



# INTEGRATED PIPELINE PROJECT

## MONTHLY EXECUTIVE SUMMARY

June 2016



S2X12  
Erecting Structural Steel at the  
Interconnect Building

### IPL PROGRAM MANAGEMENT

Tarrant Regional Water District  
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@IPL\_Project

### TARRANT REGIONAL WATER DISTRICT (TRWD) and the CITY OF DALLAS

**WATER UTILITIES (DWU)** have partnered to finance, plan, design, construct and operate the Integrated Pipeline (IPL) Project. The IPL Project is an integrated water delivery transmission system connecting Lake Palestine to Lake Benbrook with connections to Cedar Creek and Richland-Chambers Reservoirs integrating TRWD's existing pipelines and creating flexibility in delivery as well as quick response to fluctuating customer water demands. The IPL Project consists of 150 miles of pipeline, three new lake pump stations, and three new booster pump stations delivering a required capacity of 350 million gallons per day (MGD) of raw water to North Central Texas. TRWD and DWU currently serve over 4.1 million residents and the IPL will allow these agencies to continue supporting regional community and economic growth.

# PROGRAM SUPPORT SERVICES

as of 06.30.16

CONTRACT DESIGN AND CONSTRUCTION	DESCRIPTION	BUDGET	CONTRACTS ISSUED	TOTAL INVOICED
<b>PROGRAM WIDE PROFESSIONAL SERVICES</b>		<b>\$133,061,000</b>	<b>\$88,105,307</b>	<b>\$82,545,543</b>
<b>Program Management</b>	Overall program management services for implementation of the IPL Project. (Extension of TRWD staff)	\$45,000,000	\$35,124,711	\$35,124,711
<b>Conceptual Design / Environmental / Permitting</b>	Operations plan & Prepare 404 permit application, Envision Application Completion	\$13,551,000	\$13,472,389	\$12,806,775
<b>Value Engineering</b>	Expert review of design	\$640,000	\$472,248	\$472,248
<b>Surveying and Mapping</b>	Control, property survey, legal descriptions, and Provide SUE Level A Survey, GIS	\$14,600,000	\$11,858,055	\$10,318,276
<b>Geotechnical</b>	Initial Characterization of entire IPL Project	\$12,037,000	\$12,026,275	\$11,798,959
<b>Corrosion Engineering Services</b>	Engineering Corrosion Control	\$3,891,000	\$5,072,362	\$3,730,348
<b>Land, Easement Acquisition, &amp; Support</b>	Right of Entry and Land Acquisition Support Services	\$33,993,000	\$3,464,526	\$3,265,208
<b>Studies</b>		\$3,500,000	\$3,583,743	\$3,402,626
<b>SCADA System</b>	Engineering of SCADA system	\$640,000	\$1,508,213	\$157,781
<b>Microwave System</b>	Engineering of Communications System	\$5,210,000	\$1,522,785	\$1,468,609
<b>DESIGN</b>		<b>\$152,839,000</b>	<b>\$128,241,445</b>	<b>\$109,714,416</b>
<b>Completed</b>		<b>\$101,899,000</b>	<b>\$96,385,721</b>	<b>\$95,151,945</b>
<b>Active</b>		<b>\$24,159,000</b>	<b>\$31,315,787</b>	<b>\$14,562,472</b>
<b>CH2M Hill</b>	Project Operational Information and Operations Manual		\$3,044,922	\$1,338,920
<b>CH2M Hill</b>	Final Conformance of Design of JCC1	\$728,000	\$2,563,376	\$476,735
<b>MWH</b>	Final Conformance of Design of Section 9/10/11	\$506,000	\$524,313	\$527,645
<b>Black &amp; Veatch</b>	Final Design of Section 12/13/14 - 28.1 miles of 84 - inch and 108 - inch pipeline	\$11,292,000	\$9,704,622	\$9,651,306
<b>Parsons</b>	Final Conformance of Design of Sections 17/18/Tunnel	\$832,000	\$579,753	\$301,889
<b>Brown &amp; Gay</b>	Final Design of Section 19-1	\$5,770,000	\$7,003,722	\$472,277
<b>HDR</b>	Final Design of Section 19-2	\$5,030,000	\$6,989,876	\$1,260,457
<b>Burns &amp; McDonnell Trans. Mgmt.</b>	Development of Transportation Management Plan		\$905,203	\$533,243
<b>Remaining</b>		<b>\$24,780,000</b>	<b>\$539,938</b>	
<b>CONSTRUCTION ADMINISTRATION</b>		<b>\$48,877,000</b>	<b>\$18,028,581</b>	<b>\$6,368,739</b>
<b>CONSTRUCTION / OWNER FURNISHED EQUIPMENT</b>		<b>\$1,729,540,000</b>	<b>\$453,453,147</b>	<b>\$300,487,590</b>
<b>Completed</b>		<b>\$3,700,000</b>	<b>\$3,860,755</b>	<b>\$3,644,051</b>
<b>Active</b>		<b>\$605,879,000</b>	<b>\$449,592,392</b>	<b>\$296,843,539</b>
<b>Pipeline Section 15-1</b>		<b>\$115,112,000</b>	<b>\$93,682,440</b>	<b>\$92,286,252</b>
<b>Garney Construction</b>	Construction of Section 15-1	\$115,112,000	\$93,682,440	\$92,286,252
<b>JB3</b>		<b>\$99,592,000</b>	<b>\$85,376,536</b>	<b>\$32,004,549</b>
<b>MWH Constructors</b>	Construction of JB3 Pump Station	\$51,473,000	\$56,854,737	\$15,185,494
<b>ASI Constructors</b>	Construction of JB3 Reservoir	\$16,579,000	\$11,669,898	\$11,669,898
<b>Oncor Electric</b>	Installation of JB3 Substation Transmission Lines	\$1,066,000	\$957,119	\$923,119
<b>Isolux Corsan</b>	Construction of JB3 Substation	\$7,400,000	\$4,921,283	\$3,212,050
<b>Pentair Flow Technologies</b>	Construction of JB3 Pumps, Motors, Drives	\$23,074,000	\$10,973,499	\$1,013,988

# PROGRAM SUPPORT SERVICES

as of 06.30.16

CONTRACT DESIGN AND CONSTRUCTION	DESCRIPTION	BUDGET	CONTRACTS ISSUED	TOTAL INVOICED
Pipeline Section 12/13/MBR/JB4 Bypass		\$167,993,000	\$153,927,777	\$106,741,975
<b>Thalle Midlothian</b>	Construction of Sections 12/13/MBR/JB4 Bypass	\$146,310,000	\$143,266,816	\$103,459,036
<b>BAR Constructors</b>	Construction of Richland-Chambers/Cedar Creek Interconnection Facility	\$21,682,000	\$10,572,961	\$3,282,939
<b>Hilco Electric</b>	Relocation of Electrical Service Lines		\$88,000	
Microwave System		\$6,398,000	\$5,323,682	\$3,250,158
<b>Huffman Communications</b>	Construction of Microwave Towers	\$6,398,000	\$5,323,682	\$3,250,158
Pipeline Section 15-2		\$97,217,000	\$51,915,172	\$36,088,711
<b>BAR Constructors</b>	Construction of Section 15-2	\$97,217,000	\$51,915,172	\$36,088,711
Pipeline Section 14		\$107,113,000	\$48,139,634	\$22,858,919
<b>Garney Construction</b>	Construction of Section 14	\$107,113,000	\$48,139,634	\$22,858,919
Valve Packages		\$12,455,000	\$11,227,150	\$3,612,975
<b>Garney Construction</b>	Valve Package 1 - Section 15-1 Butterfly Valves	\$518,000	\$262,244	
<b>Rodney Hunt</b>	Valve Package 2 - Section 15-1 Interconnection Facility Valves	\$474,000	\$733,206	\$664,995
<b>Blackhall Engineering</b>	Valve Package 3 - JB3, Section 15-2, MBR Yard Gate Valves	\$5,500,000	\$6,211,276	\$1,860,452
<b>Crispin Valves</b>	Valve Package 4 - Section 12 RC/CC Interconnection, JB4 Bypass, MBR Yard Butterfly Valves	\$0	\$2,269,140	\$352,962
<b>Crispin Valves</b>	Valve Package 5 - JB3 Butterfly Valves	\$1,249,000	\$1,224,944	\$382,561
<b>Ross Valves</b>	Valve Package 6 - Section 12 RC/CC Interconnection Multi-Orifice Valves	\$715,000	\$526,340	\$352,005
Remaining		\$1,119,960,000		
<b>CONSTRUCTION MANAGEMENT</b>		\$65,169,000	\$47,209,404	\$16,434,315
Program-Wide Construction Management			\$47,158,912	\$16,383,823
Pipeline Section 15 (Garney)		\$139,000	\$50,492	\$50,492
<b>CONSTRUCTION MATERIALS TESTING</b>		\$17,295,000	\$10,135,125	\$2,578,227
Pipeline Section 15-1		\$1,198,000	\$1,160,225	\$741,241
JB3		\$741,000	\$1,056,751	\$431,615
Pipeline Section 12/13/MBR		\$1,734,000	\$2,115,410	\$1,096,228
Microwave System		\$64,000	\$48,899	\$35,831
Pipeline Section 15-2		\$983,000	\$1,171,139	\$205,815
Pipeline Section 14		\$1,071,000	\$650,000	\$0
Program-Wide			\$3,932,702	\$67,498
<b>ROCIP</b>		\$2,575,000	\$32,876,613	\$16,791,061
<b>Willis of Texas</b>	ROCIP Broker Admin / Insurance Premium	\$2,575,000	\$18,258,571	\$11,707,337
<b>Old Republic</b>	Security Obligations		\$14,618,042	\$5,083,723
<b>LAND COST</b>		\$107,384,000	\$45,555,321	\$45,555,321
<b>PROGRAM LEVEL CONTINGENCY</b>		\$83,178,000		
<b>MISCELLANEOUS</b>		\$2,000,000	\$1,643,186	\$1,643,186
<b>GRAND TOTAL</b>		\$2,341,918,000	\$825,248,129	\$582,118,398
<b>REMAINING BOND FUNDS</b>				\$667,881,602

Note: Total Bonds issued to date \$1,250,000,000

# ACCOMPLISHMENTS

through 07.31.16

**PL15-1** (Pipeline Section 15-1 including the S5X15 Richland-Chambers Pipeline Interconnect Facility)

- 78” Butterfly valve factory test accepted and valve delivered to the S5x15 site.
- Installing temporary piping for filling and testing pipeline.
- Working on punch list items.

**JB3R** (Pump Suction Reservoir for the JB3 Pump Station)

- No work by contractor this month.

**PL12, 13, MBR** (Pipeline Sections 12 and 13 combined with the Midlothian Balancing Reservoir)

- Continue embankment fill for reservoir Cells 1, 2, and 3. Began excavation for Cell 3 floor.
- Completed structural concrete for gate valve vaults.
- Completed installation of all Section 13 pipe. Began pipe installation on Section 12 and JB4
- Began stripping topsoil on Section 12 and delivering pipe and aggregate along Section 12 ROW.
- Continue removing excess spoil material along ROW.

**COM01** (Microwave Towers and Communication Facilities for SCADA Control of the IPL)

- Preparing JB3, JB4, RC/CC, and JCC1 for walkthrough

**JB3** (250mgd Pump Station expandable to 350mgd)

- Placed concrete for ground floor deck #3, completing third of six deck placements for project.
- Continue electrical rough in and foundation beams at the Electrical Building.
- Continued installation of 108” pump discharge yard piping.
- Continued installation of structural steel at Data Center building.

**PL15-2** (Pipeline Section15-2 that feeds the JB3 Reservoir)

- Pipe crew #1 Installed 7,500’ of 108” pipe; pipe crew #2 installed 650’ of 108” pipe.
- Testing of embedment density and flowable fill and concrete samples
- Completed 50% of reinforced concrete encasement of pipe into and out of the Waxahachie Creek tunnel.
- Continue installing manholes at air release and blow-off valve locations and installing cathodic protection test stations

**S2X12** (Interconnection Facility of IPL Phase 1 to existing Cedar Creek and Richland Chambers Pipelines)

- Completed installation of all structural steel at Interconnect Building.
- Completed all below ground pipe installation.

**JB3HV** (High Voltage Substation for the JB3 Pump Station and Data Center)

- Completing installation of structural steel.

- Installing equipment and power/communication duct bank.

**PL14** (Pipeline Section 14 that delivers water from JB3 Pump Station to MBR)

- Installed 5,500’ of 108” pipe and completed pre-trenching 6,500’.
- Completed pipe installation in tunnels at FM876, FM877 and FM984.
- Continue tunneling at IH35 (360ft complete), and under Enterprise and Energy Transfer gas lines (170ft Complete)..
- Continue receiving 108” pipe deliveries and stockpiling embedment material.
- Continue installing manholes at air release and blow-off valve locations and installing cathodic protection test stations
- Rerouted 8” waterline at FM876 tunnel pit
- Placed flow fill across Angus Road
- Successfully completed the pipe installation prove out for the east heading.

**PL17TUN** (Trinity River Tunnel on Pipeline Section 17)

- Received Board authorization for contract award to IPL Partners J.V.

**JCC1IN** (Intake Structure and Wet Well for JCC1 Pump Station at Cedar Creek)

- Received and evaluated five proposals for construction of intake channel and wetwell at future pump station site.

**PL10, 11** (Pipeline Sections 10 and 11 from the JB4 Pump Station to the KBR Pressure Reduction Facility)

- Bid phase administration for proposals to be received 8/11/16.

**OFE03** (Owner-Furnished 108” Gate Valves)

- IPL reps witnessed machining of body halves and intermediate section at JTL Machining, Port Colburn, ON
- IPL reps ultrasonic testing of castings at Greenville, Pennsylvania. Five castings were tested and all passed.
- IPL conducted coordination meeting with General Contractors regarding logistics of valve delivery and installation.

**OFE04/05** (Owner-Furnished 54”, 60” and 108” Butterfly Valves)

- Continuing 108” BFV for “Proof of Design” testing.

**OFE07** (Owner-Furnished pumps, motors and variable frequency drives for JB3)

- Supplier shipped three VFDs to long term storage and prepared fifth VFD for factory testing in August
- IPL conducted factory visit to inspect layout and preparation for pump performance test.

**OFE08** (Owner-Furnished 66”, 84” and 108” Butterfly Valves)

- Received proposals from two vendors for procurement of six large diameter butterfly valves.

## PROJECT SCHEDULE

PROJECT COMPONENTS	2014				2015				2016	
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
SECTION 15-1 CONSTRUCTION										
COMMUNICATION TOWERS CONSTRUCTION										
SECTIONS 12/13/MBR CONSTRUCTION										
JB3 CONSTRUCTION										
JB3 HIGH VOLTAGE CONSTRUCTION										
SECTION 15-2 CONSTRUCTION										
SECTION 14 CONSTRUCTION										
S2X12 (INTERCONNECTION FACILITY) CONSTRUCTION										



# ACTIVITY STATUS

as of 07.31.16

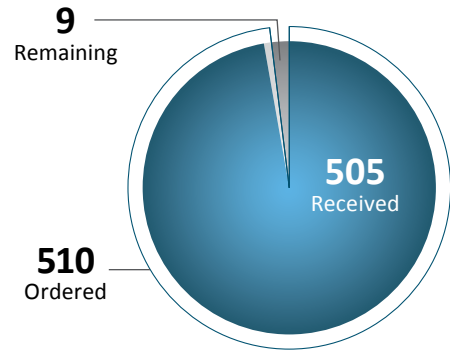


Installation of 108-inch-diameter yard piping at future JB4 Pump Station Site

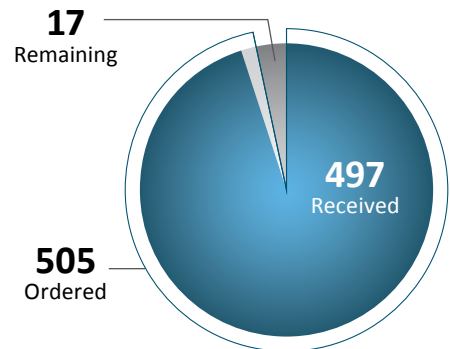


Machining 108-inch-diameter gate valve intermediate body section at JTL Integrated Machine, Port Colburne, Ontario

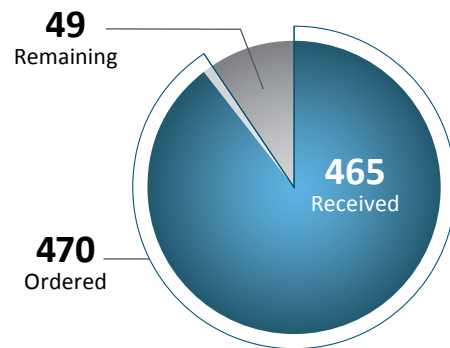
## TITLE COMMITMENTS



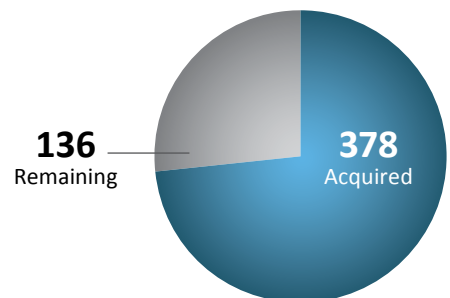
## SURVEYS



## APPRAISALS



## LAND ACQUISITION



Total Parent Parcels: 514

Q3	Q4	2017				2018			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4

# M/WBE PARTICIPATION

as of 06.30.16

CONTRACT DESIGN AND CONSTRUCTION	M/WBE & HUB SUB-CONTRACTORS	CONTRACT COMMITMENT		M/WBE   HUB INVOICED TO DATE		TOTAL PROJECT COMPLETED TO DATE	
		\$	%	\$	% (PER COMMITMENT)	\$	%
<b>PROGRAM WIDE PROFESSIONAL SERVICES</b>		\$19,800,463	22%	\$19,422,455	98%	\$82,545,543	94%
Program Management		\$6,828,350	19%	\$6,636,687	97%	\$35,124,711	100%
Conceptual Design / Environmental / Permitting		\$2,700,278	20%	\$2,725,061	101%	\$12,806,775	95%
Value Engineering		\$0	0%	\$23,178	100%	\$472,248	100%
Surveying and Mapping		\$3,548,416	30%	\$3,799,488	107%	\$10,318,276	87%
Geotechnical		\$3,572,334	30%	\$3,518,305	98%	\$11,798,959	98%
Corrosion Engineering Services		\$1,053,764	21%	\$761,434	72%	\$3,730,348	74%
Land, Easement Acquisition, & Support		\$1,201,457	35%	\$1,466,570	122%	\$3,265,208	94%
Studies		\$41,717	1%	\$41,717	100%	\$3,402,626	95%
SCADA System		\$384,444	25%	\$360	0%	\$157,781	10%
Microwave System		\$469,702	31%	\$449,654	96%	\$1,468,609	96%
<b>DESIGN</b>		\$34,096,187	27%	\$29,582,832	87%	\$109,714,416	86%
Completed		\$26,513,868	28%	\$25,980,682	98%	\$95,151,945	99%
Active		\$7,582,319	24%	\$3,602,151	48%	\$14,562,472	47%
CH2M Hill (Ops Manual)	NDM	\$479,674	16%	\$306,169	64%	\$1,338,920	44%
CH2M Hill (JCC1)	JQ, Gupta, APM, HVJ, XENCO	\$644,571	25%	\$104,501	16%	\$476,735	19%
MWH	Garzabury, Kevin Sloan	\$226,705	43%	\$131,102	58%	\$527,645	101%
Black & Veatch	BDS, CAS, JQ, TME	\$2,425,531	25%	\$2,577,758	108%	\$9,651,306	100%
Parsons	Criado, EPB, HVJ	\$144,938	25%	\$0	0%	\$301,889	52%
Brown & Gay	AZB, TME, Lamb-Star, NDM	\$1,750,930	25%	\$108,247	6%	\$472,277	7%
HDR	AZB, Daltech, Word Wizards, Gupta	\$1,747,469	25%	\$285,795	16%	\$1,260,457	18%
Burns & McDonnell Trans. Mgmt.	Lamb-Star Engineering	\$162,500	18%	\$88,578	55%	\$533,243	59%
Remaining		\$0	0%	\$0	0%	\$0	0%
<b>CONSTRUCTION ADMINISTRATION</b>		\$4,494,890	25%	\$1,632,692	36%	\$6,368,739	35%
<b>CONSTRUCTION / OWNER FURNISHED EQUIPMENT</b>		\$60,973,499	24%*	\$34,978,292	57%	\$300,487,590	66%
Completed		\$1,354,402	35%	\$1,354,402	100%	\$3,644,051	94%
Active		\$59,619,097	24%*	\$33,623,889	56%	\$296,843,539	66%
Pipeline Section 15-1		\$9,415,226	29%*	\$6,501,990	69%	\$92,286,252	99%
Garney Construction	Danridge, SYB, Ricochet, Glenko, Carrasco, Cowboy, Gorrondona, Custom Fence, LKT, Astro Johnny, Pam, Father & Son, Bowden's Erosion	\$9,415,226	29%*	\$6,501,990	69%	\$92,286,252	99%
JB3		\$16,474,218	25%*	\$2,938,668	18%	\$32,004,549	37%
MWH Constructors	Statewide, Cowboy, TX Enviro, Champion, Ram Tool, Rent-a-Fence, Soto Steel, A-Star, Ike, Greystone, LKT, Accurate, Green Scaping	\$13,580,000	27%*	\$1,239,000	9%	\$15,185,494	27%
ASI Constructors	Champion Fuel, Desert Steel, Green Scaping	\$1,417,833	13%*	\$1,525,477	108%	\$11,669,898	100%

# M/WBE PARTICIPATION

as of 06.30.16

CONTRACT DESIGN AND CONSTRUCTION	M/WBE & HUB SUB-CONTRACTORS	CONTRACT COMMITMENT		M/WBE   HUB INVOICED TO DATE		TOTAL PROJECT COMPLETED TO DATE	
		\$	%	\$	% (PER COMMITMENT)	\$	%
Isolux Corsan	Dyna Grid	\$1,476,385	30%	\$174,192	12%	\$3,212,050	65%
Oncor Electric		\$0	0%	\$0	0%	\$923,119	96%
Pentair Flow Technologies		\$0	0%	\$0	0%	\$1,013,988	9%
Pipeline Section 12/13/MBR/JB4 Bypass		\$22,054,002	24%*	\$12,252,156	56%	\$106,741,975	69%
Thalle Midlothian	LKT, Statewide, Granados, Desert Steel, E TTL, Glenko, A.N.A., Edwards, Buzz, Bradley-Douglas, Pinnacle	\$21,209,810	27%*	\$9,658,177	46%	\$103,459,036	72%
BAR Constructors	Fraire's, DFW Aggregates, Ricochet, MMG, LKT, Brock, Garland Heating & Air, Texas Metal, Buzz, Rangel	\$844,192	8%	\$2,593,979	307%	\$3,282,939	31%
Hilco Electric		\$0	0%	\$0	0%	\$0	0%
Microwave System		\$1,471,554	28%	\$988,826	67%	\$3,250,158	61%
Huffman Communications	Ricochet, Edwards, Chaffin Tower	\$1,471,554	28%	\$988,826	67%	\$3,250,158	61%
Pipeline Section 15-2		\$4,122,200	16%*	\$9,416,135	228%	\$36,088,711	70%
BAR Constructors	Ricochet, Fraire's, DFW Aggregates, Brock, Tidy Toilets, KDAT, Juan Cantu, Buyer's, RAM, Rangel, LKT, Greenscaping, Environmental Safety	\$4,122,200	16%	\$9,416,135	228%	\$36,088,711	70%
Pipeline Section 14		\$6,081,897	22%*	\$1,526,115	25%	\$22,858,919	47%
Garney Construction	AEA, Gorrondona, JC Welding, LKT, Statewide, Bowdens	\$6,081,897	22%	\$1,526,115	25%	\$22,858,919	47%
Valve Packages		\$0	0%	\$0	0%	\$3,612,975	32%
CONSTRUCTION MANAGEMENT		\$19,172,452	41%	\$6,411,951	33%	\$16,434,315	35%
Program-Wide Construction Management		\$19,172,452	41%	\$6,411,951	33%	\$16,383,823	35%
Pipeline Section 15 (Garney)		\$0	0%	\$0	0%	\$50,492	100%
CONSTRUCTION MATERIALS TESTING		\$4,668,945	46%	\$1,221,248	26%	\$2,578,227	25%
Pipeline Section 15-1		\$349,128	30%	\$248,110	71%	\$741,241	64%
JB3		\$565,815	54%	\$334,786	59%	\$431,615	41%
Pipeline Section 12/13/MBR		\$467,603	22%	\$393,413	84%	\$1,096,228	52%
Microwave System		\$0	0%	\$0	0%	\$35,831	73%
Pipeline Section 15-2		\$1,171,139	100%	\$201,994	17%	\$205,815	18%
Pipeline Section 14		\$0	0%	\$0	0%	\$0	0%
Program-Wide		\$2,115,260	54%	\$42,944	2%	\$67,498	2%
ROCIIP		\$1,499,307	5%	\$200,692	13%	\$16,791,061	51%
Willis of Texas		\$1,499,307	8%	\$200,692	13%	\$11,707,337	64%
Old Republic		\$0	0%	\$0	0%	\$5,083,723	35%
TOTAL		\$144,705,743	25%*	\$93,450,161	65%	\$534,919,891	69%
LAND COST				\$49,500		\$45,555,321	42%
MISCELLANEOUS						\$1,643,186	
GRAND TOTAL		\$144,705,743	25%*	\$93,499,661	65%	\$582,118,398	71%

\* Denotes participation percentage excluding cost of pipe and owner furnished equipment.

\*\* This number excludes owner furnished equipment, large diameter pipe and land cost \$201,984,918.

M/WBE/HUB Invoiced	\$93,499,661
Grand Total Invoiced	\$582,118,398
Exclusions Invoiced**	\$201,984,918
MWBE %	24.60%

# PROJECT COMPONENTS

PIPELINE SEGMENTS	CORE PROJECT	DESCRIPTION
Section 9		KBR Turn-Out Tee to existing Benbrook Connection Pipeline (10.6 mi. 84" dia. Pipe + 5 mi. 120" Tunnel)
Section 10	◆	KBR Turn-Out Tee to KBR (2.4 mi. 84" dia. Pipe)
Section 11	◆	JB4 to KBR Turn-Out Tee (10 mi. 84" dia. Pipe)
Section 12	◆	JB4 to existing CC and RC Pipelines (2.2 mi. 108" dia. Pipe)
Section 13	◆	MBR2 (Midlothian Balancing Reservoir) to JB4 (11 mi. 108" dia. Pipe)
Section 14	◆	JB3 to MBR2 (Midlothian Balancing Reservoir) (14.9 mi. 108" dia. Pipe)
Section 15	◆	JB2 to JB3 (28.5 mi 108" dia. Pipe)
Section 16		JRC1 (Joint Richland Chambers Lake Pump Station) to JB2 (12.3 mi. 96" dia. Pipe)
Section 17	◆	Cedar Creek Connection to JB2 (11.2 mi. 108" dia. Pipe)
Section 18	◆	JCC1 (Joint Cedar Creek Lake Pump Station) to Cedar Creek Connection (0.2 mi. 108" dia. Pipe)
Section 19		LP1 (Lake Palestine Pump Station) to Cedar Creek Connection (42.3 mi. 84" dia. Pipe)

PUMP STATIONS	CORE PROJECT	DESCRIPTION
Palestine Pump Station		150 mgd with new intake
Cedar Creek Pump Station	◆	277 mgd with new intake
Richland Chambers Pump Station		250 mgd Ultimate Design Capacity
Booster Pump Stations		Two @ 347 mgd and one @ 197 mgd (◆ one 347 mgd station - JB3)

SUPPORT FACILITIES	CORE PROJECT	DESCRIPTION
Reservoirs		Three reservoirs (80 – 400 mgd) two for booster pump stations and one for balancing
Deep Tunnels		5 mi of 10' dia. tunnel @ Crowley (included in length of Section 9)
Substations & High Voltage Transmission Lines		Six substations and 4 mi. of high voltage transmission lines (◆ two substations)
Microwave Communications and SCADA System	◆	Provides remote operations capability and system monitoring

