

North San Saba WSC

DWSRF GREEN PROJECT RESERVE BUSINESS CASE EVALUATION

STATE FISCAL YEAR 2013 INTENDED USE PLAN PROJECT NUMBER 62509

COMMITMENT DATE: <u>FEBRUARY 28, 2013</u>

DATE OF LOAN CLOSING: NOVEMBER 21, 2013

GREEN ESTIMATE AT CLOSING: \$1,513,484.00

Subsidy awarded for Green components, (if any) \$218,816.00

TEXAS WATER DEVELOPMENT BOARD

Green Project Reserve

Green Project Information Worksheets

Drinking Water State Revolving Fund Intended Use Plan

The Federal Appropriation Law for the current fiscal year Clean Water and Drinking Water State Revolving Fund programs contains the Green Project Reserve (GPR) requirement. The following Green Project Information Worksheets have been developed to assist TWDB Staff in verifying eligibility of potential GPR projects.

TWDB-0163 Revised 12/2/2010

TEXAS WATER DEVELOPMENT BOARD DRINKING WATER STATE REVOLVING FUND (DWSRF) GREEN PROJECT INFORMATION WORKSHEETS

PART III - BUSINESS CASE ELIGIBLE

Complete this worksheet for projects being considered for the Green Project Reserve (GPR) as business case eligible. Business case eligible projects or project components are described in the following sections of the EPA GPR guidance (TWDB-0161):

Green Infrastructure

Part B, Section 1.4

Water Efficiency

Part B, Section 2.4 and 2.5

Energy Efficiency

Part B, Section 3.4 and 3.5

Environmentally Innovative

Part B, Section 4.4 and 4.5

Information provided on this worksheet should be of sufficient detail and should clearly demonstrate that the proposed improvements are consistent with EPA and TWDB GPR guidance for business case eligible projects. Refer to **Information on Completing Worksheets** for additional information.

Section 1 - General Project Information

Applicant:	North San Saba WSC	PIF #:	9810	

Project Name: 2013 Transmission line construction

Contact Name: Deana Sealy

Contact Phone and e-mail: 325-396-4949 sealy@wcc.net

Total Project Cost: \$2,783,000.00 Green Amount: 1,505,000.00

(Business Case Eligible)

Brief Overall Project Description:

This project will be to install a pump station and transmission line to move water from the City of San Saba to the North San Saba WSC standpipe on FM 500 where the water can be blended with water from the North San Saba WSC's well water to reduce the Combined Radium in the water. The remainder of the project will be to replace old leaking pipelines with new correctly sized water lines. The North San Saba WSC has high water loss due to the old lines that are constantly leaking.

TWDB-0163 Revised 12/2/2010

Section 3 – Water Efficiency

Certain water efficiency improvements may be considered business case eligible for the GPR. Refer to EPA and TWDB GPR guidance for a complete list and description of business case eligible GPR Projects. For all water efficiency business case eligible projects Section 3.1 must be completed. A common water efficiency project that may be considered business case eligible is water line replacements to address water loss. For this type of project complete Section 3.2 of the worksheet. For any other water efficiency improvement being considered for business case eligibility, complete Section 3.3.

Section 3.1 - System and Water Loss Information

Section 3.1 is required for all water efficiency business case eligible projects. Attach a copy of most recent Water Audit, if available. Otherwise, complete and attach Water Audit Worksheet or provide water audit data in a similar format. Additional information on water loss and water audits as well as a copy of the Water Audit Worksheet is available at: http://www.twdb.state.tx.us/assistance/conservation/Municipal/Water Audit/wald.asp

Reference	and attach wa	ater loss audit	and/or any	other con	npleted plan	ning or engir	neering stud	lies:
\boxtimes	2010 Water L	oss Audit						

\triangle	ZOTO Water LOSS Addit	
	Water Loss May 2009 - April	2011
\neg		

Section 3.2 - Water Line Replacement

Proposed pipe to be replaced:

Longth	Existing P	ipe	Proposed Pipe		
Length (LF)	Material	Age (yr)	Dia. (in)	Dia. (in)	Material
7920	PVC	31	2	3	PVC
10560	PVC	27	2	4	PVC
26400	PVC	32	2	4	PVC
10560	PVC	30	2	4	PVC
5280	PVC	30	2	2	PVC
10560	PVC	30	2	3	PVC
5280	PVC	25	2	3	PVC
15840	PVC	25	2	4	PVC
7920	PVC	25	2	2	PVC
15840	PVC	20	2	3	PVC

Percent of distribution lines being replaced: 24%		
Number of breaks/leaks/repairs recorded in past 24 months for areas bein	g replaced :	450
Estimated water loss from pipe being replaced (provide calculations on follows)	lowing page):	9,045,000
Estimated annual water savings (provide calculations on following page): _	4,522,500 ga	allons
Estimated annual cost savings (provide calculations on following page):	\$37,001.25	

Provide detailed description of the propose improvements and provide supporting calculations. Description should include a description of the methodology used to select pipes for replacement (attach additional pages if necessary):

The proposed improvements will replace 22 miles of 25+ year old pipeline that is contributing to at least 5 million gallons per year of water loss. The North San Saba WSC system was started in the 1970's and most of the pipe being replaced is 25 to 30+ years old and has leaks in numerous places on a monthly if not weekly basis. These areas of pipe to be replaced are based on the three factors: 1) number of leaks that have occurred in the past 24 months, 2) the causes of the leaks, and 3) the observed condition of the pipe. Over 90% of the leaks in the past 24 months have been in these pipelines. The manager of the North San Saba WSC has just continued to repair these leaking pipes and in one instance, on a 1 mile section of pipeline, 9 leaks were repaired in one week. All other leaks have been a result of damage (ex: line hit by fencing crews, etc.) or have been only one leak in an area and have been repaired. The entire length of pipe to be replaced is undersized as growth took place in the North San Saba WSC in the late 1980's and early 1990's. The system has not grown in the past 10 to 15 years, but pipes are undersized and pressures are very low in some areas because of the number of customers and length of very small diameter pipe. The system was not planned very well; it was put in as a necessity and simply added on to with any available pipe by the shortest route.

Please see attached Water Loss May 2009 - April 2011 for the calculations of the water loss in the proposed pipelines. Approximately 90% of the known water loss was due to leaks in the proposed pipes to be replaced. Although it cannot be proven, there may have been water loss in excess of these estimates from the proposed pipelines. Known water loss for this period of 24 months = 10,050,000 gallons.

10,050,000 * 90% = 9,045,000.

At a minimum, an estimate of 4,522,500 gallons of water was lost last year due to the proposed pipelines to be replaced. 9,045,000 / 2 = 4,522,500 gallons per year.

Estimated annual cost savings = \$37,001.254,522,500 gallons * \$1.70 per 1000 gallons = \$7,688.25 for water loss Annual expenditure for parts for repair on these pipelines = \$29,313.00\$7,688.25 + \$29,313.00 = \$37,001.25

Green amount associated with water line replacement: \$1,505,000.00

Line replacement - \$ 1,335,000 Contingency - \$ 125,000 Inspect. & Admin. - \$ 45,000

Green amount associated with water line replacement: \$1,505,000.00

(Attach detailed cost estimate if necessary)

PROJECT BUDGET								
TWDB								
	TWDB Funds	TWDB Funds	Funds	Total TWDB	Other			
Uses	Series 1	Series 2	Series 3	Cost	Funds	Total Cost		
Construction								
Construction	\$2,250,000	\$0	\$0	\$2,250,000	\$0	\$2,250,000		
Subtotal Construction	\$2,250,000	\$0	\$0	\$2,250,000	\$0	\$2,250,000		
Basic Engineering Fees		,	,					
Planning +	\$0	\$0	\$0	\$0	\$0	\$0		
Design	\$0	\$0	\$0	\$0	\$0	\$0		
Construction Engineering	\$100,000	\$0 \$0	\$0 \$0	\$100,000	\$0	\$100,000		
Basic Engineering Other	\$100,000	φυ	Ψ0	\$100,000	ΨΟ	\$100,000		
basic Linginieering Outer	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal Basic Engineering	ψ0 	ΨΟ	40	Ψ0	ΨΟ	Ψ0		
Fees	\$100,000	\$0	\$0	\$100,000	\$0	\$100,000		
Special Services	, , , , , , , , , , , , , , , , , , , ,			, , , , , , , , , , , , , , , , , , , ,				
Application	\$0	\$0	\$0	\$0	\$0	\$0		
Environmental	\$0	\$0	\$0	\$0	\$0	\$0 \$0		
		\$0	\$0 \$0	\$0	\$0 \$0	\$0 \$0		
Water Conservation Plan	\$0							
I/I Studies/Sewer Evaluation	\$0	\$0	\$0 \$0	\$0	\$0 \$0	\$0 \$0		
Surveying	\$0	\$0	\$0	\$0	\$0 00	\$0		
Geotechnical	\$10,000	\$0	\$0	\$10,000	\$0	\$10,000		
Testing	\$0	\$0	\$0	\$0	\$0	\$0		
Permits	\$0	\$0	\$0	\$0	\$0	\$0		
Inspection	\$70,000	\$0	\$0	\$70,000	\$0	\$70,000		
O&M Manual	\$10,000	\$0	\$0	\$10,000	\$0	\$10,000		
Project Management (by	\$0	\$0	\$0	\$0	\$0	\$0		
Pilot Testing	\$0	\$0	\$0	\$0	\$0	\$0		
Water Distribution Modeling	\$0	\$0	\$0	\$0	\$0	\$0		
Special Services Other								
**	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal Special Services	\$90,000	\$0	\$0	\$90,000	\$0	\$90,000		
Other								
Administration	\$0	\$0	\$0	\$0	\$0	\$0		
Land/Easements Acquisition	\$0	\$0	\$0	\$0	\$0	\$0		
Water Rights Purchase (If	\$0	\$0	\$0	\$0	\$0	\$0		
Capacity Buy-In (If	\$0	\$0	\$0	\$0	\$0	\$0		
Project Legal Expenses	\$0	\$0	\$0	\$0	\$0	\$0		
Other **	\$0	\$0	\$0	\$0	\$0	\$0		
Subtotal Other Services	\$0	\$0	\$0	\$0	\$0	\$0		

	PROJECT BUDGET							
Uses	TWDB Funds Series 1	TWDB Funds Series 2	TWDB Funds Series 3	Total TWDB Cost	Other Funds	Total Cost		
Fiscal Services						Tarih I.		
Financial Advisor	\$5,000	\$0	\$0	\$5,000	\$0	\$5,000		
Bond Counsel	\$10,000	\$0	\$0	\$10,000	\$0	\$10,000		
Issuance Cost	\$0	\$0	\$0	\$0	\$0	\$0		
Bond Insurance/Surety	\$0	\$0	\$0	\$0	\$0	\$0		
Fiscal/Legal	\$0	\$0	\$0	\$0	\$0	\$0		
Capitalized Interest	\$0	\$0	\$0	\$0	\$0	\$0		
Bond Reserve Fund	\$0	\$0	\$0	\$0	\$0	\$0		
Loan Origination Fee	\$0	\$0	\$0	\$0	\$0	\$0		
Other **	\$0		\$0	\$0	\$0	\$0		
Subtotal Fiscal Services	\$15,000	\$0	\$0	\$15,000	\$0	\$15,000		
Contingency								
Contingency	\$328,000	\$0	\$0	\$328,000	\$0	\$328,000		
Subtotal Contingency	\$328,000	\$0	\$0	\$328,000	\$0	\$328,000		
TOTAL COSTS	\$2,783,000	\$0	\$0	\$2,783,000	\$0	\$2,783,000		

Other ** description must be entered

+ For Planning applications under the EDAP Program, please break down Planning costs as follows:

Category A	0		0
Category B	0		0
Category C	0		0
Category D	0		0
Total Planning Costs	0	0	0



AUSTIN, TX 78711-3231

2010 Water Audit Report

A. Water Utility General Information

1. Water Utility Name:	North San Saba	WSC				
2. Contact:						
2a. Name						
2b. Telephone #	www.					
2c. Email Address						
3. Reporting Period:		From _	1/1/2010	То	12/3	31/2010
4. Source Water Utiliza	tion, percentage:	Surface Water	0.00 %	Ground Water	100.0	%
5. Population Served:						
5a. Retail Population	on Served			441_	Δs	sessment
5b. Wholesale Pop	ulation Served			0	, 10	Scale
6. Utility's Length of Ma	ain Lines, miles		_	75.00		0
7. Number of Wholesal	e Connections Se	rved	_	0		
8. Number of Retail Se	rvice Connections	Served		294		
Service Connection (Number of retail services)	•	miles of main	_	3.92		
10. Average Yearly Sys	stem Operating Pr	essure (psi)	_	55.00		0
11. Volume Units of Me	easure:			Gallons		
B. System Input Volume	е					
12. Produced Water				23,356,600 ga	allons	0
13. Production Meter A	ccuracy (enter per	rcentage)		90.00 %	,	0
14. Corrected Input Vol	lume		***************************************	25,951,778 ga	allons	
15. Water Imported				29,060,800 ga	allons	0
16. Water Exported				<u>0</u> ga	allons	0
17. System Input Volu (Corrected input vo		ad water minus	evnorted water)	55,012,578 ga	allons	
(Oon colod input ve	name, plas import	sa water, minas	experied water,		٨	ssessment
C. Authorized Consump	otion				Λ.	Scale
18. Billed Metered				24,619,200 ga	allons	0
19. Billed Unmetered			**************************************	<u> </u>	allons	0
20. Unbilled Metered				<u> </u>	allons	0
21. Unbilled Unmetered	d		<u> </u>	687,657 ga	allons	0
22. Total Authorized (Consumption			25.306.857 g	allons	

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P.O. BOX 13231, CAPITOL STATION AUSTIN, TX 78711-3231

2010 Water Audit Report

D. Water Losses

23. Water Losses (Line 17 minus Line 22)	29,705,721 gallons	
E. Apparent Losses		
24. Average Customer Meter Accuracy (Enter percentage)	95.00 %	0
25. Customer Meter Accuracy Loss	1,295,747 gallons	
26. Systematic Data Handling Discrepancy	0 gallons	0
27. Unauthorized Consumption	137,531 gallons	0
28. Total Apparent Losses	1,433,279 gallons	
F. Real Losses		
29. Reported Breaks and Leaks (Estimated volume of leaks & breaks repaired during the audit pe	4,360,000 gallons	0
30. Unreported Loss (Includes all unknown water loss)	23,912,442 gallons	0
31. Total Real Losses (Line 29, plus Line 30)	28,272,442 gallons	
32. Water Losses (Apparent + Real) (Line 28 plus Line 31) = Line 23	29,705,721 gallons	
33. Non-revenue Water (Water Losses + Unbilled Authorized Consumption) (Line 32, plus Line 20, plus Line 21)	30,393,378 gallons	
G. Technical Performance Indicator for Apparent Loss		
34. Apparent Losses Normalized (Apparent Loss Volume / # of Retail Service Connections/365)	13 gallons	
H. Technical Performance Indicators for Real Loss		
35. Real Loss Volume (Line 31)	28,272,442 gallons	
36. Unavoidable Annual Real Losses, volume (calculated)	9,015,683 gallons	
 Infrastructure Leakage Index (calculated) (Equals real loss volume divided by unavoidable annual real loss 	3.13590 (es)	
38. Real Losses Normalized (Real Loss Volume / # of Service Connections / 365) (This indicator applies if service connection density is greater than 32 / mile)	263 gallons	

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XAS WATER DEVELOPMENT BOARD

P.O. BOX 13231, CAPITOL STATION

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2010 Water Audit Report

39. Real Losses Normalized	1,033	gallons	
(Real Loss Volume/Miles of Main Lines/365)			
(This indicator applies if service connection density is less than 32	2/mile)		
I. Financial Performance Indicators		Assessme Scale	ent
40. Total Apparent Losses (Line 28)	1,433,279	gallons	
41. Retail Price of Water	\$0.00170	0)
42. Cost of Apparent Losses (Apparent loss volume multiplied by retail cost of water, Line 40 x Line 41)	\$2,436.57	-	-
43. Total Real Losses (Line 31)	28,272,441.74	_	
44. Variable Production Cost of Water* (*Note: in case of water shortage, real losses might be valued at the retail price of water instead of the variable production cost.)	\$0.00100	0	<u> </u>
45. Cost of Real Losses (Real Loss multiplied by variable production cost of water, Line 43 x Line 44)	\$28,272.44		
46. Total Assessment Scale		0)
47. Total Cost Impact of Apparent and Real Losses	\$30,709.01		

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XAS WATER DEVELOPMENT BOARD

P.O. BOX 13231, CAPITOL STATION AUSTIN, TX 78711-3231

2011 Water Audit Report

A. Water Utility General Information

1. Water Utility Name:	North San Saba	WSC				
2. Contact:						
2a. Name	Cindy Hibler					
2b. Telephone #	325 372 5348					
2c. Email Address	nsswsc@hotmai	l.net				
3. Reporting Period:		From	1/1/2011	То	12/3	31/2011
4. Source Water Utiliza	tion, percentage:	Surface Water	0.00 %	Ground Wate	100.0 0	%
5. Population Served:						
5a. Retail Population	on Served			441	Δο	sessment
5b. Wholesale Pop	ulation Served			0	Λ3	Scale
6. Utility's Length of Ma	in Lines, miles			75.00		0
7. Number of Wholesal	e Connections Se	rved		0_		
8. Number of Retail Se	rvice Connections	Served		294		
 Service Connection (Number of retail services) 		miles of main	_	3.92		
10. Average Yearly Sys	stem Operating Pr	essure (psi)		55.00		0
11. Volume Units of Me	easure:			Gallons		
B. System Input Volume	9					
12. Produced Water				27,720,900 g	allons	0
13. Production Meter A	.ccuracy (enter pe	rcentage)		95.00 %	6	0
14. Corrected Input Vo	lume		*************	29,179,895 g	allons	
15. Water Imported			***************************************	28,472,850 g	allons	0
16. Water Exported				0 g	allons	0
17. System Input Volu (Corrected input vo		ed water, minus e	xported water)	57,652,745 g	allons	
C. Authorized Consum	otion				As	sessment Scale
18. Billed Metered			**************************************	39,775,300 g	allons	0
19. Billed Unmetered			***************************************	<u> </u>	allons	0
20. Unbilled Metered			B002257000000000000000000000000000000000	0 9	allons	0
21. Unbilled Unmetered	d		\$00.000.000.000.000	3,000,000 g	allons	0
22. Total Authorized (Consumption			42,775,300 g	allons	

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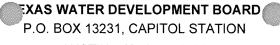
P.O. BOX 13231, CAPITOL STATION AUSTIN, TX 78711-3231

2011 Water Audit Report

D. Water Losses

23. Water Losses (Line 17 minus Line 22)	14,877,445 gallons	
E. Apparent Losses		
24. Average Customer Meter Accuracy (Enter percentage)	95.00 %	0
25. Customer Meter Accuracy Loss	2,093,437 gallons	
26. Systematic Data Handling Discrepancy	0 gallons	0
27. Unauthorized Consumption	0 gallons	0
28. Total Apparent Losses	2,093,437 gallons	
F. Real Losses		
29. Reported Breaks and Leaks (Estimated volume of leaks & breaks repaired during the audit per	4,090,000 gallons	0
30. Unreported Loss (Includes all unknown water loss)	8,694,008 gallons	0
31. Total Real Losses (Line 29, plus Line 30)	12,784,008 gallons	
32. Water Losses (Apparent + Real) (Line 28 plus Line 31) = Line 23	14,877,445 gallons	
33. Non-revenue Water	17,877,445 gallons	
(Water Losses + Unbilled Authorized Consumption)		
(Line 32, plus Line 20, plus Line 21)		
G. Technical Performance Indicator for Apparent Loss		
34. Apparent Losses Normalized (Apparent Loss Volume / # of Retail Service Connections/365)		
H. Technical Performance Indicators for Real Loss		
35. Real Loss Volume (Line 31)	12,784,008 gallons	
36. Unavoidable Annual Real Losses, volume (calculated)	9,015,683 gallons	
37. Infrastructure Leakage Index (calculated)	1.41800	
(Equals real loss volume divided by unavoidable annual real loss	es)	
 38. Real Losses Normalized (Real Loss Volume / # of Service Connections / 365) (This indicator applies if service connection density is greater than 32 / mile) 	119_gallons	

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2011 Water Audit Report

39. Real Losses Normalized	467	gallons	
(Real Loss Volume/Miles of Main Lines/365)			
(This indicator applies if service connection density is less than 32	2/mile)		
I. Financial Performance Indicators		As	sessment Scale
40. Total Apparent Losses (Line 28)	2,093,437	gallons	
41. Retail Price of Water	\$0.00270	_	0
 Cost of Apparent Losses (Apparent loss volume multiplied by retail cost of water, Line 40 x Line 41) 	\$5,652.28	-	
43. Total Real Losses (Line 31)	12,784,007.90		
44. Variable Production Cost of Water* (*Note: in case of water shortage, real losses might be valued at the retail price of water instead of the variable production cost.)	\$0.00180	· •	0
45. Cost of Real Losses (Real Loss multiplied by variable production cost of water, Line 43 x Line 44)	\$23,011.21		
46. Total Assessment Scale			0
47. Total Cost Impact of Apparent and Real Losses	\$28,663.49	-	

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