AGENDA BILL

Beaverton City Council
Beaverton, Oregon

SUBJECT: Contract Award – Professional Engineering & Design Services for Non-Potable (Purple Pipe) Water System Program Manager (CIP#4021G)

FOR AGENDA OF: 05-07-19 **BILL NO:** 19101

MAYOR'S APPROVAL:

DEPARTMENT OF ORIGIN: Public Works

DATE SUBMITTED: 04-30-19

CLEARANCES:
City Attorney
Mayor's Office
Purchasing
Finance
Engineering

PROCEEDING: CONSENT AGENDA (CONTRACT REVIEW BOARD)

EXHIBITS:
1 Consultant Proposal
2 Scope of Work
3 Project Schedule
4 Project Fee

BUDGET IMPACT

EXPENDITURE	AMOUNT	APPROPRIATION
REQUIRED $1,576,500*	BUDGETED $948,970**	REQUIRED $0

*This is the contract fee amount based on QBS contract negotiations. (Exhibit 4).
**Account Number 505-75-3623 Water Construction Fund – Non-Potable Purple Pipe Projects. The FY 2018-19 Budget has a remaining balance of $948,970 and the estimated expenditure for FY 2018-19, including the work under this proposed contract award is $300,000. The FY 2019-20 Proposed Budget includes $2,585,000 for this project and there will be additional appropriation requests in subsequent budget years. The remaining balance of contract would extend to 6/30/21.

RECOMMENDED ACTION:

City Council, acting as the Contract Review Board, authorizes the Mayor to sign a Qualification Based Selection (QBS) contract with GSI Water Solutions, Inc. in the amount of $1,576,500, for Professional Engineering & Design Services for the Non-Potable Water System (Purple Pipe) Program Manager PM) (CIP#4021G) in a form approved by the City Attorney, and directs the Finance Director to include sufficient funds for future PM services in the proposed Fiscal Year 2019-20 budget and to extend the completion date to June 30, 2021.

HISTORICAL PERSPECTIVE

In 2014, the City annexed 544 acres in the South Cooper Mountain (SCM) area of Beaverton that is primarily for residential use. In addition, the City is preparing to annex 1,200 acres in Metro Urban Reserve Area 6B, which is intended for higher density urban development over the next 20 years. These areas are planned for City (potable) drinking water service. In addition to potable drinking water service, the City also plans to provide a non-potable water supply over both development areas.

The South Cooper Mountain lands were added to the existing pressure zones served by the existing Cooper Mountain Reservoir No. 1, and Reservoir No. 2 is under engineering design. A potable water transmission pipeline construction contract was recently awarded by Council, and it is related to Reservoir No. 2. The City anticipates steep growth in water demand in SCM from urban infill within

the existing boundaries of the Cooper Mountain Reservoir No. 1 pressure zones due to the addition of about 8,000 people. With the approval of Metro's Urban Reserve Area 6B to be added to the urban growth boundary, and with future annexation to the City for high density development on the horizon, the non-potable system/purple pipe system is being planned to eventually cover the 1,200-acre area in the upper elevations of the south side of Cooper Mountain. Metro estimates Urban Reserve Area 6B could yield 3,760 new homes and about 9,000 people once it is fully developed.

The SCM water system is in the process of being diversified to include a non-potable water system in the new SCM development area. The sustainability benefits of having a separate non-potable water supply located in upper elevations of Cooper Mountain include offsetting potable water used for drinking by utilizing non-potable water for fire protection and increased summer peak demands. The non-potable water system would also conserve and potentially postpone costly increases in to the City's treated-water capacity for drinking water. Summer potable water demand is about 60 percent higher than winter demand due mainly to irrigation and outdoor use.

In 2000, the City purchased two subdivision lots and drilled Aquifer Storage and Recovery (ASR) Test Well No. 3, at SW Loon Drive and SW Scholls Ferry Road. The groundwater test results revealed that the water within the well and aquifer contained levels of aesthetic constituents that made it not suitable for direct potable water use, without significant treatment.

Beginning in 2016, the City partnered with Clean Water Services (CWS) of Washington County to develop a system that utilizes the ASR Well No. 3, to store and recover treated urban residential stormwater collected in the South Cooper Mountain area for use as supply water for the City's just-commencing non-potable, purple pipe water distribution system.

In 2016, CWS received a $50,000 Feasibility Study Grant from the Oregon Water Resources Department (OWRD) for the Sterling Park Storm Water Recharge project. Sterling Park is a large developed neighborhood on the easterly side of SCM, located near the City's ASR Well No. 3 where significant stormwater is available during the winter/spring period. In 2017, CWS contracted with GSI Water Solutions, a hydrogeological and stormwater firm to analyze stormwater quality field samples and evaluate treatment options for feasibility assessment prior to moving forward with pilot testing of a treatment and injection testing phase. The SCM non-potable (purple-pipe) system will distribute water for various summer water uses, such as landscaping and turf irrigation at Mountainside High School and about 3,000 residential units when it is complete. There is potential to use non-potable water to release into ponds/lake, summer streamflow for cooling, and even to use for toilet flushing in the SCM area.

Working cooperatively with CWS, the City's overall non-potable system plan has been enhanced and expanded to include winter-time stormwater collection (from the City's storm drainage system) with treatment and groundwater injection into the *existing* non-potable ASR No. 3 well which would allow for annual underground storage up to 50 million gallons. The non-potable stormwater recharge would be recovered in the summer period, pumped out of ASR Well No. 3A and into the purple pipe distribution system to supply non-potable water to customer water meters. The Council just awarded the ASR Well 3A drilling contract on April 9, 2019. Both wells - Nos. 3 (injection well) and 3A (pumping well) - will access the same 1,000-ft deep basalt aquifer. The City has a long-time existing ASR limited license and native groundwater rights available. Therefore, the City can seek final licensing for the program by getting approval by Oregon Water Resources Department.

The stormwater recharge program was added following successful award of a grant to Clean Water Services and the City of Beaverton from the Oregon Water Resources Department, in November 2018, for $1.15 million entitled the "Sterling Park Stormwater Recharge Project." The overall non-potable water project now includes construction cost for a stormwater treatment and recharge system which increases the estimated overall SCM non-potable system cost to $7.5 million.

A sophisticated potable-to-non-potable interconnection system was completed in Summer 2018, which supplies water from the City's potable system to the non-potable purple pipe distribution system.

Using electronic telemetry (SCADA), the system remotely monitors the downstream non-potable water flow and pressure. The telemetry system is programmed and operated by City Water Operations staff so that optimal flow capacity is maintained for continuous summer irrigation. This is important as the purple pipe distribution system is progressively extended with each new development toward Tile Flat Road. The interconnection system also has a protective backflow valve prevention feature (required by Oregon law) to ensure that non-potable water cannot backflow into the potable water system. Operation of the purple pipe system is live as of last summer, using potable water to supply the non-potable system in the interim until the non-potable source water is available to distribute to customer water meters. To date, about two miles of purple pipe distribution system have been installed in developing areas of SCM.

INFORMATION FOR CONSIDERATION:

Public Works Department, Engineering staff issued a QBS Request for Proposals (RFP) for advertisement on March 1, 2019, seeking proposals from qualified professional engineering firms to form a team of consultants. The RFP requested proposals from a consultant team with demonstrated experience in: program planning, system analysis, cost estimating, design, and project management of municipal domestic potable and non-potable water systems; financial services to establish rates and SDCs development for water systems; public outreach and involvement for purple pipe systems; and services associated with forming and managing a purple pipe system using treated stormwater-recharged groundwater. Qualifications Based Selection (QBS) services include, engineering, mapping, planning, and land surveying services.

The Program Manager contract is intended to kick-start the non-potable water utility program to catch up with the quickly progressing development in South Cooper Mountain (SCM). The contract is intended to expedite the design and construction of the remaining capital improvements to fully operate and maintain the new non-potable water system utility in SCM. Additionally, the Program Manager will assist with City Code language, rates and charges, and service area boundaries to formally recognize the non-potable water system in City Code as a new utility with a defined service area establishing required use for new development areas of SCM. Tasks in the Program Manager contract provide professional engineering and design services with demonstrated experience in: program planning, system analysis, design and project management of municipal domestic potable and non-potable water systems; financial services to establish rates and SDCs development; for water systems; and public outreach and involvement for purple pipe systems.

A mandatory pre-proposal conference was held on March 12, 2019, with three consulting firms in attendance. One proposal was received (Exhibit 1) and opened on March 28, 2019, at 2:00 p.m., from GSI Water Solutions, Inc., of Portland, Oregon. City staff (three Engineering, one Finance) reviewed the proposal to ensure that it met the RFP requirements for qualifications, and then negotiated a scope of work, schedule, and project fee with GSI Water Solutions. The firm has been under individual sole-source contracts to provide Aquifer Storage and Recovery, groundwater and water rights expertise, since 2007. Other consultant firms in the proposal team have also worked for the City under prior contracts.

Exhibit A: Proposed Scope of Services

Background

The City of Beaverton (City) initiated the development of a non-potable water utility program (also termed "purple pipe" system) to provide irrigation water supply to the rapidly developing South Cooper Mountain (SCM) Area. The City also plans to extend the non-potable water system to the Metro Urban Reserve Area 6B (Area 6B). The City plans to annex this area in the near future and will initiate community (concept) planning for annexation in mid-2019. Development within SCM along with supporting infrastructure construction is proceeding rapidly, and the pace of development has accelerated decision-making at the City and the need to expand the non-potable system over a much larger area in a relatively short period of time. Because of limited internal staff resources, the City has selected a consultant team led by GSI Water Solutions, Inc. to be the program manager to help the City ensure that the non-potable water system is ready to implement prior to development occurring in Area 6B.

The City has already started the process to design the first non-potable supply source at its ASR 3 site, including pilot testing at Sterling Park of treated stormwater runoff as source of water for subsurface storage funded through a grant from Oregon Water Resources Department (OWRD). These projects will be integrated into the non-potable program management effort.

Scope of Services

This initial contract for the Non-potable Water System Program Manager covers the anticipated needs for the first two years of planning, while the Area 6B Community Planning effort continues. The period of performance for this scope of work is May 2019 through June 2021. The tasks under this contract include:

1. Program Management
2. Non-potable Water System Conceptual Master Plan for Cooper Mountain
3. Area 6B Community Plan Coordination
4. Non-potable Water System Preliminary Master Planning
5. Legal and Administrative Planning
6. Operation and Maintenance Planning
7. Financial Planning
8. Permitting
9. Outreach and Education
10. ASR 3 Pump Station Final Design
11. Sterling Park Stormwater Recharge Year 2 Pilot (full-scale implementation)

Detailed activities, assumptions and deliverables associated with each task are provided below.

Task 1. Program Management

Activities:

1. Project management. Provide project management for the contract, including managing budget, invoicing, progress reporting, and project communications. This task also includes project set-up and close-out.
2. Team meetings and coordination. Conduct a Program Management kick-off meeting. Conduct biweekly status calls and monthly in-person meetings with City PM. Provide up to two (annual) City Council updates.

3. Program management plan and coordination.
   - Prepare a Program Management Plan describing specific protocols and tools to track and manage program activities (including Program schedule; document/deliverables and file sharing; and a spreadsheet-based decision and stakeholder input log).
   - Discipline-specific Work Plan sections that will be managed and updated throughout the Program duration (Source water for Non-Potable Supply; Engineering and Design (includes O&M); Planning and Permitting; Outreach and Communications; Finance and Funding)

Assumptions:

- Period of performance for this contract is from May 2019 through June 2021.
- GSI will utilize non-proprietary program management software (requiring purchase) for use in budget and schedule tracking and decision log and stakeholder input logs. Microsoft suite programs will generally be used for documents.
- GSI will utilize a file sharing system agreed to with City that does not require licensing fees.
- Part of the effort under Task 1.3 is to provide overall quality assurance for the Program. As a general assumption all deliverables developed by the team of consultants will be prepared in a technical memorandum format and submitted as a draft. Each team partner responsible for a deliverable will conduct an internal quality control (QC) review, and GSI will conduct a subsequent QC review prior to submitting to City for review. It is assumed that all deliverables will be finalized after the City provides consolidated set of comments to GSI. It is further assumed that no deliverables will require significant changes from draft to final.
- All deliverables will submitted in PDF format, unless otherwise noted.

Deliverables:

- Program Management Plan (with discipline-specific work plans).
- Monthly invoicing and progress report.
- City status meeting agendas and notes.

Task 2. Non-potable Water System Conceptual Master Plan for Cooper Mountain

Activities:

1. Sterling Park Stormwater Recharge Pilot Study Coordination.
   - Define treatment criteria for program.
   - Graphics and outreach materials.
   - Reporting: Pilot Testing coordination memo summarizing stormwater treatment criteria.
   - Two meetings and coordination within project team.
2. Source water and ASR facility conceptual planning.
   - Drainage delineation and analysis for Area 6B.
   - Source volume analysis.
   - Hydrogeology assessment.
   - ASR facility siting assessment.
   - Reporting: Memo summarizing conceptual source water concepts for Cooper Mtn. (Area 6B).
   - Two meetings and coordination within project team.
3. Non-potable water system conceptual master plan.
   - Preliminary non-potable water system planning criteria.

- Conceptual piping network.
- Conceptual ASR and booster station siting.
- Graphics and outreach materials.
- Reporting: Technical memo presenting the conceptual non-potable water system for Cooper Mtn. (Area 6B).
- Four meetings and coordination within project team.

Assumptions:

- Sterling Park Stormwater Recharge project (contracted separately) will proceed on its anticipated schedule for completion of "Year 1" pilot testing by first quarter of 2020.
- Outcomes from analyses in the conceptual master plan are interim and will be based on high-level assumptions that can change based on outcome from the Area 6B Community Planning process.

Deliverables:

- Pilot Testing Coordination Memo
- Conceptual Source Water Concepts Memo
- Conceptual Master Plan Tech Memo

Task 3. Area 6B Community Plan Coordination

Activities:

1. Identify water line routing and facility location opportunities.
   - Waterline routing information.
   - Facilities co-location assessment.
   - Reporting: Memo presenting water line routes and facility locations.
   - Two meetings and coordination within project team.
2. Coordination preparation of preliminary Community Plan and cost estimates.
   - Coordination with Community Planning team.
   - Cost estimates for non-potable water system.
   - Reporting: Memo summarizing community plan consideration in the non-potable system layout in Area 6B.
   - One meeting and coordination within project team.

Assumptions:

- Area 6B Community Planning will generally begin preliminary planning phase at the start of 3rd quarter of 2019 and will be completed by 3rd quarter of 2020.Change in schedule could affect the timing of tasks in this Non-potable Program contract.
- Area 6B Community Planning contract will engineering analysis to identify infrastructure layout and likely water line routing that will be leveraged by the Non-potable water system program.

Deliverables:

- Community Plan Opportunities for Waterline Routing Memo
- Community Plan Considerations in Non-potable System Layout and Operation

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Task 4. Nonpotable Water System Preliminary Master Planning

Activities:

1. Establish preliminary planning data.
   - Community Plan land use and zoning review.
   - Non-potable water system service boundary delineation.
   - Irrigation demands analysis.
   - Reporting: Preliminary Planning Criteria.
   - Two meetings and coordination within project team.
2. Preliminary Master Plan.
   - Update system boundary and irrigation demands.
   - Hydraulic model and analysis (pressure zone delineation).
   - Non-potable system expansion scenarios.
   - Preliminary cost estimates.
   - Reporting: Preliminary Non-potable Water System Master Plan.
   - Three meetings and coordination within project team.
3. Source Water Plan.
   - Drainage and source volume analysis update.
   - ASR facility plan and sequencing.
   - Cost estimating
   - Reporting: Preliminary Non-potable Source Water Plan
   - Four meetings and coordination within project team.

Assumptions:

- Outcomes from analyses in the preliminary master plan and source water plan are interim and will be based on assumptions that can change based on outcome from the Area 6B Community Planning process.
- Finalization of Non-Potable Water System Master Plan will be completed in the next phase of work anticipated to start in July 2021.

Deliverables:

- Preliminary Planning Criteria
- Preliminary Non-potable Source Water Plan
- Preliminary Non-potable Water System Master Plan

Task 5. Legal and Administrative Planning

1. Preliminary legal and administrative plan (code audit).
   - Conduct Code Audit. Review and update the Beaverton Development Code to allow for, and require development to install, non-potable water systems
   - Identify Applicable Code / Needed Amendments. Work with City staff to evaluate the need for intergovernmental agreements to implement the non-potable system.
2. Develop draft ordinance.
   - Prepare draft ordinances for team review.
   - Prepare final recommended ordinances and code amendments. Collaborate with Beaverton long range planning staff and development review planners to assure the updated code fits well with their regulatory practices.

Assumptions:

- City will review the draft amendments for legal considerations.

Deliverables:

- Preliminary Legal and Administrative Plan
- Draft Ordinance(s)

Task 6. Operation and Maintenance Plan

Activities:

1. Preliminary Operations and Maintenance Planning.
   - Coordination with City staff (workshop).
   - Preliminary City staffing and training plan.
   - Reporting: Preliminary O&M Plan.
   - One meeting and coordination.

Assumptions:

- O&M recommendations will be based on a combination of City input and industry standards for non-potable water systems. The preliminary recommendations and findings will need to be refined in future phases of the program as specific design and operational criteria are finalized.

Deliverables:

- Preliminary O&M Plan

Task 7. Financial Planning

Activities:

1. Manage funding and grants research and strategy development.
   - Develop funding strategy.
   - Identify, review, track funding options.
   - Prepare applications.
   - Four meetings and coordination within project team.
2. Preliminary economic (benefit-cost) analysis.
   - Economic analysis kick off meeting.
   - Data collection and literature review.
   - Conduct analysis.
   - Prepare draft Economic Analysis Tech Memo.
   - Review and respond to comments on draft.
3. Financial analysis (SDCs for South Cooper Mountain Area [SCM]).
   - Financial forecast.
   - Rate structures.
   - Reimbursement and improvements SDCs.
   - Integration of potable/nonpotable SDC.
   - SDC Methodology Tech Memo.

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Assumptions:

- Level-of-effort assumes support to assist with preparing one grant application that is similar in scope to OWRD's feasibility.
- Economic analysis will rely on existing sources of data and high-level assumptions to describe benefits and costs based on the conceptual planning information (from Task 2.3).
- Economic analysis does not include analysis to trace physical effects of non-potable infrastructure on ecosystems, resiliency and community values, i.e. economic information that could be applied in criteria in some grant opportunities.
- SDC methodology developed in this task will focus on SCM. SDCs for Area 6B will be completed after Master Planning activities have been completed.

Deliverables:

- Funding Strategy Memo
- Preliminary Economic Analysis
- SDC Methodology for SCM

Task 8. Permitting

Activities:

1. Permitting Strategy.
   - Identify needed permits (water quality, water rights, land use, building/construction).
   - Develop Draft Permitting Strategy TM.
   - Review Draft Permitting Strategy with Project Team and City staff.
   - Prepare Final Permitting Strategy (needed permits and schedule).

Assumptions:

- Permitting strategy will be based on current regulations and conceptual master plan for Non-potable water system.
- Any permit application processing fees will be paid directly by the City.
- Permit review and processing time by regulatory agencies are of a standard length of time.
- No impacts to wetlands, waterways of the United States or threatened or endangered species is anticipated.

Deliverables:

- Permitting Strategy Tech Memo

Task 9. Outreach and Public Education

Activities:

1. Communications Program Guidelines.
   - Communications Program Development (PI Plan, Branding & Key Messages)
   - Key message workshop with City
   - Communications materials
   - Initial website content
2. Outreach Launch.
   - Program launch event planning and implementation
   - Stakeholder database initial set-up

- Ongoing stakeholder database upkeep and comment tracking

3. Sounding Board and stakeholder interviews.
   - Stakeholder Interviews + thematic summary
   - Convene Sounding Board
   - Additional Sounding Board Meetings (3)
4. Outreach to developers.
   - Develop-specific outreach plan + communications "kit"
   - Online survey to developer stakeholder list + summary
   - Process graphic for developers related to purple pipe and contact information
   - Ongoing updates to developers
5. Community education campaign.
   - Door-to-door outreach
   - Tabling at existing community events
   - Program educational video + social media short promo
   - Public input summary

Assumptions:

- City staff will provide logistics and coordination support for all workshops and meetings.
- City will provide input/direction on members to invite to the sounding board.
- City will be responsible to cover expenses to conduct program launch event and other hosting and facility costs (outside of consultant labor already covered).
- Long-term and on-going stakeholder outreach efforts within the project period of performance (besides listed events) will be conducted by City staff.

Deliverables:

- Public Involvement and Communications Plan
- Key messaging and branding workshop
- Templates for communications (fact sheet, e-news, etc.)
- Initial and final drafts of communications materials
- Stakeholder contact and comment tracking database
- Public input summary, including recommendations for continued engagement

Task 10. ASR 3 Pump Station Final Design

Activities:

1. Final Design.
   - Finalize well location
   - Design workshop
   - Revise 60% Design
   - 75% Design
   - 100% Design
   - Prepare bid documents
   - Bid support
2. Conditional use/Type III Land Use Application.
   - Pre-Application Conference
   - Neighborhood Meeting / Draft Application Checklist

- Draft CU Narrative
- Final CU Narrative for Submittal
- Staff Review / Coordination
- Planning Commission Public Hearing

3. Construction oversight.
   - Construction kick-off meeting
   - Submittal reviews
   - RFI support
   - Site observations

Assumptions:

- Construction oversight is limited to a support role based on the budget allocated. Additional budget will be needed if City desires constant or more consistent presence at the site and direction of contractor.
- **Additional assumptions pending for this task.**

Deliverables:

- 75% Design Drawings and technical specifications
- 100% Design Drawings and technical specifications
- Bid documents
- Conditional Use narrative (Draft/Final)

Task 11. Sterling Park Stormwater Treatment and Recharge Year (2-3)

Activities:

1. Full-scale Design.
   - Stormwater treatment system optimization based on pilot test results
   - 60% design of stormwater treatment system and well pump station integration (assume package treatment system)
   - Final design of stormwater treatment and well pump station integration (assume package treatment system)
   - Stormwater treatment bid document preparation
   - Regulatory/permitting
   - Task documentation
   - Grant coordination and management
2. Construction oversight.
   - Construction kick-off meeting
   - Submittal reviews
   - RFI support
   - Site observations

Assumptions:

- The level of effort included in the contract budget for this task represents approximately 25% of full estimated effort because Oregon Water Resources Department Feasibility Study grant covers 75% of costs. City will need to provide direction as to how the labor associated with the grant-covered costs will be contracted and invoiced.

- Level of effort assumes selection of a packaged stormwater treatment system. Sterling Park Year 1 activities (contracted separately) may determine selection of a different stormwater treatment method, which will require a revision of the scope of work and budget for this task.

Deliverables:

- 75% Design Drawings and technical specifications
- 100% Design Drawings and technical specifications
- Bid documents

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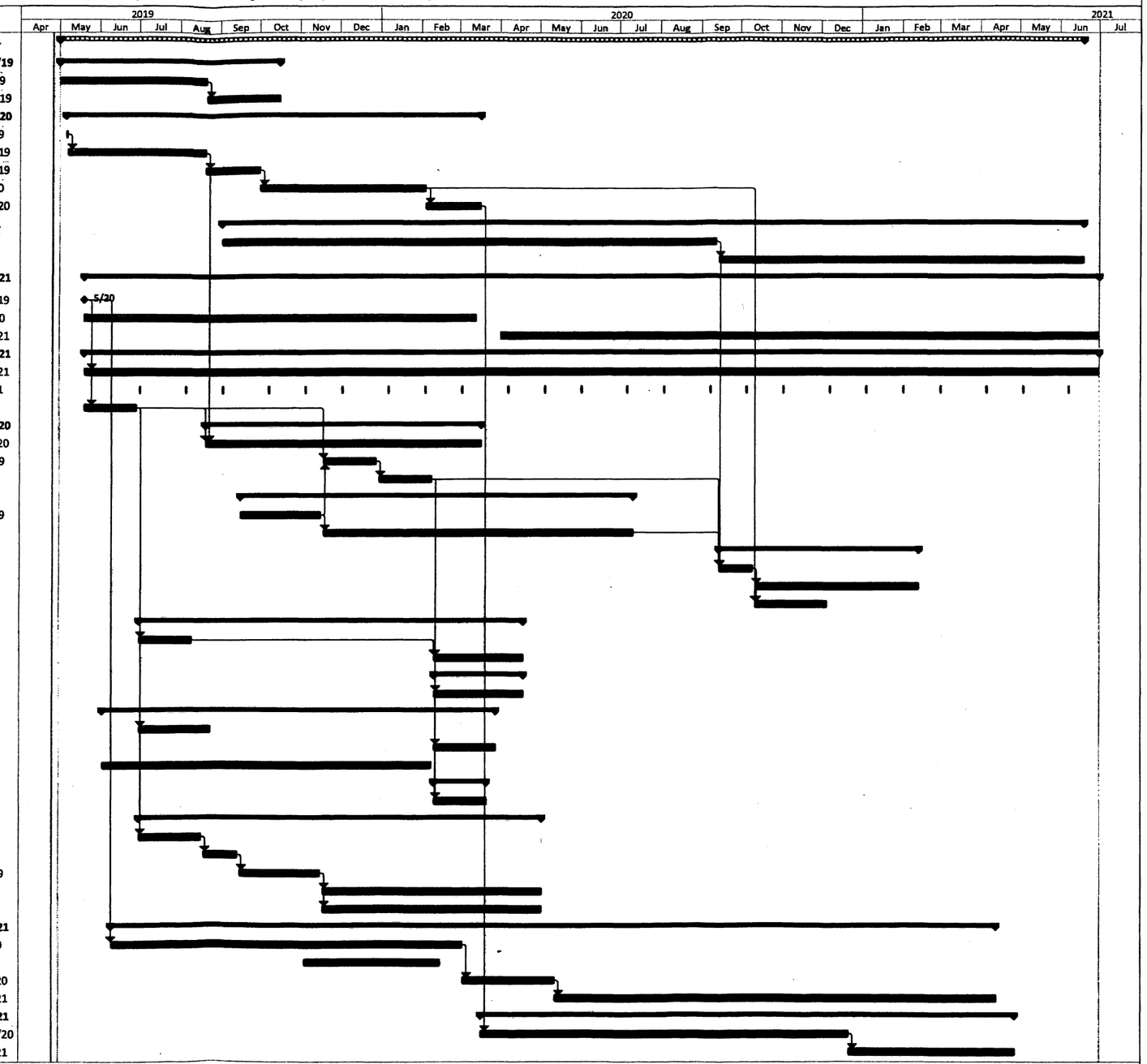
City of Beaverton Non-Potable (Purple Pipe) Water System Program Manager

Program Timeline - Preliminary Planning and Master Planning Phases (May 2019 to June 2021)

Fri 4/26/19
GSI Water Solutions, Inc.

ID	Task Mode	Task Name	Start	Finish
1		**Parallel Projects Related to Non-potable Water System Program Manager Activities**	Wed 5/1/19	Fri 6/18/21
2		**ASR 3 Well Construction (coordination with separate contract)**	Wed 5/1/19	Tue 10/15/19
3		Well construction and testing	Wed 5/1/19	Tue 8/20/19
4		Well final development	Wed 8/21/19	Tue 10/15/19
5		**Sterling Park Stormwater Recharge Year 1 Pilot (coordination with separate contract)**	Mon 5/6/19	Mon 3/16/20
6		NTP for Year 1 Pilot	Mon 5/6/19	Mon 5/6/19
7		Drainage area and treatment method confirmation	Tue 5/7/19	Mon 8/19/19
8		Dry season delay	Tue 8/20/19	Mon 9/30/19
9		Pilot treatment and recharge/recovery	Tue 10/1/19	Mon 2/3/20
10		Analysis and reporting	Tue 2/4/20	Mon 3/16/20
11		**Area 6B/Cooper Mountain Community Planning Area 6B**	Mon 9/2/19	Fri 6/18/21
12		Preliminary Community Plan	Mon 9/2/19	Fri 9/11/20
13		Revised Community Plan (Plan adoption would extend into 2022; not shown)	Mon 9/14/20	Fri 6/18/21
14		**Non-potable Water System Program Manager Contract**	Mon 5/20/19	Wed 6/30/21
15		Notice to Proceed	Mon 5/20/19	Mon 5/20/19
16		Phase 1 - Preliminary Planning	Mon 5/20/19	Thu 3/12/20
17		Phase 2 - Master Planning	Wed 4/1/20	Wed 6/30/21
18		Tasks 1. Program Management Plan	Mon 5/20/19	Wed 6/30/21
19		1.1 Project Management	Mon 5/20/19	Wed 6/30/21
20		1.2 Team Meetings and City Coordination/Check-in	Mon 7/1/19	Mon 6/7/21
45		1.3 Program Management Plan and Coordination	Mon 5/20/19	Fri 6/28/19
46		Task 2. Non-potable Water System Conceptual Master Plan for Cooper Mtn	Tue 8/20/19	Mon 3/16/20
47		2.1 Sterling Park pilot test and ASR 3 coordination	Tue 8/20/19	Mon 3/16/20
48		2.2 Source Water and ASR facility conceptual planning	Mon 11/18/19	Fri 12/27/19
49		2.3 Non-potable water system conceptual master plan	Mon 12/30/19	Fri 2/7/20
50		Task 3. Area 6B Community Plan Coordination	Mon 9/16/19	Fri 7/10/20
51		3.1 Identify water line routing and facility location opportunities	Mon 9/16/19	Fri 11/15/19
52		3.2 Coordinate preparation of preliminary Community Plan and cost estimates	Mon 11/18/19	Fri 7/10/20
53		Task 4. Non-potable Water System Preliminary Master Planning	Mon 9/14/20	Fri 2/12/21
54		4.1 Establish preliminary planning data (boundary, demands)	Mon 9/14/20	Fri 10/9/20
55		4.2 Preliminary Master Plan (demands, hydraulic analysis, CIP)	Mon 10/12/20	Fri 2/12/21
56		4.3 Source Water Plan - Draft	Mon 10/12/20	Fri 12/4/20
57		Task 5. Legal and Administrative Planning	Mon 7/1/19	Fri 4/17/20
58		5.1 Preliminary legal and administrative plan (code audit)	Mon 7/1/19	Fri 8/9/19
59		5.2 Develop draft ordinance(s)	Mon 2/10/20	Fri 4/17/20
60		Task 6. Operation and Maintenance Plan	Mon 2/10/20	Fri 4/17/20
61		6.1 Preliminary O&M Plan (utility boundary, staffing, training)	Mon 2/10/20	Fri 4/17/20
62		Task 7. Financial Planning	Mon 6/3/19	Fri 3/27/20
63		7.1 Funding and grants strategy	Mon 7/1/19	Fri 8/23/19
64		7.2 Preliminary economic analysis	Mon 2/10/20	Fri 3/27/20
65		7.3 Financial analysis (SDCs for South Cooper Mtn)	Mon 6/3/19	Fri 2/7/20
66		Task 8. Permitting	Mon 2/10/20	Fri 3/20/20
67		8.1 Permitting Strategy	Mon 2/10/20	Fri 3/20/20
68		Task 9. Outreach and Education	Mon 7/1/19	Fri 5/1/20
69		9.1 Communications program guidelines	Mon 7/1/19	Fri 8/16/19
70		9.2 Outreach launch	Mon 8/19/19	Fri 9/13/19
71		9.3 Sounding board and stakeholder interviews	Mon 9/16/19	Fri 11/15/19
72		9.4 Outreach to developers	Mon 11/18/19	Fri 5/1/20
73		9.5 Community education campaign	Mon 11/18/19	Fri 5/1/20
74		Task 10. ASR 3 Pump Station Final Design	Mon 6/10/19	Mon 4/12/21
75		10.1 Final Design	Mon 6/10/19	Mon 3/2/20
76		10.2 Conditional use/Type III LU application	Mon 11/4/19	Fri 2/14/20
77		*Bidding process*	Tue 3/3/20	Mon 5/11/20
78		10.3 Construction oversight	Tue 5/12/20	Mon 4/12/21
79		Task 11. Sterling Park Stormwater Recharge Year 2-3 Pilot	Tue 3/17/20	Mon 4/26/21
80		11.1 Full scale design, construction and implementation	Tue 3/17/20	Mon 12/21/20
81		11.2 Construction oversight	Tue 12/22/20	Mon 4/26/21



Project: Non-potable Water Syste
Date: Fri 4/26/19

City of Beaverton
Non-potable (Purple Pipe) Water System Program Manager
GSI Water Solutions, Inc.

Project Start Date: 5/15/2019
Project End Date: 7/1/2021

Labor Category	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	Total Hours	Total GSI Labor	Gary Systrom	Angela Fleming	Rick Puddy	Kathryn Knight	Eric Lanthorne	Total Subconsultants and Labor (with Markup)	Travel Expenses	Printing and Reproduction	Total Direct Expenses (with Markup)	Project Totals
Billing Rate	$227	$194	$211	$180	$160	$160	$103	$103	$134	$124	$139	$124	$103			10%	10%	10%	10%	10%		10%	10%		
Task .001 - Program Management																									
Subtask .001 - Project Management																									
1. Project set-up	2	2		8									12	24	$3,512	$10,000	$1,000	$500	$1,440	$600	$14,894			$0	$18,406
2. Project team coordination	16	20		96										132	$24,732	$23,000	$10,000	$5,000	$2,160	$3,000	$47,476			$0	$72,208
3. Monthly invoicing and progress reporting				48									48	96	$13,584	$9,000	$9,000	$4,200	$2,880	$900	$28,578		$120	$132	$42,294
4. Project close-out				4								2	4	10	$1,380	$6,000	$1,000	$300	$520	$500	$9,152		$100	$110	$10,642
Subtask .002 - Team Meetings and City Coordination																									
1. Kick-off Meeting	6	6		6						2		2		22	$4,084	$4,000	$3,000	$1,000	$2,200	$900	$12,210			$0	$16,294
2. Monthly in-person meeting	36	72		72										180	$34,884	$15,500	$19,000	$4,500	$2,200	$2,700	$48,290	$1,200		$1,320	$84,494
3. Bi-weekly PM Team/City call	32	48		48										128	$25,072	$7,000	$8,000	$4,500	$3,600	$1,400	$26,950			$0	$52,022
4. City Council updates (annual)	8	8		8										24	$4,784	$3,500					$3,850	$100		$110	$8,744
Subtask .003 - Program Management Plan and Coordination																									
1. Program Management Plan: plan/outline meeting	2	6		6					4			2		20	$3,464		$1,000				$1,100			$0	$4,564
2. Program Management Plan : procedures and protocol	2	6		12					12	4	4	4	6	50	$7,534		$1,000				$1,100			$0	$8,634
3. Program Management tools: set-up and maintenance	2	4		8					8	8	8	4	8	50	$7,154		$1,000				$1,100		$100	$110	$8,364
4. Discipline-specific work plans	2	12		6	2	2			6	2	2	2		36	$6,044	$6,100	$4,000	$2,500	$2,500	$1,500	$16,260		$100	$110	$24,414
5. Program Management Plan: updates and implementation	8	16		40					32	4	4	4	4	112	$18,320	$3,900	$1,000	$500	$500	$500	$7,040		$100	$110	$25,470
Total Task .001	116	200	0	362	2	2	0	0	62	20	18	20	82	884	$154,548	$68,000	$59,000	$23,000	$18,000	$12,000	$220,000	$1,300	$520	$2,002	$376,550
Task .002 -Non-potable Water System Conceptual Master Plan for Cooper Mountain																									
Subtask .001 -Sterling Park Pilot Test and ASR 3 Coordination																									
1. Define treatment criteria for program	2	8		2	2	2								16	$2,982						$0			$0	$2,982
2. Graphics and outreach materials		4				2				8				14	$2,076						$0		$50	$55	$2,131
3. Reporting	1	6		2		4				2		2		17	$2,869						$0		$50	$55	$2,924
4. Meetings and coordination		4		2		4								10	$1,764						$0	$100		$110	$1,874
Subtask .002 - Source Water and ASR Facility Conceptual Planning																									
1. Drainage delineation and analysis for Area 6B		8			8	8	16			8				48	$6,728						$0			$0	$6,728
2. Source volume analysis		4				4	12							20	$2,640						$0			$0	$2,640
3. Hydrogeology assessment	2	8			8		8			4				30	$4,582						$0			$0	$4,582
4. ASR facility siting assessment	4	8			16		20			16				64	$9,040	$2,000					$2,200			$0	$11,240
5. Reporting		8			8		12			4		2		34	$4,788	$1,500					$1,650		$50	$55	$6,493
6. Meetings and coordination		4		4	4									12	$2,124	$1,500					$1,650	$100		$110	$3,884
Subtask .003 - Non-potable Water System Conceptual Master Plan																									
1. Preliminary non-potable water system planning criteria		8		4	8	4								24	$4,168	$4,300	$3,000				$8,030			$0	$12,198
2. Conceptual piping network		4		4	4	4				4	4			24	$3,816	$9,400					$10,340			$0	$14,156
3. Conceptual ASR and booster station siting		8		4	8	8	16			4				48	$6,952	$8,600					$9,460			$0	$16,412
4. Graphics and outreach materials		4		4						8	4			20	$3,032	$6,800					$7,480		$50	$55	$10,567
5. Reporting	2	16		8	10	4	16			8		2		66	$10,078	$7,500	$500				$8,800		$50	$55	$18,933
6. Meetings and coordination	4	8		8	8	4			4					36	$6,332	$8,400	$1,500				$10,890	$200		$220	$17,442
Total Task .002	15	110	0	42	84	49	100	0	4	56	8	6	0	483	$73,971	$50,000	$5,000	$0	$0	$0	$60,000	$400	$250	$715	$135,186
Task .003 - Area 6B Community Plan Coordination																									
Subtask .001 - Identify Water Line Routing and Facility Location Opportunities																									
1. Waterline routing information		1			2	1				2				6	$919	$2,700	$16,000				$20,570			$0	$21,489
2. Facilities co-location assessment		1				1								2	$351	$4,200	$1,500				$6,270			$0	$6,621
3. Reporting	1	2		2								2		7	$1,217	$1,400	$500				$2,090		$50	$55	$3,362
4. Meetings and coordination	2	4		4		4								14	$2,578	$1,700	$2,000				$4,070	$50		$55	$6,703
Subtask .002 - Coordinate Preparation of Community Plan and Cost Estimates																									
1. Coordination with Community Planning team														0	$0		$20,000	$1,000	$1,000		$24,200			$0	$24,200
2. Cost estimates for non-potable water system		2				4	4							10	$1,434	$1,500					$1,650			$0	$3,084
3. Reporting	1	1		2								2		6	$1,026	$1,000	$2,000	$1,000			$4,400		$50	$55	$5,481
4. Meetings and coordination	2	2		4		2								10	$1,876	$2,500	$3,000	$3,000			$9,350	$50		$55	$11,281
Total Task .003	6	13	0	12	2	12	4	0	0	2	0	4	0	55	$9,401	$15,000	$45,000	$5,000	$1,000	$0	$74,600	$100	$100	$220	$82,221
Task .004 - Non-potable Water System Preliminary Master Planning																									
Subtask .001 - Establish Preliminary Planning Data																									
1. Community Plan land use and zoning review										2				2	$248	$4,700	$12,000				$18,370			$0	$18,618
2. Non-potable water system service boundary delineation				1						2	2			5	$706	$6,500	$3,000		$1,000		$11,550			$0	$12,256
3. Irrigation demands analysis		1		1										2	$371	$1,500					$1,650			$0	$2,021
4. Reporting	1	1		2								2		6	$1,026	$800					$880		$50	$55	$1,961
5. Meetings and coordination	2	4		4		4								14	$2,578	$1,500					$1,650	$50		$55	$4,283
Subtask .002 - Preliminary Master Plan																									
1. Update system boundary and irrigation demands		2		1					1					4	$696	$7,700					$8,470			$0	$9,166
2. Hydraulic model and analysis (pressure zone delineation)				1					1					2	$314	$16,100			$1,500		$19,360			$0	$19,674
3. Non-potable system expansion scenarios		2		2										4	$742	$14,100			$2,200		$17,930			$0	$18,672
4. Preliminary cost estimates				2		2								4	$680	$5,000			$1,300		$6,930			$0	$7,610
5. Reporting	1	4		4		2	4			4	2	2		23	$3,465	$20,300					$22,330		$50	$55	$25,850
6. Meetings and coordination	2	6		6		6			4					24	$4,176	$11,800					$12,980	$100		$110	$17,266
Subtask .003 - Source Water Plan																									
1. Drainage and source volume analysis update		8		4	20	2	24			16				74	$10,224						$0			$0	$10,224
2. ASR facility plan and sequencing	8	16		8	16		12							60	$10,108	$2,300					$2,530			$0	$12,638
3. Cost estimating	4	4		2	8	2	16							36	$5,280	$2,000					$2,200			$0	$7,480
4. Reporting	4	16		8	16	4	24			4		2		78	$11,820	$2,200					$2,420		$50	$55	$14,295
5. Meetings and coordination	4	8		8	4	4			2					30	$5,424	$3,500					$3,850	$150		$165	$9,439
Total Task .004	26	72	0	54	64	28	80	0	8	28	4	6	0	368	$57,958	$100,000	$15,000	$0	$6,000	$0	$133,100	$300	$150	$495	$191,453
Task .005 - Legal and Administrative Planning																									
Subtask .001 - Preliminary Legal and Administrative Plan (code audit)																									

City of Beaverton
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Labor Category	[redacted]													Total GSI Labor	[redacted]					Total Subconsultants and Labs (with Markup)	[redacted]		Total Direct Expenses (with Markup)	Project Totals
Billing Rate	$227	$191	$211	$180	$160	$160	$103	$109	$124	$124	$139	$139	$103		10%	10%	10%	10%	10%		10%	10%		
1. Conduct Code Audit	2	4	2	8				8	10			2		54	$5,132		$12,000			$13,200		$50	$55	$18,387
2. Identify Applicable Code / Needed Amendments	2	4	2	6					5			2		24	$4,040		$8,000		$1,000	$9,900		$50	$55	$13,995
Subtask .002 - Develop Draft Ordinance																								
1. Prepare draft ordinance for team review	2	4	2	4								2		14	$2,608		$15,000	$2,500		$19,250		$50	$55	$21,913
2. Final Recommended Ordinances	1	4	1	4								2		12	$2,170		$15,000	$2,500		$19,250		$50	$55	$21,475
Total Task .002	[redacted]																							
Task .003 Preliminary Implementation Plan																								
Subtask .001 - Preliminary O&M Plan																								
1. Coordination with City staff (workshop)		1		1		4	2							8	$1,217	$10,800				$11,880			$0	$13,097
2. Preliminary City staffing and training plan		1		1		4	2							8	$1,217	$9,200				$10,120			$0	$11,337
3. Reporting		1		2								2		5	$799					$0		$50	$55	$854
4. Meetings and coordination	2	2		2		2								8	$1,516					$0	$50		$55	$1,571
Total Task .003	[redacted]																							
Task .004 Funding and Financial Management																								
Subtask .001 - Funding and grants strategy																								
1. Develop funding strategy	4	4	2	6					4					20	$3,710				$3,000	$3,000	$6,600		$0	$10,310
2. Identify, review, track funding options	2	8		10					8					28	$4,854					$0			$0	$4,854
3. Prepare applications	8	20	2	24					24	4		8		90	$15,062					$0		$100	$110	$15,192
4. Meetings and coordination	4	8		8	4	4			2					30	$5,424				$1,000	$1,100	$100		$110	$6,634
Subtask .002 - Preliminary Economics Analysis																								
1. Economic analysis kick-off meeting	1	4	2	4										11	$2,133				$2,000	$1,700	$4,070	$50	$55	$6,258
2. Data collection and literature review		2							4					6	$918				$3,000	$8,290	$12,386		$0	$13,304
3. Conduct analysis				2										2	$360	$2,000				$10,490	$13,739		$0	$14,099
4. Prepare draft report	1	1		2								2		6	$1,026					$7,140	$7,854	$50	$55	$8,935
5. Review and respond to comments on draft		1		2										3	$551					$2,410	$2,651		$0	$3,202
Subtask .003 - Financial Analysis (SDCs for SCM)																								
1. Financial forecast	1	4	2	4										11	$2,133	$2,000			$8,200	$5,000	$16,720		$0	$18,853
2. Rate structures		2							4					6	$918	$2,500			$7,200		$10,670		$0	$11,588
3. Reimbursement and improvements SDCs				2										2	$360				$12,800		$13,880		$0	$14,220
4. Integration of potable/nonpotable SDC	1	1		2								2		6	$1,026				$7,200		$7,920		$55	$9,001
5. Deliverables		1		2										3	$551	$500			$6,800		$6,930		$0	$7,481
Total Task .004	[redacted]																							
Task .005 Permitting																								
Subtask .001 - Permitting Strategy																								
1. Identify needed permits	2	4	4	2	4		2	8	8					34	$5,184		$8,000			$8,800			$0	$13,984
2. Develop Draft Permitting Strategy	2	4	4	4	2		2	10	10			2		40	$5,926		$8,000	$4,000		$13,200		$50	$55	$19,181
3. Review Draft Permitting Strategy with Project Team and City Staff	4	4	4	4				2	2					20	$3,710	$5,000	$7,000	$1,000		$14,300	$50	$50	$110	$18,120
4. Prepare Final Permitting Strategy - needed permits and draft schedule	2	4	4	2			4	8	8			2		34	$4,978		$7,000			$7,700			$0	$12,678
Total Task .005	[redacted]																							
Task .006 Outreach and Education																								
Subtask .001 - Communications Program Guidelines																								
1. Communications Program Development (PI Plan, Branding & Key Messages)	1	2		2					2	2		1		10	$1,609			$8,000		$8,800			$0	$10,409
2. Key message workshop with City	1	4		4										9	$1,711			$2,000	$1,000	$3,300	$50		$55	$5,066
3. Communications materials		2		2						2		2		8	$1,238			$5,000	$1,000	$6,600			$0	$7,838
4. Initial website content														0	$0			$5,500		$6,050			$0	$6,050
Subtask .002 - Outreach Launch																								
1. Program launch event planning and implementation	2	2		2										6	$1,196			$8,000		$8,800			$0	$9,996
2. Stakeholder database initial set-up											8			8	$1,112			$1,500		$1,650			$0	$2,762
3. Ongoing stakeholder database upkeep and comment tracking											8			8	$1,112			$1,500		$1,650			$0	$2,762
Subtask .003 - Sounding Board and Stakeholder Interviews																								
1. Stakeholder interviews + thematic summary														0	$0			$8,000		$8,800			$0	$8,800
2. Convene Sounding Board														0	$0			$3,000		$3,300			$0	$3,300
3. Additional Sounding Board Meetings (3)		2		2										4	$742			$5,000		$5,500	$50		$55	$6,297
Subtask .004 - Outreach to Developers																								
1. Develop-specific outreach plan + communications "kit"														0	$0			$3,000		$3,300			$0	$3,300
2. Online survey to developer stakeholder list + summary														0	$0			$3,000		$3,300			$0	$3,300
3. Process graphic for developers related to purple pipe and contact information														0	$0			$2,000		$2,200			$0	$2,200
4. Ongoing updates to developers														0	$0			$1,500		$1,650			$0	$1,650
Subtask .005 - Community Education Campaign																								
1. Door-to-door outreach														0	$0			-		$0			$0	$0
2. Tabling at existing community events														0	$0			$6,000		$6,600			$0	$6,600
3. Program educational video + social media short promo														0	$0			$6,000		$6,600			$0	$6,600
4. Public input summary									6		2			8	$1,082			$3,000		$3,300			$0	$4,382
Total Task .006	[redacted]																							
Task .007 - DSP + Pump Station Final Design																								
Subtask .001 - Final Design																								
1. Finalize well location	4	8		4	8		8			2				34	$5,508	$2,000				$2,200			$0	$7,708
2. Design workshop		8		2	8		8			2				28	$4,240	$2,000				$2,200	$50		$55	$6,495
3. Revise 60% Design	2	4			6		8			4				24	$3,496	$29,000				$31,900			$0	$35,396
4. 75% Design	2	2			4		4			4				16	$2,364	$46,500				$51,150		$200	$220	$53,734
5. 100% Design	2				4		4			2				12	$1,754	$46,500				$51,150		$200	$220	$53,324
6. Prepare bid documents	2				4		8			2				16	$2,186	$72,500				$79,750		$200	$220	$82,136
7. Bid support	2				4		8							14	$1,918	$4,500				$4,950	$50		$55	$6,923

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Billing Rate	$227	$191	$211	$180	$160	$160	$103	$103	$134	$124	$139	$124	$103			10%	10%	10%	10%	10%		10%	10%		
Subtask .002 - Conditional Use/Type III Land Use Application																									
1. Pre-Application Conference					4									4	$640		$2,500				$2,750			$0	$3,390
2. Neighborhood Meeting / Draft Application Checklist				4										4	$720		$2,500				$2,750			$0	$3,470
3. Draft CU Narrative				2										2	$360		$10,000				$11,000			$0	$11,360
4. Final CU Narrative for Submittal														0	$0		$6,000				$6,600			$0	$6,600
5. Staff Review / Coordination														0	$0		$4,000				$4,400			$0	$4,400
6. Planning Commission Public Hearing				4										4	$720		$3,000				$3,300			$0	$4,020
Subtask .003 - Construction Oversight																									
1. Construction kick-off meeting					4									4	$640	$500					$550			$0	$1,190
2. Submittal reviews		1			2		4							7	$923	$14,200					$15,620			$0	$16,543
3. RFI support		1			2		4							7	$923	$2,200					$2,420			$0	$3,343
4. Site observations					4		16							20	$2,288	$3,100					$3,410	$100		$110	$5,808
Total Task .010	14	24	0	15	54	0	72	0	0	16	0	0	0	196	$28,682	$225,000	$28,000	$0	$0	$0	$278,300	$200	$600	$880	$307,862
Task .011 - Sterling Park Stormwater Treatment and Recharge Year 2-3																									
Subtask .001 - Full-scale design																									
1. Stormwater treatment system optimization based on pilot test results		12		6	4	24	16							62	$9,500	$1,500					$1,650	$100		$110	$11,260
2. 60% design of stormwater treatment system and well pump station integration (assume		12		2	6	20	24			4				68	$9,780	$7,000					$7,700	$50		$55	$17,535
3. Final design of stormwater treatment and well pump station integration (assume packa		8		2	6	20	24			4				64	$9,016	$6,500					$7,150			$0	$16,166
4. Stormwater treatment bid document preparation		4		2		16	20			4				46	$6,240						$0		$200	$220	$6,460
5. Contractor oversight														0	$0						$0			$0	$0
6. Regulatory/permitting		8	8	4	4	4		16						44	$6,864						$0			$0	$6,864
7. Task documentation	2	4	2	4	2	12	20	4	4	4		2		60	$8,352						$0		$200	$220	$8,572
8. Grant coordination and management		8		6					16					30	$4,752						$0			$0	$4,752
Subtask .002 - Construction oversight																									
1. Construction kick-off meeting						2	2							4	$526						$0			$0	$526
2. Submittal reviews						6	12							18	$2,196						$0			$0	$2,196
3. RFI support						6	12							18	$2,196						$0			$0	$2,196
4. Site observations						8	32							40	$4,576						$0	$300		$330	$4,906
Total Task .011	2	56	10	26	22	118	162	20	20	16	0	2	0	454	$63,998	$15,000	$0	$0	$0	$0	$16,500	$450	$400	$935	$81,433

GSI Water Solutions, Inc.