

FEASIBILITY REPORT

GREELEY AND LOVELAND IRRIGATION SYSTEM IMPROVEMENTS PROJECT

LARIMER COUNTY, COLORADO

Prepared for

Greeley and Loveland Irrigation Company
808 23rd Avenue
Greeley, Colorado 80634

August 9, 2013

Prepared By:

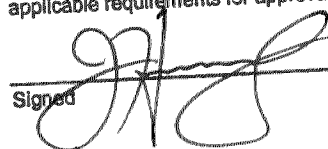
URS

8181 East Tufts Avenue
Denver, Colorado 80237

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



Date

9/13/13

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August 8, 2013

Ms. Anna Mauss, P.E.
Water Project Loan Program
Colorado Water Conservation Board
Department of Natural Resources
1580 Logan Street, Suite 600
Denver, CO 80203

**Subject: CWCB Loan Application and Feasibility Report - Greeley and Loveland
Irrigation System Improvements Project**

Dear Ms. Mauss:

On behalf of the Greeley and Loveland Irrigation Company (GLIC) and the Seven Lakes Reservoir Company (SLRC), URS Corporation (URS) is pleased to submit the enclosed loan application and supporting feasibility report for the Greeley and Loveland Irrigation System Improvements Project. This report was developed in conformance with the Colorado Water Conservation Board (CWCB) Water Project Loan Program Guidelines, dated January 2006.

This study examined the feasibility of various measures to improve the existing Horseshoe High-Level Outlet and the Boyd Lake High-Level Outlet (the Project) for the GLIC and the SLRC. The Horseshoe outlet project is a joint project between Larimer County (County) and GLIC and SLRC. The requested funding amount is for GLIC and SLRC portion of the project and does not include the County's portion of the project. The County's contribution of the project is related the bridge crossing for County Road 11C. The GLIC will be the project sponsor and, therefore, will be responsible for the loan with the CWCB. The goals of the Project are to mitigate current water management inefficiencies, reduce high maintenance, prevent continued deterioration, and to make such improvements to meet Colorado State Engineer's Office dam safety requirements.

Please let me know if you need additional information related to the enclosed report.

Sincerely,

A handwritten signature in blue ink, appearing to read "Ed A. Toms", is written over a horizontal line.

Ed A. Toms, PE, Vice President
Project Manager

Enclosures

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OVERVIEW

This study examined the feasibility of various measures to improve the existing Horseshoe High-Level Outlet and the Boyd Lake High-Level Outlet (the Project) for the Greeley and Loveland Irrigation Company (GLIC) and the Seven Lakes Reservoir Company (SLRC). The Horseshoe outlet project is a joint project between Larimer County (County) and GLIC and SLRC. The requested funding amount is for GLIC and SLRC portion of the project and does not include the County's portion of the project. The County's contribution of the project is related the bridge crossing for County Road 11C. The GLIC will be the project sponsor and, therefore, will be responsible for the loan with the Colorado Water Conservation Board (CWCB). The following are the objectives of the Projects-

1. Horseshoe High-Level Outlet Project will be used to increase the conveyance capability from Horseshoe Lake into Boyd Lake to 1,100 cfs, at higher reservoir levels, so GLIC and SLRC can continue to provide irrigation water to shareholders. This is a joint project with the County.
2. Boyd Lake High-Level Outlet Project will be used as a high-level reservoir inlet and outlet from the Greeley and Loveland Irrigation Canal (Canal) so that GLIC can discharge water into Boyd Lake for storage, discharge water back into the Canal, or bypass the lake and deliver directly to shareholders.

The goals of the Project are to mitigate current water management inefficiencies, reduce high maintenance, prevent continued deterioration, and to make such improvements to meet Colorado State Engineer's Office (SEO) dam safety requirements.

This study was prepared in conformance with the CWCB's requirements for funding. This study examined the feasibility of non-structural and structural alternatives; and demonstrates the technical, financial, environmental, and institutional feasibility of rehabilitating/replacing and constructing new structures to meet the project objectives.

RECOMMENDED ALTERNATIVE

The following are the elements of the recommended alternatives for the Project-

1. **Horseshoe Lake High-Level Outlet Project** - The project includes a 5-foot by 44-foot wide hinged crest gate, with 1,100 cfs capacity, upstream of the new concrete box bridge crossing that the County is constructing. The flows are discharged through the new bridge crossing into a downstream 108-inch pipe inlet. The pipe inlet discharges the water into a 108-inch diameter reinforced concrete pipe which conveys the water to a downstream baffle chute structure which then discharges into Boyd Lake.
2. **Boyd Lake High-Level Outlet Project** - The project includes the removal of six concrete box gate outlets and replacing the structure with two 48-inch steel pipes encased in concrete. The flow through the pipes will be regulated by two 48-inch by 48-inch slides gates. The pipes will discharge 240 cfs into the Canal and also back into Boyd Lake, when required. The flows will be monitored through an electronic measuring system.

FINANCIAL PROGRAM

Total capital expenses for the recommended Project alternatives, including construction and construction contingency, design engineering, and construction engineering is \$3,470,000.00 (rounded). GLIC is applying for 90% of the Total Project Cost, which is \$3,123,000.00, through the CWCB Small Project Loan Program. GLIC loan request, with the CWCB 1 percent service fee, totaling \$31,230.00, is for the amount of \$3,154,230.00. The annual payment will be \$140,642.55, assuming a 30-year loan at a blended interest rate of 1.99 percent. **Table ES.1** presents a summary of the requested Project loan.

Table ES.1: Project Loan Summary

Total Project Cost (rounded)	\$3,470,000.00
90% of Total Project Cost	\$3,123,000.00
1% CWCB Loan Service Fee	\$31,230.00
CWCB Loan (Including 1% Service Fee)	\$3,154,230.00
CWCB Annual Loan Payment; 30 year loan at a blended rate of 1.99 percent	\$140,642.55
Number of Shares	2,348
Annual Cost Per Share for Loan	\$77.00
Current Assessment per Share	\$260.00
New Assessment per Share	\$337.00

SCHEDULE

The designs are in various stages of completion. The Horseshoe Lake outlet structure will be submitted to the SEO for review and approval by mid-August 2013. It is anticipated that the Horseshoe Lake outlet structure will receive approval from the SEO by November 2013. Construction is scheduled to begin in February 2014 with the completion date in May 2014.

The design of the Boyd Lake outlet structure will be completed by January 2014 and then submitted to the SEO for review and approval. It is anticipated that the Boyd Lake outlet structure will receive approval from the SEO by April 2014. Construction is scheduled to begin in September 2014, when the Canal is not in operation and drained, with the completion date in December 2014.

1.1 PROJECT PURPOSE

The project includes the replacement of existing dam outlet structures to meet SEO guidelines so Horseshoe Lake and Boyd Lake are not restricted in the future due to dam safety concerns. The following are the purposes of the two projects.

1. Horseshoe High-Level Outlet Project will be used to increase the conveyance capability from Horseshoe Lake into Boyd Lake to 1,100 cfs, at higher reservoir levels, so GLIC and SLRC can continue to provide irrigation water to shareholders. This is a joint project with the County. The County will be constructing the bridge crossing for County Road 11C that is also used as the spillway for Horseshoe reservoir.
3. Boyd Lake High-Level Outlet Project needs to be replaced with a similar structure so that the Boyd Lake dam embankment does not fail due to erosion and/or a piping failure through existing voids around the present structure. The structure is used as a high-level reservoir inlet and outlet from the Canal so that GLIC can discharge water into Boyd Lake for storage, discharge water back into the Canal, or bypass the lake and deliver directly to shareholders.

The goals of the Project are to mitigate current water management inefficiencies, reduce high maintenance, prevent continued deterioration, and to make such improvements to meet SEO dam safety requirements.

1.2 SCOPE OF WORK

This report summarizes the concept designs that were completed for the Project. The general scope of work included performing field surveys, engineering analyses and design, alternatives development and evaluation, and preparing construction documentation for the Horseshoe Lake outlet project and concept drawings for the Boyd Lake outlet project.

The GLIC, as it is known today, was officially established in 1903. However the GLIC actually obtained its roots from the original British formulation of the Loveland and Greeley Irrigation and Land Company in 1881, intending to expand the Barnes and Chubbock Ditches. It was this establishment that was responsible for purchasing the land in 1882 to build Lake Loveland. The second version of the company was organized in 1891 by a new set of British investors, now calling themselves the New Loveland and Greeley Irrigation Company. This entity was responsible for the actual construction of Lake Loveland in 1894, which at its time was seen as one of the more impressive engineering feats in the turn of the century. In 1990, the British investors sold the company and reservoir system to a group of local farmers who were more adept to irrigating the arid region than were the British.

SLRC was also formed in 1900 to acquire storage reservoirs and reservoir sites. SLRC does not have a delivery system and its water has always been delivered through the canal system of the GLIC.

The GLIC and SLRC own and operates an extensive system of reservoirs and canals for the irrigation of thousands of acres of lands in Larimer and Weld counties. They own and control Lake Loveland, Boyd Lake, and the Equalizer and Houts Lake Reservoirs as well as the Big Barnes Ditch and Greeley and Loveland Irrigation Canal diversion points on the Big Thompson River. The SLRC owns and controls Horseshoe Lake, Westerdoll Lake, Heinrich Lake, and Upper and Lower Hoffman Lakes. The interchange facilities of the system to exchange water between the two companies have developed over the years to afford greater use of the water.

The GLIC is a corporation *formed “to purchase, acquire, own, operate, use, control, manage, superintend and maintain canals and ditches for irrigating and domestic purposes, to which water is intended to be applied; and more especially to purchase, acquire, own, use, operate, control, manage, superintend and maintain that certain canal and its appropriations heretofore constructed and owned by the New Loveland and Greeley Irrigation and Land Company, the water privileges to which are derived from the Big Thompson River, with headgate located in the Northwest quarter of the Southeast quarter of Section 15, Township 5, North of*

Range 69 West, in Larimer County Colorado, as constructed by The New Loveland and Greeley Irrigation and Land Company. Also to acquire, hold use, own and enjoy all the priorities of appropriations, property and water rights, privileges, franchises and right-of-way formerly owned, possessed and enjoyed by the said the New Loveland and Greeley Irrigation and land company; to divert from said river and run through said canal and deliver to its customers and appropriated water entitled to be drawn through the same; also to carry and deliver other water for irrigation lawfully entitled to be drawn through said canal, upon such terms and at such times as shall be fixed by its Board of Directors.” (By-Laws/Articles of Incorporation, Article II). **Appendix A** includes a copy of GLIC and SLRC By-laws/Articles of Incorporation.

The Board of Directors of the Corporation consists of eight persons, who are stockholders, and who are elected annually, and hold their offices until their successors are elected and qualified. The officers of the GLIC, consisting of a President, Vice-President, and Secretary-Treasurer are members of the Board of Directors and are chosen annually by the Board. The duties of the Board of Directors are listed in the By-Laws/Articles of Incorporation.

Revenues are derived principally from assessments charged on shares of stock owned by the stockholders. A small amount of revenue comes from leasing rights for recreational use of several reservoirs. **Appendix B** contains financial statements prepared for the GLIC for their 2009 through 2012 fiscal years. GLIC fiscal year ends on October 31st.

3.1 STUDY AREA AND EXISTING FACILITIES DESCRIPTION

The Greeley and Loveland Irrigation System is an extensive irrigation system located in Loveland, Colorado. Boyd Lake is the largest reservoir in the system. The system is supplied by two diversions located on the Big Thompson River: the Big Barnes Diversion and the Greeley and Loveland Diversion. The Greeley and Loveland Irrigation system is located in the vicinity of Loveland as shown in **Figure 3.1**. The system is supplied by two diversions located on the Big Thompson River: 1) Big Barnes diversion and 2) Greeley and Loveland diversion. The first diversion is the Big Barnes ditch, which diverts water to Lake Loveland. The water is then regulated by several reservoirs before it can be released into the lower reaches of the Greeley and Loveland Canal. The second diversion is the Greeley and Loveland Canal, which diverts water to Equalizer Reservoir. Equalizer Reservoir is the last reservoir on the system before water is delivered to the shareholders to the east including the cities of Greeley and Evans. The cities are located approximately 30 miles to the east of Equalizer Reservoir.

The GLIC owns and controls Lake Loveland, Boyd Lake, and the Equalizer and Houts Lake Reservoirs. The SLRC owns and controls five reservoirs; Horseshoe Lake, Westerdoll Lake, Heinricy Lake, and Upper and Lower Hoffman Lakes. The interchange facilities of the system to exchange water between the two companies have been developed over the years to afford greater use of the water.

3.1.1 Boyd Lake Dam

Boyd Lake Dam is primarily located in Sections 29 and 32 of Township 6 North, Range 68 West and Sections 5 and 8 of Township 5 North, Range 68 West. Boyd Lake drains 5.62 square miles of mostly agricultural and residential land. Horseshoe Lake and Heinricy Lake are located directly upstream of Boyd Lake and drain 11.51 and 0.27 square miles of land, respectively. This land is also comprised of agricultural and residential land. Boyd Lake contains a high-level diversion structure and a low-level outlet works. The GLIC also owns and operates a pump station located on the southeast side of the reservoir, which contains two 350 hp pumps that are capable of pumping an average of approximately 120 cfs into the Canal.

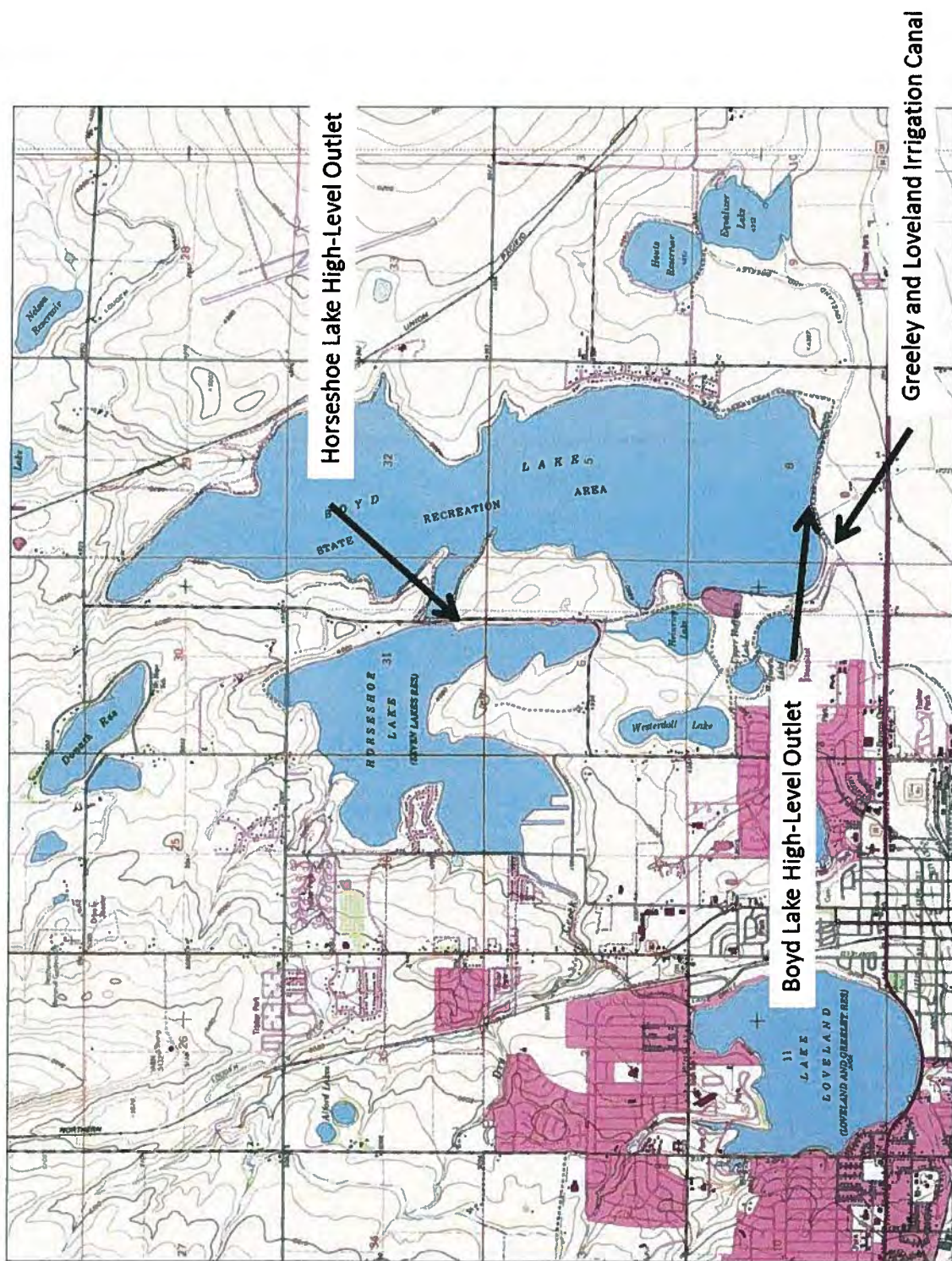


Figure 3.1: Location Map

The SEO identification number for Boyd Lake Dam is 040105 and is located in Water Division 1. The SEO has the following dam configuration on record:

Dam Height:	40.0 feet (from D/S toe)
Dam Crest Length:	10,729 feet
Dam Crest Width:	15.0 feet
Reservoir Surface Area:	1,750 acres
Reservoir Capacity:	48,874 acre-feet
Spillway Width:	20 feet

Based on site inspections conducted by URS and by the SEO the high-level diversion structure is beyond repair and poses a dam safety concern and should be replaced. The box culverts are separating from the canal, have large voids along the culverts, and there is no evidence of reinforcing in the concrete culverts. Any attempt to raise or move the culverts would likely cause them to deteriorate further. Pumping grout under the undermined portions of the structure and patching cracks is a temporary solution, at best. Photographs of the structure are included in **Appendix C**.

3.1.2 Horseshoe Lake Dam

Horseshoe No. 2 Dam (east dam) is located on the Greeley and Loveland irrigation system on the east side of the City of Loveland, in Larimer County. The contributing watershed is located within the foothills east of the Rocky Mountains. Horseshoe No. 2 Dam is located just west of Boyd Lake Dam. Horseshoe No. 2 Dam spillway and low-level outlet discharges directly into Boyd Lake. Horseshoe No. 1 Dam (south dam) is located to the south and also has a low-level outlet that discharges into Heinrich Lake. Heinrich Lake discharges into the west side of Boyd Lake. Horseshoe No. 1 Dam has a dam crest at elevation of 4981.47 feet which is 0.86-foot higher than Horseshoe No. 2 Dam crest with an elevation of 4980.61 feet.

County Road 11C traverses the dams' crests with three low-flow areas located between the dams. The SEO does not consider the road between the two dams as part of the embankment. The three low-flow areas, looking downstream from left to right, have invert elevations of 4978.8 feet, 4978.4 feet, and 4979.1 feet, as shown in **Figure 3.1**. The second low-flow area conveys floodwaters into a natural detention area located just east of County Road 11C. The other two areas convey floodwaters over County Road 11C, through Boyd Lake State Park, and then into Boyd Lake as shown in **Figure 3.1**. Project photos are presented in **Appendix C**.

The SEO identification number for Horseshoe No. 2 Dam is 040128. The dam is located in Water Division 1, Water District 4. The following dam configuration is on record with the SEO:

- Dam Height: 28.0 feet (from D/S toe)
- Dam Crest Length: 1,650 feet
- Dam Crest Width: 40.0 feet
- Reservoir Surface Area: 650 acres
- Reservoir Capacity: 8,051 acre-feet
- Spillway Width: 40.0 feet

The condition of the bridge crossing located just south of Horseshoe Dam No. 2, which is also the spillway for Horseshoe Lake, is in poor condition. As part of this project the County will be replacing the bridge with concrete boxes which will allow the GLIC and SLRC to increase their conveyance capacity of the outlet works to an additional 1,100 cfs so they can transfer reservoir water, at high reservoir levels, between Horseshoe Lake and Boyd Lake.

3.2 WATER DEMANDS

The scope of the Project includes the replacement of the existing Boyd Lake outlet and the construction of a new high-level outlet for Horseshoe Lake. No additional water supplies will be developed in connection with this project. No new or increased river diversions will be

made and no additional storage capacities will be created. The use of the water will not change as a result of this project. The project will not increase GLIC's water storage or supply.

3.3 PROJECT LANDS

The Greeley and Loveland Irrigation system will not change as a result of this project. This project will not broaden GLIC's service area and will not provide for the irrigation of any new lands.

3.4 HYDROLOGY AND WATER RIGHTS

There are two points of diversion from the Big Thompson River for the Greeley and Loveland Irrigation System. The Big Barnes Ditch and the Greeley and Loveland Irrigation Canal.

The Big Barnes Ditch diverts water from the Big Thompson River into Lake Loveland. The water is then carried into Horseshoe Reservoir via Lake Loveland's north outlet. From there water is regulated into either Heinrich Lake or Boyd Lake. If the water is sent to Heinrich Lake, the water can be sent into Boyd Lake or regulated into Upper and Lower Hoffman Lakes. Westerdoll Lake presently collects local drainage water, where it is regulated into Upper and Lower Hoffman Lakes. From the Hoffman Lakes, water can then be conveyed to the Greeley and Loveland Irrigation Canal where it is carried to Equalizer Reservoir. Equalizer Reservoir regulates the water in the Greeley and Loveland Irrigation Canal for agricultural use east of Loveland.

The Greeley and Loveland Irrigation Canal diverts water from the Big Thompson River downstream of the Big Barnes Diversion. Water is then conveyed to Equalizer Reservoir. The Company also has the option to send water into or receive water from the Greeley and Loveland Irrigation Canal via the upper Boyd Lake outlet, which is described in Chapter I.

Additionally, the City of Greeley has the ability to divert water for municipal use from Lake Loveland via a pipeline into a holding pond just west of Boyd Lake and north of Lower Hoffman Lake. The holding pond water is then piped to the treatment facility, located just south

of Boyd Lake. The City also has the capability to divert water directly from Boyd Lake into their treatment facilities.

Tables 3.1 and 3.2 list the direct flow and storage rights of GLIC, respectively. This project will not provide any additional water rights or water supplies for GLIC.

Table 3.1: Summary of Direct Flow Rights

Amount (cfs)	Appropriation Date	Adjudication Date	Source
<i>Big Barnes Ditch – Diverted at Big Barnes headgate</i>			
18.56	10/20/1865	08/28/1883	Big Thompson River
12.06	06/01/1867	05/28/1883	Big Thompson River
19.93	06/23/1873	05/28/1883	Big Thompson River
<i>Chubbuck Ditch – Diverted at Greeley and Loveland headgate</i>			
8.36	11/01/1865	05/28/1883	Big Thompson River
39.04	10/20/1870	05/28/1883	Big Thompson River
35.50	10/25/1873	05/28/1883	Big Thompson River
15.20	11/01/1878	05/28/1883	Big Thompson River
<i>Greeley and Loveland Canal – Diverted at Greeley and Loveland headgate</i>			
297.44	04/01/1881	05/28/1883	Big Thompson River
<i>Louden Irrigation Canal Company</i>			
7.00	11/10/1861	05/28/1883	Big Thompson River
40.00	10/01/1871	05/28/1883	Big Thompson River
123.00	11/01/1877	05/28/1883	Big Thompson River
0.008	09/17/1883	05/29/1884	Big Thompson River

Table 3.2: Summary of Storage Rights

Amount (AF)	Appropriation Date	Adjudication Date	Source
<i>Seven Lakes Reservoir System¹ – Includes Horseshoe Lake, Westerdoll Lake, Hoffman Reservoir, Heinrich Reservoir</i>			
8,432.0	04/28/1902	06/29/1916	Big Thompson River
8,432.0	04/28/1902	06/09/1978	Big Thompson River
<i>Boyd Lake²</i>			
48,564.0	04/28/1902	06/29/1916	Big Thompson River
44,031.2	04/28/1902	06/27/1978	Big Thompson River
<i>Greeley and Loveland Reservoir³ – Lake Loveland</i>			
14,238.7	01/14/1893	06/29/1916	Big Thompson River
14,239.0	01/14/1893	06/27/1978	Big Thompson River
1 – The lakes may be supplied by the Barnes Ditch, Lake Loveland, Little Barnes Ditch, Chubbuck Ditch, Loudon Ditch, and/or the Greeley and Loveland Irrigation Canal in addition to local drainages.			
2 – Boyd Lake is supplied by waters from the Big Thompson River, diverted by the Big Barnes Ditch, and delivered to Boyd Lake through Lake Loveland and Horseshoe Reservoir, or diverted and delivered by the Loudon Ditch or by the Greeley and Loveland Canal. In addition, Boyd Lake is supplied by storm and floodwaters arising in the Dry Creek drainage basin and in areas naturally sloping toward the lake			
3 – Lake Loveland is supplied by diversions from the Big Thompson River through the Barnes Ditch of the Loudon Ditch. In addition, Lake Loveland is supplied by storm and floodwaters arising in the drainage basin and running into the reservoir.			

4.1 OVERVIEW

Several nonstructural and structural alternatives were considered to meet the Project's needs. These alternatives also included a No Action alternative. The No Action alternative for the Project was deemed not viable due to the loss of the system operation and dam safety issues. If the existing structures were to fail there would be a potential of loss of life downstream of both dams. The structures need to be replaced to meet SEO guidelines and also for public safety.

4.2 HORSESHOE LAKE HIGH-LEVEL OUTLET ALTERNATIVE

The project includes a 5-foot by 44-foot wide hinged crest gate, with 1,100 cfs capacity, upstream of the new concrete box bridge crossing that the County is constructing. The flows are discharged through the new bridge crossing into a downstream 108-inch pipe inlet. The pipe inlet discharges the water into a 108-inch diameter reinforced concrete pipe which conveys the water to a downstream baffle chute structure into Boyd Lake. Design drawings and a construction cost estimate are presented in **Appendix D**.

4.3 BOYD LAKE HIGH-LEVEL OUTLET ALTERNATIVE

The project includes the removal of six concrete box gate outlets and replacing the structure with two 48-inch steel pipes encased in concrete. The flow through the pipes will be regulated by two 48-inch by 48-inch slides gates. The pipes will discharge 240 cfs into the Canal and also back into Boyd Lake, when required. The flows will be monitored through an electronic measuring system. A layout drawing and a construction cost estimate are presented in **Appendix D**.

5.1 ALTERNATIVE SELECTION

The selected Horseshoe High-Level Outlet and Boyd Lake High-Level Outlet alternatives were selected based on constructability, costs, reliability, reduced impact to the environment, and provision for the continued use of the asset (historic water yield).

5.2 LAND AND RIGHT-OF-WAY REQUIREMENTS

The construction of the Project will be performed on the lands owned by the GLIC and SLRC.

5.3 PROJECT IMPLEMENTATION SCHEDULE

Table 5.1 is the schedule for implementing the two projects.

Table 5.1: Project Implementation Schedule

Date	Action
Loan Schedule	
August 2013	Submit CWCB Application and Feasibility Report
September 2013	CWCB Board Meeting
Horseshoe Lake High-Level Outlet Project	
August 2013	Submit Design to SEO for Approval
October 2013	Obtain SEO Approval
October 2013	Advertise and Bid
November 2013	Begin Construction
May 2014	Complete Construction
June 2014	Project Close Out Complete
Boyd Lake High-Level Outlet Project	
January 2014	Submit Design to SEO for Approval
May 2014	Obtain SEO Approval
August 2014	Advertise and Bid
September 2014	Begin Construction
November 2014	Complete Construction
December 2014	Project Close Out Complete

5.4 COST ESTIMATE

Appendix D presents an estimate of the construction and construction engineering costs associated with the selected alternatives. **Table 5.2** summarizes the costs estimated for this Project.

Table 5.2: Summary of Project Costs

Item	Description	Cost
1	Horseshoe Phase 1 - Joint Larimer County Project	\$434,000 ¹
2	Horseshoe Phase 2 - Discharge Structure Project	\$1,400,000
3	Boyd High-Level Outlet Project	\$673,000
	Total Construction Cost	\$2,507,000
4	Construction Contingency (15%)	\$376,050
	Total Construction Cost with Contingency	\$2,883,050
5	Construction Engineering Support Fee (12%)	\$345,966
	Subtotal	\$3,229,016
6	Design Services Fee	\$240,000
	TOTAL PROJECT COST	\$3,469,016
	TOTAL PROJECT COST (ROUNDED)	\$3,470,000

¹GLIC and SLRC portion of the project. The County is responsible for the bridge crossing.

5.5 FINANCIAL PROGRAM

Total capital expenses for the recommended Project alternatives, including construction and construction contingency, and construction engineering is \$3,470,000.00 (rounded). GLIC is applying for \$3,123,000.00 which is 90 percent of the \$3,470,000.00, through the CWCB Small Project Loan Program. GLIC's loan request, with the CWCB 1 percent service fee, totaling \$31,230.00, is for the amount of \$3,154,230.00.

GLIC is applying for a 30-year loan. The GLIC blended interest rate is presented in **Table 5.3**. CWCB 30-year loan blended interest rate for the project 1.99 percent.

Table 5.3: Summary of Water Shares

Description	Shares
Greeley and Loveland Irrigation Company Shares	1648.00
Greeley/Evans Shares of Greeley and Loveland Irrigation Company Shares	977.02
Greeley/Evans Shares In Agricultural Use	690.02
Greeley/Evans Shares In Municipal Use	287.00
Seven Lakes Irrigation Company Shares	400.00
Greeley/Evans Shares of Seven Lakes Irrigation Company Shares	261.66
Greeley/Evans Shares In Agricultural Use	95.25
Greeley/Evans Shares In Municipal Use	166.41
Lake Loveland Shares¹	300.00
Greeley/Evans Shares of Lake Loveland Shares	149.0
Greeley/Evans Shares In Agricultural Use	56.0
Greeley/Evans Shares In Municipal Use	93.0
Total System Shares	2348.00
Total Greeley/Evans Shares	1387.68
Total Greeley/Evans Shares In Agricultural Use	841.27
Total Greeley/Evans Shares In Municipal Use	546.41
1 – Lake Loveland Shares were setup for water accounting only	

Table 5.4: Calculation of Blended Lending Rate

Entity	Assumed Rate (%)	No. of Shares	Pro-Rated
Agricultural Water Users	1.75	960.32	0.72
Greeley/Evans – Agricultural Use	1.75	841.27	0.63
Greeley/Evans – Municipal Use	2.75	546.41	0.64
Blended Interest Rate		2,348.00	1.99

A Construction Fund Loan of \$3,154,230.00 at an assumed lending rate of 1.99 percent would result in annual payments of approximately \$140,642.55. The feasibility study includes revenue and expenditure projection for the entire period of debt retirement indicating that assessments could be increased to pay all operating expenses plus CWCB debt service. The

projection also indicates that the assessment would increase by approximately \$77 per share from the current level of \$260 per share to \$337 per share. The \$77 per share increase is based on a debt service coverage ratio of 1.10. The annual revenue and expenditures for the project are shown in **Table 5.5**.

Revenue for operations and payment of loans was derived from assessments on 2,348 shares of outstanding stock. The current assessments for 2013 are \$260.00 per share. The assessment per share, for the new loan, will range from \$77.00 for the first year of the loan down to \$69.00 for the eleventh year of the loan, and then remaining at this level for the term of the loan. The change in the assessment is due to the loan reserve fund required by CWCB. The new assessment includes the cost for the loan and the CWCB 1 percent loan service fee, but also and an estimated annual operating expense for the project. The annual operating expense is estimated at 1.0 percent of estimated first year cost of \$10,000.00. The new assessment also includes a credit back from the interest on the loan reserve fund at a rate of 3 percent annually. The total annual assessment including the new loan will range from \$77.00 for the first year of the loan to \$69.00 for the eleventh year of the loan, and then remaining at this level for the term of the loan. **Table 5.5** presents the schedule of revenue and expenditures assuming a 30-year loan at a blended interest rate of 1.99 percent.

5.5.1 Collateral

Lands included in the irrigation company system in Larimer County, Colorado.

5.6 INSTITUTIONAL CONSIDERATIONS

Table 5.6 shows the required permits, which may be required for the construction of this project. These are standard for this type of construction and little difficulty is foreseen in obtaining all required permits.

Table 5.6: Required Project Permits

Agency	Requirements
U.S. Army Corps of Engineers	Exempt Status
Division of Water Resources	Design Approval
Water Quality Control Division	Construction Dewatering Permit

Table 5.5: Schedule of Revenue and Expenditures

Assumptions			Financing			
Loan Amount	\$3,154,230		Source	Principal	Rate	Payment
Number of Shares	2,348		2013 Loan	\$3,154,230	1.99%	30
Annual Operating Expenses	1.0%					\$140,642.55
Interest on Reserves	3%					

Year of Operation	Annual Revenues			Annual Expenditures					Debt Service Coverage Ratio
	Total Assessments Required	Assessments Per Share Required	Annual Operating Expenses	Loan Reserve Fund Annual	Summation	Payments on CWCB Loan	CWCB Interest on Reserve Funds	Total Expenditures	
1	\$179,713	\$77	\$10,000	\$14,064	\$14,064	\$140,643	\$422	\$164,285	1.10
2	\$179,349	\$76	\$10,100	\$14,064	\$28,129	\$140,643	\$844	\$163,963	1.10
3	\$178,986	\$76	\$10,201	\$14,064	\$42,193	\$140,643	\$1,266	\$163,642	1.10
4	\$178,624	\$76	\$10,303	\$14,064	\$56,257	\$140,643	\$1,688	\$163,322	1.10
5	\$178,263	\$76	\$10,406	\$14,064	\$70,321	\$140,643	\$2,110	\$163,003	1.10
6	\$177,903	\$76	\$10,510	\$14,064	\$84,386	\$140,643	\$2,532	\$162,685	1.10
7	\$177,544	\$76	\$10,615	\$14,064	\$98,450	\$140,643	\$2,953	\$162,369	1.10
8	\$177,186	\$75	\$10,721	\$14,064	\$112,514	\$140,643	\$3,375	\$162,053	1.10
9	\$176,829	\$75	\$10,829	\$14,064	\$126,578	\$140,643	\$3,797	\$161,738	1.10
10	\$176,473	\$75	\$10,937	\$14,064	\$140,643	\$140,643	\$4,219	\$161,424	1.10
11	\$161,112	\$69	\$11,046		\$140,643	\$140,643	\$4,219	\$147,469	1.10
12	\$161,222	\$69	\$11,157		\$140,643	\$140,643	\$4,219	\$147,580	1.10
13	\$161,334	\$69	\$11,268		\$140,643	\$140,643	\$4,219	\$147,692	1.10
14	\$161,447	\$69	\$11,381		\$140,643	\$140,643	\$4,219	\$147,804	1.10
15	\$161,560	\$69	\$11,495		\$140,643	\$140,643	\$4,219	\$147,918	1.10
16	\$161,675	\$69	\$11,610		\$140,643	\$140,643	\$4,219	\$148,033	1.10
17	\$161,791	\$69	\$11,726		\$140,643	\$140,643	\$4,219	\$148,149	1.10
18	\$161,909	\$69	\$11,843		\$140,643	\$140,643	\$4,219	\$148,266	1.10
19	\$162,027	\$69	\$11,961		\$140,643	\$140,643	\$4,219	\$148,385	1.10
20	\$162,147	\$69	\$12,081		\$140,643	\$140,643	\$4,219	\$148,504	1.10
21	\$162,267	\$69	\$12,202		\$140,643	\$140,643	\$4,219	\$148,625	1.10
22	\$162,390	\$69	\$12,324		\$140,643	\$140,643	\$4,219	\$148,747	1.10
23	\$162,513	\$69	\$12,447		\$140,643	\$140,643	\$4,219	\$148,870	1.10
24	\$162,637	\$69	\$12,572		\$140,643	\$140,643	\$4,219	\$148,995	1.10
25	\$162,763	\$69	\$12,697		\$140,643	\$140,643	\$4,219	\$149,121	1.10
26	\$162,890	\$69	\$12,824		\$140,643	\$140,643	\$4,219	\$149,248	1.10
27	\$163,018	\$69	\$12,953		\$140,643	\$140,643	\$4,219	\$149,376	1.10
28	\$163,148	\$69	\$13,082		\$140,643	\$140,643	\$4,219	\$149,505	1.10
29	\$163,279	\$70	\$13,213		\$140,643	\$140,643	\$4,219	\$149,636	1.10
30	\$13,345	\$6	\$13,345	(\$140,643)	\$0	\$140,643	\$0	\$13,345	1.10
Totals	\$4,875,343		\$347,849	\$0	\$3,445,742	\$4,219,276	\$103,372	\$4,463,753	

5.6.1 Social, Economic, and Physical Impacts

The Project will have no social impacts because its use as an irrigation facility will remain the same. The Project will have a positive economic impact by assisting GLIC and SLRC to more efficiently provide irrigation water to more than 14,000 acres of irrigated farm land. The Project will have no significant physical impacts except in the immediate vicinity of the construction. These impacts will be minor in nature and will affect an area of less than 4 acres.

5.6.2 Benefit

Boyd Lake and Horseshoe Lake Dams are the largest of several reservoirs in an extensive irrigation system owned and operated by the GLIC and SLRC. In addition to providing storage for irrigation water critical to users in Greeley and Evans, it also provides recreation to the surrounding area. If this project is not constructed, the SEO could potentially restrict the storage within the reservoirs which would limit the ability for the GLIC and SLRC to deliver water to their shareholders.

Either of these options would result in loss, which would be borne by the GLIC and the State of Colorado (Boyd Lake surface water rights are owned by the State). In addition, the surrounding area generates income based on the lakes present in the community with the lakes being the largest.

Appendix A

Articles of Incorporation and Bylaws

Greeley and Loveland Irrigation Company

AMENDED BY-LAWS OF
THE GREELEY AND LOVELAND IRRIGATION COMPANY

November 10, 2008

ARTICLE I.

STOCKHOLDERS' MEETINGS

Section 1. Annual Stockholders' Meeting.

The annual meeting of the stockholders shall be held at the place designated in January of each year. The time, place and date of the meeting shall be selected by the Directors.

Section 2. Notice of General and Special Meetings.

Notice of stockholders' or shareholders' meetings shall be given as required by law. No business shall be transaction at a special meeting except such as shall be mentioned in said notice, and business not so specified shall be out of order. If any stockholder fails to furnish the Secretary with his correct post office address he shall not be entitled to a separate notice.

Section 3. Special Meeting of Stockholders to Elect Directors.

In case it should happen that an election of Directors shall not be held on the day designated by Section 1 of this Article, such Directors may be chosen at any subsequent meeting of stockholders, at which the majority of the stock is represented, such meeting to be called by the Directors or stockholders owning ten percent (10%) of the outstanding shares, who may call such meeting by giving public notice of the time and place of holding such meeting in the manner provided in Section 2 of this Article; provided, if the majority of the stock be not represented at any meeting so called, it may be adjourned by the stockholders present for a period not exceeding one (1) year, that is, to the date of the next annual stockholders' meeting.

Section 4. Election of Directors.

The election shall be by such of the stockholders as attend for that purpose, in person or by proxy; provided, if a majority of such stock be not represented, the meeting may be adjourned by the stockholders present, for a period not exceeding one (1) year, to the date of the next annual stockholders' meeting.

The President of the Board shall call the meeting to order, and appoint a committee of three on credentials, and when it is found by the report of said committee, or otherwise, that a majority of the stock is represented in person or by proxy at such meeting or adjourned meeting, the stockholders shall proceed to nominate directors, each stockholder having the right to nominate. The election shall be by ballot, from the nominees. Each stockholder shall have the right to vote in person or by proxy the number of shares owned by him or her, and

may vote said number of shares for as many directors as are to be elected, or may cumulate such shares and give to one candidate as many votes as the number of directors multiplied by the number of his or her shares shall equal, or distribute them among as many candidates as he or she may desire. The persons having the highest number of votes in consecutive order shall be declared elected the Board of Directors for that year, and the directors shall not be elected in any other way.

Section 5. Amendments to Articles of Incorporation.

Any proposed amendment, or amendments, may be voted upon by the stockholders at their regular annual meeting; provided, that the published notice of such meeting shall have contained a notice that such amendment, giving the purport of the same, would be presented and acted upon at such meeting, or any proposed amendment or amendments may be voted upon at a special meeting of the stockholders called by the Board; provided, that notice of such special meeting be given as required by Section 2 of this Article.

Section 6. Stockholders May Call Special Meeting to Consider Amendments.

Whenever the holder or holders of one-third (1/3) in amount of the capital stock, as shown by the stock book, shall in writing request the President to call a meeting of the stockholders for the purpose of considering any proposed amendment or amendments to the Articles of Incorporation, setting forth in such written request the substance of each proposed amendment, the President shall, without delay, call a meeting of the Board and present the same to it, and thereupon the Board shall call a special meeting of the stockholders for the purpose of considering the proposed amendment or amendments to its Articles of Incorporation. A two-thirds (2/3) vote of all the capital stock subscribed, and outstanding, shall be required in favor of an amendment before the same shall be declared adopted.

Section 7. General Provisions Governing Stockholders' Meetings.

The President of the Board, and in his absence the Vice-President, shall preside at all stockholders' meetings; when neither are present the stockholders may elect a chairman from their number. The Secretary of the corporation shall act as Secretary of all stockholders' meetings, and shall keep all their minutes, provided, when he is absent the stockholders may choose a Secretary. At all stockholders' meetings a majority of all the stock must be represented in person or by proxy to constitute a quorum to transact any business.

ARTICLE II.

BOARD OF DIRECTORS

Section 1. Board of Directors.

The Board of Directors of the Corporation shall consist of seven (7) persons, who shall be stockholders, and who shall be elected annually, and shall hold office until their successors are elected and qualified.

Section 2. Annual Election.

The annual election of Directors shall be held at the regular annual stockholders' meeting, as provided in Section 1 of Article I. The term of office of those elected shall commence on the first stated meeting thereafter, at which time the new Board shall meet and organize for the purpose of electing a President and Vice-President from their number. Such election shall be by ballot, and the affirmative vote of the majority of the whole Board of Directors shall be required for a choice. Whenever a vacancy shall occur in the office of President or Vice-President, it shall be filled in like manner at a meeting of the Board of Directors. In either case, due notice shall be given to each member of the Board of the proposed election.

Section 3. Vacancies.

Election to fill vacancies occurring on the Board of Directors shall be by an affirmative vote of a majority of the whole Board. No Director shall be elected except at a regular stated meeting of the Board or at a special meeting called for that purpose.

Section 4. Stated Meetings.

A stated meeting of the Board of Directors shall be held on a day and at a time and place designated by the Board of Directors.

Section 5. Special Meetings.

Special meetings of the Board may be called at any time by the President and shall be so called at the request in writing of two (2) Directors.

Section 6. Quorum.

At all meetings of the Board, four (4) members shall constitute a quorum for the transaction of business.

Section 7. Powers of the Board.

All corporate powers shall be exercised by the Board of Directors, who shall have full control and authority over the corporation and shall have power:

- A. To call special meetings of the stockholders.
- B. To make all rules and regulations for the guidance of the officers and the management of the affairs of the corporation.
- C. To levy assessments on the paid up capital stock of the corporation, and collect the same in the manner provided by law.

- D. Express power and authority hereby conferred upon the Board from time to time to borrow money on the credit and responsibility of the corporation in such sums as they may deem necessary or proper for the purposes and interests of the corporation in such form and for such time as they may deem proper, and to pledge or mortgage all of the franchise and property of the corporation, both real and personal, to secure the repayment of such loan.
- E. They shall cause to be kept a complete record of all their meetings and acts, also proceedings of all stockholders' meetings.
- F. To supervise the acts of all the officers and all the employees of the corporation.
- G. They shall cause to be issued to those lawfully entitled thereto under the Articles of Incorporation, certificates for paid up shares of stock, which shall never exceed in the aggregate the capital stock of the corporation.
- H. To act and pass upon all bills and accounts against the corporation. All bills shall be passed upon at meetings of the Board, and no bills will be allowed except at a Board meeting.
- I. To fill all vacancies in their own Board, and elect all its officers and appoint its Superintendent, ditch riders, and all other clerks, servants and employees of the corporation.
- J. To do and perform every act necessary to be done to fully manage the affairs of the corporation.
- K. To bring such actions in law or in equity as they may deem necessary to protect the interests of the corporation and to carry into effect its objects and purposes.
- L. And to adopt, amend and revise such prudential By-laws as they shall deem proper for the management of the affairs of the corporation.

Section 8. Indemnification of Officers and Directors.

Each Director and Officer of this Corporation, and each person who shall serve at its request as a Director or Officer, whether or not then in office, and his personal representatives, shall be indemnified by the Corporation against all costs and expenses actually and necessarily incurred by him in connection with the defense of any action, suit or proceeding in which he may be involved or to which he may be made a party by reason of his being or having been such Director or Officer, except in relation to matters as to which he shall be finally adjudged in such action, suit or proceeding to be liable for negligence or misconduct in the performance of duty. Such costs and expenses shall include amounts reasonably paid in settlement for the purpose of curtailing the costs of litigation, but only if the Corporation is advised by its counsel that in his opinion the person indemnified did not

commit such negligence or misconduct and acted in good faith. The foregoing right of indemnification shall not be exclusive of other rights to which he may be entitled as a matter of law or by agreement. (Added July 6, 2005.)

ARTICLE III.

EXECUTIVE COMMITTEE

The Board may, as the occasion shall require, elect an executive committee consisting of three (3) members of the Board, and may fill any vacancy on said committee. The executive committee, if elected, shall exercise all powers of the Board of Directors when not in session, and shall keep a book containing the doings and proceedings of said committee, which shall be open to the inspection of any of the directors, and the proceedings of said committee for the preceding month shall be read at all stated meetings, and shall be subject to the approval or veto of the Board.

ARTICLE IV.

OFFICERS AND EMPLOYEES

Section 1. Election, Appointment and Qualification.

The elective officers shall be a President and Vice-President, Secretary and Treasurer, and the appointive officers shall be such employees as the Board may designate. The President and Vice-President shall be elected from their number, and shall hold office for one year and until their successors are elected and qualified. The Secretary and Treasurer and all appointive officers, clerks and employees shall hold office during the pleasure of the Board. All vacancies in any elective or appointive office shall be filled by a majority vote of the Directors. The offices of Secretary and Treasurer may be held by the same person. The Board of Directors may require bonds from any of the officers or employees of the corporation.

Section 2. President.

It shall be the duty of the President to preside at all meetings of the stockholders and Directors; to sign all checks and all certificates of stock, drafts, contracts and instruments, and cause the corporate seal to be attached thereto whenever required. He may from time to time call special meetings of the Board whenever he deems it proper; and shall do so whenever any two (2) members of the Board shall request him in writing. He shall at all times exercise a general supervision and direction over the affairs of the corporation and shall be its chief executive officer.

Section 3. Powers of the President.

In all cases where the duties of subordinate officers, agents, clerks, servants and employees of the corporation are not specifically described in the By-laws or resolutions of the Board, such officers, employees and agents shall obey the orders

and instructions of the President, and the President may remove or suspend any clerk or other servant of the corporation and fill the vacancy until the next meeting of the Board.

Section 4. Vice-President.

The powers and duties of the President shall be exercised by the Vice-President in case of his death, absence or inability to act; and in case of the death, absence or inability of the Vice-President, the duties and powers of President shall devolve upon one of the Directors chosen by the remaining members of the Board.

Section 5. Secretary.

The Secretary shall keep a record of the proceedings of the Board of Directors; shall act as recording secretary at all meetings of the stockholders; shall keep in his charge at the office of the corporation all the books, papers, correspondence, and the seal of the corporation, which shall be open at all times to the inspection of any of the directors; shall attest by his signature, and the seal of the corporation, all of its official documents and certificates of stock; shall be the custodian of all bonds, notes, documents and archives of the corporation; shall prepare and keep proper books of account for the business of the corporation; shall carefully examine all bills and accounts against the corporation and present the same to the Board for their action; shall certify all bills and vouchers audited by the Board; shall collect all assessments and money due the corporation, and deposit the same to the corporation banking accounts; shall make a report of the business transacted by him annually at the stockholders' meeting, and to the Board of Directors whenever required by the President of the Board, and exhibit and explain the same; shall attend to the correspondence of the corporation and perform all the duties usually pertaining to the office of the Secretary. In case of the death, absence or inability to act of the Secretary, his duties and powers shall be exercised by a Secretary pro tempore.

Section 6. Treasurer.

The Secretary or Treasurer shall be the custodian of all moneys of the corporation, and pay the same out only upon proper vouchers or warrants certified by the President and Secretary, and shall keep a record of all moneys received and paid out and all vouchers and receipts given therefor. He shall make a report annually to the stockholders, also shall report to the Board as often as requested by the President of the Board, and shall at least once a year and whenever required by the President or the Board, make a full comparison and adjustment of his accounts with those of the Secretary. He shall have general charge of all books, vouchers and papers belonging to the corporation, except such as are under the special control of the Secretary, and shall perform such duties as are incident by law to the office of Treasurer.

Section 7. Compensation.

The officers and employees shall be compensated as determined by the Board of Directors.

ARTICLE V.

FUNDS OF THE CORPORATION

All money of the corporation, or under its charge, shall be deposited in a bank to the credit of the corporation by its corporate name.

ARTICLE VI.

STOCK CERTIFICATES AND TRANSFERS THEREOF

Section 1. Issuance of Stock.

Certificates of the capital stock of the corporation shall be numbered and registered as they are issued and shall exhibit the number of shares and shall be signed by the President and countersigned or attested by the Secretary, shall bear the corporate seal; and the total of shares represented by outstanding certificates shall never exceed the authorized capital of the corporation.

Section 2. Transferring Stock.

In order to cause a transfer of stock, the parties requesting the transfer shall deliver to the corporation the original certificate and complete and sign the transfer request on the back of the certificate or deliver a transfer request in substantially the same form as is on the back of the certificate and also identifies the certificate number to which the transfer request applies. In addition, the stock transfer fee must be tendered to the Company. If the above requirements are not fully met, and the Company obtains legal or other professional services to determine whether the transfer may be made, the Company may, in addition to the transfer fee, require the transferee to reimburse the Company for the cost of the professional services as a condition of completing the transfer. Transfers of stock shall be made only on the books of the corporation in the presence of the Secretary or President by the holder, either in person or by an attorney-in-fact or by a legal representative, who shall sign the transfer book and surrender the certificate for cancellation, which shall be cancelled before a new certificate shall be issued in lieu thereof, and the surrendered certificate shall be kept on file in the Secretary's office. Provided, however, where a certificate of stock has been lost or destroyed, the Board of Directors may order the issue of a new certificate therefor upon satisfactory proof by affidavit or otherwise of such loss or destruction by the record owner of such certificate or other person having knowledge thereof and upon giving of a bond with sufficient surety to indemnify and protect this Company or any person injured by the issue of such new certificate from any liability or expense which it or they may incur by reason of the original certificate remaining outstanding; the issue of such new certificate shall be without cost or expense to this Company, and the payment of reasonable costs and counsel fees incurred may be required by this Company. Provided, further, that the procedure for the issue of new certificates as is now or may hereafter be provided under and by virtue of the Laws of the State of Colorado may be availed of at any time. The mere possession of a certificate of stock as between the corporation and the holder shall not be regarded as vesting any ownership of the same in any person other than the registered owner until transfer

thereof is duly made on the books of the corporation; and no transfer of stock shall be made or shall be valid until all assessments against the same shall have been fully paid. No stock shall be issued for a fraction less than one-fourth (1/4) share.

Section 3. Stock Ledger.

The Secretary shall, when required, keep a book called a stock ledger, containing the names of all persons alphabetically arranged, who are, or shall within one (1) year have been, stockholders of the corporation, showing their place of residence, the number of shares of stock held by them respectively, the time when they respectively became the owners thereof, the amount of stock actually paid in, and what proportion has been paid in cash; which book shall, during the business hours of the day, be open for the inspection of the stockholders and creditors of the corporation, and their personal representatives, at its principal office; and any and every stockholder, creditor or representative shall have the right to make extracts from said book, and no transfer of stock shall be valid unless it shall have been entered therein within sixty (60) days from the date of transfer by an entry showing to and from whom transferred; and in case of the pledge of any of said stock, the Secretary shall make a memorandum upon said book, showing to whom and for what amount the stock has been pledged. The Secretary shall also keep a stock transfer book and certificate book and stubs.

Section 4. Voting Stock.

The stock shall be considered and treated by the corporation as personal property, and any person pledging or mortgaging the same as security for debt, shall be considered as holding the same, and liable accordingly as a stock holder. Every executor, administrator, conservator and guardian shall represent the stock in his hands at all stockholders' meetings, and vote the same as stockholder, and shall be liable in the same manner and to vote to the same extent as the testator, intestate or ward would have been if living or competent to act. And every person who shall pledge or mortgage his stock as collateral security, or as security at all, for any debt, shall nevertheless be entitled to vote the same at all stockholders' meetings while he remains the equitable owner and until the legal and equitable title shall have been forfeited against him by foreclosure.

Section 5. All Stock Paid Up.

The stock of the corporation shall be issued as full paid up stock.

Section 6. Assessments.

When it is deemed necessary to raise funds to keep the canal of our Company in good repair, or for any lawful purpose of our corporation, or it is deemed necessary to raise funds to pay any indebtedness theretofore contracted, or the interest thereon, our corporation shall have power to make an assessment on the capital stock of our Company to be levied pro rata on the shares of stock, payable in money or labor or both, for the purpose of keeping the property of our corporation in good repair and for the payment of any such indebtedness or interest thereon, or for any lawful purpose. No such assessment shall be made unless the question of making such assessment

shall be first submitted to the stockholders of our corporation at an annual meeting, or at a special meeting called for that purpose, and a majority of the stock issued and outstanding, represented either by the owner in person or by proxy voting thereon, shall vote in favor of making such assessment, and in case said stockholders fail to hold any such meeting, or fail to make or authorize any such assessment by the first of April in any year, then the Directors shall have power to make any such assessment at any regular or special meeting called therefor for such year; provided that until and unless all assessments made upon or against the shares of stock held by a stockholder shall have been paid, no water shall be delivered upon said stock or to said stockholder.

Section 7. Enforcement of Assessments.

The Secretary, as soon as conveniently possible after the last installment of said assessment is due, shall make a list of and report to the Board of Directors all the shares of stock on which the assessments have not been fully paid, giving the names of the delinquent stockholders as appears upon the books of the Company, the numbers of the delinquent certificates, the number of shares, and the amount of such assessment with interest remaining unpaid.

An action at law may be maintained by our Company to recover any assessment, or any installment thereof, against a delinquent stockholder, and/or the stock on which assessments are delinquent may be sold or forfeited for the failure to pay such assessments in the manner provided by law and by these By-laws, and the Company reserves the right to recover such assessments, either by action or by sale and forfeiture, as well as by other remedies that may be available for the collection of said assessments. And our Company shall have a perpetual lien upon such stock and the water rights represented by the same for any and all such assessments, and all parts thereof, and interest thereon, until the same are fully paid.

In the event the Board determines to collect said delinquent assessments by forfeiture or sale, the Board shall direct the Secretary to make demand upon the delinquent stockholder and any other person interested in said stock as lienee or otherwise, as appears from the records of the Company, for the amount due on all shares of stock upon which said assessments with interest, have not been fully paid; which said demand shall be by written or printed notice and duly mailed by registered mail to the last known address of such delinquent stockholder and any person interested in said stock as lienee or otherwise as appears from the records of our Company; said demand shall also state that such delinquent stock and the water rights represented by the same will be declared forfeited and will be thereafter sold unless the amount due thereon, including interest, be paid within thirty (30) days of the mailing of such demand notice. If said delinquent assessments, with interest thereon, shall not be paid within said thirty (30) day period, then the Board of Directors may declare said stock and the water rights represented thereby forfeited for failure to pay the assessments or installments thereof which have from time to time become due, and shall direct the Secretary to sell at public sale said delinquent stock and the water rights represented thereby, or so much thereof as may be necessary to pay and discharge the amount due upon such stock for delinquent assessments or installments thereof, together with interest, costs and expenses incident to such forfeiture and sale. Notice of such public sale shall be given by publication at least once a week for three

consecutive weeks (four times) in a daily or weekly newspaper published in the City of Greeley, Weld County, Colorado, and/or in such other newspaper published outside of Weld County, Colorado, as the Board of Directors may deem proper, the first publication thereof to be at least thirty (30) days prior to the date fixed in such notice for such sale; and said notice shall also state the time and place at which such shares of stock and the water rights represented by the same shall be sold, unless payment of the amount due thereon, with interest, costs and expenses, shall have been made prior to the time of sale. A copy of such notice shall be mailed by the Secretary to the delinquent stockholder and any other person interested in said stock as lienee or otherwise, as appears from the records of our Company. If the amount due upon such shares, together with accrued interest thereon, and all costs and expenses incident to said forfeiture and sale, shall not have been paid before the time fixed in such notice for such sale, said delinquent stock and the water rights represented by the same shall be forfeited, and the Secretary shall proceed to sell at public auction, at the time and place designated in said notice, for the highest and best bid for cash in hand, the said delinquent stock and the water rights represented by the same, or as many shares of stock belonging to such delinquent stockholder as may be necessary to pay the delinquent assessments, together with accrued interest, costs and expenses incident to said forfeiture and sale. If the price for which the necessary share or shares shall be sold shall exceed the amounts due, with interest, costs and expenses incident to said sale, such excess shall be paid to the delinquent stockholder and/or any other person interested therein, whether lienee or otherwise, as appears from the records of our Company, and no sale of delinquent stock shall take place within less than twelve (12) months from the date the assessment was made.

The Company, in furtherance of its statutory rights and lien, may become the purchaser of any stock forfeited and sold as aforesaid for the failure to pay assessments, interest, costs and expenses; and if at any such sale there shall be no bids made for such delinquent stock in excess of the amount of the delinquent assessment, interest thereon, costs and expenses of such forfeiture and sale, the Secretary of this Company may bid the same in the name of the Company for the amount of assessments due thereon, including interest, costs and expenses.

A new certificate or certificates of stock shall be delivered to the purchaser in lieu of the stock forfeited and sold, and thereupon the certificate of stock of the delinquent stockholder shall be taken and deemed to be cancelled and void, and shall be so marked when and if such forfeited and sold certificate be surrendered; and the Secretary shall also make proper entries in the books and records of our Company, including the stub of the cancelled certificate, reciting the forfeiture, sale and cancellation of said forfeited and sold certificate and the issuance of such new certificate.

The remedies herein provided for the collection of such assessments are cumulative and shall be in addition to every other remedy now or hereafter existing or provided by law.

ARTICLE VII.

DISTRIBUTION OF WATER

All water shall be delivered under the rules and regulations established by the Board of Directors and as modified by resolution.

ARTICLE VIII.

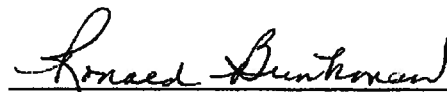
SEAL

The following shall be the seal of the corporation: The words "The Greeley and Loveland Irrigation Company" in a circle, and a sheaf in the center, substantially as follows:

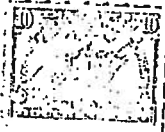
BY-LAWS CERTIFICATE

The undersigned certifies that he is the Secretary of the Greeley and Loveland Irrigation Company, a Colorado Mutual Ditch or Reservoir Company, and that, as such, is authorized to execute this certificate on behalf of said corporation, and further certifies that attached hereto is a complete and correct copy of the presently effective by-laws of said corporation.

DATED: December 8, 2008



Ronald Brinkman



CERTIFICATE OF INCORPORATION
OF
THE GREELEY AND LOVELAND IRRIGATION COMPANY.

KNOW ALL MEN BY THESE PRESENTS: That we, the undersigned, Robert
Steele, Amos M. Blenahan, J. M. Ferguson, Jas. E. Neill
Chas. Putnam, E. M. Howard and J. M. B. Pettikin
All of Weld County, Colorado, have this day voluntarily associated our-
selves together for the purpose of forming a corporation under the laws of
the State of Colorado.

And we hereby certify in triplicate:

First: That the name of said corporation is THE GREELEY AND LOVELAND
IRRIGATION COMPANY.

Second: That the objects for which it is formed are to purchase,
acquire, own, operate, use, control, manage, superintend and maintain
canals and ditches for irrigating and domestic purposes, to which use the
water is intended to be applied; and more especially to purchase, acquire,
own, use, operate, control, manage, superintend and maintain that certain
canal and its appropriations heretofore constructed and owned by the New
Loveland and Greeley Irrigation and Land Company, the water privileges to
which are derived from the Big Thompson River, with headgate located in
the Northwest quarter of the Southeast quarter of Section 15, Township 5,
North of Range 69 West, in Larimer County, Colorado, as constructed by
The ~~New~~ Loveland and Greeley Irrigation and Land Company. Also to acquire,
hold, use, own and enjoy all the priorities of appropriations, property
and water rights, privileges, franchises and rights-of-way formerly owned,
possessed and enjoyed by the said The New Loveland and Greeley Irrigation
and Land Company; to divert from said river and run through said canal
and deliver to its consumers the appropriated water entitled to be drawn
through the same; also to carry and deliver other water for irrigation
lawfully entitled to be drawn through said canal, upon ^{such} ~~said~~ terms and at
such times as shall be fixed by its Board of Directors. To purchase and
acquire, own, carry and run through said canal and deliver to those entitled
thereto, any appropriated, stored or acquired water from any source, whenever
and upon such terms as may seem expedient to its directors.

Third: To borrow money on its note, or otherwise, for any corporate purpose, when deemed necessary by its directors, and to provide for the payment of the same by assessments on its paid up capital stock, or by deed of trust or mortgage on its franchise and corporate property.

Fourth: The amount of the capital stock of this corporation shall be divided into 1668 shares, of a par value of \$1.00 per share

Fifth: That the ownership of Stock in this corporation shall constitute and represent the ownership of a water privilege or right, and that the owners of its stock shall be the owners of its priority and appropriations and shall be entitled to the use of its appropriated water flowing in said canal in the proportion and ratio that each share of stock held by any consumer bears to the whole number of shares, and the conveyance of any such water right shall be made by the conveyance of its stock.

Sixth: Each person owning one or more contracts or paid up water rights or fractional parts of water rights in the said The New Loveland and Greeley Irrigation and Land Company, shall be entitled to receive and hold therefor one paid up share of the capital stock of this corporation for each ten acres represented by the full paid contract held by him, upon making satisfactory proof of title and executing to this corporation such conveyance thereof as shall be prescribed by its directors for its own protection.

Seventh: To take stock in Telephone Companies, and to construct telephone lines of its own or assist therein for the purpose of affording facilities to its canal and the carrying on of its business in maintaining and operating the same.

Eighth: To pay its directors not to exceed the sum of Five Dollars, as shall be named by its by-laws, for each and every Board meeting actually attended.

Ninth: To protect its stockholders in their right to water by any ^{legal} lawful means, and to take the necessary steps to secure the water rights and privileges to which its stockholders are entitled, and to take any ^{lawful} ~~legal~~ action, ~~legal or otherwise~~, which may be for the interest and protection of its stockholders.

Tenth: The Board of Directors shall have the power to make such prudential by-laws as they shall deem proper for the management of the

affairs of the Corporation, not inconsistent with the laws of the State.

Eleventh: That the term for which it is to exist is twenty years from and after the date of its incorporation.

Twelfth: That the number of its directors shall be seven and that the names of those who shall manage its affairs for the first year of its existence are Chris Lory, F. R. Nyland, G. D. Sanborn, A. A. Howard, W. A. Frazier, E. A. Thompson & John A. Akin

Thirteenth: That the place where its principal business is to be transacted, and in which its principal office shall be kept, shall be the City of Greeley, in Weld County, Colorado.

Fourteenth: That its principal business shall be carried on in Weld and Larimer Counties, Colorado.

Fifteenth: That the following shall be the seal of said Corporation: the words "The Greeley and Loveland Irrigation Company." ^{With} ~~in~~ a sheaf in the center, substantially as follows:

IN WITNESS WHEREOF we have hereunto set our hands and seals, this 24th day of January A. D. 1900.

State of Colorado, }
County of Weld. } ss.

On this 24th day of January A. D. 1900, before me Denton A. Sanborn a Notary Public, in and for said County, residing therein, duly commissioned and sworn, personally appeared Robert Steele, A. M. McElachlan, J. M. Ferguson, Jas. E. Neill, C. W. Putnam, E. M. Morris & J. M. Betts PERSONALLY KNOWN TO ME TO BE THE PERSONS WHOSE NAMES ARE SUBSCRIBED TO THE FOREGOING INSTRUMENT, and that each duly acknowledged that they executed the same.

In witness whereof I have hereto set my hand and Notarial seal this 24th day of January A. D. 1900, my commission expires Oct 25, 1902
Denton A. Sanborn
Notary Public, Weld County, Colo.

5300

20757

Certificate of Incorporation
of

The Greeley and Loveland
Irrigation Company.

DOMESTIC.

E. J. H.

FILED in the office of the Secretary
of State, of the State of Colorado,
on the 14th day of February
A. D. 1900 at 10:30 o'clock A. M.
at Denver, Colorado.

Secretary of State.
E. J. H. Deputy.

27.50

1240

CERTIFICATE OF RENEWAL
OF THE CERTIFICATE OF INCORPORATION OF
THE GREELEY AND LOVELAND IRRIGATION COMPANY.

STATE OF COLORADO,)
) SS.
COUNTY OF WELD.)

TO WHOM IT MAY CONCERN:

THIS IS TO CERTIFY that a special meeting of the stockholders of The Greeley and Loveland Irrigation Company was held at the City Hall in the City of Greeley, Weld County, Colorado, on Monday, the 8th day of January, A. D. 1940, for the purpose of voting on the question of extending, continuing and renewing the life of said company; that said special meeting was called and notice thereof given by stockholders of said company owning at least ten per cent of the entire capital stock of said company; that notice of such meeting, stating the time and place thereof and the purpose for which it was to be held, was published for two (2) successive weeks, not more than thirty days, and at least ten days, prior to the date fixed for said meeting, in The Greeley Tribune and Weld County Republican, a newspaper published in Weld County, Colorado, the county wherein the principal office of the company is located; and a copy of such Notice was deposited in the Post Office, at least thirty days before such meeting, addressed to each stockholder and signed by the stockholders owning ten per cent of the stock of said company; that at said meeting 1186-1/4 shares of the capital stock of said company were represented; that the entire capital stock of said company is 1628 shares; that at said special meeting a Resolution was introduced to extend, continue and renew the corporate existence of this said company in perpetuity from and after the date of the expiration of the corporate life of said company, to which it had heretofore been extended; which said Resolution is in words and figures as follows, to-wit:

RESOLUTION

WHEREAS, the corporate life of The Greeley and Loveland Irrigation Company is about to expire; and

WHEREAS, such corporation has not been administered upon as an expired corporation nor gone into liquidation nor had any settlement of its affairs, and is now, and ever since its incorporation has been, engaged in, and has carried on, the business, objects and purposes for which it was organized, and its stockholders desire to continue so to do; and

WHEREAS, a special meeting of the stockholders of said corporation has been called by stockholders owning at least ten per cent of the entire capital stock of said company, and notice of such meeting, stating the time and place thereof and the purpose for which it was to be held, has been given in the manner and form as provided by law;

NOW, THEREFORE, BE IT RESOLVED: That the corporate life of The Greeley and Loveland Irrigation Company be extended, continued and renewed in perpetuity from and after the date of the expiration of the corporate life of said company, to which it has heretofore been extended; that the officers of this company be authorized, empowered and instructed to make, execute and file the proper certificates therefor, so as to file one in the Office of the Recorder of Deeds in each county wherein the company does business, and one in the Office of the Secretary of State of the State of Colorado; and, out of the Treasury of said company, to pay all costs and expenses incident to the extension, continuation and renewal of the corporate life of said company.

* * *

The vote upon the motion to adopt said Resolution was taken by ballot and all of the shares of stock represented at said meeting were voted in favor of said motion and Resolution to extend, continue and renew the corporate life of said company, and no shares of stock were voted against said motion and Resolution; the majority of the entire capital stock in said company having voted in favor of said extension, continuation and renewal, the motion was declared passed and the Resolution adopted; the President and Secretary of said company were authorized and instructed to certify said fact, under the corporate seal of said company, and to make as many certificates as necessary so as to file one in the office of the recorder of deeds in each county wherein the company does business, and one in the Office of the Secretary of State of the State of Colorado; and, in pursuance of said Resolution and vote, we, the undersigned, President and Secretary respectively, of The Greeley and Loveland Irrigation Company, do hereby certify the same under the seal of the company, this 14th day of January, A. D. 1940.



ATTEST:

Carl M. Moschberg
Secretary

Charles Smith
President

7/20/20

CERTIFICATE OF EXTENSION AND RENEWAL OF CORPORATE LIFE OF
THE GREELEY AND LOVELAND IRRIGATION COMPANY.

TO ALL WHOM IT MAY CONCERN :

The undersigned, Charles Swink as President of The Greeley and Loveland Irrigation Company, a Colorado corporation, and Harry L. Dowell as Secretary of said corporation, hereby certify under the seal of said corporation the following facts, pursuant to the provisions of the Colorado statutes, as follows :

FIRST -- That the undersigned are, respectively, President and Secretary of said corporation.

SECOND -- That on date of June 7th, 1920, the stockholders of said corporation, owning in the aggregate Four Hundred Ninety-seven shares of the capital stock of said Company, signed and filed with the Secretary of said Company a written call for a special meeting of the stockholders of said corporation, pursuant to statute, to be held at the office of said corporation, No. 822 Ninth Street, in the City of Greeley, Weld County, Colorado, on the 22d day of July, 1920, at the hour of 2 o'clock p. m., for the purpose of having submitted to a vote by ballot of the stockholders of said corporation the question of renewal of the corporate life thereof for a period of twenty (20) years, to-wit, until the 24th day of January, 1940.

THIRD -- That notice of such meeting, stating the time and place thereof and the purpose for which the same was to be held, in accordance with said call and statute, which notice contained an exact copy of said written call, was duly published four consecutive weeks, viz. : on June 24th, July 1st, July 8th and July 15th, 1920, in the Weekly Tribune-Republican, a newspaper published in the City of Greeley, Weld County, Colorado, and nearest to the place where said corporation offices, and said notice was likewise mailed to each stockholder of said Company thirty (30) days prior to the time fixed for said meeting, said notice being mailed on the 22d day of June, 1920, by the Secretary of said Company to each stockholder thereof at his last known postoffice address.

FOURTH -- That said special meeting of the stockholders of said corporation was duly held pursuant to said call and notice at two o'clock p. m. on the 22d day of July, 1920, at the time and place specified in said call and notice;

that at such meeting the holders of 851 shares, being more than a majority of the Sixteen Hundred Eight shares constituting all the outstanding stock of said corporation, were present in person or by written proxy; that said meeting was duly organized by the election of the undersigned Charles Swink as Chairman, and the undersigned Harry L. Dowell as Secretary thereof; that at said meeting the following resolution was offered and its adoption moved and seconded, viz. :

" Resolved, that the corporate life of The Greeley and Loveland Irrigation Company be and the same is hereby extended for a period of twenty (20) years from the 24th day of January, 1920, viz. : until the 24th day of January, 1940, in accordance with the statute in that behalf. "

Whereupon, a vote by ballot was taken at said meeting on the passage of said resolution, which resulted in the passage of said resolution by a vote of 851 shares in favor thereof and No shares opposed thereto; that thereupon the Chairman of the meeting declared that said resolution was duly carried by the requisite vote.

FIFTH -- That at said meeting the undersigned as President and Secretary were instructed to file certificate as required by statute pertaining thereto.

SIXTH -- That by virtue of the premises the corporate life of said Colorado corporation, The Greeley and Loveland Irrigation Company, is extended for an additional term of twenty (20) years, to-wit, until the 24th day of January, 1940.

This certificate is made for filing in the office of the Secretary of State of Colorado, and in the office of the County Clerk and Recorder of Weld County, Colorado.

IN WITNESS WHEREOF, the undersigned as said President and Secretary of said corporation have hereunto set their hands under the corporate seal of said Company, in duplicate, this 22nd day of July, 1920.

Harry L. Dowell
Secretary

Charles Swink
President

Certificate of Amendment
of
Articles of Incorporation
of

LHR 2,
1/17/29

The Greeley and Loveland Irrigation Company.

KNOW ALL MEN BY THESE PRESENTS:

That we, Charles Swink President, and Albert E. Keys Secretary, of The Greeley and Loveland Irrigation Company, a corporation duly organized and existing 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 triplicate, and in accordance with the said laws of the State of Colorado we make the following statements:

That the holders of more than one-third in amount of the capital stock of The Greeley and Loveland Irrigation Company, subscribed, issued or credited to the holders thereof, or outstanding by the stock books of said Company, did in writing, on the 1st day of December, A.D., 1928, request the President of said Company to call a meeting of the stockholders thereof for the purpose of considering a certain proposed amendment to the Articles of Incorporation of said Company, setting forth in said written request the substance of said proposed amendment.

That at a meeting of the Board of Directors of said Company, called by the President in pursuance of such request, and held at the office of said Company, in the City of Greeley, Weld County, Colorado, on the 3rd day of December, A.D., 1928, said Board of Directors called a meeting of the stockholders of said Company to be held at the City Hall in the City of Greeley, Weld County, Colorado, on the 14th day of January, A.D., 1929, for the purpose and object of considering the proposed amendment to the Articles of Incorporation of The Greeley and Loveland Irrigation Company.

That thirty days' notice of said meeting to consider said proposed amendment to the Articles of Incorporation of said Company was given in form and manner as provided by law, to each stockholder by delivery to each personally, or by depositing in the Post Office a notice, properly addressed, stating the time and object of the meeting, which said notice was signed by the secretary of said Company; and said notice of said meeting was duly published ten days prior to said Meeting in The Greeley Daily Tribune, a newspaper published in the City of Greeley, Weld County, Colorado, being the place in which the principal office of the Company is kept.

That said meeting of the stockholders of said Company called to consider the proposed amendment to the Articles of Incorporation thereof, was held at the City Hall in the City of Greeley, Weld County, Colorado, on the 14th day of January, A.D., 1929.

That at the meeting, aforesaid, more than two-thirds of all the capital stock of said corporation then subscribed and in good faith outstanding, were duly and properly present; that there was then and there introduced for consideration and adoption the following resolution, to-wit:

"BE IT RESOLVED, That the Articles of Incorporation of The Greeley and Loveland Irrigation Company, be amended by adding to, and at the end of, the Second Paragraph or Article of said Articles of Incorporation, the Following, to-wit:

Our said Corporation is to be operated as a Mutual Hitch or Irrigation Company under the laws of the State of Colorado, and for the benefit of our stockholders under such laws, and is not to be operated for profit, or to earn or declare dividends on the stock of said Corporation."

That All the stock present, being more than two-thirds of all of the stock of said Corporation, then subscribed and in good faith outstanding, was voted in favor of the adoption of the proposed amendment and the same was declared duly adopted.

That the President and Secretary of said Corporation were, at the meeting aforesaid, 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 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 17 day of January, A.D., 1929, and have caused the seal of our Corporation to be affixed hereunto.

Charles Swink (SEAL)
President.

Attest:
Albert S. Keys (SEAL)
Secretary.

State of Colorado,
ss.
County of Weld.

Charles Swink, being first duly sworn, on oath deposes and says; that he is President of The Greeley and Loveland Irrigation Company, a corporation, and that Albert S. Keys, is the Secretary thereof; that the seal affixed to the above and foregoing Certificate, is the seal of said Corporation; that he has read the above and foregoing Certificate of Amendment, and well knows the contents thereof, and that the same is true to the best of his knowledge, information and belief.

Charles Swink
Subscribed and sworn to before me this 17 day of January, A.D., 1929.
My Commission expires December 9, 1930

Norman J. Bartels
Notary Public.

State of Colorado,
ss.
County of Weld.

Before me, Norman J. Bartels a notary Public in and for the County and State aforesaid, personally appeared Charles Swink President and Albert S. Keys Secretary of The Greeley and Loveland Irrigation Company, a corporation, 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 for the other,

that they are the President and secretary, respectively, of the said The Greeley and Loveland Irrigation Company, a corporation, and that the facts thus 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 and set forth.

Charles L. Smith

John P. King

Subscribed and sworn to before me this 17 day of January, A.D., 1929.

My Commission Expires December 9, 1930

Norman J. Bartels
Notary Public.

LHR2

Document processing fee
 If document is filed on paper \$125.00
 If document is filed electronically \$ 25.00

Fees & forms/cover sheets
 are subject to change.

To file electronically, access instructions
 for this form/cover sheet and other
 information or print copies of filed
 documents, visit www.sos.state.co.us
 and select Business Center.

Paper documents must be typewritten or machine printed.

ABOVE SPACE FOR OFFICE USE ONLY

Articles of Amendment

filed pursuant to §7-90-301, et seq. and §7-130-105 of the Colorado Revised Statutes (C.R.S.)

ID number 19871029757

1. Entity name

THE GREELEY AND LOVELAND IRRIGATION COMPANY

(If changing the name of the corporation, indicate name BEFORE the name change)

2. New Entity name
 (if applicable)

3. *(If the following statement applies, adopt the statement by marking the box and include an attachment.)*

☐ Other amendments are attached.

4. If the nonprofit corporation's period
 of duration as amended is less than
 perpetual, state the date on which the
 period of duration expires

(mm/dd/yyyy)

OR

If the nonprofit corporation's period of duration as amended is perpetual, mark this box ☒

5. (Optional) Delayed effective date

(mm/dd/yyyy)

6. Additional information may be included pursuant to other organic statutes such as title 12, C.R.S. If
 applicable, mark this box ☐ and include an attachment stating the additional information.

Notice:

Causing this document to be delivered to the secretary of state for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that the document is the individual's act and deed, or that the individual in good faith believes the document is the act and deed of the person on whose behalf the individual is causing the document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S., the constituent documents, and the organic statutes, and that the individual in good faith believes the facts stated in the document are true and the document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the secretary of state, whether or not such individual is named in the document as one who has caused it to be delivered.

7. Name(s) and address(es) of the individual(s) causing the document to be delivered for filing

Kahn Jeffrey J
(Last) (First) (Middle) (Suffix)
P.O. Box 978
(Street name and number or Post Office Box information)
Longmont CO 80502-0978
(City) (State) (Postal/Zip Code)
United States
(Country - if not US)

(The document need not state the true name and address of more than one individual. However, if you wish to state the name and address of any additional individuals causing the document to be delivered for filing, mark this box ☐ and include an attachment stating the name and address of such individuals.)

Disclaimer:

This form, and any related instructions, are not intended to provide legal, business or tax advice, and are offered as a public service without representation or warranty. While this form is believed to satisfy minimum legal requirements as of its revision date, compliance with applicable law, as the same may be amended from time to time, remains the responsibility of the user of this form. Questions should be addressed to the user's attorney.

AMENDMENT TO THE ARTICLES OF INCORPORATION

A director or officer of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director or officer, except for liability arising from (i) any breach of the director or officer's loyalty to the corporation or its stockholders, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of any law, (iii) any transaction from which the director or officer derived any improper personal benefit, or (iv) any other act expressly proscribed or for which directors are otherwise liable under the Colorado Corporation Code. Any repeal or modification of this article by the stockholders of the corporation shall not adversely affect any right or protection of a director of the corporation existing at the time of such repeal or modification.

Seven Lakes Reservoir Company

SEVEN LAKES RESERVOIR COMPANY

BY-LAWS

I.

MEETING OF STOCKHOLDERS

1. Meetings of the stockholders may be held at the principal place of business of the company at Greeley, Colorado, or at such other place as shall be selected by the President.

2. The annual meeting of the stockholders shall be held at a time, place and date established by the board of directors each year, at which time there shall be elected a board of directors for the ensuing year, and there shall be transacted such other business as shall properly come before the meeting. Notice of said meeting shall be given in the same manner as for special meetings.

3. If, for any reason, the annual meeting shall not be held on said date, then it may be held on any date thereafter fixed by the board of directors, at the written request of stockholders of at least one-fourth of all outstanding stock, in which case notice of such meeting shall be given as for special meetings.

4. Written or printed notice stating the place, day and hour of the meeting, and in case of a special meeting, the purpose or purposes for which the meeting is called, shall be delivered not less than ten (10) nor more than fifty (50) days before the date of the meeting, to each shareholder of record entitled to vote at such meeting, except that if the authorized capital stock is to be increased, at least thirty (30) days' notice shall be given. If mailed, such notice shall be deemed delivered when deposited in the United States mail addressed to the shareholder at his address as it appears on the stock transfer book of the corporation.

5. A majority of the issued and outstanding stock, represented in person or by proxy, shall constitute a quorum for the transaction of business at any meeting of the stockholders. A minority shall have power to adjourn to a day certain.

6. Each stockholder shall be entitled to one vote for each share of stock standing in his own name on the books of the company, whether represented in person or by proxy. Cumulative voting shall not be allowed in the election of directors or for any other purpose.

II.

DIRECTORS

1. A board of five (5) directors shall be chosen annually by the stockholders at their annual meeting. The directors shall manage the affairs of the company and the term of office shall be for one (1) year and until their successors are elected and qualified.

2. Meetings of the board of directors shall be held monthly on call of the President or Secretary of the company. Special meetings of the board may be called at any time by the President, or shall be so called at the request of two directors.

3. The board of directors shall have full control of the company's affairs in accordance with the statutes, the Certificate of Incorporation and these By-Laws. The board of directors shall have the powers and authorities conferred by law to manage and supervise the company.

4. Vacancies in the board of directors, by reason of death, resignation, or other cause, shall be filled by the remaining directors.

5. A majority of the directors shall constitute a quorum.

III.

OFFICERS

1. The officers of this corporation shall be President, Vice-President, Secretary and Treasurer. The President and Vice-President shall be members of the board of directors. The Secretary and Treasurer may or may not be one and the same person, and may or may not be a stockholder or a member of the board of directors.

2. The above designated officers shall be elected by ballot

at the first meeting of the board of directors after the annual meeting of the stockholders, and shall hold office until the next annual meeting of the stockholders and until their successors are elected and qualified.

3. Vacancies in any office shall be filled by election (at the next meeting) of the board of directors, but if vacancies reduce the membership of the board so that there is no quorum, a special meeting of the stockholders shall be held to fill the vacancies.

IV.

DUTIES OF THE PRESIDENT

The President shall preside at all meetings of the stockholders and directors, shall sign all documents and other instruments of the corporation not herein otherwise provided and discharge the general duties of a president or chief executive officer of a private corporation, and perform such other duties as are herein provided.

V.

DUTIES OF THE VICE-PRESIDENT

The Vice-President shall discharge the duties of the President whenever the President, for any reason, cannot act; and such other duties assigned by the board of directors.

VI.

DUTIES OF THE SECRETARY

The Secretary shall keep minutes of all meetings of the board of directors, minutes of all meetings of the stockholders, and also minutes of any and all committees as ordered by the board of directors; shall have custody of the corporate seal, shall sign all documents and contracts requiring the corporate seal. He or the President shall give notice of all meetings of the board of directors and of the stockholders, and shall keep a record of the same and post office address of each stockholder.

VII.

DUTIES OF THE TREASURER

The Treasurer shall receive and have charge of such money, notes and other similar property belonging to the company, as may be ordered by the board of directors. He shall keep such financial accounts as may be required, and, at the expiration of his term, shall turn over to his successor or to the board of directors all property of the company in his hands. He shall report financial status of the company monthly to the board of directors and annually to the board of directors and annually to the stockholders.

VIII.

BANK FUNDS

The funds of the company shall be deposited in such bank or banks as the board of directors may determine from time to time, and may be drawn upon in the name of the company by the President and Secretary, or such person or persons as the board of directors may determine by resolution. All checks of the company shall bear signature of two authorized parties.

IX.

CAPITAL STOCK

1. The certificate for shares of the capital stock of the company shall be in such form consistent with the Certificate of Incorporation and By-Laws as shall be prepared or approved by the board of directors. The certificates shall be issued in numerical order, signed by the President and also by the Secretary.

2. The name of the persons owning the shares represented thereby, with the number of such shares and the date of the issue, shall be entered on the books of the company. All certificates surrendered to the company shall be cancelled and no new certificates shall be issued until the former certificates for the same number of shares shall have been surrendered and cancelled. The transfer fee established by the board of directors to defray some of the

costs of transfer shall be collected prior to delivery of re-issued shares. In case of lost certificates the replacements shall be issued only pursuant to applicable statutes of Colorado.

X.

ASSESSMENTS OF STOCK AND COLLECTION THEREOF

1. Assessments on the full paid stock, for the maintenance, superintendence and payment of necessary expenses and debts of the company, may be ordered by the stockholders of the company at a meeting therefor, pursuant to the statute in that behalf.

2. The board of directors may determine the annual assessments if no quorum existed at the regular annual shareholders meeting and there is no subsequent shareholders meeting.

3. No stockholder who is delinquent in the payment of assessments regularly made, and of which he has had due notice, shall be entitled to use any water based on said stock, distributed by the company for irrigation purposes or otherwise, during the period of his delinquency. Interest at the rate of 18 per cent per annum shall be chargeable on delinquent assessments.

4. The board of directors may order any stock for which assessments are delinquent for more than a year following written notice to be forfeited and sold as provided by statute.

XI.

DELIVERY OF WATER

The water stored in the reservoirs of this company shall be divided equally, according to their stock holdings, among those stockholders of this company, who are not delinquent in payment of assessments duly levied.

XII.

INDEBTEDNESS

The corporation may borrow money, execute such evidence of indebtedness and create such liens upon its property of whatever kind as the board of directors may from time to time authorize and

approve. All borrowings of the company shall be evidenced by notes signed by the President or Vice-President of the company.

XIII.

EMPLOYEES

The board of directors may discharge any officer or employee at any time, all serving at the pleasure of the board of directors. Compensation shall be determined from time to time by the board of directors for officers and employees, and director attendance fees.

Any and all employees, upon resolution of the board of directors, may be placed under bond for the faithful performance of their duties and for the purpose of accounting for any and all funds.

XIV.

INDEMNIFICATION

The board of directors may, by resolution, agree to indemnify and save harmless the officers, employees and directors of the company from loss, costs, expenses and liability arising from acts or omissions in the course of the conduct of the business of the company; provided such act or omission was not wilful or due to gross neglect.

XV.

EXECUTIVE COMMITTEE

The board of directors may, by resolution, designate two of their members to constitute an executive committee, which shall have and exercise, subject to such limitations, if any, as may be prescribed by the By-Laws or by Resolution of the board, the powers of the board of directors in the management of the business and affairs of the company; provided, such executive committee shall only act at such time as the board of directors is not in session, and in no case to the exclusion of the board of directors at any time to act as a board upon any business of the corporation.

XVI.

SEAL

The corporate seal shall contain the name of the corporation

in the outer circle and the word 'SEAL' in the center.

XVII.

AMENDMENT OF BY-LAWS

These By-Laws may be amended at any meeting of the board of directors by vote of three directors in favor of such amendment.

We hereby certify that the foregoing By-Laws, consisting of Seventeen Articles, have been duly adopted as the By-Laws of said corporation.

Lawrence A. Siry
Edmund Stroh
Marcel M. Harper
Willard G. Schneider
Emanuel W. Fritze

CERTIFICATE OF INCORPORATION
OF
THE SEVEN LAKES RESERVOIR COMPANY.
-000-

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, Burton D. Sanborn, W. A. Insinger, and Edward A. Thompson, have associated, and do associate themselves together as a corporation, under, and by virtue of the laws of the State of Colorado in that behalf, and do hereby certify and declare,

First; That the corporation name of said Company is and shall be The Seven Lakes Reservoir Company.

Second; That the objects for which said Company is so incorporated shall be the following, that is to say:

1st. To acquire and become the owner, by purchase, condemnation, or other lawful means, of all the land constituting certain natural depressions or basins forming a series of seven lakes adapted for reservoir purposes, and for the storage of water, situated on parts of sections 6 and 7, Township 5 North, Range 68 West; of Section 31, Township 6 North, Range 68; of Section 36, Township 6 North, Range 68 West; and of Section 12, in Township 5 North, of Range 68 West of the 6th principal meridian, in the County of Larimer, in the State of Colorado. *Amended Feb. 9, 1929*

Also to acquire and become the owner of, as above, the rights of way for feeder ditches or inlet ditches, and of improved and unimproved lands, and shares of the capital stock, or other evidences of ownership of water in other ditches, which may be bought or sold as the purposes of this Company may require. Also to lease or acquire by purchase certain shares of the capital stock of The Loudon Ditch Company, and to exchange the use of said shares with other shareholders on such terms as this Company may agree to.

2nd. To construct, erect, keep in repair, manage, operate, and maintain the embankments, flumes, outlets, excavations, headgates, tubes, outlet appliances, fish screens and all other appliances necessary, proper and expedient to render such reservoir sites, to be acquired by this Company, well adapted for the safe storage of water in large quantities, with means for drawing such water gradually therefrom, as needed for irrigation or domestic purposes, by the consumers or users of water having or to have contractual relations with said Company.

3rd. To construct, excavate, operate, keep in repair, manage and main-

main ditches or canals as feeders for said reservoir, and by means of such feeder ditch or ditches, to divert water into the same from time to time, and from year to year during its corporate life, and to transmit to its successors the right to continue such diversion indefinitely thereafter. By means of said feeder ditches, said corporation is to divert water from natural streams known as the Big Thompson river, the Cache La Poudre, Fossil Creek, and more directly and especially, to store all the seepage, waste and flood waters of Dry Creek, which now runs through said reservoir site, into the great Boyd Lake basins, located about one quarter of a mile East, and some fifty feet lower than the said proposed reservoir, and the waste water from the said Big Lateral from the Loudon Ditch: also by contract, condemnation, or other lawful means, to acquire the right to enlarge ditches and water conduits already constructed, from the Cache La Poudre and Big Thompson rivers, and to acquire ~~shares~~ by purchase, the Loudon reservoir, now owned and controlled by the Loudon Reservoir Company, together with all its water appropriations and its decree for fifty millions^{Section} cubic feet of water from the Big Thompson river, and all appurtenances connected therewith; said reservoir having an area of sixtysix acres, on Sections 24 and 25, Township 6, Range 68, and Sections 19 and 30 in ~~Township~~ ^{Section} 19, in Township 6, Range 68.

One proposed source of water supply from the Big Thompson river is by means of an enlargement and use of that certain irrigating ditch known as the Loudon ditch, from its head on the North bank of the Big Thompson river, in Larimer County, Colorado, to a point about two and a half miles West of said Seven Lakes Reservoir, where said Loudon Ditch crosses Dry ~~L~~ Creek, one of the feeders of said reservoir, and by this natural stream to conduct water into said reservoir.

Another proposed source of water supply from the Big Thompson river is by means of an enlargement of the lower portion of the so-called Big Lateral from the Loudon Ditch, to the Westerdoll Lakes belonging to this Company, located in North West quarter of Section seven, Township 5 North, Range 68 West, to conduct waste water thereto.

Another proposed source of water supply from the Big Thompson river is by means of an enlargement of that certain irrigating ditch known as the Barnes Ditch, from its head on the North bank of the Big Thompson river in Larimer County, Colorado, to its termination, and by an extension and enlargement of some of the lateral ditches of the same, conduct water into said proposed reservoir of this Company.

Another proposed source of water supply for the reservoir of this Company, ~~to~~ to be obtained from the Cache La Poudre river, is to be obtained from an enlargement of that certain irrigating ditch known as the Mercer Ditch, belonging to the New Mercer Ditch Company, from its head, on the South West bank of the Cache La Poudre river in Larimer County, Colorado, to its terminus, and an extension thereof, to cause the water diverted by this Company, after flowing through said ditch, to escape into Fossil Creek, and then to be diverted from Fossil Creek to the reservoir of this Company.

Another proposed source of water supply for this Company is to ~~be~~ obtain the seepage, waste and flood water coming down that natural stream known as Fossil Creek, by means of a ditch leading from said Fossil Creek to said proposed reservoir of this Company. The headgate of said ditch in Fossil Creek, and the ditch leading therefrom are to be located on the most convenient points, line or lines, for that purpose.

4th. To acquire and become the owner of other ditches suitable for conducting water to said proposed reservoir, from any available source, and to rent water from other ditches and reservoirs, and to cause to flow into any such feeders, all waste drainage and seepage waters obtainable, as well as all waters flowing in any such streams, not otherwise appropriated.

5th. To appropriate and divert from the Big Thompson river, from the Cache La Poudre river, and from Fossil Creek and Dry Creek, and all other available sources of supply, through the feeders there aforesaid, and in thereof and through all other available conduits now existing, or to be constructed by said Company, water not otherwise appropriated, at times when there is water in such natural streams, or in any thereof which can be lawfully so diverted, for the purpose of filling or refilling said reservoir from time to time, so far as it is possible to do so.

6th. To acquire, by purchase, condemnation, or other lawful means, all necessary rights of way to carry out the said corporate objects, and also rights of way for the construction of an outlet ditch to conduct water from said reservoir to and into the New Loveland and Greeley Canal, and under or over said ditch to the Farmers Irrigating Ditch, and under or over said ditch down and into the Big Thompson river, and to conduct water in

and along said ditches, and along the course of said river to any point from which consumers of this Company, having contractual relations with it, can there divert the same again. Also to enter into contracts, by means of exchanges of water, so that the water may be diverted into the said the New Loveland and Greeley Ditch, the Farmers Ditch, or the Big Thompson river, where it may be exchanged for an equivalent of the water of the Big Thompson river; to be delivered into the headgate of the Loudon Ditch, the New Loveland and Greeley Ditch, the Hillsboro Ditch, or any other ditch on the Big Thompson river; in return for an equivalent amount delivered to said ditches or rivers by means thereof.

7th. To have full power to make any lawful contract or deed with consumers of water from said reservoir, and for the supply and delivery of said water from time to time and from year to year, or perpetually, at any places available, either by direct delivery or by a system of exchanges, receiving for such contracts a reasonable compensation, price and emoluments.

8th. To manage, control, keep in repair and improve, from time to time, the reservoir, dams, headgates, inlet and outlet ditches, and conduits of this Company, and to provide for a public road along or near the Eastern high line of said reservoir, and to superintend and control the filling of said reservoir with water; the storage of water therein, the diversion of water therefrom, the delivery of water to consumers of this Company; and the condemnation of rights of way in other ditches; or to execute legally appointed contracts with the management of other ditches, to enable this Company to deliver its water to consumers of this Company, and to do and perform all other things necessary to carry out its said corporate objects.

9th. To acquire, if deemed expedient, the rights of appropriation of water belonging to those who have already appropriated water from the Cache La Poudre river and its tributaries, and the Big Thompson river and tributaries thereof, and from all other available sources of supply, to further supplement the water supply of this Company, and those entitled to water therefrom.

10th. To stock said reservoir with Black Bass, or other fish suitable for food, and to derive a revenue by conferring licenses to fish therein, and from the sale of fish. To lease the shooting privileges on or around said reservoir to parties who will make substantial annual payments for such privileges.

11th. To construct, acquire, manage and control row boats and appliances; or boats propelled by steam, electricity or other power, and other conveniences to accommodate the public, and to make said reservoir adapted for a place of pleasure or resort, boating, hunting, fishing, picnicing, etc., etc.

12th. To borrow money for any proper corporate purposes, whenever it may be necessary, and to secure the same by notes or bonds secured by deeds of trust or mortgages on any or all of the property or franchises of this Company, and to provide for the payment of any such indebtedness, and interest thereon, in any lawful manner.

THIRD. The natural streams from which the water is to be taken and diverted by this Company, are and shall be Dry Creek, Fossil Creek, the Big Thompson river, and tributaries thereof, the Cache La Poudre river and tributaries thereof.

FOURTH. The place on said several streams, at or near which the waters shall be diverted therefrom by the feeders of this Company, shall be on the Big Thompson river, at the present headgate of the Loudon Ditch, and the present headgate of the ^{Barnes} ~~Louden~~ Ditch, in Larimer County, Colorado. The place on said ~~Cache~~ Cache La Poudre river at or near which water shall be diverted therefrom into the said reservoir of this Company, is the present location of the headgate of the New Mercer Ditch, and also, if deemed advisable, the present headgate of the Larimer County Canal No. 2, and the present headgate of the Pleasant Valley and Lake Canal, in Larimer County, Colorado, ^{by} ~~for~~ means of enlargement of said several ditches or any of them. The point on Fossil Creek at or near which the waters are to be diverted therefrom, and to be conducted into the reservoir of this Company, are as follows:-

A point in the North half, Northwest quarter of Section 11, Township 6 North, Range 69 West, at which point of diversion, a small dam is to be

constructed by said Company to cause waters to flow from said Fossil Creek into the ditch or ditches proposed. The points on Dry Creek, at or near which water is to be diverted, are all points on said stream, it being the present natural feeder of the Basin now known as Boyd Lake, having a supply of water nevertheless than one cubic foot in amount, and in times of flood running as high as fifty or one hundred cubic feet per second, all of which water will be intercepted and retained by the dam in the gorge of Dry Creek, before it enters the great Boyd Lake basin, where said water has for years gone to waste, without having been appropriated to beneficial uses.

FIFTH. The lines of the feeder ditches of said Company, from the Cache La Poudre and the Big Thompson, shall be the lines of the irrigation canals above mentioned, or any thereof which this Company may succeed in obtaining contractual rights to enlarge the same, or obtain rights by condemnation so to do. And from the terminal of any or all of said ditches by any practical course to said reservoir, and from the Loudon Ditch, where the same crosses Dry Creek. The line of the feeder ditches of said reservoir from Fossil Creek, shall be from the point of diversion from Fossil Creek mentioned in Subdivision Fourth hereby, thence by the most direct and practical course to said reservoir. Through the lower portion of this ditch the water from the present Loudon or Donath Reservoir may be conveyed to the said reservoir of this Company.

SIXTH. That the uses to which the water appropriated, diverted and stored by this Company are to be applied are principally for the irrigation of agricultural lands lying in the County of Larimer and the County of Weld, State of Colorado; by supplying ditch owners with water to supplement their present supply, also to supply water to fill reservoirs owned by others, to be used for the late irrigation of agricultural crops, or to supply water to reservoirs in the vicinity of Greeley for domestic use, under a gravity system of water works.

In addition to these principal objects, the water of this Company may also be used for the culture of fish and fowl, and for boating, hunting and as a resort, said uses being subordinate to the main object of furnishing water for agricultural irrigation and domestic use.

SEVENTH. The amount of Capital Stock of said Company shall be Forty Thousand Dollars (\$40,000), to be divided into four hundred shares of One Hundred Dollars (\$100) each.

Eighth. The term of existence of said corporation shall be twenty years:

NINTH. The Board of Directors of said Company shall consist of five persons, and the name of the directors who are hereby appointed to manage the affairs of the Company for the first year of its existence and until their successors are elected, shall be W. A. Insinger, E. A. Thompson, F. R. Hyland, Spencer A. Moore and Burton D. Sanborn..

TENTH. The principal office of said Company shall be in the City of Greeley, in the County of Weld, in the State of Colorado. The principal business of said corporation shall be carried on in the counties of Larimer and Weld, in the State of Colorado.

ELEVENTH. The Board of Directors of said Corporation shall have power to make such by-laws as they may deem proper for the management of the affairs of the Company, not inconsistent with the laws of the State, for the purpose of carrying on all kinds of business within the objects and purposes of said Company.

Witness the hands and seal of its incorporators, this first day of May A. D. 1900, in triplicate.

Burton D. Sanborn
W. A. Insinger
Edward A. Thompson

State of Colorado, }
 County of Weld. } ss.

I, Milton A. Lyons, a Notary Public, within and for said County and State aforesaid, do hereby certify that Burton D. Sanborn, W. A. Insinger, and E. A. Thompson, personally appeared before me, and acknowledged to me that they were the incorporators of the above named Company, and that they executed the foregoing instrument for the purposes and objects therein expressed.

known to me to be the persons who signed and sealed the above certificate of incorporation, appeared before me this day in person, and each and severally acknowledged that he signed and sealed the foregoing instrument of writing as his free and voluntary act for the uses and purposes therein set forth.

Given under my hand and seal, this 2nd day of May

A. D. 1900. I further certify that my Commission expires May 14th, 1900.

Milton A. Lyons,
Notary Public.

CERTIFICATE OF EXTENSION AND RENEWAL OF CORPORATE LIFE

of
THE SEVEN LAKES RESERVOIR COMPANY.

TO ALL WHOM IT MAY CONCERN :

The undersigned, Ruane H. Barber as President of The Seven Lakes Reservoir Company, a Colorado corporation, and Harry L. Dowell as Secretary of said corporation, hereby certify under the seal of said corporation the following facts, pursuant to the provisions of the Colorado statutes, as follows :

FIRST -- That the undersigned are, respectively, President and Secretary of said corporation.

SECOND -- That of date of May 29th, 1920, stockholders of said corporation, owning in the aggregate One Hundred Thirty shares of the capital stock thereof and more than ten per cent. of the entire capital stock of said Company, signed and filed with the Secretary of said Company a written call for a special meeting of the stockholders of said corporation, pursuant to statute, to be held at the office of said corporation, No. 822 9th Street, in the City of Greeley, Weld County, Colorado, on the 15th day of July, 1920, at the hour of two o'clock p. m., for the purpose of having submitted to a vote by ballot of the stockholders of said corporation the question of renewal of the corporate life thereof for a period of twenty (20) years, to-wit, until the first day of May, 1940.

THIRD -- That notice of such meeting, stating the time and place thereof and the purpose for which the same was to be held, in accordance with said call and statute, which notice contained an exact ^{copy} of said written call, was duly published for four consecutive weeks, viz. : on June 17th and 24th, July 1st and 8th, 1920, in The Weekly Tribune-Republican, a newspaper published in the City of Greeley, Weld County, Colorado, and nearest to the place where said corporation offices, and said notice was likewise mailed to each stockholder of said Company thirty days prior to the time fixed for said meeting, said notice being mailed on the 15th day of June, 1920, by the Secretary of said Company to each stockholder thereof at his last known postoffice address.

FOURTH -- That said special meeting of the stockholders of said corporation was duly held pursuant to said call and notice at two o'clock p. m. on Thursday the 15th day of July, 1920, at the time and place specified in said call and notice; that at said meeting the holders of 254 shares, being more

than a majority of the 400 shares constituting all the outstanding stock of said corporation, were present in person or by written proxy; that said meeting was duly organized by the election of James C. Seckey as Chairman, and the undersigned Harry L. Dowell as secretary thereof; that at said meeting the following resolution was offered and its adoption moved and seconded, viz.:

" Resolved, that the corporate life of The Seven Lakes Reservoir Company be and the same is hereby extended for a period of twenty (20) years from the first day of May, 1920, viz. : until the ~~see~~ first day of May 1940, in accordance with the statute in that behalf. "

Whereupon, a vote by ballot was taken at said meeting on the passage of said resolution, which resulted in the passage of said resolution by a vote of 254 shares in favor thereof and No shares opposed thereto; that thereupon the Chairman of the meeting declared that said resolution was duly carried by the requisite vote.

FIFTH -- That at said meeting the undersigned as President and Secretary were instructed to file certificate as required by statute pertaining thereto.

SIXTH -- That by virtue of the premises the corporate life of said Colorado corporation, The Seven Lakes Reservoir Company, is extended for an additional term of twenty (20) years, to-wit, until the first day of May, 1940.

This certificate is made for filing in the office of the Secretary of State of Colorado, and in the office of the County Clerk and Recorder of Weld County, Colorado.

IN WITNESS WHEREOF, the undersigned as said President and Secretary of said corporation have hereunto set their hands under the seal of said Company, in duplicate, this 28th day of July, 1920.

Harry L. Dowell
Secretary

James C. Seckey
President.

LAKES
City of amendment
1/30/19

CERTIFICATE OF AMENDMENT

OF
ARTICLES OF INCORPORATION
OFTHE The Seven Lakes Reservoir Company

Know all Men by these Presents,

That we, Geo. H. Houston
President, and Albert H. Keys Secretary, of
The Seven Lakes Reservoir Companya 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 triplicate
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
The Seven Lakes Reservoir Companysubscribed, issued and credited to the holders thereof, and outstanding as shown by the books of the Corporation, did, on the First day of January, A. D. 19 20,
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 Greeley, County of Sold, in the State of Colorado, on the Fourth day of January, A. D. 19 20, the President presented such request to said Board, and, thereupon, the following resolution was read and adopted:RESOLVED—That a special meeting of the stockholders of this Corporation be and is hereby called to be held at the City Hall in the City of Greeley, County of Sold, State of Colorado, for the purpose and object of considering a certain proposed amendment to the Articles of Incorporation of The Seven Lakes Reservoir Company

in manner and form as follows, to-wit:

RESOLVED—That Section one of Article Two of the Articles of Incorporation of the said Corporation be amended to read as follows:

" Our said Corporation is to be operated as a Mutual Ditch or Irrigation Company under the laws of the State of Colorado, and for the benefit of our stockholders under such laws, and is not to be operated for profit, or to earn or declare dividends on the stock of said Corporation."

ORIGINAL IN AND BY RECORDS OF THE

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 delivery to each personally, or by depositing in the Post Office 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 Greeley Tribune-Republican, a newspaper published in said City of Greeley, 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, City Hall was held at the Corporation's office in the City of Greeley, County of Weld, and State of Colorado, on the 8th day of February, A. D. 19 22.

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 8th day of February, A. D. 19 22, and have caused the seal of our said Corporation to be affixed hereunto.

Attest:

Tom Houston
President



James D. [Signature]
Secretary



STATE OF COLORADO,

County of Weld

Before me, Herman J. Bartels, a Notary Public in and for said County and State, personally appeared Geo. H. Houston President, and Albert S. Keys Secretary, of the

The Seven Lakes Reservoir 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 Seven Lakes Reservoir Company and that the facts thus 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.

Geo. H. Houston
President.

Albert S. Keys
Secretary.

Subscribed and sworn to before me this 9th day of February A. D. 19 29

My Commission expires December 9th. A. D. 19 30.

Notary Public.

OFFICE COPY OF

No. _____

CERTIFICATE OF AMENDMENT
of
Articles of Incorporation
of
The Seven Lakes Reservoir Co.

Adopted FEB 8-1929
19

THE SEVEN LAKES RESERVOIR CO., INC.

LHR 538

Chris Chipman

Document processing fees

If document is filed on paper

\$125.00

If document is filed electronically

\$ 25.00

Fees & forms/cover sheets

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documents, visit www.sos.state.co.us

and select Business Center.

Paper documents must be typewritten or machine printed.

ABOVE SPACE FOR OFFICE USE ONLY

Articles of Amendment

filed pursuant to §7-90-301, et seq. and §7-130-105 of the Colorado Revised Statutes (C.R.S.)

ID number

19871030487

1. Entity name

THE SEVEN LAKES RESERVOIR COMPANY

(If changing the name of the corporation, indicate name BEFORE the name change)

2. New Entity name

(if applicable)

3. (If the following statement applies, adopt the statement by marking the box and include an attachment.)

☐ Other amendments are attached.

4. If the nonprofit corporation's period of duration as amended is less than perpetual, state the date on which the period of duration expires

(mm/dd/yyyy)

OR

If the nonprofit corporation's period of duration as amended is perpetual, mark this box



5. (Optional) Delayed effective date

(mm/dd/yyyy)

6. Additional information may be included pursuant to other organic statutes such as title 12, C.R.S. If applicable, mark this box ☐ and include an attachment stating the additional information.**Notice:**

Causing this document to be delivered to the secretary of state for filing shall constitute the affirmation or acknowledgment of each individual causing such delivery, under penalties of perjury, that the document is the individual's act and deed, or that the individual in good faith believes the document is the act and deed of the person on whose behalf the individual is causing the document to be delivered for filing, taken in conformity with the requirements of part 3 of article 90 of title 7, C.R.S., the constituent documents, and the organic statutes, and that the individual in good faith believes the facts stated in the document are true and the document complies with the requirements of that Part, the constituent documents, and the organic statutes.

This perjury notice applies to each individual who causes this document to be delivered to the secretary of state, whether or not such individual is named in the document as one who has caused it to be delivered.

Appendix B

Financial Statements

Appendix C

Project Photos

Horseshoe Lake High-Level Outlet Project



1. Looking at the upstream of the 11C County bridge and spillway for Horseshoe Lake.



2. Looking at the upstream of the 11C County bridge and spillway for Horseshoe Lake.

Boyd Lake High-Level Outlet Project



1. Looking at the upstream face of the diversion.



2. Looking at the can side or downstream face of the diversion.



3. Existing gate structure located within the center of the dam.



4. Upstream canal section of the diversion.

Appendix D

Design Drawings and Construction Cost Estimates

Horseshoe Lake High-Level Outlet Project

HORSESHOE LAKE					
Phase 1 - HIGH LEVEL OUTLET AND SPILLWAY MODIFICAITONS					
Item	Description	Quantity	Unit	Unit Price	Total Cost
1	Mobilization/De-mobilization	0.3	LS	\$ 45,000	\$ 14,000
2	Dewatering and Diversion	1	LS	\$ 10,000	\$ 10,000
3	Unclassified Excavation	880	CY	\$ 12	\$ 11,000
4	CIP Reinforced Concrete	140	CY	\$ 1,000	\$ 140,000
5	General Backfill	110	CY	\$ 25	\$ 3,000
6	Structural Backfill	188	CY	\$ 30	\$ 6,000
7	Riprap	175	CY	\$ 65	\$ 11,000
8	Riprap Bedding	40	CY	\$ 40	\$ 2,000
9	Hinge Crest Gate Installation (Owner Supplied)	1	LS	\$ 204,000	\$ 204,000
10	Handrails	28	LF	\$ 80	\$ 2,000
11	Water Stop	260	LF	\$ 4	\$ 1,000
	Mobilization, Bonds, Insurance (7.5% of Listed Items)	1.0	LS	\$ 30,000	\$ 30,000
Base Construction Subtotal (BCS)					\$ 434,000
Contingencies (15% of BCS)					\$ 65,000
Direct Construction Subtotal (DCS)					\$ 499,000

ABBREVIATIONS

CY cubic yard
 LF linear foot
 LS lump sum
 SF square foot
 SY square yard
 EA each

HORSESHOE LAKE					
Phase 2 - HIGH LEVEL OUTLET STRUCTURE, CONDUIT AND RUNDOWN					
Item	Description	Quantity	Unit	Unit Price	Total Cost
1	Clearing and Grubbing	1.5	Acres	\$ 2,000	\$ 3,000
2	Dewatering and Downstream Cofferdam	1.0	LS	\$ 15,000	\$ 15,000
3	Inlet Structure				
	Excavation, Unclassified	1,350	CY	\$ 5	\$ 7,000
	Excavation (Rock)	1,350	CY	\$ 10	\$ 14,000
	Foundation Preparation	110	SY	\$ 25	\$ 3,000
	Reinforced Concrete	110	CY	\$ 1,000	\$ 110,000
	Compacted Fill	2,000	CY	\$ 15	\$ 30,000
	Topsoil (Spread/Place)	200	CY	\$ 4	\$ 1,000
	Trash Rack	1	EA	\$ 50,000	\$ 50,000
	Excavate and Replace Riprap and Bedding	200	CY	\$ 20	\$ 4,000
	Supply and Install 10" RCP (Including Headwalls)	65	LF	\$ 80	\$ 5,000
	Supply and Install Hand Rail	160	LF	\$ 80	\$ 13,000
	Reinstate Pedestrian Path	1	LS	\$ 1,000	\$ 1,000
4	Pipeline				
	Excavation, Unclassified	3,750	CY	\$ 5	\$ 19,000
	Excavation (Rock)	3,750	CY	\$ 10	\$ 38,000
	Supply 108" RCP Conduit	355	LF	\$ 500	\$ 178,000
	Install 108" RCP Conduit	355	LF	\$ 100	\$ 36,000
	Supply and Install Bedding	100	CY	\$ 55	\$ 6,000
	Compacted Fill	6,900	CY	\$ 15	\$ 104,000
	Topsoil (Spread/Place)	300	CY	\$ 4	\$ 1,000
	Reinstate Road	1	LS	\$ 3,000	\$ 3,000
5	Outlet Structure				
	Excavation, Unclassified	2,000	CY	\$ 5	\$ 10,000
	Excavation (Rock)	2,000	CY	\$ 10	\$ 20,000
	Foundation Preparation	550	SY	\$ 25	\$ 14,000
	Reinforced Concrete	520	CY	\$ 1,000	\$ 520,000
	Compacted Fill	2,000	CY	\$ 15	\$ 30,000
	Topsoil (Spread/Place)	250	CY	\$ 4	\$ 1,000
	Riprap and Bedding	110	CY	\$ 20	\$ 2,000
	Supply and Install Hand Rail	210	LF	\$ 80	\$ 17,000
6	Access Roads	1	LS	\$ 2,000	\$ 2,000
7	Reclamation	1.5	Acres	\$ 7,500	\$ 11,000
8	Mobilization, Bonds, Insurance (7.5% of Listed Items)	1.0	LS	\$ 100,000	\$ 100,000
Base Construction Subtotal (BCS)					\$ 1,400,000
Contingencies (15% of BCS)					\$ 210,000
Direct Construction Subtotal (DCS)					\$ 1,600,000

ABBREVIATIONS

CY cubic yard
 LF linear foot
 LS lump sum
 SF square foot
 SY square yard
 EA each

HOPE, WARREN, 5/17/2013 1:32 PM

URS DRAWING PATH: N:\Projects\22242466_Horseshoe_High_Level\Sub_D0\9.0_Constr_Design\Plan_Sheets\Horseshoe_G01_COVER_SHEET.dwg

HORSESHOE LAKE HIGH LEVEL OUTLET AND SPILLWAY MODIFICATIONS

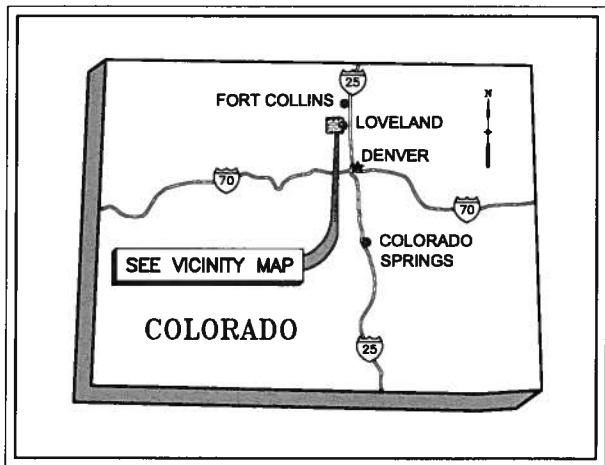
PREPARED FOR

SEVEN LAKES RESERVOIR COMPANY AND GREELEY/LOVELAND IRRIGATION COMPANY

SECTION 31 AND SECTION 36, TOWNSHIP 6 NORTH
RANGE 68 WEST
LARIMER COUNTY, COLORADO
WATER DIVISION 1, WATER DISTRICT 4, DAM ID. 040128

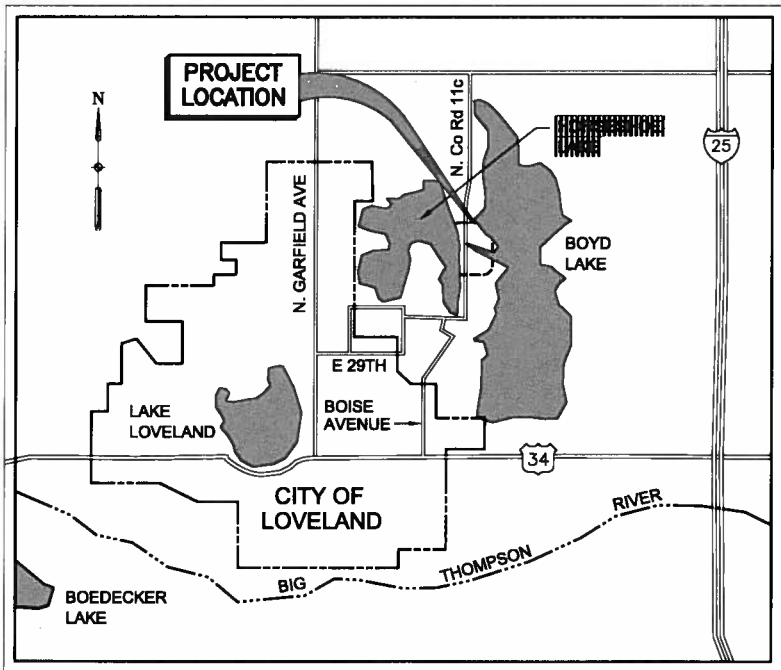
PREPARED BY

URS
CORPORATION



STATE MAP
NOT TO SCALE

INDEX OF DRAWINGS	
DRAWING NUMBER	DRAWING TITLE
G01	COVER SHEET AND INDEX OF DRAWINGS
G02	GENERAL NOTES, LEGEND AND ABBREVIATIONS
G03	GENERAL PLAN AND PROFILE OF MODIFICATIONS
S01	STRUCTURAL NOTES
S02	HEADWALL AND WINGWALL DETAILS 1 OF 4
S03	HEADWALL AND WINGWALL DETAILS 2 OF 4
S04	HEADWALL AND WINGWALL DETAILS 3 OF 4
S05	HEADWALL AND WINGWALL DETAILS 4 OF 4
M01	MISCELLANEOUS DETAILS



VICINITY MAP
0 1 2
SCALE IN MILES

COLORADO PROFESSIONAL ENGINEER CERTIFICATION

I HEREBY STATE THAT THESE PLANS FOR THE HORSESHOE LAKE HIGH LEVEL OUTLET AND SPILLWAY MODIFICATIONS WERE PREPARED UNDER MY SUPERVISION FOR THE OWNERS THEREOF.

FREDRICK L. LARSEN

COLORADO PE #28388

COLORADO STATE ENGINEER

APPROVED ON THE ____ DAY OF ____, 2013.

STATE ENGINEER

BY:

WILLIAM T. McCORMICK III, CO PE #29127
DAM SAFETY BRANCH

ENGINEER OF RECORD

THESE PLANS REPRESENT THE AS-CONSTRUCTED CONDITIONS OF THE HORSESHOE HIGH LEVEL OUTLET AND SPILLWAY MODIFICATIONS TO THE BEST OF OUR KNOWLEDGE AND JUDGEMENT, BASED IN PART ON INFORMATION FURNISHED BY OTHERS AS OF THE ____ DAY OF ____ 20__.

ENGINEER PRINTED NAME

SIGNATURE

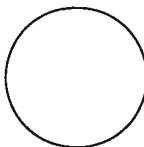
C-_____

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SEVEN LAKES
RESERVOIR COMPANY
AND GREELEY/LOVELAND
IRRIGATION COMPANY

HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS



ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

NO.	DESCRIPTION	DATE
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△		
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△		

URS PROJECT NO: 22242466.00001

DRAWN BY: WDH

DESIGNED BY: JAB

CHECKED BY: -

DATE CREATED: 10/2012

PLOT DATE: 4/2013

SCALE: AS SHOWN

ACAD VER: 2013

SHEET TITLE

COVER SHEET AND
INDEX OF DRAWINGS

G01

SHEET 1 OF 9

HOPE, WARREN, 5/17/2013 11:38 AM

URS DRAWING PATH: N:\Projects\22242466_Horseshoe_High_Level\Sub_00\9.0_Constr_Design\Plan_Sheets\HORSESHOE_G02_GENERAL NOTES LEG AND ABBREV.dwg

ABBREVIATIONS

APPROX.	APPROXIMATE	MAX.	MAXIMUM
AC-FT	ACRE - FEET	MIN.	MINIMUM
BOH	BOTTOM OF HOLE	M.E.	MATCH EXISTING
BOW	BOTTOM OF WALL	N	NORTHING
CBC	CONCRETE BOX CULVERT	NO.	NUMBER
CFS	CUBIC FEET PER SECOND	NA	NOT APPLICABLE
CL	CENTERLINE	NWS	NORMAL WATER SURFACE
DIA.	DIAMETER	O.C.	ON CENTER
D/S	DOWNSTREAM	O.W.	OUTLET WORKS
E	EASTING	PC	POINT OF CURVATURE
EA.	EACH	PT	POINT OF TANGENCY
ELEV, EL.	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION
EOC	EDGE OF CONCRETE	R	RADIUS
EST.	ESTIMATED	S	SLOPE, FT./FT.
EX.	EXAMPLE	STA.	STATION
EXIST.	EXISTING	STD	STANDARD
FT.	FEET	TH	TEST HOLE
FTG.	FOOTING	TOW	TOP OF WALL
FG	FINISHED GRADE	TP	TEST PIT
GDR	GEOTECHNICAL DATA REPORT	TYP.	TYPICAL
GBR	GEOTECHNICAL BASELINE REPORT	U/S	UPSTREAM
H, HORIZ	HORIZONTAL	V, VERT	VERTICAL
IN.	INCHES	WL	WATER LEVEL
INV.	INVERT	WSE	WATER SERVICE ELEVATION
Ld	DEVELOPMENT LENGTH		

GENERAL NOTES:

1. LARIMER COUNTY ENGINEERING TO DESIGN ALL BOX CULVERT AND ROADWAY IMPROVEMENTS. SEE CONSTRUCTION DRAWINGS FOR REPLACEMENT OF BRIDGE NO. LR11C-0.7-24E OVER THE HORSESHOE/BOYD SPILLWAY.

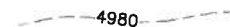
LEGEND



INDICATES CROSS SECTION LOCATION. B REFERS TO THE CROSS SECTION DESIGNATION. C02 REFERS TO THE DRAWING NUMBER WHERE THE SECTION IS SHOWN. WHEN SHOWN ON THE SECTION LABEL, THIS NUMBER REFERS TO THE DRAWING NUMBER WHERE THE SECTION IS CUT.



INDICATES DETAIL LOCATION. 1 REFERS TO THE DETAIL DESIGNATION. C04 REFERS TO THE DRAWING NUMBER WHERE THE DETAIL IS SHOWN. WHEN SHOWN ON THE DETAIL, THIS NUMBER REFERS TO THE DRAWING NUMBER WHERE THE DETAIL IS TAKEN.



INDEX CONTOURS (5' INTERVAL)



INTERMEDIATE CONTOURS (1' INTERVAL)



FINAL GRADING CONTOURS (5' INTERVAL)



FINAL GRADING CONTOURS (1' INTERVAL)



INDICATES DIRECTION OF FLOW



EXISTING FENCE



WATER SURFACE



PROPOSED SURVEY BENCHMARK



EXISTING HOUSE OR STRUCTURE



CULVERT



TREE LINE/SHRUB



TEST HOLE



GAS METER



FILL SLOPE



CUT SLOPE



GUY WIRE



POWER POLE



UTILITY MARKER



TELEPHONE RISER BOX



SIGN

---G---G---G---	UNDERGROUND GAS LINE
---W---W---W---	UNDERGROUND WATER LINE
---T---T---	UNDERGROUND TELEPHONE LINE
---OH---	OVERHEAD ELECTRIC LINE

	EXISTING SOIL OR GRADE
	LIMIT OF SOIL EXCAVATION
	ESTIMATED BEDROCK SURFACE
	CONCRETE
	RIPRAP
	BEDDING

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SEVEN LAKES
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AND GREELEY/LOVELAND
IRRIGATION COMPANY

HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS

ISSUED FOR BIDDING

ISSUED FOR CONSTRUCTION

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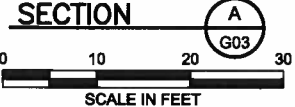
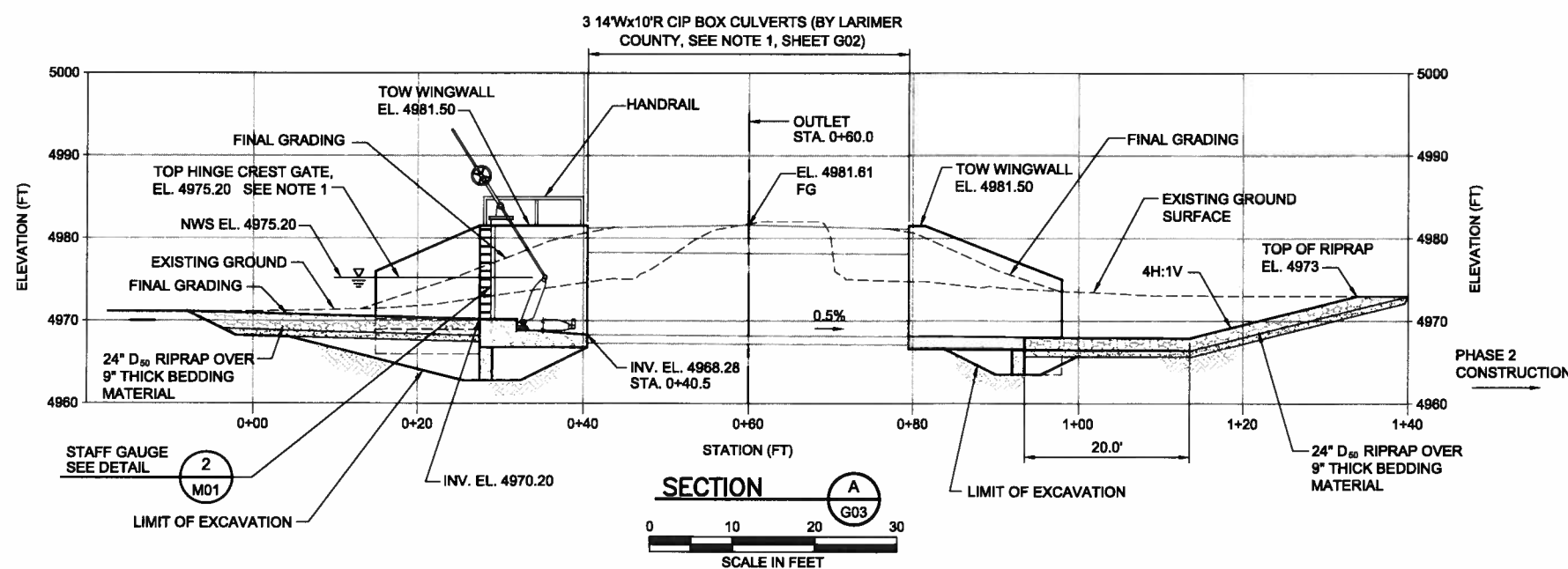
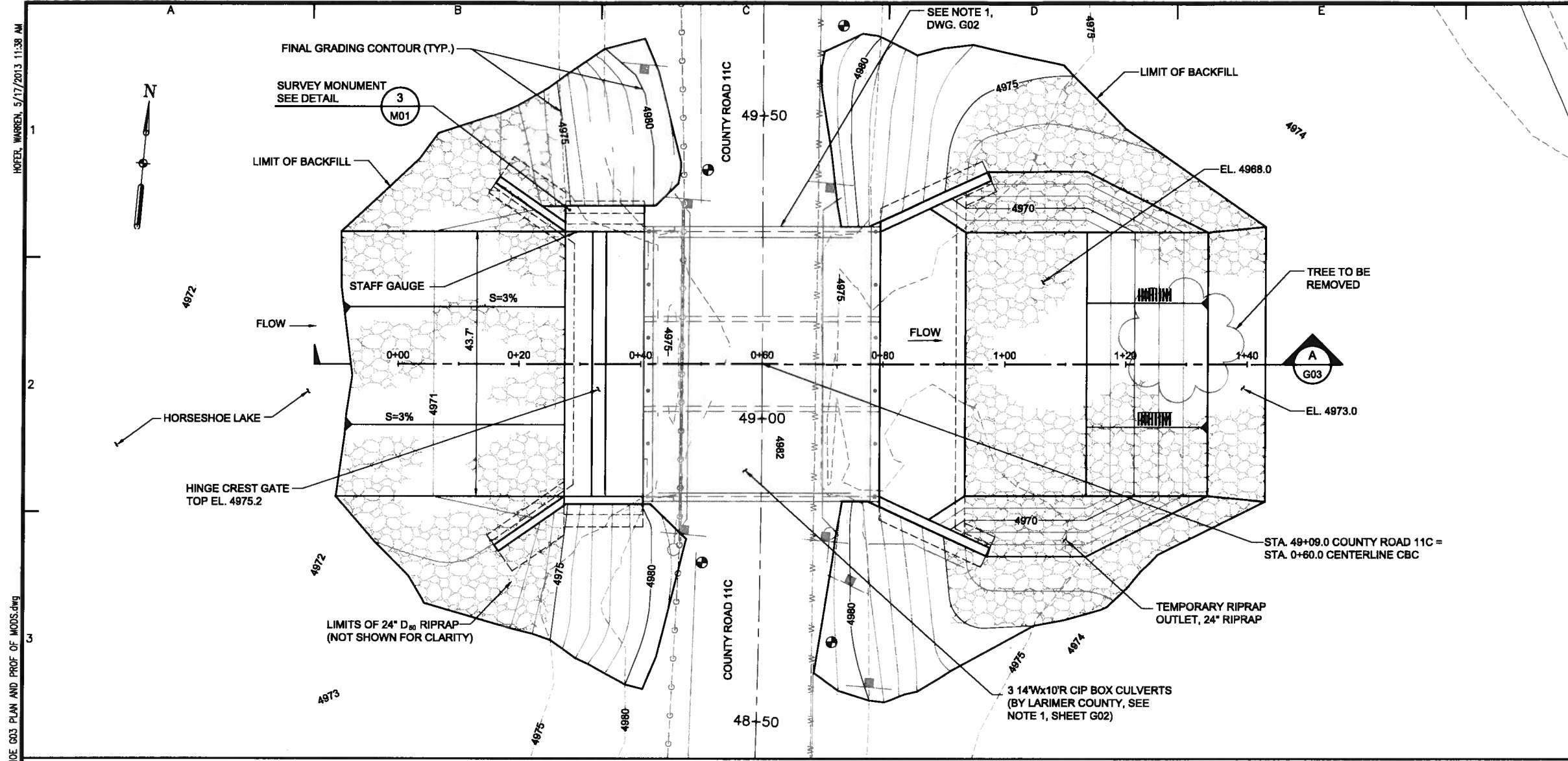
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DRAWN BY:	WDH
DESIGNED BY:	JAB
CHECKED BY:	
DATE CREATED:	10/2012
PLOT DATE:	4/2013
SCALE:	AS SHOWN
ACAD VER:	2013

SHEET TITLE

GENERAL NOTES,
LEGEND AND
ABBREVIATIONS

G02

SHEET 2 OF 9



NOTES:

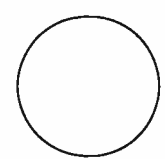
1. THE CONTRACTOR SHALL COORDINATE ALL GATE EMBEDMENTS AND BLOCK OUTS WITH GATE MANUFACTURER. THE LOCATIONS OF GATE EMBEDMENTS AND BLOCK OUTS INDICATED ON THE DRAWINGS ARE FOR INFORMATION ONLY. IN ADDITION, THE GATE SUPPORT WALL AND SLAB REINFORCEMENT SIZES, SPACING AND LAYOUTS SHOWN ON THESE DRAWINGS SHALL BE VERIFIED BY THE ENGINEER BASED ON THE GATE MANUFACTURER REQUIREMENTS.
2. CONTRACTOR TO VERIFY, LOCATE, AND PROTECT ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF WORK.

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**SEVEN LAKES
RESERVOIR COMPANY
AND GREELEY/LOVELAND
IRRIGATION COMPANY**

**HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS**



ISSUED FOR BIDDING _____ DATE _____ BY _____

ISSUED FOR CONSTRUCTION _____ DATE _____ BY _____

REVISIONS

NO.	DESCRIPTION	DATE
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2		
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4		
5		

URS PROJECT NO:	22242466.00001
DRAWN BY:	WDH
DESIGNED BY:	SWR
CHECKED BY:	
DATE CREATED:	10/2012
PLOT DATE:	4/2013
SCALE:	AS SHOWN
ACAD VER:	2013

SHEET TITLE

**GENERAL PLAN AND
PROFILE OF
MODIFICATIONS**

G03

SHEET 3 OF 9

HOPE, WARREN, 5/17/2013 11:30 AM

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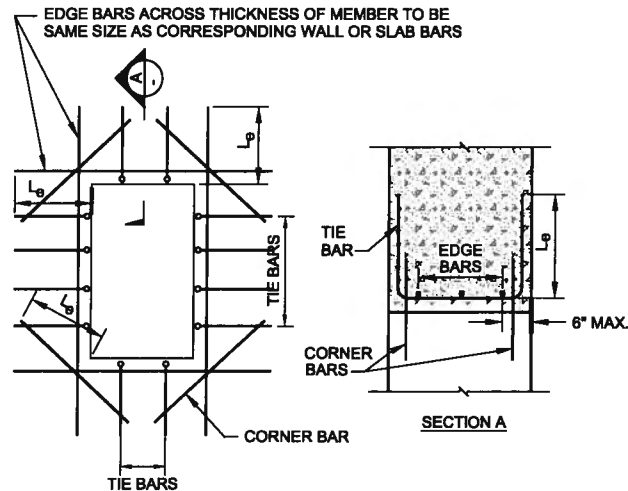
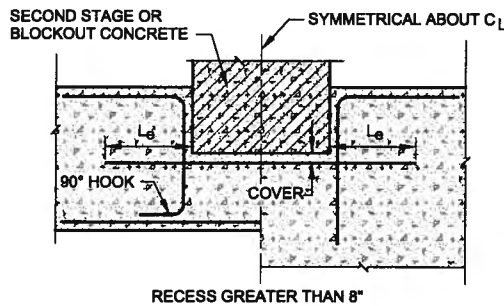
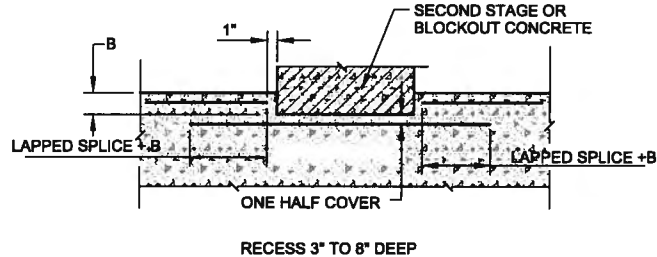


TABLE FOR REINFORCEMENT AROUND OPENINGS			
MEMBER THICKNESS	TIE BAR	EDGE BARS	CORNER BARS
LESS THAN 10"	NONE	1-CTR.	1-#4 CTR.
10" THRU 1'-6"	NONE	2-(1-EF)	2-#4 (1EF)
1'-7" THRU 3'-0"	#4 @1'-0"	3-EQ. SPC.	2-#6 (1EF)
OVER 3'-0"	#6 @1'-0"	SPC.@1'-0"	2-#8 (1EF)

- OMIT EDGE BARS AND TIE BARS ALONG SIDES OF OPENINGS WHERE DIMENSION IS LESS THAN 18".
- OMIT CORNER BARS AT SIDES OF OPENINGS ADJACENT TO FLOORS, WALLS, OR BEAMS.
- CORNER BARS REQUIRED IF EITHER DIMENSION OF OPENING IS GREATER THAN 18".
- USE CORNER BARS IN FACE OF RECESSES DEEPER THAN 4" IF EITHER DIMENSION OF RECESS IS GREATER THAN 18".

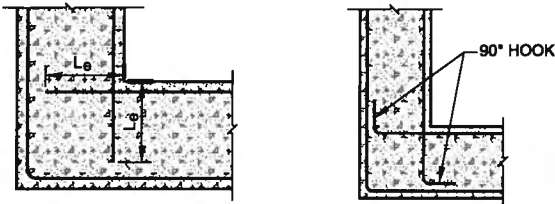
ADDITIONAL REINFORCEMENT AROUND OPENINGS



TYPICAL BLOCKOUT RECESS OR OFFSET DETAILS

GENERAL NOTE

- UNLESS OTHERWISE SHOWN ON THE REINFORCEMENT DESIGN DRAWINGS, THE DETAILS AND NOTES SHOWN ON THIS DRAWING ARE TYPICAL FOR ALL REINFORCEMENT DRAWINGS.



ABBREVIATIONS

BF = BOTTOM FACE
TF = TOP FACE
BR = BOTTOM ROW
FF = FAR FACE
EF = EACH FACE
IF = INSIDE FACE
OF = OUTSIDE FACE
CJ = CONSTRUCTION JOINT
OCJ = OPTIONAL CONSTRUCTION JOINT
CTJ = CONTROL JOINT

TYPICAL CORNER DETAILS

CRJ = CONTRACTION JOINT
EJ = EXPANSION JOINT
NR = NEAR ROW
TR = TOP ROW
NR = NEAR ROW
FR = FAR ROW
ER = EACH ROW
IR = INSIDE ROW
OR = OUTSIDE ROW
MR = MIDDLE ROW

BL = BOTTOM LAYER
TL = TOP LAYER
ML = MIDDLE LAYER
NS = NEAR SIDE
FS = FAR SIDE
ES = EACH SIDE
EW = EACH WAY
EC = EACH CORNER
L_e = EMBEDMENT LENGTH
d_b = NOMINAL DIAMETER OF REINFORCING BAR

SPC. = SPACE OR SPACES
EQ. SPC. = EQUALLY SPACED, EQUAL SPACES
D = NORMAL DIAMETER OF REINFORCING BAR
UV = UNIFORMLY VARYING LENGTHS OF BARS BETWEEN LENGTHS SHOWN
CL = CLEAR
CTR. = CENTER OR CENTERS

SYMBOLS

○ AN OPEN CIRCLE AT THE END OF A BAR INDICATES A BEND WITH THE BAR TURNED AWAY FROM THE OBSERVER.
● A CLOSED CIRCLE AT THE END OF A BAR INDICATES A BEND WITH THE BAR TURNED TOWARDS THE OBSERVER.
SPICES SHOWN THUS ——— INDICATE A LAPPED SPICE, NOT A BEND IN THE BAR.

DIMENSIONS

DIMENSIONS ARE TO THE CENTERLINE OF THE BARS UNLESS OTHERWISE SHOWN. CLEAR COVER DIMENSIONS ARE MARKED "CL".

COVER

PLACE THE REINFORCEMENT SO THAT THE CLEAR DISTANCE BETWEEN FACE OF CONCRETE AND NEAREST REINFORCEMENT IS 1 1/2" FOR #5 BARS AND SMALLER, 2" FOR #6 BARS AND LARGER. PROVIDE 3" CLEAR DISTANCE FROM FACE OF CONCRETE FOR ALL BARS WHEN THE CONCRETE IS PLACED AGAINST EARTH OR ROCK. CLEAR DISTANCE IS THE DESIGN DIMENSION LINE. REINFORCEMENT PARALLELING CONSTRUCTION JOINTS SHALL HAVE A MINIMUM OF 2" CLEAR COVER.

BENT BARS:

UNLESS OTHER RADIUS BENDS ARE INDICATED ON THE DRAWINGS, ALL REINFORCEMENT REQUIRING BENDING SHALL BE BENT AROUND A PIN HAVING THE FOLLOWING DIAMETER:

TABLE 1 PIN DIAMETER IN INCHES										
BAR NO.	3	4	5	6	7	8	9	10	11	
STANDARD BENDS	2 1/4	3	3 3/4	4 1/2	5 1/4	6	9 1/2	10 3/4	12	
STIRRUP AND TIE BENDS	1 1/2	2	2 1/2	4 1/2	5 1/4	6	-	-	-	

REINFORCEMENT DOWELS:

DOWELS INDICATED ON THE DRAWING, SUCH AS #8 (d), SHALL BE EMBEDDED A LENGTH EQUAL TO L_e AND SHALL HAVE A PROJECTION EQUAL TO THAT REQUIRED FOR TOP SPICING TO A BAR OF THE SAME DIAMETER.

PLAIN DOWELS:

PLAIN DOWELS ACROSS CONTRACTION JOINTS SHALL BE SMOOTH BARS UNIFORMLY COATED WITH A FILM OF OIL BEFORE CONCRETE PLACEMENT. VISCOSITY OF THE OIL SHALL HAVE A SAE RATING OF NOT LESS THAN 250.

ACCESSORIES:

BAR SUPPORTS, SPACERS, AND OTHER ACCESSORIES ARE NOT SHOWN ON THE DRAWINGS. THE RECOMMENDATIONS OF THE VACANT ACI DETAILING MANUAL OR OTHER APPROVED SUPPORTING SYSTEM MAY BE USED.

REFERENCE CODE:

UNLESS OTHERWISE SHOWN FOLLOW THE RECOMMENDATIONS ESTABLISHED BY THE AMERICAN CONCRETE INSTITUTE'S "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI 315".

NOTES TO DETAILERS:

SPICE LENGTHS SHOWN IN THE TABLES ON THIS DRAWING ARE FOR CLASS B SPICES IN ACCORDANCE WITH ACI 318-2008. SPICES OR DEVELOPMENT LENGTHS OTHER THAN THOSE SHOWN IN THE TABLES MUST BE DETAILED ON THE REINFORCEMENT DESIGN DRAWINGS.

SPICES:

THE MINIMUM LENGTH OF LAP FOR SPICING PARALLEL BARS SHALL BE GIVEN IN THE APPLICABLE TABLE (TABLE 2). SPICES SHALL BE STAGGERED TO GIVE 12 INCHES CLEAR BETWEEN ENDS OF ADJACENT SPICES. BARS SPICED BY NONCONTACT LAP SPICES SHALL NOT BE SPACED TRANSVERSELY FARTHER APART THAN ONE-FIFTH THE REQUIRED LAP SPICE LENGTH, NOR 6 IN. WHEN REINFORCING BARS OF DIFFERENT SIZE ARE TO BE SPICED, THE LENGTHS OF LAP SHALL BE GOVERNED BY THE SMALLER DIAMETER BAR. SPICES ARE TO BE MADE SO THAT THE REQUIRED CLEAR DISTANCES TO FACE OF CONCRETE CONCRETE WILL BE MAINTAINED.

PLACING:

REINFORCEMENT AT SMALL OPENINGS (MAX. 1'-5") IN WALLS AND SLABS MAY BE SPREAD APART NOT MORE THAN 1.5 TIMES THE BAR SPACING. REINFORCEMENT MAY BE ADJUSTED LATERALLY TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1" BETWEEN THE REINFORCEMENT AND KEYS, WATERSTOPS, ANCHOR BOLTS, FORM TIES, CONDUITS AND OTHER EMBEDDED MATERIALS. IN HEAVILY REINFORCED AREAS, RELOCATION OF THE EMBEDDED MATERIAL MUST BE CONSIDERED. WHEN BARS ARE BENT DUE TO OFFSETS LESS THAN 3" DEEP, THE SLOPE OF THE INCLINED PORTION MUST NOT EXCEED 6 TO 1. REINFORCEMENT PARALLEL TO ANCHOR BOLTS OR OTHER EMBEDDED MATERIAL SHALL BE PLACED TO MAINTAIN A CLEAR DISTANCE OF AT LEAST 1.33 TIMES THE MAXIMUM SIZE AGGREGATES.

SPACING:

THE FIRST AND LAST BARS IN WALLS AND SLABS, STIRRUPS IN BEAMS, AND TIES IN COLUMNS ARE TO START AND END AT A MAXIMUM OF ONE HALF OF THE ADJACENT BAR SPACING. A MINIMUM OF 2.5d_b CLEAR FROM THE EDGE IS REQUIRED FOR #9, #10, AND #11 BARS IF SPICE LENGTHS OR REDUCED DEVELOPMENT LENGTHS GIVEN IN TABLE 2 ARE TO BE USED.

STANDARD HOOKS:

HOOKS SHALL HAVE 180° BENDS AND EXTENSIONS OF 4-BAR DIAMETERS BUT NOT LESS THAN 2 1/2" PARALLEL TO THE MAIN LEG OF THE BAR, OR 90° BENDS AND EXTENSIONS OF AT LEAST 12-BAR DIAMETERS. HOOKS FOR STIRRUP AND TIE ANCHORAGE ONLY SHALL HAVE EITHER A 90° OR 135° BEND PLUS AN EXTENSION OF AT LEAST 6-BAR DIAMETERS BUT NOT LESS THAN 2 1/2" AT THE FREE END OF THE BAR. RADIUS OF BEND TO BE AS SPECIFIED IN THE TABLE OF PIN DIAMETERS.

c' = 4,000 psi		TABLE 2		c' = 60,000 psi	
BAR SIZE #	MINIMUM CLEAR BAR SPACING (INCHES)	EMBEDMENT LENGTH, L _e		CLASS B SPICE LENGTH	
		OTHER BARS (INCHES)	TOP BAR* (INCHES)	OTHER BARS (INCHES)	TOP BAR* (INCHES)
3	3	12	12	18	18
4	3	12	15	18	20
5	4	15	19	20	25
6	5	18	23	24	30
7	5	25	33	33	43
8	6	29	37	38	48
9	7	36	46	47	60
10	8	44	57	58	74
11	9	53	68	69	88

* TOP BARS ARE HORIZONTAL BARS IN BEAMS AND SLABS SO PLACED THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.

NOTE:

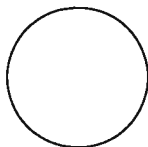
- THESE LENGTHS ARE BASED ON THE PROVISIONS OF ACI 318, 2008 SECTIONS 12.2.3 AND 12.15.1 ASSUMING UNCOATED REINFORCEMENT, NORMAL WEIGHT CONCRETE, CONCRETE COVER CONSISTENT WITH THE REQUIREMENTS OF THIS DRAWING, AND A MINIMUM CLEAR BAR SPACING OF 2 D. CONDITIONS THAT ARE DIFFERENT FROM THOSE ASSUMED REQUIRE LONGER LAP LENGTHS CONSISTENT WITH ACI 318.

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SEVEN LAKES
RESERVOIR COMPANY
AND GREELEY/LOVELAND
IRRIGATION COMPANY

HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS



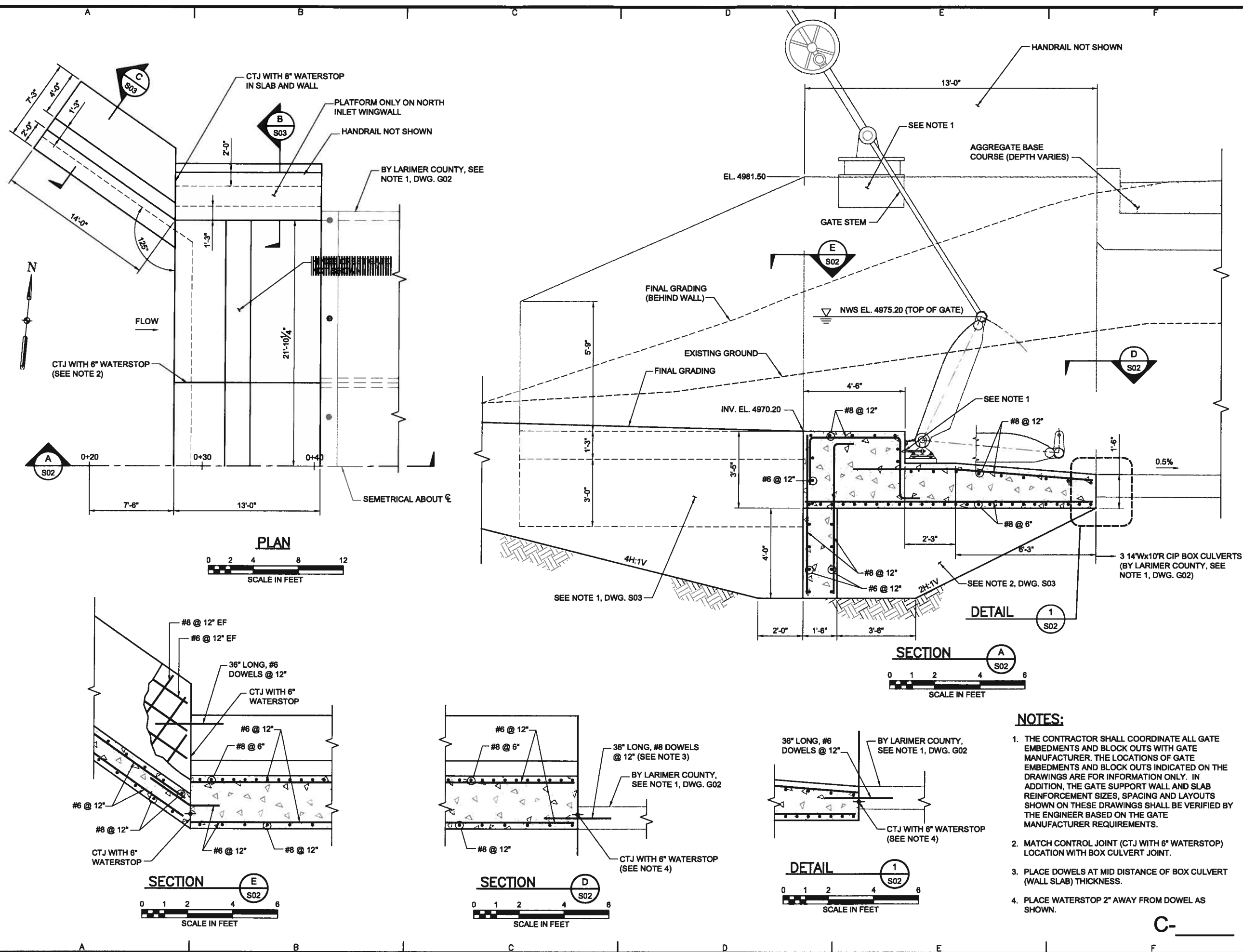
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DESIGNED BY: JAB			
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STRUCTURAL NOTES

S01

SHEET 4 OF 9

HOPE, WARREN, 5/17/2013 11:39 AM
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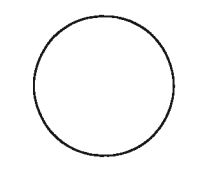


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**SEVEN LAKES
RESERVOIR COMPANY
AND GREELEY/LOVELAND
IRRIGATION COMPANY**

**HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS**

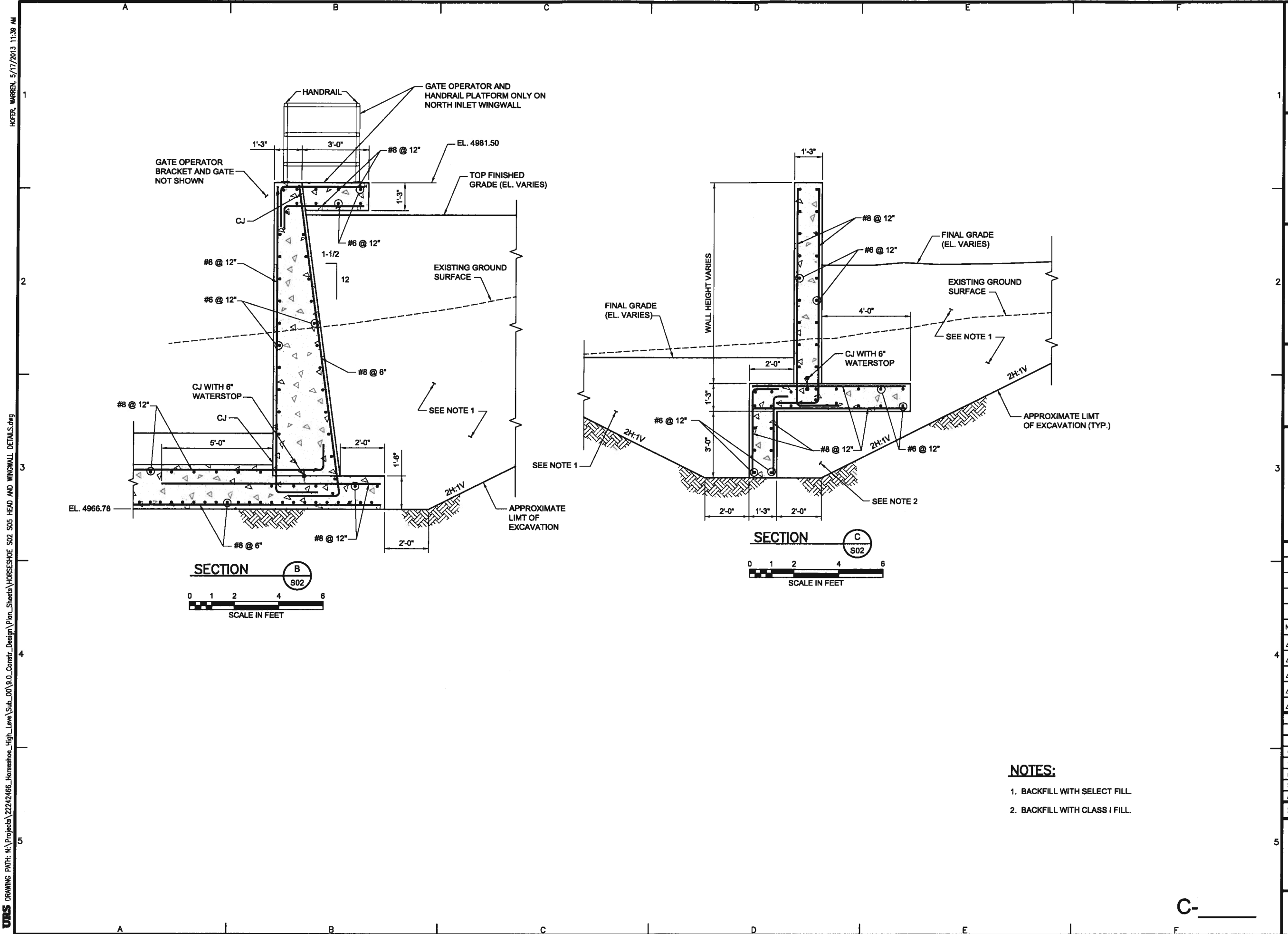


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**HEADWALL AND
WINGWALL DETAIL
1 OF 4**

S02

SHEET 5 OF 9



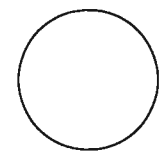
- NOTES:**
- 1. BACKFILL WITH SELECT FILL.
 - 2. BACKFILL WITH CLASS I FILL.

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IRRIGATION COMPANY**

**HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS**



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SHEET TITLE

**HEADWALL AND
WINGWALL DETAILS
2 OF 4**

S03

SHEET 6 OF 9

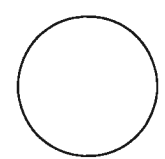
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HOTEL WARREN, 5/17/2013 11:39 AM



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SEVEN LAKES
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AND GREELEY/LOVELAND
IRRIGATION COMPANY

HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS



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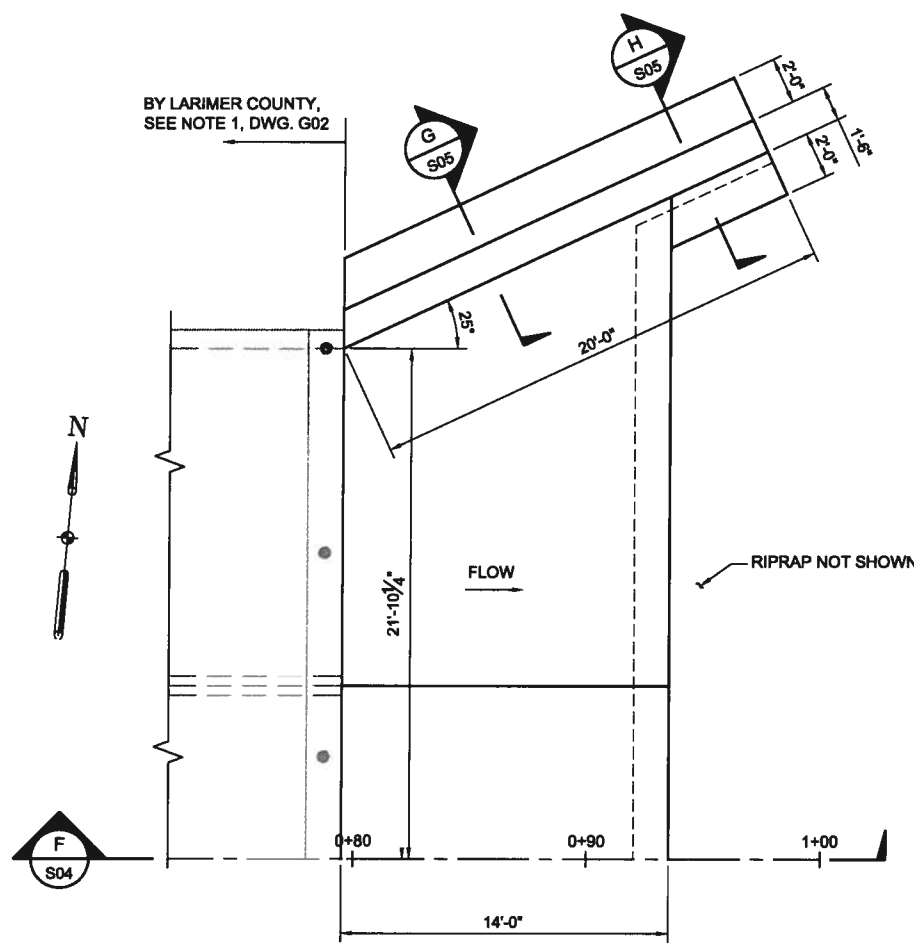
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SHEET TITLE

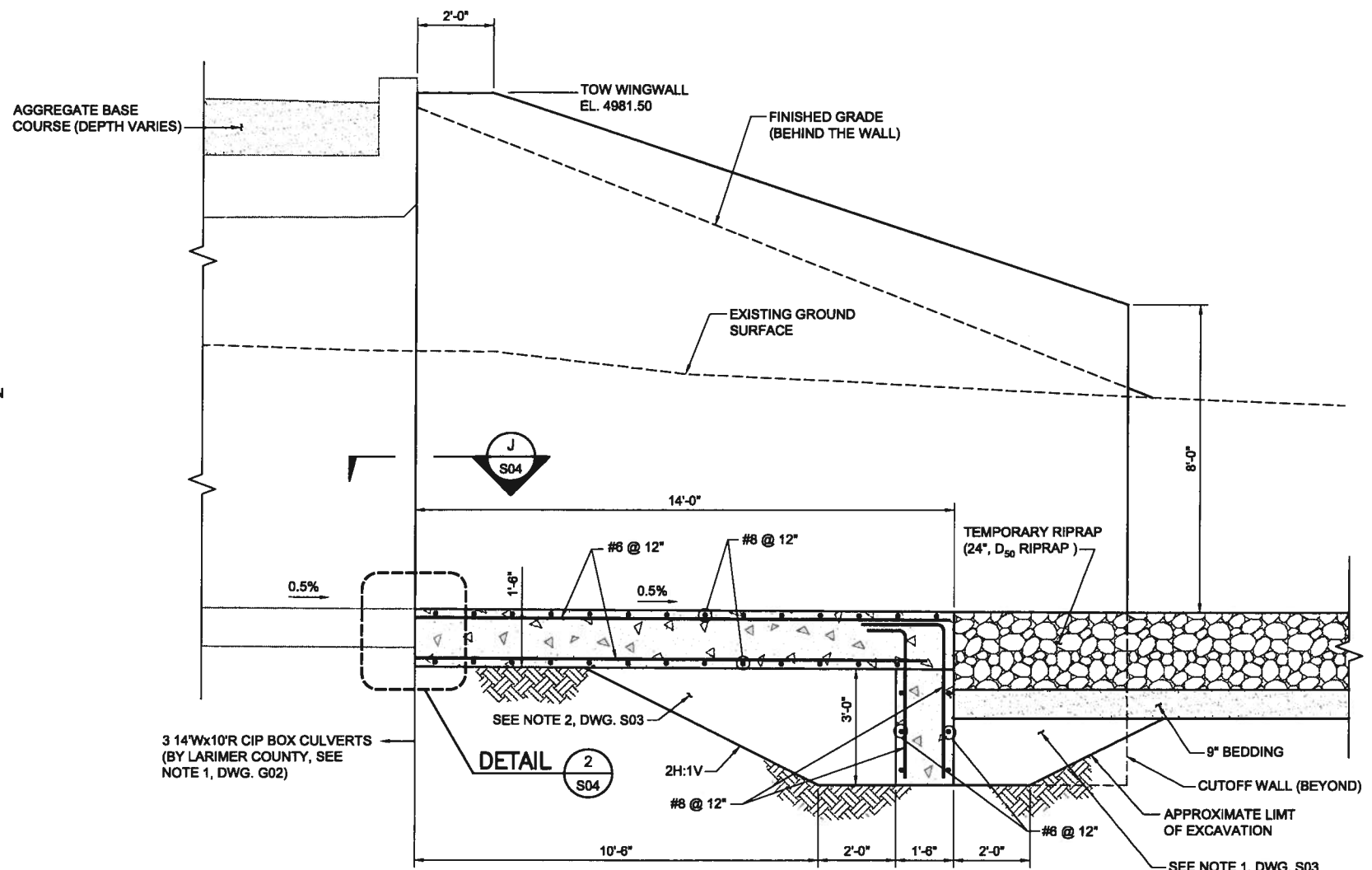
HEADWALL AND
WINGWALL DETAIL
3 OF 4

S04

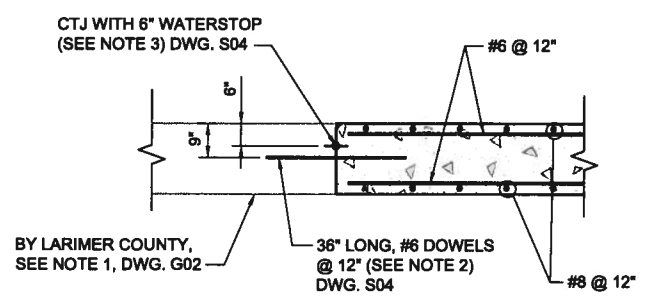
SHEET 7 OF 9



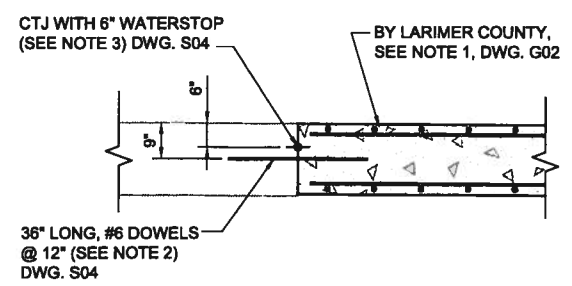
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SECTION
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SECTION
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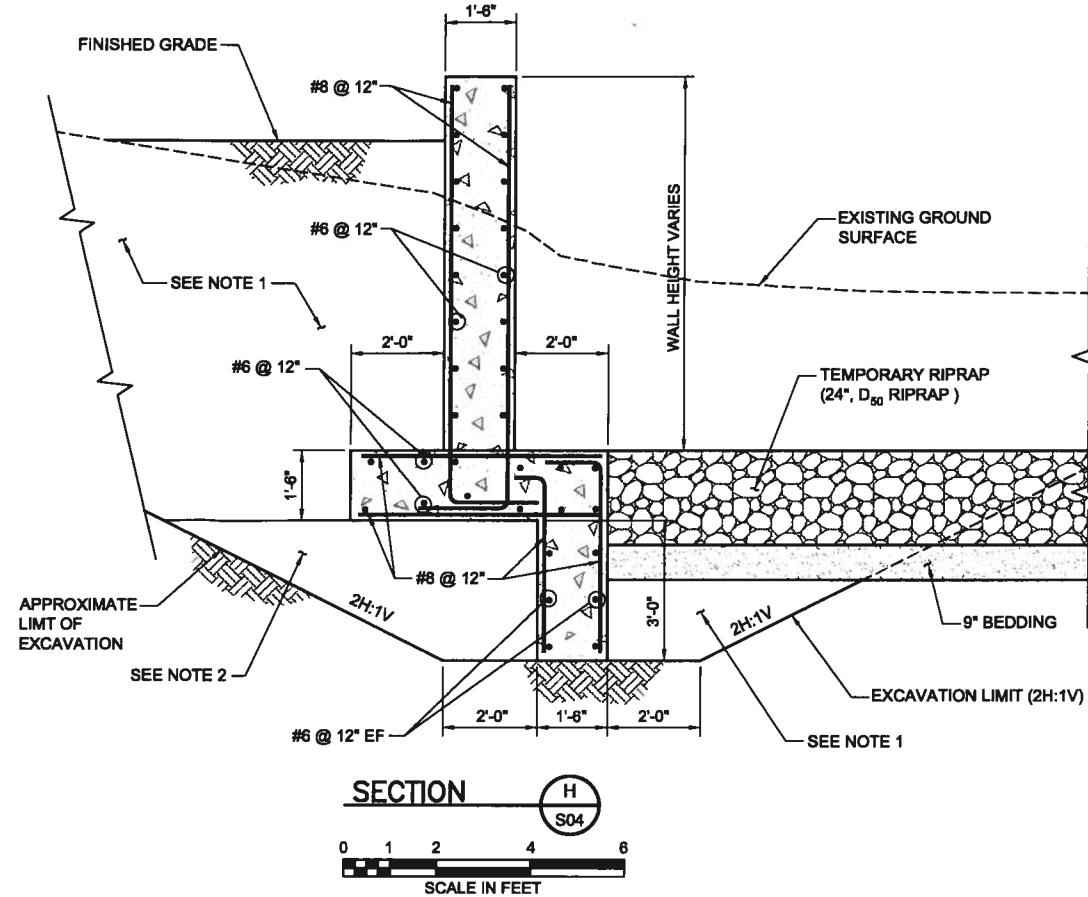
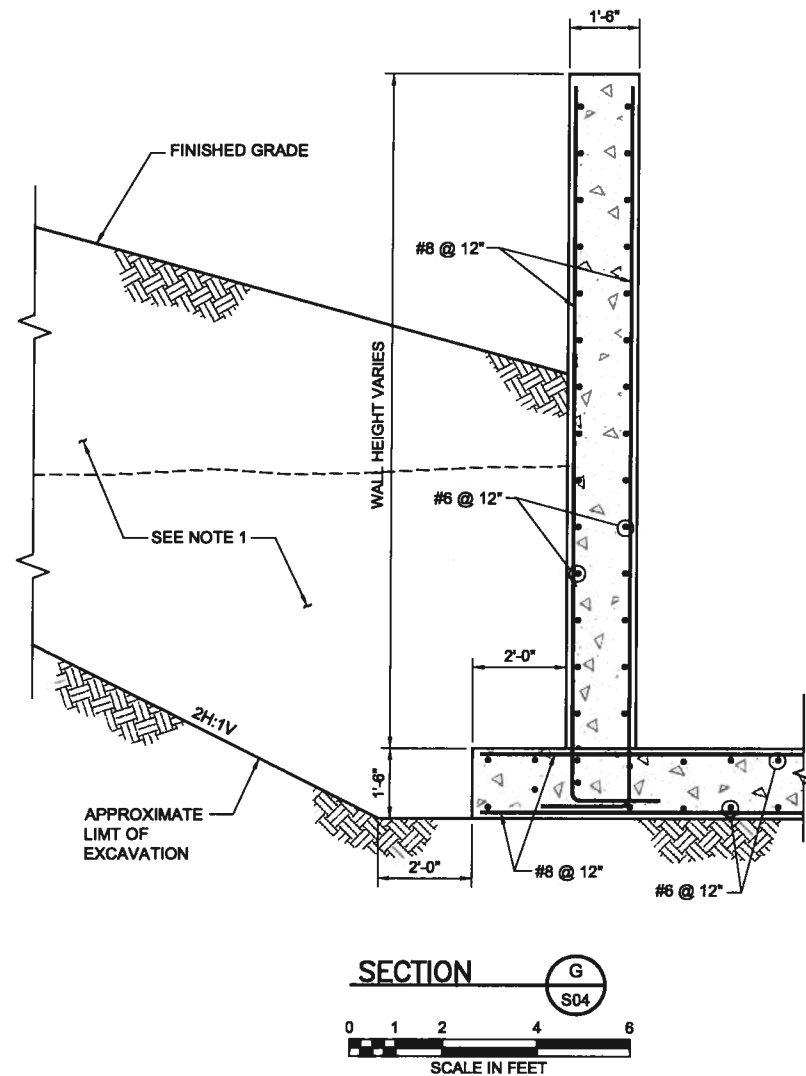


DETAIL
SCALE IN FEET
0 1 2 4 6

NOTES:

1. MATCH CONTROL JOINT (CTJ WITH 6" WATERSTOP) LOCATION WITH BOX CULVERT JOINT.
2. PLACE DOWELS AT MID DISTANCE OF BOX CULVERT (WALL SLAB) THICKNESS.
3. PLACE WATERSTOP 2" AWAY FROM DOWEL AS SHOWN.

URS DRAWING PATH: N:\Projects\22242466_Horseshoe_High_Level\Sub_00\9.0_Constr_Design\Plan_Sheets\HORSESHOE S02 S05 HEAD AND WINGWALL DETAILS.dwg
HOFER, WARREN, 5/17/2013 11:38 AM



NOTES:

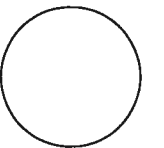
1. BACKFILL WITH SELECT FILL.
2. BACKFILL WITH CLASS I FILL.

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HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS



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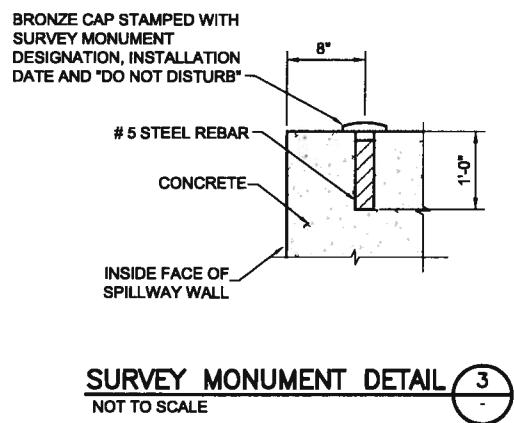
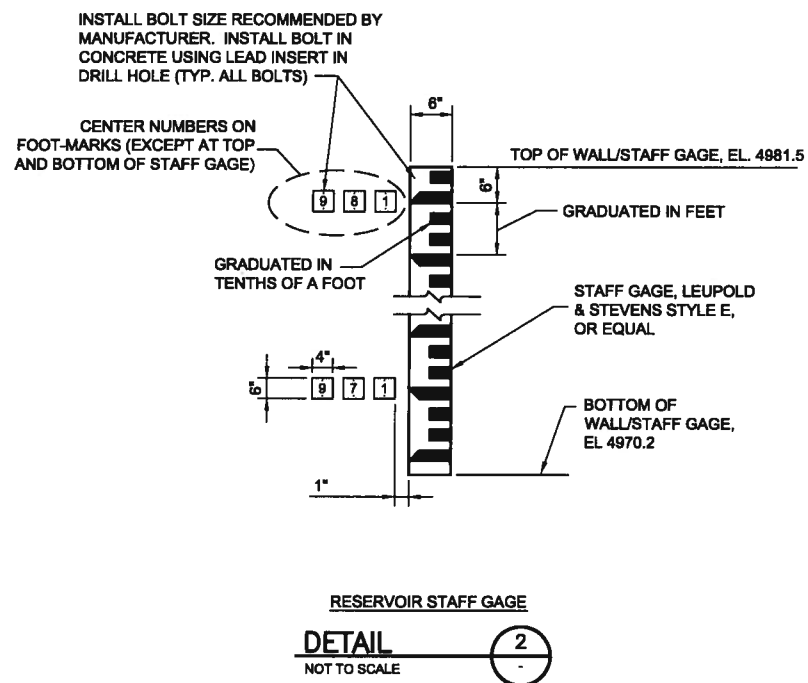
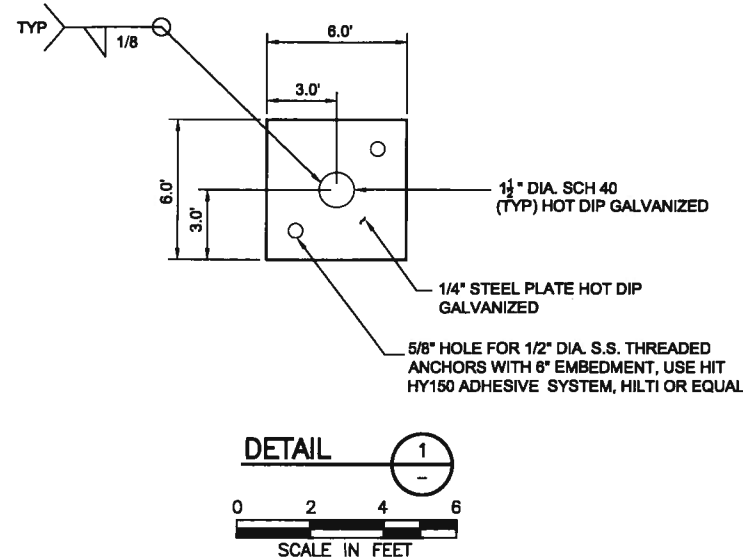
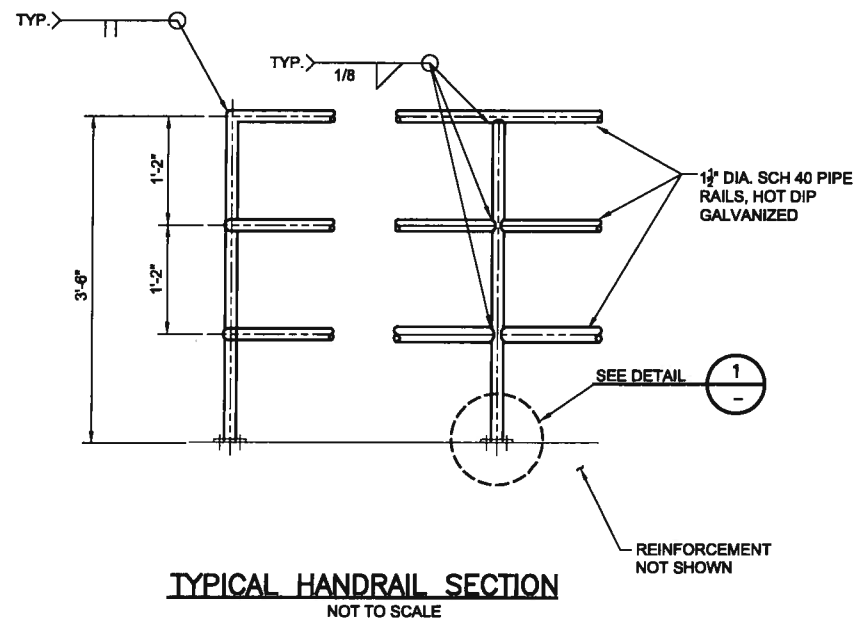
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HEADWALL AND
WINGWALL DETAIL
4 OF 4

S05

SHEET 8 OF 9

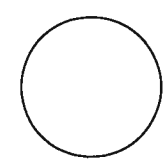
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HOFER, WARREN, 5/17/2013 11:39 AM



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IRRIGATION COMPANY**

**HORSESHOE LAKE
HIGH LEVEL OUTLET AND
SPILLWAY MODIFICATIONS**

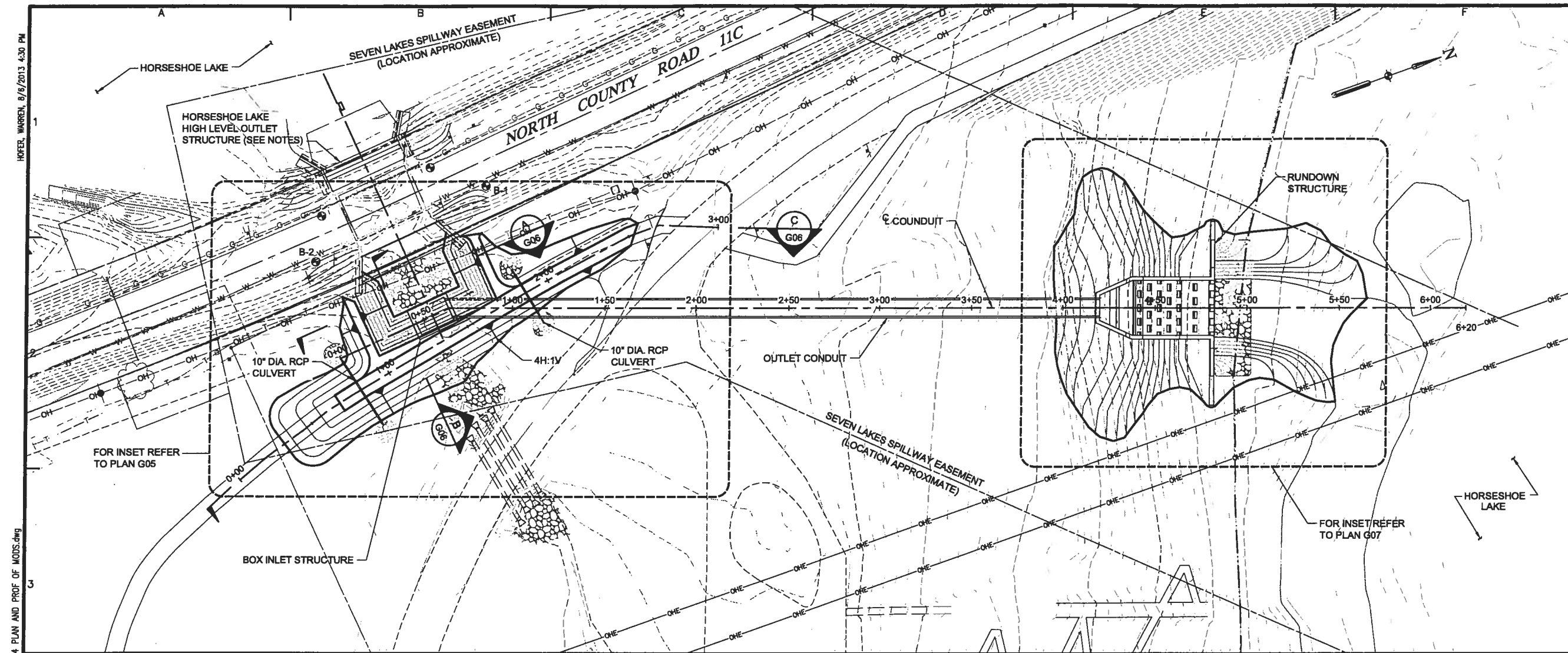


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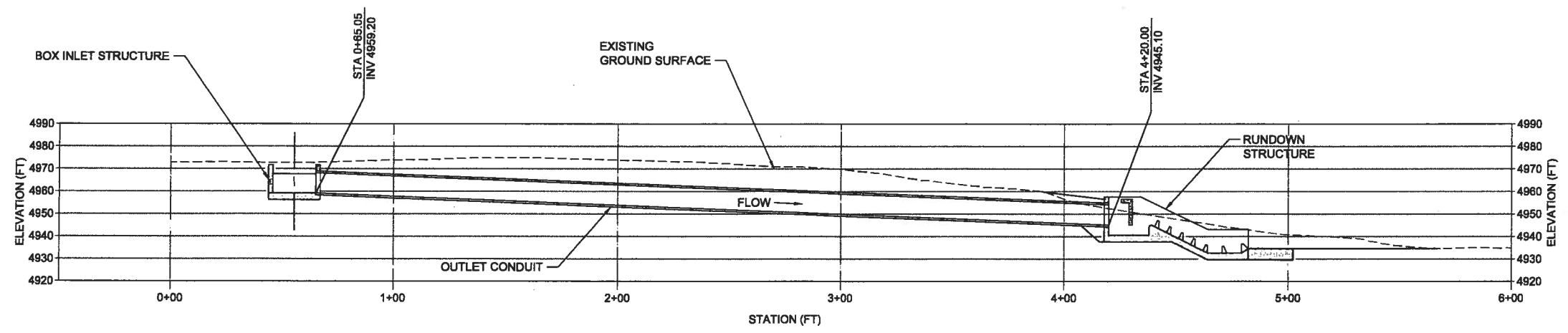
**MISCELLANEOUS
DETAILS**

M01

SHEET 9 OF 9



PLAN
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SCALE IN FEET



PROFILE
0 30 60 90
SCALE IN FEET

NOTES:
1. HORSESHOE HIGH LEVEL OUTLET STRUCTURE
CONSTRUCTED AS PHASE 1 WORKS (URS PROJECT
NUMBER 22242466). THIS CONSTRUCTION PACKAGE
CONSTITUTES PHASE 2 WORKS.

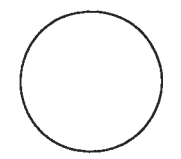
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SEVEN LAKES
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IRRIGATION COMPANY

KING SURVEYORS, INC.

HORSESHOE LAKE
HIGH LEVEL OUTLET,
CONDUIT AND RUNDOWN



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SHEET TITLE

GENERAL PLAN AND
PROFILE

G04

SHEET 4 OF 16

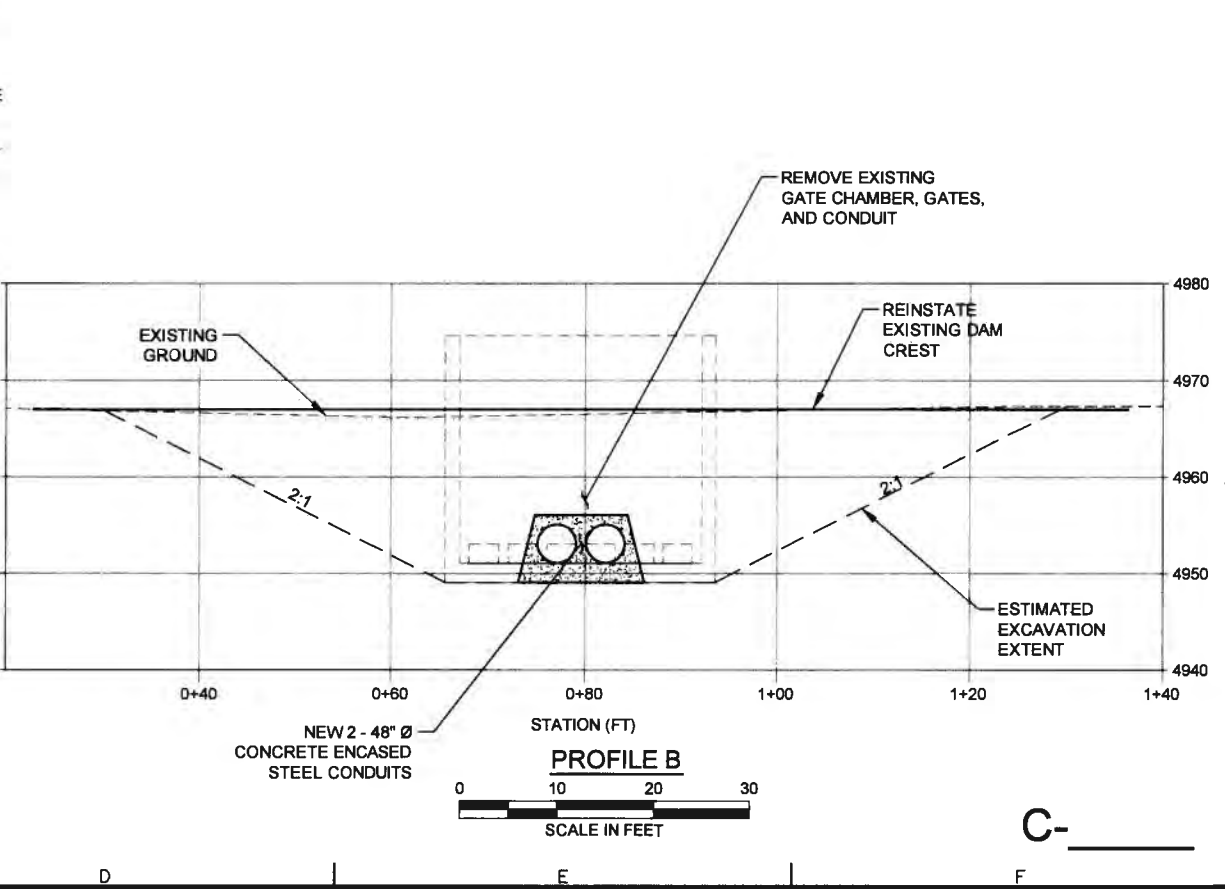
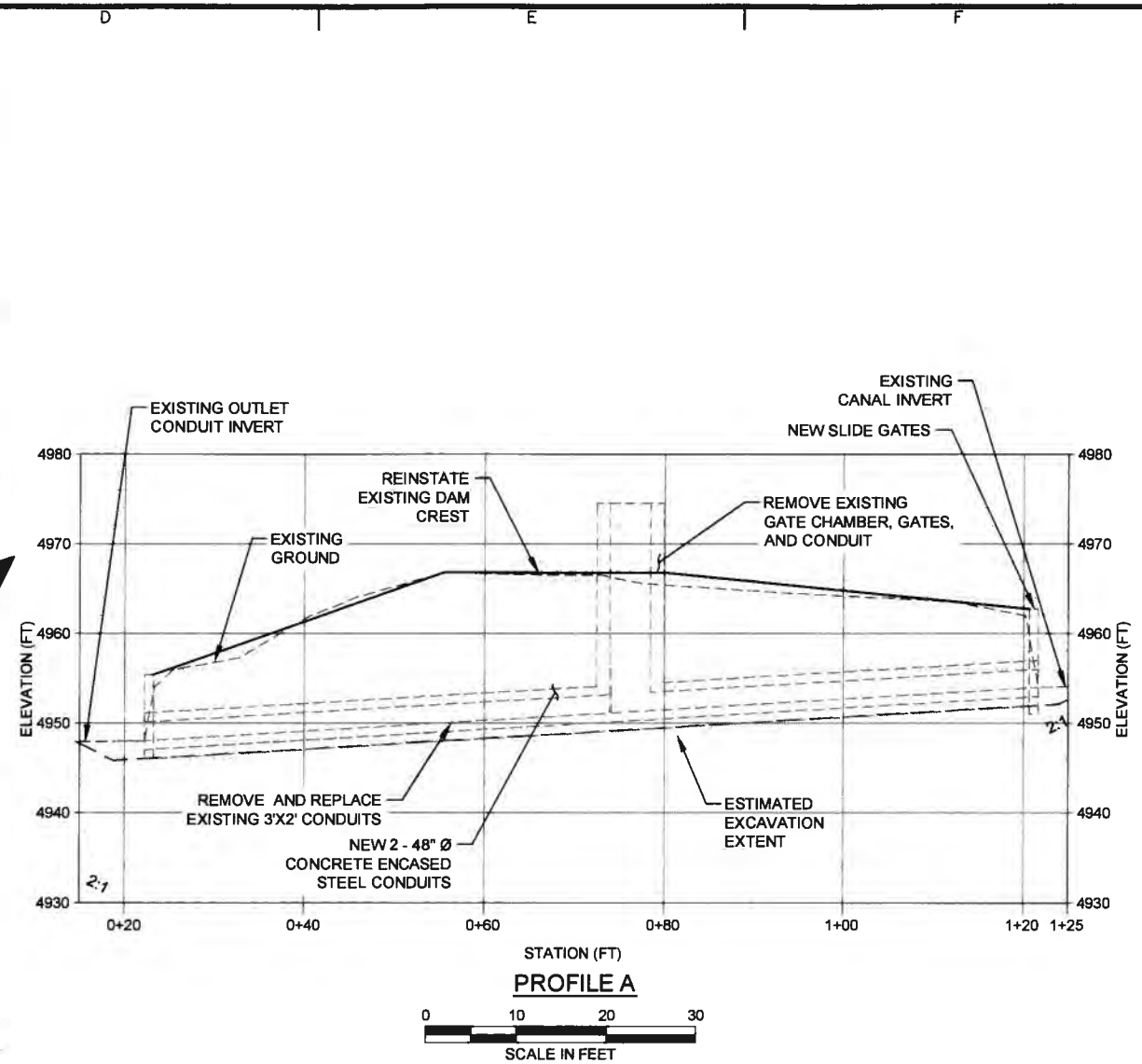
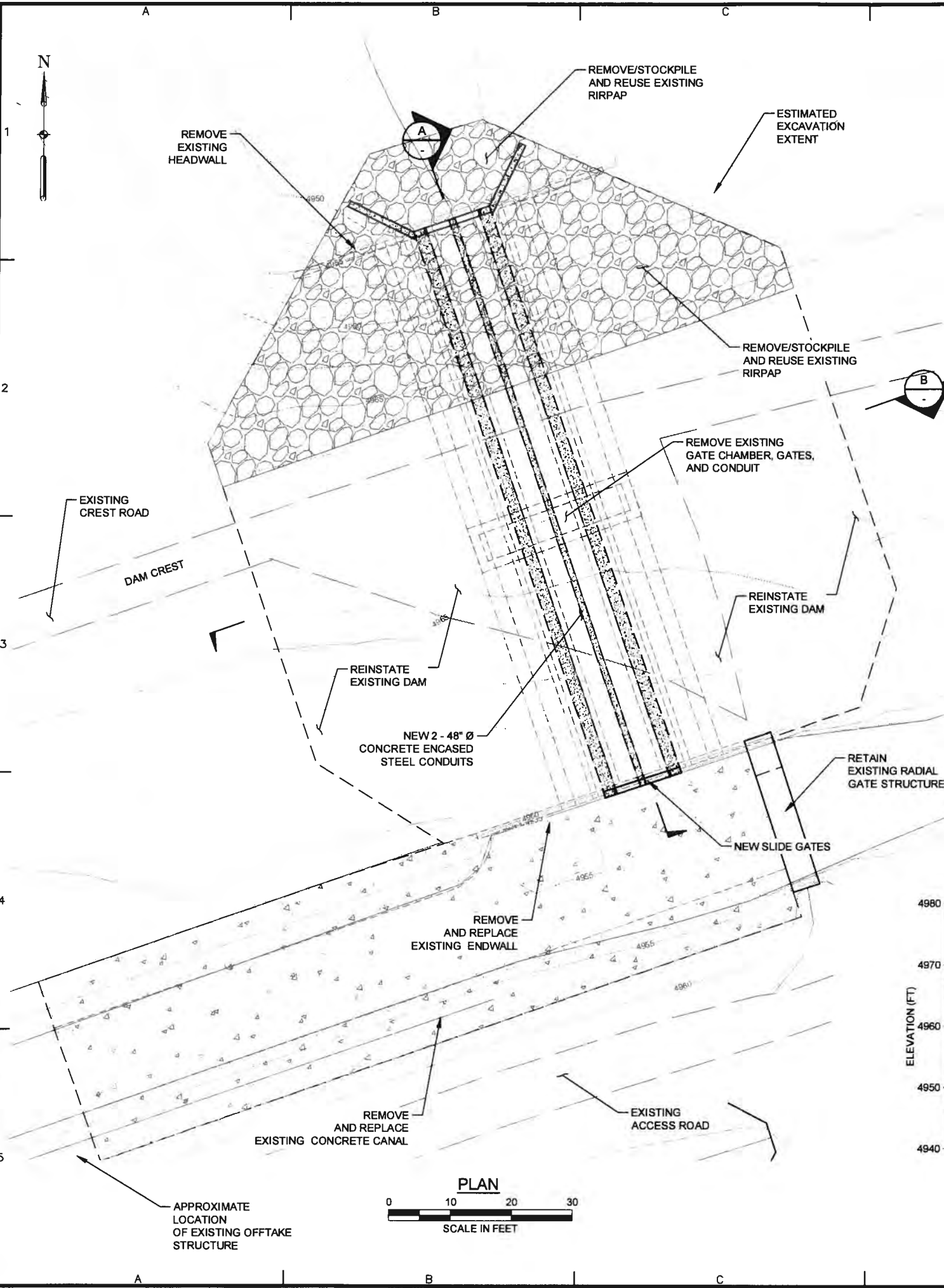
Boyd Lake High-Level Outlet Project

BOYD LAKE					
HIGH LEVEL OUTLET STRUCTURE REPLACEMENT					
Item	Description	Quantity	Unit	Unit Price	Total Cost
1	Clearing and Grubbing	0.4	Acres	\$ 2,000	\$ 1,000
2	Dewatering and Diversion	1	LS	\$ 30,000	\$ 30,000
3	Remove Existing Outlet Structure and Channel				
	Excavation/Stockpile, Unclassified	3,150	CY	\$ 5	\$ 16,000
	Remove/Breakup/Stockpile Outlet Structure Concrete	155	CY	\$ 20	\$ 3,000
	Remove/Breakup/Stockpile Channel Concrete	75	CY	\$ 30	\$ 2,000
	Remove/Dispose Gates and Mechanical	1	LS	\$ 10,000	\$ 10,000
	Remove/Stockpile Riprap	185	CY	\$ 10	\$ 2,000
3	Replace Outlet Structure				
	Foundation Preparation	200	SY	\$ 25	\$ 5,000
	Dental Concrete	20	CY	\$ 300	\$ 6,000
	Reinforced Concrete	40	CY	\$ 1,000	\$ 40,000
	Supply/Install 2x48" Diameter Steel Conduit	200	LF	\$ 400	\$ 80,000
	Concrete Encasement	400	CY	\$ 400	\$ 160,000
	Supply/Install Gates	2	EA	\$ 25,000	\$ 50,000
	Supply/Install Controls	1	LS	\$ 30,000	\$ 30,000
	Reconstruct Embankment	2,260	CY	\$ 15	\$ 34,000
	Conduit Filter	60	CY	\$ 60	\$ 4,000
	Topsoil (Spread/Place)	340	CY	\$ 4	\$ 1,000
	Trash Rack	2	EA	\$ 10,000	\$ 20,000
	Riprap and Bedding (allowance)	185	CY	\$ 150	\$ 28,000
	Place Stockpiled Riprap and Concrete as Riprap	185	CY	\$ 15	\$ 3,000
4	Replace Channel				
	Foundation Preparation	380	SY	\$ 25	\$ 10,000
	Supply and Install Bedding	190	CY	\$ 55	\$ 10,000
	Reinforced Concrete	75	CY	\$ 600	\$ 45,000
	Riprap and Bedding (allowance)	185	CY	\$ 150.00	\$ 28,000
6	Access Roads	1	LS	\$ 5,000	\$ 5,000
7	Reclamation	0.4	Acres	\$ 7,500	\$ 3,000
8	Mobilization, Bonds, Insurance (7.5% of Listed Items)	1.0	LS	\$ 47,000	\$ 47,000
Base Construction Subtotal (BCS)					\$ 673,000
Contingencies (15% of BCS)					\$ 101,000
Direct Construction Subtotal (DCS)					\$ 774,000

ABBREVIATIONS

CY cubic yard
 LF linear foot
 LS lump sum
 SF square foot
 SY square yard
 EA each

URS DRAWING PATH: N:\Projects\22243106_Horseshoe_High_Lv\Sub_00\10.0_Calculations_Analysis_Data\Phase 3\CAD\Aerial Survey 2007\Boyd Lake - High Level Outlet Structure-Plan_rev2.dwg
JORDAN, JOHN, 8/7/2013 4:29 PM



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AND GREELEY/LOVELAND
IRRIGATION COMPANY**

KING SURVEYORS, INC.

**BOYD LAKE
HIGH LEVEL OUTLET
STRUCTURE REPLACEMENT**

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SCALE: _____
ACAD VER: 2013

SHEET TITLE

PLAN AND PROFILE

G-01

SHEET 1 OF 1