BEFORE THE METRO COUNCIL

FOR THE PURPOSE OF AUTHORIZING THE RELEASE OF REQUEST FOR PROPOSALS NO. 03-1066-SWR FOR A REMEDIAL INVESTIGATION AND FEASIBILITY STUDY OF ST. JOHNS LANDFILL	)))))	RESOLUTION NO. 03-3318 Introduced by Mark Williams, Interim Chief Operating Officer, with the concurrence of David Bragdon, Council President

WHEREAS, Chapter 465 of the Oregon Revised Statutes requires that the Oregon Department of Environmental Quality (DEQ) develop and maintain a list of facilities where a release of hazardous substances to the environment has been confirmed, and an inventory of facilities that need further investigation, removal, remedial action, long-term environmental controls or institutional controls to assure protection of present and future public health, safety, welfare, or the environment; and,

WHEREAS, in 1995 the DEQ added Metro St. Johns Landfill to both the Confirmed Release List and Inventory; and,

WHEREAS, on the basis of these listings and rules promulgated to address them, DEQ intends to issue to Metro a Closure Permit and Consent Order requiring a Remedial Investigation to determine the nature and extent of release of hazardous substances, including an assessment of risks posed by those substances to human health and the environment, and a Feasibility Study of options for remediation; and,

WHEREAS, Metro will be required under the Closure Permit and Consent Order to procure the professional services of qualified consultants with special technical expertise needed to perform a Remedial Investigation and Feasibility Study; and,

WHEREAS, the Remedial Investigation and Feasibility Study involves a formal stepwise process requiring approval by the Oregon Department of Environmental Quality at the end of each of 3 key phases before proceeding to the next phase; and,

WHEREAS, the scope and schedule for the second and third phases must be set forth after the first phase in amendments to the contract with qualified consultants; and,

WHEREAS, if Metro determines for any reason that contract amendments are not desirable to establish workscope detail and costs for the second and third phases of the Remedial Investigation and Feasibility Study, Metro reserves the right to issue a new RFP and procure contracted professional services for one or both subsequent phases; and,

WHEREAS, the Metro Code, Section 2.04026 requires Metro Council approval of all multi-year contracts which commit Metro to expenditures beyond the current fiscal year; and,

WHEREAS, the Metro Council identified the funds for these contracts in the Metro Budget as having a "Significant Impact", thereby requiring Council approval prior to release of the Request for Proposal; now therefore,

BE IT RESOLVED

1. that the Metro Council authorizes the release of RFP #03-1066-SWR for a Remedial Investigation and Feasibility Study of St. Johns Landfill substantially similar to that attached as Exhibit A; and,

2. that the Metro Council, pursuant to Section 2.04.026 of the Metro Code, authorizes the Chief Operating Officer to execute a contract with the most responsive proposer for Phase 1 of the Remedial Investigation and Feasibility Study; and,

3. that the Metro Council directs staff to complete Phase 1 and then return to the Metro Council for authorization to amend the contract with the selected consultant or issue a new RFP for Phase 2 and Phase 3.

ADOPTED by the Metro Council this 1st day of May, 2003.

David Bragdon, Council President

Approved as to Form:

Daniel B. Cooper, Metro Attorney

APPROUVÉ APPROVED METRO COUNCIL METRO CONSEIL MÉTROPOLITAINE

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Exhibit A to Resolution No. 03-3318

Request for Proposals for St. Johns Landfill Remedial Investigation & Feasibility Study

RFP #03-1066-SWR

Prepared By:

Solid Waste and Recycling
Engineering Services Division
600 NE Grand Ave
Portland, OR 97232-2736
(503) 797-1650
Fax (503) 797-1795
www.metro-region.org

May 2003

METRO

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REQUEST FOR PROPOSALS

For

Remedial Investigation and Feasibility Study

I. INTRODUCTION

The Solid Waste and Recycling Department of Metro, a metropolitan service district organized under the laws of the State of Oregon and the Metro Charter, located at 600 NE Grand Avenue, Portland, OR 97232-2736, is requesting written proposals for a Remedial Investigation and Feasibility Study (RI/FS) of St. Johns Landfill in Portland, Oregon.

Proposals will be due no later than _____, in Metro's business offices at 600 NE Grand Avenue, Portland, OR 97232-2736.

Metro is seeking proposals from firms that have experience in conducting RI/FS projects to address environmental risks that may relate to the release of hazardous substances to groundwater. Proposals must demonstrate how the proposed project team is uniquely qualified to conduct an effective RI/FS at St. Johns Landfill in accordance with a consent order to be issued by the Oregon Department of Environmental Quality (DEQ).

Chapter 465 of the Oregon Revised Statutes, as promulgated by Chapter 341, Division 122 of the Oregon Administrative Rules, provides the regulatory framework for the consent order and the RI/FS project.

On April 10, 2003 DEQ initiated a 40-day period for public comment on the draft consent order attached to this RFP (Attachment 1). It is Metro's understanding that the consent order will be issued shortly after the end date of the public comment period.

Based on its evaluation of written proposals, Metro may prepare a short list of respondents, each of which will be invited to a separate interview with Metro. Interview instructions will be provided in a standard invitation to each short-listed respondent. The interviews will provide Metro with additional information needed to select one respondent for award of a contract.

Metro's selection of a proposal for contract award is subject to DEQ approval, consistent with Section 7.A of the consent order. In the event DEQ disapproves, Metro may require modifications of the proposal by the respondent, or may select another respondent.

Metro intends to structure the contract around three distinct phases of the RI/FS, as follows.

A. Remedial Investigation / Feasibility Study Project Phases

Phase 1

- RI Proposal
- RI Work Plan

Phase 2

- RI Implementation & Report
- Risk Assessment (Work Plan, Implementation & Report)

Phase 3

- Feasibility Study (Work Plan, Implementation & Report)

The statement of work included in this RFP, and scope of work included in the attached consent order, generally describe the services required to complete all three phases of the RI/FS. However, the specific nature and extent of the work required for phases 2 and 3 are dependent on details to be provided in the DEQ-approved RI Work Plan (from Phase 1) and Risk Assessment Report (from Phase 2), respectively, as well as on DEQ comments about these documents.

While respondents to the RFP are instructed to provide information in support of their qualifications to provide services required to complete all three phases (see Section VI, Proposal Contents), the cost proposal should include a cost for Phase 1 only.

For each of phases 2 and 3, Metro may, at its discretion, negotiate a contract amendment to establish workscope detail, total cost for all work required during the phase, and a schedule. As an alternative, Metro reserves the right to issue a new RFP and procurement process for services required to complete one or both of phases 2 and 3, depending on an assessment of factors that include, but are not necessarily limited to, cost, schedule and consultant performance.

Details concerning the project and proposal submissions are contained in this document, including all attachments.

II. PROJECT BACKGROUND

St. Johns landfill (SJLF) is owned by Metro and managed by Metro's Solid Waste and Recycling Department. It is a 240-acre closed municipal solid waste landfill, located at 9363 North Columbia Boulevard, Multnomah County, Oregon.

SJLF is part of the 2000-acre Smith and Bybee Lakes Wildlife Area. The Wildlife Area is managed by Metro's Parks and Greenspaces Department, and is located on the north Portland peninsula, near the confluence of the Columbia River and the Willamette River.

The landfill is bordered by the Columbia Slough on its southwest and northwest flanks, the North Slough (arm of the Columbia Slough) on its northeast flank, and Smith Lake wetlands on the southeast. Surface water movement in the Columbia Slough and North Slough is influenced by the daily tides.

Groundwater movement in the vicinity of the landfill is complex. Before waste disposal began, the landfill area was a shallow, seasonal lake. The lake's bottom was composed of a layer of relatively impermeable overbank silt. This silt transmits groundwater very slowly and helps limit leakage through the landfill bottom. Below the silt, in some locations, is a more porous sand layer that transmits water at a moderate rate. Below the silt and sand layers is a sand and gravel formation that transmits groundwater at a relatively high rate. This sand and gravel formation, is a productive, area-wide aquifer.

From approximately 1932 until it was closed to disposal in 1991, the landfill accepted a variety of municipal and industrial wastes, and ash from a nearby solid waste incinerator, which operated until the early 1970s.

Although the majority of the waste in the landfill is domestic solid waste, from 1958 to 1962 the landfill received industrial waste that included approximately 5,000 drums of pesticide manufacturing waste from the nearby Rhone-Poulenc facility. This waste included chemical residues from the manufacture of herbicides 2,4-D; MCPA; and 2,4,5-T.

To reduce leachate generation and impacts to surface water and groundwater, a "cap", or cover, was constructed over the entire landfill, from 1992-1996. The cover included compacted clay/silt immediately above the solid waste, a plastic membrane, drain sand, and topsoil. The cover project included construction of an active gas collection system to remove and control landfill gas.

Landfill gas is composed mainly of methane and carbon dioxide but contains low levels of some volatile organic compounds (VOCs). Most of the collected gas is processed through an on-site compressor station and piped nearly two miles to Ash Grove Cement Company, where it is used as an energy source. Gas that is

not piped to Ash Grove is directed to an on-site flare facility for high temperature combustion, under an Oregon Title V Operating Permit.

Various inorganic and organic pollutants, including hazardous substances, have been detected in monitoring wells screened in the hydrogeological formations described above, and in the solid waste.

Groundwater quality next to the landfill has been monitored since the 1970s and a network of 30 monitoring wells is now sampled twice-per-year. Additional wells within the landfill are used to monitor the leachate and landfill gas. Water samples from groundwater monitoring wells surrounding the site and within the landfill area are analyzed for general chemical properties and for hazardous contaminants such as lead, mercury, volatile organic compounds, PCBs and pesticides. Since 1994 groundwater pressure has been monitored continuously or monthly by a network of on-site and off-site piezometers.

In 1996, the Oregon Department of Environmental Quality (DEQ) placed SJLF on two formal lists of contaminated sites known as the Confirmed Release and Inventory Lists, under Chapter 465 of the Oregon Revised Statutes. The lists identify sites in Oregon that have had a confirmed release of hazardous substances and require cleanup, consistent with Chapter 341, Division 122 of the Oregon Administrative Rules.

The original confirmed release list for St. Johns Landfill included 24 hazardous substances that exceeded any state or federal drinking water standard. The site Environmental Monitoring Plan (EMP), approved by DEQ in February 2001, requires that other substances be added to the original list, if warranted, based on criteria specified in the plan. Those criteria include exceedence of any of the applicable groundwater quality standards identified in the EMP, or a first-time detection of any constituent of the volatile organic, semi-volatile organic, pesticide, herbicide, and PCB parameter groups.

As of 2002, 8 hazardous substances had been added to the original list of 24 substances, consistent with procedures specified in the EMP. The current list includes 20 volatile organic compounds, 1 semi-volatile compound, 10 trace metals, and 1 pesticide. The hazardous substances discussed above are shown in the attached list.

DEQ intends to issue a renewed Solid Waste Disposal Site Closure Permit for St. Johns Landfill. DEQ will also issue a Consent Order designed to address issues of environmental contamination related to hazardous substances on the confirmed release list. The Consent Order will establish a process for a Remedial Investigation and Feasibility Study (RI/FS). The prospective RI/FS is the subject of this Request for Proposals.

In addition to DEQ and Metro, anticipated stakeholders in the RI/FS project include, but are not limited to the following:

- City of Portland
- Port of Portland
- Smith and Bybee Lakes Management Committee
- Smith and Bybee Lakes Technical Advisory Committee
- Columbia Slough Watershed Council
- Columbia Corridor Association
- Friends of Smith and Bybee Lakes
- St. Johns Neighborhood Association
- 40-Mile Loop Land Trust
- Citizen Recreational Users of the Smith and Bybee Lakes Wildlife Area
- Owners of Nearby Private Businesses and Properties

The broad objectives of the Remedial Investigation include characterizing the extent and distribution of hazardous substances released to the environment, and assessing the ecological and human health risks posed by those substances. The objectives are listed in the Draft Remedial Investigation / Feasibility Study Scope of Work included in the attached Consent Order.

Risk assessment will include risks to the ecosystem and to human health from exposures to environmental contaminants. Risk, in this context, relates to contaminant toxicity and degree of exposure, and includes three essential elements: sources, pathways, and receptors. The source is any media contaminated with chemicals released by the site under investigation. Pathways are any reasonably likely ways that people, plants and animals might encounter contaminant sources. Receptors are the people, plants and animals who may contact a contaminant source because of current and reasonably likely future land and water use.

The Feasibility Study will evaluate alternative remedies or corrective measures for reducing risks identified in the Remedial Investigation. Alternative remedies will be evaluated based on the following:

- Effectiveness
- Implementability
- Long-Term Reliability
- Implementation Risk
- Reasonableness of Cost

Based on the approved findings of the RI/FS, DEQ will issue a Record of Decision (ROD) that will establish remediation, monitoring, and related requirements for St. Johns Landfill. If DEQ determines that further remediation is justified at the site, and is feasible, the ROD will include the required remedial measures and cleanup levels for specified contaminants and areas. The ROD

will also include risk-based contaminant concentration limits that will serve as criteria for evaluating future monitoring results.

In March 2002, Metro submitted to DEQ its initial Annual Environmental Monitoring Report (AEMR) under the EMP. Consistent with the EMP, this AEMR was retroactive and included monitoring activities and results for the years 2000 and 2001. It also included a general review of groundwater quality monitoring results dating back to 1993, when Metro initiated a formalized monitoring program.

In March 2003, Metro submitted to DEQ the AEMR for monitoring year 2002. The combination of the EMP, and the two AEMRs submitted thus far, provides up-to-date information regarding monitoring objectives, methods, locations, and results.

The AEMRs include examination of both groundwater quality and groundwater level monitoring results for the relevant monitoring period. The review of groundwater quality results includes assessments of ion concentrations, time-series charts, box plots, and trilinear diagrams. In addition, results are compared to state and federal groundwater quality and drinking water quality standards. Copies of these AEMRs are available for review at Metro. Please call to make an appointment.

Routine environmental monitoring is performed at the landfill and vicinity in conformance with various permits or policies, as follows:

Solid Waste Disposal Site Closure Permit #116 (DEQ)

- Semi-annual groundwater sampling and analysis.
- Monitoring of groundwater and leachate levels at selected locations, both continuously using transducers, and manually (monthly and semi-annual basis), depending on the location.
- Annual inspection and record-keeping for leachate seepage from dike around landfill perimeter.

Oregon Title V Operating Permit (DEQ / EPA)

- Monthly measurements of gas constituents at each wellhead (temperature, oxygen and nitrogen)
- Monthly inspections of visible emissions (opacity) from the flare facility
- Quarterly monitoring of the landfill surface for methane emissions.
- Gas flow and flare stack combustion temperatures are monitored continuously, reviewed, and reported as required.

NPDES Stormwater Discharge Permit (DEQ)

- Semi-annual stormwater sampling and analysis, and monthly visual observations and limited field measurements of stormwater outfall.

Wastewater Discharge Permit #400.18 (City of Portland)

- Semi-annual wastewater sampling and analysis. Wastewater collected at SJLF is a mixture of landfill leachate and landfill gas condensate. It is discharged to the City sanitary sewer as needed.
- Currently, Metro is designing and testing an on-site wastewater pretreatment system under a compliance order with the City of Portland. By October 15, 2003, the wastewater discharged from the landfill to the City sewer must be in compliance with all local discharge limits.

Natural Resources Management Plan for Smith and Bybee Lakes

- Six surface water samplings (and analysis) per year at 5 locations.
- Automated short-interval field measurements of pH, dissolved oxygen, oxidation-reduction potential, conductivity and temperature, at 4 locations. Locations include the lower Columbia Slough, including the North Slough arm, and Smith and Bybee lakes.
- Annual sediment sampling and analysis at up to 14 locations in the Columbia Slough and North Slough arm, and in Smith and Bybee lakes.

All analytical laboratory results and nearly all field results from the monitoring activities described above are organized and maintained by Metro in a Microsoft Access database, with customized, programmed functions that allow for locating and formatting selected results with relative ease.

In addition to the monitoring described above, annual observations and reporting of the condition of landfill perimeter dike repair areas is conducted in accordance with permits from the Oregon Division of State Lands and the Army Corps of Engineers, and with a City of Portland Land Use Review Decision. This work includes general observations of dike integrity and assessments of vegetation planting survival rates, in the repair areas.

Finally, Metro possesses results from investigations at St. Johns Landfill and surrounding areas that may or may not be relevant to this remedial investigation. These results include soil properties such as hydraulic conductivity and solute partitioning; well logs and stratigraphy maps; groundwater pressure variation with location and time; seep chemistry; groundwater modeling; screening-level risk assessments of sediment, groundwater in one sand and gravel aquifer well; and gas; water body assessment of Columbia Slough; and remedial investigation at an industrial site near the landfill.

III. STATEMENT OF WORK

Metro is seeking proposals from firms to perform the services described in Appendix B of this RFP (Statement of Work).

IV. PROJECT ADMINISTRATION

Metro's project manager is Paul Vandenberg, Senior Solid Waste Planner.

Metro intends to award this contract to a single firm to provide the services required. Responders must identify a single person as project manager, who will lead the project and be the primary contact for Metro.

The Contractor must assure responsibility for any subcontractor work and shall be responsible for the day-to-day direction and internal management of the project. The prime contractor shall have, or be capable of obtaining general liability insurance, professional liability insurance, business automobile insurance, and workers compensation insurance covering the services to be performed, as shown in the Sample Standard Personal Services Agreement (Appendix A of this RFP). Metro shall be named as an additional insured.

V. PROPOSAL INSTRUCTIONS

Proposals should include items described in Section VI (Proposal Contents).

A. Submission of Proposals

Six (6) copies of the proposal shall be furnished to Metro, addressed to:

Paul Vandenberg
Metro
Solid Waste and Recycling Department
600 N.E. Grand Avenue
Portland, OR 97232-2736

B. Deadline

Proposals will not be considered if received after _____.

C. RFP as Basis for Proposals

This RFP represents the most definitive statement Metro will make concerning the information upon which proposals are to be based. Any verbal information that is not addressed in this RFP will not be considered by Metro in evaluating proposals.

Any questions relating to this RFP should be addressed to:

Paul Vandenberg
Telephone: (503)-797-1695
E-mail: vandenbergp@metro.dst.or.us.

Any questions which, in the opinion of Metro, warrant a written reply or RFP amendment, will be furnished to all parties receiving this RFP. Metro will not respond to questions received within 5 working days of the deadline.

D. Information Release

All persons submitting proposals are hereby advised that Metro may solicit and secure background information based upon the information, including references, provided in response to this RFP. By submission of a proposal, all responders agree to such activity and release Metro from all claims arising from such activity.

E. Minority and Women-Owned Business Program

In the event that any subcontracts are to be utilized in the performance of this agreement, the proposer's attention is directed to Metro Code provisions 2.04.100 & 200.

Copies of that document are available from the Risk and Contracts Management Division of Administrative Services, Metro, 600 NE Grand Avenue, Portland, OR 97232 or call (503) 797-1816.

VI. PROPOSAL CONTENTS

The proposal should contain only the information requested in this section (Section VI), and should not exceed the specified number of pages, where indicated for a given item.

Any paper used in the submittal should be recycled paper (post consumer content), recyclable, and printed on both sides. No waxed page dividers or non-recyclable materials should be included.

Proposals must not exceed 14 pages, excluding an appendix that should contain Project Experience (subsection F), Resumes (subsection G), and firm brochure (if desired). Typeface of the proposal must be Times New Roman, and text (excluding headers) must be 12-point.

A. Transmittal Letter

Provide a signed letter of transmittal that includes the following items:

1. State your understanding of the project
   (Describe the required RI/FS process for this site and key project elements as you see them)
2. Outline of the contents of your proposal
3. Identify your proposed project manager, and their title
4. State that the proposal will be valid for ninety (90) days after the date of the proposal's submission

B. Statement of Qualifications

Provide a narrative that addresses each of the following items. To facilitate Metro's review, use the same order and headers shown below.

1. Relevant Experience of Firm. Describe your firm's experience with RI/FS projects at landfills or other sites where environmental risks posed by hazardous substances in groundwater have been investigated and remediated.
2. Qualifications of Team. Explain how your team is uniquely qualified to provide the services specified in the Statement of Work (Appendix B).
3. Qualifications of Project Team Members. List the key members of your proposed project team, particularly those individuals who will contribute the most time to the project. Describe the qualifications of each individual (include subcontractors). Include name, title, role, and a summary of qualifications applicable to this project. Identify one of these individuals as the project manager, and the particular qualifications that support the selection of the individual for that role.

4. Regulatory Knowledge. Describe how your firm has utilized its knowledge of applicable state or federal rules, and of rule guidance, to focus or streamline an RI/FS project, and manage it to successful completion.
5. Project Management. Describe a challenging situation encountered by your firm during RI/FS projects, and how the firm successfully managed those challenges. (Examples include, but are not limited to: a change in project team composition, unexpected findings from the site characterization, disagreement among members of the project team or with the regulatory agency, misinterpretation of applicable regulations, and rule or policy changes that alter the regulatory framework.)

C. Project Organization

1. Provide an organization chart that includes DEQ, the project managers for Metro and Contractor, Contractor's key team members, and all subcontractors' key team members for all project phases. Identify each individual represented on the chart by name and title. Indicate how communications will flow among all team members, including subcontractors, as well as between the team and Metro.
2. Identify the location of the local project office and other offices of the prime and sub-consultant firms.
3. Specify the approximate percentage of project work by task that will be completed at the respective offices, and at St. Johns Landfill.
4. Describe the proposed project management, coordination and communication strategies and techniques that will be used throughout this project.
5. Describe the process to be used for report pre-production, review, primarily including review for technical accuracy and consistency, and conformance to applicable regulations.

D. Project Approach

Describe your approach to the RI/FS project outlined in this RFP.

Also, provide an answer to each of the following questions, in demonstration of your team's ability to develop and apply proven concepts to the St. Johns Landfill RI/FS. For context, you can refer to site information provided in Section II of this RFP (Project Background), or in Section 3 of the attached Consent Order (Findings of Fact, or the cited references. These references are available for review -- by appointment -- at Metro).

1. A substantial amount of site information exists at the outset of the project, including but not limited to: a geostratigraphy, hydraulic conductivity, hydrogeological and contaminant transport model for the site and vicinity, long-term environmental monitoring results for all relevant media (including chemical concentrations and piezometric head data), beneficial uses of surrounding land and water resources, and biota surveys. In attempt to focus the project, and possibly streamline the site characterization and risk assessment, what "critical" information would you be seeking in the body of existing information to serve that purpose? Describe the information and explain its significance.

2. Aquatic organisms have been identified as receptors in the conceptual site model. The primary pathway for pollutants currently released from the site to those receptors is groundwater discharge to surrounding surface water. How would you propose to estimate pollutant concentrations in surface water and sediments for the purpose of assessing risk? What uncertainties are involved; what questions must be addressed?

E. Identification of Subcontractors

Provide the following information for subcontractors that will be involved in the project:

- Name of firm and address
- Name of primary contact
- Work to be performed
- List of RI/FS projects in which the subcontractor and your firm have worked together on a project team

F. Project Experience

Provide descriptions of projects that have included key members of your proposed team, in support of any information provided above. Sort according to the number of key members of your proposed team who were involved in the project, beginning with those projects that included all members of the proposed team. Include the following items.

1. Project Title
2. Role of individual(s) from the proposed team (List)
3. Project start and completion dates
4. Client's name and address
5. Site name and location

6. Primary contact (title, telephone number, e-mail address)
7. Responsible regulatory agencies
8. Applicable regulations
9. Major elements of the project performed by your firm

G. Resumes

Provide resumes for those individuals on the proposed project team, including individuals from subcontracted firms, as applicable, in support of any information provided above. If the proposed team includes more than one firm, sort resumes by firm.

H. Cost Proposal (RI/FS Phase 1)

Metro has structured the RI/FS project into three phases, as follows:

Phase 1

- RI Proposal
- RI Work Plan

Phase 2

- RI Implementation & Report
- Risk Assessment (Work Plan, Implementation & Report)

Phase 3

- Feasibility Study (Work Plan, Implementation & Report)

Propose costs only for RI/FS Phase 1, per Cost Items 1-3 below, consistent with the Statement of Work (Appendix B). Use a "Time and Materials" costing method. Show labor costs for each member of the project team, including hourly rates and total time budgeted for Phase 1. Assume that 60 calendar days are available to complete Phase 1.

Note that costing method, cost estimates, and payment basis for RI/FS Phases 2 and 3 may be established through negotiated contract amendments, or through a new procurement process (see Section I, Introduction), and would be based on workscope detail provided later in the DEQ-approved RI Work Plan (from Phase 1) and Risk Assessment Report (from Phase 2), respectively.

Cost Item 1. Provide a total cost for each of the following two work tasks (i.e., RI/FS Phase 1), consistent with descriptions of those items in the draft Consent Order, and in Oregon Administrative Rules 341-122 and associated guidance of the DEQ Cleanup Program. Exclude costs associated with travel to meetings in Portland (see Cost Item 2.)

- Remedial Investigation Proposal (draft and final)
- Remedial Investigation Work Plan (drafts and final)

Cost Item 2. Provide all costs associated with travel to attend meetings in Portland at Metro Headquarters or DEQ Portland offices. For this purpose, assume 10 meetings will be required during RI/FS Phase 1, attended by two members of the project team. Itemize costs by mileage, lodging, per diem, and incidental costs.

Cost Item 3. Provide a sum total cost for RI/FS Phase 1, including costs provided for Cost Items 1 and 2.

J. Exceptions and Comments

To facilitate evaluation of proposals, all responding firms will adhere to the format outlined within this RFP. Firms wishing to take exception to, or comment on, any specified criteria within this RFP shall document their concerns in this part of their proposal. Exceptions or comments should be succinct, thorough and organized.

VII. PROPOSAL EVALUATION

A. Evaluation Procedure

Only Proposals that substantially conform to the instructions will be evaluated. Metro will evaluate proposals using the criteria described immediately below.

B. Evaluation Criteria

In evaluating proposals Metro will apply the following weighting (based on 100 percentage points):

(30%) Expertise and Experience
(As determined by information submitted in response to Section VI, Subsections A, B, E, F, G)

(30%) Project Approach
(As determined by information submitted in response to Section VI, Subsection D)

(25%) Project Organization
(As determined by information submitted in response to Section VI, Subsection C)

(15%) Proposed Cost for RI/FS Phase 1
(As determined by information submitted in response to Section VI, Subsection H)

C. DEQ Approval

Consistent with Section 7.A of the consent order, Metro's awarding of a contract to any firm will be subject to DEQ approval of that firm's qualifications, based on information submitted in the proposal.

VIII. GENERAL PROPOSAL/CONTRACT CONDITIONS

A. Limitation and Award

This RFP does not commit Metro to the award of a contract, nor to pay any costs incurred in the preparation and submission of proposals in anticipation of a contract. Metro reserves the right to waive minor irregularities, accept or reject any or all proposals received as the result of this request, negotiate with all qualified sources, or to cancel all or part of this RFP.

B. Billing Procedures

Proposers are informed that the billing procedures of the selected firm are subject to the review and prior approval of Metro before reimbursement of services can occur. Contractor's invoices shall include an itemized statement of the work done during the billing period, and will not be submitted more frequently than once a month. Metro shall pay Contractor within 30 days of receipt of an approved invoice.

C. Validity Period and Authority

The proposal shall be considered valid for a period of at least ninety (90) days and shall contain a statement to that effect. The proposal shall contain the name, title, address, and telephone number of an individual or individuals with authority to bind any company contacted during the period in which Metro is evaluating the proposal.

D. Conflict of Interest

A Proposer filing a proposal thereby certifies that no officer, agent, or employee of Metro or Metro has a pecuniary interest in this proposal, or has participated in contract negotiations on behalf of Metro; that the proposal is made in good faith without fraud, collusion, or connection of any kind with any other Proposer for the same call for proposals; the Proposer is competing solely in its own behalf without connection with, or obligation to, any undisclosed person or firm.

IX. NOTICE TO ALL PROPOSERS -- STANDARD AGREEMENT

The attached personal services agreement (Appendix A) is a standard agreement approved for use by the Metro Office of General Counsel. This is the contract the successful proposer will enter into with Metro; it is included for your review prior to submitting a proposal. Any proposers wishing to take exception to the standard agreement should document these under Section VI E. of their proposal. Exceptions will be considered as part of the evaluation process.

APPENDIX A

Contract No: _____

STANDARD PERSONAL SERVICES AGREEMENT

THIS AGREEMENT is between Metro, a metropolitan service district organized under the laws of the State of Oregon and the Metro Charter, located at 600 NE Grand Avenue, Portland, OR 97232-2736, and _____ referred to herein as "Contractor," located at _____.

In exchange for the promises and other consideration set forth below, the parties agree as follows:

1. Duration. This personal services agreement shall be effective on the last signature date below and shall remain in effect until and including _____, unless terminated or extended as provided in this Agreement.

2. Scope of Work. Contractor shall provide all services and materials specified in the attached "Exhibit A — Scope of Work," which is incorporated into this Agreement by reference. All services and materials shall be provided by Contractor in accordance with the Scope of Work, in a competent and professional manner. To the extent that the Scope of Work contains additional contract provisions or waives any provision in the body of this Agreement, the Scope of Work shall control.

3. Payment. Metro shall pay Contractor for services performed and materials delivered in the amount(s), manner and at the time(s) specified in the Scope of Work for a maximum sum not to exceed _____ AND _____/100THS DOLLARS ($_____).

4. Insurance.

a. Contractor shall purchase and maintain at the Contractor's expense, the following types of insurance, covering the Contractor, its employees, and agents:

(1) Broad form comprehensive general liability insurance covering bodily injury and property damage, with automatic coverage for premises, operations, and product liability shall be a minimum of $1,000,000 per occurrence. The policy must be endorsed with contractual liability coverage; and

(2) Automobile bodily injury and property damage liability insurance coverage shall be a minimum of $1,000,000 per occurrence.

b. Metro, its elected officials, departments, employees, and agents shall be named as ADDITIONAL INSUREDS. Notice of any material change or policy cancellation shall be provided to Metro 30 days prior to the change or cancellation.

c. Contractor, its subcontractors, if any, and all employers working under this Agreement that are subject employers under the Oregon Workers' Compensation Law shall comply with ORS 656.017, which requires them to provide Workers' Compensation coverage for all their subject workers. Contractor shall provide Metro with certification of Workers' Compensation insurance including employer's liability. If Contractor has no employees and will perform the work without the assistance of others, a certificate to that effect may be attached, as Exhibit B, in lieu of the certificate showing current Workers' Compensation.

d. If required by the Scope of Work, Contractor shall maintain for the duration of this Agreement professional liability insurance covering personal injury and property damage arising from errors, omissions, or malpractice. Coverage shall be in the minimum amount of $1,000,000. Contractor shall provide to Metro a certificate of this insurance, and 30 days' advance notice of material change or cancellation.

e. Contractor shall provide Metro with a certificate of insurance complying with this article and naming Metro as an additional insured within fifteen (15) days of execution of this Contract or twenty-four (24) hours before services under this Contract commence, whichever date is earlier.

5. Indemnification. Contractor shall indemnify and hold Metro, its agents, employees and elected officials harmless from any and all claims, demands, damages, actions, losses and expenses, including attorney's fees, arising out of or in any way connected with its performance of this Agreement, or with any patent infringement or copyright claims arising out of the use of Contractor's designs or other materials by Metro and for any claims or disputes involving subcontractors.

6. Maintenance of Records. Contractor shall maintain all of its records relating to the Scope of Work on a generally recognized accounting basis and allow Metro the opportunity to inspect and/or copy such records at a convenient place during normal business hours. All required records shall be maintained by Contractor for three years after Metro makes final payment and all other pending matters are closed.

7. Ownership of Documents. All documents of any nature including, but not limited to, reports, drawings, works of art and photographs, produced by Contractor pursuant to this Agreement are the property of Metro, and it is agreed by the parties that such documents are works made for hire. Contractor hereby conveys, transfers, and grants to Metro all rights of reproduction and the copyright to all such documents.

8. Project Information. Contractor shall share all project information and fully cooperate with Metro, informing Metro of all aspects of the project including actual or potential problems or defects. Contractor shall abstain from releasing any information or project news without the prior and specific written approval of Metro.

9. Independent Contractor Status. Contractor shall be an independent contractor for all purposes and shall be entitled only to the compensation provided for in this Agreement. Under no circumstances shall Contractor be considered an employee of Metro. Contractor shall provide all tools or equipment necessary to carry out this Agreement, and shall exercise complete control in achieving the results specified in the Scope of Work. Contractor is solely responsible for its performance under this Agreement and the quality of its work; for obtaining and maintaining all licenses and certifications necessary to carry out this Agreement; for payment of any fees, taxes, royalties, or other expenses necessary to complete the work except as otherwise specified in the Scope of Work; and for meeting all other requirements of law in carrying out this Agreement. Contractor shall identify and certify tax status and identification number through execution of IRS form W-9 prior to submitting any request for payment to Metro.

10. Right to Withhold Payments. Metro shall have the right to withhold from payments due to Contractor such sums as necessary, in Metro's sole opinion, to protect Metro against any loss, damage, or claim which may result from Contractor's performance or failure to perform under this Agreement or the failure of Contractor to make proper payment to any suppliers or subcontractors.

11. State and Federal Law Constraints. Both parties shall comply with the public contracting provisions of ORS chapter 279, and the recycling provisions of ORS 279.545 - 279.650, to the extent those provisions apply to this Agreement. All such provisions required to be included in this Agreement are incorporated herein by reference. Contractor shall comply with all applicable requirements of federal and state civil rights and rehabilitation statutes, rules and regulations including those of the Americans with Disabilities Act.

12. Situs. The situs of this Agreement is Portland, Oregon. Any litigation over this agreement shall be governed by the laws of the State of Oregon and shall be conducted in the Circuit Court of the state of Oregon for Multnomah County, or, if jurisdiction is proper, in the U.S. District Court for the District of Oregon.

13. Assignment. This Agreement is binding on each party, its successors, assigns, and legal representatives and may not, under any circumstance, be assigned or transferred by either party.

14. Termination. This Agreement may be terminated by mutual consent of the parties. In addition, Metro may terminate this Agreement by giving Contractor seven days prior written notice of intent to terminate, without waiving any claims or remedies it

may have against Contractor. Termination shall not excuse payment for expenses properly incurred prior to notice of termination, but neither party shall be liable for indirect or consequential damages arising from termination under this section.

15. No Waiver of Claims. The failure to enforce any provision of this Agreement shall not constitute a waiver by Metro of that or any other provision.

16. Modification. Notwithstanding and succeeding any and all prior agreement(s) or practice(s), this Agreement constitutes the entire Agreement between the parties, and may only be expressly modified in writing(s), signed by both parties.

CONTRACTOR	METRO
By_____	By_____
Title_____	Title_____
Date_____	Date_____

EXHIBIT A
(Of Personal Services Agreement)

Contract No: _____

STANDARD SCOPE OF WORK

1. **Statement of Work.**

   (See Appendix B)

2. **Payment, Billing and Term.**

   Contractor shall provide services for a maximum price not to exceed _____AND NO/100 DOLLARS (_____). The maximum price includes all fees, costs and expenses of whatever nature. Each of Metro's payments to Contractor shall equal the percentage of the work Contractor accomplished during the billing period. Contractor's billing statements will include an itemized statement of unit prices for labor, materials, and equipment, will include an itemized statement of work done and expenses incurred during the billing period, will not be submitted more frequently than once a month, and will be sent to Metro, Attention Solid Waste and Recycling Department. Metro will pay Contractor within 30 days of receipt of an approved billing statement.

   In the event Metro wishes for Contractor to provide services or materials after the maximum contract price has been reached, Contractor shall provide such services or materials pursuant to amendment at the same unit prices that Contractor utilized as of the date of this Agreement, and which Contractor utilizes to submit requests for payment pursuant to this Scope of Work. Metro may, in its sole discretion and upon written notice to Contractor, extend the term of this contract for a period not to exceed 12 months. During such extended term all terms and conditions of this contract shall continue in full force and effect.

APPENDIX B

STATEMENT OF WORK

Remedial Investigation and Feasibility Study
St. Johns Landfill

Metro is seeking proposals from qualified firms to perform the services described below.

1. Contractor shall perform a Remedial Investigation / Feasibility Study to determine the risks to human health and the environment at Metro St. Johns Landfill, and to develop, evaluate, and select appropriate removal and / or remediation measures in a manner that complies with the applicable provisions of Oregon Revised Statutes 465.200 through 465.420 and regulations promulgated thereto.

2. All work performed, and work products submitted by Contractor to Metro under this Scope of Work shall strictly conform to the Consent Order (Document No. LQSW-NWR-02-14), issued to Metro by the Oregon Department of Environmental Quality (DEQ) (see Attachment 1).

3. In carrying out the RI/FS, Contractor shall, at a minimum, address environmental contamination associated with hazardous substances identified on the site confirmed release list, from Metro's 2002 Annual Environmental Monitoring Report to DEQ (Attachment 2). In addition, Contractor shall address any other substances mutually proposed by Metro and Contractor for inclusion in the RI/FS, in the Remedial Investigation Proposal approved by DEQ, or otherwise required by DEQ as a condition of approval.

4. In providing services required under this Scope of Work, Contractor shall conform to all relevant rule guidance published by DEQ's Environmental Cleanup Program, as appropriate.

5. Fifteen or more days before the due date of submittal to DEQ of a work product, including the RI Proposal, and any work plan or report, as required by the Consent Order, Contractor shall submit a draft work product to Metro. Metro shall review the draft and provide comments to Contractor within eight days of the submission by Contractor to Metro. Contractor shall incorporate each Metro comment into a final work product, unless otherwise approved by Metro, and shall submit 6 copies of the final work product to Metro three calendar days or more before the due date to DEQ.

6. The content of the final RI Proposal, and any final work plan or report submitted to Metro by Contractor shall be consistent with the Consent Order, and acceptable to DEQ. Contractor shall address DEQ comments regarding any submitted work

product, as directed by Metro, and as necessary to secure DEQ's acceptance of the work product.

7. Upon Notice to Proceed (with implementation of the services described in this Statement of Work), Metro shall make available all documents identified in the attached reference list (Attachment 3: "Selected References for Remedial Investigation / Feasibility Study: St. Johns Landfill"). Contractor shall utilize these documents as appropriate in providing services under this Scope of Work. Contractor shall return all such documents to Metro on or before the expiration of this Agreement.

8. In addition to the documents listed in Attachment 3, Metro shall provide any other relevant documents in Metro's possession requested by Contractor, intended for use by Contractor in providing services under this Scope of Work. Contractor shall return all such documents to Metro on or before the expiration of this Agreement.

9. Upon Notice to Proceed, Metro shall provide to Contractor summaries of existing information, supporting references, and issues that are, in Metro's opinion, essential for preparation of the Remedial Investigation Proposal required under the Consent Order. Contractor shall use this information, and other relevant information, as the basis for completing this proposal. Contractor shall work collaboratively with Metro staff in preparing a proposal including, but not limited to, the following elements:

   - Current and reasonably likely future land and water uses in the locality of the facility
   - Site investigations and findings
   - Conceptual site model
   - Conceptual hydrogeologic site model
   - Physical migration pathways for contaminants of interest
   - Risk levels
   - Conclusions and questions to be answered
   - Description of proposed investigation tasks and schedule

8. During the contract term, Contractor shall prepare for and attend up to 20 project meetings to be held in Portland at Metro headquarters or at the Portland offices of DEQ. By mutual agreement of Metro and Contractor, additional meetings may be scheduled. Scheduled meetings may be postponed or canceled. Unless otherwise approved by Metro, Contractor's attendance at each meeting shall be limited to two project team members, and shall include the Contractor's project manager and a key team member (e.g., hydrogeologist, biologist, toxicologist, engineer).

9. Any laboratory subcontracted by Contractor to provide services under this Scope of Work shall be certified for the relevant parameter, matrices and test methods, under the Oregon Environmental Laboratory Accreditation Program (ORLAP) or the National Volunteer Laboratory Accreditation Program (NVLAP).

10. The Contractor shall notify Metro in writing of all performance evaluations, new accreditation or certification of any laboratory performing work under this Scope of Work, within 30 days of receipt of such.

11. The Contractor shall maintain for the duration of this Agreement professional liability insurance covering personal injury and property damage arising from errors, omissions, or malpractice (see Section 4.d of standard personal services agreement).

12. Notwithstanding the insurance and indemnification specifications in Metro's standard personal services agreement (Appendix A of this Request-for-Proposals), Contractor liability for any work performed under this Scope of Work shall be governed by ORS 465.340 (1)(a) (see http://landru.leg.state.or.us/ors/465.html).

ATTACHMENT 1

STATE OF OREGON
DEPARTMENT OF ENVIRONMENTAL QUALITY

DRAFT
CONSENT ORDER
DOCUMENT NO. LQSW-NWR-02-14

STATE OF OREGON

DEPARTMENT OF ENVIRONMENTAL QUALITY

In the Matter of:	) **DEQ NO. LQSW-NWR-02-14**
St. Johns Landfill	)
	) **RI/FS Consent Order**
	)
Respondent	)

Pursuant to ORS 465.260(4) the Director, Oregon Department of Environmental Quality (DEQ), enters this Remedial Investigation /Feasibility (RI/FS) Cleanup Consent Order with Metro, a metropolitan service district. This Consent Order contains the following provisions:

Contents **Page**

1. **Purpose**

The mutual objective of DEQ and Metro is to determine the nature and extent of releases of hazardous substances at St. Johns Landfill and to develop, evaluate, and select appropriate removal and/or remedial measures in a manner that complies with the applicable provisions of ORS 465.200 through 465.420 and regulations promulgated thereto.

2. **Stipulations**

Metro consents and agrees:

A. To issuance of this Consent Order;

B. To perform and comply with all provisions of this Consent Order;

C. To not challenge DEQ's jurisdiction to enter and enforce this Consent Order;

D. To waive any right Metro might have, prior to commencement of action by DEQ to enforce this Consent Order, to seek judicial review or review by the Environmental Quality Commission of this Consent Order ;

E. To not litigate, in any proceeding brought by DEQ to enforce this Consent Order or to assess penalties for noncompliance with this Consent Order, any issue other than Metro's compliance with this Consent Order;

F. To not assert, in any proceeding brought by DEQ to enforce this Consent Order or to assess penalties for noncompliance with this Consent Ordert, that performance of any interim or removal measures or phase of work by Metro discharges Metro's duty to fully perform all remaining provisions of this Consent Order; and

G. To waive any right Metro might have under ORS 465.260(7) to seek reimbursement from the Hazardous Substances Remedial Action Fund of costs incurred under this Consent Order.

3. **Findings of Fact**

DEQ makes the following findings without admission of any such facts by Metro:

A. Site owner is Metro, an Oregon Government

B. St. Johns Landfill, a closed 238-acre solid waste landfill, is located within the city of Portland in an area called the St. Johns/Rivergate industrial District. The site is in Section 26 of T 2N, R1W, W.M. The general location of St. Johns landfill is shown on Attachment A to this Consent Order. The landfill lies within the Columbia River floodplain near the confluence of the Columbia and Willamette Rivers. It is bounded by Columbia slough, the North Slough arm of Columbia Slough and Smith and Bybee lakes. Site access is from North Columbia Blvd. Originally the site was an unnamed, shallow lake, part of an extensive, interconnected network of lakes, marshes, wetlands and sloughs near the confluence of Columbia and Willamette Rivers. A well-developed system of natural levees bordered the individual waterways including the unnamed landfill-lake. Solid waste disposal at the site began in 1932 and continued until the landfill closed in 1991. The city of Portland was the landfill's original owner. Initially, solid waste was burned in an incinerator located south of Columbia Blvd. The ash was deposited on City of Portland property, in an area just southwest of Columbia Slough and the main landfill. In 1939 or 1940 a bridge was constructed over Columbia Slough and filling northeast of Columbia Slough began in 1940. Apparently, disposal activities began in dry areas and in seasonal wetlands adjacent to the shallow lake known as Landfill lake but soon spread to the lake bed itself. Early on the landfill received almost any type of waste that was discarded, including oil-based sludge, white goods, incinerator ash, household solid waste and commercial solid wastes. By the early 1960s, Landfill-lake had been completely filled. The incinerator was decommissioned in 1970. By the early 1970s, commercial and industrial development altered much of the original agricultural and residential land near the landfill, increasing amounts of commercial and industrial wastes were deposited in the landfill and "sanitary landfill" operational practices were adopted, including routine waste compaction and daily cover. Separate disposal areas were maintained for

commercial haulers and private vehicles. The landfill was developed in five distinct phases, referred to as subareas (see Attachment B, Site Plan). The original 183-acre landfill was filled to an average depth of about 40 feet by the late 1970s. A liquid waste pit was operated in the south portion of Subarea 2 from about 1948 through 1963. The final lateral expansion, a 55-acre sub-area constructed in 1980 and filled after 1984, incorporated an engineered perimeter-dike to provide more effective leachate containment. Expansion area operations began in ~~1988~~ **1985** and the landfill reached final capacity in 1991. Metro acquired the landfill site areas northeast of Columbia Slough in 1990.

C. After the landfill ceased accepting solid waste in 1991, construction began on the final cover system, the gas control system, the storm water control system and the other permanent closure improvements. The final cover system consists of a multi-layered cap and drainage and topsoil layers. The cap has two barrier layers, an 18-inch-thick low-permeability soil layer and an overlying 40-mil geomembrane. The landfill gas control system consists of over 100 extraction wells, a site-wide network of gas collection and header pipes, a condensate collection system, a vacuum-motor-blower/flare complex and a compressor and transmission pipeline. Currently, most of the collected landfill gas is piped to Ashgrove Cement Company and burned as fuel. The storm water control system consists of a site-wide network of drainage ditches and sedimentation ponds. Collected surface water runoff is routed to 12 discharge points around the site perimeter.

D. The landfill bottom is unlined and intersects groundwater in most areas of the site. Consequently, groundwater intrusion is a significant component of leachate generation. The 55-acre expansion area has a leachate collection system consisting of a network of perforated underdrain pipes sloped to a perimeter wet-well and pump station. Collected leachate is pumped to the City sewer and treated at the Columbia Boulevard Wastewater Treatment Plant. Leachate levels within the landfill have been measured sporadically since the 1970s and regularly since 1992. Early monitoring

points included several shallow leachate wells. Now, five relatively deep leachate wells and over fifty gas recovery wells serve that purpose.

E. Metro has conducted a number of investigations to characterize the landfill site's environmental effects and hydrogeologic properties. The following discussion, including the findings discussed in subsections G,H, I, and J, summarizes the current understanding of the site characterization. The previous investigations have identified three, distinct, hydrostratigraphic units that exert strong influence on local and regional groundwater flow patterns and fate and transport of landfill contaminants. These units, from youngest to oldest , include: the overbank silts (OBS), the Columbia River sands (CRS) and the Pleistocene gravel (PG). The shallowest of these deposits, the OBS, is in direct contact with the landfill and exhibits low overall hydraulic conductivity that may retard or stop contaminant (leachate) migration. The OBS consists of silts, clays, and fine sands. Discrete sand lenses have been identified within the OBS, but their lateral extent and hydrologic significance are unknown. Sand content appears greatest toward the bottom of the OBS near the OBS/CRS contact. Near the landfill, OBS thickness varies considerably. West of the landfill, OBS deposits are about 200-ft thick, below Bybee lake they are only 2-5 ft thick. Directly under the landfill, OBS thickness varies from about 30-ft (North-Slough side) to about 150-ft (below landfill interior). The hydraulic conductivity (permeability) of the OBS has been estimated from slug tests and laboratory permeability tests. OBS horizontal-permeability values vary from about **$1x10^{-6}$ cm/sec to $3x10^{-5}$cm/sec**. Vertical permeability values range from about **$2x10^{-7}$ cm/sec to $5x10^{-7}$ cm/sec.** Most of the site's monitoring wells (twenty-three) are screened in the OBS. The Columbia River Sands (CRS) underlie the OBS and consist of fine to coarse sand, locally containing minor amounts of silt. The CRS deposits are abundant beneath the Columbia and Willamette rivers, but thin out considerably near the landfill. Although laterally discontinuous and thin where present beneath the landfill, the CRS deposit is permeable and hydraulically connected to the Willamette and Columbia

rivers. The permeability of the CRS varies from about $1x10^{-4}$ cm/sec to $1x10^{-1}$ cm/sec. Three site groundwater monitoring wells are screened in the CRS. The Pleistocene gravels (PG) directly underlie the CRS. The gravel deposit is highly permeable and a productive aquifer in the region. The PG is mainly composed of sandy gravel and gravel. The PG's hydraulic conductivity varies from $5x10^{-2}$ cm/sec to $1x10^{-1}$ cm/sec. The PG deposit is characterized by a steep-sided, deep trough directly below the landfill and a prominent ridge to the north of the landfill that rises to within a few feet of the bottom of Bybee Lake. The gravel trough contains OBS deposits, the thickest OBS layer near the landfill. The gravel ridge coincides with the thinnest OBS deposits. The PG aquifer is most vulnerable to near-surface contaminants at this location . These gravel features exert a strong influence on regional and local groundwater-flow patterns and have important environmental implications. Five groundwater monitoring wells are screened in the PG. h

F. Under contract with Metro, Portland State University (PSU) developed a three-dimensional numerical groundwater model of the landfill and the surrounding area. The model was intended to provide a more comprehensive understanding of the landfill's hydrogeologic characteristics and to predict contaminant migration pathways and future conditions. The model has five discrete components including a water balance model, leachate mound model, regional flow model, local flow model, and local solute transport model. The mound model simulated the leachate mound as a uniform saturated zone extending from landfill-base level to about 15 feet above natural groundwater elevations. Although the model predicted complete dissipation of the leachate mound fifteen years after landfill capping, leachate levels have not changed perceptively since closure. The leachate mound model assumed the existance of a continuous, site-wide, saturated zone within the refuse, with predictable responses to input and output fluxes (e.g., precipitation and groundwater inflow and outflow). The leachate level data suggest, however, that leachate-saturated zones within the landfill are hydraulically discontinuous, and compartmentalized. Consequently, the model may

have overestimated the amount of leachate stored within the refuse and the hydraulic pressures exerted by leachate on the bottom of the landfill. The solute transport model predicted landfill-contaminant migration to the PG aquifer at one location, northeast of landfill Subarea 2. The area of predicted migration coincides with the gravel (PG) ridge and thinnest silt (OBS) deposits. The model concludes that leachate cannot penetrate the silts and reach the PG aquifer under most of the site because of large silt thickness and gradually declining (post-closure) leachate pressures. Groundwater monitoring results for wells near the area of predicted migration are inconclusive, but these wells monitor the OBS and CRS deposits, not the PG aquifer.

As previously mentioned St. Johns landfill is bordered on all sides by surface waters, Columbia Slough to the west and south, North Slough and Bybee Lake to the north, and Smith lake to the east. For years, pollutants from many sources have entered these surface waters and accumulated in the sediments. Historically, significant quantities of landfill leachate, present in visible surface seeps and in shallow groundwater, have discharged to surrounding surface waters (Columbia Slough and North Slough). Water quality monitoring, however, does not show significant surface water impacts. The PSU contaminant transport model predicted total seepage of less than ten gallons per minute to the sloughs after cover-cap completion. Despite the cap and associated improvements, visible leachate seeps remain. Metro continues to monitor significant seepage zones and implement appropriate seep-control measures. In 1995, a clay cutoff wall was installed at the head of Blind Slough to reduce one of the most significant leachate-seep areas. In 2001, Metro ~~plans to~~ installed a second cutoff wall along the North Slough perimeter of Subarea 2 to improve leachate containment in that area. Near subarea 2, erosion has undercut a section of slough bank, compromising the natural silt dike that separates the landfill contents from North Slough. In 2000, Metro repaired 1000 lineal feet of bank along North Slough. The Department established Total Maximum Daily Loads (TMDLs) for Columbia Slough, including

an annual load allocation for dissolved lead at St. Johns Landfill. The annual allocation for lead is based on average lead concentrations detected in shallow groundwater monitoring wells located at the landfill perimeter. Metro conducts environmental monitoring to assess environmental quality near the landfill and to comply with the monitoring requirements established in the various permits for St. Johns Landfill. Metro conducts monitoring of surface water and sediments in the vicinity of the landfill on a voluntary basis to meet policy objectives of the Smith-Bybee Lakes Natural Resources Management Plan. DEQ permits include the solid-waste closure permit, water-quality stormwater discharge permit (NPDES General Permit 1200-COLS), and ~~the Air Contaminant Discharge Permit (for the landfill gas flare). DEQ is currently drafting a~~ Title V air quality permit for the site. The Title V permit ~~will~~ regulates site-wide landfill gas emissions and require compliance monitoring. The landfill also is regulated under an Industrial Waste Water Discharge Permit for leachate disposal issued to Metro by The City of Portland's Bureau of Environmental Services. Metro currently monitors ~~thirty~~ twenty-nine (~~30~~29) groundwater monitoring wells (many are nested multiple-depth wells), ~~five~~ six (~~5~~6) interior leachate-monitoring wells, one (1) leachate discharge monitoring

-station, and nine (9) multi-depth piezometers, ~~nine~~ five (~~9~~5) surface water monitoring stations, ~~eight~~ twelve (~~8~~12) storm water monitoring stations and fourteen (14) sediment monitoring stations. Twenty-two~~hree~~ (~~23~~22) monitoring wells are screened at various levels within the Overbank Silts (OBS), the uppermost aquifer. [Note to DEQ: Consistent with section 3.3 of the site EMP, well K-5 is considered a leachate monitoring well, along with the 5 interior H-series wells. This re-designation of K-5 resulted in a total of 29 groundwater monitoring wells, 22 of which are screened in the OBS, and 6 leachate wells... Consistent with section 3.4 of the site EMP, surface water is monitored at 5 locations... Consistent with the NPDES Stormwater Discharge Permit, stormwater is monitored at 12 outfalls.] Seven (7) monitoring wells are

screened within the Pleistocene Gravels or the Columbia River Sands (a hydraulically connected unit) which underlie the OBS. The water quality monitoring data from perimeter wells indicate the presence of a leachate plume in the shallow OBS groundwater. This is evident from the high concentrations of leachate indicator parameters in the shallow groundwater, including chloride, specific conductance, ammonia, chemical oxygen demand (COD), dissolved iron and dissolved manganese and the similar chemical signatures of leachate and OBS ground water. Based on the current monitoring well network, it is not clear how deep the plume penetrates into the OBS deposits or how extensive the plume is directly beneath the landfill footprint. As previously mentioned, the solute transport model predicted total penetration of the silts in one localized area

(i.e., near MW G-4A, MW G-4B) where the silts are thinnest. Nevertheless, water quality data from two deep OBS wells (e.g., MW D-1B, MW D-1C), where the silts are quite thick, indicate that the contaminant plume may extend deeper into the silts than the model predicted. Several hazardous substances have been detected in the site monitoring wells completed in the OBS deposits, including but not limited to the following:

Contaminant	**Concentration (mg/l)**	**Ambient Surface Water Quality Criteria**	
		SLV (Aquatic)	**Background (Fresh water)**
Arsenic	0.42 mg/L	0.15 mg/l	0.002
Lead	0.094 mg/L	0.0025 mg/l	0.013
Benzene	0.007 mg/L	0.13 mg/l	
Chromium	0.14 mg/L	0.74 mg/l	0.001

Although the PG aquifer is contaminated with low levels of VOCs in the vicinity of the landfill, the source of these contaminants is unclear. Available data suggest the VOCs may have originated from other regional sources unrelated to the landfill.

4. **Conclusions of Law and Determinations**

Based on the above findings of fact and the administrative record, DEQ determines, without admission of any such determinations by Metro, that:

A. Metro is a "person" within the meaning of ORS 465.200(20).

B. The chemicals described in Subsection 3.I. [Note to DEQ: Subsection 3.I does not exist in Metro's copy of this document] are "hazardous substances" within the meaning of ORS 465.200(15).

C. The presence of hazardous substances in groundwater at the site constitutes a "release" into the environment within the meaning of ORS 465.200(21).

D. The site described in Subsection 3.B. is a "facility" within the meaning of ORS 465.200(12).

E. The activities required by this Consent Order are necessary to protect public health, safety, and welfare and the environment.

Based upon the above Stipulations, Findings of Fact, and Conclusions of Law and Determinations, DEQ ORDERS:

5. **Work to be Performed**

A. Remedial Investigation and Feasibility Study

Metro shall perform a remedial investigation and feasibility study (RI/FS) including a Risk Assessment (RA) satisfying OAR Chapter 340 Division 122, the terms and schedules set forth in the Scope of Work (SOW) contained in Attachment B [Note to DEQ: Attachment A does not exist in Metro's copy of this document.] to this Consent Order, and the terms

and schedules set forth in any DEQ-approved work plan. Once approved by DEQ, a work plan is deemed to be incorporated into and made a fully enforceable part of this Consent Order.

B. Additional Measures

(1) Metro may elect at any time during the term of this Consent Order to undertake measures, beyond those required under this Consent Order and the SOW, necessary to address the release or threatened release of hazardous substances at the facility. Such additional measures (including but not limited to engineering or institutional controls and other removal or remedial measures) are subject to prior approval by DEQ, which approval shall be granted if DEQ determines that the additional measures will not compromise the validity of the RI/FS or threaten human health or the environment and will comply with applicable laws.

(2) DEQ may determine that, in addition to work specified in the SOW or an approved work plan, additional work is necessary to complete the RI/FS in satisfaction of the SOW and OAR Chapter 340 Division 122, or is necessary to address unanticipated threats to human health or the environment. DEQ may require that such additional work be incorporated into the applicable work plan by modification and/or be performed in accordance with a DEQ-specified schedule. Metro shall modify the work plan and/or implement the additional work in accordance with DEQ's directions and schedule, or invoke dispute resolution under Subsection 7.L. within 14 days of receipt of DEQ's directions.

6. **Public Participation**

Upon issuance of this Consent Order, DEQ will provide public notice of this Consent Order through issuance of a press release describing the measures required under this Consent Order.

Copies of the Consent Order will be made available to the public. DEQ shall provide Metro a draft of such press release and consider any comments by Metro on the draft press release, before publication.

7. **General Provisions**

A. Qualifications of Personnel

(1) All work required by this Consent Order must be performed under the supervision of a qualified environmental professional experienced in hazardous substance investigation or remediation. Within 10 days [Note to DEQ: Metro assumes this is an error, and was meant to be 100 days.] of the effective date of this Consent Order, Metro shall select and provide DEQ, in writing, the name, title, and qualifications of such supervising personnel and of contractors and subcontractors to be used in performance of the work. The qualifications of such personnel shall be subject to DEQ review and, at DEQ's election, DEQ approval or disapproval. If DEQ disapproves in writing the qualifications of any personnel, Metro shall provide DEQ in writing the name, title, and qualifications of replacement personnel, subject to DEQ's review and approval as described above. If DEQ subsequently disapproves the replacement personnel, DEQ reserves its right under ORS 465.260 to perform the RI/FS work, to terminate this Consent Order, and to seek reimbursement of costs from Metro.

(2) If Metro changes supervisory or key contractor personnel during the course of work under this Consent Order, the qualifications of the personnel shall be subject to review and approval in accordance with Paragraph (1) above.

B. DEQ Access and Oversight

(1) Metro shall allow DEQ to enter and move freely about portions of the facility within its possession or control at all reasonable times for the purposes, among others of: inspecting

records relating to work under this Consent Order; observing Metro's progress in implementing this Consent Order; conducting such tests and taking such samples as DEQ deems necessary; verifying data submitted to DEQ by Metro; and, using camera, sound recording, or other recording equipment.

(2) Metro shall also seek to obtain access to property not owned or controlled by Metro as necessary to perform the work required in this Consent Order, including access by DEQ for purposes described in Paragraph 7.B.(1). DEQ shall use its statutory authority to obtain access to property on behalf of Metro if DEQ determines that access is necessary and that Metro has exhausted all good faith efforts to obtain access.

(3) Metro shall permit DEQ to inspect and copy all records, files, photographs, documents, and data relating to work under this Consent Order, except that Metro may not be required to permit DEQ inspection or copying of items subject to attorney-client or attorney work product privilege.

(4) Metro shall identify to DEQ any document, record, or item withheld from DEQ on the basis of attorney-client or attorney work product privilege. Attorney-client and work product privileges may not be asserted with respect to any records required to be submitted under Paragraph 7.F.(1). DEQ reserves its rights under law to obtain documents DEQ asserts are improperly withheld by Metro.

C. Project Managers

(1) To the extent possible, all reports, notices, and other communications required under or relating to this Consent Order shall be directed to:

DEQ's	**Respondent's**
Project Manager:	**Project Manager:**
Tim Spencer	Dennis O'Neil
DEQ Northwest Region	Metro 600 Northeast Grand
2020 SW Fourth Avenue,	Avenue Portland, OR
Suite 400	97232-2736

Portland, Oregon 97201-4987 (503) 797-1697

(503) 229-5826

(2) The Project Managers shall be available and have the authority to make day-to-day decisions necessary to implement the work plan. The Project Managers also may modify, by mutual agreement in writing, the SOW and work plans as necessary to complete the RI/FS in satisfaction of OAR Chapter 340 Division 122 or as necessary to address unanticipated threats to human health or the environment.

D. Notice and Samples

(1) Metro shall make every reasonable effort to notify DEQ of any excavation, drilling, sampling, or other fieldwork to be conducted under this Consent Order at least five working days before such activity, but in no event less than 24 hours before such activity. Upon DEQ's verbal request, Metro shall make every reasonable effort to provide a split or duplicate sample to DEQ or allow DEQ and/or its authorized representative to take a split or duplicate of any sample taken by Metro while performing work under this Consent Order.

(2) In the event DEQ conducts any sampling or analysis in connection with this Consent Order, DEQ shall make every reasonable effort to notify Metro of any excavation, drilling, or sampling at least five working days before such activity, but in no event less than 24 hours before such activity. Upon Metro's verbal request, DEQ shall make every reasonable effort to provide a split or duplicate sample to Metro or allow Metro to take a split or duplicate of any sample taken by DEQ.

E. Quality Assurance

(1) Metro shall conduct all sampling, sample transport, and sample analysis in accordance with the Quality Assurance/Quality Control (QA/QC) provisions approved by DEQ as part of the work plan. All plans prepared and work conducted as part of this Consent Order must be approved by DEQ. Metro shall **make all reasonable efforts to require** ~~ensure~~ that each laboratory used by Metro for analysis performs such analyses in accordance with such provisions. Metro shall also ~~ensure~~ **make all reasonable efforts to require** that **laboratories and personnel used by Metro for sample analysis allow** DEQ and its authorized representatives ~~are allowed~~ access **for audit purposes** at reasonable times. ~~to laboratories and personnel used by Metro for sample analysis~~.

(2) In the event that DEQ conducts sampling or analysis in connection with this Consent Order, DEQ shall conduct sampling, sample transport, and sample analysis in accordance with the QA/QC provisions of the DEQ-approved work plan. Upon written request, DEQ shall provide Metro with DEQ records regarding such sampling, transport, and analysis.

F. Records

(1) In addition to those reports and documents specifically required under this Consent Order, Metro shall provide to DEQ within 10 days of DEQ's written request copies of QA/QC memoranda and audits, raw data, draft and final plans, reports, task memoranda, field notes, and laboratory analytical reports.

(2) Metro shall preserve all records and documents in its possession or control or in the possession or control of its employees, agents, or contractors relating in any way to activities under this Consent Order, for at least 10 years after termination under Section 8 of this Consent Order. Upon DEQ's request, subject to claim of privilege or confidentiality under Paragraphs 7.B.(3) or 7.F.(3), Respondent shall provide copies of such records to DEQ.

(3) Metro may assert a claim of confidentiality regarding any documents or records submitted to or copied by DEQ pursuant to this Consent Order, except that attorney-client and work product privileges may not be asserted with respect to any records required to be provided under Paragraph 7.F.1. DEQ shall treat documents and records for which a claim of confidentiality has been made in accordance with ORS 192.410 through 192.505. If Metro does not make a claim of confidentiality at the time the documents or records are submitted to or copied by DEQ, the documents or records may be made available to the public without notice to Metro.

G. Progress Reports

During each ~~month~~ quarter of this Consent Order, Metro shall deliver to DEQ on or before the tenth day of each ~~month~~ quarter two copies of a progress report containing:

(1) Actions taken under this Consent Order during the previous ~~month~~quarter;

(2) Actions scheduled to be taken in the next ~~two months~~quarter;

(3) A summary of Ssampling, test results, and any other data generated or received during the previous ~~month~~quarter; and [Note to DEQ: Upon request by DEQ, Metro will provide complete copy of any field, laboratory or other results generated or received during the course of the RI/FS, and will include all such information as required in the milestone reports (i.e., RI, Risk Assessment and FS reports) identified in the RI Work Plan. For purposes of quarterly reports, Metro assumes that a summary of this information is sufficient.]

(4) A description of any problems experienced during the previous ~~month~~ quarter and actions taken to resolve them.

H. Other Applicable Laws

Subject to ORS 465.315(3), all activities under this Consent Order shall be performed in accordance with applicable federal, state, and local laws and regulations.

I. Reimbursement of DEQ Oversight Costs

(1) DEQ will submit to Metro a monthly invoice of costs actually and reasonably incurred by DEQ on or after the effective date of this Consent Order in connection with any activities related to the facility or oversight of Metro's implementation of this Consent Order. A sample invoice is attached to this Consent Order as Attachment C. DEQ shall maintain work logs, payroll records, receipts, and other records to document work performed and expenses incurred under this Consent Order and, upon request, shall make such records available to Metro for its inspection during the term of this Consent Order and for at least one year thereafter.

(2) DEQ oversight costs payable by Metro will include direct and indirect costs. Direct costs include site-specific expenses, DEQ contractor costs, and DEQ legal costs. Indirect costs include general management and support costs of DEQ and of the Land Quality Division allocable to DEQ oversight of this Consent Order and not charged as direct, site-specific costs. Indirect costs will be based on a percentage of direct personal services costs.

(3) Within 30 days of receipt of a DEQ invoice, Metro either shall pay the amount of costs invoiced, by check made payable to the "State of Oregon, Hazardous Substance Remedial Action Fund", or invoke dispute resolution under Subsection 7.L. Metro shall pay simple interest of 9% per annum on the unpaid balance of any oversight costs, which interest shall begin to accrue at the end of the 30-day payment period unless dispute resolution has been invoked. Any unpaid amounts that are not the subject of pending dispute resolution, or that have been determined owing after dispute resolution, become a liquidated debt collectible under ORS 293.250 and other applicable law.

J. Force Majeure

(1) If any event occurs that is beyond Metro's reasonable control and that causes or might cause a delay or deviation in performance of the requirements of this Consent Order despite Metro's due diligence (force majeure), Metro shall promptly notify DEQ's Project Manager verbally of the cause of the delay or deviation and its anticipated duration, the measures that have been or will be taken to prevent or minimize the delay or deviation, and the timetable by which Metro proposes to carry out such measures. Metro shall confirm in writing this information within five working days of the verbal notification. Failure to comply with these notice requirements precludes Metro from asserting force majeure for the event and for any additional delay caused by the event.

(2) If Metro demonstrates to DEQ's satisfaction that the delay or deviation is due to force majeure, DEQ shall extend times for performance of related activities under this Consent Order as appropriate. Circumstances or events constituting force majeure might include but not be limited to acts of God, unforeseen strikes or work stoppages, fire, explosion, riot, sabotage, or war. Economic hardship, normal inclement weather, and increased costs of performance shall not be considered force majeure.

K. DEQ Approvals

(1) Where DEQ review and approval is required for any plan or activity under this Consent Order, Metro may not proceed to implement the plan or activity until DEQ approval is received. Any DEQ delay in granting or denying approval correspondingly extends the time for completion by Metro. For purposes of this Consent Order, "day" means calendar day unless otherwise specified.

(2) After review of any plan, report, or other item required to be submitted for DEQ approval under this Consent Order, DEQ shall:

a) Approve the deliverable in whole or in part; or

b) Disapprove the deliverable in whole or in part and notify Metro of deficiencies and/or request modifications to cure the deficiencies.

(3) DEQ approvals, rejections, modifications, or identification of deficiencies shall be given as soon as practicable in writing and state DEQ's reasons with reasonable specificity.

(4) In the event of DEQ disapproval or request for modification, Metro shall correct the deficiencies and resubmit the revised report or other item for approval within 30 days of receipt of the DEQ notice or within such other time as specified in the DEQ notice.

(5) In the event a deficiency identified by DEQ is not addressed by Metro in good faith in the revised deliverable, DEQ may modify the deliverable to cure the deficiency.

(6) In the event of approval or modification of the deliverable by DEQ, Metro shall implement the action required by the plan, report, or other item, as so approved or modified, or, as to any DEQ modifications, invoke dispute resolution under Subsection 7.L.

L. Dispute Resolution

(1) In the event Respondent disagrees with DEQ regarding **review and approval of a plan or activity, interpretation of data,** additional work directed by DEQ under Paragraph 5.B.(2), DEQ costs billed under Subsection 7.I, or DEQ modifications of a deliverable under Paragraph 7.K.(4), Metro shall notify DEQ in writing of its objection, within 30 days after issuance of the disputed monthly invoice or within 14 days of notice of the DEQ modification or DEQ-directed additional work. DEQ and Metro then shall make a good-faith effort to resolve the disagreement within 14 days of Metro's written objection. At the end of the 14-day period, DEQ shall provide Metro with a written statement of its position from the applicable DEQ Region's Cleanup Manager. If Metro still disagrees with DEQ's position, Metro, within 14 days of receipt of DEQ's position from the Cleanup

Manager, shall provide Metro's position and rationale in writing to the DEQ Regional Administrator. The Regional Administrator may discuss the disputed matter with Metro and, in any event, shall provide Metro with DEQ's final position in writing as soon as practicable after receipt of Metro's written position. DEQ's final position regarding the disputed matter is enforceable under this Consent Order.

(2) DEQ approval or modification of the RI/FS work plan required under the SOW is not subject to dispute resolution under this Subsection, but is otherwise subject to the provisions of Subsection 7.K.

(3) Metro's invocation of dispute resolution under paragraph (1) of this subsection shall not excuse or delay Metro's performance of work unrelated to the disputed matter.

M. Stipulated Penalties

(1) Subject to Subsections 7.J. and 7.L., upon any violation by Metro of any requirement of this Consent Order, and upon Metro's receipt from DEQ of written notice of violation, Metro shall pay the stipulated penalties set forth in the following schedule:

(a) Up to $5,000 for the first week of violation or delay and up to $ 2,500 per day of violation or delay thereafter, for failure to provide access or records in accordance with Subsection 7.B. or 7.F.

(b) Up to $ 2,500 for the first week of violation or delay and up to $ 1,000 per day of violation or delay thereafter, for:

(i) failure to submit a final work plan, addressing in good faith DEQ's comments on the draft work plan or incorporating DEQ modifications to the work plan, in accordance with the SOW's schedule and terms;

(ii) failure to perform work in accordance with an approved work plan's schedule and terms;

(iii) failure to perform additional work required by DEQ under Subsection 5.B.; or

(iv) failure to submit a final report, addressing in good faith DEQ's comments on the draft report or incorporating DEQ modifications to the report, in accordance with an approved work plan's schedule and terms.

(c) Up to $500 for the first week of violation or delay and up to $500 per day of violation or delay thereafter, for:

(i) failure to submit a good faith draft work plan in accordance with the SOW's schedule and terms;

(ii) failure to submit progress reports in accordance with Subsection 7.G.; or

(iii) any other violation of the Consent Order, SOW, or an approved work plan.

(2) Within 30 days of receipt of DEQ's written notice of violation, Metro either shall pay the amount of such stipulated penalty assessed, by check made payable to the "State of Oregon, Hazardous Substance Remedial Action Fund", or request a contested case regarding the penalty assessment in accordance with Subsection 7.M.(3). Metro shall pay simple interest of 9% per annum on the unpaid balance of any stipulated penalties, which interest shall begin to accrue at the end of the 30-day payment period. Any unpaid amounts that are not the subject of a pending contested case, or that have been determined owing

after a contested case, are a liquidated debt collectible under ORS 293.250 and other applicable law.

(3) In assessing a penalty under this subsection, the Director may consider the factors set forth in OAR 340-12-045. Metro may request a contested case hearing regarding the penalty assessment in accordance with OAR Chapter 340 Division 11. The scope of any such hearing must be consistent with the stipulations set forth in Section 2 of this Consent Order; must be limited to the occurrence or non-occurrence of the alleged violation; and may not review the amount of the penalty assessed. Penalties may not accrue pending any contested case regarding the alleged violation. Violations arising out of the same facts or circumstances or based on the same deadline are considered as one violation per day.

N. Enforcement of Consent Order and Reservation of Rights

(1) In lieu of stipulated penalties under Subsection 7.M., DEQ may assess civil penalties under ORS 465.900 for Metro's failure to comply with this Consent Order. Penalties may not accrue pending any contested case regarding the alleged violation. In addition to penalties, DEQ may seek any other available remedy for failure by Metro to comply with any requirement of this Consent Order, including but not limited to termination of this Consent Order or court enforcement of this Consent Order.

(2) Subject to Section 2, Metro does not admit any liability, violation of law, or factual or legal findings, conclusions, or determinations made by DEQ under this Consent Order.

(3) Subject to Subsection 2.G., nothing in this Consent Order prevents Metro from exercising any rights of contribution or indemnification Metro might have against any person regarding activities under this Consent Order.

O. Indemnification

(1) Metro shall save and hold harmless the State of Oregon and its commissions, agencies, officers, employees, contractors, and agents, and indemnify the foregoing from and against any and all claims arising from acts or omissions related to this Consent Order by Metro or its officers, employees, contractors, agents, receivers, trustees, or assigns. DEQ shall not be considered a party to any contract made by Metro or its agents in carrying out activities under this Consent Order.

(2) To the extent permitted by Article XI Section 7 of the Oregon Constitution and by the Oregon Tort Claims Act, the State of Oregon shall save and hold harmless Metro and their officers, employees, contractors, and agents, and indemnify the foregoing, from and against all claims arising from acts or omissions related to this Consent Order of the State of Oregon or its commissions, agencies, officers, employees, contractors, or authorized representatives (excepting acts or omissions constituting DEQ approval of Metro's activities under this Consent Order). Metro shall not be considered a party to any contract made by DEQ or its authorized representatives in carrying out activities under this Consent Order.

P. Parties Bound

This Consent Order is binding on the parties and their respective successors, agents, and assigns. The undersigned representative of each party certifies that he or she is fully authorized to execute and bind such party to this Consent Order. No change in ownership or corporate or partnership status relating to the facility shall in any way alter Metro's obligations under this Consent Order, unless otherwise approved in writing by DEQ. Metro shall notify and provide a copy of this Consent Order to any prospective successor, purchaser, lessee, assignee, or mortgagee of the facility during the term of this Consent Order.

Q. Modification

DEQ and Metro may modify this Consent Order by written agreement.

R. Effective Date

The effective date of this Consent Order shall be the date of signature by the DEQ **[Region]** Administrator.

8. **Duration**

This Consent Order is deemed satisfied upon completion of work required under this Consent Order and payment by Metro of any outstanding oversight costs and penalties. DEQ shall determine whether work under this Consent Order is satisfactorily completed and the Consent Order terminated, by letter issued within 60 days of receipt of the last deliverable required from Metro under this Consent Order, or as soon thereafter as reasonably practicable.

9. **Signatures**

STIPULATED, AGREED, and APPROVED for issuance:

Metro

By: _____ Date: _____
(Signature)

_____
(Name)

_____
(Title)

STIPULATED, AGREED, and so ORDERED:

State of Oregon
Department of Environmental Quality

By: _____ Date: _____
(Signature)

[Name]

[Region] Administrator

ATTACHMENT C

DRAFT REMEDIAL INVESTIGATION/FEASIBILITY STUDY SCOPE OF WORK

I. SCHEDULE

Metro shall submit for DEQ review and approval Remedial Investigation (RI), Risk Assessment ***(RA)*** and Feasibility Study (FS) work plans and reports which address all elements of this Scope of Work (SOW). Elements of the SOW may be addressed by alternative means or by using existing data or information to the extent that the data are applicable, meet the objectives of the RI/FS, and are of acceptable quality.

All work completed under this *Agreement* shall proceed in accordance with the schedule below:

RI Proposal	To DEQ within ***120*** days of issuance of this *Agreement*.
Metro/DEQ Meeting	Within **15** days of receipt of RI Proposal.
Draft RI Work Plan	To DEQ within ***60*** days of meeting with DEQ to discuss the RI Proposal.
DEQ Review and Comment	Within **30** days of receipt of draft work plan.
Metro/DEQ Meeting	Within **15** days of completing its review DEQ will meet with Metro to discuss any required changes in the RI Work plan.
Final RI Work Plan	To DEQ within ***30*** days of meeting with DEQ on draft RI Work Plan.
Initiation of RI	To be specified in Project Management section of RI Work Plan.
Completion of RI/FS	The RI/FS must be completed within **4** years of issuance of this Consent Order

The schedule for additional deliverables specified in this SOW (e.g. Risk Assessment work plan, Feasibility Study work plan, Remedial Investigation report, Risk Assessment report and Feasibility Study report) should be specified in the Project Management Plan section of the RI work plan.

All work plans may be amended by **Metro** as necessary to reflect or incorporate newly discovered information and/or environmental conditions. Additional work plans and work plan amendments are subject to DEQ review and approval and shall be processed according to schedules negotiated between the parties at the time of each phase change or task addition. **Metro** shall initiate and complete work according to the schedule specified in the applicable approved work plan or amendment.

II. OBJECTIVES

A. Work performed under this Consent Order shall complement and incorporate existing site information. The overall objectives shall be as follows:

1. Identify the hazardous substances which have been released to the environment.

2. Determine the nature, extent and distribution of hazardous substances in affected media on- and off-site.

3. Determine the direction and rate of migration of hazardous substances.

4. Identify migration pathways and receptors.

5. Determine the risk to human health and/or the environment.

6. Identify hot spots of contamination.

7. Develop the information necessary to evaluate remedial action alternatives and select a remedial action.

8. Generate or use data of sufficient quality for site characterization, risk assessment, and the subsequent analysis, and selection of remedial alternatives.

B. Additional specific RI objectives will be developed in the RI Proposal based on review and analysis of existing and available information.

III. RI PROPOSAL

The RI Proposal shall discuss ***Metro's*** proposed approach to the RI, addressing soil, groundwater, surface water, sediments, and air. The proposal will provide the framework for the RI Work Plan and will include at a minimum, a summary of data collected to date, a conceptual site model (including a conceptual site hydrogeologic model), and a description of proposed investigation tasks, phases, and schedule necessary to satisfy the objectives of this SOW.

The proposal shall address site hydrogeologic characteristics, including but not limited to the following:

1. Heterogeneity and anisotropy of the overbank silt deposits (OBS), including hydraulic properties of sand lenses present within the OBS.

2. Leachate distribution within the landfill, including hydraulic head relationships and vertical hydraulic gradients at and below the landfill's base.

3. Vertical hydraulic gradients in the Pleistocene Gravel (PG) aquifer, in the Columbia River sand (CRS), and in the OBS near the PSU-Groundwater-Model predicted leachate impacted area.

4. Seasonal groundwater flow maps for the OBS and PG units (including CRS where present), and cross-sectional flow nets for the OBS from actual water level measurements to verify computer model predictions and help assess potential off-site sources of contamination.

5. Installation of monitoring wells necessary to determine groundwater chemistry in the model-predicated area of leachate impact in the PG aquifer, beneath the landfill footprint in the upper layers of the OBS, and west of the landfill near monitoring well G-6 in the upper, middle and lower portions of the OBS.

6. Installation of additional monitoring wells in the PG aquifer as needed to characterize contamination of the aquifer on a site-wide scale.

In addition, the development of RI objectives shall address the potential impacts to surface water and sediment. Specifically, the RI objectives shall include: analysis of existing surface water and sediment data; further sampling and analysis of sediments and surface water as needed to characterize landfill impacts; analysis of contaminants in groundwater wells adjacent to surface water; and, where feasible, direct analysis of contaminants in groundwater seepage within the zone of interaction between groundwater and surface-water.

IV. REMEDIAL INVESTIGATION WORK PLAN

The work plan shall be developed in accordance with applicable Oregon Administrative Rules (OAR 340-122-010 through -115), DEQ guidance and the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, OSWER Directive 9355.3-01, 1988, as appropriate. Existing data may be used if it meets data quality objectives for the RI/FS. The submitted work plan shall include, but not be limited to the following items:

A. PROJECT MANAGEMENT PLAN

The RI Work Plan shall include a proposed schedule for submittals and implementation of all proposed activities and phases pertaining to this scope of work (this schedule will include target dates for the submittal of a Risk Assessment work plan, Feasibility Study work plan, and submittal of draft and final Remedial Investigation, Risk Assessment and Feasibility Study reports); a description of

the personnel (including subcontractors, if known) involved in the project, and their respective roles in the project; and a discussion of how variations from the approved work plan will be managed.

B. SITE DESCRIPTION

The RI work plan shall include a discussion of the current understanding of the physical setting of the site and surrounding area; the site history; hazardous substance and waste management history; and current site conditions.

C. SITE CHARACTERIZATION PLAN

The Site Characterization plan shall be consistent with DEQ guidance and the requirements specified in OAR 340-122-080. The site characterization plan shall include, but not be limited to, characterization of the hazardous substances, characterization of the facility, identification of potential receptors and the collection and evaluation of information relevant to the identification of hot spots of contamination, and shall address the following:

1. **Soils**

Objective: To identify and characterize releases of hazardous substances from the facility to soils.

Scope: The plan shall supplement previous soil sampling at the facility. The plan shall address all areas which could potentially have received spills, leaks from tanks or piping, been used for waste treatment or disposal, or have been affected by contaminated surface water or storm water runoff, and all other areas where soil contamination is known or suspected.

Procedures: The plan shall be designed and conducted to determine the vertical and lateral extent of soil contamination, characterize the site geology, determine the physical and chemical soil characteristics relevant to the RI, evaluate the potential for contaminant migration and gather the information necessary to identify hot spots of contamination. The plan shall include the proposed methodology for characterizing soil.

2. **Groundwater**

Objective: To identify and characterize releases of hazardous substances and other non-hazardous substances that might affect the beneficial water uses within the locality of the facility, or otherwise characterize the geochemical characteristics of groundwater within the locality of the facility.

Scope: The plan shall supplement previous investigations at the facility and shall identify and characterize all past, current and potential releases of hazardous substances to groundwater.

Procedures: The plan shall be designed and conducted to determine the vertical and lateral extent of groundwater contamination, both on and, if applicable, off-site; characterize the site hydrogeology, determine the physical and chemical water bearing zone characteristics relevant to the RI; evaluate the potential for contaminant migration through groundwater; and gather the information necessary to identify hot spots of contamination. The plan shall include the proposed methodology for characterizing groundwater. Alternative methods for characterizing groundwater should be considered to accelerate the RI. Monitoring wells and other holes must be drilled, constructed and decommissioned in accordance with OAR Chapter 690, Division 240 and DEQ "Ground Water Monitoring Well, Drilling, Construction and Decommissioning" guidelines (DEQ 1992). Continuous core samples shall be obtained from test borings and monitoring well borings.

3. **Surface Water and Sediments**

Objective: To identify and characterize releases of hazardous substances from the facility to surface water and sediments.

Scope: The plan shall supplement previous investigations at the facility and shall identify and characterize all past, current, and potential impacts to surface waters and sediments.

Procedures: At a minimum, the plan shall delineate past and present surface drainage patterns at the site and evaluate whether surface water and sediments may have been impacted by the facility. Unless this evaluation is sufficient to demonstrate that surface water or sediment quality has not been impacted, an appropriate surface water and sediment characterization plan shall be prepared. The plan shall be designed to delineate the nature and extent of contamination, characterize the site hydrology, determine the physical and chemical surface water and sediment characteristics relevant to the RI, evaluate the potential for contaminant migration and gather the information necessary to identify hot spots of contamination. The plan shall include the proposed methodology for characterizing surface water and sediments.

4. **Air**

Objective: To identify and characterize the release of hazardous substances to the air, from soil, surface water, or groundwater contamination at the facility.

Scope: The plan shall supplement previous investigations at the facility and shall identify and characterize all past, current and potential releases (e.g. contaminated soil or groundwater) of hazardous substances to air.

Procedures: The plan shall include the proposed methodology for evaluating air emissions using appropriate emission calculations and/or a field sampling program. The plan shall be designed to delineate the nature and extent of contamination, characterize the site climatology, determine the physical and chemical air characteristics relevant to the RI, evaluate the potential for

contaminant migration and gather the information necessary to identify hot spots of contamination.

5. **Identification of Current and Reasonably Likely Future Land and Water Use**

Objective: To identify current and reasonably likely future land and water uses in the locality of the facility.

Scope: The plan shall be designed to identify current and reasonably likely future land and water uses for the purposes of identifying hot spots of contamination and conducting the baseline human health and ecological risk assessments based on OAR 340-122-080 and DEQ Guidance.

Procedures: The plan shall include the proposed methodology for identifying current and reasonably likely future land and water uses in the locality of the facility.

D. SAMPLING AND ANALYSIS PLAN (SAP)

Objective: To adequately document all supplemental (RI/FS) sampling and analysis procedures not already addressed in the DEQ approved Environmental Monitoring Plan (EMP).

Scope: In preparation of the SAP, the following guidance documents shall be utilized: Data Quality Objectives for Remedial Response Activities, EPA/540/G-87/004 (OSWER Directive 9355.0-7B), March, 1987; Test Methods for Evaluating Solid Waste, SW-846; and A Compendium of Superfund Field Operations Methods, EPA/540/P-87/001 (OSWER Directive 9355.0-14), December, 1987. The SAP shall address all topics listed in Environmental Cleanup Division Policy #760.000, Quality Assurance Policy.

Procedures: The work plan shall include a sampling and analysis plan (SAP). The SAP shall include quality assurance and quality control (QA/QC) procedures for both field and lab procedures. The SAP shall be sufficiently detailed to function as a manual for field staff.

E. HEALTH AND SAFETY PLAN (HASP)

Objective: To establish policies and procedures to protect workers and the public from the potential hazards posed by a hazardous materials site.

Scope: The HASP portion of the work plan shall comply with 29 CFR 1910.120 and OAR Chapter 437, Division 2.

Procedures: The HASP shall include a description of risks related to RI activities, protective clothing and equipment, training, monitoring procedures, decontamination procedures and emergency response actions.

F. MAPS

The work plan shall include a map or maps of the facility which clearly shows site topography, on-site structures, waste disposal areas and proposed sampling locations.

V. RISK ASSESSMENT WORK PLAN

A. HUMAN HEALTH RISK ASSESSMENT PLAN

Objective: To evaluate the collective demographic, geographic, physical, chemical, and biological factors at the site, for the purposes of characterizing current or reasonably likely future risks to human health as a result of a threatened or actual release(s) of a hazardous substance; documenting the magnitude of the potential risk at a site; supporting risk management decisions; and establishing remedial action goals if necessary.

Scope: The human health risk assessment shall evaluate risk in the context of current and reasonably likely future land and water uses and in the absence of any actions to control or mitigate these risks (i.e., under an assumption of no action). The human health risk assessment portion of the work plan shall be developed based on the requirements specified in OAR 340-122-084, DEQ guidance, the Risk Assessment Guidance for Superfund - Human Health Evaluation Manual Part A, United States Environmental Protection Agency (EPA), Interim Final, July 1989, (RAGS-HHEM); Human Health Evaluation Manual, Supplemental Guidance: "Standard Default Exposure Factors", EPA, March 1991,(HHE-SG); and the Exposure Factors Handbook, EPA, 1996. A suggested outline for the human health evaluation is given in Exhibit 9-1 of the RAGS-HHEM. The work plan should use this outline as a framework for discussing the methodologies and assumptions to be used in assessing the potential human health risks at the site.

Procedure: The plan shall describe the different tasks involved in preparing the human health risk assessment. The human health risk assessment can be completed using either deterministic or probabilistic methodologies. If probabilistic methodologies are to be used, then Metro shall discuss risk protocol with DEQ before the commencement of a probabilistic risk assessment. If deterministic methodologies are to be used, then the human health risk assessment shall include an estimate of both the central tendency exposure (CTE) and the reasonable maximum exposure (RME) expected to occur under both current and future land use conditions. In general, RME exposures should be based on the 90th percentile exposure case. Additional guidance on quantifying the RME is given in Chapter 6 of the RAGS-HHEM, SRAGS, and HHE-SG. Quantifying the potential risks associated with the RME shall be the overall goal of the risk assessment.

B. ECOLOGICAL RISK ASSESSMENT PLAN

Objective: To evaluate the collective demographic, geographic, physical, chemical, and biological factors at the site, for the purposes of characterizing current or reasonably likely future risks to the environment as a result of a threatened or actual release(s) of a hazardous substance; documenting the magnitude of the potential risk at a site; supporting risk management decisions; and establishing remedial action goals if necessary.

Scope: The ecological risk assessment shall evaluate risk in the context of current and reasonably likely future land and water uses and in the absence of any actions to control or mitigate these risks (i.e., under an assumption of no action). The ecological risk assessment will use a tiered approach (with four levels) to produce a focused and cost-effective assessment of risk. The ecological risk assessment work plan shall be developed based on the requirements specified in OAR 340-122-084; DEQ guidance; Proposed Guidelines for Ecological Risk Assessment, EPA, September 1996; Framework for Ecological Risk Assessment, EPA, February 1992; and Risk Assessment Guidance for Superfund, Volume II, Environmental Evaluation Manual, Interim Final, EPA, March 1989 (RAGS-EEM).

Procedure: The plan shall describe the different tasks involved in preparing the ecological risk assessment. Ecological risk assessments may include a level I scoping plan; a level II screening plan; and a level III baseline plan or level IV field baseline plan. The level III and level IV baseline plans shall include an exposure analysis, an ecological response analysis, a risk characterization and an uncertainty analysis as required by OAR 340-122-084(3). The ecological risk assessment can be completed using either deterministic or probabilistic methodologies. If probabilistic methodologies are to be used, then Respondent shall discuss risk protocol with DEQ before the commencement of a probabilistic risk assessment. If deterministic methodologies are to be used, then the ecological risk assessment shall include an estimate of both the central tendency exposure (CTE) and the reasonable maximum exposure (RME) expected to occur. Estimating the potential risks associated with the RME shall be the overall goal of the risk assessment.

VI. FEASIBILITY STUDY WORK PLAN

Objective: To develop the information required to identify and evaluate remedial action alternatives and select or approve a remedial action to be taken at the facility.

Scope: The Feasibility Study (FS) shall be developed in accordance with the requirements specified in OAR 340-122-085 and 090, DEQ guidance, and Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA, OSWER Directive 9355.3-01, 1988. The FS shall develop and evaluate an appropriate range of alternatives. The FS may be developed in parallel with Remedial Investigation (RI) activities or may be developed and submitted separately after commencement of RI activities.

Procedures: A work plan shall be submitted which will include, but not be limited to, the following:

A. PRELIMINARY EVALUATION OF REMEDIAL INVESTIGATION DATA

The FS work plan shall include a preliminary evaluation of data collected during the RI. The evaluation should be used to identify preliminary remedial alternatives and additional data needs.

B. DESCRIPTION OF FS EVALUATION PROCESS

The FS work plan shall include a description of how remedial alternatives will be developed, screened, and evaluated in detail, including identification of hot spots of contamination and completion of a residual risk assessment.

VII. REPORTS

A. *QUARTERLY REPORTS*

Three copies of the ***Quarterly*** Reports shall be submitted to DEQ by the 10th day of the month following the reporting period. The ***Quarterly*** reports shall summarize activities performed, data results collected or received and problems encountered or resolved during the past ***quarter*** and activities planned for the upcoming ***quarter***.

B. REMEDIAL INVESTIGATION REPORT

The Remedial Investigation report shall follow the outline in Table 3-13 (page 3-30 - 3-31) in the CERCLA RI/FS guidance, as applicable, and address the items listed below:

1. **Executive Summary.**

2. **Introduction.**

3. **Site Background**. A discussion and supporting maps of facility operations, site description, site setting, and current and reasonably likely future land and water uses.

4. **Study Area Investigation.** A discussion of the investigative procedures and results for soil, groundwater, surface water, sediments and air.

5. **Summary and Conclusions.** A discussion of the nature, extent, distribution and environmental fate and transport of contaminants in soil, groundwater, surface water, sediments and air.

6. **Appendices.** Detailed information supporting the results of the Remedial Investigation shall be submitted in the Appendices of the report.

C. RISK ASSESSMENT REPORT

1. **Human Health Risk Assessment Report**

The results of the human health risk assessment should follow the outline suggested by the RAGS-HHEM (see Exhibit 9-1 of the RAGS-HHEM). Justification for not following the outline should be explained.

The main sections of the human health risk assessment report should include the following:

i. Introduction.

ii. Chemicals of Concern.

iii. Exposure Assessment.

iv. Toxicity Assessment.

v. Risk Characterization.

vi. Uncertainty analysis.

2. **Ecological Risk Assessment Report**

The main sections of the ecological risk assessment report should include the following:

i. Problem Formulation.

ii. Exposure analysis.

iii. Ecological response analysis.

iv. Risk characterization.

v. Uncertainty analysis.

D. FEASIBILITY STUDY REPORT

The results of the Feasibility Study (FS) shall be submitted to DEQ in a report which, at a minimum, includes a full evaluation of remedial action alternatives. The FS shall provide a workable number of options, acceptable to DEQ, which achieve the remedial action objectives and are protective of public health, safety and welfare, and the environment.

The results of the FS should comply with OAR Chapter 340, Division 122, DEQ Guidance, and, as appropriate, Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA OSWER Directive 9355.3-01, 1988. The results of the feasibility study should follow the outline suggested in Table 6-5 (Page 6-15) of the CERCLA RI/FS guidance.

The main sections of the FS report should include the following:

1. **Introduction**

2. **Identification of Hot Spots of Contamination.**

3. **Identification of Areas or Volumes of Media which Require Remedial Action.** Identify areas or volumes of media which exceed the acceptable risk level and areas or volumes of media which have been identified as hot spots of contamination.

4. **Development of Remedial Action Objectives.** Develop and discuss the remedial action objectives (RAOs) that meet the standards in OAR 340-122-040.

5. **Identification and Screening of Remedial Technologies.** Identify potential containment, treatment, and removal technologies and eliminate (screen) those technologies that cannot be implemented at the site.

6. **Development and Screening of Preliminary Remedial Action Alternatives.** Develop a range of preliminary remedial action alternatives acceptable to DEQ.

7. **Detailed Analysis of Remedial Action Alternatives.** Analyze remedial action alternatives in detail according to the requirements set forth in OAR 340-122-085 and 090.

8. **Comparative Analysis of Remedial Action Alternatives.**

9. **Recommended Remedial Action Alternative.** Recommend a remedial action alternative based on the comparative analysis of remedial action alternatives. Perform a residual risk assessment on the recommended alternative as specified in OAR 340-122-084(4).

E. REPORT DISTRIBUTION.

1. ***Three bound and one unbound copy*** of all reports should be submitted to DEQ.

2. DEQ requests that all copies be duplex printed on recycled paper.

ATTACHMENT 2

CONFIRMED RELEASE LIST
Annual Environmental Monitoring Report - 2002
St. Johns Landfill

Original CRL List [1]

	Group 2b: Trace Metals	
1	Arsenic	
2	Barium	
3	Chromium	
4	Lead	
	Group 3: VOC	
5	1,1,1-trichloroethane	
6	1,1,2-trichloroethylene	
7	1,1-dichloroethane	
8	1,1-dichloroethylene	
9	1,2-dichloroethylene	
10	Acetone	
11	Benzene	
12	Carbon disulfide	
13	Carbon tetrachloride	
14	Chlorobenzene	
15	Chloroethane	
16	Ethyl benzene	
17	Methylene chloride	
18	Tetrachloroethylene	
19	Toluene	
20	Vinyl chloride	
21	Xylenes	
	SJLF Priority Pollutants	
22	1,4-dichlorobenzene	
23	Lindane	
24	Mercury	

	Added Substances [2]	**Sample Dates [3]**	**Parameter Group**
25	Beryllium	1994	2b: Trace Metals
26	Antimony	1994-1995	2b: Trace Metals
27	Nickel	1994-1998	2b: Trace Metals
28	Thallium	1995-1997	2b: Trace Metals
29	bis-(2-ethylhexyl)phthalate	1996 -2000	SJLF PP
30	1,2-dichlorobenzene	2001	3: VOC
31	Selenium	2001	2b Trace Metals
32	t-1,2-Dichloroethene	2002	3: VOC

Notes

[1] List of substances identified by DEQ in 1994 as confirmed releases from the site. Based on a review of groundwater data for samples collected in Oct. 1993 and Feb. 1994. This list was the basis for DEQ's listing of SJLF on the Confirmed Release List and Inventory.

[2] Substances added by Metro to the list based on review of groundwater data using criteria specified in the EMP (Section 5.3), approved in 2001.

[3] The year(s) during which the substance was detected at a level that warranted adding it to the list.

ATTACHMENT 3

SELECTED REFERENCES
For
REMEDIAL INVESTIGATION / FEASIBILITY STUDY
ST. JOHNS LANDFILL

- Cornforth Consultants, 1990. St. Johns Landfill Closure: Leachate Migration, Perimeter Dike. Prepared for Metro.
- Cornforth Consultants, Inc., Sept. 1991. St. Johns Landfill Closure – Leachate Seepage Mapping, Old Perimeter Dike.
- City of Portland Bureau of Planning, 1990. Natural Resources Management Plan for Smith and Bybee Lakes.
- Ecology & Environment, 1986. Final Report: St. John's Landfill National Dioxin Study, Portland, Oregon. Prepared for the USEPA, TDD R10-8410-13.
- Emcon, 1997. Assessment of PSU Groundwater Flow Model of St. Johns Landfill, Portland, Oregon. Prepared for Metro.
- Fishman Environmental Services 1987. Smith and Bybee Lakes Environmental Studies. Prepared for the City of Portland.
- Fishman Environmental Services 1989. Columbia Slough Planning Study Background Report. Prepared for the City of Portland.
- Li, Shu-Guang, and Thomas Lowry, 1995. St. Johns Landfill Groundwater Modeling System: Predicting Leachate Mounding, Fluxes and Offsite Migration, Technical Report EWR-9-95, Portland State University. Prepared for Metro.
- Li, Shu-Guang, and Thomas Lowry, 1997. High Resolution Profile Models For St. Johns Landfill, Technical Report EWR-1-97, Portland State University. Prepared for Metro.
- Li, Shu-Guang, et. al., 1997. St. Johns Landfill Modeling System: Sensitivity Simulations and Response to Emcon Review Comments, Portland State University. Prepared for Metro.
- Luzier, J., and D. Livermore, 1986. Groundwater Hydrology of the Smith and Bybee Lakes Region, Portland, Oregon (In Smith and Bybee Lakes Environmental Studies, Appendix B).
- Metro, 1989. Revised Closure and Financial Assurance Plan: St. Johns Landfill.
- Metro, 1992. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1991 to June 30, 1992.
- Metro, 1993. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1992 to June 30, 1993.
- Metro, 1994. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1993 to June 30, 1994.
- Metro, 1995. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1994 to June 30, 1995.
- Metro, 1996. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1995 to June 30, 1996.
- Metro, 1997. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1996 to June 30, 1997.

- Metro, 1998. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1997 to June 30, 1998.
- Metro, 1999. St. Johns Landfill Closure Project: Annual Report to the Oregon Department of Environmental Quality: July 1, 1998 to June 30, 1999.
- Metro, 1992. St. Johns Landfill Groundwater Monitoring Well Improvement and Piezometer Installation, Request for Bids #92B-13-SW.
- Metro, 1995. Controlling Seepage from St. Johns Landfill to Surrounding Surface Water.
- Metro, 1995. Screening-Level Risk Assessment for the Smith-Bybee Natural Resources Management Area. Prepared by Parametrix, Inc.
- Metro, 1999. Analysis of Data Related to Surface Water Quality in Columbia Slough and its North Slough Arm within the Smith & Bybee Lakes Natural Area (October 1997 – December 1998)
- Metro, 2000. Analysis of Data Related to Surface Water Quality in Columbia Slough and its North Slough Arm within the Smith & Bybee Lakes Natural Area (October 1998 – December 1999)
- Metro, 1997, Draft 1997 Environmental Quality Monitoring Plan for Smith-Bybee Lakes Wildlife Area Including St. Johns Landfill.
- Metro, 2001, Environmental Monitoring Plan for St. Johns Landfill
- Metro, 2002, Annual Environmental Monitoring Report 2000 & 2001: St. Johns Landfill. Prepared for Metro by Parametrix, Inc.
- Metro, 2003, Annual Environmental Monitoring Report 2002: St. Johns Landfill. Prepared for Metro by Parametrix, Inc.
- Parametrix, 1995. St. Johns Landfill Closure Leachate Seepage Mapping Report, Prepared for Metro.
- Parametrix, 1996. St. Johns Landfill Seep Survey, Prepared for Metro.
- **[Rhodia...]**
- Stevens, Thompson & Runyan, 1972. Final Report: Portland Sanitary Landfill Hydrogeological Studies.
- Stevens, Thompson & Runyan, 1974. Leachate Monitoring Report For the St. John's Landfill, 1972-74.
- Sweet-Edwards and Associates. 1983. Metro/St. Johns Sanitary Landfill - Water Quality Study. Prepared for Metro.
- Sweet-Edwards/Emcon, 1989. St. Johns Landfill Water Quality Impact Investigation and Environmental Management Options. Vols. 1-4. Prepared for Metro.
- **[Union Carbide...]**
- Wells, S., 1992. Analysis of Management Alternatives for Improving Water Quality in North Slough Adjacent to the St. Johns Landfill, Technical Report EWR-008-92, Portland State University.
- Wells, S., 1995. Analysis of Impacts of Flow Augmentation from Smith and Bybee Lakes on North Slough, Dissolved Oxygen Conditions. Technical Report EWR-1-95, Portland State University.
- Wells, S.A. (1995) Hydraulic Modeling of Opening Smith and Bybee Lake to the Lower Columbia Slough, Portland State University;

STAFF REPORT

IN CONSIDERATION OF RESOLUTION NO. 03-3318, FOR THE PURPOSE OF AUTHORIZING THE RELEASE OF REQUEST-FOR-PROPOSALS NO. 03-1066-SWR FOR A REMEDIAL INVESTIGATION AND FEASIBILITY STUDY OF ST. JOHNS LANDFILL.

Date: April 11, 2003 Prepared by: Paul Vandenberg

BACKGROUND

Chapter 465 of the Oregon Revised Statutes requires that the Oregon Department of Environmental Quality (DEQ) develop and maintain a list of facilities in the state where a release of hazardous substances to the environment has been confirmed. Chapter 465 also requires that DEQ develop and maintain an inventory of facilities on the Confirmed Release List that need further investigation, removal, remedial action, long-term environmental controls or institutional controls to assure protection of present and future public health, safety, welfare, or the environment.

In 1995 DEQ added Metro St. Johns Landfill to both the Confirmed Release List and the Inventory. On the basis of these listings and the rules promulgated to address them, DEQ intends to issue to Metro a Consent Order requiring a Remedial Investigation to determine the nature and extent of release of hazardous substances from the landfill, and a Feasibility Study to evaluate and recommend options for cleanup of such substances, as necessary.

On April 10, 2003, DEQ issued public notice of a proposed Solid Waste Disposal Site Closure Permit for St. Johns Landfill. Attached to this permit is the Consent Order, which lays out the process for the Remedial Investigation and Feasibility Study. The notice initiated a 40-day period during which the public will be allowed to submit verbal or written comments to DEQ on the Consent Order and permit. DEQ intends to incorporate public comments into the draft Consent Order and permit, as appropriate, before issuing them to Metro.

The broad objectives of the Remedial Investigation include characterizing the extent and distribution of hazardous substances released to the environment, and assessing the ecological and human health risks posed by those substances. The objectives are listed in the Remedial Investigation / Feasibility Study Scope of Work to be included in the Consent Order.

The Feasibility Study will evaluate alternative remedies or corrective measures for reducing risks identified in the Remedial Investigation.

Based on the approved findings of the Remedial Investigation and Feasibility Study, DEQ will issue a Record of Decision (ROD) that will establish remediation, monitoring, and related requirements for St. Johns Landfill. If DEQ determines that further remediation is justified at the site, and is feasible, the ROD will include the required remedial measures and cleanup levels for specified contaminants and areas. The ROD will also include risk-based contaminant concentration limits that will serve as criteria for evaluating future monitoring results. The process leading to the ROD is expected to take up to four years.

Under the Consent Order Metro will be required to procure the professional services of a qualified consultant with special technical expertise needed to perform a Remedial Investigation and Feasibility Study. The Remedial Investigation and Feasibility Study involves a formal stepwise process requiring approval by DEQ at the end of each of 3 key phases before proceeding to the next phase.

The scope of work and schedule for the second and third phases cannot be known until information from the previous phase has been presented to and evaluated by DEQ. Therefore, it is recommended that contract amendments for later phases be negotiated with the consultant after Phase 1 is completed. This will ensure conformance with approved work products, and will provide continuity and cost-effectiveness to the project. This contract framework is similar to that used for transportation study contracts.

If Metro determines for any reason that contract amendments are not desirable to establish workscope detail and costs for the second and third phases of the Remedial Investigation and Feasibility Study, Metro reserves the right to issue a new RFP and procure contracted professional services for one or both subsequent phases.

ANALYSIS/INFORMATION

1. **Known Opposition**
   There is no known opposition to this authorization request.

2. **Legal Antecedents**
   Metro Code 2.04.026 requires Council authorization of request for proposals designated as having a significant impact on Metro prior to release of the proposal documents to vendors.

3. **Anticipated Effects**
   The anticipated effect of this authorization is a 4-year personal services agreement for a Remedial Investigation and Feasibility Study of St. Johns Landfill, with amendments to the agreement for Phase 2 and Phase 3 of the project. If Metro exercises its right to issue a new RFP for Phase 2 and Phase 3, in lieu of contract amendments, up to 3 personal services agreements totaling 4 years would be executed to complete the Remedial Investigation and Feasibility Study.

4. **Budget Impacts**
   The amount budgeted in the St. Johns Landfill Closure Account for a Remedial Investigation and Feasibility Study for Fiscal Year 2002-2003 is $165,000. The amount in the proposed FY 2003-004 budget is $171,600. As a result of the required approval by DEQ of work products throughout the RI/FS project, the work scope is expected to evolve as the contract progresses. On that basis, the cost of the project may be larger or smaller than the amount currently budgeted, but cannot be accurately estimated at this time.

RECOMMENDED ACTION

The Chief Operating Officer recommends approval of Resolution No. 03-3318 thereby:

1. Authorizing the release of [redacted] for a Remedial Investigation and Feasibility Study of St. Johns Landfill.
2. Pursuant to Section 2.04.026 of the Metro Code, authorizing the Chief Operating Officer to execute a contract with the most responsive proposer for Phase 1 of the Remedial Investigation and Feasibility Study; and,
3. directing staff to complete Phase 1 and then return for authorization to amend the contract with the selected consultant or to issue a new RFP for Phase 2 and Phase 3 of the Remedial Investigation and Feasibility Study.

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