

Item #17A

**City of Carson City
Agenda Report**

Date Submitted: August 10, 2010

Agenda Date Requested: August 19, 2010

Time Requested: 5 Minutes

To: Mayor and Supervisors
From: Purchasing and Contracts

Subject Title: Action to Amend Contract No. 0910-203 Engineering Services for the Saw Mill Canyon Pipeline and Water Delivery Project with Black and Veatch to limit the Scope of Work to the Phase I activities and to reduced the Contract amount to \$186,800.00 from the Water Fund Account as provided in FY 2010/2011. *(Sandy Scott-Fisher)*

Staff Summary: If approved, the Scope of Work of this contract will be to provide for Phase I activities including project management, completion of an environmental study (NEPA) and a submittal to request Categorical Exclusion (CE) from the EPA for the design of the replacement pipeline from Saw Mill Canyon to the Tanks, evaluation of the Tanks Meter House flow meter and control valves, assessment of the condition of and provide recommendations to replace existing outlet control valves on the Marlette and Hobart dams, and a feasibility study and preparation of a preliminary plan for augmentation of storage at Marlette Lake. This contract for Phase I activities is \$186,800.00. The subsequent design phase of this project is estimated to cost and additional \$429,564.00. Dependent on Phase I results, this Project could reach a total cost of approximately \$616,364.00 (55% funding from EPA Assistance Agreement) through an amendment brought back to the Board of Supervisors for approval at a future date.

This contract was originally approved, with modification, in the amount of \$616,364.00 at the August 5, 2010, Board of Supervisor's meeting. This amendment is being requested as the Scope of Work for Phase II of the project could not be accurately detailed until the completion of Phase I.

Type of Action Requested: (check one)

Resolution

Ordinance

Formal Action/Motion

Other (Specify)

Does This Action Require A Business Impact Statement: Yes No

Recommended Board Action: I move to Amend Contract No. 0910-203 Engineering Services for the Saw Mill Canyon Pipeline and Water Delivery Project with Black and Veatch to limit the Scope of Work to the Phase I activities and to reduced Contract amount to \$186,800.00 from the Water Fund Account as provided in FY 2010/2011. *(Sandy Scott-Fisher)*

NRS 625.530 Restrictions upon public works. Except as otherwise provided in NRS 338.1711 to 338.1727, inclusive, and 408.3875 to 408-3887, inclusive:

1. The State of Nevada or any of its political subdivisions, including a county, city or town, shall not engage in any public work requiring the practice of professional engineering or land surveying, unless the maps, plans, specifications, reports and estimated have been prepared by, and the work executed under the supervision of, a professional engineer, professional land surveyor or registered architect.

Applicable Statute, Code, Policy, Rule or Regulation: NRS 625.530

Fiscal Impact: reduction in the contract amount by \$429,564.00

Funding Source: Water Fund Account 520-3505-435-7803 as provided in FY 2010/2011.

Prior Board Approval: Original Contract was approved August 5, 2010 in the amount of \$616,364.00.

Alternatives: Provide other direction

Supporting Material: Contract Amendment No. 1 and Revised Scope of Work for Phase I

Prepared By: Sandy Scott-Fisher, Purchasing and Contracts Coordinator

Reviewed By:	<u>[Signature]</u>	Date: <u>8/10/10</u>
	<u>[Signature]</u> <small>(Public Works)</small>	Date: <u>8-10-10</u>
	<u>[Signature]</u> <small>(City Manager)</small>	Date: <u>8/10/10</u>
	<u>[Signature]</u> <small>(District Attorney)</small>	Date: <u>8/10/10</u>
	<u>[Signature]</u> <small>(Finance Director)</small>	Date: <u>8/10/10</u>

Board Action Taken:

Motion: _____	1) _____	Aye/Nay
	2) _____	_____

(Vote Recorded By)

CONTRACT FOR SERVICES OF INDEPENDENT CONTRACTOR
Amendment No. 1
Contract No. 0910-203
Engineering Services for the Saw Mill Canyon Pipeline
and Water Delivery Project

THIS AMENDMENT is made and entered into this 19th day of August, 2010, by and between the City and County of Carson City, a political subdivision of the State of Nevada, hereinafter referred to as the "**CITY**", and Black and Veatch Corporation, hereinafter referred to as the "**CONSULTANT**", and is made to amend the existing contract known as **CONTRACT # 0910-203**.

W I T N E S S E T H :

WHEREAS, the **CITY** desires to amend Section 4 **SCOPE OF WORK** and Section 5 **CONSIDERATION** of the original contract to include that which is contained herein; and

WHEREAS, it is deemed that said amendment is both necessary and in the best interests of the **CITY**.

NOW, THEREFORE, in consideration of the aforesaid premises, the parties agree as follow:

WHEREAS, this Amendment shall not become effective until and unless approved by the Carson City Board of Supervisors.

1. Amend Paragraph 4.1 **SCOPE OF WORK** of **CONTRACT 0910-203** to provide in its entirety as follows:

CONTRACTOR shall provide and perform the following services as set forth in the **Revised Exhibit A** to this agreement **CONTRACT 0910-203** attached hereto and incorporated herein by reference for and on behalf of the **CITY** herein referenced as "**Services.**"

2. Amend Paragraph 5.1 **CONSIDERATION** of **CONTRACT 0910-203** to provide in its entirety as follows:

CITY agrees to pay **CONSULTANT** the **CONTRACT SUM** based upon time and materials for a not to exceed amount of \$186,800.00 for Phase I, which is a decrease to the original contract amount by \$429,564.00.

IT IS ALSO AGREED, that all unaffected conditions, requirements, and restrictions of the Original Contract document remain in full force and effect for the duration of the Contract term.

CONTRACT FOR SERVICES OF INDEPENDENT CONTRACTOR
Amendment No. 1
Contract No. 0910-203
Engineering Services for the Saw Mill Canyon Pipeline
and Water Delivery Project

ACKNOWLEDGMENT AND EXECUTION:

In witness whereof, the parties hereto have caused this Amendment to be signed and intend to be legally bound thereby.

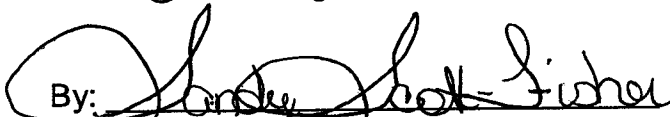
CARSON CITY

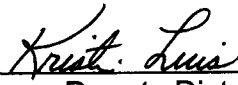
Purchasing and Contracts Department
Sandy Scott-Fisher, Purchasing and
Contracts Coordinator
201 North Carson Street Suite 3
Carson City, Nevada 89701
Telephone: 775-283-7137
Fax: 775-887-2107
SScott@carson.org

CITY'S LEGAL COUNSEL

Neil A. Rombardo, District Attorney

I have reviewed this Contract and approve
as to its legal form.

By: 
Sandy Scott - Fisher

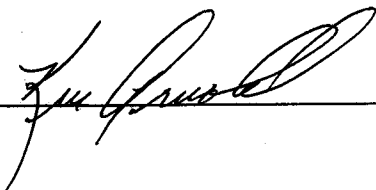
By: 
Deputy District Attorney

DATED 8/10/10

DATED 8/10/10

CITY'S ORIGINATING DEPARTMENT

BY: Andrew Burnham, Director
Carson City Public Works Department
3505 Butti Way
Carson City, NV 89701
Telephone: 775-887-2355
Fax: 775-887-2112
ABurnham@carson.org

By: 

DATED 8/10/10

CONTRACT FOR SERVICES OF INDEPENDENT CONTRACTOR
Amendment No. 1
Contract No. 0910-203
Engineering Services for the Saw Mill Canyon Pipeline
and Water Delivery Project

David Carlson, P.E. deposes and says: That he is the **CONTRACTOR** or authorized agent of the **CONTRACTOR**; that he has read the foregoing Amendment; and that he understands the terms, conditions, and requirements thereof.

CONTRACTOR

BY: David Carlson, P.E.

TITLE: Vice President

FIRM: Black and Veatch Corporation

CARSON CITY BUSINESS LICENSE #: 10-024336

Address: 503 North Division Street

City: Carson City **State:** Nevada **Zip Code:** 89703

Telephone: 775-720-0410 / **Fax #:** 775-293-0494

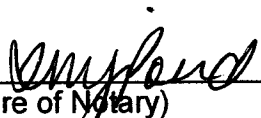
E-mail Address: rackleyis@bv.com


(Signature of **CONTRACTOR**)

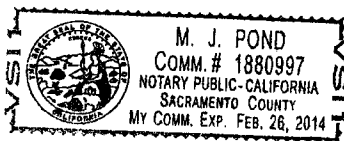
DATED 8-10-10

STATE OF California)
County of Sacramento) ss

Signed and sworn (or affirmed) before me on this 10 day of August, 2010, by
David J. Carlson


(Signature of Notary)

(Notary Stamp)



CONTRACT FOR SERVICES OF INDEPENDENT CONTRACTOR
Amendment No. 1
Contract No. 0910-203
Engineering Services for the Saw Mill Canyon Pipeline
and Water Delivery Project

CONTRACT ACCEPTANCE AND EXECUTION:

The Board of Supervisors for Carson City, Nevada at their publicly noticed meeting of approved Amendment No. 1 for **CONTRACT No. 0910-203 Engineering Service for the Saw Mill Canyon Pipeline and Water Delivery Project**. Further, the Board of Supervisors authorizes the Mayor of Carson City, Nevada to set his hand to this document and record his signature for the execution of this contract in accordance with the action taken.

CARSON CITY, NEVADA

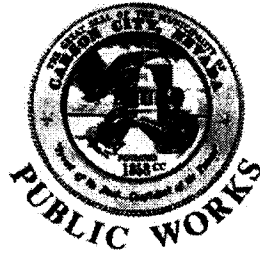
ROBERT L. CROWELL, MAYOR

DATED this 19th day of August, 2010.

ATTEST:

ALAN GLOVER, CLERK-RECORDER

DATED this 19th day of August, 2010.



GRANT APPLICATION PACKAGE

FOR

SAW MILL CANYON PIPELINE AND WATER DELIVERY PLANNING

Submitted by:

Carson City Department of Public Works
3505 Butti Way
Carson City, NV 89701

Submitted to:

Grants Management Office (MTS-7)
Management and Technical Services Division
U.S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105-3901

June 2010



Introduction

Carson City (City) is taking a proactive approach to ensure a sustainable and reliable water supply for its customers. The proposed Marlette-Hobart System Improvements Project (Project) between the State of Nevada (State) and the City seeks to maximize delivery and hydraulic capacity of the State's raw water sources in the Marlette-Hobart conveyance system, Franktown Creek and the East Slope system (collectively referred as the State System) to the City's supply system as well as the Storey County water system.

Background

Carson City has a current population of approximately 57,000 people and a controlled growth plan that sets a cap on annual growth at a maximum of 3 percent per year and a maximum population of 80,000 people. Over the last two years, Carson City has completed a Water Supply Master Plan that identifies the needed water supply and water treatment and transmission facilities to meet its build out population. While the City's growth has tapered off during the last several years, the City's supplies have experienced impacts due to new water quality regulations and the existing facilities have not been upgraded to meet new system demands. In particular, the City's distribution system experiences storage and pressure issues at several locations, particularly during high demand periods.

Water quality monitoring results indicate that several wells in the City's potable water system have arsenic and uranium concentrations that exceed the current United States Environmental Protection Agency (USEPA) maximum contaminant level (MCL) of 10 µg/L for arsenic and 30 µg/L for uranium. Arsenic impacted wells include Wells 4, 7, 11, 24, 45, 47, 49, 53, and 54. The City is has completed the constructing an arsenic treatment facility. However, this new facility will only treat groundwater produced by Wells 4 and 49.

Uranium impacted wells include Wells 5, 6, 7, 10B, 34, 46, 51, and 55. The Water Supply Master Plan has identified the high quality raw water from the MHWS as the primary source of water to provide blending of the Uranium impacted wells to bring them into compliance with the regulatory standards.

The Eagle Valley Basin, the largest hydrographic resource area for the City, has experienced a decline in well yields and drier than normal climate has limited available surface water resources and reduced groundwater recharge. This situation has apparent impacts to the overall production of water available from the City's existing water rights granted by the State's Engineer Office.

Currently, through efficiently and conjunctively operating its existing water resources and facilities, the City's Department of Public Works has been able to manage these challenges and continue providing adequate water quality and quantity to its population. However, it is clear that this situation is not sustainable and that the City will not be able to reliably provide adequate drinking water service unless the water from the MHWS can be made into a reliable source of water for the City.

Through implementation of the development of additional ground water wells in adjacent hydrographic resource areas and the development of an inter-county water system, the City has a firm water supply for a population of approximately 65,000 people. The development



of additional water supplies from the (MHWS) has been identified as the primary source of water for the City to meet its build out population limit of 80,000 people.

The MHWS is an existing State owned and operated system that has provided water supplies to Carson City and Storey County in Nevada since the Virginia City area was a booming Gold and Silver mining town. This system was specially constructed in the 1860s to provide needed water supply to Virginia City and surrounding mining communities. Over the years, the system was augmented to provide water deliveries to Carson City. Today, this system is the sole source of water for the Storey County water system and also provides Carson City with a significant portion of its present day water supply.

The Marlette-Hobart System or State System consists of the Marlette Lake, Hobart Lake, and associated network of piping and pump stations to convey water to the City and Storey County. The project area is shown in Figure 1. The pipeline designated for replacement was severely damaged by heavy equipment using the roadway that the pipeline occupies to access and fight a recent major forest fire.

Water from Marlette Lake (approximate EL 7838) is pumped to the Hobart Creek/Hobart Lake drainage area via a 12 inch pipeline (Refer to EPA Project No. XP-97966501). Water from Hobart Reservoir (El 7650) discharges into Franktown creek and is conveyed to the Red House Diversion Structure. The Red House Diversion structure diverts water from the East Slope watershed (conveyed by the East Slope Collection Pipeline) and Franktown Creek into an 18 inch pipeline which conveys this water to a 22,000 gallon capacity steel storage tank at the Tanks (approximate EL 7000)¹. The Tanks provides water to Storey County via a 10 inch pipeline and to Carson City's Quill Water Treatment Plant (WTP) via a 10 inch steel pipeline. Water received at the Quill WTP is treated and sent to the City's distribution system.

The City's Quill WTP currently receives water from three sources: Ash Canyon, King Canyon, and State System. The existing rated capacity of Quill is approximately 4 MGD (2,800 gpm) with an ultimate build out capacity of 9.2 MGD (6,400 gpm). Currently, The State System does not have the capacity to deliver this quantity of water to the Quill WTP.

Preliminary hydraulic yield analysis indicates that the State System may be able to yield approximately 8,000 gpm with frequent yields in excess of 9,000 gpm. These levels of flow generally occur during the spring runoff period on all of the tributaries included in this analysis. In the future, it is envisioned that once necessary improvements are made to the MHWS the operation of the Quill WTP will take water from the State System first and that Ash and Kings Canyons will provide the secondary, supplemental supply to allow the Quill WTP to operate at or near full capacity. This will also allow flows from the Ash and Kings Canyon to recharge the ground water basin.

¹ The 24 inch pipeline reduces to an 18 inch steel pipeline approximately 2000 feet below the Red House Diversion Structure.



WORK PLAN

SAWMILL CANYON PIPELINE AND WATER DELIVERY PLANNING

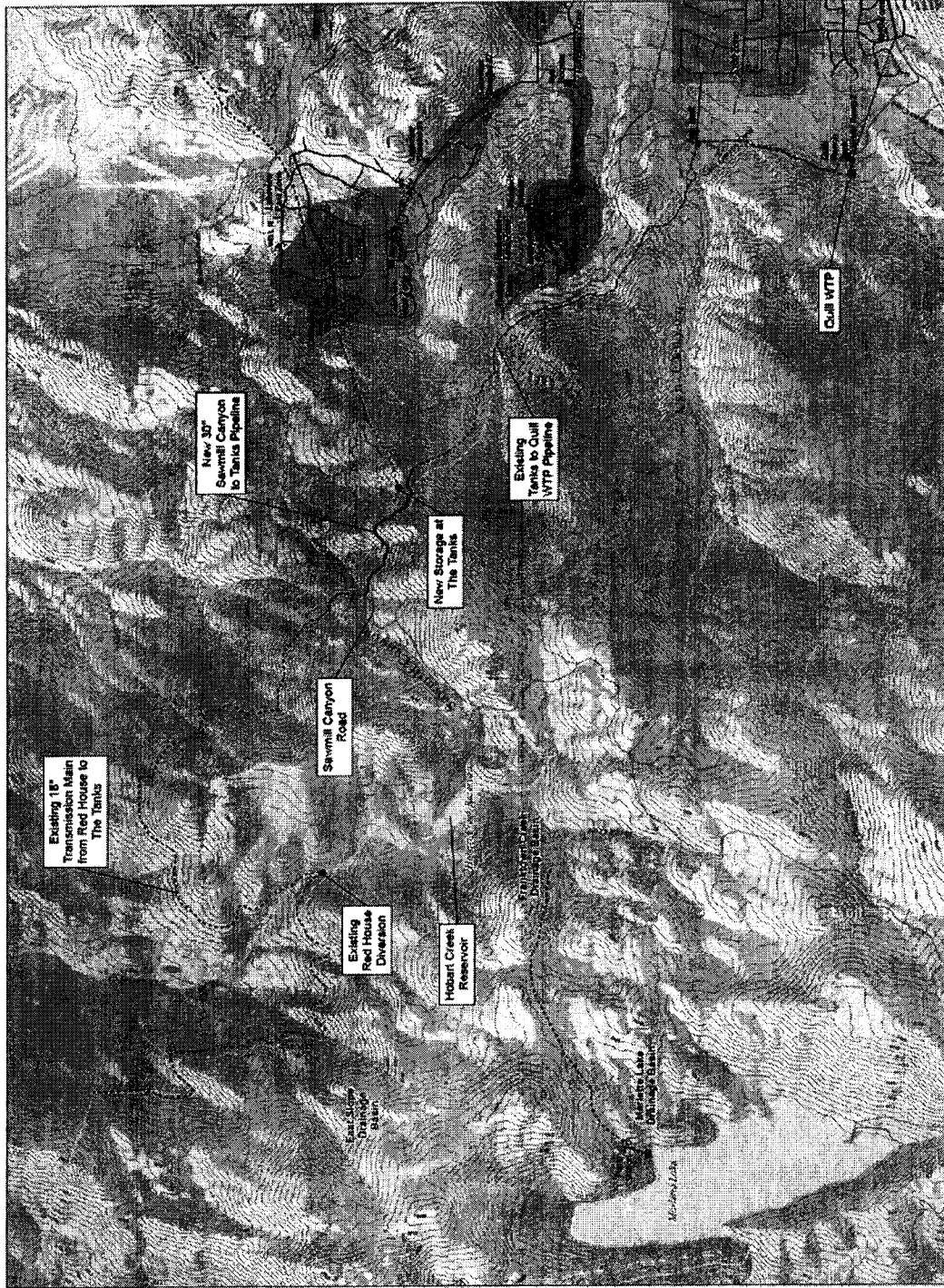


Figure 1: Marlette Hobart Water System Overview



PROJECTS GOALS/OBJECTIVES

The goal of this project is to enhance reliability and provide a sustainable water supply for the City and Storey County. The work proposed in this Work Plan is critical in maintaining the water supply for the City and Storey County since the State System is a key source of water available to meet its supply needs. Additional benefits and outcomes of the Project include:

- Maintain a high quality water supply for the City and Storey County
- Provide reliable and sustainable water supply for the City to meet water demands under build out conditions.
- Increase water supply for blending to lower uranium levels in the City's water supply
- Optimize hydraulic performance of the conveyance, storage, and distribution facilities

The City has identified raw water supplies to accommodate a population of approximately 65,000 people without an expansion of the State System. The City would increase the size of the replacement pipeline to provide the additional supply for the build-out population of 80,000 people and to accommodate the use of MHWS water supply for groundwater recharge. This additional water supply represents less than a thirty percent increase in water supply and population increase.

The City has already completed a preliminary study and identified the necessary improvements for the overall Project. Several projects (e.g. pipeline replacements, water treatment plant expansion, pump station upgrade, etc.) have been identified and prioritized in the City's implementation plan over a total of 8 phases. The proposed Work Plan detailed below contains some of the projects identified in overall Project implementation plan. The Work Plan is segregated into the following phases:

Phase 1

1. Prepare a submittal for a request for a Categorical Exclusion (CE) for the design of the replacement pipeline from Saw Mill Canyon to the Tanks. This will also include preparing a letter report of the species review that will be used for recommendations to the appropriate Federal, State and crosscutter agencies.
2. Evaluate Tanks Meter House flow meter and control valve operation and recommend improvements to pass the future flows of the Marlette-Hobart water delivery system.
3. Assess condition and provide recommendations to replace existing outlet control valves on the Marlette Lake Dam and Hobart Reservoir Dam.
4. Investigate feasibility and prepare preliminary planning for installation of flashboards at Marlette Lake for seasonal storage augmentation.

Tasks 3 and 4 above will include meetings with the State Engineer to determine the requirements for replacing the outlet valves in Marlette Lake Dam and Hobart Reservoir Dam and the placement of seasonal flashboards for supplemental storage in Marlette Lake.



Based on the decisions made as a result of the work tasks in Phase 1, Phase 2 will be completed through the issuance of additional Task Orders specifying the Scope of Work, Budget and Schedule for each individual task. The identified Task Orders will include, but not be limited to, the following tasks:

Phase 2

1. If the assessment of species and CE submittal under Phase 1 results in an EID or EA being necessary, the SOW, Budget and Schedule will be adjusted to reflect the recommended action.

If work done under the CE submittal is approved by EPA, then the SOW, Budget and Schedule for the completion of design documents will be prepared for the Saw Mill Canyon Pipeline. This may or may not include supplemental storage at The Tanks to provide the current operations with additional capacity to avoid occasional spills.

2. The Tank Meter House flow meter and control valve assessment under Phase 1 will recommend improvements to the existing system which will be included in the Saw Mill Canyon Pipeline design.
3. Based on the recommendations from the outlet valves evaluation and discussion with State Engineer in Phase 1, the SOW, Budget and Schedule for the Marlette for replacement of the outlet valves will be prepared to complete the work.
4. Based on the discussions with the State Engineer concerning the installation of the seasonal flashboards for supplemental storage in Marlette Lake the Scope of Work, Budget and Schedule for completion of a Marlette Lake Water Management Plan will be submitted for review and approval. This document will be used for submittal to agencies and groups that have administrative and/or regulatory authorities for Marlette Lake.

If the State Engineer recommendations indicate that installing flashboards is not feasible, then the Water Management Plan will not be pursued.

5. Depending on availability of funds, additional planning and preliminary work on the Marlette-Hobart water delivery system will be completed through approved Task Orders.

The total budget for Phase 1 above is \$186,800.

The remaining tasks will be completed as the Scope of Work, Budgets and Schedule are submitted to and approved by the Public Works Director. The total funding for the Task Orders in Phase Two shall not exceed \$429,564. The total cost for all approved work under Phase One and Two shall not exceed \$616,364.

If grant funds are remaining after the completion of Phase 1 and 2 above, such funds will be applied to the construction costs of the Saw Mill Canyon to Tanks pipeline.



Only the work tasks to execute the Phase 1 work are included in this work plan. The tasks for Phase 2 will be provided as a supplement to this work plan after the Phase 1 work is complete.

DELIVERABLES/WORK PRODUCTS

The deliverables of this project will include meetings/workshops and site visits, and a series of technical memoranda (TMs). Each TM will include an executive summary as appropriate. The list of deliverables for this project includes:

1. The following meetings/workshops (Total of 5 meetings):
 - a. Two meetings with the EPA with regards to the CE request
 - b. Meeting to discuss the Tank Meter House flow meter and valve TM
 - c. Meeting to discuss the divers report and recommendation for outlet valves on Marlette Lake Dam and Hobart Reservoir Dam
 - d. Meeting with State Engineer to Review Dam Safety and Flashboard Installation
2. The following site visits:
 - a. One site visit to Saw Mill Canyon Pipeline (combined with one of the meetings)
 - b. One site visit to monitor the divers work for Marlette Lake and Hobart Reservoir outlet valves
3. The following technical memoranda:
 - a. TM1: Evaluation of the Tanks Meter House Flow Meter and Control Valve
 - b. TM2: Review of Diver's Report and Recommendation for Marlette Lake and Hobart Reservoir Outlet Valves
 - c. TM3: Marlette Lake Flashboards Evaluation

All the documents described above, with the exceptions of the workshop/meeting material, will be initially presented to the City in draft form for their review. After receiving the City's feedback on their review of the draft document, Black & Veatch will issue a final version of each document that will address the City's comments and incorporate the City's suggestions.

PROJECT SCHEDULE

It is estimated that the timeframe to complete this project is four months from the issuance of the Notice to Proceed. A preliminary project schedule, broken down by the tasks described in the tasks section, is provided in Appendix A and includes timeframes for task completion and associated deliverables.

**INCREMENTAL STEPS TO ACCOMPLISH THE WORK PRODUCTS (TASKS)**

Black & Veatch has prepared a work plan with tasks specifically crafted to achieve the objectives described above with an integrated, methodical, and efficient approach. This work plan includes the following tasks:

Task 1 - Project Management

Task 2 – Prepare a Submittal to Request a Categorical Exclusion (CE) for the design of a replacement pipeline from Saw Mill Canyon to Tanks

If request for CE is approved by the EPA and a CE is issued, then the design of pipeline will be performed in Phase 2 as mentioned earlier. If supplemental documentation, such as an Environmental Information Document or an Environmental Assessment, is requested by the EPA to grant the CE approval, such document will be prepared and the scope and budget for this task will be adjusted to reflect that effort.

Task 3 – Tank Meter House Flow Meter and Control Valve Evaluation

Task 4 – Condition Assessment of Existing Outlet Control Valves/Piping at the Marlette Lake Dam and Hobart Reservoir Dam.

Task 5 - Meet with the State Engineer to determine the feasibility for installation of flashboards at Marlette Lake for seasonal storage augmentation. Prepare Letter Report on results and determinations from State Engineer with recommendations.

These tasks are described in detail in the Work Plan provided below.

TASK 1 - PROJECT MANAGEMENT**Task 1.1 - Administration and Invoicing**

This task includes general administration duties associated with the project, including progress monitoring, scheduling, general correspondence, office administration, invoicing, and communication with City staff to execute work in accordance with scope, budget, and schedule.

Task 1.2 - Project Procedures Manual

A Project Procedures Manual will be prepared for the "Marlette Hobart System Improvements" project. At a minimum, this manual will include updated information on project contacts, a project schedule, a project budget, a Quality Assurance/Quality Control (QA/QC) plan, and other information pertinent to this project execution.

Task 1.3 – Quality Assurance and Control

A Quality Assurance/Quality Control review will be performed using Black & Veatch's standard continuous QC plan. B & V will implement the QA/QC plan to check, as a minimum, design methods, calculations, drawings, specifications, cost estimates, field investigations and measurements, and other technical issues associated with the Project design.

**TASK 2 – PREPARE A SUBMITTAL TO REQUEST A CATEGORICAL EXCLUSION (CE) FOR THE DESIGN OF A REPLACEMENT PIPELINE FROM SAW MILL CANYON TO TANKS****Task Description**

An information packet for the project will be prepared to provide the information needed to request a Categorical Exclusion (CATEX) in accordance with EPA Publication No. 315-K-08-001, Chapter 2 and the Cross-Cutter Coordination and Consultation Process identified in Appendix C. Documentation will include:

- 1) Concurrence from the applicable environmental agencies on the crosscutter list at: http://www.epa.gov/region4/water/gtas/workbookdocs/crosscutter_chart.pdf. Typically this list will include the following:
 - a. The State Historic Preservation Office,
 - b. The US Fish and Wildlife Service,
 - c. The US Army Corps of Engineers,
 - d. Other crosscutter federal agencies as appropriate.
- 2) Detailed description of the project and/or preliminary engineering report along with any site plan showing the project location and its extent. Documents will clearly describe the project, including pipe sizes and lengths, etc.
- 3) This will also include preparing a letter report of the species review that will be used for recommendations to the appropriate Federal, State and crosscutter agencies. A sub consultant cost of \$35,000 is budgeted for this work.
- 4) Any city or regional maps that show the project in relation to the local area and help demonstrate the limited nature of the project.
- 5) Information regarding the environmental results of the proposed project as referenced in EPA's Projected Environmental Results for Drinking Water Projects at [http://www.epa.gov/region4/water/gtas/workbookdocs/projected ENV Results DW102407.pdf](http://www.epa.gov/region4/water/gtas/workbookdocs/projected_ENV_Results_DW102407.pdf).

Two meetings with EPA to discuss the CE process are budgeted.

If EPA determines that an Environmental Information Document or an Environmental Assessment will be necessary, a revised Task Description, Scope of Services, Budget and Schedule will be prepared and submitted to EPA for approval and funding prior to proceeding.

TASK 3 – TANKS METER HOUSE FLOW METER AND CONTROL VALVE INVESTIGATION

The Tanks storage tank facilities consist of a 20,000 gallon steel storage tank that receives water from Marlette Lake, Hobart Reservoir, and East Slope collection system via an 18



inch raw water pipeline. There are two outlet pipelines that emerge from this tank that discharge raw water to Story County and Carson City. The City has reported that the 10-inch diameter line to Carson City has a control valve and flow meter and its capacity is limited to 2,000 gpm. The control valve closes when the flow reaches around 2,000 gpm. The City has requested B&V to investigate the valve and flow meter, verify its operation, and prepare recommendations for improvements in order to get more flow through the Meter House to the pipeline servicing the Quill Water Treatment Plant.

Task 3.1 – Tank Meter House Valve and Flow Meter Investigation TM

B&V will review the installation of the Tank meter house valve and flow meter including the mechanical piping arrangement and electrical and I&C setup to evaluate the modifications needed.

B&V will prepare a technical memorandum (TM) presenting the evaluation of the valve and flow meter and provide recommendations for repairs as required. A draft and final TM will be prepared, and the City's comments on the Draft TM will be incorporated in the Final TM. One meeting is included in the budget for review of TM1

Deliverable: TM1: Control Valve and Flow Meter Technical Memorandum

TASK 4 - ASSESS CONDITION AND DEVELOP METHOD TO REPLACE EXISTING OUTLET CONTROL VALVES ON THE MARLETTE LAKE DAM AND HOBART RESERVOIR DAM

B&V will review the existing data and information provided by the State on the outlets for Marlette Lake dam and Hobart Reservoir dam. In addition to reviewing the existing as-built data provided by the City and State, field investigation of the existing valves and outlet pipes would be necessary. It is anticipated that an underwater investigation would be required to accurately characterize the configuration and condition of the existing facilities that are submerged. The City/State will contract directly with a local diving company that specializes in performing underwater investigations. The scope of work does not include the effort associated with doing underwater investigation. B&V will coordinate with the City/State selected firm in terms of the information needed to ascertain the condition of existing facilities. B&V engineer will be present onsite for one day to witness the underwater video inspection work performed by the divers.

Based on the review of the available information and the inspection report provided by the divers, B&V will evaluate and make recommendations on the repair/replacement of the existing valves. This evaluation and recommendation will be provided to the City/State in the form of a technical memorandum.

One site visit and one meeting to discuss the TM are included in the budget

Deliverable: TM2: Review of Diver's Report and Recommendation for Marlette Lake and Hobart Reservoir Outlet Valves

**TASK 5 - INVESTIGATE FEASIBILITY AND PREPARE PRELIMINARY PLANNING FOR INSTALLATION OF FLASHBOARDS AT MARLETTE LAKE FOR SEASONAL STORAGE AUGMENTATION**

The use of seasonal flashboards to allow seasonal augmentation of storage in Marlette Lake has been reviewed by the State Buildings and Grounds, the Nevada Department of Wildlife, and Carson City. There is a desire to continue the planning process for the installations of seasonal flashboards on the existing dam spillway. This work task will include the preliminary planning for the seasonal flashboards, meeting with the Nevada State Engineer to determine if there are dam safety issues that need to be considered. Based on the discussions with the State Engineer and review of available data, B&V will prepare a memorandum summarizing the findings and recommendations related to seasonal flashboards installation. The TM will only report the State Dam Safety code requirements and summarize the discussions with the State Engineer with regards to dam safety including issues, if any, raised by the State Engineer. One meeting with State Engineer to Review Dam Safety and Flashboard Installation

Deliverable: TM3: Marlette Lake Flashboards and Dam Safety Evaluation

PROJECT BUDGET

The project budget enclosed in Appendix B provides a breakdown of the costs associated with the work products and tasks described in this work plan.

SOURCE OF MATCHING FUNDS

As required by the Appropriations Act, the City will provide matching funds for the 45 percent of the total cost of this project or \$ 277,364 of the total cost of \$616,364. The total budget for Phase 1 is \$186,800.

MEASURES USED TO EVALUATE THE SUCCESS OF THE WORK PRODUCTS AND ENVIRONMENTAL BENEFITS AND OUTCOMES

This work effort will provide essential investigations, planning, and analyses to identify feasible solutions to enhance the existing State System to continue reliable and sustainable water delivery to the City and Storey County.

The environmental benefits associated with this project include:

- Maintain a high quality water supply for the City and Storey County
- Increase water supply for blending to lower uranium levels in the City's water supply

Given the nature of this project, the success of the work products and environmental benefits and outcomes will be evaluated by assessing how the project deliverables (technical memoranda) address the objectives of this project. Completion of new pipeline and other facilities identified in this project in subsequent phases would ultimately validate the success of the work products and environmental benefits.



LOCATION MAP

The location map of the water system, which is the focus of this project, is provided in Figure 1 at the beginning of this document.

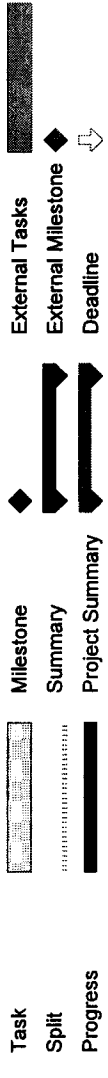
REPORTING

The project will prepare Quarterly Reports. The last Quarterly Report will serve as a Final Report. Quarterly Reports will include an executive summary of work done to date and how effective the project was in achieving the stated environmental and public health objectives. Quarterly Reports will also include any deliverable produced during the reporting quarter. Per EPA guidance, the following quarterly report schedule will be followed:

<u>Reporting Period</u>	<u>Report Due Date</u>
January 1 - March 31	April 30
April 1 - June 30	July 31
July 1 - September 30	October 31
October 1 - December 31	January 31

Carson City
Saw Mill Canyon Pipeline/Water Delivery Planning
APPENDIX A - Project Schedule

ID	Task Name	Duration	Start	Finish	2010					
					May	Jun	Jul	Aug	Sep	Oct
1	Carson City Saw Mill Canyon Pipeline and Water Delivery Planning	79 days	Mon 7/12/10	Thu 10/28/10						
2	EPA Notice to Proceed	1 day	Mon 7/12/10	Mon 7/12/10						
3	TASK 1 - PROJECT MANAGEMENT AND COORDINATION	78 days	Tue 7/13/10	Thu 10/28/10						
4	Task 1.1 Administration and Invoicing	78 days	Tue 7/13/10	Thu 10/28/10						
5	Task 1.2 Project Procedures Manual	10 days	Tue 7/13/10	Mon 7/26/10						
6	Task 1.3 Quality Assurance and Control	78 days	Tue 7/13/10	Thu 10/28/10						
7	TASK - 2 PREPARE A CE SUBMITTAL FOR PIPELINE AND TANK	48 days	Tue 7/20/10	Thu 9/23/10						
8	Meeting with EPA	1 day	Tue 7/20/10	Tue 7/20/10						
9	CE Document Preparation	35 days	Wed 7/21/10	Tue 9/7/10						
10	CE Document Submittal	1 day	Wed 9/8/10	Wed 9/8/10						
11	Review Meeting with City and EPA and Approval	1 day	Thu 9/23/10	Thu 9/23/10						
12	TASK 3 - TANK METER HOUSE VALVE AND FLOW METER INVESTIGATION	44 days	Mon 7/19/10	Thu 9/16/10						
13	Data Review and Site Visit	1 day	Mon 7/19/10	Mon 7/19/10						
14	Task 3.1 Tank Meter House Valve and FM Technical Memorandum (TM1)	20 days	Tue 7/20/10	Mon 8/16/10						
15	Draft TM1 Submittal	1 day	Tue 8/24/10	Tue 8/24/10						
16	Review Meeting	1 day	Wed 9/1/10	Wed 9/1/10						
17	Final TM1 Submittal	1 day	Thu 9/16/10	Thu 9/16/10						
18	TASK 4 - CONDITION ASSESSMENT FOR OUTLET CONTROL VALVES	44 days	Tue 8/17/10	Fri 10/15/10						
19	Diving Inspection	1 day	Tue 8/17/10	Tue 8/17/10						
20	TM2 - Evaluation of Outlet Valves	20 days	Wed 8/18/10	Tue 9/14/10						
21	Draft TM2 Submittal	1 day	Wed 9/22/10	Wed 9/22/10						
22	Review Meeting	1 day	Thu 9/30/10	Thu 9/30/10						
23	Final TM2 Submittal	1 day	Fri 10/15/10	Fri 10/15/10						
24	TASK 5 - FEASIBILITY FOR FLASHBOARDS INSTALLATION AT MARLETTE	65 days	Tue 7/27/10	Mon 10/25/10						
25	Review Background Information	10 days	Tue 7/27/10	Mon 8/9/10						
26	Meeting with State Engineer	1 day	Wed 8/18/10	Wed 8/18/10						
27	TM3 - Flashboards Evaluation	25 days	Thu 8/19/10	Wed 9/22/10						
28	Draft TM3 Submittal	1 day	Thu 9/30/10	Thu 9/30/10						
29	Review Meeting	1 day	Fri 10/8/10	Fri 10/8/10						
30	Final TM3 Submittal	1 day	Mon 10/25/10	Mon 10/25/10						



Project: EPA Work Plan Schedule

Task Split Progress

Milestone Summary Project Summary

External Tasks External Milestone Deadline

Carson City
Saw Mill Canyon Pipeline and Water Delivery Planning
APPENDIX B - Hours and Fee Estimate

Project Element & Task Description	Labor Hours	Labor Cost	Expenses	Total Cost
TASK 1 - PROJECT MANAGEMENT AND COORDINATION	166	\$30,400	\$1,300	\$31,700
Task 1.1 Administration and Invoicing	100	\$16,800	\$1,000	\$17,800
Task 1.2 Project Procedures Manual	26	\$4,100		\$4,100
Task 1.3 Quality Assurance and Control	40	\$9,500	\$300	\$9,800
TASK - 2 PREPARE A CE SUBMITTAL FOR PIPELINE AND TANK	178	\$32,900	\$41,000	\$73,900
Coordination with Governmental Agencies	76	\$14,100	\$2,000	\$16,100
Prepare Project Description	60	\$10,800	\$2,000	\$12,800
Environmental Results Preparation	42	\$8,000	\$37,000	\$45,000
TASK 3 - TANK METER HOUSE FLOW METER AND VALVE EVALUATION				
Task 3.1 - Tank Meter House Valve and Flow Meter Investigation TM	120	\$22,600	\$1,500	\$24,100
TASK 4 - CONDITION ASSESSMENT FOR OUTLET CONTROL VALVES	144	\$29,000	\$2,000	\$31,000
TASK 5 - FEASIBILITY FOR FLASHBOARDS INSTALLATION AT MARLET	118	\$24,100	\$2,000	\$26,100
TOTAL FEE	726	\$139,000	\$47,800	\$186,800