

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

1580 Logan Street, Suite 600
Denver, Colorado 80203
Phone: (303) 866-3441
Fax: (303) 894-2578
www.cwcb.state.co.us



April 22, 2014

Metro Wastewater Reclamation District
Attn: Barbara J. Biggs, Gov't Affairs Officer
6450 York Street
Denver, CO 80229

John W. Hickenlooper
Governor

Mike King
DNR Executive Director

James Eklund
CWCB Director

**RE: WSRA Grant – Notice to Proceed – South Platte River Diurnal Flow Study
in the South Platte and Metro River Basins**

Dear Barbara:

This letter is to inform you that the WSRA grant purchase order to assist in the South Platte River Diurnal Flow Study was signed on April 18, 2014.

With the executed purchase order, you are now able to proceed with the project and begin invoicing the State of Colorado for costs incurred through June 30, 2015. Upon receipt of your invoice(s), the State of Colorado will provide payment no later than 45 days. I wish you much success in your project.

Sincerely,

/s/

Joe Busto, Project Manager
Watershed & Flood Protection Section
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Tel: [303-866-3441](tel:303-866-3441) ext 3209
Fax: [303-861-4272](tel:303-861-4272)
joe.busto@state.co.us

WATER CONSERVATION BOARD
1313 SHERMAN STREET, ROOM 721
DENVER, CO 80203

Buyer: ALLAN SMITH
Phone Number: 303-866-3292
Agency Contact: DORI VIGIL
Phone Number: 303 866 3441

DATE: 04-18-14

IMPORTANT
The PO# and Line # must
appear on all invoices,
packing slips, cartons
and correspondence

ACC: 04-17-14



**PURCHASE
ORDER**
STATE OF COLORADO

P.O. # OE PDA 14IBC000036 Page# 01

State Award #

BID #

FEIN 840524704 Phone: 303-286-3000
Vendor Contact: BARBARA BIGGS
Purchase Requisition #:

V
E
N
D
O
R
METRO WASTEWATER RECLAMATION DIST
6450 YORK STREET
DENVER CO 80229-7499

INSTRUCTIONS TO VENDOR:

1. If for any reason, delivery of this order is delayed beyond the delivery/installation date shown, please notify the agency contact named at the top left. (Right of cancellation is reserved in instances in which timely delivery is not made.)
2. All chemicals, equipment and materials must conform to the standards required by OSHA.
3. NOTE: Additional terms and conditions on reverse side.

Invoice in Triplicate

To: DIVISION OF WATER CONSERVATION
1313 SHERMAN STREET, ROOM 721
DENVER, CO 80203

Payment will be made by this agency

Ship To: DIVISION OF WATER CONSERVATION
1313 SHERMAN STREET, ROOM 721
DENVER, CO 80203

Delivery/Installation Date: 06-30-15

F.O.B. DESTINATION STATE PAYS NO FREIGHT

SPECIAL INSTRUCTIONS:

LINE ITEM	COMMODITY/ITEM CODE	UNIT OF MEASUREMENT	QUANTITY	UNIT COST	TOTAL ITEM COST
001	91843000000				\$100,000.00
	CMS#67943 WSRA GRANT - SOUTH PLATTE RIVER DIURNAL FLOW STUDY				

DOCUMENT TOTAL = \$100,000.00

THIS PO IS ISSUED IN ACCORDANCE WITH STATE AND FEDERAL REGULATIONS
This PO is effective on the date signed by the authorized individual.

EPSPD PAA

FOR THE STATE OF COLORADO

Authorized Signature

Date

**Scope of Study of the Issues, Costs, and Potential Benefits to Agricultural,
Municipal and Industrial Water Users from Diurnal Flow Management Options in the
South Platte River from Denver to Platteville**

INTRODUCTION

Typical diurnal variations in influent flow experienced by municipal wastewater treatment plants are generally characterized by two peaks resulting from morning and early evening water usage and decreasing flows late at night and early in the morning. Effluent discharges from wastewater treatment plants to receiving streams have a very similar diurnal fluctuation that is slightly delayed due to the treatment processes. These peak effluent discharges from the Metro Wastewater District's Robert W. Hite Treatment Facility ("RWHTF") that serves the Denver metropolitan region, occur at approximately 1:00 p.m. and 11:00 p.m., while the low flow discharge occurs at approximately 7:00 a.m. on average.

When wastewater effluent flow rates are large compared to the receiving streams' base flow, the flow rate and pattern of the downstream reach of the receiving stream largely mimic that of the effluent discharge. This is the case with the South Platte River downstream of the RWHTF, which is routinely reflected by the stream flow records for the South Platte River at the Henderson Gage. If the flow rate in the South Platte River is not influenced by a recent storm or spring runoff, the flow rate and hourly flow rate variation is largely influenced by the effluent discharge at the RWHTF.

Analysis of the average hourly effluent discharge at the RWHTF for the year 2011 indicates that on average the discharge from this facility was 195 cfs. However, the discharge from the RWHTF varied on average from a low of about 105 cfs at 7:00 a.m. up to as high as 250 cfs at 1:00 p.m.

The South Platte River at Henderson (PLAHENCO Gage) provides the best data as to the influence of the RWHTF effluent discharge on the South Platte flows. The Henderson Gage is located approximately 10.6 miles downstream of the RWHTF South Platte River Outfall. Average hourly discharge records for the 2011 water year were obtained from the Colorado Division of Water Resources website. Review of the Henderson Gage hourly data for a two-day period during September 5th and 6th of 2011 indicates that the flow at this gage during this period fluctuated between approximately 170 cfs to as high as 330 cfs, and averaged approximately 250 cfs. By comparing this hydrograph to the flow discharge at the RWHTF, it is clear that the diurnal fluctuation at the Henderson gage is strongly influenced by the diurnal fluctuation of discharge of effluent from RWHTF.

On April 20, 2011, the City of Aurora, acting by and through its utility enterprise ("Aurora Water" or "Aurora"), the City of Thornton, and the Metro Wastewater Reclamation District ("Metro") collectively referred to "Co-Applicants" filed an application with the District Court, Water Division No. 1, in Case No. 11CW74. The Co-Applicants in this case applied for a change of water rights to: 1) obtain approval of the relocation of the treatment and discharge of a portion of Thornton's effluent that is generated in Thornton and currently treated at Metro's

RWHTF to Metro's Northern Treatment Plant (NTP) pursuant to the terms of a settlement agreement, dated October 10, 1990, between Thornton, the City of Englewood, and the City of Westminster. During the course of negotiations to settle Case No. 11CW74, several Opposers to the application expressed concerns that the diurnal fluctuation of the South Platte River and the corresponding method of administration of water rights in Water District No. 2, caused a reduction in the amount of water delivered to various water rights located downstream of the effluent discharge point of the RWHTF.

A stipulated settlement in this case was eventually achieved, which led to a Final Decree of the Court in Case No. 11CW74. As part of the stipulation between Co-Applicants and various Opposers, the Co-Applicants agreed to fund and oversee a study (not to exceed \$100,000) of the diurnal flows discharged from the RWHTF, including the impacts and potential benefits of dampening those flows on the South Platte River. It was anticipated that funding of the study could be obtained from a grant by the Colorado Water Conservation Board (CWCBC). The stipulation between the Opposers and the Co-Applicants specified that the study and the grant application would include:

- Defining the diurnal flow issues; and
- Identifying the water users likely affected by the diurnal flows and to what degree; and
- Identifying the potential benefits of mitigating or "dampening" the diurnal flows; and
- Identifying potential administrative or physical actions, including a flow equalization pond, that could provide those benefits; and
- Identifying the costs of providing potential administrative and physical benefits.

The scope of the study, as presented herein, was cooperatively developed with Opposers' consultants through a stakeholder process. All Opposers in Case No. 11CW74, including the State and Division Engineers, are considered stakeholders in the study process. Other stakeholders may be identified during the study process as well.

SCOPE OF SERVICES

The scope of services for this project is summarized as follows:

Task 1 - Review Previous Studies

Description of Task

Deere & Ault Consultants, Inc. (Deere & Ault) will review any previous studies that discuss or relate to the impact of diurnal flows on the South Platte River.

Method/Procedure

Deere & Ault will review the studies to determine if there is any information that is relevant to the current project.

Deliverables

Consultant will summarize the relevant portions of previous studies in the “Final Report” and provide copies of the reports to the stakeholders upon notice-to-proceed or sooner.

Task 2 - Analysis of Current River Administration

Description of Task

Based on prior discussions with Mr. David Nettles, Division 1 Engineer, and Mr. William Schneider, District No. 2 Water Commissioner, we understand that the diurnal flow of the South Platte River has an effect on administration of water rights in District No. 2. Based on these discussions, we understand that the 1871 priority of the Western Ditch is the primary calling right in this reach of District 2, making the Western Ditch the “swing ditch” (i.e., the ditch that dictates the presence of a call). We understand that the Water Commissioner determines the need for a call in District 2 upstream of the St. Vrain Creek confluence by: 1) discussing the daily water needs of the Western Ditch with the ditch company representative, 2) examining the low flow “trough” of the daily hydrograph at the Henderson stream gage, 3) examining gauged and known inflows within the reach upstream of the Western Ditch and downstream of the Henderson gage to determine their potential contribution to stream flow, and 4) distributing the water to all in-priority water users according to their demand so that the Western 1871 priority and all intervening water rights are satisfied when the trough of the diurnal flow reaches the Western headgate. If the Water Commissioner determines the Western’s demand will not be completely satisfied, the Water Commissioner will place a bypass call within District 2. The bypass call allows the Water Commissioner to work with upstream junior water users so that only a partial curtailment may be required to satisfy the Western Ditch’s demands. At times, other ditches will be the swing ditch.

Method/Procedure

Task 2a - Meeting with Division Engineer and Water Commissioner

In order to better understand the administrative practices, Deere & Ault will meet with the Division Engineer, current and past Water Commissioners, and representatives of the various stakeholders for this project.

Task 2b - Field Trip to Observe Critical Reaches and Infrastructure

Deere & Ault will also conduct a field trip with the Division Engineer and/or Water Commissioner and other stakeholders to observe various critical reaches of the river, measuring structures, key ditch headgates, check structures, and other facilities that may impact the current administration.

Deliverables

Based on this work, Deere & Ault will provide a written description of the current administrative practices and how the diurnal fluctuation of the South Platte River affects the administration of the South Platte water rights in District No. 2.

Task 3 - Analysis of Impact of Diurnal Flow Fluctuation

Description of Task

The purpose of this task is to identify whether and where the diurnal fluctuation of flow may have adverse impacts on the downstream water users, and the extent of such impacts.

This task will include an analysis of the current nature and extent of the diurnal fluctuation in terms of:

- i. By time (daily, seasonal, and annual fluctuations).
- ii. By location (determine the downstream location where the diurnal fluctuation is substantially moderated).
- iii. If data are available, provide an approximate analysis on an average annual basis of the amount of reusable versus native water that is available for use downstream of the RWHTF. This will be an estimate since Deere & Ault does not have access to all of the data required to determine the amount of reusable versus non-reusable water downstream of RWHTF.

The task will include an analysis of which water rights have been impacted by the diurnal fluctuation and the administration of flow on the South Platte due to the diurnal fluctuation. Deere & Ault shall analyze the mechanism of impact to downstream water users in terms of the location where the impact occurs and the approximate amount of the impact on downstream water users.

Also included in this task will be an analysis of the amount of storage that might be required to store the peaks of diurnal fluctuation so that the water can be released at a more constant rate in order to mitigate the impact of the diurnal fluctuation.

Method/Procedure

Task 3a - Review and Analysis of District 2 Call Records

Deere & Ault shall conduct an analysis of call records for the South Platte River for the study period of 1992 through 2012 to determine which particular water users in District No. 2 were likely impacted by the diurnal flow administration. It is our understanding that the only time that a ditch or water user downstream of RWHTF within District No. 2 would be impacted by the diurnal flow fluctuation would be those times when there is a call or bypass call in District No. 2 at or upstream of the Western Ditch. The analysis will include a tabulation of the various water rights that have placed a call during the study period, as well as the relative frequency of calls that affect each particular structure.

Task 3b - Review and Analysis of Hourly South Platte River Gage Records at the Henderson, Fort Lupton, and Kersey Gages

Preliminary analyses as shown on the attached Figure 1 for September 5 and 6, 2011 indicated that the amplitude of the diurnal fluctuation at the Fort Lupton Gage was significantly reduced from the amplitude of the diurnal fluctuation at the upstream Henderson Gage. Similar results were observed from an analysis of hourly stream flow data for the entire year of 2011. By the time the South Platte reached the Kersey Gage downstream of the confluence of the Cache la Poudre River and the South Platte River, the diurnal fluctuation was all but eliminated due to the impact of irrigation return flows and inflows from various tributaries including St. Vrain Creek, the Big Thompson River, and the Cache la Poudre River located downstream of the of the Western Mutual Ditch Company. However, the preliminary analysis was only conducted for the year 2011, and a more rigorous analysis of the flows at these gages will be conducted in order to determine the point at which the diurnal fluctuation is substantially moderated.

Task 3c - Further Define Diurnal Flow Fluctuation (i.e., time, location, amount, and reusable makeup)

Task 3d - Determine the Impact of the Diurnal Fluctuation in terms of the location, the amount, and the mechanism of Impact

Deliverables

Deere & Ault will provide a written description with supporting graphs and tables explaining the impact of the diurnal fluctuation on water users in District 2 downstream of RWHTF.

Task 4 - Analysis of Structural Alternatives to Mitigate Any Impacts of the Diurnal Flow Fluctuation

Description of Task

Several possible alternatives have been proposed to address the diurnal flow fluctuation of the South Platte River. Possible solutions that have been proposed include:

- A. Use of upstream storage at Chatfield Reservoir.
- B. Use of an existing gravel pit reservoir between RWHTF and the Western Mutual Ditch headgate to dampen the diurnal fluctuation.
- C. Construction of a new gravel pit storage reservoir downstream of RWHTF and upstream of the Western Ditch in order to dampen the diurnal fluctuation.
- D. Use of storage at agreed upon locations, including agreed upon timed releases by parties using effluent discharged at RWHTF, to offset the diurnal fluctuation.
- E. Construction of a storage reservoir near the headgate of the Western Mutual Ditch at the Gilcrest Reservoir site in order to dampen the impact of the diurnal fluctuation to the Western Ditch, which could benefit other water users that have been historically subject to calls by the Western Ditch. Investigation of a storage location between the RWHTF and the Western Mutual Ditch will not be limited to the Gilcrest Reservoir site. D&A will

investigate storage locations near other ditch headgates on the South Platte River between RWHTF and the Western Mutual Ditch.

F. Use of existing or new river check dams that could be modified in order to regulate the diurnal fluctuation.

G. Utilize groundwater diversions for ditches to offset the diurnal fluctuation.

Deere & Ault shall conduct a preliminary screening of these various alternative solutions, and from that list select up to three alternatives for additional study.

There will likely be both water rights issues and water quality issues associated with each of the selected alternatives. These issues will be identified at a preliminary level to evaluate how they may affect the feasibility of each alternative.

Method/Procedure

Task 4a - Conduct Screening of Proposed Alternatives

Deere & Ault shall conduct a screening analysis of the proposed alternatives to determine which of the proposed alternatives provide the most reasonable alternative to mitigate the impact of the diurnal flow. In conjunction with input from the various stakeholders, Deere & Ault shall select up to three of the proposed alternatives for further analysis. It is understood that certain proposed alternatives may be eliminated from further consideration due to obvious legal, institutional, permitting, or cost issues. One of the factors to be used in the selection process will be whether or not the budget for this project would allow more detailed analysis of the selected alternatives. Detailed analysis of some of the proposed alternatives may be costly and beyond the scope of this study.

Task 4b - Analysis of Selected Structural Mitigation Alternatives

Deere & Ault shall analyze each of the selected alternatives in more detail including the proposed location of the alternative, the current owners of the land or facility, hydraulic issues related to inflow and outflow capacity under gravity flow conditions, property access issues, amount of available storage capacity, and potential impact on the diurnal flow.

Task 4c - Provide Preliminary Level Drawings of Alternatives

The Consultant will develop preliminary drawings of the selected alternatives including the location, inlet structures, outlet structures, and proposed land access.

Task 4d - Develop Preliminary Cost Estimates for Selected Alternatives

Preliminary cost estimates will be developed for each of the selected alternatives and presented in tabular form.

Deliverables

The Consultant will prepare preliminary feasibility level drawings of up to three alternatives. Preliminary cost estimates for these selected alternatives will also be developed. These will be presented in the draft and final reports.

Task 5 - Analysis of Revised Administrative Procedures

Description of Task

In this task, Deere & Ault will analyze whether or not additional or revised administrative procedures could serve to help mitigate any negative impacts as a result of the diurnal fluctuation in the South Platte River. These revised administrative procedures could include the requirement for additional stream gages or other ancillary structures that might be required to facilitate any revised administrative procedures.

Method/Procedure

Task 5a - Additional Coordination with Division Engineer and Water Commissioner

Based on information obtained from the previous tasks, Deere & Ault will meet and coordinate with the Division Engineer, Water Commissioner and other Water Division 1 staff to determine if there are any modifications to the administrative procedures currently employed that could mitigate the impact of the diurnal fluctuation without triggering other negative consequences.

Task 5b - Investigate Potential for Additional Gaging/Instrumentation to Enhance Administration

Deere & Ault shall investigate whether additional gaging and instrumentation could provide the Division Engineer and Water Commissioner with additional stream flow data that could be used to help mitigate the impact of the diurnal fluctuation.

Deliverables

In the reports to be submitted as part of this scope of work, Deere & Ault shall provide a written description of recommended revisions to the administrative procedures that could help mitigate the impact of the diurnal fluctuation without triggering other negative consequences.

Task 6 - Meetings with Stakeholders

Description of Task/Method/Procedures/Deliverables

At least one stakeholder meeting will be held as the study progresses to report on preliminary results and to receive intermediate input from the stakeholders about the methods being used in the study and preliminary results being obtained. Deere & Ault shall consider the intermediate input obtained from the stakeholders before drafting the study report as allowed within funding constraints.

After Deere & Ault prepares a draft of the study report, a copy shall be provided to the stakeholders for review and comment at least 45 days before it must be made final. Stakeholders may provide their comments to Deere & Ault without holding another stakeholder meeting if they wish to do so, but a second stakeholder meeting will be held if needed to provide stakeholder comments on the draft report.

The scope of services and cost estimate presented herein includes time for up to two meetings with stakeholders in addition to the meeting scheduled with the Division Engineer, Water Commissioner, and stakeholders as identified in Task 2a.

Task 7 - Progress Reports

Description of Task

If funded through the CWCW Water Supply Reserve Account ("WSRA"), Deere & Ault shall provide the CWCW a progress report every six months, with the first progress report to be submitted six months after notice-to-proceed. If funded by Metro, progress summaries will be provided with each monthly billing statement.

Method/Procedure/Deliverables

The progress reports shall describe the completion or partial completion of the tasks identified in the scope of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Task 8 - Draft and Final Reports

Description of Task/Method/Procedure

Draft and final reports issued by Deere & Ault shall address each of the issues and analyses set forth in this Scope of Services, as well as including the identification of the costs and benefits of implementing potential mitigation measures that are deemed to appear feasible and a discussion of potential obstacles to that implementation. Deere & Ault will consult, coordinate, and seek input from the stakeholders' consultants during all phases of the study.

Deliverables

Deere & Ault shall prepare a draft report for review by the various stakeholders, and after receiving comments on the draft report shall prepare a final report for submittal to the CWCW. The study will be completed within 10 months of the CWCW giving notice-to-proceed under a WSRA grant fund contract or within the same time after notice that the grant application has been denied.

9/5/2011 - 9/6/2011



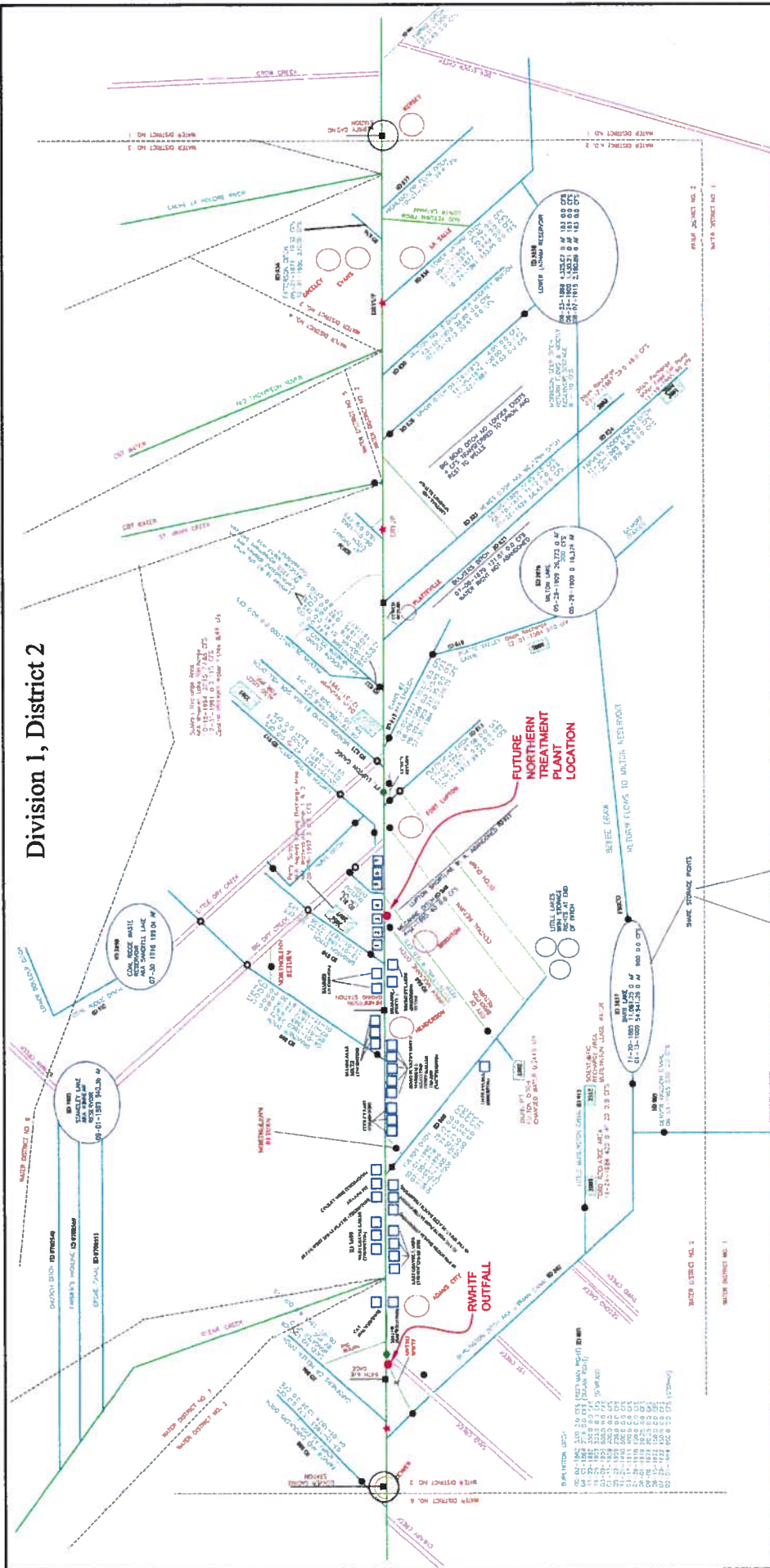
TABLE 1

South Platte River Diurnal Flow Study

Cost Estimate

		\$250	\$160	\$135	\$108	\$76	\$88	\$84	\$54					
Task	Task Description	LABOR BY CATEGORY								Total Hours	Labor Costs	Direct Expense	Total by Subtask	Total by Task
		Principal	Project Manager	Project Engineer	Water Resources Engineer	Water Resources Analyst	CADD Technician	Technical Writer	Clerical					
1	Review Previous Studies													\$ 1,270
1a	Review and Analyze previous studies provided to D&A by the Metro District & Others	1	2		2					5	\$ 786		\$ 786	
1b	Provide Copies of Reports to Stakeholders		1		2				2	5	\$ 484		\$ 484	
2	Analysis of Current River Administration													\$ 6,488
2a	Meeting w/ Division Engineer, Water Commissioner(s), and Stakeholders	6	6		8					20	\$ 3,324	\$ 100	\$ 3,424	
2b	Field Trip to Observe Critical Reaches and Infrastructure	8			8					16	\$ 2,864	\$ 200	\$ 3,064	
3	Analysis of Impact of Diurnal Flow Fluctuation													\$ 27,624
3a	Review and Analysis of District 2 Call Records	4	8		20	16			2	50	\$ 5,764		\$ 5,764	
3b	Review and Analysis of Hourly South Platte River Gage Records (e.g., Henderson, Fort Lupton, Kersey)	4	8		24	16			2	54	\$ 6,196		\$ 6,196	
3c	Further Define Diurnal Flow Fluctuation (i.e., time, location, amount, reusable/single use ratio)	8	12		24	16				60	\$ 7,728		\$ 7,728	
3d	Determine Impact of Diurnal Fluctuation (i.e., location, amount, mechanism)	8	16		20	16				60	\$ 7,936		\$ 7,936	
4	Analysis of Structural Alternatives to Mitigate Impacts of Diurnal Flow													\$ 30,322
4a	Conduct Screening of Proposed Alternatives (i.e., on-channel storage, off-channel storage)	8	16	16	16					56	\$ 8,448		\$ 8,448	
4b	Analysis of Selected Structural Mitigation Alternatives	8	20	24	24					76	\$ 11,032		\$ 11,032	
4c	Provide Preliminary Drawings of Selected Alternatives	1		24			24			49	\$ 5,602		\$ 5,602	
4d	Develop Preliminary Cost Estimates for Selected Alternatives	4		16	8	16				44	\$ 5,240		\$ 5,240	
5	Analysis of Revised Administrative Procedures													\$ 8,112
5a	Additional Coordination with Division Engineer and Water Commissioners	4	4		8					16	\$ 2,504		\$ 2,504	
5b	Investigate Potential for Additional Gaging/Instrumentation to Enhance Administration	4	18		16					38	\$ 5,608		\$ 5,608	
6	Meetings with Stakeholders													\$ 4,608
6a	Conduct up to two Stakeholder Meetings	12	6		6					24	\$ 4,608		\$ 4,608	
7	Progress Report													\$ 2,922
7a	Provide Stakeholders with Progress Report every 6 Months	8	2		2			4		16	\$ 2,872	\$ 50	\$ 2,922	
8	Draft and Final Reports													\$ 18,916
8a	Prepare and Submit Draft Report for Review by Stakeholders	16	40		32		4	12		104	\$ 15,216	\$ 50	\$ 15,266	
8b	Prepare and Submit Final Report to Stakeholders	4	8		6			8		26	\$ 3,600	\$ 50	\$ 3,650	
TOTALS		108	167	80	226	80	28	24	6	719	\$ 99,812	\$ 450	\$ 100,262	\$ 100,000
TOTAL (Rounded to Nearest \$1,000)														\$ 100,000

Division 1, District 2





COLORADO DIVISION OF WATER RESOURCES
DEPARTMENT OF NATURAL RESOURCES

SOUTH PLATTE RIVER DIURNAL FLOW STUDY
Extent of Detailed Study

DEERE & AULT
CONSULTING, INC.

UPSTREAM AND DOWNSTREAM EXTENT OF DETAILED STUDY



DESIGNATED TO
LOAD FIVE
7.5 M

WATER DISTRICT NO. 1



WATER DISTRICT NO. 2



WATER DISTRICT NO. 3



WATER DISTRICT NO. 4



WATER DISTRICT NO. 5



WATER DISTRICT NO. 6



WATER DISTRICT NO. 7



WATER DISTRICT NO. 8



WATER DISTRICT NO. 9



WATER DISTRICT NO. 10



WATER DISTRICT NO. 11



WATER DISTRICT NO. 12



SOUTH PLATTE RIVER DIURNAL FLOW STUDY

Estimated Schedule of Tasks

Task	Task Description	Task Commencement Date	Task Completion Date
1	Review Previous Studies	6/2/2014	6/27/2014
2	Analysis of Current River Administration	6/30/2014	9/30/2014
3	Analysis of Impact of Diurnal Flow Fluctuation	6/30/2014	10/31/2014
4	Analysis of Structural Alternatives to Mitigate Impacts of Diurnal Flow	11/3/2014	2/27/2015
5	Analysis of Revised Administrative Procedures	11/3/2014	11/28/2014
6	Meetings with Stakeholders	6/30/2014	4/17/2015
7	Progress Report	11/25/2014	12/2/2014
8	Draft and Final Reports	1/5/2015	5/1/2015

Exhibit B
Metro Wastewater Reclamation District
Water Supply Reserve Account Grant
Performance Monitoring Provisions

Statutory Requirements

For each personal services contract with a value over \$100,000, the individual selected by the state agency or institution of higher education (IHE), pursuant to CRS§ 24-103.5-101(3), shall monitor the contractor's work under the contract and shall certify as to whether the contractor is complying with the terms of the contract pursuant to CRS§ 24-103.5-101(5).

- (a) Performance measures and standards developed specifically for the contract by the governmental body administering the contract. The performance measures and standards shall be negotiated by the governmental body and the vendor prior to execution of the contract and shall be incorporated into the contract. The measures and standards shall be used by the governmental body to evaluate the performance of the governmental body and the vendor under the contract.
- (b) An accountability section that requires the vendor to report regularly on achievement of the performance measures and standards specified in the contract and that allows the governmental body to withhold payment until successful completion of all or part of the contract and the achievement of established performance standards. The accountability section shall include a requirement that payment by the governmental body to the vendor shall be made without delay upon successful completion of all or any part of the contract in accordance with the payment schedule specified in the contract or as otherwise agreed upon by the parties.
- (c) Monitoring requirements that specify how the governmental body and the vendor will evaluate each others' performance, including progress reports, site visits, inspections, and reviews of performance data. The governmental body shall use one or more monitoring processes to ensure that the results, objectives, and obligations of the contract are met.
- (d) Methods and mechanisms to resolve any situation in which the governmental body's monitoring assessment determines noncompliance, including termination of the contract.

Performance Monitoring Standards

Performance monitoring for this contract shall include the following:

- (a) Performance measures and standards: Grantee shall maintain receipts for all projects expenses and documentation of the minimum in-kind contributions per the budget in Exhibit A. Per WSRA Criteria and Guidelines, retainage of 5% of the grant funds shall be withheld until receipt of the final report and all other deliverables
 - Design & Construction Reporting: The applicant shall provide CWCB copies of: Permits, Design & Construction Documents; Construction Documentation (periodic construction progress reports, change orders, meeting notes, schedule summaries), and As-Build Drawings.
 - General Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract until the construction begins. The progress report shall describe the completion or partial completion of the statement of work leading up to the advertisement for bid and including a description of any major issues that have occurred and any corrective action taken to address these issues.
 - Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents the project. This report may contain photographs, summaries of meetings and reports/studies. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions per the budget in Exhibit A. Per WSRA Criteria and Guidelines, retainage of the grant funds shall be withheld until receipt of the final report and all other deliverables.
- (b) Accountability: Per WSRA Criteria and Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must certify that all grant conditions have been complied with on each invoice. In addition, per WSRA Criteria and Guidelines progress reports must be submitted at least once every 6 months. A final project report must be submitted and approved before final project payment and release of retainage.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A and Paragraphs 9 & 19 of the contract. Progress shall be detailed in the required invoice documentation and progress reports as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Per paragraphs 9, 14, 15, and 19 of the contract: payment will be withheld until grantee is current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the purchase order.