | 1                  | Remove          |
| *** 15114   | 6,8       | 12                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15118   | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15119   | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15121   | 7         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead (~15')                                 | 3              | 3                  | Remove          |
| *** 15122   | 7         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15124   | 10        | 14                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15125   | 9         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15126   | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15129   | 9         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15130   | 6,7       | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant base                             | 1              | 2                  | Remove          |
| 15131   | 6,14      | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Cavity with decay; Stems lean               | 2              | 2                  | Remove          |
| *** 15132   | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead branches; Sparse canopy                | 2              | 2                  | Remove          |
| 15133   | 10        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15134   | 11        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15135   | 8         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15137   | 8,10      | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant base                             | 1              | 2                  | Remove          |
| *** 15143   | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15144   | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15146   | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15150   | 6,8       | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15151   | 9         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15152   | 14        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15153   | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15154   | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15155   | 10        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15156   | 11        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15157   | 11        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15158   | 9         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15159   | 9         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15160   | 11        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15161   | 9         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15162   | 12        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15163   | 12        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15164   | 11        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15165   | 11        | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15166   | 12        | 17                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15167   | 10        | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15168   | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Mechanical damage                           | 2              | 1                  | Remove          |
| *** 15169   | 8         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15170   | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15172   | 10        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15173   | 14        | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15175   | 11        | 18                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15178   | 6         | 6                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15179   | 6         | 15                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | Dead branches; broken limbs                 | 2              | 2                  | Remove          |
| 15181   | 14        | 17                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15182   | 8         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15183   | 8         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15184   | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead branches                               | 2              | 1                  | Remove          |
| 15185   | 11        | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15186   | 9         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15187   | 7         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15188   | 7         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15189   | 9         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Broken top; Sparse canopy                   | 2              | 3                  | Remove          |
| 15190   | 11        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15191   | 6,6       | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead top on one stem                        | 2              | 2                  | Remove          |
| *** 15192   | 6         | 0                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead  | 3              | 3                  | Remove          |
| 15193   | 11,9      | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant base                             | 1              | 2                  | Remove          |
| 15194   | 9         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15195   | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15196   | 7         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15226   | 13        | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant top                              | 1              | 2                  | Remove          |
| 15227   | 8,10      | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant base                             | 1              | 2                  | Remove          |
| 15228   | 10        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15229   | 11        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15230   | 11        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15231   | 11        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Dead top                                    | 3              | 2                  | Remove          |
| 15232   | 14        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |

| Detailed Tree Inventory for PGE Tonquin Substation                |           |                        |   |   |                |                    |                 |
|---|-----------|------------------------|---|---|----------------|--------------------|-----------------|
| AKS Job No. 8464 - Evaluation Date: 11/8/2021 - Evaluated by: BRK |           |                        |   |   |                |                    |                 |
| Tree #  | DBH (in.) | Avg. Crown Radius (ft) | Tree Species<br>Common Name (Scientific name) | Comments                                  | Health Rating* | Structure Rating** | Remove/Preserve |
| 15233   | 11        | 17                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15234   | 6         | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15235   | 10        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15236   | 12        | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15237   | 11        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15238   | 11        | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15239   | 12        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15240   | 8         | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15241   | 13        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant top with included bark         | 1              | 2                  | Remove          |
| 15242   | 13        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15243   | 7         | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Mechanical damage; Dead limbs             | 2              | 2                  | Remove          |
| 15244   | 12,6      | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15245   | 8         | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15248   | 13        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15250   | 8         | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15251   | 7         | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15252   | 11        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15253   | 6         | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15254   | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15255   | 9         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15256   | 18        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15269   | 12        | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15270   | 11        | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15271   | 11        | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15272   | 9         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15273   | 9         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15274   | 6         | 6                      | Willow ( <i>Salix</i> sp.)                    |   | 1              | 1                  | Remove          |
| *** 15275   | 6         | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15276   | 6         | 6                      | Willow ( <i>Salix</i> sp.)                    |   | 1              | 1                  | Remove          |
| 15277   | 11        | 9                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15278   | 6,6       | 7                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Sparse canopy                             | 2              | 2                  | Remove          |
| *** 15279   | 7         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15280   | 9         | 13                     | Pacific Madrone ( <i>Arbutus menziesii</i> )  | lean (S); large cavity with decay up bole | 2              | 2                  | Remove          |
| 15281   | 8         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15282   | 17        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15283   | 15        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15286   | 9         | 15                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15287   | 9         | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15288   | 7         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15289   | 6,6       | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Codominant base                           | 1              | 2                  | Remove          |
| *** 15290   | 6         | 8                      | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15291   | 9         | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15293   | 10        | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  | Many dead limbs                           | 2              | 2                  | Remove          |
| *** 15294   | 6         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15295   | 11        | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15296   | 11        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15297   | 7         | 11                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15298   | 10        | 14                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15299   | 8         | 13                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15300   | 7         | 12                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| *** 15301   | 6         | 10                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |
| 15302   | 12        | 16                     | Douglas-fir ( <i>Pseudotsuga menziesii</i> )  |   | 1              | 1                  | Remove          |

**Total # of Existing Trees Inventoried = 336**

**Total # of Existing Onsite Trees = 309**  
 Total # of Existing Onsite Trees to be Preserved = 3  
 Total # of Existing Onsite Trees to be Removed = 306  
 Total of Existing Onsite Trees to be Removed that are Exempt = 484  
 Total of Existing Onsite Trees to be Removed that are Non-Exempt = 222

**Total # of Existing Offsite Trees = 27**  
 Total # of Existing Offsite Trees to be Preserved = 27  
 Total # of Existing Offsite Trees to be Removed = 0

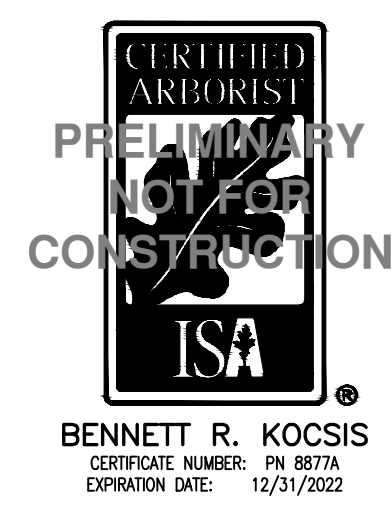
**\*Health Rating:**  
 1 = Good Health - A tree that exhibits typical foliage, bark, and root characteristics, for its respective species, shows no signs of infection or infestation, and has a high level of vigor and vitality.  
 2 = Fair Health - A tree that exhibits some abnormal health characteristics and/or shows some signs of infection or infestation, but may be reversed or abated with supplemental treatment.  
 3 = Poor Health - A tree that is in significant decline, to the extent that supplemental treatment would not likely result in reversing or abating its decline.

**\*\*Structure Rating:**  
 1 = Good Structure - A tree that exhibits typical physical form characteristics, for its respective species, shows no signs of structural defects of the canopy, trunk, and/or root system.  
 2 = Fair Structure - A tree that exhibits some abnormal physical form characteristics and/or some signs of structural defects, which reduce the structural integrity of the tree, but are not indicative of imminent physical failure, and may be corrected using arboricultural abatement methods.  
 3 = Poor Structure - A tree that exhibits extensively abnormal physical form characteristics and/or significant structural defects that substantially reduces the structural viability of the tree, cannot feasibly be abated, and are indicative of imminent physical failure.

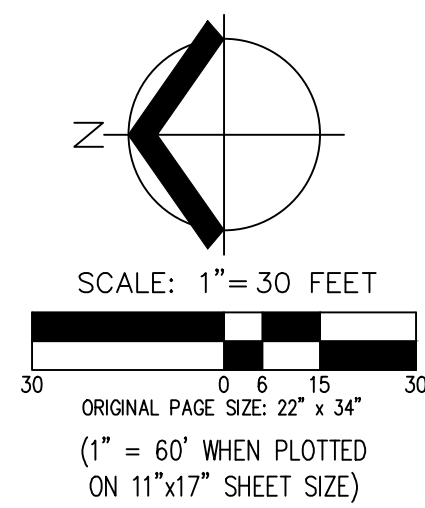
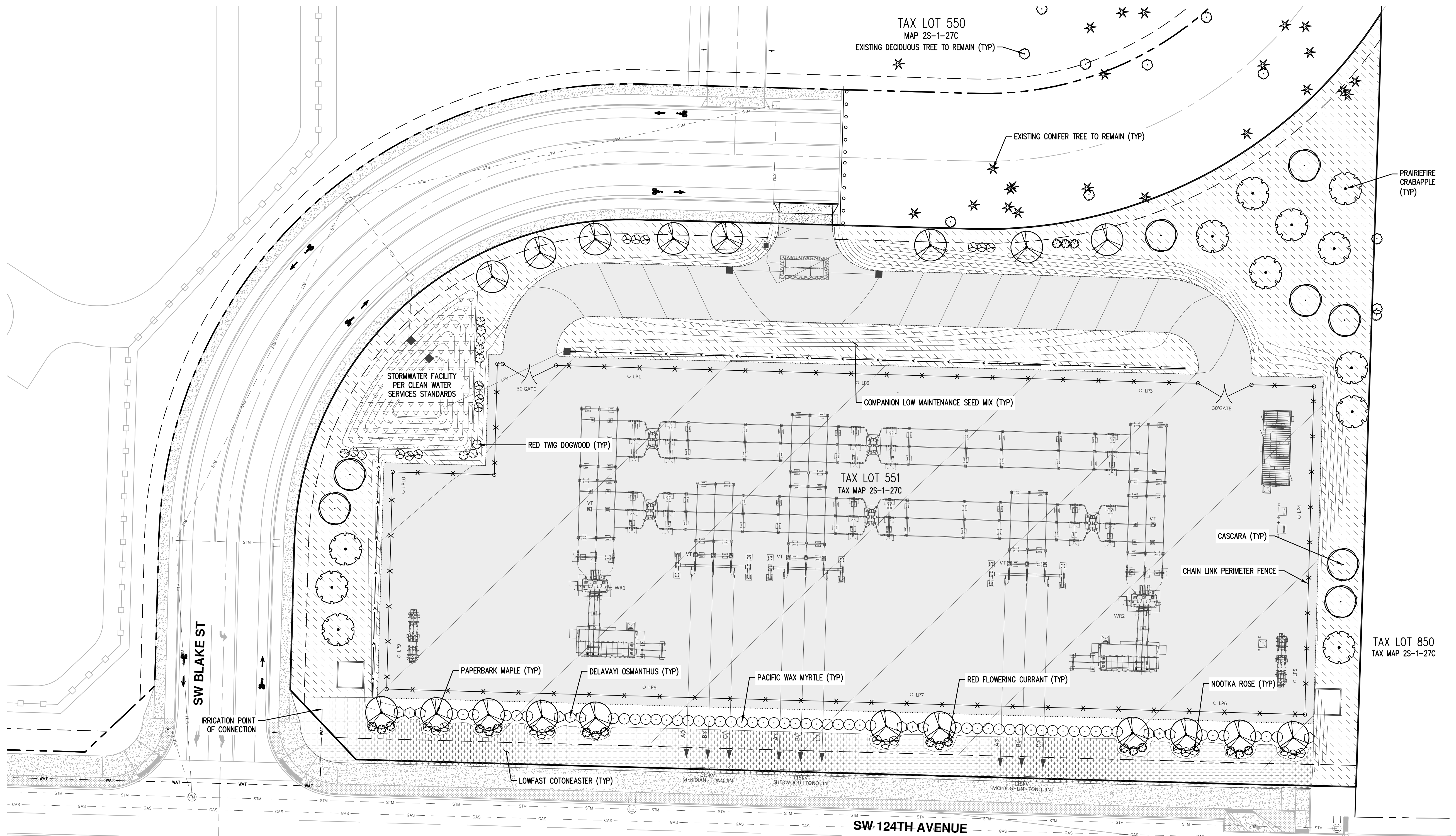
**\*\*\* Note:**  
 These trees are under 8" in DBH and therefore are not regulated per TDC 31.060.

**Arborist Disclosure Statement:**  
 Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the health of trees, and attempt to reduce the risk of living near trees. The Client and Jurisdiction may choose to accept or disregard the recommendations of the arborist, or seek additional advice. Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like medicine, cannot be guaranteed. Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate all trees. Neither this author nor AKS Engineering & Forestry, LLC have assumed any responsibility for liability associated with the trees on or adjacent to this site.

At the completion of construction, all trees should once again be reviewed. Land clearing and removal of adjacent trees can expose previously unseen defects and otherwise healthy trees can be damaged during construction.







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 FORESTRY • PLANNING • LANDSCAPE ARCHITECTURE

**PRELIMINARY PLANT SCHEDULE**

| TREES  | QTY | BOTANICAL NAME       | COMMON NAME           | SIZE/CONTAINER | SPACING  | GROUND COVERS | QTY        | BOTANICAL NAME  | COMMON NAME   | SIZE/CONTAINER | SPACING  |
|--------|-----|----------------------|-----------------------|----------------|----------|---------------|------------|---|---|----------------|----------|
|        | 19  | ACER GRISEUM         | PAPERBARK MAPLE       | 2" CAL. B&B    | AS SHOWN |               | 1,487      | COTONEASTER DAMMERI 'LOWFAST'   | LOWFAST COTONEASTER   | 1 GAL. CONT.   | 36" o.c. |
|        | 12  | MALUS X 'PRAIRIFIRE' | PRAIRIFIRE CRABAPPLE  | 2" CAL. B&B    | AS SHOWN |               | ±47,809 SF | COMPANION LOW MAINTENANCE SEED MIX - PRO TIME LAWN SEED (OR APPROVED EQUAL) | LOW-GROW PERENNIAL RYEGRASS, CREEPING RED FESCUE, CHEWINGS FESCUE     |                |          |
|        | 8   | RHAMNUS PURSHIANA    | CASCARA               | 2" CAL. B&B    | AS SHOWN |               |            |   | APPLY AT A RATE OF 7 LBS. PER 1,000 SF OR AS RECOMMENDED BY SUPPLIER. |                |          |
| SHRUBS | QTY | BOTANICAL NAME       | COMMON NAME           | SIZE/CONTAINER | SPACING  | STORMWATER    | QTY        | BOTANICAL NAME  | COMMON NAME   | SIZE/CONTAINER | SPACING  |
|        | 11  | CORNUS SERICEA       | RED TWIG DOGWOOD      | 3 GAL. CONT.   | 60" o.c. |               | ±4,217 SF  |   | STORMWATER FACILITY TO BE PLANTED PER CLEAN WATER SERVICES STANDARDS  |                |          |
|        | 53  | MYRICA CALIFORNICA   | PACIFIC WAX MYRTLE    | 3 GAL. CONT.   | 72" o.c. |               |            |   |   |                |          |
|        | 13  | OSMANTHUS DELAVAYI   | DELAVAYI OSMANTHUS    | 3 GAL. CONT.   | 72" o.c. |               |            |   |   |                |          |
|        | 21  | RIBES SANGUINEUM     | RED FLOWERING CURRANT | 3 GAL. CONT.   | 60" o.c. |               |            |   |   |                |          |
|        | 27  | ROSA NUTKANA         | NOOTKA ROSE           | 3 GAL. CONT.   | 60" o.c. |               |            |   |   |                |          |

**PRELIMINARY LANDSCAPE NOTES**

- LANDSCAPE PLAN IS PRELIMINARY. REVISIONS OR SUBSTITUTIONS TO PLANT SPECIES, SIZES, SPACING, QUANTITIES, CONDITION, ETC. DUE TO UNFORESEEN SITE CONDITIONS, UTILITY INSTALLATION, FINAL DRIVEWAY LOCATION, PLANT AVAILABILITY AND COST, ETC. PRIOR TO FINAL INSTALLATION, MAY BE PERMITTED WHERE ALLOWED BY THE CITY OF TUALATIN DESIGN STANDARDS.
- LANDSCAPING AND IRRIGATION WORK SHALL BE PERFORMED BY A LANDSCAPE CONTRACTOR LICENSED AND BONDED IN THE STATE OF OREGON. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING THEMSELVES WITH CURRENT CITY OF TUALATIN MUNICIPAL CODE REQUIREMENTS, AND ALL ASPECTS OF SITE WORK NECESSARY FOR THE FULL COMPLETION OF THE PROJECT. COORDINATE LANDSCAPE WORK WITH GENERAL CONTRACTOR AND OWNER.
- ALL PLANTINGS SHALL CONFORM TO TUALATIN DESIGN STANDARDS AND TO THE AMERICAN NURSERY STANDARDS FOR NURSERY STOCK (ANSI Z60.1, CURRENT EDITION). PLANT IN ACCORDANCE WITH BEST-PRACTICE INDUSTRY STANDARDS, SUCH AS THOSE ADOPTED BY THE OREGON LANDSCAPE CONTRACTORS BOARD (OLOB).
- ALL PLANTING AREAS SHALL HAVE SUFFICIENT SOIL DEPTH AND FERTILITY TO SUPPORT HEALTHY PLANT GROWTH. FINISH GRADE OF NEW PLANTING AREAS SHALL SEAMLESSLY MEET EXISTING GRADE OF SURROUNDING PLANTING AREAS AND PROVIDE POSITIVE DRAINAGE. GRADE SHALL BE SMOOTH, AND FREE FROM DEBRIS AND LOW OR HIGH SPOTS WHERE WATER MAY COLLECT. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF OFF-SITE ALL ORGANIC AND/OR UNSUITABLE MATERIALS INCLUDING TREES, STUMPS, ROOTS, BRUSH AND GRASS IN SUCH A MANNER TO MEET ALL APPLICABLE REGULATIONS.
- MULCH: APPLY 3" DEEP BARK MULCH UNDER AND AROUND ALL PLANT MATERIAL. APPLY A 3' DIAMETER BARK MULCH RING AROUND TREES IN SEEDING AREAS. BARK MULCH SHALL BE DARK HEMLOCK, MEDIUM GRIND OR SHREDDED, OR SIMILAR AGED BARK MULCH. AVOID COVERING FOLIAGE OR ROOT CROWNS OF PLANTS. ADJUST PLANT ROOT BALL DEPTHS TO ACCOMMODATE MULCH APPLICATION.

**LANDSCAPE DATA**

TOTAL SITE AREA = 184,125 SF  
 TOTAL LANDSCAPE AREA = 71,680 SF (39%)

**PRELIMINARY LANDSCAPE PLAN  
 PGE TONQUIN SUBSTATION  
 PORTLAND GENERAL ELECTRIC  
 TUALATIN, OREGON**



JOB NUMBER: 8464  
 DATE: 7/7/2022  
 DESIGNED BY: TEB  
 DRAWN BY: TEB  
 CHECKED BY: BRB