WATERSMART: WATER AND ENERGY EFFICIENCY GRANTS FOR FISCAL YEAR 2020 – FUNDING GROUP I

CAMERON COUNTY IRRIGATION DISTRICT NO. 6

BENNETT, SWAN NELSON, 134, 139 & 196 CANALS PIPING PROJECT

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Firm Registration No. F-897

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STATE OF TEXAS
FRANK A. FERRIS
70724
REGISTERED
PROFESSIONAL ENGINEER

10.2.19

Technical Proposal:
(1) Executive Summary
Date: October 2, 2019
Applicant: Cameron County Irrigation District No. 6
Los Fresnos, Cameron County, Texas

Cameron County Irrigation District No. 6 (the District) proposes a Funding Group I Project for the Bennett, Swan Nelson, 134, 139 and 196 Canals Piping Project. The District is requesting $300,000, 35% of the total project cost of $857,142.86, to place 9,330 feet of the earthen Bennett, Swan Nelson, 134, 139, and 196 Canals into 24-inch and 30-inch PVC pipelines to conserve approximately 1,040 acre-feet of water per year. The project will result in significant water conservation, increased water efficiency, and improve District reliability by modernizing critical aging infrastructure to meet Department of the Interior Priorities. Estimated conservation, verified by field seepage testing for each canal, will result in more water available to help mitigate future conflict in the Lower Rio Grande Reservoir System, an area of high risk for future water conflict, as the water resource is shared with Mexico. Conserved water is allocated to other users in the reservoir system when the District has a full storage balance. Furthermore, conservation of water will help alleviate ongoing conflicts with East Rio Hondo Water Supply Corporation, a potable water supplier that is able to purchase water rights at a reduced rate (approximately 50% of the value), through current state water code regulation §49.500, known as Subchapter O, which applies when land is converted from agricultural use to municipal use. In this relationship, the District loses the ability to deliver the water and suffers an economic loss. The conservation and related cost savings through this grant help mitigate this loss. The piping of the canals will provide additional energy in the fields, improving irrigation efficiency and allowing more opportunity for on-farm improvements through the NRCS, such as, on-farm piping and drip irrigation systems which will result in further conservation. The District has adopted a formal NRCS Projects Policy to ratify its historic cooperation with landowners on NRCS funded conservation projects and advertise their willingness to cooperate on future projects. The District will implement a comprehensive administrative procedure to analyze annual efficiency as a part of the Final Report to verify system efficiency improvements for the prior five years and continue the practice in future years. The administrative procedure will reveal how successful the WaterSMART and other conservation programs have been for the District on past and future projects.

The project construction can begin upon entering into a financial assistance agreement, and approval of the environmental compliance by the area office. The District was successful in acquiring a Texas Water Development Board Grant for the piping of the Bennett and Swan Nelson Canals and will have completed the engineering, surveying and material bidding upon execution of this grant agreement, all eligible for pre-award costs. The environmental requirements of the Texas Water Development Board (TWDB) are similar to those required by the Bureau of Reclamation. The project schedule is based on a two year completion from the date of agreement with the BOR. The estimated completion date for this project is September 30, 2022.

This project is not located on a Federal Facility.

(2) Background Data

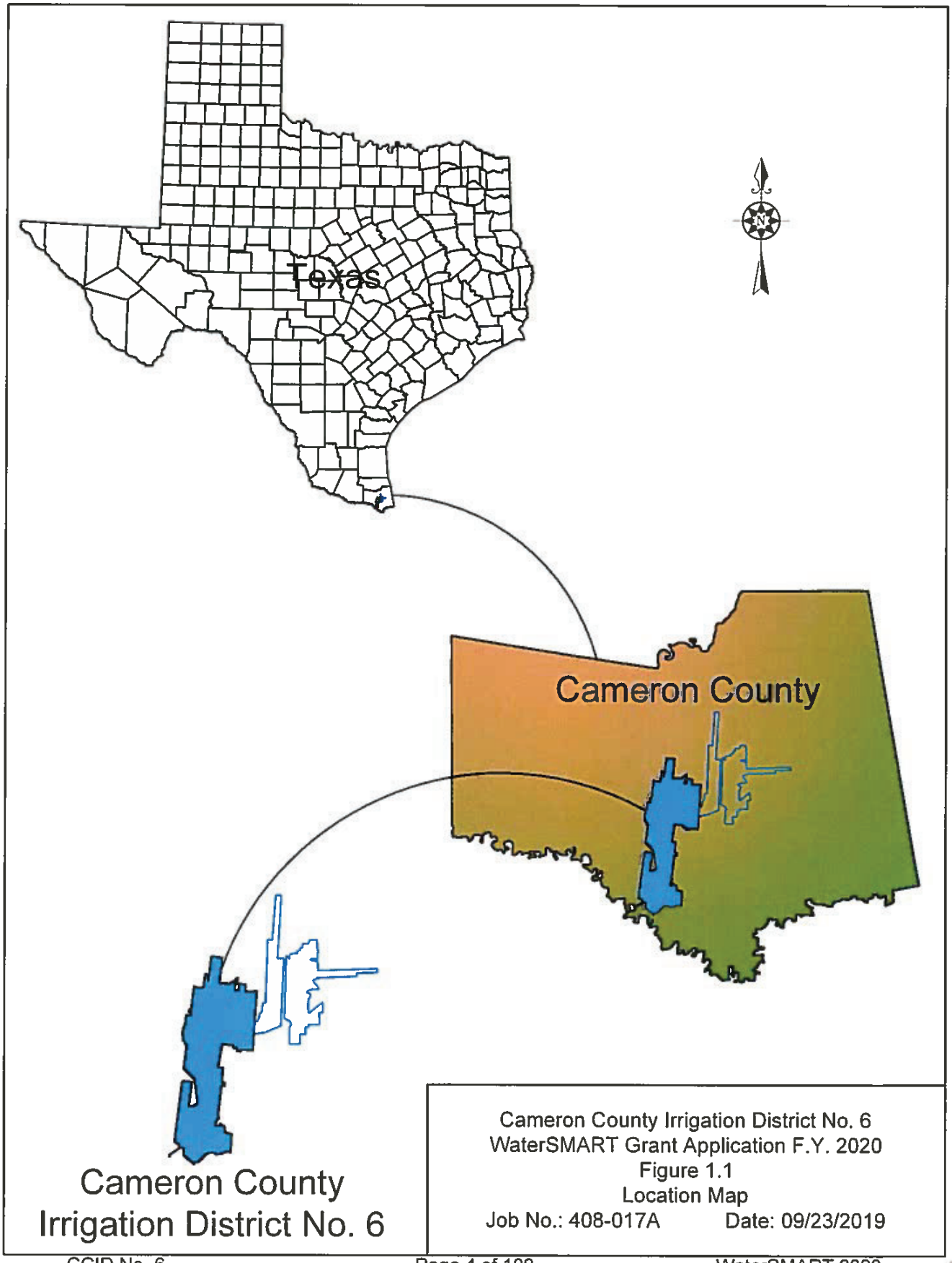
Cameron County Irrigation District No. 6 (the District) is located in the Lower Rio Grande Valley Region with its main office located in Los Fresnos, Texas. Figures 1.1 – 1.3 provide a general location map of the District as well as the proposed canals to be placed into pipelines. The District boundary encompasses 33,400 acres. The District currently serves 17,800 acres of irrigated farmland where farmers grow citrus, vegetables, sugar cane, sorghum, corn, cotton and hay.

The District provides raw water to the potable water suppliers of the City of Los Fresnos and Olmito Water Supply Corporation. The District diverts and delivers irrigation water for Cameron County Water Improvement District No. 10 (District 10) and Bayview Irrigation District No. 11 (District 11).

Table 1 provides a history of water diverted by the District from 2012 through 2018. The District diverted an average of 27,700 acre-feet, 13,900 of that was diverted for downstream customers. District 10 is an irrigation customer and maintains about 8,000 acre-feet of water rights. District 11, also an irrigation customer of District 6, maintains approximately 17,000 acre-feet. Olmito Water Supply Corporation and the City of Los Fresnos maintain approximately 1,546 acre-feet and 1,051 acre-feet of municipal water rights, respectively. The District occasionally diverts water for the Brownsville Public Utilities Board, under their Excess Use 1838 Permit. The District, being one of the last diverters on the Rio Grande prior to the Gulf of Mexico, often takes advantage of the "No Charge" Diversions where excess flow in the river may be diverted without being charged against the District's storage allotment in the Rio Grande Watermaster System. Over the past seven years, the District has averaged 2,235 acre-feet of "No Charge" Diversions. The District actively markets allocation to other irrigators and Districts in need. The District is seven days downstream from Falcon Dam, managed by the Rio Grande Watermaster, and consequently cannot always divert water orders due to climatic conditions. The lost flows are charged to the District's account and are reflected in Table 1 as "River Losses".

All water right holders along the Rio Grande below Amistad Dam are part of the Lower Rio Grande Valley Watermaster System. The system has been adjudicated; therefore, irrigation water right holders are equally distributed available water after municipal and industrial water right holders have been accounted for. Currently, the District owns water rights to divert water from the Rio Grande in the amount not to exceed 49,565 acre-feet per year for irrigation purposes. Over the past five years, the District has diverted, from the Rio Grande, an average of 35,000 acre-feet for all purposes, including its clients.

The District's delivery system begins with the First Lift Plant that consists of an existing 400 cubic feet per second (cfs) pumping facility and a new 180 cfs pumping facility. The First Lift Plant is located along the Rio Grande (shown in Figure 1.2). The District maintains an 1,800 acre foot Reservoir that is located about 2 miles north of the River Pump Station along the District's Main Canal.



Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 1.1
Location Map
Job No.: 408-017A Date: 09/23/2019

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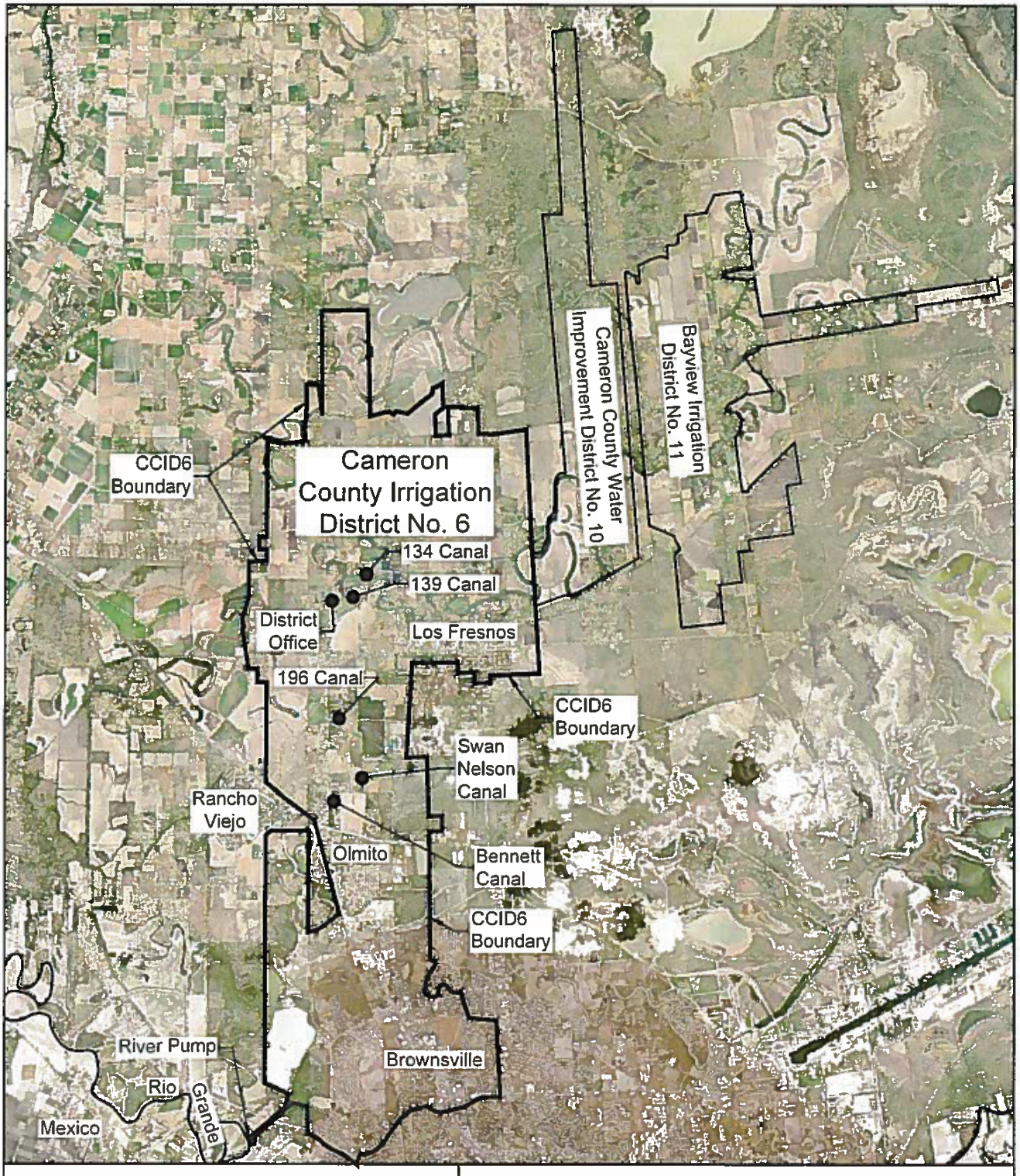

Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 1.2
District Boundary Map
Job No.: 408-017A Date: 09/23/2019

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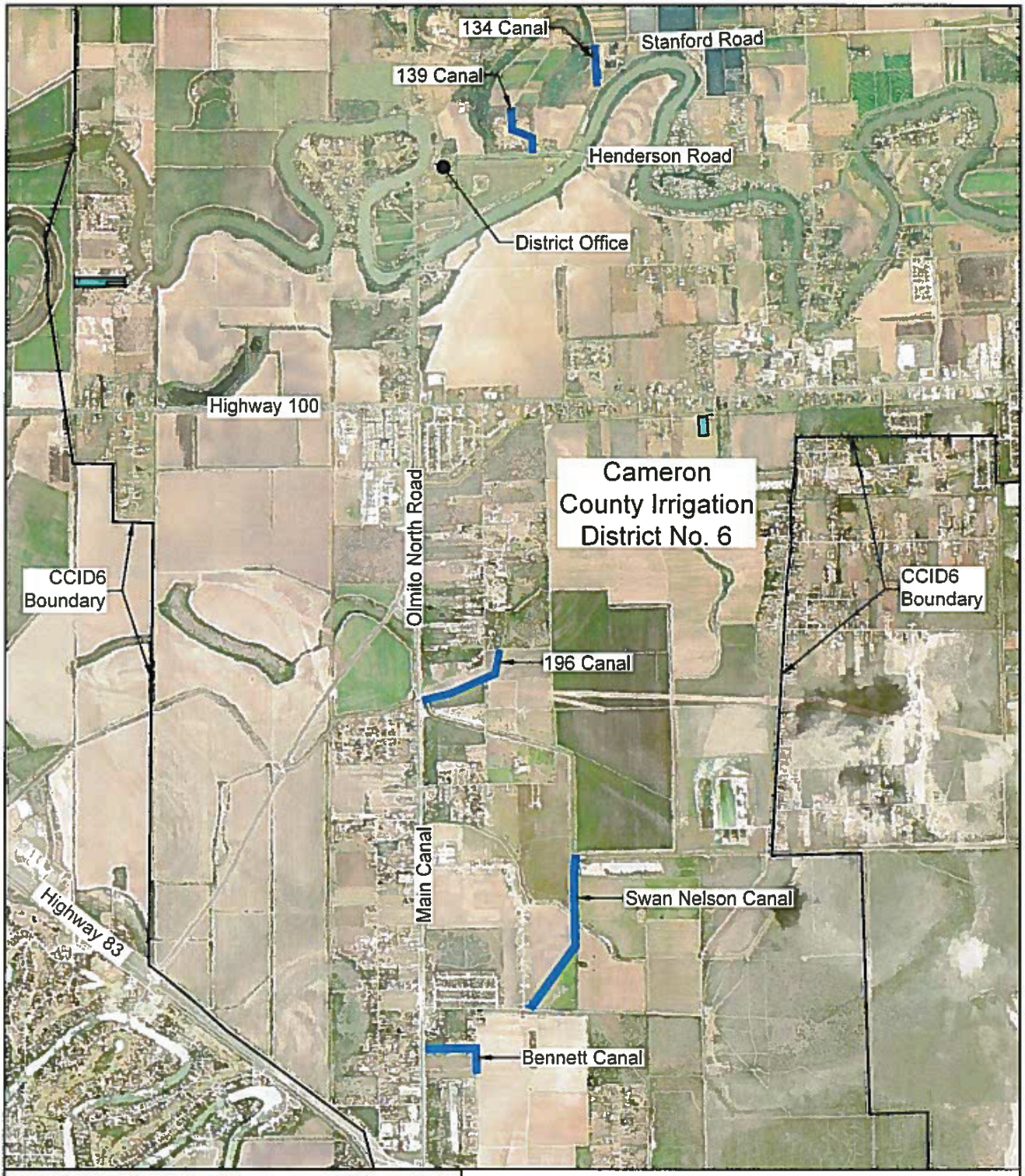

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1,500 2,000'

Scale: 1"=3,000'

Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 1.3
Canal Location Map
Job No.: 408-017A Date: 09/23/2019

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Downstream of the District's reservoir, 8 miles of main canal lead to the Resaca de Los Cuates which the District utilizes as a second reservoir and a supply source for its Second Lift Pump. The Resaca de Los Cuates has a valuable storage capacity of about 700 acre-feet.

The District's Second Lift Pump Station consists of two natural gas powered pumps and one electric driven pump. The two gas driven pumps are rated for about 60 and 40 cfs while the electric pump is rated for about 20 cfs. The District's delivery system includes 71 miles of open canal and 20 miles of underground pipeline. One shortfall in the District's delivery system is that it is limited in hydraulic capacity at several structures. During periods of heavy demand at Districts 10 and 11, demand is also heavy within the District. As such, all conservation in the District results in more net capacity available during peak periods.

The District began pursuing water conservation under the management of Mr. Tito Nieto, who was hired in 2012. Recently, the District has accomplished several conservation projects including the 2015 WaterSMART Project; Placement of the Saldana Canal into Pipeline, Elimination of the Saldana Pump with a Resaca Crossing, Solar Powered Second Lift Pump, Refuge Outlet, and Water Marketing, resulting in an annual water conservation of 275 acre-feet and energy conservation of 53,052 kWh per year. The Project also accomplished endangered species and water marketing goals through construction of the outlet to the USFWS Lower Rio Grande National Wildlife Refuge.

The District is a member of the Rio Grande Regional Water Authority that participated in the "Lower Rio Grande Basin Study," prepared by the BOR in 2013. The District looks forward to a long relationship with the Bureau to accomplish water and energy conservation projects in the future.

(3) Project Location

The Canal Improvements are located approximately 4.0 miles west of downtown Los Fresnos. The Bennett Canal latitude is 26°02'10.75"N and longitude is 97°31'46.50"W. The Swan Nelson Canal latitude is 26°02'16.75"N and longitude is 97°31'19.75"W. The 134 Canal latitude is 26°05'36.76"N and longitude is 97°30'35.34"W. The 139 Canal latitude is 26°05'29.29"N and longitude is 97°30'57.04"W. The 196 Canal latitude is 26°03'29.67"N and longitude is 97°31'36.03"W. Figures 1.1 - 1.3 provide the location of the District and the proposed pipeline installations for the project.

(4) Technical Project Description

This project consists of water conservation to meet the goals of the 2020 WaterSMART Funding Opportunity Announcement. The first component of the project is the placement of the Bennett and Swan Nelson Canals into PVC pipelines. The placement of the 1,720 foot long Bennett Canal into PVC pipeline will conserve 58 acre-feet of water per year while the placement of the 3,800 feet long Swan Nelson Canal into PVC pipeline will conserve 260 acre-feet of water per year. The second component of the project is the placement of the 134, 139 and 196 Canals into PVC pipelines.

The lengths of the canal piping for the 134, 139 and 196 Canals are 900 feet, 1,300 feet and 1,610 feet respectively. The 134, 139 and 196 Canals will conserve 62, 95 and 71 acre-feet of water per year respectively. In total, the project will place 9,330 feet of the earthen Bennett, Swan Nelson, 134, 139 and 196 Canals into PVC pipelines and will conserve a combined total of 1,040 acre-feet of water per year. The water savings were determined by analyzing on field water savings for the impacted project service area as well as by conducting seepage tests on each of the five canals. The seepage testing was conducted by Ferris, Flinn & Medina, LLC, in support of this application. Detailed seepage testing results are presented in Appendix B.

The Bennett Canal pipeline will be eliminated by construction of a 24" PVC pipeline. The existing Bennett Canal is an old earthen canal with a length of approximately 1,720 feet and an average cross sectional area of 13 square feet. The canal operates about 100 days out of the year. Each time the canal is filled to serve a customer, the volume of the canal is lost to seepage and evaporation. The majority of water losses for this canal occur through seepage into the ground. Water losses due to evaporation were insignificant. The measured seepage losses from the Bennett Canal seepage test were approximately 0.58 acre-feet per day. At 100 days of operation, this translates to 58 acre-feet per year of seepage losses. Figure 2.1 is a photograph of the Bennett Canal.

The Swan Nelson Canal pipeline will be converted into a 24" PVC pipeline. The Swan Nelson canal operates about 180 days out of the year. The measured seepage losses from the Swan Nelson Canal seepage test were approximately 1.44 acre-feet per day. At 180 days of operation, this translates to 260 acre-feet per year of seepage losses.
This canal is utilized to fill stock tanks during periods when no crop irrigation occurs. Figure 2.2 is a photograph of the Swan Nelson canal.

The 134 Canal pipeline will be improved with a 24" PVC pipeline. The measured seepage losses from the 134 Canal seepage test were approximately 0.34 acre-feet per day. Based on the annual average of 180 days of operation per year, this translates to 62 acre-feet, per year, of seepage losses. Figure 2.3 is a photograph of the 134 Canal.

The 139 Canal pipeline will be converted to a 24" PVC pipeline. The 139 canal operates about 180 days out of the year with measured seepage losses of approximately 0.52 acre-feet per day. At 180 days of operation, this translates to 95 acre-feet per year of seepage losses, based on the seepage testing conducted on the canal. Figure 2.4 is a photograph of the 139 Canal.

The 196 Canal pipeline requires a 30" PVC pipeline, larger than the other pipelines to service a larger downstream service area. The 196 Canal operates about 180 days out of the year. The measured seepage losses from the 196 Canal seepage test were approximately 0.39 acre-feet per day, resulting in 71 acre-feet per year of conservation, at 180 days of annual operation. Figure 2.5 is a photograph of the 196 Canal.

The proposed PVC pipelines for all five canals will have negligible seepage losses. Each canal piping project will be completed with irrigation stand pipes and collars, as required, to connect to existing facilities.
In addition, each canal piping project will provide outlets to farmers, as needed. PVC pipe will be AWWA C900, DR-51, 80 psi pipe, resulting in negligible losses in the new pipelines.

Figure 2.1: Bennett Canal

Figure 2.2: Swan Nelson Canal

Figure 2.3: 134 Canal

Figure 2.4: 139 Canal

Figure 2.5: 196 Canal

(5) Evaluation Criteria

Evaluation Criterion A: Quantifiable Water Savings

The water savings as a result of the five canal improvement projects are projected to be 1,040 Acre-feet per year (see Tables 2 & 2.1). The first component of the water savings estimate is the 546 acre-feet per year of seepage losses. This figure was determined by conducting seepage tests on the Bennett, Swan Nelson, 134, 139 and 196 canals. Based on these seepage test results, the Bennett and Swan Nelson Canals incur seepage losses of 0.58 acre-feet per day and 1.44 acre-feet per day respectively. These seepage losses translate to 58 acre-feet per year for the Bennett Canal and 260 acre-feet for the Swan Nelson Canal. The 134,139 and 196 Canals incur seepage losses of 0.34 acre-feet per day, 0.52 acre-feet per day and 0.394 acre-feet per day respectively. These seepage losses translate to 62 acre-feet per year for the 134 Canal, 95 acre-feet per year for the 139 Canal and 71 acre-feet per year for the 196 Canal. Table 2 summarizes the results of the seepage studies. Detailed seepage test results are provided in Appendix B.

The second component of the water savings is the 494 acre-feet per year of water saved at the field by irrigating through a pressurized pipeline. This estimate is summarized in Table 2.1.

Table 2: Water Loss Results From Seepage Study

CANAL SECTION	WATER LOSS (AC FT / YR)	SECTION LENGTH (MILES)	ANNUAL TRANSIT LOSS REDUCTION (AC FT / YR / MILE)
A (Bennett)	48	0.21	229
B (Bennett)	10	0.10	96
C (Swan Nelson)	175	0.33	537
D (Swan Nelson)	28	0.12	242
E (Swan Nelson)	57	0.28	202
F (134)	62	0.17	365
G (139)	95	0.25	380
H (196)	71	0.30	237
TOTAL (AC-FT / YR)	546		
TOTAL (MILES)		1.76	
ANNUAL TRANSIT LOSS REDUCTION (AC FT / YR / MILE)			310

Table 2.1: Field Water Savings

Impacted Project Service Area	
B (Bennett)	230 Acres
C-E (Swan Nelson)	432 Acres
F (134)	23 Acres
G (139)	37 Acres
H (196)	19 Acres
Total Impacted Project Service Area	**741 Acres**
Irrigations per Field per Year	4
Water Depth Required at the Field using Open Canal	6" per Irrigation
Total Water Depth Required Per Year Using Open Canal	2 ft
Total Water Usage (Ac.Ft.) at the field	**1,482 Acre-Feet / Yr.**
Water Depth Required at the Field using Pressurized Pipeline per Brownsville Irrigation District (BID) Metering	4" per Irrigation
Irrigations per Field per Year	4
Conservation (Inches) using Pressurized Pipeline vs. Open Canal	2" per Irrigation
Total Water Conservation Per Year Using Pressurized Pipeline	8" = 0.66 ft
Total Field Water Savings (Ac.Ft.)	**494 Acre-Feet / Yr.**

The current losses are seepage that are percolating into the ground. The ground water in the area is brackish and has no beneficial use. During heavy irrigation periods, the canal seepage contributes to high levels of brackish ground water that is detrimental to crop yields. Elimination of seepage from the project canals will improve yields on surrounding farm land.

1a. To obtain the water savings estimate on Table 2, Ferris, Flinn & Medina, LLC conducted a seepage study on all five earthen canals and determined seepage losses were approximately 58 acre-feet per year for Bennett Canal, 260 acre-feet per year for the Swan Nelson Canal, 62 acre-feet per year for the 134 Canal, 95 acre-feet per year for the 139 Canal and 71 acre-feet per year for the 196 Canal. Placing all five of these canals into PVC pipelines, which have no measurable losses, will conserve a total of 546 acre-feet of water that is currently seeping into the ground. All five seepage studies and calculations are available in Appendix B of this application.

The estimate presented on Table 2.1 was determined by analyzing the water savings of irrigating the field through a pressured pipeline rather than through an open canal. The fields currently watered through the Bennett, Swan Nelson, 134, 139 and 196 Canals all use 6 inches of water depth. The estimate on Table 2.1 assumes an average of 4 irrigations per year, each using the 6 inches of water depth for a total depth of 2 feet per year. Sugarcane, citrus and vegetables will require more irrigations, while cotton and grain will require fewer irrigations; nonetheless, 4 irrigations per year is a good average. Multiplying the 2 feet by the total impacted project service area of 741 acres gives the total water usage at the field of 1,482 acre-feet per year. However, by irrigating through a pressurized pipeline the fields will be watered more quickly and efficiently, thus, the 6 inch watering depth at the field can be reduced to only 4 inches. This provides a water depth savings of 2 inches per irrigation. Brownsville Irrigation District (BID), a neighboring irrigation district with similar crops and weather patterns, provided their experience with irrigation through pipelines with more pressure available at the field resulting in the 4 inch watering depth figure presented on Table 2.1. BID meters all of its water at the field since their rate structure is based on $4 per acre for a maximum of 4 inches of water at the field and $5 per acre for each additional inch applied. Using the water depth savings of 2 inches per irrigation, it can be estimated that for 4 irrigations per year, the total water depth saved will be 8 inches per year. Converting these 8 inches into feet and multiplying times the total impacted project service area of 741 acres gives the total water savings at the field of 494 acre-feet per year.

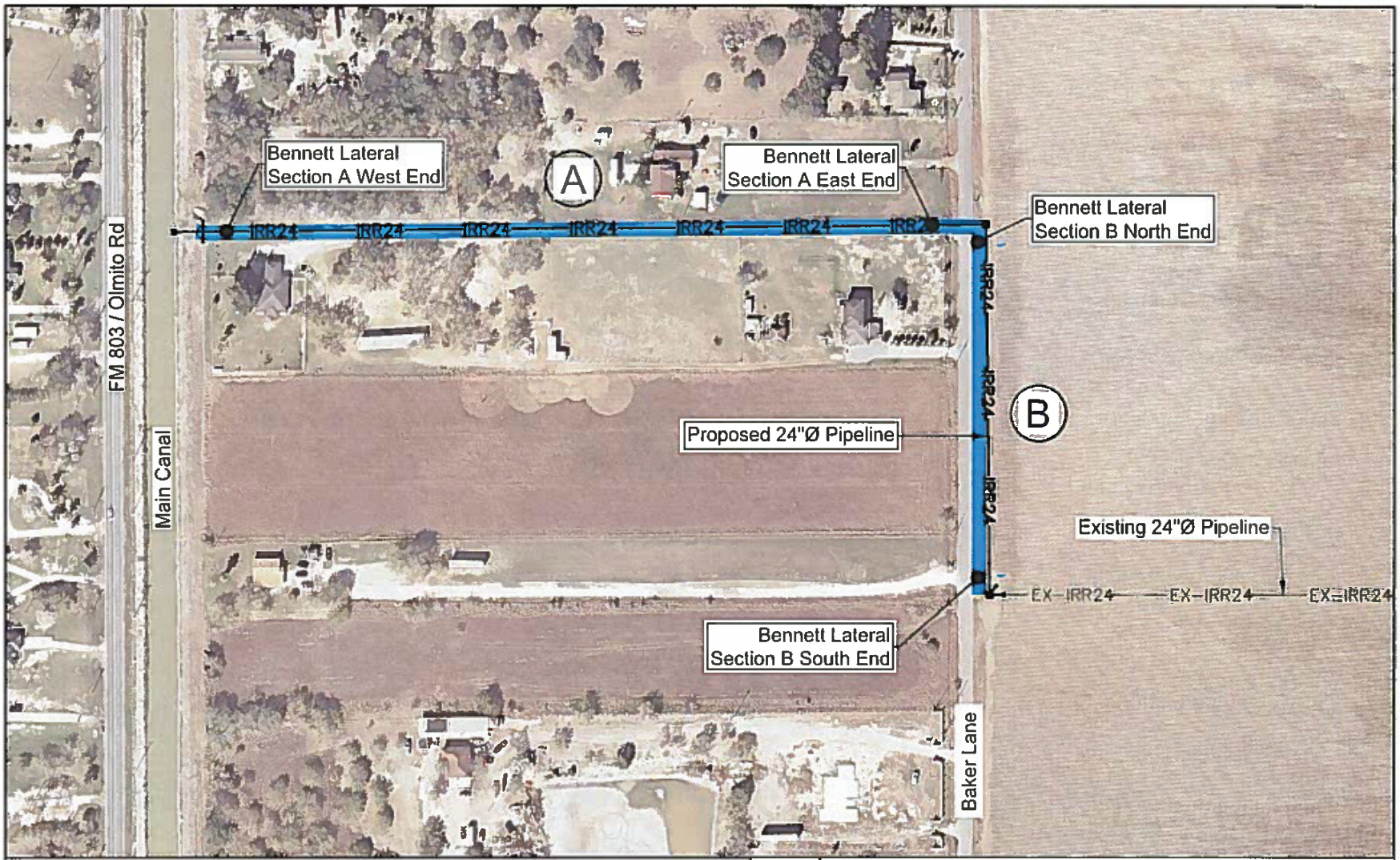
1b. The canals were tested in sections A through H as shown on Figures 3.1 - 3.5. First, the canals were filled to their maximum operating conditions and buckets filled with water were placed at the starting and ending points of each canal section to account for evaporation. Field data for each canal was then gathered and water loss readings were then taken at the beginning and end points of each section shown on Figures 3.1 through 3.5. The data gathered also included time intervals between each reading, wind speed, humidity percentage, and temperature. The total volume of water lost to seepage is calculated for each section at each reading interval using the end area method. The total volume lost is then divided by the average testing time period for those sections, which provides the Interval Water Loss in Acre-feet per Day. Finally, the Interval Water Loss (Ac.Ft./Day) is multiplied by the total days of operation for each canal in a given year which results in the expected Water Loss in Acre-feet per Year. Note that for Section A (Bennett Canal), seepage losses occurred so rapidly between reading intervals that the average of the first two readings was used for the total seepage losses of that canal section because they represent the normal operating levels in the canal. The Annual Water Loss in Acre-feet per Linear Feet of canal section is also provided and is derived from dividing Water Loss (Ac.Ft./Yr) by the Linear Feet of Canal section. These calculations along with all data gathered during the seepage studies are available under Appendix B: Seepage Studies.

1c. There are no expected post-project seepage losses. All canals will be replaced with 24 and 30 inch diameter, 80 PSI PVC pipelines, which have no measurable losses.

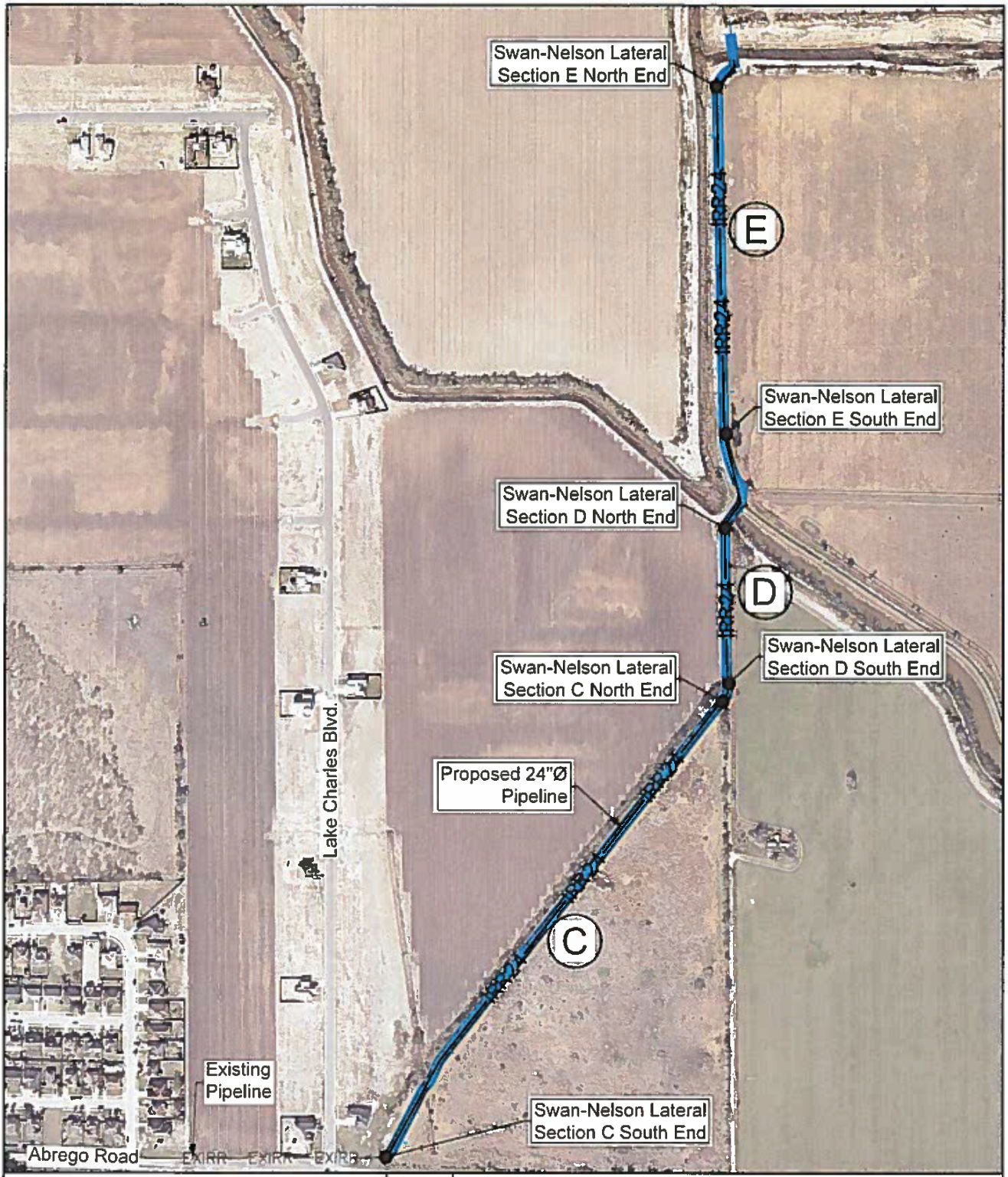
1d. Anticipated annual transit loss reductions for the overall project are 310 acre-feet per mile as shown in Table 2. This figure was calculated by dividing the total project water loss of 546 acre-feet by the 1.76, the total length of the piping project in miles. Table 2 includes transit losses broken down for each section of canals included in the project.

1e. A leakage test will be performed on each pipeline upon installation to verify there is no leakage on each pipeline.

1f. All proposed PVC piping will be AWWA C-900 DR-51, Pressure Class 80 PSI. 48" diameter Reinforced Concrete Pipe (RCP) will be used to construct irrigation wells along with 24" Fresno Model 4200 Gates with Stainless Rails and Bronze Seats where necessary. Polyriser Outlets and 14"x15" Alfalfa Valves will also be installed for field outlets.



Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 3.1
Bennett Canal Piping Map
Job No.: 408-017A Date: 10/01/2019


Swan-Nelson Lateral
Section E North End
E
Swan-Nelson Lateral
Section E South End
Swan-Nelson Lateral
Section D North End
D
Swan-Nelson Lateral
Section D South End
Swan-Nelson Lateral
Section C North End
Proposed 24"Ø
Pipeline
Lake Charles Blvd.
C
Existing
Pipeline
Swan-Nelson Lateral
Section C South End
Abrego Road
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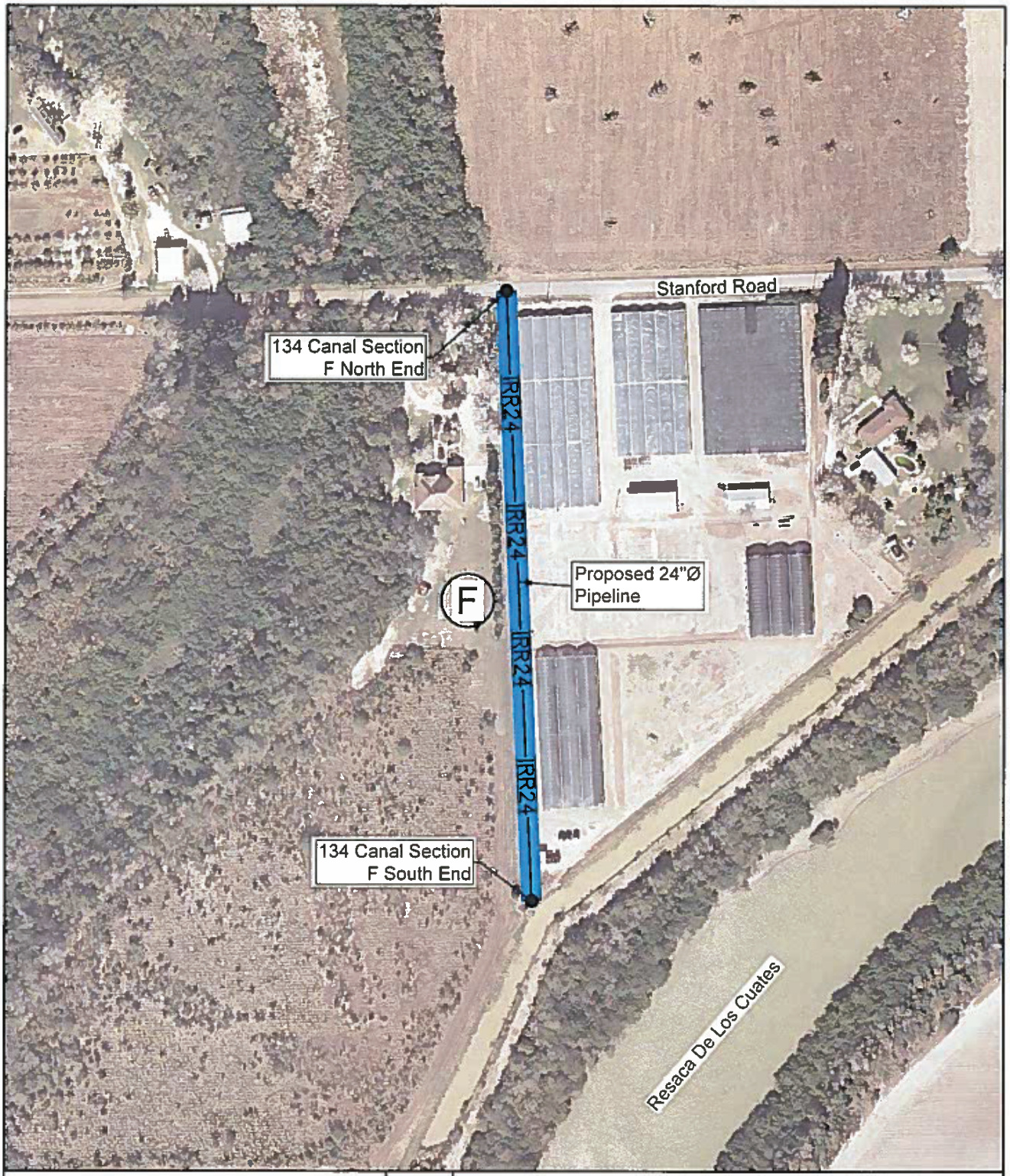
Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 3.2
Swan Nelson Canal Piping Map
Job No.: 408-017A
Date: 10/01/2019



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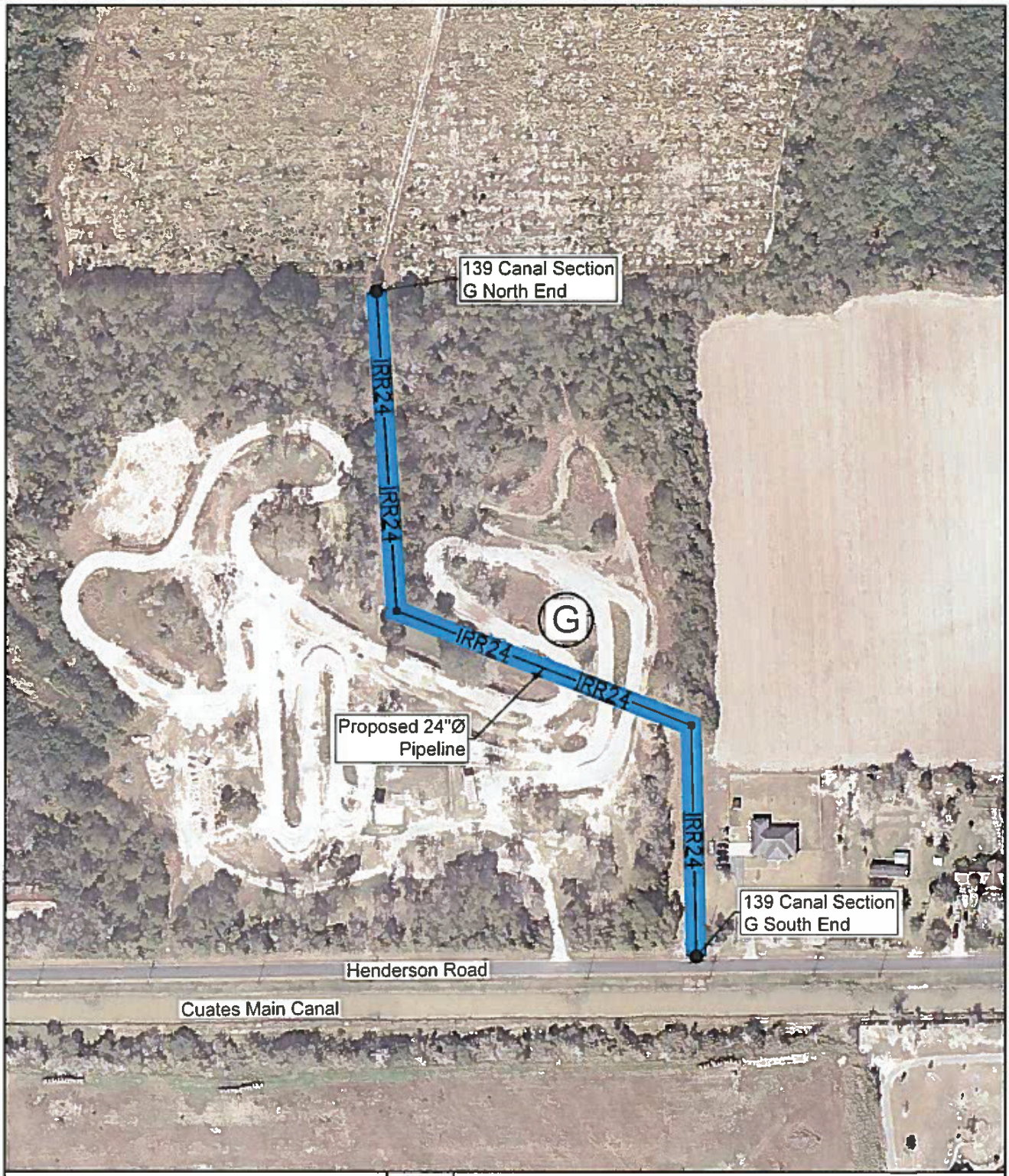
Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 3.3
134 Canal Piping Map
Job No.: 408-017A Date: 10/01/2019



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Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 3.4
139 Canal Piping Map
Job No.: 408-017A Date: 10/01/2019

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Scale: 1"=400'

Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 3.5
196 Canal Piping Map
Job No.: 408-017A Date: 10/01/2019

Evaluation Criterion B: Water Supply Reliability

There is a water supply sustainability concern in the Lower Rio Grande Basin. The two major factors contributing to this concern are the future increase in water demand and the water supply shortages due to drought and over allocation.

Table 1 includes data for In-District Irrigation water usage over the last seven years. The District's baseline water usage for irrigation purposes over the last seven years has been 11,928 acre-feet on average. As shown on Figure 4, the trend for use of water for In-District Irrigation has been increasing over the last six years. It should be clarified that the increase in irrigation is not due to increase in District acreage, rather farmers deciding to irrigate more of their crops because the level of service, reliability, and crop yield have merited the decision trend, and through conservation, more water has been available. Figure 4 also highlights how the implementation of previous water conservation projects has decreased System Losses over the last seven years. It is the District's goal to continue to implement water conservation projects such as this proposed project in an effort to minimize System Losses in the future.

As previously discussed, all water right holders along the Rio Grande below Amistad Dam are part of the Lower Rio Grande Valley Watermaster System. This system is over allocated and is susceptible to long-term drought, due to a watershed in a semi-arid region. The system has been adjudicated; therefore, irrigation water right holders are equally distributed available water after municipal and industrial water right holders have been accounted for. This situation is further complicated by the fact that the US Share is subject to a treaty with Mexico that allows Mexico to defer water deliveries up to five years. The result is a system susceptible to extreme drought and international water conflict. The Amistad-Falcon Storage Conditions from 1996 to present, shown on Figure 5, for example, highlight extended low periods of conservation capacity. It is important to note that between the years of 1996 and 2004, the reservoir storage dropped below 50% and remained there for the entire nine years. The Rio Grande Watermaster will allocate conserved water, when the District's account is full, to other users in the system, prorated based on water rights for those users with reservoir storage capacity.

Water conservation improvements are imperative to long-term water resource management. Conserved water from the installation of the PVC Pipelines will allow the District to conserve and better manage its limited water supply. By eliminating seepage losses, the PVC pipelines will also allow the District to decrease its diversions at the river while still being able to meet its producers' water demands. The proposed project will allow the District to successfully address a major water reliability concern in the region and improve the District's water resource management. When the District has a full storage balance in the Reservoir System, all conserved water is allocated to other users in the system. The District often has a full storage balance, meaning this project will have a real impact on the other users in the system.

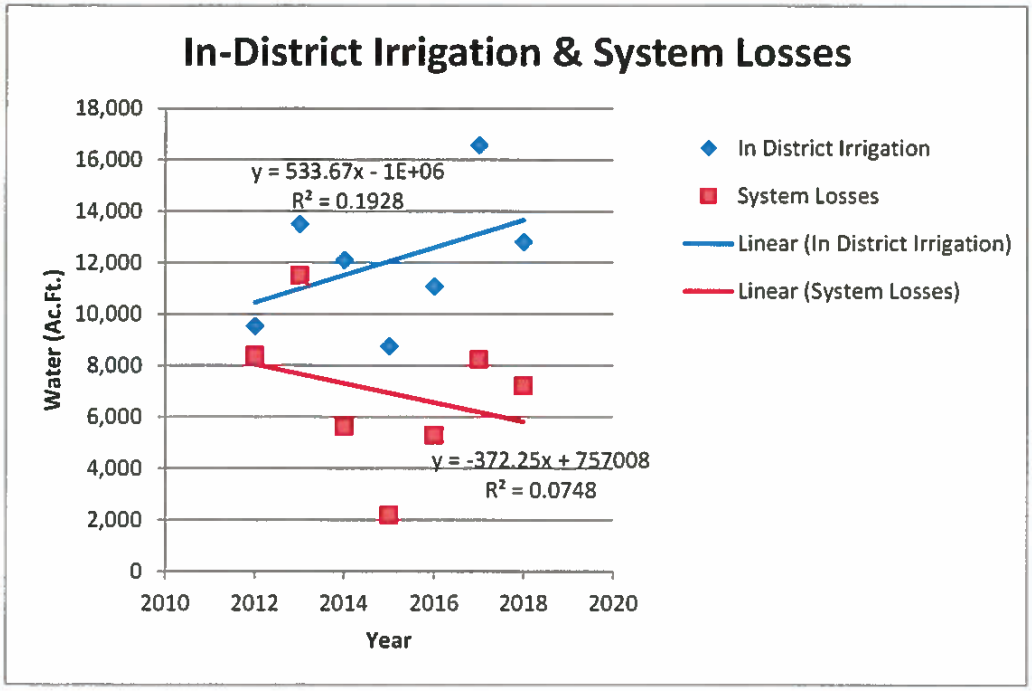


Figure 4: In-District Irrigation & System Losses

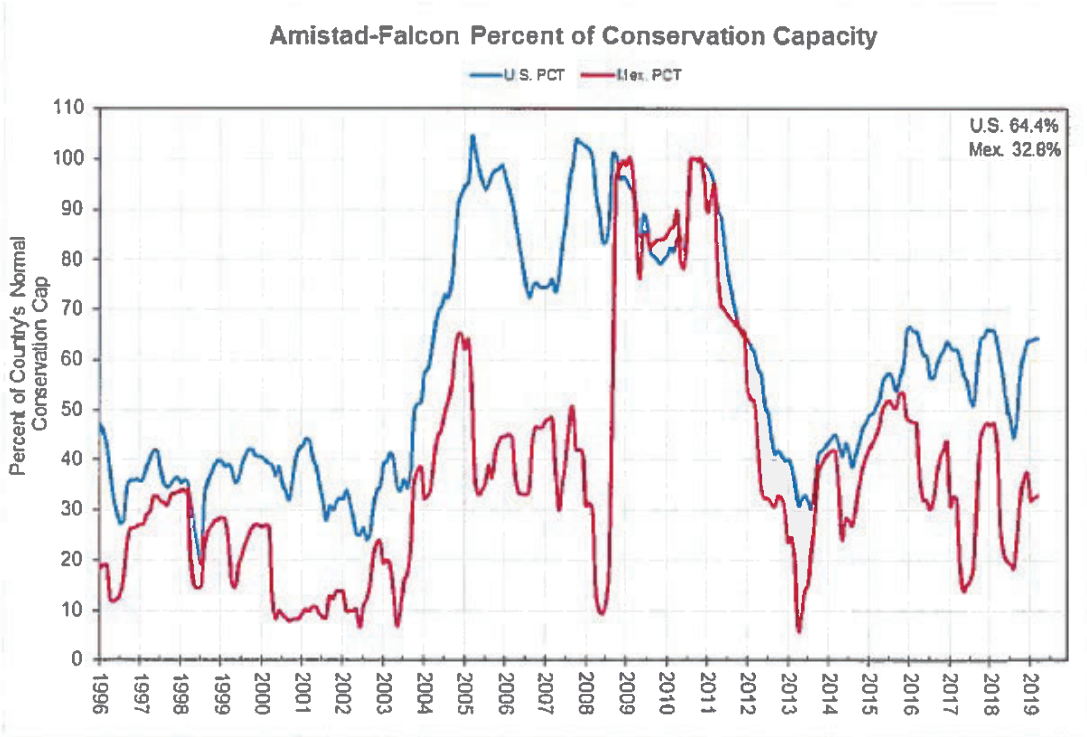


Figure 5: Amistad-Falcon Percent of Conservation Capacity

Furthermore, conservation of water will help alleviate ongoing conflicts with East Rio Hondo Water Supply Corporation, a potable water retailer that is able to purchase water rights at a reduced rate (approximately 50% of the value), through current state water code regulation §49.500, known as Subchapter O, which applies when land is converted from agricultural use to municipal use. In this relationship, the District loses the ability to deliver the water and suffers an economic loss. The conservation and related savings through this grant help mitigate this loss.

Olmito Water Supply Corporation, the City of Los Fresnos, Cameron County Water Improvement District No. 10, Bayview Irrigation District No. 11, Indian Lake and Cameron County Water Improvement District No. 20, all rely on the this District to divert and deliver their water. An increase in efficiency, through the conservation associated with this project, benefits all the District's customers, as the District is a nonprofit public entity. The District also delivers water to the US Fish & Wildlife Service (USFWS), Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) Fish Hatchery Unit, which benefits endangered species. The LRGVNWR manages its water resources as it determines most beneficial to the Ocelot, along with other species in the area. The District provides water to the refuge upon request.

The service area of the District and its downstream areas are rural and economically disadvantaged communities. Thus, there is widespread support for this project, as reflected in the attached Letters of Support. The TWDB has contracted with the District to provide $97,500 for materials for the Bennett and Swan Nelson piping projects, as part of its Agricultural Water Conservation Grant Program. The District was one of the few agricultural grant projects awarded by the TWDB, in 2019. Appendix H provides an email from the TWDB regarding the grant award.

Evaluation Criterion C: Implementing Hydropower

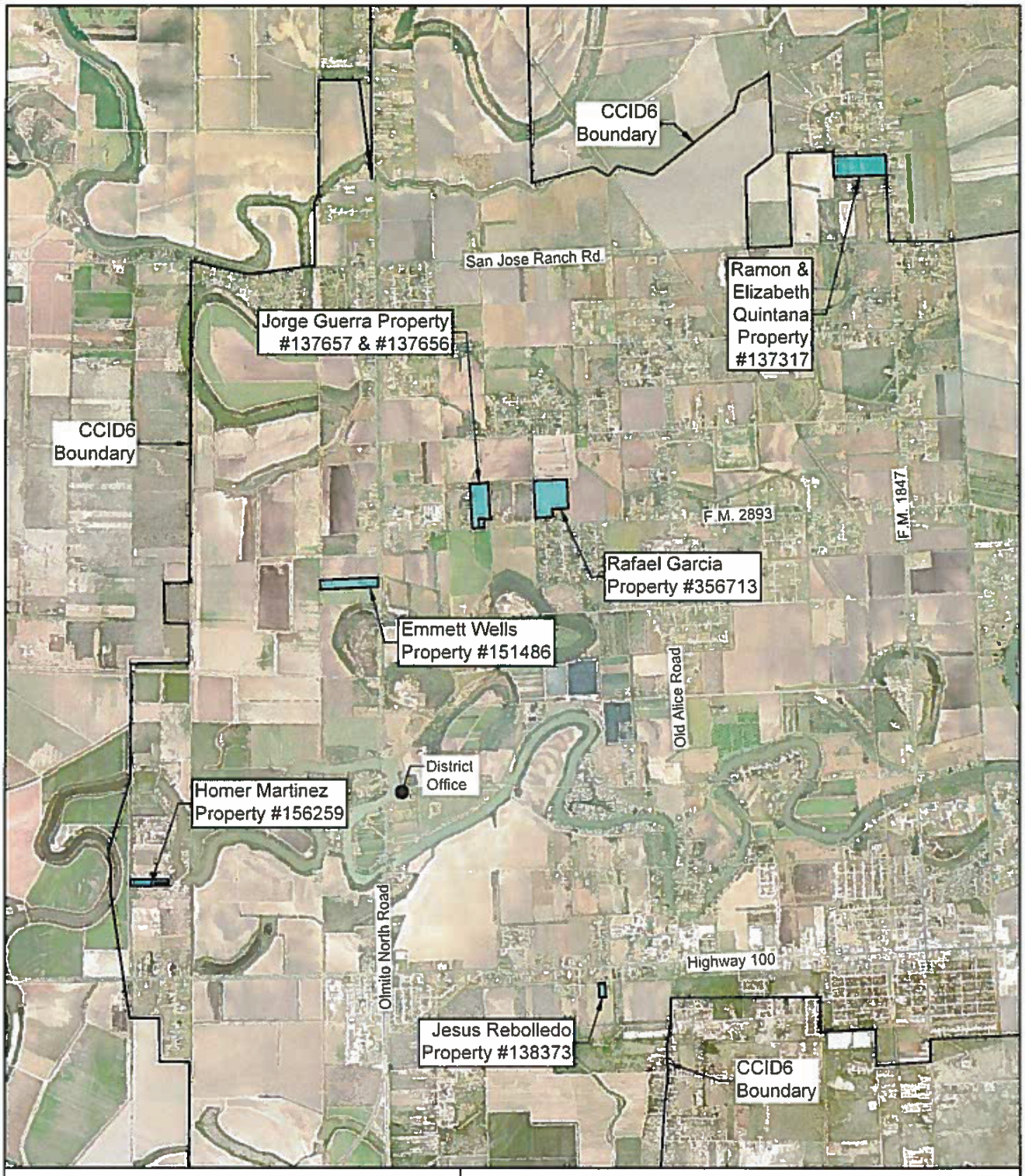
The geographic location of the District does not allow for significant energy generation through hydropower. Therefore, this project will not include the installation of a hydropower system.

Evaluation Criterion D: Complementing On-Farm Irrigation Improvements

The District provides assistance to landowners for On-Farm Irrigation Improvement projects including those that are funded by the NRCS. The District provides labor and equipment for pipeline installation to landowners at the current rate of $4.00 per linear foot. The District also provides landowner assistance by providing the materials at cost including factory direct pricing for PVC pipe as offered to the District. The District has historically practiced the above landowner assistance programs. Table 3 below provides a list of recent, successfully completed, NRCS projects on which the District provided assistance. Figure 6 shows the location of all NRCS projects listed on Table 3. Appendix I includes documentation for on-farm projects completed by the District.

Table 3: Historic NRCS Projects

Completion Year	Landowner	Length of Pipe Installed by District (L.F.)	Pipe Diameter
2019	Homer Martinez	220	12" PVC Pipe
2017	Jesus Manuel Rebolledo	1,185	15" PVC Pipe
2016	Emmett Wells	940	12" PVC Pipe
2015	Ramon & Elizabeth Quintana	820	12" PVC Pipe
2014	Jorge L. Guerra	660	15" PVC Pipe
2014	Rafael Garcia	250	15" PVC Pipe



3,000' 0 1,000' 3,000'

1,500 2,000'

Scale: 1"=4,000'

Cameron County Irrigation District No. 6
WaterSMART Grant Application F.Y. 2020
Figure 6
NRCS Projects Location Map
Job No.: 408-017A Date: 09/23/2019

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On September 12, 2019 the District Board of Directors adopted an official policy to formally advise its customers about its historic landowner assistance program. Appendix G includes a copy of the adopted NRCS Projects Policy.

The proposed canal piping projects will directly facilitate the implementation of on-farm improvements projects such as drip irrigation, because the pipelines will significantly increase the available energy in the field by transferring the level of the main canal (5 to 10 feet higher than the existing canals) to the fields. This available energy will help supply pumps needed for drip irrigation systems and allow for more efficient on-farm improvements. District producers, under the District's recently adopted NRCS Projects Policy, will receive District assistance with pipeline installation as well as purchase of materials at wholesale prices. The proposed project, which involves the installation of pressurized 24-inch and 30-inch PVC pipelines, will allow producers to take advantage of the more efficient on-farm systems. Technical assistance from the local NRCS is also available for those interested in implementing on-farm systems. Producers implementing on-farm systems will provide additional water savings to the District.

Evaluation Criterion E: Department of the Interior Priorities

Those priorities that are applicable are addressed below according to the numbering system in the FOA.

1c. The project will be built on previously disturbed areas which will streamline the environmental review process. Environmental standards will be maintained. The environmental review for the Bennett and Swan Nelson Canals piping project will be completed for the TWDB by the time the agreement for this grant is executed, streamlining the environmental process.

2a. By conserving water, the District will conserve energy at its pumping facilities, making more energy available to meet the needs of others.

3a. By conserving water, the neighboring districts and potable water suppliers will benefit from increased net capacity and lower operation costs. In addition, a portion of conserved water, at times of District 6 full reservoir storage balance, would be allocated to other users in the Falcon Amistad Reservoir System.

3b. The District communicates with the US Fish and Wildlife Lower Rio Grande Valley National Wildlife Refuge (LRGVNWR) water manager to deliver water to their adjacent tracts. In addition, conserved water, at times, is allocated to water accounts held by the US Fish and Wildlife. The Bennett and Swan Nelson Canal piping projects are funded by the TWDB, expanding the communication on a state level.

4b. The District has constructed an outlet to the USFWS Lower Rio Grande Valley National Wildlife Refuge under the 2015 WaterSMART Grant. The District realized the best way to protect endangered species is by assisting the Refuge with its endangered species goals.

The District's relationship with the Refuge and its ongoing conservation projects will ultimately benefit the Refuge through available conserved water and capacity. The Refuge personnel have the knowledge and experience on local species.

5a. The replacement of open channel earthen canals with PVC pipelines is a tremendous infrastructure modernization for the District. The District is a public entity that serves many private entities that essentially fund the District's cost share of this project.

5b. By providing better facilities with increased capacity and pressure, the project service areas are more suited to on-farm infrastructure improvements that will further conserve water.

5c. The proposed project prioritizes the DOI infrastructure needs. The DOI can highlight the construction of the 24-inch and 30-inch PVC pipelines as construction of new infrastructure. The PVC pipelines will also eliminate maintenance on the earthen canals.

Evaluation Criterion F: Implementation and Results

Subcriterion F.1 – Project Planning

1) The District has a Water Conservation Plan in place, included in Appendix C. Items B.9 and B.12 of the District's Water Conservation Plan identify the District's commitment to water conservation and water loss control.
2) The proposed canal piping project will help achieve the District's goal of increasing delivery efficiency as described under item B.9 of the Water Conservation Plan (80% Delivery Efficiency by 2021). Item B.12 of the Water Conservation Plan states "CCID#6 will continue with rehabilitation work of the main canal and its laterals in order to better control water loss and seepage." The proposed project conforms to the District's planning effort of rehabilitating lateral canals by replacing the Bennett, Swan Nelson, 134, 139 and 196 Canals with PVC pipelines in order to eliminate seepage losses.

Subcriterion F.2 – Performance Measures

All seepage losses from the conducted seepage studies will be eliminated by the installation of the PVC pipelines. To verify that there is actually no measureable leakage present in the pipelines, a leakage pressure test will be conducted on each pipeline upon project completion. The data gathered during the leakage test will be certified by a professional engineer and will be provided to the BOR in the final report. The Final Report will include an in depth analysis of water loss in the system for the five prior years to verify that system efficiency is improving. The District will implement a comprehensive administrative procedure and personnel will be trained to perform the analysis each year. The District will update the historical efficiency spreadsheet used to track efficiency improvements on an annual basis. The annual analysis will reveal how successful the WaterSMART program, as well as other conservation programs, have been for the District, on past and future projects.

Beyond the Final Report, the District will analyze its efficiency each year as required by the TCEQ to verify system efficiency continues to improve as the system is improved. This annual system efficiency measure will provide a means to verify the accuracy of the Field Water Savings provided on Table 2.1.

Subcriterion F.3 – Readiness to Proceed

The proposed project is capable of proceeding upon entering into a financial assistance agreement with the BOR. Table 4 includes the Milestones and Schedule of Expenditures, as well as, a breakdown is provided for the BOR's share of the cost. The schedule assumes October 1, 2020 as the date for the agreement with the BOR and project completion within 2 years of the agreement date. However, the schedule includes October 1, 2019 as the start date of the project using the TWDB grant and District funds. The BOR Share for cost prior to entering into an agreement with the BOR will be considered as pre-award costs. The project construction can begin upon entering into a financial assistance agreement, and approval of the environmental compliance by the area office. The District was successful in acquiring a Texas Water Development Board Grant for the piping of the Bennet and Swan Nelson Canals and will have completed the engineering, surveying and material bidding upon execution of the agreement, all eligible for pre-award costs. The environmental requirements of the Texas Water Development Board (TWDB) are similar to those required by the Bureau of Reclamation. This schedule was discussed with the Austin area office.

The District will prepare and adopt a Storm Water Pollution Prevention Plan (SWP3) for this project. Any requirements resulting from consultation with US Fish & Wildlife Services, Texas Parks and Wildlife Department, Texas Commission on Environmental Quality and the Texas Historical Commission will be incorporated into the SWP3. The SWP3 will address runoff from the site as well as requirements for trash management and dust and noise control.

The District's Engineer, Ferris, Flinn & Medina, LLC, performed seepage studies on each of the Bennett, Swan Nelson, 134, 139 and 196 Canals in support of the proposed project. The District adopted the NRCS Projects Policy to advise their customers of their willingness to assist landowners with NRCS projects that will result in cost effective on-farm conservation. In addition, as part of final report for this project, the District will develop a tool to determine efficiency on an annual basis for use in subsequent years.

The environmental compliance estimate was developed from "The Conversion of the Saldaña Canal into Pipeline..." project completed with BOR funding through the FY 2015 WaterSMART: Water and Energy Efficiency Grant. The Budget Proposal includes the same 2% figure for Environmental and Regulatory Compliance.

Table 4
Milestones and Schedule of Expenditures

		Expenditures	
Reporting Period	**Milestones**	**Total Cost**	** **BOR Share**
October 1, 2019 to Sept. 30, 2020	* Complete Engineering and Surveying to Develop Construction Plans for Bennett and Swan Nelson Canals. Complete Environmental Review and Permitting of the Bennett and Swan Nelson Canals. Complete Bidding and Purchase of PVC Pipe.	$52,493.46	$18,372.71
October 1, 2020 to March 30, 2021	Enter Agreement with BOR. Complete Engineering, Surveying and Environmental to Develop Construction Plans for the 134, 139 and 196 Canals. Complete 50% Construction of Bennett & Swan Nelson Canal Improvements.	$232,940.22	$81,529.08
April 1, 2021 to Sept. 30, 2021	Complete 100% Construction of Bennett & Swan Nelson Canal Improvements. Complete 50% Construction of the 196 Canal Improvements.	$239,678.48	$83,887.47
October 1, 2021 to March 31, 2022	Complete 100% Construction of the196 Canal Improvements. Complete 50% Construction of the 134 and 139 Canal Improvements.	$155,442.80	$54,404.98
April 1, 2022 to Sept. 30, 2022	Complete 100% Construction of the134 & 139 Canal Improvements. Final Report to BOR.	$176,587.90	$61,805.76
	Project Total	**$857,142.86**	**$300,000.00**

* TWDB Funding and Proposed Pre-Award BOR Funding

** Bureau of Reclamation Share Pre-Award before October 1, 2020 will not be reimbursed until the grant agreement is executed

Evaluation Criterion G: Nexus to Reclamation Project Activities

The "Lower Rio Grande Basin Study" was completed in December 2013 by the BOR in cooperation with the Rio Grande Regional Water Authority (RGRWA). The District is a member of the RGRWA. The Basin Study refers to the 2010 Region M Plan, "Rio Grande Regional Water Plan", dated October 1, 2010 to reiterate that Irrigation Conveyance System Conservation as one of the water management strategies that will result in the greatest amount of water for further use when compared to 15 other strategies.

The District's project conserves Rio Grande water through irrigation conveyance conservation, making conserved water available to others during times of full storage balance. Through recent conservation projects and effective water management, the District often has a full storage balance.

The BOR recently funded the District's 2015 WaterSMART Project that improved the District's efficiency. The BOR is heavily invested in the Rio Grande Watermaster System through financial assistance of many conservation projects over the past 40 years.

The proposed project is not expected to benefit any tribes.

Evaluation Criterion H: Additional Non-Federal Funding

The Non-Federal Funding proposed for this project is as follows:

$$\frac{\text{Non Federal Funding}}{\text{Total Project Cost}} = \frac{\$557,142.86}{\$857,142.86} = 65\%$$

Project Budget:

1) Funding Plan and Letters of Commitment
The District will fund their portion of the project with existing cash on-hand accounts. The District's Investment Report is included in Appendix F. The District has adequate cash in their two Capital Improvement accounts to fund their share of the project; $557,142.86.

In April 2019, the District was successful in securing funding in the amount of $97,500 through the TWDB Agricultural Water Conservation Grant program. Funding from the TWDB Grant would cover half of the material costs of the Bennett and Swan Nelson Canals for this project. An email notifying the District of its grant application success is included in Appendix H. The executed grant agreement is available upon request.

Table 5 provides a summary of federal and non-federal funding sources.

Table 5 – Total Project Cost Table

SOURCE	AMOUNT
Costs to be reimbursed with the requested Federal funding	$300,000
Costs to be paid by the applicant	$459,642.86
Value of third party contributions (TWDB Grant):	$97,500
TOTAL PROJECT COST	**$857,142.86**

2) Budget Proposal
Table 6 includes the Budget Proposal.

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
1. Engineering and Surveying Services					
Planning and Design Phase Engineering and Surveying Services					
1.01	Registered Engineer	180	hours	$150.00	$27,000.00
1.02	Sr. Cad Technician	440	hours	$85.00	$37,400.00
1.03	Administrative Assistant	48	hours	$65.00	$3,120.00
1.04	Registered Surveyor	40	hours	$110.00	$4,400.00
1.05	Sr. Party Chief	160	hours	$80.00	$12,800.00
1.06	Instrument Man	160	hours	$50.00	$8,000.00
	Subtotal Construction Plans			**$92,720.00**	
2. Bennett Canal Improvements					
District Salary and Wages					
2.01	General Manager	111	hours	$35.00	$3,883.54
2.02	Office Manager	55	hours	$18.00	$998.62
2.03	Operator 1	222	hours	$12.36	$2,742.89
2.04	Operator 2	222	hours	$10.00	$2,219.16
2.05	Laborer 1	222	hours	$10.00	$2,219.16
2.06	Laborer 2	222	hours	$9.50	$2,108.21
2.07	Laborer 3	222	hours	$8.75	$1,941.77
	Subtotal District Labor		$16,113.35		
District Fringe Benefit Cost					
2.08	General Manager	111	hours	$13.76	$1,526.66
2.09	Office Manager	55	hours	$8.47	$470.10
2.10	Operator 1	222	hours	$6.96	$1,544.77
2.11	Operator 2	222	hours	$6.12	$1,357.10
2.12	Laborer 1	222	hours	$6.12	$1,357.10
2.13	Laborer 2	222	hours	$5.90	$1,308.26
2.14	Laborer 3	222	hours	$5.66	$1,256.98
	Subtotal District Fringe		$8,820.97		
District Equipment					
2.15	Manager's Truck	55	miles	$0.575	$31.90
2.16	Operator's Truck	44	hours	$17.89	$794.02
2.17	Crew Truck	44	hours	$18.83	$835.74
2.18	JD 200 LC Excavator	111	hours	$36.67	$4,068.84
2.19	Case 590 K Backhoe	111	hours	$38.70	$4,294.08
2.20	JD 550 Dozer	55	hours	$37.95	$2,105.43
2.21	Trailer	40	hours	$3.96	$158.40
2.22	Welder	40	hours	$1.75	$70.00
	Subtotal District Equipment		$12,358.40		

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
Materials					
2.23	24" 80 PSI PVC Main	1,720	L.F.	$22.00	$37,840.00
2.24	15" 80 PSI PVC Outlets	60	L.F.	$8.00	$480.00
2.25	Polyriser Outlet	3	Ea.	$450.00	$1,350.00
2.26	14"x15" Alfalfa Valves	4	Ea.	$300.00	$1,200.00
2.27	30" RCP for Saddle Outlets	16	L.F.	$64.00	$1,024.00
2.28	48" RCP for Wells	32	L.F.	$90.00	$2,880.00
2.29	24" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	2	Ea.	$4,000.00	$8,000.00
2.30	15" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	1	Ea.	$2,000.00	$2,000.00
2.31	Concrete Collar to connect to existing Pipeline	1	C.Y.	$135.00	$67.50
2.32	Concrete for Headwall @ Main Canal	5	C.Y.	$135.00	$675.00
2.33	Concrete for Saddle Outlets	6	C.Y.	$135.00	$810.00
2.34	Concrete for 48" Well Foundations	10	C.Y.	$135.00	$1,350.00
2.35	Miscellaneous Materials	1	L.S.	$6,485.75	$6,485.75
	Subtotal Materials Cost		$64,162.25		
Construction Phase Engineering and Surveying Services					
2.36	Registered Engineer	28	hours	$150.00	$4,200.00
2.37	Sr. Cad Technician	8	hours	$85.00	$680.00
2.38	Administrative Assistant	6	hours	$65.00	$390.00
2.39	Registered Surveyor	6	hours	$110.00	$660.00
2.40	Sr. Party Chief	20	hours	$80.00	$1,600.00
2.41	Instrument Man	20	hours	$50.00	$1,000.00
	Subtotal Professional Services Cost		$8,530.00		
	Subtotal Bennett Canal Improvements			**$109,984.97**	
3. Swan Nelson Canal Improvements					
District Salary and Wages					
3.01	General Manager	261	hours	$35.00	$9,118.37
3.02	Office Manager	130	hours	$18.00	$2,344.72
3.03	Operator 1	521	hours	$12.36	$6,440.17
3.04	Operator 2	521	hours	$10.00	$5,210.49
3.05	Laborer 1	521	hours	$10.00	$5,210.49
3.06	Laborer 2	521	hours	$9.50	$4,949.97
3.07	Laborer 3	521	hours	$8.75	$4,559.18
	Subtotal District Labor		$37,833		
District Fringe Benefit Cost					
3.08	General Manager	261	hours	$13.76	$3,584.54
3.09	Office Manager	130	hours	$8.47	$1,103.76
3.10	Operator 1	521	hours	$6.96	$3,627.04
3.11	Operator 2	521	hours	$6.12	$3,186.41
3.12	Laborer 1	521	hours	$6.12	$3,186.41
3.13	Laborer 2	521	hours	$5.90	$3,071.74
3.14	Laborer 3	521	hours	$5.66	$2,951.33
	Subtotal District Fringe		$20,711		

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
District Equipment					
3.15	Manager's Truck	130	miles	$0.575	$74.90
3.16	Operator's Truck	104	hours	$17.89	$1,864.31
3.17	Crew Truck	104	hours	$18.83	$1,962.27
3.18	JD 200 LC Excavator	261	hours	$36.67	$9,553.44
3.19	Case 590 K Backhoe	261	hours	$38.70	$10,082.31
3.20	JD 550 Dozer	130	hours	$37.95	$4,943.46
3.21	Trailer	40	hours	$3.96	$158.40
3.22	Welder	40	hours	$1.75	$70.00
	Subtotal District Equipment		$28,709		
Materials					
3.23	24" 80 PSI PVC Main	3,800	L.F.	$22.00	$83,600.00
3.24	15" 80 PSI PVC Outlets	80	L.F.	$8.00	$640.00
3.25	15" 90 Deg. PVC Bend	4	Ea.	$300.00	$1,200.00
3.26	24" 45 Deg. PVC Bend	4	Ea.	$450.00	$1,800.00
3.27	Polyriser Outlet	4	Ea.	$450.00	$1,800.00
3.28	14"x15" Alfalfa Valves	7	Ea.	$300.00	$2,100.00
3.29	30" RCP for Saddle Outlets	48	L.F.	$64.00	$3,072.00
3.30	48" RCP for Wells	64	L.F.	$90.00	$5,760.00
3.31	24" Fresno Model 4200 Gate w/ Stainless Rails, Hardware and Bronze Seats	6	Ea.	$4,000.00	$24,000.00
3.32	Concrete Collar to connect to existing Pipeline	2	C.Y.	$135.00	$270.00
3.33	Concrete for Saddle Outlets	9	C.Y.	$135.00	$1,215.00
3.34	Concrete for 48" Well Foundations	25	C.Y.	$135.00	$3,375.00
3.35	Miscellaneous Materials	1	L.S.	$11,485.75	$11,485.75
	Subtotal Materials Cost		$140,318		
Construction Phase Engineering and Surveying Services					
3.36	Registered Engineer	56	hours	$150.00	$8,400.00
3.37	Sr. Cad Technician	16	hours	$85.00	$1,360.00
3.38	Administrative Assistant	12	hours	$65.00	$780.00
3.39	Registered Surveyor	12	hours	$110.00	$1,320.00
3.40	Sr. Party Chief	40	hours	$80.00	$3,200.00
3.41	Instrument Man	40	hours	$50.00	$2,000.00
	Subtotal Professional Services Cost		$17,060.00		
	Subtotal Swan Nelson Canal Improvements			**$244,631.47**	

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
4. Canal 134 Improvements					
District Salary and Wages					
4.01	General Manager	99	hours	$35.00	$3,466.08
4.02	Office Manager	50	hours	$18.00	$891.28
4.03	Operator 1	198	hours	$12.36	$2,448.04
4.04	Operator 2	198	hours	$10.00	$1,980.62
4.05	Laborer 1	198	hours	$10.00	$1,980.62
4.06	Laborer 2	198	hours	$9.50	$1,881.59
4.07	Laborer 3	198	hours	$8.75	$1,733.04
	Subtotal District Labor		$14,381.27		
District Fringe Benefit Cost					
4.08	General Manager	99	hours	$13.76	$1,362.56
4.09	Office Manager	50	hours	$8.47	$419.56
4.10	Operator 1	198	hours	$6.96	$1,378.72
4.11	Operator 2	198	hours	$6.12	$1,211.22
4.12	Laborer 1	198	hours	$6.12	$1,211.22
4.13	Laborer 2	198	hours	$5.90	$1,167.63
4.14	Laborer 3	198	hours	$5.66	$1,121.86
	Subtotal District Fringe		$7,872.77		
District Equipment					
4.15	Manager's Truck	50	miles	$0.575	$28.47
4.16	Operator's Truck	40	hours	$17.89	$708.67
4.17	Crew Truck	40	hours	$18.83	$745.90
4.18	JD 200 LC Excavator	99	hours	$36.67	$3,631.46
4.19	Case 590 K Backhoe	99	hours	$38.70	$3,832.50
4.20	JD 550 Dozer	50	hours	$37.95	$1,879.11
4.21	Trailer	40	hours	$3.96	$158.40
4.22	Welder	40	hours	$1.75	$70.00
	Subtotal District Equipment		$11,054.51		
Materials					
4.23	24" 80 PSI PVC Main	900	L.F.	$22.00	$19,800.00
4.24	15" 80 PSI PVC Outlets	60	L.F.	$8.00	$480.00
4.25	Polyriser Outlet	3	Ea.	$450.00	$1,350.00
4.26	14"x15" Alfalfa Valves	4	Ea.	$300.00	$1,200.00
4.27	30" RCP for Saddle Outlets	16	L.F.	$64.00	$1,024.00
4.28	48" RCP for Wells	32	L.F.	$90.00	$2,880.00
4.29	24" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	2	Ea.	$4,000.00	$8,000.00
4.30	15" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	1	Ea.	$2,000.00	$2,000.00
4.31	Concrete Collar to connect to existing Pipeline	1	C.Y.	$135.00	$67.50
4.32	Concrete for Headwall @ Main Canal	5	C.Y.	$135.00	$675.00
4.33	Concrete for Saddle Outlets	6	C.Y.	$135.00	$810.00
4.34	Concrete for 48" Well Foundations	10	C.Y.	$135.00	$1,350.00
4.35	Miscellaneous Materials	1	L.S.	$6,485.75	$6,485.75
	Subtotal Materials Cost		$46,122.25		

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
Construction Phase Engineering and Surveying Services					
4.36	Registered Engineer	28	hours	$150.00	$4,200.00
4.37	Sr. Cad Technician	8	hours	$85.00	$680.00
4.38	Administrative Assistant	6	hours	$65.00	$390.00
4.39	Registered Surveyor	6	hours	$110.00	$660.00
4.40	Sr. Party Chief	16	hours	$80.00	$1,280.00
4.41	Instrument Man	16	hours	$50.00	$800.00
	Subtotal Professional Services Cost	$8,010.00			
	Subtotal 134 Canal Improvements			**$87,440.80**	
5. Canal 139 Improvements					
District Salary and Wages					
5.01	General Manager	105	hours	$35.00	$3,669.72
5.02	Office Manager	52	hours	$18.00	$943.64
5.03	Operator 1	210	hours	$12.36	$2,591.87
5.04	Operator 2	210	hours	$10.00	$2,096.98
5.05	Laborer 1	210	hours	$10.00	$2,096.98
5.06	Laborer 2	210	hours	$9.50	$1,992.13
5.07	Laborer 3	210	hours	$8.75	$1,834.86
	Subtotal District Labor	$15,226.18			
District Fringe Benefit Cost					
5.08	General Manager	105	hours	$13.76	$1,442.61
5.09	Office Manager	52	hours	$8.47	$444.21
5.10	Operator 1	210	hours	$6.96	$1,459.72
5.11	Operator 2	210	hours	$6.12	$1,282.38
5.12	Laborer 1	210	hours	$6.12	$1,282.38
5.13	Laborer 2	210	hours	$5.90	$1,236.23
5.14	Laborer 3	210	hours	$5.66	$1,187.77
	Subtotal District Fringe	$8,335.31			
District Equipment					
5.15	Manager's Truck	52	miles	$0.575	$30.14
5.16	Operator's Truck	42	hours	$17.89	$750.30
5.17	Crew Truck	42	hours	$18.83	$789.72
5.18	JD 200 LC Excavator	105	hours	$36.67	$3,844.82
5.19	Case 590 K Backhoe	105	hours	$38.70	$4,057.66
5.20	JD 550 Dozer	52	hours	$37.95	$1,989.51
5.21	Trailer	40	hours	$3.96	$158.40
5.22	Welder	40	hours	$1.75	$70.00
	Subtotal District Equipment	$11,690.56			

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
Materials					
5.23	24" 80 PSI PVC Main	1,300	L.F.	$22.00	$28,600.00
5.24	15" 80 PSI PVC Outlets	60	L.F.	$8.00	$480.00
5.25	Polyriser Outlet	3	Ea.	$450.00	$1,350.00
5.26	14"x15" Alfalfa Valves	4	Ea.	$300.00	$1,200.00
5.27	30" RCP for Saddle Outlets	16	L.F.	$64.00	$1,024.00
5.28	48" RCP for Wells	32	L.F.	$90.00	$2,880.00
5.29	24" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	2	Ea.	$4,000.00	$8,000.00
5.30	15" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	1	Ea.	$2,000.00	$2,000.00
5.31	Concrete Collar to connect to existing Pipeline	1	C.Y.	$135.00	$67.50
5.32	Concrete for Headwall @ Main Canal	5	C.Y.	$135.00	$675.00
5.33	Concrete for Saddle Outlets	6	C.Y.	$135.00	$810.00
5.34	Concrete for 48" Well Foundations	10	C.Y.	$135.00	$1,350.00
5.35	Miscellaneous Materials	1	L.S.	$6,485.75	$6,485.75
	Subtotal Materials Cost		$54,922.25		
Construction Phase Engineering and Surveying Services					
5.36	Registered Engineer	28	hours	$150.00	$4,200.00
5.37	Sr. Cad Technician	8	hours	$85.00	$680.00
5.38	Administrative Assistant	6	hours	$65.00	$390.00
5.39	Registered Surveyor	6	hours	$110.00	$660.00
5.40	Sr. Party Chief	20	hours	$80.00	$1,600.00
5.41	Instrument Man	20	hours	$50.00	$1,000.00
	Subtotal Professional Services Cost		$8,530.00		
	Subtotal 139 Canal Improvements			**$98,704.30**	
6. 196 Canal Improvements					
District Salary and Wages					
6.01	General Manager	109	hours	$35.00	$3,827.54
6.02	Office Manager	55	hours	$18.00	$984.22
6.03	Operator 1	219	hours	$12.36	$2,703.33
6.04	Operator 2	219	hours	$10.00	$2,187.16
6.05	Laborer 1	219	hours	$10.00	$2,187.16
6.06	Laborer 2	219	hours	$9.50	$2,077.81
6.07	Laborer 3	219	hours	$8.75	$1,913.77
	Subtotal District Labor		$15,881.00		
District Fringe Benefit Cost					
6.08	General Manager	109	hours	$13.76	$1,504.65
6.09	Office Manager	55	hours	$8.47	$463.32
6.10	Operator 1	219	hours	$6.96	$1,522.49
6.11	Operator 2	219	hours	$6.12	$1,337.53
6.12	Laborer 1	219	hours	$6.12	$1,337.53
6.13	Laborer 2	219	hours	$5.90	$1,289.40
6.14	Laborer 3	219	hours	$5.66	$1,238.85
	Subtotal District Fringe		$8,693.77		

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
District Equipment					
6.15	Manager's Truck	55	miles	$0.575	$31.44
6.16	Operator's Truck	44	hours	$17.89	$782.57
6.17	Crew Truck	44	hours	$18.83	$823.69
6.18	JD 200 LC Excavator	109	hours	$36.67	$4,010.16
6.19	Case 590 K Backhoe	109	hours	$38.70	$4,232.16
6.20	JD 550 Dozer	55	hours	$37.95	$2,075.07
6.21	Trailer	40	hours	$3.96	$158.40
6.22	Welder	40	hours	$1.75	$70.00
	Subtotal District Equipment		$12,183.49		
Materials					
6.23	30" 80 PSI PVC Main	1,610	L.F.	$33.00	$53,130.00
6.24	15" 80 PSI PVC Outlets	60	L.F.	$8.00	$480.00
6.25	Polyriser Outlet	3	Ea.	$450.00	$1,350.00
6.26	14"x15" Alfalfa Valves	4	Ea.	$300.00	$1,200.00
6.27	30" RCP for Saddle Outlets	16	L.F.	$64.00	$1,024.00
6.28	48" RCP for Wells	32	L.F.	$90.00	$2,880.00
6.29	24" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	2	Ea.	$4,000.00	$8,000.00
6.30	15" Fresno Model 4200 Gate with Stainless Rails, Hardware and Bronze Seats	1	Ea.	$2,000.00	$2,000.00
6.31	Concrete Collar to connect to existing Pipeline	1	C.Y.	$135.00	$67.50
6.32	Concrete for Headwall @ Main Canal	5	C.Y.	$135.00	$675.00
6.33	Concrete for Saddle Outlets	6	C.Y.	$135.00	$810.00
6.34	Concrete for 48" Well Foundations	10	C.Y.	$135.00	$1,350.00
6.35	Miscellaneous Materials	1	L.S.	$6,485.75	$6,485.75
	Subtotal Materials Cost		$79,452.25		
Construction Phase Engineering and Surveying Services					
6.36	Registered Engineer	28	hours	$150.00	$4,200.00
6.37	Sr. Cad Technician	8	hours	$85.00	$680.00
6.38	Administrative Assistant	6	hours	$65.00	$390.00
6.39	Registered Surveyor	6	hours	$110.00	$660.00
6.40	Sr. Party Chief	20	hours	$80.00	$1,600.00
6.41	Instrument Man	20	hours	$50.00	$1,000.00
	Subtotal Professional Services Cost		$8,530.00		
	Subtotal 196 Canal Improvements			**$124,740.51**	

Table 6
Budget Proposal

Item	Description	Qty	Units	Unit Price	Total Price
7. Reporting					
District Hourly Labor Cost					
7.01	General Manager	30	hours	$35.00	$1,050.00
7.02	Office Manager	60	hours	$18.00	$1,080.00
District Fringe Benefit Cost					
7.03	General Manager	30	hours	$13.76	$412.77
7.04	Office Manager	60	hours	$8.47	$508.40
Professional Engineering Services					
7.05	Registered Engineer	40	hours	$150.00	$6,000.00
7.06	Sr. Cad Technician	20	hours	$85.00	$1,700.00
7.07	Administrative Assistant	20	hours	$65.00	$1,300.00
	Subtotal Reporting			**$12,051.17**	
8. De Minimis		10%	of MTDC	$626,557.17	**$62,655.72**
9. Environmental and Regulatory Compliance Cost @		2%	of	$770,273.22	**$15,405.46**
10. Inflation @		1.14%	of	$770,273.22	**$8,808.46**
	TOTAL PROJECT COST				**$857,142.86**

Table 6.1
Salary, Wage and Fringe Details

Position	Hourly Rate	Fringe Benefits Cost per Hour	Total Hourly Rate with Benefits
General Manager	$35.000	$13.759	$48.759
Office Manager	$18.000	$8.473	$26.473
Operator 1	$12.360	$6.961	$19.321
Operator 2	$10.000	$6.115	$16.115
Laborer 1	$10.000	$6.115	$16.115
Laborer 2	$9.500	$5.895	$15.395
Laborer 3	$8.750	$5.664	$14.414

Fringe Benefits Breakdown by the Hour

Position	Social Security @ 6.2%	Retire-ment @ 7%	Health @ $461.03 Per Person per Mo.	Paid Leave @ Four Weeks	Uniforms @ $0.055per Employ-ee per Hour
General Manager	$2.170	$2.450	$2.881	$3.529	
Office Manager	$1.116	$1.260	$2.881	$1.815	
Operator 1	$0.766	$0.865	$2.881	$1.265	$0.055
Operator 2	$0.620	$0.700	$2.881	$1.018	$0.055
Laborer 1	$0.620	$0.700	$2.881	$1.018	$0.055
Laborer 2	$0.589	$0.665	$2.881	$0.963	$0.055
Laborer 3	$0.543	$0.613	$2.881	$0.887	$0.055

Position	Medicare @ 1.45%	Unem-ployment Insuranc e @0.3%	Worker's Compen-sation @ 5.8%	Life Insur-ance	*Worker's Compen-sation Rate @*
General Manager	$0.508	$0.105	$2.030	$0.086	*5.80%*
Office Manager	$0.261	$0.054	$1.044	$0.042	*5.80%*
Operator 1	$0.179	$0.037	$0.717	$0.195	*5.80%*
Operator 2	$0.145	$0.030	$0.580	$0.086	*5.80%*
Laborer 1	$0.145	$0.030	$0.580	$0.086	*5.80%*
Laborer 2	$0.138	$0.029	$0.551	$0.025	*5.80%*
Laborer 3	$0.127	$0.026	$0.508	$0.025	*5.80%*

Total Working Hours per Year with Four Weeks Leave 1,920.00 Hours

Table 6.2
Equipment Rate Schedule

District Asset Number	United Equipment Description	COE ID No.	COE Equipment Description	Operating Conditions	COE Total Hourly Rate ($/ HR)	
				Average/ Difficult/ Severe	Operating	Standby
T4	Operator's Truck	T50XX002	Truck, Highway, Conventional, 3/4 Ton Pickup, 4x2	Difficult	17.89	1.67
T7	Crew Truck	T50XX009	Truck, Highway, Crew, 1 Ton Pickup, 4x2	Difficult	18.83	1.96
E5	JD 200 LC Excavator (Use COE Linkbelt Model 130 2XLC as Equivalent)	H25LB003	Hydraulic Excavator Crawler 27,100 Lbs., 0.50 Bucket, 18'2" Max Digging Depth	Average	36.67	8.88
E1	Case 590 K Backhoe (Equivalent to Case 590 Super N)	L50CS008	Loader/Backhoe, Wheel 1.50 CY Front End Bucket, 12.7 CF Backhoe Bucket, 15.5' Max Digging Depth, 4x4	Average	38.70	8.43
	JD 310SK Backhoe (Equivalent to Case 580 Super N)	L50CS007	Loader/Backhoe, Wheel 1.29 CY Front End Bucket, 12.7 CF Backhoe Bucket, 14.5' Max Digging Depth, 4x4	Average	34.08	7.50
T8	Dump Truck	T50XX032	Dump Truck, Highway, 35,000 LBS GVW, 2 Axle, 4x2 with Rear 10-13 CY Dump Body	Difficult	33.79	3.28
To be purchas-ed	JD 550 Dozer	T15JD007	Tractor, Crawler (Dozer), 101 Hp, Hydrostatic, w/2.6CY Power Angle Tilt (PAT) Blade (Add attchments)	Average	37.95	7.06
NA	Trailer	T45XX025	Truck Trailer, Flatbed, 25 Ton, 2 Axle (Add Towing Truck)	Difficult	3.96	1.12
NA	Welder - Miller Bluestar 3500	W35XX020	Welder, Engine Driven, Gas, AC, 140 Amp, 4 KW, Portable, Skid Mount	Average	1.75	0.09
T1	Manager's Vehicle	Use Federal Mileage Rate for Vehicle per Mile			0.580	per mile

3) Budget Narrative

A Budget Narrative for each item on the Budget Proposal and how it was developed is included in this section. Table 6.1 includes the salary, wage and fringe benefit calculations. Table 6.2 includes the equipment rates that are based on the USACE EP 1110-1-8, Vol. 6, the preferred source, as outlined in the FOA. Standby charges for equipment are not included in the budget proposal. In addition, supporting cost information is provided in Appendix E. In all cases, engineering, surveying, labor, and equipment hours are based on similar pipeline projects like the recently completed Saldaña Canal piping project.

Items 1.01 through 1.06 include engineering and surveying services required to develop a set of construction plans for this project. Ferris, Flinn & Medina, LLC (FFM) currently serves as the District Engineer. FFM current rates were used to estimate the cost of developing a set of construction plans.

Items 2.01 through 2.41 include the total cost to build the pipeline for the Bennett Canal. Subtotal to build the Bennett Canal Pipeline is $109,984.97.

2.01-2.07 Total District labor is $16,113.35 for 222 hours of crew time.

2.08-2.14 Total fringe for the above labor is $8,820.97 based on the rates provided in Table 6.1.

2.15-2.22 Total District equipment cost to complete Bennett pipeline is $12,358.40 based on the rates provide in Table 6.2.

Items 2.23 through 2.35 include the all material costs required to build the Bennett Canal Improvements. Subtotal of materials for the Bennett Canal Improvements is $64,162.25. A description of the major material components is described below:

2.23 24" 80PSI, PVC Main was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation, rounded to the nearest dollar, is included in Appendix E.

2.24 15" 80PSI, PVC required for outlets was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation, rounded to the nearest dollar, is included in Appendix E.

2.25-2.34 Includes all materials required to build outlets and irrigation wells. These materials include Polyriser Outlets, Gates, RCP wells, Collars, Saddle Outlets, and Well Foundations.

2.35 Miscellaneous Materials includes sealers, grout, forms, anchors, and other items too lengthy to itemize. Total for Miscellaneous is $6,485.75. The estimate is based on experience with the recent Saldaña Canal piping project.

Items 2.36 through 2.41 include the engineering and surveying costs required for the construction phase of the Bennett Canal Improvements. Work includes construction supervision, inspection, and construction staking. Subtotal of Construction Phase Engineering and Surveying Services for the Bennett Canal Improvements is $8,530.00.

Items 3.01 through 3.41 include the total cost to build the pipeline for the Bennett Canal. Subtotal to build the Swan Nelson Canal Pipeline is $244,631.47.

3.01-3.07 Total District labor is $37,833 for 521 hours of crew time.

3.08-3.14 Total fringe for the above labor is $20,711 based on the rates provided in Table 6.1.

3.15-3.22 Total District equipment cost to complete Swan Nelson pipeline is $28,709 based on the rates provide in Table 6.2.

Items 3.23 through 3.35 include the all material costs required to build the Bennett Canal Improvements. Subtotal of materials for the Swan Nelson Canal Improvements is $140,318. A description of the major material components is described below:

3.23 24" 80PSI, PVC Main was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

3.24 15" 80PSI, PVC required for outlets was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

3.25-3.34 Includes all materials required to build outlets and irrigation wells. These materials include Polyriser Outlets, Gates, RCP wells, Collars, Saddle Outlets, and Well Foundations.

3.35 Miscellaneous Materials includes sealers, grout, forms, anchors, and other items too lengthy to itemize. Total for Miscellaneous is $11,485.75. Again, the estimate is based on experience with the recent Saldaña Canal piping project.

Items 3.36 through 3.41 include the engineering and surveying costs required to for the construction phase of the Swan Nelson Canal Improvements. Work includes construction supervision, inspection, and construction staking. Subtotal of Construction Phase Engineering and Surveying Services for the Swan Nelson Canal Improvements is $17,060.

Items 4.01 through 4.41 include the total cost to build the pipeline for the 134 Canal. Subtotal to build the 134 Canal Pipeline is $87,440.80.

4.01-4.07 Total District labor is $14,381.27 for 198 hours of crew time.

4.08-4.14 Total fringe for the above labor is $7,872.77 based on the rates provided in Table 6.1.

4.15-4.22 Total District equipment cost to complete 134 pipeline is $11,054.51 based on the rates provide in Table 6.2.

Items 4.23 through 4.35 include the all material costs required to build the 134 Canal Improvements. Subtotal of materials for the 134 Canal Improvements is $46,122.25. A description of the major material components is described below:

4.23 24" 80PSI, PVC Main was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

4.24 15" 80PSI, PVC required for outlets was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

4.25-4.34 Includes all materials required to build outlets and irrigation wells. These materials include Polyriser Outlets, Gates, RCP wells, Collars, Saddle Outlets, and Well Foundations.

4.35 Miscellaneous Materials includes sealers, grout, forms, anchors, and other items too lengthy to itemize. Total for Miscellaneous is $6,485.75. Again, the estimate is based on experience with the recent Saldaña Canal piping project.

Items 4.36 through 4.41 include the engineering and surveying costs required to for the construction phase of the 134 Canal Improvements. Work includes construction supervision, inspection, and construction staking. Subtotal of Construction Phase Engineering and Surveying Services for the 134 Canal Improvements is $8,010.

Items 5.01 through 5.41 include the total cost to build the pipeline for the 139 Canal. Subtotal to build the 139 Canal Pipeline is $98,704.30.

5.01-5.07 Total District labor is $15,226.18 for 210 hours of crew time.

5.08-5.14 Total fringe for the above labor is $8,335.31 based on the rates provided in Table 6.1.

5.15-5.22 Total District equipment cost to complete 139 pipeline is $11,690.56 based on the rates provide in Table 6.2.

Items 5.23 through 5.35 include the all material costs required to build the 139 Canal Improvements. Subtotal of materials for the 139 Canal Improvements is $54,922.25. A description of the major material components is described below:

5.23 24" 80PSI, PVC Main was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

5.24 15" 80PSI, PVC required for outlets was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

5.25-5.34 Includes all materials required to build outlets and irrigation wells. These materials include Polyriser Outlets, Gates, RCP wells, Collars, Saddle Outlets, and Well Foundations.

5.35 Miscellaneous Materials includes sealers, grout, forms, anchors, and other items too lengthy to itemize. Total for Miscellaneous is $6,485.75. Again, the estimate is based on experience with the recent Saldaña Canal piping project.

Items 5.36 through 5.41 include the engineering and surveying costs required to for the construction phase of the 139 Canal Improvements. Work includes construction supervision, inspection, and construction staking. Subtotal of Construction Phase Engineering and Surveying Services for the 139 Canal Improvements is $8,530.

Items 6.01 through 6.41 include the total cost to build the pipeline for the 196 Canal. Subtotal to build the 196 Canal Pipeline is $124,740.51.

6.01-6.07 Total District labor is $15,881.00 for 219 hours of crew time.

6.08-6.14 Total fringe for the above labor is $8,693.77 based on the rates provided in Table 6.1.

6.15-6.22 Total District equipment cost to complete 196 pipeline is $12,183.49 based on the rates provide in Table 6.2.

Items 6.23 through 6.35 include the all material costs required to build the 196 Canal Improvements. Subtotal of materials for the 196 Canal Improvements is $79,452.25. A description of the major material components is described below:

6.23 30" 80PSI, PVC Main was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

6.24 15" 80PSI, PVC required for outlets was quoted by Diamond Plastics, Inc., a supplier that sells directly to the District. The email quotation rounded to the nearest dollar is included in Appendix E.

6.25-6.34 Includes all materials required to build outlets and irrigation wells. These materials include Polyriser Outlets, Gates, RCP wells, Collars, Saddle Outlets, and Well Foundations.

6.35 Miscellaneous Materials includes sealers, grout, forms, anchors, and other items too lengthy to itemize. Total for Miscellaneous is $6,485.75. Again, the estimate is based on experience with the recent Saldaña Canal piping project.

Items 6.36 through 6.41 include the engineering and surveying costs required to for the construction phase of the 196 Canal Improvements. Work includes construction supervision, inspection, and construction staking. Subtotal of Construction Phase Engineering and Surveying Services for the 196 Canal Improvements is $8,530.

Items 7.01 through 7.07 include the total reporting effort for the project. This includes the Final Report along with semiannual reports for a total cost of approximately $12,051.17. A description of the reporting components is described below:

7.01-7.04 The project will require three semiannual reports and one final report for a two year construction period. The budget includes 30 hours from the General Manager and 60 hours from the Office Manager.

7.05-7.07 Based on previous projects accomplished by FFM, the reporting will require about 40 Engineer hours with 20 hours for CAD Technician and 20 hours for the Administrative Assistant.

8. A *De Minimis* rate of 10% of Modified Total Direct Costs (MTDC) of $626,557.17 is included in this item for a total of $62,655.72. The MTDC calculation was based on the resource provided in the FOA.

9. Environmental and Regulatory Compliance Cost, 2% is the standard budget amount to cover all compliance cost. This will cover NEPA compliance correspondence as well as an archeological survey, if requested by the Texas Historical Commission. Total cost of Environmental and Regulatory Compliance is $15,405.46.

10. About 1.14% for inflation is budgeted to cover the anticipated escalation in pricing by the time the project is constructed.

The project budget is based on estimated labor and equipment, engineering, and surveying requirements. The District will keep records of time and materials and include these documents with each report. The final report will present actual project costs. The District understands that it is responsible for project costs, if they are over budget, to complete the agreed scope of work.

Environmental and Cultural Resources Compliance

This project will be in compliance with NEPA before any ground-disturbing activity begins. The project budget includes a 2% standard amount to cover all Environmental and Regulatory Compliance Costs, which will cover NEPA compliance correspondence, as well as an archeological survey, if requested by the Texas Historical Commission.

Required Permits or Approvals

The District will develop a Storm Water Pollution Prevention Plan to comply with the TCEQ – Storm Water General Permit for a construction activity. If the Texas Historical Commission determines an archeological survey is required, the necessary permits will be obtained. No other permits are required.

Letters of Support

Letters of Support from downstream customers that depend on the Districts water supply are attached in Appendix D.

Official Resolution

An Official Resolution is attached as Appendix A. The Board has authorized the General Manager to represent the District and apply for this Funding Group I Application.

Appendix A

Official Resolution

CERTIFICATE FOR RESOLUTION OF CAMERON COUNTY IRRIGATION DISTRICT NO. 6

STATE OF TEXAS
COUNTY OF CAMERON

We, the undersigned officers of the Board of Directors of Cameron County Irrigation District No. 6, hereby certify as follows:

1. The Board of Directors of said District convened a Regular Meeting on the 12th day of September 2019, at the regular designated meeting place in said District, and the roll was call of the duly constituted officers and members of said Board, to-wit:

President – Reynaldo L. Lopez
Vice President – Eddie Cruz
Secretary-Treasurer – Joe Collinsworth
Member – Jon Pederson
Member – Jerry Bruce

And all of said persons were present, constituting a quorum. Whereupon, the following transacted at said Meeting, a motion was made and seconded that the Board approve the following:

Resolution

WHEREAS, Cameron County Irrigation District No. 6, Cameron County, Texas ("District") is a political subdivision of the State of Texas operating pursuant to applicable State statues, including Chapters 58 and 49 of the Texas Water Code and Articles XVI, Section 59 of the State Constitution; and

WHEREAS, the Board of Directors of the District ("Board"), which is its governing body desires to file an Application for Bureau of Reclamation WaterSMART Grant for Funding Group I in the amount of $300,000 for Fiscal Year 2020 to include the replacement of the Swan Nelson Canal, Bennett Canal, 134 Canal, 139 Canal and 196 Canal with PVC Pipelines.

WHEREAS, the Board desires to approve the Application for submission to the Bureau of Reclamation (Bureau) and endorse it for approval by the Bureau.

NOW, THEREFORE, BE IT RESOLVED, that the Manager of the District is the District's representative and is hereby authorized to enter

into any and all agreements or other documents pertaining to the Application and consummation of Project work and necessary funding related thereto; that the Board and General Manager of the District have reviewed the scope and cost of the project and support the Application to appropriate officials; the District has the capability to provide the amount of funding and/or income contribution specified in the funding plan included in the Application; and the Board will work with the Bureau to meet established deadlines for entering into Cooperative Agreement and the General Manager of the District is hereby instructed to work with the Bureau to meet established deadlines for entering into Cooperative Agreement and do any and all things necessary to accomplish consummation of all requirements of the Application and Project work pursuant to the Application, Project funding, and all related matters.

And, after due discussion, said motion, carrying with it the passage of said Resolution prevailed and carried by the following vote:

AYES: 5

NOES: 0

That the above and foregoing paragraphs are a true, full and correct copy of the aforesaid Resolution and Order adopted at the Meeting described above, that said Resolution and Order has been duly recorded in said Board's Minutes of said Meeting, that the above and foregoing paragraphs are a true, full and correct excerpt from said Board's minutes of said Meeting pertaining to the passage of said Resolution and Order, that the persons named in the above and foregoing paragraphs are the duly chosen, qualified and acting officers and members of said Board as indicated therein; that each of the officers and members of said Board was duly and sufficiently notified, officially and personally, in advance, of the time, place, and purpose of the aforesaid Meeting, and each of said officers and members consented, in advance, to the holding of said Meeting for such purpose; and that said Meeting was open to the public and public notice of the time, place, and purpose of said meeting was given, all as required by Chapter 551, Government Code, *Vernon's Ann. Cov. Statutes.*

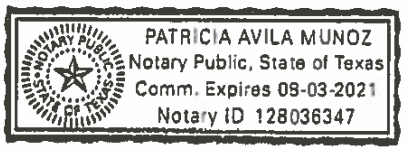
SIGNED AND SEALED the 12th day of September 2019.

Joe Collinsworth, Secretary

Reynaldo L. Lopez, President

STATE OF TEXAS
COUNTY OF CAMERON

This instrument was acknowledged before me on the 12th day of September 2019, by Joe Collinsworth, Secretary of the Board of Directors of Cameron County Irrigation District No. 6, a political subdivision of the State of Texas, on behalf of said political subdivision.



Notary Public in and for the State of Texas

STATE OF TEXAS
COUNTY OF CAMERON

This instrument was acknowledged before me on the 12th day of September 2019, by Reynaldo L. Lopez, President of the Board of Directors of Cameron County Irrigation District No. 6, a political subdivision of the State of Texas, on behalf of said political subdivision.

Notary Public in and for the State of Texas

Appendix D

Letters of Support

- TEXAS -
LOS FRESNOS
COMMUNITY WITH OPPORTUNITY

September 4, 2019

Mr. Tito Nieto
Cameron County Irrigation District No. 6
P.O. Box 295
Los Fresnos, Texas 78566

Re: Cameron County Irrigation District No. 6 (CCID6)
2020 WaterSMART Grant Application

Dear Mr. Nieto,

The City of Los Fresnos supports the District's continued efforts to secure funding to modernize the District infrastructure resulting in water conservation. The Lower Rio Grande Valley Water Supply is a finite resource and the conservation project will result in more water available to other users in the system. The District's continued efforts to improve efficiency will yield the lowest possible rates to the City of Los Fresnos.

Respectfully,
City of Los Fresnos

Mark Milum
City Manager

Bayview Irrigation District #11
110 South San Roman Rd.
Los Fresnos, Texas 78566
(956) 233-5800 Fax (956) 233-4343
Bvid11@yahoo.com

September 4, 2019

Mr. Tito Nieto
Cameron County Irrigation District No. 6
P.O. Box 295
Los Fresnos, Texas 78566

Re : Cameron County Irrigation District No. 6 (CCID6)
2020 WaterSMART Grant Application

Dear Mr. Nieto,

Bayview Irrigation District No. 11 (BID11) supports Cameron County Irrigation District No. 6 (CCID6) in their application for a WaterSMART Grant. The project will result in conservation of our shared water resource, the Lower Rio Grande Valley Water Supply. The conservation project will result in more water available to other users in the system and lower operating costs to CCID6. As the sole supplier to BID11, reducing operation cost will be a long term benefit to our District.

Respectfully,
Bayview Irrigation District No. 11

Ernesto Martinez
President

CAMERON COUNTY WATER IMPROVEMENT DISTRICT #10
30592 Briza Dr.
Los Fresnos, Texas 78566
(959)233-5513

September 4, 2019

Mr. Tito Nieto
Cameron County Irrigation District No. 6
P.O. Box 295
Los Fresnos, Texas 78566

Re : Cameron County Irrigation District No. 6 (CCID6)
2020 WaterSMART Grant Application

Dear Mr. Nieto,

Cameron County Water Improvement District No. 10 (CCWID10) offers its support for the District's referenced application. CCWID10 recognizes the water conservation benefits of the project will result in more water available for other users in the Lower Rio Grande Reservoir system. The improvement in operation efficiency of CCID6 will result in lower possible cost of service to CCWID10.

Respectfully,
Cameron County Water Improvement District No. 10

Robert Walsdorf
President

Olmito Water Supply Corporation

September 4, 2019

Mr. Tito Nieto
Cameron County Irrigation District No. 6
P.O. Box 295
Los Fresnos, Texas 78566

Re : Cameron County Irrigation District No. 6 (CCID6)
2020 WaterSMART Grant Application

Dear Mr. Nieto,

The Olmito Water Supply Corporation relies entirely upon the District for delivery of water for treatment. As such, we support the District's continued efforts to secure funding to modernize the system. The improvements will result in water conservation to help keep our delivery rates as low as possible.

Respectfully,
Olmito Water Supply Corporation

Tomas Tamayo
Director Of Operations