JOHNSON REID
LAND USE ECONOMICS

# MEMORANDUM

**DATE:** September 30, 2011

**TO:** Mark Clemons
GROUP MACKENZIE

**FROM:** Jerry Johnson
JOHNSON REID LLC

**SUBJECT:** Redevelopment Site Identification and Key Analytical and Policy Issues

This memorandum addresses the methodological approach used to identify prospective industrial redevelopment sites, reviews preliminary results, and discusses key analytical and policy issues.

While the primary focus of Group Mackenzie's analysis is on vacant large lot industrial sites available within the Portland metropolitan area, the impact that redevelopment can play in accommodating large lot industrial demand is also of interest. The following are key considerations with respect to redevelopment that should be understood from a policy perspective:

- What is the inventory of industrial sites that could be considered as likely and/or potential redevelopment sites?
- Within what time frame can these sites be expected to be available to serve the market?
- What is the net industrial capacity associated with these sites?

## METHODOLOGY

As a general rule, redevelopment is considered plausible when the residual land value under the highest and best use development scenario is equal to or greater than the estimated current value of the property, including improvements. The inventory of sites with potential to redevelop was derived using a methodological approach that compared assumed land values for industrial uses to the value of the property and improvements under the existing use. A land value of $6 per square foot was assumed to represent an average land value for industrial uses, while Real Market Value (RMV) from County Assessor's records was used as a proxy for the value of land and improvements of individual properties.

If the assumed market value of the land is greater to or equal to the market value of the property, it is assumed to represent a rational development or redevelopment opportunity. While development and/or redevelopment is considered viable in these instances, it does not necessarily mean that it will be redeveloped. There are a number of additional factors that impact redevelopment, and we assume that only a portion of opportunities identified as viable will be realized within the study horizon.

Some of the factors which can stall or preclude redevelopment are:

- **Measures of market value**. Within the analysis, Real Market Value (RMV) based on county assessor records is used as a proxy for the market value of the property. In our experience, this

measure tends to undervalue assets. As a result, it has the effect of indicating a higher likelihood of redevelopment, leading to an over-statement of redevelopment potential.

- **Owner disposition**. This factor includes a broad range of variables, including the property owner's interest in redevelopment, level of capitalization, investment objectives, risk sensitivity, availability and terms of credit, perception of return, etc.
- **Current lease structure.** The property's current lease structure and term may either preclude major improvements or reduce the potential for realizing a return on enhancements or improvements. An example of this is often found in retail leases, which have relatively long terms with extension options.
- **Leaseholder disposition.** The leaseholder's disposition is also a contributing factor to improvements, as the leaseholder's willingness to bear the burden of increased rents associated with improvements is critical. In addition to the current leaseholder, the general market for space and the disposition of potential lessees is also an important factor impacting the viability of improving a property.
- **Regulatory environment** – The ability to successfully complete an improvement also relies upon the local regulatory environment, including building and zoning code applications.
- **Holding costs** – A property owner's basis and tax position in a property may impact the likelihood of redevelopment. Owners without major return requirements are more likely to hold properties, as are owners with property tax relief such as those taking advantage of programs such as farm tax deferrals on property taxes.
- **Specialized improvements** – Industrial uses often have highly specialized improvements, which may have a high value but limited ability to be re-purposed. Work should be done to test the development economics associated with repurposing sites for highly dissimilar uses, or the capacity associated with these sites should be appropriately discounted.\
- **Site Characteristics** – While sites may have a low improvement value, this may reflect issues that have impact the ability to develop the sites. These include issues such as environmental contamination and/or wetlands, which can sharply increase development costs and/or the timing of any development.

The methodology screens for sites of an appropriate size and zoning categorization, and then develops a ratio of current RMV per square foot divided by the assumed industrial land value ($6 per square foot). Sites with a ratio close to 1.2 or below are considered to have redevelopment potential, in that the estimated value of land and improvements is 120% or less of the assumed underlying land value for alternative industrial uses.

## OUTPUT

The methodology generated an initial list of 93 sites, each of which is summarized in the following table.

| Taxlot ID | Owner | Site Address | City | Total RMV | GIS Acres | RMV/SF | RMV/Underlying Land Value |
|---|---|---|---|---|---|---|---|
| 1S3E08D -01700 | PORTLAND GENERAL ELECTRIC CO | 3490 W POWELL LOOP | GRESHAM | $0 | 36.34 | $0.00 | 0.00 |
| 1N1E28A -00300 | UNION PACIFIC RAILROAD CO | | PORTLAND | $0 | 78.31 | $0.00 | 0.00 |
| 1N1E21 -00100 | UNION PACIFIC RAILROAD CO | | PORTLAND | $0 | 67.28 | $0.00 | 0.00 |
| 1N1E20 -01300 | PORTLAND TERMINAL R R CO &> BU | | PORTLAND | $0 | 82.93 | $0.00 | 0.00 |
| 2N1W34 -00300 | PORTLAND GENERAL ELECTRIC CO | 12500 NW MARINA WAY | PORTLAND | $0 | 63.11 | $0.00 | 0.00 |
| 2N1E30 -01400 | BURLINGTON NORTHERN RAILROAD H | 14420-14440 WI/ N BYBEE LAKE RD | PORTLAND | $0 | 36.38 | $0.00 | 0.00 |
| 2N1W36 -00400 | UNION PACIFIC RAILROAD CO | 9003 N COLUMBIA BLVD | PORTLAND | $0 | 54.43 | $0.00 | 0.00 |
| 22E31 00600 | PORTLAND GEN ELEC CO | NO SITUS | OREGON CITY | $0 | 28.72 | $0.00 | 0.00 |
| 2S129A001600 | PORTLAND GENERAL | | SHERWOOD | $0 | 43.13 | $0.00 | 0.00 |
| 1N1E18D -00200 | PORTLAND SHIPYARD LLC | 5555 WI/ N CHANNEL AVE | PORTLAND | $100 | 56.01 | $0.00 | 0.00 |
| 1N1E07 -00100 | MC CORMICK & BAXTER CREOSOTING | 6900 N EDGEWATER ST | PORTLAND | $170 | 42.39 | $0.00 | 0.00 |
| 1N3340000401 | JACOBSMUHLEN MEATS INC | 1395 NW SUSBAUER RD | CORNELIUS | $230 | 31.16 | $0.00 | 0.00 |
| 1N1E27 -00100 | CLEAR CHANNEL OUTDOOR INC | SWC/ GREELEY & N INTERSTATE AVE | PORTLAND | $7,700 | 40.22 | $0.00 | 0.00 |
| 1N3E23 -00900 | PORT OF PORTLAND | TROUTDALE AIRPORT | TROUTDALE | $23,010 | 77.18 | $0.01 | 0.00 |
| 1S2E21A -00300 | OREGON STATE OF (HWY COMM> | | PORTLAND | $21,270 | 68.69 | $0.01 | 0.00 |
| 2S1200002000 | SIX CORNERS LAND INVESTMENT | 20015 SW PACIFIC HWY | SHERWOOD | $30,320 | 51.46 | $0.01 | 0.00 |
| 1N2E07 -00100 | PORT OF PORTLAND(LEASED | 5330 WI/ NE COURIER CT | PORTLAND | $308,860 | 386.26 | $0.02 | 0.00 |
| 1N1W13 -01200 | COOKIN NORMA L & | 7200 WI/ NW FRONT AVE | PORTLAND | $101,190 | 79.27 | $0.03 | 0.00 |
| 2S129D000300 | LANGER FAMILY LLC | 14958 SW TUALATIN SHERWOOD RD | SHERWOOD | $76,580 | 56.48 | $0.03 | 0.01 |
| 1S1E14A -00500 | CLEAR CHANNEL OUTDOOR INC | 5411 E/ SE MCLOUGHLIN BLVD | PORTLAND | $88,420 | 53.61 | $0.04 | 0.01 |
| 1S2060001000 | HILLSBORO CITY OF | | HILLSBORO | $175,770 | 89.74 | $0.04 | 0.01 |
| 2S113B000600 | CLEAN WATER SERVICES | 16060 SW 85TH AVE | TIGARD | $154,050 | 50.61 | $0.07 | 0.01 |
| 1N2280001550 | PORT OF PORTLAND THE | 3115 NE CORNELL RD | HILLSBORO | $1,365,330 | 422.36 | $0.07 | 0.01 |
| 22E10 00601 | STATE OF OREGON | NO SITUS | CLACKAMAS | $706,552 | 121.09 | $0.13 | 0.02 |
| 2N1W35D -00300 | LAMPROS STEEL INC | 9040 WI/ N BURGARD WAY | PORTLAND | $155,290 | 25.21 | $0.14 | 0.02 |
| 2S128B000102 | GALBREATH WILLIAM A | 19925 SW CIPOLE RD | SHERWOOD | $172,180 | 27.19 | $0.15 | 0.02 |
| 2S122D000550 | WALGRAEVE GARY & | 11345 SW HERMAN RD | TUALATIN | $358,620 | 54.96 | $0.15 | 0.02 |
| 1N1W02 -00100 | PORT OF PORTLAND(LEASED | TERMINAL 4 | PORTLAND | $597,360 | 88.03 | $0.16 | 0.03 |
| 1N2150000300 | CRANFORD JULIAN F & SHARON D | 23320 NW WEST UNION RD | HILLSBORO | $201,100 | 28.51 | $0.16 | 0.03 |
| 1S305C000100 | CLEAN WATER SERVICES | | FOREST GROVE | $1,082,030 | 131.62 | $0.19 | 0.03 |
| 1N1E10 -00200 | GILBERT FAMILY LLC ET AL | 1001 W/ N SCHMEER RD | PORTLAND | $531,870 | 64.51 | $0.19 | 0.03 |
| 1N2210003100 | BERGER KEITH A & REBECCA LEE | 5455 NW BIRCH AVE | HILLSBORO | $362,020 | 42.22 | $0.20 | 0.03 |
| 1N1E11B -00903 | FAZIO ANTHONY A & | 8433 NE 13TH AVE | PORTLAND | $334,720 | 34.96 | $0.22 | 0.04 |
| 1N3E34C -00500 | LSI LOGIC MANUFACTURING | 22318 NE GLISAN ST | GRESHAM | $762,910 | 74.93 | $0.23 | 0.04 |
| 31W14C 00103 | MEADWESTVACO PACKAGING SYS LLC | NO SITUS | WILSONVILLE | $325,610 | 26.23 | $0.28 | 0.05 |
| 1N1E02C -00300 | PORTLAND CITY OF(BUREAU OF | 10040 NE 6TH DR | PORTLAND | $387,790 | 28.87 | $0.31 | 0.05 |
| 2S129A000100 | UNITED STATES OF AMERICA | 20555 SW GERDA LN | SHERWOOD | $636,900 | 45.76 | $0.32 | 0.05 |
| 1N3E23 -00800 | PORT OF PORTLAND(LEASED | 1000-1260 NW PERIMETER WAY | TROUTDALE | $461,720 | 32.63 | $0.32 | 0.05 |
| 1N2E08 -00300 | PORT OF PORTLAND(LEASED | NE AIRPORT WAY, A | PORTLAND | $7,813,160 | 480.55 | $0.37 | 0.06 |
| 23E06C 08001 | WEAVER RUSSELL J & KATHLEEN D | NO SITUS | CLACKAMAS | $607,532 | 34.20 | $0.41 | 0.07 |
| 2S127B000300 | WAGER EDWARD J | 12075 SW TUALATIN SHERWOOD RD | TUALATIN | $595,490 | 32.15 | $0.43 | 0.07 |
| 1N1E12D -00100 | BROADMOOR INC | 3509 WI/ NE COLUMBIA BLVD | PORTLAND | $2,793,200 | 139.37 | $0.46 | 0.08 |
| 21E36 01700 | PORTLAND GEN ELEC CO | NO SITUS | WEST LINN | $1,178,985 | 48.98 | $0.55 | 0.09 |
| 1S1E11D -00200 | TILBURY CEMENT CO | 4035 SE 22ND AVE | PORTLAND | $1,123,380 | 44.82 | $0.58 | 0.10 |
| 1N2E06 -00300 | PORT OF PORTLAND(LEASED | 4756 NE MARINE DR | PORTLAND | $9,867,110 | 346.42 | $0.65 | 0.11 |
| 1S1090001100 | MAXTEK | 3025 SW ZWORYKIN AVE | BEAVERTON | $3,584,620 | 124.13 | $0.66 | 0.11 |
| 1N3E33 -01300 | UNDE INC | 21015 WI/ SE STARK ST | GRESHAM | $5,710,320 | 137.48 | $0.95 | 0.16 |
| 1N1E05 -00400 | PORTLAND CITY OF | N PORTLAND RD | PORTLAND | $1,889,680 | 41.29 | $1.05 | 0.18 |
| 2N1W35B -01500 | TIME OIL CO | 10350 WI/ N TIME OIL RD | PORTLAND | $1,614,930 | 32.90 | $1.13 | 0.19 |
| 1N1E04A -00400 | THE PORT OF PORTLAND | 10799 N EXPO RD | PORTLAND | $5,482,970 | 97.40 | $1.29 | 0.22 |
| 2N1W24 -01200 | PORT OF PORTLAND(LEASED | 8235 WI/ N MARINE DR | PORTLAND | $7,156,740 | 120.22 | $1.37 | 0.23 |
| 2N1E30 -00900 | PORT OF PORTLAND(LEASED | 6347 N MARINE DR | PORTLAND | $2,439,320 | 40.66 | $1.38 | 0.23 |
| 2S124B001007 | JEWELL ATTACHMENTS LLC | 18101 SW BOONES FERRY RD | TIGARD | $1,706,600 | 27.95 | $1.40 | 0.23 |
| 2N1W26 -00800 | SHAWCOR PIPE PROTECTION LLC | 14400 WI/ N RIVERGATE BLVD | PORTLAND | $9,258,060 | 147.14 | $1.44 | 0.24 |
| 1N2230001200 | UNITED STATES OF AMERICA | 21255 NW EVERGREEN PKWY | HILLSBORO | $3,016,000 | 46.30 | $1.50 | 0.25 |
| 1S3050000800 | WHITE OAK RIVER INC | 4114 HEATHER ST | FOREST GROVE | $2,063,450 | 25.84 | $1.83 | 0.31 |
| 1N3E22D -00102 | WEYHRICH ENTERPRISES LLC | 1459 NW SUNDIAL RD | TROUTDALE | $2,324,840 | 28.37 | $1.88 | 0.31 |
| 22E10 00602 | STATE OF OREGON | NO SITUS | CLACKAMAS | $5,271,878 | 64.11 | $1.89 | 0.31 |
| 2N1W35D -00700 | UNION BANK OF CALIFORNIA | 12005 WI/ N BURGARD ST | PORTLAND | $2,252,280 | 25.30 | $2.04 | 0.34 |
| 2S121A002100 | GRIMM'S FUEL CO | 18400 SW PACIFIC HWY | TUALATIN | $2,767,800 | 28.47 | $2.23 | 0.37 |
| 22E04D 00700 | GREAT AMERICAN TV&R CO INC | 9415 SE LAWNFIELD RD | CLACKAMAS | $4,586,572 | 42.41 | $2.48 | 0.41 |
| 1S3E05BC -04000 | MULTNOMAH COUNTY | 1400 SE 182ND AVE | PORTLAND | $2,758,990 | 25.21 | $2.51 | 0.42 |
| 1N1E01 -00400 | PORT OF PORTLAND | 2432 NE MARINE DR | PORTLAND | $8,251,930 | 66.74 | $2.84 | 0.47 |
| 2N1W36 -00200 | METRO | | PORTLAND | $42,008,480 | 330.28 | $2.92 | 0.49 |
| 1N1E06 -00200 | COLUMBIA STEEL CASTING CO INC | 10425 WI/ N BLOSS AVE | PORTLAND | $9,817,660 | 75.81 | $2.97 | 0.50 |
| 1N3E23 -00100 | PORT OF PORTLAND | E SIDE/ NW SUNDIAL RD | TROUTDALE | $26,743,370 | 201.26 | $3.05 | 0.51 |
| 1S1080000504 | TUALATIN HILLS PARK & | 15655 SW MILLIKAN WAY | BEAVERTON | $27,058,240 | 193.10 | $3.22 | 0.54 |
| 1S2070000200 | HILLSBORO CITY OF | 2500 SW HILLSBORO HWY | HILLSBORO | $22,926,260 | 162.26 | $3.24 | 0.54 |
| 1N3E22 -00504 | FORT JAMES CORPORATION | 22329 NE MARINE DR | FAIRVIEW | $5,488,100 | 36.12 | $3.49 | 0.58 |
| 1N1E17 -00301 | US BARGE LLC | 5555 WI/ N CHANNEL AVE | PORTLAND | $10,341,130 | 64.41 | $3.69 | 0.61 |
| 2N1W35B -00300 | PORT OF PORTLAND(LEASED | 13333 WI/ N RIVERGATE BLVD | PORTLAND | $5,141,790 | 31.80 | $3.71 | 0.62 |
| 1N3E34D -00600 | SEMICONDUCTOR COMPONENTS | 23400 WI/ NE GLISAN ST | GRESHAM | $4,210,670 | 25.91 | $3.73 | 0.62 |
| 1N3E30D -01300 | NEW ALBERTSON'S INC | 17505 WI/ NE SAN RAFAEL ST | PORTLAND | $5,747,740 | 34.19 | $3.86 | 0.64 |
| 1N1E12 -00200 | PORT OF PORTLAND | 7000 WI/ NE AIRPORT WAY | PORTLAND | $23,204,200 | 132.54 | $4.02 | 0.67 |
| 1N3E26B -01200 | MULTNOMAH COUNTY | 1400-1700 W HIST COLUMBIA RIVER HWY | TROUTDALE | $4,511,990 | 25.26 | $4.10 | 0.68 |
| 31W14D 01903 | RITE AID STORE #80 | 29555 SW BOONES FERRY RD | WILSONVILLE | $5,337,990 | 29.80 | $4.11 | 0.69 |
| 1N2E07 -00200 | PORT OF PORTLAND | 7000 WI/ NE AIRPORT WAY | PORTLAND | $19,283,060 | 103.63 | $4.27 | 0.71 |
| 1N3E29A -00900 | BOYD FUTURE ASSOCIATES LLC | 19730 WI/ NE SANDY RD | PORTLAND | $5,161,250 | 27.68 | $4.28 | 0.71 |
| 1N1E01 -00100 | PORT OF PORTLAND | 10150 NE 33RD DR | PORTLAND | $36,424,200 | 193.59 | $4.32 | 0.72 |
| 1N2270000104 | INTEL CORPORATION | 2501 NW 229TH AVE | HILLSBORO | $21,692,450 | 111.71 | $4.46 | 0.74 |
| 1S3E14C -01600 | MUTUAL MATERIALS COMPANY | 2300 SE HOGAN RD | GRESHAM | $17,009,850 | 86.37 | $4.52 | 0.75 |
| 1N133BC01300 | BEAVERTON SCHOOL DIST #48J | 13845 NW SCIENCE PARK DR | PORTLAND | $8,393,080 | 38.29 | $5.03 | 0.84 |
| 2N1W36C -00700 | WMR LLC | 11920 WI/ N BURGARD RD | PORTLAND | $6,875,390 | 29.27 | $5.39 | 0.90 |
| 1N2E09 -00400 | PORT OF PORTLAND | | PORTLAND | $30,426,330 | 128.95 | $5.42 | 0.90 |
| 2N1W26 -00501 | PORT OF PORTLAND(LEASED | 14005 WI/ N LOMBARD ST | PORTLAND | $6,724,650 | 27.62 | $5.59 | 0.93 |
| 1N2220001000 | HILLSBORO CITY OF | 4450 NW 229TH AVE | HILLSBORO | $7,055,870 | 28.36 | $5.71 | 0.95 |
| 22E16A 00100 | SAFEWAY CANADA HOLDINGS INC | 16800 SE EVELYN ST | CLACKAMAS | $11,399,900 | 45.60 | $5.74 | 0.96 |
| 1N2E15B -00200 | PORT OF PORTLAND | 10201 WI/ NE AIRPORT WAY | PORTLAND | $12,286,450 | 45.53 | $6.20 | 1.03 |
| 22E08DD00101 | JMP INC | 8000 SE ROOTS RD | PORTLAND | $11,507,541 | 42.24 | $6.25 | 1.04 |
| 2N1E30 -00600 | PORT OF PORTLAND | 6399 WI/ N MARINE DR | PORTLAND | $17,094,710 | 60.48 | $6.49 | 1.08 |
| 2N1W35D -01200 | WMR LLC | 11920 N BURGARD ST | PORTLAND | $8,340,630 | 28.92 | $6.62 | 1.10 |
| 1N2270000100 | INTEL CORPORATION | 3100 NE SHUTE RD | HILLSBORO | $13,519,070 | 44.79 | $6.93 | 1.15 |
| 2S127A000200 | PACIFIC REALTY ASSOCIATES LP | 20800 SW 115TH AVE | TUALATIN | $8,576,910 | 27.24 | $7.23 | 1.20 |

The list included a number of sites that were owned by utilities, railroads or public entities. The Port of Portland alone accounted for 20 of the 93 sites identified in the initial screen. When these are excluded, the methodology yields a total of 41 sites with an indicated potential for redevelopment.

| Taxlot ID | Owner | Site Address | City | Total RMV | GIS Acres | RMV/SF | RMV/Underlying Land Value |
|---|---|---|---|---|---|---|---|
| 1N1E06 -00200 | COLUMBIA STEEL CASTING CO INC | 10425 WI/ N BLOSS AVE | PORTLAND | $9,817,660 | 75.81 | $2.97 | 0.50 |
| 1N1E10 -00200 | GILBERT FAMILY LLC ET AL | 1001 W/ N SCHMEER RD | PORTLAND | $531,870 | 64.51 | $0.19 | 0.03 |
| 1N1E11B -00903 | FAZIO ANTHONY A & | 8433 NE 13TH AVE | PORTLAND | $334,720 | 34.96 | $0.22 | 0.04 |
| 1N1E12D -00100 | BROADMOOR INC | 3509 WI/ NE COLUMBIA BLVD | PORTLAND | $2,793,200 | 139.37 | $0.46 | 0.08 |
| 1N1E17 -00301 | US BARGE LLC | 5555 WI/ N CHANNEL AVE | PORTLAND | $10,341,130 | 64.41 | $3.69 | 0.61 |
| 1N1W13 -01200 | COOKIN NORMA L & | 7200 WI/ NW FRONT AVE | PORTLAND | $101,190 | 79.27 | $0.03 | 0.00 |
| 1N2150000300 | CRANFORD JULIAN F & SHARON D | 23320 NW WEST UNION RD | HILLSBORO | $201,100 | 28.51 | $0.16 | 0.03 |
| 1N2210003100 | BERGER KEITH A & REBECCA LEE | 5455 NW BIRCH AVE | HILLSBORO | $362,020 | 42.22 | $0.20 | 0.03 |
| 1N2270000100 | INTEL CORPORATION | 3100 NE SHUTE RD | HILLSBORO | $13,519,070 | 44.79 | $6.93 | 1.15 |
| 1N2270000104 | INTEL CORPORATION | 2501 NW 229TH AVE | HILLSBORO | $21,692,450 | 111.71 | $4.46 | 0.74 |
| 1N3E22 -00504 | FORT JAMES CORPORATION | 22329 NE MARINE DR | FAIRVIEW | $5,488,100 | 36.12 | $3.49 | 0.58 |
| 1N3E22D -00102 | WEYHRICH ENTERPRISES LLC | 1459 NW SUNDIAL RD | TROUTDALE | $2,324,840 | 28.37 | $1.88 | 0.31 |
| 1N3E29A -00900 | BOYD FUTURE ASSOCIATES LLC | 19730 WI/ NE SANDY RD | PORTLAND | $5,161,250 | 27.68 | $4.28 | 0.71 |
| 1N3E30D -01300 | NEW ALBERTSON'S INC | 17505 WI/ NE SAN RAFAEL ST | PORTLAND | $5,747,740 | 34.19 | $3.86 | 0.64 |
| 1N3E33 -01300 | LINDE INC | 21015 WI/ SE STARK ST | GRESHAM | $5,710,320 | 137.48 | $0.95 | 0.16 |
| 1N3E34C -00500 | LSI LOGIC MANUFACTURING | 22318 NE GLISAN ST | GRESHAM | $762,910 | 74.93 | $0.23 | 0.04 |
| 1N3E34D -00600 | SEMICONDUCTOR COMPONENTS | 23400 WI/ NE GLISAN ST | GRESHAM | $4,210,670 | 25.91 | $3.73 | 0.62 |
| 1S1090001100 | MAXTEK | 3025 SW ZWORYKIN AVE | BEAVERTON | $3,584,620 | 124.13 | $0.66 | 0.11 |
| 1S1E11D -00200 | TILBURY CEMENT CO | 4035 SE 22ND AVE | PORTLAND | $1,123,380 | 44.82 | $0.58 | 0.10 |
| 1S1E14A -00500 | CLEAR CHANNEL OUTDOOR INC | 5411 E/ SE MCLOUGHLIN BLVD | PORTLAND | $88,420 | 53.61 | $0.04 | 0.01 |
| 1S3050000800 | WHITE OAK RIVER INC | 4114 HEATHER ST | FOREST GROVE | $2,063,450 | 25.84 | $1.83 | 0.31 |
| 1S3E14C -01600 | MUTUAL MATERIALS COMPANY | 2300 SE HOGAN RD | GRESHAM | $17,009,850 | 86.37 | $4.52 | 0.75 |
| 22E04D 00700 | GREAT AMERICAN TV&R CO INC | 9415 SE LAWNFIELD RD | CLACKAMAS | $4,586,572 | 42.41 | $2.48 | 0.41 |
| 22E08DD00101 | JMP INC | 8000 SE ROOTS RD | PORTLAND | $11,507,541 | 42.24 | $6.25 | 1.04 |
| 22E16A 00100 | SAFEWAY CANADA HOLDINGS INC | 16800 SE EVELYN ST | CLACKAMAS | $11,399,900 | 45.60 | $5.74 | 0.96 |
| 23E06C 08001 | WEAVER RUSSELL J & KATHLEEN D | NO SITUS | CLACKAMAS | $607,532 | 34.20 | $0.41 | 0.07 |
| 2N1W26 -00800 | SHAWCOR PIPE PROTECTION LLC | 14400 WI/ N RIVERGATE BLVD | PORTLAND | $9,258,060 | 147.14 | $1.44 | 0.24 |
| 2N1W35B -01500 | TIME OIL CO | 10350 WI/ N TIME OIL RD | PORTLAND | $1,614,930 | 32.90 | $1.13 | 0.19 |
| 2N1W35D -00300 | LAMPROS STEEL INC | 9040 WI/ N BURGARD WAY | PORTLAND | $155,290 | 25.21 | $0.14 | 0.02 |
| 2N1W35D -00700 | UNION BANK OF CALIFORNIA | 12005 WI/ N BURGARD ST | PORTLAND | $2,252,280 | 25.30 | $2.04 | 0.34 |
| 2N1W35D -01200 | WMR LLC | 11920 N BURGARD ST | PORTLAND | $8,340,630 | 28.92 | $6.62 | 1.10 |
| 2N1W36C -00700 | WMR LLC | 11920 WI/ N BURGARD RD | PORTLAND | $6,875,390 | 29.27 | $5.39 | 0.90 |
| 2S121A002100 | GRIMM'S FUEL CO | 18400 SW PACIFIC HWY | TUALATIN | $2,767,800 | 28.47 | $2.23 | 0.37 |
| 2S122D000550 | WALGRAEVE GARY & | 11345 SW HERMAN RD | TUALATIN | $358,620 | 54.96 | $0.15 | 0.02 |
| 2S124B001007 | JEWELL ATTACHMENTS LLC | 18101 SW BOONES FERRY RD | TIGARD | $1,706,600 | 27.95 | $1.40 | 0.23 |
| 2S127A000200 | PACIFIC REALTY ASSOCIATES LP | 20800 SW 115TH AVE | TUALATIN | $8,576,910 | 27.24 | $7.23 | 1.20 |
| 2S127B000300 | WAGER EDWARD J | 12075 SW TUALATIN SHERWOOD RD | TUALATIN | $595,490 | 32.15 | $0.43 | 0.07 |
| 2S128B000102 | GALBREATH WILLIAM A | 19925 SW CIPOLE RD | SHERWOOD | $172,180 | 27.19 | $0.15 | 0.02 |
| 2S129D000300 | LANGER FAMILY LLC | 14958 SW TUALATIN SHERWOOD RD | SHERWOOD | $76,580 | 56.48 | $0.03 | 0.01 |
| 31W14C 00103 | MEADWESTVACO PACKAGING SYS LLC | NO SITUS | WILSONVILLE | $325,610 | 26.23 | $0.28 | 0.05 |
| 31W14D 01903 | RITE AID STORE #80 | 29555 SW BOONES FERRY RD | WILSONVILLE | $5,337,990 | 29.80 | $4.11 | 0.69 |

The analysis was done at a GIS level for the entire region, and does not factor in a broader range of factors that can impact the likelihood of redevelopment. These include the assumption that gross acreage is equivalent to net acreage, which we know to be untrue in many instances.

This redevelopment analysis was completed as part of a larger vacant industrial lands analysis, which analyzed parcels throughout the Portland metropolitan region. The list above includes parcels that were also identified through the vacant land analysis, and in some instances, there is overlap between the two datasets. A portion of the sites in the table above are included in the 57 site dataset that is a part of the tiering inventory; some of the sites above are land banked by users and are included in the "User Designated" inventory table and may be further developed by the current user/owner; and some of the sites above are physically constrained and are included in the Appendix of this report. When these sites are excluded, the redevelopment methodology yields a total of 25 sites with an indicated potential for redevelopment.

## POLICY IMPLICATIONS

While we can use a methodological approach to identify prospective redevelopment sites, a considerable amount of further analysis would be required to clarify their impact on the market. Many of the issues impacting the redevelopment likelihood and capacity outlined earlier in this memorandum would take considerable time to identify at the specific site level. Additional screening for issues such as environmental contamination and wetlands is likely possible at the GIS level.

If redevelopment can be assumed at some time on at least a portion of these sites, it may add to the region's capacity to accommodate large lot industrial users. It is important to note that any capacity increase associated with redevelopment would need to factor in the net impact, deducting the current capacity served by the site. In other words, if redevelopment accommodates an 800 person firm but displaces current uses with 200 employees, the net increase in capacity would be 600 employees.

In many instances, marginal development patterns are at a lower density than historical patterns, and redevelopment in these cases may yield a decrease in effective employment capacity.

The time line of when sites could be expected to be available is also important. From an economic development perspective, the key variable is the number of readily available sites in the market at any one time. Sites such as the Broadmoor Golf Course, while potentially available at some time in the future, cannot be assumed as part of the short-term inventory. In addition, sites with environmental clean-up costs may never be able to be economically developed as industrial land without public intervention.

# Regional Industrial Lands

## Utility Infrastructure and On-Site Development

Prepared: May 31, 2012
By: Brent Nielsen, P.E.

**SITES INCLUDED:**

**SITE 2 – TIME OIL COMPANY (PORTLAND)**

**SITE 13 – ICDC LLC (PORTLAND)**

**SITES 15/16 – BT PROPERTY LLC (UPS)/MICHAEL CEREGHINO (GRESHAM)**

**SITE 19 – TRIP PHASE 2 (TROUTDALE)**

**SITE 24 – JEAN JOHNSON (GRESHAM)**

**SITE 29 – CLACKAMAS COUNTY DEVELOPMENT (CLACKAMAS)**

**SITE 33 – COFFEE CREEK INDUSTRIAL AREA (WILSONVILLE)**

**SITE 37 – ORR FAMILY FARM LLC (SHERWOOD)**

**SITES 55/56 – SPOKANE HUMANE SOCIETY/EAST EVERGREEN (HILLSBORO)**

**SITE 62 – ROCK CREEK (HAPPY VALLEY)**

**SITE 104 – HILLSBORO URBAN RESERVES (AGGREGATE) (HILLSBORO)**

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## SITE 2
## TIME OIL COMPANY (PORTLAND), MAP 1

***Public Water System***
The site is in the City of Portland Water Bureau service area and is currently served by 24" mains located along the southern and eastern site frontages. Portland Water Bureau maintenance records were not reviewed, but no specific deficiencies are known for this system.

- Proposed improvements: extend service lateral directly to the site, assumed at the south side of the site.

***Public Sewer System***
The site is currently served by the City of Portland with a 12" CSP main located along the south frontage of the site and a 15" CSP main (Rivergate Interceptor) located along the east property line. Portland BES maintenance records indicate that both pipes are in good condition adjacent to the site boundaries.

- Proposed improvements: extend service lateral directly to the site, assumed at the south side of the site.

***Public Storm System***
The site is located along the Willamette River; however, private outfalls to the river are unlikely to be approved, particularly for new construction. Therefore, the site is required to discharge to a public storm main. The nearest storm facility is a City of Portland 24" main located in N Burgard Way, which discharges directly to the river.

- Proposed improvements: extend 1200' of 18" storm main from the south side of the site (existing tank farm area) to the N Burgard Way public main.
- It is anticipated that surface water quality facilities will be located in the floodplain cut zones, which will be approximately 5-6 feet below adjacent grades. Depending on the depth of the connection to the N Burgard Way public main, the onsite storm design may need to incorporate a pump system to reach the public gravity line.

***Building Pad Surcharge***
It is anticipated that the building pad areas on site will require surcharging to minimize the potential for total and differential settlement. The building pads cover approximately 580,000 square feet, which would be surcharged in 3 stages, with each stage covering approximately 193,000 square feet and about 8 feet thick. The surcharge process is expected to take approximately 21 months.

The surcharge process could be expedited by using a thicker soil berm or covering the entire surcharge area in one berm rather than in stages. However, the costs for importing and processing additional berm soil would significantly increase compared to the current staged proposal.

***Steep Slope Mitigation***
The site does not have steep slopes, so no slope mitigation is necessary.

***Floodplain Cut/Fill Balance***
The Time Oil site is located within both the 100-year and 1996 floodplain boundaries for the Willamette River (to the west) and Columbia Slough (to the east). Per City requirements, buildings within the Metro Flood Management Area need to be constructed at least 1 foot above flood elevation, which would require filling a substantial portion of the site. Fill materials placed within the flood zone need to be balanced with an equal volume of cut within the flood zone. No specific regulations refer to associated yard

storage and parking areas, but these areas should generally be raised to within 18" and 6" of the 1996 flood elevation. Based on GIS and historical data, the 1996 flood elevation is approximately 32.0 feet (NAVD 1988 datum). In order raise the building pad areas to elevation 33 ft, the yard areas to 30.5 ft, and the parking areas to 31.5 feet, the site requires approximately 74,500 cy of fill to be placed in the floodplain.

The balanced floodplain cut is proposed to be taken from the existing tank farm areas at the south and northwest edges of the site, as well as an area along the eastern edge of the property, which covers approximately 9 acres. In order to balance the expected 74,500 cy of fill, the cut zones should be lowered to approximate elevation 24.8 ft.

## SITE 13
## ICDC LLC (PORTLAND), MAP 3

***Public Water System***
The site is currently served by the City of Portland with an existing 12" water main located at the southwest corner of the site in NE Cameron Blvd.

- Proposed improvements: Construct an approximate 100-ft 8-inch service lateral to directly serve the site.

***Public Sewer System***
The site is currently served by the City of Portland with an existing 15" sewer gravity main located at the southwest corner of the site in NE Cameron Blvd.

- Proposed improvements: Construct an approximate 100-ft 8-inch service lateral to directly serve the site.

***Public Storm System***
The site is currently served by the City of Portland by an existing 36" storm drain line located at the southwest corner of the site in NE Cameron Blvd.

- Proposed improvements: Construct an approximate 100-ft 15-inch service lateral to directly serve the site.

***Building Pad Surcharge***
It is anticipated that the building pad areas on site will require surcharging to minimize the potential for total and differential settlement. A substantial portion of the west half of the site (the ICDC-owned property) has already been surcharged through ongoing efforts by the property owner, but the east portion (owned by Entercom) has not been prepared. Approximately 475,000 sf of building pad area remains to be surcharged, which is proposed to be accomplished in 4 stages each 8 feet thick and covering approximately 118,750 sf. It is estimated that the surcharge process to prepare the east portion of the site will take approximately 24 months.

The surcharge process could be expedited by using a thicker soil berm or covering the entire surcharge area in one berm rather than in stages. However, the costs for importing and processing additional berm soil would significantly increase compared to the current staged proposal.

***Steep Slope Mitigation***
The site does not have steep slopes, so no slope mitigation is necessary.

***Floodplain Cut/Fill Balance***
The ICDC/Entercom site is located within the Multnomah County Drainage District managed floodplain and is protected from Columbia River floods by the Marine Drive levee along the north side of the site. Construction within the MCDD managed floodplain requires coordination with MCDD to verify that the proposed development will not exceed the capacity of the district's facilities, but no additional floodplain requirements are expected to impact the site.

## SITES 15/16
## BT PROPERTY LLC (UPS)/MICHAEL CEREGHINO (GRESHAM), MAP 3

***Public Water System***
The site is currently served by the City of Gresham by an existing 10" water main located to the north in NE Riverside Pkwy, and a 15" water main located along the west property line.

- Proposed improvements: Construct an approximate 100-ft 12-inch lateral to directly serve the site.

***Public Sewer System***
The site is currently served by the City of Gresham by an existing 10" sewer gravity main located to the north in NE Riverside Pkwy, a 15" sewer main stubbed to the southwest corner of the site in NE Portal Way, and a 12" sewer main at the northeast corner in NE Interlachen Ln. Existing 30" to 48" trunk lines run south to north along the east edge of the site, but direct service to these sewers is not available.

- Proposed improvements: Construct an approximate 100-ft 12-inch lateral to directly serve the site.

***Public Storm System***
The site is currently served by City of Gresham storm drains located at the site boundary.

- Proposed improvements: No public storm system improvements are necessary.

***Building Pad Surcharge***
It is anticipated that the building pad areas on site will require surcharging to minimize the potential for total and differential settlement. Approximately 1,010,000 sf of building pad area requires surcharging, which is proposed to be accomplished in 5 stages each 8 feet thick and covering approximately 207,000 sf. It is estimated that the surcharge process to prepare the east portion of the site will take approximately 36 months.

The surcharge process could be expedited by using a thicker soil berm or covering the entire surcharge area in one berm rather than in stages. However, the costs for importing and processing additional berm soil would significantly increase compared to the current staged proposal.

***Steep Slope Mitigation***
The site does not have steep slopes, so no slope mitigation is necessary.

***Floodplain Cut/Fill Balance***
The ICDC/Entercom site is located within the Multnomah County Drainage District managed floodplain and is protected from Columbia River floods by the Marine Drive levee along the north side of the site. Construction within the MCDD managed floodplain requires coordination with MCDD to verify that the proposed development will not exceed the capacity of the district's facilities, but no additional floodplain requirements are expected to impact the site.

## SITE 19
## TRIP PHASE 2 (TROUTDALE), MAP 3

***Public Water System***
The site is currently served by the City of Troutdale water system by a 12" main located within Swigert Way along the northern edge of the site.

- Proposed improvements: Construct an approximate 100-ft 8-inch lateral to directly serve the site.

***Public Sewer System***
The site is located within the City of Troutdale sewer service boundary, and the northern portion of the site could be served by an existing public lift station and force main located within Swigert Way. The southern portion of the site would require sewer service extension within Graham Road.

- Proposed improvements: Construct approximately 1500-ft of 8-inch diameter sewer main within Graham Road.
- Improvements Timeline: Sewer improvements are anticipated to take approximately 6 months for design and permitting, plus 6 months for construction.

***Public Storm System***
The site is located within the City of Troutdale drainage system and is expected to be served by municipal piped systems which drain to an existing drainage creek west of the site. The site is located within the Sandy Drainage Improvement Company managed floodplain. Therefore, it is anticipated that the site improvements will not require on-site detention facilities and that stormwater runoff will be directed to the SDIC-managed drainage system.

- Proposed improvements: Construct approximately 1,700 feet of 15" storm mains within Swigert Way and Graham Road.
- Improvements Timeline: Storm system improvements are anticipated to take approximately 8 months for design and permitting, plus 12 months for construction.

***Building Pad Surcharge***
It is anticipated that the building pad area on site will require surcharging to minimize the potential for total and differential settlement. Approximately 1,020,000 sf of building pad area requires surcharging, which is proposed to be accomplished in 6 stages each 8 feet thick and covering approximately 189,600 sf. It is estimated that the surcharge process to prepare the building pad area of the site will take approximately 39 months.

The surcharge process could be expedited by using a thicker soil berm or covering the entire surcharge area in one berm rather than in stages. However, the costs for importing and processing additional berm soil would significantly increase compared to the current staged proposal.

***Wetland Fill***
The site contains substantial areas of wetlands which would be filled to establish the building pad and parking areas across the site. Based on comments from Port of Portland staff, contaminated soils within the existing wetlands would need to be excavated and replaced before filling could occur. The costs associated with excavation and disposal of the contaminated soils are described and accounted for in the environmental clean-up portion of this study; however, the site fill earthwork is included in this section. Based

on information provided by the Port of Portland, the contaminated soil replacement is expected to cost approximately $1.09 million.

Additionally, the site grades would need to be raised several feet in order to eliminate depressions and prevent site inundation from surrounding wetlands. According to Port of Portland cost estimates prepared in other site development studies, this fill is expected to cost approximately $3.66 million to raise the site grades. The total cost associated with raising the site grades within the wetland areas is approximately $4.75 million. This work is expected to take approximately 9 months for design and permitting, plus about 24 months for construction. The permitting timeline presented here is for a grading permit and does not include environmental remediation permitting, which is described separately in this study.

***Floodplain Cut/Fill Balance***

The ICDC/Entercom site is located within the Sandy Improvement Drainage Company managed floodplain and is protected from Columbia River floods by a US Army Corps of Engineers levee located north of the site. Construction within the SIDC managed floodplain requires coordination with SIDC to verify that the proposed development will not exceed the capacity of the drainage company's facilities, but no additional floodplain requirements are expected to impact the site.

## SITE 24
## JEAN JOHNSON (GRESHAM), MAP 4

***Public Water System***

The site is within the City of Gresham service boundary but is not currently served by municipal water mains. Based on review of the Springwater Community Master Plan (2005) and comments received from City of Gresham staff, the site could be served by extending existing mains from the Southeast Service Level.

- Proposed improvements: Construct approximately 7,940 feet of 12" to 18" diameter water mains from the existing Southeast Service Level boundary to the site.
- Improvements Timeline: Water improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.

***Public Sewer System***

The site is in the Gresham service district but is not currently served by municipal sewer mains. Based on review of the Springwater Community Master Plan (2005) and comments from City of Gresham staff, the site is expected to be served by extending the Telford Road Interceptor sewer system.

- Proposed improvements: Construct approximately 7,600 feet of 12" to 21" diameter gravity sewer pipes along Telford Road and crossing Hwy 26.
- Improvements Timeline: Sewer improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.

***Public Storm System***

The site is located along the north edge of an unnamed tributary of Johnson Creek, and it is expected that the proposed site development would follow existing ground slopes and drain to the south edge of the site. Based on review of the Springwater Community Master Plan (2005) and comments from City of Gresham staff, the City anticipates the need for a regional detention pond facility to be located in the southwest corner of the site. It is expected that this facility would discharge directly to the creek.

- Proposed improvements: Construct an approximately 18.8-acre regional detention pond facility, as well as approximately 2,350 feet of water quality treatment swales located in the public frontage roadways.
- Improvements Timeline: Storm system improvements are anticipated to take approximately 12 months for design and permitting, plus 12 months for construction.

***Utility Expansion Notes***

The Springwater area of Gresham is generally not served by existing public utility services. Based on comments from City of Gresham staff, it is expected that services will be extended as development occurs within the Springwater area, which means that the first sites to develop in the area will bear a higher start-up cost than subsequent sites.

The Jean Johnson site is located relatively far from the edge of the Gresham utility service boundaries and would require significant infrastructure extensions in order to serve the site. While the costs to extend the public utilities would be high, service expansions of this nature would avail direct utility service to many acres of nearby developable land along the utility corridor(s). This report does not attempt to quantify this associated benefit, but it should be noted that the expansion of the public services to this proposed site could spur a substantial amount of local development.

***Building Pad Surcharge***
It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***
The site slopes from approximate elevation 480 ft at the north edge to about elevation 430 ft at the south edge. The site will require grading to mitigate and flatten the slopes to accommodate building pads and truck maneuvering areas. It is assumed that up to about 2 percent slope can be accommodated around buildings, and up to 7 percent can be accommodated in vehicular areas. Approximately 28,500 cy of earthwork is expected to mitigate steeply sloped areas.

***Floodplain Cut/Fill Balance***
This site is not located within a 100-year floodplain.

## SITE 29
## CLACKAMAS COUNTY DEVELOPMENT (CLACKAMAS), MAP 5

***Public Water System***
The site is currently served by Clackamas County Service District #1 by an existing main located to the north in SE Capps Rd.

- Proposed improvements: Construct an approximate 100-ft 8-inch lateral to directly serve the site.

***Public Sewer System***
The site is currently served by the Clackamas County Service District #1 by an existing 10" main located to the north in SE Capps Rd, with an existing public pump station located on site.

- Proposed improvements: No sewer improvements are necessary for this site.

***Public Storm System***
The site currently has 2 detention ponds constructed at the southeast corner of the site which discharge directly to the Clackamas River and can be used for the proposed development.

Alternatively, the site is also served by Clackamas County Service District #1 by a 42" storm main located in SE Capps Rd; however, a pump station would be needed to utilize this system.

- Proposed improvements: No public storm system improvements are necessary to use the existing detention ponds and Clackamas River outfall.

***Building Pad Surcharge***
It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***
The site is bordered to the north and east by steep cut slopes from prior mining/quarry uses on the site, which will require slope mitigation in order to establish the proposed building pads and associated site development. It is expected that about 28,300 cy of earthwork is required to mitigate the steep slopes on site.

***Floodplain Cut/Fill Balance***
This site is not located within a 100-year floodplain.

## SITE 33
## COFFEE CREEK INDUSTRIAL AREA (WILSONVILLE), MAP 6

***Public Water System***

The site is within the City of Wilsonville service boundary and is served by existing 18" water mains along the west and north edges of the site. Based on review of the *Coffee Creek Industrial Area Infrastructure Analysis* (2011), the water system serving this site should be looped to provide sufficient flow and pressure to the site development.

- Proposed improvements: Construct approximately 2,600 feet of 12" diameter water mains through the site to develop a looped system.
- Improvements Timeline: Water improvements are anticipated to take approximately 6 months for design and permitting, plus 15 months for construction.

***Public Sewer System***

The site is within the City of Wilsonville service district, and an existing 18" sewer main is located near the southwest corner of the site. Based on review of the *Coffee Creek Industrial Area Infrastructure Analysis* (2011), the United Disposal Interceptor trunk line downstream of the site is generally sized to handle the expected capacity at build-out of the Coffee Creek area. However, there is a section of 14" pipe near the connection with the Edwards Trunk line that is expected to be under-sized for the fully developed build-out flows.

While the downstream deficiency is identified for full build-out of the Coffee Creek area, the downstream improvements may not be necessary to serve the study site depending on the relative development timing for this site. If the site develops early relative to the rest of the Coffee Creek area, then the sewer interceptor pipe upgrade may not be needed to provide sufficient service. However, if the majority of the Coffee Creek area is built up before this site, then the sewer line is likely to need the upgrade in order to provide adequate capacity. This study assumes that the site will be developed early in the regional build-out process, so the costs for the downstream sewer improvement are not included in this analysis.

- Proposed improvements: Construct approximately 2,600 feet of 15" diameter gravity sewer pipes through the site.
- Improvements Timeline: Sewer improvements are anticipated to take approximately 6 months for design and permitting, plus 15 months for construction.

***Public Storm System***

The site is located within the Basalt Creek watershed, which eventually discharges to the Coffee Creek Wetlands area located in the southwest portion of the Coffee Creek Plan Area. However, no public storm piping or conveyance systems currently serve the study site. Based on review of the *Coffee Creek Industrial Area Infrastructure Analysis* (2011), the proposed storm system for the Coffee Creek area includes a central regional detention facility which would be located along the eastern edge of the study site. The infrastructure analysis of this site suggests that about half of the detention facility described in the City's master planning documents would be needed in order to adequately serve the site development.

- Proposed improvements: Construct approximately 5,200 feet of 15" to 18" storm drain piping within Garden Acres Road and Kinsman Road, and construct an approximate 3.5-acre regional detention facility along the east edge of Kinsman Road.

- Improvements Timeline: Storm system improvements are anticipated to take approximately 6 months for design and permitting, plus 15 months for construction.

***Building Pad Surcharge***
It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***
The site does not have steep slopes, so no slope mitigation is necessary.

***Floodplain Cut/Fill Balance***
This site is not located within a 100-year floodplain.

## SITE 37
## ORR FAMILY FARM LLC (SHERWOOD), MAP 6

***Public Water System***
The site is currently served by the City of Sherwood water system along Tualatin-Sherwood Road, but water service would need to be extended in SW 124th Street along the east side of the site.

- Proposed improvements: Construct approximately 1,150 feet of 12" water main to the southeast corner of the site boundary.
- Improvements Timeline: Water improvements are anticipated to take approximately 6 months for design and permitting, plus 12 months for construction.

***Public Sewer System***
The site is in the City of Sherwood service boundary but is not currently served by municipal service. Clean Water Services owns the public trunk mains that collect flows from the city's system. Based on review of sanitary sewer master plans prepared by the City of Sherwood and Clean Water Services, the site and the surrounding Area 48 industrial lands could be served through extension of public service lines located west of the site along Tualatin-Sherwood Road.

The downstream trunk lines are currently under-sized to accommodate full build-out of Area 48. According to comments from city staff, these lines are currently in various stages of design and construction. The full scope of downstream improvements may not be needed to serve the Orr Family site, if the site development occurs early relative to the rest of the Area 48 build-out. However, if other Area 48 development occurs, the downstream improvements are likely to be required to handle the increased sewer flows.

- Service Extension Improvements: Construct approximately 3,500 feet of 15" sewer main from the Area 48 Trunk line in Tualatin-Sherwood Road.
- Extension Improvements Timeline: Sewer improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.
- Downstream Service Upgrades:
    - Improve approximately 3,000 feet of existing Area 48 Trunk pipe, from 8"-10" pipe upgraded to 15" pipe.
    - Improve approximately 1,350 feet of existing Rock Creek Trunk pipe, from 18" pipe upgraded to 24" pipe.
    - Improve approximately 6,530 feet of existing Onion Flat Trunk pipe, from 18" pipe upgraded to 24" pipe.
- Downstream Upgrades Timeline: Sewer upgrades are anticipated to take approximately 24 months for design and permitting, plus 36 months for construction. A portion of this design and construction work is currently underway.

***Public Storm System***
The site is currently served by City of Sherwood storm mains located within Tualatin-Sherwood Road along the north side of the site. The proposed development will require stormwater detention to discharge to this public facility due to anticipated downstream capacity limitations in the Hedges Creek watershed.

- Proposed improvements: Construct approximately 1.7 acres of detention pond facilities along the north edge of the site.
- Improvements Timeline: Storm system improvements are anticipated to take

approximately 6 months for design and permitting, plus 9 months for construction.

***Building Pad Surcharge***
It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***
The southern portion of the site would require earthwork to mitigate steeply sloped areas to establish building pads and parking areas. It is anticipated that the south and west boundaries in particular will require cut slopes and grading to mitigate steep areas. It is assumed that up to about 2 percent slope can be accommodated around buildings, and up to 7 percent can be accommodated in vehicular areas. Approximately 50,900 cy of earthwork is expected to mitigate steeply sloped areas.

***Floodplain Cut/Fill Balance***
This site is not located within a 100-year floodplain.

## SITE 37-A
## ORR FAMILY FARM – SOUTH LOT (SHERWOOD), MAP 6

***Public Water System***

The site is currently served by the City of Sherwood water system along Tualatin-Sherwood Road, but water service would need to be extended to Blake Road at the southeast corner of the site, along the SW 124th Street alignment.

- Proposed improvements: Construct approximately 1,850 feet of 12" water main to Blake Road at the southeast corner of the site.
- Improvements Timeline: Water improvements are anticipated to take approximately 6 months for design and permitting, plus 12 months for construction.

***Public Sewer System***

The site is in the City of Sherwood service boundary but is not currently served by municipal service. Clean Water Services owns the public trunk mains that collect flows from the city's system. Based on review of sanitary sewer master plans prepared by the City of Sherwood and Clean Water Services, the site and the surrounding Area 48 industrial lands could be served through extension of public service lines located west of the site along Tualatin-Sherwood Road.

The downstream trunk lines are currently under-sized to accommodate full build-out of Area 48. According to comments from city staff, these lines are currently in various stages of design and construction. The full scope of downstream improvements may not be needed to serve the Orr Family site, if the site development occurs early relative to the rest of the Area 48 build-out. However, if other Area 48 development occurs, the downstream improvements are likely to be required to handle the increased sewer flows.

- Service Extension Improvements: Construct approximately 5,600 feet of 15" sewer main from the Area 48 Trunk line in Tualatin-Sherwood Road through the north Orr Family site. Construct approximately 750 feet of 12" sewer main from the boundary of the south Orr Family site to the south edge of the power line easement.
- Extension Improvements Timeline: Sewer improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.
- Downstream Service Upgrades:
    - Improve approximately 3,000 feet of existing Area 48 Trunk pipe, from 8"-10" pipe upgraded to 15" pipe.
    - Improve approximately 1,350 feet of existing Rock Creek Trunk pipe, from 18" pipe upgraded to 24" pipe.
    - Improve approximately 6,530 feet of existing Onion Flat Trunk pipe, from 18" pipe upgraded to 24" pipe.
- Downstream Upgrades Timeline: Sewer upgrades are anticipated to take approximately 24 months for design and permitting, plus 36 months for construction. A portion of this design and construction work is currently underway.

***Public Storm System***

The site is currently served by City of Sherwood storm mains located within Tualatin-Sherwood Road along the north side of the site. The proposed development will require stormwater detention to discharge to this public facility due to anticipated downstream capacity limitations in the Hedges Creek watershed.

- Proposed improvements: Construct approximately 2.0 acres of detention pond and

water quality facilities located near the existing wetlands.

- Improvements Timeline: Storm system improvements are anticipated to take approximately 6 months for design and permitting, plus 9 months for construction.

***Building Pad Surcharge***

It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***

The site has several steep slopes, hills, and valleys that cross the site. The site has a low area around the existing wetland, but otherwise generally slopes down to the north. Due to the irregular hills and steep slopes, the site will require significant grading and retaining structures to establish building pads and truck maneuvering areas. It is expected that the final site configuration will involve cutting the building pads and parking lots in a series of benches following the existing slope. It is assumed that up to about 2 percent slope can be accommodated around buildings, and up to 7 percent can be accommodated in vehicular areas. Approximately 262,400 cy of earthwork grading, and about 6,000 sf of retaining walls are expected to mitigate the steeply sloped areas. Additionally, approximately 7,100 cf of embankment fill is required to construct Blake Road across the north edge of the existing wetland area.

***Floodplain Cut/Fill Balance***

This site is not located within a 100-year floodplain.

## SITES 55/56
## SPOKANE HUMANE SOCIATY/EAST EVERGREEN (HILLSBORO), MAP 7

***Public Water System***

The site is currently served by the City of Hillsboro water system by an 18" main within Evergreen Road, but water service would need to be extended to the east and west sides of the site within 253rd Ave and 264th Ave. It is not expected that the future water main loop is needed for the section of the future Huffman Road along the north edge of the site.

- Proposed improvements: Construct approximately 4,300 feet of 18" water main to the north extent of the site.
- Improvements Timeline: Water improvements are anticipated to take approximately 12 months for design and permitting, plus 15 months for construction.

***Public Sewer System***

The site is currently within the City of Hillsboro sewer service boundary, and an existing 10" main located within Evergreen Road along the south edge of the site. Due to the depth of the sewer pipe and site topography, gravity sewer service can only be extended to about the mid-point of the site.

Beyond this boundary, sewer service would need to be pumped to a nearby trunk line, or a gravity trunk line would need to be extended along the creek alignment to the north. Either sewer improvement option should be sized to accommodate future build-out of the nearby properties that would contribute to sewer flows draining to the new facility.

- Proposed improvements:
  - Construct approximately 2,100 feet of 18" diameter gravity main within 264th Avenue.
  - Construct an approximately 2.8-MGD public lift station located near the northeast corner of the site, sized to serve this site and future development at nearby properties within the sewershed.
  - Construct approximately 2,200 feet of 12" public force main within 253rd Avenue to the existing Clean Water Services main in Evergreen Road near the southeast corner of the site.
- Improvements Timeline: Sewer improvements are anticipated to take approximately 12 months for design and permitting, plus 15 months for construction.

***Public Storm System***

The site is not currently served by public storm mains, except by a City of Hillsboro located near the southeast corner of the site. This pipe is not anticipated to be deep enough nor have capacity for gravity drainage from the entire developed site. Except for a portion of the site near the southeast corner, the storm drainage from the site is expected to drain the north into the adjacent wetland and creek waterways. Public facilities associated with this site include storm mains located in 253rd Avenue and 264th Avenue.

- Proposed improvements: Construct approximately 6,250 feet of 12" to 15" diameter storm drain pipe within 253rd Avenue and 264th Avenue.
- Improvements Timeline: Storm system improvements are anticipated to take approximately 6 months for design and permitting, plus 12 months for construction.

***Building Pad Surcharge***

It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***

The site is generally gentle-sloped, but a small area in the east portion of the site exceeds the suggested slope limits and would require earthwork grading to mitigate sloped areas in proposed building pads and parking areas. It is assumed that up to about 2 percent slope can be accommodated around buildings, and up to 7 percent can be accommodated in vehicular areas. Approximately 10,800 cy of earthwork is expected to mitigate steeply sloped areas.

***Floodplain Cut/Fill Balance***

This site is not located within a 100-year floodplain.

## SITE 62
## ROCK CREEK (HAPPY VALLEY), MAP 5

***Public Water System***

The site is within the Sunrise Water Authority service boundary but is not currently served by public mains. Based on GIS information received from SWA, the site could be served by extending existing mains along Highway 212, southwest of the site.

- Proposed improvements: Construct approximately 500 feet of 24" water pipe along Highway 212 to the site, plus about 1,500 feet of 18" water pipe along 162nd Avenue to the northwest boundary of the site.
- Improvements Timeline: Water improvements are anticipated to take approximately 9 months for design and permitting, plus 9 months for construction.

***Public Sewer System***

The site is Clackamas County Service District No. 1 service boundary, within the Rock Creek drainage basin. Public sewer service is not currently available at the site. Based on the CCSD sanitary sewer master plan (2009), the site is expected to be served by extending service from the Clackamas Interceptor to the Rock Creek area.

The downstream Clackamas Interceptor is currently under-sized to accommodate full build-out of the Rock Creek area. The primary trigger for this project is development in the Rock Creek basin resulting in 5,700 EDUs added to the system (this site contributes approximately 30 EDUs). If this site is developed prior to the build-out of the Rock Creek area, the interceptor pipe may not need to be upgraded to serve this site. However, if this site is developed during or in conjunction with significant development within the Rock Creek sewer basin, then the Clackamas Interceptor upgrades would be necessary to serve the site.

- Service Extension Improvements:
  - Construct approximately 4,000 feet of 36" diameter Clackamas Interceptor pipe within Highway 212.
  - Construct approximately 2,500 feet of 15" to 18" diameter local service lines within Highway 212 and 162nd Avenue
- Extension Improvements Timeline: Sewer improvements are anticipated to take approximately 12 months for design and permitting, plus 18 months for construction.
- Downstream Service Upgrades:
  - Improve approximately 16,800 feet of 36" gravity sewer and 12,500 feet of 30" force main interceptor, with improvements to the Clackamas Pump Station.
- Downstream Upgrades Cost and Timeline: The Clackamas Interceptor upgrades are anticipated to cost approximately $33.7 million and take approximately 5 to 10 years for design and construction.

***Public Storm System***

The site is not currently served by public storm facilities. It is expected that transportation improvements to 162nd Avenue and Highway 212 will trigger storm facility improvements, which would discharge into Rock Creek near the southwest corner of the site.

- Proposed improvements: Construct approximately 2,400 feet of 15" storm pipe within 162nd Avenue and Highway 212.
- Improvements Timeline: Storm system improvements are anticipated to take approximately 6 months for design and permitting, plus 6 months for construction.

***Building Pad Surcharge***
It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***
The site generally slopes down toward the southwest corner of the site at grades from approximately 10 percent to 20 percent. The site will require significant grading and retaining structures to establish building pads and truck maneuvering areas. It is expected that the final site configuration will involve cutting the building pads and parking lots in a series of benches following the existing slope. It is assumed that up to about 2 percent slope can be accommodated around buildings, and up to 7 percent can be accommodated in vehicular areas. Approximately 273,800 cy of earthwork grading, and about 20,000 sf of retaining walls are expected to mitigate the steeply sloped areas.

***Floodplain Cut/Fill Balance***
This site is not located within a 100-year floodplain.

## SITE 104
## HILLSBORO URBAN RESERVES (AGGREGATE) (HILLSBORO), MAP 7

***General Utility Service Note***
The site is currently not within a municipal utility service district since it resides outside the Metro urban growth boundary. It is expected that the UGB boundary will be moved to include this site, and that the site will be served by the City of Hillsboro at that time.

***Public Water System***
Based on information from City of Hillsboro water department staff, the site is expected to be served from the existing water transmission lines within Evergreen Road, with two legs of a looped system expected to be built along 253rd Avenue and 264th Avenue.

- Proposed improvements:
  - Construct approximately 5,800 feet of 18" water main within 253rd Avenue.
  - Construct approximately 6,100 feet of 18" water main within 264th Avenue.
  - Construct approximately 3,200 feet of 18" water main within Meek Road.
- Improvements Timeline: Water improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.

***Public Sewer System***
The site is expected to be served by City of Hillsboro and Clean Water Services sewer facilities within Huffman Street east of the site. Since the site lies beyond the gravity service boundary for the Huffman trunk line, it is expected that the sewer flows would be conveyed through gravity lines to a new public lift station located south of the site. The flows would be pumped from the lift station to the existing sewer trunk lines.

- Proposed improvements:
  - Construct approximately 7,900 feet of 15" to 18" diameter gravity mains within 253rd Avenue, 264th Avenue, and Meek Road.
  - Construct an approximately 3.0-MGD public lift station located near the southwest corner of the site, sized to serve this site and future development at nearby properties within the sewershed.
  - Construct approximately 5,200 feet of 18" public force main within Huffman Street Clean Water Services trunk line at the intersection of Huffman Street and Brookwood Parkway east of the site.
- Improvements Timeline: Sewer improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.

***Public Storm System***
The site is not currently served by public storm mains. There is a broad ridge running southwest-to-northeast through the middle of the site, which separates the drainage basins of Storey Creek to the north and Waible Creek to the south. It is expected that the storm drainage system at the site will include piping within the new roadways to direct runoff to these creeks, with regional detention facilities installed to meet Clean Water Services requirements.

- Proposed improvements:
  - Construct approximately 15,100 feet of 18" to 24" diameter storm piping within 253rd Avenue, 264th Avenue, and Meek Road.
  - Construct four regional detention ponds near the creek outfall locations, totaling approximately 48 ac-feet of storage.
- Improvements Timeline: Storm system improvements are anticipated to take approximately 12 months for design and permitting, plus 24 months for construction.

***Building Pad Surcharge***
It is anticipated that this site will not require building pad surcharging.

***Steep Slope Mitigation***
The site is generally gentle-sloped and is not expected to require slope mitigation to establish building pad and parking areas.

***Floodplain Cut/Fill Balance***
This site is not located within a 100-year floodplain.

# Regional Industrial Lands

## Transportation Infrastructure

Revision Date: June 21, 2012
By: Chris Clemow, P.E., P.T.O.E.

**SITES INCLUDED:**

**SITE 2 – TIME OIL COMPANY (PORTLAND), MAP 1**

**SITE 13 – ICDC LLC (PORTLAND), MAP 3**

**SITES 15/16 – BT PROPERTY LLC (UPS)/MICHAEL CEREGHINO (GRESHAM), MAP 3**

**SITE 19 – TRIP PHASE 2 (TROUTDALE), MAP 3**

**SITE 24 – JEAN JOHNSON (GRESHAM), MAP 4**

**SITE 29 – CLACKAMAS COUNTY DEVELOPMENT (CLACKAMAS), MAP 5**

**SITE 33 – COFFEE CREEK INDUSTRIAL AREA (WILSONVILLE), MAP 6**

**SITE 37 – ORR FAMILY FARM LLC (SHERWOOD), MAP 6**

**SITES 55/56 – SPOKANE HUMANE SOCIETY/EAST EVERGREEN (HILLSBORO), MAP 7**

**SITE 62 – ROCK CREEK (HAPPY VALLEY), MAP 5**

**SITE 104 – HILLSBORO URBAN RESERVES (AGGREGATE) (HILLSBORO), MAP 7**

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## SITE 2
## TIME OIL COMPANY (PORTLAND), MAP 1

Site 2 access to the north is via N Lombard Street and N Rivergate Boulevard and from the south is via N Burgard Street and N Time Oil Road. Access to the site from the north includes three at-grade railroad spur crossings, suggesting a risk of occasional blockage.

N Time Oil Road is privately-owned and maintained by a consortium of land owners. The road does not meet public standards, does not have shoulders and has a series of speed bumps limiting truck mobility. The N Time Oil Road/Burgard Street intersection is stop-controlled with sight distance concerns related to curves and elevation change. The existing access to the Time Oil site via Time Oil Road has a sharp skew, making it too tight a turn for trucks to access from the north. Improved truck access could be accommodated via Time Oil Road by reconstructing the intersection so it has a less severe angle.

The City of Portland Transportation System Plan (TSP) does not identify the need for any transportation infrastructure improvements in the immediate project area. Information provided by PBOT staff indicates Time Oil site development will not require public street improvements to Rivergate or Burgard, unless land use review is required triggering a transportation analysis (not likely) or if there is a land division process triggering the need to address public right-of-way access. It should be noted the private owners of Time Oil Road could require improvements independent of City requirements.

In the previously prepared July 2007 Working Harbor Reinvestment Strategy: Transportation Infrastructure Analysis, $6-$9M was identified to improve Time Oil Road to public standards and transfer jurisdiction to the City. Based on discussions with Port staff, it was agreed $1M of these improvements would be assessed to the Time Oil property.

Based on the conceptual site plan, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to site access improvements. The $1M of Time Oil Road improvements would be assessed to the development and constructed by others as a separate project.

### TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**
The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Realign site access/intersection to fix skew
   - Cost: ≈$80k
2. Time Oil Road improvement assessment
   - Cost: ≈$1M

**Improvement Timeline: Zero to Site Ready**
Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 3 months for design and permitting and 3 months for construction.

## SITE 13
## ICDC LLC (PORTLAND), MAP 3

Site 13 has direct access to NE Cameron Boulevard along the entire southern property boundary. Cameron provides access to NE Airport Way via NE 166th Avenue and to NE 158th Avenue which extends between NE Marine Drive and NE Sandy Boulevard (OR30).

The City of Portland Transportation System Plan (TSP) does not identify the need for any transportation infrastructure improvements in the immediate project area.

Based on the conceptual site plan, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to frontage roadway (NE Cameron Boulevard) improvements and direct property access improvements.

### TIER 2 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**
No off-site transportation infrastructure improvements are necessary.

**Improvement Timeline: Zero to Site Ready**
Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 6 months for design and permitting and 8 months for construction.

## SITES 15/16
## BT PROPERTY LLC (UPS)/MICHAEL CEREGHINO (GRESHAM), MAP 3

Taken together, Sites 15 and 16 have direct access to NE Riverside Drive to the north and NE Portal Way at the southeast corner. Access to NE Interlachen Lane to the northeast can also occur but is not anticipated as the roadway is not necessarily intended to support industrial traffic. It is anticipated direct access will be NE Riverside Drive and NE Portal Way.

The City of Gresham Transportation System Plan (TSP) identifies a roadway connection between Portal and Riverside (i.e., Portal extending to intersect with Riverside). It is anticipated this public roadway connection will need to be provided if Sites 15 and 16 are developed independently or with smaller individual industrial uses. However, if the properties are developed by a single large user, connectivity may only need to be provided via internal development circulation.

Based on discussion with agency staff, near term property development can occur without the need to construct significant off-site transportation infrastructure improvements. Again, if Sites 15 and 16 are developed independently developed or have smaller uses, a public roadway (industrial collector) will need to be constructed between Portal and Riverside. If developed by a single large user the public connection may not be necessary.

Based on the conceptual site plan, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to direct property access improvements.

### TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**
An industrial collector roadway will need to be constructed between Portal and Riverside if properties are independently developed. If developed by a single large user, it is not anticipated that any off-site transportation infrastructure improvements are necessary.

**Improvement Timeline: Zero to Site Ready**
Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 6 months for design and permitting and 8 months for construction.

## SITE 19
## TRIP PHASE 2 (TROUTDALE), MAP 3

Site 19 (Trip Phase 2) is bound by Graham Road to the south, Swigert Way to the north and east, and Sundial Road to the east. Direct access to Sundial may be restricted and access will be to Swigert Way and Graham Road.

The Troutdale Transportation System Plan (TSP) did not identify any transportation System Plan improvements for TRIP Phase 2. In Phase 1, the following transportation improvements were made:

- Widen Sundial Road to 3 lanes from Marine Drive to Graham Road
- Construct a traffic signal at the Marine Drive/Sundial Road intersection

Based on the conceptual site plan and discussions with City and Port staff, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to direct property access improvements and the following:

- Construct extension of Swigert Way to Graham Road. Based on Port estimates, $825,000 of the total $2.37M project cost will be assessed to this property.
- Reconstruct Graham Road and complete ½ street improvements (overlay, bike lane, sidewalk and other frontage improvements) on Graham Road along property frontage. The Port of Portland is also pursuing grant funding to reconstruct Graham Road, including structural roadway improvements, to accommodate truck traffic from Sundial Road to Frontage Road. Based on Port estimates, $3.5M of the total $10.09M project cost will be assessed to this property for these improvements.
- Construct possible traffic signal at the Swigert Way/Graham Road intersection of the Swigert Way/Sundial Road intersection. If signalization is required, the cost is estimated at $500,000.
- Development may also be required to participate in the widening of Sundial Road. A portion of these improvement costs will be required for property development by the Port, but are not required for subdivision by the City of Troutdale.

### TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**

The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Construct extension of Swigert Way to Graham Road
   - Cost: ≈$825K
2. Construct ½ street improvements on Graham Road along property frontage and total roadway improvement assessment
   - Cost: ≈$3.5M
3. Construct traffic signal at the Sundial Road/Graham Road intersection
   - Cost: ≈$500k

**Improvement Timeline: Zero to Site Ready**

Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 12 months for design and permitting and 24 months for construction.

## SITE 24
## JEAN JOHNSON (GRESHAM), MAP 4

Site 24 is bound by SE 267th Avenue/Anderson Road to the west. SE Carl Street extends to the property boundary on the east. It is anticipated direct access will be oriented to SE 267th Avenue/Anderson Road which connects directly to US26 to the south.

The most recent relevant transportation planning documents include the Springwater Transportation System Plan (TSP) and the US26: Access to the Springwater Community Interchange Area Management Plan (IAMP). Both documents identify the need for long range infrastructure improvements; however, none are programmed or funded. More specifically, the IAMP identifies two grade separated US26 overcrossings; one connecting SE Orient Drive to SE Rugg Road including a US26 interchange. Based on the IAMP Figure 14 schematic roadway alignment, the proposed collector roadway impacts the northeast corner of the subject property. It is important to note this layout is schematic and it not likely to affect a near-term development application.

Based on discussion with agency staff, near term property development can occur without the need to construct significant off-site transportation infrastructure improvements. However, the SE 267th Avenue/Anderson Road (minor roadway) connection to US26 is anticipated to operate poorly until improvements are constructed. While immediate property development can occur without off-site improvements, it is agency intent for all properties in the IAMP-benefitted area to monetarily participate in funding of long-range improvements via a yet-to-be determined assessment structure.

Based on the conceptual site plan, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to direct property access improvements and the following:

- Possible short-term US26/ SE 267th Avenue/Anderson Road improvements such as a southbound right-turn lane.

### TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**

The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Possible short-term US26/ SE 267th Avenue/Anderson Road improvements such as a southbound right-turn lane.
   - Cost: ≈$250k
2. Potential, proportional assessment of IAMP-identified improvements
   - Cost: unknown

**Improvement Timeline: Zero to Site Ready**

Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 6 months for design and permitting and 8 months for construction.

## SITE 29
## CLACKAMAS COUNTY DEVELOPMENT (CLACKAMAS), MAP 5

Site 29 has direct access to SE Capps Road to the north and SE Wilde Road to the east; however, access to Wilde Road is limited by topography. Direct property access can be oriented to SE Capps Road which connects to OR212 via SE 120th Avenue, SE Jennifer Street and SE 122nd Avenue.

Near term property development can occur with minimal need to construct off-site transportation infrastructure improvements. However, OR212 mobility will generally be poor until planned and programmed Sunrise Corridor improvements are constructed. These improvements include construction of a new east-west roadway (Sunrise corridor) north of the existing OR212 alignment. The Sunrise Jobs and Transportation Act (JTA) Project is constructing a smaller phase of the larger Sunrise Corridor project by 2014. These improvements will address the existing congestion and safety problems in the OR212/224 corridor by constructing a new road from I-205 to 122nd Avenue and some local roadway connections serving the Lawnfield Industrial District.

Based on the conceptual site plan, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to direct property access improvements and the following:

- Construct ½ Capps Road improvements from eastern property edge to 122nd Avenue.

### TIER 2 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**

The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Construct ½ Capps Road improvements from eastern property edge to 122nd Avenue
    - Cost: ≈950LF@$1,400/LFx½Roadway=$665k

**Improvement Timeline: Zero to Site Ready**

Direct property access roadway improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 6 months for design and permitting and 8 months for construction.

## SITE 33
## COFFEE CREEK INDUSTRIAL AREA (WILSONVILLE), MAP 6

Site 33 is bound by SW Day Road to the north and SW Garden Acres Road to the west. The property has direct access to both roadways. A portion of the property also extends to SW Boones Ferry Road; however, direct access to this roadway may be limited/restricted to the individual property at the southwest corner of the Boones Ferry Road/Day Road intersection.

The Wilsonville Transportation System Plan (TSP) identifies a several recently constructed transportation infrastructure improvements including the widening of Day Road to 3 lanes from Grahams Ferry to Boones Ferry and constructing traffic signals at both ends. The Coffee Creek Industrial Master Plan also identifies two new roadways to be constructed in the project area including: Kinsman Road – a north-south roadway on the east side of the property extending south from Day Road, and; Java Road – an east-west roadway extending between Garden Acres and Kinsman.

Because the proposed development contemplates aggregated properties, roadway connectivity shown in the TSP and the Coffee Creek Industrial Master Plan is assumed to include the need to construct Kinsman as a public roadway and the connectivity provided by Java will be accomplished via internal development circulation. It should be noted a portion of Kinsman Road improvements can be incorporated into property development and are not necessarily in addition to site development costs.

Based on the conceptual site plan, anticipated transportation infrastructure improvements necessary to serve immediate subject property development are limited to direct property access improvements and the following:

- Construct ½ street improvements on Garden Acres Road along property frontage
- Construct ⅔ street improvements on Kinsman Road along property frontage

### TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**

The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Construct ½ street improvements on Garden Acres Road along property frontage
   - Cost: ≈2,400LF@$1,400/LFx½Roadway=$1.68M
2. Construct ⅔ street improvements on Kinsman Road along property frontage
   - Cost: ≈2,400LF@$1,400/LFx⅔Roadway=$2.24M (can be part of site development)

**Improvement Timeline: Zero to Site Ready**

Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 6 months for design and permitting and 12 months for construction.

## SITE 37
## ORR FAMILY FARM LLC (SHERWOOD), MAP 6

Site 37 is bound by SW Tualatin-Sherwood Road to the north. It is anticipated direct access property will be to this roadway at the SW Cipole Road intersection and to the future extension of SW 124th Avenue to the east.

The 2005 City of Sherwood Transportation System Plan (TSP) indicates the subject property is outside of the Urban Growth Boundary (UGB); therefore, no long-range transportation infrastructure was identified to serve the property. The 2010 Tonquin Employment Area Concept Plan identifies SW 124th Avenue as being the primary north-south arterial roadway connection extending between US99W and SW Tualatin-Sherwood Road. It is anticipated 124th will be extended south of Tualatin-Sherwood Road to serve the subject property and properties further to the south. The Tonquin Employment Area Concept Plan also identifies an east-west collector roadway (referred to as the Internal Connector (SW Blake Road Extension)) being constructed to provide connectivity

With property development, it is anticipated primary development access will be to the north (Tualatin-Sherwood Road at Cipole) and on (124th). Based on City access spacing requirements, access on 124th (an arterial roadway) has to be at least 600' from T-S Road. It should be noted that even with good direct property access, overall Tualatin-Sherwood Road and US99W corridor mobility is poor.

Based on the conceptual site plan, property development is anticipated to occur in two phases and require the following transportation infrastructure improvements in addition to direct property access improvements:

**North Phase** – assumed to be developed by a single industrial user

- Construct ⅔ street improvements on SW 124th Avenue along east property frontage between Tualatin-Sherwood Road and the southern development edge (1,150 feet)
- Construct SW Tualatin-Sherwood Road/SW 124th Avenue intersection improvements
- Construct SW Tualatin-Sherwood Road/SW Cipole Road intersection improvements

**South Phase** – assumed to be developed as an industrial business park

- Construct ⅔ street improvements on SW 124th Avenue along east property frontage between the North Phase development edge and the east-west Internal Connector (SW Blake Road Extension) (600 feet)
- Construct full street improvements on the east-west Internal Connector (SW Blake Road Extension) between the SW 124th Avenue extension and the west property line (1,700 feet).

## TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**
The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

**North Phase**
1. Construct ⅔ street improvements on SW 124th Avenue along east property frontage between Tualatin-Sherwood Road and the southern edge of the North Phase development.
   - Cost: ≈1,150LF@$1,400/LFx⅔Roadway=$1.08M
2. Construct SW Tualatin-Sherwood Road/SW 124th Avenue intersection improvements
   - Cost: ≈$200k
3. Construct SW Tualatin-Sherwood Road/SW Cipole Road intersection improvements
   - Cost: ≈$200k

**South Phase**
4. Construct ⅔ street improvements on SW 124th Avenue along east property frontage between the North Phase development edge and the east-west Internal Connector (SW Blake Road Extension)
   - Cost: ≈600LF@$1,400/LFx⅔Roadway=$560k
5. Construct full street improvements on the east-west Internal Connector (SW Blake Road Extension) between the SW 124th Avenue extension and the west property line
   - Cost: ≈1,700LF@$1,400/LF=$2.38M

**Improvement Timeline: Zero to Site Ready**
Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 12 months for design and permitting and 12 months for construction.

## SITES 55/56
## SPOKANE HUMANE SOCIATY/EAST EVERGREEN (HILLSBORO), MAP 7

Taken separately, Site 55 (Spokane Humane Society property) does not have direct access to a public roadway and Site 56 (East Evergreen Site) has direct access to NW Evergreen Road and to NW Mier-Jurgen Road (an unimproved roadway).

The Hillsboro Transportation System Plan (TSP) identifies a number of transportation infrastructure improvements necessary to the serve the area in the plan year, including:

- Widen Evergreen Road to 5 lanes – Current being constructed by Washington County
- Extend Huffman Street west of Brookwood Parkway (Shute Road) to 253rd Avenue
- Extend 253rd Avenue to the north and adding a southbound right-turn lane.

It should be noted future roadway alignments are not specifically defined or programmed. Rather, the TSP generally contemplates the extension of roadways in the area to meet future development needs.

The conceptual site plan prepared by Group Mackenzie contemplates the extension of 253rd and 264th Avenues to the north and Huffman Street between 253rd and 264th Avenues. Discussions with City staff have further clarified the transportation infrastructure improvements necessary to serve immediate subject property development including:

- Construct ⅔ street improvements on 253rd along property frontage.
- Construct ⅔ street improvements on 264th along property frontage. It is assumed 264th between the south property edge and Evergreen will be constructed by others.
- Construct ⅔ street improvements on Huffman along property frontage.
- Construct traffic signal at the Evergreen/264th intersection
- Construct traffic signal at the Evergreen/Site access intersection. (Intersection is located near the western property edge at Evergreen)

### TIER 2 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**

The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Construct ⅔ street improvements on 253rd along property frontage.
   - Cost: ≈2,300LF@$1,400/LFx⅔Roadway=$2.15M
2. Construct ⅔ street improvements on 264th along property frontage
   - Cost: ≈1,400LF@$1,400/LFx⅔Roadway=$1.31M
3. Construct ⅔ street improvements on Huffman along property frontage
   - Cost: ≈2,800LF@$1,400/LFx⅔Roadway=$2.61M
4. Construct traffic signal at the Evergreen/264th intersection
   - Cost: ≈$500k
5. Construct traffic signal at the Evergreen/Site access intersection
   - Cost: ≈$500k

**Improvement Timeline: Zero to Site Ready**

Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 9 months for design and permitting and 18 months for construction.

## SITE 62
## ROCK CREEK (HAPPY VALLEY), MAP 5

Site 62 (Rock Creek) directly fronts OR212 (Clackamas Highway); however, direct access will be limited to other roadways. This includes an east-west collector to the north, 162nd Avenue to the west, and a north-south collector to the east. If this sites develops without adjacent property development occurring, all access will be to 162nd Avenue.

The Sunrise Corridor planning effort (presented in Figure 8-7 of the Happy Valley Transportation System Plan (TSP)) identifies a number of transportation infrastructure improvements significantly impacting the subject property. Because these improvements are long-range and unfunded, property development is assumed to be generally consistent with roadway alignments presented in TSP Figure 8-3. It should be further noted, because the proposed development contemplates aggregated properties, local street connectivity shown in the TSP is not necessary. Resulting anticipated improvements include:

- Construct ½ street improvements on 162nd along property frontage
- Construct an east-west collector roadway for the width of the property (internal)
- Construct a north-south collector mid-property (internal)
- Construct ½ street improvements (north-south collector) on eastern property edge
- Construct OR212/162nd Avenue intersection improvements (including traffic signal)

The subject property is anticipated to have good access to adjacent north/south collector roadways; however, overall OR212 corridor mobility is poor and will remain so until major TSP-identified improvements are constructed.

### TIER 2 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**
The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts. Based on the conceptual site plan, the following improvements include:

1. Dedicate property necessary to accommodate widening of OR212 to 5 lanes
2. Construct ½ street improvements on 162nd Avenue along property frontage
   - Cost: ≈1,000LF@$1,400/LFx½Roadway=$700k
3. Construct a ½ street improvement (north-south collector) on eastern property edge
   - Cost: ≈400LF@$1,400/LFx½Roadway=$280k
4. Construct OR212/162nd Avenue intersection improvements (including traffic signal)
   - Cost: ≈$500k

**Improvement Timeline: Zero to Site Ready**
Frontage and direct property access improvements are anticipated to be constructed concurrent with property development. If done in advance, anticipate 9 months for design and permitting and 18 months for construction

## SITE 104
## HILLSBORO URBAN RESERVES (AGGREGATE) (HILLSBORO), MAP 7

The site has direct access to NW Meek Road which will require improvement to urban standards. The property has recently been brought into the Urban Growth Boundary (UGB) but is located outside of the Hillsboro City limits.

It should be noted any future roadway alignments are not specifically defined or programmed in the City of Hillsboro Transportation System Plan (TSP). Rather, the roadway alignments have been identified via recent long-term transportation infrastructure planning efforts occurring in the immediate area.

Discussions with City staff have further clarified the transportation infrastructure improvements necessary to serve immediate subject property development including:

- Construct full-width street improvements on 253rd from Meek to south property line.
- Construct full-width street improvements on 264th from Meek to south property line. (It should be noted the conceptual site plan shows the roadway alignment adjacent the west property line; however, full-width improvements are assumed).
- Improve/reconstruct Meek from east property edge to 264th Avenue
- Construct shoulder improvements on Meek from 264th to Jackson School
- Construct 264th/Sewell intersection improvements and connection
- Long-term plans also contemplate realigning Meek to intersect with Brookwood north of OR26. This realignment will require a grade separated overcrossing and is believed necessary to accommodate future year traffic volumes. This improvement is not assumed to be necessary to serve Site 104.

### TIER 3 TO TIER 1 IMPROVEMENTS

**Improvements and Estimated Cost**

The following transportation infrastructure improvements are minimally necessary to: 1) provide acceptable/good property access to the public roadway system, and 2) mitigate off-site transportation impacts.

1. Construct full-width street improvements on 253rd from Meek to south property line
   - Cost: ≈1,800@$1,400/LF=$2.52M
2. Construct full-width street improvements on 264th from Meek to south property line
   - Cost: ≈2,100@$1,400/LF=$2.94M
3. Improve/reconstruct Meek from east property edge to 264th Avenue
   - Cost: ≈4,500LF@$1,400/LF=$6.3M
4. Construct shoulder improvements on Meek from 264th to Jackson School
   - Cost: ≈$250k
5. Construct 264th/Sewell intersection improvements and connection
   - Cost: ≈$300k

**Improvement Timeline: Zero to Site Ready**

Extensive transportation infrastructure improvements will need to be constructed to facilitate property development, including additional agency planning and programming efforts. If done in advance, anticipate 18 months for design and permitting and 24 months for construction.

| Site # & Name[1] | | Estimated Wetland Acreage | Permits Needed/Timeframe[2] | Cost of Mitigation[3] | Comments |
|---|---|---|---|---|---|
| 13 | ICDC LLC & Entercom | ICDC: Approx. 8 ac.<br>Entercom: Approx. 0.9 ac.<br>---<br>Approx. 1.4 ac. impact with conceptual site plan (0.2 ac. @ Entercom; 1.2 ac. @ ICDC) | DSL: 120 days<br><br>USACE: 150 days | Site not currently served by any wetland mitigation bank. Permittee-provided on- or off-site mitigation will be necessary. | ICDC: Majority of site filled under permit 11059-FP. Per on-site determination WD11-0076, unfilled areas have wetland condition. Delineation needed.<br><br>Entercom: Wetland acreage based on Natl. Wetland Inventory mapping (0.7 ac. wetland) and photo-signature of potential wetland condition (0.2 acres). Delineation needed. |
| 29 | Clackamas Co. Development | DSL jurisdictional wetlands = 0.42 ac. plus Carli Creek and Clackamas River = 2.16 ac.<br>Potential federally jurisdictional wetland area is 1.76 ac.[4]<br>---<br>Approx. 1.76 ac. impact assumed per County staff input | No DSL permit need anticipated by County.<br><br>USACE: 270 days (assuming Corps asserts federal jurisdiction on non-state-jurisdictional wetlands) | $308,000<br><br>Site currently served by Foster Creek Mitigation Bank. | Wetland acreage based on approved delineation #12-0001. Exact extent of federal jurisdiction will need to be determined at time of permit application.<br><br>Personal communication with County staff on 1/19/12 indicated that all DSL-jurisdictional wetlands, Carli Creek and Clackamas Riverwould be avoided as part of site development. |
| 55/56 | Spoke Humane Society/E. Evergreen | Approx. 28 ac. plus tributary McKay Cr.<br>---<br>Approx. 28 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 270 days | $4.9 million<br><br>Site currently served by Tualatin Valley Mitigation Bank | Wetland acreage based on delineation 08-0257 for tax lots 2000, 2001, 2002, 2003, and 2100 and best professional estimate for remainder.[5]Delineation needed. |

| Site # & Name[1] | | Estimated Wetland Acreage | Permits Needed/Timeframe[2] | Cost of Mitigation[3] | Comments |
|---|---|---|---|---|---|
| 62 | Rock Creek | Approx. 0.75 ac.<br><br>Approx. 0.5 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 45 days(assuming expedited Nationwide Permit #39 will apply) | $88,000<br><br>Site currently served by Foster Creek Mitigation Bank. | Wetland area mapped in Happy Valley Local Wetland Inventory, 2008. No mapped hydric soils. Needs delineation. |
| 2 | Time Oil | No wetland areas evident. | NA | NA | No wetland areas identified on Natl. Wetland Inventory or "Portland Natural Resource Inventory Update March 2009". No photo-signatures evident. |
| 24 | Jean Johnson | Approx. 6 ac.plus Johnson Cr. tributary<br><br>Approx. 4.5 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 270 days | $788,000<br><br>Site currently served by Foster Creek Mitigation Bank | Wetland area assumed to coincide with the mapped hydric soil area along south edge of site. Needs delineation. |
| 15/16 | UPS/Cereghino | Cereghino: approx. 4 ac. wetland; 3 ac. open water<br><br>UPS: approx. 16 ac. wetland; 0.5 ac. open water<br><br>Approx. 18.5 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 150 days | Site not currently served by any wetland mitigation bank. Permittee-provided on- or off-site mitigation will be necessary. | Cereghino: Wetland determination prepared by Pacific Habitat Services for City of Gresham, August 2011 (not DSL-concurred). Needs delineation.<br><br>UPS: Estimated 1/3 wetland (16 ac.) based on photo-signature of a mosaic condition. Needs delineation. |

| Site # & Name[1] | | Estimated Wetland Acreage | Permits Needed/Timeframe[2] | Cost of Mitigation[3] | Comments |
|---|---|---|---|---|---|
| 19 | TRIP-Port of Portland | 17.38 ac. wetland plus Salmon Creek and ditches<br>———<br>17.38 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 150 days | Site not currently served by any wetland mitigation bank. Permittee-provided on- or off-site mitigation will be necessary. | Wetland acreage based on delineation WD09-0114. |
| 33 | Coffee Creek #1 | Approx. 0.75 ac. wetland and 0.25 ac. wetland mitigation site.<br>———<br>Approx. 0.75 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 150 days | $46,000<br><br>Site currently served by Mud Slough Mitigation Bank | Wetland acreage based on Metro RLIS. Delineation needed.<br><br>DSL # 25201-RF and Delineation 02-0393 (for mitigation area) – outside of the conceptual site plan footprint. |
| 37 | Orr Family Trust: North | Approx. 3 acres<br>———<br>Approx. 3 ac. impact with conceptual site plan | DSL: 120 days<br><br>USACE: 150 days | $525,000<br><br>Site currently served by Tualatin Valley Mitigation Bank | Wetland acreage based on photo-signature of potential wetland condition (3 acres). Delineation needed. |
| 37 | Orr Family Trust: South | Approx. 4.2 acres<br>———<br>Approx. 0.2 ac. impact with conceptual site plan | DSL: 40 days<br><br>USACE: 45 days | $12,000<br><br>Site currently served by Mud Slough Bank | Wetland acreage based on Natl. Wetland Inventory mapping (4.2 ac. wetland). Delineation needed. |
| 104 | Hillsboro Urban Reserves | Approx. 34 ac. plus Waible Creek and several tributary drainages<br>——— | DSL: 120 days<br><br>USACE: 270 days | $5.1 million<br><br>Site currently served by Tualatin Valley Mitigation | Wetland acreage based on best professional judgment.[5]Delineation needed. |

| Site # & Name[1] | | Estimated Wetland Acreage | Permits Needed/Timeframe[2] | Cost of Mitigation[3] | Comments |
|---|---|---|---|---|---|
| | | Approx. 29 ac. impact with conceptual site plan | | Bank | |

**Footnotes:**

**1**Sites are as identified by Group MacKenzie, January 18, 2012.

**2** Standard DSL Individual Permit timeframe is 120 days. For wetland fills less than or equal to 0.2 acres, a state General Permit is available with permit timeframe of 40 days. Permit timeframes for federal process as follows: 45 days if Nationwide Permit # 39 is applicable (wetland impact 0.5 ac. or less for industrial development); 150 days for Individual Permit whereEndangered Species Act (ESA) consultation is unlikely; 270 days for Individual Permit where ESA consultation appears likely. ESA consultation identified as likely for sites containing streams that are proximal to salmonid-bearing waters. Time measured from day of application submittal and assumes complete application submittal.

**3**Cost based on cost of credits at Foster Creek Mitigation Bank ($175,000 per credit), Tualatin Valley Mitigation Bank ($175,000 per credit), or Mud slough Mitigation Bank ($61,000 per credit up to 1.5 credits; $57,000 per credit greater than 1.5 credits). Banks will need to be contacted to verify if sufficient credits are available at time of permitting. Cost based on estimated wetland impact area as derived from conceptual site plans provided by Group Mackenzie.

**4** Assumes Army Corps of Engineers would not assert federal jurisdiction on constructed sediment basins totaling 4.5 acres.

**5**Methodology for best professional judgment: Ratio of delineated wetland area to mapped hydric soil area (50%) was calculated for delineations conducted on adjacent site with same mapped hydric soil unit.Used when no delineation or determination information, or local wetland inventory (or equivalent) was available.

# Portland General Electric

***Industrial Lands Inventory Phase 2***

*Electric Power Service*

*February 24, 2012*


# Project Grading Scale for Electrical Power Service

**1 = Easy**

- Nominal total project cost; less than $5 M
- Existing infrastructure readily available to meet demand
- Marginal upgrades required to deliver service directly to the site
- Immediate access to transmission and distribution feeders

**2 = Medium**

- Generally between $5 M and $10 M total project cost
- Access to 13kV feeders less than a mile away
- Minimal upgrades required to meet customer demands in less than 12 months

**3 = Hard**

- $10 M or greater total project cost
- Complex in nature
- City zoning issues or access to permits
- Access to transmission difficult or more than a mile away

**Note:** Cost encompasses total capital cost for a project in the specified region for electrical service up the meter only. Additional cost will be required beyond the point of delivery. Cost breakdown between customer and utility is not defined. Information provided is based on general assumptions (general purpose service as oppose to dedicated and/or alternate service per a customer's specific request) and is subject to change. Information in this presentation should not be used or distributed for purposes outside the scope of the Industrial Lands Project.

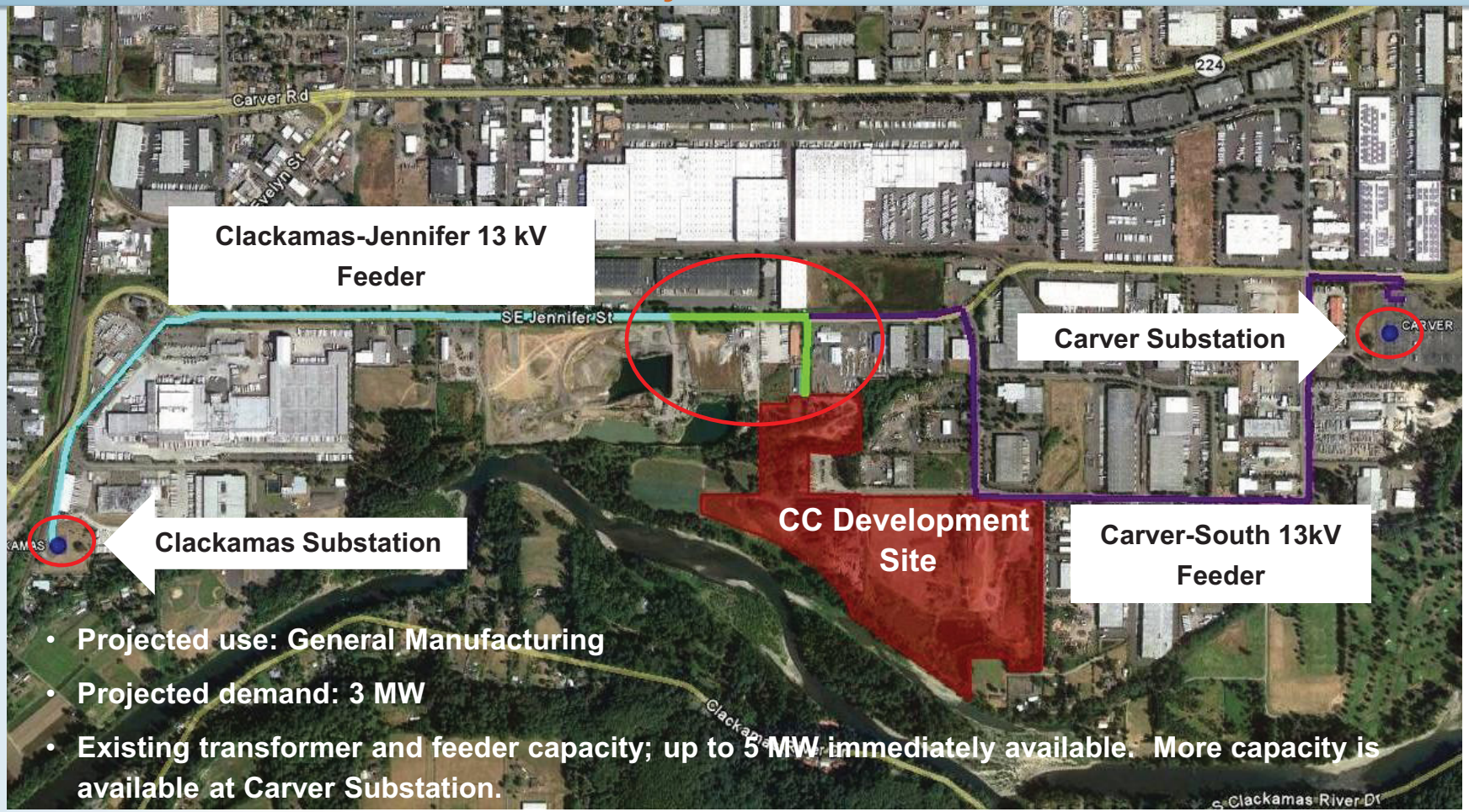
# Proposed Service for ICDC/Entercom Site

## *48.5 Acres, Portland*


- Projected use: Warehouse/ Distribution
- Projected demand: 1.5 MW
- Currently served by Hemlock Substation
- Existing transformer capacity up to 3 MW
- Existing feeder capacity up to 2 MW
- A tap line from the existing Hemlock-Mason 13kV feeder will provide preferred service to the site
- Project grade = 1

# Proposed Service for CC Development Site

## *40 Acres, Clackamas County*




- **Projected use: General Manufacturing**
- **Projected demand: 3 MW**
- **Existing transformer and feeder capacity; up to 5 MW immediately available. More capacity is available at Carver Substation.**

- Currently served by Clackamas Substation
- Feeder upgrades are required to serve the site . A portion of the Carver-South 13 kV feeder will need to be converted to the Clackamas-Jennifer 13 kV feeder (shown in green).
- Project grade = 2

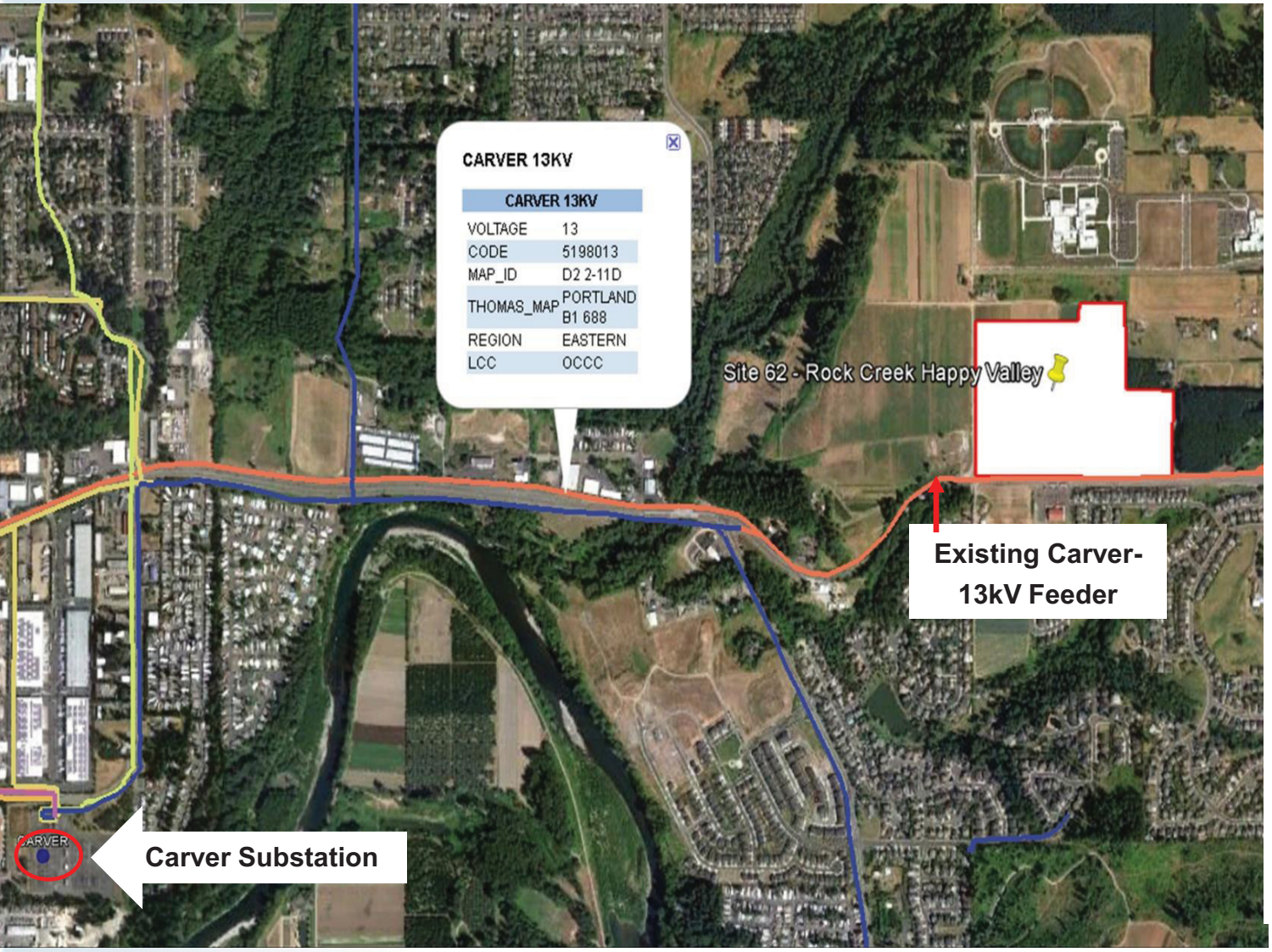
# Proposed Service for Evergreen Site

*116 acres, Hillsboro*


- Projected use: Globally scaled clean tech campus
- Projected demand: 20 MW
- Site will be served by the future Shute Substation
- Will be served by the future Shute Substation at 35kV distribution voltage
- Projected to have two 115 kV transmission sources
- Project grade = 3

# Proposed Service for Rock Creek Site

## *34 Acres, Happy Valley*




- Projected use: High Tech Manufacturing or Campus Industrial
- Projected demand: 4 MW
- Currently served by Carver Substation
- Existing transformer capacity up to 7 MW
- Existing feeder capacity up to 4 MW
- A tap line from the existing Carver-13 13kV feeder will provide preferred service to the site
- Project grade = 1

# Proposed Service for Time Oil Company Site

## *25 Acres, Portland*


- Projected use: Heavy industrial/ Manufacturing with Strategic Marine
- Projected demand: 8-12 MW
- Currently served by Rivergate South Substation
- Existing transformer capacity up to 10 MW
- Existing feeder capacity up to 6 MW
- In order to reach 12 MW of estimated load, the substation transformer will need to be upgraded
- Project grade = 2

# Proposed Service for Jean Johnson Site

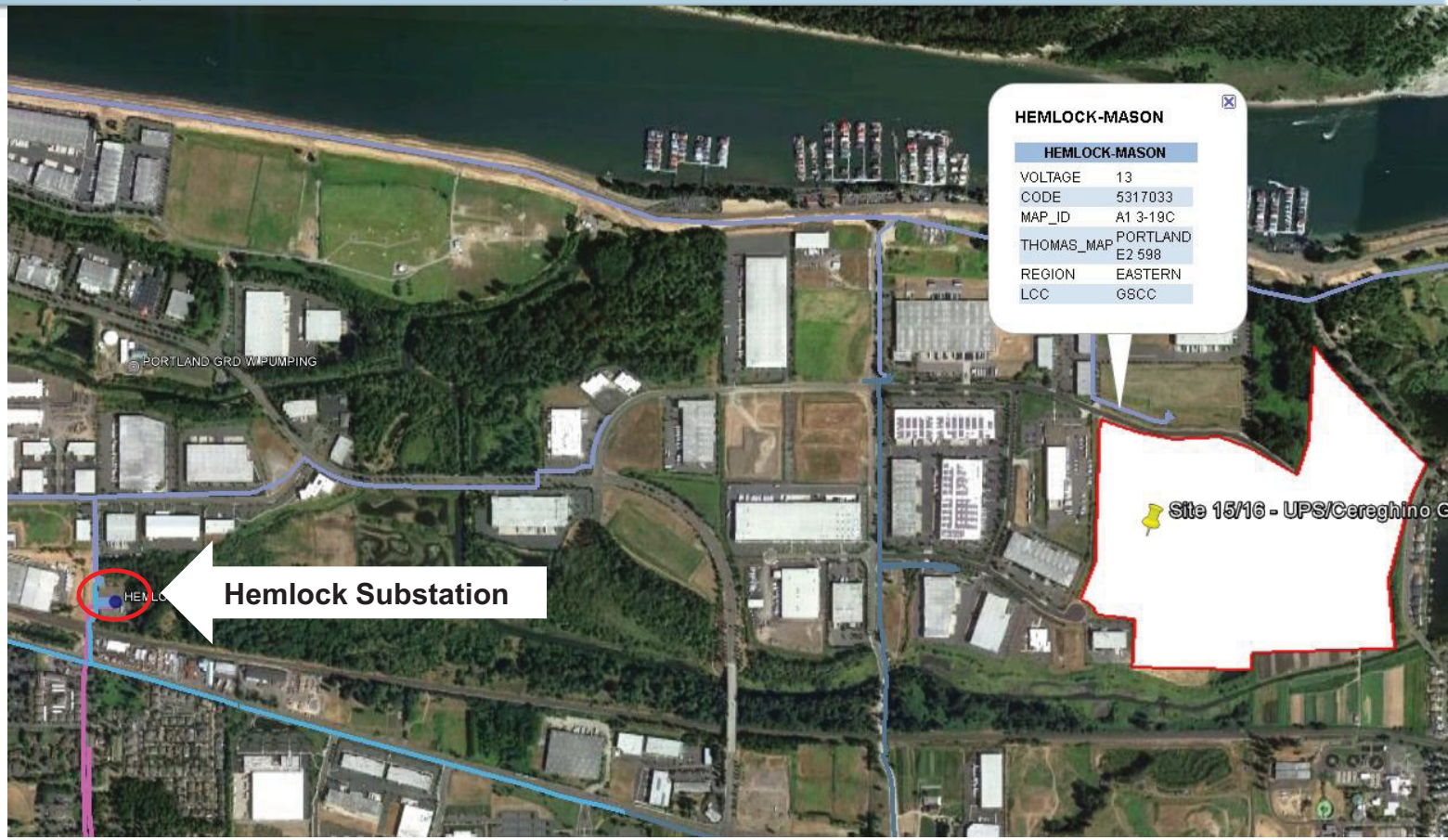
## *33.8 Acres, Gresham*


- Projected use: High tech Manufacturing or Campus Industrial
- Projected demand: 4 MW
- Currently served by Hogan North Substation; approx. 2 miles NE of the property
- Existing transformer capacity up to 11 MW
- Existing feeder capacity up to 1 MW
- Hogan North-Salquist 13 kV feeder mainline will be reconfigured to provide preferred service to the property.
- Project grade = 2

# Proposed Service for UPS & Cereghino Sites

## *75 Acres Total (50/25 Acre Split), Portland*

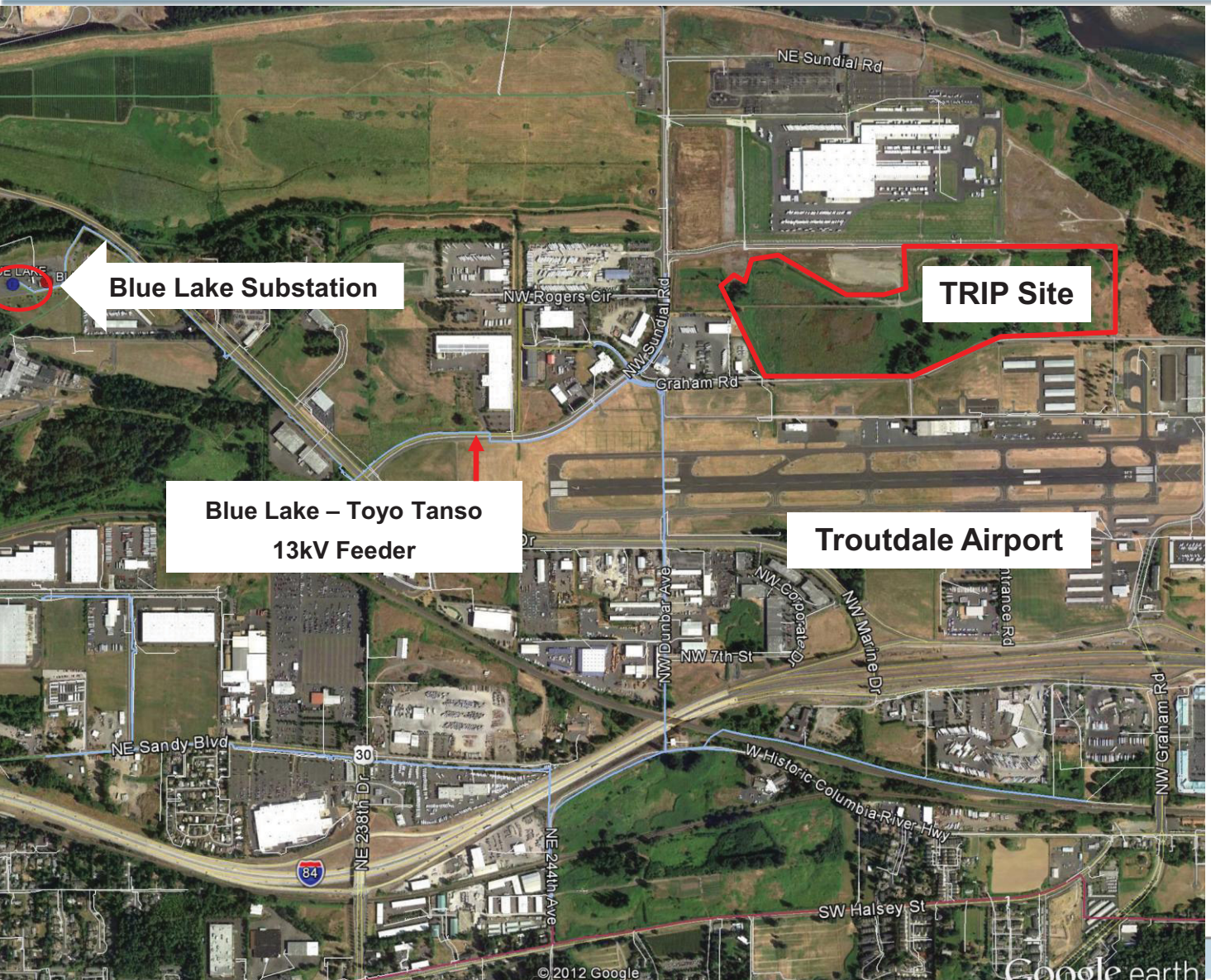
- Projected use: General Manufacturing
- Projected demand: 5-10 MW
- Currently served by Hemlock Substation
- Existing transformer capacity up to 3 MW
- Existing Hemlock-Mason 13kV feeder capacity up 2 MW




- In order to reach 10 MW of estimated load, transformer and feeder upgrades are required
- Project grade = 3

# Proposed Service for TRIP Site

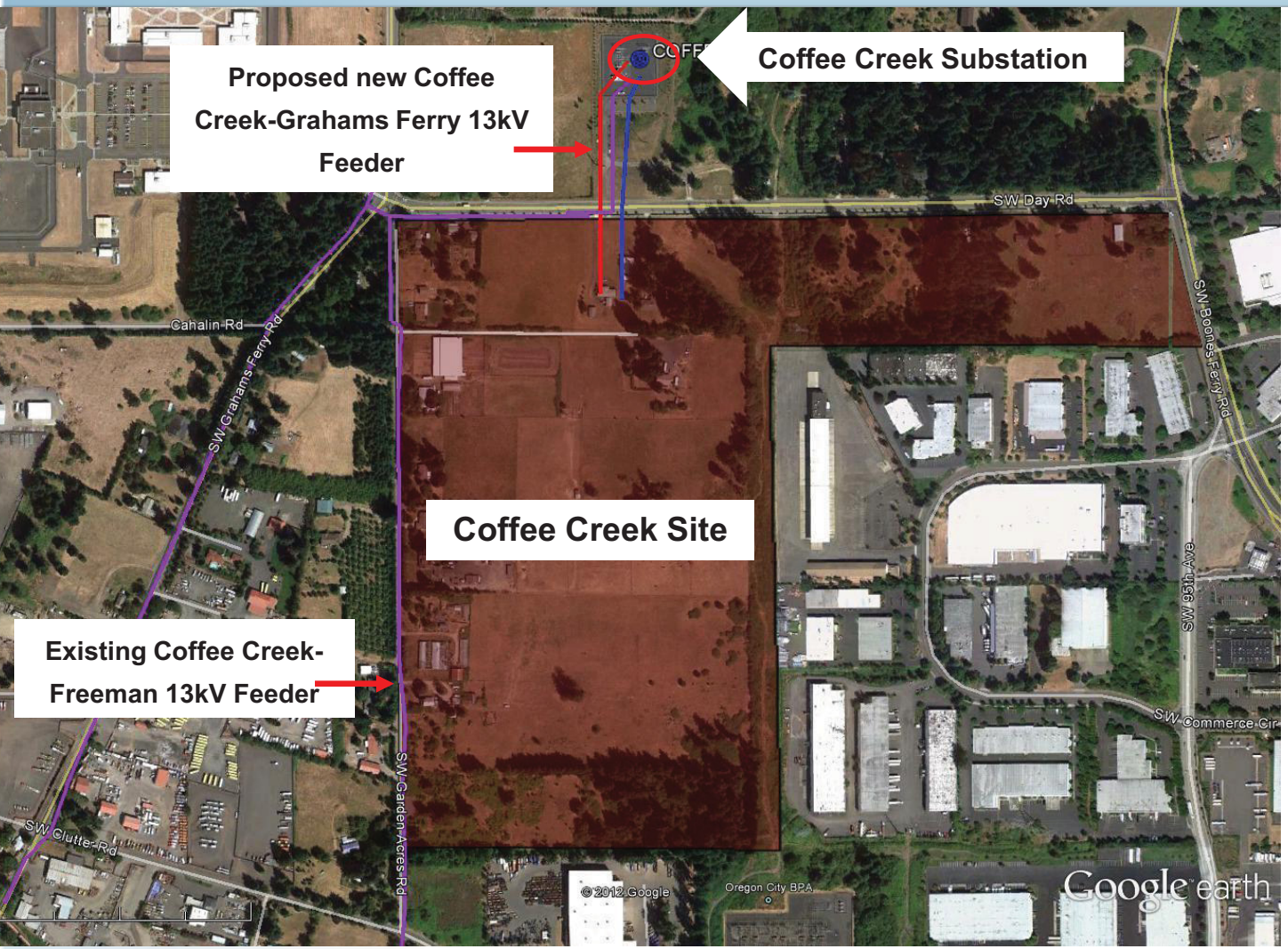
## *80 Acres, Troutdale*




- Projected use: Portland Regional Distribution Center
- Projected demand: 3 MW
- Currently served by Blue Lake Substation
- Existing transformer capacity up to 5 MW
- Existing feeder capacity up to 7 MW
- The Blue Lake-Toyo Tanso 13kV feeder will be extended to provide preferred service to the property.
- Project grade = 1

# Proposed Service for Coffee Creek Site 1

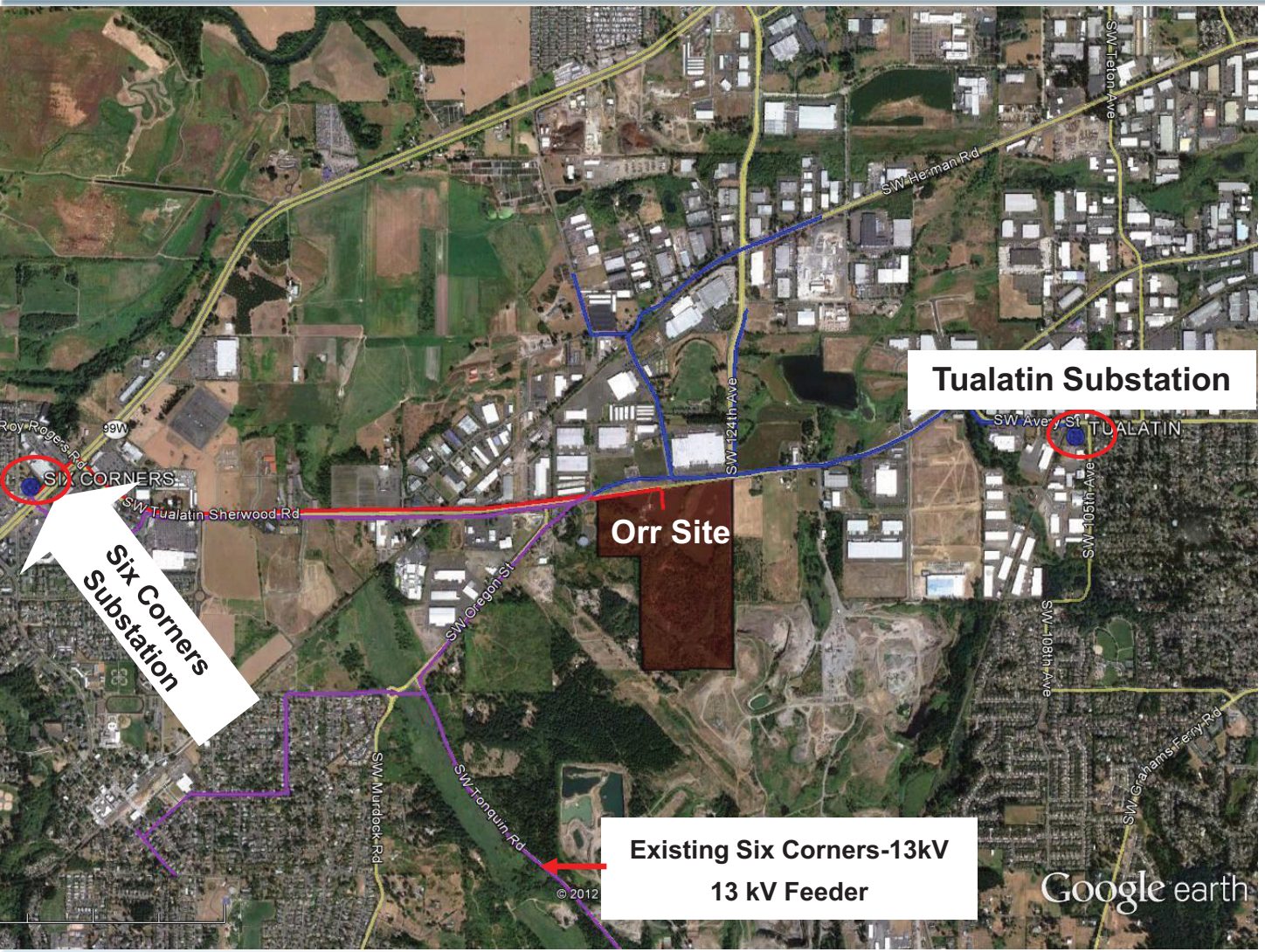
## *80.34 Acres, Wilsonville*




- Projected use: General Manufacturing for Singles User and Business Park
- Projected demand: 6 MW
- Currently served by Coffee Creek Substation; almost on site
- Existing transformer capacity up to 12.5 MW
- Existing feeder capacity up to 5 MW
- To meet demand a new 13kV feeder will be constructed from an existing transformer at Coffee Creek Substation
- Project score = 2

# Proposed Service for Orr Family Farm

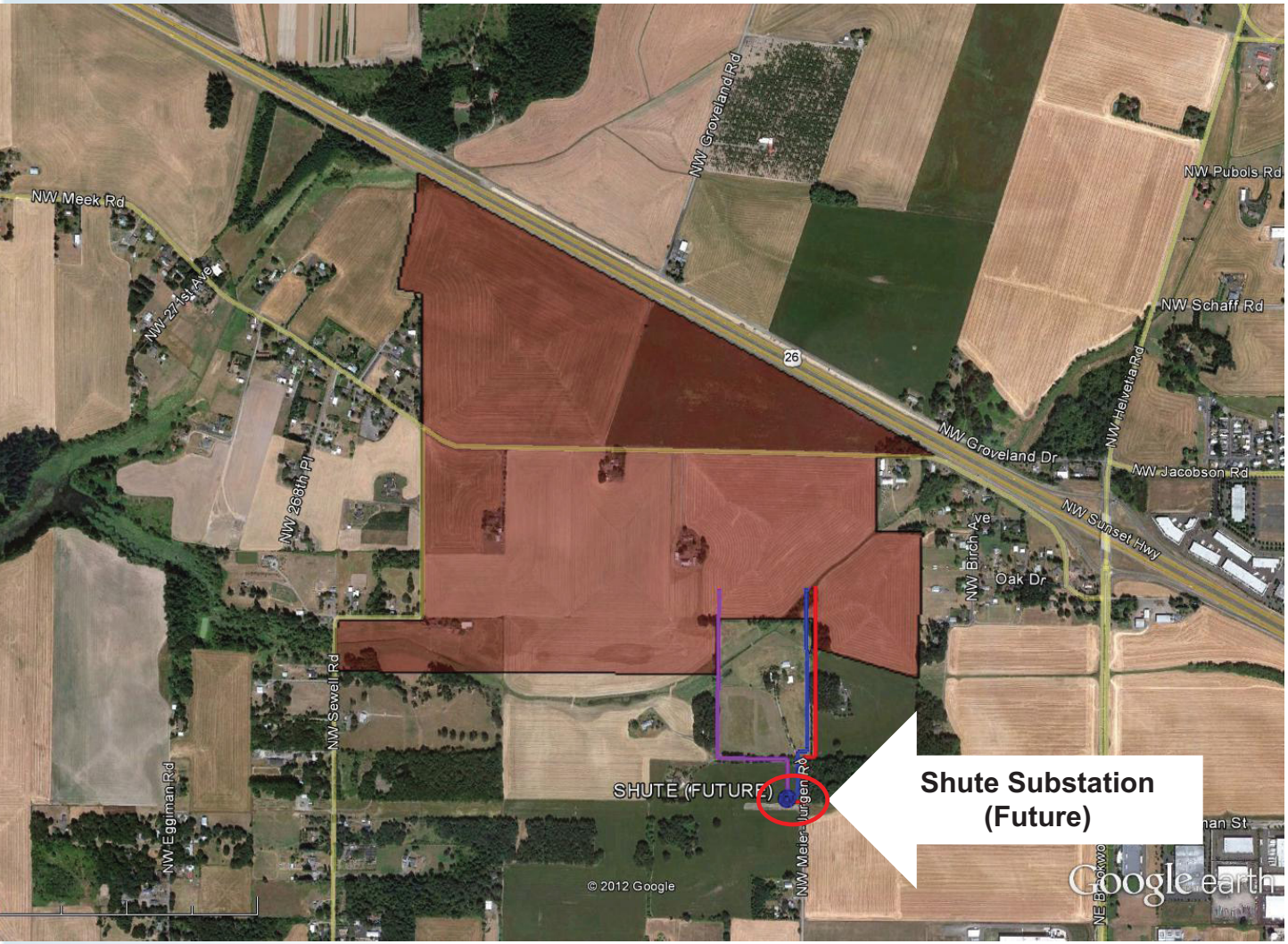
## *42.8 Acres, Sherwood/Tualatin*




- Projected use: General Manufacturing
- Projected demand: 3 MW
- Currently served by Six Corners Substation
- Existing transformer capacity up to 3 MW
- Existing feeder capacity up to 4.5 MW
- To meet demand a proposed new feeder from Six Corners Substation would be constructed; shown in red to the site
- Project grade = 2

# Proposed Service for Hillsboro Urban Reserves

## *309.2 Acres, Hillsboro*




- Projected use: Regionally/ nationally scaled clean tech manufacturer; globally scaled clean tech campus
- Projected demand: 35 MW
- Will be served by the future Shute Substation at 35kV distribution voltage
- The proposed three feeders from Shute Substation are shown in red, blue, and purple
- Project grade = 3

# Contact Us

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