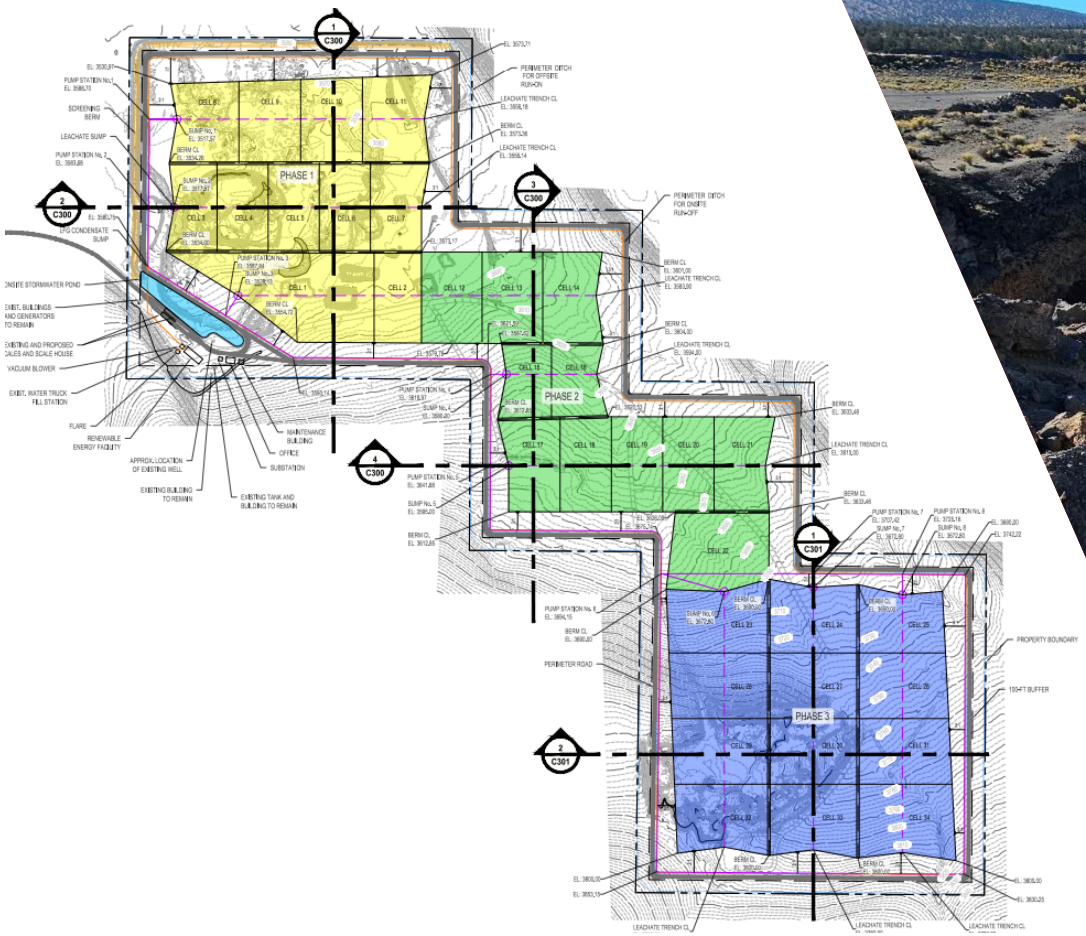


Landfill Siting Consultant Services Phase 3

August 23, 2024

SUBMITTED TO:

DESCHUTES COUNTY
DEPARTMENT OF SOLID WASTE

Parametrix
let's create tomorrow, together

WITH TEAMING PARTNERS:

DELVE UNDERGROUND
GERRY FRIESEN & ASSOCIATES
PBS
CONSOR
SIEMENS & ASSOCIATES
KITTELSON & ASSOCIATES

Parametrix

let's create tomorrow, together

August 23, 2024

Tim Brownell, Director

Deschutes County Department of Solid Waste
61050, SE 27th Street
Bend, OR 97702

Attention: Tim Brownell, Director of Solid Waste

RE: Request for Proposals, Landfill Siting Consultant Services Phase 3

Dear Tim and Selection Committee:

In 2021, Deschutes County Department of Solid Waste awarded Parametrix the initial phases of the solid waste management facility siting project, and we have had the opportunity to work with the County these past three years on developing and implementing the siting process and conducting detailed site investigations. With the Board of County Commissioners (BOCC) approval to proceed to Phase 3 for the Moon Pit site, we again are excited to submit our proposal to support the County through this next critical phase.

We have brought together our previous strong team of partners, including Gerry Friesen & Associates, Consor, Delve Underground, Siemens & Associates, PBS, and Kittelson & Associates, to assist the County with Phase 3 landfill siting consultant services. This proven team offers the County:

- **A comprehensive and schedule-conscious permitting approach.** We have laid out an approach that culminates with permitting of the new landfill with a DEQ approved Site Development Plan and Land Use Compatibility Statement (LUCS) in 2026. Simultaneously, we will work with the County to obtain Deschutes County Community Development (CCD) land use approvals for a text amendment to the Comprehensive Plan allowing landfilling as a means of surface mine reclamation in the Surface Mining (SM) zone. This will be followed by obtaining approvals through CCD for a Conditional Use Permit and associated Site Plan Review. We have been working with the Solid Waste Department for the last two years to further focus this strategy to ensure permits and approvals can be obtained in time for design in 2027–28 and construction in 2028–29.
- **Strong community engagement experience.** To ensure that the land use and permitting process effectively meets the needs of all County residents and regulatory agencies, we have again engaged Consor's Oregon-based public involvement team to facilitate outreach to the public, elected officials, land use authorities, the solid waste advisory committee, and other interested parties. Consor staff will engage the entire team, including County staff, to support the public involvement effort through technical content and public outreach communication.
- **A multidisciplinary team that will continue work on day one.** From our work on Phases 1 and 2, our well-integrated team has specific project knowledge and local, state, and federal agency relationships to immediately prepare the necessary land use entitlements and solid waste landfill permitting documentation to ensure a defensible process. Further, we have experienced engineering, planning, and sciences staff to provide cost-effective and timely submittals and facilitation with agency staff.

Ryan Rudnick, our project manager, will lead our project team based from our Bend office. Ryan performed as deputy project manager during Phases 1 and 2. Dwight Miller will support the project team as principal-in-charge. Dwight provides 39 years of experience heavily focused on municipal solid waste management from landfill siting through post-closure.

With our nearly three years working with the County on Phases 1 and 2, we have gained invaluable insight into the Moon Pit site and the land use approvals and environmental permits required to begin new landfill operations in 2030. With this experience, we believe we represent the strongest team to support the County into this next phase. Please contact either of us with any questions you have about our proposal.

Sincerely,

Ryan Rudnick, PE
Project Manager
541.508.7785
rrudnick@parametrix.com

Dwight Miller, PE
Principal-in-Charge
206.394.3644
dmiller@parametrix.com

Contents

This proposal is organized into sections based on the scoring criteria described in Section H of the RFP, encompassing the proposal submittal requirements, described in Section G of the RFP.

Criterion 1. Experience, Capabilities, and Resources

Proposing Firm Experience

Our project descriptions and staff resumes detail our experience and depth of staff to successfully complete the engineering, land use entitlements, and permitting documentation requirements to open the new landfill in 2030. Our Pacific Northwest landfill project experience ranges from the Deschutes County siting work to post-closure maintenance, most of which has been with counties. Parametrix teams have successfully completed new landfill and expansion development projects at over 25 landfills in the Pacific Northwest and Hawaii.

We have an established record of completing project tasks in a timely manner, quickly responding to requests for services, preparing concise and defensible permit documentation, and staying within project budgets. Known for consistently meeting client expectations, we have established long-term working relations at many landfill sites, in addition to site permitting and development. We also have completed a wide range of other engineering and operations related tasks.

Our proposal highlights our landfill experience, capability, and knowledge, but also presents our experience with land use, permitting, and engineering services at numerous non-landfill sites. Activities associated with these projects include zoning changes and conditional use permits, DEQ permits, groundwater investigations, water rights research and consultation, and public outreach and facilitation. As indicated in our project descriptions, we are currently completing these types of activities on other projects in Central Oregon.

To round out our team, we have brought together proven performers with **Gerry Friesen and Associates** (landfill engineering), **Delve Underground** (geotechnical engineering), **Siemens and Associates** (geophysics), **Consor** (public involvement), **PBS** (hydrogeology), and **Kittelson and Associates** (transportation). All these firms have worked with us on Phases 1 and 2 and we have retained them to ensure a seamless transition to Phase 3 permitting and land use approvals.

Our team's 30+ years of service on Deschutes County public works projects includes solid waste, transportation, and utility planning; engineering services; and construction quality assurance (CQA), including the current phase 1 and 2 work and an earlier siting study supporting the development of a fully lined landfill at Knott Landfill and subsequent cell development. Further, our team has direct project experience providing services for:

- DEQ solid waste permitting
- Deschutes County CCD land use approvals,
- Property acquisition, including environmental due diligence, geologic/ geotechnical evaluation, and water rights

The Parametrix team brings to this project the management expertise and technical competence to complete the environmental analysis and permitting for the region's most complex and controversial infrastructure and facility projects.

- **Successful partnership with Deschutes County** to identify the preferred site (Moon Pit) through Phases 1 and 2 of the siting process, which will result in a seamless transition and timely completion of Phase 3.
- **Over 30 years providing services to Deschutes County** and an understanding of County processes and expectations. This focused project team includes a project manager and many key personnel located in Bend, Oregon. This results in a team that is invested in the well-being of the community and the success of this critical County project.
- Our **interdisciplinary team** includes problem solvers experienced with Department Environmental Quality (DEQ) permit managers, processes, and deliverables. For example, we began Phase 2 with Phase 3 DEQ permitting in mind and ensured that we could use the earlier deliverables to jump-start the permitting process.

Experience in Municipal Solid Waste Landfill Development and Permitting

Landfill Siting Phases 1 and 2 | Deschutes County

Deschutes County, OR

Deschutes County recognized the need to site a new landfill to replace Knott Landfill, which is projected to reach capacity by 2030. Parametrix was contracted to assist in the landfill facility siting process due to staff expertise in solid waste planning, facility siting, and project management. Parametrix led a diverse team of experts including solid waste planners, civil engineers, geologists, archaeologists, traffic analysts, land use planners, biologists, and surveyors.

Project Results:

- Developed Site Selection Criteria (SSC) to guide the siting of the new facility.
- Reviewed thirty-one potential sites using broad screening, and twelve resulting sites using focused screening. During these evaluations, our team conducted desktop reviews to score candidate sites based on the SSC. After reviewing Parametrix's findings, the SWAC recommended two sites for extensive investigation, Roth East and Moon Pit.
- Conducted field studies and detailed analyses, including geotechnical investigations, drone photogrammetry surveys, site traffic analyses, cultural resources surveys, biological assessments, well tests, consultation with permitting agencies, preliminary landfill design, waste projections, cost estimates, and more.

Outcome: The Moon Pit site was unanimously recommended by the SWAC and was selected by the Board of County Commissioners in 2024.

Relevance: Phases 1 and 2 set the groundwork for Phase 3 and this experience allows the Parametrix team to seamlessly continue the DEQ permitting and land use work done in the last 6 months.

Knott Landfill | Deschutes County

Deschutes County, OR

Gerry Friesen & Associates has performed numerous projects at the Knott Landfill over the past 25 years. The projects have included facility planning, design, and permitting, with all culminating in obtaining DEQ approval.

Project Results (recent selections):

- Prepared plans, specifications and construction quality assurance (CQA) for the Knott Landfill (Cell 8 Construction project). This project included over 400,000 cubic yards (cy) of excavation, 10.8 acres of alternative liner system, and construction of the Cell 8 pump station.
- Developed 2021 MSW Cell Sequence Plan for Knott Landfill.
- Prepared plans, specifications, and CQA for the Knott Landfill (Cell 7 Construction project). This project included over 300,000 cy of excavation, 6.2 acres of alternative liner system, and construction of the Cell 7 pump station.
- Conducted Final Grading Plan Analysis for Knott Landfill.
- Prepared plans, specifications and CQA for the Knott Landfill (Cell 6 Construction project). This project included over 200,000 cy of excavation, 11.9 acres of alternative liner system, and construction of the Cell 6 pump station.

Outcome: Engineering and construction services provided by GFA and other team members have helped the County continue operations at the Knott Landfill beyond earlier projections and more cost effectively.

Relevance: The Knott Landfill engineering and DEQ permitting experience will directly apply to the Phase 3 permitting work and has already helped in initial permitting discussions with DEQ.

Ephrata Landfill | Grant County

Grant County, WA

Parametrix has provided solid waste management services to Grant County since 1998 and continues to work on the landfill operations, future landfill phasing, groundwater sampling and reporting, and LFG sampling and reporting.

Project Results:

- Completed design and construction services for all phases of the operating landfill (currently designing Cell 4).
- Prepared Development and Closure Plan, Operating Plan, and Post-Closure Plan for landfill during each ten-year permitting cycle since 2000.

Outcome: The projects were completed within budget and on schedule for the County to continue landfill operations uninterrupted.

Relevance: Similar to Phase 3 permitting, our work for Grant County covered all aspects of initial landfill permitting with site characterization, development plan, and preliminary cell design. The landfill permitting regulations in Oregon and Washington are similar.

Central Landfill | Okanogan County

Okanogan County, WA

Parametrix has permitted, designed, provided construction engineering assistance, QA oversight, and CQA reports for the construction of multiple landfill development phases for the past 25 years. Since 1997, Parametrix has provided engineering, environmental, and operational services for the Okanogan County Central Landfill as well as for the closed Ellisforde and Old Okanogan landfills.

Project Results:

- Completed design and construction services for all phases of the Okanogan Central Landfill. Parametrix provided design and construction services for Phase 4A/4B, which was constructed in 2023.
- Prepared Development and Closure Plan, Operating Plan, and Post-Closure Plan for landfill during each ten-year permitting cycle since 1998.
- Provide quarterly environmental compliance services to assist County staff with groundwater sampling and landfill gas monitoring in accordance with state Solid Waste and Notice of Construction Order permits. Services also include quarterly and annual groundwater reporting of the sampling results in compliance with state solid waste regulations

Outcome: The project was completed within budget and on schedule for the County to continue landfill operations uninterrupted.

Relevance: Our work for Okanogan County covered all aspects of initial landfill permitting with site characterization, development plan, and preliminary cell design.

DTG Yakima Limited Purpose Landfill (LPL) | DTG Enterprises

Yakima, WA

Parametrix has developed the LPL permit for the reclassification of the existing Anderson Rock and Demolition Pits, located in a basalt rock quarry. The LPL application was prepared in accordance with state solid waste rules and included the reclassification of one construction and demolition waste cell and the permitting of three new cells as an LPL. Subsequent landfill cells are being designed to meet all MSW landfill requirements, including a composite liner system.

Project Results:

- Developed a groundwater monitoring system, a final closure cover system, grading plans, surface water management, an operations plan, and closure and post-closure plans.
- Provided design and permit services to expand the LPL, adding an adjacent 80 acres to the site.
- Updated the groundwater monitoring system, final closure cover system, grading plans, surface water management, operations plan, and closure and post-closure plans with financial assurance.

Outcome: Parametrix completed design for Phase 2 Development in 2023. As part of the design, Parametrix developed construction plans and permit documents, stormwater and leachate calculations, cost estimation, closure and maintenance, reviewed lifecycle analysis, and financial assurance for closure and post closure care. The construction process is underway, and Parametrix is providing construction services and liner installation CQA services.

Relevance: This LPL is an integral part of a basalt rock quarry operation, with the landfill used as quarry reclamation. Similar to how operations at Moon Pit would occur, the DTG landfill development and operation must be coordinated with quarry operations to ensure cost-effective rock excavation and safe site operations.

Horn Rapids Landfill | City of Richland

Richland, WA

In the past 5 years, Parametrix has permitting, design, construction oversight, and liner/cover installation CQA services for the New Landfill Phase 1 Development (2018–2020), the Old Landfill Phase 2 Closure (2022–2023), and the Phase 1 LFG System Extension (2023–current).

Project Results:

- Prepared plans, specifications, and estimates (PS&E) and provided construction services for the New Landfill Phase 1 Landfill Expansion project in 2020. This project included preliminary design of a geomembrane liner and associated systems, PS&E for regulatory review, bid documents, Notice of Construction permitting documents for local air authority, assistance during bidding and construction, and liner CQA. Prepared PS&E and provided construction services for the Old Landfill Phase 2 Closure project in 2023. The work was the second phase of closure for the Old Landfill, both of which used PVC liner in the cover system.
- Prepared PS&E and provided construction services for the LFG extension project in Phase 1 of the New Landfill and is projected to be completed on budget.

Outcome: The projects were designed to ensure no impacts to landfill operations. The New Landfill development project was the first development phase and all work was completed on time and under budget.

Relevance: City of Richland work on the New Landfill development covered all aspects of initial landfill permitting with site characterization, development plan, and preliminary cell design.

Oregon Land Use and Permitting Experience

Our interdisciplinary team, comprising land use planners and natural resource scientists, collaborates closely to devise the most effective permitting strategies. By working in tandem with large engineering teams, our planners and permitting specialists ensure that environmental design criteria are integrated from the outset, accommodating both permitting requirements and project timelines. This cohesive approach streamlines the process, ensuring efficiency and adherence to schedules.

Parametrix extensive experience working with local land use entitlements and permitting, including conditional use approvals for projects under the Deschutes County Code (DCC) Chapter 18.128, Conditional Use. We can provide property research, analysis, and interpretation of local zoning and development codes; conduct meetings with the County and municipal jurisdictions and service providers; prepare applications and fact findings; and present at public hearings and local neighborhood meetings.

Smith Rock State Park Pedestrian Bridge

Our land use and natural resources teams have worked together on many Oregon projects, including the following:

Smith Rock Pedestrian Bridge Replacement | OPRD

Terrebonne, OR

Parametrix prepared the land use submittal to replace the park's pedestrian bridge for Deschutes County review. The project had a tight timeframe due to in-water work and raptor nesting season. Conditional Use and Site Plan Reviews were submitted addressing county codes for wildlife area combining zone, sensitive bird and mammal habitat combining zone and fill and removal requirements for a floodplain.

Marina Dredging | Sunriver Resort

Sunriver, OR

The Sunriver Marina lagoon, surrounded by the Deschutes River and Deschutes National Forest, needed accumulated sediment removal for continued recreation access. Parametrix prepared the conditional use application for Deschutes County review and addressed conditional use criteria within the resort, and grading and fill criteria for a floodplain. The application was submitted in conjunction with the necessary state permits including the Joint Permit Application.

Terrebonne Wastewater Study Phase 2 | Deschutes County

Terrebonne, OR

The Terrebonne community uses onsite septic tanks and drain fields for wastewater treatment and disposal, and many of the systems are failing due to shallow soils and low permeability rock. The community includes about 600 residential dwellings, commercial businesses, and schools. Parametrix completed a Comprehensive Wastewater Study to review alternatives for sewer collection, treatment, and disposal.

Parametrix is preparing the application materials for the State Environmental Review Process through Oregon DEQ, including the Categorical Exclusion Candidate Application for a new wastewater system project.

Nehalem Bay State Park Permitting | OPRD

Nehalem, OR

Parametrix is conducting permitting and planning for renovations to Nehalem Bay State Park and Sunset Bay State Park. The team conducted field investigations for wetland and water determinations, assembled the wetland delineation reports, and is participating in the design processes to ensure development on the site is permittable.

Exhibit 1. Project Services Matrix

The chart below shows our team's experience in relevant project services.

PROJECT	SERVICES: Landfill Permitting & Development	Land Use Entitlements	Environmental and Natural Resources Studies & Permitting	Public Involvement	Archaeological	Facilities Planning	Geotechnical	Groundwater Investigations/ Hydrogeology	Water Rights	Evaluation and Implementation Under OR Land Use
Deschutes County Landfill Siting		◆	◆	◆	◆	◆	◆	◆	◆	◆
Deschutes County Knott Landfill	◆					◆	◆	◆		◆
Crook County Landfill Site	◆					◆	◆			◆
City of Walla Walla Sudbury Road Landfill	◆			◆		◆	◆	◆		
DTG Yakima Limited Purpose Landfill	◆	◆						◆		
City of Richland Horn Rapids Landfill	◆	◆		◆		◆	◆	◆		
Okanogan County Central Landfill	◆	◆	◆	◆	◆	◆	◆	◆		
Grant County Ephrata Landfill	◆	◆	◆	◆	◆	◆	◆	◆	◆	
Smith Rock State Park Pedestrian Bidge		◆	◆							◆
Terrebonne Wastewater Study Phase 2				◆						
Sunriver Resort Marina Dredging		◆	◆							◆
COID Pilot Butte Piping			◆		◆				◆	◆
Confidential Client, Data Center Due Diligence		◆	◆		◆	◆	◆	◆	◆	◆
OPRD Nehalem Bay Upgrade Design		◆	◆			◆				◆

Experience Providing Formal Presentations and Outreach

Parametrix has partnered with Consor to lead the public involvement and communications tasks. Consor specializes in facilitating engaging meetings and public outreach This includes designing, organizing, publicizing, and facilitating processes for elected bodies, agencies, blue ribbon committees, task forces, technical committees, advisory groups, and community meetings with attendance from 12–1,200.

Parametrix and Consor have both led facilitation processes designed to be inclusive and dynamic and to help agencies make intentional decisions. We use a mix of proven in-person and digital facilitation techniques that keep meetings on time and on track while making it easy for stakeholders to discuss and provide input on complex topics. Additionally, our team maintains the record of the community process and prepares summary reports.

Open house for Solid Waste Management Facility Siting Study

The Parametrix team brings over 35 years of experience facilitating public, stakeholder, and steering committee meetings, including working with communities, business organizations, elected officials, agency representatives, and local stakeholders.

Aubrie Koenig, Dwight Miller, and Ryan Rudnick have facilitated or participated in numerous solid waste advisory committee meetings, public meetings, and hearings for Deschutes County. From large-scale public workshops to small focus groups, our team is skilled in distilling complex technical analysis into meaningful, easy-to-understand messages to present to stakeholders and the public.

Notable facilitation projects and activities from Parametrix and/or Consor include:

- **Deschutes County Solid Waste Management Facility Siting Study.** Parametrix and Consor staff supported the County with SWAC communications and coordination, public outreach website design, mailers, and letters, and coordination of public events.
- **Terrebonne Feasibility Study.** Parametrix facilitated committee meetings, hosted public open houses and prepared mailers, posters, and flyers to keep the public apprised of the process and aware of opportunities to participate.
- **Deschutes County Solid Waste Master Plan.** Planning and facilitation for public open house and stakeholder briefings with environmental and other special interests, developing informational materials for project webpage and StoryMap, creating a project fact sheet and frequently asked questions, supporting mailed outreach to site neighbors and Tribes.
  - **An example of our team's StoryMap can be found here: Managing the Future of Solid Waste.**
- **Bend Utilities Public Advisory Group.** Planning and facilitation for monthly advisory group meetings, including group communications, developing meeting plans and presentation materials, and documenting meeting outcomes and group input to inform City policies and programs. Meetings have included use of digital whiteboards, polls, and surveys to collect feedback, as well as in-person tours.
- **Bend Community and Economic Development Department Permitting Efficiencies Workshop.** Planning and facilitation for in-person workshops with representatives from the development community. Preparations included stakeholder interviews and use of a digital whiteboard to collect ideas. Outcomes from the workshops and suggested next steps were summarized in a report to staff.
- **Bend Sewer Infrastructure Advisory Group.** Planning and facilitation for advisory group meetings to collect input on capital investments as part of long-term planning.

Ryan Rudnick presenting at an open house

Exhibit 2. Public Materials Examples from Phases 1 and 2

Two finalist sites for new Solid Waste Management Facility

Deschutes County's Solid Waste Advisory Committee will be reviewing the Final Site Evaluation Report and discussing their site recommendation at two upcoming public meetings:

Tuesday, March 19, 2024 • 9 am-noon
Tuesday, April 16, 2024 • 9-11 am

Meetings will be held on Zoom and at the Deschutes Services Building at 1300 NW Wall Street in Bend, Oregon.

Meetings will include opportunity for public comment. Materials will be posted online.

Learn more:
deschutes.org/managethefuture

The finalist sites, Moon Pit and Roth East, are located in eastern Deschutes County near Highway 20.

Deschutes County Solid Waste takes pride in providing a safe place for residents to dispose of or recycle unwanted materials.

Frequently Asked Questions

Why is a new landfill needed?

The County's only landfill, Knott Landfill, is expected to be at capacity in 2029. As a result, the County is working to identify a location for a new disposal facility.

Will the dropoff services at Knott Landfill change?

The current waste, recycling, yard debris, and household hazardous waste dropoff services will still be offered at Knott Landfill. The County's other transfer stations will continue to operate similar to how they do now.

How will the new location be chosen?

The County is working through a multi-step process to screen and evaluate potential locations using environmental, land use, site characteristic, and engineering criteria. The County has identified two potential sites for final site evaluations, and is continuing to evaluate the feasibility of using property owned by the federal government and managed by the Bureau of Land Management.

Why not use a landfill somewhere else?

Continuing to manage solid waste locally will be more affordable for ratepayers and have fewer carbon emission impacts when compared to hauling waste out-of-county.

Will the community have input into the siting process?

The County is working with a Solid Waste Advisory Committee to evaluate siting options. Throughout, there will be ongoing community outreach and opportunities for public comment.

When will the siting process be complete?

The Board of County Commissioners expect to choose a finalist site in Spring 2024.

Learn more:

Visit: **deschutes.org/managethefuture**
Project Story Map: **deschutes.org/solidwasteplanning**
Contact: **managethefuture@deschutescounty.gov**

Solid Waste Facts

In 2020, homes and businesses in Deschutes County generated nearly 300,000 tons of solid waste (about 3,000 pounds per person).

The County managed the waste in the following ways:

- About 98,500 tons diverted (recycled, reused, composted)
- About 198,000 tons of waste disposed at Knott Landfill

***Above:** Public meeting announcement and informational post. **Below:** Public FAQ page for the the landfill selection process.*

Internal Procedures Related to Work and Report Preparation Quality Control

The Parametrix quality assurance/quality control (QA/QC) program is a requirement for all projects. Our program includes the Parametrix Quality Guidance Document and Parametrix Quality Protocols, which are the basis for developing a project-specific Project Quality Management Plan. QA/QC is planned and budgeted into all project work, continuously integrated, and verified and documented at designated milestones. Technical reviews will be conducted by senior staff. Overall quality assurance reviews will be overseen by Dwight Miller as principal-in-charge. The overview of our QC process is outlined in **Exhibit 3**.

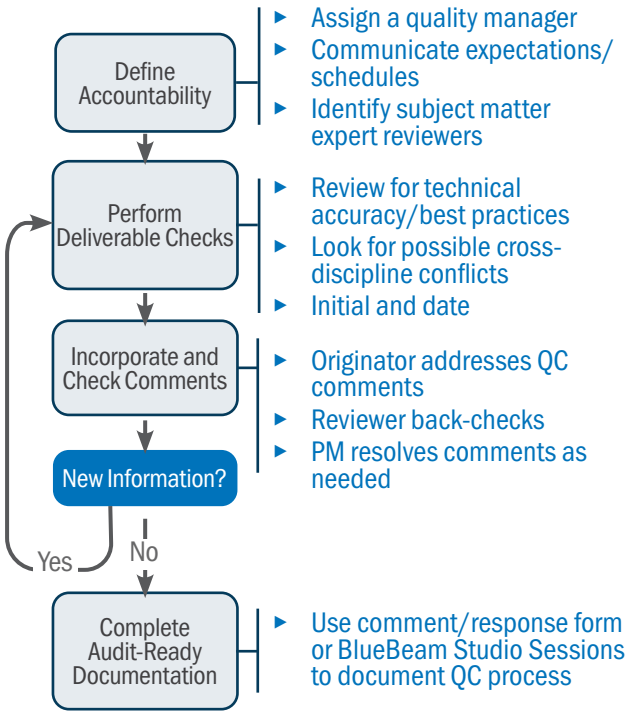
Three lead quality reviewers have been identified for three broad disciplines of natural resources, land use/environmental review, and engineering.

- **Taya MacLean** will lead our natural resources quality review to ensure that the permitting and approvals strategy is well-founded and that the deliverables are appropriate for securing natural resources permits and long-term agreements with conservation groups.
- **Shane Phelps** will provide quality reviews of land use and environmental review approaches and documentation, bringing extensive experience with land use and National Environmental Policy Act (NEPA) documentation in Central Oregon.
- **Tiffany Neier** will provide engineering review for the project team with experience permitting and designing similar landfills east of the Cascades.

We will work closely with the County to develop an achievable project delivery strategy, with commitments from those performing the work. As the project progresses, we will work with the County to identify risks and manage changes as they are encountered, and confirm that expectations are being met. Our project management documents are living documents, tailored to specific project needs, and updated throughout the project's evolution.

We actively monitor scope and project changes and communicate regularly with our clients. A hallmark of our project management process is that we promote transparency in communicating potential schedule and budget concerns as soon as they arise. More importantly, we are always looking ahead to anticipate and avoid problems.

Exhibit 3. Quality Control Process



Location of Team Resources

The majority of our team is located in Oregon, with project manager Ryan Rudnick readily available in Bend, OR. He will serve as our team's primary point of contact. Our team located beyond the region are easily accessible and excel at remote collaboration. We are committed to maintaining regular and open communication with your staff and agency stakeholders through regular face-to-face meetings, email, text messaging, and phone calls. Ryan Rudnick will be your primary point of contact, with other staff having designated roles as agreed upon in a communications protocol.

Parametrix team members have developed strong professional relationships with County staff, which provides an excellent foundation for a work environment of clear and effective communication. We will continue to strive to be an extension of the County workforce—working as partners to adapt our methods of project delivery to meet your needs.

We highly recommend maintaining the bi-weekly meetings between the County and Parametrix team that we have had during Phases 1 and 2 to ensure we continue our high level of communication.

Exhibit 4. Staff Locations

OREGON		WASHINGTON
BEND	PORTLAND	
Ryan Rudnick	Shane Phelps	Dwight Miller
Gerry Friesen	Rick Malin	Alan Butler
Andy Siemens	Jennifer Hughes	Drew Norton
James Schick	Colton Kyro	Stephanie O'Brien
Toby Scott	Taya MacLean	Tiffany Neier
Matt Kittelson	Seth Sokol	Scott Swedberg
Mark Lovejoy	Shaun Cordes	Karl Hufnagel
Sabrina Robinson	Aubrie Koenig	
Niall Boggs		
Corey Pacheco		

Criterion 2. Experience of Project Team Members and Subconsultants

Parametrix brings a highly integrated and cost-effective team to provide landfill permitting consultant services that will seamlessly continue the work of Phases 1 and 2 into Phase 3. We present our team in the Organization Chart (**Exhibit 5**), which shows the roles and project structure of the team. This highly qualified group includes professional engineers and hydrogeologists, land use planners, environmental scientists, and resource specialists with significant experience working with solid waste clients.

Our team is structured to continue this project from siting through design to construction and operations. All firms having experience working for the County and many staff having relevant experience with the permitting and approving agencies. Further, many of our local team staff have experience working with the County Department of Solid Waste.

Exhibit 5. Organizational Chart

Subconsultant Qualifications

Our team's subconsultant firms are uniquely qualified to provide the services needed for this project. All have significant experience working with the Parametrix team and Deschutes County.

SUBCONSULTANT FIRM QUALIFICATIONS

Gerry Friesen and Associates (GFA) provides a broad range of specialized engineering services to owners and operators of municipal solid waste landfills. These services include site development planning, solid waste permitting, overseeing landfill expansion construction, designing groundwater and surface water management systems, managing landfill gas collection and control systems, constructing leachate collection and treatment systems, and developing closure and post-closure plans. Gerry was on the team for the landfill siting study and final site evaluations and has assisted with landfill design and permitting at Knott Landfill.

Role: GFA will advance the design he prepared in Phase 2 for the site development plan and DEQ Solid Waste Permit. With his prior design experience at Knott Landfill, Gerry will ensure the new landfill is designed to the same high standard for the County.

Delve Underground. For more than 65 years, Delve Underground has focused on providing full-service geotechnical engineering design, engineering geology, and construction services. Delve delivers a wide range of services from their Bend and Portland offices, for various civil structures, including landfills, as well as geohazard mitigation projects. Delve has extensive experience in rock engineering as well as understanding of mine resource evaluations. This knowledge will be particularly beneficial for evaluating rock foundations, slope stability and aggregate resource opportunities.

Role: Delve Underground will continue their lead geotechnical engineering role from Phases 1 and 2, providing key contributions to the site characterization studies and preliminary engineering.

Consor. For more than 40 years, Consor staff have served as advisors to public agencies in public outreach, meeting facilitation, and strategic communications. Consor has managed hundreds of projects in a wide range of fields, including involvement in permitting outreach for long-term solid waste planning, landfill expansion and closure plans, waste reduction programs, solid waste rate communications, and planning and communication for biosolids programs.

Role: Aubrie Koenig with Consor will again lead the outreach element of this work. Consor staff have worked continuously in the Deschutes County region for more than a decade and provided public outreach support for the County's Solid Waste Master Plan and Solid Waste Management Facility Siting Study.

Siemens and Associates (SA) is a Central Oregon based consulting firm providing geophysical support to geotechnical consultants and others since 1992. SA offers value to the geotechnical effort by merging geotechnical experience with terrestrial geophysics to effectively select methods, procedure and interpretation that improve the success and economics of traditional of site exploration.

Role: SA will leverage their experience on the Moon Pit and Knott Landfill sites to provide a better understanding of ground conditions, effective soil and rock usage, and competitive earthwork bids.

PBS Engineering and Environmental LLC (PBS) offers a broad range of professional services with staff particularly strong on Central Oregon geology and hydrogeology.

Role: PBS will provide hydrogeogeolic support for the site characterization and groundwater monitoring plan development. This is similar to the role PBS, specifically Toby Scott, had during Phases 1 and 2, and for Knott Landfill for more than 18 years.

Kittelson and Associates. Kittelson has led several of the regional transportation planning and engineering initiatives, including the recently adopted Deschutes County Transportation System Plan (TSP) as well as long-range plans for the cities of Bend, Redmond, La Pine, and Sisters. In addition, Kittelson has assisted in transforming roadways throughout the County to be more accommodating to all users.

Role: Kittelson will provide traffic and transportation planning for site access off US20 and on the site access road across BLM land.

Staff Qualifications

See key staff resumes in the Appendix for detailed project experience and qualifications.

EXHIBIT 6: KEY STAFF QUALIFICATIONS

	Name, Role, Credentials	Responsibilities	Qualifications
	**Ryan Rudnick, PE** Project Manager 14 Years of Experience Prof. Engineer (OR)	Ryan will serve as the local point of contact for the project team and will facilitate coordination between team members. He will be responsible for accomplishment of the project scope within budget and schedule constraints.	▸ Proven leadership of the project team with Dwight in Phase 1 and Phase 2. ▸ Local presence and lifelong roots in Deschutes County. ▸ Experience working with Deschutes County staff on a wide range of local infrastructure projects.
	**Dwight Miller, PE** Principal-in-Charge 39 Years of Experience Prof. Engineer (WA, ID, HI, MT, NE)	Having managed Parametrix's work during Phases 1 and 2, Dwight will assist Ryan and the County in project strategy and oversight. He will also lead quality assurance for project deliverables, ensuring quality control reviews and documentation are completed.	▸ Managed the Parametrix team for Phases 1 and 2. ▸ Strategic thinker for planning and implementing a long-term vision for the landfill and mitigation measures. ▸ Over 39 years of solid waste experience involving waste management comprehensive planning, facility siting, site characterization and permitting, design, construction, permit compliance, and operation.
	**Jennifer Hughes** Land Use Planning Lead 22 Years of Experience	Jennifer will oversee the preparation of land use applications and supporting documentation. She will synthesize information from a broad range of disciplines to develop comprehensive applications and a defensible burden of proof.	▸ Responsive, collaborative, and diligent problem solver with experience solving complex land use issues as the primary point of contact. ▸ Experienced land use planner who understands analysis of environmental and land use requirements for site selection
	**Colton Kyro** Natural Resources Lead 5 Years of Experience	Colton will conduct natural resources fieldwork, prepare related documentation, and will develop mitigation plans. He will have a critical role in satisfying both the statutory requirements for wildlife mitigation and the community's expectation for robust mitigation.	▸ Exceptional ability to coordinate with state, federal, private, and non-profit organizations on natural resource issues. ▸ Prepared Natural Resources Assessment and Robust Mitigation Approach memo for Phase 2.
	**Stephanie O'Brien** Cultural Resources Lead 19 Years of Experience	Stephanie will oversee the cultural resources survey and SHPO consultation. She will ensure that cultural resources discovered onsite are properly addressed in coordination with local Native American tribes.	▸ Ten years of archaeological consulting experience in the Pacific Northwest, specializing in Columbia Plateau and Great Basin archaeology. ▸ Extensive experience in overseeing cultural resources surveys and compiling cultural resources permit applications for various projects in Eastern Washington and Oregon.
 DELVE underground	**Shaun Cordes, CEG, RG** Geotechnical Lead 11 Years of Experience Cert. Engineering Geologist Reg. Geologist (OR)	Shaun will serve as the primary investigator to maintain continuity from the previous geotechnical phase of the project. He will oversee all aspects of Delve's tasks including geotechnical explorations, geotechnical analysis, and report production.	▸ Prepared the preliminary geotechnical assessment of the Moon Pit site in Phase 2. ▸ Extensive 11 years of experience in geotechnical engineering and geology, coupled with his certifications as a Certified Engineering Geologist in Oregon.

EXHIBIT 6: KEY STAFF QUALIFICATIONS

Name, Role, Credentials	Responsibilities	Qualifications
 G. Friesen & Associates **Gerry Friesen, PE** Landfill Engineer 42 Years of Experience Prof. Engineer (OR, WA)	Gerry will advance the design he prepared in Phase 2 for the site development plan and DEQ Solid Waste Permit. Gerry will ensure the new landfill is designed to the same high standard for the County as with Knott Landfill.	▸ Decades of experience with landfill design and permitting processes, including Knott Landfill, where he led the preparation of the site development plan and obtained DEQ approval for a 135-acre MSW landfill disposal area. ▸ Prepared the conceptual landfill design for Moon Pit in Phase 2.
 consor **Aubrie Koenig** Public Involvement 19 Years of Experience	Aubrie will help facilitate the public outreach process and support permitting communications for the new Solid Waste Management Facility. She will work with County staff to design and implement focused engagement that informs project decisions and builds awareness and support with key stakeholders.	▸ Certified public involvement specialist and experienced facilitator who works with public agencies throughout Central Oregon and the Northwest to guide effective stakeholder engagement and community outreach.

EXHIBIT 7: ADDITIONAL TEAM STAFF

Toby Scott, RG Hydrogeology/ Monitoring 37 Years of Experience Registered Prof. Geologist (OR) PBS	Toby will work as an extension of Parametrix staff to provide local geologic, hydrogeologic investigations, and site-specific groundwater assessments to support the site characterization and permitting phases of the project.	**Jamie Schick, RG, CEG** Geotechnical Investigation 30 Years of Experience Registered Prof. Geologist (OR) DELVE underground	Jamie has 30+ years of experience in completing surface and subsurface investigations associated with large- and small-scale engineering, mining, permitting, and environmental projects. Jamie will serve as the Delve Underground principal-in-charge and will assist with all technical aspects of the project as needed.
Andy Siemens, PE, GE Geophysics 32 Years of Experience Prof. Engineer (OR, WA, HI); Geotechnical Engineer (OR) Siemens & Associates	Andy brings expertise in providing geophysical services for geotechnical projects and has successfully completed similar projects worldwide, including the Moon Pit and Knott Landfill. Andy will enhance geotechnical exploration by providing geophysical services offering a broad view of subsurface conditions presented in 2D illustrating the variability through the zones of interest. This knowledge will be used by the geotechnical team to effectively place exploratory borings that sample both common and uncommon ground conditions.	**Matt Kittelson, PE** STR Updates and Traffic Permitting 16 Years of Experience Prof. Engineer (OR) KITTELSON & ASSOCIATES	Matt has worked with the County on the overall transportation system plan for the area and previously assessed the transportation infrastructure onsite at the Moon Pit facility. He will prepare a Site Traffic Report (STR) as a part of the conditional use application, building upon information he developed in Phase 2–Final Site Evaluation.
Rick Malin, PE Hydrogeology/Wells 38 Years of Experience Registered Prof. Geologist (OR); Licensed Geologist/ Hydrogeologist (WA)	Rick has worked on more than 25 landfill sites in Oregon. His diverse project experience provides a well-rounded familiarity with solid waste regulations and permit processes. Having co-authored the Site Suitability Analysis & Phase 1 Characterization Report for the Moon Pit site in 1994, he will bring extensive background knowledge to preparation of the Site Characterization Report (SCR) and Environmental Monitoring Plan.	**Shane Phelps** Environmental QC 28 Years of Experience	Shane has decades of experience as an environmental permitting lead and is well-versed in NEPA and working with federal, state, and local agencies to successfully fulfill regulatory statutes and requirements. He will oversee and provide QC review for environmental permitting deliverables.

EXHIBIT 7: ADDITIONAL TEAM STAFF

Tiffany Neier, PE Design QA/QC 15 Years of Experience Prof. Engineer (WA, ID; OR in process)	Tiffany has performed work for over ten different landfills and has experience in the full spectrum of solid waste facility requirements from planning, development, closure, to post closure care. She will provide QC to the landfill design team and ensure all deliverables meet County and Parametrix standards.	**Scott Swedberg, EIT** Report Manager 4 Years of Experience Engineer in Training (WA)	Scott has contributed to the planning and design of water and wastewater infrastructure projects, providing insights into efficient landfill design considerations. He has experience as the landfill manager at Summit County Government's landfill and brings hands-on experience in overseeing landfill operations.
Sabrina Robinson Land Use Planner 9 Years of Experience	Sabrina has a background preparing land use reviews and authoring narratives for Central Oregon and the Portland vicinity. She has experience working with local agencies to navigate varying land use requirements including conditional use reviews, non-conforming reviews, and zoning requirements for destination resorts. Sabrina also has experience researching and authoring technical documents for NEPA compliance.	**Karl Hufnagel, PE** Facility & Site Programming 56 Years of Experience	Karl has extensive experience in facility planning and design for industrial and municipal clients. He has specialized in solid waste management, including program analysis and planning, organizational and operations assessment, facility siting, feasibility studies, conceptual and detailed design, environmental review, project permitting, equipment procurement, construction management, and alternative project delivery.
Taya MacLean, PWS Natural Resources QC 25 Years of Experience Prof. Wetlands Scientist	Taya is a senior scientist and certified professional wetland scientist. She will draw from her natural resources management experience and long-established working relationships with regulatory agencies to efficiently identify and assess jurisdictional resources and drive permit applications forward, avoiding costly delays.	**Seth Sokol, PE** Surface Water/ Floodplains 14 Years of Experience Prof. Engineer (OR)	Seth is a water resources engineer who is passionate about problem solving. For the past decade, he has worked on all sizes and types of stormwater retrofit projects in Oregon and Washington, from roadway stormwater planters up to innovative watershed-scale regional stormwater park retrofits.
Corey Pacheco, PLS Survey Lead 8 Years of Experience Prof. Land Surveyor	Corey has worked on a wide array of projects throughout Oregon in his career spanning over a decade. With many years of boundary resolution, topographic mapping, and construction layout experience. He will lead the survey team for any survey efforts.	**Niall Boggs, PE** Certified Water Rights Examiner 17 Years of Experience Prof. Engineer (OR)	Niall is a senior engineer experienced in helping agencies across Central Oregon expand sewer and water infrastructure systems. He is a Certified Water Rights Examiner, experienced with OWRD applications and processes for groundwater permits, transfers, amendments, claims of beneficial use, and more.
Drew Norton, PE Landfill Gas 6 Years of Experience Prof. Engineer (WA)	Drew is a project engineer experienced in design and construction in the solid waste industry. He has supported the permitting, design, construction, and coordination of landfill and industrial projects in Washington, Oregon, Idaho, and Hawaii.	**Alan Butler, PE** Air Quality 47 Years of Experience Prof. Engineer (WA, CA)	Alan is a senior environmental engineer with experience in emissions inventories and air permit applications at landfill sites.
Mark Lovejoy, PE Site Civil Engineer 7 Years of Experience Prof. Engineer (OR)	Mark is an experienced site development engineer who has served on teams doing landfill site design, stormwater design, transportation design and construction administration.		

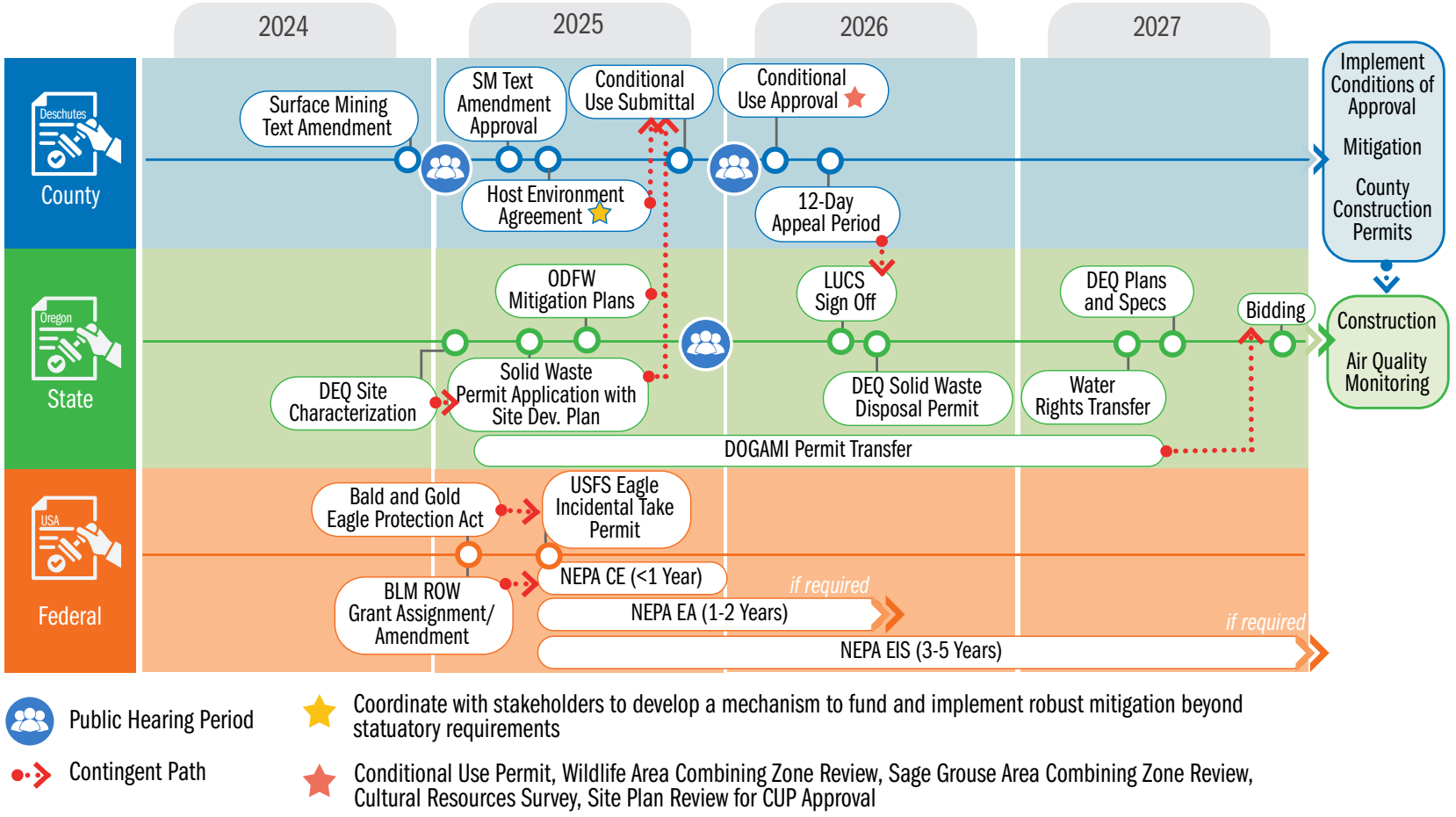
Criterion 3. Demonstrated Understanding of Scope of Work

Understanding

Our successful partnership with Deschutes County on Phases 1 and 2 allows us to hit the ground running and apply our experience seamlessly while continuing the permitting and land use process entitlements for the development of a new landfill at the Moon Pit site. Our involvement on the first two phases of the landfill siting study provides us with invaluable insights into the complexities and nuances of the regulatory framework at the County, state, and federal levels. This experience has shaped our approach to navigating the intricate web of requirements that the new landfill development will encounter, ensuring that we address every aspect of the permitting and land use approval processes with precision and expertise.

We designed our permitting strategy, presented in **Exhibit 8**, to integrate and streamline the various permitting requirements and timelines to maximize efficiency and minimize risk. We understand

Exhibit 8. Permitting and Approvals Flowchart



that the permitting process involves multiple interrelated components, including compliance with the Resource Conservation and Recovery Act (RCRA), Oregon Solid Waste Regulations, Deschutes County Code, and potential federal environmental reviews. By coordinating these elements effectively, we aim to reduce overlap and redundancy, thus expediting the approval process. Our team will prepare comprehensive applications and documentation, aligning with the specific needs of each regulatory body while ensuring that all interdependencies are managed to prevent delays and mitigate potential opposition.

To secure the ***DEQ Solid Waste Permit*** by mid-2026, the critical path begins with the parallel preparation of the Surface Mining Text Amendment and DEQ Site Characterization shortly after receiving NTP. Once these foundational steps are completed, the next step involves preparing the comprehensive Site Development Plan document and the DEQ Solid Waste Permit application.

Simultaneously, we will prepare the ***Conditional Use Permit (CUP)*** application, based on the approved Surface Mining Zone Text Amendment, the Site Development Plan, cultural resources survey, and the mitigation plans coordinated with the Oregon Department of Fish and Wildlife (ODFW). After submitting the CUP application, there will be a public hearing and a 12-day appeal period. A key strategy for proactively addressing public opposition to concerns with these permits will be development of a "host environment agreement" in coordination with local stakeholders, which will facilitate the funding and administration of wildlife, recreational, and cultural resource mitigation activities.

After securing Conditional Use approval, the final step is to receive the ***Land Use Compatibility Statement (LUCS)*** sign-off from County Planning, which is required for DEQ to issue the ***Solid Waste Disposal Permit.*** This structured approach ensures that all necessary approvals and permits are obtained in a timely manner, paving the way for the DEQ Solid Waste Permit by the targeted mid-2026 deadline.

Beyond these major County and state permits, there are additional approvals at the state and federal levels which are less inter-related and need to be addressed in parallel. To transfer the BLM access road right-of-way grant to the County, NEPA clearance is required, which could vary from a Categorical Exclusion (CE) to an Environmental Assessment (EA) or an Environmental Impact Statement (EIS). For the County to operate the site as a mine and export aggregate resources offsite, the DOGAMI Surface Mining Permit will need to be transferred to the County. Based on coordination with U.S. Fish and Wildlife Service (USFWS) for compliance with the Bald and Golden Eagle Protection Act (BGEPA), a Migratory Bird Treaty Act (MBTA) permit may be required for site development.

In addition to our technical expertise, our approach emphasizes proactive communication and stakeholder engagement to address community concerns and foster support for the project. We will implement a robust public outreach plan that includes targeted briefings, informational meetings, and ongoing updates to keep key stakeholders informed and involved. By addressing potential issues early and transparently, we aim to build trust and support, reducing the likelihood of opposition and facilitating a smoother permitting process.

Our commitment to integrating technical, regulatory, and community aspects will ensure that Deschutes County can proceed with confidence towards the successful development of the Moon Pit landfill.

Our detailed approach and scope of work is described below in a task and subtask structure that organizes the scope items listed in the RFP. This scope of work has been prepared for the purposes of this proposal (within the page limits) and we expect to further develop the scope details, deliverables, and assumptions during contract negotiations, if selected.

Our schedule, on page 27 details the tentative schedule for tasks, major milestones, and deliverables, and tentative allocation of person hours assigned for each task are shown in our cost proposal on pages 28 and 29.

Detailed Scope of Work and Approach

Task 1. Project Management

The primary goal of Task 1 is to manage the consultant contract with the Deschutes County Department of Solid Waste, ensuring that the project adheres to its scope, budget, and schedule. This task encompasses overall project planning, budget and schedule tracking, preparation of progress reports, management of correspondence, coordination with subconsultants, and organization of project documents. Effective management will facilitate smooth project execution and ensure alignment with project objectives.

1.1 GENERAL PROJECT MANAGEMENT

Establish and maintain a comprehensive project plan detailing the scope, budget, and schedule. This subtask involves coordinating with the project team, addressing issues as they arise, and ensuring all members are aligned with project goals.

1.2 PROJECT SETUP AND ACCOUNTING

Set up project files, communication platforms, and accounting systems using Parametrix's tools. Monitor progress and budget by task on a regular basis to ensure alignment with project scope, schedule, and budget.

1.3 SUBCONSULTANT MANAGEMENT

Coordinate with subconsultants, integrate their contributions into the project, and address any issues that arise to ensure their deliverables meet project requirements. Ensure the completion and quality of subconsultant deliverables according to contract scope and budget.

1.4 BI-WEEKLY COUNTY MEETINGS

Conduct bi-weekly meetings with the County to review project progress, address issues, and make project decisions. These meetings will ensure ongoing alignment with project goals and facilitate steady progress through schedule milestones.

1.5 PROJECT DOCUMENT MANAGEMENT

Organize and maintain project documents, ensuring they are up-to-date, accessible, and properly archived for review and records.

Task 1 Deliverables

Deliverables for this task include:

- Miscellaneous correspondence to document project management issues.
- Monthly progress reports enclosed with invoices.

Task 1 Assumptions

- Project duration is 39 months.
- Budget assumes 78 bi-weekly meetings.

Task 2. Land Use Approval

Task 2 is focuses on securing necessary land use approvals and amendments for the Moon Pit site. This task involves managing the process for text amendments, preparing and submitting permit applications, conducting surveys, and ensuring compliance with relevant regulations. Successful completion of this task will facilitate the legal and regulatory foundation for the development of the landfill.

2.1 TASK MANAGEMENT & MEETINGS

The Parametrix subtask managers will coordinate with the project manager, planning staff, and natural resources staff to communicate schedule, task objective, and budget expectations, facilitate data and collaboration needs, and ensure efficient task completion.

2.2 SURFACE MINING TEXT AMENDMENT

Amend Deschutes County Comprehensive Plan Surface Mining Chapter and Deschutes County Code Surface Mining Zone to allow landfilling as a surface mine reclamation activity. Parametrix will assist the County with the necessary text amendments including meeting with County Planning staff to develop a detailed work plan complying with Deschutes County Code 22.12, developing draft text changes, meeting jointly with the County and DOGAMI to review appropriateness and feasibility of the draft text changes, and assisting the County Planning staff in preparations for the text amendment review and approval process including review by Planning Commission, attendance at the Hearings Officer hearing, and Board of County Commissioner's hearing(s).

2.3 CONDITIONAL USE PERMIT APPLICATION

Apply for and obtain a conditional use permit from Deschutes County, authorizing the Department to develop a municipal solid waste landfill at the Moon Pit Site. After Deschutes County approves the Comprehensive Plan and Deschutes County Code text amendments in Task 2.2, Parametrix will schedule and attend a pre-application meeting and prepare and submit a land use review application including the following:

- Demonstration of compliance with Conditional Use General Standards

DCC 18.128,015, and specifically DCC 18.128.120 for Disposal Sites.

- Demonstration of compliance with DCC 18.88 Wildlife Area Combining Zone and DCC 18.89 Greater Sage-Grouse Area Combining Zone provisions.
- Demonstration of compliance with DCC 18.124 Site Plan Review.

2.4 CULTURAL RESOURCES SURVEY

Conduct a survey to identify and assess cultural resources on the project site per DCC Chapter 2.28. Parametrix will conduct tasks for a cultural resource survey for the Moon Pit site. These tasks include:

- Review previous research completed for archaeological reconnaissance for the Moon Pit site. This information will be used to inform the cultural resources survey and integrated into the project's cultural resources technical documentation.
- Perform a cultural resources pedestrian survey at 20-meter transect intervals of the remaining 460 acres not covered by previous survey. If deemed necessary based on the results of the pedestrian survey, shovel probes may be excavated. The findings of the pedestrian survey and shovel probe survey will be integrated into the project's cultural resources technical documentation.
- Delineate and formally record archaeological resources, if idntified, on Oregon Archaeological Site forms.
- Author a cultural resources technical report, which will include an introduction, regulatory context, environmental and cultural context, records review, field methods and findings, and technical recommendations. The report will also include a map depicting pedestrian survey transects, shovel probe locations, and any archaeological resources documented during the survey.
- Coordinate with the project team, SHPO, and consulting tribes, as needed, to address potential direct or indirect effects to cultural resources as a result of construction and use of the proposed landfill.

2.5 NATURAL RESOURCES REGULATORY COMPLIANCE

Ensure compliance with regulations related to wildlife, sage-grouse, and migratory birds, including preparing habitat mitigation plans and coordinating with agencies.

2.5.1 Deschutes County Wildlife and Greater Sage Grouse Combining Zone Compliance

The County requires compliance with the following natural resources regulations:

- Deschutes County Code (DCC) Chapter 18 Combining Zone Overlays:
  - Chapter 18.88 Wildlife Area Combining Zone (WA) for mule deer (*Odocoileus hemionus*; North Paulina Deer population) winter range, and essential and limited pronghorn (*Antilocapra americana*) habitat.
  - Chapter 18.89 Greater Sage-Grouse (GSG; *Centrocercus urophasianus*) Area Combining Zone (GSGA)
- Oregon Department of Fish and Wildlife (ODFW) Habitat Mitigation Policy (Oregon Administrative Rules [OAR] 635.415)

To resolve threats to GSGA and WA species and habitats, Parametrix will:

- Conduct a WA/GSGA Mitigation Feasibility Assessment: (1) desktop feasibility assessment of up to 5 sites; (2) fieldwork and analysis (WA habitat analysis and GSG Habitat Quantification Tool (HQT)) for Moon Pit and two feasible mitigation sites; and (3) prepare in a memorandum summarizing preferred mitigation. Approach for review by County and ODFW.
- Prepare GSGA/WA Habitat Mitigation Plan in coordination with ODFW and County.

2.5.2 Migratory Bird Treaty Act/Bald and Golden Eagle Protection Act Compliance

Coordination with U.S. Fish and Wildlife Service (USFWS) for compliance with the Bald and Golden Eagle Protection Act (BGEPA) and a Migratory Bird Treaty Act (MBTA) permit may be required for site development. Impacts to migratory birds, especially during the nesting season or through operational activities, may require an MBTA permit. The site is also within two miles of a golden eagle nest and site development will result in a permanent alteration of habitat which is considered a disturbance. For compliance with MBTA/BGEPA, Parametrix will:

- Coordinate with USFWS and the project team to develop standard best management practices (BMPs) to avoid and minimize impacts to eagles and migratory birds.
- Coordinate with USFWS to develop mitigation for impacts to golden eagle habitat.
- Prepare memorandum with mitigation for eagles and BMPs for migratory birds and eagles.
- Prepare an MBTA permit application and an Eagle Disturbance Take Permit, if required, for the first phase of SWMF development.
- BMPs, which may include clearing of vegetation outside of the nesting season

or survey; nest protection measures during construction; and operational BMPs.

- Provide mitigation for eagles, which may include In-Lieu Fee or funding for local utility companies to retrofit utility poles to protect birds from electrocution through a Memorandum of Agreement (MOA).
- Prepare MBTA/BGEPA permits with BMPs, mitigation measures, and a draft MOA.

2.6 HOST ENVIRONMENT AGREEMENT/ ROBUST MITIGATION APPROACH

Various special interest groups have called for mitigation measures to go beyond minimum requirements set forth by the County and ODFW, particularly toward GSG habitat and for recreation impacts. The County may consider a voluntary Robust Mitigation Plan to alleviate development concerns and to fully account for potential impacts of the SWMF.

Parametrix can assist the County with this approach through the following tasks:

- Coordinate with special interest environmental groups, elected officials, and local officials. A cross section of environmental, cultural, and recreation perspectives would be brought to the table by convening a small sounding board and holding a focused series of workshops to collect input on the wildlife, cultural, and recreation mitigation plan, and host community agreement.
- Develop framework of the funding, structure, and goals for development of a conceptual Host Environmental Community Agreement to fund wildlife enhancement, cultural interpretation, and recreational opportunities for the duration of operations of the SWMF.
- Prepare a Robust Mitigation Plan Framework document. The framework will be conceptual only. The County will be responsible for establishing formal processes outlined in the framework.

2.7 TRAFFIC IMPACT STUDIES AND CONSULTATION

Update and finalize the Moon Pit Site Traffic Report (STR) prepared in Phase 1 per DCC 18.116.310, as needed to support the conditional use permit application. Coordinate with the project team and permitting agencies, as needed (up to 40 hours of staff time) to address questions/concerns and public comments related to traffic volumes generated by the proposed landfill.

Task 2 Deliverables

- Draft and final work plan for text amendments.
- Draft and final notes from meetings with DOGAMI.
- Draft and final suggested text amendments.
- Draft and final application materials for a pre-application meeting with Deschutes County planning staff and notes from the meeting.
- Draft and final cultural resource technical report.
- Mitigation Feasibility Assessment Memorandum.
- Draft and final GSGA/WA Habitat Mitigation Plan.
- BMPs and Eagle Mitigation Memorandum.
- Draft and final Robust Mitigation Plan Framework.
- Updated Moon Pit Site Traffic Report
- Draft and final conditional use permit application and supporting materials.
- Draft and final presentation materials for public hearings.

Task 2 Assumptions

- The task manager will conduct half-hour monthly meetings with permitting staff.
- Up to three Parametrix staff will meet with County staff for up to six one-hour virtual meetings.
- Up to three Parametrix staff will meet with County staff and DOGAMI for up to two one-hour virtual meetings.
- County Planning staff will prepare narrative findings for the Post Acknowledgement Plan Amendment supporting the text amendments; submit materials for review; and pay review fees directly.
- It is assumed the conditional use application will require a public hearing.
- The County will provide comments to documents in single, consolidated "reviewed" documents.
- Mitigation site construction and monitoring are not included.
- Privately held site access and real estate negotiations will be coordinated by the County.
- Parametrix will be responsible for responding to one round of reviews and revisions to the technical cultural resources report from agency and tribal reviewers.

- No fieldwork will be required for subtask 2.5.2 Migratory Bird Treaty Act/Bald and Golden Eagle Protection Act Compliance
- Up to five 1-hour meetings (two in-person, three virtual) with stakeholders and County officials for development of robust mitigation plan framework.
- One site visit to the Moon Pit Site as a part of the traffic impact studies, including travel time and mileage.
- The Site Traffic Report will not require gathering traffic counts data. This can be provided for an additional fee.

Task 3. DEQ Permitting

Task 3 involves preparing applications and documentation to obtain a DEQ Solid Waste Permit from the Oregon Department of Quality (DEQ). The work will be performed in accordance with the requirements of the Resource Conservation and Recovery Act, Subtitle D (40 CFR Part 258), and in accordance with the Oregon Solid Waste Regulations (OAR Chapter 340, Division 93 through 97). This task includes managing DEQ-related efforts, preparing site characterization reports, developing grading plans, conducting geotechnical investigations, and creating the Site Development Plan. The organizational plan recommended in the DEQ Guidance Document will be followed to prepare a comprehensive Site Development Plan document which will facilitate DEQ review and permit approval.

3.1 TASK MANAGEMENT & MEETINGS

Manage DEQ permitting subtasks and facilitate meetings with the project team, County staff, and DEQ to establish expectations and track progress. It is anticipated that an introductory meeting will be held with the DEQ in early-November to confirm the preliminary landfill design, identify elements for refinement and consideration, and to establish a schedule of deliverables for DEQ review. Through this coordination, the team will seek confirmation from DEQ on the work plan for the site characterization study and the preparation of the Site Development Plan for the landfill.

3.2 SITE CHARACTERIZATION REPORT

Prepare a comprehensive report detailing the site's characteristics, consistent with DEQ guidance document chapters 1-5, for inclusion in the Site Development Plan submittal to DEQ.

The Parametrix team will leverage the information gathered during the Site Evaluation and due diligence phases of the Moon Pit Site assessment to prepare the Phase 1 Site Characterization Report. The team will combine the existing data and DEQ requirements to identify the critical data gaps in the available site-specific data and develop a workplan to address the objectives for the Phase 2 Site Characterization to further define site geology, hydrogeologic properties, and groundwater chemistry of the uppermost aquifer. We plan to take advantage of the existing onsite water wells to assist in the hydrogeologic characterization of the primary aquifer beneath the Site.

At the completion of the investigation, a comprehensive Phase 2 report will be prepared detailing the site's geology and hydrogeology. The report will include all supporting data to characterize the stratigraphic units and the chemistry of the uppermost water bearing zone beneath the Moon Pit Site.

3.3 GRADING PLANS

Develop plans for the phased development of the landfill, including volumes and capacity, to inform the layout and depth of geotechnical investigations. These grading plans will also provide a horizontal and vertical framework for the conceptual design of landfill-supporting facilities under subsequent Task 3.5.

3.4 GEOTECHNICAL INVESTIGATIONS

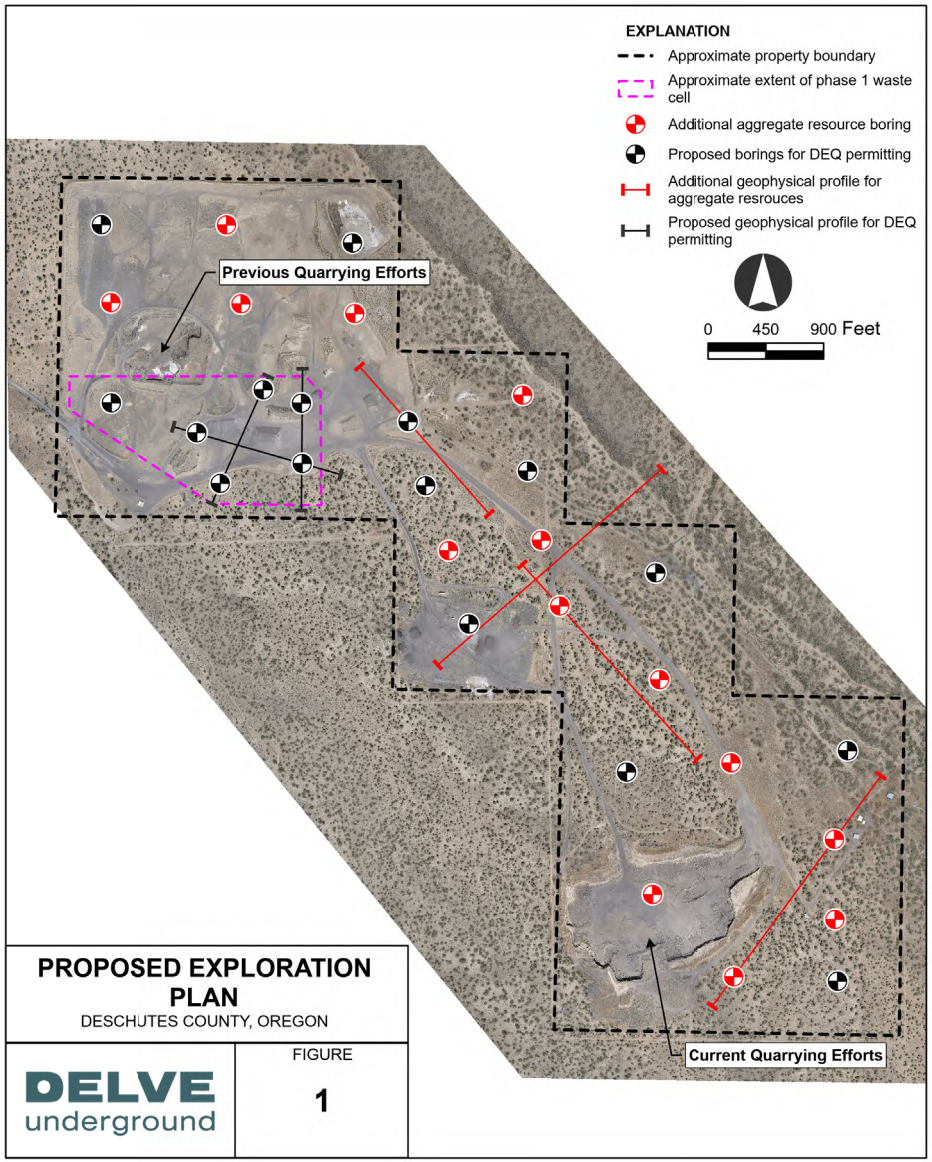
Conduct geotechnical investigations, including borings and geophysical surveys, to characterize subsurface conditions and inform design efforts.

As a part of the Parametrix team, Delve Underground developed a geotechnical approach to provide the necessary data for permitting the site as well as for the detailed design of the Phase 1 Cell. This approach builds upon our understanding of site conditions from previous investigations and analyses at the site.

Based on our previous experience, we expect to encounter shallow bedrock generally less than 10-feet below ground surface throughout most of the site. However, in the northwest portion of the site where the proposed Phase 1 waste cell will first be constructed, previous investigations have indicated variability of the depth to bedrock and 40 or more feet of soil. Historic quarrying efforts in this portion of the site were abandoned due to poor and highly variable rock quality.

Our approach includes a combination of electrical resistivity (ER) geophysical surveys combined with borings advanced by sonic drilling techniques to characterize subsurface conditions for site development, detailed geotechnical design of the Phase 1 cell

Exhibit 9. Recommended Geotechnical Explorations



and associated landfill infrastructure, and to meet DEQ solid waste permit requirements. This effort will primarily focus on the northwestern extent of the site where the first waste cell is to be developed.

Additional borings will be advanced across the site to establish baseline subsurface conditions for future waste cell developments. A total of 18 borings are proposed with a total drilling footage of 1,000 feet, averaging 55-foot depth. These borings will be complemented by 3 geophysical lines focused on the Cell 1 area and totaling 3,500 lineal feet. The location of recommended explorations is outlined in **Exhibit 9**. This approach will provide the design team with data to base future design efforts, and to guide future subsurface exploration on an as-needed basis.

Geotechnical information gathered by Delve will be incorporated into the Site Characterization Report, Site Development Plan, Detailed Design, and Environmental Monitoring Plan. Based on the grading volume calculations and the geotechnical studies, a Soils Management Plan will be developed for the site, in which types, quantities, and timelines of soil/rock needs will be calculated.

3.5 CONCEPTUAL DESIGN OF LANDFILL-SUPPORT FACILITIES

A series of conceptual design drawings showing the Conceptual Design for the Entrance Facilities at Moon Pit Landfill will be developed under this task. For each stage of the development, the drawings will show entrance facilities, access roads, perimeter ditches, stormwater facilities, proposed buildings, onsite utility infrastructure, and fencing.

3.6 SITE DEVELOPMENT PLAN

The project team will prepare a Site Development Plan for the Moon Pit Landfill (MPLF) under this task. The format for the report will be in accordance with Section 5 of the DEQ guidelines. The Site Development Plan will serve as the single review document for DEQ, including the Site Characterization Report, Grading Plans, Soils Management Plan, Conceptual Design, Closure & Post-Closure Plan, Financial Assurance Plan, Landfill Operations Plan, Special Waste Management Plan, and Environmental Monitoring Plan.

A description of each of the chapters that will be developed is as follows:

- **Chapter 1: General Description of Facility.** Provides an overview of the landfill site and its operations, including existing and proposed facilities, site soils, hydrogeology, surface waters, and the types and rate of waste disposal. Summarizes the Site Characterization Report which will be included as an appendix.
- **Chapter 2: Phased Development.** Outlines the phased development plan for the landfill, detailing the design criteria, excavation plan, final grading plan, landfill cross sections, facility development drawings, and soil management plan.
- **Chapter 3: Leachate Management.** Presents a conceptual design for the leachate collection and removal system (LCRS), including design criteria for the liner system components and conceptual design drawings for the liner system and related facilities.
- **Chapter 4: Surface Water Management.** Details the design for the landfill's surface water control system, including a hydrologic analysis to determine peak runoff rates and velocities, and the locations and sizes for ditches, culverts, and detention basins.
- **Chapter 5: Landfill Gas Management.** Outlines a conceptual design for a landfill gas (LFG) control system, including an estimate of the LFG generation rates, performance criteria, material specifications, and a conceptual layout of facilities and equipment.
- **Chapter 6: Environmental Monitoring Plan (EMP).** Describes the approach to environmental monitoring of groundwater, surface water, leachate, landfill gas, and air. The EMP will be developed to describe an effective environmental monitoring program designed to document the Site will maintain compliance with the regulatory limits contained within the Solid Waste Permit. This plan will assess and identify potential impacts to surface water, groundwater, and air based on our local understanding of the high desert region's characteristics. The plan will include design of the monitoring networks, sample and analysis plan, data evaluation and reporting. The EMP will also identify an interim monitoring period, a process for developing site specific concentration limits and corresponding limits that would trigger further assessment and/or corrective action.
- **Chapter 7: Closure and End Use.** Presents the conceptual design for the final cover system and describes the general procedures for the final facility closure and the proposed end use for the landfill.
- **Chapter 8: Supporting Information.** Identifies local, state and federal permit requirements and describes the compatibility of the landfill's expansion with the County's Solid Waste Management Plan and the Oregon Integrated Solid Waste Management Plan. The final chapter of the Site Development Plan will also describe the major construction projects that are anticipated as landfilling progresses. Documents will include a sequential list of these projects and their anticipated year of construction.

3.7 DEQ PERMIT APPLICATION AND COORDINATION

Prepare permit application form and checklist, coordinate with the County for required signatures, and coordinate with DEQ to confirm all requirements are met for issuance of the Solid Waste Permit In the past, DEQ has proven to be responsive and timely in their comments if they are involved in reviewing the site development plan as it is developed. We have found that DEQ reviewers typically meet with the project team and receive a presentation on the submittal material 1 to 2 weeks after it has been submitted. Often, they provide their review comments verbally at these meetings and review times can be significantly shortened.

Task 3 Deliverables

- Site Characterization Report (phase one and two)
- Grading Plans
- Geotechnical Report
- Conceptual Design Drawings
- Site Development Plan, which also includes:
  - Soil Management Plan
  - Closure & Post-Closure Plan
  - Financial Assurance Plan
  - Landfill Operations Plan
  - Special Waste Management Plan
  - Environmental Monitoring Plan
- DEQ Permit Application and Coordination Materials

Task 3 Assumptions

- County Planning staff will not sign off on the Land Use Compatibility Statement (LUCS) required for DEQ Solid Waste Permit approval until Conditional Use Permit is approved by an assumed timeframe of May 2026.
- A signed LUCS will be required for issuance of the Solid Waste Permit, but will not be required for DEQ to begin review of the Site Development Plan.
- DEQ will permit the existing "A" well to be used as a monitoring well and no new monitoring wells will be required to be constructed as part of Site Characterization work and Solid Waste Permit approval. If needed, monitoring wells can be constructed with additional scope and fee.
- Pump Test can be performed using existing water wells.
- The same low flow bladder pumps in use at Knott can be used at Moon Pit with DCSW controllers and related equipment.

Task 4. Public Outreach and Communications

4.1 COMMUNICATION PLAN AND COORDINATION

Prepare an updated Communications Plan to align outreach and communications strategies with design and permitting milestones, including public notice/outreach to fulfill requirements for anticipated regulatory review and approval processes. The updated plan will leverage knowledge from the siting study about key interest groups and will incorporate a media/social media strategy to proactively communicate the project story. For example, sharing how the new facility fits into the County's overall strategy to provide sustainable waste solutions. As work progresses, regular coordination meetings with County staff and the project team will support an integrated and cohesive permitting outreach strategy.

4.2 OUTREACH MATERIALS

Using the "Manage the Future" project brand and messaging, the current outreach toolkit will be updated to reflect design and permitting development and support timely and proactive communication with key audiences including project neighbors, environmental groups, and regulatory agencies. This will include updates to the project webpage, fact sheet, and StoryMap, as well as e-news features to share project progress with email subscribers.

4.3 AGENCY MEETINGS

In coordination with the permitting efforts, prepare briefing materials and meet with public agencies to discuss project opportunities and any concerns. Potential agency meetings may include Bureau of Land Management, Oregon Department of Environmental Quality, Deschutes County Community Development Department, Oregon Department of Fish and Wildlife, DOGAMI, and others. Outcomes and insights from these conversations will be summarized and shared with the project team.

4.4 STAKEHOLDER ENGAGEMENT

Conduct early targeted briefings with key stakeholders, such as Tribes, environmental interests, and recreation groups, to share information, gather feedback, and identify key considerations and opportunities for the project. A suggested focus is early information exchange and consultation to help inform mitigation strategies for area wildlife and recreation.

Informational briefings with groups such as the Central Oregon Conservation Network and Central Oregon Regional Solutions Team are an opportunity to reach multiple stakeholders at once. Additional stakeholders include Oregon Natural Desert Association, East Cascades Audubon Chapter, and Central Oregon LandWatch.

As an option, it may be useful to bring a cross section of environmental and recreation perspectives to the table at once by convening a small sounding board and holding a focused series of workshops to collect input on the wildlife and recreation mitigation plan and host community agreement.

4.5 PUBLIC MEETINGS

County-hosted informational meetings or open house events at key milestones will help keep the broader community informed about progress toward having a new landfill in place by 2030. Potential timing and topics may include sharing highlights of the conceptual design development and placing the landfill development in context of the County's broader waste management approach. The team will also support development of briefing presentations to update the Board of County Commissioners and support public hearings required by the permitting process.

4.6 PUBLIC COMMENT REVIEW/RESPONSE

Coordination between the outreach and permitting efforts to review and respond to public comments will help the County provide clear and consistent information about the project as a whole. The County has been highly responsive through the landfill siting process and our team will help the County efficiently

maintain that high standard through this next phase. Through the project email and website, the County has established a go-to information hub to field and respond to public comments and questions. Periodic updates to frequently asked questions and talking points that reflect the conceptual design and permitting progress will support County staff with ongoing information sharing using these forums. We can support the County with comment tracking logs and word clouds to analyze comments and inform responses.

Task 4 Deliverables

- Communication Plan
- Two content updates for webpage and fact sheet and four updates for StoryMap
- Up to six e-news features
- Meeting plan and summary for up to six agency meetings
- One presentation for use in multiple agency meetings
- Meeting plan and summary for up to six stakeholder briefings
- One presentation for use in multiple stakeholder briefings
- Open house events will include a run of show, invitation/news release, and summary of feedback
- Design and printing of up to four informational display boards
- PowerPoint presentations for two BOCC meetings
- Updated FAQs and talking points
- Word clouds and analysis of public comments

Task 4 Assumptions

- Two BOCC briefings will be facilitated (one in spring 2025 and the second in spring 2026).
- Two public open houses will be facilitated (one in fall 2025 and the second in fall 2026).
- Up to two Consor staff will participate in two open house/public meetings.
- County will be responsible for event venues, refreshments, and mass printing as desired.
- Regular coordination meetings will be scheduled and attended by all relevant parties.
- Outreach materials will use the “Manage the Future” project brand/messaging and County style guide.
- Virtual participation in up to six, 1-hr agency meetings and up to six, 1-hr stakeholder briefings.
- Key stakeholders will be willing to participate in briefings and workshops.
- The project team will have access to necessary resources for meeting preparation.
- Public comments will be received through established channels (email, website) and processed in collaboration with County staff.
- Project subject experts will support comment responses.
- County will provide Spanish translation of outreach materials (e.g., fact sheet) as desired.
- County will host StoryMap on its Esri platform and publish consultant-provided content to project webpage and e-news platform.
- One round of review revisions on outreach toolkit materials.

Task 5. Additional Services

Task 5 presents a list of additional services that support the overall development and operation of the Moon Pit site but were not specifically requested in the RFP. This includes providing technical support for property negotiations, water rights permitting, aggregate resource evaluations, BLM ROW assignments, NEPA compliance, the DOGAMI surface mining permit transfer, electrical service extensions, and the installation of monitoring wells. Although not required for permit approvals, Parametrix can also provide cost estimates at the conceptual design phase and construction documents necessary for County building permits.

Inclusion of these additional services will help ensure that all additional considerations and requirements are addressed effectively. Subtasks for selected additional services will be further scoped and budgeted in coordination with the County as requested if Parametrix team is selected.

5.1 MISCELLANEOUS NEGOTIATION/ ACQUISITION SUPPORT

Provide technical support for Deschutes County as needed to undergo property negotiations and acquisition of the Moon Pit site owned by Hooker Creek LLC. This would include coordination, meetings, review, and analysis

pertaining to site information, property appraisals, onsite infrastructure, and County landfill needs.

5.2 WATER RIGHTS REVIEW, PERMITTING, AND EVALUATION

Continue the momentum from past and current efforts to review water rights documentation, confirm landfill water needs, and establish multiple pathways for the County to secure water rights with the property. The Moon Pit site has two water supply wells, Well A (DESC 5750) and Well B (DESC 9126). Water right permit G-12860 associated with Well B has a maximum use rate roughly 10 times that of the estimated future landfill water needs. Although water rights were excluded from the sale of the Moon Pit property in the solicitation response letter, water rights are expected to be up for negotiation as the property holds limited value to the County (and presumably any other buyers) without these included.

Our team can provide supporting information to the County as it negotiates with Hooker Creek to secure the necessary water rights for landfill operations. Parametrix can also assist the County in exploring alternative options, such as applying for a new groundwater permit or acquiring offsite certificated water rights that can be transferred to the Moon Pit site for landfill operations. By identifying at least one other pathway for securing water rights, the County can secure its position with respect to water rights negotiations and the long-term security of onsite water supplies.

5.3 AGGREGATE RESOURCE EVALUATION AND COORDINATION

To support the Moon Pit property appraisal and facilitate a synergy between mining and excavation for subsidized landfill development costs, it is critical to understand the subsurface bedrock conditions underlying the site. Producing aggregates onsite can help offset the high excavation costs associated with shallow bedrock conditions. This additional scope of subsurface site characterization will reduce uncertainties about subsurface conditions and rock quality, which could otherwise lead to inaccurate land appraisals and cost estimates for landfill development and operations.

The current understanding of potential aggregate values across the site is limited. Hooker Creek has focused mine development on the northwest and southeast portions of the site, leaving other areas less explored. Previous explorations were limited to test pits, providing insufficient information about aggregate resources elsewhere on the site. To better characterize rock quality and refine the potential value and quantity of aggregate materials, additional explorations are necessary to increase data density.

The recommended explorations include additional borings and geophysics as presented in red on **Figure 9** (on page 20). An additional 14 borings are proposed with a total drilling footage of 700 feet, averaging 50-foot depth. These additional borings will be complemented by an additional 4 geophysical lines across the entire site and totaling 8,100 lineal feet. A laboratory testing program will also be completed in conjunction with the drilling to provide rock quality index data necessary for use assessment including unit weight, strength and durability. Further refining the understanding of subsurface conditions will reduce the uncertainty of potential onsite aggregate resources and help develop an adept understanding of the resources available to the County.

We will coordinate with the County's appraiser(s) to gather the data they need to estimate the economic value of aggregate resources onsite. A detailed scope and budget for the aggregate resource characterization can be prepared based on this coordination, if the County chooses to add this task to the project scope.

5.4 BLM ROW ASSIGNMENT & NEPA

Assist in assigning BLM rights-of-way and obtaining NEPA documentation and clearance. This includes supporting the development of Categorical Exclusion, Environmental Assessment, or Environmental Impact Statement as required by BLM for road access to the Moon Pit site.

- The access to and from the Moon Pit site on the paved access road is authorized by a 30-foot wide BLM right-of-way (ROW) grant held by Hooker Creek LLC. For ROW site access, Hooker Creek needs to apply to BLM to assign the County as the new grant holder. The right-of-way grant will likely need to be amended by the County to reflect the change in use of the access road and related impacts. From coordination with BLM, we understand that either of these applications (assignment and/or amendment) will require NEPA compliance. BLM is currently drafting a Categorical Exclusion to explore whether or not that will be sufficient. Otherwise, it may be determined that an Environmental Assessment or Environmental Impact Statement is required.
- **Categorical Exclusion (CE).** If BLM determines the reassignment and use of the existing road access to the Moon Pit site across BLM-owned land will not have a significant effect on the

environment and falls under a pre-designated category of actions that do not require an environmental assessment or environmental impact statement. Parametrix would provide support to BLM to complete the CE documentation and process by providing information on site conditions, surrounding uses, and anticipated effects of the planned landfill site. A CE could take a year or less to complete with a relatively low level of effort.

- **Environmental Assessment (EA).** If BLM determines the reassignment and use of the existing road access to the Moon Pit site across BLM-owned land may have a significant effect on the environment and cannot be classified as a CE, then Parametrix can support the development and process of an EA by either providing information to BLM or drafting the full EA, if requested. The EA would describe the purpose and need of the proposed action, describe affected environment and potential impacts from the proposed action and alternatives to the action, including the No Build Alternative. An EA would require a deeper analysis of natural resources, cultural resources, environmental justice, and other elements than a CE. If the EA determines no significant impacts are anticipated, the EA process ends and is documented with a Finding of No Significant Impact as the final decision. An EA could take 1–3 years to complete with moderate to high level of effort.
- **Environmental Impact Statement (EIS).** If BLM determines the reassignment and use of the existing road access to the Moon Pit site across BLM-owned land is likely to have a significant effect on the environment, Parametrix can support the development and process of an EIS by either providing information to BLM or drafting the full EIS and managing the EIS process, if requested. An EIS requires more process steps than an EA including Notice of Intent to conduct an EIS published in the Federal Register, an official scoping process with affected agencies, a public comment period for the Draft EIS, and a Record of Decision as documentation of the final outcome and selection of the preferred action. Like an EA, an EIS also describes the purpose and need of the proposed action, describes affected environment and potential impacts from the proposed action and alternatives to the action, including the No Build Alternative, and also includes mitigation options for significant impacts determined by the EIS. Additionally, an EIS would require a deeper analysis of natural resources, cultural resources, environmental justice, and other elements than an EA. An EIS could take 3–5 years to complete, with a high level of effort.
- If cultural resources are identified during the survey and these resources are determined to be adversely affected by the proposed project undertaking, additional consultation and the drafting of a Memorandum of Agreement (MOA) to address mitigation for these adverse effects will be required.

5.5 DOGAMI SURFACE MINING PERMIT TRANSFER

Parametrix can assist the County in transferring the DOGAMI (Department of Geology and Mineral Industries) surface mining permit. This involves submitting the Transfer of Surface Mining Permit form, along with a $2,000 fee, and proof of land ownership, among other checklist items. The transfer application can be submitted even before fully securing ownership. The new permittee must acknowledge and accept the existing reclamation plan, permit boundary map, site plan map, and permit conditions. Additionally, the new permittee must be registered to operate a business in Oregon and transfer any other site-associated permits as necessary.

Once the County secures ownership, the reclamation plan should be amended based on the landfill closure plan, using a process similar to the Knott Landfill DOGAMI permit operating form. An inspection by DOGAMI will be conducted to identify any permit compliance issues, which will be documented in an inspection report. A reclamation security bond is likely not required for the County as the new permittee. Finally, a permit amendment application will be submitted to update the reclamation plan and address any compliance issues identified in the inspection report.

5.6 PROJECT COST ESTIMATES

Prepare conceptual level cost estimates for each of the major projects that are expected to occur at the MPLF, as provided in the Site Development Plan. Cost estimates that have already been prepared by the project team during Phase 2 (Final Site Evaluation) will be refined and further developed under this task. Although not required for DEQ permitting, updated cost estimates at this level of design would support County financial planning for capital projects.

5.7 CEC ELCTRICAL LINE EXTENSION APPLICATION

Review Central Electric Cooperative (CEC) Electrical Service Requirements Manual, estimate electrical demands, coordinate with CEC for extension of 3-phase electrical service lines to the site, and submit a new electrical service application for the Moon Pit Landfill Site.

Extending 3-phase electrical service to the site will require approximately 9.5 miles of overhead utility line upgrades from the closest three-phase power connection point. Roughly 2.6 miles will consist of upgrading an existing single-phase pole line. New power poles and three-phase power lines will need to be extended an additional 7 miles to the landfill location, mostly along Highway 20. Easements may be required through BLM property. Phase 1 discussions with CEC approximated the cost of this upgrade at roughly $2,000,000 with a 50–60 week lead time for material acquisition.

5.8 PLANS, SPECIFICATIONS, AND OPINIONS OF PROBABLE COST

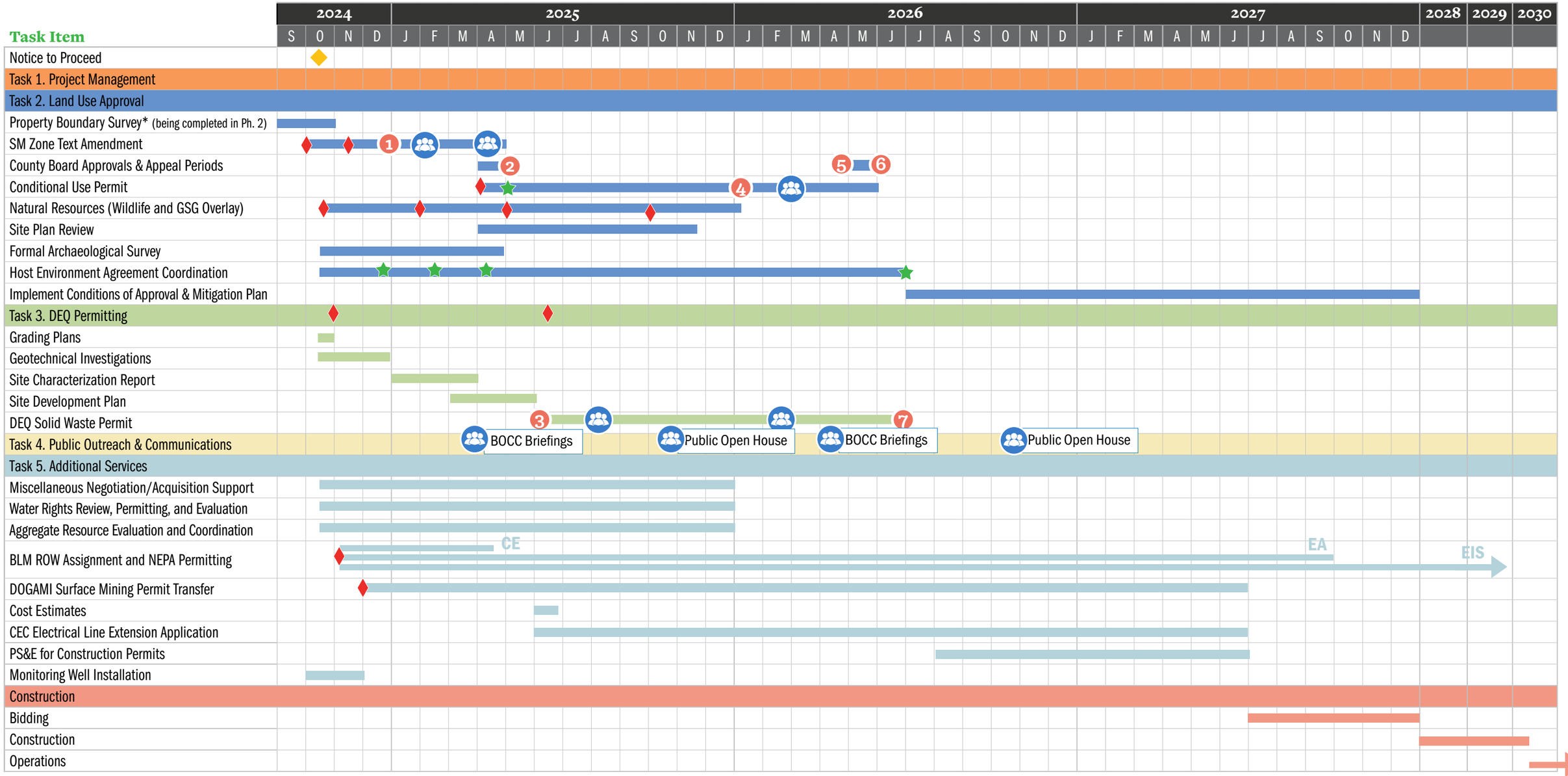
Develop detailed plans and specifications for Cell 1 construction, erosion and sediment control, onsite wastewater management, and supporting facilities. Prepare opinions of probable cost based on these plans and specifications to support bid review. The Parametrix team can assist with preparation of construction documents detailing the following:

- Initial landfill cell excavation, geosynthetic liner system, leachate system, etc.
- Monitoring wells, according to environmental management plan.
- New scale and scale house for solid waste and aggregate vehicles inbound and outbound.
- Access road improvements and new access roads within the landfill site.
- US Highway 20 intersection improvements, if required per Site Traffic Report and ODOT.
- Building to house maintenance activities and equipment.
- Office building for administrative functions.
- Electrical and telecommunications systems.
- Water storage and distribution systems to support landfill operations.
- Wastewater management facilities to serve office and maintenance buildings.
- Stormwater management facilities, including perimeter run-on ditches, landfill runoff ditches, and onsite infiltration/ evaporation ponds.
- Controls for erosion and sediment controls during and after construction.

5.9 MONITORING WELL INSTALLATION

If the existing water supply wells are deemed inadequate for Site Characterization, preparation of the EMP, and/or DEQ permitting, it may be necessary to install two new monitoring wells to assess the aquifer beneath the Moon Pit site. Each well would extend up to 900 feet below ground surface and constructed with 6-inch diameter PVC. The process includes developing and sampling the wells for landfill parameters, performing aquifer testing to estimate hydraulic properties, and using existing water wells for pump tests. Assumptions include the use of a geotechnical drill rig capable of reaching the first water-bearing zone at 850–900 feet, DEQ permitting the existing “A” well as a monitoring well and utilizing low flow bladder pumps similar to those at Knott. This work involves significant capital costs that could range up to $250k to cover hydrogeologic analysis, well design, drilling contractors, pump installation, and other expenses.

Project Schedule and Milestones



MILESTONES/MAJOR DELIVERABLES

1. Planning Commission Review of Surface Mining Text Amendment
2. Surface Mining Text Amendment Approval
3. Submit DEQ Solid Waste Permit Application and Site Dev. Plan for Review
4. Conditional Use Permit (CUP) Application Submitted and Deemed Complete
5. CUP Notice of Decision
6. CUP Approval and DEQ LUCS Signature by County Planning After 12-Day Appeal Period
7. Solid Waste Permit Approval and Issuance

Note: Outreach/communications activities are integrated within technical and permitting tasks

LEGEND

- Public Agency Meetings
- County Stakeholder Meetings
- Public Hearings/Meetings

Criterion 5. Cost Proposal

Our estimated total cost is shown below. The following page's Subconsultant Breakdown shows the hours and expenses associated with each subconsultant team's total cost.

	Parametrix																					Delve	Siemens	Consor	KAI	GFA	Siemens	
	R. Rudnick Engineer 4 / Project Mgr.	**D. Miller** Principal Consultant	**T. Neier** Sr. Engineer	**S. Phelps** Division Manager	**J. Hughes** Sr. Planner	**S. Robinson** Planner 2	**C. Kyro** Scientist/Biologist 2	**T. MacLean** Sr. Scientist	**S. O'Brien** Sr. Cultural Res. Specialist	**M. Sisneros** Cultural Res. Specialist 1	**S. Swedberg** Engineer	**K. Hufnagel** Sr. Engineer	**R. Malin** Sr. Hydrogeologist	**M. Lovejoy** Engineer 3	**S. Sokol** Engineer 4	**D. Norton** Engineer 4	**A. Butler** Sr. Engineer	**I. Lapina** Scientist/Biologist 3	**L. Benjamin** GIS Technician	**D. Hren** Sr. Project Controls Spec.	**D. Richter** Sr. Project Accountant	**R. Mellinger** Publications Supervisor	**Total Expenses ($)**							**TOTAL**
	$195	$325	$224	$277	$224	$125	$144	$242	$208	$126	$134	$282	$225	$147	$184	$192	$208	$178	$109	$135	$135	$158		Total Cost	Total Cost	Total Cost	Total Cost	Total Cost	Total Cost	
Task 1. Project Management	**440**	**256**									**16**									**144**	**88**	**16**	**-**	-	-	-	-	-	-	**$204,925**
1.1 General Project Management	80	40																		8	8									**$30,760**
1.2 Project Setup & Accounting	80	40																		60	40									**$42,053**
1.3 Subconsultant Management	120	40																		60	40									**$49,858**
1.4 Bi-weekly County Meetings	120	120																												**$62,414**
1.5 Project Document Management	40	16									16									16		16								**$19,840**
Task 2. Land Use Approval	**160**	**32**		**4**	**214**	**130**	**616**	**111**	**132**	**120**								**85**	**104**			**50**	**$6,998**	-	-	-	**$14,851**	-	-	**$321,304**
2.1 Task Management & Meetings	40	8		4	48	20	12	12	12																					**$31,889**
2.2 Surface Mining Text Amendment	16				40	30																6								**$16,786**
2.3 Conditional Use & Site Plan Review Application	16				120	80	60	16														16								**$55,059**
2.4 Cultural Resources Survey	12								120	120									10			8	$2,581							**$47,412**
2.5 Natural Resources Regulatory Compliance	22						444	69										85	94			16	$3,063							**$115,841**
2.6 Host Environment Agreement Coordination	48	24					100	14														4	$1,354				$14,851			**$36,940**
2.7 Traffic Impact Studies and Consultation	6				6																									**$17,367**
Task 3. DEQ Permitting	**548**	**180**	**36**								**296**	**48**	**40**	**200**	**56**	**32**	**8**					**104**	**-**	**$442,472**	**$72,840**	-	-	**$79,200**	**$86,210**	**$980,546**
3.1 Task Management & Meetings	160	40																						$35,480				$11,000		**$90,699**
3.2 Site Characterization Report	60	20	8								80		16									24		$10,200				$2,200	$21,900	**$72,448**
3.3 Grading Plans	60	8	4											40														$11,000		**$32,088**
3.4 Geotech. Investigations & Documentation																								$387,132	$72,840				$56,110	**$516,082**
3.5 Conceptual Design of LF Support Facilities	60	8	8								40	40	8	120	16													$6,600		**$61,763**
3.6 Site Development Plan	160	80	16								160	8	16	40	40	32	8					80		$9,660				$33,000	$8,200	**$172,749**
3.7 DEQ Application & Coordination	48	24									16																	$15,400		**$34,716**
Task 4. Public Outreach	**140**	**56**																	**24**				-	-	-	**$42,864**	-	-	-	**$90,990**
4.1 Plan Update/Coordination	16	8																								$10,736				**$16,458**
4.2 Public Outreach and Presentation Material	24	8																	24							$6,624				**$16,516**
4.3 Public Agency Meeting	16	8																								$4,092				**$9,814**
4.4 County Stakeholder Meetings	40	16																								$9,460				**$22,456**
4.5 Public Hearings	20	12																								$8,968				**$16,770**
4.6 Public Comment Reviews/ Responses	24	4																								$2,984				**$8,967**
Task 5. Additional Services	*Detailed scope and budget will be developed in coordination with the County for additional services.*																													
Total Hours Per Person	1288	524	36	4	214	130	616	111	132	120	312	48	40	200	56	32	8	85	128	144	88	170								
Total Cost	$251,315	$170,300	$8,075	$1,107	$47,995	$16,220	$88,706	$26,849	$27,456	$15,176	$41,928	$13,545	$8,990	$29,420	$10,321	$6,144	$1,661	$15,109	$13,913	$19,366	$11,823	$26,913	$6,998	$442,472	$72,840	$42,864	$14,851	$79,200	$86,210	**$1,597,764**

Subconsultant Cost Breakdown

This table shows the hours and expenses which contribute the subconsultant total cost shown in the table above.

	Delve											Siemens						Consor					Kittelson				GFA		PBS					
	B. Duevel Principal Engineer	**J. Schick** Principal Eng. Geologist	**S. Cordes** Associate Engineer	Associate Eng. Geologist	Sr Project Engineer	**J. Siemens** Project Engineer/Geologist	**A. Havekost** Staff Geologist	Design Technoligy Specialist 3	Project Controls 2	Admin 1	**Total Expenses ($)**	**A. Siemens** Principal Engineer	**Satish P.** Geophysicist	**Esther B.** Geophysicist	Geophysical Operations	Drafter	**Total Expenses ($)**	**A. Koenig** Project Manager	**K. Kollermeier** Project Coorindator	**N. Erickson** Project Accountant	**L. Barg Bakke** Advisor	**Total Expenses ($)**	**M. Kittelson** Associate Engineer	**J. Kuhn** Sr. Principal Engineer	Transportation Analyst	**Total Expenses ($)**	**G. Friesen** Sr. Principal Engineer	**Total Expenses ($)**	**T. Scott** Sr. Project Manager	Staff Geologist	Project Scientist	Field Scientist	Admin/CAD Drafting	**Total Expenses ($)**
	$270	$270	$195	$180	$165	$155	$125	$140	$130	$105		$260	$260	$260	$188	$120		$260	$162	$118	$312		$216	$291	$128		$275		$160	$110	$110	$90	$90	
Task 1. Project Management											-						-					-				-		-						-
1.1 General Project Management																																		
1.2 Project Setup & Accounting																																		
1.3 Subconsultant Management																																		
1.4 Bi-weekly County Meetings																																		
1.5 Project Document Management																																		
Task 2. Land Use Approval											-						-					-	**32**	**6**	**48**	**$67**		-						-
2.1 Task Management & Meetings																																		
2.2 Surface Mining Text Amendment																																		
2.3 Conditional Use & Site Plan Review Application																																		
2.4 Cultural Resources Survey																																		
2.5 Natural Resources Regulatory Compliance																																		
2.6 Traffic Impact Studies & Consultation																							32	6	48	$67								
2.7 Traffic Impact Studies and Consultation																																		
Task 3. DEQ Permitting	**24**	**74**	**236**	**328**	**300**	**382**	**60**	**60**	**14**	**8**	**$183,682**	**109**	**16**	**4**	**200**	**8**	**$840**					-				-	**288**	-	**84**	**294**	**66**	**12**	**20**	**$30,290**
3.1 Task Management & Meetings	6	26	36	100					14																		40							
3.2 Site Characterization Report		10	20	20																							8		44	98	24		16	
3.3 Grading Plans																											40							
3.4 Geotech. Investigations & Documentation	18	30	160	188	300	382	60	60		8	$183,862	109	16	4	200	8	$840												24	160	30	12		$30,290
3.5 Conceptual Design of LF Support Facilities																											24							
3.6 Site Development Plan		8	20	20																							120		16	36	12		4	
3.7 DEQ Application & Coordination																											56							
Task 4. Public Outreach											-						-	**110**	**56**	**8**	**4**	**$3,000**				-		-						-
4.1 Plan Update/Coordination																		32	6	8														
4.2 Public Outreach and Presentation Material																		18	12															
4.3 Public Agency Meeting																		12	6															
4.4 County Stakeholder Meetings																		24	6		4													
4.5 Public Hearings																		20	14															
4.6 Public Comment Reviews/ Responses																		4	12															
Task 5. Additional Services	*Detailed scope and budget will be developed in coordination with the County for additional services.*																																	
Total Hours Per Person	24	74	236	328	300	382	60	60	14	8		109	16	4	200	8		110	56	8	4		32	6	48		288		84	294	66	12	20	
Total Cost	$6,840	$19,980	$46,020	$59,040	$49,500	$59,210	$7,500	$8,400	$1,820	$840	$183,682	$28,340	$4,160	$1,040	$37,500	$960	$840	$28,600	$9,072	$944	$1,248	$3,000	$6,908	$1,745	$6,132	$67	$79,200	-	$13,440	$32,340	$7,260	$1080	$1,800	$30,290
Total Subconsultant Cost	**$442,472**											**$72,840**						**$42,864**					**$14,851**				**$79,200**		**$86,210**					

Parametrix Staff Billing Rates

Parametrix billing rates for 9/302024–9/30/2027.

	Min	Max
CADD Operator I	**$100**	$146
CADD Operator II	**$110**	$158
CADD Operator III	**$120**	$182
CADD Supervisor/Technical Lead	**$130**	$194
CADD Services Manager	**$150**	$218
Cultural Resource Specialist I	**$80**	$137
Cultural Resource Specialist II	**$90**	$147
Cultural Resource Specialist III	**$108**	$151
Cultural Resource Specialist IV	**$124**	$144
Sr. Cultural Resource Specialist	**$160**	$262
Jr. Designer	**$100**	$146
Designer I	**$115**	$177
Designer II	**$125**	$188
Designer III	**$135**	$213
Designer IV	**$150**	$218
Sr. Designer	**$165**	$286
Jr. Engineer	**$105**	$152
Engineer I	**$120**	$182
Engineer II	**$125**	$188
Engineer III	**$135**	$218
Engineer IV	**$160**	$243
Sr. Engineer	**$180**	$316
Sr. Consultant	**$235**	$359
Electrical Designer I	**$125**	$188
Electrical Designer II	**$140**	$207
Electrical Designer III	**$155**	$225
Electrical Designer IV	**$160**	$237
Sr. Electrical Designer	**$185**	$304
Electrical Engineer I	**$125**	$188
Electrical Engineer II	**$135**	$201
Electrical Engineer III	**$150**	$218
Electrical Engineer IV	**$170**	$255
Sr. Electrical Engineer	**$195**	$334
Jr. Surveyor	**$100**	$146
Surveyor I	**$110**	$158
Surveyor II	**$115**	$171
Surveyor III	**$125**	$188
Sr. Surveyor	**$135**	$250
Survey Supervisor	**$175**	$280
Jr. Inspector	**$100**	$146
Construction Inspector	**$120**	$182
Sr. Construction Inspector	**$135**	$201
Resident Engineer	**$145**	$225
Construction Manager I	**$155**	$225
Construction Manager II	**$165**	$250
Sr. Construction Manager	**$175**	$286
Owner's Representative	**$215**	$322
Division Manager	**$200**	$292
Regional Division Manager	**$215**	$322
Operations Manager	**$200**	$341

	Min	Max
Program Manager	**$235**	$346
Principal Consultant	**$230**	$371
Vice President/Sr. Vice President	**$250**	$371
Jr. Planner	**$100**	$146
Planner I	**$115**	$171
Planner II	**$120**	$182
Planner III	**$130**	$201
Planner IV	**$155**	$225
Sr. Planner	**$170**	$292
Jr. Scientist/Biologist	**$100**	$146
Scientist/Biologist I	**$115**	$171
Scientist/Biologist II	**$120**	$182
Scientist/Biologist III	**$130**	$201
Scientist/Biologist IV	**$155**	$225
Sr. Scientist/Biologist	**$170**	$292
Environmental Technician I	**$100**	$146
Environmental Technician II	**$110**	$158
Environmental Technician III	**$115**	$171
Jr. Hydrogeologist	**$100**	$146
Hydrogeologist I	**$115**	$171
Hydrogeologist II	**$120**	$182
Hydrogeologist III	**$135**	$201
Hydrogeologist IV	**$155**	$225
Sr. Hydrogeologist	**$170**	$292
GIS Technician	**$110**	$158
GIS Analyst	**$115**	$171
Sr. GIS Analyst	**$120**	$182
Graphic Designer	**$120**	$182
Sr. Graphic Designer	**$135**	$201
Publications Specialist I	**$95**	$140
Publications Specialist II	**$110**	$158
Sr. Publications Specialist	**$115**	$177
Publications Supervisor	**$130**	$194
Technical Editor	**$120**	$182
Sr. Technical Editor	**$130**	$194
Technical Aide	**$90**	$134
Sr. Technical Aide	**$100**	$146
Project Coordinator	**$110**	$158
Sr. Project Coordinator	**$115**	$171
Project Controls Specialist	**$120**	$182
Sr. Project Controls Specialist	**$135**	$201
Project Accountant	**$110**	$158
Sr. Project Accountant	**$120**	$182
Accounting Specialist	**$110**	$158
Sr. Accounting Specialist	**$115**	$171
Admin Assistant	**$90**	$134
Sr. Admin Assistant	**$100**	$146
Office Administrator	**$120**	$182
Sr. Office Administrator	**$130**	$194
Office Administrative Manager	**$155**	$225
Business Manager	**$165**	$250
Sr. Contract Administrator	**$135**	$201
Director of Risk Management	**$255**	$384
UAV Pilot	**$160**	$243
Expert Witness	**$355**	$529

Resumes

Return to Org Chart

A. Ryan Rudnick
B. Dwight Miller
C. Jennifer Hughes
D. Colton Kyro
E. Stephanie O'Brien
F. Shaun Cordes
G. Gerry Friesen
H. Aubrie Koenig

RYAN RUDNICK, PE | Parametrix

Project Manager

YEARS OF EXPERIENCE: 14 ■ YEARS WITH PARAMETRIX: 7 ■ BS, CIVIL ENGINEERING ■ PROFESSIONAL ENGINEER - CIVIL (OR)

Ryan is a civil engineer and project manager in Deschutes County with a wide range of infrastructure project experience for public and private clients. He served as deputy project manager for the Deschutes County Landfill Siting Study and Final Site Evaluations, which laid the foundation for this project's third phase of site acquisition and permitting. Ryan was born and raised in Deschutes County and has a strong understanding of local conditions. Ryan's work reflects not just a commitment to excellence in his profession, but also his dedication to the community he calls home.

Selected Project Experience

Landfill Siting Services | Bend, OR

Deschutes County

As a lead engineer and deputy project manager, Ryan played a pivotal role in the landfill facility siting process for Deschutes County. He led a diverse team of experts, developed the Site Selection Criteria, and oversaw the broad and focused screening evaluations of over 200 potential sites. Ryan coordinated with the Solid Waste Advisory Committee (SWAC), presenting findings and generating mapping for reports. His leadership was instrumental in the SWAC's recommendation of two sites, Roth East and Moon Pit, for extensive investigation.

Phase 2 Final SWMF Site Evaluation | Bend, OR

Deschutes County

In the second phase of the landfill siting process for Deschutes County, Ryan continued to lead the project team in conducting detailed field studies and analyses of the Roth East and Moon Pit sites. This included geotechnical investigations, drone photogrammetry surveys, site traffic analyses, cultural resources surveys, and more. Ryan's coordination with site owners, regulatory agencies, and stakeholder groups ensured a thorough evaluation process. His efforts contributed to the SWAC's unanimous recommendation and the Board of County Commissioners' selection of the Moon Pit site for the new landfill in summer 2024.

Phase 3 Landfill Master Plan | Walla Walla, WA

City of Walla Walla

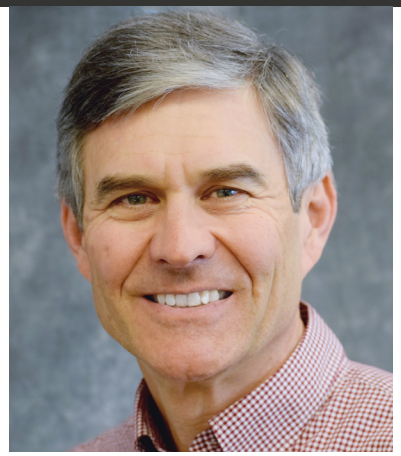
The Facilities Master Plan (FMP) for the City of Walla Walla's Sudbury Road Landfill outlined capital projects for core landfill elements, supporting landfill elements, and other discretionary solid waste management programs, all aimed at maintaining and enhancing landfill operations and environmental controls. This included essential capital investments in new cell and area construction, completed cell and area closures, environmental controls, a replacement self-haul drop-off area, customer scale facility enhancements, a new landfill equipment maintenance building, and more. Ryan assisted in preparation of the narrative, cost estimates, and drawings for the FMP.

Terrebonne Wastewater Feasibility Study | Terrebonne, OR

Deschutes County

Ryan served as the project manager and lead engineer for this project exploring the feasibility of a public wastewater system in Terrebonne. This wastewater planning effort involves land use planning, coordination with County staff, utilization of GIS resources, public outreach, and preliminary design. Ryan led a team of Parametrix staff and subconsultants that worked with local stakeholders to form the Terrebonne Sanitary District, facilitate intergovernmental agreement (IGA) with Deschutes County and the City of Redmond for wastewater treatment services, design the wastewater collection system, and apply for over $5 million in infrastructure grant/loan funding.

DWIGHT MILLER, PE, ENV SP | Parametrix



Principal-in-Charge

YEARS OF EXPERIENCE: 39 ■ YEARS WITH PARAMETRIX: 39 ■ MS, ENVIRONMENTAL ENGINEERING; BS, ENVIRONMENTAL SCIENCE
PROFESSIONAL ENGINEER - CIVIL (WA, ID, NE) ■ ENVISION SUSTAINABILITY PROFESSIONAL ■ OSHA 40-HOUR HAZWASTE OPERATOR

Dwight has extensive civil and environmental engineering experience. He manages solid and hazardous waste projects involving waste management comprehensive planning, facility siting, design, construction, permit compliance, and operation. He has experience in regulatory analysis and permit compliance and negotiation for solid waste facilities development, closure, and post-closure. Dwight has successfully managed landfill and transfer station siting, permitting, design, and construction projects throughout the Northwest and Hawaii. As a senior manager, he has also been responsible for implementing project management systems within the firm and training staff as project managers.

Selected Project Experience

Landfill Siting Services | Bend, OR

Deschutes County

Dwight led a multidisciplinary team of engineers, scientists, and planners to site and permit a new solid waste management facility in Deschutes County, including a new MSW landfill. This work began with the development of a siting approach and siting criteria followed by the implementation of the siting approach to conduct broad and focused site screening. Two sites were ultimately identified for extensive site reconnaissance and selection of a preferred location. Dwight led the project team through this field and office work effort, which included extensive collaboration with the client, the SWAC, and numerous agencies and non-governmental organizations. This phase of the project culminated in the SWAC recommendation of a preferred site for BOCC ultimate approval.

Ephrata Landfill Engineering Services | Ephrata, WA

Grant County

As project manager and later principal-in-charge, Dwight has managed planning, design, construction, corrective action, and compliance work for Grant County for over 25 years. Most recently, this has included the development of long-term disposal alternatives for the county to choose between continuing in-county landfill disposal or long-haul to a regional facility. This work included the conceptual siting evaluation of a new in-county landfill site and a transfer station for long-haul of solid waste. Dwight is now working with Parametrix staff to support County solid waste leaders in presenting the alternatives to the county SWAC and BOCC for an ultimate decision on long-term disposal later in 2024. He has also supported staff in the development of plans, specifications, and engineer's opinion of probable cost (PS&E) for the landfill expansion and the technical elements of the corrective action. The latter includes a work plan, remedial investigation/feasibility, and remediation design.

Solid Waste and Moderate Risk Waste Management Plan Phase 2 | Walla Walla, WA

City of Walla Walla

Dwight has worked with the City of Walla Walla on various solid waste projects over the past 20 years, including compost facility design and permitting, closed landfill corrective action, and facility master planning. As principal-in-charge, he continues to support the Parametrix solid waste team on solid waste management planning and facility master planning.

Okanogan County Solid Waste | Okanogan, WA

Okanogan County

As the project manager and now principal-in-charge, Dwight has coordinated the update of the landfill solid waste permit to meet current state solid waste regulations (WAC 173-351); managed preparation of PS&E; and provided engineering construction services. The facility includes a fully composite-lined MSW landfill with leachate collection, treatment, and recirculation. Dwight continues to provide senior engineering review for periodic PS&E preparation and annual environmental systems monitoring reports.

JENNIFER HUGHES | Parametrix

Land Use Planning Lead

YEARS OF EXPERIENCE: 22 ■ YEARS WITH PARAMETRIX: 21 ■ MASTER OF URBAN AND REGIONAL PLANNING; BS, PHYSICAL GEOGRAPHY

A senior planner at Parametrix, Jennifer has 22 years of experience leading complex environmental planning projects, land use processes, and assessment of environmental impacts in the Pacific Northwest. Jennifer leads technical analysis on a variety of land use and environmental planning topics and manages land use permitting processes from large mitigation banking projects in the Columbia River Gorge National Scenic Area to zone and comprehensive plan amendments in multiple jurisdictions. Her technical skills also include code writing and code analysis. Jennifer is a trusted resource for her clients and brings a focus on collaboration and attention to detail to all her efforts.

Selected Project Experience

Landfill Siting Services | Deschutes County, OR

Deschutes County

Parametrix conducted due diligence research for the Deschutes County landfill siting process creating siting criteria with and reviewing and comparing potential sites through a broad screening process and focused screen process. Jennifer supervised and participated in the development and use of the land use criteria evaluating potential impacts to activities on or near a landfill site and conformity with zoning and comprehensive plan designations. She also collaborated with the County's planning staff to consider several land use solutions for potential landfill sites and determine a preferred strategy for each.

Private Campground Shoreline Conditional Use Permit and SEPA Checklist | Salkum, WA

Cowlitz Timber Trails Association (CTTA)

CTTA is a private membership based campground along the Cowlitz River in Lewis County, Washington established before the Washington State Shoreline Management Act. The campground includes over 200 recreational vehicle sites within the Lewis County Shoreline Master Program (SMP) jurisdiction area, and CTTA was under a building moratorium until the site could be approved under the latest Lewis County SMP regulations. Jennifer evaluated code requirements for this unusual site and proposed a programmatic solution to allow for growth over time within approved limits without the need for frequent individual SMP reviews. Her collaboration with the Department of Ecology and Lewis County were critical to the success and ultimate approval of the application.

Pilot Butte Canal Modernization | Bend, OR

Central Oregon Irrigation District

The Central Oregon Irrigation District contracted with Parametrix to complete an EIS and related documentation for modernization of the main stem of Pilot Butte Canal in Deschutes and Jefferson Counties, Oregon. Jennifer is evaluating land use and community impacts from the proposed drainage improvement project.

Ellis Reserve Permitting and Design | Scappoose, OR

Heidelberg Materials

Jennifer is preparing a Post Acknowledgement Plan Amendment application for the siting of a new aggregate mine in Columbia County, Oregon that requires a rezone, establishment of a goal five significant resources in the County Comprehensive Plan, and a Site Design Review. Jennifer is working with the design engineers and County staff to facilitate a design that will comply with site requirements and be consistent with the Comprehensive Plan goals and policies while facing potential public opposition. Jennifer is working with the design engineers and County staff to facilitate a design that will comply with site requirements and be consistent with the Comprehensive Plan goals and policies while facing potential public opposition.

COLTON KYRO | Parametrix

Natural Resources Lead

YEARS OF EXPERIENCE: 5 ■ YEARS WITH PARAMETRIX: 2 ■ MS, SYSTEMS ECOLOGY; BS, ECOSYSTEM SCIENCE AND RESTORATION

Colton is a scientist with a diverse array of applied natural resource expertise needed to provide clients with the necessary information to make calculated and informed decisions. He brings a robust understanding of wetland and stream ecology, fish and wildlife surveys, botanical and habitat assessments, and natural resource permitting. Colton has worked on a variety of infrastructure projects, providing technical writing and field work expertise. His experience at technical writing includes Endangered Species Act (ESA) biological assessments, mitigation plans, NEPA/SEPA documentation, wetland and waters delineation reports, and JPA preparation.

Selected Project Experience

Landfill Siting Services | Deschutes County, OR

Deschutes County

Parametrix conducted a feasibility study of future landfill sites and associated facilities development constraints. Colton worked with Deschutes County, ODFW, non-profit advocacy groups, and other stakeholders to compile the critical information necessary for landfill siting, including permitting constraints for key natural resources at each site, including greater sage grouse, eagles, ESA species, and other sensitive natural resources. Colton led biological and natural resource surveys and was the lead author on final selection documentation outlining preliminary project permitting and mitigation recommendations. He also participated in Deschutes County Commissioner public meetings and authored a mitigation memorandum to provide further expertise and guidance for the Commissioner's final decision.

Ellis Reserve Permitting and Design | Scappoose, OR

Heidelberg Materials

Parametrix is supporting Heidelberg Materials by assisting in the design and leading natural resource permitting for the development of a sand and gravel mine near Scappoose. Colton is the lead author for the biological assessment and has coordinated with U.S. Fish and Wildlife Service and National Marine and Fisheries biologists on impacts to protected species, construction and design best management practices, and mitigation requirements to disturbed habitats. He is also assisting in preparation of the JPA and accompanying mitigation plan for potential impacts to waters and wetlands.

Medford ID WP-EIS | Medford, OR

Farmers Conservation Alliance

Parametrix is supporting FCA by leading NEPA documentation for a 13-mile pipeline irrigation modernization project. Colton is the technical project manager and is the lead author for the biological assessment and fish and water resources sections of the NEPA EIS and accompanying technical reports. He is also assisting in wetland and waters delineation field work and is conducting preliminary assessment for project permitting recommendations.

Raptor and Sensitive Bird Surveys | Redmond, OR

Oregon Parks and Recreation Department

Parametrix supported OPRD on determining the effects of recreational activities in Peter Skene Ogden State Scenic Viewpoint on nesting raptors. Colton coordinated with OPRD biologists on developing a monitoring protocol and led field efforts for observing nesting raptors including bald eagle and red-tailed hawk. Colton also was the lead author for a report outlining the results of the raptor nesting monitoring and providing recommendations for managing recreational activities and protected species in the area.

STEPHANIE O'BRIEN | Parametrix

Cultural Resources Lead

YEARS OF EXPERIENCE: 13 ■ YEARS WITH PARAMETRIX: 1 ■ MA, SOCIAL SCIENCES; BA, ANTHROPOLOGY

Stephanie is a professional archaeologist and historian in accordance with the Secretary of the Interior's standards with over ten years of archaeological consulting experience in the Pacific Northwest. She specializes in designing and implementing archaeological field investigations, historical archaeology, and lithic analysis. Stephanie brings depth and breadth of experience from throughout the Pacific Northwest and specializes in Columbia Plateau and Great Basin archaeology. Stephanie has extensive experience providing appropriately scaled cultural resources support to private, local government, public service, and non-profits throughout Eastern Washington and Oregon.

Selected Project Experience

Hamehook Road Bridge Replacement | Bend, OR

Deschutes County

Stephanie acted as the principal investigator and supervised archaeological staff conducting field surveys. She also coordinated with Bureau of Reclamation archaeologists to address Reclamation-owned facilities within the area of potential effect and to ensure evaluations were conducted to Reclamation standards. The cultural resources technical report was submitted to Reclamation, SHPO, and consulting tribes.

Medford ID WP-EIS | Medford, OR

Farmers Conservation Alliance

Stephanie acted as the senior archaeologist and coordinated with irrigation district staff and Bureau of Land Management archaeologists to submit the necessary permits for archaeological survey. Stephanie supervised junior cultural resource specialists surveying the project for impacts to significant cultural resources. She performed quality control reviews, ensuring the cultural resource site evaluations met state and national guidelines. The cultural resources technical report is currently underway.

Mill Creek Passage 5th Avenue Bridge | Walla Walla, WA

Tri-State Steelheaders

Stephanie is the principal investigator for this bridge project. She conducted records review, archival research, field investigations, and participated in the consultation process with agencies and tribes to form the mitigation strategy for a Memorandum of Agreement drafted to address adverse effects to cultural resources. Stephanie worked directly with consulting tribes to form the field investigation strategy to address cultural resource concerns. Stephanie also advised on media requests for additional information regarding the project. A cultural resources technical report is currently underway.

Data Center Campus | Northern Oregon

Confidential Client

Stephanie was the principal investigator for this project. She oversaw records review, supervised archaeological survey and resource evaluations, advised on avoidance strategies for cultural resources, conducted a review of visual effects to cultural resources, and co-authored the cultural resources technical report.

Data Center Due Diligence Project | Northern Oregon

Confidential Client

Stephanie acted as the senior archaeologist for this project. She reviewed cultural resources field methods and technical deliverables, conducted archaeological site recording, and co-authored the cultural resources technical report. Stephanie also conducted record reviews at tribal offices to access confidential information regarding historic properties of religious and cultural significance to Indian tribes (HPRCSIT).

SHAUN CORDES, CEG, RG | Delve Underground

Geotechnical Investigation

YEARS OF EXPERIENCE: 11 ■ MS, GEOLOGY; BS, GEOLOGY ■ CERTIFIED ENGINEERING GEOLOGIST (OR) ■ REGISTERED ENGINEERING GEOLOGIST (WA)

Shaun is an engineering geologist with 11 years of experience working in the fields of geotechnical engineering and engineering geology throughout the West Coast. His experience includes subsurface characterization, geohazard assessments, geologic mapping, GIS analysis, and project management, coupled with a deep understanding of regional and local geologic conditions and their implications for civil works.

Selected Project Experience

SWMF Site Evaluations Phase 2 | Deschutes County, OR

Deschutes County

As the project manager and technical lead for the preliminary geotechnical assessment of the Moon Pit and Roth East parcels, Shaun coordinated and managed preliminary geotechnical explorations and site reconnaissance and was the primary author for both reports. He assessed regional geomorphic conditions to identify faults and structural lineaments and performed a robust literature review to establish stratigraphy and to assign relative ages to geomorphic features truncated by faults within the vicinity of both sites. Shaun provided preliminary constructability considerations for both sites for the project team to assess site development costs.

Rainbow Bridge Technical Services | Boise, ID

Idaho Transportation Department

Shaun served as the subsurface exploration manager for the geotechnical exploration of 18 difficult access borings for designing a replacement bridge. He performed extensive geologic mapping and slope reconnaissance during the preliminary phase of the project and performed geomorphic analysis to identify slope hazards throughout the canyon corridor to identify trends and to compare slopes adjacent of the proposed new bridge. Shaun characterized rock mass along highway road cuts, and field checked geomorphic features identified in LIDAR reviews.

Subsurface Investigation Support | Durkee, OR

Ash Grove Cement

Shaun provided technical support and GIS analyses for drilling exploration program to mitigate slope failure downslope of key site infrastructure. He oversaw UAS LiDAR and acquisition and site-specific surveys. He also provided oversight and QA/QC for the drilling program for a new mill foundation.

Muddy Road Improvements and Realignment | Wasco County, OR

Wasco County

Shaun was the technical lead and project manager for assessing slope conditions and geologic mapping of a 10-mile section of roadway. He characterized rock mass from outcrops, performed GIS analysis using site-specific UAS derived photogrammetry and LiDAR, and assessed three quarry locations for potential on-site aggregate sources. He was the lead author of the geotechnical data report and completed design for the rock fall attenuator and draped mesh systems to mitigate rockfall hazards along a 3000-foot section of the corridor.

GERRY FRIESEN, PE | GFA

Landfill Engineer

YEARS OF EXPERIENCE: 42 ■ MASTER OF SCIENCE; BACHELOR OF SCIENCE ■ PROFESSIONAL ENGINEER (OR, WA)

Gerry is a registered professional engineer with 42 years of experience in environmental engineering, particularly in developing municipal solid waste landfills. His many solid waste management projects have included facility siting studies; site development and closure plans; landfill design and construction including composite liner systems, surface water management system, leachate treatment and landfill gas control facilities; and facility operating plan preparation.

Selected Project Experience

Knott Landfill | Bend, OR

Deschutes County

Gerry led preparation of site development plan; assistance in obtaining DEQ approval for 135-acre MSW landfill disposal area; design and construction of eight MSW refuse cells; assistance in permitting of leachate recirculation system; design of surface water management system and preparation of closure plan.

Finley Buttes Regional Landfill | Boardman, OR

Boardman Waste Connections

This project involved reparation of site development plan; assistance in obtaining DEQ approval for 100 million cubic yard vertical expansion; preparation of fill sequencing plans; design and construction of MSW refuse cells; design and construction of surface water and landfill gas collection and control system; and coordination of alternative earthen cover demonstration project.

Crook County Landfill | Prineville, OR

Crook County

This project involved preparation of site development plan; assistance in obtaining DEQ approval for 69-acre MSW landfill disposal area and 48-acre C&D disposal area; assistance in permitting of leachate recirculation system; and preparation of closure plan.

Short Mountain Landfill | Eugene, OR

Lane County, OR

This landfill project involved reparation of site development plan; assistance in obtaining DEQ approval for 43-million cubic yard MSW lateral landfill expansion; preparation of plans, specifications, engineering report, and CQA plan for 18-acre MSW landfill expansion; preparation of fill sequencing plans; and preparation of plans and specifications for leachate treatment building.

Roosevelt Regional Landfill | Roosevelt, WA

Republic Services

Gerry led preparation of site development plan; assistance in obtaining regulatory agency approval; preparation of alternative final cover analysis; preparation of plans and specifications for eight MSW lateral expansion areas and five incinerator ash disposal cells; preparation of fill sequencing plans; and CQA certifying engineer for over 150 acres of lined area.

West Hawaii Landfill | Waikoloa, HI

Waste Management

For this Waste Management site, Gerry led preparation of site development plan; assistance in obtaining regulatory agency approval for new MSW landfill; surface and subsurface investigations; preparation of site operating plan; preparation of plans and specifications for first of two refuse cells; preparation of final grading plan; design of landfill final cover, surface water management system and LFG control system.

AUBRIE KOENIG | Consor

Public Outreach Lead and Facilitator

YEARS OF EXPERIENCE: 19 ■ BACHELOR OF THE ARTS ■ PROJECT MANAGEMENT CERTIFICATE

Aubrie is an experienced facilitator and certified public involvement specialist who partners with agencies like Deschutes County to design effective community engagement strategies that lead to sustainable decisions and keep projects moving. She is currently supporting permitting outreach for large-scale water infrastructure projects in Oregon and facilitating an advisory group for the City of Bend that includes representation from state regulators and local environmental interests. She is adept at leading advisory groups and public meetings, as well as presenting and preparing briefings on complex topics.

Selected Project Experience

Bull Run Treatment Program | Portland, OR

City of Portland Water Bureau

Aubrie is the project manager and communications lead for this project. She is providing communication strategy and content development to inform and involve community members and other stakeholders about significant multi-year improvements to enhance overall reliability and resilience of the Bull Run supply. The program includes a greenfield 135-million-gallon-per-day water filtration facility and approximately 4 miles of large-diameter pipeline. This work includes permitting outreach, advisory group coordination, community events, annual reports to council, public opinion research, digital media outreach, monthly newsletters, and stakeholder briefings.

Solid Waste Management Facility Siting | Deschutes County, OR

Deschutes County

As the communications lead for this project, Aubrie supported the County's communications strategy and stakeholder outreach during the siting evaluation study. This included communications with the SWAC, BOCC, property owners, and other interest groups; designing fact sheets, display boards, and other informational materials; and developing news releases, responses to frequently asked questions, project webpage updates, and an online open house.

Utilities Public Advisory Group | Bend, OR

City of Bend

Aubrie is working with Utilities Department staff to facilitate engagement with nearly 20 community members representing a cross section of professional and lived expertise in water. The group includes environmental interests, state regulators, and other stakeholders who are providing feedback on the City's water conservation and stormwater management policies and programs.

Waterwise Program Outreach and Committee Facilitation | Bend, OR

City of Bend

As the communications lead and facilitator, Aubrie helped facilitate a virtual engagement process with the City's nine-member Environment and Climate Committee. The goal was to gather policy-level advice on best-suited strategies to implement new indoor and outdoor water efficiency standards. This work included developing the engagement strategy, presentation content, feedback surveys, and other materials.

McKenzie River Supply Project | Springfield, OR

Springfield Utility Board

Aubrie developed and is helping to implement a communication strategy to guide multi-year permitting, design, and construction of new drinking water system improvements. The project includes a new raw water intake on the McKenzie River and a new membrane filtration plant.