State of Oregon

Department of Environmental Quality

Memorandum

Date: November 28, 2018

To: FILE

Through: Kevin Parrett, Jeff Schatz, and Rebecca Wells-Albers

From: Kevin Dana

Northwest Region

Subject: Rockwood Rising, ECSI #6202; Staff Memorandum in support of a No Further

Action determination

This document presents the basis for the Oregon Department of Environmental Quality's (DEQ's) recommended No Further Action (NFA) determination for the Rockwood Rising site in Gresham. As discussed in this report, contaminant concentrations in soils, soil gas and groundwater are below acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340 Division 122, Sections 010 to 0140; and Oregon Revised Statutes 465.200 through 465.455.

The proposal is based on information documented in the administrative record for this site. A copy of the administrative record index is presented at the end of this report.

1. BACKGROUND

Site location.

The site's location can be described as follows:

- Address: Between Burnside and Stark Streets at SE 187th Avenue, Gresham, Multnomah County, Oregon.
- Latitude 45.5200° North, Longitude 122.4715° West
- Tax lots 7900 & 7901, Township 1 North, Range 3 East, Section 32 CC, Willamette Baseline and Meridian.

Site setting.

The Rockwood Rising site is located in the heart of the Rockwood Town Center in Gresham. The site is bounded by SE Burnside Road to the north, SE Stark Street to the south, the abandoned SE 188th Avenue right-of-way to the east, and SE 185th Avenue to the west. See Attachment 1 for a metro area map, Attachment 2 for a topographic map, and Attachment 3 for an aerial site map. A rendering of the Rockwood Rising development is included on Attachment 4. The site includes two tax lots covering 5.48 acres as well as narrow strips of adjacent rights-of-way. The two tax lots are separated by SE 187th Avenue.

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Hydrogeologic setting.

A Geotechnical Investigation completed at the site in January 2016 reported that "surficial fill consisting of poorly compacted, gravelly, sandy, clayey silt was encountered across the site" to depths of 1½ to 4½ feet below ground surface (bgs), and was underlain by "silty, sandy gravel with cobbles and occasional boulders". The gravels extended to a maximum explored depth of 45 feet bgs. Groundwater was encountered at an average depth of 35 feet bgs in three on-site monitoring wells. The groundwater gradient across the three wells was to the west.

Site history.

Based on aerial photographs, the Rockwood Rising site was occupied by rural residences from at least 1935 to 1955. A Fred Meyer store was constructed on the large, western tax lot circa 1958, and the Rockwood Shopping Center, a multi-tenant commercial building, was constructed on the small, eastern tax lot around the same time. A dry cleaning facility, operating under various names including Rockwood Cleaners and The Laundry Basket Coin-Op, operated from a storefront at the south end of the Rockwood Shopping Center from at least 1967 to about 1980.

The Fred Meyer store was vacated in 2005 and razed in 2007. The Gresham Redevelopment Commission purchased the site in March 2010. At that time, the northern 4,000 square feet of the 12,000 square foot Rockwood Shopping Center was torn down, and the remainder of the facility was remodeled into a Community Office Building. In 2011, the SE 187th Avenue right-of-way was constructed and the SE 188th Avenue right-of-way was abandoned. The Fred Meyer lot remained vacant until construction began on the Rockwood Rising development in 2018.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

The Rockwood Rising site and all surrounding properties are zoned Rockwood Town Center (RTC) by the City of Gresham, as shown on Attachment 5. The zoning at the heart of the Town Center is intended to encourage "high-density residential, office, commercial, service and institutional mixed-use development in a village type urban form".

Groundwater use.

A Beneficial Water Use Determination conducted for the East Multnomah County Courthouse (southwest of the site across Stark Street) in 2011 identified about a dozen possible water supply wells within a one-mile radius of the site. The inferred well locations are shown on Attachment 6. The nearest potentially downgradient wells are approximately ¾ of a mile to the north and one mile to the west of the site.

A municipal water supply is provided to the area by the Rockwood Water People's Utility District. Rockwood Water PUD obtains its water from two surface water reservoirs in the Bull Run watershed on the western slopes of Mount Hood, and supplements its supply with groundwater from the Columbia South Shore Well Field and the Cascade Well Field.

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Surface water use.

The nearest surface water bodies are rock quarry ponds half a mile southeast of the site, as shown on Attachment 6. No other water bodies are present within a one mile radius of the site. Stormwater at the former Fred Meyer store was directed into the ground through at least nine underground injection control (UIC) wells, also known as dry wells. The new Rockwood Rising development will direct stormwater into the ground through a similar network of UICs.

3. INVESTIGATION AND CLEANUP WORK

A Phase 1 Environmental Assessment of the Fred Meyer store was completed in February 1996. No Recognized Environmental Conditions were identified at the site, but a handful of potentially contaminated sites were identified in the surrounding area. Three groundwater monitoring wells, labeled MW-1 through MW-3, were installed along the perimeter of the site in March 1996 to determine if any contaminated groundwater was present beneath the site. The well locations are shown on Attachment 3. Groundwater samples from the wells were analyzed for petroleum hydrocarbons and volatile organic compounds (VOCs). No contaminants were detected in MW-1 and MW-2. Four chlorinated solvents were detected in MW-3: 1,1-dichloroethane (at a concentration of 5.6 parts per billion [ppb]), 1,1-dichloroethene (at 1.2 ppb), tetrachloroethene (at 22.4 ppb), and 1,1,1-trichloroethane (at 21.4 ppb).

A follow-up groundwater sample was collected at the site in October 2005 during another Environmental Site Assessment. The sample was collected at a depth of 62 feet bgs from a sonic boring (labeled KA-1) installed adjacent to MW-3. The sample was analyzed for VOCs, but only naphthalene (at a concentration of 1.35 ppb) was detected.

The three monitoring wells were resampled in March 2017 as part of a groundwater investigation for the Gresham Redevelopment Commission (GRDC). Groundwater samples from the three wells were analyzed for gasoline, diesel, heavy oils, VOCs, and polycyclic aromatic hydrocarbons (PAHs). Chloroform was detected in MW-1 at a concentration of 1.36 ppb, and in MW-2 at 1.14 ppb. Tetrachloroethene was detected in MW-3 at a concentration of 0.791 ppb. No other contaminants were detected in the wells.

The GRDC signed a Voluntary Cleanup Letter Agreement with DEQ in July 2017 to investigate and remediate the site prior to the construction of the Rockwood Rising development. The GRDC also submitted a Pre-Closure Notification form for Class V stormwater dry wells (UICs). Historical records indicated that 12 UICs were present at the site: 11 on the Fred Meyer property and one on the north side of the Community Office Building. Sediment samples would be collected from the bottom of each UIC and analyzed for petroleum hydrocarbons and metals. Once any contamination was removed, the UICs would be decommissioned by filling with Controlled Density Fill. DEQ's UIC Program approved the closure plan on August 15.

GRDC also anticipated excavating and removing 20,000 cubic yards of surface soils from the site as part of the Rockwood Rising development. To characterize the soils, samples would be collected above each of the dry wells and from five test pits across the site and analyzed for petroleum hydrocarbons and metals. Finally, five sub-slab vapor samples would be collected

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beneath the Community Office Building, and a soil gas sample would be collected at five feet bgs from a boring to the north of the building. The six vapor samples would be analyzed for "solvent-related VOCs".

The sampling was conducted in October 2017, and the sample locations are shown on Attachment 7. Up to 24 suspected UICs on and near the site were identified:

Suspected UICs

		Suspected OTCs		
	Location	Type	Depth	Contaminants
UIC-1	NW corner of site	No UIC identified to 5 ft. bgs		
UIC-2	NW corner of site	No UIC identified to 5 ft. bgs		
UIC-3	West edge of site	No UIC identified to 6 ft. bgs		
UIC-3A	185 th Avenue	City of Gresham		
UIC-3B	185 th Avenue	City of Gresham		
UIC-4	SW corner of site	No UIC identifi	ied to 8 ft. bgs	
UIC-5	SW corner of site	Dry well	6-20 ft. bgs	13,900 ppm oil 441 ppm lead
UIC-6A	South of Fred Meyer	Dry well	4½-24½ ft. bgs	No sediments
LUC (D	Caratha of Fina 1 Marray	C4 V 14		were present
UIC-6B	South of Fred Meyer	Stormwater Vault		
UIC-7	187 th Avenue at Stark	City of Gresham	2 22 6 1	4.020
UIC-8	East of Fred Meyer	Dry well	2-23 ft. bgs	4,030 ppm oil 200 ppm lead
UIC-9	North of Community	Dry well	4-22 ft. bgs	8,990 ppm oil
	Office Building			638 ppm lead
UIC-10	NW of 187 th Avenue	No UIC identifie	No UIC identified to 6¾ ft. bgs	
UIC-11	NE of Fred Meyer	Dry well	3-23 ft. bgs	9,800 ppm oil 705 ppm lead
UIC-12	East of Fred Meyer	Dry well	5½-26 ft. bgs	1,070 ppm oil 8.88 ppm lead
UIC-13	South of Fred Meyer	Dry well	5½-33 ft. bgs	36,000 ppm oil 342 ppm lead
UIC-14A	East of Fred Meyer	Septic tank cover		
UIC-14B	East of Fred Meyer	Septic tank cover		
UIC-15	Burnside at 188 th Ave.	City of Gresham		
UIC-16	NE of Fred Meyer	Dry well	2½-23 ft. bgs	6,100 ppm oil 127 ppm lead
UIC-17	North end of parking lot	Seepage pit	5-22½ ft. bgs	131 ppm oil 362 ppm lead
UIC-18	North end of parking lot	Seepage pit	5-25½ ft. bgs	11 ppm lead
UIC-19	NW corner of site	Dry well	4-24 ft. bgs	2,190 ppm oil
		,		317 ppm lead
UIC-20	East of Fred Meyer	Seepage pit	6 ³ / ₄ -25 ¹ / ₄ ft. bgs	No sample collected

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No UICs were identified in five of the 12 locations indicated by historical records. Dry wells were present in six of the other locations and in three new locations, for a total of nine at the site. (UIC-7 had been repurposed by the City of Gresham during the construction of SE 187th Avenue). Each of the nine dry wells was constructed as a 4-foot diameter concrete cylinder, beginning 2-6 feet bgs and extending to depths of 20-33 feet bgs. Three septic system seepage pits, constructed in the same manner as the dry wells, were also identified, along with a stormwater sedimentation vault. Four City of Gresham UICs (including UIC-7) were identified in the surrounding rights-of-way but were not investigated. The two remaining suspected UICs were determined to be access ports for a concrete septic tank.

Sediment samples were collected from the bottom of the dry wells and septic system seepage pits and analyzed for petroleum hydrocarbons and metals. Heavy oils were present at concentrations up to 36,000 ppm, along with elevated concentrations of cadmium (up to 3.45 ppm), chromium (up to 112 ppm), lead (up to 705 ppm), mercury (up to 0.802 ppm), and silver (up to 1.82 ppm). The sediment sample from UIC-9 (at the north end of the Community Office Building) was also analyzed for VOCs. No VOCs were detected.

To characterize the surface soils at the site, samples were collected at 1 foot bgs from 11 of the first 12 UIC locations (all but UIC-7). Soil samples were also collected from four test pits at the site (TP-1 through TP-4) at depths of 1 foot and 4 feet bgs, and from a fifth test pit (TP-5) at 1 foot bgs. The 20 surface soil samples were analyzed for petroleum hydrocarbons and metals. Only metals were detected, generally at concentrations consistent with naturally-occurring background levels. One sample showed a concentration of lead (36.5 ppm) above the clean fill standard of 28 ppm, and four samples showed elevated concentrations of cadmium (up to 1.01 ppm). However, both the average and median values of cadmium and lead in the soils were below clean fill standards.

A soil gas sample (SG-1) was collected to the north of the Community Office Building at a depth of five feet bgs, and five sub-slab vapor samples (SG-2 through SG-6) were collected beneath the floor of the building, at the locations shown on Attachment 8. The soil gas and vapor samples were analyzed for VOCs. Three VOCs were detected: 1,1-difluoroethane, a leak detection compound, at concentrations up to $46 \mu g/m^3$; tetrachloroethene at concentrations up to $160 \mu g/m^3$; and 1,1,1-trichloroethane at concentrations up to $31 \mu g/m^3$.

Sediments and septic solids were subsequently vacuumed out of the dry wells and septic system seepage pits, respectively, and shipped off-site for disposal. The dry wells and seepage pits were backfilled with Controlled Density Fill (CDF) in December 2017. A 1,800-gallon steel septic tank (identified as UST-1 on Attachment 7) was excavated and removed, as was the stormwater sedimentation vault (UIC-6B). The concrete septic tank (ST-1 on Attachment 7) was determined to have been previously backfilled with sand.

Nature and extent of contamination.

Petroleum hydrocarbons (heavy oils) and metals were present in dry well sediments at the site. Chloroform and tetrachloroethene were detected in the groundwater, and tetrachloroethene was detected along with 1,1,1-trichloroethane in soil vapors.

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4. RISK EVALUATION

Conceptual site model.

A conceptual site model identifies the sources of contamination at a site, the human or ecological receptors that could be exposed to the contamination, and the pathways by which the exposures could occur.

To evaluate human exposure to residual chemical contamination requires an assessment of the type and extent of that exposure. This is based on current and reasonably likely future site use. DEQ publishes risk-based concentrations (RBCs) for contaminants commonly encountered, for different types of exposure scenarios. These RBCs are conservative estimates of protective levels of contaminants in soil, groundwater and air. Table 1 shows potential exposure pathways and receptors for this site. Based on this, applicable RBCs are identified and used for risk screening.

Table 1. Identification of applicable RBCs, based on pertinent pathways and receptors

Pathway	Receptor	Applicable RBC?	Basis for exclusion
	GROUNDV	VATER	
Ingestion and	Residential	No	See Note 1 & Note 2.
inhalation from tap	Urban residential	No	See Note 2.
water	Occupational	No	See Note 2.
Volatilization to	Residential	No	See Note 1.
outdoor air	Urban residential	Yes	
	Occupational	Yes	
Vapor intrusion into	Residential	No	See Note 1.
buildings	Urban residential	Yes	
	Occupational	Yes	
Groundwater in	Construction and	No	See Note 3.
excavation	excavation worker		
	SOIL (GAS	
Vapor intrusion into	Residential	No	See Note 1.
buildings	Urban Residential	Yes	
	Occupational	Yes	

Notes:

- 1. Based on the zoning, single-family residences are unlikely to be developed at the site.
- 2. A municipal water supply is available to the area, and no domestic water wells have been identified in the vicinity of the site. This exposure pathway is not likely to be complete.
- 3. Groundwater is present at about 35 feet bgs at the site. Construction and excavation work is generally assumed to extend only up to 15 feet bgs at sites.

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Contaminants of Potential Concern (COPCs) are contaminants that are present at a site at concentrations exceeding an RBC for a complete exposure pathway. Surface soils on the Fred Meyer parcel were characterized as clean fill, as no contaminants of interest were detected above concentrations of concern. Soils on the Community Office Building parcel were not sampled, as sub-slab vapor sampling did not indicate the presence of VOCs at concentrations of concern.

With the approval of DEQ's UIC Program, sediments in the dry wells and seepage pits were characterized for waste disposal, then vacuumed out and disposed of off-site. The sediments were not analyzed for all contaminants of interest, and no post-removal confirmation samples were collected. However, given that the dry wells and seepage pits were backfilled with Controlled Density Fill (CDF), and given that the contaminated sediments were more than 15 feet bgs, no future direct contact with residual contaminated sediments is anticipated, and volatilization potential is expected to be minimal.

Only two contaminants were detected in the groundwater in the most recent round of sampling (March 2017) at Rockwood Rising, and only two contaminants were detected in soil gas and subslab vapor samples at the Community Office Building.

Contaminant concentrations.

Contaminants in the groundwater may volatilize to outdoor air and be inhaled by future residents and occupants at the site and on adjacent properties. Table 2 shows the maximum concentrations of contaminants recently detected in the groundwater, and compares those concentrations with DEQ's volatilization to outdoor air RBCs to determine if there are any COPCs.

Table 2. Screening for Urban Residential and Occupational COPCs for the Volatilization to Outdoor Air exposure pathway for groundwater contaminants.

Contaminant of Interest	Maximum GW Concentration	Urban Residential RBC	Occupational RBC	COPC (Y/N)
Chloroform	1.36 ppb	3,400 ppb	6,300 ppb	N
Tetrachloroethene	0.79 ppb	150,000 ppb	>S	N

Notes:

1. The symbol ">S" signifies that the RBC for this contaminant under this exposure pathway exceeds the solubility limit of the contaminant. Groundwater concentrations in excess of the solubility limit would indicate the presence of free product.

Contaminants in the groundwater may volatilize and intrude into buildings at the site and on adjacent properties. Table 3 (on the following page) shows the maximum concentrations of contaminants recently detected in the groundwater, and compares those concentrations with DEQ's vapor intrusion into buildings RBCs to determine if there are any COPCs.

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Table 3. Screening for Urban Residential and Occupational COPCs for the Vapor Intrusion into Buildings exposure pathway for groundwater contaminants.

Contaminant of Interest	Maximum GW Concentration	Urban Residential RBC	Occupational RBC	COPC (Y/N)
Chloroform	1.36 ppb	290 ppb	1,600 ppb	N
Tetrachloroethene	0.79 ppb	8,700 ppb	48,000 ppb	N

Finally, contaminants in soil gas and sub-slab vapors may intrude into buildings at the site and on adjacent properties. Table 4 shows the maximum concentrations of contaminants detected in soil gas and sub-slab vapors at the site, and compares those concentrations with DEQ's vapor intrusion into buildings RBCs to determine if there are any COPCs.

Table 4. Screening for Urban Residential and Occupational COPCs for the Vapor Intrusion into Buildings exposure pathway for soil gas contaminants.

Contaminant of Interest	Maximum Soil Gas Concentration	Urban Residential RBC	Occupational RBC	COPC (Y/N)
Tetrachloroethene	$160 \mu g/m^3$	$5,100 \mu g/m^3$	$47,000 \mu g/m^3$	N
1,1,1-Trichloroethane	$31 \mu g/m^3$	$1,000,000 \mu \text{g/m}^3$	$21,900,000 \mu g/m^3$	N

In summary, no COPCs are present at the site.

Human health risk.

Contaminants of Concern (COCs) are those chemicals at a site that present an unacceptable risk to human health or the environment. No COCs are present at the Rockwood Rising site.

Ecological risk.

A formal ecological risk assessment was not conducted for this site. The site is located in an urban area, and is being redeveloped for urban residential and commercial use. As no significant ecological habitats are present, no adverse impacts to ecological receptors are anticipated.

5. RECOMMENDATION

Following removal of contamination and based on sample results for soil, groundwater and soil gas, acceptable risk levels are not exceeded, and a No Further Action determination is recommended for this site. The No Further Action determination will be recorded in DEQ's Environmental Cleanup Site Information database (ECSI #6202).

6. ADMINISTRATIVE RECORD

- 1. Dames & Moore "Phase II Groundwater Investigation" (March 25, 1996).
- 2. Kleinfelder "Phase II Environmental Site Assessment Report" (November 3, 2005).
- 3. Environmental Works "Phase I Environmental Site Assessment" (January 15, 2016).

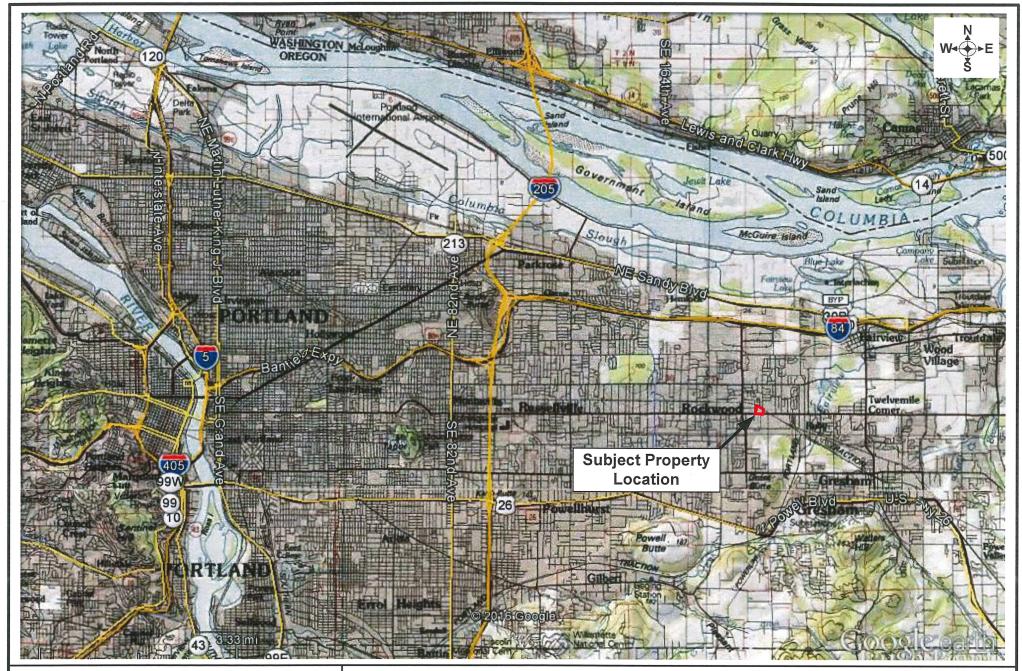
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- 4. Environmental Works "Phase I Environmental Site Assessment" [for Parcels A-E] (July 1, 2016).
- 5. Environmental Works "Phase II Groundwater Evaluation Report" (April 26, 2017).
- 6. Environmental Works "Sampling and Analyses Plan" (October 6, 2017).
- 7. Environmental Works "Stormwater UICs and Seepage Pits Closure; and Site Characterization Report" (April 23, 2018).

7. ATTACHMENTS

- 1. Metro Area Map
- 2. Topographic Map
- 3. Aerial Site Map
- 4. Rockwood Rising Rendering
- 5. Zoning Map
- 6. Water Well Locations Map
- 7. Soil & Sediment Sample Locations Map
- 8. Soil Gas Sample Locations Map

Metro Area Map



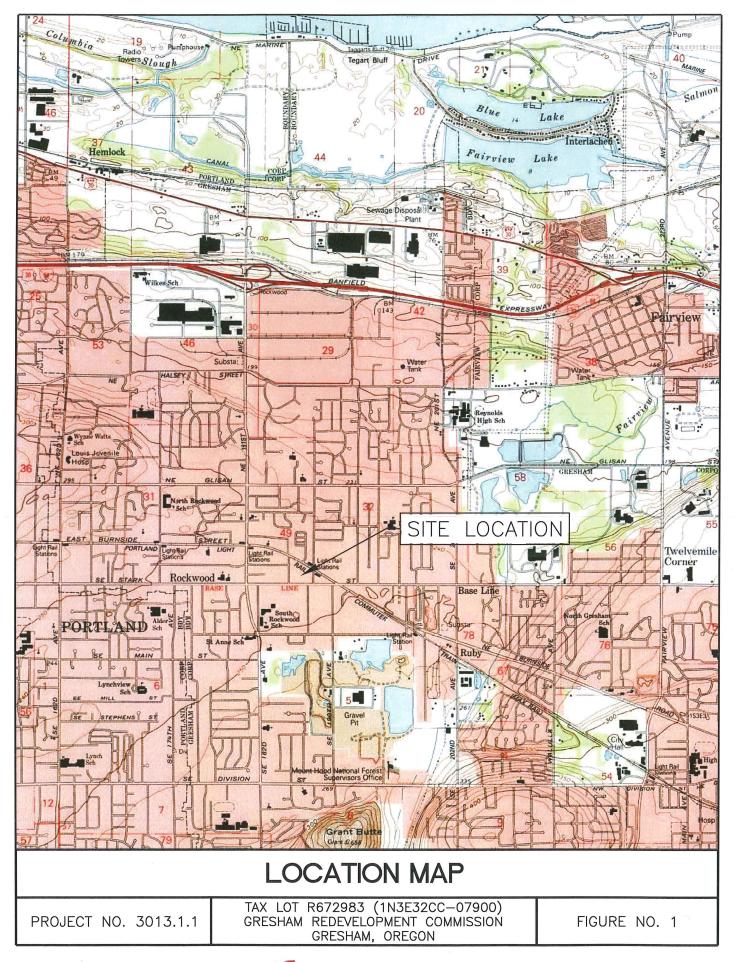


2634 SE Steele St. Portland, OR 97202

FIGURE 1: SUBJECT PROPERTY LOCATION

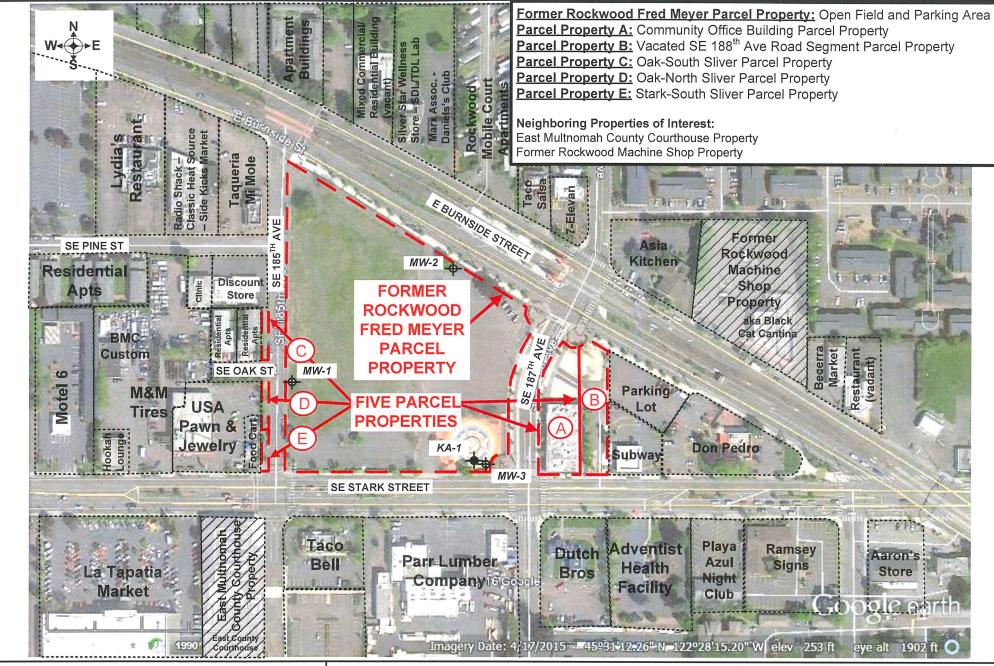
PHASE II GROUNDWATER CHARACTERIZATION REPORT ROCKWOOD RISING REDEVELOPMENT PROJECT 18535 SE Stark Street Gresham, Oregon 97233

Topographic Map





Aerial Site Map





2634 SE Steele St. Portland, OR 97202

FIGURE 2: SITE PLAN MAP

PHASE II GROUNDWATER EVALUATION REPORT ROCKWOOD RISING REDEVELOPMENT PROJECT 18535 SE Stark Street, Gresham, Oregon 97233

Rockwood Rising Rendering

Project Plan

JOB TRAINING AND ENTREPRENEURSHIP

Get job training in manufacturing, construction, medical, technology and food service fields. Launch your small business dream with our small business assistance programs.

MARKET HALL

Shop at your new international grocery marketplace.

Discover a world of diverse ethnic food options.

MIXED-USE VILLAGE

Get access to a new health clinic, child care, community bank, and employment services. Take computer classes and learn new skills.

Make yourself at home in one of our mixed income apartments (including affordable units).

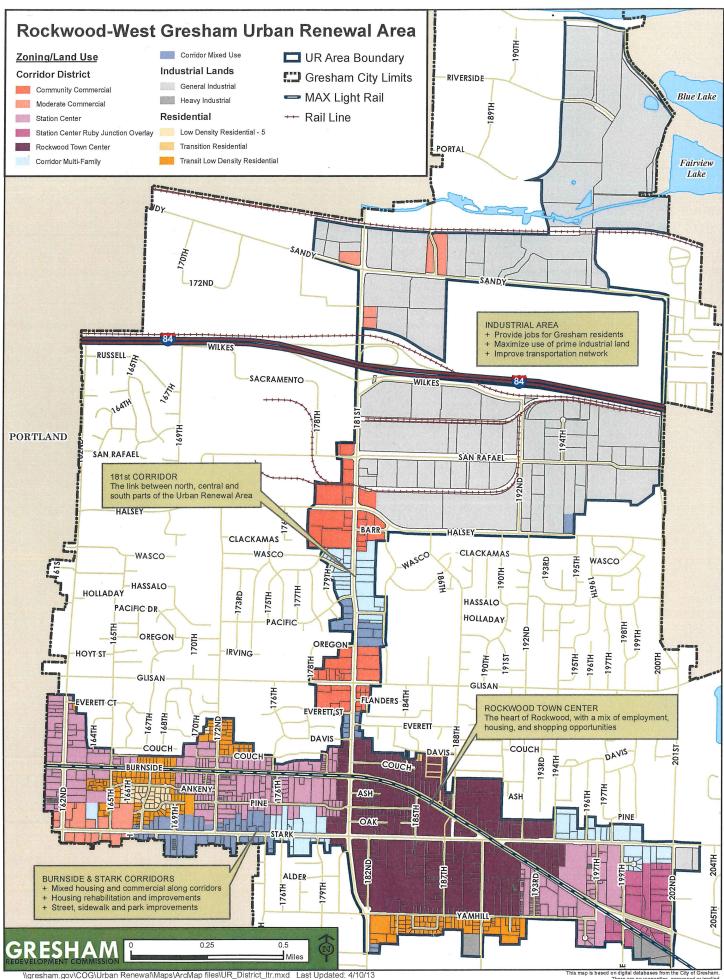
COMMUNITY PLAZA

Come play in the new public square, with a water feature and playground for kids, public art, festivals and events.



(/design)

Zoning Map

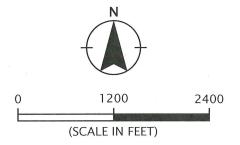


Water Well Locations Map

WATER WELL (MULT__)

2955 🕀

WATER RIGHT POINT OF APPROPRIATION



SITE PLAN BASED ON DRAWING PROVIDED BY MULTNOMAH COUNTY TAX ASSESSORS OFFICE MARCH 17, JUNE 16, AND NOVEMBER 30, 2010

CEODESIGNE

JUNE 2011

FIGURE C-1

WATER WELL LOCATION MAP

PROPOSED EAST MULTNOMAH COUNTY COURTHOUSE GRESHAM, OR

Soil & Sediment Sample Locations Map

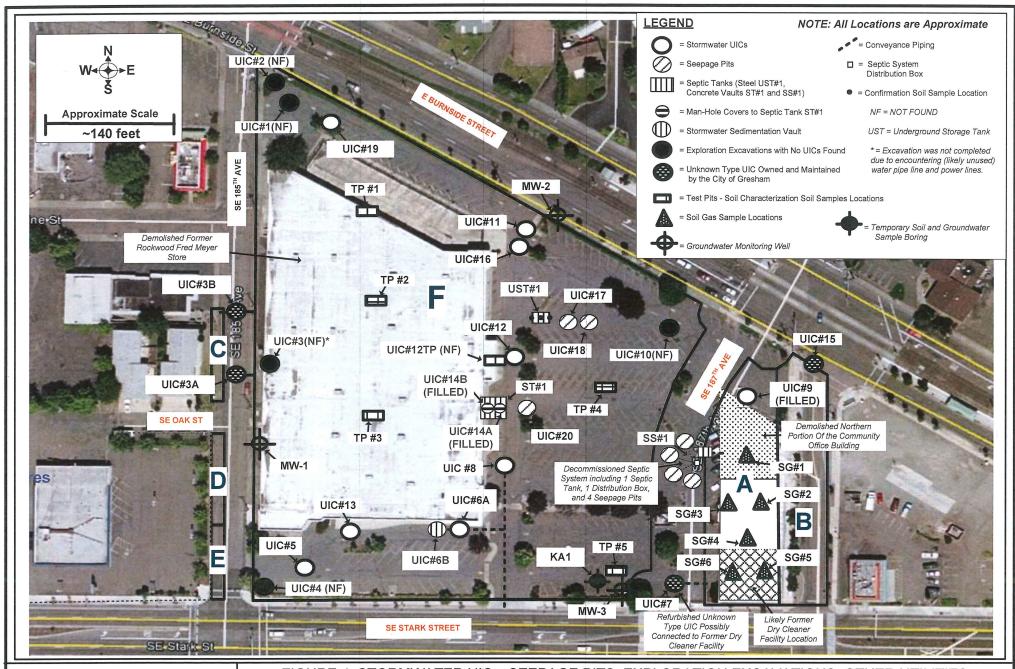


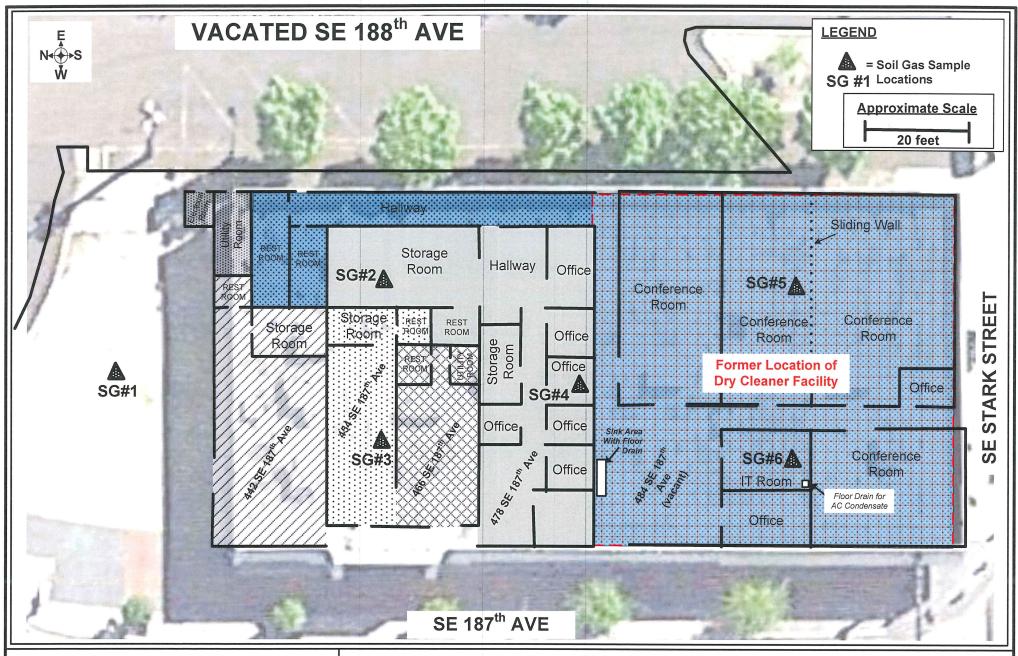


FIGURE 4: STORMWATER UICs, SEEPAGE PITS, EXPLORATION EXCAVATIONS, OTHER UTILITIES, TEST PITS, SOIL SAMPLES, SOIL GAS SAMPLES, AND GROUNDWATER MONITORING WELLS LOCATIONS

STORMWATER UICS AND SEEPAGE PITS CLOSURE; AND SITE CHARACTERIZATION REPORT ROCKWOOD RISING REDEVELOPMENT PROJECT

SIX (6) PARCEL PROPERTIES LOCATED IN THE VICINITY OF 18535 SE STARK STREET, GRESHAM, OREGON 97233

Soil Gas Sample Locations Map





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FIGURE 3: COMMUNITY OFFICE BUILDING ON PARCEL PROPERTY A BUILDING FLOOR PLAN AND SOIL GAS SAMPLE LOCATIONS

STORMWATER UICS AND SEEPAGE PITS CLOSURE; AND SITE CHARACTERIZATION REPORT ROCKWOOD RISING REDEVELOPMENT PROJECT

SIX (6) PARCEL PROPERTIES LOCATED IN THE VICINITY OF 18535 SE STARK STREET, GRESHAM, OREGON 97233