

**PROGRESSIVE DESIGN-BUILD  
PROCUREMENT  
FOR  
CITY OF PRINEVILLE  
AIRPORT INDUSTRIAL PARK  
UTILITY EXTENSIONS - 2018**

***Request for Proposals***

***December 21, 2017***

***Proposal Submittal Deadline: 2:00 p.m., PST, January  
17, 2018***



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# Request for Proposals

## Section 1. Background

### 1.1 Introduction

This request for proposals (RFP) for the **City of Prineville's Airport Industrial Park Utility Extensions - 2018** project (Project) invites Proposals according to the requirements set forth in this RFP, including the format and content guidelines in Section 5. The Proposals will be reviewed and evaluated using the single-step, best-value selection process described in Section 6. The capitalized terms in this RFP have the meanings as first used in the text of this RFP and as defined in Attachment A (Definition of Terms).

The Project is to be designed and constructed in two phases using the progressive design-build delivery method:

- Preconstruction phase (Phase 1): Prepare design to **80 percent** complete, as defined in Attachment B (Scope of Design-Builder Services), and a guaranteed maximum price (GMP) proposal
- Construction phase (Phase 2): Complete design, construction and post-construction tasks, including performance testing, startup commissioning and operator training and support (if GMP or lump-sum price is approved by the Owner in the preconstruction phase)

At completion of the evaluation process, **the City of Prineville** (Owner) will select a Proposer to award, or enter into negotiations for award of, the Progressive Design-Build Contract [see Attachment C (Draft Progressive Design-Build Contract)].

**This RFP is subject to revision after the date of issuance via written addenda.** Any such addenda will be posted on the Owner's web site (not distributed directly to potential Proposers). It is each Proposer's responsibility to obtain all RFP addenda prior to submitting its Proposal.

In no event will the Owner be liable for any costs incurred by any Proposer or any other party in developing or submitting a Proposal.

## 1.2 RFP Organization

This RFP consists of seven Sections and seven Attachments:

- Section 1: Background
- Section 2: Project Overview
- Section 3: Progressive Design-Build Services
- Section 4: Procurement Process
- Section 5: Proposal Submission Requirements
- Section 6: Proposal Evaluation and Selection
- Section 7: Conditions for Proposers
- Attachment A: Definition of Terms
- Attachment B: Scope of Design-Builder Services
- Attachment C: Draft Progressive Design-Build Contract
- Attachment D: Project Background Documents
- Attachment E: Project Technical Requirements
- Attachment F: Contract Requirements
- Attachment G: Hourly Fee Schedule

The contents of the RFP Attachments take priority over any conflicting statements in the RFP Sections. Certain project background documents are being made available and are listed in Attachment D (Project Background Documents) for the purpose of preparing Proposals. The Owner is providing these documents only for the purpose of obtaining Proposals for the Project and does not confer a license or grant for any other use. The extent to which the Design-Builder may rely on such background documents is set forth in Attachment C (Draft Progressive Design-Build Contract).

## 1.3 Owner's Objectives

The Owner's objectives for delivery of the Project are as follows:

- **Quality:** Provide utility facilities and equipment that will be sustainable and will reliably serve the Owner in full compliance with federal and state regulations and meet the Owner's public works standards.
- **Cost:** Minimize life-cycle cost.
- **Schedule:** Achieve the scheduled completion date for design, construction and performance testing of the following Project milestones:
  - Milestone No. 1 – July 31, 2018
  - Milestone No. 2 – October 31, 2018
- **Risk:** Achieve an optimal balance of risk allocation between the Owner and the Design-Builder.

By selecting the progressive design-build delivery method for the Project, the Owner is committed to working in close collaboration with the Design-Builder during the preconstruction phase to develop the Project's design to achieve the Project objectives and to obtain a mutually agreeable GMP or lump-sum price for delivery of the Project. As set forth in Attachment E (Project Technical Requirements), the Owner has certain technical requirements and standards that will apply to the Project's design and construction.

## Section 2. Project Overview

### 2.1 Project Scope

The City of Prineville provides water and wastewater services to the Airport Industrial Park, located adjacent to Highway 126 in the southwest portion of the city limits. The Airport Industrial Park includes several large industrial customers and has significant land available for future development.

The Airport Industrial Park is currently served with water from the City's airport wells and airport reservoirs. The Airport Industrial Park is at a substantially higher elevation than the majority of the City and is served by a separate airport pressure zone. The airport wells and reservoir provide water supply and adequate pressure to serve the industrial park and then "bleeds" water into the lower pressure zones within the City's system. The City currently does not have the ability to serve the Airport Industrial Park from any other pressure zone.

The wastewater collection system serving the Airport Industrial Park consists of a single 8-inch diameter gravity collection main. The single collection main could become a bottle neck in the future if development in the Airport Industrial Park continues as expected.

The City is currently limited in how it is able to serve the Airport Industrial Park. The City is pursuing this utility extension project to provide additional capacity and increased flexibility in water and wastewater system operation. The objective of the Progressive Design-Build project is to provide additional capacity and flexibility in the City's ability to serve the Airport Industrial Park. Identified components of the Project are shown on Figure B-1 in Attachment B, and may include some or all of the following:

- Connections to existing water distribution system and wastewater collection system.
- A booster pump station to provide adequate flows and pressures to the Airport Industrial Park.
- Approximately:
  - 11,000 linear feet (L.F.) of 12-inch water transmission line
  - 9,000 L.F. of 12-inch wastewater collection main line
  - 9,000 L.F. of 12-inch wastewater collection main line (reserved for future use)

Additional technical information regarding the proposed Project is listed in Attachment D (Project Background Documents)

### 2.2 Project Budget and Funding

The cost for design and construction of the Project is currently budgeted at \$ 3 to 3.5 million. Such budget does not include Owner's other Project costs, such as professional



advisory services, property or access rights, site investigations, environmental studies, certain governmental approvals, taxes, etc. The Owner intends to use water and wastewater system development charge (SDC) funds to provide the capital funding needed for the Project.

### **2.3 Project Schedule**

As indicated in Section 4, it is anticipated that the Progressive Design-Build Contract will be executed on or about January 31, 2018. The design, permitting, construction and performance testing of the completed Project are expected to be completed no later than **July 31, 2018, for Milestone No. 1 and October 31, 2018, for Milestone No. 2.**

Milestone No. 1 shall consists of the activation of at least one of the wastewater collection mainlines to the point shown in Figure B-1. Milestone No. 2 will shall consist of the completion of the entire project.

## Section 3. Progressive Design-Build Services

### 3.1 General

As noted in Section 1 and more fully described in Attachment B (Scope of Design-Builder Services), the Design-Builder will provide services in two distinct phases.

Phase One services generally consist of preliminary engineering, geotechnical investigations and design development, as well as preparation, in close collaboration with the Owner, of a proposed price and schedule. The proposed price and schedule would be based on the Project's design (developed to 80 percent design completion), a GMP or lump-sum price, and the Owner's Project schedule, and it would include supporting documentation, such as detailed open-book costing for the GMP or lump-sum price. Phase Two services generally encompass completing the Project's final design, construction and performance testing. Phase Two includes two milestones, as shown on Figure B-1 in Attachment B. Permitting activities are included in each phase.

Phase One services:

- Develop the Project execution plan, including Project schedule.
- Produce the basis-of-design report and preliminary cost estimate.
- Develop the engineering design (including preparing and submitting intermediate design review packages) and value-engineering activities in conjunction with Owner.
- Prepare a project cost model and provide detailed cost estimates as the design and design alternatives are advanced.
- Submit and negotiate a GMP or lump-sum price to complete the Phase Two services.
- Review existing and perform additional engineering studies as required (such as subsurface investigations, etc.) to support design and cost estimating.
- Identify Project permitting requirements and initiate certain permitting activities.

Phase Two services:

- Complete the final design.
- Procure equipment and subcontractors.
- Secure necessary permits.
- Construct Project.
- Complete Milestones No. 1 and No. 2 per the Project schedule outlined in the RFP.
- Conduct startup, commissioning and performance testing.
- Provide Operation and Maintenance (O&M) manuals.
- Provide operator training.
- Provide record drawings.
- Provide one-year warranty coverage.

### 3.2 Roles and Responsibilities

**Owner:** The Owner will cooperate with the Design-Builder and will fulfill its responsibilities in a timely manner to facilitate the Design-Builder's timely and efficient performance of services. Owner responsibilities include:

- Review submissions and provide comments to Design-Builder.
- Furnish existing studies and provide complete, accurate and reliable data and information regarding the Project, including record drawings, preliminary studies, environmental impact assessments, etc.
- Provide information and provide (or engage Design-Builder to perform) additional studies that may be necessary to complete the Project.
- Provide adequate funding.
- Provide access to the Project site and any necessary easements.
- Obtain the governmental approvals and permits Owner is responsible for, and assist Design- Builder in obtaining governmental approvals and permits it is responsible for.
- Provide necessary data and inputs (e.g., raw water, or wastewater influent or biosolids) for Project startup and performance testing.
- Provide contract oversight, resident and special inspection, as well as liaison to the public.

**Design-Builder:** The Design-Builder will cooperate with the Owner and will provide in a timely manner the Phase One and Phase Two services necessary to complete the Project scope specified in this RFP. Design-Builder responsibilities include:

- Prepare design and construction documents.
- Procure Project subcontractors and vendors.
- Supervise subcontractors and Design-Builder personnel.
- Obtain certain governmental approvals and permits.
- Provide and implement a Stormwater Pollution Prevention Plan and other plans and pollution control measures as required by federal, state and local requirements.
- Maintain site security.
- Construct Project to complete Milestones No. 1 and No. 2 per the Project schedule outlined in this RFP.
- Conduct performance testing.
- Implement quality-management procedures.
- Implement Project health and safety practices.
- Train Owner's staff.

The roles and responsibilities of the Owner and the Design-Builder are more fully described in Attachment C (Draft Progressive Design-Build Contract).

## Section 4. Procurement Process

### 4.1 Acknowledgement of RFP

Each potential Proposer should provide the Owner, within **five** days of receipt of this RFP, an acknowledgement that it has received the RFP and is a potential Proposer. Such acknowledgement shall identify and provide full contact information for the Proposer Contact, who shall be the Proposer’s single point of contact for the receipt of any future documents, notices and addenda associated with this RFP. Such acknowledgement must be sent in writing and a copy electronically transmitted to the Owner Contact.

### 4.2 Communications and Owner Contact

On behalf of the Owner, **Eric Klann, P.E., City Engineer** will act as the sole point of contact for this RFP and shall administer the RFP process. All communications shall be submitted in writing, by fax, or by email (with confirmation), and shall specifically reference this RFP. All questions or comments should be directed to the Owner Contact as follows:

**Eric Klann, P.E., City Engineer**  
**City of Prineville**  
**387 N.E. Third Street**  
**Prineville, Oregon 97754**  
**541-447-2357**  
**541-447-8326**  
**[eklann@cityofprineville.com](mailto:eklann@cityofprineville.com)**

No oral communications from the Owner Contact or other individual is binding unless confirmed with a written addendum. No contact with Owner staff, board members or any public official concerning the Project during the procurement process is allowed. A violation of this provision may result in disqualification of Proposer.

### 4.3 Procurement Schedule

The current procurement schedule is as follows:

- |   |                                  |
|---|----------------------------------|
| • Issue RFP                               | <i>December 21, 2017</i>         |
| • Site Tour Dates                         | <i>January 2 through 5, 2018</i> |
| • Deadline for questions                  | <i>January 5, 2018</i>           |
| • Submit Proposal                         | <i>January 17, 2018</i>          |
| • Proposal Evaluation/Notice of Intent    | <i>January 23, 2018</i>          |
| • Contract Negotiations                   | <i>January 24, 2018</i>          |
| • Award Progressive Design-Build Contract | <i>January 31, 2018</i>          |

#### 4.4 Pre-Proposal Meeting and Site Tour

Owner will provide a window of time for potential Respondents to conduct a pre-submittal tour of the Project site. **Scheduling and attending a pre-submittal meeting is non-mandatory.** The Owner will conduct pre-submittal site tours between January 2 and January 5. At these pre-submittal tours, Owner will offer information about the Project and the procurement process. Those who attend a pre-submittal tour will have the opportunity to tour the Project site to familiarize themselves with site conditions and constraints.

Respondents shall advise the Owner Contact's designated representative by **December 29** of the names of individuals who would like to schedule a pre-submittal tour of the Project site. The Owner Contact's designated representative is Pat Goehring, Owner's Public Works Superintendent. He can be reached at 541-408-2437.

## Section 5. Proposal Submission Requirements

### 5.1 Submittal Place and Deadline

Five paper proposal documents (one original and **four** copies) must be received by the Owner no later than **2:00 p.m. January 17, 2018**, addressed to:

**Eric Klann, P.E., City Engineer  
City of Prineville  
387 N.E. Third Street  
Prineville, Oregon 97754**

Please note, however, that the Hourly Fee Schedule must be presented in a separate, sealed envelope.

Each Proposer assumes full responsibility for timely delivery of its Proposal at the required location. Any Proposal received after the submittal deadline will be deemed non-responsive and returned. The delivered packaging containing the Proposal documents must note "Proposal Enclosed" on its face.

### 5.2 Submission Format

The Proposal must not exceed **20** total pages printed on one side only (most or all 8½ x 11 inch with 1-inch or greater margins), excluding the transmittal letter, index or table of contents, front and back covers, title pages/separation tabs, and appendices. A maximum of **two** of the total pages may be 11 x 17-inch tri-fold format. Eleven-point font or larger must be used in Proposal Parts 1 - 6.

### 5.3 Submission Content

The content requirements set forth in this RFP represent the minimum content requirements for the Proposal. It is the Proposer's responsibility to include information in its Proposal to present all relevant qualifications and other materials. The Proposal, however, should not contain standard marketing or other general materials. It is the Respondent's responsibility to modify such materials so that only directly relevant information is included in the Proposal.

The Proposal must include the following information in the order listed:

- Transmittal Letter
- Part 1 – Executive Summary
- Part 2 – Design-Builder Profile
- Part 3 – Project Team

- Part 4 – Experience
- Part 5 – Project Approach
- Part 6 – Hourly Fee Schedule
- Appendix A – Forms for Affirmation of Compliance
- Appendix B – Resumes
- Appendix C – Supporting Documentation
- Appendix D – Designer Hourly Fee Schedule

### **5.3.1 Transmittal Letter**

Proposers must submit a transmittal letter (maximum two pages) on the Proposer's letterhead. It must be signed by a representative of the Proposer who is authorized to sign such material and to commit the Proposer to the obligations contained in the Proposal. The transmittal letter must include the name, address, phone number and e-mail address for the Proposer Contact and must specify who would be the Design-Builder's signatory to any contract documents executed with the Owner. The transmittal letter may include other information deemed relevant by the Proposer.

### **5.3.2 Part 1 – Executive Summary**

The executive summary (maximum three pages) must include a concise overview of the key elements of the Proposal and must summarize and refer to information in the Proposal concerning satisfaction of the Minimum Qualifications Requirements. The executive summary shall not be used to convey additional information not found elsewhere in the Proposal.

### **5.3.3 Part 2 – Design-Builder Profile**

A detailed and complete description of the company proposed as the Design-Builder must be provided in Part 2 of the Proposal. (The term "company" can refer to either a single entity or a joint venture.) Information concerning Key Personnel and other firms that may be included on the Project Team, such as sub consultants and subcontractors, should be provided in Part 3 of the Proposal. The Design-Builder Profile must include the following information.

- **General**

Provide general information about the Design-Builder, such as lines of business and service offerings, locations of home and other offices, number of employees (professional and non-professional), years in business, and copies of required licenses. Provide copies of licenses in Appendix C (Supporting Documentation) of the Proposal.

- **Legal structure**

Identify whether the Design-Builder is organized as a corporation, limited liability company (LLC), general partnership, joint venture, limited partnership, or other form of legal entity. As applicable, identify the owners of the Design-Builder (*e.g.*, shareholders, members, partners, and the like) who hold an interest of 10 percent or more. In Proposal Appendix C, provide information on owners of the Design-Builder who hold an interest of 10 percent or more.

- **Project office location**

Identify where the Design-Builder intends to maintain its project office(s) and where the majority of the design work will be performed.

- **Payment and performance bonds**

In Proposal Appendix C, provide a letter from the Design-Builder's surety to verify the availability of a design-build bond of at least \$ 3.5 million for this Project. The surety must be authorized by law to do business in **Oregon** and must have an A.M. Best Company Rating of "**A minus and VIII**" or better. The surety must also be listed in the U.S. Department of Treasury's Circular 570.

- **Insurance**

In Proposal Appendix C., provide a letter or Certificate of Insurance from the Design-Builder's insurance company stating its ability to acquire and provide the following minimum limits for the required insurance:

- Statutory workers compensation insurance: (as required by state law)
- Employer's liability insurance: \$ **2** million
- Commercial general liability insurance: \$ **2** million per occurrence; \$ 4 million annual aggregate
- Commercial automobile liability insurance: \$ **2** million combined single limit for bodily injury and property damage
- Professional liability (errors and omissions): \$ **2** million each occurrence and in the aggregate

The required insurance must be obtained and maintained from insurance companies that have an A.M. Best Rating of [**"A minus and X"**] or better and are duly licensed or authorized in **Oregon**.

The Proposal must provide the following additional information pertaining to factors or events that have the potential to adversely impact the Design-Builder's ability to perform its contractual commitments. If the Design Builder has been a legal entity for less than five years, the Proposal must also include the following information for the Designer and the Builder.

- **Material adverse changes in financial position.** Describe any material historical, existing or anticipated changes in financial position, including mergers,



acquisitions, takeovers, joint ventures, bankruptcies, divestitures, or any material changes in the mode of conducting business.

- **Legal proceedings and judgments.** List and briefly describe any pending or past (within five years) legal proceedings and judgments, or any contingent liability that could adversely affect the financial position or ability to perform contractual commitments to Owner. If no such proceedings or judgments are listed, provide a sworn statement to that effect from the general counsel.
- **Completion of contracts.** Has the Design-Builder failed to complete any contract, or has any contract been terminated due to alleged poor performance or default within the past five years? If so, describe the circumstances.
- **Violation of laws.** Has the Design-Builder been convicted of any criminal conduct or been found in violation of any federal, state, or local statute, regulation, or court order concerning antitrust, public contracting, employment discrimination or prevailing wages within the past five years? If so, describe the circumstances.
- **Debarred from bidding.** Has the Design-Builder been debarred within the past five years, or is it under consideration for debarment, from bidding on public contracts by the federal government or by any state? If so, describe the circumstances.

If any of the above questions is answered in a manner that indicates that any of these unfavorable factors or events are present, it is the Respondent's responsibility to: (1) describe in detail the unfavorable factor or event; and (2) provide sufficient information to demonstrate that the unfavorable factor or event will not adversely impact the Design-Builder's ability to perform its contractual commitments. Include these responses in Appendix C of the Proposal.

The Proposer must notify the Owner of any changes subsequent to submission of the Proposal and before the selection process is completed (and, in the case of the selected Proposer, before execution of the Design-Build Contract).

### 5.3.4 Part 3 – Project Team

Describe the composition, organization and management of the Project Team in two separate subsections.

*Design-Builder/Other Firms:*

- Identify any other firms (such as subcontractors and sub consultants) included on the Project Team along with the Design-Builder and describe the scope of the Design-Builder's and each firm's services and responsibilities throughout the Project. Clearly identify the firm(s) serving as the Designer and the Builder. Describe the Design-Builder's approach to the management of subcontractors and sub consultants.

*Key Personnel*

- Identify all Key Personnel (and their firm affiliations) on the Project Team and describe their specific responsibilities throughout the Project.
- Describe the Design-Builder's approach to managing such personnel.
- Indicate the commitment of all Key Personnel in terms of an estimated percentage of time throughout the Project.
- Provide resumes for all Key Personnel in Proposal Appendix B (Resumes). Limit resumes to **two** pages per individual and include:
  - Academic and professional qualifications
  - Professional registration (as applicable)
  - Experience as it relates to the Project and to the individual's specified role on the Project

*Organization Chart*

- Provide organization chart showing:
  - Reporting relationships and responsibilities of the Design-Builder and any other firms
  - Reporting relationships and responsibilities of all Key Personnel (along with their firm
  - affiliations)

Any change in the firms or Key Personnel included in the Proposal would require Owner approval.

### 5.3.5 Part 4 – Experience

The Proposal must describe the performance history and experience of the Project Team on similar projects and provide information concerning safety.

### *Reference Projects*

The Respondent shall submit descriptions of reference projects to demonstrate relevant experience.

Each project description shall contain at least the following information:

- Name of owner
- Owner reference and contact information
- Role of respondent
- Contract value
- Year started and year completed
- Description of the project showing relevance to this Project
- Firms and Key Personnel that participated in project and are included in this Proposal, along with a clear description of the project role and responsibility of each.

In addition, provide a summary table to cross-reference the Project Team (firms and Key Personnel) with participation in the referenced projects.

### *Safety*

Provide a summary description of the Design-Builder's corporate safety program and include safety statistics or records indicating categories of accidents and their incidence or frequency rates for the past five years. The following safety records must be provided for the Design-Builder for the current and past five years:

- The experience modification rate (EMR) calculated by the National Council on Compensation Insurance or similar rating bureau. (The EMR is also referred to as the experience modification rating, experience modification factor, experience modifier or X-mod.)
- The days-away-from-work injury incidence rate. A day-away-from-work injury is an injury that prevents an employee from returning to his or her next regularly scheduled shift. The incidence rate is calculated by multiplying the number of days-away-from-work injuries for the particular year by 200,000 and then dividing the product by the person-hours worked for that year.

### **5.3.6 Part 5 – Project Approach**

Provide a conceptual description (maximum six pages) of the Design-Builder's approach for managing and performing its services during the Project. The following items should be addressed:

- Discuss how a collaborative relationship with the Owner would be

established during Phase One design development, scheduling and cost estimating.

- Discuss how the design and construction processes will interface (including how constructability issues will be addressed).
- Identify the work components critical to the Project's success and how these components would be achieved.
- Describe the process for developing the GMP (or lump-sum price) proposal (including the amount of cost contingency).
- Discuss how key risk factors will be identified and mitigated.
- Project specific safety plan.
- Project specific quality plan.
- Schedule.

In addition, the Project Approach must include brief descriptions of the Design-Builder's approach to the following:

- Communications (with Owner and other stakeholders, such as regulatory agencies)
- Quality management
- Risk management (including key risk factors)
- Adherence to the GMP or lump-sum price and schedule in the construction phase

### **5.3.7 Part 6 – Hourly Fee Schedule**

The Proposer must complete RFP Attachment G (Hourly Fee Schedule) – with all required pricing information for the Designer's Key Personnel – and include it (along with Part 6) in a separate, sealed envelope as Proposal Appendix E (Hourly Fee Schedule). The scope of Design-Builder services for which pricing is required is defined in RFP Attachment B (Scope of Design-Builder Services).

Please be advised that the Owner is not interested in proposed hourly fees or rates that provide excessive discounts from the Design-Builder's anticipated actual costs for the requested services. If Owner determines (at its sole discretion) that the hourly fees and rates included in a Proposal are unacceptably below industry norms or that a Proposer's hourly fees and rates are substantially or unacceptably below other Proposals, the Owner may (at its sole discretion) either declare that Proposal to be non-responsive or seek additional detailed information from that Proposer concerning the cost basis for its hourly fee and rate proposal, prior to rendering a decision on the Proposal's responsiveness.

## Section 6. Proposal Evaluation and Selection

### 6.1 General

The Owner's selection committee (with assistance provided by outside advisors if desired by Owner) will review and evaluate the Proposals according to the requirements and criteria outlined in this Section 6. During the Proposal evaluation process, written questions or requests for clarification may be submitted to one or more Proposers regarding its Proposal or related matters. Failure to respond in a timely manner to any such questions or requests may be grounds for elimination of the Proposer from further consideration.

### 6.2 Responsiveness

Each Proposal will be reviewed to determine whether it is responsive to the RFP. Failure to comply with the requirements of this RFP may result in a Proposal being rejected as non-responsive. At its sole discretion, however, the selection committee may waive any such failure to meet a requirement of this RFP and may request clarification or additional information to remedy a failure.

### 6.3 Minimum Qualification Requirements

Each responsive Proposal will be reviewed to determine whether it meets the Minimum Qualification Requirements outlined in this subsection. At its sole discretion, the selection committee may waive any failure to satisfy such requirements and may request clarification or additional information to address any questions that may arise in this regard. Any Proposal that does not satisfy all of the following Minimum Qualification Requirements may be rejected.

- **Performance and payment bonds.** Ability of the Design-Builder to provide a design-build performance bond and payment bond each in the amount of \$ **3.5 million**.
- **Material adverse condition.** The Design-Builder must not be subject to a material adverse condition, such as pending litigation, insufficient liquidity, weak operating net income or cash flow, or excessive leverage, that gives rise to reasonable doubt concerning its ability to continue to operate as an ongoing concern, to provide performance bonds or insurance, or to maintain sufficient financial strength to undertake and successfully complete the Project and to mitigate/absorb Project risks.
- **Licensing and registration.** The Design-Builder and each firm must be licensed in **Oregon** for the type of work to be performed. The Designer must include in responsible charge an engineer registered in **Oregon**.
- **Design experience.** Within the past 10 years, the Designer must have successfully completed the design of at least **three similar projects** for municipal clients in the

United States.

- **Construction experience.** Within the past 10 years, the Builder must have successfully completed the construction of at least **three similar projects** for municipal clients in the United States.
- **Safety record.** The Builder must have achieved an experience modification rate (EMR) of not greater than **1.5** for the current and past two years.

## 6.4 Comparative Evaluation Criteria

The selection committee will evaluate and rank the responsive Proposals that satisfy the Minimum Qualification Requirements by applying the weighted comparative evaluation criteria set forth below. Financial condition is evaluated on a pass/fail basis as part of the Minimum Qualification Requirements.

- |  |                     |
|--|---------------------|
| <ul style="list-style-type: none"> <li>• Part 2 – Design-Builder Profile               <ul style="list-style-type: none"> <li>o General</li> <li>o Legal Structure</li> <li>o Project Office Location</li> <li>o Financial Condition</li> <li>o Material Adverse Conditions</li> </ul> </li> </ul> | <b>[15 percent]</b> |
| <ul style="list-style-type: none"> <li>• Part 3 – Project Team               <ul style="list-style-type: none"> <li>o Design-Builder/other firms</li> <li>o Key Personnel</li> <li>o Team Management (firms and personnel)</li> </ul> </li> </ul>  | <b>[25 percent]</b> |
| <ul style="list-style-type: none"> <li>• Part 4 – Experience               <ul style="list-style-type: none"> <li>o Projects</li> <li>o Safety</li> </ul> </li> </ul>  | <b>[40 percent]</b> |
| <ul style="list-style-type: none"> <li>• Part 5 – Project Approach</li> </ul>  | <b>[15 percent]</b> |
| <ul style="list-style-type: none"> <li>• Part 6 – Hourly Fee Schedule</li> </ul>   | <b>[5 percent]</b>  |

In ranking the proposals, the selection committee will use a 100-point scale whereby the maximum points awarded for each of the evaluation criteria will be based on the percentage weight set forth above. The selection committee will apply the non-price evaluation and complete its awarding of the non-price criteria points before opening the sealed envelope containing the Hourly Fee Schedule.

## 6.5 Selection

After the evaluation process is complete, the Owner will notify Proposers of the rankings. The top-ranked Proposer will negotiate with the Owner on the final terms of the Progressive Design-Build Contract. If negotiations with any selected Proposer are not successful, the Owner may offer the next ranked Proposer the opportunity to negotiate the final terms of the Progressive Design-Build Contract (and so on for lower-ranked Proposers).

## Section 7. Conditions for Proposers

### 7.1 Owner Authority

Owner is a **municipal corporation** of the State of **Oregon**. The procurement process for this Project is authorized under **Oregon law**.

### 7.2 Ineligible Firms and Individuals

The following firms and individuals are serving in an advisory capacity to the Owner for this Project and are therefore not eligible to assist or participate with any Proposer that submits a Proposal for the Project.

- Anderson Perry & Associates, Inc.

### 7.3 Conflict of Interest

Oregon law mandates the public disclosure of certain information concerning persons doing business or seeking to do business with the Owner, including affiliations and business and financial relationships such persons may have with Owner officers.

### 7.4 Proprietary Information

All materials submitted to the Owner become public property and are subject to **Oregon Public Records lease**. If the Proposal contains proprietary information that the Proposer does not want disclosed, such information must be identified and marked "PROPRIETARY" at the time of submittal. Owner will, to the extent provided by law, endeavor to protect such information from disclosure. The final decision as to what information must be disclosed, however, lies with **the Owner**. Failure to identify proprietary information will result in all unmarked sections being deemed non-proprietary and available upon public request. Proposers shall not be permitted to mark entire Proposal as proprietary.

### 7.5 Rights of the Owner

In connection with this procurement process, including the receipt and evaluation of Proposals and award of the Progressive Design-Build Contract, Owner reserves to itself (at its sole discretion) all rights available to it under applicable law, including without limitation, with or without cause and with or without notice, the right to:

- Cancel, withdraw, postpone, or extend this RFP, in whole or in part, at any time prior to the execution of the Progressive Design-Build Contract, without incurring any obligations or liabilities.
- Modify the procurement schedule.

- Waive deficiencies, informalities and irregularities in a Proposal and accept and review a non-conforming Proposal.
- Suspend and terminate the procurement process or terminate evaluations of Proposals received.
- Permit corrections to data submitted with any Proposal.
- Hold meetings and interviews, and conduct discussions and correspondence, with one or more of the Proposers to seek an improved understanding of any information contained in a Proposal.
- Seek or obtain, from any source, data that has the potential to improve the understanding and evaluation of the Proposals.
- Seek clarification from any Proposer to fully understand information provided in the Proposal and to help evaluate and rank the Proposers.
- Reject a Proposal containing exceptions, additions, qualifications or conditions not called for in the RFP or otherwise not acceptable to the Owner.
- Conduct an independent investigation of any information, including prior experience, included in a Proposal by contacting project references, accessing public information, contacting independent parties, or any other means.
- Request additional information from a Proposer during the evaluation of its Proposal.

## 7.6 Obligation to Keep Project Team Intact

Proposers are advised that all firms and Key Personnel identified in the Proposal shall remain on the Project Team for the duration of the procurement process and execution of the Project. (The anticipated dates for award of the Progressive Design-Build Contract and for completion of the Project are set forth in Section 2.3 of this RFP.) If extraordinary circumstances require a change, it must be submitted in writing to the Owner Contact, who, at his or her sole discretion, will determine whether to authorize a change, recognizing that certain circumstances (such as termination of employment) may occur that are beyond the Design-Builder's control. Unauthorized changes to the Project Team at any time during the procurement process may result in elimination of the Proposer from further consideration.

## 7.7 Addenda

If any revisions to the RFP or procurement process become necessary or desirable (at the Owner's sole discretion), the Owner may issue written addenda. **The Owner will not transmit addenda to potential Proposers.** The Owner will post all addenda on the Owner Project website at the following address: **[www.cityofprineville.com](http://www.cityofprineville.com)**. **It is Proposer's responsibility to obtain all addenda prior to submitting its Proposal.**



## **7.8 Protests**

Any protest to an Owner's action in connection with this procurement must be filed in writing no later than **seven** days following such action and must be in strict accordance with the Owner's applicable procedures and with applicable law.

## **7.9 Conflict of Interest**

By filing a proposal, a Proposer certifies that no officer, agent, or employee of the City who has a pecuniary interest in the RFP has participated in the contract negotiations on the part of the City, that the Proposal is made in good faith, without fraud, collusion or connection of any kind with any other Proposer of the same request for proposals, and that the Proposer is competing solely in its own behalf without connection with or obligation to, any undisclosed person or firm.

## **7.10 Requirements**

The Proposer selected to be Design-Builders must comply with the Contract Requirements listed on Attachment F.

## **Attachment A**

### **Definition of Terms**

The definitions of some of the capitalized terms used in this RFP are presented below:

**Builder** – The Design-Builder or other firm (such as a subcontractor or joint-venture partner) that will provide construction services and have responsible charge of construction of the Project.

**Designer** – The Design-Builder or other firm (such as a subconsultant or joint-venture partner) that will provide professional design services and have responsible charge of the design, including preparation of the construction documents.

**Design-Builder or Contractor**– The entity that is selected to enter into the Progressive Design-Build Contract with the Owner and that will be the single point of accountability to the Owner for delivery of the services and the Project.

**Draft Progressive Design-Build Contract** – The draft contract, including the agreement and all of its attachments, presented as RFP Attachment C (Draft Progressive Design-Build Contract).

**Key Personnel** – The individuals, employed by Design-Builder or other firms included on the Project Team, who would fill certain key roles in delivery of the Project and related services by the Design- Builder, including the following positions: project manager, safety manager, design manager, construction manager, and on-site superintendent and any other individuals specifically identified in the proposal as Key Personnel.

**Minimum Qualification Requirements** – The requirements set forth in Subsection 6.3 of this RFP that, at a minimum, must be satisfied (or waived by Owner) in order for the Proposal to be evaluated and ranked according to the comparative evaluation criteria.

**Owner or City – City of Prineville, Oregon**  
**Project – Airport Industrial Park Utility Extensions – 2018**

**Project Team** – The Design-Builder, Key Personnel and any additional firms (such as subcontractors and subconsultants) included in the Proposal.

**Proposer** – The entity responding to this RFP by submitting the Proposal.

## **Attachment B**

### **Scope of Design-Builder Services**

#### **Phase One Services**

Phase One scope of services performed by the Design-Builder will include (at a minimum) the following detailed tasks and deliverables:

1. Project site and existing conditions review and verification
  - a. Review of existing technical documentation
  - b. Subsurface utility location survey
2. Basis of Design Report preparation
  - a. Bi-weekly team meetings
  - b. Design criteria
  - c. Preliminary design including preliminary Drawings and Technical Specification outlines
  - d. Preliminary construction organization , work plan, and schedule
  - e. Regulatory requirements and permit acquisition planning
  - f. Project budget estimate update
3. 30, 60, and 80 percent design preparation
  - a. Bi-weekly team meetings
  - b. Further Drawing development
  - c. Technical Specification development
  - d. Construction work plan and schedule update
  - e. Subcontract and equipment procurement plan development
  - f. Cost estimate updates
4. Guaranteed Maximum Price (GMP) development
  - a. Phase Two contract finalization and negotiation meetings and team meetings
  - b. GMP proposal development
  - c. Final construction work plan and schedule development
  - d. Final regulatory and permitting plan
5. Project Management
  - a. Project Management Plan development and implementation
  - b. Quality Plan development and implementation
  - c. Administering biweekly team meetings and updates
  - d. Progress meetings and progress reports
  - e. Progress payment and invoicing

#### **Phase Two Services**

Phase Two scope of services performed by the Design-Builder will be further defined and negotiated during execution of Phase One services and will generally include assistance in obtaining regulatory approval and permit acquisition, preparation of "issued for construction" design documents, procurement of

materials, equipment, subcontractors, construction and construction management services, engineering services during construction, start-up, testing, commissioning and training, preparation of record documents and O&M manuals, and warranty services for the two project milestones described in this RFP.

See attached Figure B-1.

**Attachment C**  
**Draft Progressive Design-Build Contract**

Will be furnished as an addendum

## **Attachment D**

### **Project Background Documents**

- Topographical survey
- Draft geotechnical test pit and bore hole logs
- Draft design files (estimated to be approximately 30 percent design)
- Draft legal descriptions and exhibits for pipeline easements
- The above documents can be obtained by Respondents from the Owner. Respondents should contact the Owner Contact to request these documents.

## **Attachment E**

### **Project Technical Requirements**

The project elements will conform to the City of Prineville’s Public Works Standards and Specifications for Construction. These documents and drawings are available from the City and are also posted on the City’s website.

## **Attachment F**

### **Contract Requirements**

A. Contractor shall:

1. Make payment promptly, as due, to all persons supplying to the Contractor labor or materials for the performance of the work provided for in the Contract.
2. Pay all contributions or amounts due the Industrial Accident Fund from the Contractor or Subcontractor incurred in the performance of the Contract.
3. Not permit any lien or claim to be filed or prosecuted against the Owner, on account of any labor or material furnished.
4. Pay to the Department of Revenue all sums withheld from employees under ORS 316.167.
5. Promptly, as due, make payment to any person, co-partnership, association, or corporation furnishing medical, surgical and hospital care services, or other needed care and attention, incident to sickness or injury, to the employees of the Contractor, of all sums that the Contractor agrees to pay for the services and all monies and sums that the Contractor collected or deducted from the wages of employees under any law, contract, or agreement for the purpose for providing or paying for the services.
  6. Have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt under ORS 279C.836(4), (7), (8), or (9);
  7. Include in every subcontract a provision requiring the subcontractor to have a public works bond filed with the Construction Contractors Board before starting work on the project, unless exempt under ORS 279C.836 (4), (7), (8), or (9).
  8. Have in place, and maintain during the period of the Contract, an employee drug-testing program. City retains the right to audit and/or monitor the program. On request by the City, the Contractor shall furnish a copy of the employee drug-testing program to the City.

B. If the contractor fails, neglects or refuses to make prompt payment of any claim for labor or services furnished to the contractor or a subcontractor by any person in connection with the public improvement contract as the claim becomes due, the proper officer or officers representing the owner may pay such claim to the person furnishing the labor or services and charge the amount of the payment against funds due or to become due the contractor by reason of the contract.

If the contractor or a first-tier subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with the public improvement contract within 30 days after receipt of payment from the contracting agency or a contractor, the contractor or first-tier subcontractor shall owe the person the amount due plus interest charges commencing at the end of the 10-day period that payment is due under ORS 279C.580 (4) and ending upon final payment, unless payment is subject to a good faith dispute as defined in ORS 279C.580. The rate of interest charged to the contractor or first-tier subcontractor on the amount due shall equal three times the discount rate on 90-day commercial paper in effect at the Federal Reserve Bank in the Federal Reserve district that includes Oregon on the date that is 30 days after the date



when payment was received from the contracting agency or from the contractor, but the rate of interest may not exceed 30 percent. The amount of interest may not be waived.

If the contractor or a subcontractor fails, neglects, or refuses to make payment to a person furnishing labor or materials in connection with this Contract, the person may file a complaint with the Construction Contractors Board, unless payment is subject to a good faith dispute as defined in ORS 279C.580.

The payment of a claim in the manner authorized in this Section B does not relieve the contractor or the contractor's surety from obligation with respect to any unpaid claims.

C. No person may be employed for more than 10 hours in any one day, or 40 hours in any one week, except in cases of necessity, emergency or when the public policy absolutely requires it, and in such cases, except in cases of contracts for personal services as defined in ORS 279C.100, the employee shall be paid at least time and a half pay:

1. (a) For all overtime in excess of eight hours in any one day or 40 hours in any one week when the work week is five consecutive days, Monday through Friday; or

(b) For all overtime in excess of 10 hours in any one day or 40 hours in any one week when the work week is four consecutive days, Monday through Friday; and

2. For all work performed on Saturday and on any legal holiday specified in ORS 279C.540.

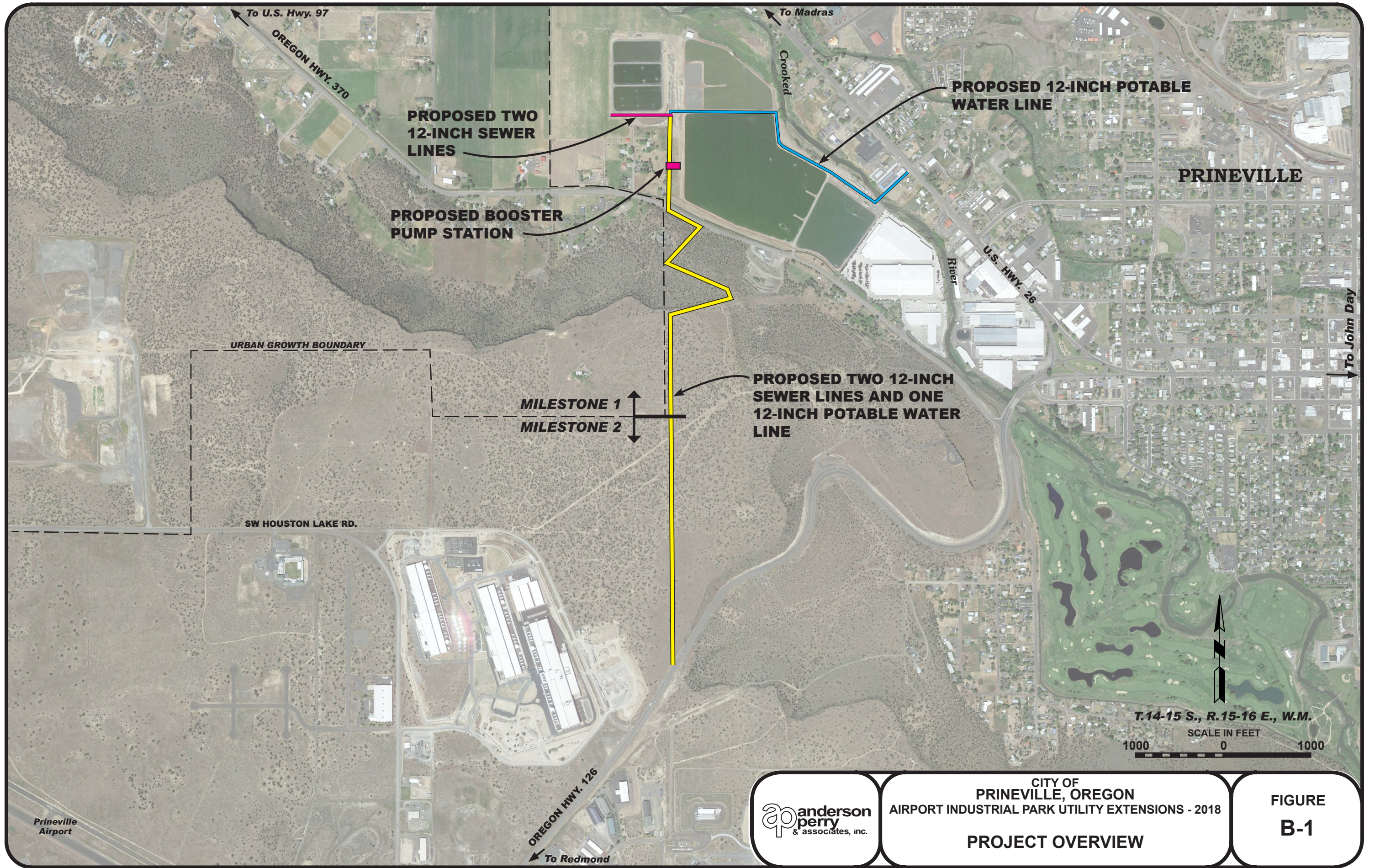
Any worker employed by the Contractor shall be foreclosed from the right to collect for any overtime provided in ORS 279C.540 unless a claim for payment is filed with the Contractor within 90 days from the completion of the Contract providing the Contractor has posted a copy of ORS 279C.545 from the beginning to the completion of the Contract as required by ORS 279C.545.

D. All workers on the project shall be paid not less than the specified minimum hourly rate of wage in accordance with ORS 279C.838 and 279C.840. Contractor shall require in every subcontract a provision that the subcontractor's workers shall be paid not less than the specified minimum hourly rate of wage in accordance with ORS 279C.838 and 279C.840.

E. All employers, including Contractors, that employ subject workers who work under this Contract in the state of Oregon should comply with ORS 656.017 and provide the required Workers Compensation coverage, unless such employers are exempt under ORS 656.126. Contractors shall ensure that each of its sub-contractors complies with these requirements.

F. Contractor shall comply fully with the provisions ORS 279C.800 through ORS 279C.870. Contractors shall pay workers at not less than the specified minimum hourly rate of wage, and shall include that requirement in all sub-contracts. Each worker in each trade or occupation employed in the performance of the Contract, either by the Contractor, Sub-Contractor or other person doing or contracting to do or contracting for the whole or any part of the work on the Contract, must be paid no less than the applicable state prevailing rate of wage. The state prevailing wage rates to be paid under the state prevailing wage rate law are set out in the Boli Publication entitled "Prevailing Wage Rates for Public Works Contracts in Oregon." (Region 10) dated July 1, 2017, and all applicable amendments and corrections to amendments subsequently should from that date. The State Prevailing Wage Rate Publication is available at [http://www.boli.state.or.us/BOLI/WHD/PWR/pwr\\_book.shgml](http://www.boli.state.or.us/BOLI/WHD/PWR/pwr_book.shgml).

**Attachment G**  
**Designer’s Key Personnel Hourly Fee Schedule**



**CITY OF PRINEVILLE, OREGON**  
**AIRPORT INDUSTRIAL PARK UTILITY EXTENSIONS - 2018**  
**PROJECT OVERVIEW**

**FIGURE B-1**





- AT BEAM ANCHORAGE, CUT ANCHORS FLUSH WITH WALL AND COAT
- REMOVE ALL GRATING AND SUPPORT BEAMS
- REMOVE CMU WALL ALL AROUND
- STEEL STAIRS AND RAILING REMOVED AND GIVEN TO OWNER

**1 DEMOLITION DETAIL**  
NTS

**NOTES:**

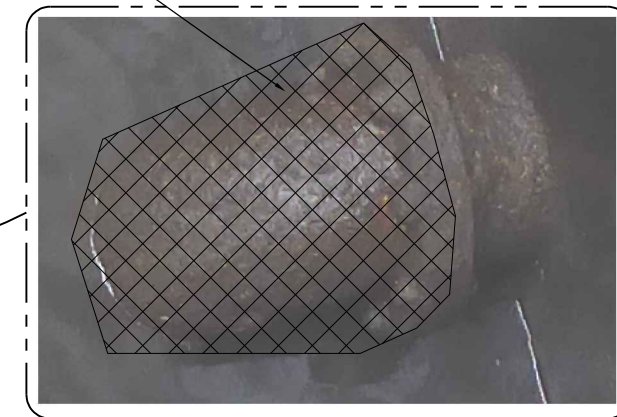
1. AFTER REMOVAL OF ALL MATERIAL, BACKFILL WET WELL TO MATCHING GRADE.

SAWCUT AND REMOVE CONC STAIRS AND WALL 3' BELOW EXST GRADE, FLUSH WITH BOTTOM OF CMU WALL. COAT EXPOSED REINFORCING AS SPECIFIED



**3 DEMOLITION DETAIL**  
NTS

THREE PIPES ARE LOCATED ALONG THIS WALL, NEAR THE BASE OF THE WET WELL. REMOVE PIPE SECTIONS UP TO THE FLANGE AND CAP WITH PLATE MATERIAL MATCHING PIPE



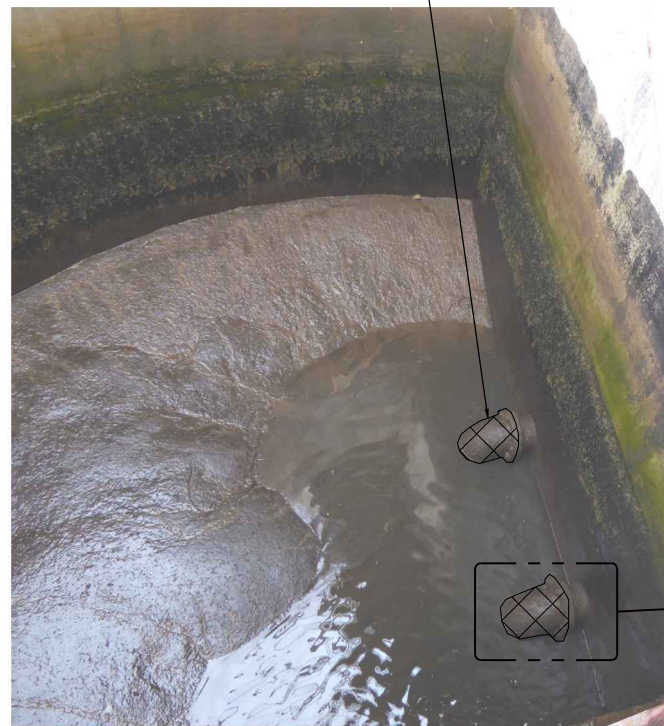
**4 DEMOLITION DETAIL**  
NTS



- REMOVE CMU WALL ALL AROUND
- REMOVE ALL GRATING AND SUPPORT BEAMS

STEEL STAIRS AND RAILING REMOVED AND GIVEN TO OWNER

**2 DEMOLITION DETAIL**  
NTS



DEMO EXISTING PIPE

NO.	DATE	DR	CHK	APVD	BY	APVD
		RAF / JTK				R MACO
			G BROWN	A FIRTH		

CASCADE  
PRINEVILLE WATER REUSE PROJECT  
PRINEVILLE, OREGON

**ch2m**  
HEADWORKS WET WELL  
STRUCTURAL/MECHANICAL  
DEMOLITION DETAILS

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
DATE 05/19/2017
PROJ 680110
DWG 25-SM-501
SHEET of

60% DESIGN



REMOVE ALL GRATING, UPPER AND LOWER ELEVATIONS

REMOVE PIPE SECTION TO WALL AND CAP WITH PLATE MATERIAL MATCHING PIPE

REMOVE CONC FLUME DIVIDER WALL AS REQUIRED TO INSTALL NEW PIPING CONNECTION

**1 DEMOLITION DETAIL**  
NTS



REMOVE ALL GRATING, UPPER AND LOWER ELEVATIONS

REMOVE PIPE AND CONTENTS, MIN 3'-0" DOWN. SEE NOTE 1 FOR FILL SPECIFICATIONS

**2 DEMOLITION DETAIL**  
NTS

**NOTES:**

1. AFTER REMOVAL OF ALL MATERIAL, BACKFILL WET WELL TO MATCHING GRADE.

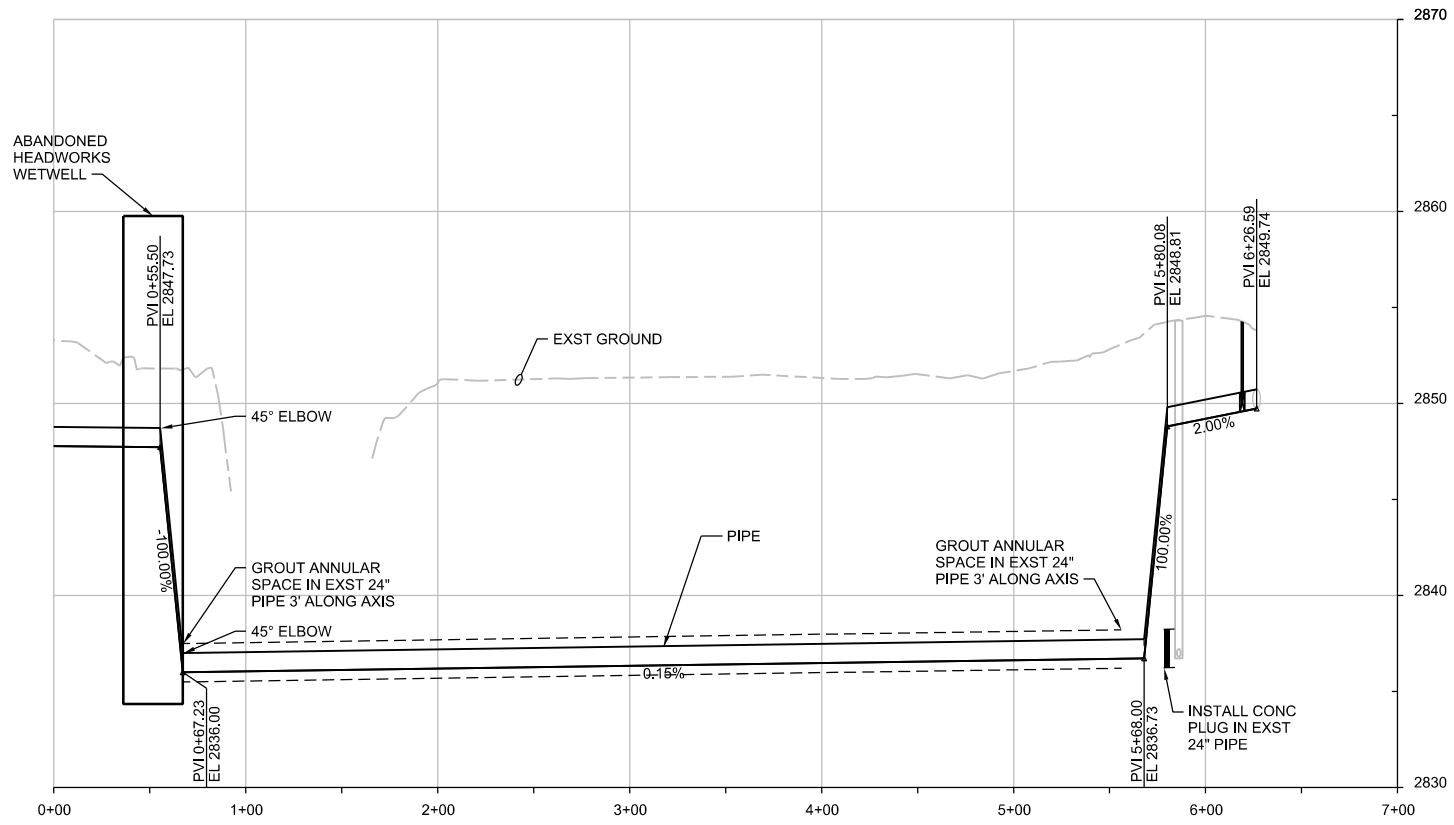
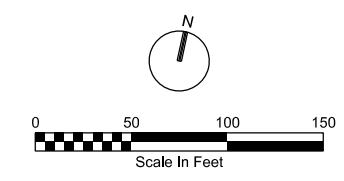
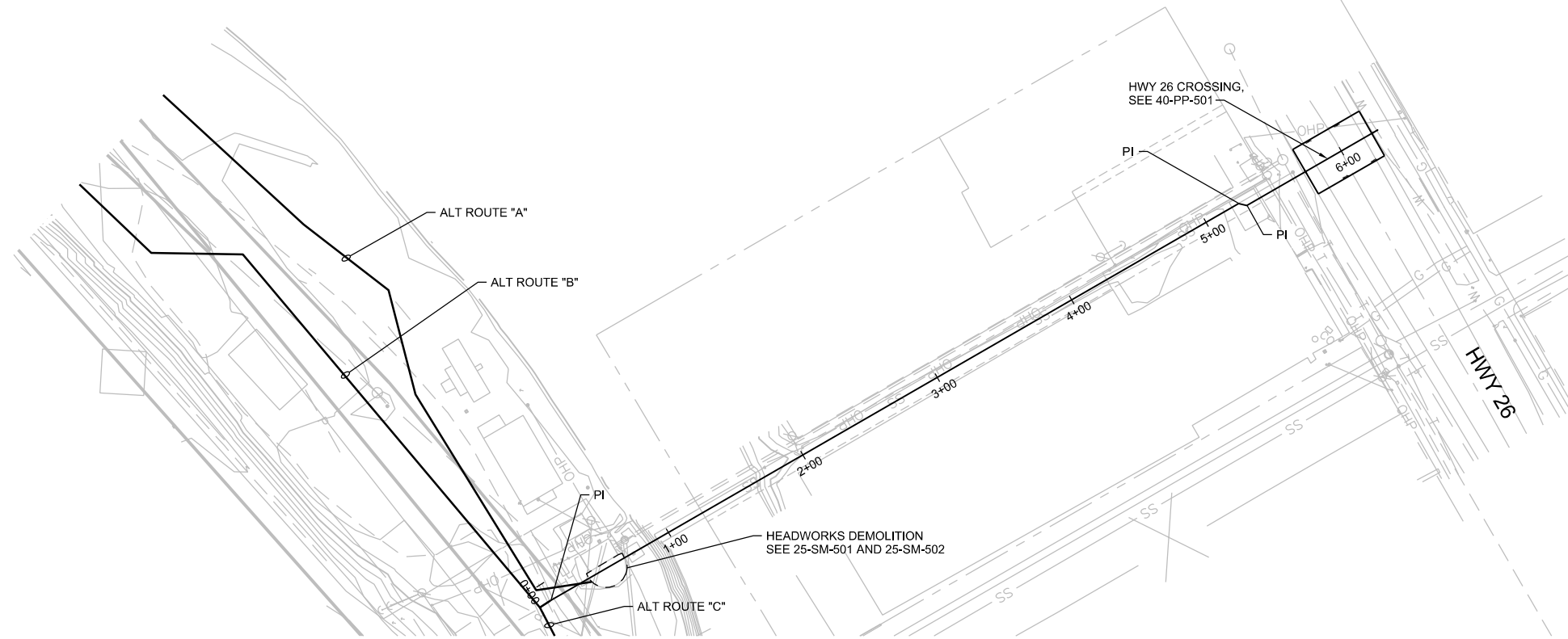
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		RAF / JTK	CHK	APVD
				R MACO

CASCADE  
PRINEVILLE WATER REUSE PROJECT  
PRINEVILLE, OREGON

**ch2m**  
HEADWORKS WET WELL  
**STRUCTURAL/MECHANICAL  
DEMOLITION DETAILS**

DATE	05/19/2017
PROJ	680110
DWG	25-SM-502
SHEET	of

60% DESIGN



**PROFILE**  
 1" = 50' HORIZ  
 1" = 5' VERT

		CASCADE PRINEVILLE WATER REUSE PROJECT PRINEVILLE, OREGON		POTABLE WATER PIPELINE P&P	
		NO. DATE DSGN	REVISION CHK	APVD J BOOTH	BY R MACO
VERIFY SCALE BAR IS ONE INCH ON ORIGINAL DRAWING.		DATE 05/19/2017 PROJ 680110 DWG 40-PP-114 SHEET of		60% DESIGN	

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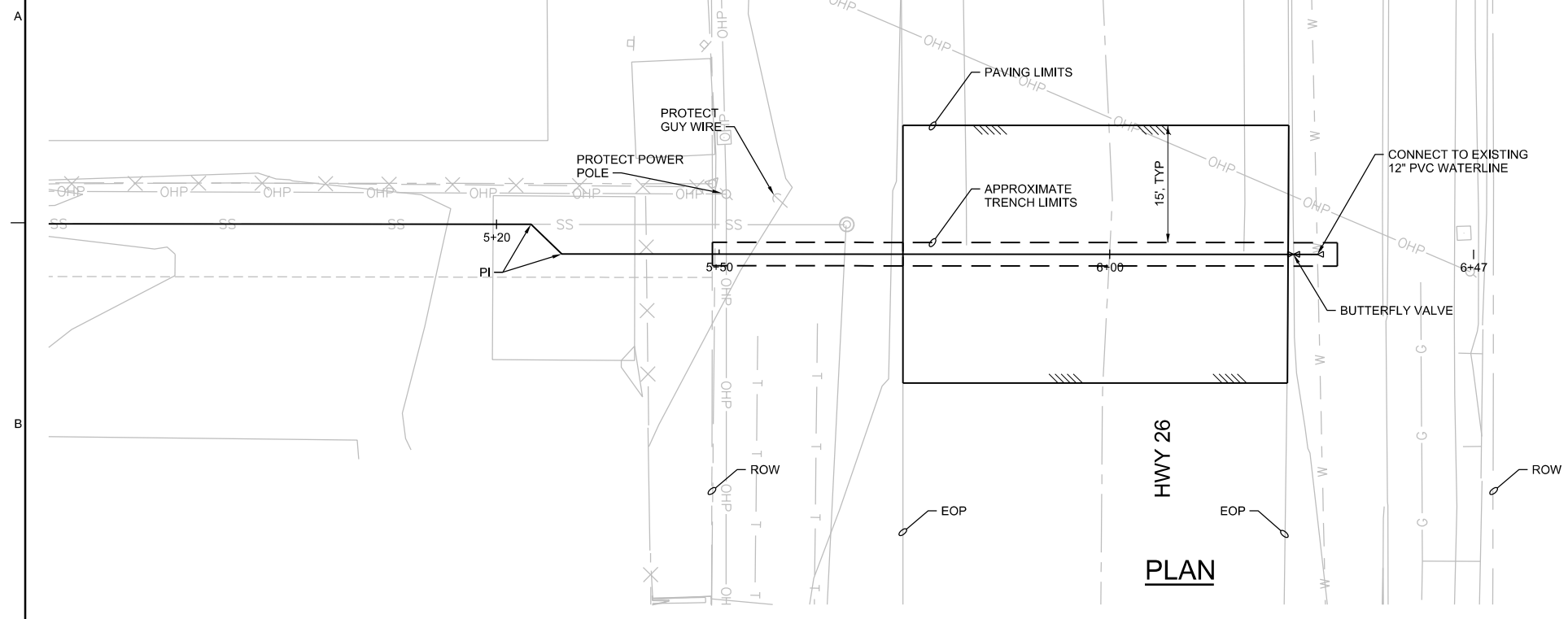
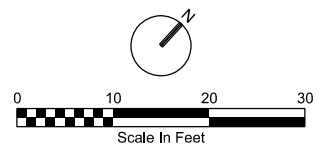
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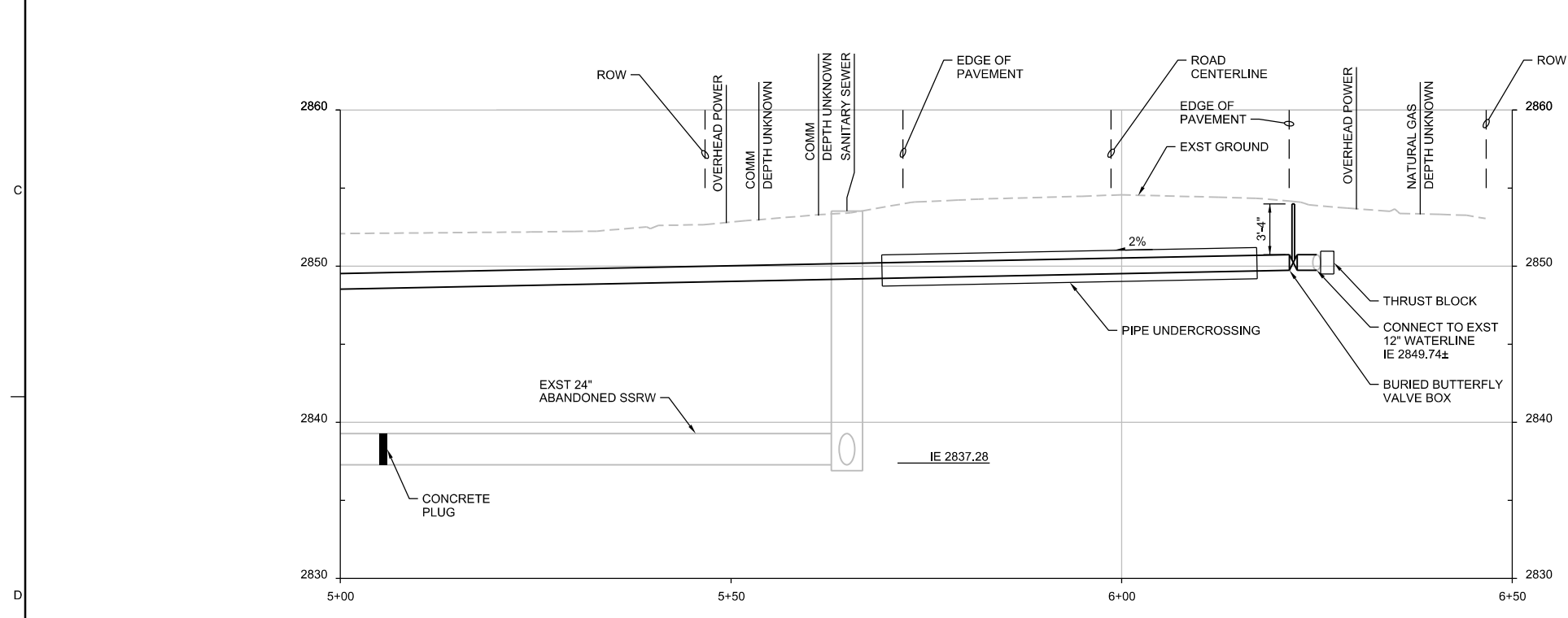
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5

6



PLAN



SECTION

NO.	DATE	DR	CHK	APVD	BY	APVD
		M BALDWIN		P LONG	J BOOTH	R MACO

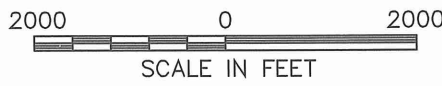
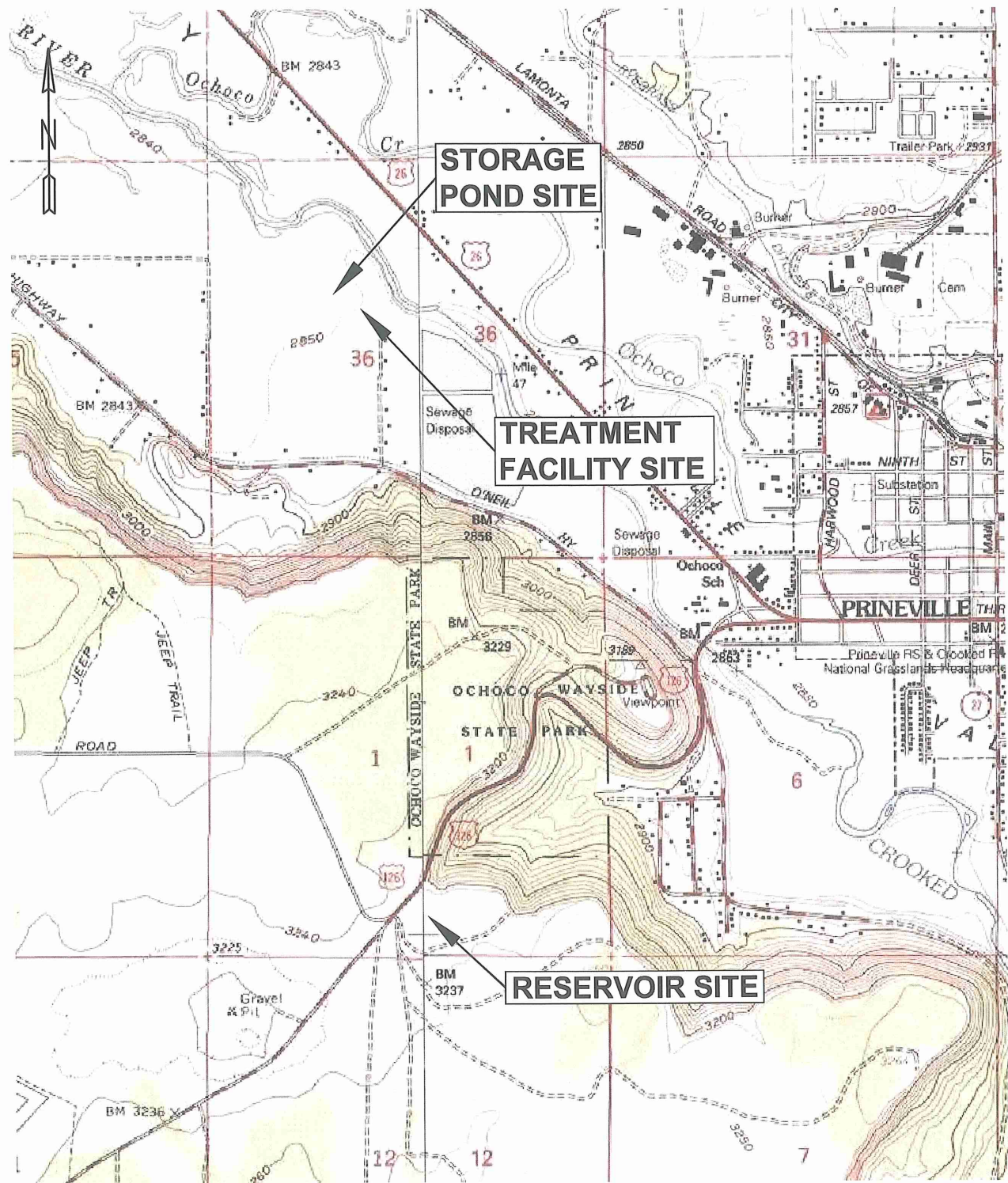
CASCADE  
PRINEVILLE WATER REUSE PROJECT  
PRINEVILLE, OREGON

**ch2m**  
PIPELINE  
**HWY 26 CROSSING  
PLAN AND PROFILE**

VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	05/19/2017
PROJ	680110
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**DRAFT**



**CH2M  
WASTEWATER REUSE IMPROVEMENTS  
PRINEVILLE, OREGON  
MARCH 2017  
VICINITY MAP**

**FIGURE  
1**

APPROXIMATE  
PIPELINE ROUTE

BH-3

NEW 25-MG  
STORAGE POND

BH-4

DRAFT

BH-1

NEW  
TREATMENT  
FACILITY

TP-2

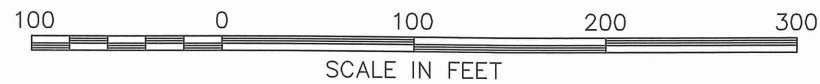
BH-5



TP-6

TP-1

TP-3

**LEGEND**

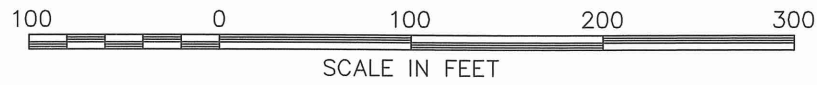
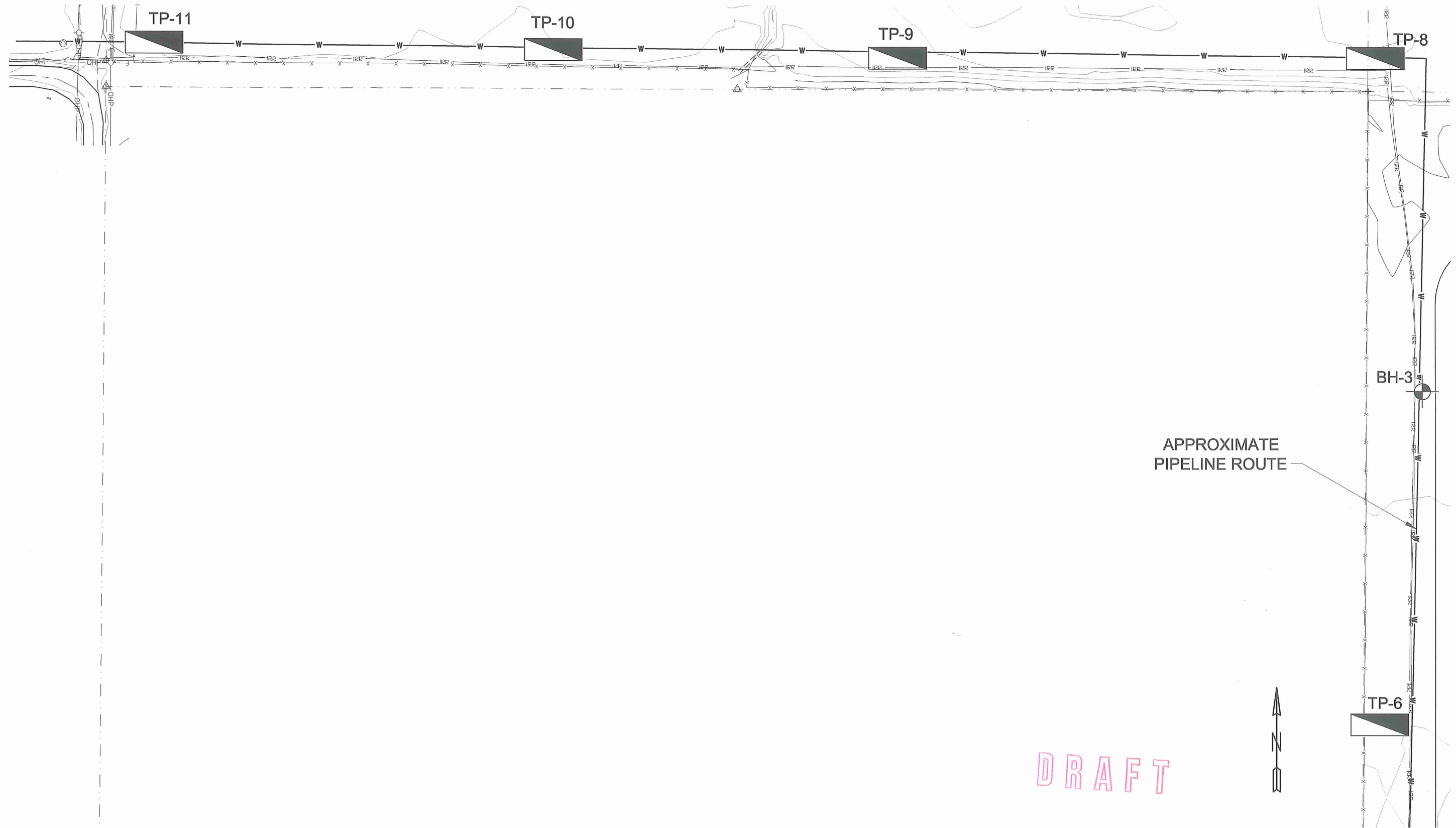




-  TP-1 TEST PIT LOCATION
-  BH-1 BORING LOCATION



CH2M  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
 MARCH 2017  
**TREATMENT FACILITY SITE PLAN**

**FIGURE**  
**2**



- LEGEND**
-  TP-1 TEST PIT LOCATION
  -  BH-1 BORING LOCATION

	<p>CH2M WASTEWATER REUSE IMPROVEMENTS PRINEVILLE, OREGON MARCH 2017 PIPELINE SITE PLAN NO. 1</p>	<p>FIGURE <b>3</b></p>
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TP-4



APPROXIMATE PIPELINE ROUTE

HIGHWAY BORE

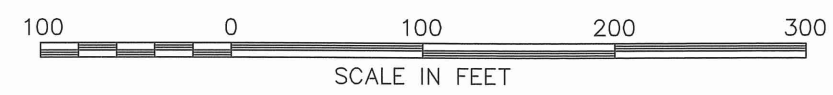
ONIEL HIGHWAY

TP-5

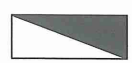
TP-7

BH-6

DRAFT



LEGEND



TP-1 TEST PIT LOCATION



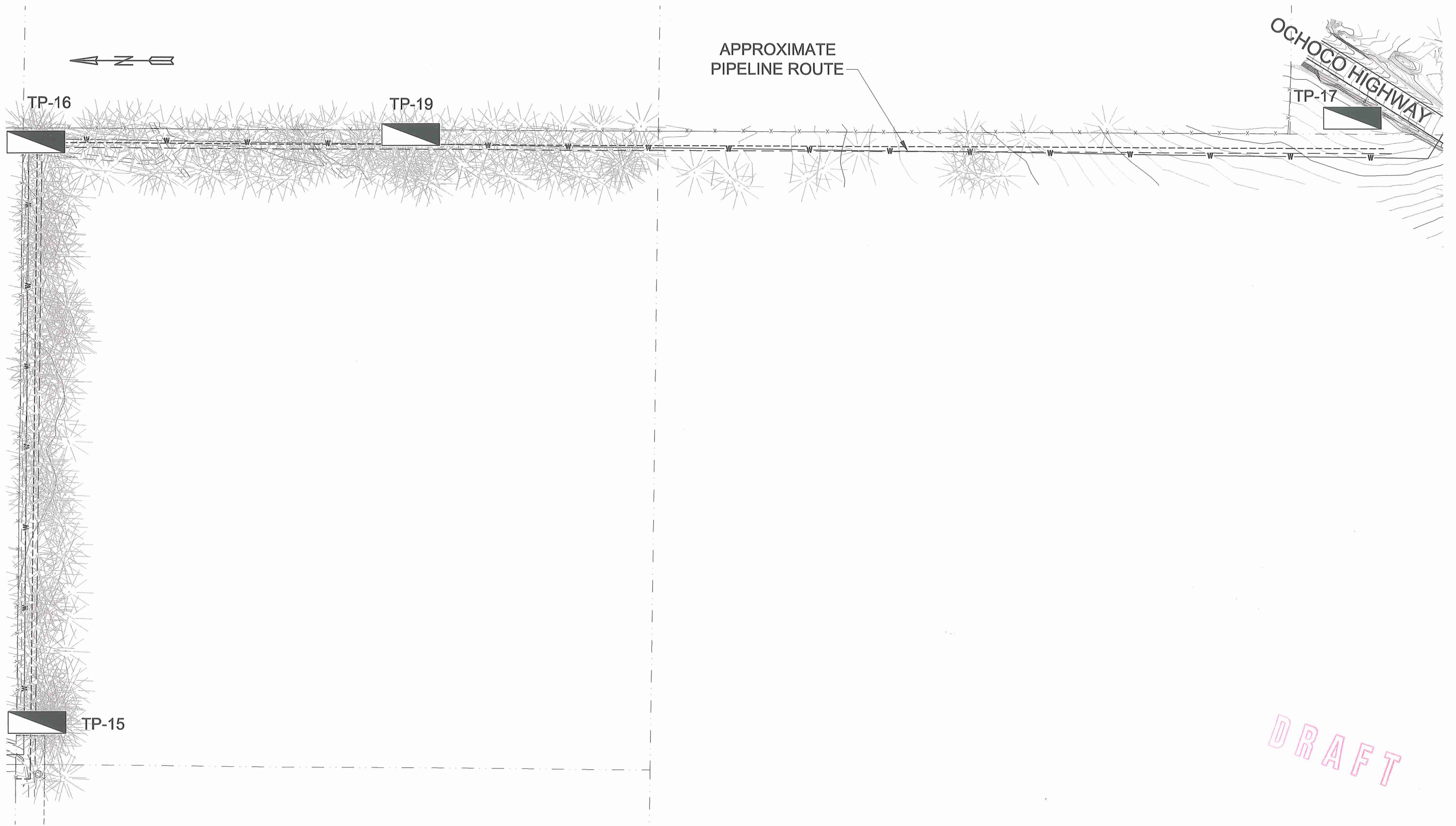
BH-1 BORING LOCATION



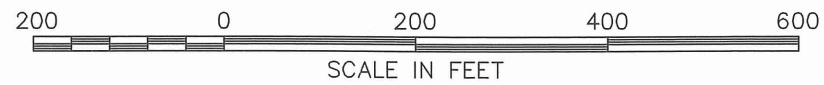
CH2M  
WASTEWATER REUSE IMPROVEMENTS  
PRINEVILLE, OREGON  
MARCH 2017  
PIPELINE SITE PLAN NO. 2

FIGURE  
4



R:\Clients\Prineville\1260-16 Wastewater Reuse Project\dwg\Figure 5 - Site Plan (Scale 200).dwg, 3/22/2017 1:23:23 PM, CulePDF Writer



DRAFT



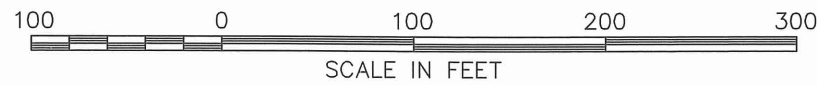
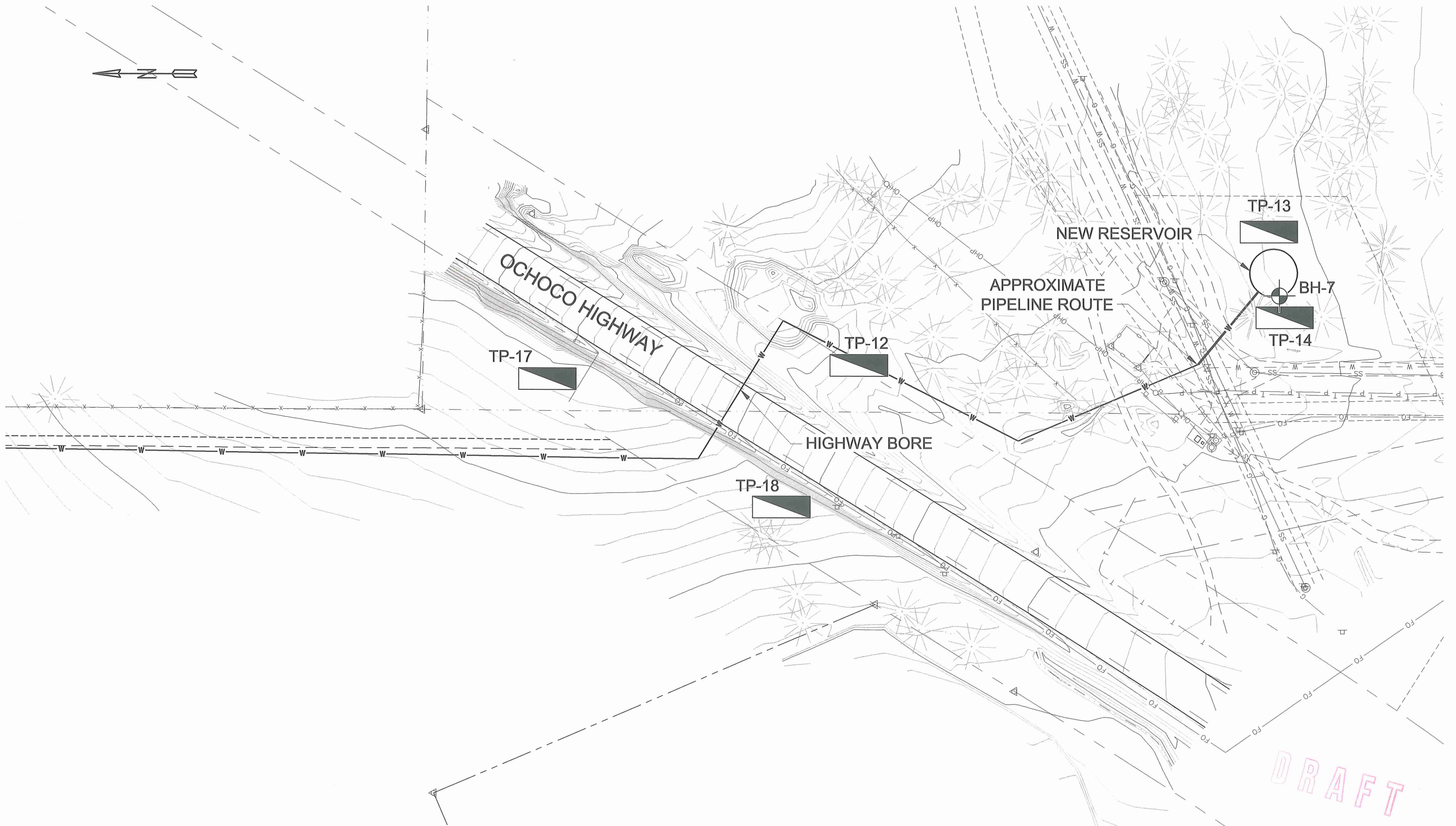
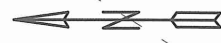
**LEGEND**

-  TP-1 TEST PIT LOCATION
-  BH-1 BORING LOCATION





CH2M  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
 MARCH 2017  
**PIPELINE SITE PLAN NO. 3**

**FIGURE**  
**5**



**LEGEND**





-  TP-1 TEST PIT LOCATION
-  BH-1 BORING LOCATION

**ap anderson perry**  
& associates, inc.





CH2M  
WASTEWATER REUSE IMPROVEMENTS  
PRINEVILLE, OREGON  
MARCH 2017  
RESERVOIR SITE PLAN

FIGURE  
**6**













**SAMPLE TYPE**

-  2.0-INCH O.D. SPLIT-SPOON SAMPLE
-  GRAB SAMPLE
-  3.0-INCH O.D. THIN-WALLED SAMPLE
-  HQ CORE SAMPLE










**IN-SITU & LABORATORY TESTING RESULTS**

-  TORVANE READING
-  TON PER SQUARE FEET
-  SPT, N-VALUE
-  MOISTURE CONTENT, %

**SOIL LOG GRAPHIC**

- |   |   |
|---|---|
|  SILT                      |  SAND                        |
|  SILT WITH SAND            |  SAND WITH SILT              |
|  SILT WITH SAND AND GRAVEL |  SAND WITH SILT AND GRAVEL   |
|  SILT WITH CLAY           |  SANDY GRAVEL               |
|  SILTSTONE/CEMENTED ASH  |  GRAVEL WITH SILT AND SAND |
|  RHYOLITE                |  BASALT                    |

**INSTALLATION & BACKFILL**

- |  |  |
|--|--|
|  GROUNDWATER LEVEL MEASURED ON DATE SHOWN |  |
|  COLD PATCH ASPHALT                       |  SILICA SAND BACKFILL |
|  GRAVEL BACKFILL                          |  FLUSH MOUNT MONUMENT |
|  CONCRETE BACKFILL                        |  PVC WELL CASING      |
|  BENTONITE CHIP BACKFILL                  |  SLOTTED WELL SCREEN  |

DRAFT

	<p>CH2M  <b>WASTEWATER REUSE IMPROVEMENTS</b>  <b>PRINEVILLE, OREGON</b>          MARCH 2017  <b>SOIL LOG LEGEND</b></p>	<p><b>FIGURE</b>  <b>A1</b></p>
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### TEST PIT TP-3

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2848.0 (0)	LOOSE SILTY SAND (SM); BROWN, DAMP, NON PLASTIC, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, OCCASIONAL ORGANICS, (ALLUVIUM)		☒ 5-3-1	■	GRASS AT SURFACE 0.10 TSF
	SOFT SANDY SILT (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, OCCASIONAL ORGANICS (ROOTLETS), (ALLUVIUM)		☒ 5-3-2	■	0.12 TSF
	SOFT SANDY SILT (ML) TO SILTY SAND (SM); BROWN, DAMP, LOW PLASTICITY, FINE SAND, (ALLUVIUM)		☒ 5-3-3	■	0.12 TSF
2843.0 (5.0)	MEDIUM DENSE SANDY GRAVEL WITH SILT (GP-GM); GRAY, WET, FINE TO COARSE SAND, FINE TO COARSE GRAVEL, SUBROUNDED, (ALLUVIUM)		☒ 5-3-4	■	0.10 TSF
2838.0 (10.0)	BOTTOM OF TEST PIT AT 11.0 FEET				
					TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  GROUNDWATER OBSERVED AT 9.5 FEET ON 2/1/2017

### TEST PIT TP-4

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2849.5 (0)	LOOSE SILTY SAND (SM); BROWN, DAMP, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, OCCASIONAL ORGANICS, (ALLUVIUM)		☒ 5-4-1	■	GRASS AT SURFACE 0.20 TSF
	MEDIUM STIFF SILT WITH TRACE SAND AND CLAY (ML); BROWN, DAMP, LOW TO MEDIUM PLASTICITY, FINE SAND, OCCASIONAL ORGANICS TO 2.5 FEET, (ALLUVIUM)		☒ 5-4-2	■	0.20 TSF  0.45 TSF
2844.5 (5.0)	BECOMES SOFT TO MEDIUM STIFF, MOIST		☒ 5-4-3	■	0.30 TSF
2839.5 (10.0)	BOTTOM OF TEST PIT AT 9.0 FEET				
					TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  GROUNDWATER OBSERVED AT 9.0 FEET ON 2/1/2017

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### TEST PIT TP-5

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2849.6 (0)	LOOSE SILTY SAND (SM); BROWN, DAMP, NON PLASTIC, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, OCCASIONAL ORGANICS, (ALLUVIUM)	[Pattern]	☒ 5-5-1	■ 0.10 TSF	GRASS AT SURFACE
2844.6 (5.0)	SOFT SILT WITH TRACE SAND (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, (ALLUVIUM)	[Pattern]	☒ 5-5-2	■ 0.10 TSF ■ 0.20 TSF ■ 0.15 TSF	TEST PIT BACKFILLED WITH EXCAVATED MATERIAL
2839.6 (10.0)	BECOMES WET  BOTTOM OF TEST PIT AT 9.0 FEET	[Pattern]			GROUNDWATER OBSERVED AT 9.0 FEET ON 2/1/2017

### TEST PIT TP-6

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2846.7 (0)	LOOSE SILTY SAND (SM); BROWN, DAMP, NON PLASTIC, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, OCCASIONAL ORGANICS, (ALLUVIUM)	[Pattern]	☒ 5-6-1	■ 0.10 TSF	GRASS AT SURFACE
2841.7 (5.0)	SOFT TO MEDIUM STIFF SILT WITH TRACE SAND AND CLAY (ML); BROWN, DAMP, LOW TO MEDIUM PLASTICITY, FINE SAND, (ALLUVIUM)	[Pattern]	☒ 5-6-2	■ 0.12 TSF ■ 0.25 TSF ■ 0.20 TSF	TEST PIT BACKFILLED WITH EXCAVATED MATERIAL
2836.7 (10.0)	BECOMES MOIST  LOOSE SILTY SAND (SM); BROWN, MOIST TO WET, NON PLASTIC, FINE SAND, (ALLUVIUM)  BOTTOM OF TEST PIT AT 8.5 FEET	[Pattern]			GROUNDWATER OBSERVED AT 8.5 FEET ON 2/1/2017

DRAFT



**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**TEST PIT LOG**

**FIGURE**  
**A4**

## TEST PIT TP-7

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2851.1 (0)	LOOSE SILTY SAND (SM); BROWN, DAMP, NON PLASTIC, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, OCCASIONAL ORGANICS, (ALLUVIUM)		☒ 5-7-1	■	GRASS AT SURFACE 0.25 TSF
	LOOSE SAND (SP-SM); TRACE SILT, GRAY BROWN, DRY, FINE SAND, (ALLUVIUM),				
2846.1 (5.0)	LOOSE TO MEDIUM DENSE SANDY GRAVEL (GP-GM) TO GRAVELLY SAND (SP-SM); GRAY BROWN, DRY, FINE TO COARSE SAND, FINE TO COARSE GRAVEL, SUBROUNDED, (ALLUVIUM)		☒ 5-7-2		SIGNIFICANT CAVING OF TEST PIT SIDEWALLS OBSERVED DURING EXCAVATION
	LOOSE GRAVELLY SAND (SP-SM); GRAY BROWN, DRY TO DAMP, FINE TO COARSE SAND, FINE TO COARSE GRAVEL, SUBROUNDED, OCCASIONAL COBBLES UP TO 5.0-INCH DIAMETER, (ALLUVIUM)				TEST PIT BACKFILLED WITH EXCAVATED MATERIAL
2841.1 (10.0)	LOOSE TO MEDIUM DENSE SANDY GRAVEL (GP-GM); GRAY BROWN, MOIST TO WET, FINE TO COARSE SAND, FINE TO COARSE GRAVEL, SUBROUNDED, (ALLUVIUM)		☒ 5-7-3		GROUNDWATER OBSERVED AT 11.0 FEET ON 2/1/2017
	BOTTOM OF TEST PIT AT 12.0 FEET				

## TEST PIT TP-8

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2841.7 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, MOIST, LOW PLASTICITY, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, (ALLUVIUM)		☒ 5-8-1	■	GRASS AT SURFACE 0.25 TSF
	LOOSE SILTY SAND (SM); BROWN, DAMP, NON PLASTIC, FINE SAND, OCCASIONAL ORGANICS, (ALLUVIUM)				
	LOOSE SAND (SP-SM); TRACE SILT, GRAY BROWN, DAMP, NON PLASTIC, FINE SAND, OCCASIONAL ORGANICS TO 3.0 FEET, (ALLUVIUM)		☒ 5-8-2		SIGNIFICANT CAVING OF TEST PIT SIDEWALLS OBSERVED DURING EXCAVATION
2836.7 (5.0)	BECOMES MOIST TO WET				GROUNDWATER OBSERVED AT 5.3 FEET ON 2/1/2017
	LOOSE SAND (SP-SM); TRACE SILT AND GRAVEL, GRAY BROWN, WET, NON PLASTIC, FINE SAND, FINE GRAVEL, SUBROUNDED, (ALLUVIUM)				TEST PIT BACKFILLED WITH EXCAVATED MATERIAL
	BOTTOM OF TEST PIT AT 8.0 FEET (CAVING PREVENTED TEST PIT FROM BEING EXCAVATED ANY DEEPER)				
2831.7 (10.0)					

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## TEST PIT TP-9

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2842.4 (0)	LOOSE SAND WITH TRACE TO SOME SILT (SP-SM); BROWN, DAMP, NON PLASTIC, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, (ALLUVIUM)		☒ 5-9-1	■ 0.25 TSF	GRASS AT SURFACE
	SOFT SILT WITH SOME SAND (ML); BROWN, DAMP TO MOIST, LOW PLASTICITY, FINE SAND, OCCASIONAL ORGANICS TO 2.0 FEET, (ALLUVIUM)			■ 0.15 TSF	
	VERY LOOSE SILTY SAND (SM); BROWN, WET, NON PLASTIC, FINE SAND, (ALLUVIUM)		☒ 5-9-2	■ 0.10 TSF	GROUNDWATER OBSERVED AT 4.5 FEET ON 2/2/2017
2837.4 (5.0)	LOOSE TO MEDIUM DENSE SANDY GRAVEL, TRACE SILT (GP-GM); GRAY BROWN, WET, FINE TO COARSE SAND, FINE TO COARSE GRAVEL, SUBROUNDED, (ALLUVIUM)			☒ 5-9-3	
2832.4 (10.0)	BOTTOM OF TEST PIT AT 9.0 FEET				

## TEST PIT TP-10

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
2843.9 (0)	SOFT SILT WITH TRACE SAND AND CLAY (ML); DARK BROWN, MOIST, LOW TO MEDIUM PLASTICITY, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, OCCASIONAL ORGANICS TO 3.0 FEET, (ALLUVIUM)		☒ 5-10-1	■ 0.30 TSF	GRASS AT SURFACE
				■ 0.20 TSF	
	SOFT SILT WITH TRACE CLAY (ML); BROWN, MOIST, LOW TO MEDIUM PLASTICITY, FINE SAND, (ALLUVIUM)		☒ 5-10-2	■ 0.20 TSF	GROUNDWATER OBSERVED AT 6.5 FEET ON 2/2/2017
2838.9 (5.0)	BECOMES WET			■ 0.25 TSF	
2833.9 (10.0)	BOTTOM OF TEST PIT AT 11.0 FEET				

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## TEST PIT TP-11

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS	
2843.4 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, MOIST, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES, (ALLUVIUM)				GRASS AT SURFACE	
	SOFT SILT WITH TRACE SAND (ML); BROWN, MOIST, LOW TO MEDIUM PLASTICITY, FINE SAND, OCCASIONAL ORGANICS TO 3.0 FEET, (ALLUVIUM)		☒ 5-11-1	■	0.25 TSF	
				■	0.25 TSF	
				■	0.25 TSF	
				■	0.05 TSF	
2838.4 (5.0)	LOOSE SILTY SAND (SM); BROWN, MOIST TO WET, NON PLASTIC, FINE SAND, (ALLUVIUM)		☒ 5-11-2		GROUNDWATER OBSERVED AT 5.5 FEET ON 2/2/2017	
	INTERBEDDED LAYERS OF SILTY SAND (SM) TO SANDY SILT (ML)				TEST PIT BACKFILLED WITH EXCAVATED MATERIAL	
2833.4 (10.0)	BOTTOM OF TEST PIT AT 8.0 FEET					

## TEST PIT TP-12

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS	
3227.4 (0)	LOOSE SANDY GRAVEL WITH SILT AND COBBLES (GP-GM); GRAY BROWN, MOIST, FINE TO COARSE GRAVEL, SUBROUNDED TO SUBANGULAR, NUMEROUS COBBLES UP TO 10-INCH DIAMETER, OCCASIONAL ORGANICS IN UPPER 3 INCHES, (FILL)				GRASS AT SURFACE	
	MEDIUM DENSE TO DENSE SILTY GRAVEL WITH CLAY (GM); ORANGE BROWN, DAMP, MEDIUM PLASTICITY, FINE SAND, (POSSIBLE FILL)		☒ 5-12-1			TEST PIT BACKFILLED WITH EXCAVATED MATERIAL
	MEDIUM STRONG (R3) TO STRONG (R4) BASALT, DARK GRAY TO BLACK, FRESH TO SLIGHTLY WEATHERED, CLOSE JOINTS, HIGHLY VESICULAR, (POSSIBLE LARGE BOULDER)		☒ 5-12-2			
3222.4 (5.0)	VERY WEAK (R1) SILTSTONE/CEMENTED ASH, ORANGE BROWN					NO GROUNDWATER OBSERVED ON 2/2/2017
	STRONG (R4) BASALT, DARK GRAY, FRESH TO SLIGHTLY WEATHERED					
	BOTTOM OF TEST PIT AT 6.0 FEET					
3217.4 (10.0)						

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### TEST PIT TP-13

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3234.1 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES		<input checked="" type="checkbox"/> 5-13-1		GRASS AND JUNIPERS AT SURFACE  TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  NO GROUNDWATER OBSERVED ON 2/2/2017
	VERY STIFF TO HARD SILT WITH SOME SAND (ML); LIGHT BROWN, DRY, LOW PLASTICITY, FINE SAND, MODERATE CEMENTATION, (CALICHE) STRONG (R4) TO VERY STRONG (R5) BASALT; FRESH TO SLIGHTLY WEATHERED, GRAY, MODERATELY VESICULAR, JOINTING/FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT BOTTOM OF TEST PIT AT 2.5 FEET (BACKHOE REFUSAL)				
3229.1 (5.0)					

### TEST PIT TP-14

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3234.1 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, MOIST, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS IN UPPER 3.0 INCHES, SCATTERED COBBLES		<input checked="" type="checkbox"/> 5-14-1		GRASS AND JUNIPERS AT SURFACE  TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  NO GROUNDWATER OBSERVED ON 2/2/2017
	VERY STIFF TO HARD SILT (ML); ORANGE BROWN, DAMP, LOW PLASTICITY, MODERATE CEMENTATION, (CALICHE) STRONG (R4) TO VERY STRONG (R5) BASALT; FRESH TO SLIGHTLY WEATHERED, GRAY, HIGHLY VESICULAR, JOINTING/FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT BOTTOM OF TEST PIT AT 2.5 FEET (BACKHOE REFUSAL)				
3229.1 (5.0)					

### TEST PIT TP-15

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3238.0 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, MOIST, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS				GRASS AND JUNIPERS AT SURFACE  TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  NO GROUNDWATER OBSERVED ON 2/2/2017
	HARD SILT WITH SAND (ML); LIGHT BROWN, DRY, LOW PLASTICITY, FINE SAND, MODERATE CEMENTATION, (CALICHE) STRONG (R4) TO VERY STRONG (R5) BASALT; FRESH TO SLIGHTLY WEATHERED, GRAY, MODERATELY VESICULAR, JOINTING/FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT BOTTOM OF TEST PIT AT 2.0 FEET (BACKHOE REFUSAL)				
3233.0 (5.0)					

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### TEST PIT TP-16

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3241.7 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES				GRASS AND JUNIPERS AT SURFACE  TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  NO GROUNDWATER OBSERVED ON 2/2/2017
	HARD SILT WITH TRACE CLAY (ML); LIGHT BROWN, DRY, LOW PLASTICITY, MODERATE CEMENTATION, (CALICHE)				
	WEAK (R2) TO MEDIUM STRONG (R3) RHYOLITE; FRESH TO SLIGHTLY WEATHERED, BROWN TO LIGHT BROWN, JOINTING/FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT				
3236.7 (5.0)	BOTTOM OF TEST PIT AT 3.0 FEET (BACKHOE REFUSAL)				

### TEST PIT TP-17

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3225.5 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS IN UPPER 6.0 INCHES, SCATTERED COBBLES				GRASS AND JUNIPERS AT SURFACE  TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  NO GROUNDWATER OBSERVED ON 2/2/2017
	SOFT TO MEDIUM STIFF SILT WITH CLAY (ML); ORANGE BROWN, DAMP, LOW PLASTICITY, SCATTERED GRAVEL AND COBBLES-SIZED CALICHE FRAGMENTS				
	HARD SILT WITH TRACE CLAY (ML); LIGHT ORANGE BROWN, DRY, LOW PLASTICITY, MODERATE CEMENTATION, (CALICHE)				
3220.5 (5.0)	STRONG (R4) TO VERY STRONG (R5) BASALT; FRESH TO SLIGHTLY WEATHERED, DARK GRAY TO BLACK, HIGHLY VESICULAR, JOINTING/FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT  BOTTOM OF TEST PIT AT 2.0 TO 2.5 FEET (BACKHOE REFUSAL)				

### TEST PIT TP-18

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3232.0 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS				GRASS AND JUNIPERS AT SURFACE  TEST PIT BACKFILLED WITH EXCAVATED MATERIAL  NO GROUNDWATER OBSERVED ON 2/2/2017
	STIFF SILT WITH CLAY (ML); LIGHT ORANGE BROWN, DAMP, LOW PLASTICITY, MODERATE CEMENTATION, (CALICHE)				
	STRONG (R4) TO VERY STRONG (R5) BASALT; FRESH, GRAY, MODERATELY VESICULAR, JOINTING/FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT				
3227.0 (5.0)	BOTTOM OF TEST PIT AT 2.5 FEET (BACKHOE REFUSAL)				

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## TEST PIT TP-19

ELEVATION (DEPTH) FEET	CLASSIFICATION OF MATERIAL	LOG	SAMPLES	TESTS	COMMENTS
3246.1 (0)	SOFT SILT WITH SOME SAND (ML); BROWN, DAMP, LOW PLASTICITY, FINE SAND, SCATTERED ORGANICS (ROOTLETS) IN UPPER 6.0 INCHES				GRASS AND JUNIPERS AT SURFACE
	STIFF TO HARD SILT WITH TRACE CLAY (ML); LIGHT BROWN, DAMP, LOW PLASTICITY, MODERATE CEMENTATION, (CALICHE)				TEST PIT BACKFILLED WITH EXCAVATED MATERIAL
	STRONG (R4) TO VERY STRONG (R5) BASALT; FRESH TO SLIGHTLY WEATHERED, GRAY, HIGHLY VESICULAR, JOINTING/ FRACTURES NOT VISIBLE DUE TO SILT SLOUGH AT BOTTOM OF TEST PIT				NO GROUNDWATER OBSERVED ON 2/2/2017
3241.1 (5.0)	BOTTOM OF TEST PIT AT 3.0 FEET (BACKHOE REFUSAL)				




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









**SAMPLE TYPE**

-  2.0-INCH O.D. SPLIT-SPOON SAMPLE
-  GRAB SAMPLE
-  3.0-INCH O.D. THIN-WALLED SAMPLE
-  HQ CORE SAMPLE










**IN-SITU & LABORATORY TESTING RESULTS**

-  TORVANE READING
- TSF* TON PER SQUARE FEET
-  SPT, N-VALUE
-  MOISTURE CONTENT, %

**SOIL LOG GRAPHIC**

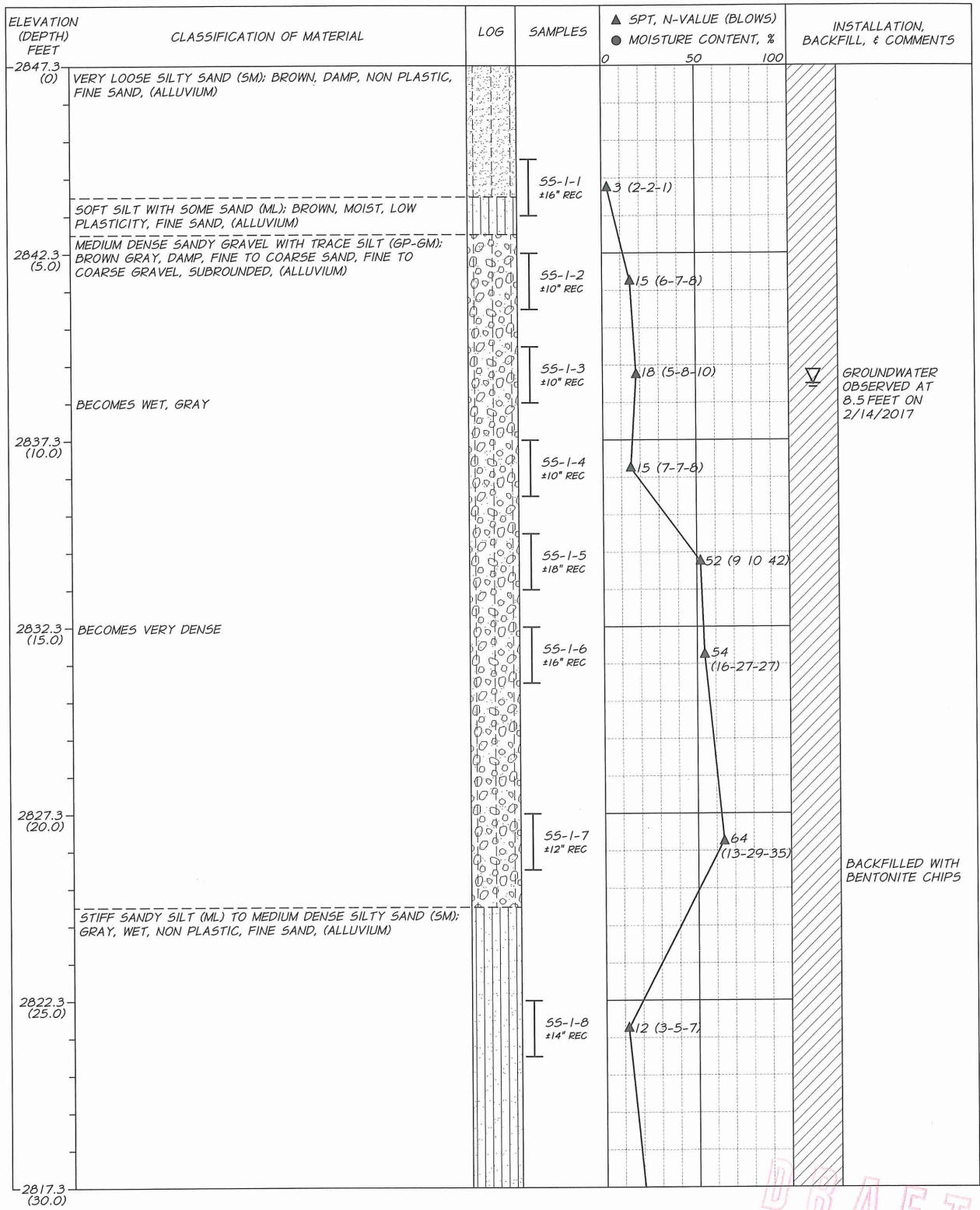
- |   |                           |   |                           |
|---|---------------------------|---|---------------------------|
|    | SILT                      |    | SAND                      |
|    | SILT WITH SAND            |    | SAND WITH SILT            |
|    | SILT WITH SAND AND GRAVEL |    | SAND WITH SILT AND GRAVEL |
|   | SILT WITH CLAY            |   | SANDY GRAVEL              |
|  | SILTSTONE/CEMENTED ASH    |  | GRAVEL WITH SILT AND SAND |
|  | RHYOLITE                  |  | BASALT                    |

**INSTALLATION & BACKFILL**

- |   |  |   |                      |
|---|--|---|----------------------|
|  | GROUNDWATER LEVEL MEASURED ON DATE SHOWN |  | SILICA SAND BACKFILL |
|  | COLD PATCH ASPHALT                       |  | GRAVEL BACKFILL      |
|  | CONCRETE BACKFILL                        |  | FLUSH MOUNT MONUMENT |
|  | BENTONITE CHIP BACKFILL                  |  | PVC WELL CASING      |
|   |  |  | SLOTTED WELL SCREEN  |

DRAFT

# BORING BH-1 (SHEET 1 OF 2)



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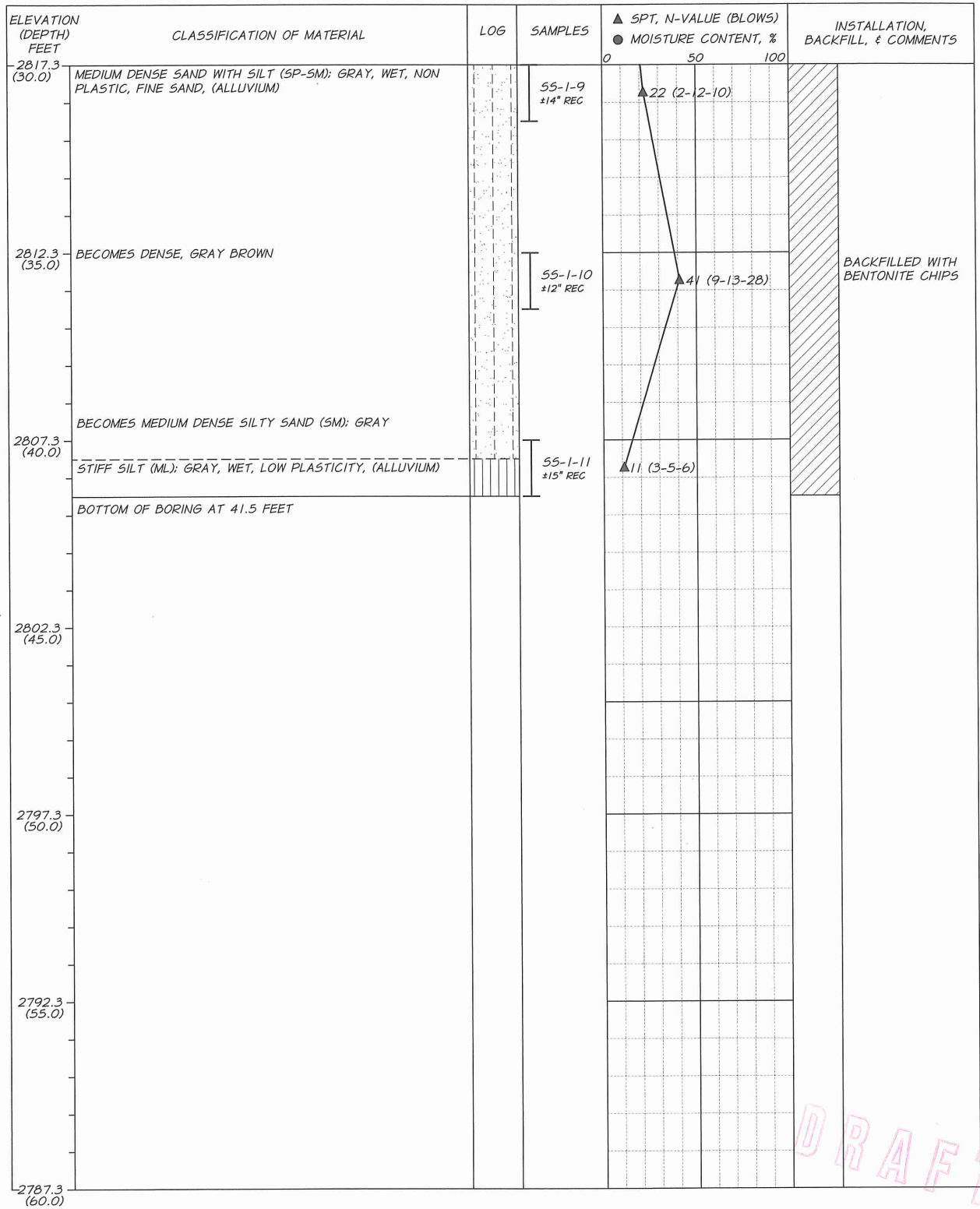
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**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B2**

# BORING BH-1 (SHEET 2 OF 2)



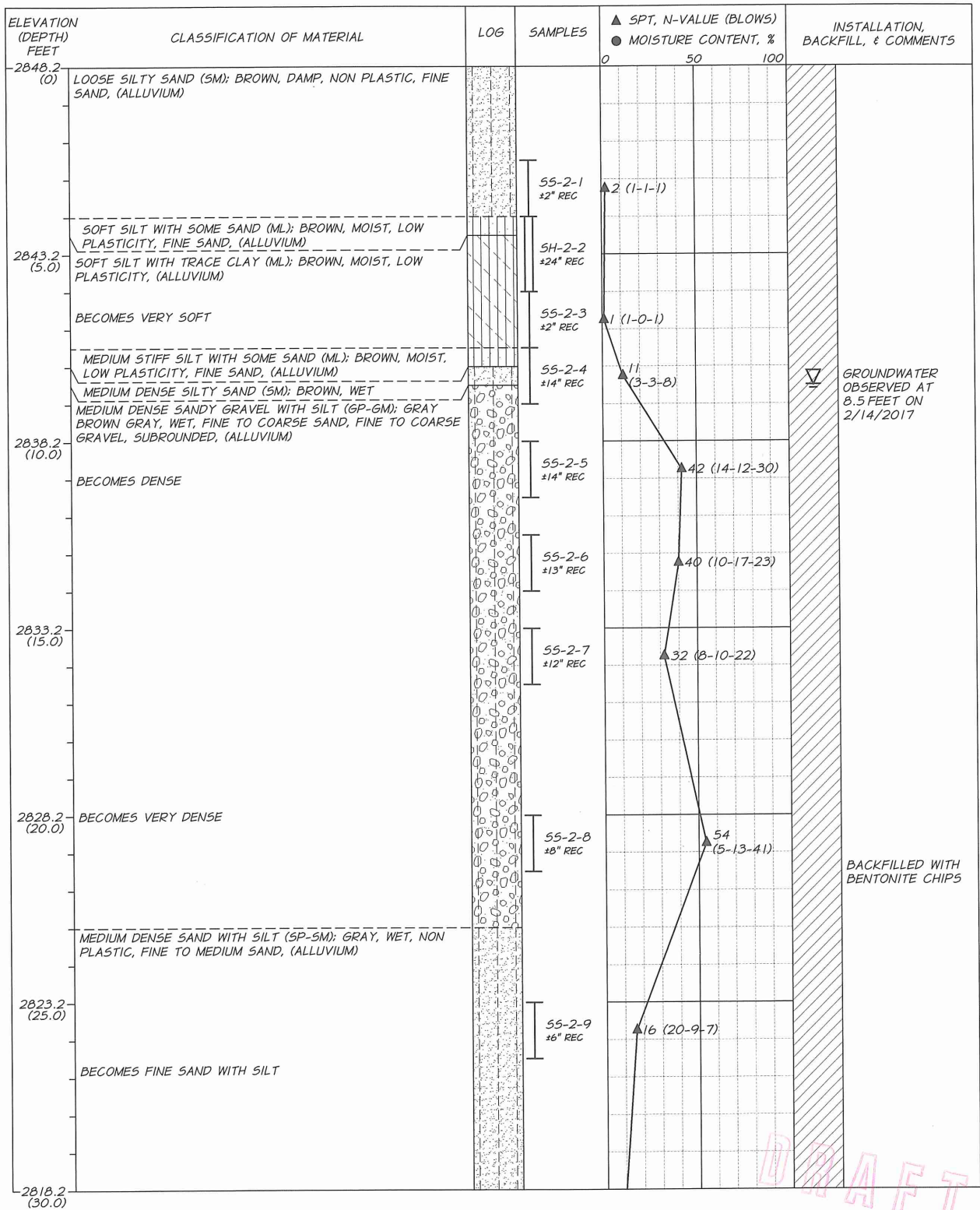
DRAFT



**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B3**

# BORING BH-2 (SHEET 1 OF 2)



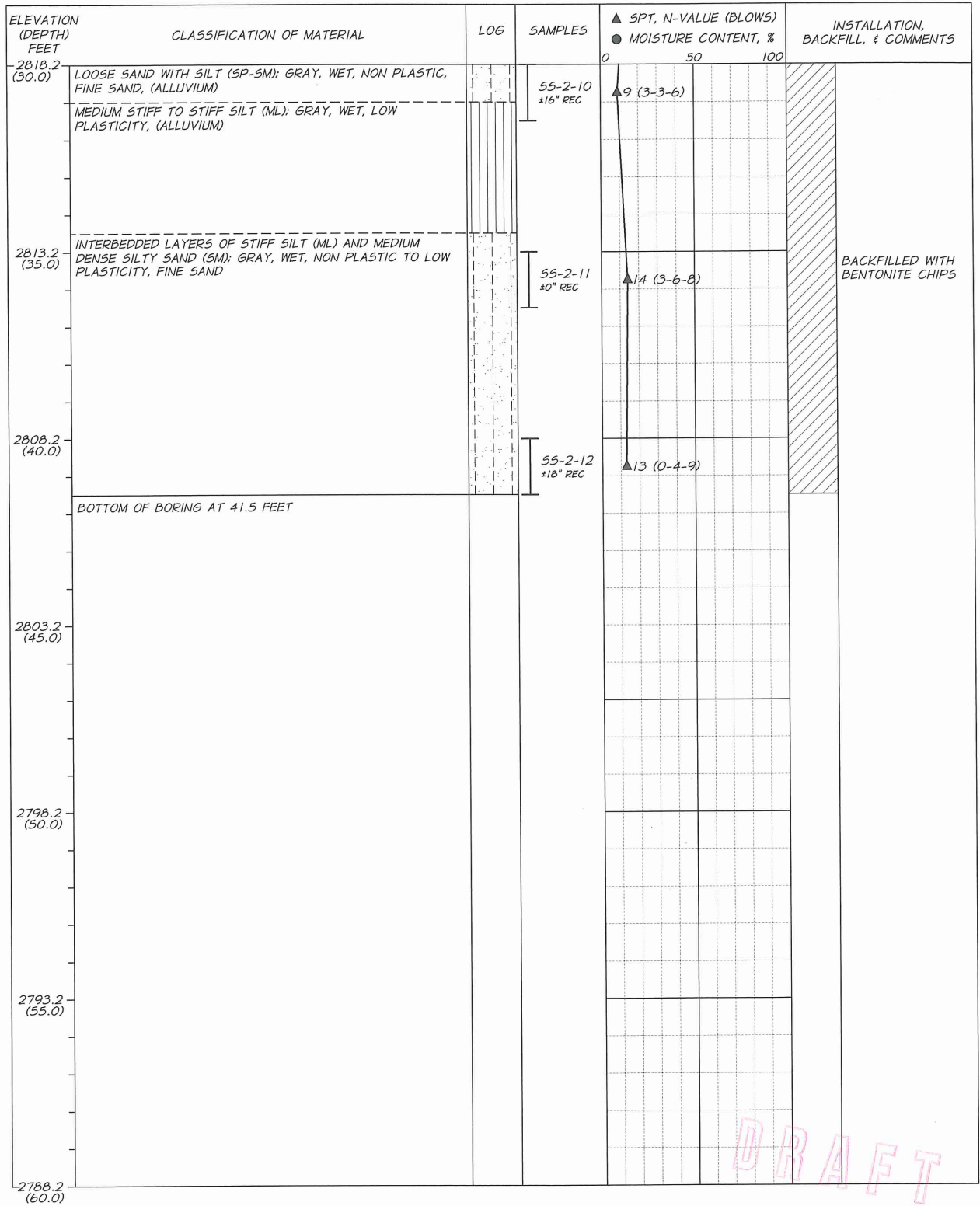
DRAFT



**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B4**

# BORING BH-2 (SHEET 2 OF 2)



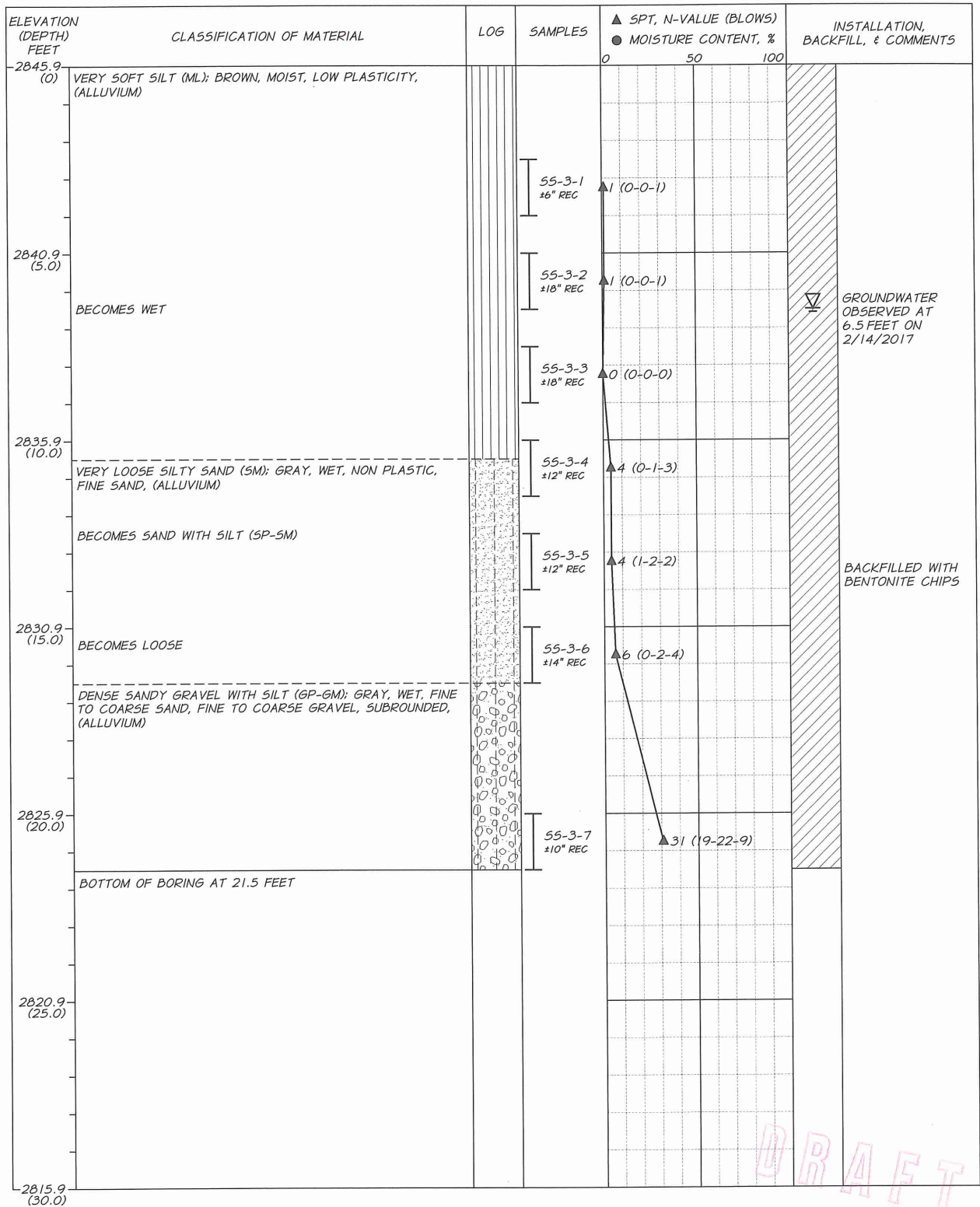
DRAFT



**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B5**

# BORING BH-3 (SHEET 1 OF 1)



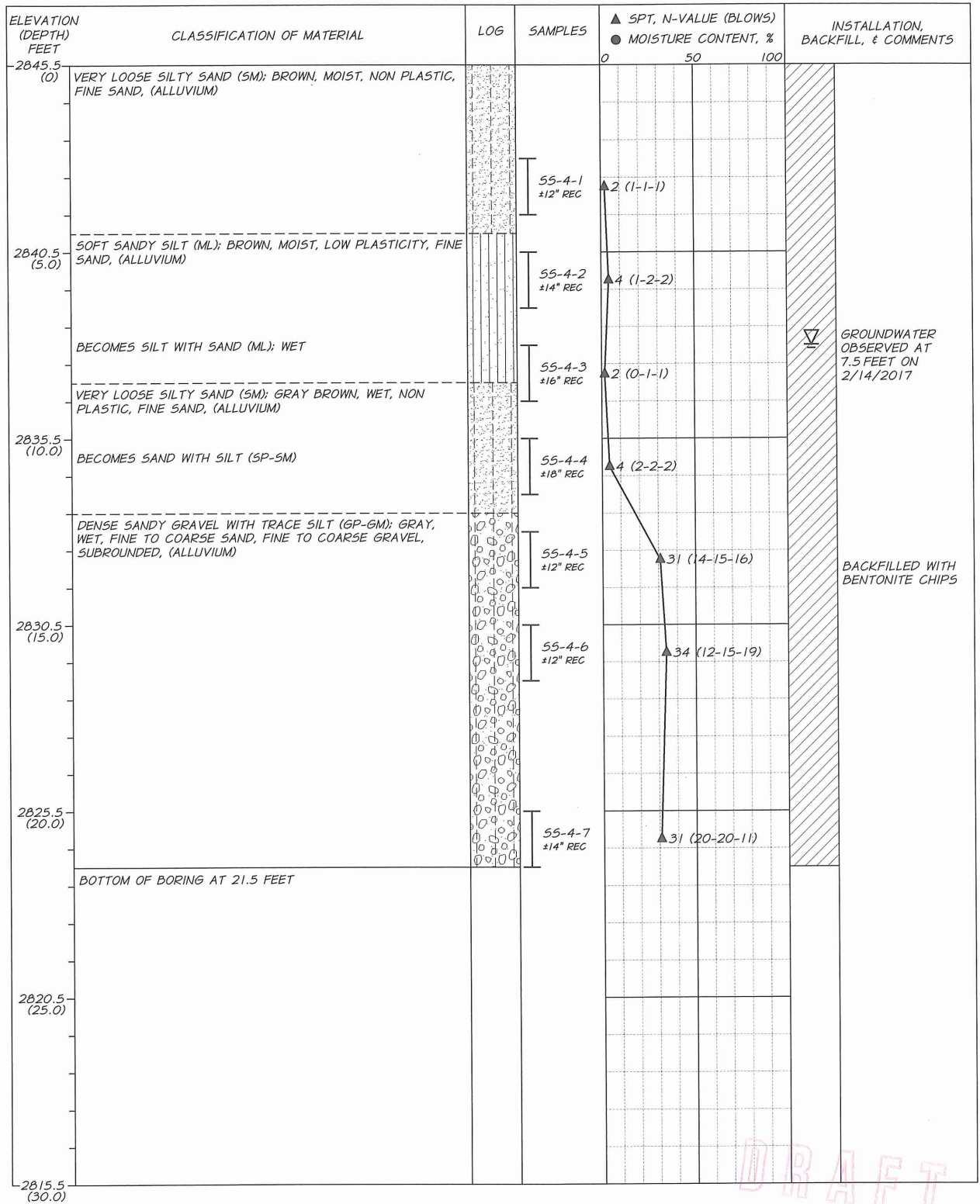
DRAFT



**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B6**

# BORING BH-4 (SHEET 1 OF 1)



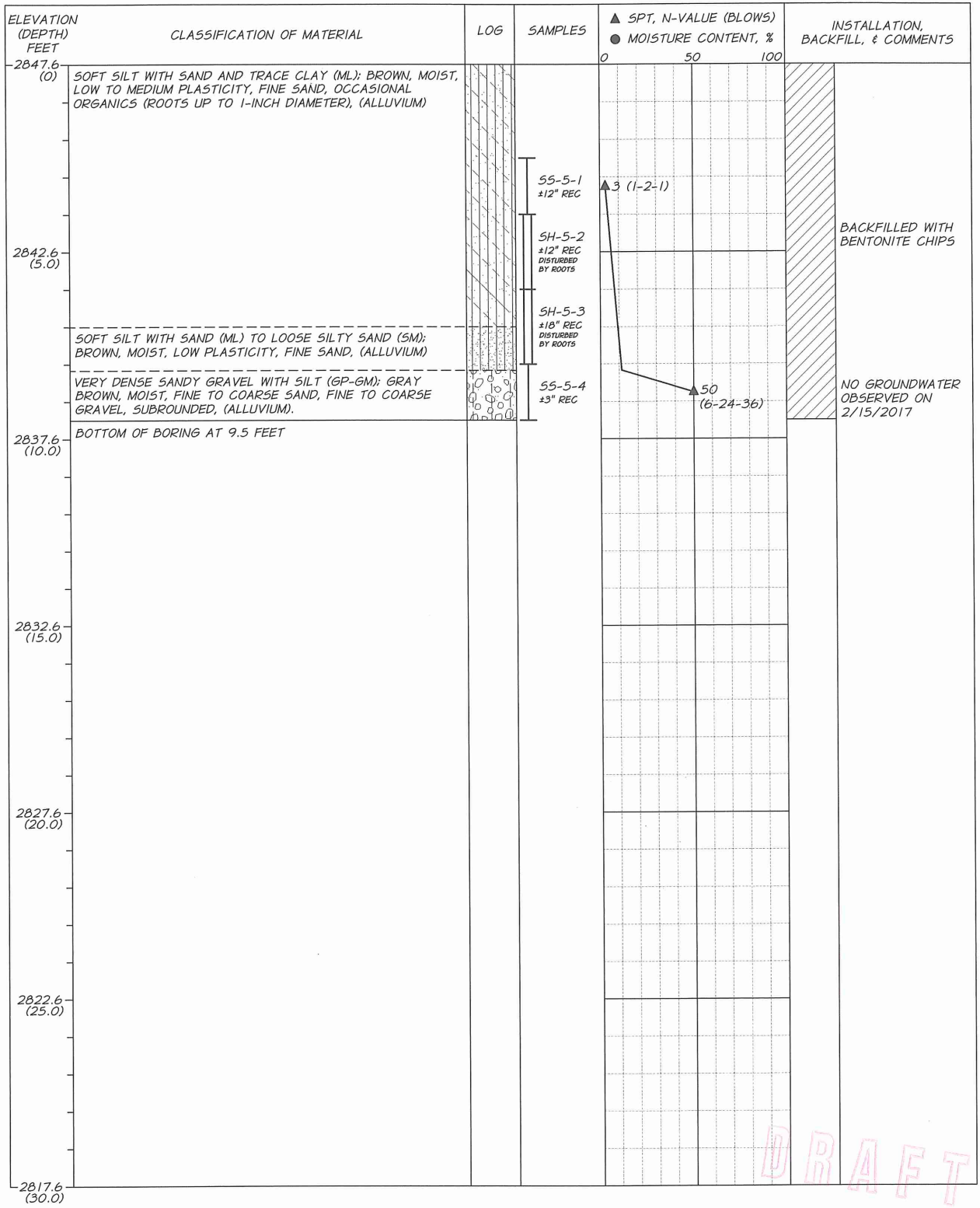
DRAFT



**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B7**

# BORING BH-5 (SHEET 1 OF 1)



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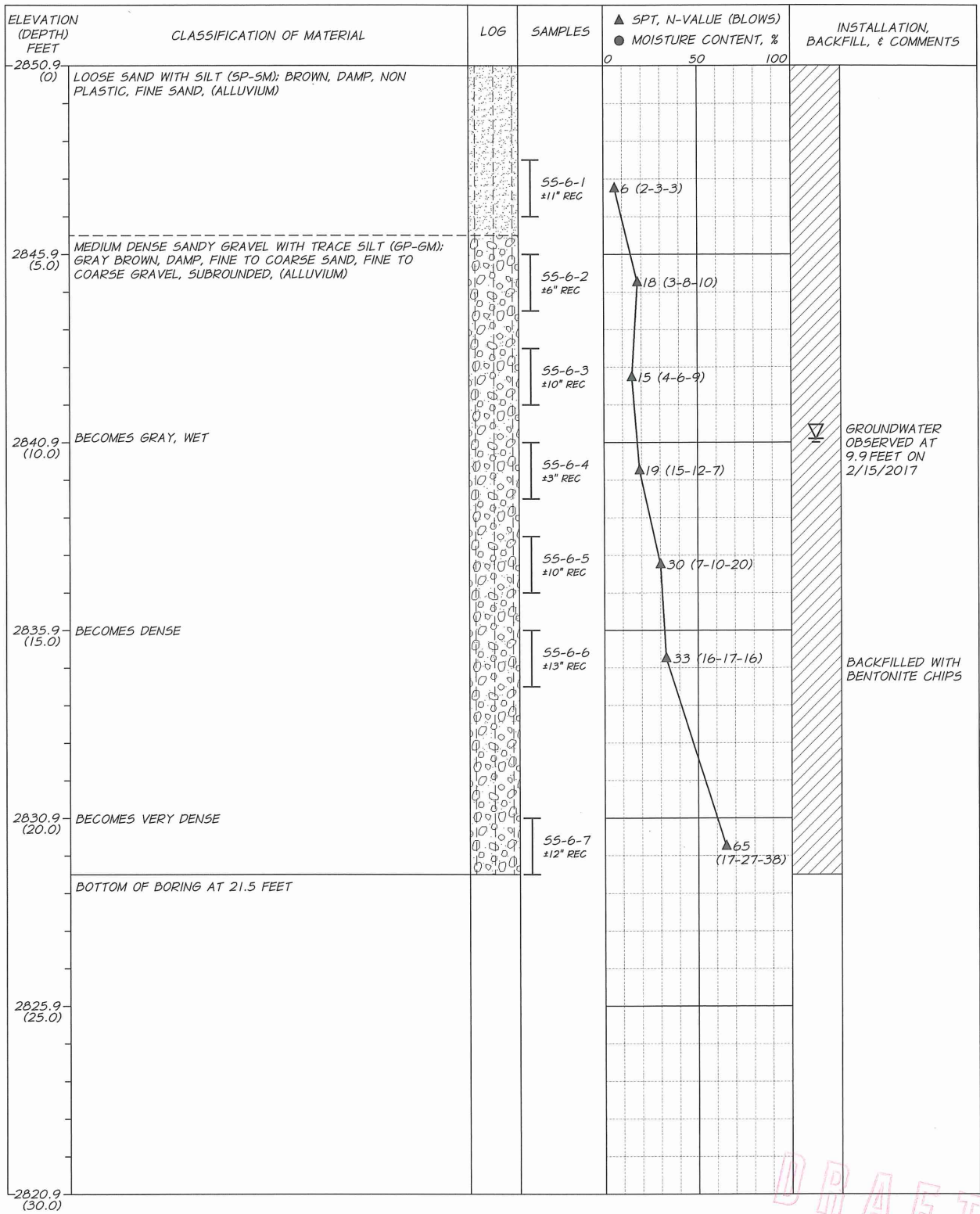


**CH2M**  
**WASTEWATER REUSE IMPROVEMENTS**  
**PRINEVILLE, OREGON**  
**MARCH 2017**  
**BORING LOG**

**FIGURE**  
**B8**



# BORING BH-6 (SHEET 1 OF 1)

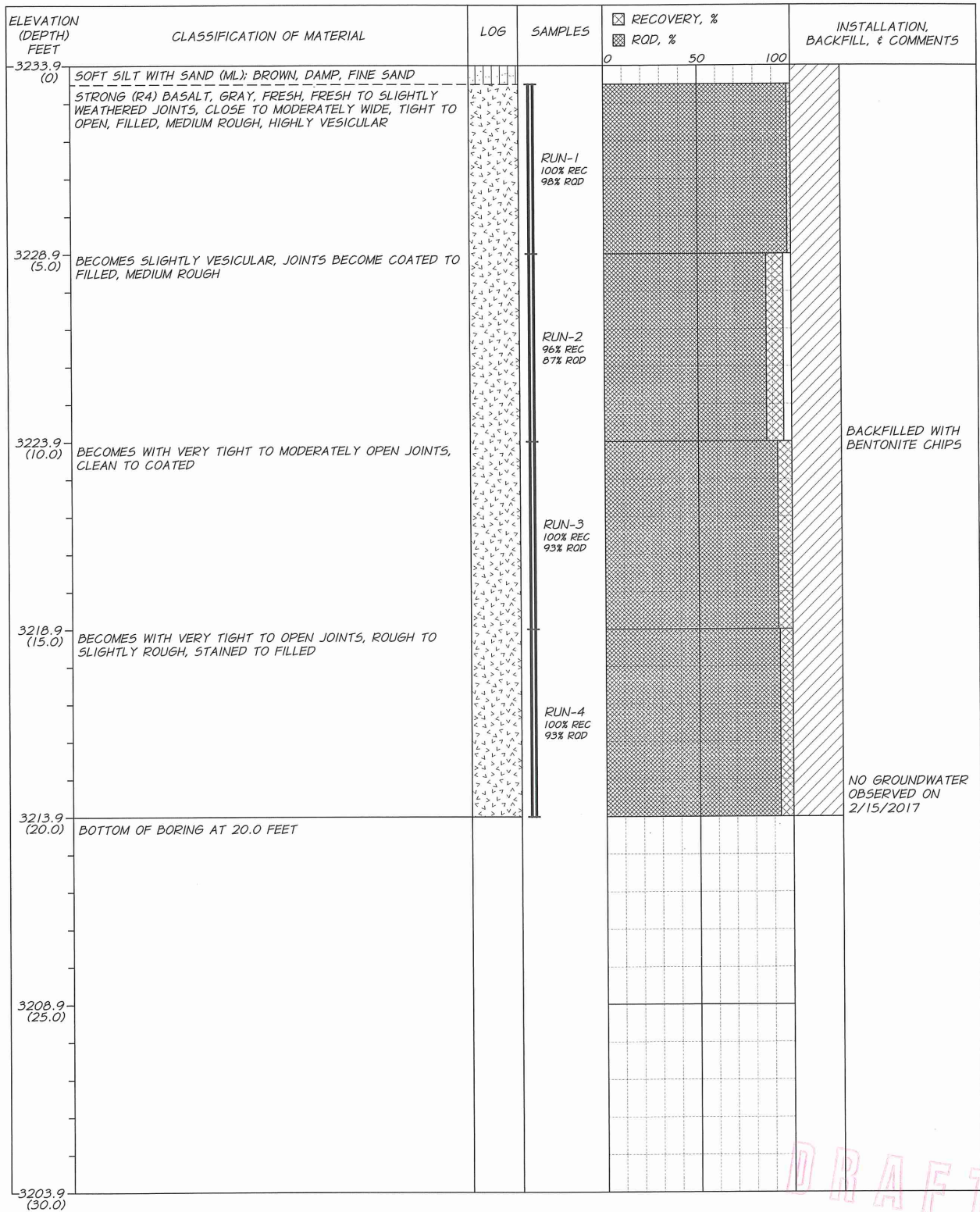


DRAFT

	<p><b>CH2M</b></p> <p><b>WASTEWATER REUSE IMPROVEMENTS</b></p> <p><b>PRINEVILLE, OREGON</b></p> <p><b>MARCH 2017</b></p> <p><b>BORING LOG</b></p>	<p><b>FIGURE</b></p> <p><b>B9</b></p>
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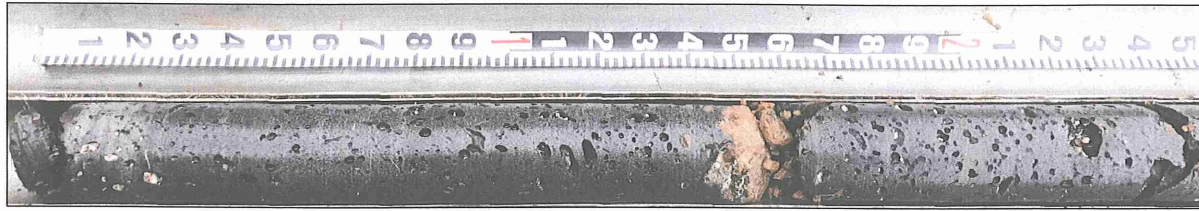
# BORING BH-7 (SHEET 1 OF 1)



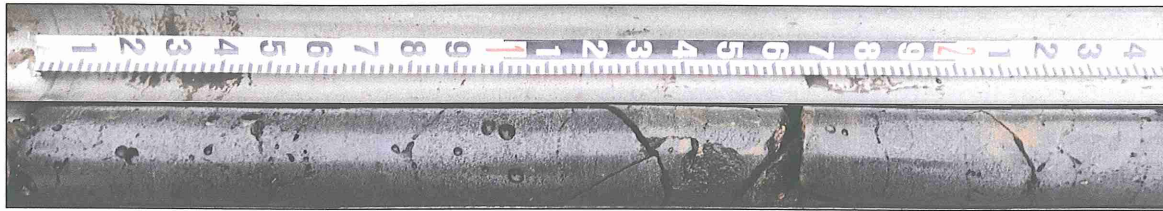
DRAFT

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<p><b>anderson perry</b> &amp; associates, inc.</p>	<p>CH2M</p> <p><b>WASTEWATER REUSE IMPROVEMENTS</b></p> <p><b>PRINEVILLE, OREGON</b></p> <p>MARCH 2017</p> <p><b>BORING LOG</b></p>	<p><b>FIGURE</b></p> <p><b>B10</b></p>
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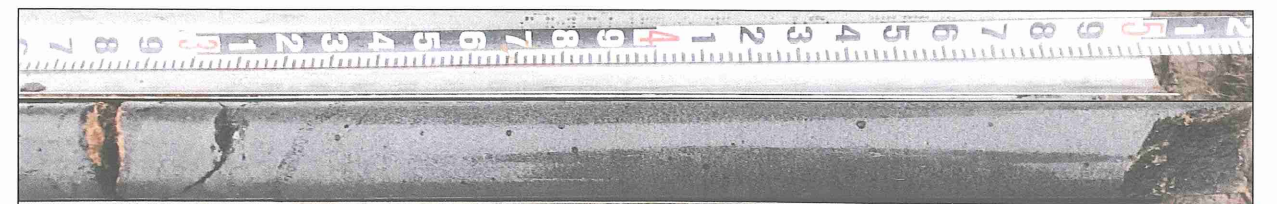
**BORING BH-7, RUN 1, ±0.5 - 5.0 FEET**



**BORING BH-7, RUN 2, ±5.0 - 10.0 FEET**



**BORING BH-7, RUN 3, ±10.0 - 15.0 FEET**



**BORING BH-7, RUN 4, ±15.0 - 20.0 FEET**

**DRAFT**

EXHIBIT A - Page 1 of 1

FILE: 15S15E01 #300- 214.01 acres +/-

State of Oregon Parks & Recreation Department – AP (MBP) 11-15-17

**Parcel 1 – Permanent Utility Easement, Variable in Width (40' & 50' wide)**

A parcel of land located in the Northeast One-quarter and the Southeast One-quarter of Section 1, Township 15 South, Range 15 East, of the Willamette Meridian, Crook County, Oregon and being a portion of that property described in that Quitclaim Deed to the State of Oregon Parks & Recreation Department recorded November 16<sup>th</sup>, 2009 as Document No. 2009-237623, Crook County Deed records. Said Parcel 1 being that portion of said property contained in a strip of land 40 feet in width and 50 feet in width. Said 40 foot wide strip lying 20 feet on each side of the following described centerline:

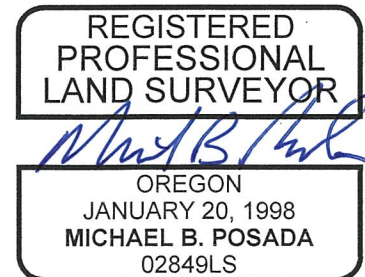
Commencing at the North One-quarter corner of said Section 1, marked by a 2 1/2" Brass Capped monument; Thence S00°00'14"W, 4099.05 feet, to the Northerly right-of-way line of Ochoco Highway, OR. 126, at the intersection with said described centerline, the **True Point of Beginning** of this description; Thence along said described centerline, which is 20 feet East of and Parallel with the North-South Centerline of said Section 1, the following three courses and distances, N00°16'34"E, 1477.48 feet; N00°17'28"E, 1325.76 feet; N00°17'04"E, 1083.07 feet to a point which lies S00°17'04"W, 20.00 feet from the Southerly Easement line of a Pacific Power 115kV Electric Transmission Line Easement; Thence 20 feet Southerly of and Parallel with said Southerly Easement line on a bearing of N79°34'28"E, 739.88 feet, to a point of transition in width of said Parcel 1, at said point of transition, said Parcel 1 is a 50 feet wide strip of land lying 25 feet on each side of the following described centerline, Thence N10°39'44"W, 71.35 feet to the North line of said Section 1 and the terminus of this description, from which said North One-quarter of Section 1 bears N89°18'50"W, 733.46 feet.

**Parcel 1** contains 188,615 square feet or 4.33 acres, more or less.

All easement lines being shortened or lengthened to intersect with the line calls described at the centerline beginning and terminus points of this description.

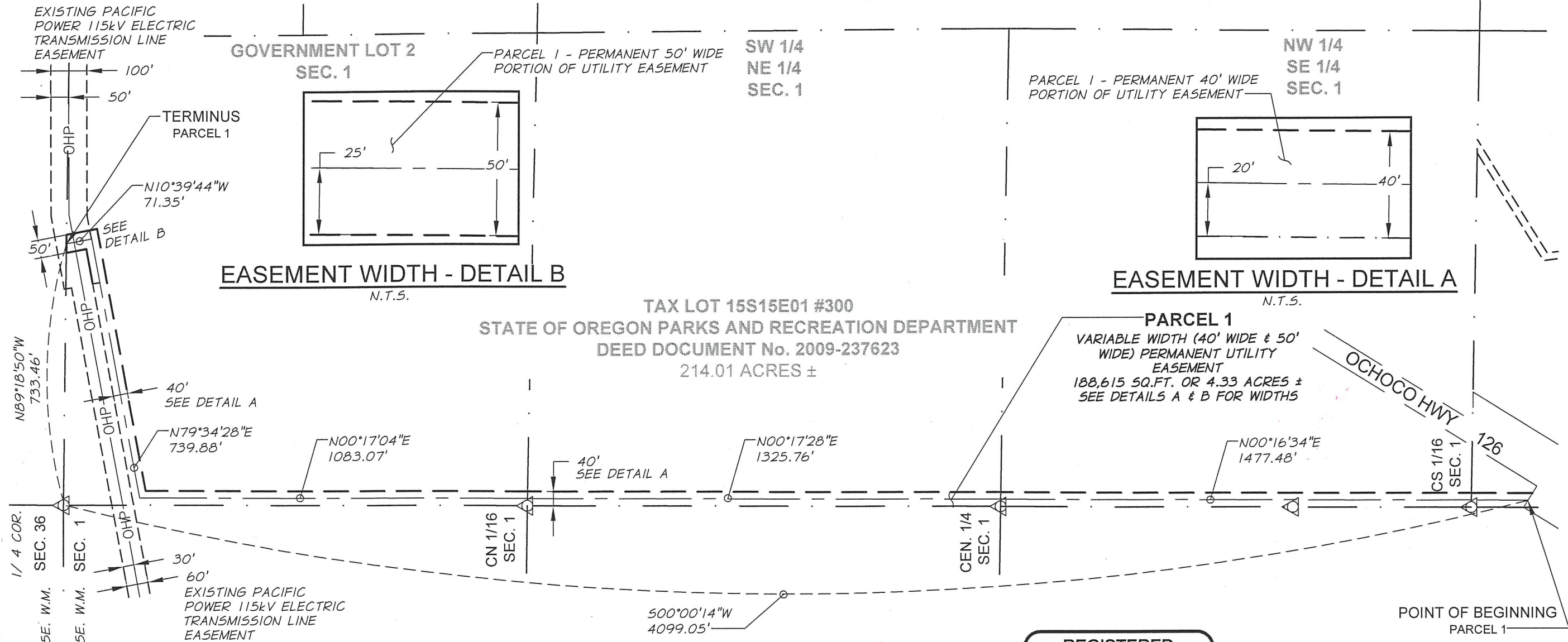
For purposes of this description, the Center North One-sixteenth corner of said Section 1 bears S00°17'04"W, 1295.76 feet from said North One-quarter corner of Section 1.

All as shown on Exhibit B, attached to this description.



EXPIRES: 12-31-2018  
SIGNED: 11-15-2017

SCALE: 1" = 300'



EASEMENT WIDTH - DETAIL B  
N.T.S.

EASEMENT WIDTH - DETAIL A  
N.T.S.

TAX LOT 15S15E01 #300  
STATE OF OREGON PARKS AND RECREATION DEPARTMENT  
DEED DOCUMENT No. 2009-237623  
214.01 ACRES ±

PARCEL 1  
VARIABLE WIDTH (40' WIDE & 50' WIDE) PERMANENT UTILITY EASEMENT  
188,615 SQ.FT. OR 4.33 ACRES ±  
SEE DETAILS A & B FOR WIDTHS

LEGEND

- FOUND MONUMENT AS NOTED
- NEW PERMANENT EASEMENT LINE
- NEW EASEMENT CENTERLINE
- SECTION OR QUARTER SECTION LINE
- EXISTING RIGHT-OF-WAY LINE
- EXISTING EASEMENT LINE

REGISTERED PROFESSIONAL LAND SURVEYOR

*Michael B. Posada*  
OREGON  
JANUARY 20, 1998  
MICHAEL B. POSADA  
02849LS

EXPIRES: 12-31-2018  
SIGNED: 11-15-2017

STATE OF OREGON - PARKS AND RECREATION DEPARTMENT  
PROPERTY - EXHIBIT B  
EAST 1/2 SEC. 1, T. 15 S., R. 15 E., W.M.  
TAXLOT 15S15E01 #300 CROOK COUNTY, OREGON

NOTE: SEE EXHIBIT "A" FOR THE LEGAL DESCRIPTION OF THIS EASEMENT

PARCEL 1 - PERMANENT UTILITY EASEMENT  
VARIABLE IN WIDTH (40' & 50' WIDE)  
188,615 S.F. or 4.33 ACRES ±

STATE OF OREGON  
PARKS AND RECREATION DEPARTMENT  
PERMANENT UTILITY EASEMENT  
TAX LOT 15S15E01 #300  
CROOK COUNTY, OREGON

EXHIBIT B  
EASEMENT  
SKETCH  
1/1

0 300 600  
SCALE: 1 INCH = 300 FEET