

Texas Water Development Board

PROJECT FUNDING REQUEST

BOARD DATE: July 21, 2016

TEAM MANAGER: Nancy Richards

APPLICANT	North Harris County Regional Water Authority
TYPE OF ASSISTANCE	\$107,820,000 Loan 2025 Internal Distribution Expansion \$117,855,000 Loan Second Source Transmission Lines Phase 1
LEGAL PLEDGE	Senior Lien Revenue Bonds

STAFF RECOMMENDATION

Approve No Action

ACTION REQUESTED

Approve by resolution a request from North Harris County Regional Water Authority (Harris County) to amend Texas Water Development Board Resolution No.15-077 to authorize a \$225,675,000 increase in financial assistance from the State Water Implementation Revenue Fund for Texas program for costs related to the Internal Distribution Expansion and the Second Source Transmission Lines Phase I projects.

BACKGROUND

Passed by the 83rd Legislature and approved by Texas voters through a constitutional amendment, the State Water Implementation Fund for Texas (SWIFT) and the State Water Implementation Revenue Fund for Texas (SWIRFT) were created to provide affordable, alternative financing options to develop projects that are recommended water management strategies in the State Water Plan. The program, referred to as SWIFT, provides financing through low interest loans, deferral of loan repayments, and incremental repurchase terms for projects with state ownership aspects. SWIFT projects presented for consideration have been scored and ranked utilizing a prioritization criteria outlined in Texas Administrative Code Title 31 §363.1304 and are included on the prioritized list of projects approved by the Board on April 11, 2016.

Project 51004: 2025 Internal Distribution Expansion

The 2016 SWIFT funding will be used to fund the SH249 Regional Pump Station (RPS). Treated surface water will be distributed to Municipal Utility Districts (MUD) via the North Harris County Regional Water Authority's (Authority) distribution system. The initial phase of the proposed 2025 distribution system will consist of approximately 12 miles of pipelines

Multi-Year Commitment	Expiration Date
\$195,050,000 Series 2016	December 31, 2016
\$388,565,000 Series 2017	December 31, 2017
\$379,950,000 Series 2018	December 31, 2018
\$80,470,000 Series 2019	December 31, 2019
\$36,700,000 Series 2020	December 31, 2020
\$17,910,000 Series 2021	December 31, 2021

ranging from 12" to 60" in diameter. These lines will initially deliver surface water to the numerous MUDs. These lines will be interconnected to the Authority's 2010 Distribution System which will allow use of these lines prior to the SH 249 RPS being placed in service.

Project 51021: Second Source Transmission Lines Phase 1

The project consists of a 108-inch transmission pipeline jointly shared by Central Harris Regional Water Authority, the City of Houston and the Authority. The line will convey treated surface water approximately 17 miles east from the Northeast Water Purification Plant (Plant) to the City's Acres Home Pump Station, terminating just west of Interstate Highway-45. The City will manage the project.

Second Source Transmission Lines Phase I

Regional Partners

Entity	% Share Of Project	Amount
City of Houston	15%	\$138,920,000
Central Harris Co. Regional Water Authority	5%	\$12,365,000
North Harris Co. Regional Water Authority	80%	\$339,990,000
Total	100%	\$491,275,000

FINANCIAL

Key Issues

The Authority has requested to amend the FY 2015 commitment for the Internal Distribution Expansion request in the amount of \$107,820,000 for FY2016 and 2017 and the commitment for the Second Source Phase I project in the amount of \$117,855,000 for FY2016 through FY2018.

The Authority received \$953,405,000 in loans from the SWIFT in FY2015 to finance the planning, acquisition, design and construction of the Plant expansion, the Second Source Phases I and II water transmission lines and Internal Distribution. The Authority's new request for additional funds will bring the total SWIFT commitment to \$1,179,080,000.

The two other regional partners in this project, the City of Houston and Central Harris County Regional Water Authority have also requested increases to their funding for the Second Source Transmission Lines Phase I project.

Multi-Year Commitment

The SWIFT program has the ability to offer applicants multi-year commitments. This flexibility allows Texas Water Development Board (TWDB) to manage program demand while allowing the applicant to fund large projects over time. Each annual commitment installment has its own expiration date and applicable subsidies will be applied for a maximum of five funding year cycles from the time of initial Board commitment.

The Authority has requested a multi-year commitment over a period of five years, 2016 through 2021. The subsidy rate of 20% applicable to 30 year loan commitments will be applied through 2020.

Pledge and Repayment

The Authority is pledging a senior lien on their water system revenues to repay the proposed debt. The Authority will generate gross revenues sufficient to pay for the payment of the bonds through groundwater pumpage fees, surface water fees and services fees assessed pursuant to the Authority's rules and regulations.

The Authority also intends to collect net revenues for each fiscal year at least equal to 110% of the annual debt service requirement for all outstanding senior lien obligations for the fiscal year, or adjusted net revenues for each fiscal year at least equal to 120% of the annual debt service requirement for all outstanding senior lien obligations of the fiscal year. They also plan to collect net revenues for each fiscal year in an amount sufficient to pay all debt service on senior lien obligations that are due during the fiscal year, and to pay all other obligations of the system that are expected to be paid from net revenues.

Cost Savings

Based on a 30-year maturity and current interest rates, the Authority could save approximately \$24,917,359 over the life of the \$195,050,000 Series 2016 loan.

Internal Risk Score

Staff assigns a risk score 2A to the Authority and the proposed projects, which means that the Authority repayment capacity is strong.

The financial sustainability indicators for the water system are strong. These indicators show the Authority's short-term and long-term ability to repay the debt. The Authority's system produces net revenues of 4.03 times the annual debt service requirements for the first year of principal repayment. This higher coverage level indicates greater flexibility to withstand unexpected expenses or declines in demand while still assuring repayment of debt. Additionally, the long term condition of the system is sound.

Overall, the Authority has been able to retain its revenues, as evidenced by average annual revenues of \$63,520,613 with a net income of \$35,376,748 over the last five years.

The Authority's socioeconomic indicators are higher than the State of Texas (State) overall and indicate a strong and healthy economy. The Authority's population serviced has increased at an average annual rate of 4.65% since 2011, and is expected to reach a service population of 881,099 by 2025. The Authority's average median household income of \$53,822 is 102% of the median for the State overall of \$52,576. The Authority's median household income is based on the median household income of Harris County. The unemployment rate for the Authority and Harris County is 4.8% in comparison to the State's rate of 4.4%.

The Authority maintains good liquidity with cash and short-term investments equivalent to 932 days of operating expenses. Any amount over 250 days is considered to be a very high level of liquidity. Adequate liquidity provides greater stability to a utility system by providing the resources needed to cover short-term, unplanned needs.

The Authority's total outstanding per capita debt of \$1,476 with the proposed financing is considered to be low to moderate level of debt based on population serviced by the Authority's wholesale customers. The Authority's debt is paid by system revenues with their Top Ten customers representing 22% of the system revenues, 74% come from retail utilities and 2% being private well sales.

Although the Authority's proposed total TWDB debt will be \$1.2 billion, when all funding is secured, the socioeconomic indicators of the service area are strong, as are the indicators for financial sustainability of the system. The Authority is therefore assigned a risk score of 2A.

LEGAL

Key Issues

None.

Conditions

Standard SWIFT, tax-exempt and net revenue conditions:

- Attachments:
1. Project Data Summary
 2. Debt Service Schedule
 3. Total Project Budget
 4. Engineering/Environmental Review/Budget Internal Distribution
 5. Engineering/Environmental Review/Budget-Second Source Line Phase I
 6. Resolution (16-)
 7. Water Conservation Review
 8. Location Map

Responsible Authority	North Harris County Regional Water Authority	
Program	State Water Implementation Fund for Texas	
Commitment Codes	LM16040	Project No. 51004
	LM17040	
	LM16038	Project No. 51021
	LM17038	
	LM18038	
Project Number	51004-Internal Distribution Expansion 51021-Second Source Transmission Phase I	
Intended Use Plan/Fund Year	2016	
Fund Number	361	
Type of Pledge	2	
Revenue Pledge Level	First	
Legal Description	\$107,820,000 Internal Distribution Expansion \$117,855,000 Second Source Transmission Phase I -NHCRWA Senior Lien Revenue Bonds, Proposed Series 2016	
Tax-Exempt or Taxable	Tax-Exempt	
Refinance	No	
Outlay Requirement	No	
Disbursement Method	Escrow	
Outlay Type	N/A	
Population	695,677	
Rural	No	
Water Connections	Wholesale Provider	
Wastewater Connections	N/A	
Qualifies as Disadvantaged	N/A	
Disadvantaged Level	9	
Clean Water State Revolving Fund Type	N/A	
Financial, Managerial and Technical Review Complete?	N/A	
SWIFT Financing Type	Low Interest Loan	
SWIFT Characteristic	N/A	
Phase Committing	Planning, Acquisition, Design, and Construction	
Pre-Design	Yes	
Project Consistent with Water Plan	Yes	
Water Conservation Plan	N/A	
Water Rights Certification Required	N/A	
Internal Risk Score	2A	
External Ratings		
Standard and Poor's	AA-	
Moody's	A1	
Fitch	Non-Rated	
Special Issues	Multi-year Funding Commitment	

Project Team

Team Manager	Nancy Richards
Financial Analyst	Charles R. Nichols
Engineering Reviewer	James Bronikowski
Environmental Reviewer	Jean Devlin
Attorney	Annette Mass

ISSUE BEING EVALUATED
FOR ILLUSTRATION PURPOSES ONLY
North Harris County Regional Water Authority

\$195,050,000 NHCRWA Senior Lien Revenue Bonds, Proposed Series 2016

Dated Date: 11/15/2016
Delivery Date: 11/15/2016
First Interest: 6/15/2017
First Principal: 12/15/2018
Last Principal: 12/15/2046
Fiscal Year End: 12/31
Required Coverage: 1.0

Source: SWIFT-LOW-30YR
Rate: 2.77%
Insurance: No
Case: -
Admin.Fee: \$ -
Admin. Fee Payment Date: N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	PRINCIPAL PAYMENT	INTEREST RATE	\$195,050,000 ISSUE		TOTAL DEBT SERVICE	COVERAGE
					INTEREST PAYMENT	TOTAL PAYMENT		
2017	160,552,878	34,726,395	-	0.00%	5,157,595	5,157,595	39,883,990	4.03
2018	160,552,878	34,732,935	5,090,000	0.89%	4,760,857	9,850,857	44,583,792	3.60
2019	160,552,878	34,742,126	5,135,000	0.99%	4,715,556	9,850,556	44,592,682	3.60
2020	160,552,878	34,749,680	5,185,000	1.11%	4,664,719	9,849,719	44,599,399	3.60
2021	160,552,878	34,748,497	5,245,000	1.21%	4,607,166	9,852,166	44,600,663	3.60
2022	160,552,878	34,765,194	5,310,000	1.31%	4,543,701	9,853,701	44,618,895	3.60
2023	160,552,878	34,756,059	5,375,000	1.41%	4,474,140	9,849,140	44,605,199	3.60
2024	160,552,878	34,764,868	5,455,000	1.51%	4,398,353	9,853,353	44,618,221	3.60
2025	160,552,878	34,777,619	5,535,000	1.59%	4,315,982	9,850,982	44,628,601	3.60
2026	160,552,878	34,793,292	5,625,000	1.67%	4,227,976	9,852,976	44,646,268	3.60
2027	160,552,878	34,784,182	5,715,000	1.91%	4,134,038	9,849,038	44,633,220	3.60
2028	160,552,878	34,789,025	5,825,000	2.08%	4,024,882	9,849,882	44,638,907	3.60
2029	160,552,878	34,794,945	5,950,000	2.23%	3,903,722	9,853,722	44,648,667	3.60
2030	160,552,878	34,803,762	6,080,000	2.36%	3,771,037	9,851,037	44,654,799	3.60
2031	160,552,878	34,807,380	6,225,000	2.48%	3,627,549	9,852,549	44,659,929	3.60
2032	160,552,878	34,816,004	6,380,000	2.58%	3,473,169	9,853,169	44,669,173	3.59
2033	160,552,878	34,823,914	6,545,000	2.67%	3,308,565	9,853,565	44,677,479	3.59
2034	160,552,878	26,772,720	6,720,000	2.74%	3,133,813	9,853,813	36,626,533	4.38
2035	160,552,878	26,778,370	6,900,000	2.80%	2,949,685	9,849,685	36,628,055	4.38
2036	160,552,878	21,229,611	7,095,000	2.86%	2,756,485	9,851,485	31,081,096	5.17
2037	160,552,878	21,226,061	7,300,000	2.91%	2,553,568	9,853,568	31,079,629	5.17
2038	160,552,878	21,231,982	7,510,000	2.95%	2,341,138	9,851,138	31,083,120	5.17
2039	160,552,878	4,154,756	7,730,000	2.99%	2,119,593	9,849,593	14,004,349	11.46
2040	160,552,878	4,155,704	7,965,000	3.02%	1,888,466	9,853,466	14,009,170	11.46
2041	160,552,878	4,158,376	8,205,000	3.04%	1,647,923	9,852,923	14,011,299	11.46
2042	160,552,878	4,159,776	8,455,000	3.07%	1,398,491	9,853,491	14,013,267	11.46
2043	160,552,878	4,172,496	8,710,000	3.09%	1,138,923	9,848,923	14,021,419	11.45
2044	160,552,878	4,170,676	8,980,000	3.11%	869,784	9,849,784	14,020,460	11.45
2045	160,552,878	4,180,005	9,260,000	3.13%	590,506	9,850,506	14,030,511	11.44
2046	160,552,878	-	9,545,000	3.15%	300,668	9,845,668	9,845,668	16.31
		\$ 737,566,410	\$ 195,050,000		\$ 95,798,042	\$ 290,848,042	\$ 1,028,414,452	

AVERAGE (MATURITY) LIFE	17.73 YEARS
NET INTEREST RATE	2.770%
COST SAVINGS	\$24,917,359
AVERAGE ANNUAL REQUIREMENT	\$34,280,482

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North Harris County Regional Water Authority

\$903,595,000 NHCRWA Senior Lien Revenue Bonds, Proposed Series 2017-2021

Dated Date: 11/15/2017
Delivery Date: 11/15/2017
First Interest: 6/15/2018
First Principal: 12/15/2019
Last Principal: 12/15/2047
Fiscal Year End: 12/31
Required Coverage: 1.0

Source: SWIFT-LOW-30YR
Rate: 2.77%
Insurance: No
Case: -
Admin.Fee: \$ -
Admin. Fee Payment Date: N/A

FISCAL YEAR	PROJECTED NET SYSTEM REVENUES	CURRENT DEBT SERVICE	PRINCIPAL PAYMENT	INTEREST RATE	\$903,595,000 ISSUE		TOTAL DEBT SERVICE	COVERAGE
					INTEREST PAYMENT	TOTAL PAYMENT		
2018	160,552,878	44,583,792	-	0.00%	23,893,066	23,893,066	68,476,858	2.34
2019	160,552,878	44,592,682	23,585,000	0.89%	22,055,138	45,640,138	90,232,820	1.78
2020	160,552,878	44,599,399	23,795,000	0.99%	21,845,231	45,640,231	90,239,630	1.78
2021	160,552,878	44,600,663	24,030,000	1.11%	21,609,661	45,639,661	90,240,324	1.78
2022	160,552,878	44,618,895	24,295,000	1.21%	21,342,928	45,637,928	90,256,823	1.78
2023	160,552,878	44,605,199	24,590,000	1.31%	21,048,958	45,638,958	90,244,157	1.78
2024	160,552,878	44,618,221	24,910,000	1.41%	20,726,829	45,636,829	90,255,050	1.78
2025	160,552,878	44,628,601	25,260,000	1.51%	20,375,598	45,635,598	90,264,199	1.78
2026	160,552,878	44,646,268	25,645,000	1.59%	19,994,172	45,639,172	90,285,440	1.78
2027	160,552,878	44,633,220	26,050,000	1.67%	19,586,417	45,636,417	90,269,637	1.78
2028	160,552,878	44,638,907	26,485,000	1.91%	19,151,382	45,636,382	90,275,289	1.78
2029	160,552,878	44,648,667	26,995,000	2.08%	18,645,518	45,640,518	90,289,185	1.78
2030	160,552,878	44,654,799	27,555,000	2.23%	18,084,022	45,639,022	90,293,821	1.78
2031	160,552,878	44,659,929	28,170,000	2.36%	17,469,546	45,639,546	90,299,475	1.78
2032	160,552,878	44,669,173	28,835,000	2.48%	16,804,734	45,639,734	90,308,907	1.78
2033	160,552,878	44,677,479	29,550,000	2.58%	16,089,626	45,639,626	90,317,105	1.78
2034	160,552,878	36,626,533	30,310,000	2.67%	15,327,236	45,637,236	82,263,769	1.95
2035	160,552,878	36,628,055	31,120,000	2.74%	14,517,959	45,637,959	82,266,014	1.95
2036	160,552,878	31,081,096	31,975,000	2.80%	13,665,271	45,640,271	76,721,367	2.09
2037	160,552,878	31,079,629	32,870,000	2.86%	12,769,971	45,639,971	76,719,600	2.09
2038	160,552,878	31,083,120	33,810,000	2.91%	11,829,889	45,639,889	76,723,009	2.09
2039	160,552,878	14,004,349	34,790,000	2.95%	10,846,018	45,636,018	59,640,367	2.69
2040	160,552,878	14,009,170	35,820,000	2.99%	9,819,713	45,639,713	59,648,883	2.69
2041	160,552,878	14,011,299	36,890,000	3.02%	8,748,695	45,638,695	59,649,994	2.69
2042	160,552,878	14,013,267	38,005,000	3.04%	7,634,617	45,639,617	59,652,884	2.69
2043	160,552,878	14,021,419	39,160,000	3.07%	6,479,265	45,639,265	59,660,684	2.69
2044	160,552,878	14,020,460	40,360,000	3.09%	5,277,053	45,637,053	59,657,513	2.69
2045	160,552,878	14,030,511	41,610,000	3.11%	4,029,929	45,639,929	59,670,440	2.69
2046	160,552,878	9,845,668	42,900,000	3.13%	2,735,858	45,635,858	55,481,526	2.89
2047	160,552,878	-	44,225,000	3.15%	1,393,088	45,618,088	45,618,088	3.52
		\$ 988,530,470	\$ 903,595,000		\$ 443,797,377	\$ 1,347,392,377	\$ 2,335,922,847	

AVERAGE (MATURITY) LIFE	17.73 YEARS
NET INTEREST RATE	2.770%
COST SAVINGS	
AVERAGE ANNUAL REQUIREMENT	\$77,864,095

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**North Harris County Regional Water Authority
Total Funding**

Budget Items	Previous SWIFT Commitment	Current SWIFT Request	Total SWIFT Funding
Construction			
Construction	\$582,256,821	\$155,834,400	\$738,091,221
Construction Total	\$582,256,821	\$155,834,400	\$738,091,221
Basic Engineering Services			
Planning	\$45,193,888	\$455,200	\$45,649,088
Design	\$69,478,791	\$14,878,300	\$84,357,091
Construction Engineering	\$2,500,000	\$0	\$2,500,000
Basic Engineering Services Total	\$117,172,679	\$15,333,500	\$132,506,179
Special Services			
Environmental	\$520,369	\$0	\$520,369
Application	\$115,270	\$100,000	\$215,270
Testing	\$0	\$1,472,600	\$1,472,600
Inspection	\$0	\$3,723,000	\$3,723,000
Project Management (by engineer)	\$1,057,264	\$3,577,100	\$4,634,364
Special Services Total	\$1,692,903	\$8,872,700	\$10,565,603
Contingency			
Contingency	\$124,406,669	\$10,778,200	\$135,184,869
Contingency Total	\$124,406,669	\$10,778,200	\$135,184,869
Other			
Land/Easements Acquisition	\$15,052,162	\$13,362,100	\$28,414,262
Other Total	\$15,052,162	\$13,362,100	\$28,414,262
Fiscal Services			
Financial Advisor	\$1,482,142	\$429,927	\$1,912,069
Bond Counsel	\$2,784,500	\$644,888	\$3,429,388
Bond Reserve Fund	\$49,036,362	\$10,748,152	\$59,784,514
Capitalized Interest	\$57,418,360	\$8,598,522	\$66,016,882
Issuance Costs	\$1,719,554	\$429,927	\$2,149,481
Fiscal/Legal	\$382,848	\$642,684	\$1,025,532
Fiscal Services Total	\$112,823,766	\$21,494,100	\$134,317,866
Grand Total	\$953,405,000	\$225,675,000	\$1,179,080,000



**North Harris Co Regional WA
51004 NHCRWA Internal 2025 Distribution
Engineering and Environmental Review**

Engineering:

Key Issues:

None known at this time.

Project Need/Description

Project Need: The North Harris County Regional Water Authority (Authority) has entered into contractual agreements with the City of Houston (City) to purchase treated surface water from the City's Northeast Water Purification Plant (Plant) for use in complying with the Harris-Galveston Subsidence District (Subsidence District) regulatory conversion requirements as detailed in the Authority's Groundwater Reduction Plan. In addition to the expansion of the Plant, a transmission pipeline will be built from the Plant to the Authority's service area boundary to provide treated surface water for the various type water districts and cities (collectively called MUDs) to facilitate compliance with the Subsidence District's regulatory conversion requirements.

Project Description: The Authority is requesting financial assistance for the planning, design, and construction of new water distribution lines to provide treated surface water to the numerous MUDs that the Authority serves. This initial phase will consist of approximately 12 miles of pipelines that will range from 12" to 60" in diameter, three 12 million gallon ground storage tanks, four 25,000 gallon hydro-pneumatic tank, and a regional booster pump station to be located near State Highway 249.

Project Schedule:

Project Task	Schedule Date
Closing	11/30/2016
Engineering Feasibility Report Completion (End of Planning Phase)	3/31/2017
Start of Construction	5/1/2017
Design Phase Complete	11/30/2017
Construction Completion	12/31/2018

Environmental Section:

Key Issues:

None known at this time.

Environmental Summary:

Pursuant to the requirements of 31 Texas Administrative Code (TAC) §363.14, all financial assistance shall be conditioned to read that funding for acquisition, design, and construction costs for specific project elements will not be released until the environmental review has been completed and a favorable environmental determination has been issued.



51004 - 2025 Distribution System

Budget Items	Previous SWIFT Commitment	Current SWIFT Request	Total SWIFT Funding
Construction			
Construction	\$29,998,165	\$75,952,800	\$105,950,965
Construction Total	\$29,998,165	\$75,952,800	\$105,950,965
Basic Engineering Services			
Planning	\$0	\$455,200	\$455,200
Design	\$2,957,500	\$5,009,200	\$7,966,700
Basic Engineering Services Total	\$2,957,500	\$5,464,400	\$8,421,900
Special Services			
Application	\$0	\$50,000	\$50,000
Testing	\$0	\$1,472,600	\$1,472,600
Inspection	\$0	\$3,723,000	\$3,723,000
Project Management (by Engineer)	\$0	\$1,111,200	\$1,111,200
Special Services Total	\$0	\$6,356,800	\$6,356,800
Contingency			
Contingency	\$7,198,085	\$3,907,300	\$11,105,385
Contingency Total	\$7,198,085	\$3,907,300	\$11,105,385
Other			
Land/Easements Acquisition	\$0	\$5,358,000	\$5,358,000
Other Total	\$0	\$5,358,000	\$5,358,000
Fiscal Services			
Financial Advisor	\$0	\$215,643	\$215,643
Bond Counsel	\$0	\$323,464	\$323,464
Issuance Cost	\$0	\$215,643	\$215,643
Fiscal/Legal	\$0	\$322,020	\$322,020
Bond Reserve Fund	\$2,069,970	\$5,391,072	\$7,461,042
Capitalized Interest	\$1,901,280	\$4,312,858	\$6,214,138
Fiscal Services Total	\$3,971,250	\$10,780,700	\$14,751,950
Grand Total	\$44,125,000	\$107,820,000	\$151,945,000



**North Harris County Regional Water
Authority
51021 Houston - SS Phase I
Engineering and Environmental Review**

Engineering:Key Issues:

None known at this time.

Project Need/Description

Project Need: The need for surface water treatment facility infrastructure improvements follows the passage of rules and regulations issued by the Harris-Galveston Subsidence District (Subsidence District) to decrease groundwater usage and consequently increase surface water usage in the Subsidence District. Groundwater subsidence in the greater Houston area coupled with increasing water demands requires that the City of Houston and regional partners expand the existing Northeast Water Purification Plant (Plant). To accommodate the planned plant expansion, the City and both the North Harris County Regional Water Authority and Central Harris County Regional Water Authority will require a system to transport this increase in water supply to their service areas.

Project Description: The City and the Authorities are seeking financial assistance for the planning, design, and construction of a 108" shared transmission pipeline approximately 17 miles in length from the City's Plant to just west of IH 45. This pipeline will convey treated surface water from the Plant to the City and Authorities and allow them to supplement their current water supplies.

Project Schedule:

Project Task	Schedule Date
Closing	11/30/2016
Engineering Feasibility Report Completion (End of Planning Phase)	10/31/2016
Start of Construction	2/28/2017
Design Phase Complete	9/30/2025
Construction Completion	5/31/2028

Environmental Section:Key Issues:

None known at this time.

Environmental Summary:

A Determination of No Effect (DNE) for this project was issued on February 25, 2016. As required by 31 Texas Administrative Code (TAC) §363.14, environmental review of the proposed project has been completed.



51021 - Second Source Transmission Line Phase I (108-inch)

Budget Items	Houston TWDB Funds	Central Harris County Regional Water Authority	North Harris County Regional Water Authority	TWDB Total Funds
Construction				
Construction	\$132,269,426	\$0	\$214,804,495	\$347,073,921
Construction Total	\$132,269,426	\$0	\$214,804,495	\$347,073,921
Basic Engineering Services				
Planning	\$77,356	\$0	\$8,056,049	\$8,133,405
Design	\$4,370,630	\$0	\$27,289,572	\$31,660,202
Construction Engineering	\$2,073,013	\$0	\$0	\$2,073,013
Basic Engineering Services Total	\$6,520,999	\$0	\$35,345,621	\$41,866,620
Special Services				
Environmental	\$0	\$0	\$399,843	\$399,843
Application	\$0	\$0	\$78,818	\$78,818
Project Management (by engineer)	\$0	\$0	\$3,523,164	\$3,523,164
Special Services Total	\$0	\$0	\$4,001,825	\$4,001,825
Contingency				
Contingency	\$0	\$0	\$34,484,441	\$34,484,441
Contingency Total	\$0	\$0	\$34,484,441	\$34,484,441
Other				
Capacity Buy-In	\$0	\$10,420,512	\$0	\$10,420,512
Land/Easements	\$0	\$0	\$13,500,100	\$13,500,100
Other Total	\$0	\$10,420,512	\$13,500,100	\$23,920,612
Fiscal Services				
Financial Advisor	\$0	\$0	\$764,284	\$764,284
Bond Counsel	\$0	\$0	\$1,106,924	\$1,106,924
Capitalized Interest	\$0	\$0	\$17,725,474	\$17,725,474
Fiscal/Legal	\$0	\$1,944,488	\$470,664	\$2,415,152
Bond Reserve Fund	\$0	\$0	\$16,851,888	\$16,851,888
Issuance Costs	\$129,575	\$0	\$934,284	\$1,063,859
Fiscal Services Total	\$129,575	\$1,944,488	\$37,853,518	\$39,927,581
Grand Total	\$138,920,000	\$12,365,000	\$339,990,000	\$491,275,000

A RESOLUTION OF THE TEXAS WATER DEVELOPMENT BOARD
AMENDING TEXAS WATER DEVELOPMENT BOARD RESOLUTION 15-077
TO INCREASE THE COMMITMENT FOR FINANCIAL ASSISTANCE GRANTED TO NORTH
HARRIS COUNTY REGIONAL WATER AUTHORITY

(16-)

WHEREAS, at its July 23, 2015 meeting, the Texas Water Development Board (TWDB), by TWDB Resolution No. 15-077, made a multi-year commitment to provide financial assistance to North Harris County Regional Water Authority (Authority) from the State Water Implementation Revenue Fund for Texas (SWIRFT) through the TWDB's proposed purchase of \$953,405,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds Proposed Series 2015 through 2021 for Project Nos. 51023, 51021, 51009 and 51004; and

WHEREAS, the Authority has filed applications requesting that the TWDB amend TWDB Resolution No. 15-077 to increase the commitment in the amount of \$225,675,000 from the SWIRFT for Project Nos. 51021 and 51004; and

WHEREAS, the Authority, has requested that the TWDB amend TWDB Resolution No. 15-077 for additional financial assistance for Project Nos. 51021 and 51004, in the form of a multi-year commitment through the TWDB's proposed purchase of \$225,675,000 additional North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2016 through Proposed Series 2021 (together with all authorizing documents "Obligations"), all as is more specifically set forth in the application and in recommendations of the Executive Administrator's staff; and

WHEREAS, the Authority has offered a pledge of a first lien on the system revenue as sufficient security for the repayment of the Obligations; and

WHEREAS, interest rate subsidies are available to the Authority at the following levels: 35% for a loan of a term of 20 years, 25% for a loan of a term of 21 to 25 years, and 20% for a loan of a term of 26 to 30 years. The interest rate subsidy applicable to each proposed series will be set through each financing agreement executed between the TWDB and the Authority, pursuant to this Resolution; and

WHEREAS, the TWDB hereby finds that the amendment to TWDB Resolution No. 15-077 as requested by the Authority, is reasonable and within the public interest and will serve a public purpose; and

WHEREAS, in accordance with the Texas Water Code, the TWDB has carefully considered all matters required by law.

NOW, THEREFORE, based on these considerations and findings, the TWDB resolves as follows:

1. The commitment made through TWDB Resolution 15-077 to the North Harris County Regional Water Authority for financial assistance from the State Water Implementation Revenue Fund for Texas is amended.
2. The commitment made through TWDB Resolution 15-077 as hereby amended shall be evidenced by the TWDB's proposed purchase of the North Harris County Regional Water

Authority Senior Lien Revenue Bonds in accordance with the annual loan closing schedule proposed below:

- a. \$195,050,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2016 to expire on December 31, 2016;
 - b. \$388,565,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2017 to expire on December 31, 2017;
 - c. \$379,950,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2018 to expire on December 31, 2018;
 - d. \$80,470,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2019 to expire on December 31, 2019;
 - e. \$36,700,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2020 to expire on December 31, 2020; and
 - f. \$17,910,000 North Harris County Regional Water Authority Senior Lien Revenue Bonds, Proposed Series 2021 to expire on December 31, 2021.
3. TWDB Resolution No. 15-077 is further amended to reflect the commitment described above consisting of the following Projects:
- a. Project No. 51023 (Northeast Water Purification Plant Expansion) in the remaining amount of \$543,600,000;
 - b. Project No. 51021 (Second Source Transmission Lines Phase I) in the remaining amount of \$281,865,000;
 - c. Project No. 51009 (Transmission pipeline for Second Source) in the remaining amount of \$124,485,000;
 - d. Project No. 51004 (Internal Distribution Expansion) in the remaining amount of \$148,695,000.
4. All other terms and conditions of TWDB Resolution No. 15-077 shall remain in full force and effect.

APPROVED and ordered of record this the 21st day of July, 2016.

TEXAS WATER DEVELOPMENT BOARD

Bech K. Bruun, Chairman

DATE SIGNED: _____

ATTEST:

Jeff Walker
Executive Administrator

WATER CONSERVATION REVIEW

Entity: _____

Review date: _____

WATER CONSERVATION PLAN DATE: **Approvable** **Adopted**

	Total GPCD	Residential GPCD	Water Loss GPCD	Water Loss Percent
Baseline				
5-year Goal				
10-year Goal				

WATER LOSS AUDIT YEAR:

Total water loss (GPCD): _____ Total water loss (percent): _____ Wholesale Water
 Total no. of connections: _____ Length of mains (miles): _____ Connections per mile: _____
 If > 16 connections per mile and > 3,000 connections, Infrastructure Leakage Index (ILI): _____

WATER LOSS THRESHOLDS:

	Apparent Loss Gallons per connection per day	Real Loss Gallons per mile per day	Real Loss Gallons per connection per day	Apparent Threshold Gallons per connection per day	Real Threshold Gallons per mile per day	Real Threshold Gallons per connection per day
If population ≤ 10K, connections/mile < 32 :						
If population ≤ 10K, connections/mile ≥ 32 :						
If population > 10K :						

Does the applicant meet Water Loss Threshold requirements? Yes No NA

ADDITIONAL INFORMATION:

STAFF NOTES AND RECOMMENDATIONS:

DEFINITIONS

Adopted refers to a water conservation plan that meets the minimum requirements of the water conservation plan rules and has been formally approved and adopted by the applicant's governing body.

Apparent loss refers to unauthorized consumption, meter inaccuracy, billing adjustments, and waivers.

Approvable refers to a water conservation plan that substantially meets the minimum requirements of the water conservation plan rules but has not yet been adopted by the applicant's governing body.

Best Management Practices are voluntary efficiency measures that save a quantifiable amount of water, either directly or indirectly, and that can be implemented within a specific time frame.

GPCD means gallons per capita per day.

Infrastructure Leakage Index (ILI) is the current annual real loss divided by the unavoidable annual real loss (theoretical minimum real loss) and only applies to utilities with more than 5,000 connections, average pressure greater than 35 psi, and a connection density of more than 32 connections per mile. The **ILI** is recommended to be less than 3 if water resources are greatly limited and difficult to develop, between 3 and 5 if water resources are adequate to meet long-term needs but water conservation is included in long-term water planning, and between 5 and 8 if water resources are plentiful, reliable, and easily extracted. The **ILI** is recommended as a benchmarking tool, but until there is increased data validity of the variables used in the calculation, the **ILI** should be viewed with care.

NA means not applicable.

Produced water is the total amount of water purchased or produced by the utility.

Real loss comes from main breaks and leaks, storage tank overflows, customer service line breaks, and leaks.

Residential GPCD is the amount of water per capita used solely for residential use and ideally includes both single and multi-family customer use.

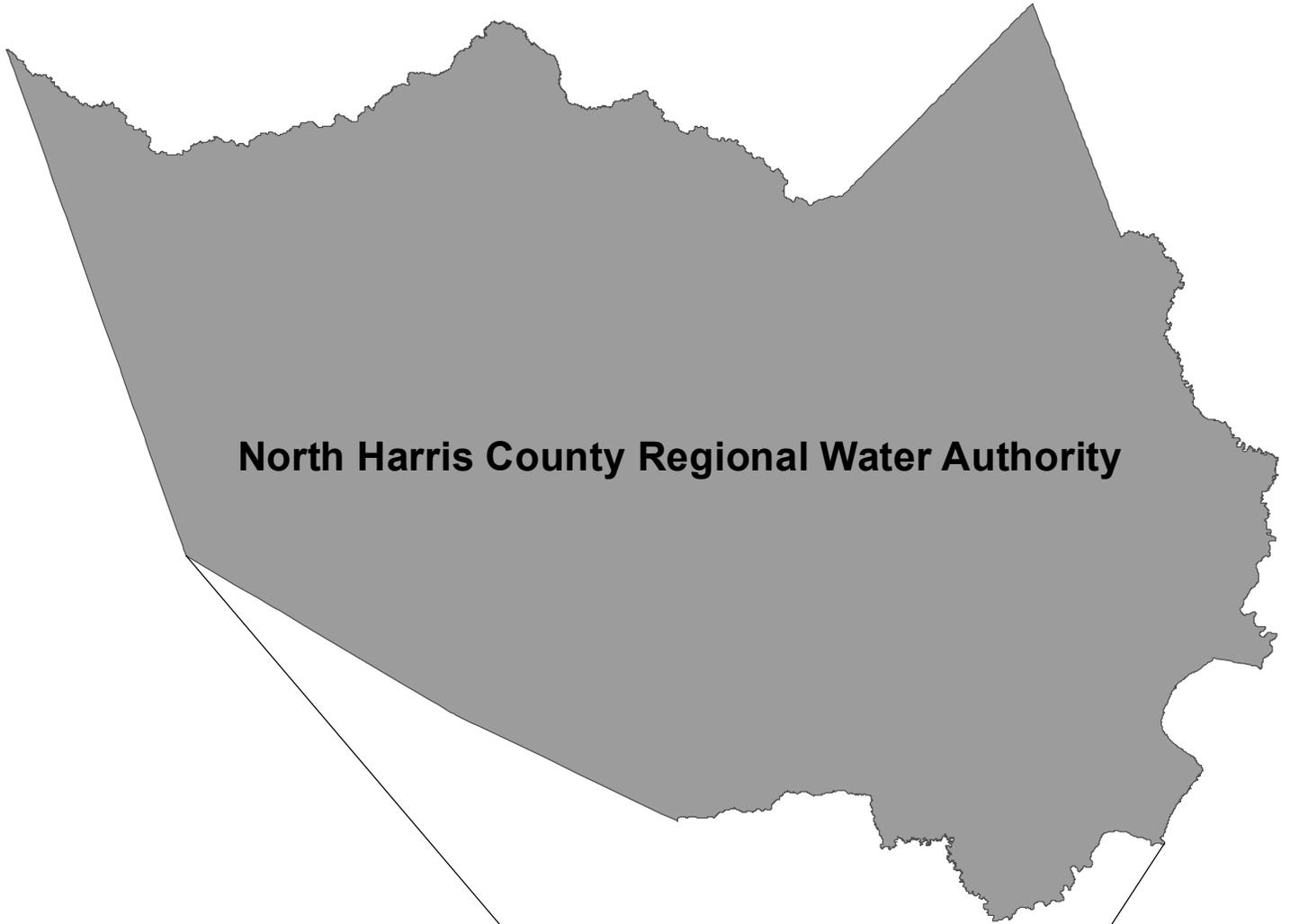
Total baseline GPCD is the amount of all water purchased or produced by the utility divided by the service area population and then divided by 365.

Total water loss is the sum of the apparent and real water losses.

Water loss is the difference between the input volume and the authorized consumption within a water system. Water Loss consists of real losses and apparent losses.

Water Loss Thresholds are levels of real and apparent water loss determined by the size and connection density of a retail public utility, at or above which a utility receiving financial assistance from the Texas Water Development Board must use a portion of that financial assistance to mitigate the utility's system water loss.

**North Harris County Regional Water Authority,
Harris County**



North Harris County Regional Water Authority

