



August 10, 2017
Project No. 8014.01.62

Madi Novak
Oregon Department of Environmental Quality
700 NE Multnomah St., Suite 600
Portland, Oregon 97232

Re: Infrastructure Pre-Construction Characterization Work Plan
Zidell Waterfront Property, 3121 SW Moody Avenue, Portland, OR
ECSI No. 689

Dear Ms. Novak:

Maul Foster & Alongi, Inc. (MFA) has prepared this Infrastructure Pre-Construction Characterization Work Plan (Work Plan) on behalf of ZRZ Realty Company for the Zidell site (“Site”) located at 3121 SW Moody Avenue in Portland, Oregon. This Work Plan is consistent with the soil sampling requirements described in the Oregon Department of Environmental Quality (DEQ) approved Zidell Interim Site Management Plan (ISMP) (MFA, 2013).

On September 12, 2006, Zidell entered into a Consent Judgment with the State of Oregon (Case No. 0609-09344), which required a remedial action to address contaminated soil and sediments at the Site. The Record of Decision (ROD: DEQ, 2005) required removal of hotspot soils from the upland and greenway areas and placement of an engineered cap over remaining contaminated soils; the remediation of the site began in 2010 and was completed in 2016. Soil hotspots have been removed, the remaining site soils are currently capped, and further remediation work is not required under the ROD and Consent Judgement (MFA, 2016a). As defined in the ROD and ISMP, an engineered cap may consist of two feet of clean soil, gravel, asphalt surfaces, concrete surfaces, or buildings.

The forthcoming phase of infrastructure work will establish the road network that will be constructed on the site, including the utility corridors that will lie beneath the public rights-of-way (ROWs) (see attached Figure for the preliminary layout). The City of Portland’s Hazardous Substances Code (Section 17.24.067) specifies that a ROW access area of clean utility corridor fill must be provided to a depth of five feet below the final street and sidewalk grade; additional depth and width may be required for deeper utility/infrastructure. To meet these requirements, Zidell will be required to excavate currently capped contaminated soil from within the planned ROWs, and to appropriately manage that soil in a manner that is consistent with the ISMP. Zidell will prepare a separate Infrastructure Remedial Action Plan (RAP) that will describe the specific construction activities proposed as part of that work.

Due to the anticipated large volume of soil to be excavated, and the associated space requirements for managing soil in stockpiles for disposal characterization during construction (following the methods described in the ISMP), Zidell proposes to pre-determine the required soil management method for soils to be removed from within the ROWs as either (1) non-hazardous, (2) potentially hazardous, or (3) clean fill useable. The pre-determination of soil management requirements will allow for non-hazardous soil and soil meeting clean-fill criteria to be directly loaded onto trucks as it is excavated. Only soils that are identified as potentially hazardous will require transport and management within the Infrastructure RAP defined Soil Management Area for possible metals stabilization prior to landfill disposal. The pre-determination of soil management requirements proposed in this Work Plan is consistent with DEQ approved procedures as documented for Zidell's proposed Block 4 project (MFA, 2016b) and OHSU's SW Bond Avenue construction project that is currently underway, adjacent to the Site (GeoDesign, 2016).

This Work Plan describes the sampling approach and evaluation methods for assessing soil management requirements prior to excavation from within the ROWs. The findings of this evaluation will be reported in the forthcoming Infrastructure RAP, as described on page 7, below.

SAMPLE UNITS

The proposed ROWs have been segmented into sample units that are 50 feet long and up to 75 feet wide, as shown in the Figure. The exception to the standard layout are the ROWs for the North and South sides of SW Grover Street, a portion of SW Jay Street, and SW Gibbs Street which are narrower; the proposed sample units for these streets are 75 feet long and 35 feet wide. Each sampling unit will contain four evenly distributed borings that will be advanced to a depth of five feet below the existing contaminant demarcation fabric. Material from each boring within the sample unit will be composited into a single representative soil sample. The composite sample will represent a soil volume of up to 700 cubic yards, which is considered to be representative for disposal purposes.

The proposed utility trenches have been segmented into sample units that are 100 feet long and generally 5 to 7 feet wide (franchise utilities) and 10 to 12 feet wide (City of Portland utilities, i.e. water and sewer). Each sampling unit will contain four evenly distributed borings that will be advanced from below the existing contaminant demarcation fabric or from below overlying ROW clean zone sample units. Borings will be advanced to a depth of at least two feet lower than the lowest utility depth that is planned within the sampling unit to accommodate pipe bedding. The composite sample will represent a soil volume of approximately 200 to 400 cubic yards. Discrete samples will also be collected from soil cores every two and a half feet within the utility trench and archived for future evaluation, if needed.

SOIL EVALUATIONS

Soil contaminants of concern (COCs) identified for the site within the ROD are:

- Asbestos
- Metals
 - Antimony
 - Arsenic
 - Barium
 - Beryllium
 - Cadmium
 - Chromium
 - Copper
 - Lead
 - Mercury
 - Nickel
 - Silver
 - Zinc
- Polycyclic Aromatic Hydrocarbons
 - Benz(a)anthracene
 - Benzo(a)pyrene
 - Benzo(b)fluoranthene
 - Benzo(k)fluoranthene
 - Chrysene
 - Dibenz(a,h)anthracene
 - Indeno (1,2,3-c,d) pyrene
- Polychlorinated biphenyls (PCBs)
 - Aroclor 1242
 - Aroclor 1254
 - Aroclor 1260

COCs other than asbestos are assumed to potentially be present in all soil within the site boundary, at concentrations that may exceed the site-specific cleanup levels specified in the ROD Table 4-1. While the distribution of non-asbestos COCs has been well documented in Section 2.2 of the ISMP¹, this information is not applicable to disposal characterization. In addition, the site investigation (MFA, 2003) noted volatile organic compounds (VOCs) in the vicinity of the former maintenance building located under the Ross Island Bridge, which should be assessed for disposal characteristics.

¹ Soil has been excavated from human health and ecological hot spot locations to a depth of 1 foot (in one area where hot spot concentrations did not exceed 1 foot in depth), 3 feet, or 5 feet below the surface of site soil at the time of excavation, as described in the Upland Remedial Design Report (MFA, 2010). Impacted soil remaining at the site following removal actions does not exceed human health hot spot criteria. Excavations in the upland developable areas were backfilled with ecological hot spot soil that did not exceed human health hot spot criteria. A 2-foot-thick clean soil/gravel cap or asphalt cap has been placed over all areas of the site.

The ISMP summarizes the site-wide asbestos characterization as follows:

- Area A: Soil that is found under engineered caps and demarcation fabric within approximately 250 feet (horizontally) of the ordinary low water elevation (elevation +3 feet, City of Portland datum), was confirmed through soil sampling to contain asbestos, and is thus designated as an ACM/ACS area. This includes the riverbank and City of Portland designated greenway area, in addition to the eastern edge of the upland developable areas.
- Area B: Soil north of the Ross Island Bridge in the upland developable area and in the operationally disturbed zone (ODZ), which is generally present in soil samples at depths of up to 3.5 feet below ground surface (2010 site grade). This area is expected to contain asbestos, and is thus designated as an ACM/ACS area, and must be handled as such (Section 3.1.1).
- Area B: Subsurface soil north of the Ross Island Bridge in the upland developable area and beneath the ODZ (more than 3.5 feet below the 2010 site grade) is not expected to contain ACM or ACS, based on soil sampling. Additional subsurface sampling for asbestos must be completed during the planning stages for a future excavation, if handling of this soil as non-asbestos material is desired.
- Area C: Subsurface soil south of the Ross Island Bridge that is currently under asphalt or buildings, and more than 250 feet from the bottom of the existing riverbank is not expected to contain ACM or ACS, based on soil sampling. This area is not considered an ACM/ACS area (unless ACM/ACS is specifically observed).

In Areas A and B, where the asbestos was verified to exceed one percent, excavated soil below the cap will be managed and disposed of as asbestos-containing. Soil excavated from below the existing asphalt in Area C will not be managed as asbestos-containing. Based on these conservative assumptions, additional asbestos characterization for disposal is not proposed.

Analytes for pre-construction characterization will include:

- Metals—antimony, arsenic, barium, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, and zinc
- Polycyclic aromatic hydrocarbons (PAHs)—benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-c,d)pyrene
- Polychlorinated biphenyls (PCBs)—Total (Aroclor analysis)
- Total petroleum hydrocarbons (TPH)—gasoline, diesel, and heavy oil range

- VOCs (former maintenance building area only)

Soil management/disposal characterization will evaluate site COCs that have established regulatory handling or disposal limits, including:

- DEQ Upland Clean Fill criteria (2014)
- DEQ Risk-Based Concentrations for Construction and Excavation worker direct contact (2015)
- Resource Conservation and Recovery Act (RCRA) Toxicity Characteristic Leaching Procedure (TCLP)
- Toxic Substances Control Act (TSCA) for Polychlorinated Biphenyls (PCBs)

SAMPLING AND ANALYSIS ACTIVITIES

The following activities are anticipated prior to sample collection:

- Survey layout of pre-determined soil boring locations
- Public and private utility locate

Sample collection will include:

- Boring locations will be pre-cleared through the existing clean cap down to the demarcation fabric.
- A five-foot soil core will be collected at each soil boring location using a direct-push Geoprobe™ drill unit. Cores will be examined and significant observations/anomalies will be recorded in a field notebook.
- Aliquots will be collected from soil cores at 6" intervals for each of the four borings within a sample unit, excluding the existing clean cap. Aliquots will be collected using a TerraCore-style tool and will be deposited into a clean, laboratory-provided container. Care will be taken to target fine-grained soils; large cobbles will be excluded. Aliquots will be composited in the laboratory container by mixing with a clean-gloved hand or a decontaminated stainless-steel tool.
- Sampling units requiring VOC analysis will have an additional composite sample collected. Each collected aliquot will be deposited into a clean, methanol-preserved, laboratory-provided container.
- Discrete samples will be collected every two and a half feet within the utility trench sampling units and archived for further evaluation.
- Field duplicates will be collected at a rate of one per twenty samples.
- Samples will be named according to the proposed street name and beginning stationing ID (i.e., Jay-00+50, Gibbs-02+00 etc.).

- Samples will be put on ice immediately after collection.
- Bore holes will be sealed with bentonite.
- Excess soil from all borings will be stored in a sealed container (not in 55 gallon drums) prior to removal from the Site.

ANALYTICAL METHOD AND QUALITY ASSURANCE/QUALITY CONTROL REQUIREMENTS

Samples will be submitted to an ORELAP-accredited laboratory for analysis using the following analytical methods:

- Metals, total—USEPA Method 6020A
- Metals, TCLP—USEPA Method 1311 and 6020A
- PAHs—USEPA Method 8270D SIM
- PCBs—USEPA Method 8082A
- TPH—NWTPH-Gx and NWTPH-Dx
- VOCs—USEPA Method 8260B

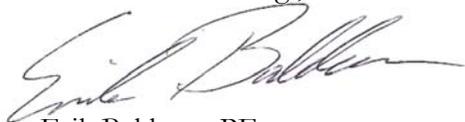
For quality assurance purposes, the laboratory will be consistent with method requirements, standard quality control measures (e.g., duplicates, matrix spike samples, etc.) and their Quality Assurance Manual. Laboratory reporting limits will be obtained that are suitable for making handling and disposal determinations.

INFRASTRUCTURE REMEDIAL ACTION PLAN

The results of the infrastructure pre-construction characterization sampling and analysis will be presented in the pending Infrastructure RAP. Relevant field notes, data screening tables, and analytical laboratory reports will be attached. Waste determinations and handling determinations of the sampled soil units will be assigned in the Infrastructure RAP, and will be used to guide soil handling during construction.

Sincerely,

Maul Foster & Alongi, Inc.



Erik Bakkom, PE
Senior Engineer



Erik Naylor
Project Environmental Scientist

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Attachments: References
Figure

REFERENCES

- DEQ. 2005. Remedial action record of decision, Zidell waterfront property, ECSI No. 689. Oregon Department of Environmental Quality Northwest Region, Voluntary Cleanup Program. June.
- GeoDesign. 2016. Letter (re: Revised Pre-Construction Soil Characterization Work Plan) to S. Manzano, Oregon Department of Environmental Quality, from Jason O'Donnell, GeoDesign, Inc., Portland, Oregon. June 9.
- MFA. 2003. Remedial investigation and risk assessment, Zidell waterfront property, 3121 SW Moody Avenue, Portland, Oregon. Maul Foster & Alongi, Inc., Portland, Oregon. July 11.
- MFA. 2010. Final upland remedial design report, Zidell waterfront property, 3121 SW Moody Avenue, Portland, Oregon, ECSI No. 689. Maul Foster & Alongi, Inc., Portland, Oregon. July 19.
- MFA. 2013. Interim site management plan, Zidell waterfront property, 3121 SW Moody Avenue, Portland, Oregon, ECSI No. 689. Maul Foster & Alongi, Inc., Portland, Oregon. May 2.
- MFA.2016a. Letter (re: Closeout Report for the Zidell Waterfront Property, 3121 SW Moody Avenue, Portland, Oregon, ECSI No. 689) to S Manzano, Oregon Department of Environmental Quality, from Paul Fishman, Northwest Ecosystem Services, Portland, Oregon and Erik Bakkom, Maul Foster & Alongi Inc., Portland, Oregon. December 15.
- MFA. 2016b. Letter (re: Block 4 Development: Investigation Results - Request for Exemption from DEQ Environmental Cleanup Program Oversight) to S Manzano, Oregon Department of Environmental Quality, from Erik Bakkom and Connor Lamb, Maul Foster & Alongi Inc., Portland, Oregon. January 6.

FIGURE



This figure prepared as supplemental visual information only and should not be used for construction purposes. Only plan sheets approved, stamped and signed by a registered professional engineer in the state of governing jurisdiction shall be used for construction. Additionally, only plans approved by the applicable governing jurisdiction(s) shall be used for final construction unless otherwise expressly noted in writing by the engineer of record.

UTILITY LEGEND

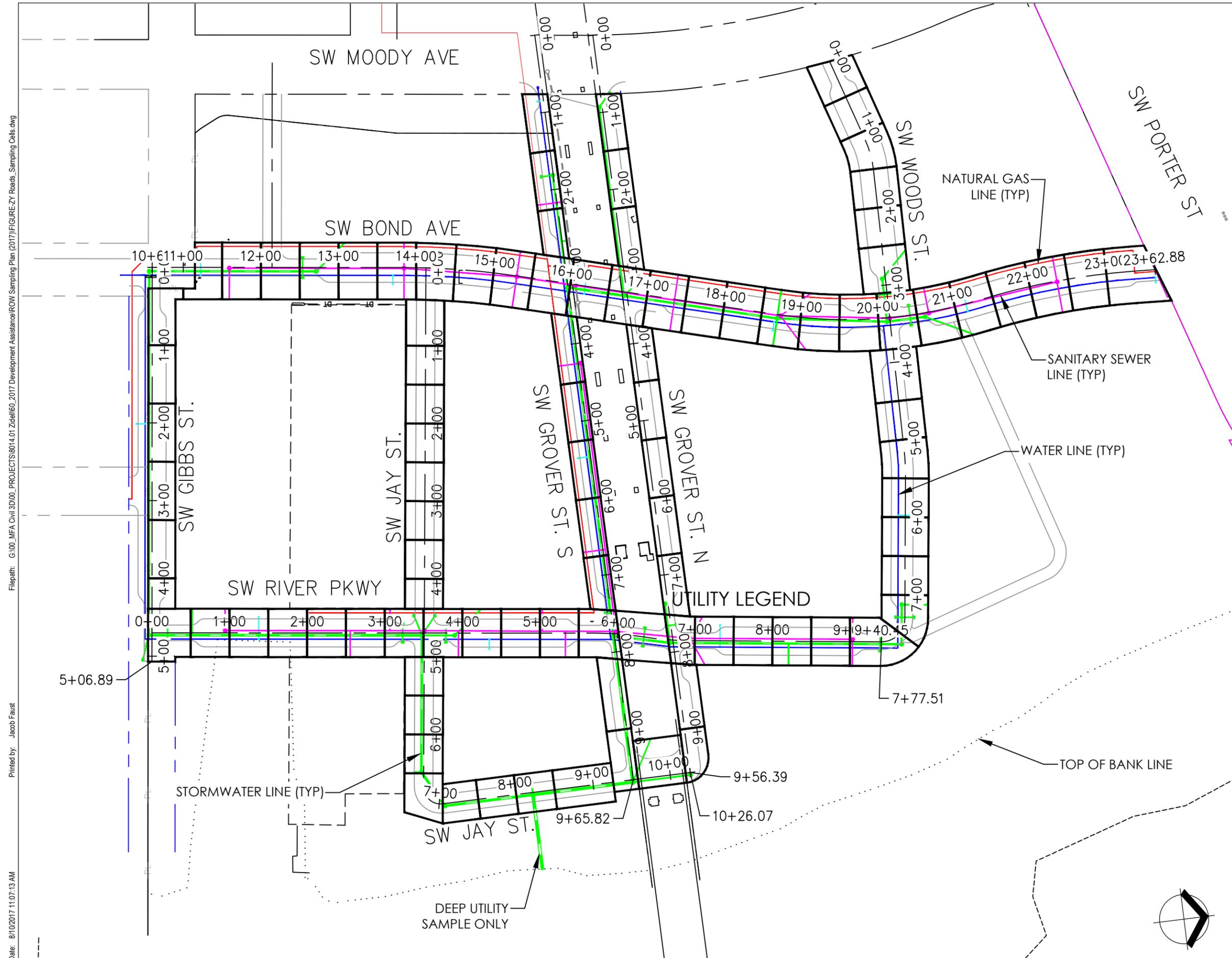
-  STORMWATER LINE
-  SANITARY SEWER LINE
-  WATER LINE
-  NATURAL GAS LINE



NOTE: BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET, ADJUST SCALE ACCORDINGLY.

Figure
Right of Way
Sampling Cells
and Deep
Utilities

Zidell Yards
Portland, Oregon



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Filepath: G:\00_MFA Civil 3D\00_PROJECTS\8014.01_Zidell\60_2017 Development Assistance\ROW Sampling Plan (2017)\FIGURE.ZY_Roads_Sampling Cells.dwg