

State of Oregon
Department of Environmental Quality

Memorandum

Date: November 27, 2024

To: FILE

Through: Bruce Scherzinger, RG, Lead Worker
Brad Shultz, Manager
Western Region Cleanup Program

From: Anthony Chavez
Western Region

Subject: Former Scio Auto, LUST #22-99-4027; Staff Memorandum in support of a Conditional 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 former Scio Auto Parts located at 39011 Highway 226 in Scio, Oregon. As discussed in this report, contaminant concentrations in soil and groundwater appear to have stabilized, and with appropriate property use restrictions on the site and two adjoining properties, the identified contaminants can be managed to acceptable risk levels.

The proposed NFA determination meets the requirements of Oregon Administrative Rules Chapter 340, Division 122, Sections 0205 to 0360; and ORS 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

The site's location can be described as follows:

- Address: 39011 Highway 226, Scio, in Linn County Oregon
- Latitude 44°42'14" North, Longitude 122°50'50" West
- Township 10 South, Range 1 West, Section 18, Willamette Meridian
- Tax Map Number 10S01W18AD, Tax Lot 500

Site setting.

The site is occupied by an automotive collision and restoration shop, office and garage. It's located on the northeast corner of the intersection of Albany-Lyons Highway (OR Highway 226) and Ash Street in a mixed residential and commercial use area of Scio, Oregon. The tax lot size is approximately 0.30 acres and is zoned Commercial. The ground surface is mostly paved and covered with buildings. Thomas Creek adjoins the site to the north with an approximate 20-foot embankment. Oregon Highway 226 adjoins the site to the south.

Adjoining properties are zoned commercial, however single-family residences are present. See attached City of Scio zoning map. A few commercial use lots are in the surrounding neighborhood. Previous site use included an auto repair, parts store, and gas station.

Physical setting.

- Elevation of the site is approximately 320 feet above mean sea level.
- Topography is essentially flat at the site, with a regional gradient sloping gently west. On the property there is a 20-foot embankment to the north and Thomas Creek.
- According to onsite environmental investigations, depth to groundwater seasonally fluctuates and ranges between approximately 5 and 15 feet below ground surface (bgs).
- Site geology consists of unconsolidated alluvial deposits, containing clays, sands, and gravels.
- Groundwater flow direction has been consistently measured towards the north-northwest.
- The nearest surface water is Thomas Creek and is located along the northern property boundary and at the bottom of an approximate 20-foot-long embankment.

Site history.

A repair and automobile fueling service station has operated on the property prior to at least 1970. Sometime between 1970 and 1989, two fuel underground storage tanks (USTs) were reportedly decommissioned when the property was purchased by the current landowner (MSBA, 2020). No sampling or reporting has been identified for the work. Fueling at the property continued until 1998. During 1999, four remaining USTs were decommissioned. Three of the USTs were decommissioned by removal, and one was decommissioned in-place. Sampling identified significant contamination to soil and groundwater and the site was given the leaking underground storage tank (LUST) identification number 22-99-4027. Between 2000 and 2020 several subsurface investigations and remedial efforts occurred on and off the property. Based on findings, the contamination likely resulted from leaking of the UST system and possible mismanagement of waste oil disposal, i.e., dumping onto the ground.

2. BENEFICIAL LAND AND WATER USE DETERMINATIONS

Land use.

The property is zoned for commercial use and is situated in a commercial zoned area of Scio. However, surrounding properties are largely in single-family residential use, including all adjacent properties to the site. According to City of Scio staff, future land use at the site and within the locality of facility (LOF) is anticipated to remain the same.

Groundwater use.

Municipal water is provided to users on the site and within the surrounding area. A search of the Oregon Water Resources Department (WRD) database was completed and identified 101 wells located within a 0.25-mile radius in Sections 17 and 18 in Township 10 South, Range 1 West.

The closest wells to the site are two domestic wells located approximately 480 and 520 feet north, across Thomas Creek and downgradient of the site. The wells are constructed to depths of 60 and 66 feet bgs, both with surface seals to approximately 20 feet bgs. Static water levels were

reportedly measured between 25-30 feet bgs in the wells. The next closest well is located approximately 530 feet southeast and is cross gradient of the site. It is used for domestic purposes, is 220 feet deep, and has a surface seal completed to 25 feet. Static water level was reported at 60 feet bgs. Additional domestic use wells in the area are of similar construction and are either across Thomas Creek and/or cross gradient from the site. To confirm the results of the Oregon WRD database search of water wells in the vicinity of the site, a door-to-door and mail-in survey of adjacent and nearby area properties was completed. The survey was requested and approved by DEQ. No additional residential use water wells were identified during the survey.

Because the groundwater gradient at the site travels north toward Thomas Creek, groundwater contamination from the site is not expected reach the nearest wells located across the creek, to the north. Additionally, based on reported distances the contamination from the site is unlikely to migrate to crossgradient and/or upgradient wells in the area.

Given the groundwater use in the area and within the LOF, there does not appear to be current or likely future beneficial uses of groundwater.

Surface water use.

The nearest surface water is Thomas Creek located adjoining to the northern property boundary. At the location of the site, Thomas Creek flows east to west and joins with the South Santiam River approximately 6.2 miles southwest from the site. From the northern edge of the property there is an approximate 20-foot embankment leading down to Thomas Creek. The creek is presumably used by area recreational users, including for fishing and by migratory birds. As such, beneficial uses of Thomas Creek are applicable.

Stormwater from the site flows to a storm drain near the southwest corner of the property and discharges to an outfall along the Thomas Creek embankment immediately northwest of the site.

3. INVESTIGATION AND CLEANUP WORK

Prior to 1989 two fuel USTs of unknown size and contents were reportedly decommissioned at the site. Soil and groundwater samples were not collected during the UST decommissioning work and a report was not submitted to DEQ. Automotive fueling and repair continued at the site until 1998. Under new property ownership, between February and May 1999, four additional USTs were decommissioned. Three of the USTs were decommissioned by removal, and one was decommissioned in-place. Initial sampling indicated that high levels of petroleum contamination was present in soil and groundwater.

Between 2000 and 2020, investigation and remedial activities were conducted on and off the site to characterize, remedy and monitor the magnitude and extent of contamination in soil, groundwater, soil gas, air and surface water.

In 2004, a dual phase extraction remediation system, with nine extraction wells, was installed on the site to remove free product from the subsurface. The extraction system operated between 2004 and 2019 and removed approximately 100 gallons of free product. Another approximately

13 gallons of free product were mechanically removed from wells. During final monitoring in 2020, free product was observed in monitoring wells MW-6, MW-7, MW-8, MW-9, MW-10, MW-11 and MW-14 (MSBA 2023).

Ground penetrating radar and electromagnetic survey mapping was conducted in 2020 to verify the presence/absence of potential additional subsurface sources of contamination and to verify the location of underground utilities in the vicinity of the site. The surveys did not reveal any features or anomalies which may represent additional sources of contamination. Utilities were mapped to locate sample locations close as possible, to verify if utility corridors are acting as a preferential pathway. During 2020, investigation activities included offsite residential soil gas and air sampling.

A Level 1 Ecological Risk Assessment (ERA) dated November 19, 2020, (MSBA, 2020) was completed for the site and concluded that there was no elevated risk to ecological receptors. DEQ approved the ERA in November 2020. A DEQ ecological risk assessor reviewed the ERA in 2023 and determined that ecological risks were not a concern for the site.

Surface water sampling was completed in Thomas Creek during September and December 2020, to evaluate possible ecological risks associated with petroleum contamination at the site. Detections in surface water samples collected upstream from the site were higher than those found downstream of the site. The greater upstream detections indicated the release at the site is not likely impacting Thomas Creek. Additionally, all detections were below surface water RBCs.

Nature and extent of contamination.

- Gasoline, diesel, oil and constituents (i.e., benzene, ethylbenzene, naphthalene, xylenes, etc.).
- Affected media include: soil, groundwater and soil gas.
- Identified contamination ranges from 0.5 feet to the groundwater table (approximately 10 feet).
- Site contamination extends across the Highway 226 right of way and onto the southern adjacent property. Additionally, impacts have been identified on the eastern adjoining property.
- The extent of site contaminates have been delineated in soil and groundwater and extend beneath residential properties south and east of the site.
- Free product has been greatly reduced, however trace amounts remain on the site and two adjoining properties to the east and south, crossing the Highway 226 right of way.

4. RISK EVALUATION

Conceptual site model.

A conceptual site model (CSM) was created to identify potentially complete exposure pathways whereby site contamination could potentially pose an unacceptable risk to human and ecological receptors. The following CSM was generated based on zoning, current and anticipated future land use, water use, and nature and extent of contamination.

Sources of contamination are leaking fuel USTs and UST system components, formerly on the site. Chemical results identified moderate to high detections of site contaminants in soil and groundwater. Meanwhile, detections were low in soil gas and crawlspace air. The highest

concentrations were detected within and immediately adjacent of the former UST nest area and towards Highway 226. Downgradient monitoring and surface water sampling did not indicate contaminants are migrating or impacting Thomas Creek. Based on current and anticipated future site and adjacent property use, pathways by which this contamination could reach human and/or ecological receptors include direct contact, vapor migration to outdoor and/or indoor air, and leaching to groundwater, where it may be ingested or where it may emerge as surface water.

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 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. An important element of risk screening are current and likely future land uses. The zoning for the site and surrounding properties is designated as commercial, however, there are several residential properties in the immediate vicinity of the site within the commercial zoning district, including the adjacent properties to the south, east, and west.

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

Pathway	Receptor	Applicable RBC?	Basis for selection/exclusion
SOIL			
Ingestion, dermal contact, and inhalation	Residential	Yes	See Note 1.
	Urban residential	No	
	Occupational	Yes	
	Construction worker	Yes	
	Excavation worker	Yes	
Volatilization to outdoor air	Residential	Yes	See Note 1.
	Urban residential	No	
	Occupational	Yes	
Vapor intrusion into buildings	Residential	Yes	See Note 1.
	Urban residential	No	
	Occupational	Yes	
Leaching to groundwater	Residential	Yes	See Note 1.
	Urban residential	No	
	Occupational	Yes	
GROUNDWATER			
Ingestion and inhalation from tap water	Residential	No	See Note 2.
	Urban residential	No	
	Occupational	No	
Volatilization to outdoor air	Residential	Yes	See Note 1.
	Urban residential	No	
	Occupational	Yes	
	Residential	Yes	See Note 1.

Pathway	Receptor	Applicable RBC?	Basis for selection/exclusion
Vapor intrusion into buildings	Urban residential	No	
	Occupational	Yes	
Groundwater in excavation	Construction and excavation worker	Yes	

Notes:

1. Urban residential risk scenarios are not applicable.
2. City water is provided. Local groundwater is not currently used in the immediate area for drinking water and is not likely to be used for this purpose in the future.

Contaminant concentrations.

Soil. Gasoline, diesel and oil, and their constituents, were identified above direct contact and/or ingestion RBCs in onsite and offsite soils from 7.5 feet below ground surface (bgs) to the shallow groundwater table at approximately 10-15 feet bgs. Detections ranged up to 28,500 micrograms per kilogram (mg/kg) for gasoline; 2,470 mg/kg for diesel; and 5,530 mg/kg for oil. Low levels of gasoline and diesel were also identified in shallow soils (approx. 0.5 feet bgs) along the Thomas Creek embankment, however, were below RBCs for all direct contact scenarios and below risk concentrations for ecological receptors. Arsenic was also found above soil direct contact RBCs but was below the established DEQ regional background concentration for the area. Polychlorinated biphenyls (PCBs) were analyzed in select soils, but not detected.

Because soil RBC exceedances were found greater than 3 feet bgs on and off the site, only the construction and excavation worker direct contact pathway present a potentially unacceptable risk for current and future users.

Groundwater. On site and offsite shallow groundwater contained gasoline, diesel and oil, and their constituents, above site applicable RBCs for ingestion, volatilization to outdoor air, vapor intrusion into buildings and direct contact in excavations. Detections in gasoline, diesel and oil ranged up to 75,700 micrograms per liter (mg/l); 14,700 mg/l; and 19,300 mg/l, respectively. Other notable groundwater impacts include; benzene detected up to 20,200 mg/l and ethylbenzene detected up to 1,120,000 mg/l. Following the operation of the extraction remediation system, site contaminant concentrations in groundwater generally decreased and will likely continue to decrease from natural attenuation. Arsenic was also found in groundwater above ingestion RBCs.

Based on the results of a beneficial water use determination, there are currently no identified receptors present via the groundwater ingestion pathway. However, to protect potential future property users, groundwater use should be restricted. To address the potential for unacceptable risks from groundwater to volatilization to outdoor air and vapor intrusion into buildings, follow up soil gas and air sampling was conducted on the site and on adjacent properties. The groundwater exceedances for possible direct contact by construction workers and/or excavation workers should be addressed through institutional controls, such as preparation and adherence to a site-specific health and safety plan (HASP) and contaminated media management plan

(CMMP), both placed on all effected property deeds through an easement and equitable servitude (EES). Additionally, groundwater RBC exceedances for construction and excavation workers are present near the Highway 226 right of way, which is owned and operated by the State of Oregon Department of Transportation (ODOT).

Soil Gas. To evaluate the potential for vapor intrusion into buildings on the site and on three adjacent properties to the west, east and to the south; five subslab and three subsurface soil gas samples were collected and analyzed during two separate seasonal events during May/June and December 2020. None of the soil gas samples possessed applicable RBC exceedances. Naphthalene and chloroform were identified above residential RBCs in one subslab soil gas sample collected from the site. However, the site is used and zoned for commercial purposes.

Air Sampling. To supplement soil gas data, one crawlspace air sample and a duplicate were collected at the adjoining residence south of the site. Two outdoor air samples were also collected in conjunction with the crawlspace air samples to evaluate ambient air. The residential RBCs for benzene, naphthalene, and carbon tetrachloride were exceeded in the crawlspace samples, however, they were also detected in both outdoor air samples at similar concentrations exceeding the RBCs. Since crawlspace air is primarily derived from outdoor air, in accordance with DEQ vapor intrusion guidance (DEQ 2024) the ambient air concentrations were subtracted from the crawlspace sample results. The calculated crawlspace sample results are below residential RBCs. The detections are attributed to vehicle traffic on the adjacent highway and/or painting at the auto body facility across the highway. In addition, concentrations in subslab vapor and subsurface vapor samples collected at the residence were below the soil vapor RBCs, confirming the detections in the crawlspace samples are due to ambient air. Following the sampling, DEQ agreed that additional crawlspace air sampling was not warranted.

Human health risk.

Based on reported findings, without restrictions unacceptable risks may be present to residential users, occupational users and construction and excavation workers at the site, in the highway right of way and at two adjoining properties to the south and east. As such, new buildings on the site and the southern and eastern adjoining properties must incorporate vapor intrusion mitigation. Also, a CMMP and HASP should be prepared and filed on county property deeds prior to site development plans for those three properties and prepared for any future work in the Highway 226 right of way.

Ecological risk.

Based on review of data collected in and around Thomas Creek, DEQ's ecological risk assessor determined there does not appear to be ecological risks associated with the site.

5. RECOMMENDATION

Product removal, site characterization, and investigation activities were performed in general accordance with DEQ guidance. The magnitude and extent of residual contaminants has been defined and contaminant monitoring has demonstrated that the contaminant plume is stable and attenuating. A dual phase extraction remediation system operated from 2004 to 2019 and

removed approximately 100 gallons of product as liquid and vapor. In 2020, the product thicknesses ranged from less than 0.01 to 0.03 foot. Based on monitoring, there was no appreciable increases, or a rebound in product thickness after 13 months of the remediation system not in operation. DEQ regulations state that “the responsible person must remove the free product to the maximum extent practicable”. As such, the site appears to comply with DEQ’s free product removal requirements. In addition, an ecological risk assessment determined no risks are present to ecological receptors.

Because unacceptable risks may be present for human receptors at the site and the two adjoining properties to the east and south, institutional controls shall be placed on the three properties to mitigate possible risk. Those controls include creation and implementation of a site-specific HASP and CMMP to be filed on the property deeds under an EES. The CMMP will be used to address the management of potentially contaminated media that could be encountered during redevelopment and any construction work in the Highway 226 right of way. The EES will also include property restrictions to ensure groundwater is not used and require new buildings on the site and two adjoining properties be designed to mitigate vapor intrusion. Designs may be passive or active in nature and should follow procedures outlined in the United States Environmental Protection Agency’s OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources to Indoor Air (OSWER Publication 9200.2-154 dated June 2015). Other vapor mitigation guidance may be used with prior written approval of the DEQ’s Environmental Cleanup Program. Documentation of any vapor resistant construction project shall be detailed in a report and submitted to the DEQ.

Upon the issuance of the preceding DEQ-approved institutional control documents, a No Further Action determination will be recommended for this site. The No Further Action determination will be recorded in DEQ’s LUST database (DEQ’s underground storage tank database (LUST No. 22-99-4027)).

6. ADMINISTRATIVE RECORD

Additional Site Investigation Report, Former Scio Auto Parts, Martin S. Burck Associates, Inc (August 26, 2020)

Ecological Risk Assessment Level 1 Scoping, Former Scio Auto Parts, Martin S. Burck Associates, Inc (November 19, 2020)

Risk-Based Closure Report, Former Scio Auto Parts, Martin S. Burck Associates, Inc. (April 5, 2023)

Guidance for Assessing and Remediating Vapor Intrusion in Buildings, Oregon DEQ, (March 2024)

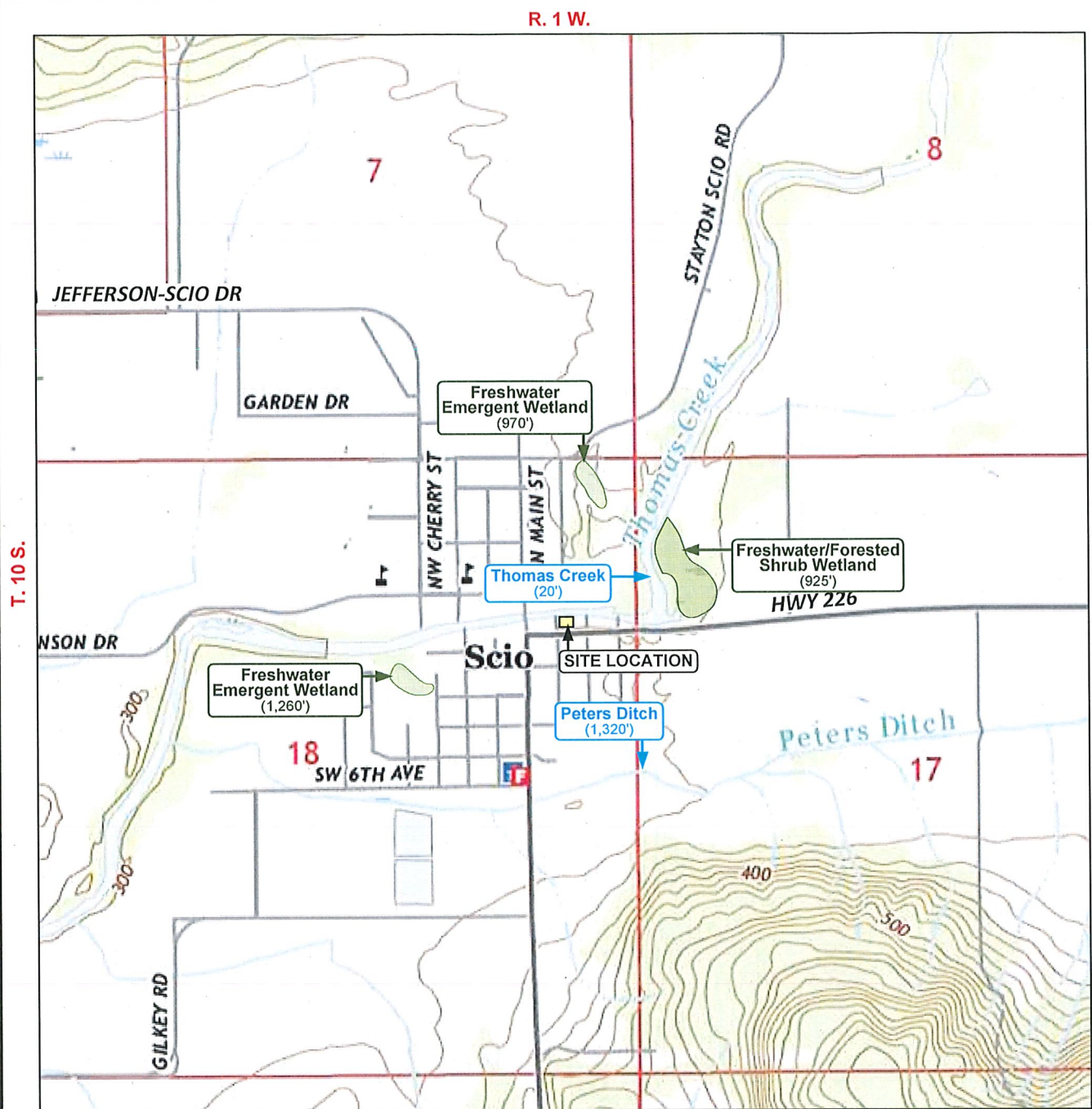
7. ATTACHMENTS

Figures:

1. Site Location Map
2. Site and Surrounding Properties
3. Water Well Location Map

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4. Zone Map
5. Tax Map



Adapted from: SCIO QUADRANGLE
Oregon, 7.5 Minute Series, Contour Interval 20 feet
USGS Topographic Map, 2020
North American Vertical Datum of 1989

MSBA
Martin S. Burck Associates, Inc.
Geologic and Environmental Consulting Services



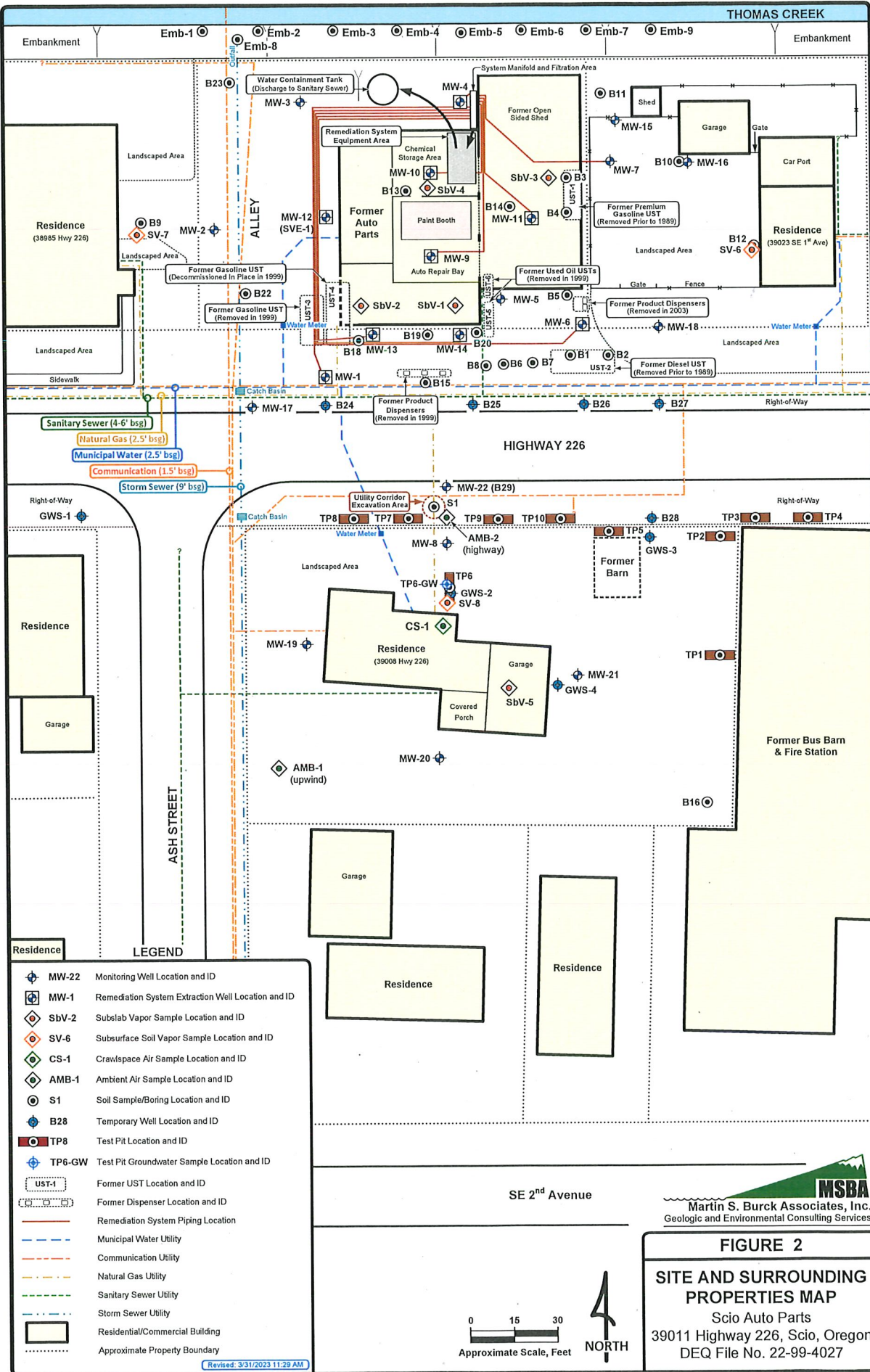
0 1/8 1/4
Approximate Scale (miles)

Revised: 3/30/2023 10:48 AM

FIGURE 1

SITE LOCATION MAP

Scio Auto Parts
39011 Highway 226
Scio, Oregon
DEQ File No.: 22-99-4027



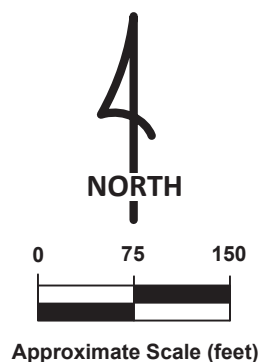


Adapted From Google Earth Imagery (7/26/18)

LEGEND

- Water Well Location and Associated WRD Well Log Number
Approximate Distance from Site (feet)
- Water Well not Present and Property is Supplied by
Municipal Water Source, Based on Correspondence
with Owner/Knowledgeable Person
- Contact with Owner/Knowledgeable Person Not Established
- Tax Lot Boundary and ID
- Inferred Groundwater Flow Direction

(Revised: 3/30/2023 11:16 AM)

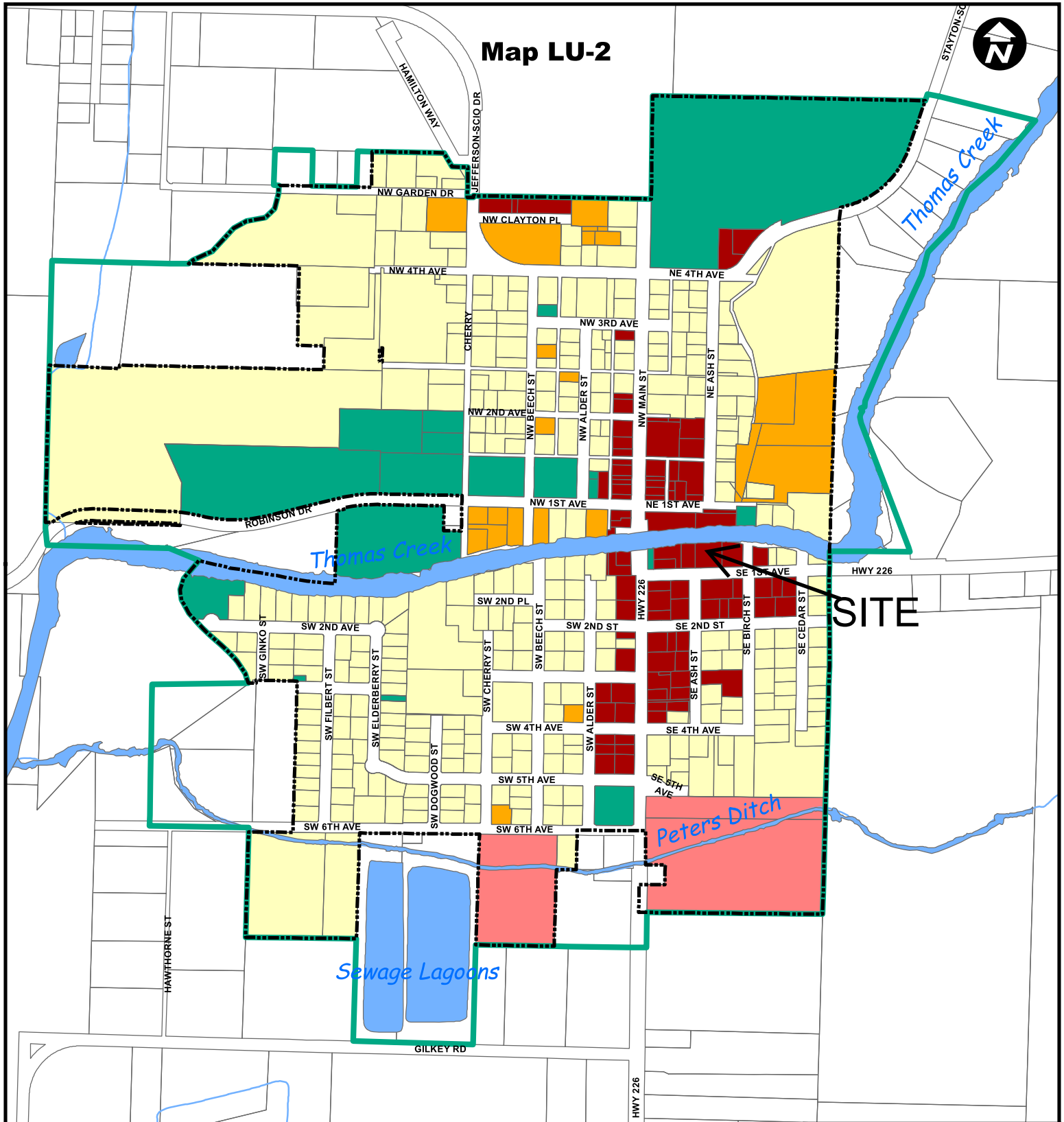


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Martin S. Burck Associates, Inc.
Geologic and Environmental Consulting Services

FIGURE 12

WATER WELL SURVEY MAP

Former Scio Auto Parts
39011 Highway 226
Scio, Oregon 97374
DEQ File No. 22-99-4027



City of Scio

Map Revised 04/15/2016.
Data Provided by the City
of Scio and Linn County.

Zoning

Effective Date: May 15, 2015

0 250 500 1,000 1,500 Feet

This product is for informational purposes only and may not have been prepared for or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the suitability of the information.

Legend

CityZoning

- Commercial
- Light Industrial
- Public
- R-1 Single Family Residential
- Multi-Family Residential
- City Limits
- Taxlots
- UGB
- Rivers and Streams

FOR ASSESSMENT AND
TAXATION ONLY



S.E. 1/4 N.E. 1/4 SEC. 18 T.10S. R.1W. W.M.

Linn County

1" = 100'

Former Scio Auto

10S01W18AD
SCIO

Cancelled Nos.
2900
6200
6503
2902
4701
1300
900
501
802
5200
5201
200
100

SEE MAP 10 1W 18AA

THOMAS

CREEK

W.M. BILYEU
ADDITION

HWY 226

SE 1ST AV

N MAIN ST
HWY 226

SW 2ND AV

W BEECH ST

SW 3RD AV

SOUTH ADD

SW ALDER ST

SE 4TH AV

SW 5TH AV

SE BIRCH ST

SE CEDAR ST

SEE MAP 10 1W 17

P.P. 1995-48

P.P. 1994-78

P.P. 1995-77

REPLAT OF PARCELS DIVISION
PLAT 188-78

SEE MAP 10 1W 18D

ADDITION

95-10

10S01W18AD
SCIO
11/9/2023