



**HIGHLAND CITY**

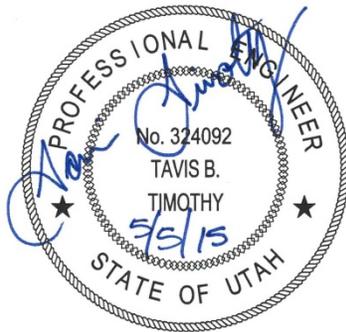
**DRINKING WATER  
IMPACT FEE FACILITY PLAN**

(HAL Project No.: 314.15.100)

# HIGHLAND CITY

## DRINKING WATER IMPACT FEE FACILITY PLAN

(HAL Project No.: 314.15.100)



**Tavis B. Timothy, P.E.**  
**Project Engineer**



**April 2015**

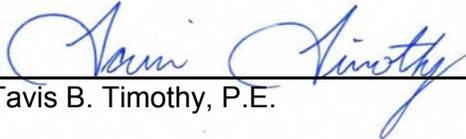
# CERTIFICATION OF IMPACT FEE FACILITY PLAN

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I certify that, to the best of my knowledge, the attached impact fee facilities plan:

1. includes only the costs of public facilities that are:
  - a. allowed under the Impact Fees Act; and
  - b. actually incurred; or
  - c. projected to be incurred or encumbered within six years after the day on which each impact fee is paid;
2. does not include:
  - a. costs of operation and maintenance of public facilities;
  - b. costs for qualifying public facilities that will raise the level of service for the facilities, through impact fees, above the level of service that is supported by existing residents;
  - c. an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with generally accepted cost accounting practices and the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement; and
3. complies in each and every relevant respect with the Impact Fees Act.

Prepared by:

  
Tavis B. Timothy, P.E.

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# IMPACT FEE FACILITY PLAN

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## EXECUTIVE SUMMARY

The purpose of this Impact Fee Facility Plan (IFFP) is to provide direction to Highland City regarding facilities required for future drinking water connections for the Utah State Developmental Center (USDC) properties located in the southeast corner of the City. The City owns, operates and maintains the drinking water system that would service the property.

Previous to 2005 the drinking water system in Highland was owned and operated by the Highland Water Company. During the fall of 2004 the Highland Water Company voted to dissolve the Company and transfer all assets and obligations to the City of Highland. As the City of Highland did not pay to construct any of the existing water facilities, none of the costs incurred to create the existing system will be factored into the impact fee. This IFFP only addresses projects for the distribution of drinking water and fire suppression to the southeast area (USDC properties).

Data from the 2012 Drinking Water Master Plan and additional data provided by the City is the basis for this IFFP. The IFFP considers growth over the next ten years to 2024. It is anticipated that the USDC property will have developed completely by 2024.

During the preparation of the IFFP, existing and proposed levels of service were determined for distribution, and fire suppression components of the drinking water system (see Table 1) for a single equivalent residential connection (ERC). In each case, it was determined that the proposed level of service should be the same as the Drinking Water Systems existing level of service.

**Table 1  
Level of Service Per ERC**

<b>Distribution</b>	Peak Day Source Flow Rate (gpm)	0.55
<b>Distribution</b>	Distribution Minimum Operating Pressure	50 psi
<b>Distribution</b>	Fire Suppression Residual Pressure	20 psi
<b>Fire Suppression</b>	Fire Suppression Flow and Volume	International Fire Code

Impact Fees for the drinking water system will be uniform per ERC across the impact fee area. The IFFP projects require a total cost of \$1,914,300.

## PURPOSE AND BACKGROUND

The purpose of this IFFP is to provide direction to Highland City regarding facilities required for future drinking water connections within the next ten years for the undeveloped USDC property located in the southeast corner of the City.

Highland City is located on a bench near American Fork, Lehi, and Alpine in northern Utah County. According to City information the drinking water system provides service to approximately 17,090 residents.

## **EXISTING SYSTEM DESCRIPTION**

Since 2005 the City of Highland has owned, operated, and maintained the drinking water system. The drinking water system provides primarily indoor water use, with certain exceptions. These exceptions are for a small amount of residents still utilizing outdoor irrigation and industrial use at the gravel pits during the winter months. The city's secondary system provides for outdoor water use.

Several landowners formed the Highland Water Company in 1958 to provide drinking water via a central system versus utilizing individual wells. Soon after, the first well was drilled and a storage tank was constructed in 1958. Other tanks, wells, pump stations, and water lines have since been installed to form the present drinking water system.

During the fall of 2004 the membership of the Water Company voted to dissolve the Company and transfer all assets and obligations to the City of Highland.

Drinking water pipe diameters range from 2-inches to 18-inches, with the majority being 6 or 8 inches within the individual subdivision developments. Highland's current standard is the exclusive use of ductile iron pipe.

Hansen, Allen, & Luce Inc. completed a Drinking Water Master Plan Update for Highland City in 2012. Information from the master plan was used in conjunction with data from Highland City to determine the level of service, facilities requirements, and system growth which was used to create this IFFP.

## **GROWTH**

Growth for the subject property was derived from the Properties Master Plan completed by DesigWorkshop in June of 2013. The plan presented 1,160 ERCs for the proposed fully developed property. It is assumed that the property would become fully developed within the next ten years.

## **LEVEL OF SERVICE**

The level of service is the "defined performance standard or unit of demand for each capital component of a public facility within a service area" according to the Utah Impact Fees Act (Utah Division of Administrative Rules, 2011). The service area for the level of service in this plan is the Southeast Service Area (Utah State Developmental Center).

The existing and proposed level of service for the distribution portion of the drinking water system was examined. The City will provide the same level of service for the future development as it provides now for its existing system. Impact fees may not be used to pay for any services above the existing level of service.

## **Distribution**

The level of service of the distribution system is based on minimum allowable pressures of operation during peak day demands and during fire demands. The level of service for Peak Day Demand is based on the Utah State Division of Drinking Water (DDW) minimum sizing requirements for source supply of 800 gpd (0.56 gpm) per ERC. It is proposed that the level of service for future connections be equal to the existing level of service.

Highland City maintains minimum pressures of 50 psi at all service connections in the system under normal operating conditions. The minimum pressure of 50 psi is the proposed and existing level of service for the distribution system under normal operating conditions.

Per DDW requirements water systems with fire hydrants must maintain a 20 psi residual pressure, in the system, during a peak day plus fire flow event. Fire suppression flow and volume are provided per the International Fire Code. The City currently complies with the level of service.

**Summary**

Table 2 is a summary of the existing and proposed level of service (LOS) for existing and future predicted ERCs.

**Table 2  
Level of Service Summary**

	<b>LOS per ERC</b>
ERCs	1
Peak Day Source Flow Rate (gpd)	800
Distribution Minimum Operating Pressure	50 psi
Fire Suppression Residual Pressure	20 psi

**EXCESS CAPACITY**

The existing system has excess capacity within its sources, storage and distribution facilities to service area with drinking water. However, costs incurred to create the existing system cannot be factored into the impact fees because the Water Company, not the City, funded the cost to construct the facilities. Therefore, only costs for future projects are included in the impact fees.

**FUTURE FACILITIES**

Data for the proposed distribution projects and their associated costs were provided within the 2012 Master Plan. The projects were estimated to be completed in the next ten years. The distribution projects are those required to increase the capacity of the distribution system in order to serve the future area.

**IMPACT FEE FACILITY PLAN**

Impact Fees for the City drinking water system will be uniform per ERC across the service area. Table 3 contains the City’s 2015-2024 Impact Fee Facility Plan. Each project is listed with the estimated 2015 cost. All of the projects are planned only for the ERCs in the service area. The IFFP projects total \$1,914,300 of which 100% of the cost is attributable to growth.

**Table 3  
Impact Fee Facility Plan**

<b>TYPE</b>	<b>RECOMMENDED PROJECT</b>	<b>Cost Estimate</b>
Distribution – Growth Project	Master Plan #2 Project – Install 1,200 feet of 12-inch transmission line in 11000 North from Well #2 to Park Drive (near the City’s Operations Building). The line is required to provide fire suppression flows to the southeast area.	\$164,000
Distribution – Growth Project	Master Plan #4 Project – Install 14,000 feet of 12-inch transmission line for new development. Also included connection to 4800 West and the existing Lone Peak School loop and canal crossing.	\$1,741,000
IFFP – Growth Project	Impact Fee Facility Plan	\$9,300
	<b>TOTAL</b>	<b>\$1,914,300</b>

**REVENUE OPTIONS**

Revenue options for the recommended projects, in addition to use fees, could include the following options: general obligation bonds, revenue bonds, State/Federal grants and loans, and impact fees. In reality, the City may need to consider a combination of these funding options. The following discussion describes each of these options.

**General Obligation Bonds through Property Taxes**

This form of debt enables the City to issue general obligation bonds for capital improvements and replacement. General Obligation (G.O.) Bonds would be used for items not typically financed through the Water Revenue Bonds (for example, the purchase of water source to ensure a sufficient water supply for the City in the future). G.O. bonds are debt instruments backed by the full faith and credit of the City which would be secured by an unconditional pledge of the City to levy assessments, charges or ad valorem taxes necessary to retire the bonds. G.O. bonds are the lowest-cost form of debt financing available to local governments and can be combined with other revenue sources such as specific fees, or special assessment charges to form a dual security through the City’s revenue generating authority. These bonds are supported by the City as a whole, so the amount of debt issued for the water system is limited to a fixed percentage of the real market value for taxable property within the City. For growth related projects this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

## **Revenue Bonds**

This form of debt financing is also available to the City for utility related capital improvements. Unlike G.O. bonds, revenue bonds are not backed by the City as a whole, but constitute a lien against the water service charge revenues of a Water Utility. Revenue bonds present a greater risk to the investor than do G.O. bonds, since repayment of debt depends on an adequate revenue stream, legally defensible rate structure /and sound fiscal management by the issuing jurisdiction. Due to this increased risk, revenue bonds generally require a higher interest rate than G.O. bonds, although currently interest rates are at historic lows. This type of debt also has very specific coverage requirements in the form of a reserve fund specifying an amount, usually expressed in terms of average or maximum debt service due in any future year. This debt service is required to be held as a cash reserve for annual debt service payment to the benefit of bondholders. Typically, voter approval is not required when issuing revenue bonds. For growth related projects this type of revenue places an unfair burden on existing residents as they had previously paid for their level of service.

## **State/Federal Grants and Loans**

Historically, both local and county governments have experienced significant infrastructure funding support from state and federal government agencies in the form of block grants, direct grants in aid, interagency loans, and general revenue sharing. Federal expenditure pressures and virtual elimination of federal revenue sharing dollars are clear indicators that local government may be left to its own devices regarding infrastructure finance in general. However, state/federal grants and loans should be further investigated as a possible funding source for needed water system improvements.

It is also important to assess likely trends regarding federal / state assistance in infrastructure financing. Future trends indicate that grants will be replaced by loans through a public works revolving fund. Local governments can expect to access these revolving funds or public works trust funds by demonstrating both the need for and the ability to repay the borrowed monies, with interest. As with the revenue bonds discussed earlier, the ability of infrastructure programs to wisely manage their own finances will be a key element in evaluating whether many secondary funding sources, such as federal/state loans, will be available to the City.

## **Impact Fees**

An impact fee is a one-time charge to a new development for the purpose of raising funds for the construction of improvements required by the new growth and to maintain the current level of service. Impact fees in Utah are regulated by the Impact Fee Statute and substantial case law. Impact fees are a form of a development exaction that requires a fee to offset the burdens created by the development on existing municipal services. Funding the future improvements required by growth through impact fees does not place the burden on existing residents to provide funding of these new improvements.

## **User Fees**

Similar to property taxes on existing residents, User Fees to pay for improvements related to new growth related projects places an unfair burden on existing residents as they had previously paid for their level of service.

## REFERENCES

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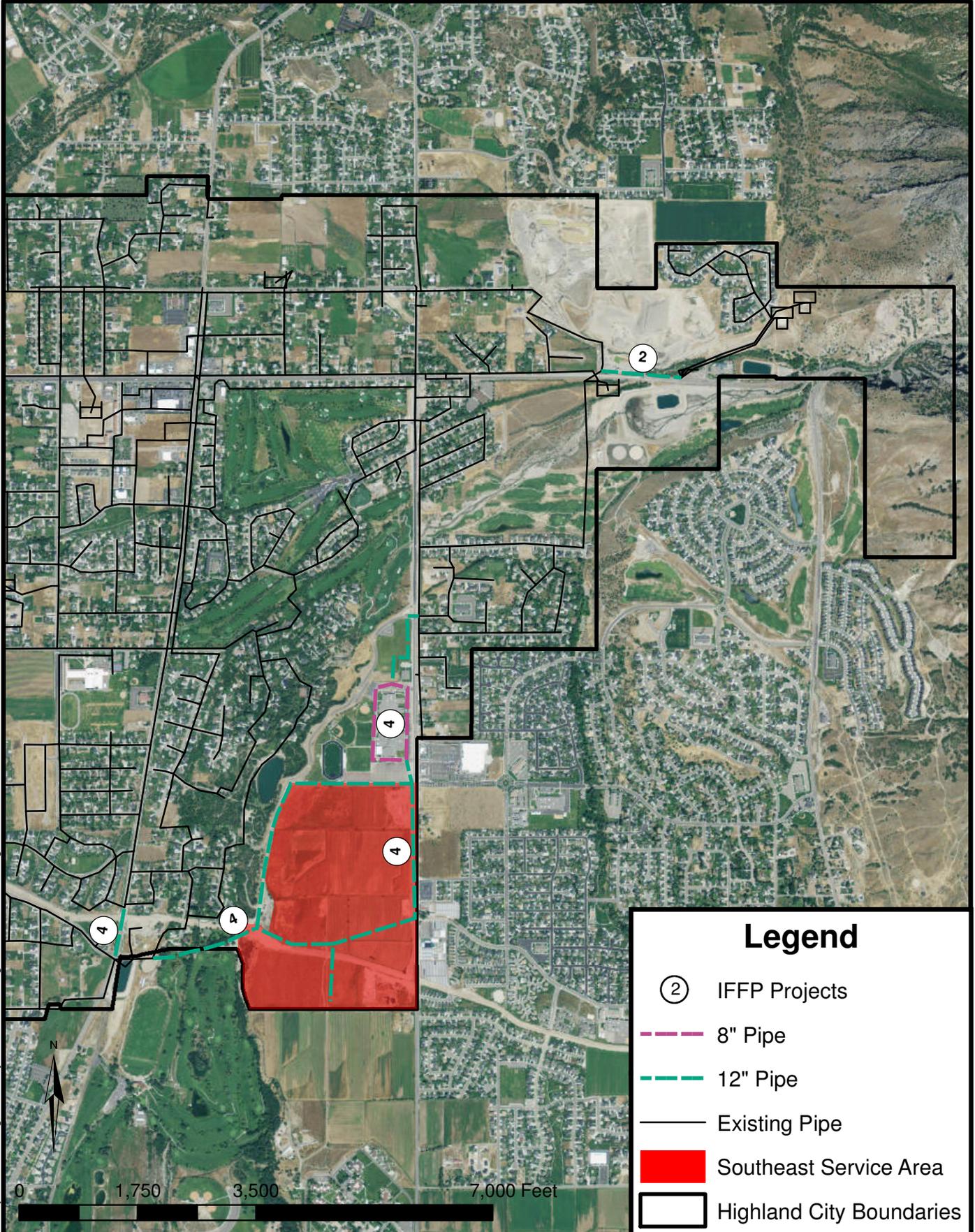
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Date: 1/23/2015  
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**Legend**

- ② IFFP Projects
- 8" Pipe
- - - 12" Pipe
- Existing Pipe
- Southeast Service Area
- ▭ Highland City Boundaries



**HIGHLAND CITY DRINKING WATER IFFP  
SERVICE AREA & IFFP PROJECTS**

**FIGURE  
1**