

## **SECTION I - DESCRIPTION OF THE DISTRICT**

### **History**

Spring City was settled in the late 1800's. The early residents constructed extensive ditch systems to divert and distribute water from Oak and Canal Creeks to flood irrigate established farm land. In 1934, Horseshoe Irrigation Company (Company) was created as a non-profit corporation to manage the established water-rights.

The Company was and remains a diversion company with very limited storage capacity; the unlined ditch distribution system was used exclusively up until the 1960's when several ditches were lined with concrete to enhance distribution and eliminate seepage.

Between 1934 and 1939, in cooperation with the U.S. Bureau of Reclamation, a trans-mountain water project was completed bringing additional water from the head of Black Canyon to flow into Oak Creek. This water is collected through constructed feeder canals and distributed through a constructed 1-mile tunnel. One of the purposes of this trans-mountain water was to create an approximately 400 acre-feet storage reservoir, called the Freeman Allred project, to allow for the retention of high spring run-off water to be used in the later summer months. Due to lack of funding, this storage facility was never constructed and the storage right has lapsed.

The Company's filed right for this trans-mountain water is 96 cubic feet per second (cfs) from April 1st to October 31st. Due to the lack of construction of the Freeman Allred project, in 1970 a contract was executed between the United States, Emery Water Conservation District, and the Company to restrict the flow through the tunnel to 27 cfs of water but to allow flow through the tunnel year round. A weir and restriction plate was installed at the tunnel inlet to restrict the flow year round to 27 cfs of water. This contract is renewable every 5 years.

In conjunction with this project, a feeder canal was also constructed at the head of Reeder Canyon to allow for an additional 25 cfs of water to flow into Canal Creek to be used during the water year.

Through assistance from the State of Utah's Division of Water Resource office, from 1976 to 1982 the Company installed 8 gravity feed pressure irrigation systems consisting of approximately 85 miles of underground PVC piping fed from 9 regulating ponds that are filled from diversion structures out of the Oak and Canal Creeks.

The Company is managed by a Board of seven Directors, one of which is appointed by the Board as President and one as Vice President. The Company also appoints annually a Secretary, a Treasurer, and a water-master for the proper operation and management of the Company.

The Company currently has 15,217 Class A water shares issued, which are the primary water-right, and an additional 7,515 Class B water shares issued, which constitute a secondary or high water-right.

**Table 1-1  
Open Contracts with the State of Utah**

System	Loan Amount*	Payment	Balance**	Payoff Date
South Fields	\$302,226	\$11,357	\$22,714	Dec 2008
N/F & Last Chance	\$505,750	\$18,131	\$54,393	Dec 2009
Chimney	\$374,266	\$11,842	\$71,050	Dec 2012
City	\$366,001	\$17,960	\$153,142	March 2017

\* All loans are non-interest bearing except the city loan which is a 3% annual interest bearing loan.

\*\* As of May 2007

## Location

Spring City is located in the central region of the state of Utah in the northern portion of Sanpete County. Elevation of irrigated lands in the district range from 5,500 to 6,200 feet. The project location is shown on the map on the following page.

**Table 1-2  
Size of the District**

Municipal and Farm Land	Size (sq. miles)	Population Served	Irrigated Acres
Size in 1975	~ 8.2	~ 785	~ 5,800
Size in 1990	~ 8.2	~ 1,100	~ 5,550
Size in 2006	~ 8.2	~ 1,300	~ 5,820

## Topography

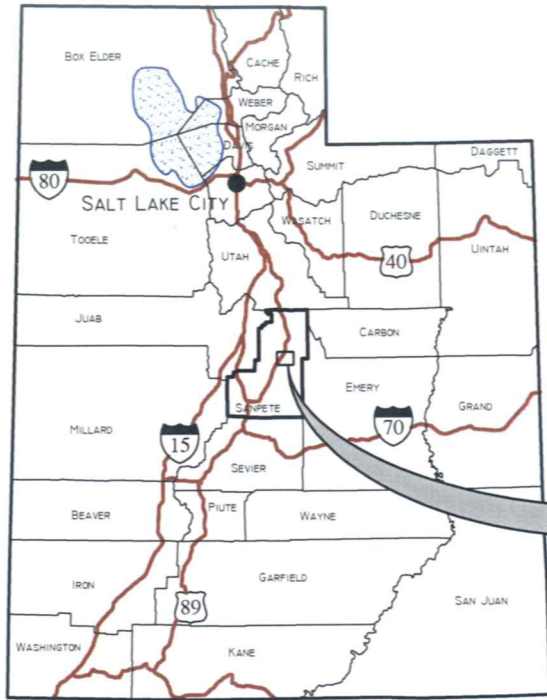
The general lay of irrigated land within the Company is flat to a moderate slope, between 3 and 5 percent, which has made it possible for the installation of gravity feed sprinkler systems.

## Soils

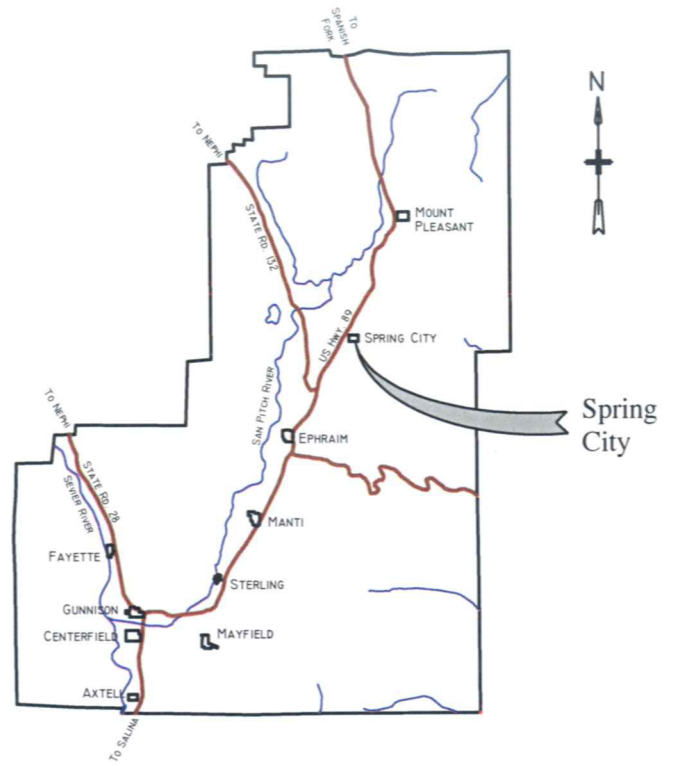
A detail of the soil types found within the Company's boundaries are listed in Appendix 2. This data was received from the NRCS office in Manti, Utah.

**Table 1-3  
Historical Irrigation Practices**

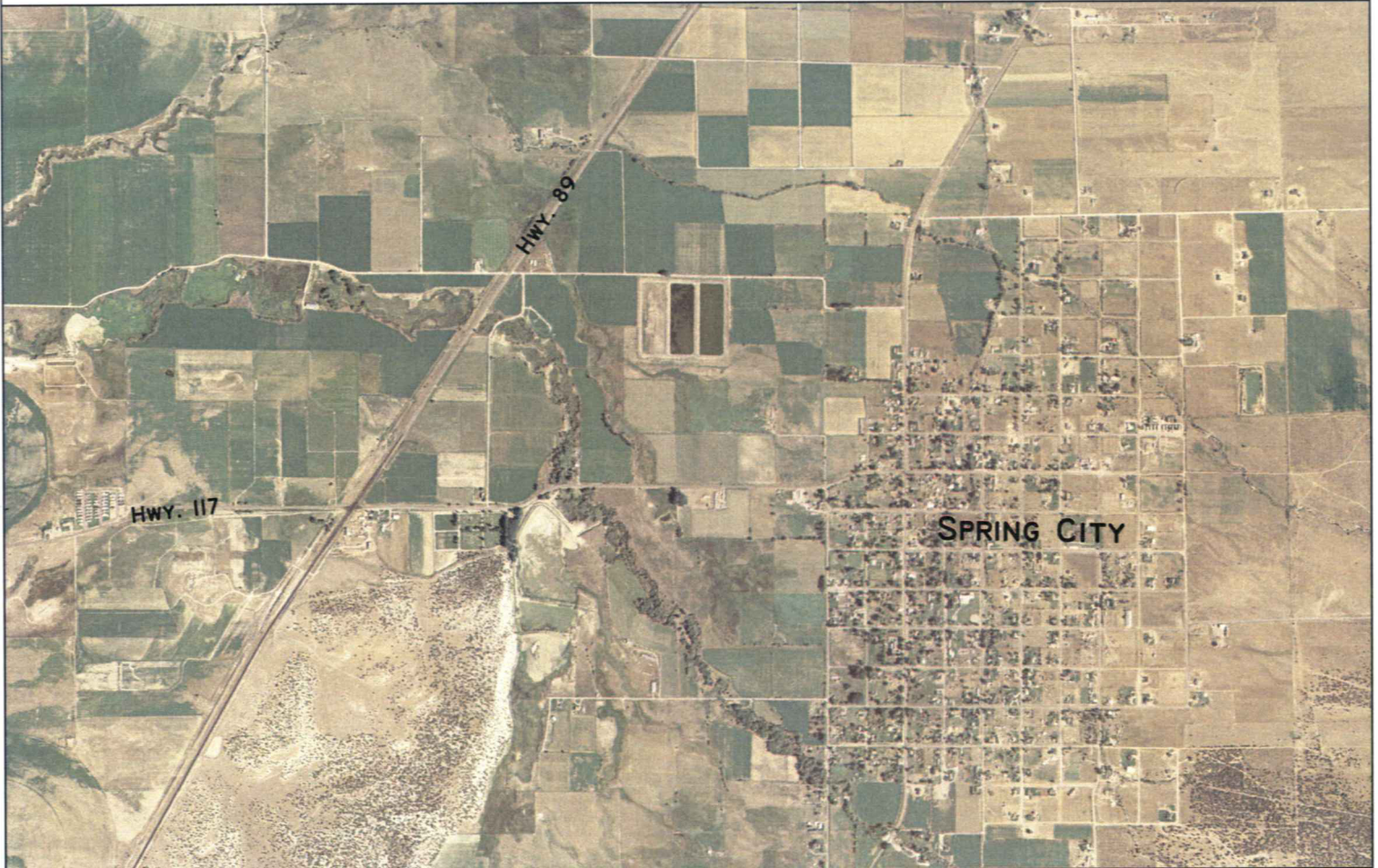
Irrigation Method	1975 Acres	1985 Acres	2006 Acres
Flood irrigated	~ 5,800	~ 1,500	~ 1,140
Pressure sprinkler system, agricultural	0	~ 3,570	~ 4,240
Pressure sprinkler system, municipal	0	~ 360	~ 440
Totals	~ 5,800	~ 5,430	~ 5,820



**UTAH**



**SANPETE COUNTY**



DATE: JANUARY 14, 2008

SCALE: 1" = 200'

Fig-Location Map.dwg  
H:\CLIENT\1-South Utah Area\Sanpete Co\Horseshoe Irrigation Company\Drawings

LAYOUT: Location Maps

HORSESHOE IRRIGATION COMPANY

**WATER MANAGEMENT AND  
CONSERVATION PLAN**

**SPRING CITY AREA  
LOCATION MAP**

## Climate

Land served by the Company is relatively high in elevation, ranging from 5,500 to 6,200 feet above sea level, the climate is temperate, and the frost-free season is short, averaging about 125 days.

**Table 1-4  
Typical Climate Parameters**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Avg. precip. inch	0.94	1.05	1.23	1.14	1.14	0.69	0.69	0.81	1.07	1.12	0.98	0.99	11.84
Avg. min temp F	13.8	18.8	25.4	31.9	39.3	46.8	54.0	52.4	43.8	33.8	23.9	15.2	33.2
Avg. max temp F	36.0	41.3	50.4	59.1	70.0	81.3	89.6	87.2	77.7	65.4	48.8	37.5	62.0
Top of mountain avg. precip. inch	2.68	2.86	2.40	2.33	1.82	1.20	1.35	1.53	1.93	2.09	2.64	2.31	25.14

## Storage Facilities

Currently the Company utilizes 9 small regulating ponds for feeding the pressure irrigation systems. These ponds range in storage capacity from 5 to 20 acre-feet of water.

## District Diversion Points

As established in the Cox Decree, the Company has 17 legal points of diversion. Currently, the Company normally uses the following diversions for the distribution of water from Oak and Canal Creeks:

### *Oak Creek Diversions*

A main concrete diversion structure and weir at the head of Oak Creek for diverting water into a pipeline that runs to the city hydroelectric plant. This weir can also be used to measure the amount of water flowing from Oak Creek.

A concrete divider that splits the water from Oak Creek into the main creek, that runs to several diversion structures, and an overflow canal that diverts Oak Creek water north of town during high flow.

A concrete diversion that allows for water to be diverted from the Oak Creek high water channel into an unlined ditch to transfer additional water to the North Fields pond.

A concrete divider for diverting water into a PVC pipeline for delivery to the Pete Hansen pond.

A concrete divider for diverting water into an unlined ditch for transferring water to the Last Chance pond.

A concrete weir that measures and diverts water into the City/South Fields pond.

A concrete diversion that diverts Oak Creek water into a PVC transmission line that feeds the 1st and 2nd north pond.

A concrete structure that splits the lower Oak Creek water into the upper Chimney pond and the North Fields’ ditch that is used for flood irrigation of 3rd, 4th, and 5th north.

**Canal Creek Diversions**

Main diversion structure and weir at the head of canal creek for the purpose of measuring the amount of flow from Canal Creek. This structure is also used to divert water into a concrete pipeline and a high water ditch for distributing water to the Crawford pond and water used for flood irrigating range land south of town. This structure also diverts water into a concrete lined ditch distributing water to the Flat System pond and to the inlet to the PVC transmission line that carries water from Canal Creek to the 1st and 2nd north pond.

A concrete diversion structure that splits the water in the above mentioned ditch to the Flat pond and to the above mentioned transmission line.

A concrete structure that splits Canal Creek water into the City Creek and diverts the remaining Canal Creek water south and west of town.

A concrete divider that splits water from the lower Canal Creek canal into the Point Ditch.

A concrete structure that allows water to divert into a PVC pipe to transmit water to the Chimney Seeps pond.

**Table 1-5  
District Conveyance Facilities**

Type of Conveyance Facility	Length, miles
Canals & laterals, lined with concrete	~ 5
Canals & laterals, lined with other materials	0
Pipelines	~ 85
Unlined channels (includes Black Canyon and Reeder ditches)	~ 45
Other (Tunnel)	1
Total	~ 126