November 8, 2013

Request for Proposal

Department of Development and Public Works
The Mill Race Stormwater Facility Engineering Services
RFP #1077

ADDENDUM #1

The City of Springfield is hereby amending the above mentioned RFP. The original document can be found on the City's website at www.springfield-or.gov . By selecting the hyperlink *Purchasing/Contracts* from the menu on the left side of the home page, interested parties will be linked to the RFP/ITB page.

1. **Question:** Would it be possible for me to have access to the proposal that AMEC submitted for the feasibility study for this project?

   City's Response: AMEC's RFP response is Attachment #1 to this addendum .

In the event that it is necessary to further amend, revise or supplement any part this ITB, additional addenda will be posted on the City's website at http://www.springfield-or.gov (select the ***Purchase Contracts*** hyperlink and RFP#1077 Addendum #1 The Mill Race Stormwater Facility Engineering. As stated in the original solicitation, City will make a reasonable effort to provide the addenda to all Proposers to whom City provided the initial RFP. This addendum shall be considered part of the specification of the RFP. The City is not responsible for any explanation, clarification, interpretation or approval made or given in any manner except by written addenda issued by City.

ALL BIDDERS SHOULD ACKNOWLEDGE AND INCLUDE THIS ADDENDA #1 AS PART OF THEIR SUBMITTAL PACKAGE.

Proposal for the Mill Race Stormwater Facility Feasibility Study

Prepared by:
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7376 SW Durham Road
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March 1, 2013

Aerial photo courtesy of RaptorViews – Philip Bayles

Prepared for:
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Teaming Partner:

March 1, 2013
Proposal No. 13 061

City of Springfield – Finance Department
Procurement and Contracts Manager
225 Fifth Street
Springfield, OR 97477

Attn: Jayne McMahan

RE: RFP #918: Mill Race Stormwater Facility Feasibility Study

Dear Ms. McMahan:

The City of Springfield has important goals for this project. You have aspirations to the community to provide high-value recreational and educational amenities as well as obligations to Federal agencies, laws, and your partners. This site has its challenges, but it has potential for both high quality stormwater treatment and outstanding public amenities. The following pages show that our team will incorporate state-of-the art design methods and stormwater management technologies currently available. From continuous hydrologic modeling to green infrastructure and even rain water harvesting, this site has the potential to be a showcase for new urban stormwater management techniques.

You need a team of seasoned skilled professionals to have the greatest confidence of overcoming any limitations this site may present. Our team of environmental scientists, water resources engineers, natural resources biologists and landscape/park professionals offers you the greatest potential of finding workable solutions to any issues that might be encountered. The experience highlighted for this proposal represents the tip of the iceberg when it comes to environmental and stormwater problems solved by this team. The total experience of team members shown on our Organizational Chart is over 300 years.

John Kuiper, R.G., is authorized to legally bind AMEC in contractual obligations. Phil Pommier, P.E., will be project manager for this project and your contact during the proposal review phase. AMEC Environment & Infrastructure, Inc. (AMEC) has reviewed your proposed contract and we accept all terms and conditions, including those found in the RFP. AMEC has been licensed to do business in the State of Oregon since 1974 and qualifies as a resident bidder. We have the resources and capabilities to start immediately and can complete the project in accordance with the schedule provided. We will honor the fee shown for 90 days from the date of this letter.

We look forward to your review of our proposal and hope you will agree that AMEC is the best qualified for this exceptional opportunity.

Sincerely,
AMEC Environment & Infrastructure, Inc.

John L. Kuiper, RG
Vice President

Phil Pommier, PE
Principal Water Resources Engineer

[7376 SW Durham Road. Portland, OR. 97224 Ph. 503-639-3400 Fax. 503-620-7892]

1 Project Understanding

The AMEC team understands that the multi-year Mill Race Aquatic Ecosystem Restoration Project the City implemented with the US Army Corps of Engineers (USACE) is nearing completion. As outlined in a 2005 Project Cooperation Agreement with USACE, the City is now obligated to ensure that stormwater runoff from lands within its jurisdiction are treated before being discharged into the restored Mill Race. We also understand that previous drainage planning has determined that a series of projects will be needed to achieve the City's commitment to clean stormwater runoff.

The Mill Race Stormwater Facility is one of these important stormwater projects. This project will intercept and treat stormwater from approximately 134 acres of the City's industrial and commercial areas located south of Main Street. But of equal importance the AMEC team understands that the Springfield Mill Race is a regionally significant public open space with natural, recreational, and historic attributes. So in addition to this facility's primary stormwater treatment function, the project will be a tremendous resource for both community education and recreation.

Figure 1 illustrates the AMEC team features for ensuring that the City's stated project goals are met.

Figure 1 | AMEC Team Features

Springfield Project Team Goals	AMEC Team Features
Fulfillment of Springfield's obligations toward Mill Race water quality, habitat enhancement and NPDES Discharge Requirements	• Deep expertise in water quality characterization, structural and non structural treatment systems, aquatic ecosystem function, and project implementation • Demonstrated experience in implementing habitat enhancement projects • Demonstrated experience in environmental permitting • Thorough approach to feasibility analysis with clear understanding of potential fatal flaws • Wide range of available in-house experts able to address issues from geotechnical to cultural, environmental constraints to implementation, permitting to habitat restoration • Use of continuous hydrologic methods, rather than design storm methods, to evaluate actual hydrologic statistics based on simulations of over five decades
Support Springfield's responsibilities to the USACE Section 206 Mill Race Aquatic Ecosystem Rehabilitation Project	• In-house team includes experts in aquatic chemistry, environmental site assessments, and the characterization of stormwater pollutants • Team includes experienced natural resources professionals, wetland and upland biologists, fisheries experts and permit specialists
Support Team Springfield plans for recreational and educational amenities	• Team includes Richard Satre, AICP, ASLA, whose 8-year tenure with Willamalane Park and Recreation District uniquely qualifies him as a regional park and recreation expert • Clear understanding of community values for educational and recreational amenities

The AMEC team further understands that this project will be challenging for a variety of reasons. Our goal will be to identify each of these challenges and to find an approach that minimizes or negates them. Challenges include:

- geotechnical issues related to the characteristics of subsurface soils and groundwater depth;
- site environmental issues related to wetlands, permitting, potential site contaminants and their appropriate disposition during construction;
- characterization of the quality and quantity of the incoming stormwater;
- treatment mechanisms and their anticipated effectiveness;
- and relatively flat grades with their impact on flow hydraulics and achieving desired design functions.

AMEC's objectives for this design effort are to:

- establish the characteristics of the incoming flow;
- indentify a minimum of three different treatment alternatives;
- determine the feasibility of each alternative in achieving the City's stated goals and objectives;
- estimate the lifecycle costs and maintenance requirements;
- and make a recommendation of a preferred alternative with a discussion of the reasons for its selection.

Understanding and verifying the feasibility of each alternative on a site of this nature will require the advancement of each alternative design to approximately the 30% completion level. This ensures that factors limiting project implementation are well understood and fully addressed. Grading plans for each alternative will be developed to validate concepts and demonstrate that plan elements will work within site restrictions.

Our team understands that an important aspect of determining the overall feasibility of an identified alternative is the assessment of risks. Construction of a Mill Race Stormwater Facility on the chosen site has several risks that must be assessed. First, there is a risk that improper stormwater treatment at this location could contaminate groundwater. Based on our current understanding of site history we do not anticipate groundwater contamination to be an issue. Second, there is the risk that contaminated soils on the site will have a detrimental impact on the cost of soil processing. Again, our current understanding of site history suggests little concern. Finally there is a risk that site design requirements could result in upstream flooding or increased pipe maintenance costs due to the loss of hydraulic conveyance capacity. Our team includes hydraulics experts that won't let that happen. AMEC's team offers the City a deeply experienced, multi-disciplinary team that can thoroughly assess these risks to assure the City that the preferred alternative offers the lowest risk option available.

The following sections discuss the AMEC team's further understanding of various project issues and how they have influenced our approach in these areas.

1.1 Regional Geology

Regional geology consists of Willamette and McKenzie River alluvium overlying marine sediments of siltstone and sandstone and basaltic material from the Little Butte volcanic series. The alluvium is up to 100 feet thick regionally and perhaps 53 feet thick locally. It consists of interbedded sands and gravels with some layers of silt and clay. It would be common to encounter up to 4 feet of gravel fill at the surface. Native silt is generally found from 8 to 15 feet below ground surface. And below that are found the older alluvial deposits of sand and gravel. Groundwater is generally present within these sand and gravel materials approximately 8 to 12 feet below ground surface. A high number of private water supply wells are known to exist within this area and most are very shallow around 20 to 30 feet. This gives testament to the aquifer's productivity.

1.2 Pollutants of Concern

AMEC understands that the City's recently revised Design Standards (Dec 2012) identified the following pollutants of concern:

- Suspended solids (sediment)
- Heavy metals (dissolved and particulate, such as lead, copper, zinc, cadmium, and mercury)
- Nutrients (such as nitrogen and phosphorus)
- Bacteria and viruses
- Organics (such as oil, grease, hydrocarbons, pesticides, and fertilizers)
- Floatable debris (primarily trash)
- Increased thermal load (temperature)

Total maximum daily loads (TMDLs) have been established on this section of the Willamette River for temperature, bacteria and mercury. Design features have been identified in the City's revised Design Standards to address these issues including:

- Large-canopy tree planting
- Surface infiltration, treatment and/or filtering of "clean" surface water runoff
- Low impact development techniques also called green infrastructure

Our team understands it will be important to include as many of these design features as possible in the Mill Race Stormwater Facility. These design features will make the project a stronger environmental statement and educational tool for the City.

1.3 Treatment Options

Numerous options for stormwater treatment (i.e. mechanical, vegetative, infiltration) exist. In order to evaluate the processes that will most effectively treat stormwater entering the site via the 48 inch storm sewer the stormwater quality must be understood. AMEC will review all available historical stormwater quality information. Treatment processes already evaluated by the Springfield Project Team include physical filtration (e.g. bioswales) and settlement (e.g. a retention pond). Consideration will be given to issues involving contaminants not readily treated by settlement or biofiltration, for example uptake by plants (e.g., treatment pond). Each of these elements, if used, should include benches and shallow water areas to improve retention, infiltration, and habitat complexity.

1.4 Limited Environmental Investigation

The AMEC team understands this site formerly was occupied by a wood products manufacturing facility. This use could have resulted in environmental impacts to property soil and groundwater. Such impacts must be considered in the design and planning of stormwater treatment facilities. For example, infiltration of stormwater should not occur if soil underlying the infiltration area is impacted. Also, if the treatment facility design includes soil excavation and off-site transport, the condition of the soil must be known.

If contaminants are present in the soil above levels of concern, the cost of disposal could be substantial. The feasibility study will include a review of environmental reports previously completed for this site and in the vicinity. Our work plan includes limited environmental investigations, in conjunction with geotechnical explorations, to assess baseline soil and groundwater quality beneath the site and if further study is needed. If contaminated soils are present then our first goal will be to determine how they can be used on site. The proposed site uses of stormwater treatment and recreational amenities provide design opportunities that would not be available in a playground for example.

1.5 Wetland and Regulatory Permitting

AMEC performed a preliminary review of the National Wetlands Inventory and Local Wetlands Inventory maps to determine if wetlands are known to be present at the site. According to these inventories, no wetlands are present. However, site conditions have changed significantly in the past few years and the inventories may no longer be accurate. AMEC performed a site walk on February 22, 2013 and observed several areas of standing water containing potential wetland vegetation.

For the current assignment AMEC recommends that a wetlands determination be performed as this reduces cost. A wetland determination is sufficient for evaluating project impacts to these resources. And it allows our design team to incorporate any required mitigation into the alternative designs. Ultimately, prior to construction, a wetland delineation will be required which entails greater field and reporting effort. A wetland delineation will require survey grade mapping as well as concurrence from the Oregon Department of State Lands. Concurrence can take as much as 120 days or even longer if disagreements arise concerning the quality or function of these wetlands.

1.6 Hydraulic Site Constraints

Perhaps the most challenging aspect of the site is its hydraulic constraints. According to the record drawings provided with the RFP, the existing 48-inch pipe slope is approximately 0.055% on average. This means that pipe daylighted near the east end of the site is only about 1.0 ft higher than the pipe at its outfall which is approximately 7 to 10 feet below the ground surface. Thus the hydraulic gradeline of the treatment flow entering the site will be very low in elevation and extremely flat. As a result, construction tolerances will be critical. Any hydraulic back up into the system can create maintenance problems or result in upstream flooding greater than what existed before.

With severe hydraulic site constraints it would not be prudent to rely on a traditional single event design storm approach. Such methods contain inherent inaccuracies and are less effective for establishing treatment volumes or flows. For this reason AMEC intends to use its continuous hydrologic model, called the Flow Duration Design Model (FDDM), to perform a rainfall simulation for a period of decades. This will provide accurate statistics for runoff from the 134 acres of commercial and industrial areas planned for this facility. FDDM will be used to hydrologically evaluate each of the alternative site plans developed for this project. AMEC will also conduct a hydraulic analysis to ensure that the storm sewer system affected by these alternatives do not back up flow. This design effort will rely on the physical storm sewer data, watershed land cover and location information tabulated in the City's 2008 Stormwater Facilities Master Plan.

1.7 Low Impact Development

Where possible AMEC will integrate low impact development (LID) design principles into the site design. This will thoroughly meet the City's desired project goals with the multiple site uses of stormwater treatment, recreational and educational amenity. Areas with soils suitable for stormwater infiltration will be identified early in the design process. The proposed site layout will endeavor to set aside these areas for on-site stormwater management purposes whenever compatible with other park improvements.

As the overall site layout is developed, proposed landscape areas will be sculpted to create bioretention or "rain garden" areas. Proposed paved areas will be designed to be porous or to disperse runoff onto vegetated areas, swales, or rain gardens. Pervious site areas that can be amended to improve holding capacity will be incorporated into the site layout. Shallow swales could be used to convey water and/or provide additional infiltration. Designing the site to intercept, collect and infiltrate water in open features saves money otherwise spent on catch basins and pipes. Allowing for infiltration and evapotranspiration processes reduces the overall volume of water leaving the site. It is also consistent with new methods of stormwater design that focus on source control.

After landscaped areas have been leveraged for stormwater management to the extent possible, AMEC's FDDM program (i.e. continuous hydrologic model) will be used to quantify the hydrologic performance of on-site stormwater management. The design goal for these features will be to capture and treat at least 80% of the average annual runoff volume. If the available landscape areas are not sufficient to achieve this goal then permeable paving or subsurface storage of storm water may be considered. Design features such as these would further promote retention of stormwater runoff and enhance the site's overall stormwater control performance.

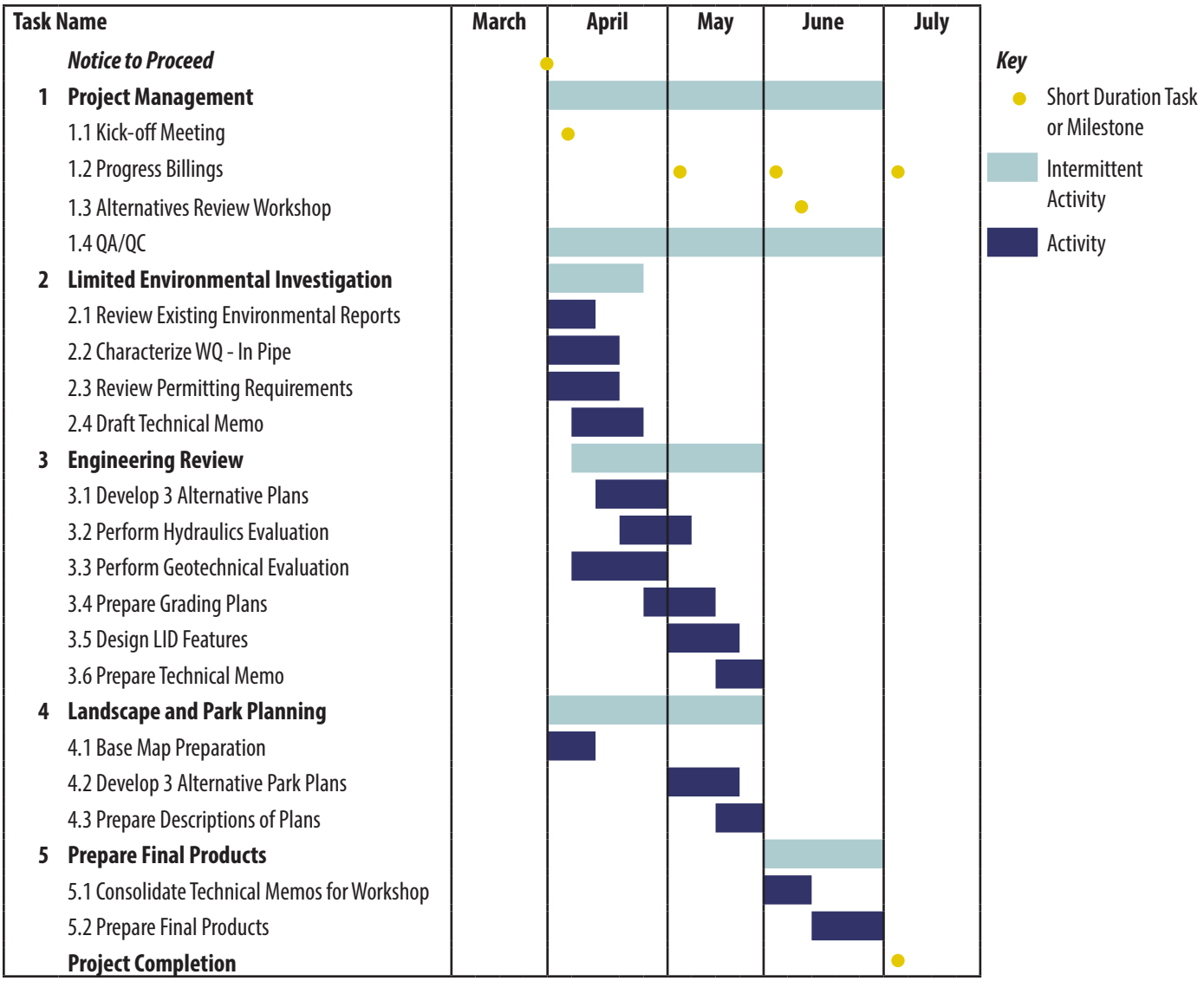
Finally, AMEC would work with the City early in the project to identify whether rainwater harvesting should be a goal. Various types of park structures may be suitable for collecting rainwater for reuse in irrigation, grey water or water features. This concept reduces the footprint of potable water needed to support ongoing park activities, and if desired, could add value to the park's overall mission of wise water use.

2 Project Work Plan, Approach and Schedule

The AMEC Portland office has been providing a variety of professional consulting services since 1974. Several members of our staff are proud to have worked in Oregon for over 20 years. There are currently nearly 70 employees in the Portland AMEC office providing high quality project management and expertise in a range of services including environmental due diligence (e.g. Phase I and II Environmental Site Assessments), remedial investigation/ feasibility studies, risk assessment, remediation design and implementation, industrial hygiene, regulated building materials, natural resources, and water resources.

We believe that the success of every project relies on establishing sound objectives at the earliest stage of the project. AMEC works closely with clients to establish assessment objectives, and then implements the project following the agreed upon strategy. AMEC understands that sound scope definition and project planning at the outset lays the foundation for efficient progress and effective results. Figure 2 illustrates the proposed project timeline.

Figure 2 | Project Timeline



2.1 Work Plan and Project Approach

Task 1 – Project Management

Objective: This task will provide financial and schedule tracking against the project plan. Time is included for routine updates, billings, and formal team project review meetings as described below.

Approach

AMEC is committed to providing our clients accurate, high quality, and timely services and products by: (1) thoroughly understanding the scope of a task and the resources required to achieve task goals; (2) effectively scheduling project resources; (3) establishing a realistic project schedule; and (4) implementing the plan while maintaining regular communication. As simply stated, our approach is to "Plan our Work and Work our Plan."

A key element to successfully completing a study of this nature is routine internal project communication. Our Project Manager, Phil Pommier, will monitor the project on a daily basis to ensure that resources (people and equipment) are allocated efficiently (i.e., tasks and objectives are clearly and frequently communicated to the technical staff), project costs are consistent with initial estimates/budgets, and that data collection/review/reporting (i.e., deliverables) are completed within the agreed upon schedule/timeline. Depending on City preference, we plan to use routine e-mail communication to keep clients abreast of scheduled site visits and project status. We generally include a cover letter with a description of the activities and deliverables completed on all monthly invoices. In the event we recognize a site condition that potentially affects scope, schedule, or budget, you will be informed immediately, input solicited, and presented with options to address the change.

The project management services that we normally provide over the course of a project such as this include: development of a detailed project work plan including scope, schedule, and budget (all contained within this proposal). AMEC has been using the BST Enterprise Accounting and Project Management system since 1989. BST is a web-based system that tracks and manages projects and project budgets down to the task level. AMEC also utilizes the Deltek Time & Expense system to track and manage labor and expenses for employees. Deltek data flows automatically into the BST system. AMEC has utilized Deltek since 2007. Project budget status is instantly available to project managers and other authorized project team members at any time and from anywhere via the Internet. Charges that have accumulated during the past week are detailed by person, equipment code and outside services and are available every Tuesday morning.

AMEC's project managers generally utilize the web-based schedule management program, Microsoft Project 2000TM (Project). This software uses many of the same forms of project tracking tools as previous versions, such as project-schedule Gantt charts, and adds the ability for the entire project team to view, edit and assign project tasks through a secure web site. The web-based application provides real-time, collaborative project scheduling for the entire project team, regardless of location.

If desired, we have the capability to create client-specific extranet pages to keep all members of the project team up to date on the status of projects. Our current version is a simple-to-use Microsoft SharePoint-based website application that allows our client to view documents regarding project status (for example, text, budget, task schedule and status, documents sharing and action items) via a password protected link to the extranet. The project team can also post project photographs for remote viewing to keep all interested City staff apprised of work progress. All members of the project team can post action items and brief questions relating to the project.

Activities

1. Project kick-off meeting. The project managers for the consultant and city core team will schedule and hold a kick off meeting. The purpose of the kick-off meeting will be for the City to provide all available project

background materials including: available water quality information, testing and physical characterization, environmental site assessment information regarding previous due diligence work performed for the City's purchase of the site from McKenzie River Forest Products site, site geotechnical reports, etc. In addition, we anticipate that the City will provide GIS layers for LiDAR, land use, natural resources, parcels, aerial photography, etc. AMEC anticipates sending its project manager, project engineer, and landscape architect to this meeting, which we expect will be held in City offices and will last about one-and-a-half hours. City goals and objectives will be discussed and prioritized during the kick-off meeting. AMEC will provide meeting minutes of this meeting.

2. Progress billings. AMEC will prepare monthly billings reflecting services performed over the previous billing period and will be in accordance with contract requirements.
3. Alternatives review workshop. A workshop will be organized to review the alternatives developed as a result of the background research and studies performed. The alternatives will be ranked in accordance with the City's goals and objectives as well as criteria developed during the review meeting. We anticipate that this meeting will be attended by AMEC's project manager, project engineer, and landscape architect, that it will be held in City offices and will last about 3 hours. AMEC will provide meeting minutes of this meeting.
4. Quality assurance and quality control - AMEC's QA/QC manager, Dr. Habib Matin, P.E., shall personally review or ensure that appropriate senior peer reviews are conducted on all project deliverables. This ensures that the objective of each task or deliverable is achieved. For all draft and final memorandums, City staff shall use the Microsoft Word track changes feature for review comments. The City's project manager shall resolve any conflicting City comments before returning the memorandums to AMEC. AMEC's QA/QC manager shall compile all comments and responses not accepted by AMEC on a Microsoft Excel spreadsheet before returning reports to the City.

Deliverables

- Meeting minutes from the project kick off meeting
- Progress billings
- Alternatives review meeting minutes
- QA/QC report with final deliverables

Task 2 – Limited Environmental Investigation

Objective: To evaluate a) environmental conditions (e.g., soil and groundwater) of the subject property, and the impacts that it might have on the proposed stormwater treatment footprint and the location of infiltration features, b) the quality of stormwater for assessing treatment options, and c) permitting requirements from regulatory agencies

Approach

In order to evaluate the type of treatment that will most effectively treat stormwater the quality of stormwater must be understood. This effort will begin by reviewing water quality information provided at the project kick-off meeting (Task 1.1 above).

As part of the limited environmental investigation and engineering geotechnical studies, AMEC will advance a total of four test pits to the water table on the site in the vicinity of proposed channel and water quality pond improvements. One of the purposes for using test pits is to look for buried debris, fill, and/or evidence of contamination in soil and its potential impact on site constructability and water quality. However, the details of this investigation are included with the Engineering Review in Task 3.

In addition to the test pits (described in Task 3.3), AMEC recommends, as an optional task, three to four groundwater quality monitoring wells to be installed at the site. Located outside of proposed improvements, these

would establish baseline groundwater conditions and potentially serve as long-term monitoring points for water quality testing and groundwater mounding attributed to stormwater infiltration assessed as part of the project. Given the number of water supply wells in the area, it is important to understand baseline conditions and to have the ability to monitor project impacts on local groundwater.

Permitting can substantially affect project schedule and cost. An assessment of permit requirements for treatment facility designs is a vital component of the stormwater treatment facility feasibility study. AMEC recommends a wetland determination be performed at this time to verify if regulatory wetlands are present within the site boundaries. The results of the wetlands determination will be used to aid engineering design and future permitting efforts. Any required mitigation can and should be incorporated into proposed alternatives. The wetlands determination will be conducted in accordance with Oregon Department of State Lands (DSL) and USACE requirements. If wetlands are found on the site a full wetland delineation will be required in a subsequent phase of work.

As noted above, prior to beginning any on-site activity AMEC employees always prepare a site-specific Health and Safety Plan (HASP), as required by the Oregon Occupational Safety and Health Act (OSHA). The HASP will cover field safety protocol for all AMEC employees active on the site. Prior to conducting any subsurface exploration, AMEC personnel will contact local public utilities using the Public Utility Notification Service to field-mark any underground utility lines. In addition, AMEC will subcontract with a private utility locating service to locate underground utilities in the vicinity of sampling locations prior to subsurface work.

Activities

1. Review existing property environmental reports. AMEC's team will review documentation produced for the City's purchase of the McKenzie River Forest Products site. This, and other information, will be obtained during the kick-off meeting described above. Information contained in existing reports will be utilized to evaluate the environmental condition of the property, and analyze the impact that the environmental condition may have on project design, and project implementation costs. Our team will identify any gaps in existing property assessment data and summarize historical site assessment data in a technical memorandum described below. We will also include in the technical memorandum a discussion of the design and construction constraints that may result from identified environmental impacts.
2. Characterize Water Qualities of In-Pipe Flow. This activity will focus on a review of available water quality information. AMEC's team will review all site environmental and water quality information related to proposed treatment flows provided at the kick-off meeting. Issues involving contaminants not readily treated by settlement or biofiltration (the primary treatment processes proposed for use on this project) will be evaluated by AMEC experts (e.g. aquatic chemistry, fisheries, etc.). Our team will identify any gaps in existing stormwater assessment data. As part of a brief technical memorandum prepared for this task (described below) we will summarize historical stormwater data and include a discussion of how stormwater quality may constrain treatment options for the project.
3. Review environmental permitting requirements. AMEC will conduct a field survey to determine locations of potential regulatory wetlands at the site. The presence and location of wetlands will be determined through evaluation of soil, hydrologic conditions, and vegetation parameters. Observations of these parameters will be recorded on USACE Wetland Determination field forms for documentation. AMEC will prepare a sketch of estimated wetland boundaries using a Trimble GeoExplorer 2005 Series GeoXH with Zephyr antennae. Wetland boundaries will be demarcated using high visibility pin flags. Wetland determination data plots will be completed in representative locations as follows: up to 3 data plots in each identified potential wetland and up to 3 data plots in adjacent uplands (i.e. non-wetland areas). Paired boundary data plots are not required for a wetland determination. The existing site resources will be compared with proposed alternatives to determine natural

resource impacts and permitting needs as a result. In addition our professional wetlands scientist, Erin Hale, will coordinate with the water quality characterization regarding preferred planting for the bioswale and treatment pond.

4. Prepare draft technical memorandum. AMEC will summarize information obtained in the above described environmental site assessment activities to describe the information obtained, and the risks associated with development of the site for the intended uses. We anticipate that this memorandum will be approximately 7-12 pages long, not counting graphics or data tables. This memorandum will also describe the anticipated environmental permitting process required along with the statutory review periods for each.

Deliverables

- Technical memorandum regarding the results of the environmental site assessment
- Sketch of identified wetland areas and a summary memorandum of methods and results
- Routine communications with the City

Optional Tasks for Environmental Site Assessment

These tasks are not included in the cost estimate but can be provided if desired:

1. Supplemental stormwater sampling to fill data gaps if necessary.
2. Installation of water quality monitoring wells and piezometers for evaluating groundwater changes in the future.
3. A scope of work for filling data gaps in site environmental information, if necessary.

Task 3 – Engineering Review

Objective: To evaluate the feasibility of constructing proposed improvements for the intended purposes.

Approach

A successful project will require close integration of the stormwater treatment/park aspects with the environmental and engineering requirements of this project. Three alternative stormwater treatment plans will be developed in solid cooperation with the landscape architect. Project goals related to water quality entering the Mill Race, habitat improvements, educational and recreational goals will all be considered during development of alternatives.

The purpose of the geotechnical and hydraulics investigations is to demonstrate feasibility. For a project to be feasible requires searching for fatal flaws, evaluating environmental restrictions, and physical limitations affecting the site. Hydraulic controls are normally related to elevations such as pipe inverts, backwater and the like. Thus understanding will be sought concerning the operation of the Mill Race and the controlling elevations of the existing pipe. A grading plan is required to verify that sufficient horizontal and vertical clearance is available for all controlling elevations, grade transitions, and desired flatwork improvements. The grading plan, along with the results of the other technical studies, gives the City confidence that proposed projects actually are feasible and reduces risk moving forward.

Issues that we anticipate arising include depth to groundwater and previous uses (i.e. industrial pollutants). Based on our current understanding concerning the history and use of this site we do not anticipate serious contamination issues requiring special soils processing (e.g. landfill) during construction. However, the geotechnical explorations (including their analysis for the environmental site assessment noted previously) described below are intended to evaluate these risks. In addition, the nature of the project may have affects on groundwater levels (and perhaps quality) in the immediate project area. Again, we do not anticipate this to be a problem as our experience with this aquifer is that it is very productive. In Task 2 we mention that groundwater monitoring wells and/or piezometers may be needed to evaluate this risk over a longer period of time.

We are aware of design standards for treatment ponds contained within the City of Eugene's 2008 manual. Every effort will be made to incorporate these standards into the design if possible. As noted in our Project Understanding our hydrologic modeling approach will be to use a continuous hydrologic model called FDDM to verify the treatment rate and volume from the in-pipe flow. Depending on site constraints we may evaluate using other design standards if desired. A low flow bypass within the existing pipe will be set to achieve the desired flow rates and annual volumes. We are confident that a treatment pond will maintain the desired vegetation. However, the earthwork volumes required to daylight a pond and bioswale of the types described in the City's CIP may be difficult to incorporate without haul from the site.

Low impact development (LID) design features will be incorporated into all park amenities primarily to control runoff at the source. As noted above they will be designed using AMEC's proprietary continuous hydrologic model. These features can be highly visible thus providing park users with educational feedback regarding their purpose and use. They also provide a statement regarding sustainability and the City's commitment to the environment consistent with the overall goals of the Mill Race project.

Activities

1. Develop three alternative stormwater plans. Working with the landscape architect/park planner, develop concepts for three alternative site stormwater treatment plans. Each plan will, at a minimum, provide 500 feet of open channel and 4.4 acre feet of pond storage to treat stormwater generated on-site and from adjacent subbasin areas. These values are based on descriptions in the City's Capital Improvements Program and are subject to revisions based on more detailed analysis to be performed in the hydraulics and grading plan tasks below. Where site constraints such as topography and soils allow for different stormwater treatment methods these will be presented as alternatives. Facilities that can serve multiple purposes (such as providing open space or habitat areas) will be incorporated into the stormwater treatment plans where feasible. Alternative stormwater master plans will be integrated with the park planning and layout discussed below. City goals and objectives verified at the project kick-off will be considered and incorporated into the alternative stormwater treatment plans.
2. Perform hydraulics evaluations. Working from Mill Race hydraulics and stated project water quality goals estimate backwater profiles for proposed improvements. Verify treatment flows through use of a continuous hydrologic model developed previously by AMEC and called FDDM. The goal will be to provide treatment for 80% of stormwater that flows through the site. After verifying flow rates, the hydraulic grade line for each alternative will be estimated. This task assumes that the plan/profile information provided with the RFP for the existing 48-inch storm pipe is based on as-built elevations and that additional surveying is not required to verify these grades. A brief memorandum (3-6 pages, not including graphics) will be prepared summarizing the methods used and results for each of three alternatives. The methods used in this analysis will be static estimates at the beginning and end of each treatment process and will not include dynamic routing.
3. Perform geotechnical evaluation. This task will be based on existing available information (obtained at the kick-off meeting in Task 1.1 above), well logs or other publicly available information. The purpose of this study will be to evaluate the site for the intended uses including infiltration rates, depth to groundwater, and soil conditions. Up to four test pits will be advanced at the site to evaluate subsurface conditions in the approximate locations of major features proposed in the 2008 Stormwater Facilities Master Plan CIP 12-WQ. One test pit would be advanced in the approximate location of the planned bioswale, one in the approximate location of the planned detention pond and two others, at shallower depths, for infiltration testing. Test pit depths are anticipated to extend to the existing pipe invert of about 13 feet. Test pits will be excavated with a track-mounted power hoe operated by an independent firm working under subcontract to AMEC. An experienced geologist from AMEC will continuously observe the test pit excavations, log the subsurface conditions, collect representative soil samples, and transport all samples to our office for further visual examination and assignment of laboratory testing if necessary. Soil samples will be continuously collected and logged for visual classification, conditions

permitting, according to the Unified Soil Classification System. All soil samples will be field-screened for the presence of petroleum constituents, volatile organic compounds (VOCs), and PAHs using a photoionization detector (PID) to measure headspace vapor and water sheen test. The character of the soil encountered in addition to any other field observations (visual and olfactory evidence of petroleum impact) will be recorded on test pit logs. Based on the results of field screening, at least one soil sample from each test pit will be collected and submitted to a certified laboratory for chemical analysis of one or more of the following: 1) petroleum hydrocarbon identification by Northwest Method NWTPH-HCID; 2) gasoline-range hydrocarbons by NWTPH-Gx; 3) diesel- and oil-range hydrocarbons by NWTPH-Dx; 4) VOCs by EPA Method 8260B; 5) PAHs by EPA Method 8270-SIM; and 6) total priority pollutant metals by EPA Method 6000 and 7000 series. In-situ infiltration tests will be performed at the base of two test pits in accordance with City of Springfield Engineering Design Standards and Procedures Update (2012) per the Eugene Stormwater Management Manual (2008) using the City standard 6-inch pipe 2 feet below the bottom of the proposed infiltration facility. A brief technical memorandum (described below) will be provided summarizing subsurface conditions and discussing feasibility of soil infiltration, constraints relating to the intended uses and the constructability of proposed alternatives.

4. Prepare conceptual grading plans for each alternative. Based on the results of the above described engineering review activities, prepare preliminary grading and site improvement plans for each of the alternative stormwater treatment plans. Base maps will be developed using GIS data provided by the City (and prepared in Task 4 below) including available LiDAR or topographic surveys and aerial photos[1]. Grading will include typical cross-sections and will show key elevations of stormwater facilities and other proposed site improvements. Site improvement plans will show locations of key infrastructure improvements such as access to stormwater facilities, major utilities, and paving.
5. Low impact design (LID) features. Working with the landscape architect/park planner and the grading plan developed in Task 3.4 above, AMEC's LID specialist will develop preliminary designs for swales, bioretention areas, flow dispersion areas, infiltration, and/or porous pavement designs to minimize runoff produced from park surfaces. These features will be analyzed using AMEC's continuous hydrologic modeling program to evaluate their performance statistically over a period of more than five decades. The goal for each LID feature will be to capture, filter, and infiltrate the runoff from the water quality storm event. Schematic details for each LID proposal will be provided along with a technical memorandum (described below) outlining the hydrologic methods used in the design.
6. Update the technical memorandum from Task 2. This version of the technical memorandum will describe each alternative in detail, the design elements used in each, the methods used in their design, and the constraints, if any, caused by environmental or contaminants issues. We anticipate that the updated memorandum will be approximately 13-20 pages in length (not counting graphics) and that one plan sheet will be prepared illustrating each alternative. This memorandum will include the hydraulics and geotechnical evaluations (Tasks 3.2 and 3.3 respectively) as appendices.

Deliverables

- Update the Task 2 memorandum with the following: a) hydraulic performance for each alternative, b) geotechnical constraints and recommendations, c) descriptions of LID features, and d) descriptions of each alternative design
- Routine communications with City

1 This task assumes that available topography reflects ground surfaces as they exist today.

Task 4 – Landscape and Park Planning

Objective: To prepare preliminary plans for water quality improvements, parking areas, hiking/biking trails, interpretive and other features consistent with the goals of the City's project team and the Willamalane Park and Recreation District.

Approach

The Mill Race Stormwater Facility Feasibility Study includes an important public amenities component. While part of the larger overall Springfield Mill Race project, this focused stormwater feasibility study nonetheless occurs at an important physical location – a point at which public access nears the restored millrace and former mill pond area. It will be important to address public access, including environmental education opportunities as the stormwater feasibility study progresses.

Our team's landscape architect, Rick Satre, spent eight years with Springfield's park and recreation service provider, the Willamalane Park and Recreation District. He was there when Georgia-Pacific handed over the Booth-Kelly property, including the mill race and mill pond. Mr. Satre was instrumental in procuring property at the west end of the millrace for Willamalane's administrative headquarters, for expansion and improvement of Island Park and for the development of the adjacent Depot Park. He was also responsible for improvements to Clearwater Park, now the upstream end and intake for the Mill Race. And his local credits include numerous path and trail developments throughout the Eugene – Springfield area.

Mr. Satre's knowledge of the local park infrastructure and community values makes him ideally suited to the challenges of this site, its constraints, and opportunities. The goal is to make an interesting and educational experience for the public that will draw them to this site repeatedly. Mr. Satre was on our design team for the Alton Baker Park Canoe Canal. From this experience we are confident of his ability to visualize possibilities within real world constraints. As noted previously, this will require considerable effort to accomplish given the challenges of this site.

Activities

1. Base map preparation. AMEC's GIS team will develop base mapping for use in the designs using data layers provided by the City. Project data will be on standard horizontal and vertical coordinates used by the City.
2. Develop up to three (3) Alternative plans. Working with the engineer, AMEC's landscape architect will develop site access and circulation plans consistent with Willamalane and City goals. Circulation plans will consider existing and future local and regional multiuse trails. Each alternative will include interpretive elements for accomplishing the City's educational goals for this project. We anticipate that each alternative will be illustrated on one 11" x 17" plan view sheet.
3. Prepare descriptions of landscape alternatives. AMEC's landscape subconsultant will prepare a brief technical memorandum (estimated at 2-3 pages) describing the landscape and park planning elements of each alternative. Habitat and vegetative features of each plan will also be described.

Deliverables

- Base mapping for all alternatives
- One Landscape/Public Amenities plan for each alternative
- Brief technical memorandum describing each alternative

Task 5 – Prepare Final Products

Objective: A final technical memorandum describing the highest ranked alternative and the methods used to develop it. Reporting and/or data transmittal capabilities include various electronic deliverable formats that are tailored to client needs and may include email, FTP, CD, DVD or Adobe PDF files.

Approach

Our goal is to produce the highest value products for the fee promised. To do this requires a deep bench of highly experienced professionals. We are confident that our team provides the best skills, talent, and abilities for assisting the City in exceeding your goals for this project. We are also confident that our project approach and work plan, as laid out in these pages, will give you confidence that your project is either: a) feasible and can move forward, b) infeasible and another approach should be sought, or c) feasible with contingencies. Our goal is to give you option a by employing the best talent and experience for resolving all issues.

The intermediate products of the previous tasks will be incorporated into our final technical memorandum. The final memorandum will summarize the alternatives evaluated, the evaluation matrix developed in the workshop, the studies employed in developing the selected alternative (with references to the detailed memorandums in the Appendix) and our design team's recommendations based on the input received at the workshop. In order to provide a more compelling product we intend to provide a rendered copy of the selected alternative as prepare by AMEC's landscape subconsultant.

Activities

1. Consolidate technical memos for review workshop. The updated and final draft technical memorandum will summarize each alternative developed in the above described tasks. The updated and final draft technical memorandum will also include a ranking scheme intended to illustrate how successful each alternative was at achieving the City's core team goals. The review workshop (Task 1.3 above) will present each alternative and the proposed ranking system to participants. Workshop discussion will determine if additional ranking points are required and then rank each alternative in accordance with the final scheme determined.

5. Prepare final products. Based on the results of the Alternatives Review Workshop the highest ranked alternative grading plan will be rendered (one 22" x 34" graphic and one 11" x 17" reduced copy) and a final technical memorandum (estimated at 15-23 pages, not including graphics) prepared. This memorandum will briefly describe the process and criteria used to develop the selected alternative and the major design elements incorporated (both engineering and aesthetic). Summary results of site environmental and engineering analysis performed will be included along with functional issues related to landscaping and park features. As requested by the RFP the memorandum will include sections on maintenance, life cycle costs and permitting based on similar structures in this area.

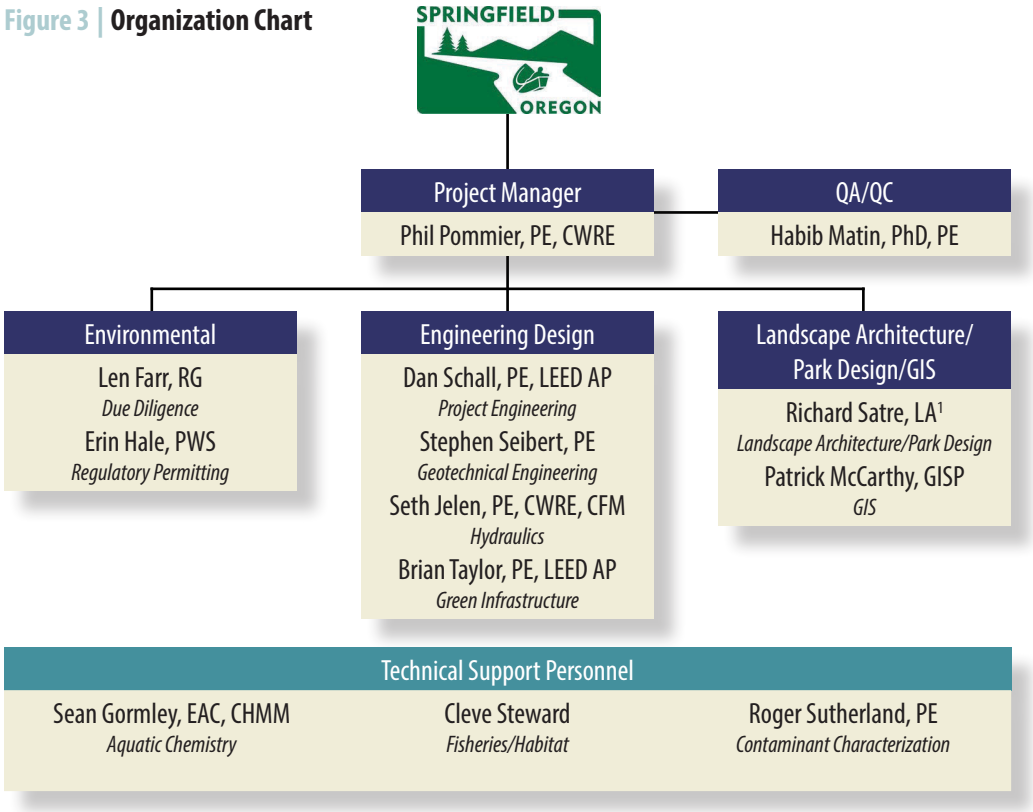
Deliverables

- Final technical memorandum
- Rendered graphic

3 Project Team

The AMEC team and our key staff have considerable experience working for local jurisdictions like Springfield performing similar types of projects. We have organized our project team based on our experience to provide Springfield with the most effective production and delivery of work products. The organization chart (Figure 3) illustrates how work product development and review will occur among our key staff. The following sections relate the role of each key staff on this project to their expertise, and are supported by resumes in Appendix A. Figure 4 represents an itemization of each key staff by project task.

Figure 3 | Organization Chart



[1] Schirmer Satre Group

Figure 4 | Itemization of Key Staff Involvement by Task

Task	Task Description / Resource	Pommier	Matin	Schall	Seibert	Jelen	Taylor	Satre	McCarthy	Farr	Hale	Steward	Gormley	Sutherland	Walker
1	**PROJECT MANAGEMENT**														
1.1	Kickoff Meeting	●		●				●							●
1.2	Progress Billings	●													●
1.3	AlternativesReview Workshop	●	●	●				●							●
1.4	Quality Assurance and Quality Control	●	●												
2	**Limited Environmental Investigation**														
2.1	Review Exisiting Property Environmental Reports	●	●							●					●
2.2	Characterize Water Qualities of In-Pipe Flow	●	●										●	●	●
2.3	Review Environmental Permitting Requirements	●									●				●
2.4	Prepare Draft Technical Memorandum	●	●					●	●		●				●
3	**Engineering Review**														
3.1	Develop Three Alternative Stormwater Plans	●	●	●			●	●	●			●			
3.2	Perform Hydraulic Evaluation	●	●			●									●
3.3	Perform Geotechnical Evaluation (3)			●	●				●						●
3.4	Prepare Grading Plans for Each Alternative	●	●	●				●	●						
3.5	Low Impact Design (LID) Features	●	●	●	●	●	●	●						●	●
3.6	Prepare Technical Memorandum	●	●			●	●	●	●						●
4	**Landscape and Park Planning**														
4.1	Base map Preparation	●		●					●						
4.2	Develop Uo to 3 Alternative Plans	●		●				●							
4.3	Prepare Descriptions of Landscape Alternatives	●	●					●	●						●
5	**PREPARE Final Products**														
5.1	Consolidate Technical memos for Review Workshop	●	●	●	●	●	●	●	●		●	●		●	●
5.2	Prepare Final Products	●	●	●				●	●						●

Phil Pommier, PE, CWRE, the AMEC Project Manager and is the primary contact person for project delivery. He has 31 years experience in water resources engineering specializing in surface water planning, design, and construction. He has led numerous construction projects from multimillion dollar municipal utility improvements to highly technical, high visibility dam spillway upgrades. He managed the Little People's Park Regional Stormwater Facility project for Beaverton, and the stream daylighting and channel creation for Frank Kinney Park in Eugene. He is presently working on a stream stabilization and treatment project in Tigard.

Habib Matin, PhD, PE, will lead the Quality Assurance / Quality Control. He designs real, buildable projects, and gets them built. He is a nationally respected expert with nearly 30 years of experience in civil and water resources engineering and in construction management. He has led numerous multi-disciplinary projects and led construction of multi-million dollar projects. His expertise includes sediment transport, fluvial morphology, erosion control, hydrology and hydraulics, bank stabilization / restoration, design of pools and riffles for fish enhancement, and design of storm water detention and treatment facilities. He has completed numerous construction projects through feasibility analysis, engineering design, plans and specifications, and construction.

Dan Shall, PE, LEED AP, will lead the project design engineering. He has worked on a variety of projects and in numerous positions including Construction Manager, Project Engineer, and QA Manager. Clients include the Oregon Department of Energy (ODOE), Air Force Center for Environmental Excellence (AFCEE), the Air National Guard (ANG), the US Army Corps of Engineers, Westinghouse, Amtrak, and numerous confidential clients. He has over ten years of professional work experience in construction management, engineering design, stormwater, environmental remediation, and energy efficiency. His engineering design experience includes preparation of drawings, hydraulic treatment design and problem solving. He also has extensive experience with environmental remediation. Recent projects include Little Peoples Park in Beaverton and the Triangle Park Brownfield Project on the Willamette River in Portland.

Seth Jelen, PE, CFM, CWRE, will lead the hydraulic analysis portion of the engineering design. He has over 23 years of experience in water resources engineering including flow and hydraulic modeling and GIS analysis. His focus has been surface water hydraulics, water quality (instream and pollutant load modeling), and treatment. He is an accomplished programmer and author of the Flow Duration Design Model (FDDM), a continuous flow design tool, and co-author of the Simplified Particulate Transport Model, perhaps the best pollutant loading and treatment model available. The model was recognized by the USGS as the best stormwater quality modeling package in the country. Mr. Jelen is the author of numerous publications primarily on stormwater quality modeling and the pollutant reduction benefits associated with best management practices. Projects include green infrastructure planning for Clackamas County, Alton Baker Canoe Canal, and hydraulic modeling of several small stormwater treatment facilities for private and local-jurisdiction clients.

Brian Taylor, PE, LEED AP, will lead the green infrastructure portion of the engineering design. He has over 18 years experience in stormwater and water resources with proven expertise in stormwater and drainage design, green stormwater infrastructure (GSI), hydrology/hydraulics, stormwater BMPs, habitat restoration, and water-related sustainability solutions. He has worked on many multi-disciplinary teams, provided sustainability audits of conceptual designs, and identified "LID interventions" for architects and landscape architects across the country, helping them achieve sustainability goals and stormwater code requirements. His roles include conducting hydrologic and hydraulic analyses of project sites and surface water resources; designing drainage systems; developing and applying analytical methods for "green" LID practices; designing stormwater treatment, infiltration, and flow control facilities; preparing engineering plans, analyses, specifications, and reports; and applying many different (federal, state, and local) codes and modeling techniques. Recent projects include stormwater treatment BMPs in University Place, WA, and creation of landscaped rain gardens in Seattle Center.

Stephen Siebert, PE, will lead the geotechnical engineering portion of the engineering design. He has over 20 years experience in geotechnical engineering and has managed numerous design and construction projects in Washington and Oregon. His roles have included project management and administration, office engineering, field supervision, site reconnaissance and geotechnical construction observation. His expertise includes shallow and deep foundation design, excavation support, retaining wall design, slope stability, geologic hazards and soil infiltration. Recent projects include the stormwater treatment and infiltration rehabilitation for Fred Meyer in Olympia.

Richard Satre, LA, of subconsultant Schirmer Satre Group (formerly Satre Associates), will lead the landscape architecture and park design. He has over 30 years experience on a variety of planning, landscape architecture, and environmental projects. His perspectives are both from local government and consultant. He understands the public sector and has assisted with metro area planning processes, drafted development code updates, successfully applied for and received numerous facility development grants, facilitated the acquisition of many public properties, and has been the project manager for developing many educational, recreational, commercial, industrial, and residential facilities.

Patrick McCarthy, GISP, will lead the GIS work. He has over 12 years of experience and leads GIS efforts involving spatial data analysis, statistical data analysis and map design. He is proficient with spatial database design, application development, and programming to customize his work product to meet client needs. He has expertise modeling, analyzing, and displaying environmental data using ESRI tools and has produced complex maps combining various data sets.

Leonard Farr, RG, will lead the environmental investigation. He has performed and/or managed numerous environmental assessment and remediation projects throughout the United States and internationally. Since the mid-1990s, he has specialized in brownfield redevelopment. His accomplishment in the field of brownfield redevelopment is demonstrated best by his track record of winning and successfully completed some of the highest profile brownfield projects in the Pacific Northwest, including two projects that have received Phoenix Awards for excellence in brownfield redevelopment. His expertise includes Phase I and Phase II Environmental Site Assessments (ESA), Remedial Investigations, Risk Assessment, Feasibility Studies, and Remedial Planning and Implementation. He has conducted hundreds of due diligence projects and managed portfolio due diligence projects that have included as many as several hundred properties. Example projects include The Yards at Union Station Redevelopment and the South Waterfront Redevelopment Area (Riverplace) in Portland.

Erin Hale, PWS, will lead the Regulatory permitting environmental work. She regularly interfaces with Federal, State, and Local agencies in support of projects and is proficient in stormwater management, erosion and sediment control planning, ecological field surveys, sampling and analysis programs, environmental baseline studies, and revegetation plans. She has more than twelve years of environmental experience with a focus in hydrology, and is experienced with stormwater infrastructure projects for municipalities.

Roger Sutherland, PE, will provide expertise in the area of contaminant characterization and stormwater treatment and BMP design. He brings over 40 years of experience in watershed/stormwater management planning, water quality planning and BMP design, urban hydrology, stormwater pollutant load estimation and BMP modeling. Projects include the explicit modeling of continuous urban runoff flows, pollutant loadings and concentrations and the pollutant removals associated with water quality control measures such as: street and catchbasin cleaning; infiltration practices; vegetative swales; regional detention facilities; and the use of stormwater treatment technologies. Recent projects include Alton Baker Park in Eugene, Pollutant Load Characterization for the Thea Foss Waterway in Tacoma, and other projects including stormwater planning and design for the Booth / Kelly site in Springfield and design of stormwater quality facilities for Clean Water Services and the City of Lake Oswego.

Sean Gormley, EAC, CHMM will provide expertise in aquatic chemistry to support the stormwater treatment design. He is a senior environmental chemist with over 26 years experience working on and managing multidisciplinary technical teams addressing complex environmental issues. His specialties include monitoring and

characterization of urban and metals-affected waterways, industrial chemistry and waste management, environmental forensics and 3rd-party cost recovery, applying environmental chemistry to site characterization and remediation activities, analytical chemistry and field analytics. Recent projects include site analysis and stormwater treatment facility assessment for metals treatment for multiple confidential clients.

Cleve Steward will provide expertise in fisheries and habitat to support related project objectives. He has over 30 years experience and education in salmon and trout ecology and management with expertise in analyzing environmental impacts, complying with governmental regulations, and resolving conflicts involving fisheries and aquatic resources, with emphasis on water management, land use, watershed analysis, habitat mitigation and restoration. He has extensive experience in fisheries research, management and conservation and is a recognized authority on the habitat and migratory requirements of juvenile salmonids with broad expertise in freshwater ecology and salmonid population biology. Recent projects include the Maloney Creek stream habitat engineering, reconstruction, and stormwater treatment facility to capture sediment.

4 Team Qualifications

The AMEC team is the best qualified team for this project because of our proven track record on projects of a similar nature which were completed for satisfied, local-jurisdiction clients like the City of Springfield. The following section summarizes several projects, including the roles played by our proposed individuals, the common issues with this project and how we addressed them. The section is followed by detailed descriptions of each project, including client and reference contacts.

Little Peoples Park – Beaverton, OR

Key Staff Involvement

Phil Pommier– Project Manager
Dan Schall – Project Engineer
Seth Jelen – Hydraulics Engineering
Erin Hale – Environmental / Regulatory Permitting
Patrick McCarthy – GIS

Little Peoples Park is a stormwater detention and treatment facility located in-line on Beaverton Creek upstream of Hwy 217 in Beaverton, Oregon. It shares many issues in common with this project including high flows, need for addressing sedimentation and short-circuiting of treatment, permitting activities where in-stream and wetland effects are present, and a very flat hydraulic grade line within the facility. AMEC found that early communication with regulators was vital to describe the nature and goals of the project and to obtain permits for construction work. AMEC also found that satisfactory feasibility and preliminary design required careful attention to a detailed grading plan in order to confirm adequate drainage and design for hydraulic grades while ensuring the absence of upstream adverse impacts. Initial phase work completed in 2012. Subsequent phases ongoing as of February 2013.

Alton Baker Park – Eugene, OR

Key Staff Involvement

Habib Matin– Project Manager
Roger Sutherland – Assistant Project Manager
Seth Jelen – Hydraulics Engineering
Erin Hale – Environmental/Regulatory Permitting
Patrick McCarthy - GIS

Alton Baker Park is a stormwater conveyance facility located in-line on a former mill race in Eugene, Oregon much like the Mill Race of this project. It shares many issues in common with this project including high flows, concerns over temperature and sediment, how habitat and permitting might affect construction, and the need to carefully understand and reflect the hydraulic grade line in concepts and designs. AMEC found that early communication with regulators was vital to understand project issues and start work on a trajectory towards acceptance. AMEC also found that satisfactory feasibility and preliminary design required careful attention to the hydraulic grade line to confirm adequate performance of hydraulic structures while ensuring the absence of upstream adverse impacts. Initial phase work completed in 2012. Subsequent phases ongoing as of February 2013.

Triangle Park / Willamette Riverbank – Portland, OR

Key Staff Involvement

Leonard Farr– Project Manager
Dan Schall – Design Engineer
Seth Jelen – Hydraulics Engineering
Erin Hale – Environmental/Regulatory Permitting
Patrick McCarthy - GIS

Triangle Park / Willamette Riverbank involved potential and identified soil contamination in a bank stabilization of 2200 feet of Willamette River bank. The bank stabilization was designed to provide sediment transport without wave erosion or scour. It shares issues in common with this project, including its public character, need to coordinate with regulators on permitting, potential and identified soil contaminants, and concern regarding hydraulic effects. AMEC addressed these concerns by working closely with the client and carefully following communication protocol, understanding the site and applying our expertise from many years' work on similar sites, and carefully applying hydraulic models for the bank stabilization and protection design.

Interstate Renovation Project – Portland, OR

Key Staff Involvement

Leonard Farr– Project Manager

Interstate Renovation Project is an 11.3-acre property owned by the City of Portland Water Bureau that needed environmental assessment and on-site work including soil grading and removal. Real and potential Issues in common with this project include its public ownership, and soil work undertaken to manage the flow of surface water and enhance surface water treatment. AMEC addressed these issues by working closely with the City of Portland to understand the local-jurisdiction goals and objectives, based on AMEC's strong understanding of moving soil to address potential soil contamination (especially at the downstream end).

Amazon Creek Widening – Eugene, OR

Key Staff Involvement

Rick Satre (Schirmer Satre Group, formerly called Satre Associates)– Project Manager

Amazon Creek Widening is a stream construction / reconstruction project located in Eugene that involved many of the same issues in common with this project. These issues include construction to totally change the stream channel, similar to what will be needed for stream daylighting and vegetative swale construction for this project. Satre Associates addressed these by their excellent understanding of the client and the regulatory environment, and of how landscape architecture can support construction of wetlands that will also provide stormwater treatment benefits. Work was completed under the Satre Associates name, now referred to as Schirmer Satre Group.

McKenzie River Oxbow Natural Area Master Plan – Springfield, OR

Key Staff Involvement

Rick Satre (Schirmer Satre Group, formerly called Satre Associates)– Project Manager

McKenzie River Oxbow Natural Area Master Plan is a multi-discipline study of an environmentally sensitive area of the McKenzie River in Springfield. Issues in common with this project include working in and near surface water and moving water, understanding the environmental and permitting issues and how surface water hydraulics affected the project. Satre Associates addressed these issues by their close understanding of Springfield's objectives and values for this project, their strong understanding of environmental permitting issues, and of how to apply landscape architecture to support naturalizing processes in an engineered situation similar to that of the Mill Race. Work was completed under the Satre Associates name, now referred to as Schirmer Satre Group.

Little Peoples Park Regional Stormwater Facility Maintenance and Rehabilitation

Client:
City of Beaverton

Mark Boguslawski
City of Beaverton
Phone: 503-350-4025

Location:
Beaverton, Oregon

This project restores the detention function and water quality benefits in this neighborhood park setting. Regrading will improve hydraulic circulation and detention and revegetation with native plantings will improve habitat value, water quality, natural watershed functions and processes. Replanting will eliminate the degraded, mono-cultural reed canary grass now present. The project is permitted under a Nationwide 43 permit which allows for maintenance of existing stormwater facilities along the original footprint.

AMEC developed a grading concept to maximize detention storage and water quality benefits while minimizing short circuiting during low flow (water quality) events. The concept involved developing three swales meandering throughout the bottom of the pond. These swales also improve aesthetics and habitat by providing periodic open water areas throughout the facility. These will rapidly infiltrate after storm events pass and the water in the creek subsides.

The landscape plan harmonizes with the site's function to maximize habitat values and the survival potential of plantings. To expedite permitting the design team began the project by discussions with the regulators. These discussions identified agency concerns that AMEC addressed early in the design. As a result, AMEC incorporated pockets of existing native plants that survived a 1992 replanting into our design.

Currently the project is in for 70% design review by the City and is expected to move into construction during the 2013 season. Based on AMEC's advice the City has already begun vegetation control and management to address the now-dominant reed canary grass, blackberry, and in some areas cattails. Early last fall the City sprayed the reed canary grass with an approved aquatic herbicide. This spraying will be repeated this spring. Blackberry was initially sprayed then cut late last summer. We anticipate an additional cutting this summer before construction of the proposed grading plan. In addition, during construction the top six inches of soil will be removed in order to minimize remaining rhizomes and seed stock.

Alton Baker Park Canoe Canal Fish Passage and Boating Feasibility Study

Client:
City of Eugene

Kevin Finney
Natural Resource Manager
Parks and Open Space
541-682-4809
kevin.p.finney@ci.eugene.or.us

Mark Schoening, P.E
City Engineer
Public Works Engineering
541.682.5243
Mark.A.Schoening@ci.eugene.or.us

Location:
Eugnen, Oregon

This project addressed feasibility of altering the Alton Baker Park Canoe Canal so that fish, principally juvenile salmonids, are able to enter and leave the waterway at either end and safely navigate its entire length, while preserving the existing level of flood protection for private properties and also provide for the continued use and enjoyment of the canal by recreational boaters. Each alternative met or exceeded fish passage performance standards, maintain existing flood protection levels, and as a minimum maintain current levels of boating access, park use, and aesthetic objectives. Alternatives were modeled to compare water depths, velocities, and surface elevations in the canal over a range of flows. The key to success was to identify how inflow from the Willamette River varied with river stage, and how that affected fish passage conditions. The proposed feasibility design and evaluation process enabled the City of Eugene to learn about opportunities, constraints, and strengths and weaknesses of various design alternatives to support future discussions with the public and other design efforts.

University of Portland
River Campus Removal Action

Client:
University of Portland

Jim Kuffner
Assistant Vice President
Financial Affairs Division
5000 North Willamette Blvd.
Portland, OR 97203
Phone: 503-943-7331
Email: Kuffner@up.edu

Location:
Portland, Oregon

Dates:
Start Date: 2006

End Date: 2013

Project value: ~$5M

Triangle Park is a 35-acre former industrial property located on the east bank of the Willamette River at approximately River Mile 7.5 within the Portland Harbor Superfund Site. The site was first developed as wood products manufacturing facility in 1909. Other industrial uses included a coal-fired power plant, ship building, concrete mixing, tug and barge operations, and a hazardous waste treatment, storage and disposal (TSD) facility. A number of underground storage tanks (USTs) were present.

Beginning in the mid-1990s, extensive environmental assessment work was performed at the site. Activity focused on site soils, including some sediment and groundwater assessments. Hazardous substances were detected in soil and groundwater, and in Willamette River sediments adjacent to the site.

In 2006, the University of Portland (UP) began discussions with the United States Environmental Protection Agency (EPA) regarding a Bona Fide Prospective Purchaser Agreement (BFPPA). In order to satisfy EPA's requirements, complex investigations of soil at the site using multi-increment sampling program methodologies were performed. This included collecting more than 1,500 soil samples, and was completed in less than 60 days. In 2008, UP completed BFPPA negotiations with EPA. The agreement required that UP contribute to site remediation costs up to a limit and excluded UP as a responsible party for the Portland Harbor Superfund Site. In December 2008, UP acquired the Triangle Park property.

From 2006 to 2012, AMEC worked closely with the EPA on a removal action investigation and work plan, which included the Oregon Department of Environmental Quality (DEQ) 2005 Record of Decision covering site-wide soil remediation. In the summer of 2012, the removal action work plan was approved and construction activities began in August 2012. This included: 2,200 linear feet of shoreline re-grading and capping, 65,000 cubic yards of soil excavation, 6,500 cubic yards of hot spot soil excavation and debris disposal, and demolition. Shoreline was excavated to a 5H:1V slope and replanted with over 18,000 native plants and trees, creating 5 acres of new vegetated shoreline with 2 of those acres as new shallow water habitat for endangered fish species. Excavated soil was screened and used for structural fill for a new baseball field. Work was completed in the February 2013.

Interstate Renovation Project

Client:
City of Portland, Bureau of Environmental Services

Contact:
Taryn Meyer
Environmental Specialist

Phone: 503.823.5681
taryn.meyer@portlandoregon.com

Location:
Portland, Oregon

The Interstate Renovation Project is an 11.3-acre property comprised of several former industrial properties, including the former Tillamook Foundry and Westinghouse Inspection and Repair Shop. The Portland Water Bureau purchased the property, and is consolidating their maintenance operations at the site.

AMEC first was retained by the City of Portland (City) to conduct prior-to-purchase due diligence work at the former Tillamook Foundry property. AMEC review a Phase I Environmental Site Assessment (ESA) for the Foundry property completed by others, and used information contained in the Phase I ESA to develop a scope of work and cost estimate for a Phase II ESA. The Phase II ESA was completed in January 2011. Our work identified polychlorinated biphenyls (PCBs), petroleum hydrocarbons, heavy metals, and polynuclear aromatic hydrocarbons (PAHs) in soil and sediment at concentrations exceeding potentially applicable human health risk-based screening levels. Characteristic hazardous waste was identified in two areas on the Foundry property.

In January of 2012, AMEC was retained by the City to conduct a comprehensive investigation of the entire 11.3-acre property. The purpose of this investigation was to evaluate areas of impacted soil that would require special handling during the redevelopment of the site. In conducting the investigation, several areas where PCB concentrations exceeding 50 milligrams per kilogram (mg/kg) were discovered. AMEC prepared an Environmental Data Report documenting the results of all AMEC and historical assessment activities, a contaminated media specification providing guidance to the construction contractor regarding mean and methods for handling and disposal of contaminated soils, and a Contaminated Media Management Plan for the former Westinghouse property, which provided detailed guidance to the contractor in how to address PCB-contaminated soils, including soils that contained PCB concentrations of >50 mg/kg.

AMEC conducted three additional phases of assessment to refine the understanding of contaminants in soil. These assessment phases were conducted in April 2012, November 2012, and January 2013. Based upon the results obtained during these assessment phases, all project deliverables were upadated/revised. Soil testing comprising these assessment phases identified one additional area of characteristic hazardous waste, and one additional area where PCB concentrations in soil exceeded 50 mg/kg.

On February 22, 2013, AMEC provided oversight of the removal of characteristic hazardous waste areas located on the former Foundry property. AMEC collected confirmation samples following soil removal activities. AMEC is currently providing daily oversight of grading activities at the site, and will be collecting confirmation samples following the removal of soils containing PCBs at concentrations >50 mg/kg. Once grading and soil removal activities are complete, AMEC will prepare a report documenting these activities, and the results of confirmation soil sample collection and analysis.

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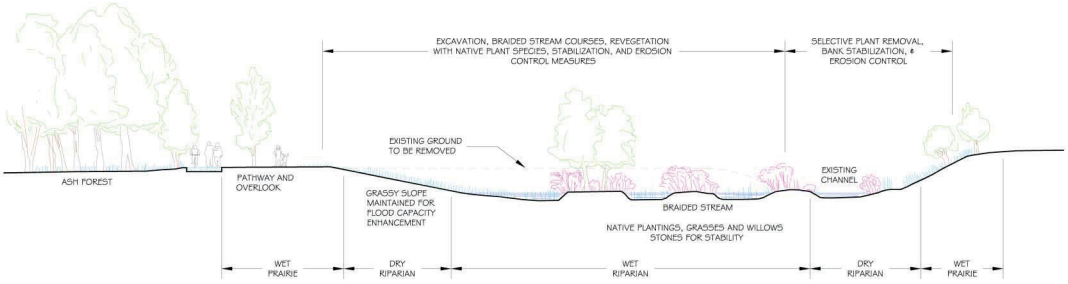
AMAZON CREEK WIDENING

Eugene, Oregon

This project was conducted with the City of Eugene Public Works Department in order to provide enhancement of the Amazon Creek Channel. The project expands the flood flow and storage capacity of this urban stream system while increasing the wetland and riparian zone area and ecological functions and values, such as wildlife habitat and streamside cooling of the waters. The additional interface between water and wetland will assist in improvements in water quality with a resultant improvement in the fisheries value of Amazon Creek. Enhancements included the expansion of the Creek Channel, development of a low wetland terrace, streambank stabilization, planting of the new wetland and associated riparian zone within the Channel, and the protection and preservation of a population of Bradshaw's Lomatium, identified near the project area between forest and meadow wetland.



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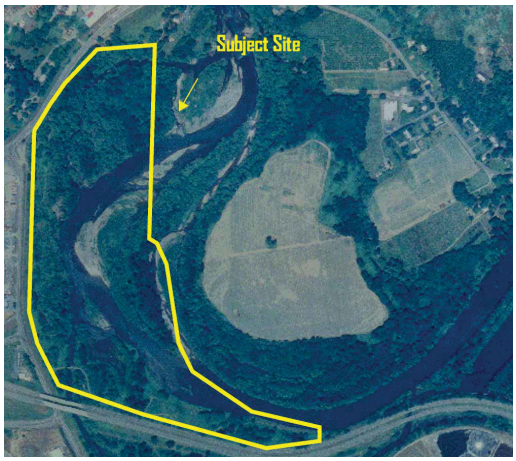
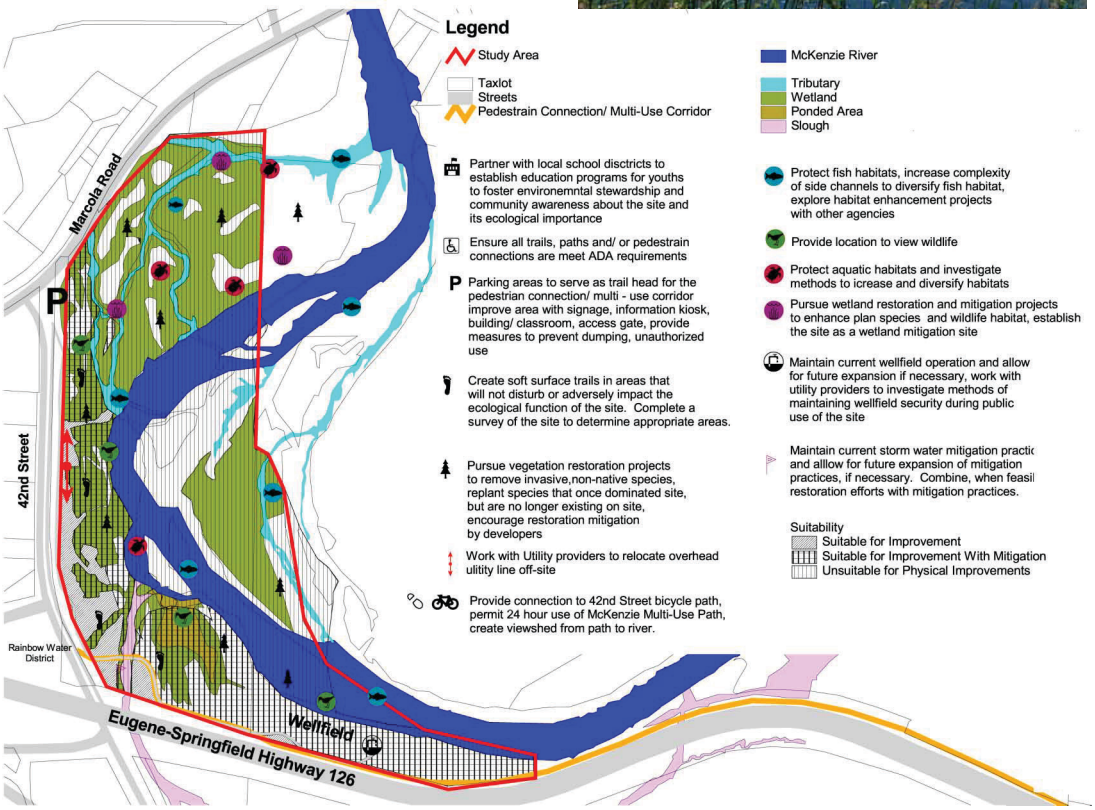
MCKENZIE RIVER OXBOW NATURAL AREA MASTER PLAN

Springfield Oregon

The Natural Area Master Plan provided the City of Springfield with a long-term vision and management strategy for this environmentally sensitive area. The site is located on a portion of the McKenzie River that is hydrologically dynamic with outstanding habitat for salmonids, pond turtles, and other ecologically significant species. In addition to possessing high quality wetlands and riparian environment, the site houses groundwater wellfields that are critical to the community's potable water supply. The Master Plan highlights the natural and human context of this site and provides the City of Springfield the means to assess environmental conditions to determine opportunities for conservation, enhancement, and appropriate uses of a unique 85-acre tract of land shaping the future of this special place and incorporating potential new uses without impeding the site's existing uses or natural features.





5 Fee Estimate

AMEC's fee for this work is tabulated on the following page. The tabulation shows anticipated hours by task and activity (on the right) and individuals selected to perform those hours (along the top). Individuals are broken down into functional classifications reflecting engineering, environmental, technical support or landscape architecture services. The hourly rates shown for each individual represent the full markup including overhead and profit for that individual. Hours and fees are totaled horizontally for each activity and rolled up for each major task. AMEC's estimated total fee for this project is $86,602 which includes markups on subconsultants. A graph showing the allocation of hours by assigned staff member is shown in Figure 5. A graph of hours by task is shown in Figure 6.

Figure 5 | Staff Hours by Project Task

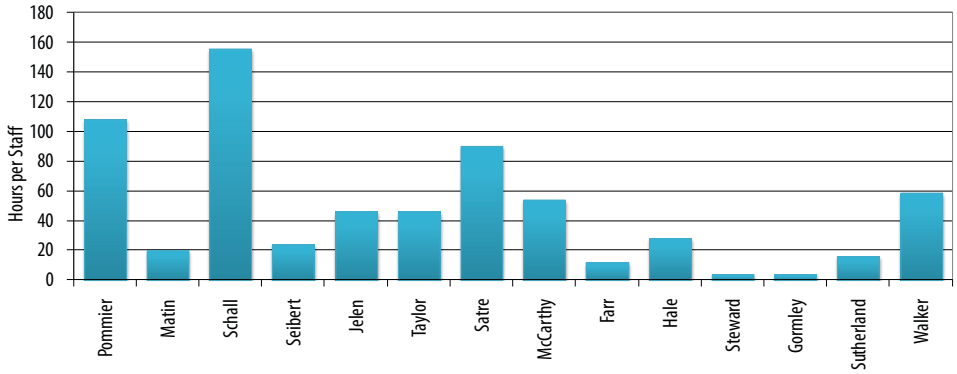
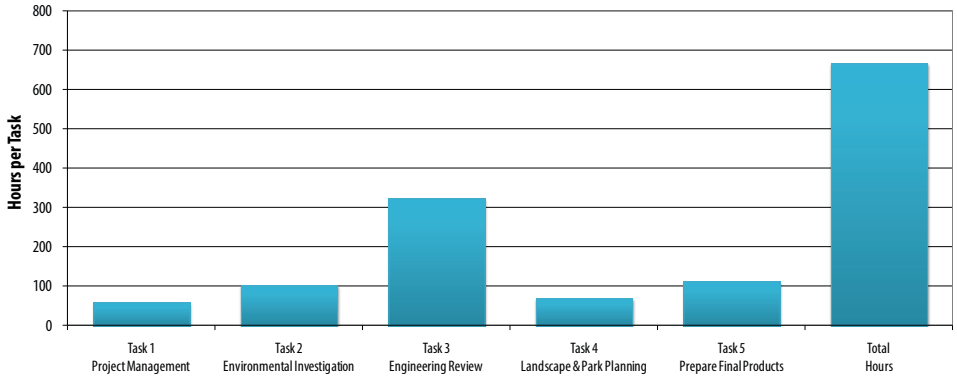


Figure 6 | Hours by Individual Staff



AMEC has three employee career tracks: Engineering/ Science Professional, Administrative, and Technician. Within each of these career tracks are employee classifications to step from entry level through senior level. Descriptions of qualifications and experience required for each step are documented within AMEC's human resources department. AMEC compensates its employees based on local market rates and in comparison with existing employees of similar qualifications and experience. We do not have established wage scales that are directly tied to classifications since wages for similar positions can vary significantly geographically and by expertise (engineering, scientist, geologist, etc). Our staff receives salary increases based on professional advancement, and performance of the employee, company, and office. We do not have a policy for cost of living adjustments; however, annual pay increases typically cover cost of living increases. As a key component to retaining our highly qualified staff, compensating our employees well is in AMEC's best interest. On average our billing rates are 2.6 to 2.9 times an employee's salary.

TASK & ACTIVITY FEE ESTIMATE
CLIENT: City of Springfield
PROJECT: Mill Race Stormwater Facility Feasibility Study

Detailed Budget by Tasks

		PROJECT MANAGER	QA / QC	Engineering Design				Landscape Architecture / Park Design / GIS		Environmental Investigaion		Technical Support Personnel			ADMIN SUPPORT	DIRECT EXPENSES	Total	TOTAL
				Project Engineer	Geotechnical	Hydraulics	Green Infrastructure	Landscape Park Design	GIS	Due Diligence	Permitting	Fisheries / Habitat	Aquatic Chemistry	Contaminant Characterization				NTE Task
	STAFFING	P. Pommier	H. Matin	D. Schall	S. Seibert	S. Jelen	B. Taylor	R. Satre	P. McCarthy	L. Farr	E. Hale	Cl. Steward	S. Gormley	R. Sutherland	C. Walker		Hours	Subtask
	HOURLY RATE	$150	$170	$125	$140	$140	$100	$110	$90	$150	$110	$170	$165	$150	$54			
Task	Task Description																	
1	**PROJECT MANAGEMENT**	**22**	**6**	**16**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**$350**	**58**	**$7,759**
1.1	Kickoff Meeting	6		6				2							2	$150	16	$2,127
1.2	Progress Billings	4													2		6	$707
1.3	Alternatives review Workshop	8	2	10				4							4	$200	28	$3,644
1.4	Quality Assurance and Quality Control	4	4														8	$1,280
2	**Limited Environmental Investigation**	**16**	**6**	**0**	**0**	**0**	**0**	**2**	**6**	**12**	**26**	**0**	**4**	**12**	**18**	**$3,300**	**102**	**$15,564**
2.1	Review Exisiting Property Environmental Reports	4	2							12					4	$3,000	22	$5,954
2.2	Characterize Water Qualities of In-Pipe Flow	4	2										4	12	4	$300	26	$3,914
2.3	Review Environmental Permitting Requirements	4									20				4		28	$3,014
2.4	Prepare Draft Technical Memorandum	4	2					2	6		6				6		26	$2,681
3	**Engineering Review**	**36**		**116**	**22**	**44**	**44**	**18**	**24**	**0**	**0**	**2**	**0**	**2**	**17**	**$2,216**	**325**	**$41,447**
3.1	Develop Three Alternative Stormwater Plans	8	4	48			8	8	6			2				$0	84	$10,440
3.2	Perform Hydraulic Evaluation	4	2			32									2		40	$5,527
3.3	Perform Geotechnical Evaluation (3)			20	18				2						3	$2,216	43	$7,577
3.4	Prepare Grading Plans for Each Alternative	6	4	40				2	12								64	$7,880
3.5	Low Impact Design (LID) Features	6	2	8	4	8	32	4						2	6		72	$8,181
3.6	Prepare Technical Memorandum	12	4			4	4	4	4						6		38	$4,561
4	**Landscape and Park Planning**	**8**	**2**	**12**	**0**	**0**	**0**	**32**	**12**	**0**	**0**	**0**	**0**	**0**	**4**	**$0**	**70**	**$7,854**
4.1	Base map Preparation	2		4					8								14	$1,520
4.2	Develop Uo to 3 Alternative Plans	2		8				24									34	$3,940
4.3	Prepare Descriptions of Landscape Alternatives	4	2					8	4						4		22	$2,394
5	**PREPARE Final Products**	**26**	**6**	**12**	**2**	**2**	**2**	**32**	**12**	**0**	**2**	**2**	**0**	**2**	**12**	**$200**	**112**	**$13,483**
5.1	Consolidate Technical memos for Review Workshop	10	2	8	2	2	2	8	4		2	2		2	4		48	$5,914
5.2	Prepare Final Products	16	4	4				24	8						8	$200	264	$7,569
	TOTAL HOURS	**108**	**20**	**156**	**24**	**46**	**46**	**90**	**54**	**12**	**28**	**4**	**4**	**16**	**59**		**667**	
	COST SUBTOTAL	**$16,200**	**$3,400**	**$19,500**	**$3,360**	**$6,440**	**$4,600**	**$9,900**	**$4,860**	**$1,800**	**$3,080**	**$680**	**$660**	**$2,400**	**$3,161**	**$6,066**		**$86,107**

Notes: 1. Mileage is reimbursable at federal rate of $0.565/mile
2. Copies, computers, telephones, postage, etc. are included in the rates shown for individuals.
3. Direct expenses are billed at cost plus 5%.

Mark up on subs (Satre) at 5%:	$495
Total Markup Fees:	$495
Grand Total	$86,602

APPENDIX A - RESUMES

Phillip L. Pommier, PE, CWRE
Principal Water Resources Engineer

Mr. Pommier is a water resources engineer with project management and technical expertise in river hydraulics, hydrology and water quality. He has 34 years of experience in civil engineering including 31 years specializing in the water resources field. Project experience and capabilities include; construction document preparation, surface water management and planning, floodplain management and risk assessment, hydrology studies, wetland mitigation projects, design and implementation of water quality facilities, bank stabilization techniques, NPDES stormwater permitting and urban hydrology and hydraulics. He is proficient in the use of HEC-1, HEC-2, HEC-HMS, HEC-RAS, XP-SWMM, EPA-SWMM, KCRTS, Dambrk, HY8, FlowMaster and several other hydraulics/hydrology programs. Mr. Pommier's strength lies in his ability to implement solutions through development of construction documents. He has spearheaded numerous construction projects from multimillion dollar municipal utility improvements to highly technical, high visibility dam spillway upgrades.

Education

M. Arch. (Architecture) University of Texas, Austin, Texas, 1978

B.A., History, University of Texas, Austin, Texas, 1975

Professional Registrations

Professional Civil and Environmental Engineer, OR, No. 14481PE

Professional Engineer, WA, No. 26787

Professional Civil Engineer, HI, No. 14652

Certified Water Rights Examiner, OR, No 342

Project Experience

Little Peoples Park Regional Stormwater Facility Maintenance and Rehabilitation, City of Beaverton, OR

The City of Beaverton contracted AMEC to restore a regional stormwater detention facility on Beaverton Creek at Little Peoples Park. The facility, developed in the 1980s, has accumulated a ridge of silt along the creek banks which blocks flow from entering, thus reducing its effectiveness. It also became overgrown with invasive plant species reducing habitat value as well. AMEC designed a restoration plan that features lowering the creek banks to the ordinary high water elevation. Within the facility sediment forebays are connected to shallow swales running throughout to allow longer inundation periods and thus more habitat variety. This approach maximizes storage and extends useful service life. Regulatory officials indicated a preference for leaving high value pockets of vegetation areas. Thus AMEC's design incorporated these areas into the swale system and protected them from construction activities. Since the project restored an existing facility it was necessary to obtain agreement from regulatory authorities regarding the scope and function of the original structure. This allowed construction under a nationwide permit. Construction is scheduled for summer 2013.

Upper Amazon Creek Enhancement at Frank Kinney Park, City of Eugene, OR

Served as the project manager on the master planning and design of this stream daylighting and enhancement project. Conducted field reconnaissance and helped gather field survey data. Mr. Pommier assisted in the completion of the master planning or project feasibility work, which led to a predesign report that he helped write. AMEC began final design services in May 2005 and the project was successfully constructed during the 2006 construction season.

Commonwealth Lake Bank Stabilization, Tualatin Hills Park and Recreation District, Tualatin, OR

(Prior Firm Experience) Mr. Pommier served as Project Engineer responsible for all civil and environmental aspects of this project. Project involved a bank stabilization analysis with proposed water quality improvements, construction drawings and a cost estimate for this nearly five acre pond. Banks were stabilized by cutting back to 3H:1V maximum slope and with willow stems planting. Mr. Pommier also provided construction administration and observation services.

Bethany Lake Dredging and Outlet Improvements, Tualatin Hills Park and Recreation District, Tualatin, OR

(Prior Firm Experience) Project manager for restoring the outlet controls of this 7.6-acre Lake and removing about two feet of accumulated sediment from the pond. In addition, he led the effort to obtain the joint Corps/DSL permit which allowed the work to be performed. This assignment also involved repair of serious erosion on the right bank of the outlet structure which threatened to breach the embankment if not stopped. In addition to supervising the preparation of construction documents Mr. Pommier worked with the Golf Course owners to coordinate the design and construction activities.

Surface Water Management Program Master Plan, Clackamas County Service District No. 1, Clackamas, OR

AMEC's Project Manager and senior water resources engineer assisting Water Environment Services (WES) in developing a new surface water management program. The 36-square mile study area included about 11,000 acres of urban expansion area adjacent to the district. Mr. Pommier directed all AMEC's engineering work on this project. He attended all project meetings (including public forums) and presented study findings and recommendations at each. WES staff members and various advisory committees were organized to provide input to this important planning process. Mr. Pommier was the primary author for several technical memoranda and final plan chapters documenting AMEC's findings and recommendations. Final products included: a) calibrated single event and continuous hydrologic models with technical memoranda documenting their development, b) updated hydraulic models for regulatory streams, c) results of a detailed pilot basin study upon which recommended program revisions and surface water management strategies were based, d) proposed capital improvements projects and retrofit opportunities, and e) a spreadsheet-based continuous hydrologic modeling design tool to facilitate consistent design of future stormwater management facilities.

Healthy Streams Plan, Clean Water Services (CWS), Washington County, Hillsboro, OR

(Prior Firm Experience) Project Manager for the South County watersheds, a portion of this major planning effort in the West Portland Metro area. CWS in cooperation with Washington County and several cities within CWS's service area addressed new Clean Water Act and Endangered Species Act requirements with this major planning project focused on urban and urban fringe watersheds. Work involved: a) intensive data gathering on baseline ecological conditions, b) hydrologic/hydraulic modeling to identify priority areas for stream and wetland enhancement, c) urban runoff management, d) flood hazard management, and e) aquatic species barrier removal. Mr. Pommier led work that included hydrologic and hydraulic models for Nyberg Slough, Saum, Hedges, South Rock, Chicken and Cedar Creeks, as well as the lower 16.5 miles of the Tualatin River. Significant natural resource areas within the study boundaries include the Tualatin River, the Tualatin River National Wildlife Refuge, and Onion Flats.

Rock Creek Sustainability Initiative, Clackamas County Water Environment Services, OR

Project manager for this study comparing traditional stormwater management (i.e. collection systems with conveyance to detention facilities) with LID methods for 450 acres of expansion area near Happy Valley, Oregon. Work involved development of near-preliminary stormwater management designs for all properties within the study area using both traditional single-event design and continuous hydrologic methods. The project found that, unlike single-event-based designs, LID designed with continuous hydrologic methods could reduce required detention volume to the same or even smaller than traditional requirements while preserving the flow duration character of the predeveloped site.

Habib Matin, PE, PhD
Principal Water Resources Engineer

Dr. Matin knows how to design real, buildable projects, and how to get them built. He is a nationally respected expert with more than 30 years of experience in Civil and Water resources engineering and in construction management. He has served as manager and Principal-in-Charge for numerous multi-disciplinary water resources projects and has led the construction of multi-million dollar projects. His expertise includes sediment transport, fluvial morphology, erosion control, hydrology and hydraulics, bank stabilization and restoration, hydraulic design of pools and riffles for fish enhancement, and design of storm water detention and treatment facilities. His construction management skills are founded on the collaboration during planning, optimization, and enhancement in design and construction cost and schedule by providing technical solution and value engineering. He brings considerable real-world experience in site design and grading, land planning, utilities, development, and construction management for public and private sectors. He has completed numerous construction projects through feasibility analysis, engineering design, plans and specifications, and construction management.

Education

Ph.D., Civil Engineering, Water Resources, Oregon State University, 1994

M.S., Civil Engineering, Hydraulics, Oregon State University, 1986

B.S., Irrigation and Drainage Engineering, Tehran University, 1979

Professional Registrations

Professional Engineer, Oregon 14993

Project Experience

Alton Baker Park Canoe Canal Fish Passage and Recreational Boating Feasibility Study, City of Eugene, Oregon

Project manager and provided technical expertise in fluvial geomorphology for the feasibility of altering the Alton Baker Park Canoe Canal so that fish, principally juvenile salmonids, are able to enter and leave the waterway at either end and safely navigate its entire length, while preserving the existing level of flood protection for private properties and also provide for the continued use and enjoyment of the canal by recreational boaters. Each alternative met or exceeded fish passage performance standards, maintain existing flood protection levels, and as a minimum maintain current levels of boating access, park use, and aesthetic objectives. Alternatives were modeled to compare water depths, velocities, and surface elevations in the canal over a range of flows. The key to success was to identify how inflow from the Willamette River varied with river stage, and how that affected fish passage conditions. The proposed feasibility design and evaluation process enabled the City of Eugene to learn about opportunities, constraints, and strengths and weaknesses of various design alternatives to support future discussions with the public and other design efforts.

Dragonfly Bend Habitat Enhancement Project, Public Works Department, City of Eugene, Oregon

Provided technical advice related to the project's professional engineering and fluvial geomorphology aspects. The review evaluated design methods, design details and construction plans for clarity, applicability, function (or performance) and constructability. The result of analysis showed that an upstream levee setback project constructed by the US Army Corps of Engineers (USACE) would probably produce a sediment-starved flow entering the Dragonfly Bend area. However, because of proposed channel widening and a series of in-channel rock weirs scour in the project area could be minimized. Recommendations included flattening the banks to prevent sloughing due to rapid draw down during large storm events and a series of pool-riffle systems and bank slope variations to increase habitat complexity. Channel stability and bank stabilization were also assessed.

Upper Amazon Creek Enhancement at Frank Kinney Park, City of Eugene, Oregon

Provided technical expertise on the planning and design of this stream day lighting and enhancement project. Conducted field reconnaissance and gathered field survey data. The project involved a comprehensive channel and habitat restoration with water quality features. The project daylighted the previously diverted east fork tributary to improve water quality by reducing higher, erosive flows on the downstream creek. This decreased flow in an undersized storm drain and increased

floodplain storage in the park. The project stabilized a severe head cut on the creek's main stem that had resulted from the flow diversion.

Town of Skykomish - Maloney Creek Habitat Restoration, Sediment Management, and Flood Control in Skykomish, WA.

Investigated technical approaches to address flood risks and habitat degradation due to sediment build up in lower Maloney Creek. Performed hydrology, hydraulic and sediment transport analyses along with geomorphic evaluation of the stream's dynamics, including unpredictability in sediment load and potential for debris floods. This provided the basis for preliminary design of restored habitat and structures for sediment and flood control. The "soft engineering" design emphasized large wood structures in and along the channel to maintain deeper pools and prevent stranding of protected salmonids, previously an issue during periods of low flow.

Grandey Creek Bridge Stream Restoration Project, Federal Highways Administration, WFLHD, Olympic National Park, Washington

Provided project management for stream restoration that replaced a problematic culvert with a bridge and restored over 1000 feet of channel. Evaluated existing geomorphic and physical conditions of the stream (which was extremely dynamic) and, with that knowledge guided the field stream restoration engineer to assist the contractor and facilitate design changes on the ground. Geomorphic conditions both upstream (460 ft) and downstream (930 ft) were evaluated through field surveys, stream reach identification, particle size distributions, photography, and observations of significant fluvial-geomorphic features along the study reach. Design elements, including in-stream features, were introduced to provide a dynamic stream pattern by considering vegetation and installing features that would trigger certain river response over time. The National Park Service was very happy with the completed project.

Design and Construction Monitoring for Clackamette Cove/Clackamas River Bank Stabilization, City of Oregon City, Oregon

Project Manager and Principal Investigator for analysis and design of a severely eroding riverbank along the Clackamas River near Clackamette Cove. Erosion threatened to breach the peninsula that separated the river from a large local fisheries and recreational cove. The project identified the cause of the problem and developed the most cost-effective, environmentally friendly and constructable solution. Work included final design and permitting. Three major alternatives were modeled and presented from which a decision was made to stabilize the eroding 350 feet of bank which resulted in a near vertical slope of 40-foot height. The project was constructed successfully and the client is very pleased with the work.

Daniel E. Schall, PE, LEED AP
Environmental/Civil Engineer

Education
B.S., Environmental Systems Engineering (Minor, Geosciences), Pennsylvania State University, 2002

Professional Registrations
Professional Engineer, OR, No. 80570

LEED AP – Leadership in Energy and Environmental Design

Mr. Schall is a professional engineer with ten years of professional work experience comprising of construction management, engineering design, stormwater, environmental remediation, and energy efficiency. His construction management experience includes construction oversight and coordination with civil, structural, electrical and mechanical subcontractors, quality control inspections, progress payments and change orders, purchasing and management of materials, and work plan and RFP preparation. His engineering design experience includes preparation of drawings using AutoCAD and Land Development Desktop, hydraulic treatment design and problem solving. His energy efficiency and green building work has included numerous energy and water audits, feasibility studies, sustainable infrastructure assessments, and design services. His environmental remediation experience includes performing Phase I & II environmental site investigations, conducting sampling and analysis programs for groundwater and soil monitoring, and compiling and validating analytical data. In addition, Mr. Schall has experience working as a Health & Safety Coordinator and Site Officer on numerous construction projects. Tasks that were performed include H&S plan preparation and review, toolbox meetings, safety inspections and audits.

Mr. Schall has worked on a variety of projects and in numerous positions such as Construction Manager, Project Engineer, and QA Manager. Clients have included the Oregon Department of Energy (ODOE) Air Force Center for Environmental Excellence (AFCEE), the Air National Guard (ANG), the US Army Corps of Engineers, Westinghouse, and Amtrak and numerous confidential clients.

Project Experience

NPDES Stormwater Permit Compliance, AMTRAK, Portland Union Station, OR

2005 to ongoing Mr. Schall has updated and revised the Stormwater Pollution Control Plan (SWPCP) for the existing facility and performed monthly inspections for Stormwater Discharge General Permit, No. 1200-Z compliance. In addition, Mr. Schall has collected stormwater compliance samples, prepared annual stormwater permit compliance reports, and assisted the client in communication with Oregon DEQ.

Little Peoples Park, Beaverton, OR.

AMEC is presently under contract with the City of Beaverton to restore a regional stormwater detention facility on Beaverton Creek at Little Peoples Park. The facility was developed in the 1980s but has accumulated a ridge of silt along the creek banks. This ridge is blocking flow from entering the detention facility and thus reducing its effectiveness. In addition the facility has become overgrown with invasive plant species which decreases its habitat value. Mr. Schall was project engineer for the restoration plan that features cutting the creek banks down to ordinary high water with sediment forebays attached to shallow swales running throughout the facility. In addition to engineering design and landscape architecture services AMEC is providing natural resources permitting services as well.

Triangle Park Brownfield Project, Portland, OR

Triangle Park is a 35-acre former industrial property located on the east bank of the Willamette River at approximately River Mile 7.5 within the Portland Harbor Superfund Site. The site was first developed as wood products manufacturing facility in 1909. Other industrial operations at the site included a coal-fired power plant, ship building, concrete mixing, tug and barge operations, and a hazardous waste treatment, storage and disposal (TSD) facility. A number of underground storage tanks (USTs) were historically utilized at the site. Mr. Schall was the on-site Field Engineer for the removal action implementation work. This work included 2,200 linear feet of shoreline excavation, over 60,000 BCY of material was removed from the shoreline. The shoreline slopes were excavated to a 5H:1V slope and replaneted with over 15,000 native plants and trees.

Confidential Former Herbicide and Pesticide Manufacturing Facility, Portland, OR

The site, encompassing approximately 14 acres or pesticide and herbicide contamination, contains a one acre lake remnant. The lake serves as the sole receiving water for storm water which falls onto and/or runs onto the property. Mr. Schall served as a project engineer on the design and treatability testing to in-situ solidify/stabilize 27,000 cy of contaminated lake sediments, and engineer to design and implement (currently at remedial design/source control evaluation stage) a groundwater extraction and treatment system to serve as source control to the Willamette River.

Former Wood Treating Site Remedial Investigation/Risk Assessment, Port of St. Helens and Pope & Talbot, Inc., St. Helens, OR

Mr. Schall has supported and managed components of an ongoing remedial investigation (RI) at a former wood treatment site in St. Helens, OR. Pope & Talbot had owned and operated this former facility between 1920 and 1970. In the late 1980s and early 1990s, preliminary assessments identified creosote-impacted soil and groundwater on this 50-acre site as well as visible creosote seeps and impacted sediment within neighboring Scappoose Bay. In 1995, the Oregon Department of Environmental Quality (DEQ) issued a Consent Order to the current and former property owners to complete a RI/FS. Through the issuance of an NFA, the Site has been reduced to 30 acres of creosote-impacted upland areas. This area remains part of the original Consent Order and the focus of the ongoing FS.

Time Critical Removal Action (TCRA) & Land Farming, Orange ANGS, CT

Project Engineer for the excavation and on-site land farming of 15,000 cubic yards of JP-4 impacted soil at the Orange Air National Guard Station, located in Orange, Connecticut. The site was being demolished and rebuilt over a two year time period. The project included a 94,000 cubic yard cut for construction of a new building. Since a large former spill area was present near the cut area, AMEC characterized the cut area for its suitability as unrestricted fill, and identified the presence of a new large area of JP-4 impacted soil. AMEC then developed procedures for adequate separation of the clean soil from the JP-4 impacted soil. Mr. Schall was involved with preparing the design drawings for the land farming, which included excavation and grading cross-sections, and erosion and sediment control plans. He was also responsible for excavation oversight, sampling, and characterization of the contaminated soils.

RCRA Part B Permit Renewal & Bldg Closure, U.S Army, Fort Dix, NJ

Project Engineer for Updated RCRA Part B Permit for the U.S. Army Fort Dix facility, New Jersey. The Permit update included the addition of a new storage facility, removal of the old storage facility, and the RCRA closure of two waste ammunition bunkers. This process included power washing of the structures and rinsate sampling to verify the successful decontamination of the structures. The permit update and closure certification report were accepted without comment by the NJDEP.

Stephen A. Siebert, PE
Associate Engineer

Education

M.Eng., Geotechnical Engineering, University of British Columbia, 1992

B.A.Sc., Geological Engineering, University of British Columbia, 1988

Professional Registrations

Professional Engineer: OR, No. 83148

Professional Engineer: WA, No. 30329

Professional Engineer: British Columbia, No. 23169

Garfield North Mixed Use Building, Garfield North LLC, Tacoma, WA

Mr. Siebert prepared a geotechnical engineering evaluation for a new four story mixed-use building near the Pacific Lutheran University campus. The building will contain 3 floors of apartments and a main level for commercial/retail use. Low impact development features are being considered for stormwater management including porous pavement and rain gardens. Mr. Siebert provided recommendations for site preparation, shallow foundations, floors, drainage systems, backfilled walls, underground utilities, infiltration systems, pavement, and structural fill. Low impact development features is being considered for stormwater management including porous pavement and rain gardens.

Athletics Complex, Pacific Lutheran University, Tacoma, WA

Mr. Siebert completed a geotechnical evaluation to support design of two new all-weather sports fields. The project will also involve installation of new light poles and construction of bleachers at the new fields. Surface water runoff from the new fields will be managed using new on-site infiltration facilities located to the south of the new fields. Mr. Siebert provided recommendations for soil infiltration, light pole foundations, and reusability of existing site soils for grading purposes. Mr. Siebert managed geotechnical monitoring during construction of the first of two all-weather fields for football.

Fred Meyer Store Stormwater Vault Improvements, Fred Meyer Stores, Inc, Tumwater, WA

Mr. Siebert provided geotechnical input into the retrofit of an existing large underground stormwater vault that was not infiltrating as designed. Field testing and subsurface explorations completed by AMEC determined that interbedded low permeability silt layers present beneath the vault were the cause of the significant reduction in infiltration ability and resulting vault overflow during heavy rainfall events. Mr. Siebert provided geotechnical review of mitigation to improve infiltration which consisted of the installation of a series of vertical columns of granular material to the underlying pervious native sands. Mr. Siebert observed falling head test of improved and non-improved chambers of the vault to evaluate effectiveness.

Baseball Field Improvements, Pacific Lutheran University, Tacoma, WA

Mr. Siebert prepared a limited geotechnical evaluation for proposed improvements to the existing baseball field. Improvements will consist of removing existing natural grass from the infield and replacement with an artificial turf. Shallow borings were advanced in the baseball field using a limited access drill rig and samples collected for evaluation of soil infiltration characteristics. Mr. Siebert provided recommended soil infiltration rates based on review of gradation analyses for design of the new infield.

Sehmel Homestead Park, AHBL/PenMet Parks, Gig Harbor, WA

The project site encompasses 98 acres and is the first low impact development park in Pierce County. The park will have an amphitheatre, softball fields, a soccer field, a dog park meadow, a basketball court, and tennis courts. Paved areas are a combination of porous asphalt and conventional asphalt pavement. Stormwater facilities include infiltration ponds and raingardens. Other facilities include a pavilion, concession stand and restrooms. AMEC completed a geotechnical evaluation including recommendations for infiltration rates of the in-situ soils, Keystone retaining wall design, shallow foundations, and asphalt pavement. Mr. Siebert managed geotechnical monitoring, special inspection and materials testing for the park during construction.

Seth L. Jelen, PE, CFM, CWRE

Principal Engineer

Education

MS, Civil Engineering, Stanford University, Palo Alto, California, 1990

BS, Engineering & Applied Science, Chemistry, California Institute of Technology, Pasadena, 1989

Professional Registrations

Professional Engineer, OR, 17221

Professional Engineer, WA, 31539

Professional Engineer, ID, 8199

Professional Engineer, MT, 12423PE

Professional Engineer, WY, PE8045

Professional Engineer, AK, CE9049

Certified Water Rights Examiner, OR, 388

Certified Floodplain Manager, ASFPM, US-05-01533

Rock Creek Sustainability Initiative, Clackamas County Water Environment Services, OR

Lead project engineer for this study comparing traditional stormwater management with LID methods for 450 acres of urban expansion area near Happy Valley, Oregon. Work involved development of near-preliminary stormwater management designs for all properties within the study area using both traditional single-event design and continuous hydrologic methods. The project found that LID could reduce required detention volume to the same or even smaller size than traditional designs while preserving the flow-duration character of runoff, which traditional designs do not.

Runoff Time Series (RTS) Model Development, Clean Water Services, Hillsboro, OR

As part of its work on updating the Design and Construction Standards, Clean Water Services (CWS) identified the need to develop a runoff time series model that could be used to design effective on-site detention and eventually replace the current traditional single event approach. In late 2003, CWS contracted with AMEC to develop continuous flow models for the Tualatin Basin. The goal of this assignment was to develop a Runoff Time Series Tool (RTS Tool) to update and facilitate stormwater detention design within the District's jurisdiction. Mr. Jelen was the lead project engineer on the development and calibration of the HSPF models for the agency's Tualatin River tributaries. He also developed the RTS Tool, which was delivered to the agency in 2004. Mr. Jelen was the lead project engineer on the recently completed second phase of the tool development, which involved the incorporation of six different LID practices including porous pavements and paver blocks, green and blue roofs, rain gardens or infiltration trenches, smart cisterns, and the use of amended soils for increased infiltration.

Clackamas Surface Water Management Program Master Plan Clackamas County W.E.S., Clackamas, OR

Acted as the lead Water Resources Engineer establishing HEC-HMS hydrologic models for the entire CCSD #1 area including the proposed expansion areas. These models were used in conjunction with HEC-RAS hydraulic models to establish a current and comprehensive analysis of waterways within the service district. Reviewed previous HEC-RAS models against current topography and field observations. Developed and calibrated HSPF models for the entire 36-square mile study area, which included the Rock Creek and Richardson Creek Basins plus the headwaters of the Noyer and Sunshine Creek Basins. Was involved at numerous project meetings, was the primary author on several technical memorandums and wrote a large portion of several final plan chapters.

North Clackamas Park Regional Stormwater Detention Facility, Clackamas County, OR

(Prior Firm Experience) Co-designed regional stormwater detention project to provide 140 acre-feet of flood storage for Mt. Scott Creek within an 80-acre park and modeled hydraulics and hydrology for upstream basin. Wrote in-house detention performance model for complex interactions of culvert, orifice, and gate-controlled flow that improved future design efforts.

Brian L. Taylor, PE
Senior Civil / Water Resources Engineer

Education
MS, Civil Engineering, University of Washington, 1993
BS, Civil Engineering (Magna Cum Laude), University of Maryland, 1991

Professional Registrations
Professional Engineer, WA, No. 35703

Bridgeport Way Widening, City of University Place, WA

Brian is the task manager and leads the engineering design of stormwater treatment BMPs to retrofit an existing 4-lane road in University Place. Funded by a Department of Ecology (Ecology) grant, the project will develop bioretention "rain gardens" and permeable pavement sidewalk along 800 linear feet of the road, and includes an additional water quality swale to create a runoff treatment train. The design is based on continuous hydrologic modeling and is being developed in accordance with Ecology design criteria, and will be constructed in late 2013-2014.

Theater Commons, Seattle Center, WA

Prior firm experience. Brian was the stormwater designer on a project to improve the Seattle Center campus by creating five landscaped rain gardens along a prominent pedestrian corridor to retrofit approximately 2 acres of building roof, parking, and walks by providing runoff infiltration, detention, and treatment. Brian designed rain gardens to meet City treatment requirements, conveyances to distribute water from roof rain leaders into planted retention cells, an underground gravel detention "gallery", and evaporation gardens to promote evapotranspiration. Brian prepared a drainage report, plans, and specifications for the project's stormwater systems. Close coordination with the landscape architects was an important part of developing the project design.

Colman Residential Tower, Seattle, WA

Prior firm experience. Brian was the lead stormwater designer for the redevelopment of a one-block parking lot into a new "green" condominium building. This work included analyzing roadside bioretention "gardens" to treat runoff from adjacent streets and alleys, and collaborating with the architect and landscape architects to size and design green roofs, stormwater planters, and permeable concrete sidewalks. Brian developed an MGS-Flood continuous hydrology model that simulated runoff from the building and green stormwater BMPs, and designed a detention tank for the "non-greened" portions of the site so that the City flow control requirements were achieved.

Canal Park, Washington, DC

Prior firm experience. Brian was part of the civil design team that worked with landscape architects to design the new Canal Park in a redeveloping area of Southeast Washington, DC. The team developed schematic designs to convert 3 blocks of gravel parking into an urban park that would showcase low-impact development techniques and provide an amenity to surrounding offices. Brian designed water quality BMPs to meet Department of Environment criteria, including sand filters, rain gardens, and rainwater harvesting/re-use systems, and developed a water balance model for the site that demonstrated the potential to reduce the amount of stormwater entering the combined sewer system from existing conditions. Brian prepared preliminary cistern designs and designed piping systems to collect runoff and reuse it for irrigation and water features.

Fire Station 6, Seattle, WA

Prior firm experience. Brian was the stormwater designer for a new "green" fire station and was responsible for the design of a rainwater harvesting system and water quality treatment BMPs. The project incorporated vegetated roofs, permeable pavements, an underground cistern, and water filtration systems to achieve City of Seattle drainage control requirements. The green stormwater infrastructure practices enabled the project to fulfil the City's green infrastructure requirements and reduced the potable water demand of the building by using harvested rainwater to irrigate the landscape and vegetated roof. Brian conducted long-term hydrologic simulations to determine the most cost-effective cistern size for achieving the projects goals for potable water reduction.

Patrick McCarthy, GISP

Senior GIS Analyst

Education

BS, Environmental Science, Oregon State University, 1998

Minor, Earth Information Science Technologies

Professional Registrations

Geographic Information Systems Professional (GISP) – #56796

Portland General Electric (PGE) Proposed Utility Line, Clatskanie, OR

Mr. McCarthy was the lead GIS Analyst for the PGE Port Westward Generating Plant wetland survey. Mr. McCarthy was responsible for coordinating the GPS collection of wetland boundaries and post-processing the data verifying it met the accuracy requirements. Mr. McCarthy generated figures with the data to support the permitting efforts with the Oregon Department of State Lands (DSL) and U.S. Army Corps of Engineers (USACE).

Port Westward Generating Plant (PWGP) Energy Facility Siting Council (EFSC) Site Certificate, Amendment No. 7 Preparation, PGE, Clatskanie, OR

Mr. McCarthy was the lead GIS Analyst for the environmental permitting services to PGE as part of a site certificate amendment application to the Oregon EFSC. PGE intends to increase the capacity of an existing power generation plant in Clatskanie, Oregon, with the addition of a second power generation unit. Mr. McCarthy was responsible for collecting, processing and generating figures to present wetland determinations, habitat characterizations, and invasive species.

Confidential Client, Whatcom County, WA

Mr. McCarthy is the lead GIS analyst for a long term project which involved permitting, impact analysis, mitigation assessment, cultural resource surveys, wetland delineation, and production of figures and posters for public meetings. The project consisted of analyzing a 1,100-acre site incorporating wetlands, soils, vegetation classification, plus additional datasets to assist with site assessment, permitting, and impact analysis. Mr. McCarthy also analyzed historic data to assist in the planning and layout of cultural surveys. After the surveys were conducted, Mr. McCarthy plotted locations of finds to be used in subsequent site analyses. Mr. McCarthy assisted in identifying and analyzing potential mitigation areas. His work was also key in successfully obtaining an USACE Section 404 Permit for removal/fill of wetlands within the proposed project construction footprint at the 1,100-acre site.

Bel-Red Living Streams, Bellevue, WA

AMEC conducted an analysis and produced a report that assisted the City of Bellevue in making choices that would maximize ecological functions and human use objectives of Goff Creek and the West Tributary as part of the Bel-Red Corridor Project. Strategic redevelopment of the Bel-Red Corridor will provide opportunities for major environmental enhancements including improvements to the ecological functions of riparian corridors and urban streams. The technical approach included a review of Best Available Science (BAS) and existing conditions to identify potential opportunities and challenges related to rehabilitating the two stream corridors. Also included in the approach was an impacts analysis conducted to identify relationships of hypothetical buffers to buildings, parcels, and infrastructure. The analyses were used to develop conceptual site plans and drawings with the objective of rehabilitating 50- and 100 foot buffers along Goff Creek and the West Tributary. An estimated cost breakdown for implementing the conceptual plans was included in the report. AMEC developed an approach to rehabilitation along the West Tributary designed to focus on providing habitat and open space with trails, recreation areas, environmental education, and storm water management. The approach to rehabilitation along Goff Creek focused on using the stream to enhance the urban setting as a feature in urban plazas, while simultaneously rehabilitating habitat for protected salmonids. Mr. McCarthy designed and conducted the impact analyses that were used in the conceptual site plans and drawings with the objective of rehabilitating 50- and 100 foot buffers along Goff Creek and the West Tributary.

Leonard C. Farr, Jr., RG
Senior Associate/Geologist

Education

M.S., Geology, Portland State University, Portland, OR, 1989

B.S., Geology, Portland State University, Portland, OR, 1987

Professional Registrations

Registered Geologist, OR #1169

Former Guistina Lumber Mill, Eugene, OR

This former lumber mill property had historical releases of heavy metals and volatile organic compounds (VOCs). Mr. Farr initially assisted with the scoping and implementation of site characterization and corrective actions. Corrective actions implemented at the site included the remediation of mercury-containing soils, and the remediation of soils impacted with VOCs.

The site entered the Oregon Department of Environmental Quality's (DEQ's) Voluntary Cleanup Program (VCP). Mr. Farr negotiated the scope of additional site characterization with DEQ VCP staff. After performing limited additional assessment at the site, and despite the fact that low levels of vinyl chloride remained present in site groundwater, a No Further Action required finding was received from the DEQ for the site. A portion of the site has since been redeveloped as a City of Eugene Fire Station, Administrative Offices, and Training Facility.

Former Lane Plywood Mill, Eugene, Oregon

For a prospective purchaser, AMEC reviewed extensive environmental files for this 100-acre site, which had operated as a Plywood Mill for 45 years. An approximately 15-acre portion of the site had formerly operated as a sand and gravel pit, and municipal solid waste landfill. AMEC completed an environmental records review for the site, and using information obtained during the records review, developed a scope of work for a Phase II Environmental Site Assessment (ESA). Both direct-push and hollow-stem auger drilling were used to collect soil and groundwater samples at various locations across the site. Based upon the results of assessment activities, a cleanup cost estimate was prepared for the site. This cleanup cost estimate was used in negotiating a purchase price for the property.

The Yards at Union Station Redevelopment, Portland, OR

Mr. Farr began work for the PDC at this former rail yard in April 1996. Use of the site as a rail yard was discontinued in the 1970s, and the property had been vacant since that time. The site is located within the River District, a 250-acre urban renewal district designated by the City of Portland. In July 1996, PDC entered the DEQ Voluntary Cleanup Program. Remedial Investigation/Feasibility Study activities began at site in early August 1996 and culminated in a Record of Decision in November 1996. Corrective actions implemented at the site included: 1) Removal of approximately 3,000 cubic yards of crude oil contaminated soil as an interim action, and 2) Surface capping to prevent exposure to impacted soils.

Redevelopment of three of the five parcels comprising the site has been completed. Surface caps were installed concurrently with construction, and Mr. Farr managed remedy implementation during construction. No further action (NFA) determinations have been issued for each parcel where remedy implementation/construction has been completed. The project received a Phoenix Award for excellence in brownfields redevelopment.

RICHARD M. SATRE, AICP, ASLA, CSI
Principal
Schirmer Satre Group

Education
- M.S., Master of Science, *University of Oregon,* 1991
- B.L.A., Bachelor of Landscape Architecture, *University of Oregon*, 1977

Registration
- Licensed Landscape Architect, Oregon 1979, License No. 84; Washington No. 328; CLARB 186
- Certified Planner, No. 019606

Professional Affiliation
- Member and Past Trustee, *American Society of Landscape Architects*
- Member, *American Planning Association*
- Member, *American Institute of Certified Planners*
- Member, *Construction Specifications Institute*
- Affiliate Member, *Southwest Oregon Chapter, American Institute of Architects*

Professional Experience
- 2011-present, Principal, *Schirmer Satre Group*
- 1993-2011, President, *Satre Associates, P.C.*
- 1989-1993, Parks Director, *Willamalane Park & Recreation District,* Springfield, OR
- 1985-1989, Planning & Development Manger, *Willamalane Park & Recreation District,* Springfield
- 1980-1985, Landscape Architect, *Cameron & Associates*, Eugene, OR
- 1982-1984, Adjunct Assistant Professor, *University of Oregon*, Eugene, OR
- 1978-1984, Instructor, *Lane Community College*, Eugene, OR
- 1977-1980, Landscape Designer/Landscape Architect, *Ruff, Cameron, Lacoss & Associates*, Eugene, OR

With over 30 years experience, Rick Satre has substantial experience with a wide variety of planning, landscape architecture, and environmental projects.

Rick brings to a project both the perspective of a local government administrator as well as that of a consultant to local governments and state agencies. He understands the public sector while representing the interests of the private client. He has assisted with metro area planning processes, drafted development code updates, successfully applied for and received numerous facility development grants, facilitated the acquisition of many public properties, and has been the project manager responsible for the development of a number of educational, recreational, commercial, industrial, and residential facilities. Rick has written comprehensive plans and facility development programs, generated service delivery and operation plans, and facilitated community surveys, focus groups and public meetings.

Following the founding of his former firm, Satre Associates, P.C., Rick quickly expanded the firm's service offering to include all aspects of planning, landscape architecture, and environmental services. **Planning projects** have included community and neighborhood planning, site and master planning, and individual property planning approvals such as plan amendments, zone changes, annexations, land divisions and greenway, discretionary, and conditional use. **Landscape architecture projects** have included feasibility assessments, site design, cost estimating, value engineering, construction documents, and bidding and construction administration assistance. **Environmental projects** have addressed local, state and federal requirements regarding wetlands, waterways, habitats, rare plants, environmental assessments, erosion control and stormwater management.

From initial site analysis to a complete and fully operating facility, Rick's master plans and site designs reflect successful integration of the needs and preferences of the client with the opportunities of the site and environment.

Rick's detailed organizational approach toward every project and his ability to bring order to complex sets of issues and requirements has repeatedly ensured project success. His understanding of the context of urban design and land planning combines successfully with his understanding of site design, construction materials, facility development processes, and environmental requirements to the benefit of all projects.

Erin E. Hale, PWS
Environmental Scientist

Education

B.S., Hydrology and Environmental & Natural Resource Science, University of Nevada, Reno, 2000

Professional Registrations

Professional Wetland Scientist, 1848

ODOT Qualification for Biological Assessment Deliverables

Little Peoples Park, Beaverton, OR

The City of Beaverton intends to restore the Little People's Park Regional Stormwater Management Facility on Beaverton Creek. Ms. Hale is supporting the project by providing permitting services and technical review and oversight of the habitat and restoration plan. Ms. Hale has obtained an exemption from DSL to complete the project is currently in the process of obtaining approval from the USACE for this project under a Nationwide Permit.

Fanno Creek-Arthur Ct, Tigard, OR

AMEC was retained by the City of Tigard to provide environmental consulting services to support a bank stabilization and channel diversion project in Fanno Creek near Arthur Court in Tigard, Oregon. Ms. Hale and her team completed a wetland delineation and prepared a wetland delineation report for submittal to DSL and the USACE, completed a site assessment and tier 2 analysis for submittal to clean water services, and a completed a joint permit application for submittal to DSL and the USACE. Ms. Hale conducted pre-application meetings with the DSL, the Oregon Department of Fish and Wildlife, and NOAA National Marine Fisheries to identify permit constraints early on for the bank stabilization project.

Flood Control Facility, Clackamas County, OR

As project manager, Ms. Hale performed mitigation monitoring at the 6-acre North Clackamas Regional Park and Flood Control Facility within Clackamas County, Oregon. The goals of the mitigation were to improve habitat structure and increase retention of water within the wetland. Monitoring includes total woody species count, belt transect sampling method, meter-square quadrant plot sampling method (to estimate total herbaceous cover), and hydrologic monitoring (using six surface water monitoring stations). Ms. Hale worked closely with Pacific University's Biology Department to perform monitoring at the site. This site is functioning as intended and Clackamas County has been released from their compensatory wetland mitigation permit obligations.

Fanno Creek Regional Trail, City of Tigard, Tigard, OR

As project manager, Ms. Hale completed a wetland delineation, wildlife habitat assessment and vegetated corridor assessment on a 1.7 acre site to support the construction of a regional trail along Fanno Creek in Tigard OR. In addition, Ms. Hale provided permitting services including the completion of a Clean Water Services Standard Site Assessment and Tier 2 Alternatives Analysis to support the approval of a Services Provider Letter, and a Joint Permit Application to the USACE and DSL for construction in State and/or Federal waterways.

Triangle Park, University of Portland, OR

The University of Portland owns a piece of property located adjacent to the Willamette River. Ms. Hale has conducted a wetland and habitat survey on a property to identify potential permitting constraints and to support the biological assessment being prepared for the Site. Following completion of the wetland survey, Ms. Hale and her team completed a wetland determination and a Wetland Determination Report for submittal to the Environmental Protection Agency in support of a closure for the Site.

Cleveland R. Steward III

Principal Fisheries Scientist

Education

MS, Fisheries, University of Washington, Seattle, WA, 1983

BS, Wildlife (Aquatic Option), University of Montana, Missoula, MT, 1978

Professional Memberships

American Fisheries Society

American Water Resources Association

American Institute of Fisheries Research Biologists

Sustainable Fisheries Foundation, Executive Director, 1994 to present

Maloney Creek Sediment Trap and Channel/Habitat Restoration – Feasibility and Design, Town of Skykomish, WA

Since about 1900, lower Maloney Creek was channelized and lengthened and large wood was removed, degrading habitat, reducing sediment transport capacity and creating a flood hazard to the Town of Skykomish. In late summer, low surface flow strands juvenile salmonids. The Town hired AMEC to restore the creek's conveyance capacity, hydraulic connectivity, and fish passage and habitat value while reducing flood risk. Mr. Steward managed the 3-year, $1.6 million project, including fundraising, client and agency relations, public outreach, technical feasibility assessment, engineering design, permitting, cost estimates, bid document preparation, construction, and maintenance and monitoring.

Issaquah Integrated Fish Passage Project, City of Issaquah, WA

AMEC is working with the City of Issaquah, WDFW, and the Muckleshoot Tribe to restore fish passage, habitat, and natural production above the Issaquah Hatchery Water Intake Dam in Issaquah Creek. AMEC's scope includes planning, design, permitting, construction, and monitoring and maintenance. The project will restore and maintain naturally spawning, locally adapted salmonid populations by restoring fish passage, improving instream and riparian habitat, and modifying hatchery management. Mr. Steward serves as lead scientist, expert on salmon conservation policy, agency coordinator, and project manager.

Bear River Estuary Restoration, Willapa Bay, WA

Mr. Steward directed AMEC's efforts in a large project to restore 621 acres of estuarine habitat in Willapa National Wildlife Refuge. The project is the cornerstone of the Refuge's Comprehensive Conservation Plan. AMEC assessed feasibility, designed dike removal and habitat restoration, and performed baseline and post-construction monitoring. AMEC will provide additional assistance, including construction oversight, in 2012-2014. Restoration will restore normal hydrodynamic processes and give salmon and other wildlife access to the site, which is expected to revert to open water, intertidal mudflat, and salt marsh habitat.

Lake Sammamish Kokanee Salmon Recovery Project, King County Department of Natural Resources and Parks, WA

King County hired AMEC to help the Lake Sammamish Kokanee Work Group (KWG), comprising agency and tribal biologists, local citizens, and non-profit groups, identify fish passage and habitat restoration opportunities to benefit Lake Sammamish Kokanee. Under Mr. Steward's direction, AMEC inventoried streams and lakeshore, identified 11 high-value restoration projects based on KWG-approved selection criteria, and developed preliminary designs suitable for grant applications and permitting. AMEC was since hired by the Cities of Issaquah and Sammamish to furher develop proposals at three high-priority sites.

Drainage District 6 Dike Breach Design and Habitat Restoration, City of Everett, WA

The City of Everett plans to restore tidal marsh habitat and construct a new levee to protect infrastructure at Drainage District 6 in the lower Snohomish River. The City hired AMEC to develop alternatives for dike breaching and marsh restoration and to review the physical and biological effects of the alternatives. Removal of the existing dike and reestablishment of natural hydrodynamic processes will promote tidal exchange, tidal channel formation, sediment deposition, recolonization by native tidal marsh vegetation, and use of the newly created habitat by juvenile salmonids and other species of fish and wildlife.

Sean F. Gormley, EAC, CHMM

Senior Associate/Chemist

Education

B.S., Chemistry, Regents College, Albany, NY 1987

Professional Registrations

Environmental Analytical Chemist (EAC) No. 2630

Certified Hazardous Materials Manager (CHMM) No. 11609

Confidential Industrial Site, Portland, OR

Mr. Gormley designed and managed a sampling and analysis program to assess sources and nature of stormwater pollutant loading to a small lake in Northwest Portland. The lake is considered important off-channel habitat for the Lower Willamette River. The assessment included multiple rounds of sampling targeting PCB congeners, polychlorinated dibenzo-p-dioxins and polychlorinated dibenzofurans, polynuclear aromatic hydrocarbons, pesticides and metals. Results are being used for source control evaluation, and have integrated into human health and ecological risk assessments.

Placer Dome Donlin Creek Project, Aniak, AK

Mr. Gormley served as Lead Scientist for a Baseline Water Quality Program at a proposed hardrock gold mine in Alaska, located in a region with environmental impacts from historic placer operations. His responsibilities included preparation and updating of the project QAPP, verification and validation of analytical data, analysis of water and sediment chemistry results and preparation of the Water Quality Section of the annual Baseline Monitoring Reports.

Combined Sewer Overflow (CSO) Study for Inner Harbor Area of New York Harbor, NY

Mr. Gormley managed and coordinated field and laboratory resources for studies of nutrient, pathogen and toxic loading performed as part of a consent decree between The City of New York and the USEPA. The project involved 24 hour per day water sampling programs during both wet weather and dry weather events. Sediment samples were also collected for analysis of priority pollutants and sediment oxygen demand (SOD). Unanticipated conditions encountered during the project required identification of noncoliform bacteria present in both total and fecal coliform analyses, and performance of a coliform, E. coli and fecal streptococcus die-off study used to evaluate beach closure duration after wet weather discharge events. Several rounds of priority pollutant sampling were also conducted during this project, and the data used to identify areas for evaluation of ongoing sources of chemical release to the harbor.

BHP Copper Pinto Valley Operation Tailings Dam Collapse, AZ

Mr. Gormley served as Project Chemist for an emergency removal action and surface water quality monitoring related to collapse of a tailings dam at a copper mine in Arizona. The release of materials from the dam affected Pinto Creek, which is a tributary of Lake Roosevelt, a water supply reservoir for Phoenix. His responsibilities included laboratory selection and qualification, coordination of technical communications with primary and secondary contract laboratories, QAPP preparation, on site audits of contract laboratories, review and interpretation of analytical data, and validation of analytical data according to USEPA National Functional Guidelines and 40CFR136 requirements.

Roger C. Sutherland, PE
Principal Water Resources Engineer

Education

M.S., Water Resources Engineering, University of Maryland, 1975

B.S., Civil Engineering, University of Maryland, 1972

Professional Registrations

Professional Engineer, Oregon, No. 12015

Alton Baker Park Canoe Canal Fish Passage Feasibility Study, City of Eugene, OR

Mr. Sutherland was the assistant Project Manager and worked closely with the City of Eugene, AMEC's subconsultants, and state and federal fisheries regulatory agencies to complete a fish passage study for the Canoe Canal that flows through the Alton Baker Park. The canal was conceived and built in the mid 1970's as a recreational amenity for local residents that takes up to 80 cfs from the Willamette River upstream of the I-5 crossing and transports it back to the river via the 2.4 mile canal emptying just upstream of the Peter DeFazio Pedestrian Bridge. The last 0.4 miles of the canoe canal is essentially the outlet for the Q Street channel that originates in the City of Springfield. The project assessed the feasibility of modifying five existing fish barriers along the Canoe Canal to allow passage for native migratory fish consistent with state and federal fish passage guidelines, while maintaining the recreational function of the canal for canoeists and kayakers and maintaining the existing level of flood protection for adjacent private properties. Mr. Sutherland participated and presented in two half day workshops with the City and was a co-author of the presentations that were prepared. He attended a critical meeting where support for the project was voiced by the fisheries regulatory agencies. Mr. Sutherland was the primary author and editor of one Technical Memorandum and the Project Final Report.

Potential Effectiveness of Two Regional Stormwater Facilities, City of Lake Oswego, OR

Mr. Sutherland led an investigation of the potential pollutant removal effectiveness of two previously recommended regional stormwater treatment facilities. The two facilities were recommended for design and construction in 1992 as part of the City's Surface Water Management (SWM) Plan that Mr. Sutherland co-authored. The objective of this study was to evaluate the feasibility of developing the LBF2 and SB120 Pollutant Reduction Facility (PRF) Sites for removing phosphorus and sediment from stream flow discharged from their respective watersheds, Lower Boones Ferry and Springbrook Creek. The previous SWM Plan identified these sites as the two most promising sites in the entire City. However, when the SWM Plan was developed, there was very little data on the actual pollutant removal effectiveness of wet ponds and/or constructed wetlands and essentially no data existed for Western Oregon watersheds. However, since then considerable additional data on wet pond and wetland pollutant removal has been obtained. The newer data suggested that the lack of land area at these two sites would result in extremely low pollutant removal. The study included a modelling effort using six years of continuous stream flow data and the best available water quality data to estimate sediment and phosphorus removals.

Booth Kelly Center Stormwater Planning and Design Services, Springfield, OR

Mr. Sutherland managed the stormwater planning and design services performed for the Booth Kelly Center. These services included hydrologic modelling of the southern drainages tributary to the Center needed to establish peak design flows for conveyance facilities and treatment volumes. The project included the sizing and hydraulic design of a large 12 acre stormwater quality facility needed to treat this runoff and that from the Center itself. Mr. Sutherland participated in a design charette that develop a preferred conceptual plan for both the quantity and quality management of the Center's stormwater. He participated in the creation of both the draft and final reports.

APPENDIX B - Attachments #4 and #5

Attachment 4

Authorization to Legally Bind Bidder

The person executing this Bid and the instruments referred to herein on behalf of the Bidder has the legal power, right, and actual authority to submit this Bid, and to bind the Bidder to the terms and conditions of this Bid.

3/1/13

(Signature of person authorized to bind Bidder) **Dated**

John Kuiper, RG

Print Name of Person signing as authorized to bind Bidder

Vice President

Title of Person signing as authorized to bind Bidder

AMEC Environment & Infrastructure, Inc.

Firm Name

503.639.3400

Phone

7376 SW Durham Road

Address

503.620.7892

Fax

Portland, OR 97224

City, State, Zip

john.kuiper@amec.com

email address

Minority, Women, and Emerging Small Business/Disadvantaged Business Enterprise

MWESB/DBE Voluntary Self-Declaration for City Solicitation (ITB/RFP) # 918

The City of Springfield is seeking information on the various business entities that submit bids and proposals. We request that you provide the following information to assist us with evaluating our efforts at reaching the underrepresented sectors of the business communities. The City does not intend to use this data as criteria fo selecting the successful bidders or proposers for city-funded procurements. For procurements with state or f DBE requirements, the City will use the forms and criteria established by the state or federal agency for sele the successful bidders or proposers.

Please include this form with your bid/proposal submittal to the City.

Prime Bidder/Proposer: AMEC Environment & Infrastructure, Inc.

Business Name: AMEC Environment & Infrastructure, Inc.

Contact Person: John Kuiper, RG

CCB#/PE#/Other Registration: #111509

Business Address: 7376 SW Durham Road, Portland, OR 97224

Business Phone: 503.639.3400

Please check each box indicating the business certificate type that your firm has with the State of Oregon or federal government, if any:

- ☐ Oregon Minority-owned
- ☐ Business Oregon Woman-owned
- ☐ Business Oregon Emerging
- ☐ Small Business Federal Disadvantage

First Tier Sub-contractors:
For each First Tier Subcontractor, provide the same information, using additional sheets as needed.

For more information please visit State of Oregon office of Minority, Women, Emerging Small Business
http://www.oregon4biz.com/Grow-Your-Business/Business-services/Minority-Owned-Business-Certificati

Minority, Women, and Emerging Small Business/Disadvantaged Business Enterprise

MWESB/DBE Voluntary Self-Declaration for City Solicitation (ITB/RFP) # #918

The City of Springfield is seeking information on the various business entities that submit bids and proposals. We request that you provide the following information to assist us with evaluating our efforts at reaching the underrepresented sectors of the business communities. The City does not intend to use this data as criteria for selecting the successful bidders or proposers for city-funded procurements. For procurements with state or federal DBE requirements, the City will use the forms and criteria established by the state or federal agency for selecting the successful bidders or proposers.

Please include this form with your bid/proposal submittal to the City.

Prime Bidder/Proposer: AMEC Environment & Infrastructure

Business Name: 1st Tier Subcontractor: Schirmer Satre Group

Contact Person: Richard M. Satre, AICP, ASLA

CCB#/PE#/Other Registration: OMWESB: DBE / WBE #7895

Business Address: 375 West 4th Avenue, Suite 201, Eugene, OR 97401

Business Phone: 541-686-4540

Please check each box indicating the business certificate type that your firm has with the State of Oregon or the federal government, if any:

- ☐ Oregon Minority-owned
- ☑ Business Oregon Woman-owned
- ☐ Business Oregon Emerging
- ☑ Small Business Federal Disadvantage

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