

## **Statement of Work**

**WATER ACTIVITY NAME** – North Lake Dam Rehabilitation Project

**GRANT RECIPIENT** – City of Trinidad

**FUNDING SOURCE** – Arkansas Basin Roundtable, Water Supply Reserve Account (WSRA)

### **INTRODUCTION AND BACKGROUND**

The City of Trinidad plans on rehabilitating North Lake Dam. North Lake Reservoir is located approximately 40 miles west of Trinidad and is the primary source of municipal water for the City. Because of safety concerns, the Office of the State Engineer imposed a restriction on the dam. To avoid further restrictions, the City intends to address the dam safety concerns by constructing a new stability berm and replacing the spillway.

### **OBJECTIVE**

Remove the SEO restriction and regain the City's right to store at its full capacity of 4,300 AF.

### **SCOPE OF WORK**

#### **Task 1 – Spillway Replacement**

The spillway replacement task involves removal of the existing spillway from the center of the dam and backfilling and repairing the embankment. It also includes the construction of a new spillway at the left abutment consisting of an intake structure, RCP pipe, chute, and stilling basin.

##### Method/Procedure

Construction methods and procedures shall be in accordance with the final signed and sealed engineering project plans and specifications. All operations shall be performed following OSHA and all other local, State and Federal laws and regulations.

##### Deliverable

Signed and dated paper and electronic copies of As-Built drawings prepared by engineer of record on 11" x 17" sheet size.

#### **Task 2 - Drain System & Stability Berm**

The drain system task involves construction a blanket drain at the contact between the existing embankment and the stability berm. It also includes the incorporation of a toe drain collection system at the downstream toe of the stability berm consisting of a filter drain collection trench, PVC pipe, and outfall structures.

#### Method/Procedure

Construction methods and procedures shall be in accordance with the final signed and sealed engineering project plans and specifications. All operations shall be performed following OSHA and all other local, State and Federal laws and regulations.

#### Deliverable

Signed and dated paper and electronic copies of As-Built drawings prepared by engineer of record on 11" x 17" sheet size.

### **Task 3 - Outlet Works , Pipe Abandonment, and Instrumentation**

The outlet works task involves abandoning the upper level inlet pipe, which is below the normal reservoir and construction reservoir water surfaces and constructing a new outlet works pipe and manhole at the downstream toe of the dam. It also includes removal of part of the existing outlet pipe downstream of the toe of the dam, grouting of a 15-inch pipe under the dam, modifying existing open standpipe piezometers, and installing structural monitoring points.

#### Method/Procedure

Construction methods and procedures shall be in accordance with the final signed and sealed engineering project plans and specifications. All operations shall be performed following OSHA and all other local, State and Federal laws and regulations.

#### Deliverable

Signed and dated paper and electronic copies of As-Built drawings prepared by engineer of record on 11" x 17" sheet size.

### **Task 4 - Access Road & Site Work**

The access road task involves relocating a 400-foot-long segment of the existing access road and reclamation of work areas.

#### Method/Procedure

Construction methods and procedures shall be in accordance with the final signed and sealed engineering project plans and specifications. All operations shall be performed following OSHA and all other local, State and Federal laws and regulations.

#### Deliverable

Signed and dated paper and electronic copies of As-Built drawings prepared by engineer of record on 11" x 17" sheet size.

### **REPORTING AND FINAL DELIVERABLE**

Reporting: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work 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 how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

## BUDGET

The total project cost is estimated to be \$1,848,086. Approved funding for the project includes the \$739,235 WSRA grant (\$36,962 from the Arkansas Basin and \$702,273 from the statewide account). The remaining \$1,108,851 will come from the City's cash reserves.

**Table 1: Project Budget**

| <b>Task</b>                                                          | <b>Project Costs</b>  |
|----------------------------------------------------------------------|-----------------------|
| <b>Task 1 – Spillway Replacement</b>                                 |                       |
| 1.1 Mobilization                                                     | \$86,250.00           |
| 1.2 Erosion and Sediment Control                                     | \$23,000.00           |
| 1.3 Clearing and Grubbing                                            | \$25,875.00           |
| 1.4 Dewatering                                                       | \$80,500.00           |
| 1.5 Reservoir Control                                                | \$63,250.00           |
| 1.6 New Spillway Structure                                           | \$69,000.00           |
| 1.7 Spillway Pipe                                                    | \$123,280.00          |
| 1.8 Removal of Existing Spillway                                     | \$28,750.00           |
| <b>Task 2 – Drain System &amp; Stability Berm</b>                    |                       |
| 2.1 Furnishing and Placing Fill Material                             | \$415,293.75          |
| 2.2 Topsoil                                                          | \$46,172.50           |
| 2.3 Riprap                                                           | \$103,730.00          |
| 2.4 Toe Drain Pipe                                                   | \$60,375.00           |
| <b>Task 3 - Outlet Works , Pipe Abandonment, and Instrumentation</b> |                       |
| 3.1 Secondary Pipe Grouting                                          | \$5,750.00            |
| 3.2 Gate Tower Repair                                                | \$17,250.00           |
| 3.3 Outlet Works Disposal                                            | \$34,500.00           |
| 3.4 Outlet Works Pipe                                                | \$138,000.00          |
| 3.5 Manhole                                                          | \$17,250.00           |
| 3.6 Instrumentation                                                  | \$17,250.00           |
| <b>Task 4 - Access Road &amp; Site Work</b>                          |                       |
| 4.1 Site Access Road Improvements                                    | \$14,375.00           |
| 4.2 Crest Earthwork                                                  | \$8,625.00            |
| 4.3 Seeding                                                          | \$25,875.00           |
| 4.4 Demobilization                                                   | \$109,250.00          |
| <b>Direct Construction Subtotal</b>                                  | <b>\$1,513,601.25</b> |
| Construction Engineering and Administration                          | \$299,485             |
| Materials Testing                                                    | \$35,000              |
| <b>Total Cost Estimate</b>                                           | <b>\$1,848,086</b>    |

## SCHEDULE

The SEO has approved final engineering documents. The City is expecting to award bids by June 2012 with the project being completed by Winter of 2013. The schedule is dependent upon

grant contract execution; therefore the dates below are based upon the contractor's Notice to Proceed (NTP) date.

**Table 2: Project Schedule**

| <b>Task</b>                                                  | <b>Start Date</b> | <b>Finish Date</b> |
|--------------------------------------------------------------|-------------------|--------------------|
| Task 1 – Spillway Replacement                                | NTP               | NTP + 4 months     |
| Task 2 – Drain System & Stability Berm                       | NTP               | NTP + 6 months     |
| Task 3 – Outlet Works, Pipe Abandonment, and Instrumentation | NTP               | NTP + 8 months     |
| Task 4 – Access Road & Site Work                             | NTP               | NTP + 18 Months    |

## **PAYMENT**

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions.

To ensure project completion and maintain the board-approved ratio of WSRA Funds to the applicant's matching funds, invoices should include documentation of applicant expenditures approximately equal to the funds requested for reimbursement (along with other required supporting documentation for the reimbursement request). Therefore, if the project is completed under budget grant funding and the applicants matching funds would be preserved proportionately.

The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to Basin Roundtables and the general public and help promote the development of a common technical platform.