

## **Exhibit A**

### **Scope of Services**

#### **Introduction**

The North Platte River Basin's current and projected consumptive and non-consumptive use needs were assessed in the State Water Supply Initiative (SWSI) 2010, and summarized in the SWSI North Platte River Basin Report. This report identified a future "gap" between the supplies and the projected needs. In response to the call for a State Water Plan, each Basin Round Table (BRT) is charged with developing a Basin Implementation Plan (BIP). The purpose of the Basin Implementation Plan is to develop projects and methods to meet municipal, industrial, agricultural, environmental, and recreational needs. For the North Platte Basin Implementation Plan (NPBIP) effort this involves an analysis of basin-wide needs; identification of constraints and opportunities in meeting those needs; and an analysis of the ability for proposed projects and methods to meet the NPBRT water supply gaps using basin-wide modeling tools. Once the proposed projects and methods are analyzed and ultimately selected for inclusion in the NPBIP, the plan will identify specific implementation strategies to fully realize the projects and methods described in the plan, while also detailing how the plan meets the BRT goals and measurable outcomes.

The following scope of services describes the tasks, and associated budget, Wilson Water Group proposes to assist the NPBRT in completing the NPBIP and associated report for submittal to the State. To best utilize the existing information and tools that have been developed for the basin, the tasks focus on using the consumptive use and surface water allocation models previously developed for the North Platte River Basin. As these models represent a majority of the needs in the basin (i.e. agricultural), as well as the hydrological, legal, and operational conditions over a long-term study period, these models serve as an excellent platform to analyze basin-wide needs. The tasks also include review and use of information developed for the SWSI effort and other State and locally supported projects, as well as information from local water users and NPBRT representatives. Many of these tasks will be completed in close coordination with the NPBRT to ensure that the plan reflects the goals and objectives prioritized by the NPBRT that are feasible for implementation.

#### **Task 1: Development of Basin Goals and Measureable Outcomes (*supports Section 1*)**

The task of developing Basin Goals and Measureable Outcomes allows the NPBRT to discuss the water management challenges in the basin, and define the short and long-term goals and outcomes that the NPBIP can and should accomplish. Water management challenges have been presented in the SWSI North Platte Basin Report, however local knowledge and concerns from the water users in the basin should also be used to guide the discussion.

#### *Approach*

Facilitate a half-day workshop with the NPBIP Working Group to discuss the project's Basin Goals and Measureable Outcomes. Discussion during this workshop will highlight the water management challenges outlined in the SWSI North Platte Basin Report, define the goals and measureable goals for the NPBIP, and address how the goals and outcomes are consistent with future SWSI efforts and the

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State Water Plan. The discussion and agreed upon goals and outcomes will be summarized in *Section 1* of the NPBIP report, and will guide the efforts for the remaining project tasks.

*Deliverable*

- List of basin-wide Goals and Measureable Outcomes, ultimately included in *Section 1* of the NPBIP report.

**Task 2: Evaluate Consumptive and Non-consumptive Needs (*supports Section 2*)**

There have been many previous efforts to identify, summarize and project consumptive and non-consumptive demands in the North Platte Basin. In this task, Wilson Water Group will work with the NPBIP Working Group to identify and compile the existing reports, developed either at the State or local level, and review these reports for water planning information. Understanding the current and projected consumptive and non-consumptive needs is the first step to helping the NPBRT determine how well they are currently meeting their needs, their constraints on meeting their needs, and where there may be opportunities they can capitalize on to meet their Basin Goals and Measureable Outcomes.

*Approach*

With direction from the NPBIP Working Group, identify and compile the existing reports that discuss basin-wide planning information on consumptive and non-consumptive needs as it pertains to their Basin Goals and Measureable Outcomes. Wilson Water Group has been intimately involved with the development of NPDSS models and reports, which account for a majority of the current consumptive (i.e. agricultural) demands in the basin, reflect the current basin irrigation practices and operations, and include a portion of the non-consumptive demands. This understanding will be supplemented with consumptive and non-consumptive needs information developed through locally sponsored projects and planning efforts specific to the North Platte River Basin Decree, as well as information developed through State-guided efforts including reports created through the SWSI efforts, through drought planning efforts, or through IBCC or BRT initiatives/working groups. Upon direction from the NPBRT, this task will also likely include review and use of the Non-consumptive Toolbox, through which the NPBRT can understand how their non-consumptive needs are being met through existing projects and methods.

Pertinent information will be gleaned from each report and presented to the NPBIP Working Group, with discussion focusing on which information to consider for the project and resolution of conflicting information. This list of existing reports, and a short summary of how the information pertains to the NPBIP, will be included in *Section 2* of report.

*Deliverable*

- List of existing reports, and a short summary of how the consumptive and non-consumptive information pertains to the NPBIP as a whole, will be included in *Section 2* of report.
  - Meeting materials and information summaries for Working Group discussions, as appropriate.
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### **Task 3: Evaluate Consumptive and Non-consumptive Constraints and Opportunities (*supports Section 3*)**

The purpose of this task is to help the NPBRT better understand what the constraints and opportunities are within their basin to meet their consumptive and non-consumptive needs, and determine locations where solutions may be implemented to meet the Basin Goals and Measureable Outcomes. As is known by the local water users, the irrigation practices, water rights, demands and operations of a single water user can have a large impact on the water available for other water users to meet their demands. Because of this interplay of factors that impact the ability to meet consumptive and non-consumptive demands through the basin, a basin-wide approach, such as the NPDSS, that accounts for these factors is required to identify and investigate constraints and opportunities.

The current NPDSS consumptive use and surface water models provide an excellent platform for identifying and investigating consumptive and non-consumptive constraints and opportunities as the models reflect over 95 percent of the water users explicitly, encompass a study period that reflects variable hydrologic conditions (e.g. dry, wet and average periods), and reflect 100 percent of the agricultural demands and operations in the basin. Wilson Water Group's experience with the modeling tools allows us to easily revise model input to reflect additional or projected consumptive or non-consumptive needs, if desired by the NPBRT, or simply use model output to evaluate non-consumptive needs on tributaries explicitly included in the model.

#### *Approach*

**Task 3.1: Consumptive Needs Constraints and Opportunities.** Compare the current and projected consumptive needs defined in Task 2 to the agricultural, municipal, livestock, and reservoir demands currently included in the NPDSS models. Discuss the level of implementation desired by the NPBIP Working Group to reflect these needs in the model with sufficient detail to understand the location and extent of current and projected constraints and opportunities. Implement the model revisions as appropriate, and provide the NPBIP Working Group a summary of the model results for variable hydrologic conditions.

In addition to constraints or opportunities due to hydrological, legal, and operational conditions as identified by the model results, Wilson Water Group will work with the NPBIP Working Group to identify Interstate and transbasin decrees, or operational issues that may impact the constraint or opportunity evaluation. Wilson Water Group will tailor the summary result presentation in terms of the Basin Goals and Measureable Outcomes as they pertain to consumptive needs, noting that constraints and opportunities identified for consumptive needs may also impact or benefit non-consumptive needs.

**Task 3.2: Non-Consumptive Needs Constraints and Opportunities.** Determine the current or projected non-consumptive needs defined in Task 2 that can be assessed using the existing NPDSS model. This determination involves overlaying mapping of the non-consumptive needs to determine if the tributaries/stream reaches are explicitly reflected in the NPDSS models. If the tributaries/stream reaches or lake/reservoir are reflected in the model, the model output of streamflow conditions, reservoir contents, and consumptive demands within the reach can be used

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to determine the constraint on a non-consumptive need. Discuss the options and level of implementation desired by the NPBIP Working Group to reflect the tributaries/stream reaches or lake/reservoirs for analysis of the non-consumptive needs. Implement the model revisions as appropriate, and provide the NPBIP Working Group a summary of the model results for variable hydrologic conditions.

In addition to constraints or opportunities due to hydrological, legal, and operational conditions as identified by the model results, Wilson Water Group will work with the NPBIP Working Group to identify jurisdictional conflicts, regulatory constraints, or other recreational or environmental issues that may impact the constraint or opportunity evaluation. Wilson Water Group will tailor the summary result presentation in terms of the Basin Goals and Measureable Outcomes as they pertain to non-consumptive needs.

**Task 3.3: Constraint and Opportunity Mapping and Summary.** Develop final list, with supporting mapping and quantitative analysis data, for consumptive and non-consumptive needs constraints and opportunities for inclusion in *Section 3.1* of the report.

The constraint and opportunity analysis performed in Tasks 3.1 and 3.2 will include a review of major water users in the basin, controlling structures, the portion of demands that are met vs. shortages, and water availability throughout the basin. Wilson Water Group will use the analysis to compile the following information in this task for inclusion in *Sections 3.2, 3.3* and *3.4* of the report.

- Major controlling structures/calling water rights within each Water District
- Period when general water administration begins and ends
- Irrigated Acreage
- Major reservoirs
- Major exports
- Interstate Compacts/Decrees within the basin or may affect the basin
- Location and magnitude of Consumptive and Non-consumptive Needs Shortages (supply vs. demand imbalances) under variable hydrologic conditions

#### *Deliverable*

- Enhanced NPDSS consumptive use and surface water allocation models. Note the standard NPDSS model documentation will not be updated; however enhancements will be captured in the NPBIP report and associated model input files.
- Mapping and summary products described in Task 3.3 that supports *Sections 3.1* through *3.4* of the NPBIP report.
- Meeting materials and information summaries for Working Group discussions, as appropriate.

#### **Task 4: Develop, Analyze, and Implement Projects and Methods (*supports Section 4, 5, 6*)**

This task is at the center of the NPBIP effort, in which Wilson Water Group will assist the NPBRT in assessing how the proposed projects and methods meet the consumptive and non-consumptive needs (i.e. “gap”), and the extent to which they meet the Basin Goals and Measureable Outcomes. Wilson Water Group will work closely with the NPBIP Working Group to finalize and prioritize a list of proposed

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projects and methods to investigate in this task, and determine the appropriate method for implementing each project and method. Due to the efforts in Task 3, the enhanced NPDSS models will be the tool of choice; based on the SWSI North Platte Basin Report, it appears the NPDSS model could be used to analyze the proposed projects and methods. For example, the NPDSS surface water model could be enhanced to reflect the Town of Walden's water supply improvement project, including an analysis of the impact of diversion capacity improvements, alternate point to well change decree, and alternate reservoir operations to maximize the use of the Town's ownership in Walden Reservoir. The analysis of some project and methods may be more efficient with a different tool, and Wilson Water Group will recommend alternate tools if appropriate.

#### *Approach*

**Task 4.1: Finalize List of Project and Methods and Document Impact on Needs.** Recommend a list of projects and methods that, based on our analyses, are estimated to meet consumptive and non-consumptive needs and the Basin Goals and Measureable Outcomes defined in Task 1, and that can feasibly be implemented in the basin. Discuss these recommendations with the NPBIP Working Group to develop a finalized list of projects and methods for inclusion in *Section 4* of the NPBIP report. Additionally, document the extent to which the final list of projects and methods will meet the consumptive and non-consumptive needs and the Basin Goals and Measureable Outcomes under variable hydrological conditions.

**Task 4.2: Develop Implementation Strategies.** Depending on the final projects and methods selected by the NPBRT, Wilson Water Group can assist the NPBIP Working Group with:

- Developing cost information (capital and O/M), potential partners, lead entity, volume of water, and timing for any new projects and methods that are added to the list.
- Identifying opportunities for multi-purpose/cooperative projects.
- Preparing materials (e.g. Education Action Plans) to support educational/outreach presentations at the BRT or IBCC level.
- Identifying funding mechanisms and strategies for implementing water supply projects and methods.
- Developing timelines for projects, with key tasks and milestones.

Any implementation strategies developed in this task will be documented for inclusion in *Section 5* of the NPBIP report.

#### *Deliverable*

- NPDSS consumptive use and surface water allocation model scenarios reflecting the implementation and analysis of specific projects and methods. Note the standard NPDSS model documentation will not be updated; however enhancements will be clearly captured in the NPBIP report and associated model input files.
  - Analysis and data summaries that support *Section 4* of the NPBIP report.
  - Meeting materials and information summaries for Working Group discussions, as appropriate.
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## **Task 5: Develop the North Platte Basin Implementation Plan Report**

The culmination of the effort undertaken in these tasks is the North Platte Basin Implementation Plan Report. The analyses, and much of the supporting documentation, will be completed in the previous tasks; therefore the effort in this task focuses on the compiling the data and documentation into the CWCB-recommended plan report format.

### *Approach*

Develop the NPBIP draft documentation for initial review by the NPBIP Working Group. Incorporate any comments, concerns, or revisions and develop the final documentation.

### *Deliverable*

Following is the recommended table of contents; some of the sections may not be pertinent to the NPBIP and, if so, will not be included.

#### *Executive Summary*

<i>Section 1</i>	<i>Basin Goals and Measurable Outcomes</i>
<i>Section 2</i>	<i>Evaluate Consumptive and Nonconsumptive Needs</i>
2.1	<i>Nonconsumptive Needs</i>
2.2	<i>Consumptive Needs</i>
<i>Section 3</i>	<i>Evaluate Consumptive &amp; Nonconsumptive Constraints and Opportunities</i>
3.1	<i>Current Basin Water Operations and Hydrology</i>
3.2	<i>Water Management and Water Administration (Optional)</i>
3.3	<i>Hydrologic Modeling (Optional)</i>
3.4	<i>Shortages Analysis</i>
<i>Section 4</i>	<i>Projects and Methods</i>
4.1	<i>Education, Participation &amp; Outreach</i>
4.2	<i>New Multi-Purpose, Cooperative, and Regional Projects and Methods</i>
4.3	<i>M&amp;I Projects and Methods (i.e. projects, conservation, reuse, drought planning)</i>
4.4	<i>Agricultural Projects and Methods</i>
4.5	<i>Non-consumptive Projects and Methods</i>
4.6	<i>Interbasin Project and Methods (optional)</i>
<i>Section 5</i>	<i>Implementation Strategies for the Projects and Methods</i>
<i>Section 6</i>	<i>How the Plan meets the Roundtables' Goals and Measurable Outcomes</i>

## **Task 6: NPBRT Coordination Meetings**

Wilson Water Group envisions very close coordination with the NPBRT throughout the project, beginning with a project kick-off meeting and culminating with the Basin Implementation Plan report. Throughout these efforts, Wilson Water Group will meet with the NPBRT as a whole to understand the perspectives of all the individuals on the BRT, provide progress updates, and present the final project results. Additionally, Wilson Water Group recommends more frequent meetings with a smaller working group to address specific plan tasks.

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### *Approach*

In this task, Wilson Water Group is proposing the following meetings/workshops with the NPBRT:

- **Project Kick-off Meeting with NPBRT.** Ideally this meeting will be held in conjunction with a regularly scheduled BRT meeting, and result in a common understanding of the project scope, availability and source of project data, and schedule.
- **Progress Updates with NPBRT.** Attend the NPBRT meetings quarterly to provide a project status, summary of results to date, and summary of future efforts. The proposed budget reflects two Progress Update meetings.
- **Plan Development Meetings with NPBIP Working Group.** Meet as necessary with the NPBIP Working Group on project-specific tasks via conference calls or remote conferencing tools (e.g. GoTo Meeting). The proposed budget reflects an hour-long meeting each month.

### *Deliverables*

- Meeting materials, including progress updates and agendas.

## **Task 7: JCWCD Grant Administration**

Jackson County Water Conservancy District (JCWCD) will serve as the program sponsor and administrator of this grant on behalf of the NPBRT. This task encompasses the responsibilities associated with JCWCD serving this role.

### *Approach and Deliverables*

In this task, JCWCD will perform several administrative tasks associated with the administration of the project budget and schedule; and application of the Colorado Water Conservation Board (CWCB) Water Supply Reserve Account (WSRA) grant; and review, approval, submittal of Wilson Water Group invoices for CWCB payment.

## **Project Budget**

The following table summarizes the estimated budget for each task, which Wilson Water Group feels can be completed within 16 to 18 weeks pending the availability of the NPBRT, NPBIP Working Group, and materials provided by the State or other consultants.

<b>Project Task</b>	<b>Budget</b>
Task 1: Basin Goals and Measureable Outcomes	\$ 7,500
Task 2: Evaluate Needs	\$ 10,000
Task 3: Evaluate Constraints and Opportunities	\$ 35,000
Task 4: Analyze Projects and Methods	\$ 30,000
Task 5: Develop NPBIP Report	\$ 10,000
Task 6: NPBRT Coordination Meetings	\$ 5,000
Task 7: JCWCD Grant Administration	\$ 10,000
<b>Total</b>	<b>\$ 107,500</b>