Executive Committee
April 28, 2020
Item A: Approval and Filing of Comprehensive Annual Financial Report for Fiscal Year 2019
Audit Results

- No audit findings
- No adjusting journal entries
- No material weaknesses identified
- No deficiencies in internal control
Total Assets - $2,679,602,064

Central Regional Wastewater System
$1,603,594,693
59.8%

Tarrant County Water Supply
$214,679,780
8.0%

Denton Creek
$187,125,623
7.0%

Ten Mile Creek
$208,411,645
7.8%

Livingston Wallisville
$92,874,060
3.5%

Other Business-Type Activities
$346,506,555
12.9%

Governmental Activities
$26,409,708
1.0%

Other Business-Type Activities
$346,506,555
12.9%

Governmental Activities
$26,409,708
1.0%
Total Assets (in Billions)

<table>
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<tr>
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Total Liabilities and Net Position (in Billions)

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Construction Commitments (in Millions)

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## Total Revenues/Expenses (in Millions)

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<td>FY19</td>
<td>$297.463</td>
<td>$231.502</td>
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Item B: Investment Officers’ Report
Consolidated Cash and Investments
As of February 29, 2020
$634,788,081

- **Bond Reserve Funds**: $100,346,622 (15.80%)
- **Interest & Sinking Funds**: $63,831,360 (10.06%)
- **Construction Funds**: $409,411,610 (64.50%)
- **Operating Funds**: $61,198,489 (9.64%)
Item C: CRWS — Headworks A Fine Screen Facility — Contract Award, Engineering Services Agreement, and Materials Testing Services Agreement
• Identified as a project from the 2015 Master Plan

• Objective is to capture and prevent increasing quantities of non-dispersible products from entering the plant

• ESA with Garver (February 2019)

• Screens were pre-purchased (October 2019 Board)
Headworks A Fine Screen Facility

- Headworks B
- Pump Station No. 6
- Headworks A
- Pump Station No. 6A
Headworks A Fine Screen Facility

Multi-level Structure

Canopy

Screen Level

Dumpster Level

Six Pre-purchased Fine Screens
New Electrical Substation

New Headworks A
Fine Screen Facility

New Electrical Substation
Bid Results – March 24, 2020

- OPCC = $30,790,406

<table>
<thead>
<tr>
<th>Bidders</th>
<th>Total Bid</th>
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<tbody>
<tr>
<td>MWH Constructors</td>
<td>$26,661,796</td>
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<td>Oscar Renda</td>
<td>$36,951,279</td>
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<td>Kiewit Water</td>
<td>$39,104,031</td>
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- Low Bid (-13.4%) under OPCC
Garver – Construction Phase Services

- Meetings/site visits/factory witness testing
- Contractor’s payment application reviews
- Review of submittals, schedules, requests for information, contract modification requests, etc.
- Documentation of field changes
- Pipe segmenting
- GIS data assistance
- Record drawings preparation
- Fee: $1,796,870
Alliance Geotechnical Group
Construction Materials Testing Services

• Typical testing:
  • Backfill compaction
  • Material gradation
  • Concrete compression strength
  • International Building Code Special Inspections

• Fee: $593,406.52
RECOMMENDATION

• Award construction contract to MWH Constructors, Inc., in the amount of $26,661,796

• Approve contract for professional engineering services related to construction phase services for CRWS Headworks A Fine Screen Facility, to Garver, LLC, in the amount of $1,716,870

• Approve contract for construction materials testing to Alliance Geotechnical Group, in the amount of $593,406.52
Item D: CRWS — Meter Station Rehabilitation Group 1 — First Amendment — Engineering Services Agreement
• 122 meter stations in the collection system for CRWS to allocate costs to 21 contracting parties

• Eight meter stations identified by TRA which require updated technology

• Three meter stations were identified as the highest priority (Group 1):
  • MS 10_0B in the Bear Creek interceptor system
  • MS 15_0E in the Elm Fork interceptor system
  • MS 3_0M in the Mountain Creek interceptor system including downstream siphon capacity improvements (16MC-SIPH)
• Engineering Services Agreement awarded to Kimley-Horn and Associates, Inc., (2019) to complete preliminary and final design for Meter Station Rehabilitation Group 1

• During preliminary design, new information was provided for the proposed meter technology by the manufacturer
  • Kimley-Horn recommended the use of a more suitable technology
  • Eliminated the use of existing meter vault
  • Existing location would be impacted by hydraulic conditions caused by Mountain Creek siphon
Adjoining project: Mountain Creek Interceptor Segment (30MC-1) – Carollo Engineers, Inc.

TRA recommending that 550 linear feet (LF) of 90” interceptor be moved from 30MC-1 project to MS3_0M

- Allows Kimley-Horn to provide optimum hydraulic conditions necessary for alternative metering technologies
- Avoids impact of nearby Oncor utility
- Optimizes the design of the meter station and inverted siphon
- Allows Kimley-Horn greater flexibility in designing the connection to Carollo’s project
30MC-1 (Carollo)

550 LF of 90” (Move from Carollo to Kimley-Horn)

MC Siphon (Kimley-Horn)

Exist. Pipe
Inverted Siphon (K-H)
Adjusted Scope 550 LF
Prop. 90” Pipe (Carollo)

Jefferson Blvd
Proposed "Scope of Work"

- Project Management
- Additional progress meetings and site visits
- QA/QC meetings and workshops
- Meter Station Evaluation and Preliminary Design Report
- Evaluate alternate meter station locations
- Additional Topographic Survey
- Additional Geotechnical Investigation
- Design of 90" Interceptor (550 LF)
- Construction Advertisement:
  - MS 3_0M and 30MC-1 extension
  - MS10_0B and MS15_0E
- Fee: $265,100.00
RECOMMENDATION

• Award first amendment to Engineering Services Agreement with Kimley-Horn and Associates, Inc., for professional engineering services for Meter Station Rehabilitation Group 1, in the amount of $265,100
Item E: CRWS — Mountain Creek Interceptor, Segment 30MC-1 — Second Amendment — Engineering Services Agreement
Central Regional Wastewater System

Contracting Parties

<table>
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<tr>
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<tr>
<td>Grand Prairie</td>
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<td>Euless</td>
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<tr>
<td>Mansfield</td>
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<tr>
<td>Grapevine</td>
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<td>Cedar Hill</td>
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<tr>
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<tr>
<td>Addison</td>
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</table>
BACKGROUND

• Central Regional Wastewater System (CRWS) provides wastewater services to 20 cities in the DFW metroplex and DFW Airport

• Mountain Creek Interceptor System (MCIS) is one of five major interceptor system in CRWS
  • Serves Grand Prairie, Dallas, Duncanville, Cedar Hill, Arlington, and Mansfield
  • Comprised of 47 miles of pipeline ranging in size from 8”- 96” diameter
  • Segment MC-1 constructed in 1958
    • Routed from CRWS to east side of Mountain Creek Lake
    • Comprised of 17,000 linear feet (LF) of 36” to 60” unreinforced and unlined concrete pipe
1958: Original MC-1 (54- to 60-inch RCP)

- MC-1 54” - 60” RCP
- CRWS Treatment Plant
- 110” West Fork Interceptor (WF-1)
- Interstate Highway 30
- Union Pacific Railroad
- Jefferson Blvd.
Beginning in 1992 and in response to growth in the service area, MCIS has been the subject of numerous Infiltration/Inflow (I/I) studies. Identified improvements have included:

- Rehabilitation of MC-1
- Replacement of MC-1
- Parallel Relief of MC-1

In 1997, 30MC-1 (78” reinforced concrete pipe (RCP)) was constructed:

- Provides parallel relief to MC-1
- Routed from Jefferson Blvd. to CRWS along Mountain Creek, and connects to 110” West Fork Interceptor (WF-1)
- Replaced a 54” portion of MC-1 that was taken out of service (IH-30 to Jefferson Blvd.)
In 2011, the I/I study recommended an 84” parallel relief interceptor from the 110” West Fork Interceptor (WF-1) to Jefferson Blvd. This pipeline would replace the 78” (unlined RCP) that was constructed in 1997.

April 2013, ESA was approved with Carollo Engineers, Inc., for the design of the 84” relief interceptor. Pipe to be located in same trench as abandoned 54”
2013 Design: Proposed 30MC-1 (84-inch FRP)

110” West Fork Interceptor (WF-1)

78” 30MC-1 (to be abandoned)

84” Relief in same Location as MC-1
• Subsequent analysis by TRA recommended restoring the 54” that was taken out of service in 1992, to provide needed capacity for MCIS flows to CRWS. Proposed 84” to be relocated within the existing easement.

• In 2014, decision by TRA to construct secondary feed to CRWS and rehabilitate Junction Box 1C on CRWS site.
  • ESA approved with HDR Engineering, Inc.
December 2019, latest I/I study and internal analysis by TRA recommended a 90” pipeline to convey projected 2060 flows. Proposed 84” would be upsized.

It was also determined that connecting the proposed 90” to the 110” WF-1, as well as connecting the proposed 120” CRWS secondary feed to the proposed 90”, was becoming overly complicated due to the amount of flow in the WF-1 line as well as the MCIS interceptor (existing 78”). The potential depth of the excavation (30 feet +) was also a concern.
2014 Design: Proposed 30MC-1 (84-inch FRP)

- **110” West Fork Interceptor (WF-1)**
- **54” MC-1** (Abandoned in 1992) (Back in service?)
- **78” 30MC-1** (Abandoned once 90” Relief in service)
- **HDR 2nd Feed to CRWS 120”**
- **Deep & Complex Connection**
- **Carollo 84”/90” Relief to 30MC-1** (in same location as MC-1?)
It was subsequently decided to connect the proposed 90” directly to the 120” secondary feed which then connects to Junction Box 1C on the CRWS site. This would avoid a large complex structure at the terminus of 30MC-1 at I-30.

Upstream and adjacent to 30MC-1, Meter Station 3_0M is being replaced as part of the Meter Station Group 1 project with Kimley-Horn.
Kimley-Horn (MC Siphon)

550 LF of 90” (Move from Carollo to Kimley-Horn)

Carollo (30MC-1)

Kimley-Horn (MS 3_0M)

Exist. Pipe
Inverted Siphon (K-H)
Adjusted Scope 550 LF
Prop. 90” Pipe (Carollo)
Proposed Amendment

- Amend 30MC-1 final design ESA with Carollo:
  - Remove downstream connection. Will be done by HDR. Amendment with HDR to Board in June.
  - Remove upstream connection. Will be done by Kimley-Horn as part of Meter Station rehabilitation project. Amendment with Kimley-Horn to be presented to Board in April.
  - Prepare bid documents for “stand-alone” project consisting of 90” from Jefferson Blvd. to CRWS site (IH-30).
Proposed “Scope of Work” - Carollo

- Project Management and Quality Assurance (QA)
  - Additional progress and QA/QC meetings
  - 100% deliverable workshop
- Adjust upstream and downstream connection points.
- Update plans and specifications for “bid ready” documents for “stand alone” project.

**Fee: $100,000**
RECOMMENDATION

• Award second amendment to engineering services agreement with Carollo Engineers, Inc., for final design engineering services for Mountain Creek Relief Interceptor, Segment 30MC-1, in the amount of $100,000
Item F: CRWS — Solids Management Improvements Phase III-B — Change Order No. 107 — Weather Delay Administration — January 2020
BACKGROUND

• Change order No. 55 (approved April 22, 2019) authorized $16,000 (overhead) per day for weather delays which impact the project’s “Critical Path.”

• January 2020 experienced five (5) days of rain which caused delays in “Critical Path.”

• “Change order No. 107” Amount: $80,000
RECOMMENDATION

• Approve “Change Order No. 107” with MWH Constructors, Inc. in the amount of $80,000.
Item G: CRWS — Solids Management Improvements Phase III-B — Change Order No. 109 — Dry Polymer Re-Sequencing
CRWS Treatment Plant
Solids Management Improvements

Dry Polymer Room
Dry Polymer Area

Before Pump Removal

Dry Polymer Feeder

After Pump Removal
BACKGROUND

• Polymer is added to sludge to improve the efficiency of the belt filter presses.

• New dry polymer feeders are to be located in the same space as the current pumps for the frame presses.

• Four existing sludge pumps will be removed after Phase III-B (Thermal Hydrolysis Process) is operational.
BACKGROUND

• Four new dry polymer feeders are currently being installed. Three are required to make Phase III-B (Thermal Hydrolysis Process) operational.

• Sequencing of the required work was not properly addressed in plans:
  • All existing and future sludge pumps and polymer feeders must remain in service during transition to accommodate ongoing sludge production.
  • Available space within the Solids Pump Station is limited and restricts the contractor’s activities.
BACKGROUND

• Discussions arose during performance of the work as to the proper sequencing to achieve the necessary objective to keep all systems operational during demolition and installation activities.

• Upon completion of internal discussions, CDM prepared an “Operational Sequencing Memorandum” to address the path forward.

• Cost: $90,508
RECOMMENDATION

• Approve “Change Order No. 109” with MWH Constructors, Inc. in the amount of $90,508 for work associated with the Dry Polymer Feed System at the Central Regional Wastewater System facility.
Item H: CRWS — Solids Management Improvements Phase III-B — Change Order No. 111 — Weather Delay Administration — February 2020
BACKGROUND

• Change Order No. 55 (approved April 22, 2019) authorized $16,000 per day (overhead) for weather delays which impact the project’s “Critical Path.”

• February 2020 experienced four (4) days of rain which caused delay in the “Critical Path.”

• “Change Order” Amount: $64,000
RECOMMENDATION

• Approve “Change Order No. 111” with MWH Constructors, Inc. in the amount of $64,000.
Item I: CRWS — Dewatering Services Agreement — Renda Environmental, Inc.
Two-year Dewatering Services Agreement with Renda Environmental, Inc.
Two-year Dewatering Services Agreement with Renda Environmental, Inc.

- Renda shall supply personnel and equipment at a fixed cost of $42,900 per month.

- Renda shall dewater the biosolids at a fixed cost of $50.00 per wet ton.

- Services will be provided up to
  - 24 hours per day, 7 days a week.
Item J: MCRWS — Peak Flow Storage — Contract Award, Engineering Services Agreement, Materials Testing Services Agreement, and Interlocal Agreement
• MCRWS serves Grand Prairie, Mansfield, Midlothian, and Venus.

• Plant has a permitted annual Average Daily Flow of 3.0 million gallons per day (MGD) and permitted 2-hour peak of 9.0 MGD.

• Master Plan initiated October 2018 (Garver, LLC).

• Peak Flow Storage Basin and expansion to 4.5 MGD identified.
• Texas Commission on Environmental Quality (TCEQ) requires expansion engineering at 75% of permitted annual ADF for 3 consecutive months.

• TCEQ requires construction to begin at 90% of permitted annual ADF for 3 consecutive months.

• September – December 2018: Plant exceeded 75% percent of its permitted annual ADF.

• Garver authorized April 2019 for design of basin.
Peak Flow Storage Basin to be in place by December 2021. Will provide relief to the plant during rain events, ahead of planned expansions:

- Garver finishing Preliminary Design for expansion to 4.5 MGD. Anticipated to be in place by end of 2022.
- Garver working on design of expansion to from 4.5 MGD to either 6.0 MGD or 9.0 MGD.
- Expansion beyond 4.5 MGD must be in place by end of 2024.
Mountain Creek Regional Wastewater System Treatment Plant

- PROPERTY LINE
- 150-FT BUFFER
- ABANDONED EMERGENCY FLOW STORAGE BASIN
- PROPOSED PEAK FLOW STORAGE BASIN SITE

100-YR FLOOD (ZONE A)
Peak Flow Storage Basin
(Capacity = 7.0 MG)
Bid Results – March 12, 2020

- OPCC = $9,153,000

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<tr>
<td><strong>Heritage Constructors, Inc.</strong></td>
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<td>Thalle Construction Co., Inc.</td>
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<td>Associated Construction Partners, Ltd</td>
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<tr>
<td>Gracon Construction, Inc.</td>
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<tr>
<td>Felix Construction Company</td>
<td>$7,914,000</td>
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*Bid withdrawn due to bidder error

- Low Bid (-21%) under OPCC
Garver – Construction Phase Services

- Meetings/site visits/factory witness testing
- Review of payment applications, schedule, submittals, Requests for Information, Contract Modification Requests, etc.
- Documentation of field changes
- Pipe segmenting
- GIS data assistance
- Record Drawings
- Sequencing Batch Reactor (SBR) testing of industrial flow to determine impact to treatment process.
- Fee: $779,129
Professional Services, Inc.
Construction Materials Testing Services

• Typical testing:
  • Backfill compaction
  • Material gradation
  • Concrete compression strength

• Fee: $180,000
City of Midlothian – Interlocal Agreement

• Two phases of SBR testing of industrial flow to quantify any impact to the plant’s treatment process:
  • Phase 1 Testing Reimbursement: $52,022
  • Phase 2 Testing Reimbursement: $34,327
RECOMMENDATION

• Award construction contract to Heritage Constructors, Inc., in the amount of $7,555,638.

• Approve contract for professional engineering services related to Construction Phase Services for MCRWS Peak Flow Storage to Garver, LLC, in the amount of $779,129.

• Approve contract for construction materials testing to Professional Service Industries, Inc., in the amount of $180,000.

• Authorize the General Manager to execute the Interlocal Agreement between the Authority and the City of Midlothian for industrial user testing reimbursement up to an amount of $86,349.
Item K:
MCRWS — Plant Expansion from 3.0 MGD TO 9.0 MGD — Engineering Services Agreement
Mountain Creek Regional Wastewater System Treatment Plant
MCRWS serves Grand Prairie, Mansfield, Midlothian, and Venus.

Plant has a permitted annual Average Daily Flow of 3.0 million gallons per day (MGD) and permitted 2-hour peak of 9.0 MGD.

ESA with Garver, LLC (October 2018):
  - Master Plan
  - Design of Peak Flow Storage Basin
  - Preliminary Design Report for expansion to 4.5 MGD
Texas Commission on Environmental Quality (TCEQ) requires expansion engineering at 75% of permitted annual Average Daily Flow (ADF) for 3 consecutive months.

TCEQ requires construction to begin at 90% of permitted annual ADF for 3 consecutive months.

September – December 2018: Plant exceeded 75% percent of its permitted annual ADF.
Based on population and flow projections, expansion to 4.5 MGD must be in place by end of 2022.

Expansion to either 6.0 MGD or 9.0 MGD must be in place by end of 2024.
EXPANSION DETAILS

• 4.5 MGD (Preliminary OPCC = $ 14.7 million):
  • Improvements to existing aeration basins by converting from mechanical aeration to diffused air with an associated new blower facility
  • Repurpose existing tanks into sludge holding tanks

• 6.0 MGD (Preliminary OPCC = $ 25.7 million):
  • New influent pump station
  • New headworks facility, which includes fine screens and grit removal
  • New return activated sludge/waste activated sludge pump station
  • Additional filter
  • New ultra-violet disinfection structure

• 9.0 MGD (Preliminary OPCC = $ 28.3 million):
  • New aeration basin and blowers
  • New secondary clarifier
  • New thickener
  • New filtration basin
Expansion from 3.0 MGD to 4.5 MGD

- Peak Flow Basin (Peak Flow Storage project)
- Conversion to Diffused Air and New Blower Building
- Repurposed into Sludge Holding Tank
Expansion from 4.5 MGD to 6.0 MGD

- New Lift Station
- Filter Hydraulic Improvements
- New Aerobic Digesters
- New Combined RAS/WAS Pump Station
- New UV Disinfection
Expansion from 6.0 MGD to 9.0 MGD

Additional Filter Basin

Additional Aeration Basin and Blowers

Additional Thickening

Additional Secondary Clarifier
Proposed “Scope of Work” – Garver

- Project management – QA/QC
- Geotechnical
- Design for 4.5 MGD expansion
  (90 and 100 percent deliverables)
- Design for 6.0 MGD expansion
  (50, 75, and 100 percent deliverables)
- Design for 9.0 MGD expansion
  (50, 75, and 100 percent deliverables)
- Operations impact plan
- Construction advertisement
- Fee: $12,812,805
RECOMMENDATION

• Award contract to Garver, LLC in the amount of $12,812,805 for professional engineering services related to the expansion of the Mountain Creek Wastewater Treatment Plant from 3.0 MGD to 9.0 MGD.
Item L:
ROCRWS—Red Oak Creek Relief Interceptor Segment
RO-2—Contract Award, Engineering Services Agreement, and Materials Testing Services Agreement
• Identified in the 2009 ROCRWS Infiltration and Inflow Assessment for capacity improvements.

• Red Oak Creek Interceptor is one of three major interceptors in ROCRWS that serves the cities of Cedar Hill, DeSoto, Glenn Heights, Lancaster, Ovilla, and Red Oak.

• RO-2 segment will provide relief to an existing 18” reinforced concrete pipe (RCP) installed in 1987.

• RO-2 is a commitment in the ROCRWS Sanitary Sewer Overflow Initiative with the Texas Commission on Environmental Quality.

• Preliminary and final design performed by BW2 Engineers, Inc.
RO-2 Relief Interceptor
“SCOPE OF WORK”

- Project consists of 5,869 LF of 27”, 30” & 36” gravity PVC interceptor
  - 1,680 LF of trenchless construction
  - Remove existing 18” RCP interceptor & manholes from service; demolish existing meter station
  - Proposed RO-2 interceptor alignment is generally located 15’ from existing 18” interceptor to reduce additional easement acquisition costs

- New Parshall Flume meter station
  - Measures flows for Ovilla
  - Replaces existing undersized meter station
  - Relocated for improved operations access

- Connections to existing interceptor at upstream and downstream locations
  - Minimal bypass pumping; construction generally “in the dry”
RO-2 Project Overview

UPSTREAM CONNECTION AT 18" RO-3 INTERCEPTOR

RED OAK CREEK

PROPOSED RO-2 INTERCEPTOR

HAMPTON RD

MSOV1_0

TO ROCRWS WWTP
Bid Results – March 18, 2020

• Engineer’s OPCC: $5.7M

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<th>Total Bid</th>
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<td>Belt Construction</td>
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<tr>
<td>Thalle Construction</td>
<td>$6,994,121</td>
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• Bid amount = OPCC
BW2 - Construction Phase Services

- Meetings/site visits/factory witness testing
- Review of pay applications, submittals, Requests for Information, schedule, Field Orders, Contract Modification Requests, etc.
- Documentation of field changes
- GIS data assistance
- Record drawings preparation
- Fee: $226,780
D&S Engineering Labs, LLC
Construction Materials Testing Services

• Typical testing:
  • Backfill compaction
  • Material gradation
  • Concrete cylinder compression strength testing

• Fee: $100,000
RECOMMENDATIONS

• Award construction contract to Flow-Line Construction for the RO-2 project in the amount of $5,669,672

• Approve Engineering Services Agreement with BW2 Engineers, Inc., for construction administration services for RO-2 project in the amount of $226,780

• Approve Materials Testing Services Agreement with D&S Engineering Labs, LLC, in the amount of $100,000
Item M:
ROCRWS — Red Oak Creek Relief Interceptor Rehabilitation, Segment 40RO-1, Phase 2 — Second Amendment — Engineering Services Agreement
BACKGROUND

• ROCRWS serves the cities of Cedar Hill, DeSoto, Glenn Heights, Lancaster, Ovilla and Red Oak.

• 40RO-1 is located in the City of Red Oak
  • Identified in 2009 ROCRWS Infiltration & Inflow Assessment as relief interceptor.
  • Primarily a capacity-driven project.
  • Preliminary Design Report (PDR) noted critical segments in poor condition.
  • Replaces existing 27” unlined reinforced concrete pipe in service since 1991.
  • Includes 6,760 linear feet (LF) of 48” pipe.
  • Includes new meter station (MSRO2_0) to measure flows for City of Red Oak.
• 2014: ESA with CH2M-Hill Engineers for Preliminary Design services related to 40RO-1, 40RO-2, and 40RO-3.

• December 2015: Board approved final design ESA with CH2M Hill Engineers, Inc. for 40RO-1.

• February 2018: First Amendment to ESA approved to split project into two construction phases:
  • Phase 1: 710 LF of 27” from treatment plant to Red Oak Creek. Combined with RBC-1 & 2. Under construction. 85% complete.
  • Phase 2: Includes remaining 6,070 LF of pipeline and Meter Station MSRO2_0.

• Second Amendment needed to complete final design of the Meter Station and changes to siphon crossing.
“Scope of Services”: CH2M-Hill

- Revised Meter Station MSRO2_0 Design:
  - Reduced construction and operational costs.
  - Utilizes a shallower vault.
  - Improved access for operation and maintenance.
  - Reduced inverted siphon pipe lengths.
  - Less excavation.
  - Estimated savings = $400,000
- Design will accommodate flows up to 2060
RECOMMENDATION

- Award second amendment to engineering services agreement with CH2M Hill Engineers, Inc., for final design engineering services Red Oak Creek Interceptor Rehabilitation, Segment 40RO-1 Phase 2, in the amount of $89,946.
Item N:
TCWSP — Lake Arlington Raw Water Pump Station Shared Operations Improvements — Interlocal Agreement with the City of Arlington for Construction Services Cost Sharing
TCWSP treats raw water and distributes water to Bedford, Colleyville, Euless, Grapevine, and North Richland Hills.

TCWSP’s pump station (built in 1956) is adjacent to Lake Arlington and is operated by TRA.

Arlington’s pump station (built in 1975) is located near TRA’s pump station.

The 2015 TCWSP Master Plan evaluated options for TRA’s pump station:
  • Rehabilitation of existing pump station
  • New pump station
  • Joint-Use pump station (TRA & Arlington)
Lake Arlington Raw Water Pump Stations

Existing TRA Raw Water Pump Station

Joint Use TRA and City of Arlington Pump Station
The most economical option for TRA is to share the pump station with Arlington.

Arlington’s newer and larger facility has the available pump space to accommodate raw water supply needs of both TRA and Arlington.

TRA and Arlington entered into an Interlocal Agreement (ILA) in August 2018 to begin the final design improvements for the joint-use pump station.

Arlington managed the design contract with Freese & Nichols (FNI). TRA shared in the costs (48% Arlington and 52% TRA)
Pump Station Improvements

- **Pumps:**
  - Three dedicated pumps for each Owner
    - Arlington: Firm Fixed Capacity = 80 MGD
    - TRA: Firm Fixed Capacity = 97 MGD
  - Shared Discharge Header

- **Electrical:**
  - Variable Frequency Drives (VFDs)
  - New Switchgear
  - New Transformers
  - Electrical Building Extension
  - Supervisory Control and Data Acquisition (SCADA)

- **Yard Piping**
Proposed Pump Station Improvements
Bid Results

- OPCC = $19,800,000

<table>
<thead>
<tr>
<th>Bidders</th>
<th>Total Bid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archer Western Construction, LLC</td>
<td>$20,716,377</td>
</tr>
<tr>
<td>Eagle Contracting, LP</td>
<td>$20,880,777</td>
</tr>
<tr>
<td>PLW Waterworks, LLC</td>
<td>$22,100,637</td>
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- Low bid (+4.6%)

- TRA met with Arlington and FNI and selected Archer Western Construction, LLC, for the construction of the improvements.
# Engineering and Construction Management

- Arlington will be managing the engineering construction support, construction management and inspection for the duration of the project:

<table>
<thead>
<tr>
<th>Consultant</th>
<th>Service</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freese &amp; Nichols</td>
<td>Engineering Construction Support</td>
<td>$640,161</td>
</tr>
<tr>
<td>Arcadis</td>
<td>Construction Management and Inspection</td>
<td>$938,722</td>
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</tbody>
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- TRA inspection staff will be notified as needed when construction pertains to TRA’s assets.

- Arcadis under contract with Arlington for inspection services.
Interlocal Agreement

- Total Construction Phase Services (includes bid amount & professional engineering services provided by FNI and Arcadis): $22,295,260

- Costs to be shared as follows:
  - TRA – 55%
  - Arlington – 45%

- Funding for the TRA’s capital cost will be paid through TCWSP 2018 Bonds.

- Funding for the common capital shared between Arlington and TRA will be paid over 20 years through the TCWSP operation and maintenance budgets.
RECOMMENDATION

• Authorize the General Manager to execute the Interlocal Agreement between the Authority and the City of Arlington in the amount of $22,295,260 for the Construction Phase Services associated with the Lake Arlington Joint Use Raw Water Pump Station for TCWSP.
Item O: Joe Pool Lake Watershed Protection Plan, Phase II — Watershed Modeling Subcontract Award
Joe Pool Lake

- Built in 1985
- Normal pool: 7,470 ac
- Storage: 176,900 af
- Local sponsor: TRA
- TRA water rights: 17,000 af
JPL Watershed Protection Plan (WPP)

- Joe Pool Lake WPP
  - Protect water quality
  - Address bacteria listing
  - Local partners
    - Grand Prairie
    - Cedar Hill
    - Mansfield
    - Midlothian
    - TRA

- Phase I (75% complete)
  - Data collection
  - Watershed characterization
  - Stakeholder development
JPL Watershed Protection Plan (WPP)

• Phase II
  • Board approved October 2019

• WQ data analysis

• Watershed modeling
  Source identification

• Watershed Protection Plan Development
Watershed Modeling Needs

- Subwatershed based
- User defined inputs
- Pollutant source identification
- Determine pollutant reduction targets
HAWQS

- Hosted online at TAMU
- Interactive
- Watershed based
- Scenario and BMP testing
Hydrologic and Water Quality System

- Requires calibration and validation
- Will use data from Phase I
- Over 30 user input files, examples:
  - Precipitation
  - Soil Type
  - Land Use
  - Slope
  - Nutrient Loads
- Output can be used by the existing CE-QUAL-W2 water quality model of Joe Pool Lake
An Interlocal Agreement has been negotiated with Texas A&M Agrilife Research in an amount not to exceed $90,000.

Costs will be reimbursed through the TCEQ 319 Watershed Protection Plan Grant.
Item P:
Middle Trinity Basin Flood Mitigation — Authorization for Funding Application and Contract Execution — Resolution No. R-1547
Summary Reports for Items Q-T:

Q: Trinity River Authority Debt — Summary Report of April 2020 Capital Contracts

R: General Manager-Approved Agreements

S: Change Orders

T: General Manager-Approved Pipeline Emergency Repairs — Emergency Pipeline Repair Contract
Item U:
CRWS — Bear Creek Interceptor Segment 09BC-1 (Phase 2) Project — Right-of-Way Acquisition
Central Regional Wastewater System

Contracting Parties

- Irving 1957
- Grand Prairie 1957
- Farmers Branch 1957
- Dallas 1957
- Carrollton 1967
- Arlington 1973
- Bedford 1973
- Euless 1973
- DFW Airport 1973
- Mansfield 1973
- Grapevine 1974
- Colleyville 1975
- N. Richland Hills 1975
- Hurst 1975
- Coppell 1976
- Fort Worth 1976
- Keller 1984
- Duncanville 1984
- Cedar Hill 1985
- Southlake 1988
- Addison 1996
Project Aerial View – Parcel 7
Parcel 7: Curnes Partners, LP

- TCE = 87,660 ft²
- Negotiating Range: $87,660 to $110,000
- Fee value is $5.00 per ft²
- TCE appraised @ 20% of fee value per year
Item V: Condemnation Status Report
Item W: Selected Matters Pending before The Texas Commission on Environmental Quality — Status Report
Item X: Northern Region Projects — Bids for Equipment, Supplies, Spare Parts and Services
Executive Committee
April 28, 2020