



**Gray & Osborne, Inc.**

CONSULTING ENGINEERS

July 15, 2015

Mr. Sam Adams, P.E.  
Utilities Manager  
City of Camas  
616 NE Fourth Avenue  
Camas, Washington 98642

SUBJECT: PROPOSAL FOR LACAMAS CREEK WASTEWATER PUMP  
STATION EVALUATION  
CITY OF CAMAS, CLARK COUNTY, WASHINGTON  
G&O #20152.64

Dear Mr. Adams:

Per our discussions, Gray & Osborne, Inc. is submitting this proposal for completing a Lacomas Creek Wastewater Pump Station Evaluation.

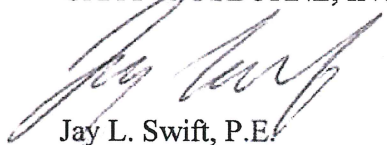
For this project, I would serve as Principal-in-Charge. Ken Alexander from our Vancouver office would serve as Project Manager. Greg Harem would serve as Project Engineer.

The proposed scope of work, including updating design criteria, evaluation of upgrades of the existing pump station, and evaluation of alternative sites for a relocated pump station, is provided in Exhibit A. As indicated in the attached Exhibit B, the estimated cost of the attached scope of work is the not-to-exceed amount of \$29,400.

Please let me know if you have any questions concerning this proposal.

Sincerely,

GRAY & OSBORNE, INC.



Jay L. Swift, P.E.

JLS/hhj  
Encl.

cc: Mr. Steve Wall, P.E., Public Works Director, City of Camas

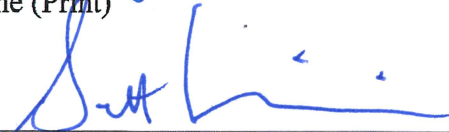


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**CITY OF CAMAS – LACAMAS CREEK WASTEWATER PUMP STATION  
EVALUATION**

Gray & Osborne, Inc. is hereby authorized to proceed with the engineering services as noted herein and under the terms and conditions of our current On-Call Water and Wastewater Engineering Services Contract dated December 2, 2013, for a cost not to exceed \$29,400 as noted herein without further written direction and authorization of the City.

Scott Higgins  
Name (Print)

  
Signature

Mayor, City of Camas  
Title

September 8, 2015  
Date

## **EXHIBIT A**

### **SCOPE OF WORK**

#### **CITY OF CAMAS LACAMAS CREEK WASTEWATER PUMP STATION EVALUATION**

This exhibit describes a scope of work for completing an evaluation of the City of Camas Lamas Creek Wastewater Pump Station (LCPS) and providing recommendations for future upgrades or replacement of the LCPS.

Gray & Osborne prepared a draft memorandum with an initial evaluation of the LCPS in March 2014. In August 2014, the City replaced one of the two existing pumps per one of the recommendations in the memo dated March 2014. Berger ABAM recently provided revised flow estimates to the LCPS. The Berger ABAM memorandum dated June 23, 2015, provides four possible alternatives for managing future North Urban Growth Area (NUGA) flows. The following summarizes the alternatives and the corresponding LCPS buildout design flows:

- Alternative 1 – All NUGA Basins (I through VI) conveyed to the LCPS – design flow 2,558 gpm
- Alternative 2 – Basins V and VI conveyed to the LCPS – design flow 1,141 gpm
- Alternative 3 – Basin VI conveyed to the LCPS – design flow 999 gpm
- Alternative 4 – Basin VI conveyed to the LCPS – design flow 999 gpm

Alternative 4 was the recommended alternative in the Berger ABAM memorandum.

Berger ABAM's effort did include a detailed examination of developable areas, population, and flows from the NUGA basins. However, the existing current LCPS basin was not evaluated in detail in their work; therefore, in this scope, LCPS buildout flow projections will be re-examined based on current and future development plans, updated I/I projections, and the possibility of rerouting flows from some of the basin. In addition, we will develop flow projections for the LCPS for 10 years and 20 years in order to evaluate project phasing alternatives. The assumptions and recommendations for upgrading the existing LCPS in the March 2014 memorandum will be modified in light of the new flow projections. Finally, potential alternatives for constructing a new pump station will be developed and preliminary site plans developed, with cost estimates and recommendations for phased improvements and/or replacement of the LCPS will be provided.

The proposed scope of work is described below.

## **PROPOSED SCOPE OF WORK**

### **Task 1 – Design Criteria for the Lacamas Creek Pump Station**

- A. Projected buildout flows for the LCPS will be evaluated in light of the projections in the Berger ABAM memorandum dated June 23, 2015, the General Sewer Plan Update, and updated I/I estimates.
- B. Current flows will be evaluated based on recent pump station run time data. Ten-year and 20-year flow projections will be determined based on current flow projections, I/I estimates, and City input into growth projections in order to evaluate phasing options.

### **Task 2 –Review Additional Data**

- A. The City has collected pump station drawdown tests to verify the capacity of the existing pumps and additional run time data. These tests will be reviewed and documented in the evaluation.
- B. Results from previous sanitary sewer hydraulic modeling of the City's system and ongoing I/I assessments will be reviewed and used to evaluate alternatives.

### **Task 3 – Evaluate Alternatives**

The alternatives analysis will include the following:

- A. Evaluation of retaining the existing pump station with modifications for higher flows. This evaluation will address issues that include flood protection, hazard classification, and building structural condition as well as current ventilation standards from NFPA 820 and access standards (29 CFR 1917.121) as they apply to spiral staircases and elevated access ramps. Upgrades to pump size, pump type and pump controls, wet well size and configuration, as well as electrical service and emergency power requirements will also be addressed in the evaluation. The adequacy of the existing force main will also be included in the evaluation. Potential permitting issues associated with an upgrade to the existing pump station will also be identified.

Preliminary drawings of the recommended upgrade will be included to show the extent of improvements and new construction.

Preliminary construction cost estimates will be completed for the selected pump station upgrade alternative.

- B. Evaluation of a new pump station at an alternate site. Two locations will be screened as potential sites, including a site east of the existing pump station on the corner of 3<sup>rd</sup> Avenue and NE 3<sup>rd</sup> Loop.

Development of preliminary design parameters for the two relocated pump station options, including pump sizing, pump controls, wet well size and configuration, electrical service and emergency power requirements, flood protection, hazard classification, operation and maintenance considerations, hydraulic analysis, force main size and routing, materials, and configuration as well as permitting issues associated with the new construction.

Preliminary site plans for each alternative will be included.

Preliminary construction cost estimates will be completed for each of the pump station relocation alternatives.

- C. Provide draft LCPS Evaluation Technical Memorandum, with system analysis, recommendations for upgrades to the existing pump station, construction of a new station, or a combination of both. Develop phasing recommendations, costs, and schedule for upgrades/replacement for the LCPS. Summarize recommendations and LCPS improvement plan in an Executive Summary.

Incorporate comments from the City and submit final LCPS Evaluation Technical Memorandum.

#### **Task 4 – Meetings**

Attend one project kickoff meeting and one meeting to discuss the City's comments on the draft memorandum before finalizing the memorandum.

#### **EXCLUSIONS**

This scope of work includes preliminary evaluation of new sites for the LCPS and does not include geotechnical, archaeological, and wetlands evaluations that should be completed prior to final pump station design. These additional evaluations could be completed as additional services for this project.

**EXHIBIT B**

**ENGINEERING SERVICES  
SCOPE AND ESTIMATED COST**

*City of Camas - Lacamas Creek Wastewater Pump Station Evaluation*

| Tasks   | Principal Hours | Project Manager Hours | Project Engineer Hours | Structural Engineer Hours | Electrical Engineer Hours | Engineering Technician Hours |
|---|-----------------|-----------------------|------------------------|---------------------------|---------------------------|------------------------------|
| 1 Design Criteria for the Lacamas Creek Pump Station  |                 |                       |                        |                           |                           |                              |
| A Evaluate Buildout Flows   |                 | 1                     | 2                      |                           |                           |                              |
| B Determine Current, 10-year, and 20-year Projections   |                 | 2                     | 2                      |                           |                           |                              |
| 2 Review Additional Data  |                 |                       |                        |                           |                           |                              |
| A Drawdown Testing and Runtime Data   |                 | 1                     | 1                      |                           |                           |                              |
| B Hydraulic Modeling  | 1               | 4                     | 8                      |                           |                           |                              |
| 3 Evaluate Alternatives   |                 |                       |                        |                           |                           |                              |
| A Evaluation of Upgrade to Existing Lift Station  | 4               | 8                     | 20                     | 8                         | 8                         | 16                           |
| B Evaluation of New Lift Station Sites, Including Design Parameters, Figures, and Costs for Relocation Alternatives | 8               | 16                    | 28                     | 4                         | 8                         | 32                           |
| C Provide LCPS Technical Memorandum with Phasing Recommendations  | 4               | 8                     | 16                     |                           |                           |                              |
| 4 Meetings  | 4               | 4                     | 4                      |                           |                           |                              |
| Hour Estimate:  | 21              | 44                    | 81                     | 12                        | 16                        | 48                           |
| Fully Burdened Billing Rate Range:*   | \$112 to \$182  | \$115 to \$178        | \$110 to \$139         | \$115 to \$178            | \$115 to \$178            | \$45 to \$90                 |
| Estimated Fully Burdened Billing Rate:*   | \$160           | \$155                 | \$135                  | \$155                     | \$155                     | \$70                         |
| Fully Burdened Labor Cost:  | \$3,360         | \$6,820               | \$10,935               | \$1,860                   | \$2,480                   | \$3,360                      |

Total Fully Burdened Labor Cost: \$ 28,815

Direct Non-Salary Cost:

Mileage & Expenses (mileage @ current IRS rate)

Printing

**TOTAL ESTIMATED COST: \$ 29,400**

\* Actual labor cost will be based on each employee's actual rate. Estimated rates are for determining total estimated cost only. Fully burdened billing rates include direct salary cost, overhead, and profit.