

KAYSVILLE CITY  
IMPACT FEE FACILITIES PLAN

2012

**KAYSVILLE CITY  
IMPACT FEE FACILITIES PLAN  
SUMMARY**

The Kaysville City Impact Fee Facilities Plan consists of five elements which are summarized herein and attached hereto.

**Water System (Tab 1)**

The culinary water system has no existing deficiencies. System improvements needed to maintain levels of service as demand and use increase are additional water supply, pumping capacity, 1.5 million gallons of storage capacity with associated piping and distribution piping estimated to cost \$3,015,030. Impact fees are an appropriate method of funding costs of facilities related to new development.

**Power System (Tab 2)**

The municipal power system has no existing deficiencies. Two 10 Mva transformers with associated equipment and structures are needed to serve additional demand: one at the Main Substation and one at either the Schick or Burton Substation, to be determined by the location of new demand. These system improvements are estimated to cost \$2,800,000. Impact fees are an appropriate method of funding costs of facilities related to new development.

**Streets (Tab 3)**

There are no existing capacity deficiencies in the street system. Street segments and intersections will be improved, as growth occurs, to maintain the desired levels of service. These system improvements are estimated to cost \$19,770,000. Impact fees are an appropriate method of funding costs of facilities related to new development.

**Recreation (Tab 4)**

There are no existing capacity deficiencies in the recreation facilities system. To meet future service demand, improvements on 40.5 acres, estimated to cost \$4,540,000, are needed. Impact fees are an appropriate method of funding costs related to new development.

**Police (Tab 5)**

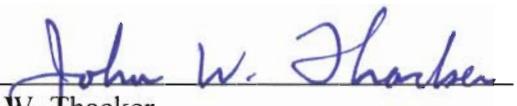
The existing police facilities are deficient by 9,480 square feet of floor space. A 19,835 square foot police station and a 1,690 square foot auxiliary building are needed to meet the standards at buildout, estimated to cost \$4,109,574. Impact fees are an appropriate method of funding the portion of costs of facilities related to new development.

IMPACT FEE FACILITIES PLAN  
CERTIFICATION

I certify that 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.

KAYSVILLE CITY

  
John W. Thacker  
City Manager

Tab 1

**KAYSVILLE CITY WATER SYSTEM  
IMPACT FEE FACILITIES PLAN  
February 29, 2012**

The Kaysville City Water System was reviewed, modeled, and analyzed using InfoWater software. Demand or water use data was provided by the City in the analysis as well as the most current Geographic Information System (GIS) data. The City also performed fire-flow tests and that data was used to calibrate the computer model. Coordination with City Staff was necessary in refining the water system operations and reviewing pressure regulating valve settings.

This report discusses the existing condition of the water system and projects to a buildup condition using the existing demands and projecting growth based on the impact areas. A review of the water supply and storage facilities is provided. Existing deficiencies and future deficiencies as well as other system improvements are presented and tabulated.

**EXISTING DEMAND**

Existing demands for the computer hydraulic model are generated by using water meter information from the billing system and the GIS. Nodes or junctions in the model have demands assigned to them based on the meters within the vicinity.

A standard residential unit is the basic unit used for calculating demand on the system. Water users that differ from a basic residential unit are considered to be some multiple of a residential unit depending on the typical water use. Commercial connections are estimated from water usage records and other available data to convert to equivalent residential connections (ERCs). The residential connections and equivalent residential connections are quantified for each demand node/junction and the city as a whole.

The number of ERCs was calculated from the Kaysville City Water use records which are supplied each month by Weber Basin Water Conservancy District (WBWCD). These records were used because the Kaysville City billing records do not account for all of the water which is being used in the city. The following are ways unmetered water is used in the water system: Connections that are not metered, through bad meters, leaks, fire hydrant testing, etc.

It was determined that the records provided by WBWCD captured the total amount of water used in the system and not just what was billed to users. The total flow used in one year for the years 2009 and 2010 was used to calculate an average flow per year and then converted into an average flow rate in gallons per minute (gpm). A peaking factor of 2 was used to calculate a peak day flow rate of 2,883 gpm. The residential connections from the Kaysville City billing records (7,131 connections) were used to determine a flowrate (gpm) per ERC factor, which is 0.285. By dividing the peak day

flow of 2,883 gpm by 0.285 gpm/ERC, a total number of existing ERCs for Kaysville City was calculated to be 10,116.

Guidelines established by the State of Utah estimate peak day demand (the highest 24-hour period of the year) at 800 gallons per day per connection.

Peak Day - State of Utah Formula

$$800 \text{ gpd/connection} \times 10,116 \text{ ERCs} = 8,092,800 \text{ gallons per day}$$
$$= 5,620 \text{ gallons per minute}$$

Water usage records for Kaysville City show a considerably lower peak day demand than that calculated by the above formula. The discrepancy may be due to lower actual water use in Kaysville City or a result of a very conservative approach to calculating the total number of equivalent residential connections. Calculated peak day demands, based on water use records were 4,152,000 gallons (410 gallons per day per connection).

Peak Day - Observed

$$410 \text{ gpd/connection} \times 10,116 \text{ ERCs} = 4,152,000 \text{ gallons per day}$$
$$= 2,883 \text{ gallons per minute}$$

Average day demand (the average use over a 12 month period) is estimated by the State of Utah based on 146,000 gallons per connection per year (400 gallons per day).

Average Day - State of Utah Formula

$$400 \text{ gpd/connection} \times 10,116 \text{ ERCs} = 4,046,400 \text{ gallons per day}$$
$$= 2,810 \text{ gallons per minute}$$

Again water usage records show a considerably lower use for the same possible reasons identified above. The average day demand equated to 74,919 gallons per connection per year (205 gallons per day).

Average Day - Observed

$$205 \text{ gpd/connection} \times 10,116 \text{ ERCs} = 2,076,480 \text{ gallons per day}$$
$$= 1,442 \text{ gallons per minute}$$

Typically a system is designed for peak day demand plus a reasonable fire flow. This is what has been used in the analysis of the Kaysville City Water System.

See the following table entitled Water Sources/Supply for a review of the above demands and comparisons.

## Water Sources/Supply

Description	2011 K-gal/day	2011 gpm	Build-Out K-gal/day	Build-Out gpm
Average Annual Daily Demand				
**From Model	2,076	1,442	3,084	2,142
Based on 146,000 gal/yr/ERC	4,046	2,810	6,012	4,175
Peak Day Demand				
**From Model	4,152	2,883	6,169	4,284
Based on 800 gpd/ERC	8,093	5,620	12,025	8,351
Current Resources				
WBWCD Contract (2500 AF)				
Crestwood Road Turnout	2,880	2,000	2,160	1,500
Lower Pasture Turnout	2,880	2,000	2,160	1,500
Ward Road Turnout	2,880	2,000	2,160	1,500
Planned Resource Development				
Mountain Rd (Green Rd) Turnout	-	-	2,160	1,500
Total Delivery Capacity Allowed	8,640	6,000	8,640	6,000
Deficit/Surplus - Current Resources				
**2011 Peak Day Estimated	4,488	3,117		
Based on 800 gpd/ERC	547	380		
Deficit/Surplus - Current and Planned Resources				
**2011 Peak Day Estimated plus Projected Growth			2,471	1,716
Based on 800 gpd/ERC			(3,385)	(2,351)
Build-Out Annual Water Useage				AF/year
**2011 Average Daily Demand plus Projected Growth				3,455
Based on 146,000 gal/yr/ERC				6,735

\*\*The numbers used for the analysis were from the model.

## FUTURE DEMANDS

Future demands were calculated based on the GIS layer called “impact area” which was provided by Kaysville City. This GIS layer shows the areas within the city which still have the possibility for growth to occur and the annexation areas of the City. A density factor of 4 ERCs per acre was used for all properties East of I-15 and a density factor of 2 ERCs per acre was used for all properties West of I-15. The area East of I-15, North of Davis High School, and South of 200 North is considered the “Historic” area of Kaysville City. This area has a large amount of land in the middle of blocks with the possibility of “in-fill”. There were approximately 20 blocks considered for “In-fill” and it was assumed that this would provide approximately 150 ERCs to the future build out number.

It is estimated that, using the above procedure, future development will result in 4,795 new ERCs and 150 ERCs of “in-fill”. When added to the 10,116 existing equivalent residential connections, the resulting number of equivalent residential connections at buildout will be 15,031. This number of ERCs does not include any anticipated high water use industry. Proposed development that would use significantly more water than typical residential development should be analyzed on a case by case basis. This number also assumes that the area along Mutton Hollow road will be annexed into the city and be served by the Kaysville City Water System.

Total equivalent residential connections have changed from the previous capital facilities plan. This is due in part to: (1) new growth, (2) better water use data provided by the city, and (3) the inclusion of some possible future annexation areas that were not included in the previous plans. (See Projected Impact Areas map dated 1/26/12)

The assumption has been made that future demand characteristics will be similar to current patterns for similar land uses. Total future water demand at buildout is estimated to be 4,284 gpm for Peak Day, and 2,142 gpm for Average Day. See the table entitled Water Sources/Supply for a comparison of existing and future demands.

## WATER SOURCES/SUPPLY

Weber Basin is the sole source of culinary water for Kaysville City. As a part of the 2004 update of this plan, a projection of future culinary water demands was provided to Weber Basin. We believe that projection was too aggressive based on the growth rate at that time and higher ‘existing conditions’ demands due to the lack of data. In 2004, Weber Basin responded in writing indicating that they “...are confident that with [their] existing infrastructure, [they] can supply the city’s demands through year 2011.” (based on 4,078 gpm peak day demand) They also indicated that “The District is committed to continue to supply Kaysville with all of its culinary water needs.” The current peak day demand for this analysis is 2,880 gpm and buildout is less than the previously projected values. It appears that Weber Basin will continue to meet the City’s water supply demands.

The City currently has a contract for 2,500 acre-feet of water annually from Weber Basin. This has typically been sufficient to date, but when it is exceeded, the City receives water credit from exchanged water from Holmes Creek. The City will need to secure additional Weber Basin water for the future. One source is the 'trilateral' or 'reserved' water that was set aside from irrigation company shares (286 acre-feet available). Recent discussions have resulted in this water costing the city \$1,800 per acre-foot, with a future cost of treatment once it is used. It is projected that the City will need more contracted water in the future, but is difficult to determine the volume due to the unknown amount from the Holmes Creek water as well as future water use.

## **STORAGE**

The existing storage capacity is 8.5 million gallons. That capacity is distributed as follows:

• Pasture Tank -	1,000,000 gallons
• Crestwood Road Tanks -	1,000,000 gallons
	1,500,000 gallons
• Lower Pasture Tank -	2,000,000 gallons
• Ward Road Tanks -	1,000,000 gallons
	2,000,000 gallons

Storage can be divided into three categories.

- Equalization storage volume - to satisfy peak hourly demands. The State requirement is 400 gpd/ERC.
- Fire storage volume - to provide fire-fighting water. The assumption is a 3,000 gpm fire flow for 3 hours.
- Emergency storage volume - to meet emergency demands in the event of some type of system failure. This storage is above and beyond the equalization and fire storage volumes. It is recommended that an average day of storage (205 gpd/ERC) be used so that the emergency storage is not a set number but fluctuates as growth occurs. In such times, rationing would occur and this storage would last much longer.

Kaysville City, through ordinances, requires residential development to provide pressurized secondary water to all lots. Outside irrigation typically accounts for more than one-half of all water used. This water is used during approximately six months of the year. This has a major impact on storage requirements.

There are only a few existing homes without access to pressure irrigation water. Some outside irrigation of commercial/industrial sites are included in the model simulation, due to the demands being based on the meter readings/billing information.

If future commercial or industrial users landscaped significantly more of their property than existing properties, adjustments in storage requirements and some pipe sizes may be required. As an alternative, commercial and industrial users with large landscaped areas should be encouraged to use pressure irrigation.

Based on the above discussion, future storage requirements are determined based on the assumptions listed below:

- New residential development will be required to provide pressure irrigation to all lots. (Possible exception east of Hwy-89)
- Future commercial and industrial developments will use culinary water for limited outside irrigation. Pressure irrigation is more likely to be used in the Business Park due to its availability.

Storage needs and recommendations can be summarized as follows:

	2011	Build-Out
Equivalent Residential Connections	10,116	15,031
Equalization Storage Volume gal. (Indoor Use at 400 gpd/conn.)	4,046,400	6,012,400
Fire Storage Volume gal. (3000 gpm fire for 3 hours)	540,000	540,000
Emergency Storage Volume gal. (Average Day, 205 gpd/ERC)	2,073,780	3,081,355
Total Storage Required gal.	6,660,180	9,633,755
Existing Storage Capacity gal.	8,500,000	8,500,000
<b>Storage Surplus/Deficit gal.</b>	<b>1,839,820</b>	<b>(1,133,755)</b>
<i>Recommended Storage Volume at Build-Out</i>		
Pasture (Zones 1-7)		1,000,000
Crestwood Road (Zones 3-7)		1,000,000
		1,500,000
Lower Pasture Tank (Zones 3-7)		2,000,000
Ward Road (Zones 5-7)		1,000,000
		2,000,000
Green Road Tank (Zones 5-7)		1,500,000
<b>TOTAL</b>		<b>10,000,000</b>

It is recommended that additional storage be added to the Kaysville City Culinary Water System in the future as development increases.

The above table shows a proposed 1.5 million gallon storage tank. The property owned by Kaysville City north of Green Road and east of SR-89 is a viable location for a tank to serve Pressure Zones 5, 6, and 7. A feed line and transmission line to and from this site have been installed over the years based on previous capital facilities plans. The timing of the tank construction will be dependent on future growth.

Pressure Zones 1 and 2 are served exclusively by the Pasture Tank. The area covered by these two pressure zones was evaluated separately under a buildout condition, based on land uses from the “Projected Impact Areas” map. It was determined that the Pasture Tank is adequate to meet the future storage requirements. This tank is fed from the Crestwood Tanks through a pump station. Changes in projected land uses, that increase the culinary water demand in Pressure Zones 1 and 2, could impact both the operational characteristics of the pump and the storage volume needed in the Crestwood Tanks to feed the Pasture Tank. It’s wise to have a backup pump station at the “Lower Pasture” Tank site in case something happens with the existing pump station, the existing Pasture Tank, or the existing Crestwood tanks. The storage tank and pump station would be able to supply additional water or replace lost water if the need arose (including supplying the upper two zones exclusively via the new pump station). An additional valve to isolate the Pasture Tank will need to be installed in order for the proposed Lower Pasture Pump Station to supply water and pressure to the system if it’s not able to go to storage.

Improvements to SR-89 may require removal of the westerly tank at the Crestwood tank location. This storage will need to be replaced at that time. Additionally, back-up power for both pump stations to the Pasture Tank should be installed.

Pressure Zones 3 and 4 are served primarily by the Crestwood and Lower Pasture Tanks. The area covered by these pressure zones was also evaluated under a buildout condition with land uses from the “Projected Impact Map.” Under those assumptions the existing volume of storage is adequate to meet the future storage requirements for the two pressure zones. These pressure zones serve a significant area that is still undeveloped. Land use assumptions should be reviewed, prior to design and construction of every tank, to verify that the assumptions made are still valid.

Pressure Zones 5, 6, and 7 can be served by gravity from the Ward Road tanks and from any of the existing tanks through Pressure Reducing Valves (PRVs). Care should be taken in setting PRVs to ensure that excessive demand is not placed on these tanks. However, due to their elevation, any increase in storage capacity at the Crestwood Road site or south of Crestwood Road at the Lower Pasture tank site or the Green Road location could benefit these pressure zones. Serving lower pressure zones from the Pasture Tank is not economical since all water to that tank must be pumped. The energy added by pumping is wasted once the water passes through a PRV.

## **DISTRIBUTION**

The distribution level of service is based upon a review of fire flow demands for various areas and structures as well as the capacity of the system. The staff provided target fire flows at various locations. Fire flow is in addition to peak day demand. Fire-flow tests were performed in the field November 2011 and the model was calibrated to simulate those flows. Fire flows for residential areas have been previously reviewed with the Fire Chief.

The established level of service is the target for future buildout. Existing residential areas have a minimum fire flow of 1,000 gpm for homes and 2,000 gpm for other structures found within these areas such as schools and churches. Due to the uncertainty of the location of future schools, churches and other structures commonly found in residential areas, all new residential areas are required to provide a minimum 2,000 gpm fire flow above anticipated peak day demand.

### DEFICIENCIES

No existing deficiencies were identified.

Improvements needed to maintain levels of service as demand and use increase are summarized as follows:

ITEM	DESCRIPTION	COST
1	Additional Water Contract with Weber Basin	\$540,540.00
2	PRV Upgrades/Replacement	\$200,000.00
3	Lower Pasture Pump Station	\$575,000.00
4	Upper Pressure Zones Transmission Line	\$387,610.00
5	New 8" pipe connecting Olde Orchard Subdivision with Coventry Place. (Will likely be done with the development.)	\$0.00
6	Complete loop with PRV through Coventry Place. (Will likely be done with the development. 50% PRV cost)	\$20,000.00
7	Additional 2 PRVs for future development. (50% PRV cost)	\$40,000.00
8	Replace 8" Line w/10" for Annexed Mutton Hollow Area (Will likely be done with the development.)	\$0.00
9	New 1.5 MG Green Road Tank	\$1,251,875.00
<b>TOTAL - FUTURE DISTRIBUTION IMPROVEMENTS</b>		<b>\$3,015,030.00</b>

The area along Mutton Hollow Road east of Fairfield Road is included in the future model demands (See "Projected Impact Area" map). If this area is evaluated for annexation into Kaysville City, a detailed analysis is recommended. Part of the difficulty in analyzing this area is that it would be divided into two pressure zones and the needed improvements would have to be evaluated on that basis along with storage needs.

A summary of the model results using the fire flow established in the "Distribution" section is included below. No pressures are below the acceptable level. All model runs for the future condition include all improvements needed to maintain levels of service. It is a true buildout condition.

## SUMMARY OF PREDICTED PRESSURES BASED ON WATER MODEL - IN PSI

Node	Description	Fire Flow gpm	Existing Peak Day psi	Future Peak Day psi
1301	Morgan Elementary	2000	44.94	43.56
623	Fairfield Junior High School	2000	29.75	32.85
1374	Upper HOB Hill	2000	37.03	37.97
1303	LDS Church (875 E. 200 N.)	2000	39.53	39.18
383	Marketboro	2000	91.33	91.56
1295	Burton Elementary	2000	53.96	55.44
1351	East end of Laurelwood Dr.	1250	45.68	47.55
1157	DATC	2000	38.57	40.35
910	Davis High School	3000	65.88	68.25
808	LDS Church (240 E. Burton Ln.)	2000	69.25	91.53
1196	Windridge Elementary	2000	41.43	47.89
219	Blaine Jensen RV	2000	50.75	50.64
319	Kaysville City Operations Center	2000	79.16	78.03
953	Oakridge Stake Center	2000	40.49	37.58
48	Phillips Street (east of Angel St.)	2000	36.35	36.14
152	Angel St. and Webb Ln.	2000	72.42	71.00
431	Sunset Dr. and Burton Ln.	2000	68.78	65.92
104	Phillips St. and 1550 West	1500	29.63	24.83
1375	Sherwood and Oxford	2000	48.89	41.85
920	300 East and Center St.	2000	67.29	67.43
494	Gailey Sub.	2000	107.44	107.20
696	New Elementary (25 W 1900 S)	2000	49.09	46.34
1084	1800 South and 500 East	2000	73.81	80.98
285	Barnes Estates	2000	72.69	72.23

### OTHER IMPROVEMENTS

Other improvements are defined as those improvements that are scheduled, but are not needed to provide capacity to meet future demands. While they may have a positive impact on the level of service they are not required to meet established guidelines. They are improvements that are planned to bring portions of the service area into compliance with more recent construction standards. For the most part, they consist of replacing 4" diameter lines. The existing 4" lines supply adequate flow to meet established service levels, but they are being replaced due to age, to add flexibility in system operation, and to meet updated State requirements.

After discussion with City staff, additional telemetry and SCADA for crucial elements of the system were identified as improvements that would assist the City in determining water usage and evaluating the overall operation. Another advantage would be to determine system pressures, monitor flows, and control features from a remote location, such as the Operations Center or City Hall. The data collected will

enable better calibration of the model and provide information for future system evaluation.

The other improvements planned are summarized below.

ITEM	DESCRIPTION	COST
1	Telemetry & SCADA	\$33,750.00
2	Commercial and Residential Meter Replacement	\$1,987,100.00
3	Replace existing 4" lines with 8" lines.	\$1,228,130.00
	<b>TOTAL - OTHER IMPROVEMENTS</b>	<b>\$3,248,980.00</b>

#### SUMMARY OF COSTS

The cost of improvements to provide capacity for growth to “buildout” is **\$3,015,030**. The cost of other planned improvements is **\$3,248,980**.

These costs do not represent all improvements or additions that will be made to the system. There will be many other facilities installed as part of future development. The costs identified above are only for those improvements needed to meet minimum standards at buildout. Other installed facilities will consist of lines to provide service to specific parcels of property.

#### REVENUE SOURCES

The existing water system was constructed through exactions, impact fees and operating revenues. Undeveloped properties that have not used culinary water have not contributed to the funding. Additional development creates a demand on the system and the resultant impacts. Improvements to the system are needed to maintain established levels of service. A funding source is necessary to construct improvements identified in this plan. Non-capacity related improvements are funded through exactions and operating revenues. Capacity improvements that are required to maintain levels of service as development occurs should be financed through impact fees. Impact fees are necessary to achieve an equitable allocation of the costs borne in the past and the costs to be borne in the future, in comparison to the benefits already received and yet to be received.

#### RECOMMENDED IMPROVEMENT SCHEDULE

A large amount of undeveloped land remains in Kaysville City. Development trends will have an impact on where improvements are needed and when. Based on current development trends in the city, an approximate schedule for needed improvements has been prepared. It is recommended that this schedule be reviewed annually.

The recommended improvement schedule follows.

**KAYSVILLE CITY CULINARY WATER CAPITAL FACILITIES PLAN**  
**IMPROVEMENT SCHEDULE**

Date of Last Revision

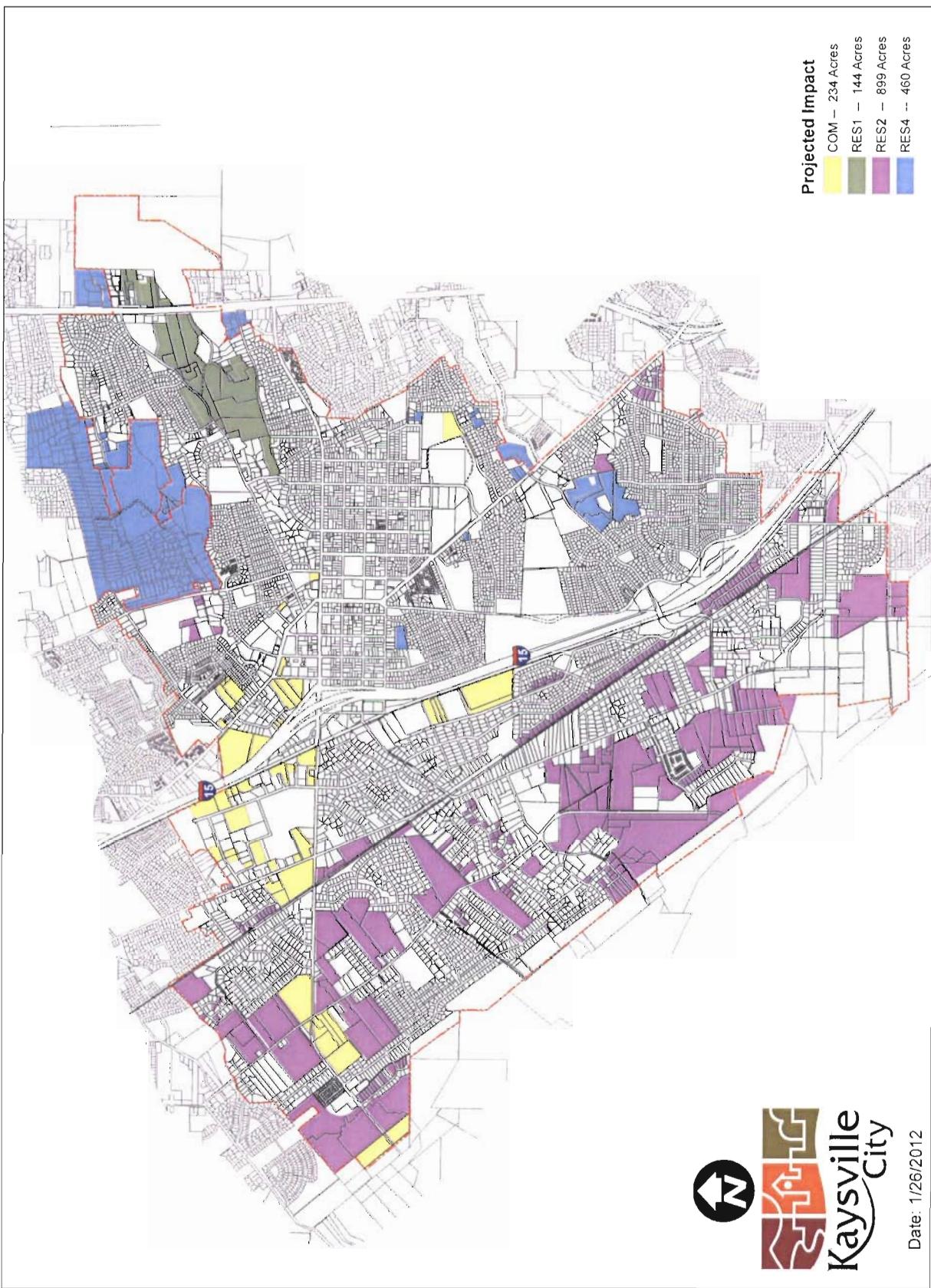
2/22/2012

ITEM	DESCRIPTION	PROJECTED		COST
		DATE	COMMENTS	
1	Additional Water Contract with Weber Basin	2012-2013		\$540,540.00
2	PRV Upgrades/Replacement	2013-2017		\$200,000.00
3	Lower Pasture Pump Station	2013-2014		\$575,000.00
4	Upper Pressure Zones Transmission Line	2013-2014		\$387,610.00
5	New 8" pipe connecting Olde Orchard Subdivision with Coventry Place. Will likely be done with the development.	*	Required for development	\$0.00
6	Complete loop with PRV through Coventry Place. (50% PRV Cost) Will likely be done with the development.	*	Required for development	\$20,000.00
7	Additional 2 PRVs for future development. (50% PRV Cost)	*	Required for development	\$40,000.00
8	Replace 8" Line w/10" for Annexed Mutton Hollow Area Will likely be done with the development.	*	Required for development	\$0.00
9	New 1.5 MG Green Rd. Tank	2020		\$1,251,880.00

**OTHER IMPROVEMENTS**

ITEM	DESCRIPTION	PROJECTED		COST
		DATE	COMMENTS	
1	Telemetry & SCADA	2012		\$33,750.00
2	Commercial and Residential Meter Replacement	2013-2020		\$1,987,100.00
3	Replace existing 4" lines with 8" lines.	2013-2020		\$1,228,130.00

## Projected Impact Areas



SUMMARY

**KAYSVILLE CITY CORPORATION  
CULINARY WATER MASTER PLAN  
SUMMARY OF PRELIMINARY COST ESTIMATES - DISTRIBUTION SYSTEM**

Date of Last Revision

2/22/2012

**FUTURE IMPROVEMENTS**

ITEM	DESCRIPTION	COST
1	Additional Water Contract with Weber Basin	\$540,540.00
2	PRV Upgrades/Replacement	\$200,000.00
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<b>TOTAL - FUTURE DISTRIBUTION IMPROVEMENTS</b>		<b>\$3,015,030.00</b>

**OTHER IMPROVEMENTS**

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<b>TOTAL - OTHER IMPROVEMENTS</b>		<b>\$3,248,980.00</b>

## Kaysville City Water System

## Future Improvements



## Legend

Water Tank  
PRV  
Pipes  
Pipe  
Future Pipe



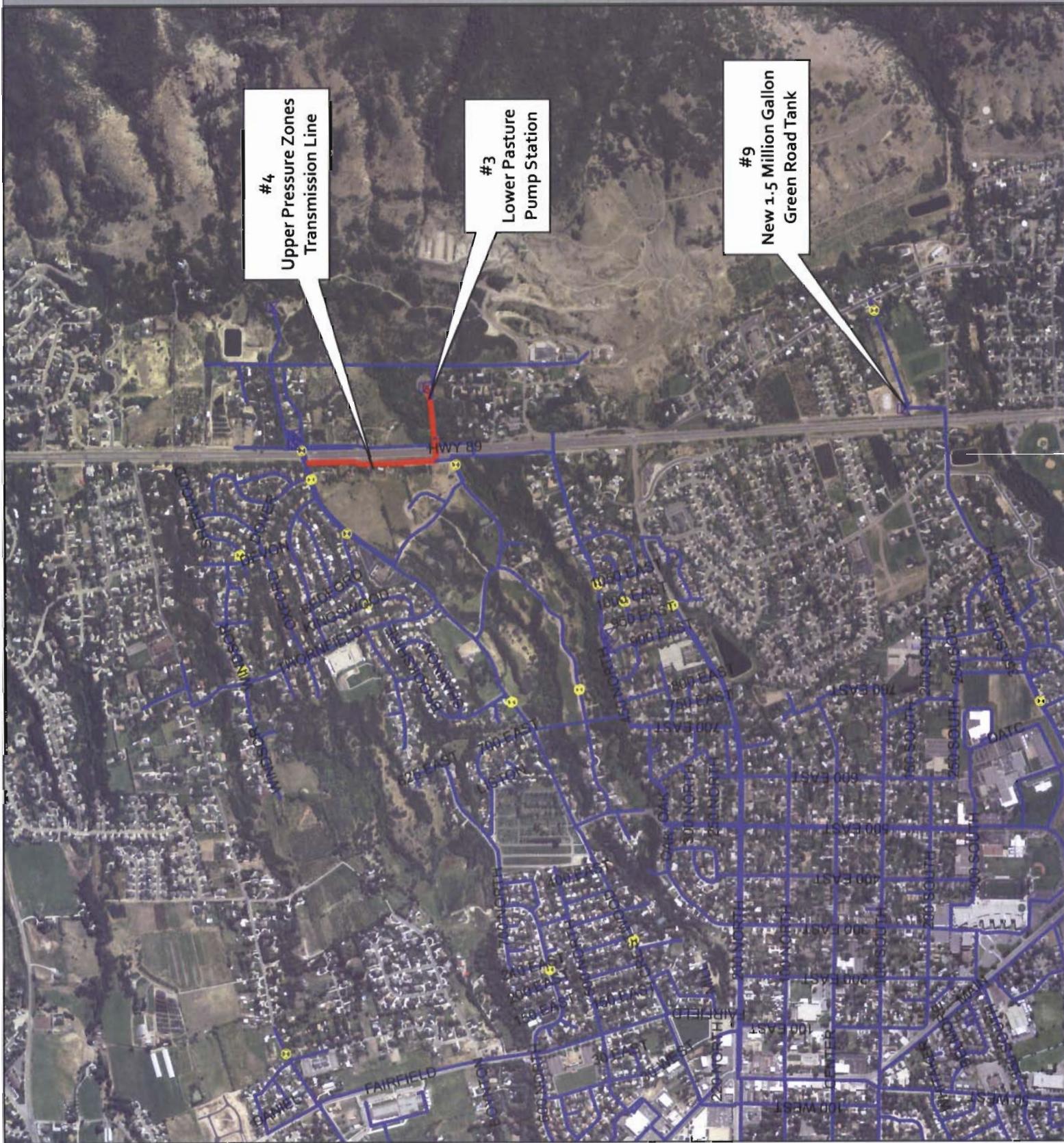
J-U-B ENGINEERS, INC.



JULY 2000

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2/23/2012







## Kaysville City Annexation Area Option

### Legend

Water Tank	PRV	Current Annex Area
		Pipe Sizes
		4
		6
		8
		10
		12
		14
		16
		18



Tab 2

# **Kaysville City**

## **Power System Impact Fee Facilities Plan NOVEMBER 1, 2011**

### **I. INTRODUCTION**

The Kaysville Power System provides electric service to 7,722 residential customers, 702 commercial customers and 1 industrial customer. Total kilowatt hours sales for 2010 were 130,836,555 at a maximum demand of 39,332 kilowatts.

Electric power is delivered to the system at 46,000 volts to two substations, and at 138,000 volts to the other two substations. The Main Substation, located at approximately 60 East and 200 North has a capacity of 20,000 kilowatts. The West Substation, located at 650 West 200 North has a capacity of 10,000 kilowatts. The Burton Substation located at 80 West Burton Lane, has a capacity of 10,000 kilowatts. The Schick Substation, located at 2175 West 200 North has a capacity of 10,000 kilowatts. Ten circuits distribute power throughout the city over 137 miles.

### **II. SERVICE STANDARD**

The standard of service for all customers is based on having sufficient installed substation capacity to meet the maximum system demand with the loss of one 10,000 kilowatt substation transformer.

### **III. SPATIAL LOAD FORECAST**

In order to plan the efficient operation and economic capital expansion of an electric power system, the system owner must be able to anticipate the need for power delivery – how much power must be delivered, and where and when it will be needed. Such information is provided by a spatial load forecast, a prediction of future electric demand that includes location (where) as one of its chief elements, in addition to magnitude (how much) and temporal (when) characteristics.<sup>1</sup>

The projected power demand at build-out is approximately 75,552 kW as shown in Table 1.

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<sup>1</sup> *Spatial Electric Load Forecasting, Second Edition, Revised and Expanded*, H. Lee Willis, ABB Inc., Raleigh, North Carolina.

Table 1  
Projected Power Demand at Build-out

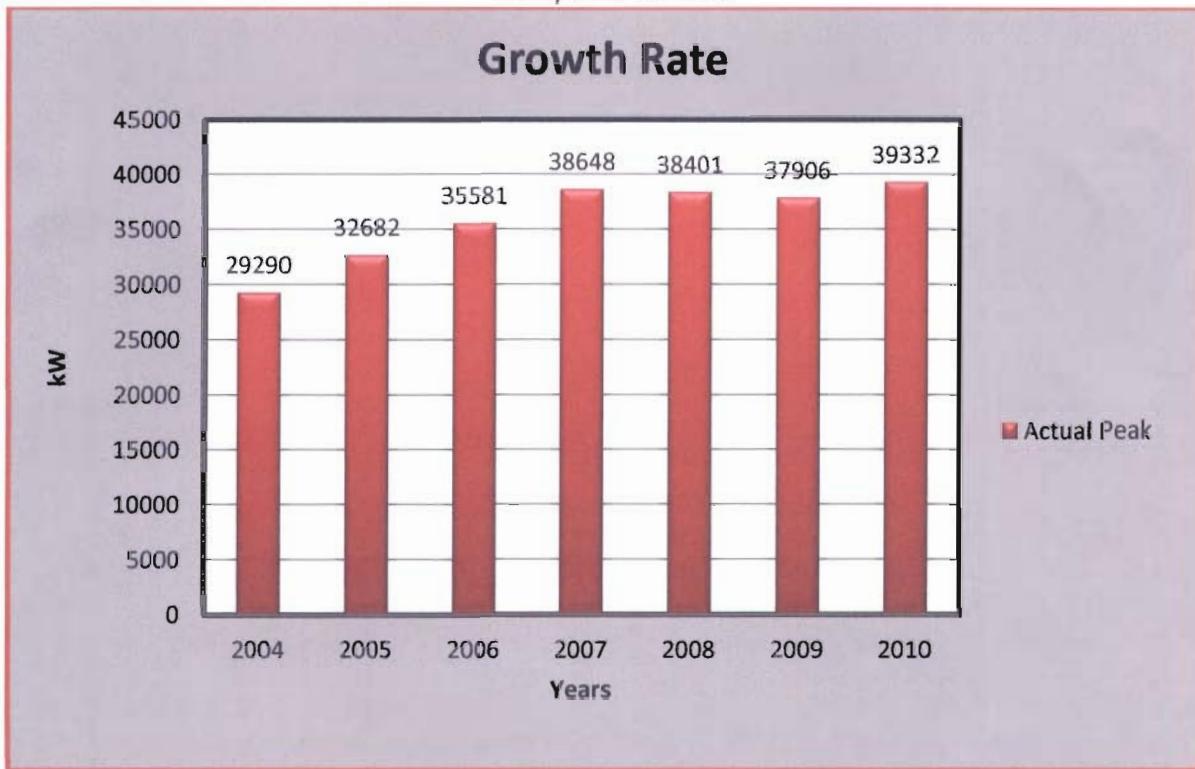
Demand at Build-out	
2010 Peak Kw	39,332
Future Residential Load	28,590
Future Commercial Load	7,630
Total Demand at Build-out	75,552

#### IV. GROWTH

The number of residential customers increased nearly 1.7% percent from 2009 to 2010. Residential customers represents 66% of the kWh sold. The number of commercial customers increased less than 1% and represents 33% of the load. The city has one industrial customer which represents 1% of the load.

System demand has grown at a rate of 5.7% per year from 2004 to 2010 (see Figure 1).

Figure 1  
Total System Demand



## V. FUTURE SUBSTATION REQUIREMENTS

In FY2011, system capacity will be 1,574 kilowatts less than what will be needed to meet the system Service Standard. The modification to the Main Substation needs to be started in 2011 so that it can be in operation the summer of 2012.

In FY2012, after the completion of the new 12 kV 10,000 kilowatt bank at the Main Substation the system capacity Service Standard is met.

In FY2013, there is sufficient system capacity to meet the Service Standard.

In FY2014, there is sufficient system capacity to meet the Service Standard.

In FY2015, system capacity is projected to be 2060 kilowatts less than what is needed to meet the system Service Standard. With the installation of one new additional 12 kV 10,000 kilowatt bank, at Burton or Schick Substations, there will be sufficient system capacity to meet the Service Standard. The location of the new transformer will be decided at that time.

Table 2  
Future Substation Requirements

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
YEARLY PEAK DEMAND kW	39,332	41,574 EST 5.7%	43,942 EST 5.7%	46,446 EST 5.7%	49,093 EST 5.7%	52,060 EST 5.7%
BASE CAPACITY AS OF FY2010	50,000	50,000	50,000	50,000	50,000	50,000
CAPACITY RETIRED	0	0	0	0	0	0
CAPACITY NEEDED TO MEET SS	49,332	51,574	53,942	56,446	59,093	62,060
ADDITIONAL CAPACITY NEEDED FOR SS	0	1,574	3,942	6,446	9,093	12,060
CAPACITY ADDITIONS						
FY 2012 *						
MAIN SUBSTATION INSTALL 10,000 kW TRANSFORMER			10,000	10,000	10,000	10,000
ADDITIONAL CAPACITY NEEDED FOR SS			0	0	0	2060
FY 2015 *						
BURTON OR SCHICK SUBSTATION'S INSTALL 10,000 kW TRANSFORMER						10,000
ADDITIONAL CAPACITY NEEDED FOR SS						0

\* NOTE: DELIVERY TIMES IN THE PAST, DUE TO ECONOMIC OR NATURAL DISASTERS, HAVE BEEN AS LONG AS NINE (9) MONTHS FOR LARGE TRANSFORMERS AND OTHER EQUIPMENT.

## VI. ACTION PLAN

Table 3 lists the capital projects, in the future dollars, needed to meet the Capacity Service Standard in the five year plan.

Table 3  
Action Plan

A. FY2011-2012 – Main Substation – Center Bay-Remove existing wooden structure and old transformer. Install new steel structure and new 46kV to 12,470Y/7200 Volts, 10Mva transformer, regulators and tie into existing service bays.	\$ 1,300,000
B. FY2014-2015 – Schick or Burton – New 10Mva transformer 138kV 12470Y/7200 Volts, regulators, ckt switcher, metering and reclosers	\$ 1,500,000
Total Capital Costs:	\$ 2,800,000

## VII. FUNDING

The existing substations were built through impact fees and operating revenues. Undeveloped property has not used power and did not contribute to the funding. New development causes the impact on the system and benefits from improvements. With new development, additional substation capacity is needed to maintain the Service Standard. Only impact fees and operating revenues will be available to fund the impact on system improvements, so impact fees are necessary to achieve an equitable allocation to the costs borne in the past and to be borne in the future in comparison to the benefits already received and yet to be received.

## VIII. ELECTRIC IMPACT FEES

Impact Fees are one-time charges imposed on development to cover costs associated with necessary capital improvements to the electric system needed to serve development. In April 1995, and updated: May 11, 2011, the Utah State Legislature passed Title 11, Chapter 36a, Sections 101-705 (the “Impact Fee Act”). The “Impact Fee Act” put in place requirements regulating impact fees which apply to municipally owned electric utilities.

To implement impact fees as defined by the Impact Fee Act, "local political subdivisions" (a city or town) must conduct an analysis with the following elements:

- Identification of the impact on system improvements required by the development activity;
- Demonstration of how those impacts on system improvements are reasonably related to the development activity;
- Estimation of the proportionate share of the cost of impacts on system improvements that are reasonably related to the new development activity; and
- Explanation of how the impact fee was calculated.

Electric impact fees in Kaysville are calculated using incremental cost which is one of several methods for calculating impact fees. This method determines what new developments pay for improvements or a portion of the improvements needed to serve them. This is a "capacity-based" fee structure. In this way existing customers are not burdened by the new growth.

## IX. CALCULATING IMPACT FEES

There are two steps in the process of calculating impact fees.

1. Determine the cost of the improvements attributable to new development and the equity cost of the existing system capacity available to new customers.
2. Allocate the identified costs to various types of development (customers).

### Step 1

In FY2010 the peak demand for the system was 39,332 kilowatts. This was 668 kilowatts less than the amount of Kaysville City's capacity to meet the Service Standard. Therefore, the cost of improvements to the system is attributable to new development from FY2010 forward.

### Step 2

The cost per capacity unit (1 kilowatt) is calculated by dividing the projected facility costs needed to serve future development, divided by the total potential demand of the new development. The capital cost attributed to projected load growth from the Action Plan is \$2,800,000. This will provide for sufficient system capacity through FY2015 to meet the system Service Standard. New development capacity needs are projected to be 12,060 kilowatts during this period.

The cost per capacity unit is \$2,800,000 divided by 12060 kilowatts of new load, equaling \$232.17 per kW.

The Electric Impact Fee for different types of new load in residential, commercial and industrial categories are calculated by determining the estimated peak demand (kW) of each type of load and multiplying it by the cost per capacity unit.

$$\text{Electric Impact Fee} = \text{Expected kW of each new load} \times \text{per kW}$$

The Impact Fee Schedule was based on connection size. Based upon the Power Department's experience, and load studies conducted at several places within Kaysville City. This information was used in the new power Impact Fee Schedule (see Table 4, Power Impact Fee, on the following page).

**Table 4**  
**Power Impact Fee**  
**Power Impact Fee Schedule**

**Residential Single Phase Service Sizes**

AMPS	KVA	PEAK DEMAND	IMPACT FEES	IMPACT FEES 4/2004
100	24	3	\$ 697	\$ 477
125	30	4	\$ 929	\$ 636
150	36	5	\$ 1,160	\$ 795
200	48	6	\$ 1,393	\$ 955
225	54	8	\$ 1,857	\$ 1,273
400	96	12	\$ 2,786	\$ 1,909

**Commercial Single Phase Service Sizes**

AMPS	KVA	PEAK DEMAND	IMPACT FEES	IMPACT FEES 4/2004
100	24	3	\$ 697	\$ 477
125	30	5	\$ 1,160	\$ 795
150	36	7	\$ 1,625	\$ 1,114
200	48	12	\$ 2,786	\$ 1,909
400	96	19	\$ 4,411	\$ 3,023

**Commercial 3 Phase (120/240v) Service Sizes**

AMPS	KVA	PEAK DEMAND	IMPACT FEES	IMPACT FEES 4/2004
125	52	9	\$ 2,090	\$ 1,432
150	62	14	\$ 3,250	\$ 2,227
200	83	18	\$ 4,179	\$ 2,864
400	166	36	\$ 8,358	\$ 5,727
600	249	54	\$ 12,537	\$ 8,591
800	332	72	\$ 16,716	\$ 11,454
1000	415	90	\$ 20,895	\$ 14,318
1200	498	108	\$ 25,074	\$ 17,181
1600	664	144	\$ 33,432	\$ 22,909
2000	830	180	\$ 41,791	\$ 28,636

**Commercial 3 Phase (120/208v) Service Sizes**

AMPS	KVA	PEAK DEMAND	IMPACT FEES	IMPACT FEES 4/2004
125	45	9	\$ 2,090	\$ 1,432
150	54	14	\$ 3,250	\$ 2,227
200	72	18	\$ 4,179	\$ 2,864
400	144	36	\$ 8,358	\$ 5,727
600	216	54	\$ 12,537	\$ 8,591
800	288	72	\$ 16,716	\$ 11,454
1000	360	90	\$ 20,895	\$ 14,318
1200	432	108	\$ 25,074	\$ 17,181
1600	576	144	\$ 33,432	\$ 22,909
2000	720	180	\$ 41,791	\$ 28,636

**Commercial 3 Phase (277/480v) Service Sizes**

AMPS	KVA	PEAK DEMAND	IMPACT FEES	IMPACT FEES 4/2004
125	104	20	\$ 4,643	\$ 3,182
150	125	30	\$ 6,965	\$ 4,773
200	166	42	\$ 9,751	\$ 6,682
400	332	83	\$ 19,270	\$ 13,204
600	498	125	\$ 29,021	\$ 19,886
800	664	166	\$ 38,540	\$ 26,409
1000	830	208	\$ 48,291	\$ 33,090
1200	996	249	\$ 57,810	\$ 39,613
1600	1329	333	\$ 77,313	\$ 52,976
2000	1661	416	\$ 96,583	\$ 66,181

## 2010 Spatial Load Forecast

### Demand Calculation for Future Customers

Future Residential Demand (kW)	Acres	Number of Units	Demand Per Customer	Spatial Forecast Demand
			(kW)	(kW)
Residential 1 Unit per Acre	144	144	10	1,440
Residential 2 Units per Acre	895	1,790	9	16,110
Residential 4 Units per Acre	460	1,840	6	11,040
Totals	1,499	3,774		28,590

### Future Commercial Demand (kW)

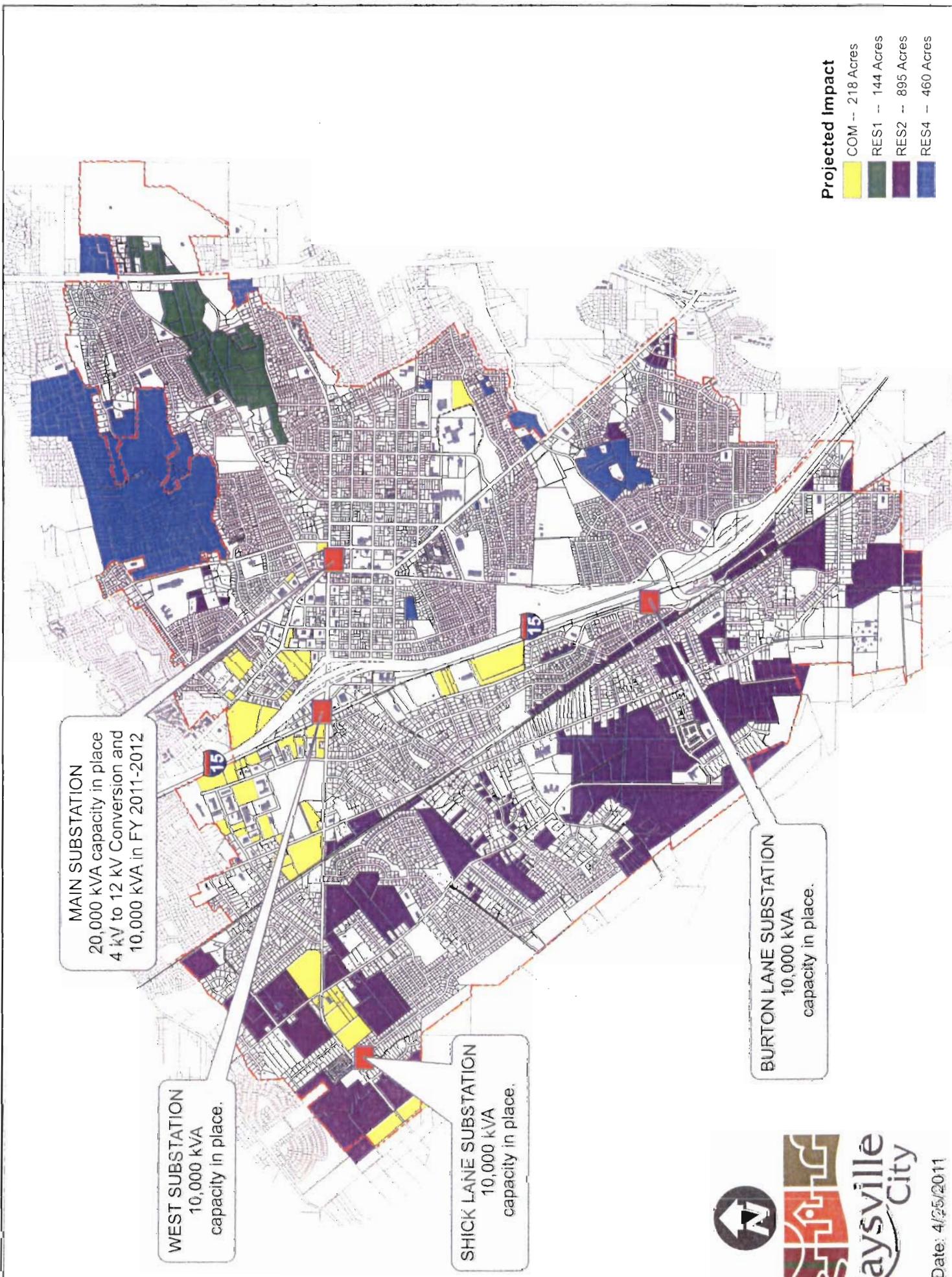
#### Identified Loads

None at this Time

Additional Commercial Development	Acres	Demand	
		Per Acre	
	218	(kW)	
		35	7,630
Totals		7,630	

Demand at Build out	
2010 Peak kW	39,332
Future Residential Load	28,590
Future Commercial Load	7,630
Total Demand at Build-out	75,552

## Kaysville City Spatial Load Forecast



Tab 3

# Kaysville City Streets

## Capital Facilities Plan

2012 Amendment



The original Kaysville City Capital Facilities Plan (CFP) was published in 2004 and has served as a planning tool for the past eight years to guide the City in updating its street system. The intent of a CFP is to facilitate the construction of a quality roadway system that will provide improved facilities as needs arise. In order to effectively achieve this and other planning goals, the CFP must be a fluid plan, which is able to respond to changes in land use, population and the roadway network. It is recommended that the CFP be reviewed and updated regularly to assess its effectiveness in meeting these goals.

Horrocks worked with City staff to identify areas where projects included in the 2004 CFP had been completed between publication of the CFP in 2004 and now. These projects were removed from the CFP update. After removal of the completed improvement projects, new projects were identified that will help in achieving the goal of maintaining a quality roadway network into the future as growth occurs within and surrounding Kaysville. Several areas were identified where improvements could be made and after consultation with City staff, were added to the CFP.

Planning level cost estimates were assigned to each of the roadway improvement projects on the CFP. This estimate uses current (2012) unit costs for such items as pavement, signal hardware and engineering/construction. It is expected that the total cost of all of the CFP associated improvement projects will be approximately \$19.8 Million.

This document represents an update to the 2004 CFP and is not intended to replace it entirely. The specific areas of the 2004 CFP which are to be replaced are:

Chapter 4 – System Improvement Program  
Appendix A – Budgetary Estimate; Major Street Plan  
Figure 2-1 – Kaysville City Typical Sections  
Figure 4-1 – Kaysville City Street System Improvement Plan

All other sections of the document remain accurate and should be referenced from the 2004 CFP.

---

Implementation of the concepts and designs set forth in the CFP are critical to its success. The System Improvement Program (SIP) provides the methodology for accomplishing these goals. This section contains a description of the program as well as a detailed schedule of street and intersection improvements with associated budgetary cost estimates.

## 4.1 System Improvement Program

The SIP indicates which improvements will be needed at particular times and provides a planning level cost estimate for each improvement. It can provide important information relative to funding needed for future street improvements and can be a valuable tool for City officials in the budgeting and planning process.

Recommended improvements to roadway facilities have been separated into the following categories: short range (0-5 years); medium range (5-10 years); long range (10+ years). Considering the critical nature of intersections in the roadway system, separate consideration has been given to intersection improvements. Figure 4-1 illustrates, respectively, which roadways and intersections have been identified as short, medium and long range improvements.

Cost estimates have been developed assuming overlays are possible where roadway widening is needed. As such, they include estimates for acquiring sufficient right-of-way and installing new roadbase, asphalt, curb and gutter, park strip, and sidewalk. Costs have also been included for design engineering, construction engineering, and contingencies. The costs are shown in 2012 dollars and are not indexed for inflation according to the implementation schedule. Budgetary cost estimates for each improvement are shown in Table 4-1.

The SIP addresses improvements that are needed on the major streets. As the Capital Facilities Plan does not address individual local streets, improvements that may be required on these roads are not included in the SIP. Regular rehabilitation and maintenance costs are not included in the SIP. The SIP does make an attempt to address annual costs related to administration and implementation of items and programs such as coordination and oversight on UDOT projects and other programs.

As development continues throughout Kaysville, the Capital Facilities Plan should be consulted to identify improvements that may benefit from work or funds required of individual developers. This will help ensure that the correct amount of right-of-way is preserved, as well as identify projects that the developer may be required to construct or contribute to as part of his or her required on and/or off-site improvements.

As a final recommendation, in order for the SIP to work as designed, it must be reviewed and updated on a regular basis. The SIP should be modified to delete projects that have been completed or re-prioritized, add new projects that were not previously identified and adjust the costs of any projects that may have changed in scope or nature.

---

Table 4-1: Budgetary Cost Estimates

Segment/Intersection	Estimate (millions)	Funding Source	Comments
<b>1-5 Year Improvements</b>			
200 North – I-15 to 300 West	\$0.66	UDOT	Will require additional public involvement and traffic control
200 North / Flint Street Intersection	\$0.50	City (75%) Development (25%)	Signalization with extra traffic control and 4 leg widening
Main Street / 300 West Intersection	\$0.50	City	Signalization with widening and extra traffic control
Main Street / 100 South Intersection	\$0.44	City (20%) UDOT (80%)	Unique signalization with extra traffic control and widening
200 North / Fairfield Road Intersection	\$0.40	City	Standard signalization with widening
<b>Subtotal</b>	<b>\$2.50</b>		
<b>6-10 Year Improvements</b>			
Burton Lane – 750 South to Main Street	\$1.64	City (78.8%) UDOT (21.2%)	Includes intersection signalization
Main St./Mutton Hollow Rd. Intersection	\$0.50	City	Standard signalization with widening and extra traffic control
Fairfield/Mutton Hollow Rd. Intersection	\$0.40	City	Standard signalization with widening
Fairfield/600 N. Intersection	\$0.40	City	Standard signalization with widening
<b>Subtotal</b>	<b>\$2.94</b>		

Segment/Intersection	Estimate (millions)	Funding Source	Comments
<b>10+ Year Improvements</b>			
Angel St. – 600 N. to Western Dr.	\$0.71	City	Standard widening
200 N. / Angel St. Intersection	\$0.40	City	Standard signalization with widening
200 N. - Flint St. to Angel St.	\$1.60	City (20%) Development (80%)	Standard widening
Flint St. - Old Mill Ln. to City limits	\$0.93	Development	Standard widening
Sunset Dr. - Old Mill Ln. to Shepard Ln.	\$2.19	Development	Standard widening
Webb Ln. - Angel St. to Flint St.	\$0.81	Development	Standard widening
Smith Ln. - Angel St. to Flint St.	\$0.40	Development	Standard widening except sidewalk on south side
Burton Ln. - Sunset Dr. to 50 W.	\$5.64	UDOT Development	Includes new structure over RR and I-15
Crestwood Rd. – 500 E. to US-89	\$1.25	City / Development	Standard widening
200 N./500 E. Intersection	\$0.40	City	Standard signalization with widening
<b>Subtotal</b>	<b>\$14.33</b>		
<b>Total</b>	<b>\$19.77</b>		

Figure 4-1

## Kaysville City Street System Improvement Plan



### Legend

**Traffic Signal Improvements**

- Existing Traffic Signal
- 1-5 Year Signal Improvements
- 6-10 Year Signal Improvements
- 10+ Year Signal Improvements

**Street Improvements**

- 1-5 Year Improvements
- 6-10 Year Improvements
- 10+ Year Improvements

— Classified Street

— West Davis Corridor

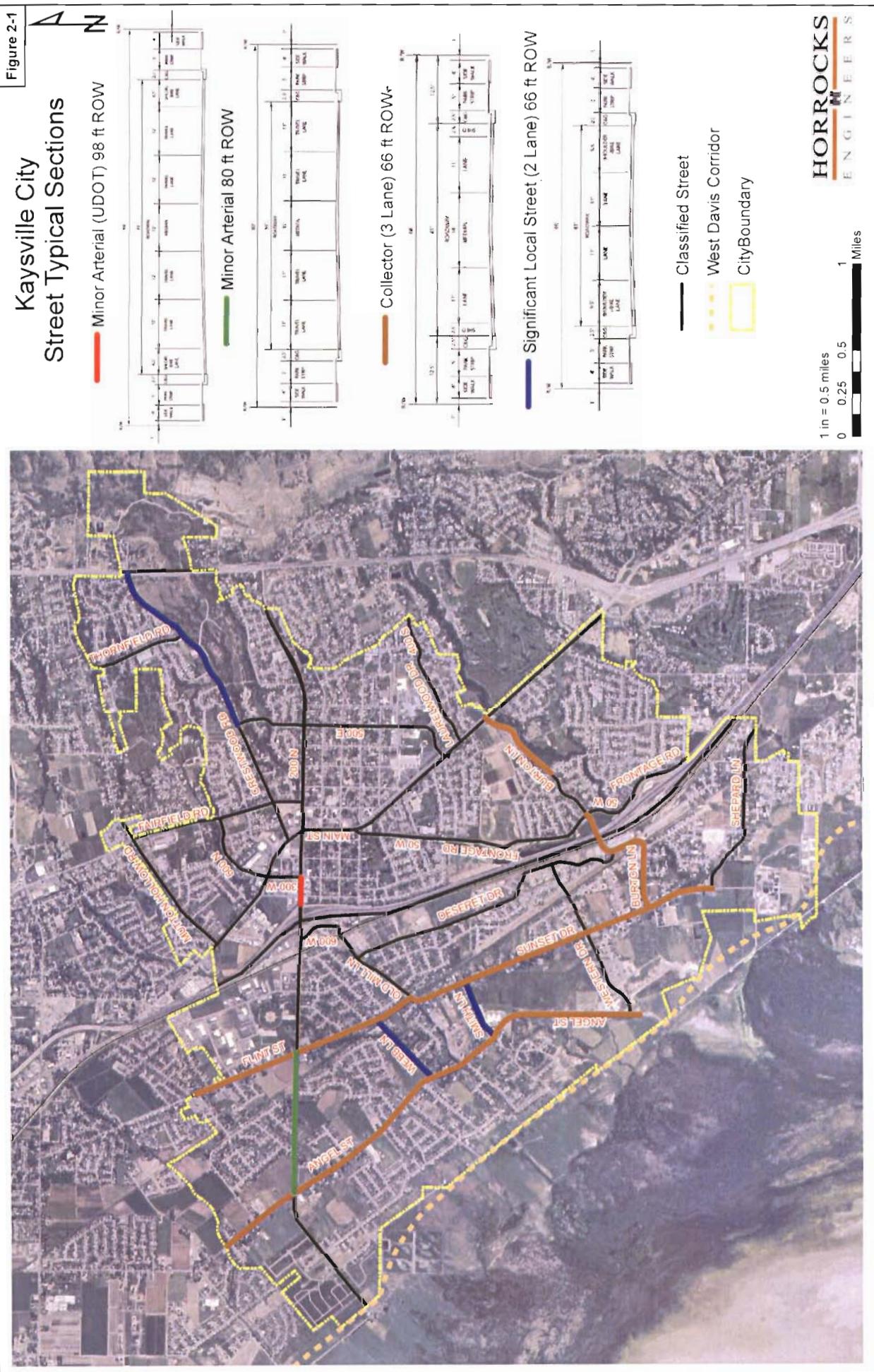
— City Boundary

**HORROCKS**  
ENGINEERS

1 in = 0.5 miles      0      0.25      0.5      1 Miles



Figure 2-1



## Appendix 'A'



## MAJOR STREET PLAN

- 8-3-1 General Purposes and Intent
- 8-3-2 Existing and Proposed Streets Designated as Arterial, Collector, or Significant Local Streets
- 8-3-3 Effect of Designation as Arterial, Collector, or Significant Local Streets
- 8-3-4 Yards and Curb Cuts

**8-3-1 General Purposes and Intent.** The general purposes and intent of the city in adoption of this Major Street Plan are as follows:

- (1) To provide a convenient and adequate major street network to meet the needs of residential, commercial, and industrial traffic within the city, and to facilitate the flow of traffic through and around the city.
- (2) By establishing a major street network, to reduce the use of minor streets for through traffic, thus contributing to the safety and comfort of dwellers along such minor streets.
- (3) To give assurance and guidance as to intent concerning location of major streets in order that developers, residents, and commercial and industrial interests may be directed thereby.
- (4) To provide a basis for city programs for right-of-way acquisition, and for design and construction appropriate to such streets.
- (5) To guide planning and control of land use along such streets in order to minimize potential marginal interference with free traffic flow, and to protect the uses along such streets from potential damaging effects of concentrated traffic flow.

**8-3-2 Existing and Proposed Streets Designated as Arterial, Collector, or Significant Local Streets.** The following existing or proposed streets, or portions of existing or proposed streets, are hereby declared to comprise the Major Street Plan for the city, and are hereby designated as arterial, collector, or significant local streets as follows:

<u>Name of Street</u>	<u>Begin</u>	<u>End</u>	<u>Minimum Right-of-way</u>
<b>(1) Principal Arterial Streets.</b>			
I-15	-	-	UDOT*
U.S. 89	-	-	UDOT
SR-67	-	-	UDOT
<b>(2) Minor Arterial Streets.</b>			
Main Street (SR-273)	Layton City 200 N. Street	200 N. Street Farmington City	100' UDOT
200 N. Street (SR-273)	SR-67 I-15	I-15 Main Street	80' UDOT
	Main Street	Fruit Heights	80'
<b>(3) Collector Streets.</b>			
Angel Street	Layton City	SR-67	66'
Flint Street	Layton City	Sunset Drive	66'
Sunset Drive	Flint Street	SR-67	66'
Fairfield Road	Layton City	200 N. Street	80'
Burton Lane	Sunset Drive	D&RGWRR	66'
	D&RGWRR	Frontage Road	UDOT
	Frontage Road	Main Street	70'
Shepard Lane	Sunset Drive	Farmington City	66'
<b>(4) Significant Local Streets.</b>			
Webb Lane	SR-67	Flint Street	66'
Smith Lane	Angel Street	Sunset Drive	66'
Old Mill Lane	Flint Street	600 W. Street	66'
Deseret Drive	Old Mill Lane	Burton Lane	66'
Western Drive	Angel Street	Deseret Drive	66'
600 W. Street	200 N. Street	Old Mill Lane	66'
300 W./600 N. Street	200 N. Street	Fairfield Road	60'
Mutton Hollow	Main Street	Fairfield Road	66'
Laurelwood Drive	Main Street	Fruit Heights	66'
50 W. Street	Main Street	Burton Lane	70'
Frontage Road	Burton Lane	Farmington City	66'
Crestwood Road	Main Street	500 E. Street	66'
	500 E. Street	U.S. 89	60'

Thornfield Road 500 E. Street	Mutton Hollow Crestwood Road	Crestwood Road Main Street	66' 66'
----------------------------------	---------------------------------	-------------------------------	------------

\*As determined by Utah Department of Transportation

**8-3-3 Effect of Designation as Arterial, Collector, or Significant Local Streets.** (1)

The streets designated shall be developed and maintained as arterial, collector, or significant local streets, and shall be used as through streets for movement of concentrated flows of traffic. Access to these streets may be restricted.

(2) The streets designated shall have minimum rights-of-way as listed in Section 8-3-2 herein.

**8-3-4 Yards and Curb Cuts.** In order to preserve free traffic flow on arterial, collector, and significant local streets, to minimize marginal frictions caused by land uses bordering such streets, and to protect inhabitants of residences bordering such streets from hazards, noise, glare, and fumes arising from concentrated flow of traffic:

(1) No portion of any regulated structure shall be erected closer to any major street than the distance required for a front yard as measured from the proposed right-of-way line.

(2) No curb cut shall be made in connection with a commercial or industrial structure or use unless plans showing the relation of the curb cut to the structures and parking area (if any) on the lot, and to structures, parking areas, and curb cuts on adjacent lots shall have been approved by the City Engineer.

Tab 4

**RECREATION FACILITIES  
IMPACT FEE FACILITIES PLAN  
2012**

**Recreation Facilities Standards**

1. Kaysville City will have three (3.0) acres of recreation facilities per 1,000 people living in the City.
2. Recreation facilities will be within ten (10) minutes travel time of residences.

**Existing Recreation Facilities**

<u>Facility</u>	<u>Map Reference</u>	<u>Area Fully Developed (Acres)</u>	<u>Area to be Further Developed (Acres)</u>	<u>Ownership</u>
Angel Street Park	A	16.9	-	City
Barnes Sportsplex	B	39.9	6.0	City
DATC Park	C	7.5	-	DATC
Gailey Park	D	5.6	-	City
Heritage Park	E	-	5.4	City
Openshaw Park	F	-	10.7	City
Pioneer Park	G	-	10.2	City
Ponds Park	H	5.2	-	UDOT
Ponds Park South	I	7.4	-	UDOT
Rail Trail	J	-	0.6	UTA
Wilderness Park	K	<u>-</u> 82.5	<u>7.6</u> 40.5	City

**Demand and Need**

The Census population is 27,300. In order to meet the standard of three (3) acres of recreation facilities per 1,000 population, 81.9 acres are needed. The City has 82.5 acres and meets the standard. The projected build out population is 41,000 which will require 123 acres of recreation facilities. Residential development activity must provide 40.5 acres of recreational facilities to meet the standard.

## OPEN SPACE

### Legend

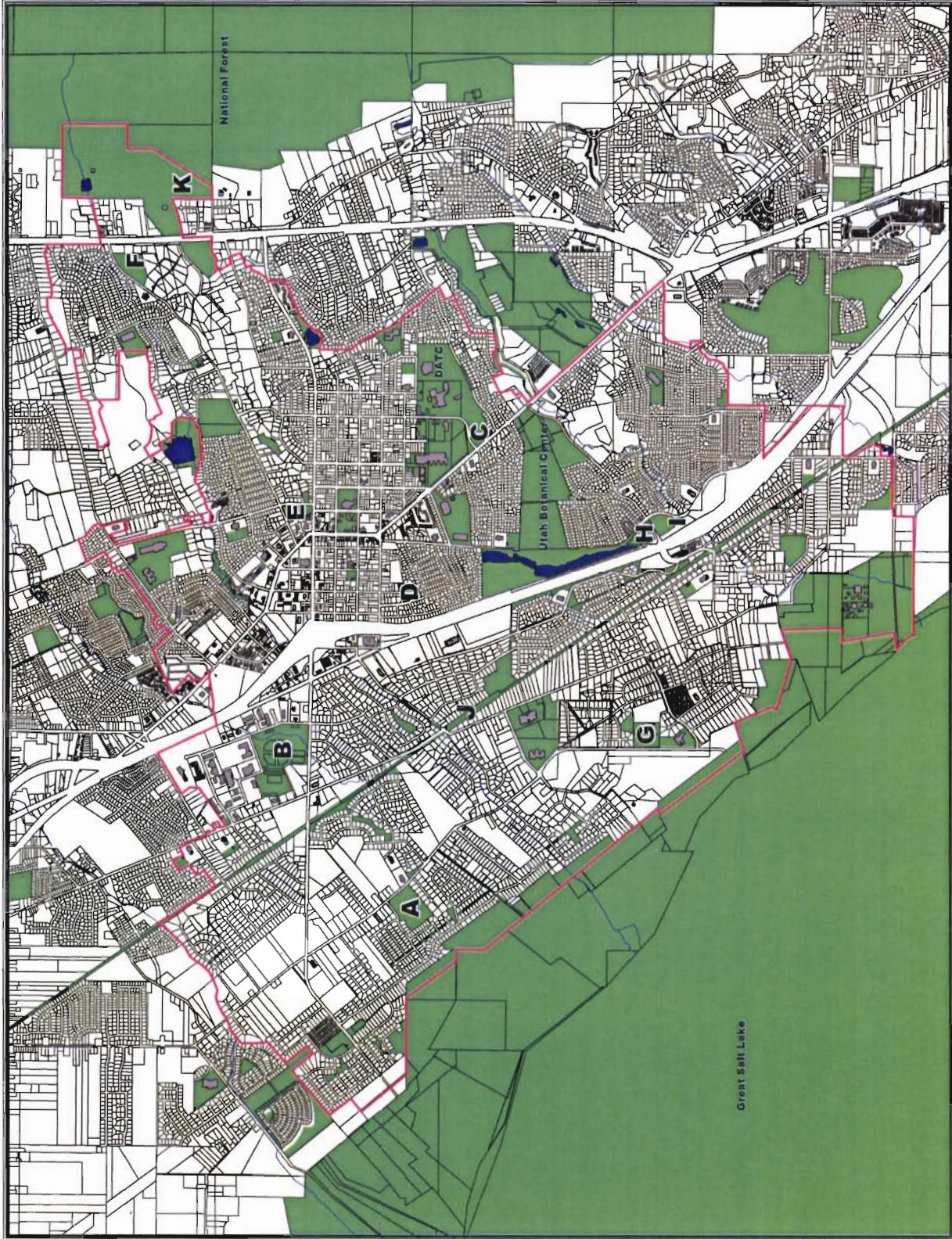
- Open Space
- City Boundary



Miles  
0 0.25 0.5  
1:30,000



January 2012



Actions to Add Recreation Facilities

	<u>Recreation Facility</u>	<u>Remaining Improvements</u>	<u>Projected Cost</u>
1.	Heritage Park	Play structures Restrooms/operations building Parking	\$ 790,000
2.	Barnes Sportsplex	Restrooms/operations building	300,000
3.	Wilderness Park	Campsites Restrooms	750,000
4.	Pioneer Park	Sports fields Play structures Restrooms/operations building Parking	1,530,000
5.	Rail Trail	Restrooms Parking	150,000
6.	Openshaw Park	Lawn Play structures Restrooms/operations building Parking	1,020,000
TOTAL			\$4,540,000

## Funding

The recreation facilities and sites have been acquired through development exactions, utility revenues, grants, impact fees, and taxes. Undeveloped property contributed only a very small portion of the funding through payment of property taxes. New residential development causes the impact on recreation facilities and benefits from those improvements. Future tax revenues will only be available to fund operation and maintenance of facilities. Capacity improvements that are required to sustain the level of service as development occurs should be financed through impact fees. Impact fees are necessary to achieve an equitable allocation of costs borne in the past and the costs to be borne in the future in comparison to the benefits already received and yet to be received.

Tab 5

**POLICE FACILITIES  
IMPACT FEE FACILITIES PLAN  
2012**

**Police Facilities Standard**

The police facilities standard is 484 square feet of police station and 42 square feet of auxiliary building per 1,000 people living in the City.

**Existing Police Facilities**

The City has 4,600 square feet of floor space in the Police Station at 58 East 100 North and 280 square feet of floor space in the auxiliary building at 55 East Center Street.

**Demand and Need**

The Census population is 27,300. In order to meet the standard of 484 square feet of police station per 1,000 population, 13,213 square feet are needed. The City has 4,600 square feet for a deficiency of 8,613 square feet. The projected build-out population is 41,000 which will require 19,835 square feet of police station or an additional 6,622 square feet for future growth.

In order to meet the standard of 42 square feet of auxiliary building per 1,000 population, 1,147 square feet are needed. The City has 280 square feet for a deficiency of 867 square feet. The build-out population will require 1,690 square feet of auxiliary building or an additional 823 square feet for future growth.

**Actions to Add Police Facilities**

The City will build a 19,835 square foot police station to replace the 4,600 square foot Station and a 1,690 square foot auxiliary building to replace the 280 square foot building.

**Funding**

The police station is estimated to cost \$160 per square foot plus furnishings and equipment or \$3,957,474. The auxiliary building is estimated to cost \$90 per square foot or \$152,100 for a total of \$4,109,574.

The existing facilities were procured through taxes. Undeveloped property contributed through the payment of taxes. New residential development causes the impact on police facilities and will benefit from those facilities. The additional capacity required to meet the service standard as development occurs should be financed through impact fees.



## Project Budget Worksheet

### Kaysville City Police Facilities - OPTION ONE

#### March 18, 2011

Police Facility Building Area  
Proposed Site Area

19835 S.F.  
52500 S.F.

Description	Estimate	Sub Totals	Cost Per S.F. Bldg Area	Comments
Police Facility Bldg. & Site	\$3,173,600		160.00 /S.F.	Including Site work
<b>Basic Construction Costs</b>	<b>\$3,173,600</b>	<b>\$3,173,600</b>		
Owner's Constr. Contingency		\$317,360		10% of Basic Construction Cost
A & E Design Phase Fees		\$121,568		Portion of Fee Remaining
Furnishings and Equipment		\$238,020	\$12.00 /S.F.	
Furnishing Design Fees		\$14,281		Allowance
Audio/Visual Systems		\$25,000		Training/Community Rooms/EOC
Construction Testing		\$7,934		0.25% of Basic Construction Costs
Phone System		\$34,711	\$1.75 /S.F.	
Computer Workstations		\$25,000		Utilize City's Server(s)
Moving Costs		\$0		TBD
Land Acquisition Cost		\$0		City Owned Land Available
Additional Insurance Costs		\$0		TBD
Bond/Finance Costs		\$0		Will vary with funding options
Legal Fees - Financing		\$0		Will vary with funding options
<b>Total Project Costs</b>		<b>\$3,957,474</b>		

