FCDC Hess Lateral Improvement

CWCB Loan Feasibility Study

Prepared for:

Florida Consolidated Ditch Company
1053 Main Ave Ste 102
Durango, CO 81302

FEASIBILITY STUDY APPROVAL
Pursuant to Colorado Revised Statutes 37-60-121 &122, and in accordance with policies adopted by the Board, the CWCB staff has determined this Feasibility Study meets all applicable requirements for approval.

Signed 5/5/17 Date

WWE

Wright Water Engineers, Inc.

April 2017

061-110.130

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Table of Acronyms Used in This Report

Acronym	Term
AF	acre-feet
AF/yr	acre-feet per year
CDPHE	Colorado Department of Public Health and Environment
CDSS	Colorado Decision Support Systems
CDOT	Colorado Department of Transportation
CDWR	Colorado Division of Water Resources
cfs	cubic feet per second
CWA	Clean Water Act
CWCB	Colorado Water Conservation Board
EA	Environmental Assessment
FCDC	Florida Consolidated Ditch Company
FWCD	Florida Water Conservancy District
IPP	Identified Projects and Processes
NRCS	Natural Resources Conservation Service
O&M	Operation and Maintenance
R&B Study	Rehabilitation and Betterment Study
SHPO	State Historic Preservation Officer
T&E	Threatened and Endangered
TNC	The Nature Conservancy
USBR	United States Bureau of Reclamation
USFS	United States Forest Service
WSRA	Water Supply Reserve Account
WWE	Wright Water Engineers, Inc.

1.0 EXECUTIVE SUMMARY

The Hess Lateral Improvement Project is located in La Plata County, CO 11 miles south of Durango (see Figure 1). The proposed Hess Lateral Improvement Project (The Project) converts a four-mile predominantly open ditch with minor runs of gravity pipe system known as the Hess Lateral to a buried pressurized pipeline. The Project will deliver up to 15 cubic feet per second of pressurized water for the beneficial use of water users; increasing water supply efficiency from pressurized sprinkler irrigation, providing irrigation water at reduced operational expense, and reduce operation and maintenance of the open lateral and losses from seepage.

For purposes of this report, water user's participation in The Project is defined as connecting to the pipeline and receiving pressurized water. Water users on the Hess Lateral who do not choose to participate in The Project will receive their allocation of water from the pipeline unpressurized at their respective original turnout or another location based on the mutual approval of the water user and FCDC Board.

The Project came to fruition mainly due to a Colorado Department of Transportation (CDOT) highway widening project along Highway 550 south of Durango. The CDOT widening project would necessitate moving a long portion of the Hess Lateral, which CDOT would have to design and construct. As an alternative, CDOT is providing the Florida Consolidated Ditch Company (FCDC) $950,000 of project funding and necessary right of way along the highway if needed. FCDC has received a commitment agreement from CDOT for $950,000 project funding not including right of way acquisition. This amount reflects CDOT's current estimated construction cost to relocate the Hess Lateral into a similar open ditch beyond the limits of the proposed highway improvements.

Based on information from the NRCS, the proposed Project will save up to 400-600 acre-feet (AF) per year due to reduction of loss from seepage and evaporation. Additional benefits from this water activity include lower operational and maintenance (O&M) costs, decreased conveyance times, and reduced energy use for irrigators who currently pump from the open ditch. Also, pressurizing the Hess Lateral will enable the on-farm conversion from flood irrigation to more efficient

irrigation methods such as center pivot sprinkler systems, further increasing overall FCDC system efficiency and eliminating an estimated 136.8 tons per year of salt load into the Animas River, according to NRCS. The water savings from this proposed Project will help firm the FCDC's pre-compact water rights and can be applied to other beneficial uses within the Florida River basin.

The current water users are made up of shareholders in the FCDC and the Florida Project water users. The FCDC is an incorporated mutual ditch company and is The Project Sponsor. In addition to water users, other Project partners include CDOT, the Florida Water Conservancy District (FWCD), The NRCS, and the Colorado Water Conservation Board (CWCB). The Project is projected to cost $2,800,000 of which FCDC is requesting a loan from CWCB for $1,075,000. The purpose of this Hess Lateral Feasibility Study Report (The Report) is a feasibility study for the CWCB $1,075,000 loan request.

The Report outlines two main alternatives plus a no action alternative and two additions. The two additions include the 1) additional cost of connecting a private lateral pipeline in the upper end of The Project and 2) an extension of the pressurized lateral pipeline past the current end of the Hess Lateral. Both additions could be added on to either Alternative No. 1 or Alternative No. 2 independently.

The pipeline alignment for Alternative No. 1 is shown on Figure 2 and basically follows the existing ditch alignment until the existing ditch alignment is altered by the CDOT widening projects where the pipeline alignment will then reside within CDOT right of way. CDOT will provide the FCDC an easement within the acquired CDOT right of way. For Alternative No. 1, the easements are within the existing ditch lateral easement or are acquired by CDOT. CDOT is required to acquire necessary easements as part of the CDOT Highway 550 widening project. New net project environmental and cultural impacts are minimal either because they are included in clearances and proposed impacts by the CDOT widening project or are already impacted within the existing ditch easement located outside of the CDOT widening project. The downside to Alternative 1 is that the pressurized water line is not as centrally located as compared to Alternative No. 2 and private pressurized lines will be longer overall. The Alternative No. 1 Opinion of Probable Cost is $2,680,000 (see Table 2).

Alternative No. 2 is a new alignment that will provide more conveniently located turnouts to more users than Alternative No. 1. This alternative will require acquisition of easements from property owners. A preliminary investigation of possible environmental and cultural impacts was conducted and no obvious endangered species, threatened species or cultural sites were identified along the Alternative No. 2 alignment. A more formal environmental and cultural impact study may need to be conducted for Alternative No. 2 during environmental permitting under the design phase if chosen. The Alternative No. 2 Opinion of Probable Cost is $3,160,000 (see Table 3).

Addition No. 1 includes tying an existing pressurized pipeline to The Project at the upper end of the Project. This addition would reduce seepage loss from a short unlined ditch and may minimize maintenance by consolidating a turnout as part of The Project. The net opinion of probable cost for Addition No. 1 is $11,000 (see Table 8).

Addition No. 2, also known as the Seale Addition, extends the end of the existing Hess Lateral with a pipeline of 2,450 feet in length. The Addition No. 2 would service additional large land owners at the end of the Hess Lateral that are currently served by private open irrigation lateral. The opinion of probable cost for Addition No. 2 is $120,000 (see Table 9).

The optional additions, if selected, would increase the total project cost and the number of participants and the total cost would be paid by all participants. As discussed above, water users participation in The Project is defined as connecting to the pipeline and receiving pressurized water. Water users on the Hess Lateral who do not choose to participate in The Project will receive their allocation of water unpressurized at their respective original turnout or another location based on the mutual approval of the water user and FCDC Board.

The financial feasibility of The Project is dependent on the Hess Lateral water user participation in The Project and their desire to connect to the pipeline for pressurized water. At the time of the writing of this report, the large agricultural users are on board with paying for The Project and pressurized service without the participation for pressurized service and contribution from smaller water users including subdivisions. When small water users opt in for pressurized water service,

the payments by the larger agricultural water users would decrease. Thus, the large agricultural water users are in favor of optimizing The Project moving forward to promote participation for pressurized service by smaller water users.

The engineering analysis of Alternative No. 1 shows there is sufficient water pressure to provide for sprinkler irrigation of irrigated agriculture and The Project is feasible from an engineering perspective. Alternative No. 1 is located within existing easements or easements and right of way acquired, or in process of acquisition, by CDOT. There are no known environmental or cultural issues that would preclude the construction of Alternative No. 1. The large irrigation water users are in favor of moving forward with The Project, regardless of the participation of small water users (see Table 7B representing approximately 70% of the water in the Hess Lateral). Thus, the Alternative No. 1 is feasible from a technical, easement and right of way, environmental, cultural and financial perspective.

The FCDC Board would like to move The Project forward serving large commercial agricultural users who have expressed intent to participate in The Project (see Table 7B). The FCDC would like to move into the preliminary design and environmental permitting of the Hess Lateral Project including additional coordination with small water users and the NRCS to optimize The Project. Water for existing uses who do not participate in The Project will be discharged from the pipeline to existing gravity laterals.

FCDC selected Alternative No. 1 with the optional Addition No. 2 (the Seale addition) with a combined preliminary opinion of probable cost for The Project of $2,800,000.

2.0 BACKGROUND

The Hess Lateral is an earth lined, open irrigation ditch built around 1920 that is part of the Florida Consolidated Ditch Company's (FCDC's) 82-mile-long irrigation water conveyance system. The proposed Project involves replacement of the approximately 3.3-mile-long ditch and a 0.625 mile (3,300 feet) of gravity irrigation line with a buried, gravity-pressurized pipeline capable of conveying flows of up to 15 cubic feet per second (cfs). FCDC, in conjunction with the Natural Resources Conservation Service (NRCS), estimates this Project will result in a water savings of 400-600 acre-feet (AF) per year due to reduction of loss from seepage and evaporation. Additional

benefits from this water activity include lower operational and maintenance (O&M) costs, decreased conveyance times, and reduced energy use for irrigators who currently pump from the open ditch. Also, pressurizing the Hess Lateral will enable the on-farm conversion from flood irrigation to more efficient irrigation methods such as center pivot sprinkler systems, further increasing overall FCDC system efficiency and eliminating an estimated 136.8 tons per year of salt load into the Animas River, according to NRCS. The water savings from this proposed Project will help firm the FCDC's pre-compact water rights and can be applied to other beneficial uses within the Florida River basin.

A portion of the Hess Lateral parallels Colorado Highway 550. CDOT plans on expanding Colorado Highway 550 in the near future, when highway construction funding is available. This expansion requires relocating approximately 10,000 feet of the Hess Lateral to outside of the Highway Right-of-Way. CDOT is cooperating with the FCDC on the relocation and has committed $950,000 to The Project in lieu of relocating the lateral during the highway expansion. This commitment is part of the utility relocation and property acquisition process performed before highway construction. The CWCB has awarded the FCDC with a $775,000 Water Supply Reserve Account (WSRA) grant to leverage CDOT's commitment. The FCDC is requesting a $1,075,000 CWCB Water Project Loan in order to complete the financing package for this Project.

2.1 Purpose

The purposes of this Project are to 1) improve the efficiency of the Hess Lateral canal conveyance system and reduce ditch loss through seepage and evaporation by converting the existing open ditch system to a pipeline, 2) provide irrigation water at reduced operational expense to promote continued commercial agricultural uses, 3) firm the agricultural pre-compact water supplies through increased efficiency as opposed to developing additional water supplies (i.e. enlarging Lemon Reservoir), 4) develop additional sources of water for other beneficial uses in the basin, and 5) increase water quality by reducing the salt load into the Animas River.

2.2 Study Area Description

The Hess Lateral serves 1,500 irrigated acres located on the Florida Mesa in La Plata County, 7 miles south of Durango, Colorado (see Figure 1). The Hess Lateral is part of the FCDC conveyance system that is located within the FWCD. The FWCD is the managing entity for the

United States Bureau of Reclamation's Florida Project. The Florida Project includes Lemon Reservoir and enlargement of numerous canals and laterals of the FCDC. In addition to adjudicated water, the FCDC conveys Florida Project water released from Lemon Reservoir for irrigation on the Florida Mesa.

The FCDC provides water to 284 shareholders (6,200 shares) and serves a total land area of 18,200 acres on the Florida Mesa. In 2001, a FWCD crop census reported a crop distribution of pasture grass (45 percent), other hay (36.5 percent) and alfalfa hay (13.4 percent). Other crops, at less than 2 percent of total acreage each, included silage, wheat, barley, corn, and oats. The Hess Lateral is a FCDC lateral and serves approximately 74 water users irrigating over 1,500 acres of primarily hay and pasture lands.

The study area topography generally slopes down from north to south at an average slope of 0.8%. The service area is generally bounded by a ridgeline on the east side and Highway 550 on the west. The land use is mainly classified as Agricultural, Rural Residential, and Suburban Density Residential. It must be noted that oil and gas pads are also present in The Project area along with buried pipelines. The Project could also encounter underground rock and cobble formations during excavation.

2.3 Previous Studies

a. The United States Bureau of Reclamation conducted a Rehabilitation and Betterment Study (R&B Study) in 1988 that identified and recommended improvements to the Florida Mesa Canals conveyance system (with consolidation of four individual Florida Mesa canal companies in 2014, this system is now referred to as the FCDC conveyance system). Since the 1988 R&B Study, the FCDC has improved approximately 9.5 miles of its 82-mile long system through lining and reconstruction.

b. The USBR conducted a surface water budget report, entitled Florida Mesa Surface Water Budget Florida Water Conservancy District 1994, which estimated the area of irrigated acreage and used that estimate as the basis for calculating the surface water budget. The report stated that the net diversion demand ranged from 33,040 AF/yr to 57,333 AF/yr with an average 46,124 AF/yr.

c. The FCDC, together with the FWCD, developed a Water Conservation and Management Plan in 2006 that identified the need for additional augmentation, municipal and industrial water supplies in the Florida River basin. This plan also identified several sections of the FCDC conveyance system as high priorities for efficiency improvements.

d. An analysis on a monthly time step was conducted in the FWCD/FCDC joint 2006 Water Conservation and Management Plan using the 46,124 AF average from the 1994 USBR report and Colorado Department of Water Resources (CDWR) diversion records which indicated water shortfalls within the FCDC ranging from approximately 1,750 AF in an average year to 33,500 AF during a dry year (2002).

e. In October 2010, Wright Water Engineers, Inc. (WWE) authored a ditch loss study based on the Florida Water Conservancy District Water Conservation and Management Plan (2006), which evaluated historical flow data and canal O&M records to identify sections of the conveyance system, primarily north of Pastorius Reservoir, experiencing significant water loss. The study also examined soil characteristics and prioritized the loss sections that had high soil permeability. The study provided a review of potential environmental impacts of performing improvements and conceptual cost estimates to make the improvements. As a result of this study, the FCDC developed a ditch improvement program for the study area and has used this since 2010 as its basis for prioritizing ditch improvement projects and seeking funding for the ditch improvement projects similar to the Hess Lateral Project. The Hess Lateral is located south of the study area.

f. Between 2012 and 2013 the USBR conducted a pre- and post-ditch loss study on one of the ditch improvement (ditch lining) Projects to quantify water savings from the improvements. The *Water Savings Verification Results for Florida Farmers Ditch Company Canal Lining Project*, USBR Report WEEG-11-141, was published in October 2014. The report found a 95% savings from the pre-Project seepage water loss (12.77 AF per day reduced to 0.63 AF per day), or a total average irrigation season savings of roughly 1,500 AF/year.

g. A recent update for the FWCD's 2015 Water Conservation and Management Plan, based on CDWR diversion records through 2014, found water shortfalls have increased to 3,000

AF in an average year, likely due to drier climate conditions since 2006. Note that the net diversion demand estimates made in the 1994 USBR report precede nearly all of the water efficiency improvements that the FCDC has made to its water delivery system. The 2015 Water Conservation and Management Plan identified several sections of the FCDC conveyance system as high priorities for improvement, one of which was the Hess Lateral.

h. As part of the Statewide Water Supply Initiative, the Southwest Basin Roundtable (SW Basin), in its July 2014 needs assessment report, observed the importance of Projects that address multiple purposes. The report recommended integration of consumptive and non-consumptive needs into its Identified Projects and Processes (IPP) database in order to provide the SW Basin with tools to explore opportunities that meet both need types. The Hess Lateral Improvement Project is listed as one of the SW Basin IPPs (IPP No. 28-A) as an identified multi-purpose Project that meets both consumptive and non-consumptive needs.

3.0 PROJECT SPONSOR

The FCDC is a not-for-profit irrigation company formed in 2014 with the consolidation of the four original Florida Mesa canal companies: The Florida Farmers Ditch Company, the Florida Canal Company, the Florida Enlargement Canal Company, and the Florida Co-Operative Ditch Company. The Florida Farmers Ditch Company was formed in 1889 and the Florida Canal Company was formed in 1893, in order to provide adjudicated irrigation water to agricultural water users on the Florida Mesa, near Durango, Colorado. The Florida Enlargement Canal Company and Florida Co-Operative Ditch Company were formed in 1908 and 1910 respectively, which expanded delivery of agricultural water to farmers on the Florida Mesa. Upon merging, the shares in individual ditch companies were consolidated and redistributed as Class A, Class B, Class C, and Class D shares. The assessment per share is currently $37.60 and the O&M cost per share is $70.00, for a total cost per share of $107.60. The FCDC budget is supplemented by the FWCD, which is the operating agency for the Florida Project. See the FCDC Articles of Incorporation and By-Laws in Appendix A.

As part of this Project, a Hess Lateral Subcommittee was formed to make recommendations to the board concerning the lateral and for community outreach to shareholders and Project water users

for participation. The Subcommittee consists of shareholders, a FCDC ditch rider and members of the FCDC Board and FWCD Board and a representative of the NRCS.

4.0 WATER RIGHTS

A listing of the water rights owned by the FCDC is provided in Table 1. Nearly all FCDC water rights are pre-Colorado Compact (pre-1922) water rights. In general, the Florida Canal diverts water for the Florida Canal and the Florida Canal Enlargement shares (Class B and C shares, respectively). The Florida Farmers Ditch diverts water for the Florida Farmers Ditch and the Florida Co-Operative Ditch shares (Class A and D shares, respectively). In addition, the FCDC provides water to Pastorius Reservoir, which is a Colorado State Wildlife Area.

4.1 Water Availability

Florida River natural streamflow is the source of the adjudicated water rights of the FCDC, detailed below. When natural streamflow declines and the adjudicated water is curtailed, Florida Project water is released from Lemon Reservoir as supplemental water for the FCDC. In addition, Florida Project water is the sole source of water to 5,730 acres of land on the Mesa classified by the USBR as irrigable that were not irrigated prior to construction of the Florida Project. The Hess Lateral serves 32 sole-source Florida Project water users.

On average since 1964, the adjudicated water rights of the FCDC divert approximately 26,500 AF/yr and the Florida Project delivers 16,500 AF/yr of water to the Florida Mesa through the FCDC canal conveyance system. Thus, the total volume of water diverted from the Florida River through the FCDC conveyance system to irrigate land on the Florida Mesa is approximately 43,000 AF/yr on average. This total volume decreased to 13,600 AF during the very dry year of 2002 (CDWR diversion records, 1964-2014, Use Type Irrigation).

4.2 Water Supply Demands

The Hess Lateral delivers an average of approximately 3,100 AF each irrigation season and serves approximately 1,520 acres of irrigated land. The crop consists of mainly hay and pasture grass. Of the 1,520 irrigated acres, approximately 365 acres, or 24 percent, is under sprinkler irrigation. Thus, the remaining 1,155 acres, or 76 percent, of irrigated land under the Hess Lateral are flood

irrigated according to the NRCS estimates and may be improved in the future. By delivering pressurized piped water to historically flood irrigated farmlands that have been improved with sprinkler systems, The Project will increase delivery efficiency and will reduce water usage. Sprinkler systems are more favorable than flood irrigation as sprinkler system increase efficiency, reduce water demand, reduce labor, operation and maintenance, reduce salinity loading from irrigation return flow and increase overall water quality. Over all water depletions will decrease due to less evaporation from laterals and ditches and non-crop irrigation losses. If water users opt out of improving irrigation methods to sprinkler systems, at the mainline turnouts, water will return to surface flow by a pressure dissipater vaults.

5.0 PROJECT DESCRIPTION – ANALYSIS OF ALTERNATIVES

Three alternatives were considered for The Project; Alternative No. 1: Replacement of Existing Open Ditch with Buried Irrigation Pipeline, Alternative No. 2: New Buried Irrigation Pipeline Alignment and Alternative No. 3: No-Action. The three alternatives are outlined below.

When the scope for the feasibility and the initial CWCB application was proposed it was understood that the Hess Lateral Pipeline would be approximately 17,700 feet, or 3.3 miles long. During the study it was discovered the existing Short Lateral Pipeline is supplied by the Hess Lateral and is a gravity pipeline. Improving the Hess Lateral will require improving the Short Lateral Pipeline and increase The Project pipeline length from 17,700 feet to approximately 21,000 feet. This impacts the overall project opinion of probable cost.

5.1 Alternative No. 1: Replacement of Existing Open Ditch with Buried Irrigation Pipeline

Alternative No. 1 roughly follows the current alignment of the Hess Lateral Ditch (see Figure 2) and is composed of approximately 21,700 feet of pipeline and 16 headgates (turnouts). This alternative follows CDOT's proposed alignment near Highway 550. Pipe sizes range from 27 inches at the beginning of the pipeline to 8 inches at the end of the pipeline. This alternative includes an intake pond for sedimentation and replacement of the Short Lateral. The Alternative No. 1 Opinion of Probable Cost is approximately $2,680,000, which includes engineering services and contingency. See Table 2 for additional detail.

5.2 Alternative No. 2: New Buried Irrigation Pipeline Alignment

Alternative No. 2 at the beginning is the same as Alternative No. 1 from the intake pond to Freemont Road intersection, at which point the pipeline deviates from the Alternative No. 1 alignment. Alternative No. 2 follows Freemont Road, County Road 218 and utility service roads south until Quarter Horse Road is intersected. At the Quarter Horse Road intersection, the alignment changes to east-west along Quarter Horse Road for 1,300 feet and then reverts back to north-south alignment for 2,800 feet. This alignment follows the existing Short Lateral alignment and allows the Hess Lateral and Short Lateral to be combined in one pipe (see Figure 3) for the entire Alternative No. 2 alignment.

It is composed of approximately 21,070 feet of pipeline and 21 headgates, which increases the number of service turnout points to water users in comparison to Alterative No. 1. Moreover, this alternative provides more direct services to residential subdivisions than Alternative No. 1 or the existing ditch system, which is an improvement. Alternative No. 2 pipe sizes range from 27 inches at the beginning of the pipeline to 8 inches at the end of the pipeline. This alternative includes an intake pond for sedimentation, which is the same for Alternative No. 1. Alternative No. 2's Opinion of Probable Cost is approximately $3,160,000 (see Table 3) which includes engineering services and contingency.

5.3 Alternative No. 3: No-Action

Alternative No. 3 is the No-Action alternative. The Hess Lateral Ditch will ultimately be rerouted by CDOT, and a combination of open gravity-fed ditch and buried pipe open channel flow ditch. CDOT, as part of The Project to widen Highway 550, would be responsible for the design, construction and environmental and cultural compliance associated with The Project.

5.4 Similar Components for Alternative No. 1 and Alternative No. 2

Outputs/Yields

Both Alternative No. 1 and No. 2 would deliver an average of approximately 3,100 AF each irrigation season and serve approximately 1,520 acres of irrigated land. The Project is estimated by the NRCS and the FCDC to save 400-600 AF per year due to reduced losses.

Impacts

Both Alternative No. 1 and No. 2 have the potential to impact the manmade and natural environment. But impacts are minimal if not net beneficial as The Project would result in converting open ditches and laterals to buried pipe. Possible impacts may result from altering the current ditch alignment, altering headgate locations, and altering O&M easement locations, which would slightly change traffic patterns. Other impacts include temporary construction activity impacts to land and air, which will be mitigated through erosion control and fugitive best management practices.

Economic Feasibility

There are 284 Shareholders in the FCDC, and 67 water users that have the potential to be served by The Project and 18 large commercial agricultural irrigators who have opted into pressurized service from The Project (See Table 7B). Remaining water users who have not opted in will be served with unpressurized water from the pipeline at their original turnouts. The more participation in The Project by water users yields less overall repayment loan obligation per user. To make The Project feasible, it is highly recommended that key points of this study be conveyed to water users to encourage maximum participation. In general, the water savings in the FCDC service area has the potential to benefit all shareholders.

Institutional Requirements

The FCDC must determine how to manage Project debt, secure easements for the preferred Project alignment, and develop a more thorough understanding of the environmental and cultural compliance requirements for The Project area.

5.5 Differences between Alternative No. 1 and Alternative No. 2

The major differences impacting the Opinions of Probable Cost for Alternative No. 1 and Alternative No. 2 are the alignment and the number of services. The two alternatives have similar total pipe lengths but Alternative No. 2 includes a greater length of 24 inch and 27 inch pipe than Alternative No. 1 because the flow in the Short Lateral pipeline is carried in the Hess Lateral Pipeline for a longer distance, increasing the Alternative No. 2 cost.

5.6 Optional Additions

WWE evaluated two water delivery optional additions associated with the Hess Lateral Improvement Project: Addition No. 1 connecting the Alton Hess Pipeline, and Addition No. 2 the Seale Extension. Each addition would be able to occur with either Alternative No. 1 or Alternative No. 2 (see Figures 2 and 4 for addition locations). Optional Addition No. 1 is serving the existing Alton Hess Pipeline from the proposed Hess Lateral Pipeline. This optional addition will entail a tee off of the proposed Hess Lateral instead of an open private ditch lateral from the intake pond and traditional turnout. The open private ditch lateral and traditional turnout would need to be reconstructed and reconfigured to work with the Hess Lateral Improvement Project. Addition No. 1 would make administration of water delivery easier. The Opinion of Probable Cost of Optional Addition No. 1 is $11,000 for both Alternative No. 1 and Alternative No. 2.

Optional Addition No. 2 is the proposed Seale Pipeline. This addition would extend the Hess Lateral Pipeline by an additional 2,450 feet to service existing subdivisions and shareholders. This extension would allow for water users on the South Project to connect to The Project. The Opinion of Probable Cost of Optional Addition No. 2 is $120,000 to both Alternative No. 1 and Alternative No. 2. Without Optional Addition No. 2, existing users will receive water from the existing gravity lateral.

6.0 SELECTED ALTERNATIVE

Project Description

The FCDC Subcommittee and Board has found that Alternative No. 1 as the currently feasible Alternative because 1) large irrigation landowners are willing to participate in The Project at the preliminary opinion of project cost, regardless if other small landowners participate, 2) the easements and rights of ways have been acquired or are in the process of acquisition by CDOT along the highway 550 widening project. The FCDC Subcommittee and board has also selected Optional Addition No. 2 (Seale Addition). The preliminary opinion of probable cost for Alternative No. 1 and Optional Addition No. 2 (Seale Addition) is $2,800,000.

Map

The selected alternative is shown on Figure 2.

Conceptual Plan

A conceptual plan for the selected alternative is depicted on Figure 2. The Conceptual Plan was developed to the 30 percent design level in order to assess The Project feasibility and shareholder participation. Conceptual pipe lengths, pipe sizes, fittings, pressure reducing valve location, air relief valve locations, and blow off valve location are indicated in the EPANET Modeling results. Conceptual pipe sizes were determined using a computer hydraulic model of the pressurized system with the EPANET analysis. A key design parameter for flow velocity is to maintain 2 feet per second (fps) to avoid sediment settling in the pipe. In addition, a minimum and maximum pressures of 50 pounds per square inch (psi) and 100 psi respectively, were provided at each turnout for sprinklers to properly operate.

Conceptual Design Features

The conceptual design generally follows the Preliminary Basis of Design Parameters presented in the Appendix C. The Preliminary Basis of Design Parameters was developed with FCDC staff, committee members with consideration of typical industry practices.

The conceptual design was modeled using EPANET. The EPANET schematic is shown in the Appendix D along with pressure and elevation profiles. The input and output files are also provided in the appendix.

Field Investigations

The topography used in the conceptual design was obtained from La Plata County 5-foot contour data. This data was compared with published USGS data and CDOT Highway 550 design topography to check for vertical accuracy and appeared to be reasonable.

A geotechnical investigation boring was performed at the intake pond and it was determined that there is no impenetrable layer to prevent the required 10-foot depth. The material is classified as sandy clay with low permeability to retain the required volume and discourage seepage. The geotechnical investigation is provided in Appendix F.

Right-of-Way/Land

The Right-of-Way is in the existing ditch ROW or ROW acquired or in the process of acquisition by CDOT.

6.1 Opinion of Probable Costs

See Table 2 – Opinion of Probable Costs for Alternative No. 1 for information and background regarding components included in the Opinion of Probable Costs. This opinion was developed using the conceptual design presented in Figure 2 and the EPANET model. The table provides a breakdown of pipes, fittings, pressure reducing valve and vault, air relief valve, blow off valve, and intake pond. The Opinion of Probable Costs is based on available data at the time of this report was prepared and may not reflect the bidding climate when actual construction bids are received. The Opinion of Probable Costs is expected to be revised once the final design is performed and additional Project detail is defined.

6.2 Implementation Schedule

A conceptual schedule has been developed, see Table 4, Project Implementation Schedule. This schedule outlines The Project from final design to constructed Project closeout. WWE estimates the entire Project timeline to be 42 months of which the construction will take 15 months, with a temporary construction shut down anticipated for the irrigation season. However, the implementation schedule is subject to change as The Project progresses.

6.3 Environmental and Cultural Impacts

WWE conducted a preliminary review of potential historical, cultural, and archeological sites present within The Project area using the Colorado Office of Archaeology and Historic Preservation COMPASS online database. Based on this review, it is WWE's understanding that there are no known historical, cultural, or archeological sites present within The Project area. Given the area's history of intensive agriculture over the previous decades, it is unlikely that historical, cultural or archeological sites would be intact along any of the considered alternatives. The FCDC will coordinate with the State Historic Preservation Officers (SHPO) to verify non-impact. A plan will be developed to minimize the impacts, if cultural or archeological site are unexpectedly encountered.

The environmental impacts identified in this section are applicable to all three alternatives since construction will occur even if FCDC takes no action. Impacts from the selected Alternative No. 2 include temporary changes to traffic patterns and impacts to land and air by construction activities. The impacts to air and water are anticipated to be short term in duration and should be minimized through avoidance, stormwater management techniques, and the management of fugitive dust emissions through dust control. The Project will also comply with any requirements on wetlands and T&E species habitat that are identified during environmental permitting.

According to the U.S. Fish and Wildlife Service National Wetlands Inventory the Hess Lateral Project area contains freshwater emergent wetlands and fresh water ponds. The Environmental Assessment (EA) drafted by CDOT for the Highway 550 widening Project does not consider the current alignment of the Hess Lateral to be within any jurisdictional wetland area. Based on further review using the U.S. Fish and Wildlife Service National Wetlands online mapper, the freshwater emergent wetlands and fresh water ponds near The Project area are, in WWE's opinion, not associated with a tributary that feeds the Florida or Animas River by surface or subsurface means. The wetlands present would likely be classified as non-jurisdictional and The Project would likely be exempt from 404 permitting due to the agricultural water use exemption.

According to the U.S. Fish and Wildlife Service Threatened and Endangered (T&E) Species Critical Habitat Mapper, there is not critical habitat for T&E species identified within The Project area. As noted elsewhere in this report, the evaluated alternatives are located in areas subject to intensive agriculture and existing development and are not suitable habitat for T&E Species that are known to occur in this part of Colorado. With respect to downstream T&E Species that may be dependent on flows in the San Juan River or Colorado River, Alternative Nos. 1 and 2 would confer a benefit in that they would reduce irrigation delivery and application inefficiency, potentially allowing more water to remain in the river increases in water quality.

6.4 Institutional Feasibility

The following permits may be required for the proposed Project.

1. Clean Water Act (CWA) compliance. If determined necessary during final design, a wetlands biologist will be retained to evaluate impacts to wetlands and riparian

resources. As needed, a wetlands delineation report will be prepared for the U.S. Army Corps of Engineers (USACE) to verify this delineation. Based on Figure 4, there are potential delineated wetlands within The Project area. The Project budget provides an allowance for permitting with the USACE or other applicable permitting agency as required prior to construction. However, no permitting under Section 404 of the CWA is envisioned at this time due to the agricultural use exemption.

2. Land Use permits. Permitting requirements will be discussed with La Plata County Roads Department where the alignment enters County right-of-way. La Plata County Building Permits do not typically cover agricultural ditch work. Site access permitting may be required and will be completed before construction.
3. Stormwater permitting and dewatering permits are anticipated to be required. The permits will be obtained following completion of final design and before land disturbance activities begin.
4. Material screening and land disturbance operations may require an air permit. The FCDC will work with the Colorado Department of Public Health and Environment (CDPHE) to determine if air quality permits will be required for The Project. The permits will be obtained following completion of final design and before land disturbance activities begin.

7.0 FINANCIAL FEASIBILITY ANALYSIS

7.1 Loan Amount and Financing Sources

Several entities are involved in financing the estimated Project cost of $2,800,000 (see Table 5). CDOT has committed $950,000 to The Project and the FCDC has also been awarded a $775,000 grant from the CWCB under the WSRA. The FCDC is requesting a $1,075,000 CWCB Water Project Loan at a 1.80 percent interest rate for a 30-year term.

The FCDC will assess the current water users served by the Hess Lateral Ditch for participation in The Project. Based on the total participation, a cost per water user will be determined according to the water user's total allocation. The FCDC will adjust the cost of participating water user's services based on this ratio in the form of an annual fee.

7.2 Revenue and Expenditure Projections

The Schedule of Revenue and Expenditure Projections is shown in Table 6. The loan breakdown is by years of operation. In addition, the Table 6 provides anticipated annual revenue and expenditures for the operation of the pipeline for the 30 years and an assumed interest rate of 1.80%. The interest rate may vary and will be finalized during the loan origination process. A present worth assessment for year one was provided by FCDC along with share assessment and operation and maintenance assessments per share.

7.3 Financing Ownership and Management

There are two options that the Hess Lateral Subcommittee is investigating for the financial management and ownership of The Project. The first option, which is the preferred option by the Subcommittee, is for FCDC to take on the debt with written contracts for the repayment of the debt by the owners who elect to receive service from the pressurized pipeline. This option will require a vote and approval by the shareholders. The second option is for the formation, under FCDC, of a separate pipeline non-profit company to take on the debt. The members of the pipeline company would be those that tie into the pressurized pipe. The pipeline company income would be restricted to repayment of the debt.

CWCB has provided guidance on the requirements for each borrowing options. Please refer to Appendix E for the CWCB Borrower Guidance. The FCDC Board has chosen for the FCDC to hold the loan and assess Hess Lateral water users for payments in order to pay the debt service on the loan.

7.4 Loan Repayment Sources

Water users in The Project area are considered by the FCDC to be either a shareholder or a Project water user. A shareholder in the FCDC owns adjudicated water. Some shareholders own both adjudicated and Project water. The Project and adjudicated water is administered by the FWCD but delivered by the FCDC via the referenced ditch. According to the FCDC, the number of shareholders and Project water consumers are anticipated to remain consistent over the next 30 years as there is limited availability for further development within The Project area. Funds for the

delivery of Project water are provided by the FWCD to FCDC for water delivery. In 2016, the FWCD provided the FCDC with $213,606 for delivery of Project water to constituents.

Consumers of Project water who are interested in receiving pressurized water will receive an additional fee assessed by the FCDC. This fee is for delivery of the pressurized water based on the total allocated amount of Project water associated with their land parcel. Shareholders, or adjudicated water right owners, account for approximately 46 percent of total water delivered through the Hess Lateral Ditch. Shareholders in the company interested in receiving pressurized water will receive an additional fee assessed by the FCDC. Some shareholders have both adjudicated and Project water and the fee for the delivery of pressurized water is based on the greater amount of adjudicated water or Project water. As of May 2016, the assessment per share is $37.60 and $70.00 for O&M costs annually company-wide.

7.5 Financial Impacts

The constituents served by the proposed Project will see an increase in assessments and an annual fee for the delivery of pressurized water. Table 7 provides an example of the amount each participating water user may pay over The Project loan period assuming full participation as well as their estimated annual payment. The FCDC anticipates an annual savings of $15,000 in O&M costs associated with the completion of The Project. Therefore, the FCDC will contribute approximately $2,000 annually to the annual loan payment debt service.

7.6 TABOR (Taxpayer's Bill of Rights) Issues

According to FCDC personal, the ditch company does not operate under TABOR requirements.

7.7 Collateral

The FCDC offers the Hess Lateral Improvement Project as collateral and will dedicate FCDC assessment revenues to offset nonpayment. In the event the FCDC is unable to repay the CWCB for the loan amount, the Hess Lateral Ditch will transfer ownership to the CWCB.

7.8 Sponsor Creditworthiness

Sponsor Creditworthiness information is provided in Appendix B.

7.9 CWCB Water Project Loan Application

The Application for the CWCB has been completed and signed by the FCDC (see Appendix H).

8.0 CONCLUSIONS AND RECOMMENDATION

It is the FCDC Subcommittee's and WWE's recommendation that Alternative No. 1 be selected. This decision is based upon the lower estimated cost, the ability to use existing easements and right-of-ways or those acquired by CDOT, and the ability to serve non-participants at their existing headgate locations.

9.0 REFERENCES CONSULTED

CWCB Borrower Guidance, Mauss, Anna Re: "Florida Consolidated Ditch Company Hess Lateral Loan Feasibility Study." Message to Dex Lewis. 09 September, 2016. Email

United States Bureau of Reclamation, Water Supply, Use and Conservation Group Technical Service Center – Denver Colorado; Surface Water Budget – Florida Mesa, Florida Water Conservancy District; October, 1994.

Fazzan, Don. Florida Water Conservancy District Florida Rehabilitation and Betterment Study. August 4, 1988. Denver, Colorado.

La Plata Electric Association Base Rates, Rates. (n.d.) Retrieved September 13, 2016, from http://www.lpea.com/services/rates.html

Oliver, Ann and Lile, Carrie. Harris Water Engineering. Basin Implementation Plan Southwest Basin Roundtable. July 31, 2014.

RSMeans Construction Cost Data 2015. Fortier, Robert P.E., "RS Means Heavy Construction Cost Data." Norwell, MA. Construction Publishers and Consultants, 2015. Print.

Vermeyen, Tracy. Bureau of Reclamation Water Savings Verification Results for Florida Farmers Ditch Company Canal Lining Project. October 2014. Denver Colorado

WWE Preliminary Basis of Design Memorandum. Dex Lewis, P.E. AZ, Jeffrey M. Nelson, P.E., Peter Foster, P.E. "Hess Lateral Preliminary Basis of Design Parameters." Memorandum September 14, 2016.

P:\061-110\130 HESS LATERAL WORK FILES\Feasibility Study\Feasibility Study Engineering Report\April 2017 DRAFT Feasibility Study Eng Report for Hess Lateral.docx

TABLES

Table 1
Florida Consolidated Ditch Company - Hess Lateral Improvement Project
Water Rights Tabulation for Florida Canal and Florida Farmers Ditch

FLORIDA CANAL

WATER RIGHTS TRANSACTION INFORMATION

	ADMINISTRATIVE NUMBER	ADJUDICATION DATE	APPROPRIATION DATE	CASE NUMBER	DECREED RATE (CFS)	DECREED VOLUME (AF)	USES	COMMENT
Florida Canal (Class B shares)	14152.00000	11/8/1923	9/29/1888	CA1751	24		IRR	
	15774.00000	11/8/1923	3/9/1893	CA1751	16		IRR	
	22428.00000	11/8/1923	5/29/1911	CA1751		970	IRR	Pastorius Reservoir
Florida Canal Enlargement	20890.00000	11/8/1923	3/13/1907	B-1751	31		IRR	Alternate Point of Diversion Taken in the Florida Farmers Ditch
	20890.00000	11/8/1923	3/13/1907	CA1751	40		IRR	
Total					**111**			

FLORIDA FARMERS DITCH

WATER RIGHTS TRANSACTION INFORMATION

	ADMINISTRATIVE NUMBER	ADJUDICATION DATE	APPROPRIATION DATE	CASE NUMBER	DECREED RATE (CFS)	DECREED VOLUME (AF)	USES	COMMENT
Florida Farmers Ditch (Class A shares)	12392.00000	11/8/1923	12/5/1883	CA1751	12.08		IRR	
	13649.00000	11/8/1923	5/15/1887	CA1751	1.33		IRR	
	14016.00000	11/8/1923	5/16/1888	CA1751	8.58		IRR	
	14291.00000	11/8/1923	2/15/1889	CA1751	23		IRR	
	20890.00000	11/8/1923	3/13/1907	W0306	31		IRR	Alternate Point of Diversion from Florida Canal Enlargement
	35219.00000	3/21/1966	6/5/1946	B-1751	110		IRR	Decreed to provide adjudicated water rights to acreage with sole supply
Florida Coop Ditch (Class D shares)	22228.00000	11/8/1923	11/10/1910	B-1751	4		IRR	
	22228.00000	11/8/1923	11/10/1910	CA1751	26		IRR	
Total					**216**			

Source: Colorado Division of Water Resources

Table 2

Florida Consolidated Ditch Company - Hess Lateral Improvement Project

Opinion of Probable Cost for Alternative No. 1

Budget Item	Unit Price		Quantity	Cost	Manufacturer/Type	Other
Materials						
27" Pipe (material, labor, equip)	$ 69.00	LF	4490	$ 309,810.00	Grand Junction Pipe Company provided cost of all pipes and fittings PIP JMEagle	
24" pipe (material, labor, equip)	$ 51.00	LF	2490	$ 126,990.00		
21" pipe (material, labor, equip)	$ 40.00	LF	1855	$ 74,200.00		
18" Pipe (material, labor, equip)	$ 30.00	LF	3805	$ 114,150.00		
15" pipe (material, labor, equip)	$ 22.00	LF	2900	$ 63,800.00		
12" pipe (material, labor, equip)	$ 21.00	LF	4451	$ 93,471.00		
10" pipe (material, labor, equip)	$ 20.00	LF	41	$ 820.00		
8" pipe (material, labor, equip)	$ 17.00	LF	1660	$ 28,220.00		
90 elbow (15") (material, labor, equip)	$ 550.00	EA	2	$ 1,100.00		
90 elbow (12") (material, labor, equip)	$ 525.00	EA	1	$ 525.00		
45 elbow (27") (material, labor, equip)	$ 1,100.00	EA	4	$ 4,400.00		
45 elbow (24") (material, labor, equip)	$ 1,000.00	EA	1	$ 1,000.00		
45 elbow (21") (material, labor, equip)	$ 455.00	EA	4	$ 1,820.00		
45 elbow (15") (material, labor, equip)	$ 140.00	EA	0	$ -		
45 elbow (12") (material, labor, equip)	$ 85.00	EA	4	$ 340.00		
22.5 elbow (27") (material, labor, equip)	$ 510.00	EA	2	$ 1,020.00		
22.5 elbow (24") (material, labor, equip)	$ 450.00	EA	1	$ 450.00		
22.5 elbow (21") (material, labor, equip)	$ 400.00	EA	0	$ -		
22.5 elbow (18") (material, labor, equip)	$ 250.00	EA	0	$ -		
22.5 elbow (12") (material, labor, equip)	$ 200.00	EA	0	$ -		
Tee (24") (material, labor, equip)	$ 2,100.00	EA	0	$ -		
Wye or Tee (15") (material, labor, equip)	$ 660.00	EA	0	$ -		
Tee (24"x24"x12") (material, labor, equip)	$ 2,000.00	EA	1	$ 2,000.00		
Tee (12"x12"x12") (material, labor, equip)	$ 650.00	EA	1	$ 650.00		
27-24 Reducer (material, labor, equip)	$ 560.00	EA	1	$ 560.00		
24-21 Reducer (material, labor, equip)	$ 410.00	EA	1	$ 410.00		
21-18 Reducer (material, labor, equip)	$ 280.00	EA	1	$ 280.00		
18-15 Reducer (material, labor, equip)	$ 100.00	EA	1	$ 100.00		
15-12 Reducer (material, labor, equip)	$ 90.00	EA	1	$ 90.00		
12-10 Reducer (material, labor, equip)	$ 80.00	EA	1	$ 80.00		
Turnout Propeller Flow Meter	$ 3,000.00	EA	16	$ 48,000.00	McCrometer MF100 Flanged-in propeller meter	6" = $1484 and the 12" = $2818
Flow Meter Vault	$ 3,000.00	EA	16	$ 48,000.00		
Turnout Tee	$ 800.00	EA	16	$ 12,800.00		
Turnout appurtenances, valve, dissipater vault	$ 25,000.00	EA	16	$ 400,000.00	Tee, riser, fittings, and dissipater vault	
air-relief valve	$ 2,000.00	EA	1	$ 2,000.00		
blow-off valve	$ 2,000.00	EA	1	$ 2,000.00		
Pressure Reducing Valve and Vault	$ 110,000.00	EA	1	$ 110,000.00	$60,000 for Cla Val Cost and $50,000 for Vault. Quote from isiWest Inc.	
Butterfly Valve	$ 10,000.00	EA	4	$ 40,000.00		
Intake Pond Excavation	$ 10.00	CY	1500	$ 15,000.00		
Intake Pond headgate and controls	$ 25,000.00	Each	1	$ 25,000.00		
Material Total				**$1,529,000.00**		
Earthwork (Trenching, Backfill, and Compaction)						
Trenching	$ 6.25	CY	13361	$ 83,507.00	3/4 CY excavator 4'-6' deep, RSMeans pg. 220	
Backfill	$ 1.25	CY	13361	$ 16,702.00	Backfill RSMeans pg. 236	
Compaction	$ 2.75	CY	13361	$ 36,743.00	Compaction using Jumping Jacks RSMeans pg.259	
tractor, seeder, conditioning	$ 2,700.00	Acre	20.00	$ 54,000.00	Estimate from Horizon Enviro.: includes seed	
miscellaneous (thrust blocks)	$ 300.00	EA	37	$ 11,100.00		
Earthwork (Trenching, Backfill, and Compaction)				**$202,000.00**		
Construction Activities						
Mobilization	$ 50,000.00	LS	1	$ 50,000.00		
Demolition and removal	$ 5,000.00	LS	1	$ 5,000.00		
environmental and regulatory compliance	$ 10,000.00	LS	1	$ 10,000.00		
Total Construction Activities Cost				**$ 65,000**		
Total Construction Cost				**$1,796,000.00**		
Total Construction Cost plus 25% Contingency				**$ 2,245,000.00**		
Engineering Design (Preliminary and Final) and Permitting (15%)				**$ 337,000.00**		
Project Construction Engineering and Observation (2-3 days/week)				**$ 100,000.00**		
Total Project Cost				**$ 2,680,000.00**		

Exclusions:

1. Rock excavation
2. Easement acquisition
3. Legal fees for a new pipeline company

Table 3

Florida Consolidated Ditch Company - Hess Lateral Improvement Project

Opinion of Probable Cost for Alternative No. 2

Budget Item	Unit Price	Unit	Quantity	Cost	Manufacturer/Type	Other
Materials						
27" Pipe (material, labor, equip)	$ 69.00	LF	7680	$ 529,920.00		
24" pipe (material, labor, equip)	$ 51.00	LF	860	$ 43,860.00		
21" pipe (material, labor, equip)	$ 40.00	LF	2520	$ 100,800.00		
18" Pipe (material, labor, equip)	$ 30.00	LF	3270	$ 98,100.00		
15" pipe (material, labor, equip)	$ 22.00	LF	2822	$ 62,084.00		
12" pipe (material, labor, equip)	$ 21.00	LF	3256	$ 68,376.00		
10" pipe (material, labor, equip)	$ 20.00	LF	660	$ 13,200.00		
8" pipe (material, labor, equip)	$ 17.00	LF	280	$ 4,760.00		
90 elbow (24") (material, labor, equip)	$ 1,500.00	EA	0	$ -		
90 elbow (18") (material, labor, equip)	$ 560.00	EA	1	$ 560.00		
90 elbow (12") (material, labor, equip)	$ 500.00	EA	2	$ 1,000.00		
45 elbow (27") (material, labor, equip)	$ 1,100.00	EA	4	$ 4,400.00		
45 elbow (21") (material, labor, equip)	$ 900.00	EA	1	$ 900.00		
45 elbow (18") (material, labor, equip)	$ 280.00	EA	2	$ 560.00		
45 elbow (15") (material, labor, equip)	$ 140.00	EA	4	$ 560.00		
45 elbow (6") (material, labor, equip)	$ 25.00	EA	0	$ -		
22.5 elbow (27") (material, labor, equip)	$ 510.00	EA	3	$ 1,530.00		
22.5 elbow (24") (material, labor, equip)	$ 450.00	EA	0	$ -		
22.5 elbow (21") (material, labor, equip)	$ 400.00	EA	1	$ 400.00		
Tee (24-24-12) (material, labor, equip)	$ 2,100.00	EA	1	$ 2,100.00		
Tee (18-18-12) (material, labor, equip)	$ 1,900.00	EA	1	$ 1,900.00		
Tee (12-12) (material, labor, equip)	$ 1,500.00	EA	0	$ -		
27-24 Reducer (material, labor, equip)	$ 560.00	EA	1	$ 560.00		
24-21 Reducer (material, labor, equip)	$ 410.00	EA	1	$ 410.00		
24-18 Reducer (material, labor, equip)	$ 390.00	EA	0	$ -		
12-10 Reducer (material, labor, equip)	$ 160.00	EA	0	$ -		
21-18 Reducer (material, labor, equip)	$ 280.00	EA	1	$ 280.00		
18-15 Reducer (material, labor, equip)	$ 190.00	EA	1	$ 190.00		
15-6 Reducer (material, labor, equip)	$ 270.00	EA	0	$ -		
15-12 Reducer (material, labor, equip)	$ 90.00	EA	1	$ 90.00		
Turnout Propeller Flow Meter	$ 3,000.00	EA	21	$ 63,000.00	McCrometer MF100 Flanged-in propeller meter 6" = $1484 and the 12" = $2818	
Flow Meter Vault	$ 3,000.00	EA	21	$ 63,000.00		
Turnout Tee	$ 800.00	EA	21	$ 16,800.00		
Turnout appurtenances, valve, dissipater vault	$ 25,000.00	EA	21	$ 525,000.00	Tee, riser, fittings, and dissipater vault	
air-relief valve	$ 2,000.00	EA	1	$ 2,000.00		
blow-off valve	$ 2,000.00	EA	1	$ 2,000.00		
Pressure Reducing Valve and Vault	$ 110,000.00	EA	1	$ 110,000.00	$60,000 for Cla Val Cost and $50,000 for Vault. Quote from isiWest Inc.	
Butterfly Valve	$ 10,000.00	EA	6	$ 60,000.00		
Intake Pond Excavation	$ 10.00	CY	1500	$ 15,000.00		
Intake Pond headgate and controls	$ 25,000.00	EA	1	$ 25,000.00		
Material Cost Total				**$ 1,818,000**		
Earthwork (Trenching, Backfill, and Compaction)						
Trenching	$ 6.25	CY	17405	$ 108,780.00	3/4 CY excavator 4'-6' deep, RSMeans pg. 220	
Backfill	$ 1.25	CY	17405	$ 21,756.00	Backfill RSMeans pg. 236	
Compaction	$ 2.75	CY	17405	$ 47,863.00	Compaction using Jumping Jacks RSMeans pg.259	
tractor, seeder, conditioning	$ 2,700.00	acre	20.00	$ 54,000.00	Estimate from Horizon Enviro.: includes seed	
miscellaneous (thrust blocks)	$ 300.00	EA	43	$ 12,900.00		
Earthwork (Trenching, Backfill, and Compaction)				**$ 245,000**		
Construction Activities						
Mobilization	$ 50,000.00	LS	1	$ 50,000.00		
Demolition and removal	$ 5,000.00	LS	1	$ 5,000.00		
environmental and regulatory compliance	$ 10,000.00	LS	1	$ 10,000.00		
Total Construction Activities Cost				**$ 65,000**		
Total Construction Cost				**$ 2,128,000.00**		
Total Construction Cost plus 25% Contingency				**$ 2,660,000.00**		
Engineering Design (Preliminary and Final) and Permitting (15%)				**$ 399,000.00**		
Project Construction Engineering and Observation (2-3 days/week)				**$ 100,000.00**		
Total Project Cost				**$ 3,160,000.00**		

Exclusions:

1. Rock excavation
2. Easement acquisition
3. Legal fees for a new pipeline company
4. Temporary connections to existing headgate locations

Table 4
CWCB Loan Feasibility Study
Florida Consolidated Ditch Company
Hess Lateral Improvement Project Anticipated Implementation Schedule[(1)]

	2017	2018				2019				2020				2021
Task	Oct - Dec	Jan-Mar	Apr-June	July-Sept	Oct-Dec	Jan-Mar	Apr-June	July-Sept	Oct -Dec	Jan-Mar	Apr-June	July-Sept	Oct -Dec	Jan-Mar
Shareholder Vote														
Final Engineering Design														
Initial Environmental Permitting														
Land and Right-of-Way Acquisition														
Engineering Services During Bidding														
Final Environmental Permitting														
Engineering Services During Construction														
Project Construction														
Preparation of Record Drawings; Measurement of Post-Project Benefits and Preparation of Final Report														

(1) Timeline is based on completion dates or time period from the Notice to Proceed and Purchase Order Issuance. This schedule may be adjusted based on grant award date, weather delays, or to accommodate obligations for irrigation water delivery.

Table 5
Florida Consolidated Ditch Company - Hess Lateral Improvement Project
Project Funding Sources

$ 2,800,000 Total Estimated Cost of Hess Lateral Improvement Project

Amount	Funding Source
$950,000	CDOT
$775,000	CWCB WSRA Grant
$1,075,000	CWCB Loan

Table 6
Florida Consolidated Ditch Company - Hess Lateral Improvement Project
Schedule of Revenue and Expenditures Projections

Information

Total Project Cost	Other Revenue	Inflation	Interest on Reserves
$ 2,800,000.00	48%	3.22%	3.00%

Financing

Source	Share	Principal	Interest	Years
CWCB loan	100%	$1,085,750	1.8%	30

Annual Revenue

Year of Operation	Irrigation Assessment	Other Revenue (FWCD)	Total Revenue	Assessment per Share
1	$229,803	$213,606	$443,409	$38
2	237,203	220,484	457,686	39
3	244,841	227,583	472,424	40
4	252,724	234,911	487,636	41
5	260,862	242,475	503,338	43
6	269,262	250,283	519,545	44
7	277,932	258,342	536,274	45
8	286,882	266,661	553,543	47
9	296,119	275,247	571,367	48
10	305,654	284,110	589,765	50
11	315,496	293,259	608,755	51
12	325,655	302,702	628,357	53
13	336,141	312,449	648,590	55
14	346,965	322,510	669,475	57
15	358,137	332,894	691,032	58
16	369,669	343,614	713,283	60
17	381,573	354,678	736,251	62
18	393,859	366,099	759,958	64
19	406,542	377,887	784,429	66
20	419,632	390,055	809,687	68
21	433,144	402,615	835,759	71
22	447,092	415,579	862,671	73
23	461,488	428,960	890,449	75
24	476,348	442,773	919,121	78
25	491,686	457,030	948,717	80
26	507,519	471,747	979,265	83
27	523,861	486,937	1,010,798	85
28	540,729	502,616	1,043,345	88
29	558,141	518,800	1,076,941	91
30	576,113	535,506	1,111,619	94
Totals	**$11,331,074**	**$10,532,411**	**$21,863,485**	

Annual Expenditures

Year of Operation	Operation, Maintenance and Replacement	CWCB Reserve Fund		Payments on CWCB Loan	Interest on Reserve Funds	Total Expenditures
		Annual	Accum.			
1	$37,073	$4,716	$4,716	$47,156	$141.47	$88,803
2	38,267	4,716	9,431	$47,156	$282.93	$89,855
3	39,499	4,716	14,147	$47,156	$424.40	$90,946
4	40,771	4,716	18,862	$47,156	$565.87	$92,076
5	42,084	4,716	23,578	$47,156	$707.34	$93,248
6	43,439	4,716	28,293	$47,156	$848.80	$94,461
7	44,837	4,716	33,009	$47,156	$990.27	$95,718
8	46,281	4,716	37,725	$47,156	$1,131.74	$97,021
9	47,771	4,716	42,440	$47,156	$1,273.20	$98,370
10	49,310	4,716	47,156	$47,156	$1,414.67	$99,766
11	50,897		47,156	$47,156	$1,414.67	$96,638
12	52,536		47,156	$47,156	$1,414.67	$98,277
13	54,228		47,156	$47,156	$1,414.67	$99,969
14	55,974		47,156	$47,156	$1,414.67	$101,715
15	57,777		47,156	$47,156	$1,414.67	$103,518
16	59,637		47,156	$47,156	$1,414.67	$105,378
17	61,557		47,156	$47,156	$1,414.67	$107,298
18	63,539		47,156	$47,156	$1,414.67	$109,280
19	65,585		47,156	$47,156	$1,414.67	$111,326
20	67,697		47,156	$47,156	$1,414.67	$113,438
21	69,877		47,156	$47,156	$1,414.67	$115,618
22	72,127		47,156	$47,156	$1,414.67	$117,868
23	74,450		47,156	$47,156	$1,414.67	$120,191
24	76,847		47,156	$47,156	$1,414.67	$122,588
25	79,321		47,156	$47,156	$1,414.67	$125,062
26	81,876		47,156	$47,156	$1,414.67	$127,617
27	84,512		47,156	$47,156	$1,414.67	$130,253
28	87,233		47,156	$47,156	$1,414.67	$132,974
29	90,042		47,156	$47,156	$1,414.67	$135,783
30	92,941		47,156	$47,156	$1,414.67	$138,682
Totals	**$1,827,987**	**$47,156**		**$1,414,670**	**$36,074**	**$3,253,739**

Table 7
Florida Consolidated Ditch Company - Hess Lateral Improvement Project
Water Users on Hess Lateral

Shareholder Name	Water Delivered (Total Delivered to Farm Turnout)
Unit	(cfs)
	(1)
ANCELL, JANINE F	0.38
ATKINSON, JON	0.04
BANK OF AMERICA NA	0.04
BARDIN, PATSY V	0.04
BENALLY, VIRGIL DAVID & PERRY-BENALLY, R	0.11
BLECH, GERALD JOSEPH &	0.04
BRAY, DAVID PAUL & JANET KAY	0.03
BRUECKNER, THOMAS	0.08
BRUECKNER, THOMAS	0.08
CHAPIN, JOSEPH L	0.53
CHAPMAN, JASON L	0.2
CLAY, RAFAELA ROMAN	0.09
COLORADO DEPARTMENT OF TRANSPORTATION	0.01
CORNUTT, DONALD S & TRACY A	0.16
CUNDIFF, KENNETH R & BRENDA L	0.04
DASILVA, SCOTT & AMY	0.04
DURANGO SCHOOL DISTRICT 9R	0.13
ENSIGN FAMILY TRUST	0.11
FRANZEN, MARCIA G	0.03
GEORGE, STUART W & GWENDOLYN R	0.04
GILLAM, JOHN B & JEANNE L	0.12
HERMESMAN FAMILY PARTNERSHIP LLLP	0.46
HUDSON, STEVEN H & MARY LOU	0.05
HUDSON, STEVEN H & MARY LOU	0.48
KIMMEL, BRIAN	0.04
LEADER, CHARLOTTE F	0.21
LEDFORD, MARSHALL D & RHONDA L	0.5
LINDHOLM, VIRGINIA A & HUDKINS, RONALD E	0.04
LLH OPERATIONS LLLP	-
LLH OPERATIONS LLLP	-
LLH OPERATIONS LLLP	-
LUJAN, NESTOR & LORETTA	0.04
MARTES, WILLIAM TUCKER & AMANDA K	0.06
MCCRADY, DOUGLAS D & KATHERINE M	0.08
MCDERMOTT, THOMAS M & GAIL E	0.04
MCKOWN, WILLIAM D & AMANDA M	0.04
MENDOZA, DOMINGO	0.04
NICHOLS, JAMES K & BARBARA H	0.04
NIELSON, JONATHAN JAMES & NICOLE LYNN	0.04
OBRIEN, TIMOTHY J & EDWILYN S	0.03
OLIVEIRA, MICHELLE M TRUSTEE	0.06
OLIVEIRA, MICHELLE M TRUSTEE	0.06
PARTRIDGE-LANCASTER, KELSY & LANCASTER,	0.01
PEREZ FAMILY REVOCABLE TRUST	0.32
QUEEN, KENNETH D & CAROL L	0.09
QUEVEDO, RICARDO & MARY ANN	0.25
REIMER, HAROLD L & JUDY A	0.04
ROCHE, LORRAINE F	0.04
RORVIG, SHERYL R & MORPHIS, PAM L	0.04
SAMMONS, BARBARA S & ROBERT E	0.21
SAMMONS, DIANNA F TRUSTEE	0.17
SAMORA, RICHARD M SR & LUCILLE M	0.12
SAUNDERS, MICHAEL ROY REVOCABLE TRUST	0.88
SAUNDERS, MICHAEL ROY REVOCABLE TRUST	0.5
SAUNDERS, MICHAEL ROY REVOCABLE TRUST	0.48
SCHMITT, MARK	0.04
SCHNEIDER, DONALD L & CAROL J	0.24
SEALE, DONALD L & CLARICE L	0.4
SHELTON, MARK E	0.03
SHORT, DALE R & NICOLE P	0.38
SHORT, DALE R & NICOLE P	0.2
SHORT, DALE R & NICOLE P	0.25
SHORT, DONALD W	0.04
SHORT, LYLE R & MARGARET J	0.75
SHORT, LYLE R & MARGARET J	0.07
SHORT, MARK L JR	0.77
SHORT, MARK L JR	0.42
SHORT, VERN W	1.5
SMITH, CARL P & GENNY L	0.5
SMITH, SARAH RENEA & HOWARD LOUIS	0.04
STRAUSS, TERRELL W & SHARI	0.14
STRODE, DONALD & TRACY	0.5
TARANTINO, ERNEST E & JUDY A	0.01
THOMPSON, GEORGE F	0.25
WALSH, WAYNE KENNETH JR & CHRISSI LYNN	0.25
WEBB, JAMES B	0.05
WOODS, DAVID R	0.04
Total	**14.67**

Table 7B
Commercial Agricultural Water Users on Hess Lateral Signed on to Project
Estimated Loan Payment Schedule Based on Allocated (Project and Adjudicated) Water

Total Project Cost	$2,800,000	Subject to change based on final engineering
CDOT	$950,000	
Grant	$775,000	
Net Loan Amount without 1%Service Fee	$1,075,000	
Service Fee	$10,750	
Loan Amount	**$1,085,750**	Does not include potential participation from the FCDC

Loan amount	Loan Interest	Initial Payment Year	Loan Term	Annual Loan Payment	Annual Canal Company Payment*	Total Annual Shareholder Loan Payment**
($)	(%)	($)	(Years)	($)	($)	($)
$1,085,750	1.80%	2018	30	$47,156	$2,000	$45,156

Shareholder Name	Water Delivered (Total Delivered to Farm Turnout)	Total Amount Project Loan Funded (Share Based on Water Delivery)	Annual Shareholder Loan Payment (Based on Water Delivery)	Year 2015 Annual Cost to Pump 12 hr (Estimated)	Annual Savings	Year 2015 Annual Cost to Pump 24 hr (Estimated)	Annual Savings	Year 2035 Annual Cost to Pump 12 hr (Estimated)	Year 2035 Annual Cost to Pump 24 hr (Estimated)
Unit	(cfs)	($)	($)	($)	($)	($)	($)	($)	($)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
ANCELL, JANINE F	0.38	$ 40,057	$ 1,666	$1,504	($162)	$2,657	$991	$2,234	$3,948
CHAPIN, JOSEPH L	0.53	$ 55,869	$ 2,324	$2,097	($226)	$3,705	$1,382	$3,116	$5,506
CHAPMAN, JASON L	0.2	$ 21,083	$ 877	$791	($85)	$1,398	$521	$1,176	$2,078
HERMESMAN FAMILY PARTNERSHIP LLLP	0.46	$ 48,490	$ 2,017	$1,820	($196)	$3,216	$1,199	$2,705	$4,779
HUDSON, STEVEN H & MARY LOU	0.05	$ 5,271	$ 219	$198	($21)	$350	$130	$294	$519
HUDSON, STEVEN H & MARY LOU	0.48	$ 50,598	$ 2,104	$1,899	($205)	$3,356	$1,251	$2,822	$4,987
LEDFORD, MARSHALL D & RHONDA L	0.5	$ 52,706	$ 2,192	$1,978	($214)	$3,496	$1,304	$2,940	$5,194
PEREZ FAMILY REVOCABLE TRUST	0.32	$ 33,732	$ 1,403	$1,266	($137)	$2,237	$834	$1,882	$3,324
SAMMONS, BARBARA S & ROBERT E	0.21	$ 22,137	$ 921	$831	($90)	$1,468	$548	$1,235	$2,182
SAMMONS, DIANNA F TRUSTEE	0.17	$ 17,920	$ 745	$673	($73)	$1,189	$443	$1,000	$1,766
SAMORA, RICHARD M SR & LUCILLE M	0.12	$ 12,650	$ 526	$475	($51)	$839	$313	$706	$1,247
SAUNDERS, MICHAEL ROY REVOCABLE TRUST	0.88	$ 92,763	$ 3,858	$3,482	($376)	$6,152	$2,294	$5,174	$9,142
SAUNDERS, MICHAEL ROY REVOCABLE TRUST	0.5	$ 52,706	$ 2,192	$1,978	($214)	$3,496	$1,304	$2,940	$5,194
SAUNDERS, MICHAEL ROY REVOCABLE TRUST	0.48	$ 50,598	$ 2,104	$1,899	($205)	$3,356	$1,251	$2,822	$4,987
SCHNEIDER, DONALD L & CAROL J	0.24	$ 25,299	$ 1,052	$950	($103)	$1,678	$626	$1,411	$2,493
SEALE, DONALD L & CLARICE L	0.4	$ 42,165	$ 1,754	$1,583	($171)	$2,797	$1,043	$2,352	$4,155
SHORT, DALE R & NICOLE P	0.38	$ 40,057	$ 1,666	$1,504	($162)	$2,657	$991	$2,234	$3,948
SHORT, DALE R & NICOLE P	0.2	$ 21,083	$ 877	$791	($85)	$1,398	$521	$1,176	$2,078
SHORT, DALE R & NICOLE P	0.25	$ 26,353	$ 1,096	$989	($107)	$1,748	$652	$1,470	$2,597
SHORT, DONALD W	0.04	$ 4,217	$ 175	$158	($17)	$280	$104	$235	$416
SHORT, LYLE R & MARGARET J	0.75	$ 79,059	$ 3,288	$2,968	($320)	$5,243	$1,955	$4,410	$7,791
SHORT, LYLE R & MARGARET J	0.07	$ 7,379	$ 307	$277	($30)	$489	$183	$412	$727
SHORT, MARK L JR	0.77	$ 81,168	$ 3,376	$3,047	($329)	$5,383	$2,008	$4,527	$7,999
SHORT, MARK L JR	0.42	$ 44,273	$ 1,841	$1,662	($179)	$2,936	$1,095	$2,470	$4,363
SHORT, VERN W	1.5	$ 158,119	$ 6,576	$5,935	($641)	$10,487	$3,911	$8,820	$15,583
Total	**10.30**	**$ 1,085,750**	**$ 45,156**	**$ 40,756**	**$ (4,399)**	**$ 72,010**	**$ 26,854**	**$ 60,562**	**$ 107,003**
Per CFS		**$ 105,413**	**$ 4,384**						

Notes:

(1) Equals adjudicated or project water right based on information from John Ey

(2) Total paid over Term of Loan. Equals (Column (1)/14.67) * Loan Amount

(3) Each year for the term of the loan. Equals Col (1)/sum of Col (1) x Annual Shareholder Loan Payment

(4) Based on [2015 LPEA ag rate] pumping at 40 psi for 12 hours for 124 days (or length of irrigation season)

(5) Column (4) - Column (3). Payback is Column (2)/Column(4)

(6) Based on [2015 LPEA ag rate] pumping at 40 psi for 24 hours for 124 days (or length of irrigation season)

(7) Column (6) - Column (3). Payback is Column (2)/Column(6)

(8) Based on [2015 LPEA ag rate] * [2 % projected annual economic inflation for 2035] pumping 12 hours for 124 days (or length of irrigation season)

(9) Based on [2015 LPEA ag rate] * [2 % projected annual economic inflation for 2035] pumping 24 hours for 124 days (or length of irrigation season)

* Ditch Company Payment based on Hess Lateral length percentage of total Ditch Company ditches length

** Annual shareholder payment equals annual loan payment - Ditch Company payment

\- Allocated water amount based on shares and project acreage and 1 cfs per 80 irrigated project acres

Table 8

Florida Consolidated Ditch Company - Hess Lateral Improvement Project

Opinion of Probable Cost for Optional Addition No. 1

Budget Item	Unit Price	Unit	Quantity	Cost	Manufacturer/Type	Other
Materials						
27" Pipe (material, labor, equip)	$ 69.00	LF		$ -		
24" pipe (material, labor, equip)	$ 51.00	LF		$ -		
21" pipe (material, labor, equip)	$ 40.00	LF		$ -		
18" Pipe (material, labor, equip)	$ 30.00	LF		$ -		
15" pipe (material, labor, equip)	$ 22.00	LF		$ -		
12" pipe (material, labor, equip)	$ 21.00	LF	50	$ 1,050.00		
10" pipe (material, labor, equip)	$ 20.00	LF		$ -		
8" pipe (material, labor, equip)	$ 17.00	LF		$ -		
90 elbow (24") (material, labor, equip)	$ 1,500.00	EA		$ -		
90 elbow (18") (material, labor, equip)	$ 560.00	EA		$ -		
90 elbow (12") (material, labor, equip)	$ 500.00	EA		$ -		
45 elbow (27") (material, labor, equip)	$ 1,100.00	EA		$ -		
45 elbow (18") (material, labor, equip)	$ 280.00	EA		$ -		
45 elbow (15") (material, labor, equip)	$ 140.00	EA		$ -		
45 elbow (6") (material, labor, equip)	$ 25.00	EA		$ -		
22.5 elbow (27") (material, labor, equip)	$ 510.00	EA		$ -		
22.5 elbow (24") (material, labor, equip)	$ 450.00	EA		$ -		
Tee (24-24-12) (material, labor, equip)	$ 2,100.00	EA		$ -		
Tee (18-18-12) (material, labor, equip)	$ 1,900.00	EA		$ -		
Tee (12-12) (material, labor, equip)	$ 1,500.00	EA		$ -		
27-24 Reducer (material, labor, equip)	$ 560.00	EA		$ -		
24-21 Reducer (material, labor, equip)	$ 410.00	EA		$ -		
24-18 Reducer (material, labor, equip)	$ 390.00	EA		$ -		
12-10 Reducer (material, labor, equip)	$ 160.00	EA		$ -		
21-18 Reducer (material, labor, equip)	$ 280.00	EA	1	$ 280.00		
18-15 Reducer (material, labor, equip)	$ 190.00	EA	1	$ 190.00		
15-6 Reducer (material, labor, equip)	$ 270.00	EA		$ -		
15-12 Reducer (material, labor, equip)	$ 90.00	EA	1	$ 90.00		
Turnout Propeller Flow Meter	$ 3,000.00	EA	1	$ 3,000.00	McCrometer MF100 Flanged-in propeller meter	6" = $1484 and the 12" = $2818
Flow Meter Vault	$ 3,000.00	EA	1	$ 3,000.00		
Turnout Tee	$ 800.00	EA	1	$ 800.00		
Turnout appurtenances, valve, dissipater vault	$ 25,000.00	EA		$ -	Tee, riser, fittings, and dissipater vault	
air-relief valve	$ 2,000.00	EA		$ -		
blow-off valve	$ 2,000.00	EA		$ -		
Pressure Reducing Valve and Vault	$ 110,000.00	EA		$ -	$60,000 for Cla Val Cost and $50,000 for Vault. Quote from isiWest Inc	
Butterfly Valve	$ 10,000.00	EA		$ -		
Intake Pond Excavation	$ 10.00	CY		$ -		
Intake Pond headgate and controls	$ 25,000.00	EA		$ -		
Material Cost Total				**$ 8,000**		
Earthwork (Trenching, Backfill, and Compaction)						
Trenching	$ 6.25	CY	22	$ 138.00	3/4 CY excavator 4'-6' deep, RSMeans pg. 220	
Backfill	$ 1.25	CY	22	$ 28.00	Backfill RSMeans pg. 236	
Compaction	$ 2.75	CY	22	$ 61.00	Compaction using Jumping Jacks RSMeans pg.259	
tractor, seeder, conditioning	$ 2,700.00	acre	0.00	$ -	Estimate from Horizon Enviro.: includes seed	
miscellaneous (thrust blocks)	$ 300.00	EA	1	$ 300.00		
Earthwork (Trenching, Backfill, and Compaction)				**$ 1,000**		
Deduction for not restoring open lateral to existing headgate						
Hand Labor Crew	$1,400.00	Day	1	$ 1,400.00		
				$ -		
				$ -		
Total Deduction				**$ 1,400**		
Total Construction Cost				**$ 7,600.00**		
Total Construction Cost plus 25% Contingency				**$ 9,500.00**		
Final Engineering				**$ 1,400.00**		
Total Project Cost				**$ 11,000.00**		

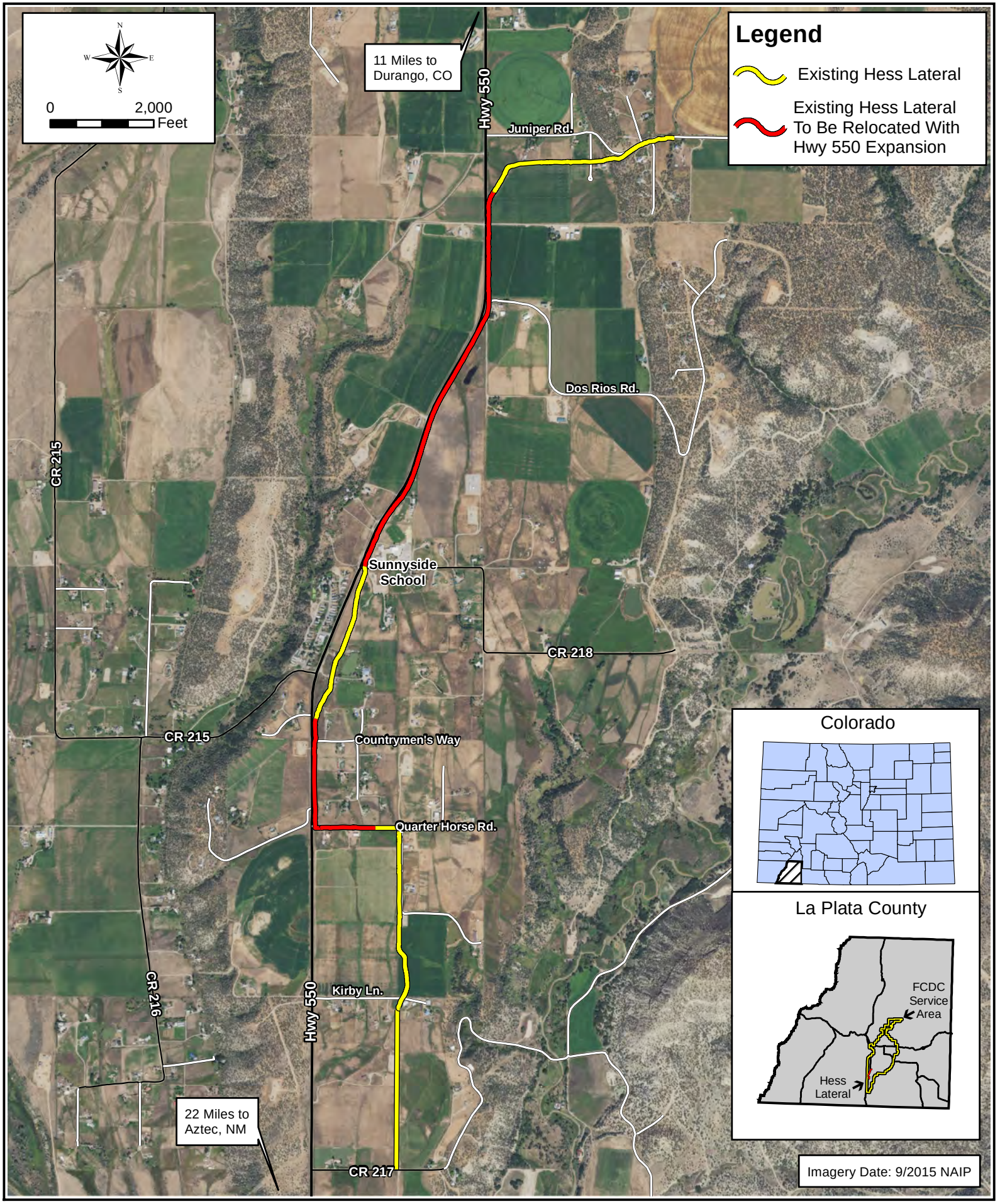
Table 9

Florida Consolidated Ditch Company - Hess Lateral Improvement Project

Opinion of Probable Cost for Optional Addition No. 2

Budget Item	Unit Price	Unit	Quantity	Cost	Manufacturer/Type	Other
Materials						
27" Pipe (material, labor, equip)	$ 69.00	LF		$ -		
24" pipe (material, labor, equip)	$ 51.00	LF		$ -		
21" pipe (material, labor, equip)	$ 40.00	LF		$ -		
18" Pipe (material, labor, equip)	$ 30.00	LF		$ -		
15" pipe (material, labor, equip)	$ 22.00	LF		$ -		
12" pipe (material, labor, equip)	$ 21.00	LF	2450	$ 51,450.00		
10" pipe (material, labor, equip)	$ 20.00	LF		$ -		
8" pipe (material, labor, equip)	$ 17.00	LF		$ -		
90 elbow (24") (material, labor, equip)	$ 1,500.00	EA	0	$ -		
90 elbow (18") (material, labor, equip)	$ 560.00	EA		$ -		
90 elbow (12") (material, labor, equip)	$ 500.00	EA		$ -		
45 elbow (27") (material, labor, equip)	$ 1,100.00	EA		$ -		
45 elbow (18") (material, labor, equip)	$ 280.00	EA		$ -		
45 elbow (15") (material, labor, equip)	$ 140.00	EA		$ -		
45 elbow (6") (material, labor, equip)	$ 25.00	EA		$ -		
22.5 elbow (27") (material, labor, equip)	$ 510.00	EA		$ -		
22.5 elbow (24") (material, labor, equip)	$ 450.00	EA		$ -		
Tee (24-24-12) (material, labor, equip)	$ 2,100.00	EA		$ -		
Tee (18-18-12) (material, labor, equip)	$ 1,900.00	EA		$ -		
Tee (12-12) (material, labor, equip)	$ 1,500.00	EA		$ -		
27-24 Reducer (material, labor, equip)	$ 560.00	EA		$ -		
24-21 Reducer (material, labor, equip)	$ 410.00	EA		$ -		
24-18 Reducer (material, labor, equip)	$ 390.00	EA		$ -		
12-10 Reducer (material, labor, equip)	$ 160.00	EA		$ -		
21-18 Reducer (material, labor, equip)	$ 280.00	EA		$ -		
18-15 Reducer (material, labor, equip)	$ 190.00	EA		$ -		
15-6 Reducer (material, labor, equip)	$ 270.00	EA		$ -		
15-12 Reducer (material, labor, equip)	$ 90.00	EA	1	$ 90.00		
Turnout Propeller Flow Meter	$ 3,000.00	EA		$ -	McCrometer MF100 Flanged-in propeller meter	6" = $1484 and the 12" = $2818
Flow Meter Vault	$ 3,000.00	EA		$ -		
Turnout Tee	$ 800.00	EA		$ -		
Turnout appurtenances, valve, dissipater vault	$ 25,000.00	EA		$ -	Tee, riser, fittings, and dissipater vault	
air-relief valve	$ 2,000.00	EA		$ -		
blow-off valve	$ 2,000.00	EA		$ -		
Pressure Reducing Valve and Vault	$ 110,000.00	EA		$ -	$60,000 for Cla Val Cost and $50,000 for Vault. Quote from isiWest Inc	
Butterfly Valve	$ 10,000.00	EA		$ -		
Intake Pond Excavation	$ 10.00	CY		$ -		
Intake Pond headgate and controls	$ 25,000.00	EA		$ -		
Material Cost Total				**$ 52,000**		
Earthwork (Trenching, Backfill, and Compaction)						
Trenching	$ 6.25	CY	1486	$ 9,287.00	3/4 CY excavator 4'-6' deep, RSMeans pg. 220	
Backfill	$ 1.25	CY	1486	$ 1,858.00	Backfill RSMeans pg. 236	
Compaction	$ 2.75	CY	1486	$ 4,087.00	Compaction using Jumping Jacks RSMeans pg.259	
tractor, seeder, conditioning	$ 2,700.00	acre	2.25	$ 6,075.00	Estimate from Horizon Enviro.: includes seed	
miscellaneous (thrust blocks)	$ 300.00	EA	1	$ 300.00		
Earthwork (Trenching, Backfill, and Compaction)				**$ 22,000**		
Construction Activities						
Mobilization	$ 2,000.00	LS	1	$ 2,000.00		
Demolition and removal	$ 1,000.00	LS	1	$ 1,000.00		
environmental and regulatory compliance	$ 5,000.00	LS	1	$ 5,000.00		
Total Construction Activities Cost				**$ 8,000**		
Total Construction Cost				**$ 82,000.00**		
Total Construction Cost plus 25% Contingency				**$ 102,500.00**		
Final Engineering				**$ 15,400.00**		
Total Project Cost				**$ 120,000.00**		

FIGURES



Document Path: P:\061-110\130 HESS LATERAL WORK FILES\Mapping\Figure 1 - Hess Lateral Location.mxd

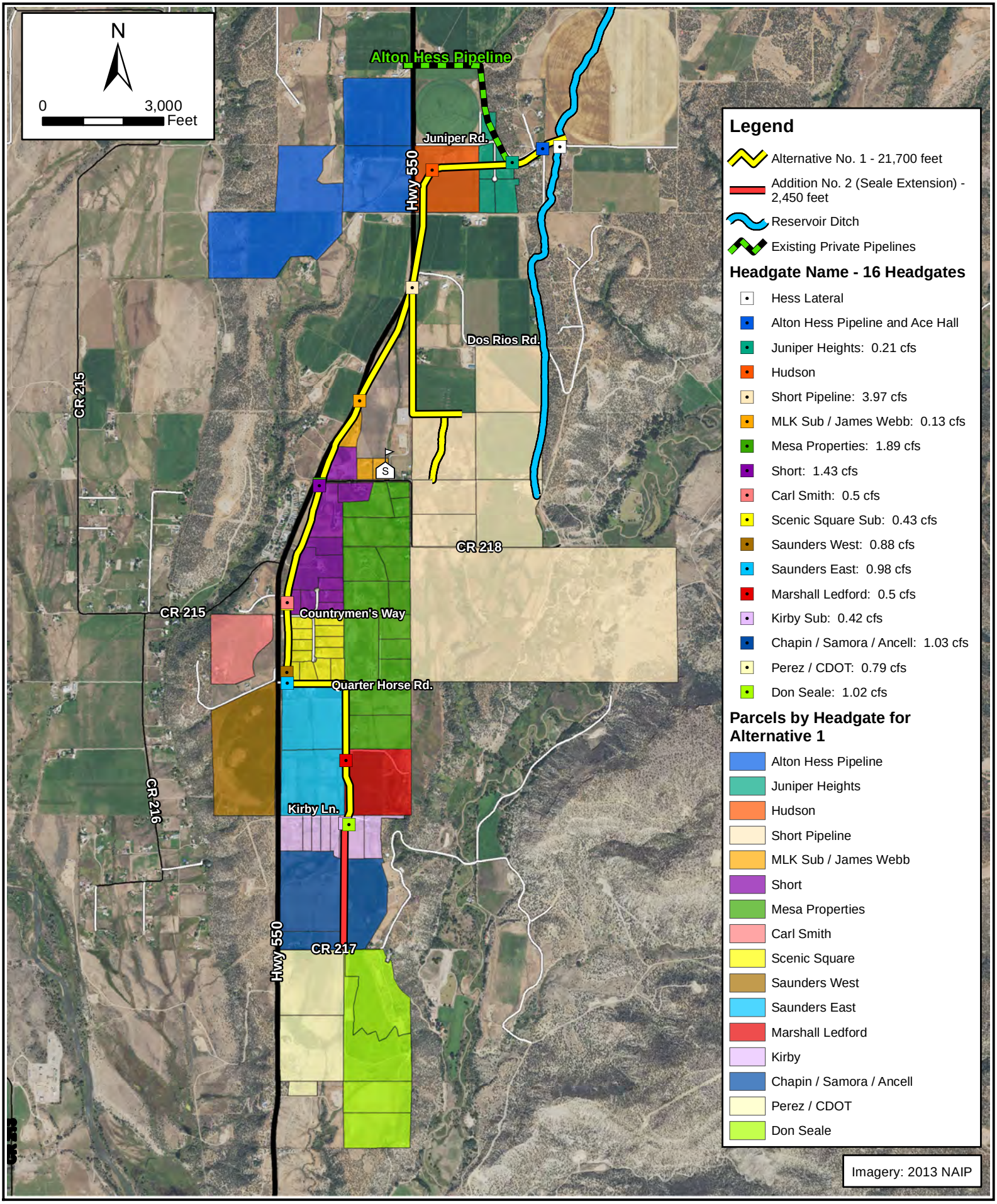
Wright Water Engineers, Inc.
1666 N. Main Ave., Ste.C
Durango, CO 81301
(970) 259-7411 ph 259-8758 fx

LA PLATA COUNTY, CO

HESS LATERAL LOCATION

FLORIDA CONSOLIDATED DITCH COMPANY

FIGURE 1



Document Path: P:\061-110\130 HESS LATERAL WORK FILES\Mapping\8x11 Figure 2 - Alternative 1 7-5-2016.mxd

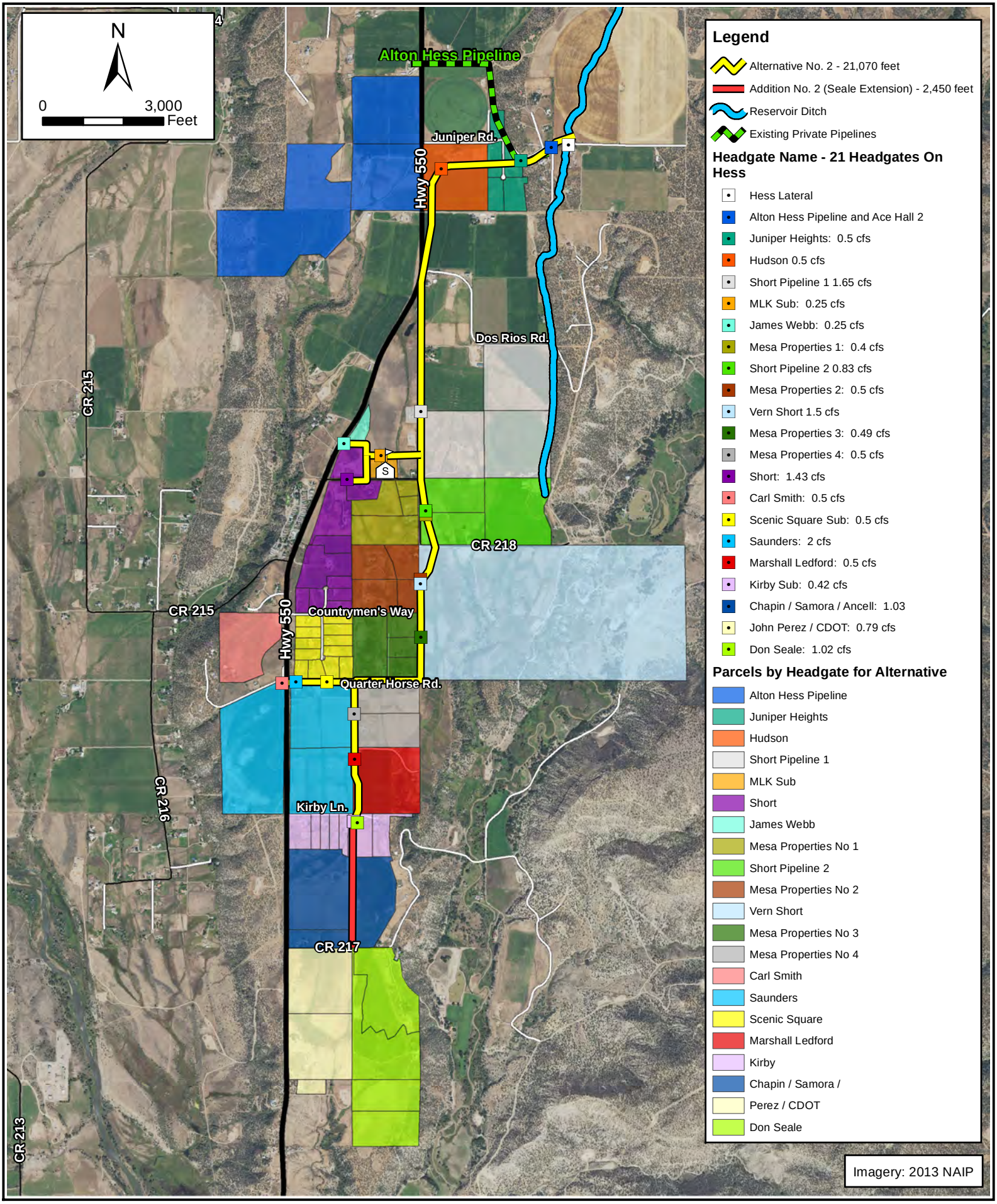
Wright Water Engineers, Inc.
1666 N. Main Ave., Ste.C
Durango, CO 81301
(970) 259-7411 ph 259-8758 fx

LA PLATA COUNTY, CO

HESS LATERAL ALTERNATIVE NO. 1 WITH ADDITION NO. 2 (SEALE EXTENSION)

FLORIDA CONSOLIDATED DITCH COMPANY

FIGURE 2



Document Path: P:\061-110\130 HESS LATERAL WORK FILES\Mapping\8x11 Figure 3 - Alternative 2 7-5-2016.mxd

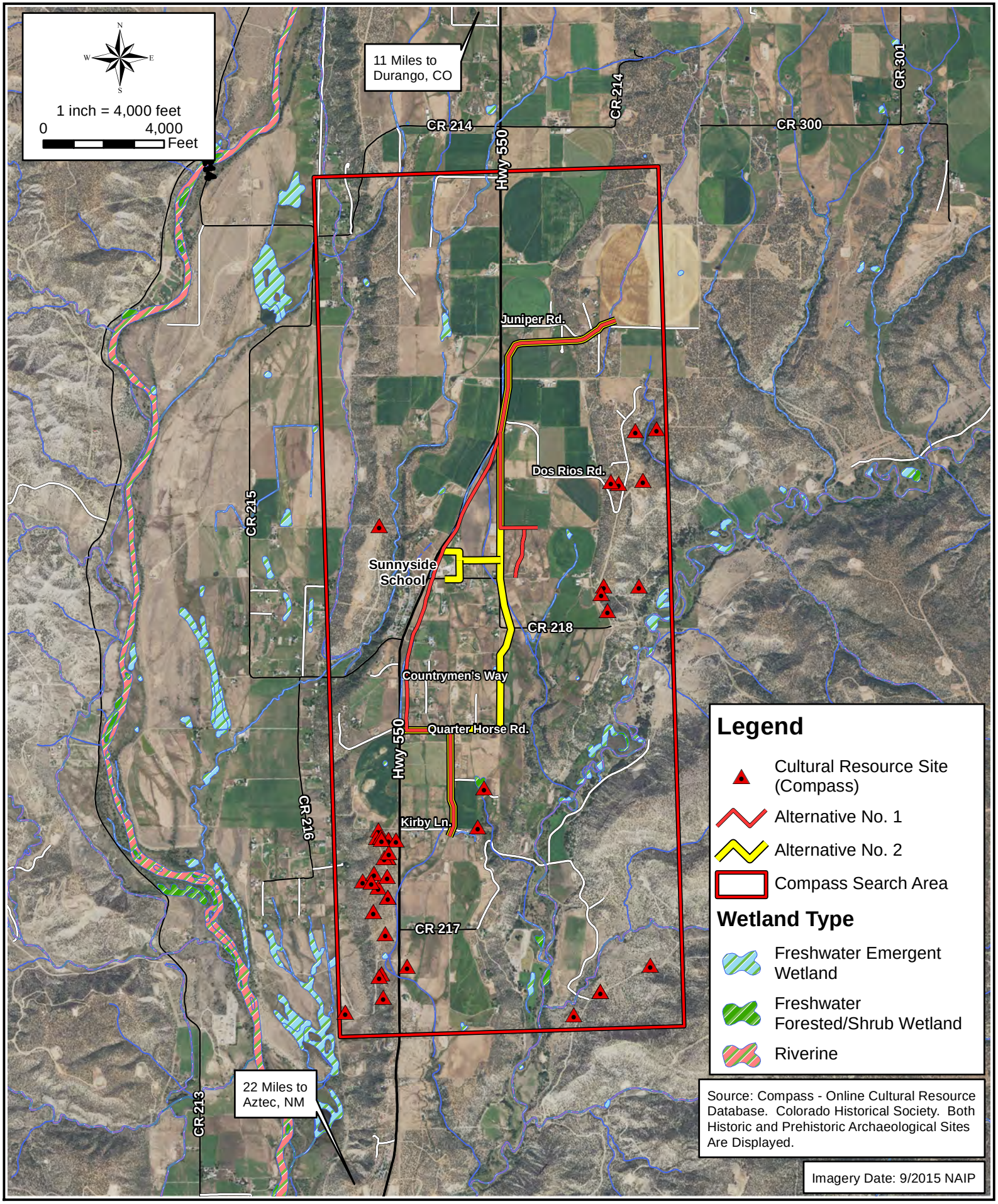
Wright Water Engineers, Inc.
1666 N. Main Ave., Ste.C
Durango, CO 81301
(970) 259-7411 ph 259-8758 fx

LA PLATA COUNTY, CO

HESS LATERAL ALTERNATIVE NO. 2 WITH ADDITION NO. 2 (SEALE EXTENSION)

FLORIDA CONSOLIDATED DITCH COMPANY

FIGURE 3



Document Path: P:\061-110\130 HESS LATERAL WORK FILES\Mapping\Figure 4 - Wetlands, Cultural Sites and Alternatives.mxd

Wright Water Engineers, Inc.
1666 N. Main Ave., Ste.C
Durango, CO 81301
(970) 259-7411 ph 259-8758 fx

LA PLATA COUNTY, CO

HESS LATERAL ENVIRONMENTAL & CULTURAL CONSIDERATIONS

FLORIDA CONSOLIDATED DITCH COMPANY

FIGURE 4

APPENDICES

APPENDIX A

FCDC Formation Documents

APPENDIX A-1

Articles of Incorporation

CERTIFICATE OF INCORPORATION
OF
THE FLORIDA FARMERS DITCH COMPANY.

State of Colorado,)
County of La Plata,)ss.

Article-I. Know all men by these presents, that We, L.H.Patterson, S.J.Hood, J.C.Earnest, T.C.McCluer, J.P.Harper, D.S.Griffith, D.T.Griffith, Geo.Connelly and A.P.Camp, all of La Plata County do associate ourselves together as a Company under the name and style of "The Florida Farmers Ditch Company" for the purpose of becoming a body Corporate and politic under and by virtue of the laws of the State of Colorado, and to that end we do hereby make, execute, certify and acknowledge in duplicate this certificate in writing our intention so to become a body corporate under and by virtue of said laws.

Article, II. The corporate name of said company as above stated, shall be "The Florida Farmers Ditch Company".

Article III- The objects for which this said Company is formed are as follows, to wit:-- To acquire by purchase the ditch known as the Florida Mesa Irrigating ditch, situate in La Plata Co., Colorado, and receiving its waters from the Florida River, at a point in the S.W.quarter of the S.W.quarter of Section 18, Tp.35, N.R.8, W.N.M.P.M.-as the same is recorded in book 37, at page 357 of the records of La Plata County, Colorado, and to enlarge, own and operate and maintain the same for the purpose of conveying water there through for irrigation and domestic purposes and specially for use on and to irrigate the following described land, to wit:-

The west half of the N.E.quarter Sec.31,Tp.35,N.R.8 W.N.M P.M. the S.W.quarter and the W. half of S.E.quarter Sec. 31,Tp.35 and N.half of section 6 Tp.34 R.8 W.N.M.P.M.,the E.half of the S.E.quarter Sec.31 Tp.35 R.8 W.N.M.P.M. The S.W.quarter of the N.W.quarter and W.half of S.W.quarter Sec.5,Tp.34 N.R.8 WN.M.P.M. The S.E.quarter of N.W. quarter -The E.half of S.W.quarter and S.E.quarter of Sec. 5 T.34 R.8 W.N.M.P.M. and the S.E.quarter Sec.6.T.34.N.R.8. W.N.M.P.M.-The W.half Sec.8 and W.half of N.E.quarter and W.half S.E.quarter Sec.8 and N.half of Sec.17 and the N.W. quarter of the N.W.quarter of Sec.16 in T.34 N.R.8 W.N.M.P.M.- The E.half Sec.12 T.34 N.R.9 W.N.M.P.M. and also to irrigate such other lands as may lie under said ditch and can be watered therefrom,and to acquire the right of way for said ditch and to build own and acquire laterals and extensions to said ditch.

Article IV. The capital stock of said Company shall be Eighteen thousand dollars divided into Eighteen hundred shares of the par value of ten dollars each.

Article V. This said Company shall exist twenty years.

Article VI. The number of Directors or Trustees of said Company shall be ~~three~~ four and the affairs of said Company for the first year of its existence shall be managed by T.J.McCluer,D.S. Griffith and L.H.Patterson. and George B Connelly

Article VII. The principal office of said Company shall be kept at the City of Durango,in La Plata County,Colorado, and the prin-

cipal business of said Company shall be carried on in La Plata County, Colorado.

Article VIII. The waters for said ditch are to be taken from the Florida River at a point on said stream in the S.W.quarter of the of the S.W.quarter of Sec.18 T.35 N.R.8 W.N.M.P.M. at a point 375 ft. north along the west bank of the Florida River from the intersection of said river bank with the south line of said Sec.18 and the line of said ditch shall run from the said last named point thence west on the south line of said Sec.18-682 ft.to the foot of the bluff 450 ft. east of the S.W.corner of said Sec.18 thence [redacted] along said bluff crossing the east line of Sec.24.T.35.N.R.9.W. N.M.P.M. 1320 ft. south of the N.E.corner of said Sec.24, thence crossing the centre line east and west through said Sec.24-500ft. west of the east quarter corner thence crossing line between Sec.19 and 30.T.35 N.R.8.W.N.M.P.M. 15 ft. east of the N.W.corner of said Sec.30 thence cross line 820 ft.east of west quarter corner of said Sec.30,thence cross south line of Sec.30-400 ft,west of south quarter corner of said Sec.30-thence cross centre line north and south through Sec.31 T.aforesaid 710 ft. more or less south of north quarter corner of said Sec.31,thence 1525 ft. to a point in the S.W.quarter of the N.E.quarter of said Sec,31, the dividing gate of west branch,thence southeastward 677 ft. to a point about 500 ft. east of centre of said Sec. 31,thence southward to south line of said Sec.31 to a point 1284 ft. east of the south quarter corner of said Sec.31 to dividing gate of east and south branches thence for

east branch south eastward to west line of Sec.6.T.34.N.R.8 W.1395 ft.south from N.W.corner of said Sec.5.-from said last dividing gate for south branch, south to centre line east and west to Sec.6.T.34.N.R.8.W.N.M.P.M. 1110 ft.west from the east quarter corner of said Sec.6.to thence through the S.E.quarter of said Sec.6.to the south line thereof 75 ft.west from the S.E.corner of said quarter section,then thence through N.E.corner of N.E.quarter Sec.7.T.aforesaid,to the east line thereof,420 ft.S. of the N.E.corner of said Sec.7. and enter section 8. The west branch beginning at the dividing gate on the S.W.quarter of N.E. quarter of said sec.31.and crossing line into N.W.quarter of said sec.31.-560 ft.north of centre of Sec.and into the S.W. quarter of said sec.31-216 ft.W.of said centre of section to the S.line of said section at a point 660 ft.west of the S.quarter corner of Sec.31. Thence into the N.W.quarter of sec.6 T.34.R.8 W.N.M.P.M. to a point where is placed a dividing gate and whence a branch of said ditch leads to the S.E.quarter of Sec. 6.T.aforesaid,passing into said quarter section at its north west corner thence following north line of said quarter section east about 95 rods and connecting with the south branch of said ditch. From the last dividing gate aforesaid the west branch leads into Sec.1.T.34.N.R.9.W.N.M.P.M.across north line of Sec.one 75 ft.west of the N.E.corner of said sec.one.thence through the east half of said Sec.one to the east half of Sec.12. T.34.N.R.9.W.N.M.P.M.

Article IX. Each stock holder shall have the right to take water from said ditch for the purposes specified in quantities bearing the same ratio to the waters running in said ditch,as the amount of stock held by each stock holder respectively bears to the amount of the capital stock of said Company.

Article X

The Directors shall make such prudential By-Laws for the government of the said Company from time to time as they may deem proper.

Article XI.

Said Company shall not incur any indebtedness by loan in any form unless consent of three fourths of all the stockholders shall be first obtained.

Article XII.

The stock of said Company may be assessed from time to time by the Board of Directors in such sums as shall be deemed necessary to defray the expenses of maintaining, repairing and Operating said ditch and to discharge all liabilities of said Company.

W. G. Pattengen
S. J. Hood
J. C. Emmett
J. J. McClure
J. P. Harper
D. S. Griffith
D. F. Griffith
Geo. B. Connelly
A. P. Cam

State of Colorado } ss.
La Plata County }

I Joe Prewitt Notary Public in and for said County in the State aforesaid do hereby certify that L H Patterson A P Camp Saml J Hood J H Earnest D J McClure D S Griffeth. D F Griffeth. J P Harper and Geo Connelly. of the County of La Plata and State of Colorado are personally known to me to be the persons whose names are subscribed to the annexed Articles of Incorporation, appeared before me this day in person and each for himself acknowledged that he signed sealed and delivered the said instrument of writing as his free and voluntary act for the uses and purposes therein set forth.

Given under my hand and Notarial seal this Twenty Ninth day of April — A D 1889

Joe Prewitt
Notary Public

NOTARY PUBLIC

My commission expires April 19 1890

9520

Certificate of Incorporation

of the

Florida Farmers Distr Co

La Plata County

DOMESTIC.

FILED in the office of the Secretary of State, of the State of Colorado, the 7 day of March A.D. 1905 at 2 o'clock P.M. and recorded in Book 13 Page 437.

JAMES RICE,
Secretary of State.

This document has been inspected and properly Entered on the Records of The Flat Tax Department

O K

Date May 23, 1968

By [illegible]

KNOW ALL MEN BY THESE PRESENTS, That we, L. M. Patterson, president, and D. S. Griffith and A. P. Camp and T. J. McClure, directors, of the Florida Farmers Ditch Company, an in-corporation duly organized on the 29th, day of April A. D. 1889, under the laws of the State of Colorado, do hereby certify to the following facts:

FIRST. That the capital stock of the said The Florida Farmers Ditch Company is eighteen thousand dollars ($18.000) diveded into eighteen hundred shares of ten dollars each.

SECOND. That on the first day of June following the date of incorporation the whole of the capital stock was fully paid.

IN WITNESS WHEREOF, we have hereunto set our hands and attached the seal of the said company this 15th, day of February A. D. 1894.

L. M. Patterson President.

A. P. Camp
D. S. Griffith } Directors.
T. J. McClure

State of Colorado,

County of La Plata, ss.

Sworn to and subscribed before me, Golden Barrett, a notary public in and for said county and state aforesaid this 21st day of February, A. D. 1894

Golden Barrett

Notary Public.

My commission expires April 17th 1897

THE [illegible] BRICK CO.

Certificate of capital stock

Paid up.

of ten dollars each.

SECOND. That on the first day of June following the date of incorporation the whole of the capital stock was fully paid.

IN WITNESS WHEREOF, we have hereunto set our hands and attached the seal of the said company this 15th. day of February A. D. 1894.

[signature] President.

[signatures] Directors.

State of Colorado,

County of La Plata, SS.

Sworn to and subscribed before me, Holden Barrett, a notary public in and for said county and state aforesaid this 15 day of February, A. D. 1894

[signature]

Notary Public.

My commission expires [illegible] 189[illegible]

KNOW ALL MEN BY THESE PRESENTS, That at meeting of the board of directors of The Florida Farmers Ditch Company, held on the 10th, day of January 1891, at the office of said company in the City of Durango, Colo. (which company is a corporation duly organized under the laws of the State of Colorado) the following resolution was adopted:

RESOLVED that the following be adopted as the seal of the company: THE FLORIDA FARMES DITCH COMPANY, DURANGO, COLO. in an outer circle surrounding the word SEAL in the center.

And we do further certify that the impression of said seal shall be as follows:

In witness whereof we have hereunto set our hands and seals as president and secretary of the said The Florida Farmers Ditch Company, this fifteenth day of February, A. D. 1894.

S. H. Patterson President.

D. S. Griffith Secretary.

State of Colorado,
SS.
County of La Plata,

Subscribed before me, Golden Barrett, a Notary Public in and for said county this 21st, day of February, A. D. 1894.

Golden Barrett
Notary Public.

My commission expires April 17th 1897

16320

FLORIDA PACKERS BRICK COMPANY.

Articles of Seal.

EXD

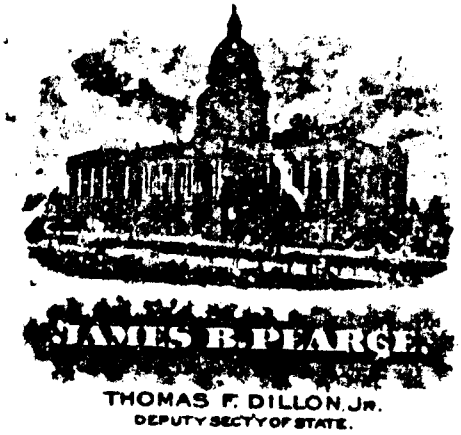
STATE OF COLORADO(ss.
COUNTY OF LA PLATA(

I, John I. Coston, County Assessor, in and for said County do hereby certify, That The Florida Farmers' Ditch Company, is a corporation exclusively for the irrigation of the lands of the individual members of said corporation, and is not seperately assessed for taxation in said La Plata County.

Witness my hand and seal this 2" day of April, 1910.

John P. Coston
County Assessor. (SEAL)

P.S. How shall we get back the money you charged us with last July on this lay of Reese See



STATE OF COLORADO

OFFICE OF SECRETARY OF STATE.

LICENSE TAX DEPARTMENT.

Denver, Colo. 3/25/1910.

Florida Farmers Ditch Co.,

℅ S. E. Reese, Secy.

Durango, Colo.

Dear Sir:-

Replying to your in regard to the Corporation License Tax of this Company, will say, that if you will furnish this office with a certificate from the Assessor of your County, certifying to the fact that you are not assessed for any purpose whatsoever in said County, the proper notation will be made upon our Books and you will be exempt from this tax hereafter.

Yours very truly,

RJH/MEF.

JAMES B. PEARCE,
Secretary of State.
By Thomas D. Kelly Jr.
Deputy.

A. E. REECE
XL RANCH FLORIDA MESA

9/4/867 Renewal 9/14/1909

P. O. Durango, Colorado, Feb, 4 1910

James B Pearce esq
Secretary of State Denver Colo
Dear Sir

Refering to the enclosed bill and to section 5 our ditch is exempt from taxation from the fact that our ditch is owned by Farmers only, and each stockholder uses the water he owns on his own land, we do not carry water for rent, Therefore will you kindly state if we are exempt from the corporation tax

Yours truly
A E Reece Sec

9640

JAMES B. PEARCE,
Secretary of State

THOMAS F. DILLON, JR.
Deputy Secretary of State

STATE OF COLORADO

SECRETARY OF STATE'S OFFICE
CAPITOL BUILDING

NOTICE OF THE ANNUAL STATE CORPORATION LICENSE TAX

The Florida Farms Dist Co.

W. H. C. Pearce

Durango Colo.

DENVER, COLO., January 1, 1910.

The Annual State Corporation License Tax for the year 1910 is due and payable at this office on or before May 1, 1910.

Remittances should be made payable to James B. Pearce, Secretary of State, and should be attached to this notice. In order to avoid the penalties provided by law, same should be in this office not later than May 1, 1910.

The amount of your tax, as by this act provided, is two cents on each One Thousand Dollars of capital stock. See also Penalties, Section 7.

The receipt for this year's tax will not be issued until all such tax and penalties due the State for previous years have been paid.

Postage stamps will not be accepted in payment of this tax.

All communications should be addressed to the Secretary of State, and not to individuals.

Your compliance with the foregoing will facilitate the handling of your business and avoid unnecessary delay.

Respectfully,

JAMES B. PEARCE,
Secretary of State.

(See copy of Act on other side.)

Paid including 1910 — 3.00

ANNUAL STATE CORPORATION LICENSE TAX

An Act in Relation to Public Revenue and Repealing All Previous Acts or Parts of Acts in Conflict Herewith

Be It Enacted by the General Assembly of the State of Colorado:

Section 1. That in addition to all other fees and taxes now provided for by law, every corporation which has heretofore obtained, or which shall hereafter obtain, a charter or certificate of incorporation from this State, shall pay, on or before the first day of May, A. D. 1907, and on or before the first day of May of each year thereafter, an annual State corporation license tax to the Secretary of State of the State of Colorado, as follows: Two cents upon each one thousand dollars of its capital stock.

Section 2. Every foreign corporation which has heretofore obtained, or which shall hereafter obtain, the right and privilege to transact and carry on business within the limits of the State of Colorado, in addition to the fees and taxes now provided for by law, shall pay, on or before the first day of May, A. D. 1907, and on or before the first day of May of each year thereafter, to the Secretary of State of the State of Colorado, an annual State corporation license tax, as follows: Two cents upon each one thousand dollars of its capital stock.

Section 3. Every corporation which shall have failed to pay the tax provided for in sections one and two of this act shall, by reason of such failure be liable to an action of debt, to be commenced by the Attorney-General in the name of The People of the State of Colorado, for the recovery of such tax, and proof of notice of liability for such tax from the Secretary of State, shall not be necessary to the prosecution and maintenance of such suit and recovery of said tax.

Section 4. It shall be the duty of the Secretary of State, immediately upon the passage of this Act, and on or before the first day of February annually hereafter, to notify every corporation liable to tax hereunder of the time when said tax is due, and said notice shall contain a copy of this act.

Section 5. Nothing in this act shall be construed as imposing a license tax upon corporations strictly for educational, social, literary, scientific, religious or charitable purposes, or ditch or irrigation corporations whose property is exempt by law from taxation, or upon charters incorporating Masonic lodges, Odd Fellows lodges, or other fraternal or benevolent societies.

Section 6. The Secretary of State shall, within thirty days after the receipt of any moneys collected by him under the provisions of the foregoing sections, whether paid under protest or not, pay the same into the general treasury of the State, and shall take, at the time of such payment, a receipt or receipts from the State Treasurer, showing upon the face thereof the exact amount of such moneys paid to said Treasurer and on what account and from what source the same was derived. If it shall be determined in any action at law or in equity that any corporation has erroneously paid said tax to the Secretary of State, upon the filing of a certified copy of the judgment or decree, as the case may be, with the Auditor of State, the latter is hereby authorized to draw a warrant upon the State Treasurer for the refund of such tax and the State Treasurer is hereby authorized to pay such warrant. The Auditor of State shall also give notice to the Secretary of State of such refund, so that he may make the proper entries upon his books.

Section 7. Every corporation which shall have failed to pay the tax provided for by this act, shall, by reason of such failure, forfeit its right to do business within the limits of this State until such tax is paid; and every such corporation in default for said tax after the first day of May of each year, shall, in addition to said tax, pay a penalty of ten per cent of said tax for every six months or fractional part of six months during which said tax may be delinquent; but upon paying said tax and penalty such corporation shall forthwith be relieved from the forfeiture of its right to do business within this State by reason of such failure.

Section 8. In addition to the action of debt, heretofore authorized for the recovery of the tax and penalty imposed by this act, and as a further means for the enforcement of the provisions of this act, the Attorney-General may commence an action of quo warranto to suspend the right of any delinquent corporation to carry on business within the limits of this State until such tax is paid.

Section 9. It shall be the duty of the Secretary of State, on or before the first day of July annually, to furnish the Attorney-General with a list of all corporations which have failed or neglected to pay said tax, together with a statement of the amount due, including penalty, if any.

Section 10. For the purpose of the foregoing tax, the fiscal year for basing such tax shall begin with May first of each year and end April thirtieth of the succeeding year.

Section 11. Sections 64, 65, 66, 67, 68 and 69, of Chapter three of the Session Laws of 1902, are hereby repealed; Provided, that the repeal of the aforesaid named sections and the provisions of this act shall not have, in any manner, the effect to release, extinguish, alter, modify or change, in whole or in part, any penalty or liability which shall have accrued under the said sections repealed, and such sections shall be treated and held as still remaining in force for the purpose of sustaining any and all proper actions, suits, proceedings and prosecutions for the enforcement of such penalty or liability, and for the purpose of sustaining any judgment, decree or order which can or may be rendered, entered or made in such actions, suits, proceedings or prosecutions imposing, inflicting or declaring such penalty or liability.

Section 12. Whereas, in the opinion of the General Assembly an emergency exists; therefore, this act shall take effect and be in force from and after its passage.

E. R. HARPER,
President of the Senate.

R. G. BRECKENRIDGE,
Speaker of the House of Representatives.

Approved April 1st, 1907, at 2:45 p. m.
HENRY A. BUCHTEL,
Governor of the State of Colorado.

3/25/1910.

FLorida Farmers Ditch Co.,

% E. Reese,Secy.

Durango, Colo.

Dear Sir:-

Replying to your in regard to the Corporation License Tax of this Company, will say, that if you will furnish this office with a certificate from the Assessor of your County, certifying to the fact that you are not assessed for any purpose whatsoever in said County, the proper notation will be made upon our Books and you will be exempt from this tax hereafter.

Yours very truly,

HJH/MFF.

STATE OF COLORADO)
(SS.
County of La Plata)

I, Charles Griffith, President, and A. E. Reese, Secretary, of The Florida Farmer's Ditch Company, do each of us hereby certify that the said Charles W. Griffith is now, and has been for a long time heretofore President of said Company, and that the said A. E. Reese is now, and has been for a long time prior hereto, the Secretary of said Company.

That said Company has recently expired by limitation of its charter, and that on the 25th day of August, A.D.1909, at the office of said Company, in the City of Durango, in the County of La Plata, State of Colorado, held a special meeting of its stockholders to determine and vote upon the question of extending and renewing the corporate life of said Company, a notice and call of said meeting was duly published in the Durango Weekly Herald, a newspaper published in the City of Durango, nearest to the place where the principal office of said Company is situate, and nearest the place where the principal operations of the Company are carried on, and was published in said paper for more than four consecutive weeks immediately prior to said meeting and a copy of said notice was duly mailed to each and every

stockholder of said Company, not less than thirty days prior to said meeting, stating the object of said meeting, and the place where the same would be held, and that said notice was signed by a number of stockholders owning at least ten percent. of the entire capital stock of the Company. And that at said meeting a majority of the capital stock as of said Company was represented, either in person or by proxy, and that a vote by ballot was taken upon the question of extending and continuing the corporate life of said corporation for another period of twenty years, and that the result of said ballot was that a majority of the outstanding capital stock of the Company voted in favor of the renewal of said corporation for a period of twenty years, and it was thereupon announced and declared that the said question was duly adopted and carried and that the corporate life of said Company be, and the same was continued and extended for a further and additional period of twenty years as provided by law.

THEREFORE, we do hereby certify that the corporate life of the Florida Farmers' Ditch Company has been continued, extended and renewed for a further period of twenty years from and after the 28th day of August, A.D. 1909.

IN WITNESS WHEREOF, We have hereunto subscribed our names under the seal of said Company, this 28th day of August, A.D. 1909.

Countersigned by the President, Florida Farmers' Ditch Company.

Secretary, Florida Farmers' Ditch Company.

-:-:-:-

(19) 50243

The Florida Farmers Ditch Company

Certificate of Renewal

DOMESTIC

FILED IN THE OFFICE OF THE SECRETARY OF STATE, OF THE STATE OF COLORADO, ON

1909 SEP 14 AM 10 32

RECORDED in BOOK 37 PAGE 620
JAMES B. PEAKE, SECRETARY OF STATE
BY [illegible], DEPUTY
FEES $ [illegible]

This document has been inspected and properly Entered on the Records of The Flat Tax Department.

OK

Date May 23 1968

[illegible] Clerk

Recorded by
Burr
9/22/09
Burr McClure

No. 295. AMENDED CERTIFICATE OF INCORPORATION. The W. F. Robinson Printing Co., Mfrs. Colorado Legal Blanks, Denver.

CERTIFICATE OF AMENDMENT
OF
ARTICLES OF INCORPORATION
OF

THE Florida Farmers Ditch Company

Know all Men by These Presents

That we, Philip Craig

President and Vincent Jelenick Secretary, of

The Florida Farmers Ditch Company

a corporation duly organized under and by virtue of the laws of the State of Colorado in that case made and provided, do hereby make this our certificate in

and in accordance with the said laws of the State of Colorado we make the following statements:

FIRST—That the holders of more than one-third of the capital stock of The Florida Farmers Ditch Company

subscribed, issued and credited to the holders thereof, and outstanding as shown by the boooks of the Corporation, did, on the 19th day of January, A. D. 1921, in writing, request the President of the said Corporation to call a meeting of the stockholders for the purpose of considering a certain proposed amendment to the Articles of Incorporation of the said Corporation, setting forth in said written request the substance of said proposed amendment.

SECOND—That at a meeting of the Board of Directors of the said Corporation, called by the President in pursuance of such request, and held at the office of said Corporation, in the City of Fruitdale, County of LaPlata, in the State of Colorado, on the 19th day of January, A. D. 1921, the President presented such request to said Board, and, thereupon, the following resolution was read and adopted:

Resolved that Article six of the Articles of Incorporation of the Company be so amended as to increase the number of Directors of said Company from four to five members

RESOLVED—That a special meeting of the stockholders of this Corporation be and is hereby called to be held at the office of this Corporation, in the City of Durango County of LaPlata, State of Colorado, for the purpose and object of considering a certain proposed amendment to the Articles of Incorporation of The Florida Farmers Ditch Company

in manner and form as follows, to wit:

RESOLVED—That Section of Article Six of the Articles of Incorporation of the said Corporation be amended to read as follows: The number of Directors or Trustees of said Company shall be five, and the affairs of said Company for the first year of its existence shall be managed by

(over)

F. J. McCluer, D. S. Griffith, and L. H. Patterson and George B. Connelly.

RESOLVED –That due notice of said meeting be given, as required by law, by the Secretary.

THIRD—That thirty (30) days' notice of the said special meeting was given to each stockholder by delivering to each personally, or by depositing in the Postoffice a notice, properly addressed, stating the time and object of the meeting, which said notice was signed by the President and Secretary of said Corporation; and that notice of said meeting was duly published ten (10) days prior to said meeting, in the The Durango Weekly Herald, a newspaper published in said City of Durango, being the place in which the principal office of the Corporation is kept, a copy of which published notice clipped from said newspaper is pasted hereto and follows this paragraph.

FOURTH—That the said special meeting of the stockholders of the said Corporation, thus duly called, was held at the Corporation's office in the City of Durango, County of LaPlata, and State of Colorado, on the 26 day of February A. D. 19 21

FIFTH—That at the said special meeting of the stockholders of the said Corporation, votes representing more than two-thirds of all the stock of the said Corporation, then subscribed and in good faith outstanding, were cast in favor of the adoption of the proposed amendment, and the same was declared duly adopted.

SIXTH—That the President and Secretary of the said Corporation were, at said special meeting, duly authorized and directed to make, verify and file such certificate as might be necessary or required by law to carry into effect the change adopted by the Corporation by amendment to its Articles of Incorporation.

IN WITNESS WHEREOF, We, the President and Secretary of the said Corporation, have hereunto set our hands and seals, this 27th day of May, A. D. 1921, and have caused the seal of our said Corporation to be affixed hereunto.

President SEAL

Attest: Secretary SEAL

STATE OF COLORADO, }
COUNTY OF La Plata } ss.

Before me ______________, a Notary Public in and for said County and State, personally appeared Philip H. Craig, President, and Vincent Jelinek, Secretary of The Florida Farmers Ditch Company

______________ personally known to me to be the persons whose names are subscribed to the foregoing certificate of amendment to the Articles of Incorporation of said Corporation, who each, being first duly sworn, depose and say upon their oaths each for himself and not one for the other, that they are the President and Secretary, respectively, of the said The Florida Farmers Ditch Company

______________ and that the facts as set forth in said certificate are true to the best of their knowledge and belief, and that they as such President and Secretary, respectively, of the said Corporation, made, signed and executed the said certificate for the uses and purposes therein mentioned.

Philip H. Craig
President.

Vincent Jelinek
Secretary.

Subscribed and sworn to before me this 7th day of June, A. D. 1921

My commission expires November 12, A. D. 1923

Marguerite B. Edwards
Notary Public.

Recorded by Fowler
Date Aug 5, 1921
Compared by

No. 14202

CERTIFICATE OF AMENDMENT
OF
ARTICLES OF INCORPORATION
OF
The Florida Farmers Ditch Company

DOMESTIC

Filed in the office of the Secretary of State of the State of Colorado

FILED in the office of the Secretary of State of the State of Colorado on the 1st day of July A. D. 1921

Recorded in Book

CARL S. MILLIKEN, Secretary of State

By ______ Deputy

Filing Clerk

By ______

CERTIFICATE OF RENEWAL OF THE CERTIFICATE OF INCORPORATION

STATE OF COLORADO,
COUNTY OF La Plate } ss.

To Whom It May Concern:

This is to certify that at the ~~special~~ annual adjourned meeting of the stockholders of The Florida Farmers Ditch Company held at Durango on the Fifth 26th day of January, A. D. 1927, duly called by the stockholders representing at least ten per cent (10%) of the entire capital stock of the company, the call being published for four weeks in the Durango Herald Democrat, a newspaper published at Durango, State of Colorado, and notice of said meeting having been mailed to each stockholder thirty (30) days prior to this date, there being represented at such meeting 1000 shares of the capital stock of said company out of a total of 1800 shares outstanding.

That at said meeting a resolution was passed to have extended the corporate existence of this said company for a period of twenty (20) years, from and after the date of the expiration of its corporate life, the same being the Fourth day of May, A. D. 1929, the resolution receiving a majority vote of all the outstanding stock of the company. The president and secretary were authorized to certify this resolution under the corporate seal of the company, to send such certificate to the Secretary of State of the State of Colorado, to file duplicate certificates under seal of the company in the office of the recorder of Deeds of the Clerk county of La Plata, State of Colorado, and in pursuance of such resolution, we do hereby certify the same under the seal of the company.

Chas W Tufts
Vice President

Attest:

(Corporate Seal)

Frank Reuse
Secretary

89450

No.

CERTIFICATE OF RENEWAL

OF THE

CERTIFICATE OF INCORPORATION

OF

The Florida Farmers Ditch Company

DOMESTIC

RECORDED

BOOK 302 PAGE 111

FILED in the office of the Secretary of State, of the State of Colorado, on the 7 day of March A.D. 1929, at 1:00 o'clock P.M.

CHAS. M. ARMSTRONG, Secretary of State

By [illegible] Deputy

Filing Fee $ [illegible]

Indexed by

112

20-90-17

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Date Mar. 9 1929

M E White Clerk

OK
EC

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Date Jan 23, 1968

[illegible] Clerk

No. 150. CERTIFICATE OF RENEWAL OF THE CERTIFICATE OF INCORPORATION.

To Whom It May Concern:

This is to certify that a special meeting of the stockholders of Florida Farmers Ditch Co, a Colorado corporation, was held at Durango Colo on the 25th day of April, A. D. 1949, such meeting having been called by the stockholders representing at least 10 per cent (10%) of the entire capital stock of the company outstanding. Notice of such meeting as provided by law, was published for two successive weeks prior to the date fixed for said meeting in a newspaper printed at Durango, State of Colorado, and notice of said meeting was delivered personally or mailed to each stockholder at least thirty (30) days prior to the date of such meeting, there being represented at such meeting 1180 shares of the capital stock of said company out of a total of 1800 shares outstanding. At said meeting a resolution was passed to extend the corporate existence of the said corporation* In Perpetuity, from and after the date of the expiration of its corporate life,† the resolution received a MAJORITY vote of all the outstanding stock of the corporation. The president and secretary were authorized and directed to file under the corporate seal of the company, a certificate of renewal with the Secretary of State of the State of Colorado, and to file a duplicate certificate in the office of the Recorder of Deeds in each county wherein the company may do business in the State of Colorado.

B J Griffith
President.

(Corporate Seal)

Lloyd B. Mason
Secretary.

*Corporate existence may be renewed perpetually or for any specified number of years.
†This certificate or renewal shall be filed before or within one year after the expiration of the charter.
Fee for filing certificate of renewal is $25.00 for $50,000 or less and twenty cents for each additional or fractional part of one thousand dollars of authorized capital stock.

The Bradford-Robinson Ptg. Co., Mfrs. Robinson's Legal Blanks, 1234 Stout St., Denver, Colo.

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CERTIFICATE OF RENEWAL

OF THE

CERTIFICATE OF INCORPORATION

OF

FLORIDA FARMERS DITCH COMPANY

DOMESTIC

RECORDED

BOOK 557 PAGE 1

FILED in the office of the Secretary of State, of the State of Colorado, on the 25th day of May A.D. 1949, at 1:15 o'clock P.M

GEORGE J. BAKER,
Secretary of State

Filing Clerk ..... Fees .....

Old Age Pension Fund .....

Indexed by

This document has been inspected and properly Entered on the Records of The Flat Tax Department.

OK

Date 26 May 1949

..... Clerk

This document has been inspected and properly Entered on the Records of The Flat Tax Department.

OK

Date May 23, 1968

..... Clerk

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APPENDIX A-2

FCDC By-Laws

BY-LAWS
OF
THE FLORIDA CONSOLIDATED DITCH COMPANY

ARTICLE I. NAME

The name of this Company shall be as stated in the Articles of Incorporation: "The Florida Consolidated Ditch Company".

ARTICLE II. OFFICES AND OBJECTS

Section 1. The registered office and mailing address of the Florida Consolidated Ditch Company shall be in La Plata County, Colorado. The registered office and mailing address need not be identical, and may be changed at any time by the Board of Directors.

Section 2. The objects of this Company shall be to maintain a ditch system for the carriage of water to shareholders.

ARTICLE III. THE BOARD OF DIRECTORS AND THEIR MEETINGS

Section 1. All corporate powers shall be exercised by or under the authority of a Board of Seven (7) Directors who are Shareholders, elected from their number by the shareholders at the annual meetings, and who serve staggered terms of three (3) years. In order to stagger Director terms, commencing with the November 2013 annual meeting, their terms will be assigned by total number of votes received. The largest vote recipients will be assigned the longest terms available. Three (3) Directors shall be elected for a three (3) year term, two (2) Directors shall be elected for a two (2) year term, and two (2) Directors shall be elected for a one (1) year term. Upon expiration of said staggered terms, all succeeding Directors shall be elected for three (3) year terms. In the event that a share is held by an entity, the entity can designate an authorized agent to be eligible for a term of office as a Director.

Section 2. The Board of Directors shall have the power and authority to manage the business of the Company, delegate duties, appoint agents and employees, and transact all business by and on behalf of the Company in the manner as they shall provide by resolution adopted at a properly called meeting of the Board of Directors not inconsistent with these By-laws and the laws of the State of Colorado. They shall appoint and remove all officers, agents and employees of the Company, prescribe their duties, set their compensation, and require, when deemed advisable, security for their faithful services. They shall generally possess all the powers and perform all the duties usually exercised by or imposed upon Directors of similar corporations.

Section 3. The Board of Directors, at the first meeting after their election, shall elect from among their number a President, a Vice-President and a Secretary/Treasurer for terms of one (1) year.

Section 4. Meetings of the Board of Directors shall be held in La Plata County, Colorado.

Section 5. Meetings of the Board of Directors shall be called by the President when he shall deem necessary, or upon the request of three (3) or more Directors. Timely notice of the time and place of each meeting must be given to each Director personally. Notice of the time and place of meeting shall be made in writing and shall be delivered not less than two (2) or more than fifty (50)

days before the date of the meeting, either personally or by mail or electronic mail (e-mail) to each Board Member entitled to vote at such meeting. If mailed, such notice shall be deemed to be delivered two (2) calendar days after being deposited in the United States mail, addressed to the Board Member at their address as it appears on the books of the Company, with postage thereon prepaid.

Section 6. A majority of the Directors shall constitute a quorum for the transaction of business. If less than a quorum exists, the Directors may adjourn and reschedule the meeting for a later date.

Section 7. In case of a vacancy in the Board of Directors before the expiration of the term, the remaining Board shall elect a qualified person to hold the office for the remainder of the term. The Board of Directors has the right to remove any officer or agent at a properly convened Board of Directors meeting as deemed necessary.

Section 8. In the event that a Director is absent from four (4) or more Board of Directors meetings within a year, and these absences are unexcused in the discretion of the President, the other Directors may elect to replace the Director with an interim replacement who will serve until the next annual meeting of the shareholders, at which time, the shareholders shall elect a permanent replacement Director to serve out the remainder of the replaced Director's term.

ARTICLE IV. OFFICERS

Section 1. The officers of the Company shall be a President, a Vice-President and a Secretary/Treasurer.

Section 2. Assistant officers may be from time to time appointed or employed by the Board of Directors as the needs of the Company may require, and said assistants, when acting in an official capacity, shall have all of the rights, duties, responsibilities and powers of such officer.

Section 3. All subordinate officers and assistants shall answer directly to the Board of Directors and shall serve as requested by the Board until removed or replaced.

Section 4. The President shall be the Chief Executive Officer of the Company; he shall sign all official papers and documents of the Company, preside at all meetings of the Board, and attend to such other duties as the Board of Directors may authorize.

Section 5. In the absence or inability of the President to discharge the duties of the office, the Vice-President shall act in his/her place, holding and exercising all the powers of the President.

Section 6. The Secretary/Treasurer shall keep the minutes of the meetings of the Board of Directors and of the Company; shall keep the stock book and corporate seal, and shall attest by signature and seal of the Company all official documents and certificates of stock. The Treasurer shall publish as required by law these By-laws and notice of all meetings of the shareholders, and shall provide timely notice of meetings to the Board of Directors. The Treasurer shall have charge of all books connected with the issue, transfer and surrender of the stock certificates of the Company, and shall cause all surrendered certificates to be cancelled before issuing new ones, preserving the cancelled certificates. The Treasurer shall maintain a list of shareholders, with their addresses, and shall prepare and certify this list for use at the annual meeting. The Treasurer shall attend to all correspondence and perform all the duties incident to the Office of Secretary, and to such other business of the Company as assigned or required by the Board of Directors. The Secretary/Treasurer shall be the custodian of and receive all funds, credits and securities of the

Company and shall deposit all moneys in the accounts of the Company and disburse the same in accordance with the rules, regulations, and resolutions of the Company. The Treasurer shall keep a complete record of all financial transactions of the Company and render a statement of the condition of finances of the Company to the shareholders at each annual meeting, or as required by the Board of Directors.

ARTICLE V. SHAREHOLDER MEETINGS

Section 1. The annual meeting of the shareholders of this Company shall be held in La Plata County, Colorado, at a date and time deemed practical by the Board of Directors.

Section 2. Special meetings of the shareholders of the Company may be called by resolution at any meeting of the Board of Directors, by written request of the shareholders representing one-third (1/3) of all the shares outstanding, or by a majority of the elected Directors. Notice of such meetings, stating the purpose or purposes for which called, shall be served personally or by mail, or email, not less than ten (10) days before the date set for such meeting. No business shall be acted upon at any special meeting of the shareholders except as specified in the call for the special meeting.

Section 3. Public Notice of the date and time of the annual meeting shall be given by publication in a local newspaper not less than ten (10) days before the annual meeting, and by personal mailing to each shareholder of record not less than fifteen (15) days before the meeting.

Section 4. Shareholders may attend a meeting in person or by proxy. To be valid, a proxy must be in writing, dated, signed by the shareholder, and must designate a person who will be present at the meeting to cast votes for the shareholder. Proxies from a legal entity shall be subscribed by an authorized agent thereof, and proof of such authority must accompany the proxy or be on record with the Company from Company records or other official documents acceptable to the Board. Proxy authority is presumed to be valid for a period of one (1) year unless a different duration is stated on the face of the proxy. Any revocation of a proxy must be in writing, signed, dated and delivered to the Secretary of the Company. The revocation is not valid until received by the Secretary, and will affect only votes cast after the time of receipt by the Secretary.

Section 5. The presence in person or by proxy, of shareholders entitled to vote a majority of the outstanding shares of stock of the corporation, shall constitute a quorum for the transaction of business. If a majority of stock is not represented, the shareholders present may adjourn and set a new date for a subsequent meeting, and the Secretary shall give at least ten (10) day notice in writing to each shareholder not present either in person or by proxy at such meeting

Section 6. Shareholders are entitled to as many votes as shares of stock standing in their name on the books of the Company at all meetings. At all meetings of the shareholders, all questions not specifically regulated by statute, shall be determined by a majority vote of the shareholders present in person or by proxy.

Section 7. At each annual meeting, the shareholders shall approve the annual budget for the upcoming fiscal year, shall elect Directors to serve as subsequent Directors when staggered terms expire, and transact any other business that may come before the shareholders.

Section 8. Any shareholder has the right to appoint, by power of attorney, an authorized stockholder's representative in compliance with Colorado law, to represent them in all matters concerning the Company.

ARTICLE VI. ELECTIONS

Section 1. Each Shareholder shall have the right to nominate a Director or Directors. The President shall then appoint two (2) or more tellers to take and canvass the vote. The election shall be by ballot, on which each person voting shall write the names of the Directors up for election. Each stockholder shall have the right to vote in person or by proxy one (1) vote for each share of stock owned. The person or persons having the highest number of votes in consecutive order shall be declared elected to the Board of Directors for the then succeeding term. All voting shall be non-cumulative.

ARTICLE VII. SHARES OF STOCK

Section 1. Each share of the capital stock of The Florida Consolidated Ditch Company shall entitle the owner to receive from the ditches and canals of said Company, water at the rate of one (1) cubic foot of water per second of time for each forty (40) shares, or a pro rata share in times of shortage.

Section 2. Ownership of capital stock of The Florida Consolidated Ditch Company is subject to these By-laws and the rules and regulations of the Company. The stock certificates shall be numbered and registered in the order in which they are issued. They shall be issued in consecutive order, and a current record thereof shall be maintained, including the name of the person owning the shares and the date of issue. Such certificates shall exhibit the shareholder's name, and shall be signed by the President, countersigned by the Secretary, and sealed with the seal of the corporation.

Section 3: Classes of Stock. There shall be four (4) classes of shares

"A" shares will be issued to former shareholders of the Florida Farmers Ditch Company, and shall be assigned the following water priorities:

- Priority F-17 12.08 c.f.s.
- Priority F-21 1.333 c.f.s
- Priority F-22.5 8.58 c.f.s.
- Priority F-24 23 c.f.s

"B" shares will be issued to former shareholders of the Florida Canal Company, and shall be assigned the following water priorities:

- Priority F-23 24 c.f.s
- Priority F-29 16 c.f.s

"C" shares will be issued to former shareholders of the Florida Canal Enlargement Company, and shall be assigned the following water priorities:

- Priority F-68 40 c.f.s

"D" shares will be issued to former shareholders of the Florida Cooperative Ditch Company, and shall be assigned the following water priorities:

- Priority F-84 30 c.f.s

Section 4. No certificate will be issued for less than one (1) share of The Florida Consolidated Ditch Company. All certificates representing less than one-eighth (1/8) C.F.S. shall be issued in conjunction with a water delivery agreement.

Section 5. The stock and transfer and certificate books shall, in the absence of any special rules or regulations, be kept in the usual manner; bound in books with a stub containing the number of each certificate, its date of issue, and the number of shares represented.

Section 6. All transfers of shares must be made on the books of the Company, subject to the rules and regulations of the Company relating to transfers, and no shares of stock shall be assigned or transferred while the assignor is indebted to the Company.

Section7. Certificates representing any shares to be transferred must be surrendered for cancellation before a new certificate will be issued. No certificate shall be issued in place of one stated to be lost or otherwise unavailable unless the claimant shall follow the procedures set forth in the Rules and Regulations of the Company.

ARTICLE VIII. THE DITCH RIDER

Section 1. The Board of Directors may appoint a Ditch Rider or other authorized representative to act as Superintendent of the ditches and canals of the Company, subject to the direction of the Board of Directors.

Section 2. It shall be the duty of the Company's authorized representative or Ditch Rider to care for and properly maintain the ditches and canals of the Company and to keep the same in repair. The Ditch Rider shall release the amount of water to each shareholder as entitled.

Section 3. No person, other than the authorized representative or Ditch Rider, shall have the right to open or close any headgate, waste gate, division box, or other measuring device, and all such equipment is under the sole control of the Ditch Rider, in accordance with Colorado Water Law.

ARTICLE IX. DIVISION AND ALLOTTMENT OF WATER

Section 1. Each Shareholder in the Company shall be entitled to receive an allotment of water represented by their stock certificate in the amount of one (1) cubic foot of water per second of time for each forty (40) shares of stock owned, subject to the delivery requirements of the Rules and Regulations. The priorities of the shareholders within each class using water from the Company's canal shall be equal.

Section 2. Water shall be furnished continuously as available during the irrigating season, beginning no earlier than May 1, to irrigate or cultivate the land. Other uses of water incidental to irrigation may be permitted by the rules or regulations of the Company.

Section 3. If by reason of any cause, the supply of water shall be insufficient to furnish an amount equal to one (1) C.F.S. per forty (40) shares, then such water as may flow shall be distributed *pro rata* to the shareholders. The Board of Directors may establish and enforce such rules and regulations as they may deem necessary or expedient to distribute the water fairly.

Section 4. Should any Shareholder fail to pay the annual assessment on or before the **fifteenth (15) day of February** in any year, the Shareholder shall not be entitled to water, and the same shall be shut off and kept shut off until the sum so due for any year shall have been paid. The unpaid portion of the assessment shall accrue interest at the rate of one percent (1%) per month until paid in full. The Directors may establish and enforce such other Rules and Regulations, and provide

and declare such other penalties and forfeitures, as they may deem necessary or expedient for the purposes of enforcing and collecting delinquent payments.

Section 5. Any Shareholder transferring or in any way parting with his/her shares of stock shall cease to be entitled to water and no person claiming to own shares of stock shall be entitled to water until such shares are transferred to him on the books of the Company, and water shall have been allotted to the Shareholder as hereinbefore provided.

Section 6. Upon the failure of any Shareholder to pay any assessments when due, the Board of Directors may, in compliance with in the Rules and Regulations of the Company, offer the shares of stock standing in the name of such Shareholder for sale.

ARTICLE X. THE BY-LAWS

Section 1. Each shareholder is entitled to receive a copy of the current By-laws upon receipt of a new certificate or by request.

Section 2. These By-laws may be altered, amended or repealed, in whole or in part, by the shareholders at any duly called meeting provided a written statement of the proposed changes and a copy thereof is sent by the Secretary to each shareholder by mail, at least thirty (30) days before the meeting at which such change is to be voted upon. The proposed change shall be adopted by the vote of two-thirds (2/3) of the stock present or represented by proxy constituting a quorum which vote shall be taken and recorded by yeas and nays.

Section 3. These By-laws shall take effect and be in force immediately after their adoption.

ARTICLE XI. CHANGES OF WATER RIGHTS

Section 1. No application for approval of a change of water right or plan for augmentation may be made to the District Court for Water Division No. 7, State of Colorado ("Water Court"), unless the same has been approved by the Company.

Section 2. The Company shall evaluate the application for change of water rights within a reasonable amount of time. In evaluating whether the requested change of water rights can be made without injury to the Company and its shareholders, the Company may require the applicant to obtain an engineering and legal analysis of the requested change by the applicant and the terms and conditions offered by the applicant. The Company may also engage its engineers and attorney to review the application and engineering and legal analysis submitted by Applicant.

Section 3. An Applicant requesting a change of water right must reimburse the Company for the Company's reasonable costs and fees, including a charge for time spent by the directors and Company employees, engineers and attorneys in analyzing the application to the Company and in any judicial litigation that follows. This specifically includes a challenge to the Company's denial of an application. Prior to analyzing the proposed change, the Company shall obtain an estimate of the costs. The Company shall make said estimate of cost within thirty (30) days of submission of an application and the Applicant shall have thirty (30) days after receipt of the estimate from the Company to make a deposit of the estimated costs. The Company shall not take final action on any application until, and unless, the applicant makes said deposit. If the estimate and deposit needs to be adjusted by further payment or reimbursement, said adjustment shall be made upon the completion of the analysis. In no event shall the Company be required to finally approve or disapprove the application until all fees incurred by the Company are reimbursed.

Section 4. If any portion of this Article XI is declared void by a court of law, the remaining portions of this by-law shall remain in full force and unaffected.

ARTICLE XII. MISCELLANEOUS

Section 1. INDEMNIFICATION: The Company may indemnify an Officer or Director when permitted by law.

Section 2. EMERGENCIES: In the event of an emergency, or situation requiring the Board action before proper notice could be given and a quorum obtained at any convenient meeting place, the President or Secretary may obtain a telephonic vote as follows;

(1) As many Board members as are available anywhere by phone shall be called and given the facts on the nature of the issue, the action desired or required and report any comments and votes by Directors with whom the President or given Secretary has already spoken.

(2) The majority vote of those reached by phone, within such reasonable time as circumstances permit shall control.

(3) Within forty-eight (48) hours after action was taken the initiating officer shall prepare a written report of the circumstances requiring such action, detailing contact of or inability to contact each Director and the reasons for inability to contact, and a summary of the action taken including the breakdown of the vote. Such report shall be mailed to all Directors, placed in the Company records and made available to any shareholder upon reasonable request.

(4) Unavailable Directors shall subsequently review the written report and endorse thereon his or her vote, noting the date of such endorsement no later than thirty (30) days after the events requiring emergency action unless such Director is not available or capable in which case no later than ten (10) days after availability or capability occurs.

Section 3. UNANIMOUS WRITTEN CONSENT: When an emergency does not exist, but meeting would be difficult and not necessary, a written resolution may be subscribed by all of the Directors unanimously approving action to be taken by the Board.

Section 4. LEGAL EXPENSES: Any shareholder who brings an unsuccessful judicial action against the Company shall be responsible for the Company's reasonable attorneys' fees and cost in defending said action. Unsuccessful is intended to mean that the shareholder did not substantially prevail in his, her or its action against the Company.

Section 5. RULES AND REGULATIONS The Board of Directors may at any time adopt additional and further rules and regulations not inconsistent with these By-laws to further address the operations and policies of the Company.

THE FOREGOING BY-LAWS WERE ENACTED AT A DULY CALLED AND CONDUCTED ANNUAL MEETING OF THE SHAREHOLDERS OF THE FLORIDA CONSOLIDATED DITCH COMPANY OF THE _____ DAY OF _____, 2013.

Signed by Board of Directors:

_____

_____

_____

_____

_____

_____

_____

I, the undersigned, Secretary of The Florida Consolidated Ditch Company, a Colorado Corporation, do hereby certify that the foregoing is a true and complete copy of the By-laws of said corporation, including all amendments to date, as the same were adopted by the Shareholders of said corporation on _____, 2013.

IN WITNESS WHEREOF, I have affixed the seal of The Florida Consolidated Ditch Company and subscribed my name on the _____ day of _____, 2013.

Signed by: _____
Secretary

APPENDIX B

Sponsor Creditworthiness Documents

APPENDIX B-1

Current Rates and Assessments

Appendix B-1
Current Schedule of Assessments
Florida Consolidated Ditch Company
DRAFT- For Internal Use Only

Shareholders	Shares	Assessment per Share	O&M per share
284	6,200	$37.60	$70.00

Source: Correspondence with FCDC personal

APPENDIX B-2

Financial Information

Florida Consolidated Ditch Company
Summary Balance Sheet
As of December 31, 2014

	Dec 31, 14
ASSETS	
Current Assets	
Checking/Savings	213,166.65
Accounts Receivable	-45.53
Other Current Assets	1,138.20
Total Current Assets	214,259.32
Fixed Assets	56,627.14
Other Assets	14,637.92
TOTAL ASSETS	**285,524.38**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	-0.50
Other Current Liabilities	-16,522.03
Total Current Liabilities	-16,522.53
Total Liabilities	-16,522.53
Equity	302,046.91
TOTAL LIABILITIES & EQUITY	**285,524.38**

Florida Consolidated Ditch Company
Summary Balance Sheet
As of December 31, 2015

	Dec 31, 15
ASSETS	
Current Assets	
Checking/Savings	218,181.07
Accounts Receivable	14.95
Other Current Assets	1,138.20
Total Current Assets	219,334.22
Fixed Assets	68,947.14
Other Assets	14,637.92
TOTAL ASSETS	**302,919.28**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	-86.75
Other Current Liabilities	-15,584.01
Total Current Liabilities	-15,670.76
Total Liabilities	-15,670.76
Equity	318,590.04
TOTAL LIABILITIES & EQUITY	**302,919.28**

Florida Consolidated Ditch Company
Summary Balance Sheet
As of December 31, 2016

	Dec 31, 16
ASSETS	
Current Assets	
Checking/Savings	168,204.87
Accounts Receivable	-1,398.85
Other Current Assets	2,030.20
Total Current Assets	168,836.22
Fixed Assets	68,947.14
Other Assets	14,637.92
TOTAL ASSETS	**252,421.28**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	-30.50
Other Current Liabilities	-16,741.85
Total Current Liabilities	-16,772.35
Total Liabilities	-16,772.35
Equity	269,193.63
TOTAL LIABILITIES & EQUITY	**252,421.28**

APPENDIX C

Basis of Design Memorandum

MEMORANDUM

To: Justin Catalano
Florida Consolidated Ditch Company
Via Email: justincatalanofqh@gmail.com

From: Dex Lewis, P.E. AZ., Jeffrey M. Nelson, P.E., and Peter R. Foster, P.E.
Wright Water Engineers, Inc.

Date: October 12, 2016

Re: Hess Lateral Preliminary Basis of Design Parameters

Wright Water Engineers, Inc. (WWE) prepared this memorandum to document the Hess Lateral relocation and piping preliminary basis of design concept, parameters and assumptions developed with the Florida Consolidated Ditch Company (FCDC), including Justin Catalano and the Hess Lateral subcommittee. This memorandum is intended to be a living document and should be updated as additional design information becomes available and as the preliminary design advances.

The proposed project involves replacement of the approximately 3.3 mile-long Hess Lateral ditch with a buried, gravity-pressurized pipeline. The purposes of this project are to 1) improve the efficiency of the Hess Lateral canal conveyance system by converting the existing open ditch system to a pipeline, 2) provide irrigation water at reduced operational expense to promote continued commercial agricultural uses, 3) firm the agricultural pre-Compact water supplies through increased efficiency, 4) develop additional sources of water for other beneficial uses in the basin, and 5) improve water quality by reducing the salt load into the Animas River.

The following summarizes design criteria and parameters for the Hess Lateral.

General Irrigation Design Guidelines

A. USDA NRCS National Engineering Handbook – Irrigation Guide, September 1997

- Center Pivot typical design parameters

Preliminary Design Parameters

General

1. The lateral is operated May 1 through October 15, and a final stock run occurs near Thanksgiving. Winter operation will not occur.

2. The design flow rate is 20 cubic feet per second (cfs) and the low flow rate is 10 cfs, based on conditions encountered in 2002.

Intake Pond

3. Proposed intake pond will be located approximately at the intersection of Juniper Road and Existing Hess Lateral Channel. Intake structure will be a concrete structure with punch plate screening. Details are available from NRCS and will be similar to Sitner Pond.

4. Intake pond should be in an elongated configuration.

5. Intake pond preferred dimensions are a width of 15 feet and depth of 10 feet. This would allow sediment to be removed every few years by excavating from each bank. The FCDC would like the pond to be approximately 40 acre-feet (AF) but the space available and preferred dimensions limit the pond volume to approximately 4 AF. The volume available will be refined during preliminary design.

6. The existing Sitner Pond should be used as an example intake pond. Sediment is removed from the Sitner Pond every 3 to 5 years.

7. Air release mechanism should be at the intake, refer to Sitner Pond as an example.

8. Field survey and preliminary geotechnical studies are needed around proposed location of the intake pond.

Pipeline

9. Pipeline pressure should range between 50-80 psi, with main line pressures ideally below 100 psi. The NRCS has indicated pressures as low as 30 psi work for sprinklers.

10. Pipeline velocities should be between 3 to 5 fps. A minimum of 2 fps should be maintained to prevent sediment settlement.

11. Preferred pipe materials are Plastic Irrigation Pipe (PIP) for non-steep runs. The minimum pipe cover should be 30 inches or manufactures recommendation for vehicle loading. The City of Durango requires 48 inches of cover for pressurized water lines, but this depth is not a design constraint because winter use during freezing conditions is not anticipated. The Hess Lateral will be drained by gravity or pumped out each winter.

12. Consider HDPE pipe in steep gradient slopes and where joint restraints or bedding washout might be a concern.

13. Valves should be placed to allow for isolation in case of maintenance and emergencies.

14. The service area should be divided into two to three pressure zones via valving.

15. A minimum of one pressure reducing valve should be implemented.

16. Two blow off valves should be provided, one near the middle and one near the end of the system.

17. Mechanical joints with joint restraints are planned at major transitions (e.g. alignment change).

18. Gasketed fitting is preferred on the pipe line over glued joints, especially at turn outs.

19. Joint deflections should be used on long radiuses.

20. The pipeline should be designed such that future automated headgates can be installed.

Services

21. A valve should be provided at each turn out.

22. Each turnout should be metered for flow. Type of meter is to be mechanical.

23. For turn-outs consider Grinnell rising stem gate valves or butterfly valves.

24. Check valves should be implemented as needed.

Miscellaneous

25. Pipeline Lateral and delivery volumes and flow rates should be designed according to the project/adjudicated water spreadsheet, which includes adjustments to the project/adjudicated water based on information from Justin regarding historical delivery and existing sprinkler system.

26. A future microhydro turbine should be taken into consideration and located during final design.

27. The impact of connecting or not connecting Alton Hess needs to be reviewed; due to the proximity to the intake pond, the design may be simplified by connecting him.

Preliminary Design Summary

The preliminary design summary is based on the draft EPANET model for Alternatives No. 1 and No. 2.

Overall

1. The modeled pipe material is Irrigation P.I.P with inside diameters from manufacturer JM Eagle.
2. The total demand at each headgate was determined by assessing which parcels of land will be served by each headgate, and then totaling each parcel of land's adjudicated and/ or project water right. Project water flow rate was determined via FCDC specification of 1 cfs for every 80 acres of irrigable land. If a stakeholder owned both project and adjudicated water, which ever flow rate was greater was used to determine the allotted flow rate for that parcel.
3. The pipe lengths for each alternative were estimated from each turnout to junction or turnout to turnout in Arc GIS with aerial imagery.

4. Pipe fittings were visually estimated using the Figures for Alternatives No.1 and No. 2. Fittings include tees, reducers, 22.5, 45, and 90 degree elbows.
5. Minor head losses in transitions and fittings were accounted for in the link profile in EPANET, using the table of *K* coefficients found in the EPANET User Manual and in *Water Resources Engineering 3rd Edition*, D.A. Chin, and shown in Table 1. Losses from turnouts have not been accounted for in the model, which also includes the tees to the turnouts.

Table 1. Minor Loss Coefficients

Description	K value
Square Entrance	1
Exit	1
45 elbow	0.4
22.5 elbow	0.2
90 elbow	1
Reducer	0.2
Tee	0.6

Alternative No. 1

1. There is one blow-off valve where the slope significantly decreases (located near Juniper Heights headgate).
2. There is one air-release valve where the slope peaks (near Steve Hudson headgate).
3. The nominal pipe diameters range from 27 inches to 12 inches, with a total estimated length of 21,692 feet, and 27 fittings (elbows, reducers, tees).
4. There are two pressure zones in Alternative No. 1.

Alternative 2

1. There are two blow-off valves on the mainline where the slope significantly decreases between headgates (Juniper Heights and downline of Mesa Properties 4).
2. There is one blow-off valve on the secondary line stemming from Mesa Properties 1 (after Short headgate).
3. There are two air-release valves on the mainline where the elevation peaks (at Steve Hudson and before Marshould Ledford headgate).
4. There is one air-release valve on the secondary line stemming from Mesa Properties 1 (before James Webb headgate).
5. Currently the nominal pipe diameters range from 27 inches to 6 inches, with a total estimated length of 21,068 feet, and 23 fittings (elbows, reducers, tees).
6. There are two pressure zones in Alternative No. 2.

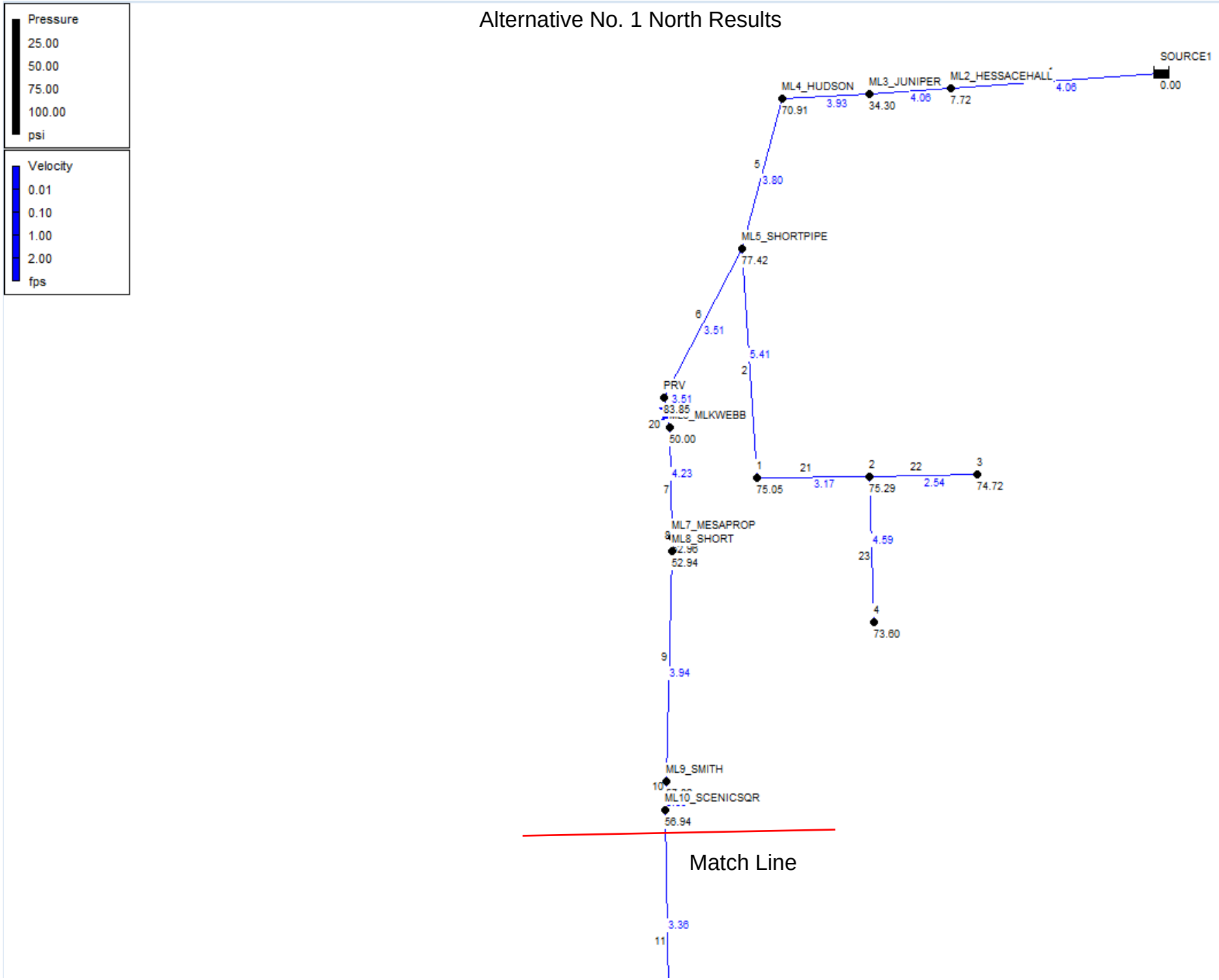
Attachment(s)/Enclosure(s)

cc:

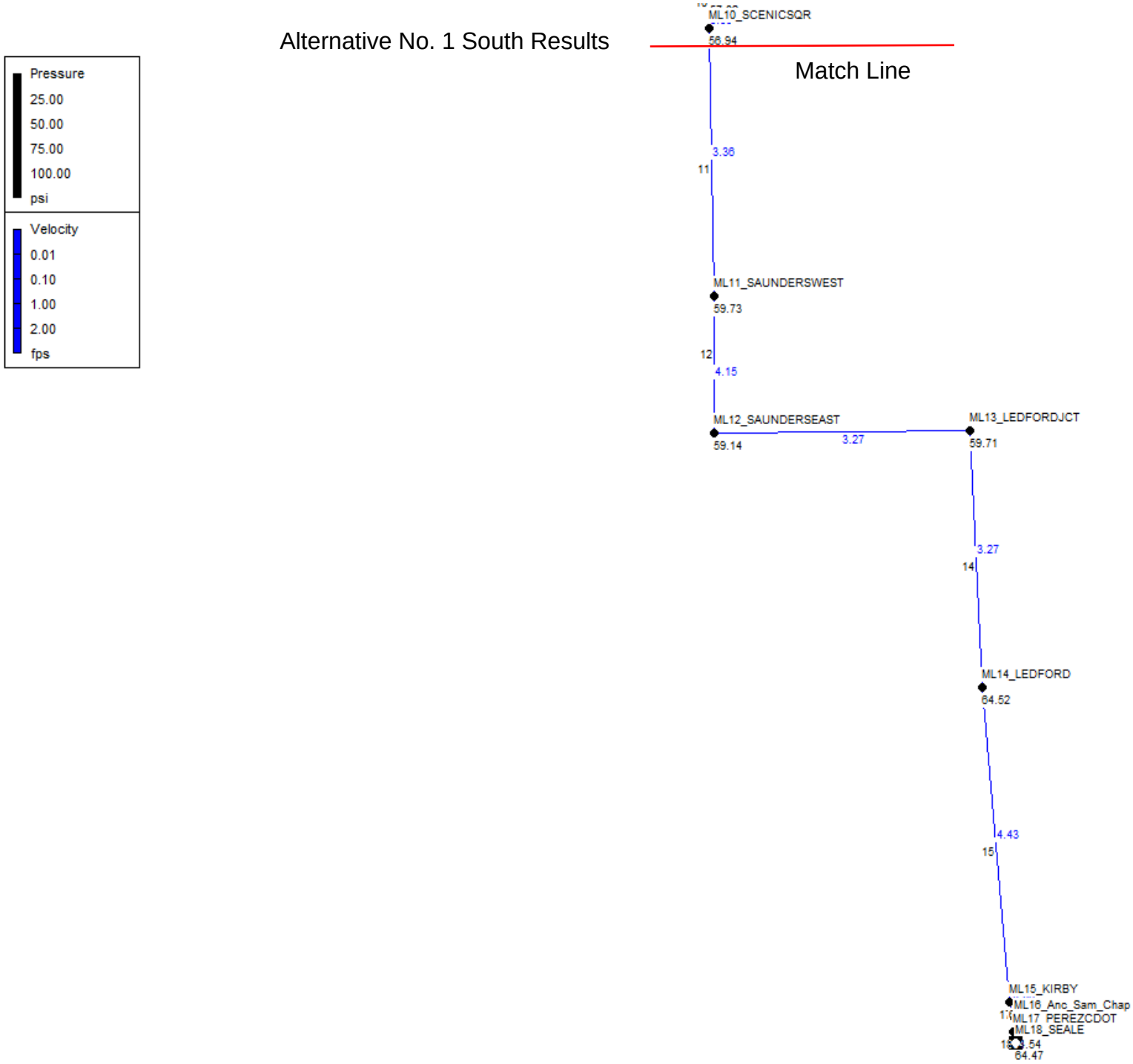
APPENDIX D

EPANET Modeling

Alternative No. 1 North Results



Alternative No. 1 South Results



```
**********************************************************************
*                          E P A N E T                               *
*                   Hydraulic and Water Quality                      *
*                   Analysis for Pipe Networks                       *
*                         Version 2.0                                *
**********************************************************************

Input File: ALT1_Master.net
```

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in	
3	ML2_HESSACEHALL	ML3_JUNIPER	690	26.51	
4	ML3_JUNIPER	ML4_HUDSON	1580	26.51	
5	ML4_HUDSON	ML5_SHORTPIPE	2390	26.51	
7	ML6_MLKWEBB	ML7_MESAPROP	1850	20.91	
8	ML7_MESAPROP	ML8_SHORT	5	20.91	
10	ML9_SMITH	ML10_SCENICSQR	5	17.73	
11	ML10_SCENICSQR	ML11_SAUNDERSWEST	1370	17.73	
12	ML11_SAUNDERSWEST	ML12_SAUNDERSEAST	230	14.51	
13	ML12_SAUNDERSEAST	ML13_LEDFORDJCT	1150	14.51	
14	ML13_LEDFORDJCT	ML14_LEDFORD	1520	14.51	
15	ML14_LEDFORD	ML15_KIRBY	1280	11.61	
16	ML15_KIRBY	ML16_Anc_Sam_Chap	1	11.61	
17	ML16_Anc_Sam_Chap	ML17_PEREZCDOT	1	9.67	
18	ML17_PEREZCDOT	ML18_SEALE	40	9.67	
9	ML8_SHORT	ML9_SMITH	2430	17.73	
6	ML5_SHORTPIPE	PRV	2490	23.52	
1	SOURCE1	ML2_HESSACEHALL	520	26.51	
2	ML5_SHORTPIPE	1	2520	11.61	
21	1	2	650	11.61	
22	2	3	330	7.74	
23	2	4	1330	7.74	
20	PRV	ML6_MLKWEBB	#N/A	23.52	Valve

Node Results:

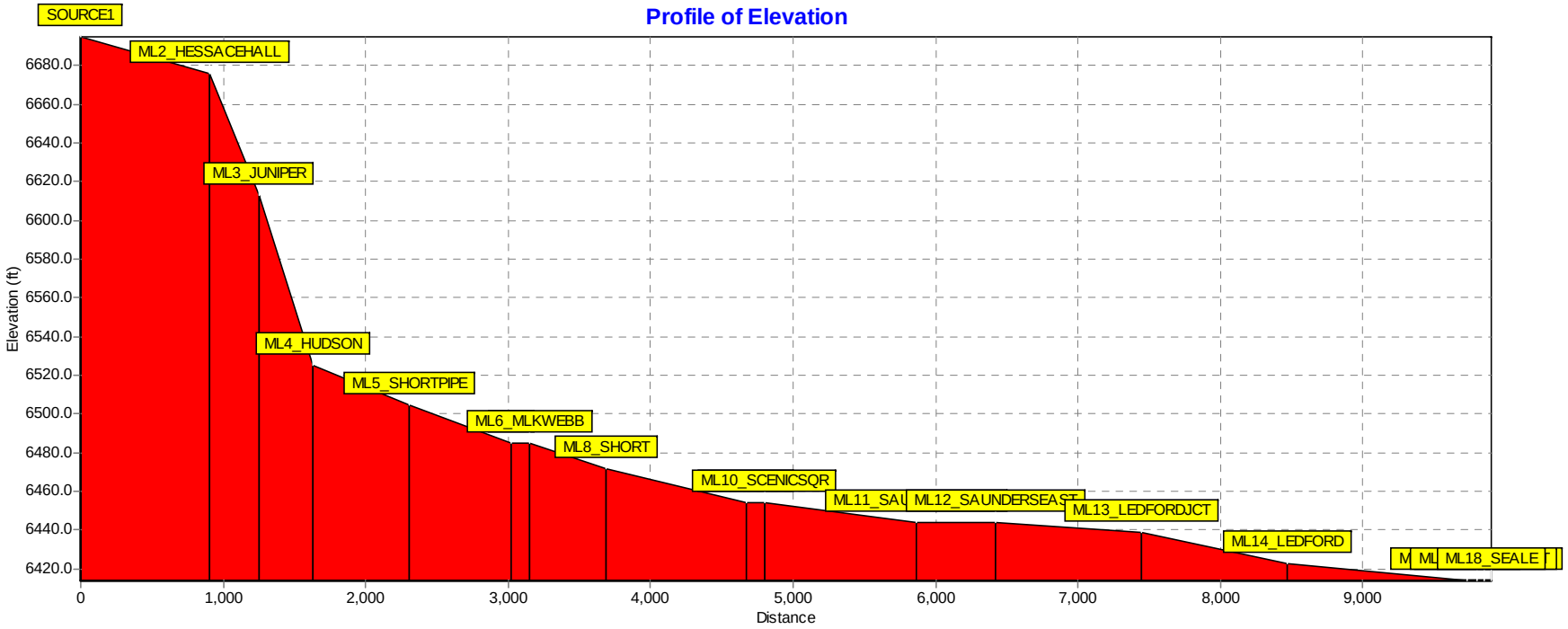
Node ID	Demand CFS	Head ft	Pressure psi	Quality
ML2_HESSACEHALL	0.00	6693.82	7.72	0.00
ML3_JUNIPER	0.50	6692.16	34.30	0.00
ML4_HUDSON	0.50	6688.65	70.91	0.00
ML5_SHORTPIPE	0.00	6683.69	77.42	0.00
ML6_MLKWEBB	0.50	6600.39	50.00	0.00
ML7_MESAPROP	1.89	6594.22	52.96	0.00
ML8_SHORT	1.43	6594.17	52.94	0.00
ML9_SMITH	0.50	6585.60	57.02	0.00
ML10_SCENICSQR	0.50	6585.42	56.94	0.00

Node Results: (continued)

Node ID	Demand CFS	Head ft	Pressure psi	Quality	
ML11_SAUNDERSWEST	1.00	6581.86	59.73	0.00	
ML12_SAUNDERSEAST	1.00	6580.50	59.14	0.00	
ML13_LEDFORDJCT	0.00	6576.80	59.71	0.00	
ML14_LEDFORD	0.50	6571.89	64.52	0.00	
ML15_KIRBY	0.42	6562.95	64.54	0.00	
ML16_Anc_Sam_Chap	1.03	6562.94	64.54	0.00	
ML17_PEREZCDOT	0.79	6562.94	64.54	0.00	
ML18_SEALE	1.02	6562.80	64.47	0.00	
PRV	0.00	6678.51	83.85	0.00	
1	1.65	6658.20	75.05	0.00	
2	0.00	6655.77	75.29	0.00	
3	0.83	6654.45	74.72	0.00	
4	1.50	6639.86	73.60	0.00	
SOURCE	0.00	6695.00	0.00	0.00	Reservoir
SOURCE1	-15.56	6695.00	0.00	0.00	Reservoir

Link Results:

Link ID	Flow CFS	Velocity fps	Unit Headloss ft/Kft	Status
3	15.56	4.06	2.41	Open
4	15.06	3.93	2.22	Open
5	14.56	3.80	2.08	Open
7	10.08	4.23	3.34	Open
8	8.19	3.43	8.79	Open
10	6.26	3.65	36.13	Open
11	5.76	3.36	2.60	Open
12	4.76	4.15	5.91	Open
13	3.76	3.27	3.22	Open
14	3.76	3.27	3.23	Open
15	3.26	4.43	6.99	Open
16	2.84	3.86	5.37	Open
17	1.81	3.55	5.86	Open
18	1.02	2.00	3.53	Open
9	6.76	3.94	3.53	Open
6	10.58	3.51	2.08	Open
1	15.56	4.06	2.26	Open
2	3.98	5.41	10.11	Open
21	2.33	3.17	3.75	Open
22	0.83	2.54	4.00	Open
23	1.50	4.59	11.96	Open
20	10.58	3.51	78.12	Active Valve


Profile of Elevation
SOURCE1
ML2_HESSACEHALL
ML3_JUNIPER
ML4_HUDSON
ML5_SHORTPIPE
ML6_MLKWEBB
ML8_SHORT
ML10_SCENICSQR
ML11_SA
ML12_SAUNDERSEAST
ML13_LEDFORDJCT
ML14_LEDFORD
ML18_SEALE
Elevation (ft)
6680.0
6660.0
6640.0
6620.0
6600.0
6580.0
6560.0
6540.0
6520.0
6500.0
6480.0
6460.0
6440.0
6420.0
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1,000
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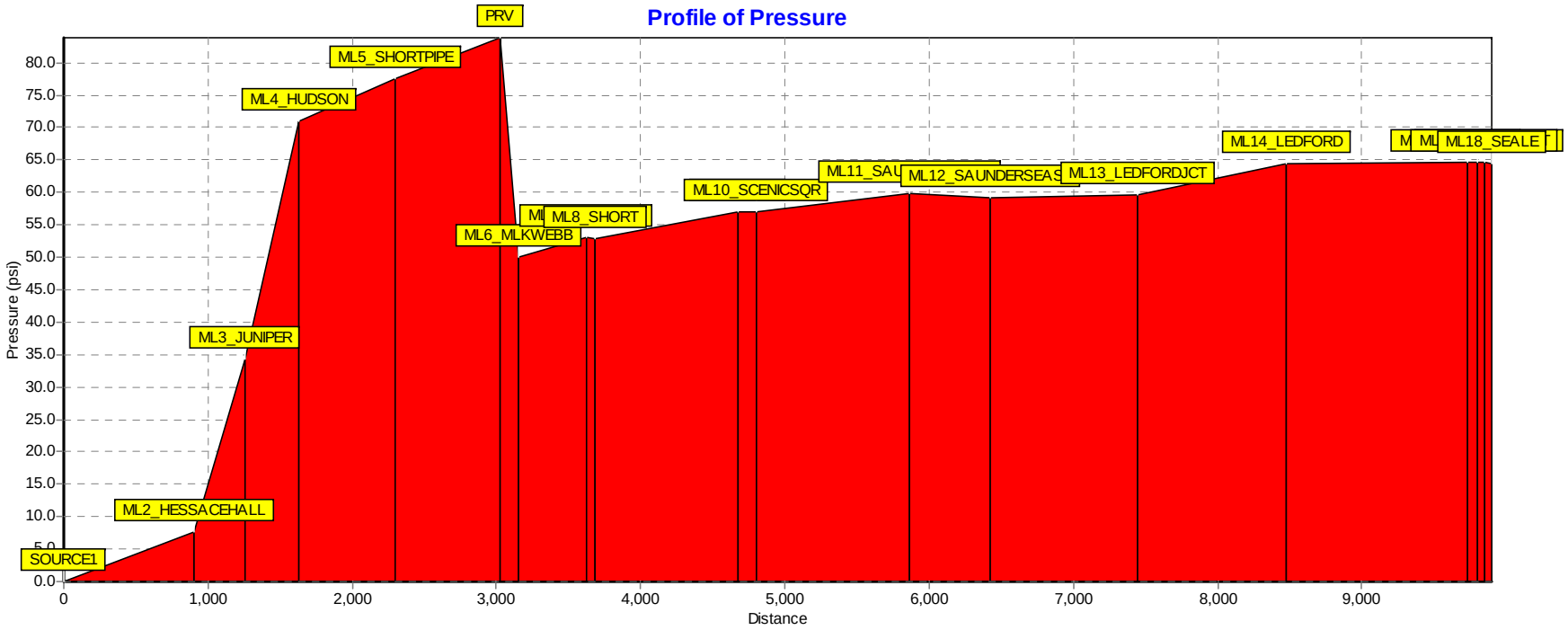
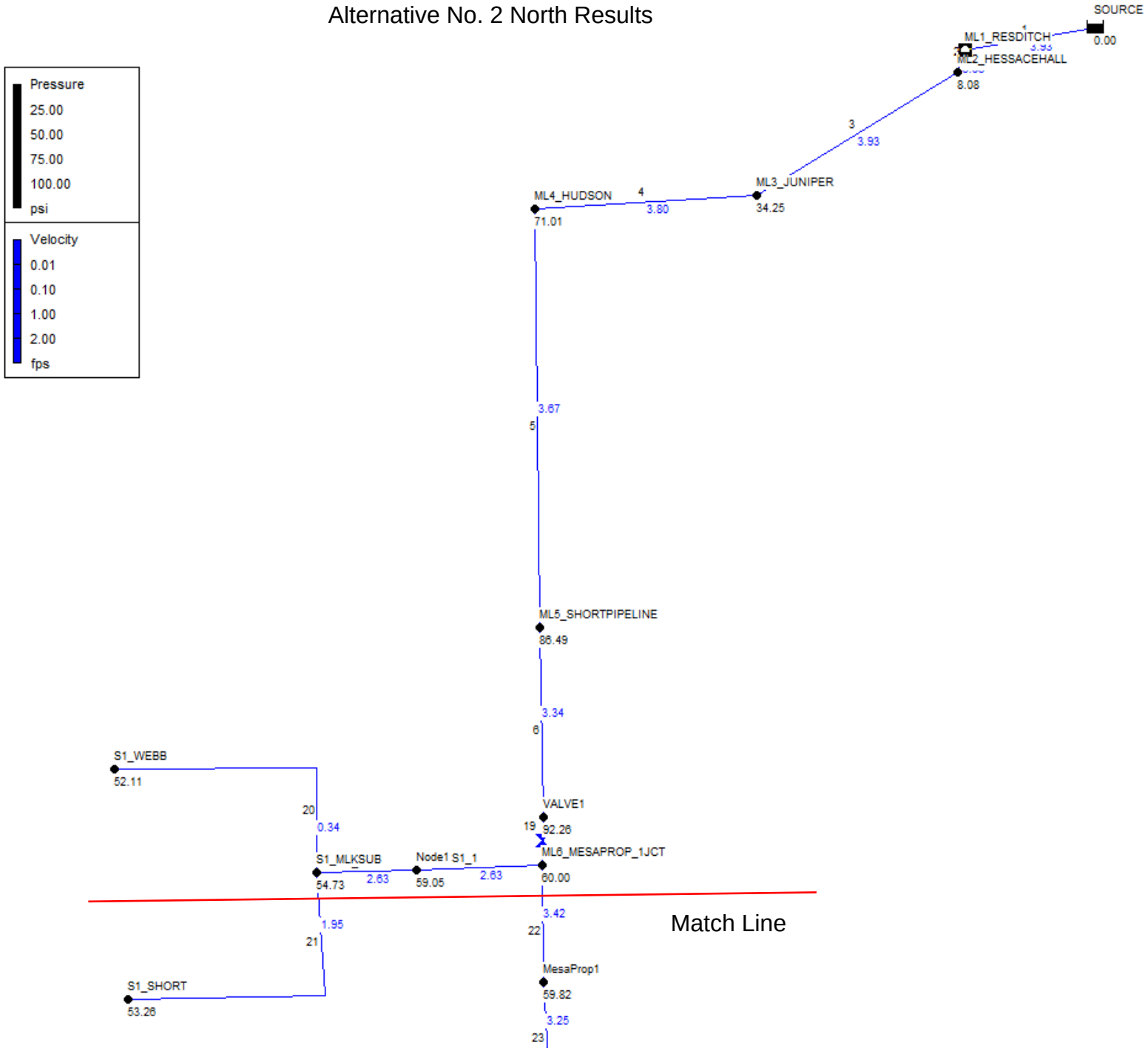
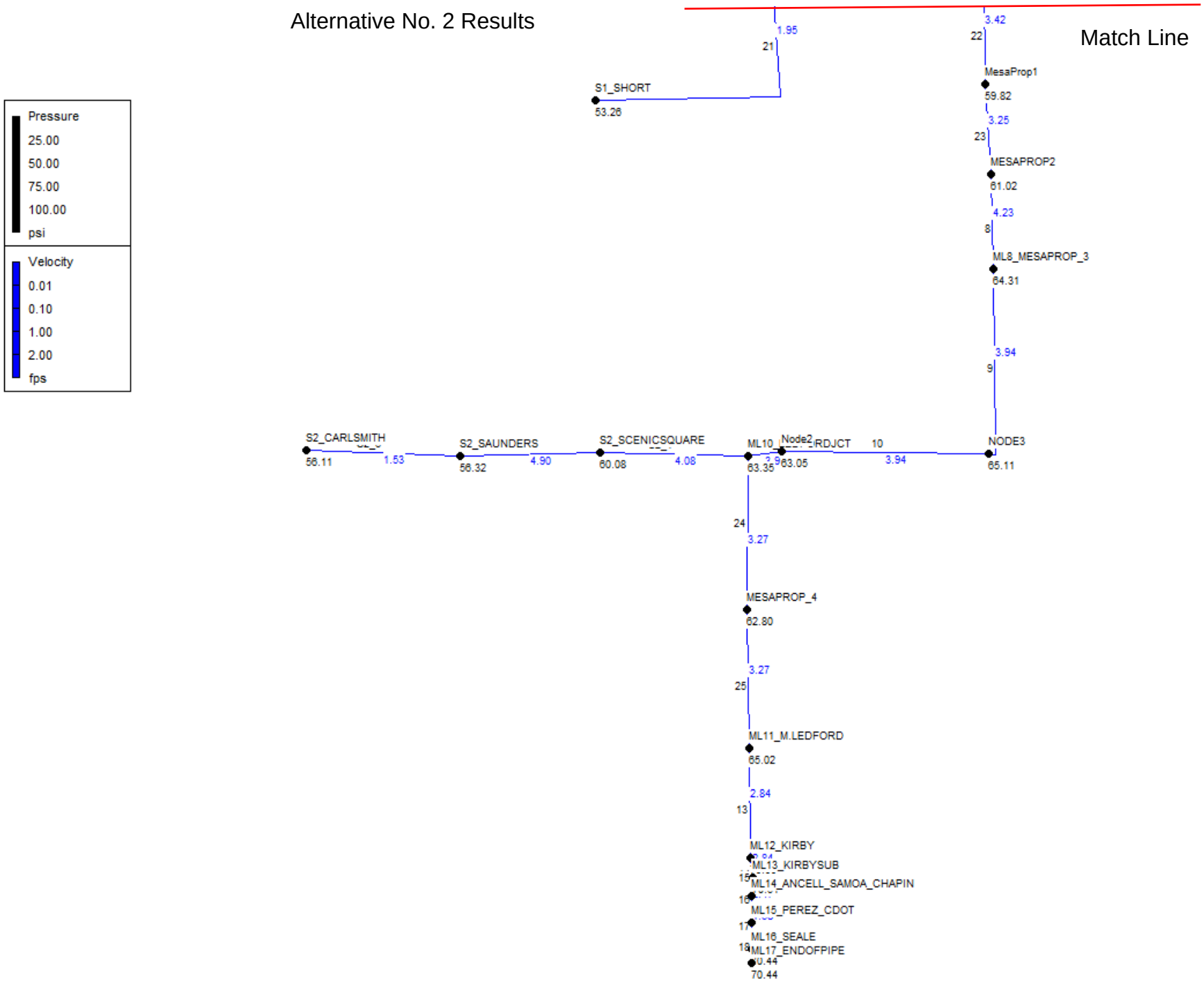
3,000
4,000
5,000
6,000
7,000
8,000
9,000
Distance


Profile of Pressure
PRV
ML5_SHORTPIPE
ML4_HUDSON
ML3_JUNIPER
ML2_HESSACEHALL
SOURCE1
ML6_MLKWEBB
ML8_SHORT
ML10_SCENICSQR
ML12_SAUNDERSEAS
ML13_LEDFORDJCT
ML14_LEDFORD
ML18_SEALE
Pressure (psi)
Distance
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
65.0
70.0
75.0
80.0
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000

Alternative No. 2 North Results



Alternative No. 2 Results



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**********************************************************************
*                          E P A N E T                               *
*                   Hydraulic and Water Quality                      *
*                   Analysis for Pipe Networks                       *
*                         Version 2.0                                *
**********************************************************************

Input File: AL2 9-23-16.net
```

Link - Node Table:

Link ID	Start Node	End Node	Length ft	Diameter in
1	SOURCE	ML1_RESDITCH	400	26.51
2	ML1_RESDITCH	ML2_HESSACEHALL	140	26.51
3	ML2_HESSACEHALL	ML3_JUNIPER	690	26.51
5	ML4_HUDSON	ML5_SHORTPIPELINE	4870	26.51
8	MESAPROP2	ML8_MESAPROP_3	1090	17.73
9	ML8_MESAPROP_3	NODE3	850	17.73
10	NODE3	Node2	1300	17.73
11	Node2	ML10_LEDFORDJCT	30	17.73
13	ML11_M.LEDFORD	ML12_KIRBY	1280	14.51
14	ML12_KIRBY	ML13_KIRBYSUB	1	14.51
15	ML13_KIRBYSUB	ML14_ANCELL_SAMOA_CHAPIN		1 14.51
16	ML14_ANCELL_SAMOA_CHAPIN	ML15_PEREZ_CDOT		1 14.51
17	ML15_PEREZ_CDOT	ML16_SEALE	40	11.61
18	ML16_SEALE	ML17_ENDOFPIPE	1	9.67
S1_1	ML6_MESAPROP_1JCT	Node1	790	11.61
S1_2	Node1	S1_MLKSUB	290	11.61
S2_1	ML10_LEDFORDJCT	S2_SCENICSQUARE	550	11.61
S2_2	S2_SCENICSQUARE	S2_SAUNDERS	620	9.67
S2_3	S2_SAUNDERS	S2_CARLSMITH	280	7.74
6	ML5_SHORTPIPELINE	VALVE1	860	23.52
20	S1_MLKSUB	S1_WEBB	720	11.61
21	S1_MLKSUB	S1_SHORT	890	11.61
22	ML6_MESAPROP_1JCT	MesaProp1	1190	20.91
23	MesaProp1	MESAPROP2	1330	20.91
24	ML10_LEDFORDJCT	MESAPROP_4	640	14.51
25	MESAPROP_4	ML11_M.LEDFORD	900	14.51
4	ML3_JUNIPER	ML4_HUDSON	1580	26.51
19	VALVE1	ML6_MESAPROP_1JCT	#N/A	23.52 Valve

Node Results:

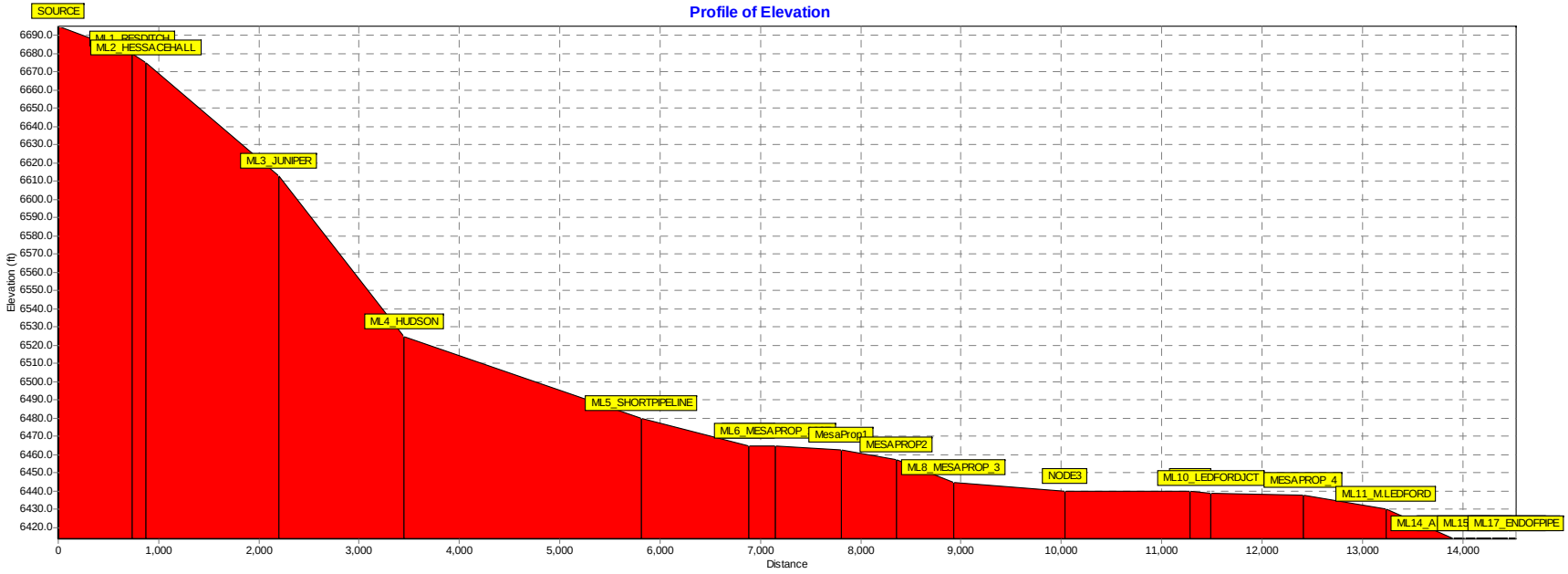
Node ID	Demand CFS	Head ft	Pressure psi	Quality	
ML1_RESDITCH	0.00	6694.05	6.09	0.00	
ML2_HESSACEHALL	0.00	6693.66	8.08	0.00	
ML3_JUNIPER	0.50	6692.04	34.25	0.00	
ML4_HUDSON	0.50	6688.88	71.01	0.00	
ML5_SHORTPIPELINE	3.98	6679.62	86.49	0.00	
ML6_MESAPROP_1JCT	0.00	6603.47	60.00	0.00	
MESAPROP2	0.50	6597.83	61.02	0.00	
ML8_MESAPROP_3	0.49	6593.41	64.31	0.00	
NODE3	0.00	6590.25	65.11	0.00	
ML10_LEDFORDJCT	0.00	6585.21	63.35	0.00	
ML11_M.LEDFORD	0.50	6580.05	65.02	0.00	
Node2	0.00	6585.51	63.05	0.00	
ML12_KIRBY	0.00	6576.83	70.55	0.00	
ML13_KIRBYSUB	0.42	6576.73	70.51	0.00	
ML14_ANCELL_SAMOA_CHAPIN	1.03	6576.65	70.48	0.00	
ML15_PEREZ_CDOT	0.79	6576.62	70.46	0.00	
ML16_SEALE	1.02	6576.57	70.44	0.00	
ML17_ENDOFPIPE	0.00	6576.57	70.44	0.00	
Node1	0.00	6601.27	59.05	0.00	
S1_MLKSUB	0.25	6600.31	54.73	0.00	
S1_SHORT	1.43	6598.92	53.26	0.00	
S1_WEBB	0.25	6600.27	52.11	0.00	
S2_SCENICSQUARE	0.50	6581.66	60.08	0.00	
S2_SAUNDERS	2.00	6574.98	56.32	0.00	
S2_CARLSMITH	0.50	6574.50	56.11	0.00	
VALVE1	0.00	6677.92	92.26	0.00	
MesaProp1	0.40	6600.56	59.82	0.00	
MESAPROP_4	0.00	6582.95	62.80	0.00	
SOURCE	-15.06	6695.00	0.00	0.00	Reservoir

Link Results:

Link ID	Flow CFS	Velocity fps	Unit Headloss ft/Kft	Status
1	15.06	3.93	2.37	Open
2	15.06	3.93	2.81	Open
3	15.06	3.93	2.34	Open
5	14.06	3.67	1.90	Open
8	7.25	4.23	4.06	Open
9	6.76	3.94	3.71	Open
10	6.76	3.94	3.65	Open
11	6.76	3.94	9.86	Open
13	3.26	2.84	2.51	Open
14	3.26	2.84	102.54	Open
15	2.84	2.47	77.64	Open
16	1.81	1.58	31.74	Open

Link Results: (continued)

Link ID	Flow CFS	Velocity fps	Unit Headloss ft/Kft	Status
17	1.02	1.39	1.14	Open
18	0.00	0.00	0.00	Open
S1_1	1.93	2.63	2.78	Open
S1_2	1.93	2.63	3.31	Open
S2_1	3.00	4.08	6.46	Open
S2_2	2.50	4.90	10.77	Open
S2_3	0.50	1.53	1.72	Open
6	10.08	3.34	1.98	Open
20	0.25	0.34	0.06	Open
21	1.43	1.95	1.57	Open
22	8.15	3.42	2.45	Open
23	7.75	3.25	2.05	Open
24	3.76	3.27	3.54	Open
25	3.76	3.27	3.22	Open
4	14.56	3.80	2.00	Open
19	10.08	3.34	74.45	Active Valve


Profile of Elevation
SOURCE
ML1_RESDITCH
ML2_HESSACEHALL
ML3_JUNIPER
ML4_HUDSON
ML5_SHORTPIPELINE
ML6_MESAPROP_
MesaProp1
MESAPROP2
ML8_MESAPROP_3
NODE3
ML10_LEDFORDJCT
MESAPROP_4
ML11_MLEDFORD
ML14_A
ML15
ML17_ENDOFPIPE
Elevation (ft)
6690.0
6680.0
6670.0
6660.0
6650.0
6640.0
6630.0
6620.0
6610.0
6600.0
6590.0
6580.0
6570.0
6560.0
6550.0
6540.0
6530.0
6520.0
6510.0
6500.0
6490.0
6480.0
6470.0
6460.0
6450.0
6440.0
6430.0
6420.0
0
1,000
2,000
3,000
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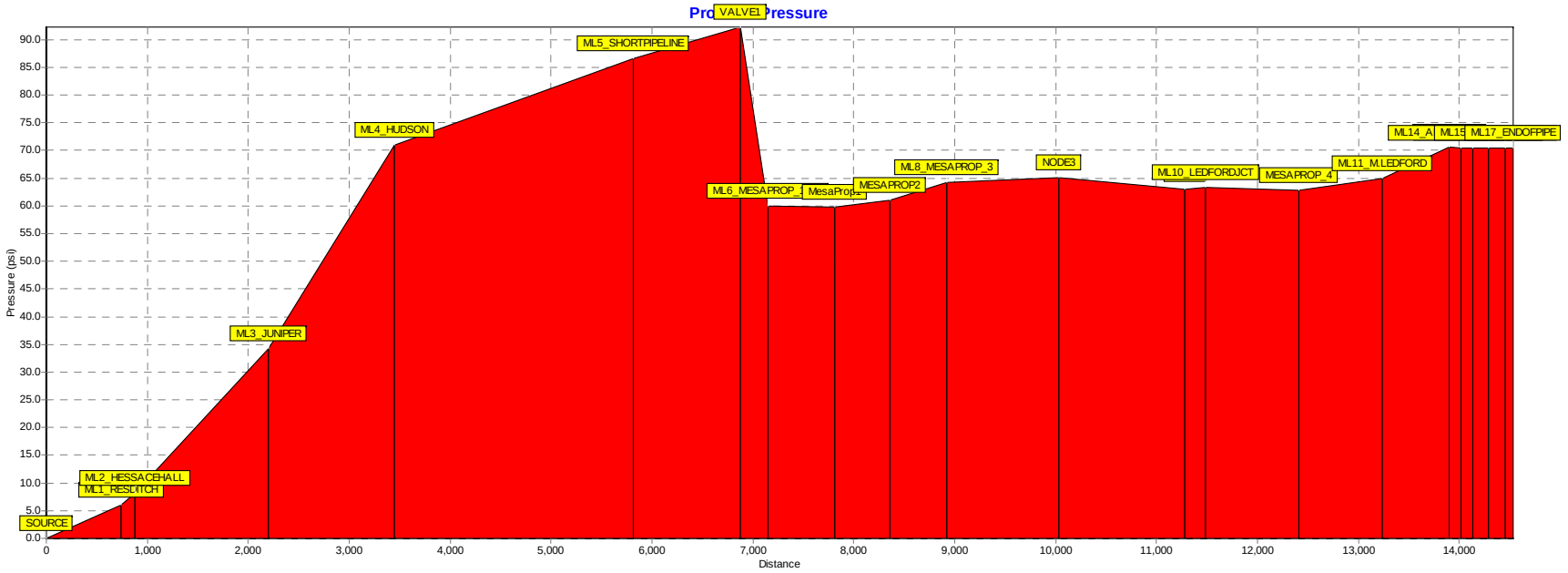
10,000
11,000
12,000
13,000
14,000
Distance


Pressure
VALVE1
ML5_SHORTPIPELINE
ML4_HUDSON
ML3_JUNIPER
ML2_HESSACEHALL
ML1_RESLITCH
SOURCE
ML6_MESAPROP_1
MesaProp1
MESAPROP2
ML8_MESAPROP_3
NODE3
ML10_LEDFORDJCT
MESAPROP_4
ML11_MLEDFORD
ML14_A
ML15
ML17_ENDOFPIPE
Pressure (psi)
Distance
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
60.0
65.0
70.0
75.0
80.0
85.0
90.0
0
1,000
2,000
3,000
4,000
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
14,000

APPENDIX E

CWCB Borrower Guidance

Dex Lewis

From: Mauss - DNR, Anna <anna.mauss@state.co.us>
Sent: Friday, September 09, 2016 2:22 PM
To: Dex Lewis
Cc: Peter Foster
Subject: Re: Florida Consolidated Ditch Company Hess Lateral Loan Feasibility Study

Pete and Dex,

Thank you for sharing the financial section of the feasibility study with me. You did a great job summarizing the options under consideration.

As we discussed, there are a few things to keep in mind with both funding options.

Option 1- Ditch Company as borrower: CWCB's collateral requirement will be: 1) a pledge of the ditch company's assessment revenues, and 2) the pipeline. While the company could choose to have a special assessment for only those shareholders along the pipeline, the collateral pledge of assessment revenues will apply to all shares. It will depend on the company by-laws and how assessments are set, but essentially the company will need to assure the CWCB that it will always collect enough revenue from assessments to cover O&M plus CWCB debt service. This would put all shareholders on the hook if the pipeline users didn't pay.

Option 2 – Newly formed pipeline company: The CWCB gets a little nervous with newly formed companies because there is no financial record to assess. For that reason, the CWCB loan contract will typically have a few extra conditions. Those conditions include: 1) the company will set aside one annual loan payment into a reserve account prior to disbursement of any loan funds, 2) during the first 3 years of loan repayment, the company will set aside 1/3 of an annual loan payment into a reserve account (so in 3 years there are 2 payments in reserve – one set aside up front, and one completed by year 3), and 3) a set up provision signed by all project participants stating they will step up and pay if one of the other participants does not make the his/her contribution to the annual debt.

Under option 2, the collateral will be the same as option 1: a pledge of the new company's assessment revenues and the pipeline.

Also, as a side note, all CWCB loan contracts do have a reserve account requirement that states that borrowers will set aside 1/10th of an annual loan payment each year for the first 10 years of loan repayment such that there is one loan payment in reserve at the end of 10 years. The reserve account is set up at the company's bank and funds (including interest earned) stay with the company. So if option 1 becomes the preferred alternative, there is still a reserve requirement. It will just be more gradual than in option 2.

I hope that summary is helpful but please feel free to contact me if you need any clarification.

Anna Mauss, P.E.
Water Project Loan Program
Finance Section

O 303.866.3441 x 3224 | C 720.799.5707
1313 Sherman St, Room 718, Denver, CO 80203
anna.mauss@state.co.us | www.cwcb.state.co.us

On Wed, Sep 7, 2016 at 11:01 AM, Dex Lewis <dlewis@wrightwater.com> wrote:

> Hello Anna,
>
> As discussed, please find attached the draft portion of the Financial section of the Loan Feasibility Report for the Hess Lateral. We look forward to talking with you on Friday.
>
> Thanks,
> Dex
>
> **Dex Lewis, P.E.** AZ
>
> **Wright Water Engineers, Inc.**
> *Over 50 Years of Service*

APPENDIX F

Geotechnical Letter Report Intake Pond

TRAUTNER GEOTECH LLC
GEOTECHNICAL ENGINEERING, MATERIAL TESTING
AND ENGINEERING GEOLOGY

October 12, 2016

Katie Clark
Wright Water Engineers, Inc.
1666 N. Main Ave., Suite C
Durango, CO 81301
(970) 259-7411
kclark@wrightwater.com

Subject: Summary of Geotechnical Engineering Study for
The Proposed Hess Lateral intake pond
Durango, Colorado

Attachments: Log of Test Boring TB-1
Laboratory test results of Sieve Analysis and Atterberg Limits

Ms. Clark,

This letter presents a summary of our September 26, 2016 field study as well as the laboratory test results of select samples which were collected during the field study.

We understand that the proposed project will consist of installation of a pressurized irrigation pipeline on the Hess Lateral, and construction of an intake pod approximately 10 feet deep. The project is located on Juniper Road approximately 0.6 miles east of Hwy 550.

We used our truck mounted continuous flight auger drilling equipment to perform our field exploration. We advanced one (1) auger test boring on the project site in the approximate location that was proposed by Wright Water Engineers. We advanced the test boring to a depth of thirty two (32) feet and obtained select soil samples which were returned to our laboratory for testing. The detailed log of the test boring is attached to this letter and a brief description of the soil conditions is provided below.

We encountered a primarily stiff clay material to a depth of thirty (30) feet with some minor and variable sand content throughout the depth of the boring. A laboratory sample from nine to fourteen feet classified as a lean clay (CL) with a plasticity index of 22. At thirty (30) feet we encountered very dense cobbles, with auger refusal on cobbles at thirty two (32) feet.

The laboratory tests we performed included; one (1) Atterberg Limits tests which are used for general classification purposes of the samples tested, one (1) Sieve analysis tests to assess the grain distribution of the samples tested, one (1) Falling Head Permeability Test of native soils and (1) Moisture content and dry density. The results of the Sieve Analysis and Atterberg Limits is attached, and the remainder of the laboratory test results are summarized below.

Falling Head Permeability Tests; We performed falling head permeability tests on an in-situ soil sample in general accordance with ASTM 5856. The results of the falling head permeability tests are presented below along with the measured in place moisture content and dry density of the sample.

Depth	Initial Moisture Content (percent) (calculated)	Dry Density (pcf) (calculated)	Coefficient of Permeability (cm/s)
9'	10.4	119.7	$K= 2.7 \times 10^{-8}$

According to Terzaghi and Peck (1967), the classification of the measured soil according to hydraulic conductivity is Practically Impermeable when k is less than 1×10^{-7}. It should be noted that the measured coefficient of permeability is relatively consistent with the loess type soil deposits which are prevalent in the area.

Please contact us if you have any questions, or if we may be of additional service.

Respectfully Submitted,
TRAUTNER GEOTECH

Jordan Townsend
EIT

Reviewed

Tom R. Harrison, P.E
Geotechnical Engineer

TRAUTNER GEOTECH LLC

Field Engineer	: T. Harrison
Hole Diameter	: 4" Solid
Drilling Method	: Continuous Flight Auger
Sampling Method	: Mod. California Sampler
Date Drilled	: 9/26/2016
Total Depth (approx.)	: 32 feet

LOG OF BORING TB-1

Hess Lateral Intake Pond
Ms. Katie Clark
Wright Water Engineers
Durango, CO

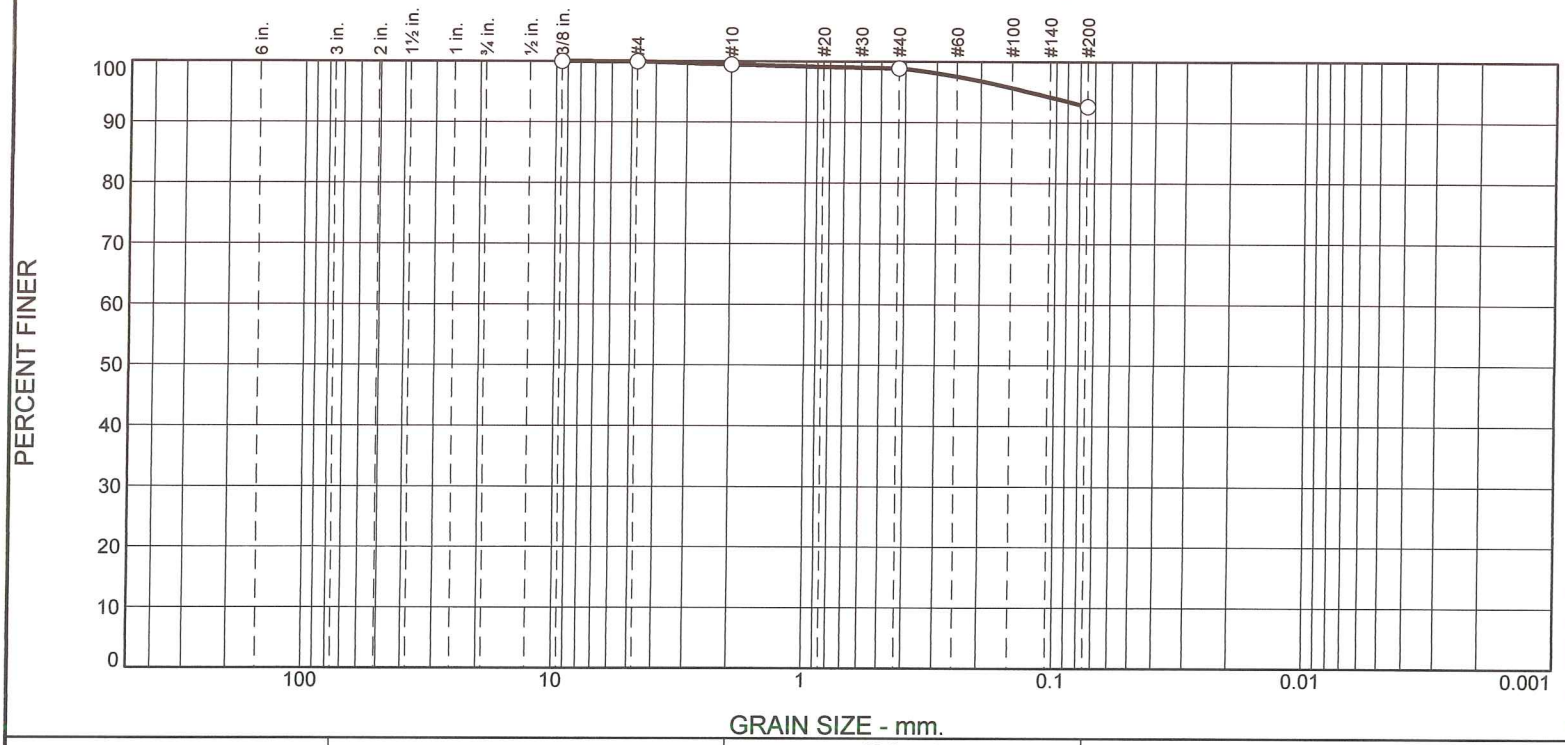
PN: 54419GE

Sample Type
- Mod. California Sampler
- Bag Sample
- Standard Split Spoon

Water Level
- Water Level During Drilling
- Water Level After Drilling

Depth in feet	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count	Water Level	REMARKS
0–15	CLAY, sandy, stiff, slightly moist, brown to red	CL			13/6 18/6 13/6 16/6 6/6 6/6		
15–30	CLAY, sandy, stiff, moist, brown to red	CL			10/6 18/6		
30–32	COBBLES, sandy, gravelly, slightly clayey, very dense, moist, brown	GP					
32–33	Auger refusal on cobbles at thirty two (32) feet						

Particle Size Distribution Report



% +3"	% Gravel	% Sand		% Fines	
		Coarse	Fine	Silt	Clay
0	1	0	6	93	

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
.375	100		
#4	100		
#10	99		
#40	99		
#200	93		

* (no specification provided)

Material Description

CL-Lean clay

Atterberg Limits (ASTM D 4318)

PL= 15 LL= 37 PI= 22

Classification

USCS (D 2487)= CL AASHTO (M 145)= A-6(20)

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Remarks

Date Received: 9-27-16 **Date Tested:** 10-4-16

Tested By: J. Townsend

Checked By: J. Townsend

Title: EIT

Location: Test Boring 1
Sample Number: 11823-F **Depth:** 9'-14'

Date Sampled: 9-27-16

TRAUTNER GEOTECH LLC

Client: Wright Water/Kate Clark
Project: Hess Lateral Intake Pond

Project No: 54419GE **Figure**

Tested By: _____ **Checked By:** _____

APPENDIX G

CWCB Water Loan Program

Signed Application

COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Water Project Loan Program

Application Type

☐ Prequalification *(Attach 3 years of financial statements)* ☑ Loan Approval *(Attach Loan Feasibility Study)*

Agency/Company Information

Company / Borrower Name: Florida Consolidated Ditch Company

Authorized Agent &Title: Roger Cole, Florida Consolidated Ditch Company Board President

Address: P.O. Box 2138, Durango, CO 81302

Phone: (970) 749-1692 | Email: coleranchhay@durango.net

Organization Type: ☑ Ditch Co, ☐ District, ☐ Municipality ☐ other: _____ | Incorporated? ☑ YES ☐ NO

County: La Plata | Number of Shares/Taps: 6,200 shares

Water District: Florida Water Conservancy District | Avg. Water Diverted/Yr 43,000 acre-feet

Number of Shareholders/Customers Served: | Current Assessment per Share $ 107.60 (Ditch Co)

Federal ID Number: 84-0204321 | Average monthly water bill $ _____ (Municipality)

Contact Information

Project Representative: Wright Water Engineers, Inc. - Peter Foster

Phone: (970)259-7411 | Email: pfoster@wrightwater.com

Engineer: Wright Water Engineers, Inc. - Peter Foster

Phone: (970) 259-7411 | Email: pfoster@wrightwater.com

Attorney: Nancy Agro

Phone: (970422-2024 | Email: agro@mydurango.net

Project Information

Project Name: Hess Lateral Improvement Project

Brief Description of Project: (Attach separate sheets if needed)

See Attached Description

General Location: (Attach Map of Area)

7 miles south of Durango, CO on the Florida Mesa

Estimated Engineering Costs: $452,500 | Estimated Construction Costs: $2,347,500

Other Costs (Describe Above): | Estimated Total Project Costs: $2,800,000

Requested Loan Amount: $1,075,000 | Requested Loan Term (10, 20, or 30 years): 30 Years

Project Start Date(s) Design: Fall 2017 Construction: Fall 2018

Signature

Roger Cole / President FCDC 4-20-17
Signature / Title Date

Return to: Finance Section Attn: Anna Mauss
1313 Sherman St #718
Denver, CO 80203
Ph. 303/866.3449
e-mail: anna.mauss@state.co.us

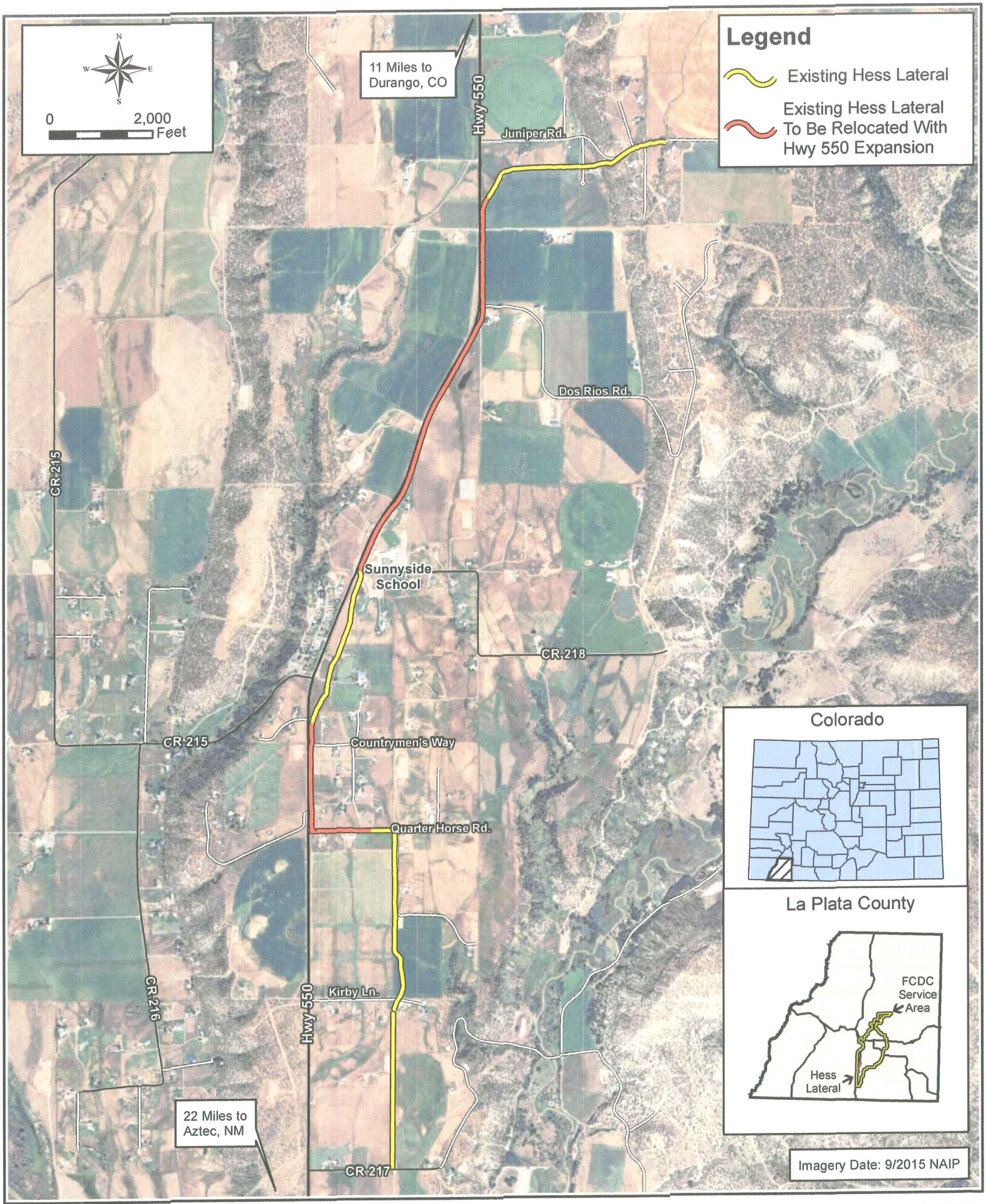
Hess Lateral Improvement Project – Water Project Loan Program Application Project Description

The purposes of this project are to 1) improve the efficiency of the canal conveyance system and reduce ditch loss through seepage and evaporation, 2) provide irrigation water at reduced operational expense to promote continued commercial agricultural uses, 3) firm the agricultural pre-Compact water supplies through increased efficiency as opposed to developing additional water supplies (i.e. enlarging Lemon Reservoir), 4) develop additional sources of water for other beneficial uses in the basin, and 5) increase water quality by reducing the salt load into the Animas River.

The Hess Lateral, part of the FCDC water conveyance system, is located 7 miles south of Durango, CO on the Florida Mesa, within the Florida Water Conservancy District. The Hess Lateral serves approximately 75 water users irrigating over 1,500 acres of primarily hay and pasture lands. The Hess Lateral is a 3.3 mile-long open ditch that delivers up to 17.5 cfs of irrigation water.

This project entails replacing the Hess Lateral open earth-lined ditch with buried gravity-pressurized pipeline. This will reduce seepage losses and will provide pressurized water to existing sprinkler systems on the Lateral. The pressurized pipeline will eliminate most of the energy currently used for pumping and will provide the opportunity for pressurized systems to be installed on fields that are currently flood irrigated, further increasing water efficiency and reducing salt leaching. The Natural Resources Conservation Service (NRCS) estimates a load reduction of total dissolved solids from this project of 136.8 tons per year.

The Colorado Department of Transportation (CDOT) plans on expanding Colorado Highway 550 in the near future. This expansion requires relocating approximately 10,000 feet of the Hess Lateral to outside of the Highway Right-of-Way. CDOT is cooperating with the FCDC on the relocation and has committed $950,000 to the project. Funding is requested to leverage CDOT's participation and replace the full 3.3 mile-long open ditch with pressurized pipe.



Document Path: P:\061-110\130 HESS LATERAL WORK FILES\Mapping\Figure 1 - Hess Lateral Location.mxd

WWE
Wright Water Engineers, Inc.
1666 N. Main Ave., Ste.C
Durango, CO 81301
(970) 259-7411 ph 259-8758 fx

LA PLATA COUNTY, CO

HESS LATERAL LOCATION

FLORIDA CONSOLIDATED DITCH COMPANY

FIGURE 1

DENVER
2490 W. 26th Avenue Suite 100A
Denver, Colorado 80211
Phone: 303.480.1700
Fax: 303.480.1020

GLENWOOD SPRINGS
818 Colorado Avenue
P.O.Box 219
Glenwood Springs, Colorado 81602
Phone: 970.945.7755
Fax: 970.945.9210

DURANGO
1666 N. Main Avenue Suite C
Durango, Colorado 81301
Phone: 970.259.7411
Fax: 970.259.8758

www.wrightwater.com

WWE

Wright Water Engineers, Inc.