ORDINANCE 2021-13

AN ORDINANCE OF THE SOUTH WEBER CITY COUNCIL ADOPTING A CAPITAL FACILITIES PLAN, AN IMPACT FEE FACILITIES PLAN, AN IMPACT FEE ANALYSIS, AND AN IMPACT FEE FOR STORM DRAIN; PROVIDING FOR THE CALCULATION AND COLLECTION OF SUCH FEES

WHEREAS, on the 10th of May, 2021 South Weber City posted notice of its intention to prepare Capital Facilities Plan (CFP), Impact Fee Facilities Plan (IFFP), and Impact Fee Analysis (IFA) for storm drain; and

WHEREAS, South Weber City as a municipality in the state of Utah is authorized to adopt impact fees (UCA11-36a-101); and

WHEREAS, a public hearing was noticed and held according to state law allowing citizens to provide feedback on the referenced storm drain documents; and

WHEREAS, City Engineer Jones and Associates provided written certification in compliance with UCA 11-36a-306(1) and Zions Public Finance, Inc. certified its work under UCA 11-36a-306(2); and

WHEREAS, a copy of the Capital Facilities Plan, Impact Fee Facilities Plan, and the Impact Fee Analysis along with a summary designed to be understood by a lay person will be posted and made available on the next business day after adoption; and

WHEREAS, Council has considered the input of the public and stakeholders and relying on the professional advice and certifications provided; South Weber City adopts the findings, conclusions, and recommendations provided;

NOW, THEREFORE, BE IT ORDAINED by the City Council of South Weber City, State of Utah:

Section 1. Adoption: The Council hereby adopts the Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan prepared by Jones and Associates, the Storm Drain Impact Fee Analysis prepared by Zions Public Finance, Inc., and the Impact Fee recommended therein. The CFP, IFFP, and IFA are attached hereto as Exhibits A and B and incorporated by this reference.

Section 2. General Repealer. Ordinances in conflict with this ordinance are hereby repealed to the extent of such conflict.

Section 3. Effective Date. A 30-day period is allowed for public response with any challenges and impact fees will take effect 90 days from the adopted date.

PASSED AND ADOPTED by the City Council of South Weber, Davis County, on the 28th day of September 2021.

MAYOR: Jo Sjoblom

ATTEST: City Recorder, Lisa Smith

SOUTH WEBER CITY * 1938 * OFFICIAL SEAL * 1970 * DAVIS COUNTY, UTAH

Roll call vote is as follows:		
Council Member Winsor	FOR	AGAINST
Council Member Petty	FOR	AGAINST
Council Member Soderquist	FOR	AGAINST
Council Member Alberts	FOR	AGAINST
Council Member Halverson	FOR	AGAINST

CERTIFICATE OF POSTING

I hereby certify that Ordinance 2021-13 was passed and adopted the 28th day of September 2021 and that complete copies of the ordinance were posted in the following locations within the City this 29th day of September 2021.

1. South Weber Elementary, 1285 E. Lester Drive
2. South Weber Family Activity Center, 1181 E. Lester Drive
3. South Weber City Building, 1600 E. South Weber Drive

Lisa Smith, City Recorder

EXHIBIT A
STORM DRAIN CAPITAL FACILITIES PLAN AND IMPACT FEE FACILITIES PLAN

South Weber City Corporation

Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan

August 2021

Adopted September xx, 2021

Prepared by

JONES & ASSOCIATES

Consulting Engineers

STORM WATER
CAPITAL FACILITIES PLAN
AND
IMPACT FEE FACILITIES PLAN

for

SOUTH WEBER CITY

Prepared by

JONES & ASSOCIATES
Consulting Engineers

6080 Fashion Point Drive
South Ogden, Utah 84403
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LIST OF ACRONYMS AND ABBREVIATIONS

A-ft	acre-feet
cfs	cubic feet per second
CFP	Capital Facilities Plan
CN	curve number
ERU	Equivalent Residential Unit
GOMB	Governor's Office of Management and Budget
HDPE	High-Density Polyethylene
IFFP	Impact Fee Facilities Plan
LOS	Level of Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
O&M	Operation and Maintenance
PVC	Polyvinyl Chloride
RCP	Reinforced Concrete Pipe
SCS	Soil Conservation Service
s.f.	square feet
sq. mi.	square miles
SSA	Storm and Sanitary Analysis
UAC	Utah Administrative Code
USDA	United States Department of Agriculture
WMS	Watershed Modeling Software

1.0 EXECUTIVE SUMMARY

A Capital Facilities Plan is a planning document which summarizes the findings of system analyses and provides recommendations for expansion as development takes place. It identifies and provides cost estimates for existing problems and deficiencies within the system. Additionally, the impact of growth is considered in order to recommend effective and efficient improvement/expansion within the system to meet future needs.

South Weber City's storm drain system was analyzed through software modeling for transmission capacity, storage capacity, and overall system effectiveness. Through this method, several necessary storm drain projects were identified within the existing system to correct existing deficiencies. Projected built-out of the City's storm drain system will require additional transmission system upgrades.

Project costs were separated into four funding categories. First, projects that are needed to resolve existing deficiencies and/or problems. Second, projects needed to address current maintenance issues. Third, projects that serve large regions of the City which accommodate demands imposed by future development, which are referred to as System Improvements. And fourth, costs associated with the portion of a project that is required for a particular development.

Existing deficiencies and maintenance costs will need to be funded by the City through sources such as enterprise funds, general funds, grants, or bonds. System Improvements that are needed to upsize the storm drain utility for continued growth are often paid with the collection of impact fees. Impact fees, as well as a full list of recommended projects, are described in detail in **Sections 5.0 and 6.0** of this report. Below is a summarized list of these costs as described above:

Table 1.1 - Projects Cost Summary

Cost Breakdown				
Estimated Total Storm Drain Project Costs	Existing Deficiencies	Maintenance	System Improvements (Impact Fee Eligible)	Developer Costs
$10,758,600	$613,620	$5,405,090	$1,851,110	$2,888,780

2.0 INTRODUCTION

2.1 Background

In 1999, Hansen, Allen & Luce (HAL) completed the most recent study of South Weber City's storm drain system, which provided recommendations for projects necessary to meet the needs of future growth and development at that time. Due to the length of time between the HAL study and this study, as well as the many changes that have occurred in the City due to development, there is not much from the HAL report that is relevant to current conditions. Therefore, this report does not use any of the data or information from the HAL report. This report provides a new and independent analysis of the City's current storm drain system.

2.2 Study Area

The Study Area, as defined by this report, includes all area within the current City boundary served by the City's storm drain system, as well as those areas outside the City boundaries included in the City's Annexation Plan. Also included is the mountain drainage to the east and hillside drainage to the south. The Study Area is therefore 9.08 sq. mi., approximately.

It is worth noting that the areas north of I-84 were evaluated, but no public storm drain system is currently in place. Any future drainage needs in this area should be negligible, and infrastructure will likely be privately-owned. Because these areas have no effect, nor will ever have effect, on the rest of the storm drain system, these areas were not modeled and analyzed as was the rest of the system.

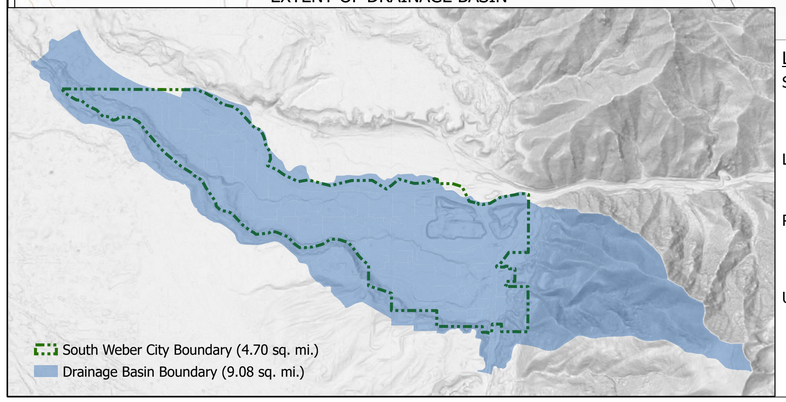
The Study Area, City Boundary, and Existing Storm Drain System are illustrated in **Exhibit 2.1**.

2.3 City Characteristics

The current City boundary encompasses approximately 4.70 sq. mi. Across the City boundary, terrain is generally sloped from the southeast to the northwest. Elevations range between 5000 feet at the southeast corner to 4400 feet at the northwest corner (Google Earth, 2021).

Land use is primarily agricultural and residential, with some commercial uses near US-89. According to the South Weber City Future Land Use Map, the City's vision for future land use remains primarily residential; however, the City is also planning for some limited commercial development in the future. For the purposes of this Plan, future development has been estimated based on the South Weber City Future Land Use Map (November 10, 2020). The service boundary and/or the proposed land use may change depending on development. These factors may require periodic adjustments to this Plan and the recommended storm drain capital facilities projects. The Future Land Use Map used is included as **Exhibit 2.2**.

EXTENT OF DRAINAGE BASIN



Legend

SWC Structures
- Catch Basin
- Manhole
- Control Structure

Land Drain Structures
- Catch Basin
- Manhole

Private Structures
- Catch Basin
- Manhole
- Control Structure

UDOT Structures
- Catch Basin
- Manhole
- Control Structure

Irrigation Structures
- Catch Basin
- Manhole
- Control Structure

SWC SD Pipes
- 8 Inch
- 10 Inch
- 12 Inch
- 15 Inch
- 18 Inch
- 21 Inch
- 24 Inch
- 30 Inch
- 36 Inch
- 42 Inch
- Unknown
- Land Drain Pipes
- Private SD Pipes
- UDOT SD Pipes
- Irrigation Pipes
- Piped Aqueduct
- Open Channels
- Canal / River

Basins
- South Weber City
- Private
- UDOT
- Abandoned
- Unknown Owner
- Other

City Boundary
- South Weber
- Other

SCALE: 1:10,000	JA JONES & ASSOCIATES — CONSULTING ENGINEERS, 6080 Fashion Point Drive, South Ogden, Utah 84403 (801) 476-9767	SOUTH WEBER CITY STORM DRAIN CAPITAL FACILITIES PLAN **EXISTING STORM DRAIN SYSTEM**	EXHIBIT 2.1
MM/DD/YYYY 05/14/2021			SOUTH WEBER city

GENERAL LEGEND

- SOUTH WEBER CITY BOUNDARY
- LAYTON CITY, UINTAH CITY, AND WEBER COUNTY BOUNDARIES
- SOUTH WEBER CITY ANNEXATION BOUNDARY
- CANAL / RIVER

JA

NORTH OF SOUTH WEBER DRIVE POSSIBILITIES: T-1, B-C, OR C-R

LAND USE LEGEND

- LIGHT INDUSTRIAL (L-I) - GENERAL LOCATIONS
- DEVELOPMENT PLAN AND AGREEMENT REQUIRED
- HAFB RESTRICTED DEVELOPMENT
- RESIDENTIAL PATIO (R-P) - GENERAL LOCATIONS
- RESIDENTIAL VERY LOW DENSITY (A)
- RESIDENTIAL LOW DENSITY (R-L)
- RESIDENTIAL LOW MODERATE DENSITY (R-LM)
- RESIDENTIAL MODERATE DENSITY (R-M)
- RESIDENTIAL PATIO (R-P)
- RESIDENTIAL MULTI-FAMILY (R-7)
- COMMERCIAL (C)
- HIGHWAY-COMMERCIAL (C-H)
- BUSINESS COMMERCE (B-C)
- LIGHT INDUSTRIAL (L-I)
- TRANSITIONAL LIGHT INDUSTRIAL (T-1)
- INSTITUTIONAL
- RECREATION
- COMMERCIAL RECREATION (C-R)
- OPEN LANDS

SOUTH WEBER city

NOTES:

Exhibit 2.2
2021 Storm Drain Capital Facilities Plan

SCALE: 1 in =1,800 ft
ADOPTED ON 11/10/2020

DESIGNED BEB
DRAWN BEB
CHECKED BKJ

JA JONES & ASSOCIATES CONSULTING ENGINEERS
6080 Fashion Point Drive
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SOUTH WEBER CITY CORPORATION
GENERAL PLAN
PROJECTED LAND USE MAP

SHEET: 1 OF 5 SHEETS
0

3.0 ERUS AND GROWTH ESTIMATES

3.1 Equivalent Residential Units

Stormwater runoff varies from property to property throughout the storm drain system. This is due to differences in hard surfacing between each property in a development. In order to avoid the complexity of analyzing each property throughout the study area, a basic unit of runoff can be defined for the purposes of comparison. This basic unit is called an Equivalent Residential Unit, or ERU. For this report, an ERU quantifies the storm water impact of a typical detached single-family residence. This is the most common type of development within the City. Once defined, this unit is used to quantify the impact of various types of development and to evaluate the system with a single equalizing unit of measure.

3.1.1 Residential vs. Non-Residential ERUs

For this study, the area of directly connected hard surface used to define one ERU is taken to be 3,365 square feet (i.e. 1 ERU = 3,365 sf). This metric was calculated based off an average of samples taken from residences on approximately 1/4 to 1/3 acre lots. This includes a proportional fraction of the total road pavement within the study area, as well as the driveway of a typical house. The roofs of the houses were excluded, as rainfall on a roof is typically discharged through the rain gutter system onto pervious surfaces. For a typical residential lot, the area was calculated as follows:

$$\left[80\ ft\ frontage\ \times \frac{41\ ft\ curb\ to\ curb}{2}\right] + 1725\ sf\ driveway = \mathbf{3365\ sf}$$

Once defined, an ERU can be used to calculate the impact of various land uses within the system.

Properties with large amounts of hard surfacing may have the impact of many single residence homes. The impact of such properties would therefore be calculated as many ERUs. Commercial lots often have 2 – 3 times the hard surface that similarly-sized residential lots have. As a result, commercial sites generally have higher impact fees than residential sites of similar size.

For example, a typical elementary school might have a hard-surface area of approximately 175,000 square feet, which is the equivalent of 52 regular residential units. Another way to state that is: one elementary school equals fifty-two (52) ERUs. Some other non-residential examples can be equated as shown in the following table:

Table 3.1 – Example Non-Residential ERUs

Site Description	Directly-Connected Impervious Area (sf)	ERUs
Institutional Use Example	90,850	27
Commercial Use Example	47,110	14
Industrial Use Example	37,015	11

Existing ERUs consist of existing residential and non-residential entities as assessed through utility billing. As part of this study, an assessment of the current utility billing and calculation of ERUs for all non-residential entities was performed. **Appendix A** summaries this assessment.

Table 3.2 shows how ERUs are calculated based on different land uses.

Table 3.2 – ERUs for Various Land Uses

Zone / Land Use	Density (Units/Acre)	ERUs (per Acre)*
Very Low Density Residential (A)	0.90	0.72
Low Density Residential (R-L)	1.45	1.16
Low-Moderate Density Residential (R-LM)	1.85	1.48
Moderate Density Residential (R-M)	2.80	2.24
Residential Patio (R-P)	4.00	3.20
Residential Multi-Family (R-7)	7.00	5.60
Non-Residential (Commercial, Industrial, etc.)	Varies	Calculated based upon the square footage of directly connected impervious cover.
** 20% Reduction due to layout limitations such as odd parcel shapes, street/access requirements, lot parameters, etc.*		

3.2 Growth Estimates

3.2.1 Population Projections

The growth rate in South Weber City since 1880 has been very sporadic, bouncing between growth and decline. However, starting around 1960, the growth rate remained positive and started to create a trend. The last 50 years of census data and the average yearly growth rate are shown below in **Table 3.3**. The 2020 census was being performed at the time of this study.

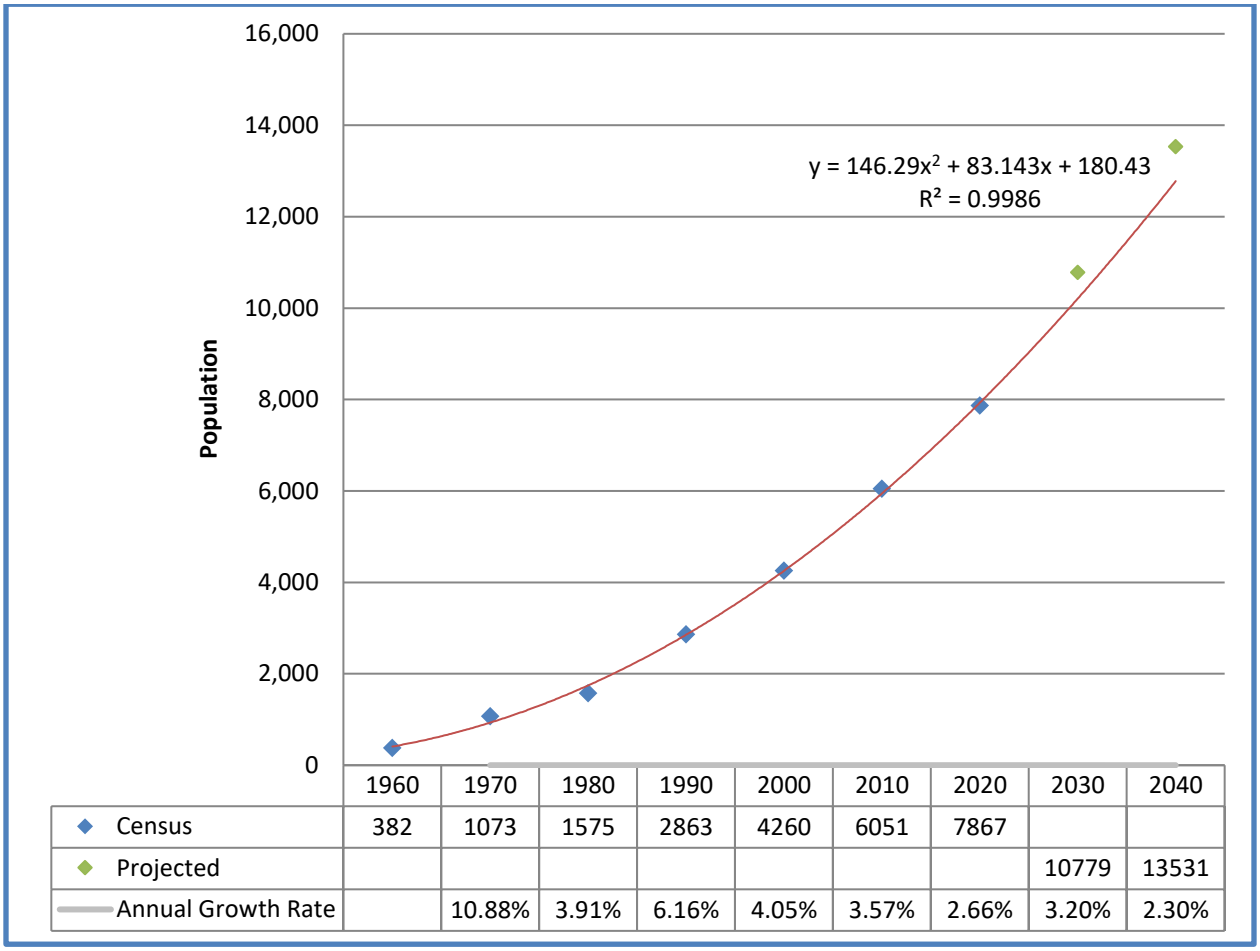
Table 3.3 – Historic Population Data and Growth Rate

Year	Census	Average Growth Rate per Year
1960	382	---
1970	1,073	10.88%
1980	1,575	3.91%
1990	2,863	6.16%
2000	4,260	4.05%
2010	6,051	3.57%
2020	7867	2.66%

The above data were plotted, and a trendline was best fitted to the data, as illustrated in **Figure 3.1**. The regression (best fit) equation of the trendline was determined to be:

$$\mathbf{y = 146.29x^2 + 83.143x + 180.43}$$

Figure 3.1 – Historic and Projected Population



	1960	1970	1980	1990	2000	2010	2020	2030	2040
Census	382	1073	1575	2863	4260	6051	7867		
Projected								10779	13531
Annual Growth Rate		10.88%	3.91%	6.16%	4.05%	3.57%	2.66%	3.20%	2.30%

The regression equation for the trendline used to project growth is shown in **Figure 3.1**. The R^2 value, also shown in the figure, is a representation of how well the trendline fits the historic data, with an R^2 value of 1.0 being a perfect fit. The trendline was found to be very accurate with an R^2 value of 0.9986. Therefore, it is reasonable to use the regression equation to approximate the population at future dates.

Using this above trendline equation, populations projections were calculated. These projections are shown above.

The 2020 South Weber General Plan estimates built-out population of about 12,900. Based on the population projections shown above, this built-out condition should occur around 2038. The General Plan also estimates 3,316 residential dwelling units will occupy South Weber City at built-out. This equates to approximately 3.89 persons/unit, which is consistent with the results of the 2010 Census. The General Plan Future Land Use Map is included as **Exhibit 2.2**.

3.2.2 ERU Projections and "Built-Out"

The concept of ERUs can be applied to undeveloped land to estimate future stormwater runoff as development takes place. ERU values have been applied to the undeveloped areas on the City's Future Land Use Map within the existing and future storm drain service area. Using the Future Land Use Map, ERUs have been assigned to the developable land in the City. All the projected future ERUs are shown on the Future ERU Map, **Exhibit 3.1**. This represents a "built-out" condition, which means that there will be no more land available for new development. The current and future ERUs are summarized in **Table 3.4**.

Table 3.4 – Current and Future ERUs

	Year	ERUs		
		Residential	Non-Residential	Total
Current	2021	2,379	450	2,829
Future	2038	836	610	1,446
TOTAL		**3,215**	**1,060**	**4,275**

Using population growth projections, the projected total ERUs are shown over time in **Table 3.5**. A portion of South Weber City is expected to develop into commercial properties. This results in an increase of ERUs, but no population increase. While residential development is expected to closely follow the growth rate of the population, non-residential development can occur much differently. Therefore, the population growth does not directly correlate with the total projected ERUs. However, since the growth rate of commercial or non-residential development cannot be reliably projected, a constant growth rate is used in this report to project the total future ERUs contributing to the storm drain system. This growth rate was calculated based upon the assumption that residential and non-residential built-out will occur at roughly the same time. Based on current applications for non-residential development, it is anticipated that a higher growth rate will occur in the next 2-3 years.

Because a large percentage of future ERUs belong to non-residential development, and because there is currently so little non-residential development in the City, projections to built-out will likely not represent actual growth trends accurately. Because of this, it is highly recommended that this report be reviewed and updated as often as is necessary to reflect the most current data and more accurately account for the non-residential ERUs added to the system.

Table 3.5 – Population and ERU Projections

Year	Population Projection	Annual Growth Rate	Projected Residential ERUs	Projected Other ERUs[1]	Projected Total ERUs	Additional ERUs from 2020	Percent Increase from 2020
2010	6,051[2]	-	n/a	n/a	n/a	-	-
2020	7,867[2]	3.30%	2,379[3]	450[3]	2,829[3]	0	0%
2030	10,779	2.30%	2,931	842	3,773	944	65%
2038 (Built-out)	12,900[4]	2.30%	3,215	1,060	4,275	1,446	100%

[1]Yearly Average
[2]Census data
[3]Actual
[4]Once residential built-out occurs, the population will not increase unless zoning changes and redevelopment occur.

3.3 ERU Assessment

Residential development densities and non-residential estimates were used to calculate and project the total number of future ERUs using the values in **Table 3.2.** The totals are graphically shown in **Exhibit 3.1**. However, when it comes to the assessment of ERUs as they actually occur, it is not feasible to calculate the total square footage of hard surfacing for every home in every new development. Therefore, all residential and non-residential uses are summarized into three categories shown in **Table 3.6** below. For multi-family residential (apartments) the hard surfacing per unit is estimated to be 25% less than single family residential. All existing and future ERU's should be assessed based on the values set forth in this table.

Table 3.6 – ERU Assessment Summary

Category	Description	Assessment Value	ERU
Residential	Single Family, Duplexes, Townhomes, Condos	per lot / unit	1.00
Residential	Apartments	per unit	0.75
Non-Residential	Commercial, Industrial, Institutional, etc.	1 ERU per 3,365 sf of hard surfacing	Varies

RIVERDALE CITY

WASHINGTON TERRACE CITY

SOUTH OGDEN CITY

UINTAH CITY

LAYTON CITY

JA

Developable Ground Labeled with Future ERUs

	Total ERUs
Residential Very Low Density (A)	0.0
Residential Low Density (R-L)	52.7
Residential Low Moderate Density (R-LM)	307.0
Residential Moderate Density (R-M)	413.1
Residential Patio (R-P)	38.5
Residential Multi-Family (R-7)	24.3
Commercial (C)	42.3
Highway-Commercial (C-H)	346.2
Light Industrial (L-I)	164.4
Transitional Light Industrial (T-1)	3.5
Commercial Recreation (C-R)	54.0
Open Lands	0.0

City Boundaries

Total ERUs: 1,446

- South Weber
- Other

Parcels

- South Weber City
- Other Parcels

SOUTH WEBER city

NOTES:

Areas shown with future ERU's are approximate and do not in any way suggest that development of the ground is possible or approvable. The information from this map was used to estimate needs for future storm drain facilities.

SCALE: 1:24,000

MM/DD/YYYY 08/30/2021

JA JONES & ASSOCIATES

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

FUTURE ERU MAP

EXHIBIT 3.1

4.0 HYDROLOGY

4.1 Introduction

Hydrology is the science of determining the occurrence, distribution, movement, and properties of water. An essential part of a storm drain capital facilities plan is the determination of runoff produced by various development types, as based on numerous parameters. In other words, to accurately determine the amount and movement of water within our study area, the hydrology of the site must be understood. Factors that affect the hydrology of a site include the slope, soil conditions, land use, and other characteristics specific to the area of interest.

Once all required data was assembled, a model was created to simulate the behavior and characteristics of stormwater runoff in various storm events. The following sections include descriptions of the parameters necessary for the construction of the stormwater model, as required by the selected modeling method. The following sections are written with the assumption that the reader is familiar with stormwater modelling methods.

4.2 Method Selection

To aid in determining the volume and characteristics of stormwater runoff, two modeling software programs were used in conjunction. WMS (Watershed Modeling Software) was used to determine the behavior of soils throughout the study area in terms of its ability to absorb and slow runoff. Autodesk SSA (Storm and Sanitary Analysis) was used to simulate rainfall events over the study area and to evaluate the effectiveness of the existing and planned storm drain system. This modeling software allows the user to select of one of many common modeling methods (e.g. EPA SWMM, Rational, Modified Rational, DeKalb Rational, Santa Barbara UH, SCS TR-20, SCS TR-55, HEC-1, UK Modified Rational), adapt parameters to match field conditions, and to ultimately evaluate stormwater runoff. The modeling method used for this study was HEC-1; discussion of the input parameters used in this method is included in this section. Parameters include the soil conditions, rainfall loss method, rainfall data, snow melt, and lag time. With these parameters, two models were created: one to estimate runoff for existing conditions, and one to estimate runoff in the future, when all available land has been developed. This was done to determine the additional runoff that can be expected due to development.

4.3 Soil Conditions

All soils will absorb some portion of the rainfall that it receives. Soils with higher porosity, such as sands and gravels, will absorb more precipitation than soils with lower porosity, such as silts and clays. Runoff occurs when soils are unable to absorb rainfall at the rate of delivery. The lower the porosity and conductivity of a soil, the higher the runoff that can be expected in any particular rain event.

The United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), previously the Soil Conservation Service (SCS), has established several hydrologic soil types which can be used to approximate the properties of any soil. The mapped soils in the study area include four soil types as detailed by the Natural Resources Conservation Service (USDA, 1999):

Type A Soils:
These soils have the lowest runoff potential and consist chiefly of deep, well-drained sands and gravels.

Type B Soils:
These have a moderate rate of transmission or infiltration consisting primarily of moderately deep to deep, moderately well to well drained soils of moderately fine to moderately coarse textures.

Type C Soils:
These soils have a lower rate of infiltration and consist mainly of soils with an impervious layer which impedes the downward movement of water with moderately fine to fine texture.

Type D Soils:
These soils have the lowest infiltration rate. They are comprised primarily of clay soils with a high swelling potential, soils of permanently high-water tables, soils with a clay pan or clay layer at or near the surface, and shallow soils that overlay nearly impervious material.

Soil mapping for the study area was downloaded from the Natural Resources Conservation Service (NRCS) website. The different soil types within the study area are shown in **Appendix B**. WMS was then used to determine runoff potential using the soil types defined by the NRCS.

4.4 Runoff Calculation Method

Development usually increases the amount of rainfall that will run off any given site. This is due to the reduction in vegetation that slows down runoff, as well as the increase in impervious cover, such as buildings and pavement. The NRCS has established composite Curve Numbers (CN) which help to estimate the runoff that may occur from various land uses. The curve numbers used in this model are based on the USDA TR-55 manual with some modification as shown in the following table:

Table 4.1 – Land Use and NRCS Curve Numbers

Land Use	Soil Type "A" CN	Soil Type "B" CN	Soil Type "C" CN	Soil Type "D" CN	Impervious Percentage
Residential 1/8 acre or less (townhouses)	77	85	90	92	65
Residential 1/4 acre or less	61	75	83	87	38
Residential 1/3 acre or less	57	72	81	86	30
Residential 1/2 acre or less	54	70	80	85	25
Residential 1 acre or less	51	68	79	84	20
Residential 2 acre or less	46	65	77	82	12
Commercial and Business	89	92	94	95	85
Industrial	81	88	91	93	72
Paved (directly connected)	98	98	98	98	100
Streets (open ditches including right-of-way)	83	89	92	93	50
Open space - poor condition (grass cover <50%)	68	79	86	89	0
Open space - fair condition (grass cover 50% to 75%)	49	69	79	84	0

Land Use	Soil Type "A" CN	Soil Type "B" CN	Soil Type "C" CN	Soil Type "D" CN	Impervious Percentage
Open space – good condition (grass cover 75% to 100%)	39	61	74	80	0

Rainfall on low-density and open-space areas generally produce little runoff, as the soil has the greatest chance to absorb and slow rainwater. High density residential, industrial, and commercial areas generally have more impervious cover in the form of parking lots, buildings, and other pavement that cover natural soils and prevent absorption of rainwater. These high-density sites generally produce the greatest amount of runoff. Therefore, existing and future land use affects the results of the model. The existing and future land use maps were used in conjunction with these curve numbers to estimate the amount of runoff that will be generated by different areas within the study area.

For all residential areas, the land use type "Open space – good condition" was used. For each zoning area, the percent of impervious cover was then measured and used to determine the runoff potential. The reason for this practice was to adjust the model to more accurately represent the actual characteristics of different areas of the City, instead of using the more generalized curve numbers for different types of residential zoning.

4.5 Rainfall Data

Critical runoff events from urban areas in this region are typically caused by cloudburst-type systems with short periods of high-intensity rainfall. In order to simulate a model representative of such rain events, the Farmer-Fletcher storm distribution was used. This storm precipitation distribution was developed by Farmer and Fletcher for Salt Lake County in 1971 through the study of rainfall gauge records. The results of this study found that the majority of storms experience their highest intensities in the first and second quartile period. This distribution is widely used throughout Northern Utah.

Precipitation depths were obtained from the National Oceanic and Atmospheric Administration (NOAA) 14 Point Precipitation Frequency Estimates data server. These depths, with the Farmer-Fletcher distribution, were used to construct the model storm event. The pattern below shows the distribution of rainfall over the course of a one-hour storm event for South Weber City:

Table 4.2 – Precipitation Distribution for a 1-hour, 100-year Storm Event

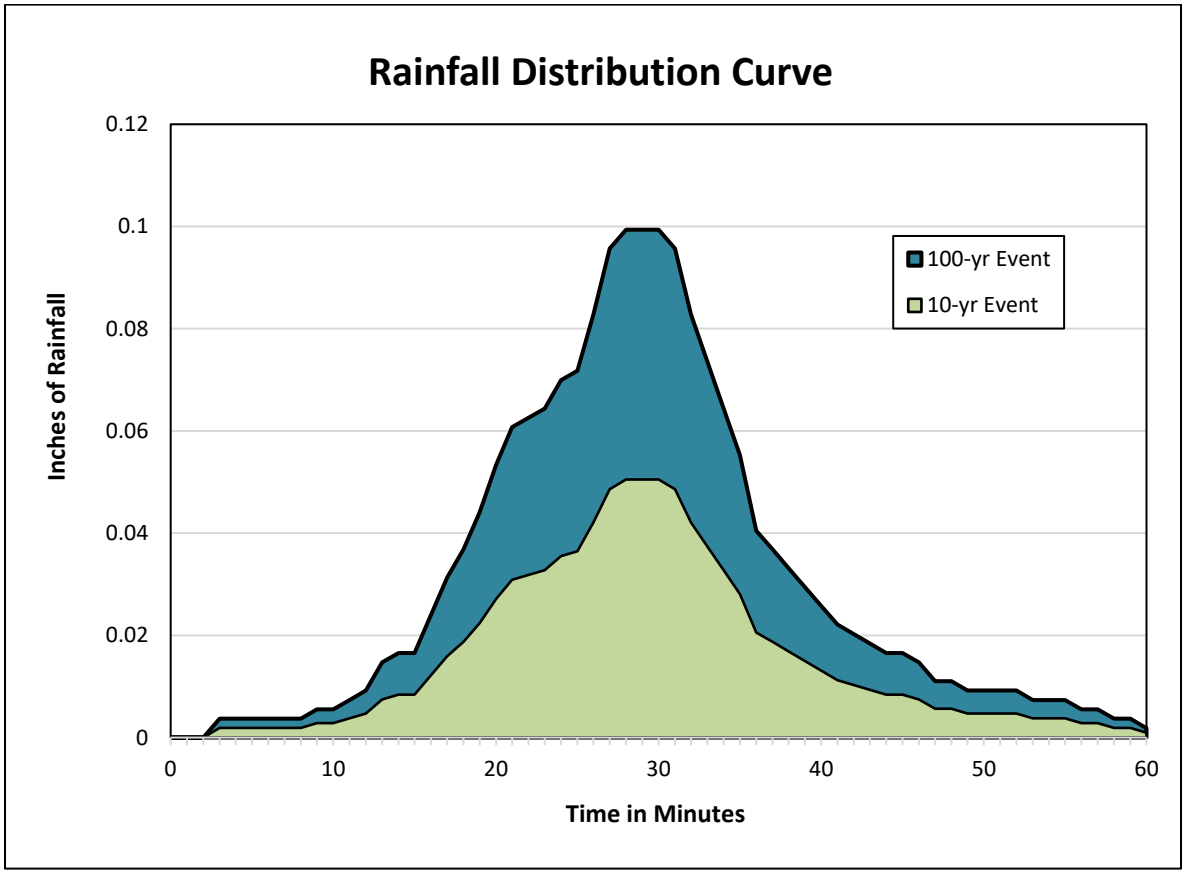
min	inches	min	inches	min	inches	min	inches	min	inches	min	inches
2	0.000	12	0.005	22	0.032	32	0.042	42	0.010	52	0.005
4	0.002	14	0.008	24	0.036	34	0.033	44	0.008	54	0.004
6	0.002	16	0.012	26	0.042	36	0.021	46	0.007	56	0.003
8	0.002	18	0.019	28	0.050	38	0.017	48	0.006	58	0.002
10	0.003	20	0.027	30	0.050	40	0.013	50	0.005	60	0.001

The magnitude of a storm is typically characterized by its recurrence interval. For example, a 10-year storm will have a one-in-ten (0.1 or 10%) chance of occurring in any year. Likewise, the chances of

getting a 100-yr storm will be 1% in any given year. This metric is not to be confused as a time increment between storms of similar magnitude. The only data upon which storm magnitudes are named is the likelihood of occurrence.

Precipitation depth for a 10-year return period was used to model the effectiveness of the storm drain system. To illustrate the difference between storm magnitudes, **Figure 4.1** below shows the incremental rainfall for a typical 10-year and 100-year 1-hour storm event.

Figure 4.1 – Rainfall Distribution Curve



4.6 Lag Time

When running a stormwater model, it is important to understand the delay that takes place between the time that rain begins to fall and the time that stormwater reaches storm drain conveyance facilities. The time between the highest rainfall intensity and the peak flow rate in a system is referred to as lag time. Lag time is influenced by ground slope, soil type, vegetation, and impermeable surfaces. The lag time for each subbasin was calculated using the SCS Method.

5.0 STORM DRAIN SYSTEM

5.1 Existing Storm Drain System Overview

In general, the topography of South Weber City slopes from the northeast to the southwest, with steeper slopes along the eastern and southern boundaries of the City, adjacent to the mountains and hillsides. Other areas to the north and west are relatively flat. In the steeper areas, the rate of accumulated runoff can peak quickly, where in the flatter areas the peak does not occur as quickly but can convey large amounts of runoff in larger storm events. The mountain canyons direct stormwater runoff toward the Weber River. Other than a few springs, there are no other naturally occurring conveyance systems (e.g. creeks, streams, etc.). The Davis & Weber Counties Canal runs through the City from the mouth of Weber Canyon on the east to the southern hillside on the west end of the City. The primary purpose of the canal is the conveyance of irrigation water. It is generally viewed as an unwise practice to discharge storm drain systems into irrigation canals. Therefore, there is only one location where stormwater is discharged into the canal. All other collection and conveyance bypass the canal. In general, the Weber River is the only natural outfall for the storm drain system.

Stormwater runoff is collected in 21 total detention ponds, which are maintained by the City. There are an additional 5 ponds/detention ponds within the study area which are either privately-owned or are owned and maintained by UDOT. These are intended to temporarily detain stormwater in an attempt to prevent overwhelming the system downstream. After stormwater is conveyed through the storm drain system, it is discharged into the Weber River.

There are over 21 miles of storm drain piping, 395 manholes, 641 catch basins (including grated manholes), and 20 control structures within the system. Groundwater may also be collected and drained into the storm drain system through land drains or by infiltration. The effect of land drains on the storm drain system is typically minimal, and therefore is not addressed in this report.

There are a few small sections of South Weber City's storm drain system comprised of open channel ditches which convey stormwater through the City. These channels require frequent maintenance to remove litter, debris, overgrown vegetation, and replace any rock lining. These maintenance/repair projects can become quite expensive, and it is recommended that regular inspection and maintenance of these areas be performed to reduce the need for major rehabilitation projects.

The existing storm drain system is shown in **Exhibit 2.1**.

5.2 Storm Water Goals and Standards

Storm drain infrastructure should be designed and implemented so that hydrology mirrors that of pre-development conditions, i.e., the amount of runoff from a new development should match the quantity of runoff that occurred before the development was in place. This is required by the General Permit issued to the City by the State Division of Water Quality.

One method of reducing the peak flows due to stormwater runoff is through the use of detention ponds. Typically, the City allows detention ponds to maintain a discharge rate of 0.1 cfs/acre served.

While this standard addresses the rate at which stormwater can leave detention ponds, it does not address the quantity of stormwater which may leave a site. Instead of reducing the volume of water that may leave a detention pond, the City has extended the amount of time in which it may leave. This allows more water, by volume, to leave a site than before development. In order to fully match pre-development conditions, stormwater that was previously absorbed should be retained onsite. The State Division of Water Quality has set a date by which these standards must be implemented as stated in Section 4.2.5.3.4 of the November 30, 2016 Storm Water General Permit:

> *"By March 1, 2020, new development or redevelopment projects… must manage rainfall onsite, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 80th percentile rainfall event."*

To accomplish this goal, infiltration basins, evaporation ponds, rainwater harvesting, and other rainwater reuse methods must be implemented to keep stormwater onsite. This requires development construction standards to change in order to store and treat stormwater onsite. In some cases, the implementation of this goal will be difficult, if not impossible. For these situations, the General Permit also states:

> *"If meeting this retention standard is technically infeasible, a rationale shall be provided on a case-by-case basis for the use of alternative design criteria. The project must document and quantify that infiltration, evapotranspiration, and rainwater harvesting have been used to the maximum extent technically feasible and that full employment of these control are infeasible due to site constraints."*

It is anticipated that some people will question the need for detention ponds if the general practice is to retain stormwater onsite. This is a logical argument; however, during our determination of the 80th percentile storm, it was found that, frequently, these storms occur for two or more days. In this case, onsite retention would be overwhelmed, causing all runoff beyond the pond capacity to proceed to the storm drain system for transmission. Without detention facilities, this runoff may overwhelm the storm drain system and flood areas downstream. Therefore, while it is intended that much of the runoff in typical rain events will be captured onsite, detention facilities and piping downstream are still necessary.

5.3 Analysis of the Existing System

A review of the stormwater model for existing conditions requiring correction revealed some sections of the storm drain system that were unable to convey runoff from the design 10-year storm event. There were also deficiencies detected when using the 100-year storm event to evaluate the conveyance systems to regional detention ponds. Several of these points are short sections of pipe which create bottlenecks in the system, where there is sufficient capacity both upstream and downstream. Through modeling, several of these sections have been identified.

The City's detention ponds were modeled to assess their use, effectiveness, and to identify existing or future deficiencies. In general, it was found that the detention ponds belonging to the City are appropriately sized for the 10-year storm. Regional detention ponds are sized to handle the runoff from

the 100-year storm. When analyzing the City's regional detention ponds for their capacity, all were found to be adequate for existing demands.

In some areas, the City's stormwater conveyance system relies on open irrigation channels or roadside ditches. Open channels often create drainage problems. If the channels are undersized or not maintained, flooding may occur. This is especially true where the channels run through fields or between houses. In the latter case, even in typical storm events, the yards of homes can flood, especially if debris builds up in the channel, or the channels themselves are not maintained.

Due to the sporadic frequency, intensity, and duration of storm events flooding may still occur in areas not expected to see flooding. The best way to minimize or potentially avoid this is keep debris out of the system. This is best accomplished by citizens, institutions and business owners being aware of and cleaning up any transportable debris on a regular basis. The City's Public Works Department can also keep debris out of the system by regularly cleaning inlet boxes and pipe as necessary. Regular maintenance by all involved is critical to keeping the system functioning as designed.

Exhibits 5.1 and **5.2** shows a graphical representation of the deficiencies identified by the computer model within the storm drain system. **Exhibit 5.1** shows pipes that the City is responsible for. **Exhibit 5.2** shows pipes that are the responsibility of entities other than the City. Each undersized pipe is listed with an ID number, which can be used to find additional information about the pipe in the tables included in **Appendix C** of this report.

Although many pipes were shown to be deficient, only some were determined to need upsizing. Even though a particular pipe may show as submerged in the computer model, the stormwater may only be backing up into the upstream manhole by a few inches. If the piping/conveyance system surrounding the deficiency was found to be of sufficient capacity to convey the flows to the receiving detention basin, then the system as a whole was considered sufficient, and no project was needed. If the deficiency showed flooding that could not be conveyed safely to a detention basin, then a project to remove the deficiency was created. The purpose of identifying and graphically showing all the deficiencies identified in the model was to identify "watch" areas that may need to be addressed in the future if actual regular flooding occurs. It is important to note that allow the computer model is very helpful in identifying general system improvement needs, it cannot perfectly represent all the different types of storm events that will occur. Therefore, observation of actual conditions is critical to making the best decisions.

5.4 Analysis of the Future System

The storm drain model was used not only to try to identify existing deficiencies within the storm drain system, but to identify the additional infrastructure needed to accommodate future growth. As development occurs, stormwater runoff increases during storm events. As a result, storm drain infrastructure must be able to handle the additional flows to prevent flooding. The storm drain model was used to quantify the expected demands on the system as the City develops to its full built-out state.

By using the model and parameters discussed in **Section 4.0**, some deficiencies were found within the existing storm drain system. While performing the work required to fix these deficiencies would satisfy

current needs, the demand imposed on the storm drain system will increase as development continues to take place. For this reason, the model was adjusted to account for the maximum demand that will be required of the system once all future development occurs. By using the Future Land Use Map, included as **Exhibit 2.2**, all undeveloped land within the City was adjusted in the model to reflect fully developed conditions. Doing so allowed for the determination of the future demand required by various storm drain lines throughout the City. Comparing the demands for both current and future needs help to identify areas which need preemptive work to ensure that flooding does not occur. Upsizing existing lines and constructing projects to meet future needs reduces overall costs (by preventing additional upsizing later) and provides additional security as the City continues to develop.

The City has also determined that to manage the storm drain system at a full built-out state, the City needs expanded facilities and office space for additional employees and equipment. The existing facilities are insufficient for the existing demands and are therefore also insufficient to meet future demands. A new Public Works Facility is needed. The funds for this facility will come from a variety of sources based on the services provided. The storm drain portion of this facility is estimated at 20%. Of that 20%, a portion is needed as maintenance and a portion is needed to address future growth. Based on **Table 3.4**, the current ERU's are 2,829, with a future growth of 1,446 at built-out, giving a total of 4,275. This equates to 66% attributable to maintenance and 34% attributable to future growth. For a detailed breakdown, see the cost estimate for Project #26 in **Appendix D**.

RIVERDALE CITY

WASHINGTON TERRACE CITY

SOUTH OGDEN CITY

UINTAH CITY

LAYTON CITY

JA

South Weber Pipes

Status

- 50 Existing Deficiency
- 50 Existing & Future Deficiency
- 50 Future Deficiency
- Sized Correctly

Highlighted Pipes:

- Watch Area
- Addressed by Project

City Boundaries

- South Weber
- Other

Parcels

- South Weber City
- Other Parcels

SOUTH WEBER city

NOTES:

This map shows pipe capacity results as determined by the storm drain computer model specifically for City-Owned piping. For more information on a numbered pipe segment, see Appendix B.

SCALE:

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05/14/2021

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

SOUTH WEBER CITY SYSTEM DEFICIENCIES

EXHIBIT

5.1

RIVERDALE CITY

WASHINGTON TERRACE CITY

SOUTH OGDEN CITY

UINTAH CITY

LAYTON CITY

JA

Private Pipes

Status

50 Existing Deficiency

50 Future Deficiency

Sized Correctly

UDOT Pipes

Status

50 Existing Deficiency

50 Future Deficiency

Sized Correctly

City Boundaries

South Weber

Other

Parcels

South Weber City

Other Parcels

SOUTH WEBER city

NOTES:

This map shows pipe capacity results as determined by the storm drain computer model specifically for Private and UDOT-owned piping. These are only identified for the purpose of providing helpful information to any interested party. There are no projects identified to correct any of these deficiencies. For more information on a numbered pipe segment, see Appendix B.

SCALE:

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05/14/2021

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

OTHER SYSTEM DEFICIENCIES

EXHIBIT

5.2

5.5 Projects

Based upon the analyses described in **Sections 5.3** and **5.4**, the projects described in **Table 5.1** were developed to correct deficiencies in the storm drain system to meet both existing and future demands. These projects were developed so that the construction thereof, while serving current demands, ensures that all future demands will be met through built-out. **Exhibit 5.3** is the Projects Map. It shows the locations for the projects identified. The project numbers generally ascend with locations from west to east. A concept-level design of each project is contained in **Appendix E**. The location of Project #26, Public Works Facility, is shown on **Exhibit 5.3**, but a concept-level design is not provided in **Appendix E**.

While it is impossible to predict exactly where growth will occur and when, we can assume that areas more hospitable to development will develop first. Additionally, projects will be prioritized and ordered based on logical progression, criticality, condition, and timing of need. For example, projects containing existing deficiencies that could potentially cause flooding and damage to property should be prioritized. For a needs assessment summary and prioritization of projects, see **Appendix F**.

Table 5.1 – Capital Facilities Plan Projects

Project #	Project Location	Project Details
1	Regional Pond #1 & Piping	Construction of a Regional Detention Pond and associated piping when development occurs. Upsizing of pond and piping is necessary for upstream drainage on the south side of South Weber Drive.
2	Heather Cove Pond Upsizing & Piping	Expansion of the existing pond to create a Regional Detention Pond and associated piping when development occurs. The existing retention basin at the soccer facility will be abandoned.
3	Regional Pond #2 & Piping	Construction of a Regional Detention Pond and associated piping when development occurs. Upsizing of pond and piping is necessary for upstream drainage on the south side of 6650 South.
4	Regional Pond #3 & Piping	Construction of a Regional Detention Pond and associated piping when development occurs. Upsizing of pond and piping is necessary for upstream drainage to the adjacent property owner to the south.
5	Regional Pond #4 & Piping	Construction of a Local Detention Pond and associated piping when development occurs. The pipe in Old Fort Road needs to be upsized for development upstream to the east.
6	Regional Pond #5 & Piping	Construction of a Local Detention Pond and associated piping when development occurs. The pipe in Old Fort Road needs to be upsized for development upstream to the east.
7	South Weber Drive Outfall Line	Construction of an outfall line in South Weber Drive to provide a receiving line for drainage from the ground on the south side of the road.

Project #	Project Location	Project Details
8	I-84 Detention Pond Upsizing and Piping	Expansion of the existing Regional Detention Pond to provide sufficient volume when development occurs. Re-route the existing outfall line from the Canyon Vistas Subd. for sufficient cover. Overflow line to route high flows to pond.
9	7800 South Pond Improvements w/ LID	Reconstruction of the existing detention pond to become a retention facility with permanent Low Impact Development (LID) improvements.
10	Deer Run Pond Removal	Eliminate existing detention pond in the backyard of 2088 E. Deer Run Dr. Reconfigure piping and structures. Fill in detention area. Landscape repair.
11	2100 East Manhole Structure Replacement	Reconstruct manhole for better flow and to keep the lid from popping off in storm events.
12	Deer Run Dr. to 8100 South Piping and Pond Removal	Replace undersized piping under the D&W Canal between Deer Run Dr. and 8100 South to eliminate ponding in intersection of 2350 East. Also eliminate the existing detention pond in the backyard of 2328 E. and 2318 E. Deer Run Dr.
13	Peachwood Detention Pond Inlet Piping Upsize	Replace undersized piping between Deer Run Dr. and the Peachwood Detention Pond to eliminate ponding in intersection of 2475 East.
14	Canyon Drive Improvements - #1	Reconstruct curb and gutter and install piping to eliminate ponding in road and deterioration of street pavement structure.
15	Canyon Drive Improvements - #2	Reconstruct curb and gutter and install piping to eliminate ponding in road and deterioration of street pavement structure.
16	Canyon Drive Improvements - #3	Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.
17	7775 South / 1800 East Improvements	Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.
18	1850 East / 7840 South Improvements	Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure.
19	2100 East / 7875 South / 2250 East Improvements	Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.
20	View Drive / Peachwood Drive Improvements	Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.
21	Cedar Bench Drive Improvements	Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure.

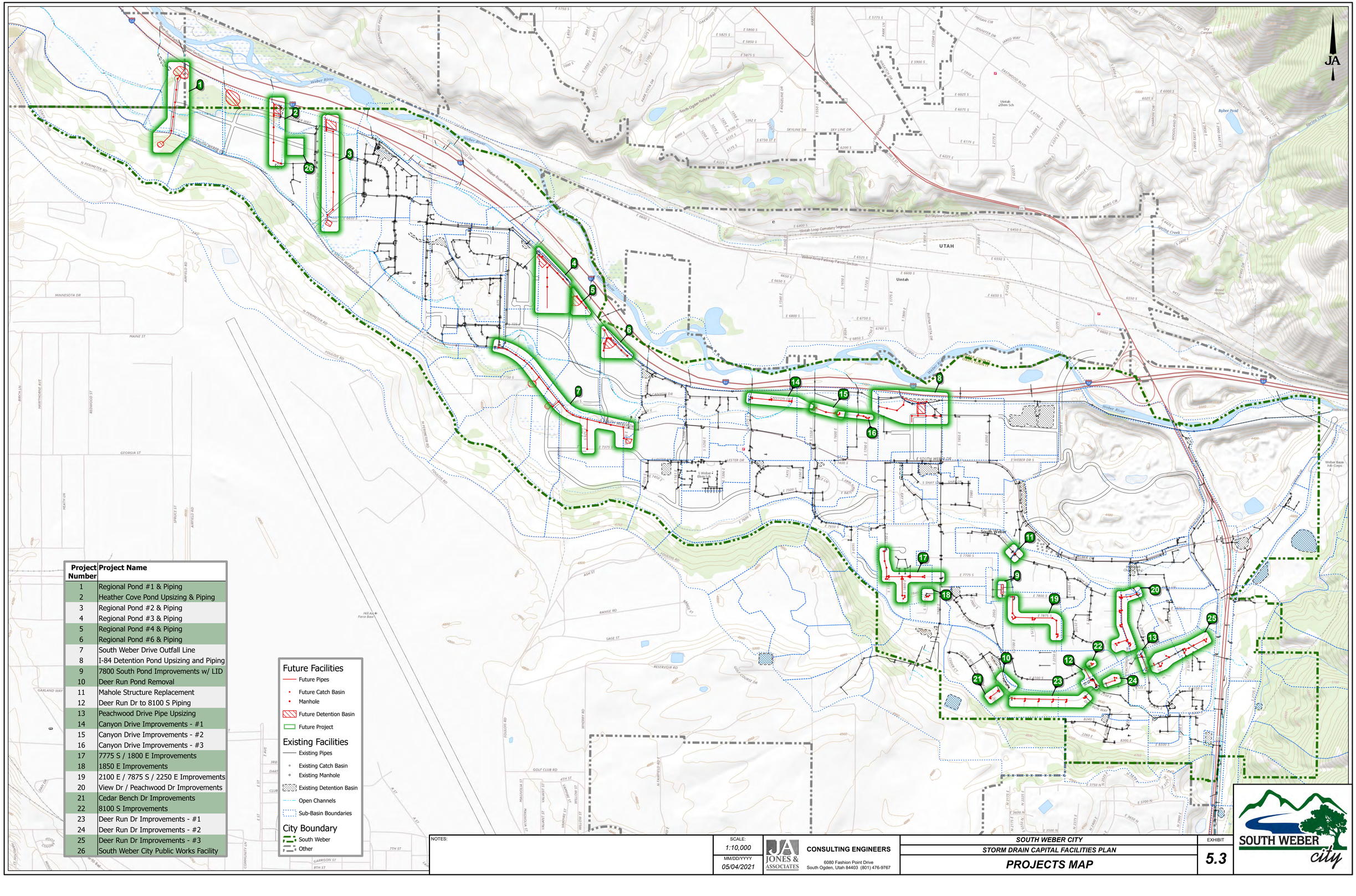
Project #	Project Location	Project Details
22	8100 South Improvements	Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure.
23	Deer Run Drive Improvements - #1	Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure. (2100 East to Deer Run Way)
24	Deer Run Drive Improvements - #2	Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure. (2380 East)
25	Deer Run Drive Improvements - #3	Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure. (2500 East to 2625 East.)
26	Public Works Site and Facility (Storm Drain Portion)	Construction of a new Public Works Site and Facility attributable to Storm Drain Facilities.

An itemized cost estimate and description for each capital improvement project is included in **Appendix D**. The project costs are summarized in **Table 5.2** below. The costs for each project are split into four categories: Existing Deficiencies, Maintenance, System Improvements (impact fee eligible), and Developer Cost. This division is necessary for the determination of which funds may be used to pay for a project. The "Existing Deficiency" column represents the costs of each project attributable to correcting existing problems within the system. The "Maintenance" column represents the costs of each project attributable to regular maintenance needs. For example, an area may have poor drainage (settled curb and gutter or a waterway that holds water) that can only be permanently solved with a project, however, the area still serves its primary purpose in conveying the stormwater and is therefore not an existing deficiency. The "Impact Fee Eligible" column represents the costs of each project which provide improvements that are needed to accommodate future development. Costs in the "Impact Fee Eligible" column are used to calculate impact fees. The "Developer Cost" column represents the portion of the project that is attributable to infrastructure required only for that particular development. This is needed as a base line to determine the upsized portion that is impact fee eligible. When a development occurs in one of the project areas, the City will require the associated infrastructure to be upsized in order to accommodate future upstream demands. The City will reimburse the developer for the upsized portion of the project using impact fees collected. The amount in the "Developer Cost" column is of no consequence in this report, since those costs are borne by the developer. Therefore, these costs are included for reference only, to be able to show all costs associated with the total project cost.

Table 5.2 – Project Cost Summary and Breakdown

Project No.	Project Description	Total Estimated Cost	Cost Breakdown			
			Existing Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Regional Pond #1 & Piping	$ 945,000	$ -	$ -	$ 233,070	$ 711,930
2	Heather Cove Pond Upsizing & Piping	$ 411,950	$ -	$ 51,570	$ 30,910	$ 329,470
3	Regional Pond #2 & Piping	$ 473,070	$ -	$ -	$ 5,000	$ 468,070
4	Regional Pond #3 & Piping	$ 462,000	$ -	$ -	$ 195,630	$ 266,370
5	Regional Pond #4 & Piping	$ 393,500	$ -	$ -	$ 20,630	$ 372,870
6	Regional Pond #5 & Piping	$ 355,950	$ -	$ -	$ 6,750	$ 349,200
7	South Weber Drive Outfall Line	$ 839,700	$ -	$ -	$ 839,700	$ -
8	I-84 Detention Pond Upsizing and Piping	$ 621,410	$ 220,040	$ -	$ 10,500	$ 390,870
9	7800 South Pond Improvements w/ LID	$ 103,500	$ -	$ 103,500	$ -	$ -
10	Deer Run Pond Removal	$ 71,250	$ -	$ 71,250	$ -	$ -
11	2100 East Manhole Structure Replacement	$ 12,630	$ -	$ 12,630	$ -	$ -
12	Deer Run Dr. to 8100 South Piping and Pond Removal	$ 499,950	$ 315,950	$ 184,000	$ -	$ -
13	Peachwood Detention Pond Inlet Piping Upsize	$ 177,320	$ 77,630	$ 100,250	$ -	$ -
14	Canyon Drive Improvements - #1	$ 488,500	$ -	$ 488,500	$ -	$ -
15	Canyon Drive Improvements - #2	$ 294,630	$ -	$ 294,630	$ -	$ -
16	Canyon Drive Improvements - #3	$ 244,130	$ -	$ 244,130	$ -	$ -
17	7775 South / 1800 East Improvements	$ 759,690	$ -	$ 759,690	$ -	$ -
18	1850 East / 7840 South Improvements	$ 80,850	$ -	$ 80,850	$ -	$ -
19	2100 East / 7875 South / 2250 East Improvements	$ 437,000	$ -	$ 437,000	$ -	$ -
20	View Drive / Peachwood Drive Improvements	$ 555,560	$ -	$ 555,560	$ -	$ -
21	Cedar Bench Drive Improvements	$ 121,220	$ -	$ 121,220	$ -	$ -
22	8100 South Improvements	$ 64,210	$ -	$ 64,210	$ -	$ -

Project No.	Project Description	Total Estimated Cost	Cost Breakdown			
			Existing Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
23	Deer Run Drive Improvements - #1	$ 400,000	$ -	$ 400,000	$ -	$ -
24	Deer Run Drive Improvements - #2	$ 84,810	$ -	$ 84,810	$ -	$ -
25	Deer Run Drive Improvements - #3	$ 363,380	$ -	$ 363,380	$ -	$ -
26	Public Works Site and Facility (Storm Drain Portion)	$ 1,496,830	$ -	$ 987,910	$ 508,920	$ -
	TOTAL	**$ 10,758,600**	**$ 613,620**	**$5,405,090**	**$ 1,851,110**	**$ 2,888,780**



Project Number	Project Name
1	Regional Pond #1 & Piping
2	Heather Cove Pond Upsizing & Piping
3	Regional Pond #2 & Piping
4	Regional Pond #3 & Piping
5	Regional Pond #4 & Piping
6	Regional Pond #6 & Piping
7	South Weber Drive Outfall Line
8	I-84 Detention Pond Upsizing and Piping
9	7800 South Pond Improvements w/ LID
10	Deer Run Pond Removal
11	Mahole Structure Replacement
12	Deer Run Dr to 8100 S Piping
13	Peachwood Drive Pipe Upsizing
14	Canyon Drive Improvements - #1
15	Canyon Drive Improvements - #2
16	Canyon Drive Improvements - #3
17	7775 S / 1800 E Improvements
18	1850 E Improvements
19	2100 E / 7875 S / 2250 E Improvements
20	View Dr / Peachwood Dr Improvements
21	Cedar Bench Dr Improvements
22	8100 S Improvements
23	Deer Run Dr Improvements - #1
24	Deer Run Dr Improvements - #2
25	Deer Run Dr Improvements - #3
26	South Weber City Public Works Facility

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECTS MAP

EXHIBIT 5.3

SOUTH WEBER city

5.6 System Replacement Analysis

All infrastructure has a design life. This is the duration of time in which it is expected to perform before replacement is necessary. For the purpose of this study, an analysis of the existing system was performed in order to determine the age and material type of various sections of the storm drain system, and to evaluate the cost of replacement as the design lifetime is reached.

The age and material type for 80% of the system was able to be determined or approximated. The remaining 20% is unknown. Of the known portion, 90% of the piping is reinforced concrete pipe (RCP) with the remaining 10% made up of high-density polyethylene (HDPE). For the purposes of this report, the design life for RCP and HDPE is estimated to be 100 years. The oldest pipes in the storm drain system are estimated to be approximately 50 – 60 years old, with the vast majority only 20 – 30 years old.

Given that the remaining design life exceeds the evaluation period of this report with no reports of material failures from Public Works, no replacement projects are included in this report. We recommend continuing to assess and document the condition of the existing system. Future reports should include any replacement projects as soon as they are within the evaluation window.

5.7 Needs Assessment and Prioritization of Projects

As detailed in the previous sections, the existing and future storm drain systems have been analyzed to determine necessary system improvements. An assessment of each project's criticality, condition, and when the project is anticipated to be needed was performed and is contained in **Appendix F**. For projects related to future development, location and previous development inquiries with the City were evaluated to assess where upcoming development is expected to create the greatest need within the storm drain system. A scale of 0 – 5 was used, with 5 receiving the highest priority and 0 being needed only with development. The project numbers generally ascend with locations from west to east but are re-ordered in the table according to their evaluation score with the highest scoring projects at the top of the table, thus showing the order in which projects should be accomplished. Development may occur in areas not anticipated. For those situations, adjustments should be made to make sure the planned upsizing is incorporated.

6.0 IMPACT FEE FACILITIES PLAN

6.1 Introduction

Utah state law requires that an Impact Fee Facilities Plan (IFFP) be prepared before an Impact Fee can be implemented. Title 11-36a, Section 300, of the Utah State Code outlines the requirements of the Impact Fee Analysis. The IFFP is a subset of the data contained in the Capital Facilities Plan, and pertinent information will be summarized in this section. An analysis to determine the actual impact fee will be performed by a financial expert and will be submitted in a separate document.

The storm drain impact fee will be used as a way for new development to pay for their contribution to the needed improvements to the storm drain system. The state law requires that the IFFP only contains the cost for projects expected to take place within 6-10 years and must not raise the level of existing service. This section summarizes sections 1-5 of this report (Capital Facilities Plan) as it pertains to the enactment of an impact fee.

6.2 Level of Service

At the commencement of this study, South Weber City's storm water policy was that the runoff from a 10-year storm should be contained in the piping system and local detention ponds. The runoff from a 100-year storm should be contained in regional detention ponds and should be effectively conveyed to the ponds through the piping system. This is the current level of service provided.

Any part of the existing storm drain system which is not able to meet the current level of service is considered a deficiency within the system. The table in **Section 5.5** summarizes all the capital facilities projects' estimated costs. If some or all of a project corrects an existing deficiency, the cost associated with that correction is included in the "Existing Deficiency" column. These costs should not be considered for use in the calculation of an impact fee. If some or all of a project is meant to increase the capacity of the system to meet future demands at the existing level of service, the cost associated with that upsizing is included in the "Impact Fee Eligible" column. These costs should be used for the calculation of an impact fee.

6.3 Excess Capacity

Excess capacity is any capacity within the storm drain system which is not currently utilized, but can aid in serving the demands imposed by future growth.

Utah Code 11-36a-202 (Prohibitions on Impact Fees) states:

(1) A local political subdivision or private entity may not:

(a) impose an impact fee to:

(i) cure deficiencies in a public facility serving existing development;

(ii) raise the established level of service of a public facility serving existing development;

(iii) recoup more than the local political subdivision's or private entity's costs actually incurred for excess capacity in an existing system improvement; or

(iv) include an expense for overhead, unless the expense is calculated pursuant to a methodology that is consistent with:

(A) generally accepted cost accounting practices; and
(B) the methodological standards set forth by the federal Office of Management and Budget for federal grant reimbursement.

At the time of this study, no recently constructed storm drain projects were considered as having excess capacity.

6.4 Population Projection

Section 3.2 of this report discusses long-term growth projections for South Weber City. The IFFP will focus on growth over the next decade, and projects associated with this growth.

In **Section 3.2.1**, population growth projections were discussed and outlined. Therefore, using the expected growth rates from this section, the population and ERU counts for the next ten years were estimated, as shown in **Table 6.1**:

Table 6.1 – Population and ERU Projections (IFFP)

Year	Population	ERUs	Increase from 2020	Percent Increase from 2020
2020	7,867	2,829	0	0%
2021	8,127	3,110	281	19%
2022	8,395	3,345	516	36%
2023	8,672	3,395	566	39%
2024	8,958	3,446	617	43%
2025	9,254	3,498	669	46%
2026	9,559	3,551	722	50%
2027	9,874	3,605	776	54%
2028	10,200	3,660	831	58%
2029	10,537	3,716	887	62%
2030	10,779	3,773	944	65%

6.5 Future Development Needs

While it is nearly impossible to predict exactly where growth will occur over the next ten years, we can assume that areas more hospitable to development will develop first. **Table 6.2** shows the projects which are planned to be completed within the next ten years that are also impact fee eligible. Projects needed for existing deficiencies or maintenance only are not included in the table. Funding for these projects should be analyzed as part of a storm drain utility fee analysis. The column labeled "Impact Fee Eligible" are the costs of the project that may be paid for through impact fees. As discussed in **Section 5.5**, the "Developer Costs" represent the portion of the project that is attributable to infrastructure required only for that particular development. These costs are included for reference only, to be able to show all costs associated with the total project cost.

System improvements related to impact fee eligible costs are assumed to be constructed at the same rate that ERUs are added to the system. As shown in Table 6.1, the percent of additional ERUs added to the system in the next 10 years is 65% (or 944 new ERUs). The cost of the improvements and added capacity to the system are assumed to grow at the same rate.

Table 6.2 – Projects Cost Summary (IFFP)

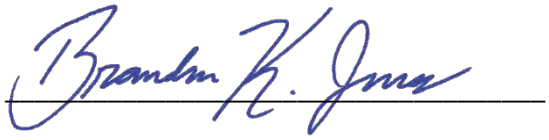
Project No.	Project Description	Total Estimated Cost	Cost Breakdown			
			Existing Deficiency	Maintenance	Impact Fee Eligible	Developer Costs
26	Public Works Site and Facility (Storm Drain Portion)	$ 1,496,830	$ -	$ 987,910	$ 508,920	$ -
2	Heather Cove Pond Upsizing & Piping	$ 411,950	$ -	$ 51,570	$ 30,910	$ 329,470
8	I-84 Detention Pond Upsizing and Piping	$ 621,410	$ 220,040	$ -	$ 10,500	$ 390,870
7	South Weber Drive Outfall Line	$ 839,700	$ -	$ -	$ 839,700	$ -
4	Regional Pond #3 & Piping	$ 462,000	$ -	$ -	$ 195,630	$ 266,370
5	Regional Pond #4 & Piping	$ 393,500	$ -	$ -	$ 20,630	$ 372,870
1	Regional Pond #1 & Piping	$ 945,000	$ -	$ -	$ 233,070	$ 711,930
3	Regional Pond #2 & Piping	$ 473,070	$ -	$ -	$ 5,000	$ 468,070
6	Regional Pond #5 & Piping	$ 355,950	$ -	$ -	$ 6,750	$ 349,200
	TOTAL	$ 5,999,410	$ 220,040	$ 1,039,480	$ 1,851,110	$ 2,888,780
% System Improvements Constructed in next 10 years				**65%**	**$ 1,203,220**	
			% Remaining to Built-Out	35%	$ 647,890	

6.6 Certification

Per Utah Code 11-36a-306(1) – Certification of impact fee facilities plan:

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; or
    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.



Brandon K. Jones, P.E. – City Engineer

7.0 ACKNOWLEDGEMENTS

Gathering data and information for use in this report can be tedious. Understanding how the storm drain system works is critical when modeling the system. We would like to thank the following individuals for their assistance in the preparation of this report:

- South Weber City Public Works Department, in particular Mark Larsen, Mark Johnson, and Bryan Wageman.
- South Weber City Finance Director, Mark McRae.
- Brandon Tremelling (Jones & Associates) for taking lead on the study and running the computer model.
- Kuyler Thompson (Jones & Associates) for providing the mapping.
- Steven Heiner (Jones & Associates) and many interns over the years who have collected GPS data on the storm drain system.

8.0 WORKS CITED

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Exhibits

Appendix A

Existing ERU Analysis

APPENDIX A

Storm Drain - Existing ERU Analysis

	Name	Service Address		Description	Contributing Hard Surfacing				ERUs[1]
		Address	Street		Units or Bldg Area (sf)	Asphalt (sf)	Concrete (sf)	TOTAL (sf)	
	--- Residential ---								
1	Single-Family Home	City-wide		Single-Family	2,338	-	-	-	**2,338**
2	Duplex / Multi-Family	City-wide		Multi-Family	9	-	-	-	**9**
3	Cambridge Crossings Apts	2075 East	7550 South	Residential Apartments	45,931	50,615	11,320	107,866	**32.1**
								Total ERU's	**2,379**

--- Non-Residential ---

	Name	Service Address		Description	Contributing Hard Surfacing				ERUs[1]
		Address	Street		Units or Bldg Area (sf)	Asphalt (sf)	Concrete (sf)	TOTAL (sf)	
	--- Industrial ---								
1	Kastle Rock Excavation	244 West	South Weber Drive	General Light Industrial	0	0	0	0	**0.0**
2	Keith Kap & Sons Excavating (Mountain View Contracting)	978 East	South Weber Drive	General Light Industrial	0	0	0	0	**0.0**
3	South Valley Storage (Stanbridge, Lanna)	2212 East	7400 South	Mini-Warehouse	16,021	23,474	1,136	40,631	**12.1**
4	Jack B Parsons-Scale House	7425 South	2700 East	Gravel Pit	0	168,736	0	168,736	**50.1**
5	Jack P Parsons - Dust Control	2585 East	South Weber Drive						
6	Geneva Rock Products	2830 East	Cornia Dr	Gravel Pit	0	0	0	0	**0.0**
7	Bouchard Constrction	1150 East	South Weber Drive	General Light Industrial	5,021	11,101	2,702	18,824	**5.6**
8	Nix Construction	1460 East	South Weber Drive	General Light Industrial	0	2,780	0	2,780	**0.8**
9	Sure Steel	7528 South	Cornia Road	Manufacturing	19,973	36,091	6,467	62,531	**18.6**
10a	D&L Hauling & Excavating	7636 South	Cornia Dr	High-Cube Warehouse	12,804	0	37,790	50,594	**7.5**
10b	C&A Plumbing								**7.5**
11	South Weber Storage LC	2192 East	South Weber Drive	Storage Units	28,417	24,210	4,133	56,760	**16.9**
								Total ERU's	**119.1**

APPENDIX A

Storm Drain - Existing ERU Analysis

	Name	Service Address		Description	Contributing Hard Surfacing				ERUs[1]
		Address	Street		Units or Bldg Area (sf)	Asphalt (sf)	Concrete (sf)	TOTAL (sf)	
	--- Commercial ---								
1	Pryme Corp. (Kaisha Taylor)	570 East	South Weber Drive	General Office Building	2,480	5,515	6,126	14,121	**4.2**
2	South Weber Water Improv. District	7924 South	1900 East	General Office Building	2,699	6,282	131	9,112	**2.7**
3	Daines, Todd & Wilson, Sheila	7385 South	1200 East	General Light Industrial	3,337	9,865	3,033	16,235	**4.8**
4	Bruce's Auto Body Repair LLC	7279 South	1600 East #1	General Light Industrial	4,099	0	4,503	8,602	**2.6**
5	Petersen Farms Assisted Living	6980 South	475 East	Assisted Living	21,004	14,872	6,129	42,005	**12.5**
6	Elite Training Centers / LaRocca	128 East	South Weber Drive	Soccer Complex	67,073	29,417	5,368	101,858	**30.3**
7	L&J Auto Repair	7420 South	1025 East	Auto Repair	0	0	0	0	**0.0**
								Total ERU's	**57.0**
	--- Retail ---								
1	Maverik, Inc	2577 East	South Weber Drive	Gasoline/Service Station with C-Market	11,715	74,215	8,661	94,591	**28.1**
2	Ray's Valley Service	1589 East	South Weber Drive	Gasoline/Service Station with C-Market	5,748	19,076	1,132	25,956	**7.7**
3	South Weber Drive Commercial (Lot 1)	2572	South Weber Drive	Dining, Clinic	6,961	13,520	11,494	31,975	**9.5**
4	South Weber Drive Commercial (Lot 2)	2532	South Weber Drive	Parking	0	4,959	130	5,089	**1.5**
								Total ERU's	**46.8**
	--- Churches ---								
1	LDS Church	1401 East	South Weber Drive	Church	20,344	76,016	12,215	108,575	**32.3**
2	LDS Church	1814 East	7775 South	Church	18,426	66,411	11,825	96,662	**28.7**
3	LDS Church (Stake Center)	7989 South	2250 East	Church	28,846	62,593	8,050	99,489	**29.6**
4	LDS Church	2620 East	8200 South	Church	18,512	57,326	11,207	87,045	**25.9**
								Total ERU's	**116.4**

APPENDIX A

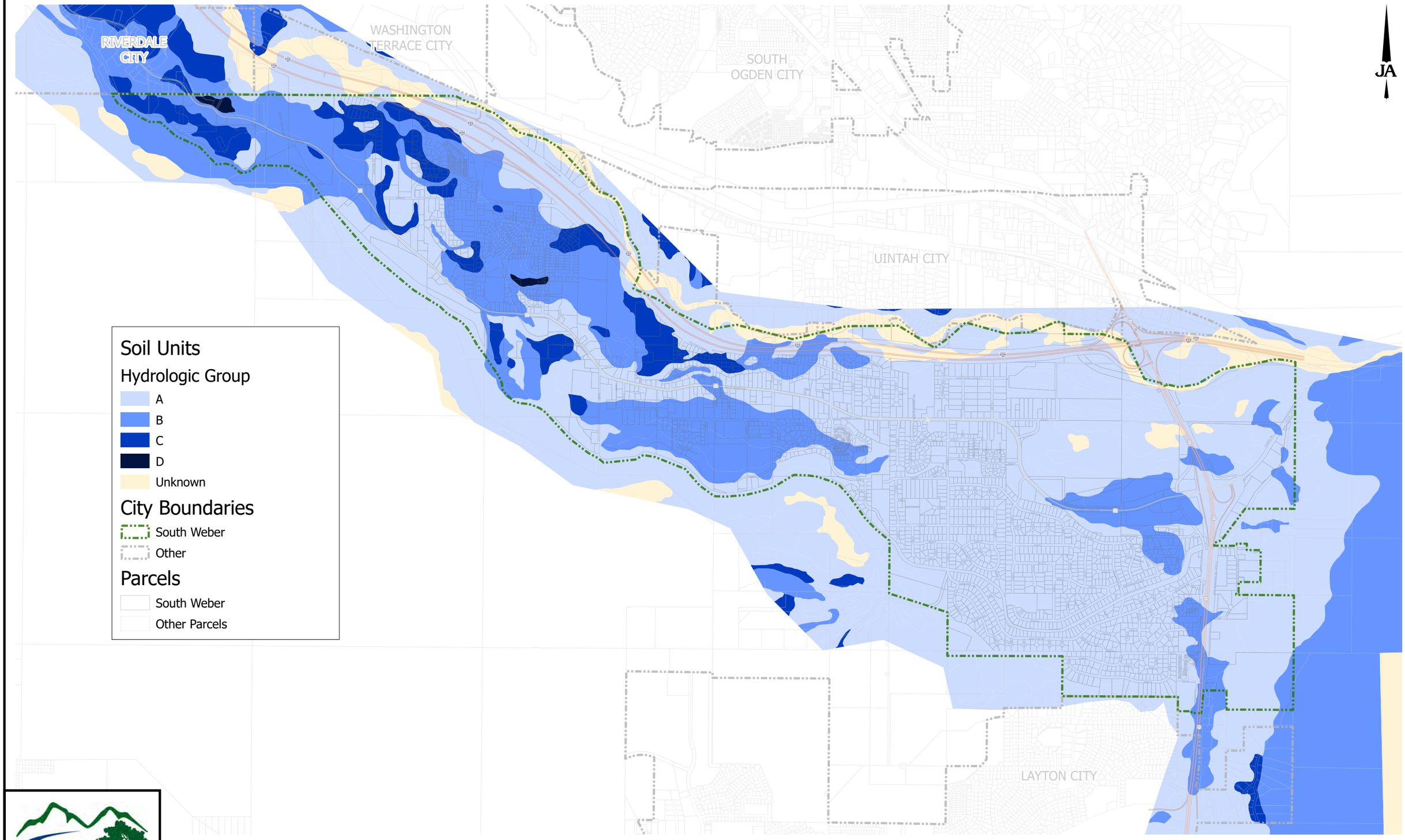
Storm Drain - Existing ERU Analysis

	Name	Service Address		Description	Contributing Hard Surfacing				ERUs[1]
		Address	Street		Units or Bldg Area (sf)	Asphalt (sf)	Concrete (sf)	TOTAL (sf)	
	--- Schools / Government ---								
1	Davis County School District	1285 East	Lester Street	Elementary Building	60,001	54,925	27,338	142,264	**42.3**
2	Davis County School District	1285 East	Lester Street	K2 Building	36,137	26,990	34,724	97,851	**29.1**
3	High Mark Charter School	2467 East	South Weber Drive	Middle School/Junior High School	38,772	78,473	14,908	132,153	**39.3**
4	USDA Forest Service/Job Corp	7400 South	Cornia Dr	Job Corp (Youth Instructional Facility)	0	0	0	0	**0.0**
5	Pacificorp	6650 South	800 East	Sub Station	0	0	0	0	**0.0**
								Total ERU's	**110.6**
								Grand Total ERU's	**2,829**

[1] *All Single Family Residential are counted as 1 ERU, Multi-Family is counted as 1 ERU per dwelling unit. All others are calculated based upon the total square feet of hard surface divided by 3,365 ft.*

Appendix B

South Weber City Soils Map



SOUTH WEBER city

NOTES:
Mapped soil units are from the U.S. Department of Agriculture, Natural Resources Conservation Service. Publication "Soil Survey Geographic (SSURGO) database for Davis-Weber Area, Utah".

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05/14/2021

JA JONES & ASSOCIATES
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6080 Fashion Point Drive
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SOUTH WEBER CITY
STORM DRAIN CAPITAL FACILITIES PLAN
SOUTH WEBER CITY SOILS MAP

APPENDIX
B

Appendix C

Pipe Analysis Summary

Table C.1 – Required Improvements to City-Owned Storm Drain Piping

Pipes	Length (ft)	Existing Diameter (in)	Improved Diameter (in)	Future Diameter (in)	Existing Capacity (cfs)	Improved Capacity (cfs)	Future Capacity (cfs)	Demand (cfs)	Upsizing Required
59	57	24	24	30	27.4	27.4	38.3	27.5	Future Deficiency
157	182	18	18	24	13.5	13.5	26.3	19.9	Future Deficiency
158	312	18	21	24	10.4	15.0	20.5	19.9	Ex. and Fut. Deficiency
180	47	12	12	24	11.9	11.9	60.7	34.0	Future Deficiency
217	113	18	18	24	17.6	17.7	34.3	19.9	Future Deficiency
218	46	18	18	24	19.6	19.6	35.3	19.9	Future Deficiency
219	120	18	18	24	15.2	15.2	29.1	19.9	Future Deficiency
253	724	24	30	36	20.5	35.5	54.8	40.5	Ex. and Fut. Deficiency
254	290	24	30	36	25.6	43.1	64.4	54.7	Ex. and Fut. Deficiency
293	257	24	36	36	25.0	61.2	61.2	41.8	Existing Deficiency
301	61	15	18	18	14.1	21.5	21.5	16.2	Existing Deficiency
416	314	24	30	30	21.8	36.1	36.1	25.2	Existing Deficiency
422	180	12	24	24	3.2	12.5	12.5	12.4	Existing Deficiency
423	75	15	18	18	8.4	12.4	12.4	12.4	Existing Deficiency
427	318	15	18	18	6.5	10.0	10.0	9.1	Existing Deficiency
428	19	15	18	18	9.7	12.7	12.7	12.4	Existing Deficiency
449	162	24	30	30	36.1	60.5	60.5	39.5	Existing Deficiency
470	69	24	24	30	24.4	24.4	33.3	27.5	Future Deficiency
473	210	24	30	30	22.6	36.2	36.2	27.5	Existing Deficiency
476	296	24	24	30	22.0	22.0	36.3	22.1	Future Deficiency
588	88	15	18	18	11.3	17.3	17.3	14.7	Existing Deficiency
602	120	18	18	30	16.8	16.8	52.8	22.8	Future Deficiency
617	178	15	18	18	11.7	18.4	18.4	16.2	Existing Deficiency
618	257	15	21	24	10.2	23.7	32.8	16.2	Ex. and Fut. Deficiency
629	402	18	21	24	10.9	16.0	22.0	15.5	Ex. and Fut. Deficiency
637	499	24	24	30	19.6	19.6	33.0	20.1	Future Deficiency
693	123	24	24	30	30.6	30.6	49.2	33.3	Future Deficiency
694	581	24	24	30	24.0	24.0	41.5	33.3	Future Deficiency

Pipes	Length (ft)	Existing Diameter (in)	Improved Diameter (in)	Future Diameter (in)	Existing Capacity (cfs)	Improved Capacity (cfs)	Future Capacity (cfs)	Demand (cfs)	Upsizing Required
717	254	15	18	18	8.3	13.0	13.0	11.4	Existing Deficiency
718	245	15	18	18	6.1	9.3	9.3	11.4	Existing Deficiency
761	209	15	15	18	9.4	9.4	14.7	10.2	Future Deficiency
774	116	15	18	18	8.4	12.8	12.8	9.5	Existing Deficiency
786	4	18	24	24	26.8	42.6	42.6	41.8	Existing Deficiency
815	535	18	24	24	11.5	23.6	23.6	16.1	Existing Deficiency
819	133	36	36	42	68.7	68.8	89.0	72.9	Future Deficiency
821	259	36	36	42	55.8	55.9	74.0	72.9	Future Deficiency
858	323	8	8	18	1.6	1.6	12.5	11.1	Future Deficiency
868	394	15	15	24	6.5	6.5	20.5	12.6	Future Deficiency
878	389	18	21	24	8.1	11.6	15.6	14.9	Ex. and Fut. Deficiency
879	390	18	18	24	10.3	10.3	20.6	14.9	Future Deficiency
886	181	18	21	30	12.2	17.3	36.8	24.8	Ex. and Fut. Deficiency
916	179	15	18	18	10.5	16.5	16.5	12.9	Existing Deficiency
979	128	15	18	18	12.2	19.0	19.0	17.2	Existing Deficiency
1048	117	18	18	24	17.6	17.6	34.3	19.0	Future Deficiency
1049	151	18	18	24	17.7	17.7	35.1	19.0	Future Deficiency
1055	131	24	24	30	50.4	50.5	85.7	51.7	Future Deficiency
1056	129	24	24	30	46.3	46.3	78.1	51.7	Future Deficiency
1057	103	24	24	30	42.5	42.5	70.3	51.7	Future Deficiency
1058	223	24	30	36	29.8	50.0	74.7	51.7	Ex. and Fut. Deficiency
1109	95	15	18	18	11.3	17.4	17.4	14.7	Existing Deficiency

Table C.2 – Required Improvements to Privately-Owned Storm Drain Piping

Pipes	Length (ft)	Existing Diameter (in)	Improved Diameter (in)	Future Diameter (in)	Existing Capacity (cfs)	Improved Capacity (cfs)	Future Capacity (cfs)	Demand (cfs)	Upsizing Required
75	85	24	24	30	31.6	31.6	49.2	36.6	Future Deficiency
94	362	12	18	18	3.2	8.4	8.4	5.8	Existing Deficiency
173	128	12	12	15	5.6	5.6	9.6	7.4	Future Deficiency
174	96	9	9	15	2.8	2.8	9.5	7.4	Future Deficiency
175	98	6	6	24	0.6	0.6	14.6	7.4	Future Deficiency
179	62	12	12	15	6.5	6.5	10.9	7.5	Future Deficiency
180	416	12	12	18	3.3	3.3	9.1	7.5	Future Deficiency
207	204	24	24	30	26.7	26.7	43.9	39.5	Future Deficiency
208	46	24	30	30	60.0	97.3	97.3	88.4	Existing Deficiency
209	109	24	30	30	35.6	58.0	58.0	46.3	Existing Deficiency
210	111	24	30	30	31.4	50.2	50.2	46.3	Existing Deficiency
211	234	24	30	30	22.8	36.9	36.9	36.6	Existing Deficiency
212	375	24	30	30	19.3	31.8	31.8	31.1	Existing Deficiency
214	334	24	30	30	23.7	39.9	39.9	31.1	Existing Deficiency
233	167	12	15	15	3.3	5.5	5.5	3.3	Existing Deficiency
265	119	12	12	18	4.1	4.1	10.5	7.6	Future Deficiency
266	545	12	12	24	1.8	1.8	8.3	7.6	Future Deficiency
293	21	12	12	15	10.8	10.8	17.7	11.4	Future Deficiency
448	202	15	15	18	6.5	6.5	10.0	7.0	Future Deficiency

Appendix D

Itemized Cost Estimates

Project # **1** **Regional Pond #1 & Piping**

Description: Construction of a Regional Detention Pond and associated piping when development occurs. Upsizing of pond and piping is necessary for upstream drainage on the south side of South Weber Drive.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	300 lf	$ 50	$ 15,000	$ -	$ -	$ -	$ 15,000
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	300 lf	$ 80	$ 24,000	$ -	$ -	$ 4,500	$ 19,500
4	Furnish & Install 30" RCP	500 lf	$ 100	$ 50,000	$ -	$ -	$ 10,000	$ 40,000
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	260 lf	$ 160	$ 41,600	$ -	$ -	$ 15,600	$ 26,000
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole	5 ea	$ 5,000	$ 25,000	$ -	$ -	$ 6,250	$ 18,750
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	1 ea	$ 15,000	$ 15,000	$ -	$ -	$ 3,750	$ 11,250
14	Construct Detention Pond	4.68 AF	$ 40,000	$ 187,200	$ -	$ -	$ 46,800	$ 140,400
15	Remove & Replace Curb & Gutter	lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch	sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	68,000 sf	$ 2	$ 136,000	$ -	$ -	$ 34,000	$ 102,000
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	1.56 Ac	$ 120,000	$ 187,200	$ -	$ -	$ 46,800	$ 140,400
20	Mobilization	1 ls	$ 50,000	$ 50,000	$ -	$ -	$ 12,500	$ 37,500
21	Traffic Control	1 ls	$ 25,000	$ 25,000	$ -	$ -	$ 6,250	$ 18,750
			Subtotal	$ 756,000	$ -	$ -	$ 186,450	$ 569,550
			15% Engineering & Construction Management	113,400	-	-	27,970	85,430
			10% Contingency	75,600	-	-	18,650	56,950
			TOTAL	**$ 945,000**	**$ -**	**$ -**	**$ 233,070**	**$ 711,930**

Notes:

The depth of the detention pond is assumed to be an average of 3'. Therefore, the surface area of this pond is 1.56 Ac.

Project # **2** **Heather Cove Pond Upsizing & Piping**

Description: Expansion of the existing pond to create a Regional Detention Pond and associated piping when development occurs. The existing retention basin at the soccer facility will be abandoned.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	550 lf	$ 50	$ 27,500	$ -	$ -	$ 8,250	$ 19,250
2	Furnish & Install 18" RCP	580 lf	$ 65	$ 37,700	$ -	$ -	$ -	$ 37,700
3	Furnish & Install 24" RCP	170 lf	$ 80	$ 13,600	$ -	$ -	$ 11,968	$ 1,632
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	200 lf	$ 120	$ 24,000	$ -	$ -	$ -	$ 24,000
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	250 lf	$ 25	$ 6,250	$ -	$ 6,250	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	2 ea	$ 3,000	$ 6,000	$ -	$ -	$ -	$ 6,000
11	Furnish & Install Manhole	5 ea	$ 5,000	$ 25,000	$ -	$ -	$ -	$ 25,000
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	1 ea	$ 15,000	$ 15,000	$ -	$ -	$ 4,500	$ 10,500
14	Construct Detention Pond	0.90 AF	$ 40,000	$ 36,000	$ -	$ -	$ -	$ 36,000
15	Remove & Replace Curb & Gutter	lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch	sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	20,000 sf	$ 2	$ 40,000	$ -	$ -	$ -	$ 40,000
18	Imported Fill Material	1,400 cy	$ 25	$ 35,000	$ -	$ 35,000	$ -	$ -
19	Property Purchase	0.45 Ac	$ 50,000	$ 22,500	$ -	$ -	$ -	$ 22,500
20	Mobilization	1 ls	$ 27,000	$ 27,000	$ -	$ -	$ -	$ 27,000
21	Traffic Control	1 ls	$ 14,000	$ 14,000	$ -	$ -	$ -	$ 14,000
			Subtotal	$ 329,550	$ -	$ 41,250	$ 24,720	$ 263,580
			15% Engineering & Construction Management	49,440	-	6,190	3,710	39,530
			10% Contingency	32,960	-	4,130	2,480	26,360
			TOTAL	**$ 411,950**	**$ -**	**$ 51,570**	**$ 30,910**	**$ 329,470**

Notes:

The depth of the detention pond is assumed to be an average of 2'. Therefore, the surface area of this pond is 0.45 Ac.

The pond property and undeveloped ground to the south are owned by South Weber City for a Public Works Facility. For this project, the City would be considered the Developer.

Project # **3** **Regional Pond #2 & Piping**

Description: Construction of a Regional Detention Pond and associated piping when development occurs. Upsizing of pond and piping is necessary for upstream drainage on the south side of 6650 South.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,500 lf	$ 50	$ 75,000	$ -	$ -	$ -	$ 75,000
2	Furnish & Install 18" RCP	650 lf	$ 65	$ 42,250	$ -	$ -	$ -	$ 42,250
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	200 lf	$ 120	$ 24,000	$ -	$ -	$ 4,000	$ 20,000
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	2 ea	$ 3,000	$ 6,000	$ -	$ -	$ -	$ 6,000
11	Furnish & Install Manhole	7 ea	$ 5,000	$ 35,000	$ -	$ -	$ -	$ 35,000
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	1 ea	$ 15,000	$ 15,000	$ -	$ -	$ -	$ 15,000
14	Construct Detention Pond	1.24 AF	$ 40,000	$ 49,600	$ -	$ -	$ -	$ 49,600
15	Remove & Replace Curb & Gutter	lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch	sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	19,000 sf	$ 2	$ 38,000	$ -	$ -	$ -	$ 38,000
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	0.41 Ac	$ 120,000	$ 49,600	$ -	$ -	$ -	$ 49,600
20	Mobilization	1 ls	$ 29,000	$ 29,000	$ -	$ -	$ -	$ 29,000
21	Traffic Control	1 ls	$ 15,000	$ 15,000	$ -	$ -	$ -	$ 15,000
			Subtotal	$ 378,450	$ -	$ -	$ 4,000	$ 374,450
			15% Engineering & Construction Management	56,770		-	600	56,170
			10% Contingency	37,850		-	400	37,450
			TOTAL	**$ 473,070**	**$ -**	**$ -**	**$ 5,000**	**$ 468,070**

Notes:

The depth of the detention pond is assumed to be an average of 3'. Therefore, the surface area of this pond is 0.41 Ac.

Project # **4** **Regional Pond #3 & Piping**

Description: Construction of a Regional Detention Pond and associated piping when development occurs. Upsizing of pond and piping is necessary for upstream drainage to the adjacent property owner to the south.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP		lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	1,320	lf	$ 80	$ 105,600	$ -	$ -	$ 29,100	$ 76,500
4	Furnish & Install 30" RCP	240	lf	$ 100	$ 24,000	$ -	$ -	$ 8,400	$ 15,600
5	Furnish & Install 36" RCP	50	lf	$ 120	$ 6,000	$ -	$ -	$ 2,000	$ 4,000
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe		lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure		ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box		ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole	9	ea	$ 5,000	$ 45,000	$ -	$ -	$ 22,500	$ 22,500
12	Furnish & Install SD Structure		ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	1	ea	$ 15,000	$ 15,000	$ -	$ -	$ 7,500	$ 7,500
14	Construct Detention Pond	1.20	AF	$ 40,000	$ 48,000	$ -	$ -	$ 24,000	$ 24,000
15	Remove & Replace Curb & Gutter		lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch		sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	18,000	sf	$ 2	$ 36,000	$ -	$ -	$ 18,000	$ 18,000
18	Imported Fill Material		cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	0.40	Ac	$ 120,000	$ 48,000	$ -	$ -	$ 24,000	$ 24,000
20	Mobilization	1	ls	$ 28,000	$ 28,000	$ -	$ -	$ 14,000	$ 14,000
21	Traffic Control	1	ls	$ 14,000	$ 14,000	$ -	$ -	$ 7,000	$ 7,000
				Subtotal	$ 369,600	$ -	$ -	$ 156,500	$ 213,100
				15% Engineering & Construction Management	55,440	-	-	23,480	31,960
				10% Contingency	36,960	-	-	15,650	21,310
				TOTAL	**$ 462,000**	**$ -**	**$ -**	**$ 195,630**	**$ 266,370**

Notes:

The depth of the detention pond is assumed to be an average of 3'. Therefore, the surface area of this pond is 0.40 Ac.

Project # **5** **Regional Pond #4 & Piping**

Description: Construction of a Local Detention Pond and associated piping when development occurs. The pipe in Old Fort Road needs to be upsized for development upstream to the east.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP		lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	550	lf	$ 80	$ 44,000	$ -	$ -	$ 16,500	$ 27,500
4	Furnish & Install 30" RCP	340	lf	$ 100	$ 34,000	$ -	$ -	$ -	$ 34,000
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	50	lf	$ 160	$ 8,000	$ -	$ -	$ -	$ 8,000
7	Remove Existing Pipe		lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure		ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box		ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole	6	ea	$ 5,000	$ 30,000	$ -	$ -	$ -	$ 30,000
12	Furnish & Install SD Structure		ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	1	ea	$ 15,000	$ 15,000	$ -	$ -	$ -	$ 15,000
14	Construct Detention Pond	1.36	AF	$ 40,000	$ 54,400	$ -	$ -	$ -	$ 54,400
15	Remove & Replace Curb & Gutter		lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch		sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	20,000	sf	$ 2	$ 40,000	$ -	$ -	$ -	$ 40,000
18	Imported Fill Material		cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	0.45	Ac	$ 120,000	$ 54,400	$ -	$ -	$ -	$ 54,400
20	Mobilization	1	ls	$ 23,000	$ 23,000	$ -	$ -	$ -	$ 23,000
21	Traffic Control	1	ls	$ 12,000	$ 12,000	$ -	$ -	$ -	$ 12,000
				Subtotal	$ 314,800	$ -	$ -	$ 16,500	$ 298,300
				15% Engineering & Construction Management	47,220	-	-	2,480	44,740
				10% Contingency	31,480	-	-	1,650	29,830
				TOTAL	**$ 393,500**	**$ -**	**$ -**	**$ 20,630**	**$ 372,870**

Notes:

The depth of the detention pond is assumed to be an average of 3'. Therefore, the surface area of this pond is 0.45 Ac.

Project # **6** **Regional Pond #5 & Piping**

Description: Construction of a Local Detention Pond and associated piping when development occurs.
The pipe in Old Fort Road needs to be upsized for development upstream to the east.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP	550	lf	$ 65	$ 35,750	$ -	$ -	$ -	$ 35,750
3	Furnish & Install 24" RCP	580	lf	$ 80	$ 46,400	$ -	$ -	$ 5,400	$ 41,000
4	Furnish & Install 30" RCP		lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	50	lf	$ 160	$ 8,000	$ -	$ -	$ -	$ 8,000
7	Remove Existing Pipe		lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure		ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box		ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole		ea	$ 5,000	$ -	$ -	$ -	$ -	$ -
12	Furnish & Install SD Structure		ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	1	ea	$ 15,000	$ 15,000	$ -	$ -	$ -	$ 15,000
14	Construct Detention Pond	1.37	AF	$ 40,000	$ 54,800	$ -	$ -	$ -	$ 54,800
15	Remove & Replace Curb & Gutter		lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch		sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	20,000	sf	$ 2	$ 40,000	$ -	$ -	$ -	$ 40,000
18	Imported Fill Material		cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	0.46	Ac	$ 120,000	$ 54,800	$ -	$ -	$ -	$ 54,800
20	Mobilization	1	ls	$ 20,000	$ 20,000	$ -	$ -	$ -	$ 20,000
21	Traffic Control	1	ls	$ 10,000	$ 10,000	$ -	$ -	$ -	$ 10,000
				Subtotal	$ 284,750	$ -	$ -	$ 5,400	$ 279,350
				15% Engineering & Construction Management	42,720	-	-	810	41,910
				10% Contingency	28,480	-	-	540	27,940
				TOTAL	**$ 355,950**	**$ -**	**$ -**	**$ 6,750**	**$ 349,200**

Notes:
The depth of the detention pond is assumed to be an average of 3'. Therefore, the surface area of this pond is 0.46 Ac.

Project # **7** **South Weber Drive Outfall Line**

Description: Construction of an outfall line in South Weber Drive to provide a receiving line for drainage from the ground on the south side of the road.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	650	lf	$ 50	$ 32,500	$ -	$ -	$ 32,500	$ -
2	Furnish & Install 18" RCP	3,350	lf	$ 65	$ 217,750	$ -	$ -	$ 217,750	$ -
3	Furnish & Install 24" RCP		lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP		lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe		lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	3	ea	$ 2,500	$ 7,500	$ -	$ -	$ 7,500	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	10	ea	$ 3,000	$ 30,000	$ -	$ -	$ 30,000	$ -
11	Furnish & Install Manhole	17	ea	$ 5,000	$ 85,000	$ -	$ -	$ 85,000	$ -
12	Furnish & Install SD Structure		ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure		ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond		AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	400	lf	$ 45	$ 18,000	$ -	$ -	$ 18,000	$ -
16	Asphalt Patch	32,000	sf	$ 6	$ 192,000	$ -	$ -	$ 192,000	$ -
17	Landscape (sprinkler, sod, top soil)		sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material		cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase		Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1	ls	$ 59,000	$ 59,000	$ -	$ -	$ 59,000	$ -
21	Traffic Control	1	ls	$ 30,000	$ 30,000	$ -	$ -	$ 30,000	$ -
				Subtotal	$ 671,750	$ -	$ -	$ 671,750	$ -
				15% Engineering & Construction Management	100,770	-	-	100,770	-
				10% Contingency	67,180	-	-	67,180	-
				TOTAL	**$ 839,700**	**$ -**	**$ -**	**$ 839,700**	**$ -**

Notes:

Project # **8** **I-84 Detention Pond Upsizing and Piping**

Description: Expansion of the existing Regional Detention Pond to provide sufficient volume when development occurs. Re-route the existing outfall line from the Canyon Vistas Subd. for sufficient cover. Overflow line to route high flows to pond.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP		lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	1,300	lf	$ 80	$ 104,000	$ 104,000	$ -	$ -	$ -
4	Furnish & Install 30" RCP	740	lf	$ 100	$ 74,000	$ -	$ -	$ 8,400	$ 65,600
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe		lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure		ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box		ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole	9	ea	$ 5,000	$ 45,000	$ 45,000	$ -	$ -	$ -
12	Furnish & Install SD Structure	1	ea	$ 8,000	$ 8,000	$ 8,000	$ -	$ -	$ -
13	F&I Outlet Control Structure	2	ea	$ 15,000	$ 30,000	$ 7,500	$ -	$ -	$ 22,500
14	Construct Detention Pond	1.52	AF	$ 40,000	$ 60,800	$ -	$ -	$ -	$ 60,800
15	Remove & Replace Curb & Gutter		lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch	1,920	sf	$ 6	$ 11,520	$ 11,520	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	23,000	sf	$ 2	$ 46,000	$ -	$ -	$ -	$ 46,000
18	Imported Fill Material		cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	0.51	Ac	$ 120,000	$ 60,800	$ -	$ -	$ -	$ 60,800
20	Mobilization	1	ls	$ 38,000	$ 38,000	$ -	$ -	$ -	$ 38,000
21	Traffic Control	1	ls	$ 19,000	$ 19,000	$ -	$ -	$ -	$ 19,000
				Subtotal	$ 497,120	$ 176,020	$ -	$ 8,400	$ 312,700
				15% Engineering & Construction Management	74,570	26,410	-	1,260	46,900
				10% Contingency	49,720	17,610	-	840	31,270
				TOTAL	**$ 621,410**	**$ 220,040**	**$ -**	**$ 10,500**	**$ 390,870**

Notes:

The depth of the detention pond is assumed to be an average of 3'. Therefore, the surface area of this pond is 0.51 Ac.

Project # **9** **7800 South Pond Improvements w/ LID**

Description: Reconstruction of the existing detention pond to become a retention facility with permanent Low Impact Development (LID) improvements.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP	200	lf	$ 65	$ 13,000	$ -	$ 13,000	$ -	$ -
3	Furnish & Install 24" RCP		lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP		lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe		lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	2	ea	$ 2,500	$ 5,000	$ -	$ 5,000	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box		ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole		ea	$ 5,000	$ -	$ -	$ -	$ -	$ -
12	Furnish & Install SD Structure	2	ea	$ 8,000	$ 16,000	$ -	$ 16,000	$ -	$ -
13	F&I Outlet Control Structure		ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct LID Improvements	0.22	Ac	$ 40,000	$ 8,800	$ -	$ 8,800	$ -	$ -
15	Remove & Replace Curb & Gutter		lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch		sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape elements	9,000	sf	$ 2	$ 18,000	$ -	$ 18,000	$ -	$ -
18	Imported filter media	400	cy	$ 25	$ 10,000	$ -	$ 10,000	$ -	$ -
19	Property Purchase		Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1	ls	$ 8,000	$ 8,000	$ -	$ 8,000	$ -	$ -
21	Traffic Control	1	ls	$ 4,000	$ 4,000	$ -	$ 4,000	$ -	$ -
				Subtotal	$ 82,800	$ -	$ 82,800	$ -	$ -
				15% Engineering & Construction Management	12,420	-	12,420	-	-
				10% Contingency	8,280	-	8,280	-	-
				TOTAL	**$ 103,500**	**$ -**	**$ 103,500**	**$ -**	**$ -**

Notes:

Project # **10** **Deer Run Pond Removal**

Description: Eliminate existing detention pond in the backyard of 2088 E. Deer Run Dr. Reconfigure piping and structures. Fill in detention area. Landscape repair.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	100	lf	$ 50	$ 5,000	$ -	$ 5,000	$ -	$ -
2	Furnish & Install 18" RCP		lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP		lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP		lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	100	lf	$ 25	$ 2,500	$ -	$ 2,500	$ -	$ -
8	Remove Existing Structure	2	ea	$ 2,500	$ 5,000	$ -	$ 5,000	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box		ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole	2	ea	$ 5,000	$ 10,000	$ -	$ 10,000	$ -	$ -
12	Furnish & Install SD Structure		ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure		ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond		AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter		lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch		sf	$ 6	$ -	$ -	$ -	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	7,000	sf	$ 2	$ 14,000	$ -	$ 14,000	$ -	$ -
18	Imported Fill Material	500	cy	$ 25	$ 12,500	$ -	$ 12,500	$ -	$ -
19	Property Purchase		Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1	ls	$ 5,000	$ 5,000	$ -	$ 5,000	$ -	$ -
21	Traffic Control	1	ls	$ 3,000	$ 3,000	$ -	$ 3,000	$ -	$ -
				Subtotal	$ 57,000	$ -	$ 57,000	$ -	$ -
				15% Engineering & Construction Management	8,550	-	8,550	-	-
				10% Contingency	5,700	-	5,700	-	-
				TOTAL	**$ 71,250**	**$ -**	**$ 71,250**	**$ -**	**$ -**

Notes:

Project # **11** **2100 East Manhole Structure Replacement**

Description: Reconstruct manhole for better flow and to keep the lid from popping off in storm events.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	1 ea	$ 2,500	$ 2,500	$ -	$ 2,500	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	ea	$ 3,000	$ -	$ -	$ -	$ -	$ -
11	Furnish & Install Manhole	1 ea	$ 5,000	$ 5,000	$ -	$ 5,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	lf	$ 45	$ -	$ -	$ -	$ -	$ -
16	Asphalt Patch	100 sf	$ 6	$ 600	$ -	$ 600	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 1,000	$ 1,000	$ -	$ 1,000	$ -	$ -
21	Traffic Control	1 ls	$ 1,000	$ 1,000	$ -	$ 1,000	$ -	$ -
			Subtotal	$ 10,100	$ -	$ 10,100	$ -	$ -
			15% Engineering & Construction Management	1,520	-	1,520	-	-
			10% Contingency	1,010	-	1,010	-	-
			TOTAL	**$ 12,630**	**$ -**	**$ 12,630**	**$ -**	**$ -**

Notes:

Project # **12** **Deer Run Dr. to 8100 South Piping and Pond Removal**

Description: Replace undersized piping under the D&W Canal between Deer Run Dr. and 8100 South to eliminate ponding in intersection of 2350 East. Also eliminate the existing detention pond in the backyard of 2328 E. and 2318 E. Deer Run Dr.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP		lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP		lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	200	lf	$ 100	$ 20,000	$ 20,000	$ -	$ -	$ -
5	Furnish & Install 36" RCP		lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	600	lf	$ 25	$ 15,000	$ 7,500	$ 7,500	$ -	$ -
8	Remove Existing Structure	9	ea	$ 2,500	$ 22,500	$ 11,250	$ 11,250	$ -	$ -
9	Directional Drill (30")	250	lf	$ 750	$ 187,500	$ 187,500	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	4	ea	$ 3,000	$ 12,000	$ -	$ 12,000	$ -	$ -
11	Furnish & Install Manhole	2	ea	$ 5,000	$ 10,000	$ -	$ 10,000	$ -	$ -
12	Furnish & Install SD Structure		ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure		ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond		AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	210	lf	$ 45	$ 9,450	$ -	$ 9,450	$ -	$ -
16	Asphalt Patch	2,000	sf	$ 6	$ 12,000	$ -	$ 12,000	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	13,000	sf	$ 2	$ 26,000	$ -	$ 26,000	$ -	$ -
18	Imported Fill Material	1,300	cy	$ 25	$ 32,500	$ -	$ 32,500	$ -	$ -
19	Property Purchase		Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1	ls	$ 35,000	$ 35,000	$ 17,500	$ 17,500	$ -	$ -
21	Traffic Control	1	ls	$ 18,000	$ 18,000	$ 9,000	$ 9,000	$ -	$ -
				Subtotal	$ 399,950	$ 252,750	$ 147,200	$ -	$ -
				15% Engineering & Construction Management	60,000	37,920	22,080	-	-
				10% Contingency	40,000	25,280	14,720	-	-
				TOTAL	**$ 499,950**	**$ 315,950**	**$ 184,000**	**$ -**	**$ -**

Notes:

Project # **13** **Peachwood Detention Pond Inlet Piping Upsize**

Description: Replace undersized piping between Deer Run Dr. and the Peachwood Detention Pond to eliminate ponding in intersection of 2475 East.

Item	Description	Units		Unit Price	Total Amount	Cost Breakdown			
						Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP		lf	$ 50	$ -	$ -	$ -	$ -	$ -
2	Furnish & Install 18" RCP		lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP		lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP		lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	330	lf	$ 120	$ 39,600	$ 39,600	$ -	$ -	$ -
6	Furnish & Install 42" RCP		lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	600	lf	$ 25	$ 15,000	$ 7,500	$ 7,500	$ -	$ -
8	Remove Existing Structure	4	ea	$ 2,500	$ 10,000	$ 5,000	$ 5,000	$ -	$ -
9	Directional Drill		lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	2	ea	$ 3,000	$ 6,000	$ -	$ 6,000	$ -	$ -
11	Furnish & Install Manhole	3	ea	$ 5,000	$ 15,000	$ -	$ 15,000	$ -	$ -
12	Furnish & Install SD Structure	2	ea	$ 8,000	$ 16,000	$ -	$ 16,000	$ -	$ -
13	F&I Outlet Control Structure		ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond		AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	60	lf	$ 45	$ 2,700	$ -	$ 2,700	$ -	$ -
16	Asphalt Patch	1,000	sf	$ 6	$ 6,000	$ -	$ 6,000	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	6,000	sf	$ 2	$ 12,000	$ -	$ 12,000	$ -	$ -
18	Imported Fill Material		cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase		Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1	ls	$ 13,000	$ 13,000	$ 6,500	$ 6,500	$ -	$ -
21	Traffic Control	1	ls	$ 7,000	$ 7,000	$ 3,500	$ 3,500	$ -	$ -
				Subtotal	$ 142,300	$ 62,100	$ 80,200	$ -	$ -
				15% Engineering & Construction Management	21,350	9,320	12,030	-	-
				10% Contingency	14,230	6,210	8,020	-	-
				TOTAL	**$ 177,880**	**$ 77,630**	**$ 100,250**	**$ -**	**$ -**

Notes:

Project # **14** **Canyon Drive Improvements - #1**

Description: Reconstruct curb and gutter, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,000 lf	$ 50	$ 50,000	$ -	$ 50,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	4 ea	$ 3,000	$ 12,000	$ -	$ 12,000	$ -	$ -
11	Furnish & Install Manhole	3 ea	$ 5,000	$ 15,000	$ -	$ 15,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	2,800 lf	$ 45	$ 126,000	$ -	$ 126,000	$ -	$ -
16	Asphalt Patch	22,800 sf	$ 6	$ 136,800	$ -	$ 136,800	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 34,000	$ 34,000	$ -	$ 34,000	$ -	$ -
21	Traffic Control	1 ls	$ 17,000	$ 17,000	$ -	$ 17,000	$ -	$ -
			Subtotal	$ 390,800	$ -	$ 390,800	$ -	$ -
			15% Engineering & Construction Management	58,620	-	58,620	-	-
			10% Contingency	39,080	-	39,080	-	-
			TOTAL	**$ 488,500**	**$ -**	**$ 488,500**	**$ -**	**$ -**

Notes:

Project # **15** **Canyon Drive Improvements - #2**

Description: Reconstruct curb and gutter, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	750 lf	$ 50	$ 37,500	$ -	$ 37,500	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	9 ea	$ 3,000	$ 27,000	$ -	$ 27,000	$ -	$ -
11	Furnish & Install Manhole	3 ea	$ 5,000	$ 15,000	$ -	$ 15,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	1,200 lf	$ 45	$ 54,000	$ -	$ 54,000	$ -	$ -
16	Asphalt Patch	11,700 sf	$ 6	$ 70,200	$ -	$ 70,200	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 21,000	$ 21,000	$ -	$ 21,000	$ -	$ -
21	Traffic Control	1 ls	$ 11,000	$ 11,000	$ -	$ 11,000	$ -	$ -
			Subtotal	$ 235,700	$ -	$ 235,700	$ -	$ -
			15% Engineering & Construction Management	35,360	-	35,360	-	-
			10% Contingency	23,570	-	23,570	-	-
			TOTAL	**$ 294,630**	**$ -**	**$ 294,630**	**$ -**	**$ -**

Notes:

Project # **16** **Canyon Drive Improvements - #3**

Description: Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	300 lf	$ 50	$ 15,000	$ -	$ 15,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Install Inlet Box	4 ea	$ 3,000	$ 12,000	$ -	$ 12,000	$ -	$ -
11	Furnish & Install Manhole	2 ea	$ 5,000	$ 10,000	$ -	$ 10,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	1,500 lf	$ 45	$ 67,500	$ -	$ 67,500	$ -	$ -
16	Asphalt Patch	10,800 sf	$ 6	$ 64,800	$ -	$ 64,800	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 17,000	$ 17,000	$ -	$ 17,000	$ -	$ -
21	Traffic Control	1 ls	$ 9,000	$ 9,000	$ -	$ 9,000	$ -	$ -
			Subtotal	$ 195,300	$ -	$ 195,300	$ -	$ -
			15% Engineering & Construction Management	29,300	-	29,300	-	-
			10% Contingency	19,530	-	19,530	-	-
			TOTAL	**$ 244,130**	**$ -**	**$ 244,130**	**$ -**	**$ -**

Notes:

Project # **17** **7775 South / 1800 East Improvements**

Description: Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,700 lf	$ 50	$ 85,000	$ -	$ 85,000	$ -	$ -
2	Furnish & Install 18" RCP	540 lf	$ 65	$ 35,100	$ -	$ 35,100	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	2 ea	$ 2,500	$ 5,000	$ -	$ 5,000	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	13 ea	$ 3,000	$ 39,000	$ -	$ 39,000	$ -	$ -
11	Furnish & Install Manhole	8 ea	$ 5,000	$ 40,000	$ -	$ 40,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	3,000 lf	$ 45	$ 135,000	$ -	$ 135,000	$ -	$ -
16	Asphalt Patch	31,440 sf	$ 6	$ 188,640	$ -	$ 188,640	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 53,000	$ 53,000	$ -	$ 53,000	$ -	$ -
21	Traffic Control	1 ls	$ 27,000	$ 27,000	$ -	$ 27,000	$ -	$ -
			Subtotal	$ 607,740	$ -	$ 607,740	$ -	$ -
			15% Engineering & Construction Management	91,170	-	91,170	-	-
			10% Contingency	60,780	-	60,780	-	-
			TOTAL	**$ 759,690**	**$ -**	**$ 759,690**	**$ -**	**$ -**

Notes:

Project # **18** **1850 East / 7840 South Improvements**

Description: Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	120 lf	$ 50	$ 6,000	$ -	$ 6,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	2 ea	$ 2,500	$ 5,000	$ -	$ 5,000	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	4 ea	$ 3,000	$ 12,000	$ -	$ 12,000	$ -	$ -
11	Furnish & Install Manhole	ea	$ 5,000	$ -	$ -	$ -	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	350 lf	$ 45	$ 15,750	$ -	$ 15,750	$ -	$ -
16	Asphalt Patch	2,820 sf	$ 6	$ 16,920	$ -	$ 16,920	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 6,000	$ 6,000	$ -	$ 6,000	$ -	$ -
21	Traffic Control	1 ls	$ 3,000	$ 3,000	$ -	$ 3,000	$ -	$ -
			Subtotal	$ 64,670	$ -	$ 64,670	$ -	$ -
			15% Engineering & Construction Management	9,710	-	9,710	-	-
			10% Contingency	6,470	-	6,470	-	-
			TOTAL	**$ 80,850**	**$ -**	**$ 80,850**	**$ -**	**$ -**

Notes:

Project # **19** **2100 East / 7875 South / 2250 East Improvements**

Description: Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,950 lf	$ 50	$ 97,500	$ -	$ 97,500	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	9 ea	$ 3,000	$ 27,000	$ -	$ 27,000	$ -	$ -
11	Furnish & Install Manhole	7 ea	$ 5,000	$ 35,000	$ -	$ 35,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	900 lf	$ 45	$ 40,500	$ -	$ 40,500	$ -	$ -
16	Asphalt Patch	17,100 sf	$ 6	$ 102,600	$ -	$ 102,600	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 31,000	$ 31,000	$ -	$ 31,000	$ -	$ -
21	Traffic Control	1 ls	$ 16,000	$ 16,000	$ -	$ 16,000	$ -	$ -
			Subtotal	$ 349,600	$ -	$ 349,600	$ -	$ -
			15% Engineering & Construction Management	52,440	-	52,440	-	-
			10% Contingency	34,960	-	34,960	-	-
			TOTAL	**$ 437,000**	**$ -**	**$ 437,000**	**$ -**	**$ -**

Notes:

Project # **20** **View Drive / Peachwood Drive Improvements**

Description: Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,800 lf	$ 50	$ 90,000	$ -	$ 90,000	$ -	$ -
2	Furnish & Install 18" RCP	340 lf	$ 65	$ 22,100	$ -	$ 22,100	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	17 ea	$ 3,000	$ 51,000	$ -	$ 51,000	$ -	$ -
11	Furnish & Install Manhole	8 ea	$ 5,000	$ 40,000	$ -	$ 40,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	1,300 lf	$ 45	$ 58,500	$ -	$ 58,500	$ -	$ -
16	Asphalt Patch	20,640 sf	$ 6	$ 123,840	$ -	$ 123,840	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 39,000	$ 39,000	$ -	$ 39,000	$ -	$ -
21	Traffic Control	1 ls	$ 20,000	$ 20,000	$ -	$ 20,000	$ -	$ -
			Subtotal	$ 444,440	$ -	$ 444,440	$ -	$ -
			15% Engineering & Construction Management	66,670	-	66,670	-	-
			10% Contingency	44,450	-	44,450	-	-
			TOTAL	**$ 555,560**	**$ -**	**$ 555,560**	**$ -**	**$ -**

Notes:

Project # **21** **Cedar Bench Drive Improvements**

Description: Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	320 lf	$ 50	$ 16,000	$ -	$ 16,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	3 ea	$ 3,000	$ 9,000	$ -	$ 9,000	$ -	$ -
11	Furnish & Install Manhole	2 ea	$ 5,000	$ 10,000	$ -	$ 10,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	450 lf	$ 45	$ 20,250	$ -	$ 20,250	$ -	$ -
16	Asphalt Patch	4,620 sf	$ 6	$ 27,720	$ -	$ 27,720	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 9,000	$ 9,000	$ -	$ 9,000	$ -	$ -
21	Traffic Control	1 ls	$ 5,000	$ 5,000	$ -	$ 5,000	$ -	$ -
			Subtotal	$ 96,970	$ -	$ 96,970	$ -	$ -
			15% Engineering & Construction Management	14,550	-	14,550	-	-
			10% Contingency	9,700	-	9,700	-	-
			TOTAL	**$ 121,220**	**$ -**	**$ 121,220**	**$ -**	**$ -**

Notes:

Project # **22** **8100 South Improvements**

Description: Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure.

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	140 lf	$ 50	$ 7,000	$ -	$ 7,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	1 ea	$ 2,500	$ 2,500	$ -	$ 2,500	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	2 ea	$ 3,000	$ 6,000	$ -	$ 6,000	$ -	$ -
11	Furnish & Install Manhole	1 ea	$ 5,000	$ 5,000	$ -	$ 5,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	220 lf	$ 45	$ 9,900	$ -	$ 9,900	$ -	$ -
16	Asphalt Patch	2,160 sf	$ 6	$ 12,960	$ -	$ 12,960	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 5,000	$ 5,000	$ -	$ 5,000	$ -	$ -
21	Traffic Control	1 ls	$ 3,000	$ 3,000	$ -	$ 3,000	$ -	$ -
			Subtotal	$ 51,360	$ -	$ 51,360	$ -	$ -
			15% Engineering & Construction Management	7,710	-	7,710	-	-
			10% Contingency	5,140	-	5,140	-	-
			TOTAL	**$ 64,210**	**$ -**	**$ 64,210**	**$ -**	**$ -**

Notes:

Project # **23** **Deer Run Drive Improvements - #1**

Description: Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure. (2100 East to Deer Run Way)

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,500 lf	$ 50	$ 75,000	$ -	$ 75,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	ea	$ 2,500	$ -	$ -	$ -	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	11 ea	$ 3,000	$ 33,000	$ -	$ 33,000	$ -	$ -
11	Furnish & Install Manhole	7 ea	$ 5,000	$ 35,000	$ -	$ 35,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	1,000 lf	$ 45	$ 45,000	$ -	$ 45,000	$ -	$ -
16	Asphalt Patch	15,000 sf	$ 6	$ 90,000	$ -	$ 90,000	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 28,000	$ 28,000	$ -	$ 28,000	$ -	$ -
21	Traffic Control	1 ls	$ 14,000	$ 14,000	$ -	$ 14,000	$ -	$ -
			Subtotal	$ 320,000	$ -	$ 320,000	$ -	$ -
			15% Engineering & Construction Management	48,000	-	48,000	-	-
			10% Contingency	32,000	-	32,000	-	-
			TOTAL	**$ 400,000**	**$ -**	**$ 400,000**	**$ -**	**$ -**

Notes:

Project # **24** **Deer Run Drive Improvements - #2**

Description: Reconstruct curb and gutter, remove waterway, and install piping to eliminate ponding in road and deterioration of street pavement structure. (2380 East)

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	320 lf	$ 50	$ 16,000	$ -	$ 16,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	lf	$ 25	$ -	$ -	$ -	$ -	$ -
8	Remove Existing Structure	1 ea	$ 2,500	$ 2,500	$ -	$ 2,500	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	2 ea	$ 3,000	$ 6,000	$ -	$ 6,000	$ -	$ -
11	Furnish & Install Manhole	1 ea	$ 5,000	$ 5,000	$ -	$ 5,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	220 lf	$ 45	$ 9,900	$ -	$ 9,900	$ -	$ -
16	Asphalt Patch	3,240 sf	$ 6	$ 19,440	$ -	$ 19,440	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 6,000	$ 6,000	$ -	$ 6,000	$ -	$ -
21	Traffic Control	1 ls	$ 3,000	$ 3,000	$ -	$ 3,000	$ -	$ -
			Subtotal	$ 67,840	$ -	$ 67,840	$ -	$ -
			15% Engineering & Construction Management	10,180	-	10,180	-	-
			10% Contingency	6,790	-	6,790	-	-
			TOTAL	**$ 84,810**	**$ -**	**$ 84,810**	**$ -**	**$ -**

Notes:

Project # **25** **Deer Run Drive Improvements - #3**

Description: Reconstruct curb and gutter, remove waterways, and install piping to eliminate ponding in road and deterioration of street pavement structure. (2500 East to 2625 East.)

Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Furnish & Install 15" RCP	1,000 lf	$ 50	$ 50,000	$ -	$ 50,000	$ -	$ -
2	Furnish & Install 18" RCP	lf	$ 65	$ -	$ -	$ -	$ -	$ -
3	Furnish & Install 24" RCP	lf	$ 80	$ -	$ -	$ -	$ -	$ -
4	Furnish & Install 30" RCP	lf	$ 100	$ -	$ -	$ -	$ -	$ -
5	Furnish & Install 36" RCP	lf	$ 120	$ -	$ -	$ -	$ -	$ -
6	Furnish & Install 42" RCP	lf	$ 160	$ -	$ -	$ -	$ -	$ -
7	Remove Existing Pipe	20 lf	$ 25	$ 500	$ -	$ 500	$ -	$ -
8	Remove Existing Structure	2 ea	$ 2,500	$ 5,000	$ -	$ 5,000	$ -	$ -
9	Directional Drill	lf	$ 750	$ -	$ -	$ -	$ -	$ -
10	Furnish & Instal Inlet Box	11 ea	$ 3,000	$ 33,000	$ -	$ 33,000	$ -	$ -
11	Furnish & Install Manhole	6 ea	$ 5,000	$ 30,000	$ -	$ 30,000	$ -	$ -
12	Furnish & Install SD Structure	ea	$ 8,000	$ -	$ -	$ -	$ -	$ -
13	F&I Outlet Control Structure	ea	$ 15,000	$ -	$ -	$ -	$ -	$ -
14	Construct Detention Pond	AF	$ 40,000	$ -	$ -	$ -	$ -	$ -
15	Remove & Replace Curb & Gutter	1,200 lf	$ 45	$ 54,000	$ -	$ 54,000	$ -	$ -
16	Asphalt Patch	13,200 sf	$ 6	$ 79,200	$ -	$ 79,200	$ -	$ -
17	Landscape (sprinkler, sod, top soil)	sf	$ 2	$ -	$ -	$ -	$ -	$ -
18	Imported Fill Material	cy	$ 25	$ -	$ -	$ -	$ -	$ -
19	Property Purchase	Ac	$ 120,000	$ -	$ -	$ -	$ -	$ -
20	Mobilization	1 ls	$ 26,000	$ 26,000	$ -	$ 26,000	$ -	$ -
21	Traffic Control	1 ls	$ 13,000	$ 13,000	$ -	$ 13,000	$ -	$ -
			Subtotal	$ 290,700	$ -	$ 290,700	$ -	$ -
			15% Engineering & Construction Management	43,610	-	43,610	-	-
			10% Contingency	29,070	-	29,070	-	-
			TOTAL	**$ 363,380**	**$ -**	**$ 363,380**	**$ -**	**$ -**

Notes:

Project # **26** **Public Works Site and Facility (Storm Drain Portion)**

Description: Construction of a new Public Works Site and Facility attributable to Storm Drain Facilities.

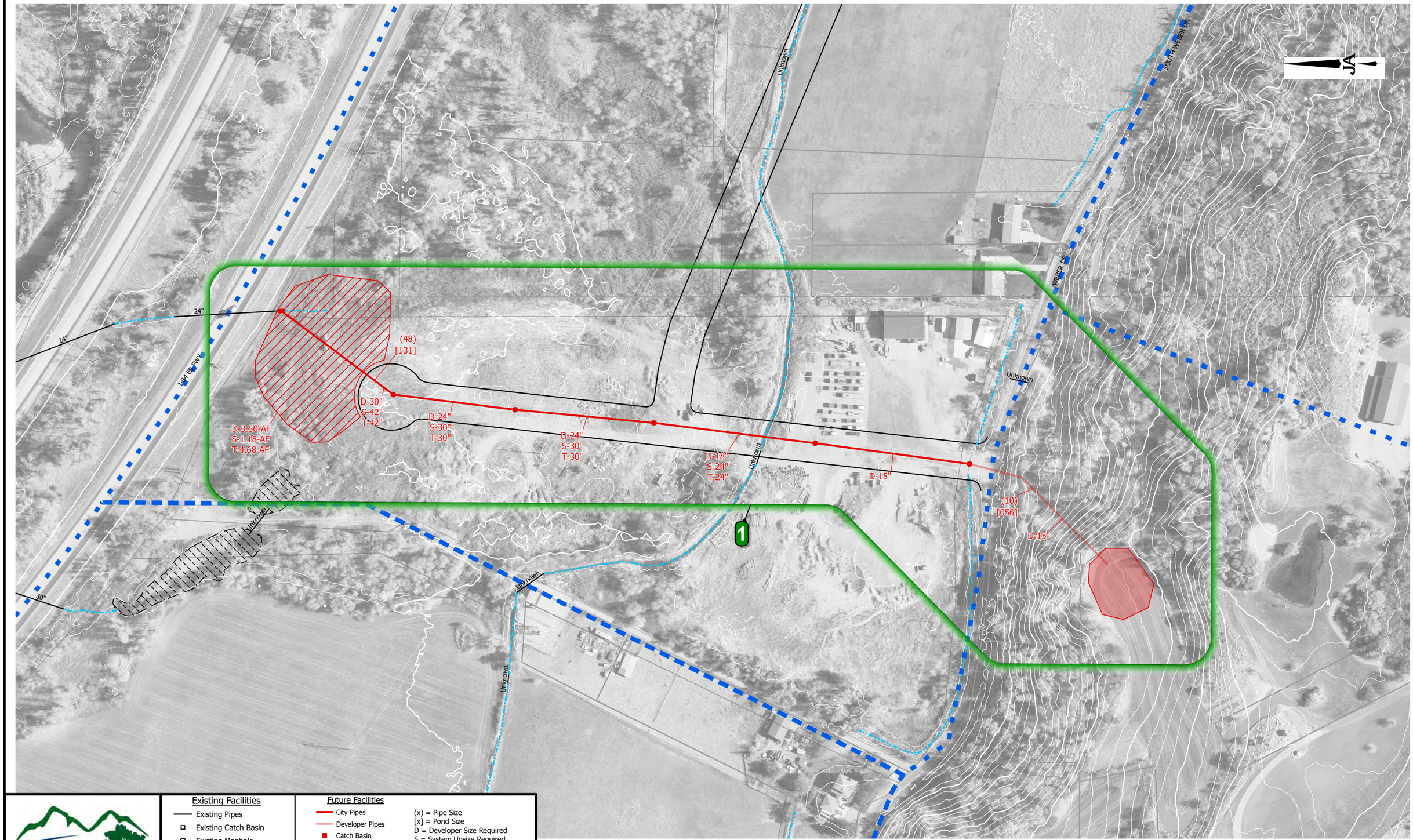
Item	Description	Units	Unit Price	Total Amount	Cost Breakdown			
					Deficiency	Maintenance	Impact Fee Eligible	Developer Cost
1	Property Purchase	11.926 Ac	$ 50,000	$ 596,300				
2	Site Work	6.0 Ac	$ 150,000	$ 900,000				
3	Utilities - Water	1 ls	$ 80,000	$ 80,000				
4	Utilities - Sewer	1 ls	$ 100,000	$ 100,000				
5	Utilities - Storm Drain & Canal	1 ls	$ 400,000	$ 400,000				
6	Utilities - Irrigation	1 ls	$ 50,000	$ 50,000				
7	Utilities - Power & Lighting	1 ls	$ 150,000	$ 150,000				
8	Utilities - Gas	1 ls	$ 30,000	$ 30,000				
9	Utilities - Communication	1 ls	$ 40,000	$ 40,000				
10	Utilities - Generator	1 ls	$ 100,000	$ 100,000				
11	Main Building (250' x 80')	20,000 sf	$ 120	$ 2,400,000				
12	Storage Shed (120' x 50')	6,000 sf	$ 60	$ 360,000				
13	General Conditions (15%)	1 ls	$ 781,000	$ 781,000				
			Subtotal	$ 5,987,300				
		15% Engineering & Construction Management		$ 898,100				
			10% Contingency	$ 598,730				
			TOTAL	$ 7,484,130				
	Streets		20%	$ 1,496,830				
	Water		20%	$ 1,496,830				
	Sewer		20%	$ 1,496,830				
	Storm Drain		20%	$ 1,496,830	$ -	$ 987,910	$ 508,920	$ -
	Parks		15%	$ 1,122,610				
	Inspections		2%	$ 149,680				
	Sanitation		2%	$ 149,680				
	Recreation		1%	$ 74,840				
		TOTAL	**100%**	**$ 7,484,130**	**$ -**	**$ 987,910**	**$ 508,920**	**$ -**

Notes:

The amount attributable to existing deficiency and maintenance matches the current storm drain ERU's of 2,829. The amount attributable to future demand (impact fee eligible) matches the future ERU's of 1,446; giving a total of 4,275 ERU's at Built-out. The proportional share of each is therefore 66% to existing and 34% to future.

Appendix E

P.1 – P.25 Individual Project Exhibits



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:2,000
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JA JONES & ASSOCIATES

CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 1: REGIONAL POND #1 & PIPING

EXHIBIT

P.1

SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,200
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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South Ogden, Utah 84403 (801) 476-9767

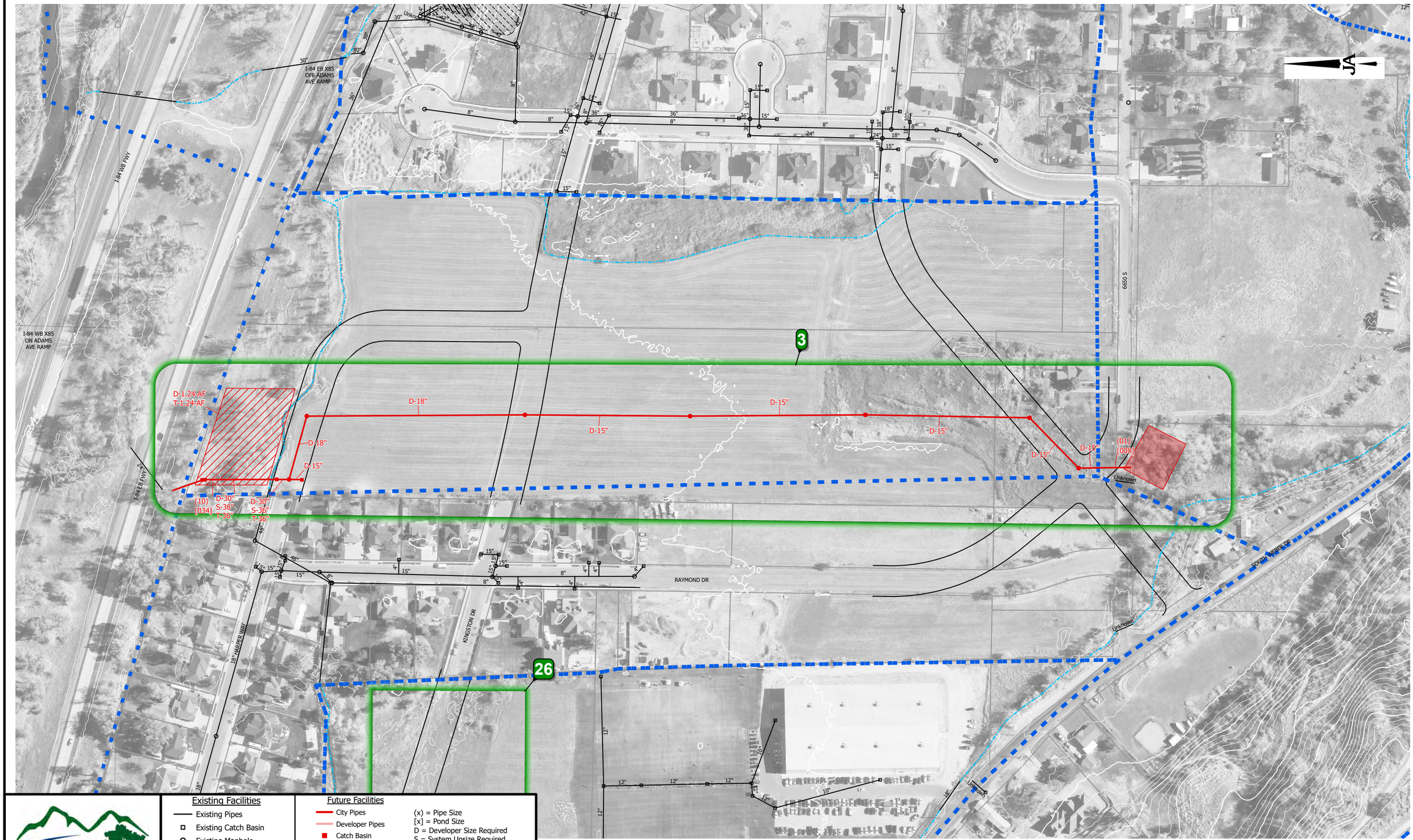
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 2: HEATHER COVE POND UPSIZING & PIPING

EXHIBIT

P.2



Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:2,400
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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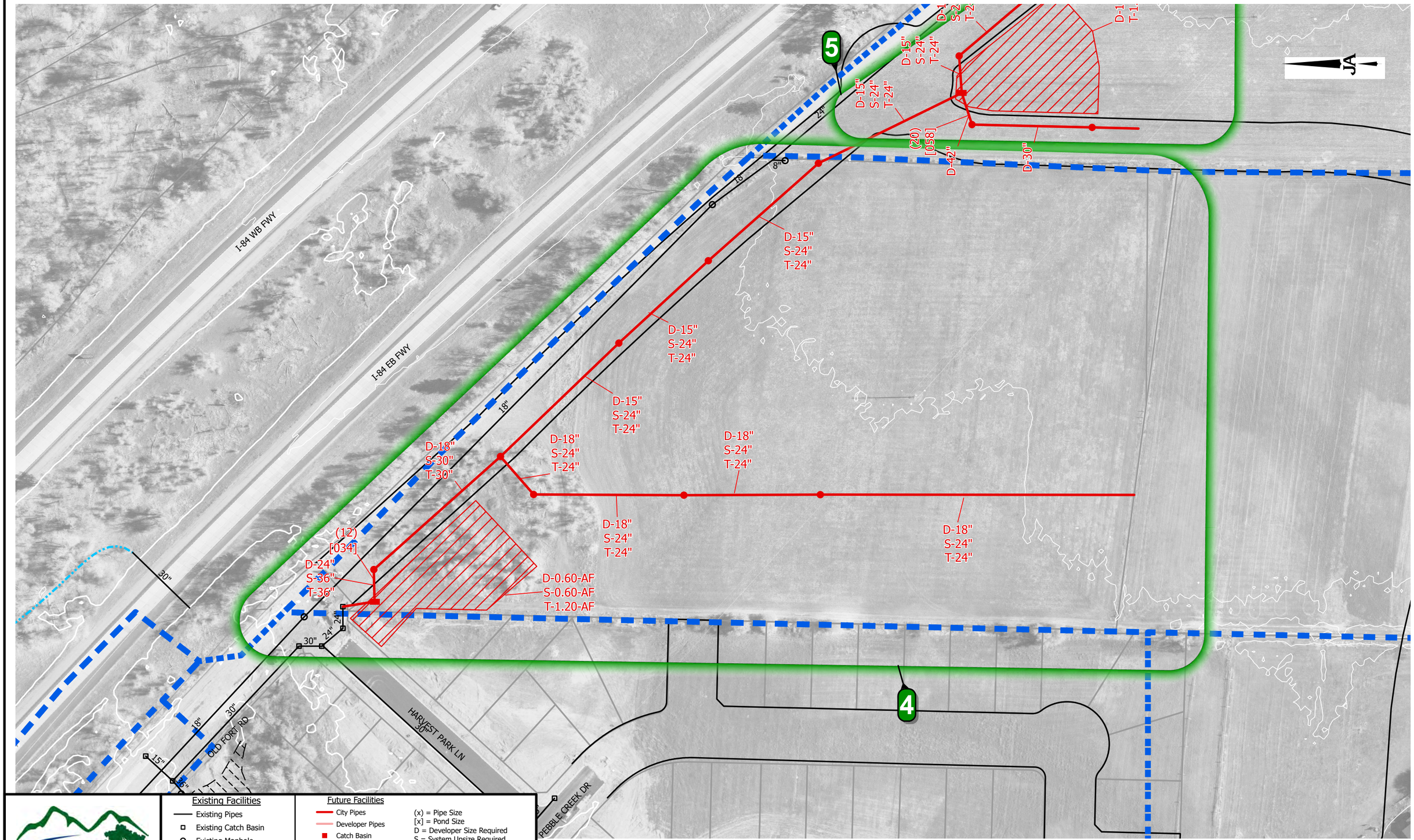
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 3: REGIONAL POND #2 & PIPING

EXHIBIT

P.3



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,500
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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CONSULTING ENGINEERS
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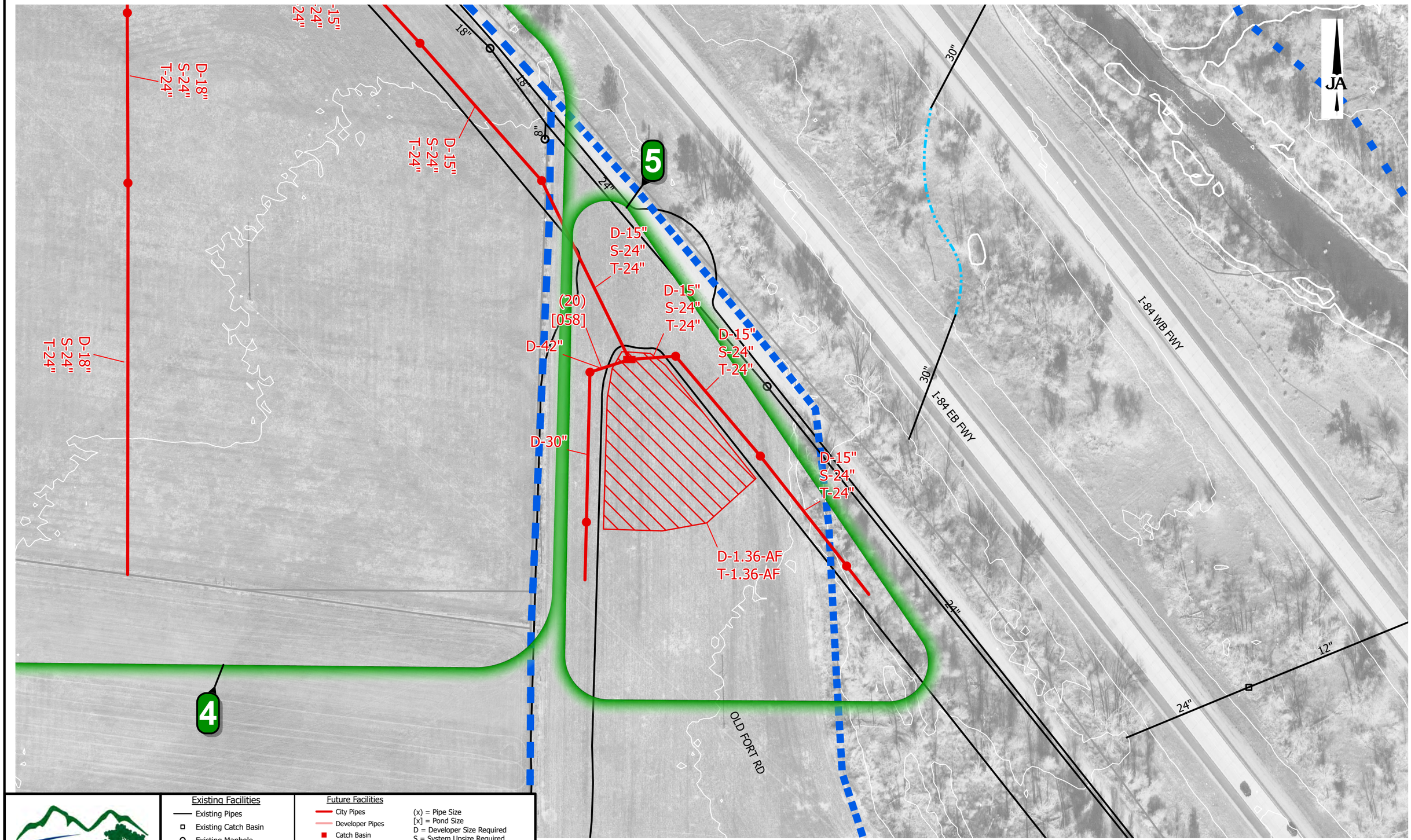
South Ogden, Utah 84403 (801) 476-9767

SOUTH WEBER CITY
STORM DRAIN CAPITAL FACILITIES PLAN
PROJECT 4: REGIONAL POND #3 & PIPING

EXHIBIT
P.4



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,200
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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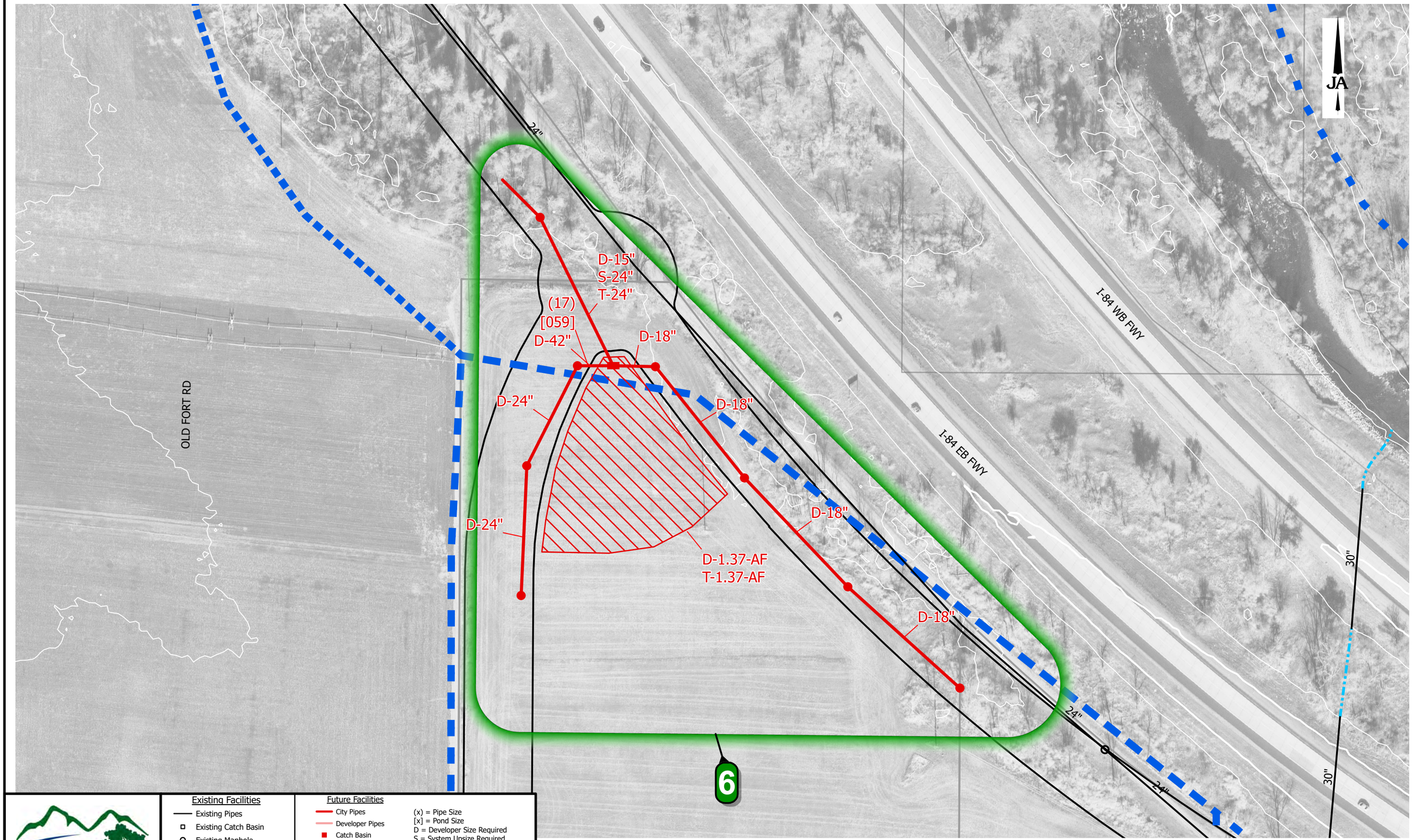
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 5: REGIONAL POND #4 & PIPING

EXHIBIT

P.5



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
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S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,200
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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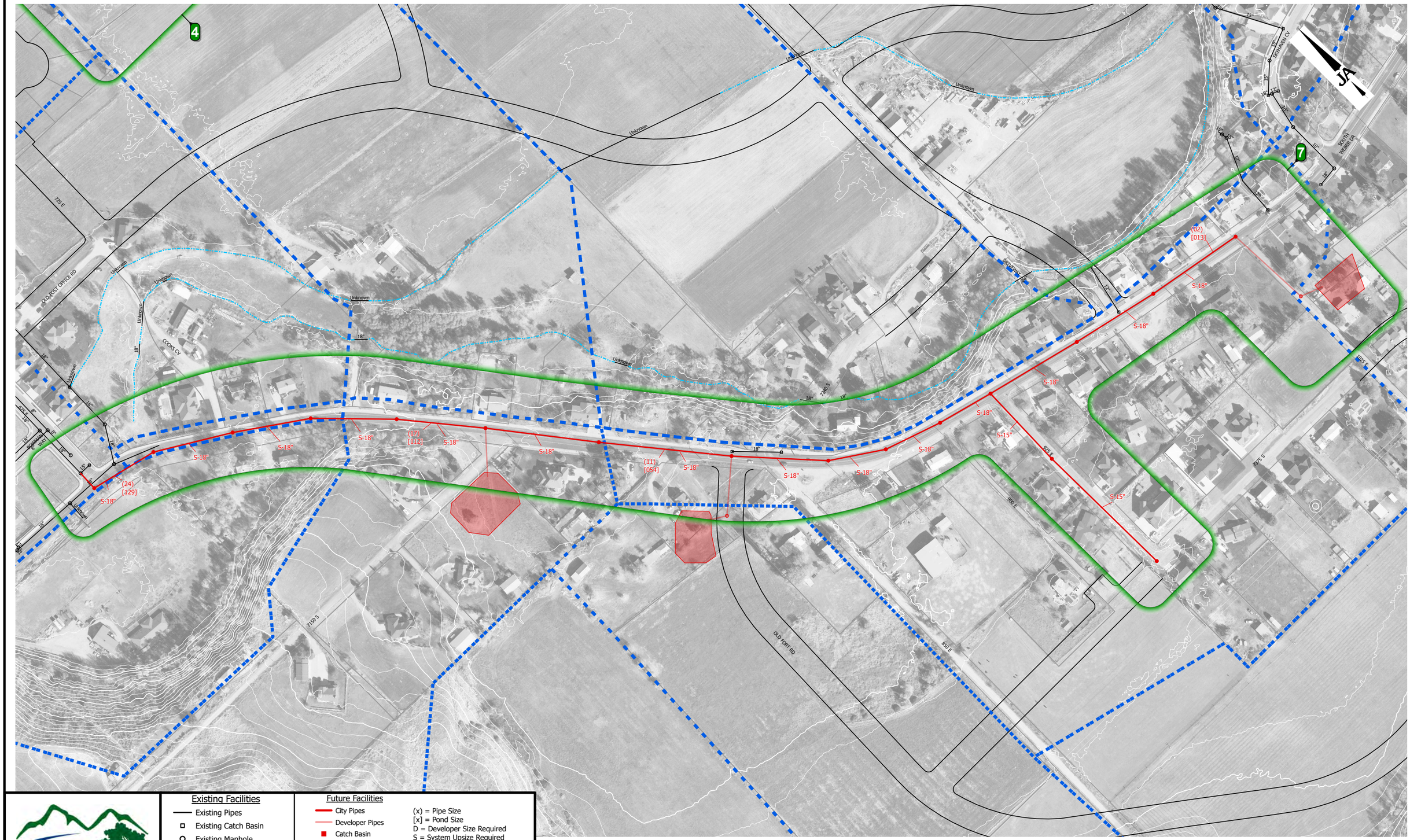
SOUTH WEBER CITY
STORM DRAIN CAPITAL FACILITIES PLAN
PROJECT 6: REGIONAL POND #5 & PIPING

EXHIBIT
P.6



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

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ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:2,800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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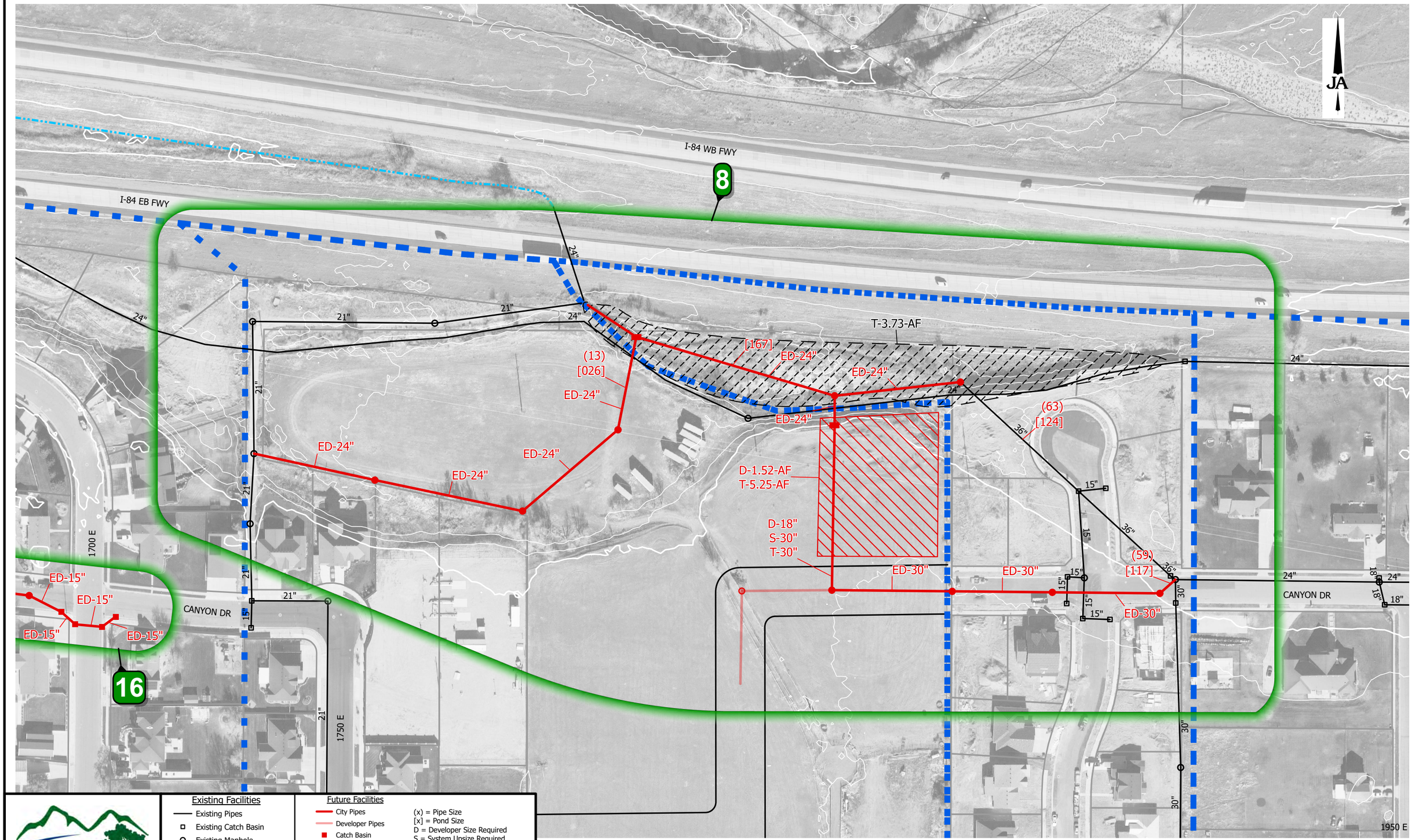
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 7: SOUTH WEBER DRIVE OUTFALL LINE

EXHIBIT

P.7



Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
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Future Facilities

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- Developer Manhole
- Developer Basin
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x.xx-AF = Pond Size

SCALE:
1:1,500
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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SOUTH WEBER CITY
STORM DRAIN CAPITAL FACILITIES PLAN
PROJECT 8: I-84 DETENTION POND UPSIZING AND PIPING

EXHIBIT
P.8

7775 S

9

12"

12"

2050 E

15"

LID IMPROVEMENTS

12"

7800 S

12"

CEDAR LOOP D

18"

15"

15"

15"

15"

15"

7775 S

15"

15"

15"

2100 E

15"

19

15"

12"

15"

15"

15"

JA

SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
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Future Facilities

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- Developer Manhole
- Developer Basin
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T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 9: 7800 SOUTH POND IMPROVEMENTS W/ LID

EXHIBIT

P.9

Basin Removal, Existing Structures Replacement, Fill In, Landscape Repair

ED-15"

ED-15"

DEER RUN DR

CEDAR BENCH DR

CEDAR BENCH DR

2100 E

8100 S

10

21

23

JA

SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
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- Existing Detention Basin
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- Developer Basin
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ED = Existing Deficiency
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x.xx-AF = Pond Size

SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 10: DEER RUN POND REMOVAL

EXHIBIT

P.10

11

REMOVE AND
REPLACE MANHOLE
STRUCTURE

24"
24"
2100 E
24"
15"
15"
24"
24"
24"
18"
18"
18"
18"
24"
VIEW DR
24"
18"
18"
24"
18"
2175 E
7700 S
2050 E

JA

SOUTH WEBER city

Existing Facilities
- Existing Pipes
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SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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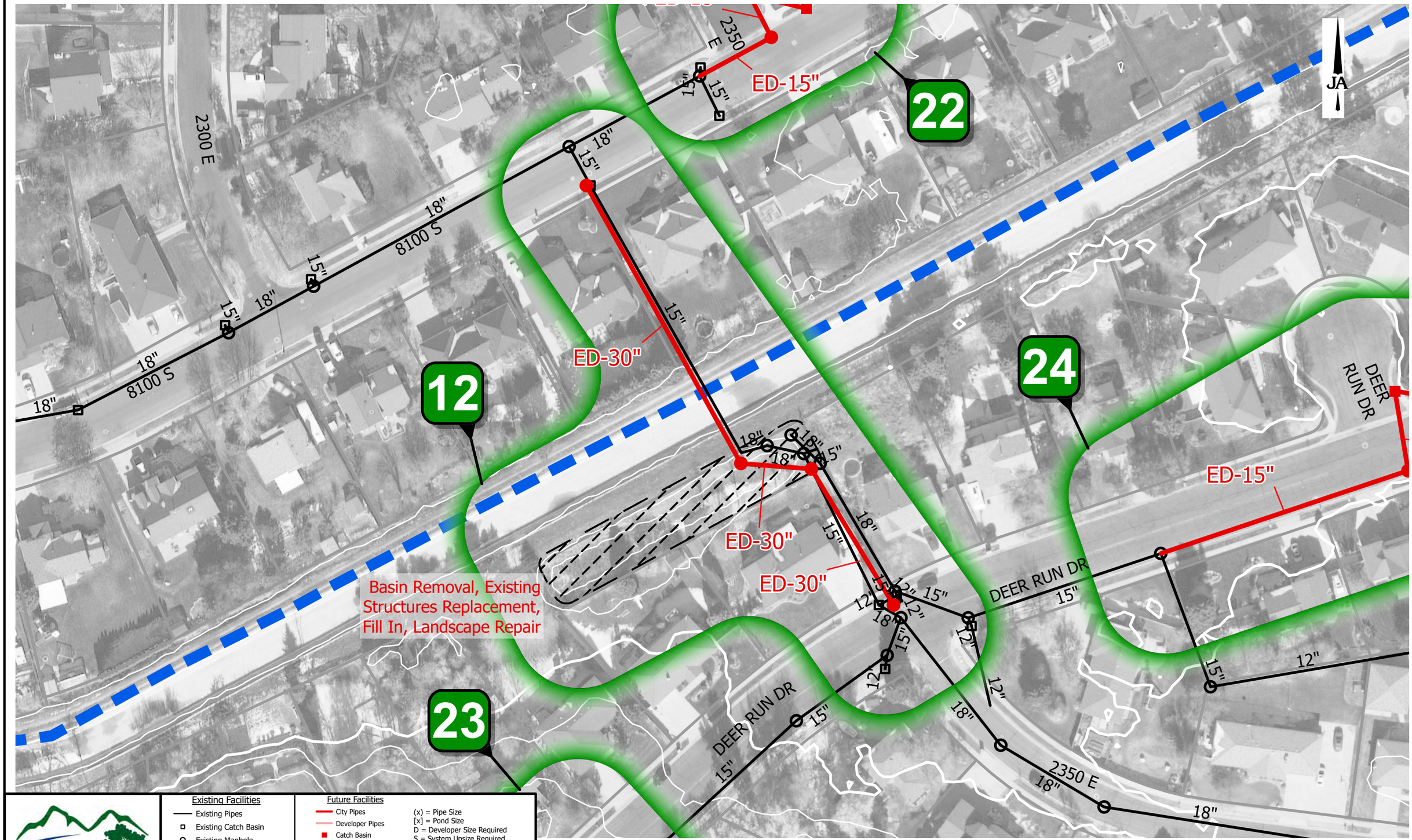
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 11: MANHOLE STRUCTURE REPLACEMENT

EXHIBIT

P.11



SOUTH WEBER city

Existing Facilities
- Existing Pipes
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- Developer Basin
- City Basin
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x" = Pipe Size
x.xx-AF = Pond Size

SCALE: 1:800
Contour Interval: 5'

MM/DD/YYYY: 5/14/2021

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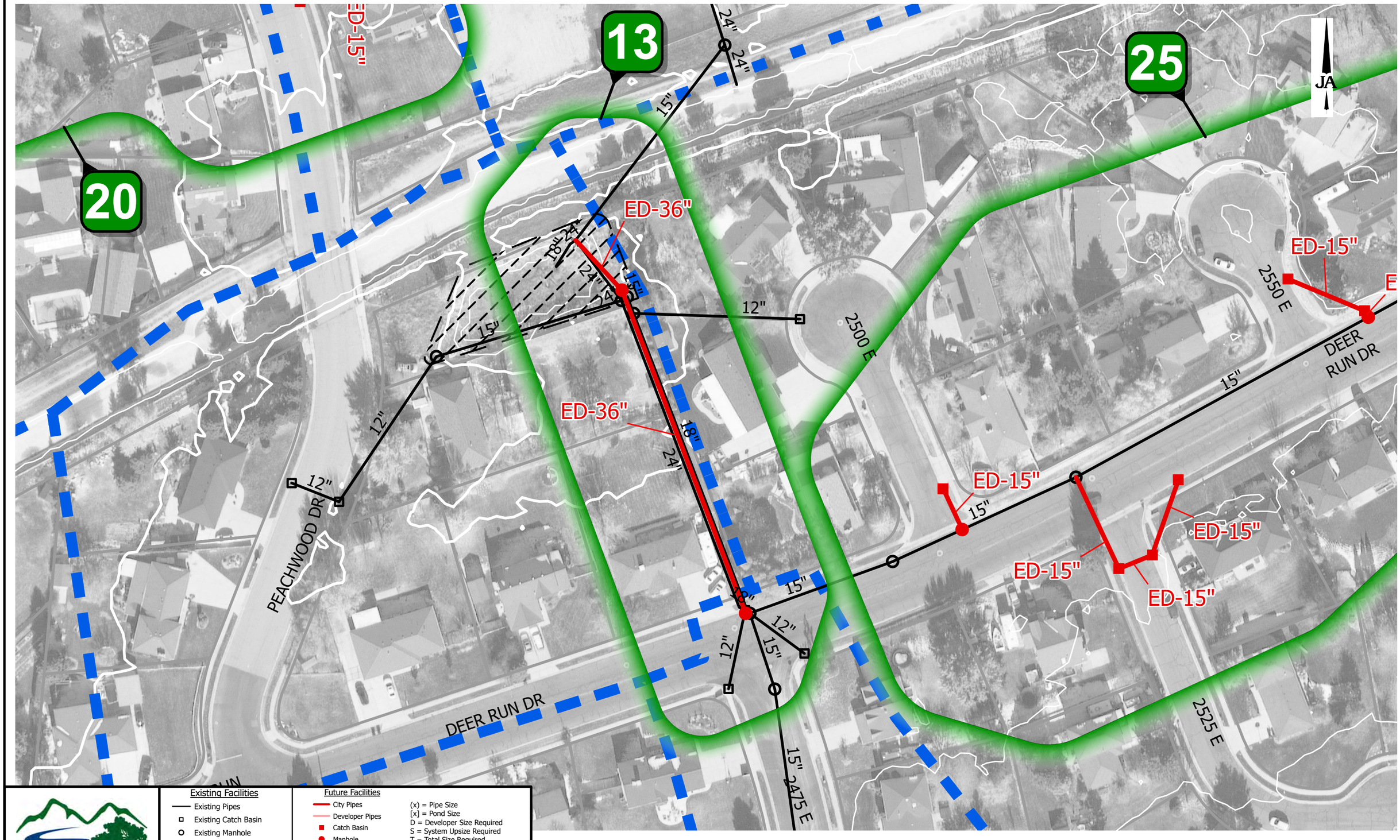
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 12: DEER RUN DR TO 8100 S PIPING

EXHIBIT

P.12



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

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- City Basin
- Future Project

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T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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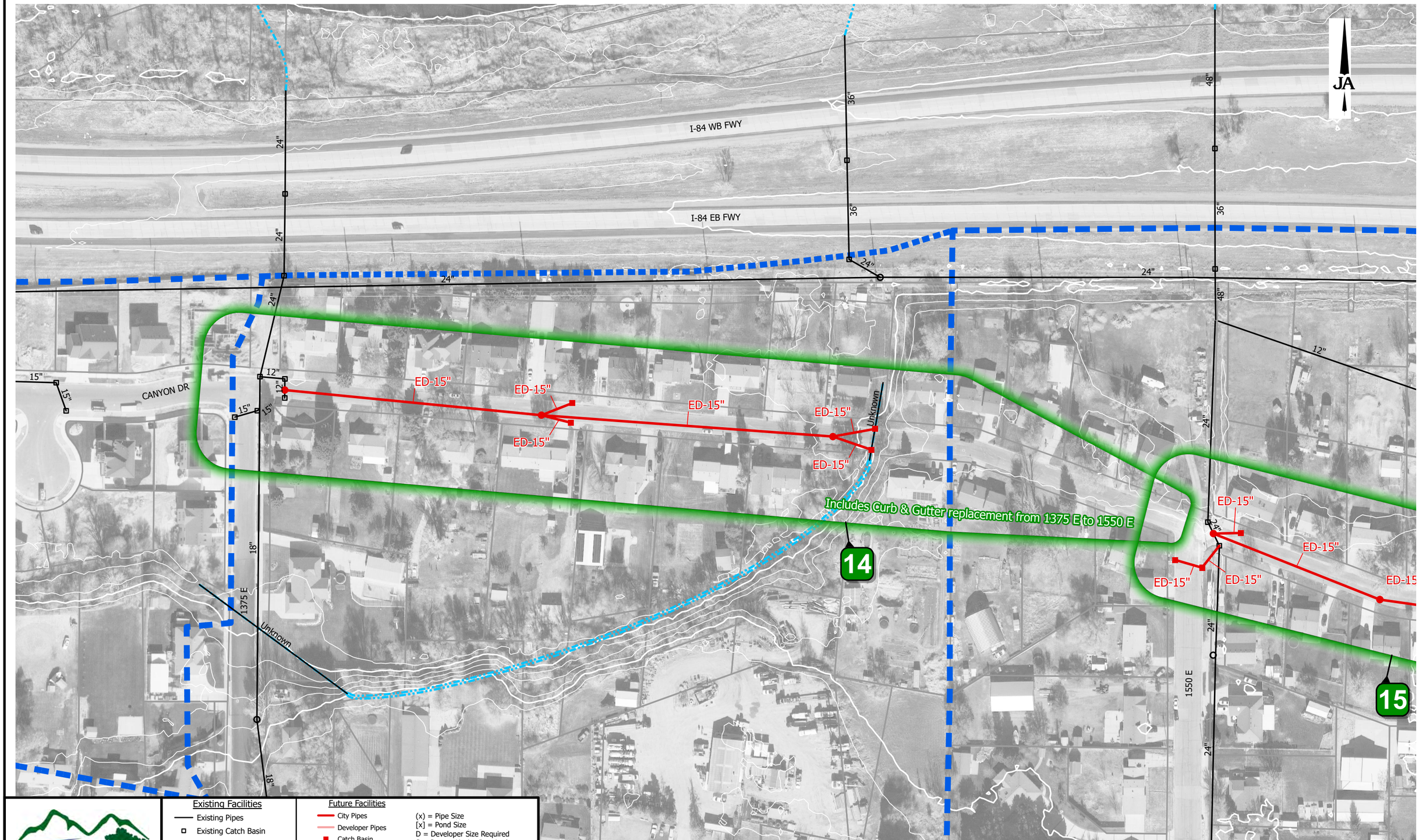
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 13: PEACHWOOD DRIVE PIPE UPSIZING

EXHIBIT

P.13



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

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- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

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S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,500
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 14: CANYON DRIVE IMPROVEMENTS - #1

EXHIBIT

P.14

14

15

16

12"

12"

24"

24"

24"

24"

1600 E

1550 E

ED-15"

ED-15"

ED-15"

ED-15"

ED-15"

ED-15"

ED-15"

ED-15"

ED-15"

CANYON DR

Includes Curb & Gutter replacement from 1550 E to 1600 E

JA

SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JONES & ASSOCIATES

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South Ogden, Utah 84403 (801) 476-9767

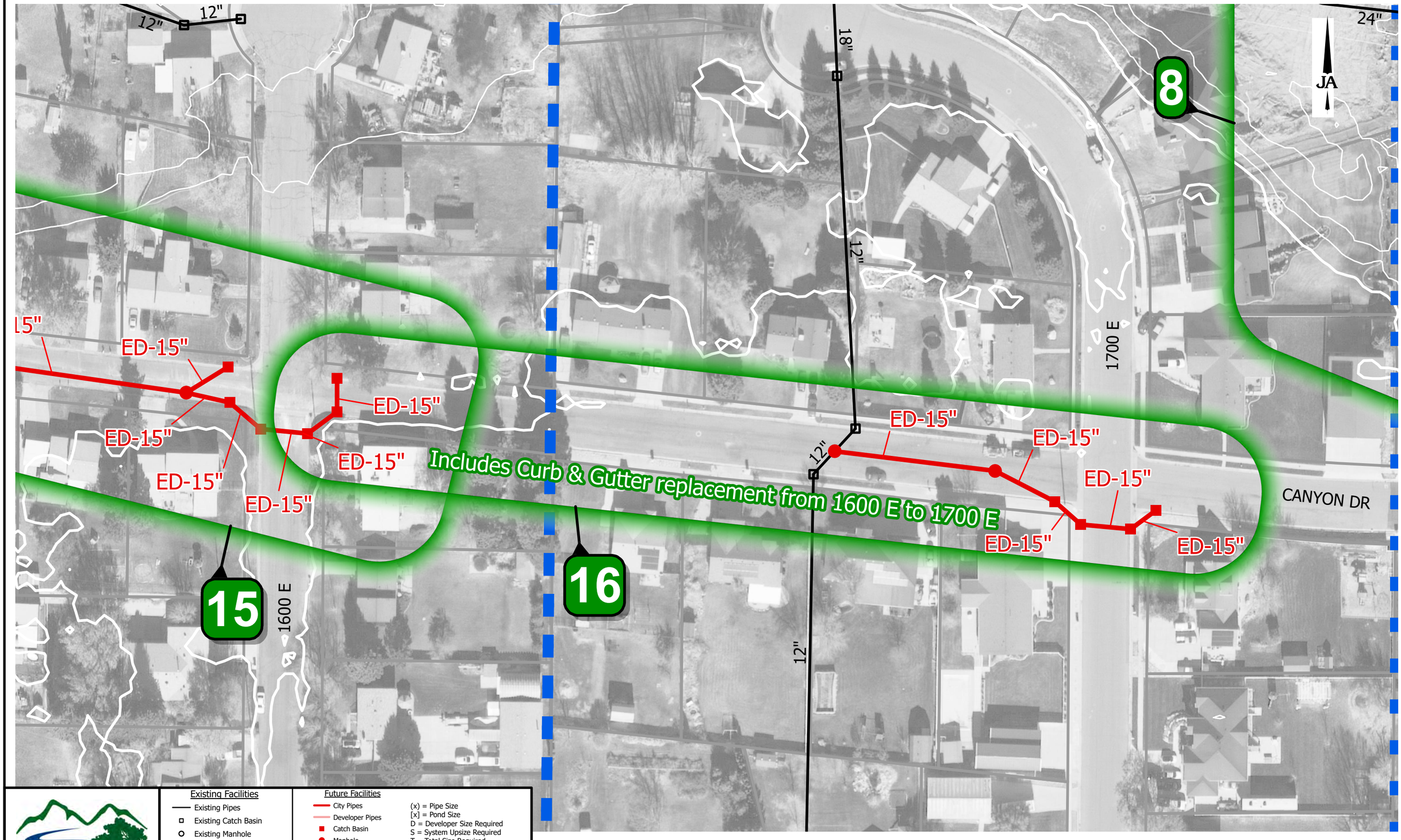
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 15: CANYON DRIVE IMPROVEMENTS - #2

EXHIBIT

P.15



SOUTH WEBER city

Existing Facilities
- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
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Future Facilities
- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE: 1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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South Ogden, Utah 84403 (801) 476-9767

SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 16: CANYON DRIVE IMPROVEMENTS - #3

EXHIBIT

P.16

Includes Curb & Gutter replacement on 7775 S from 1750 E to 1900 E

17

18

7600 S
7700 S
7775 S
7840 S
7880 S
1650 E
1750 E
1800 E
1850 E
1900 E
CEDAR LOOP DR

ED-18"
ED-15"

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,500
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JONES & ASSOCIATES
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South Ogden, Utah 84403 (801) 476-9767

SOUTH WEBER CITY
STORM DRAIN CAPITAL FACILITIES PLAN
PROJECT 17: 7775 S / 1800 E IMPROVEMENTS

EXHIBIT
P.17

18

7840 S

1850 E

1900 E

CEDAR LOOP DR

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

18"

15"

ED-15"

JA

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
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Future Facilities

- City Pipes
- Developer Pipes
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- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

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[x] = Pond Size
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S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:600
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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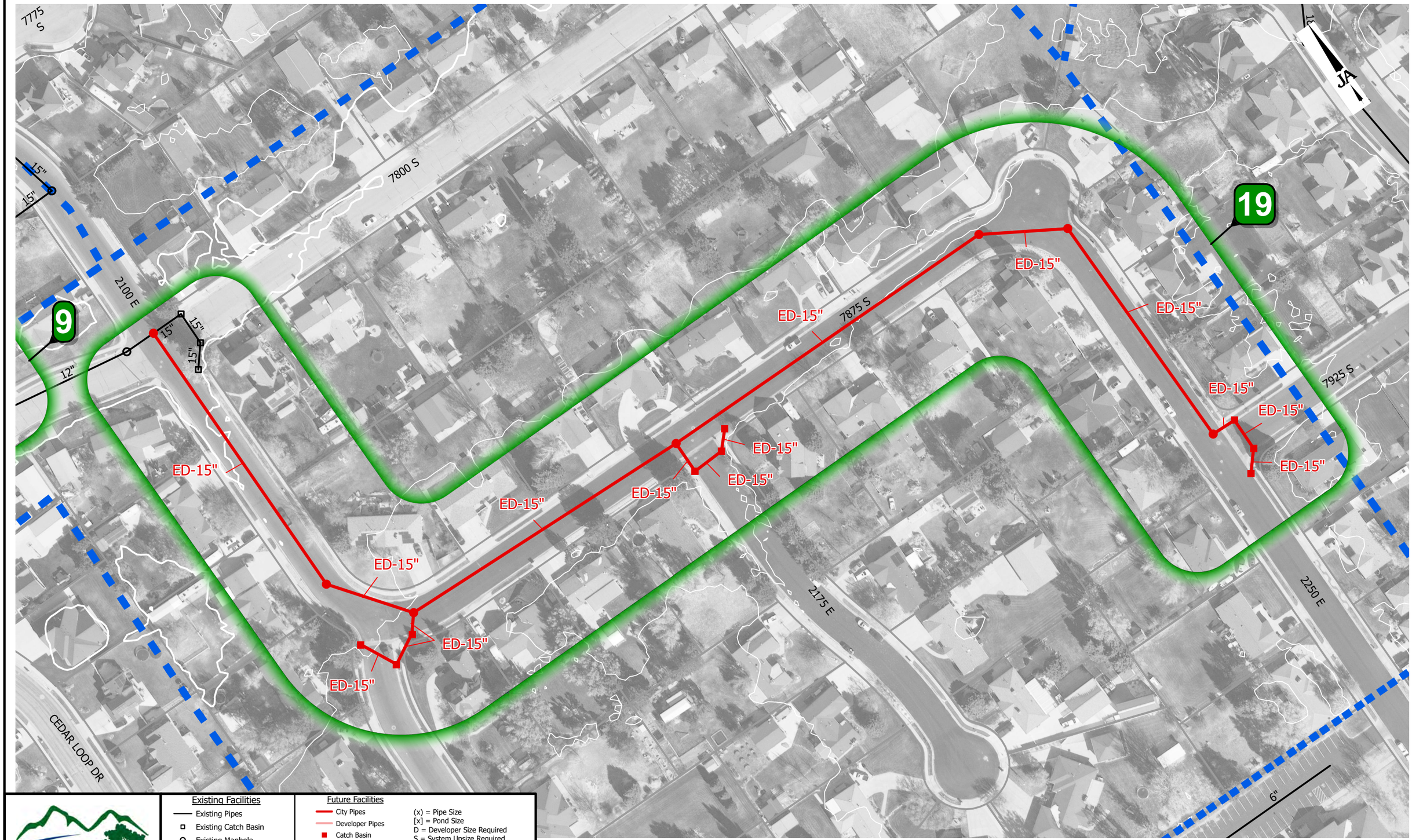
SOUTH WEBER CITY
STORM DRAIN CAPITAL FACILITIES PLAN
PROJECT 18: 1850 E IMPROVEMENTS

EXHIBIT
P.18



SOUTH WEBER city

Existing Facilities
- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities
- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
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T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,200
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 19: 2100 E / 7875 S / 2250 E IMPROVEMENTS

EXHIBIT

P.19

20

13

7800 S

CEDAR GLEN CIR

2450 E

PEACHWOOD WAY

PEACHWOOD DR

VIEW DR

7875 S

7925 S

7975 S

8100 S

24" 24" 15" 18" 18" 18" 18" 18" 18" 24" 24" 15" 12"

18" 18" 15" 18" 18" 24"

ED-18"

ED-18"

ED-36"

ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15" ED-15"

SOUTH WEBER city

Existing Facilities

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- Existing Manhole
- Existing Detention Basin
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T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,200
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JA JONES & ASSOCIATES

CONSULTING ENGINEERS

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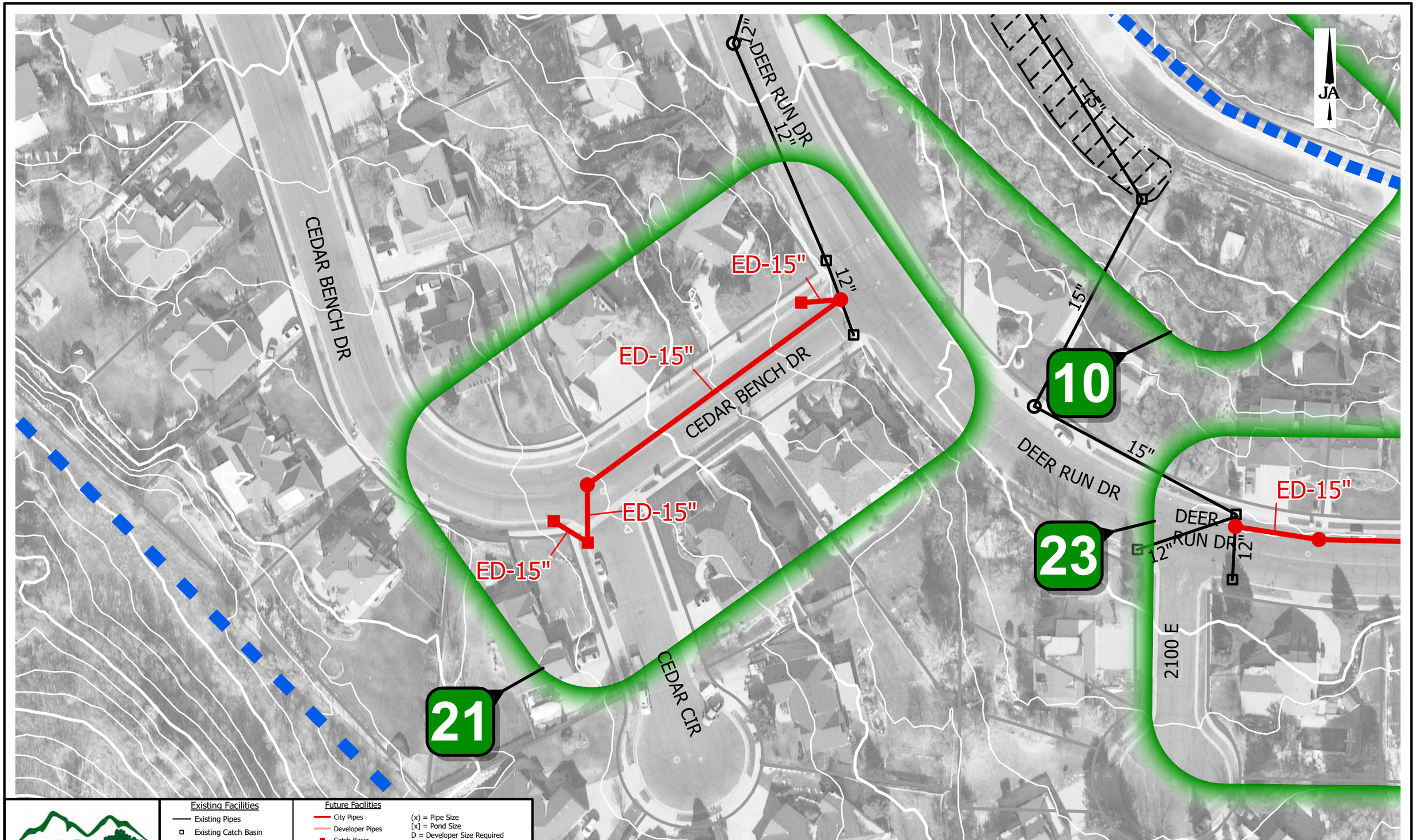
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 20: VIEW DR / PEACHWOOD DR IMPROVEMENTS

EXHIBIT

P.20



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
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- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

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Future Facilities

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- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
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- Future Project

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S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:720
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

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CONSULTING ENGINEERS
6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

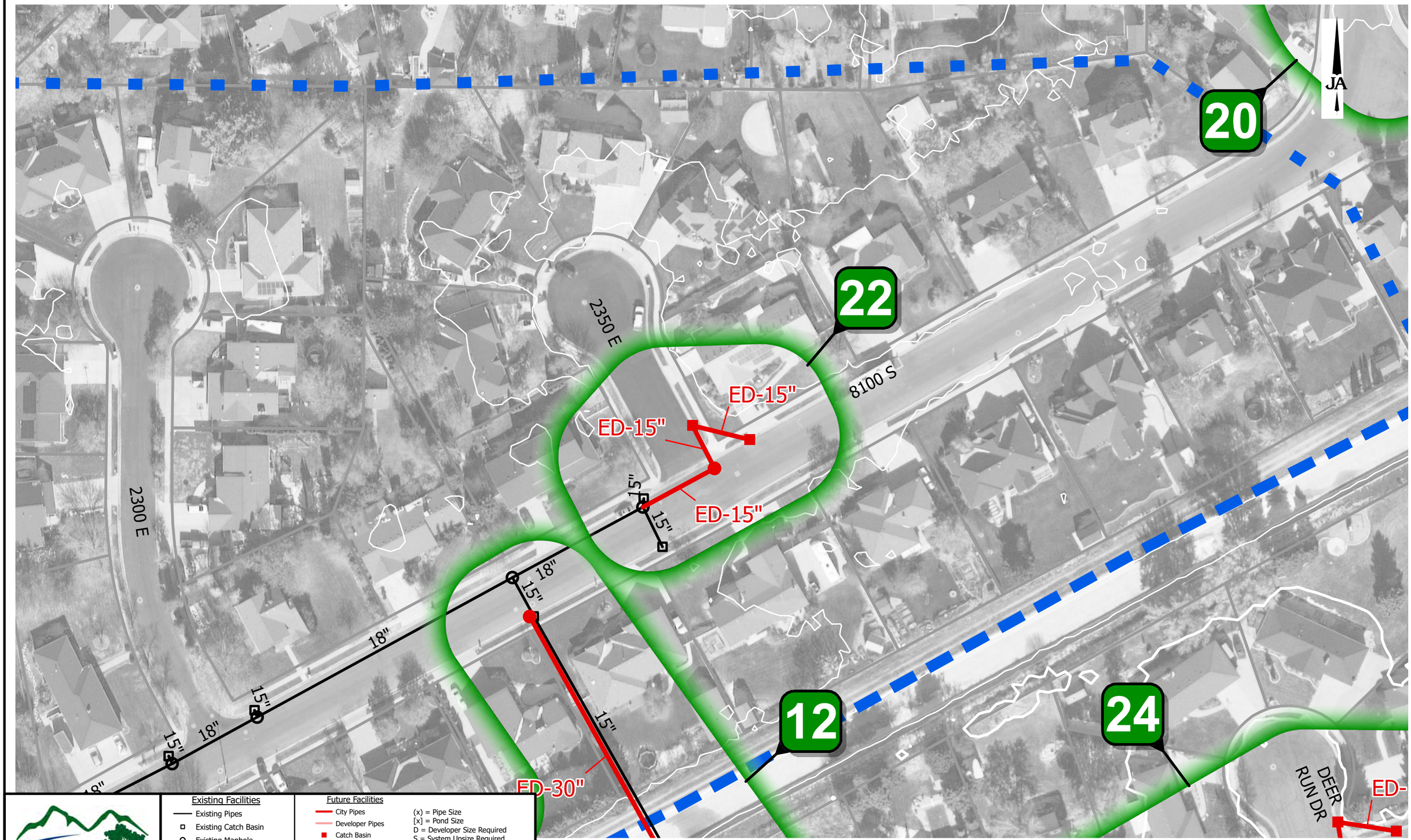
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 21: CEDAR BENCH DR IMPROVEMENTS

EXHIBIT

P.21



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
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T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JA JONES & ASSOCIATES

CONSULTING ENGINEERS

6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

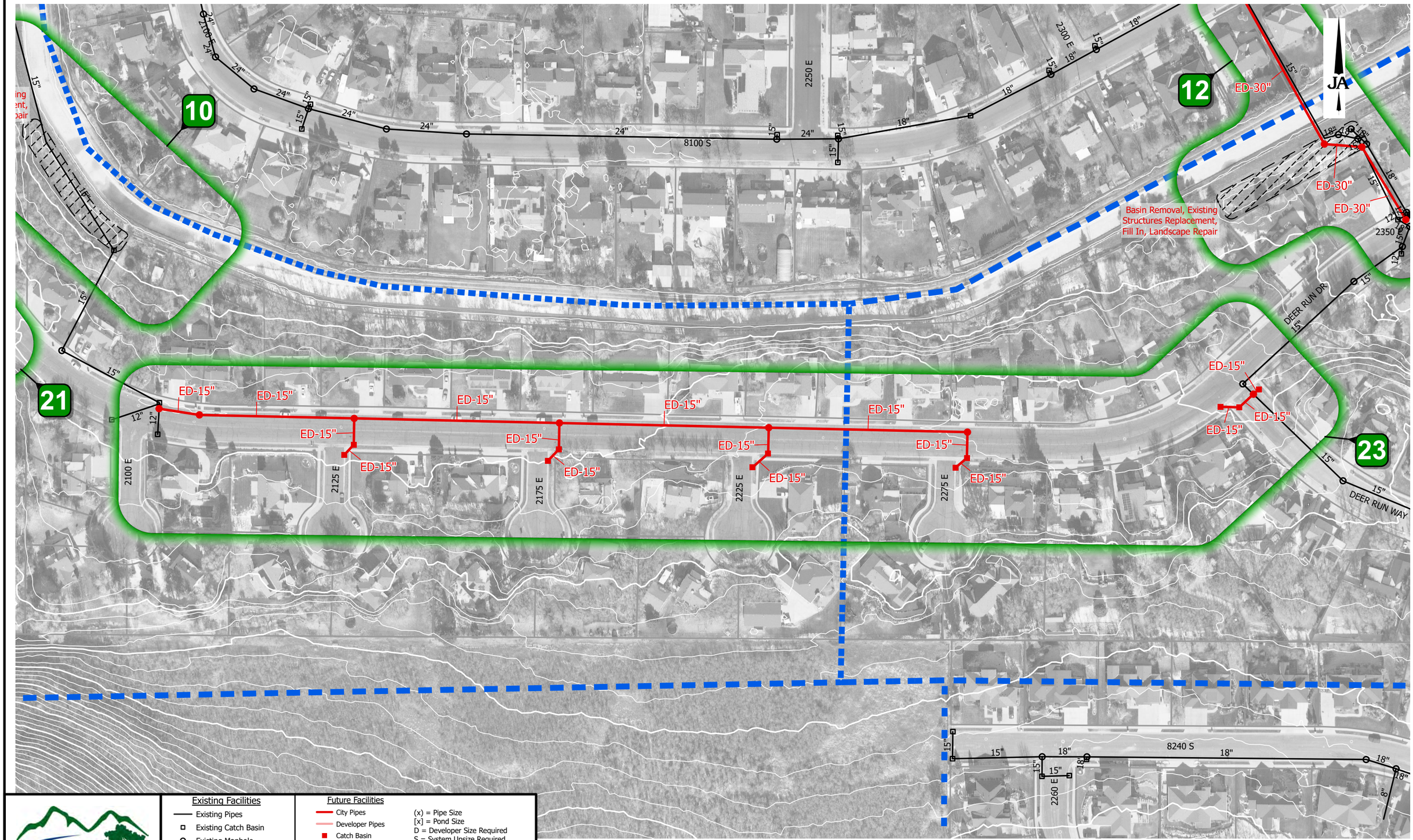
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 22: 8100 S IMPROVEMENTS

EXHIBIT

P.22



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,500
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JONES & ASSOCIATES

CONSULTING ENGINEERS

6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

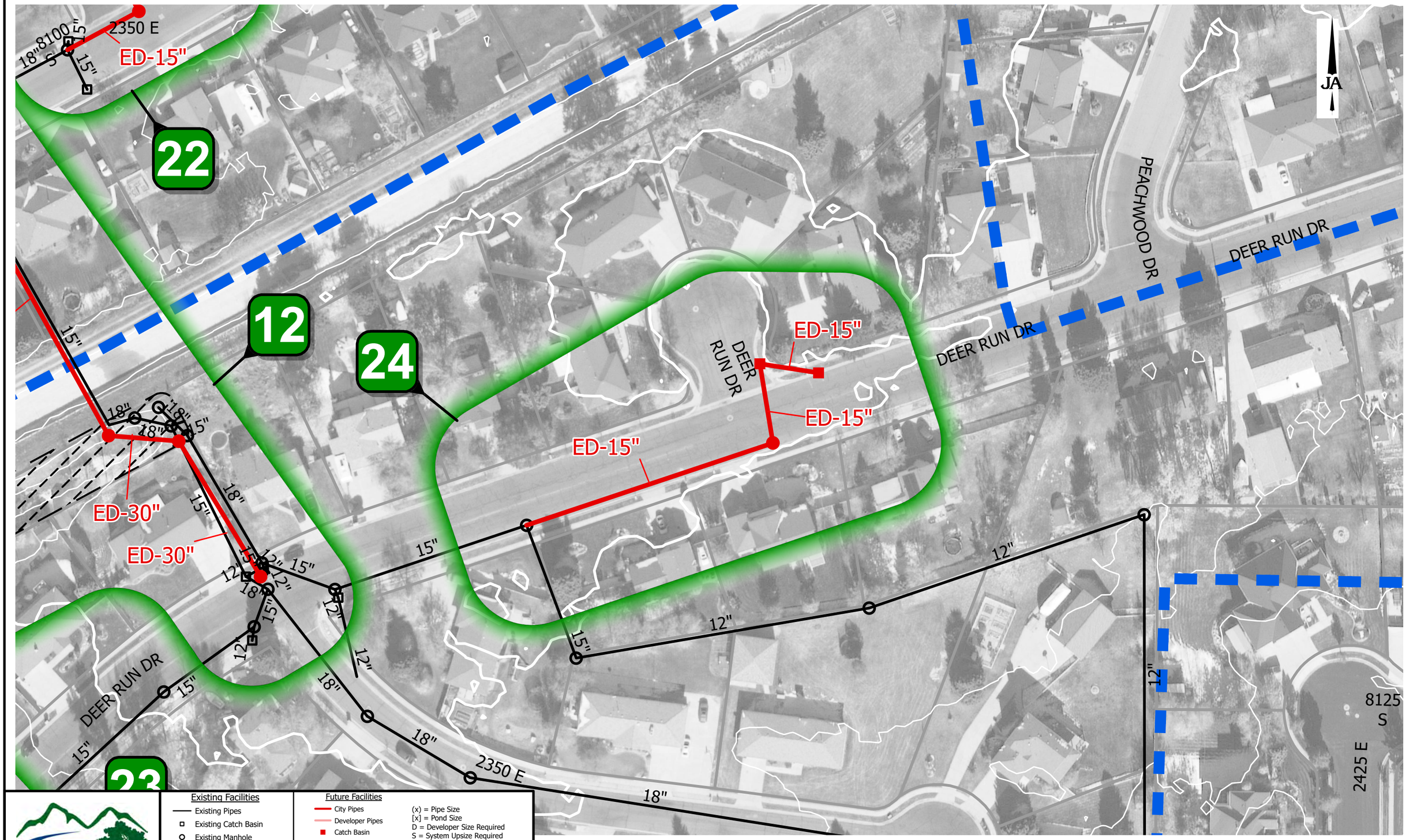
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 23: DEER RUN DR IMPROVEMENTS - #1

EXHIBIT

P.23



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:800
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JONES & ASSOCIATES

CONSULTING ENGINEERS

6080 Fashion Point Drive
South Ogden, Utah 84403 (801) 476-9767

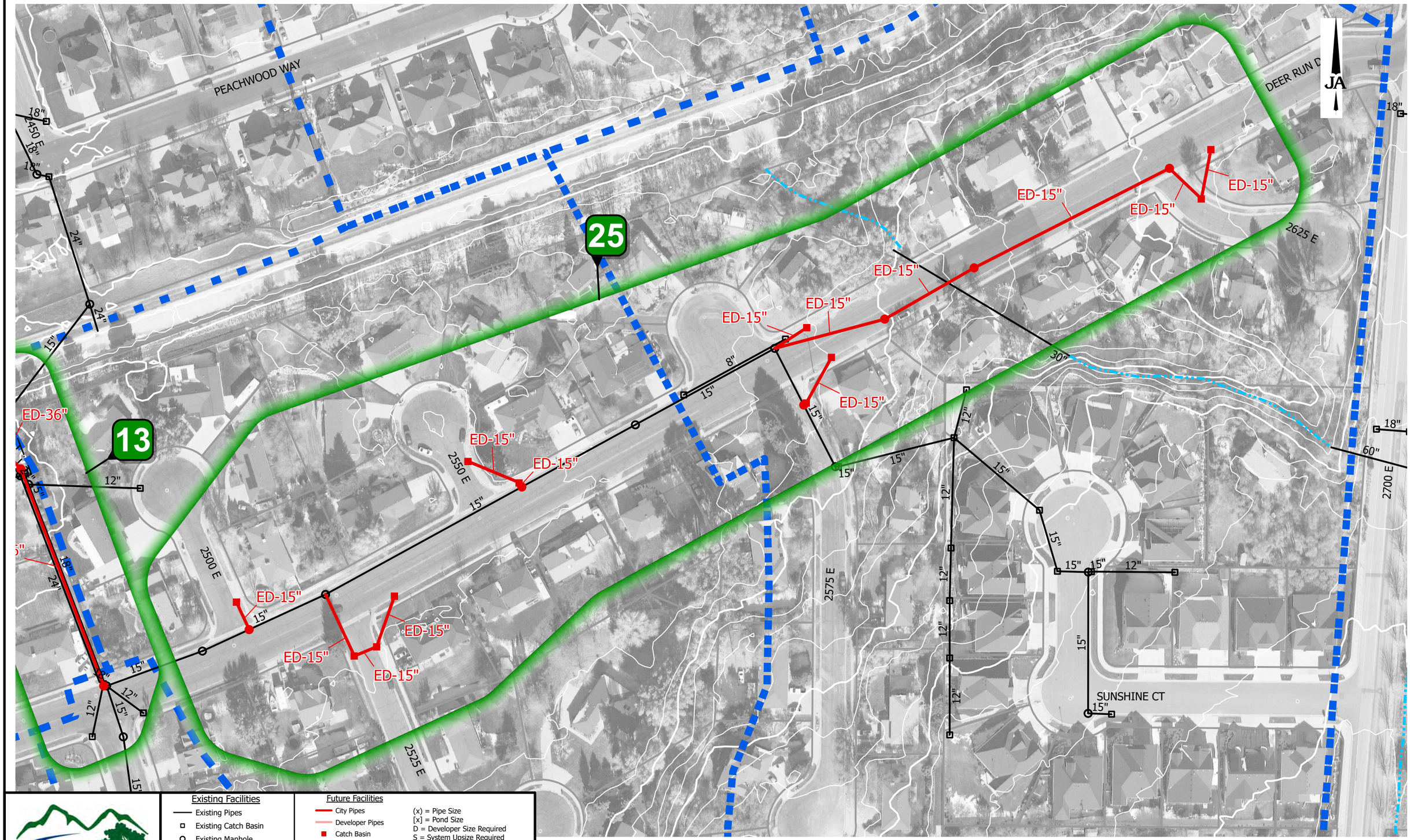
SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 24: DEER RUN DR IMPROVEMENTS - #2

EXHIBIT

P.24



SOUTH WEBER city

Existing Facilities

- Existing Pipes
- Existing Catch Basin
- Existing Manhole
- Existing Detention Basin
- Open Channels
- Sub-Basin Boundaries

x" = Pipe Size
x.xx-AF = Pond Size

Future Facilities

- City Pipes
- Developer Pipes
- Catch Basin
- Manhole
- Control Structure
- Developer Manhole
- Developer Basin
- City Basin
- Future Project

(x) = Pipe Size
[x] = Pond Size
D = Developer Size Required
S = System Upsize Required
T = Total Size Required
ED = Existing Deficiency
x" = Pipe Size
x.xx-AF = Pond Size

SCALE:
1:1,200
Contour Interval: 5'

MM/DD/YYYY
5/14/2021

JONES & ASSOCIATES

CONSULTING ENGINEERS

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South Ogden, Utah 84403 (801) 476-9767

SOUTH WEBER CITY

STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT 25: DEER RUN DR IMPROVEMENTS - #3

EXHIBIT

P.25

Appendix F

Needs Assessment and Prioritization of Projects

Needs Assessment and Prioritization of Projects

Project #	Description	Project Cost	Impact Fee Eligible (Y/N)*	Evaluation Criteria (Rated 1-5, w/ 5 being highest priority and 0 being needed only with development)				
				Description of Need	Criticality	Condition	When Needed	Total Rating
26	Public Works Site and Facility (Storm Drain Portion)	$ 1,496,830	Y	The existing Public Works Facility is in extremely poor condition, is too small for current and future needs, and is in need of replacement to meet the needs. Property has been purchased.	5	5	5	15
11	2100 East Manhole Structure Replacement	$ 12,630	N	The manhole lid pops off during storm events causing an unsafe situation. Structure needs to be reconfigured to improve hydraulics.	4	5	5	14
12	Deer Run Dr. to 8100 South Piping and Pond Removal	$ 493,750	N	Piping is insufficient and ponding occurs in intersection of Deer Run Dr. / 2350 East, creating the potential for flooding. Maintenance of pond is difficult due to location and accessibility. Determined pond can be eliminated after piping is upsized. Lower long-term maintenance costs and damage due to flooding.	4	4	5	13
13	Peachwood Detention Pond Inlet Piping Upsize	$ 177,320	N	Piping is insufficient and ponding occurs in intersection of Deer Run Dr. / 2475 East, creating the potential for flooding. Lower long-term maintenance costs and damage due to flooding.	4	4	5	13
2	Heather Cove Pond Upsizing & Piping	$ 411,950	Y	Needed for development of the Public Works Facility	5	2	5	12

Needs Assessment and Prioritization of Projects

Project #	Description	Project Cost	Impact Fee Eligible (Y/N)*	Evaluation Criteria (Rated 1-5, w/ 5 being highest priority and 0 being needed only with development)				
				Description of Need	Criticality	Condition	When Needed	Total Rating
17	7775 South / 1800 East Improvements	$ 759,690	N	See Note 1	2	5	5	12
23	Deer Run Drive Improvements - #1	$ 400,000	N	See Note 1	3	4	5	12
14	Canyon Drive Improvements - #1	$ 488,500	N	See Note 1	2	5	4	11
25	Deer Run Drive Improvements - #3	$ 363,380	N	See Note 1	2	4	5	11
8	I-84 Detention Pond Upsizing and Piping	$ 621,410	Y	Needed when property to the south develops. Overflow line needed to route all 100-yr flows to detention pond, but is best done at the time the adjacent property develops.	5	3	3	11
7	South Weber Drive Outfall Line	$ 839,700	Y	Needed prior to any development on south side of South Weber Dr.	4	2	3	9
20	View Drive / Peachwood Drive Improvements	$ 555,560	N	See Note 1	2	3	3	8
4	Regional Pond #3 & Piping	$ 462,000	Y	Needed when property develops (North end first)	2	0	5	7
24	Deer Run Drive Improvements - #2	$ 84,810	N	See Note 1	2	2	3	7
9	7800 South Pond Improvements w/ LID	$ 103,500	N	Identified as a good location to implement LID measures for areas already developed	3	2	2	7
10	Deer Run Pond Removal	$ 71,250	N	Maintenance of pond is difficult due to location and accessibility. Determined piping is sufficient and pond can be eliminated. Lower long-term maintenance costs.	2	3	2	7

Needs Assessment and Prioritization of Projects

Project #	Description	Project Cost	Impact Fee Eligible (Y/N)*	Evaluation Criteria (Rated 1-5, w/ 5 being highest priority and 0 being needed only with development)				
				Description of Need	Criticality	Condition	When Needed	Total Rating
15	Canyon Drive Improvements - #2	$ 294,630	N	See Note 1	1	2	3	6
16	Canyon Drive Improvements - #3	$ 244,130	N	See Note 1	1	2	3	6
22	8100 South Improvements	$ 64,210	N	See Note 1	1	2	2	5
18	1850 East / 7840 South Improvements	$ 80,850	N	See Note 1	1	2	2	5
19	2100 East / 7875 South / 2250 East Improvements	$ 437,000	N	See Note 1	2	1	2	5
21	Cedar Bench Drive Improvements	$ 121,220	N	See Note 1	1	1	2	4
5	Regional Pond #4 & Piping	$ 393,500	Y	Needed when property develops (North end first, and after Project #4)	2	0	1	3
1	Regional Pond #1 & Piping	$ 945,000	Y	Needed when property develops	2	0	0	2
3	Regional Pond #2 & Piping	$ 473,070	Y	Needed when property develops (North end first)	2	0	0	2
6	Regional Pond #5 & Piping	$ 355,950	Y	Needed when property develops (North end first, and after Project #4 & #5)	2	0	0	2

Note 1: Roads are flat with poor drainage. Lots of ponding occurs with both storms and sprinkler water causing damage to the street pavement structure. Improved drainage will lengthen life of the road. Waterways on steep roads can also cause damage to vehicles and city snow plows. Removal of waterways will save maintenance costs on vehicles and roadways.

** Indicates that all or a portion of the total project cost is impact fee eligible.*

EXHIBIT
STORM DRAIN IMPACT FEE ANALYSIS

South Weber City

Storm Drain Impact Fee Analysis

Zions Public Finance, Inc.

September 2021

CONTENTS

EXECUTIVE SUMMARY

Background Information

South Weber ("City") retained Jones & Associates to prepare an Impact Fee Facilities Plan (IFFP) for storm water, and retained Zions Public Finance, Inc. (ZPFI) to prepare this Impact Fee Analysis (IFA) for the calculation of appropriate storm water impact fees. This IFA relies on the information provided in the IFFP regarding current system capacity and future storm water capital facility needs, cost and timing.

Service Area. There is one service area in the City for the purpose of calculating storm water impact fees.

Level of Service. According to the IFFP, "South Weber City's storm water policy was that the runoff from a 10-year storm should be contained in the piping system and local detention ponds. The runoff from a 100-year storm should be contained in regional detention ponds and should be effectively conveyed to the ponds through the piping system."[1]

Growth Projections. Between 2020 and 2030, South Weber is expected to grow by 944 storm water equivalent residential units (ERUs).

TABLE 1: STORM WATER ERU GROWTH PROJECTIONS

Year	ERUs
2020	2,829
2021	3,110
2022	3,345
2023	3,395
2024	3,446
2025	3,498
2026	3,551
2027	3,605
2028	3,660
2029	3,716
2030	3,773
Growth in ERUs 2020-2030	944

Source: Jones & Associates, Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan, August 2021

[1] Jones & Associates Consulting Engineers, Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan System Impact Fee Facilities Plan, Section 6.2 Level of Service, pg. 22

Impact on Consumption of Existing Capacity

Utah Code 11-36a-304(1)(a)

The IFFP identifies that there is currently no excess capacity in the storm water system.

Impact on System Improvements by Anticipated New Development

Utah Code 11-36a-304(1)(b)

The City has determined to maintain its current level of storm water service which is that additional storm water improvements will be required in order to maintain the established storm water level of service as new development occurs. The new system improvements needed to serve the needs of new development over the next 10 years have been identified by Jones & Associates at a total cost of $1,203,220.

TABLE 2: NEW SYSTEM IMPROVEMENTS

Project	Description	Current Deficiency	Maintenance	Developer Participation	Impact Fee Improvements	Total
26	Public Works Site and Facility (Storm Drain Portion)	$0	$987,910	$0	$508,920	$1,496,830
2	Heather Cove Pond Upsizing & Piping	$0	$51,570	$329,470	$30,910	$411,950
8	I-84 Detention Pond Upsizing & Piping	$220,040	$0	$390,870	$10,500	$621,410
7	South Weber Drive Ouftall Line	$0	$0	$0	$839,700	$839,700
4	Regional Pond #3 & Piping	$0	$0	$266,370	$195,630	$462,000
5	Regional Pond #4 & Piping	$0	$0	$372,870	$20,630	$393,500
1	Regional Pond #1 & Piping	$0	$0	$711,930	$233,070	$945,000
3	Regional Pond #2 & Piping	$0	$0	$468,070	$5,000	$473,070
6	Regional Pond #3 & Piping	$0	$0	$349,200	$6,750	$355,950
	Total	**$220,040**	**$1,039,480**	**$2,888,780**	**$1,851,110**	**$5,999,410**
	% System Improvements Constructed in next 10 years			**65%**	**$1,203,220**	

Source: Jones & Associates, Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan, August 2021

Proportionate Share Analysis and Impact Fee Calculation

Utah Code 11-36a-304(1)(d) and (e) and (2)(a) and (b)

New development will be required to pay for its fair share of the construction of new system improvements necessitated by new development, as well as consultant costs.

TABLE 3: SUMMARY OF IMPACT FEE COSTS

Summary of Impact Fees	
Buy-In Excess Capacity	$0.00
New Construction	$1,274.60
Consultant Costs	$28.60
Deficiency Credit	($51.30)
Total Maximum Impact Fee per ERU for 2021	**$1,251.90**
Residential – Single Family, Duplexes, Townhomes, Condos = 1.0 ERU per lot/unit	**$1,251.90**
Residential – Apartments = 0.75 ERUs per unit	**$938.92**
Non-Residential – Commercial, Industrial, Institutional, etc. = 1.0 ERU per 3,365 sf of hard surface	**Varies**

Manner of Financing for Public Facilities

There is no outstanding debt on the City's storm drain system and the City does not anticipate issuing debt in the near term to finance new facilities. Therefore, no credits need to be made for existing or future financing.

CHAPTER 1: OVERVIEW OF THE STORM WATER IMPACT FEES

Summary

An impact fee is intended to recover the City's costs of building storm water system capacity to serve new residential and non-residential development rather than passing all of these growth-related costs on to existing users through rates. The Utah Impact Fees Act allows only certain costs to be included in an impact fee so that only the fair cost of expansionary projects or existing unused capacity paid for by the City is assessed through an impact fee.

Costs to be Included in the Impact Fee

The impact fees proposed in this analysis are calculated based upon:

- Excess capacity in the City's storm water system;
- New capital infrastructure for storm water systems that will serve new development; and
- Professional and planning expenses related to the construction of system improvements that will serve new development.

The costs that cannot be included in the impact fee are as follows:

- Costs for projects that cure system deficiencies;
- Costs for projects that increase the Level of Service (LOS) above that which is currently provided;
- Operations and maintenance costs;
- Costs of facilities funded by grants or other funds that the City does not have to repay; and
- Costs of reconstruction of facilities that do not have capacity to serve new growth.

Utah Code Legal Requirements

Utah law requires that communities and special districts prepare an Impact Fee Analysis (IFA) before enacting an impact fee. Utah law also requires that communities/districts give notice of their intent to prepare and adopt an IFA. This IFA follows all legal requirements as outlined below. The City has retained ZPFI to prepare this Impact Fee Analysis in accordance with legal requirements.

Notice of Intent to Prepare Impact Fee Analysis

A local political subdivision must provide written notice of its intent to prepare an IFA before preparing the Analysis (Utah Code 11-36a-503(1)). This notice must be posted on the Utah Public Notice website. The City has complied with this noticing requirement for the IFA by posting notice.

Preparation of Impact Fee Analysis

Utah Code requires that "each local political subdivision . . . intending to impose an impact fee shall prepare a written analysis of each impact fee" (Utah Code 11-36a-303).

Section 11-36a-304 of the Utah Code outlines the requirements of an impact fee analysis which is required to identify the following:

(1) An impact fee analysis shall:

(a) identify the anticipated impact on or consumption of any existing capacity of a public facility by the anticipated development activity;

(b) identify the anticipated impact on system improvements required by the anticipated development activity to maintain the established level of service for each public facility;

(c) demonstrate how the anticipated impacts described in Subsections (1)(a) and (b) are reasonably related to the anticipated development activity;

(d) estimate the proportionate share of:
  (i) the costs for existing capacity that will be recouped; and
  (ii) the costs of impacts on system improvements that are reasonably related to the new development activity; and

(e) identify how the impact fee was calculated.

(2) In analyzing whether or not the proportionate share of the costs of public facilities are reasonably related to the new development activity, the local political subdivision or private entity, as the case may be, shall identify, if applicable:

(a) the cost of each existing public facility that has excess capacity to serve the anticipated development resulting from the new development activity;

(b) the cost of system improvements for each public facility;

(c) other than impact fees, the manner of financing for each public facility, such as user charges, special assessments, bonded indebtedness, general taxes, or federal grants;

(d) the relative extent to which development activity will contribute to financing the excess capacity of and system improvements for each existing public facility, by such means as user charges, special assessments, or payment from the proceeds of general taxes;

(e) the relative extent to which development activity will contribute to the cost of existing public facilities and system improvements in the future;

(f) the extent to which the development activity is entitled to a credit against impact fees because the development activity will dedicate system improvements or public facilities that will offset the demand for system improvements, inside or outside the proposed development;

(g) extraordinary costs, if any, in servicing the newly-developed properties; and

(h) the time-price differential inherent in fair comparisons of amounts paid at different times.

Calculating Impact Fees

Utah Code states that for purposes of calculating an impact fee, a local political subdivision or private entity may include:

(a) the construction contract price;
(b) the cost of acquiring land, improvements, materials, and fixtures;

(c) the cost for planning, surveying, and engineering fees for services provided for and directly related to the construction of the system improvements; and

(d) for political subdivision, debt service charges, if the political subdivision might use impact fees as a revenue stream to pay the principal and interest on bonds, notes or other obligations issued to finance the costs of the system improvements.

Additionally, the Code states that each political subdivision or private entity shall base impact fee amounts on realistic estimates and the assumptions underlying those estimates shall be disclosed in the impact fee analysis.

Certification of Impact Fee Analysis

Utah Code states that an impact fee analysis shall include a written certification from the person or entity that prepares the impact fee analysis. This certification is included as part of this Impact Fees Analysis.

Impact Fee Enactment

Utah Code states that a local political subdivision or private entity wishing to impose impact fees shall pass an impact fee enactment in accordance with Section 11-36a-402. Additionally, an impact fee imposed by an impact fee enactment may not exceed the highest fee justified by the impact fee analysts. An impact fee enactment may not take effect until 90 days after the day on which the impact fee enactment is approved.

CHAPTER 2: IMPACT FROM GROWTH UPON THE CITY'S FACILITIES AND LEVEL OF SERVICE

Utah Code 11-36a-304(1)(a)(c)

Storm Drain Service Area

South Weber City has one service area for the purpose of calculating storm drain impact fees.

Growth in Demand

The City has been experiencing steady growth. The IFFP identifies that a constant growth rate is used to project the total future ERUs contributing to the storm drain system. Therefore, projected growth has been forecasted using the growth rate as identified in the IFFP.

The table below shows storm drain growth projections. The City's storm drain system is projected to grow from 2,829 ERUs in 2020 to an estimated 3,773 ERU's in 2030. The growth between 2020 and 2030, as used in the IFFP, is expected to be 944 ERUs.

TABLE 4: PROJECTED ERU GROWTH THROUGH 2030

Year	ERUs
2020	2,829
2021	3,110
2022	3,345
2023	3,395
2024	3,446
2025	3,498
2026	3,551
2027	3,605
2028	3,660
2029	3,716
2030	3,773
Growth in ERUs 2020-2030	944

Source: Jones & Associates, Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan, August 2021

Existing and Proposed LOS Analysis

According to the IFFP, "South Weber City's storm water policy was that that the runoff from a 10-year storm should be contained in the piping system and local detention ponds. The runoff from a 100-year storm should be contained in regional detention ponds and should be effectively conveyed to the ponds through the piping system."[2]

The City's proposed level of service during the IFFP period is to equal the existing level of service.

[2] Jones & Associates Consulting Engineers, Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan System Impact Fee Facilities Plan, Section 6.2 Level of Service, pg. 22

CHAPTER 3: IMPACT ON CAPACITY FROM DEVELOPMENT ACTIVITY

Utah Code 11-36a-304(1)(a)

Existing Capacity and Deficiency

According to Jones & Associates, the existing storm water system currently has no excess capacity. Therefore, new development cannot be charged a buy-in fee, as part of the overall impact fee, for the capacity it consumes.

CHAPTER 4: SYSTEM IMPROVEMENTS REQUIRED FROM DEVELOPMENT ACTIVITY

Utah Code 11-36a-304(1)(b)(c), (2)(b)

Impact on System Improvements by Anticipated New Development

The City has determined to maintain its current level of storm water service. Therefore, additional storm water improvements will be required in order to maintain the established storm drain level of service. The means by which the City will meet growth demands include constructing the following projects as set forth in the Impact Fee Facilities Plan. This will occur through requiring new development to pay for its fair share of new construction projects.

New construction projects necessitated by new development over the next 10 years will reach $1,203,220 based on calculations shown in the following table. Per conversations with Jones & Associates, maintenance costs are purely operational and will not be included as an impact fee eligible cost.

TABLE 5: NEW SYSTEM IMPROVEMENTS NECESSITATED BY NEW DEVELOPMENT

Project	Description	Current Deficiency	Maintenance	Developer Participation	Impact Fee Improvements	Total
26	Public Works Site and Facility (Storm Drain Portion)	$0	$987,910	$0	$508,920	$1,496,830
2	Heather Cove Pond Upsizing & Piping	$0	$51,570	$329,470	$30,910	$411,950
8	I-84 Detention Pond Upsizing & Piping	$220,040	$0	$390,870	$10,500	$621,410
7	South Weber Drive Ouftall Line	$0	$0	$0	$839,700	$839,700
4	Regional Pond #3 & Piping	$0	$0	$266,370	$195,630	$462,000
5	Regional Pond #4 & Piping	$0	$0	$372,870	$20,630	$393,500
1	Regional Pond #1 & Piping	$0	$0	$711,930	$233,070	$945,000
3	Regional Pond #2 & Piping	$0	$0	$468,070	$5,000	$473,070
6	Regional Pond #3 & Piping	$0	$0	$349,200	$6,750	$355,950
	Total	**$220,040**	**$1,039,480**	**$2,888,780**	**$1,851,110**	**$5,999,410**
	% System Improvements Constructed in next 10 years			**65%**	**$1,203,220**	

Source: Jones & Associates, Storm Drain Capital Facilities Plan and Impact Fee Facilities Plan, August 2021

CHAPTER 5: PROPORTIONATE SHARE ANALYSIS

Utah Code 11-36a-304(1)(d)(e)

Maximum Legal Storm Water Impact Fee per ERU

The Impact Fees Act requires the Impact Fee Analysis to estimate the proportionate share of the future costs for system improvements and historic cost of existing system improvements that benefit new growth that can be recouped through impact fees. The impact fee for existing assets must be based on the historic costs while the fees for construction of new facilities must be based on reasonable future costs of the system.

The maximum impact fee permitted by law for the storm water system includes buy-in costs for existing, excess capacity as well as the cost of construction of new facilities. Whereas the City currently has no existing excess capacity, only cost of construction of new facilities will be considered for facility costs.

Buy-in to Existing, Excess Capacity

According to the IFFP, the existing storm water system has no excess capacity.

New Construction

The City intends to maintain its existing level of service for storm water services through constructing new system improvements described in the IFFP and previously in this IFA. Total impact-fee eligible costs for new construction are $1,851,110 through buildout. The amount attributable to new development over the next 10 years has been identified in the IFFP as 65%, meaning the cost to new growth by 2030 will be $1,203,220. Based on the 944 ERUs served over the next 10 years, the total cost per ERU is calculated at $1,274.60.

TABLE 6: PROPORTIONATE SHARE ANALYSIS, NEW CONSTRUCTION NECESSITATED BY NEW DEVELOPMENT

	Amount
Cost of New Construction	$1,851,110
Capacity of New Construction - ERUs	1,446
Growth in ERUs, 2020-2030	944
% to New Growth by 2030	65%
Cost to New Growth by 2030	$1,203,220
Cost per ERU	**$1,274.60**

Consultant Costs

The Impact Fees Act allows for fees charged to include the reimbursement of consultant costs incurred in the preparation of the IFFP and IFA.

Consultant costs are estimated at $27,000 in order to prepare the IFFP and IFA that were necessary in order to calculate defensible impact fees. The engineering and consultant studies are considered to serve development over the next 10 years. Based on the 944 ERUs served over the next 10 years, the total cost per ERU is $28.60.

TABLE 7: PROPORTIONATE SHARE ANALYSIS, CONSULTANT COST

	Amount
Jones & Associates Consulting Engineers	$22,000
ZPFI	$5,000
Growth in ERUs, 2020-2030	944
Cost per ERU	**$28.60**

Impact Fee Fund Balance

The City currently has no balance in its storm water impact fee fund. Therefore, there is no credit that must be made against the impact fee fund balance.

Calculation of Credits

The City does not have any outstanding storm drain bonds for which credits need to be made against the impact fees.

A credit must be made, however, for the portion of new construction projects that will benefit existing development. The IFFP provides the following estimate of the portion of new construction projects anticipated to benefit existing development.

TABLE 8: NEW CONSTRUCTION CREDIT AMOUNT

Project	Description	Current Deficiency
8	I-84 Detention Pond Upsizing & Piping	$220,040

Therefore, a credit must be made for the $220,040 that will benefit existing development. This credit has been calculated by dividing the cost of $220,040 over 10 years, for a cost of $22,004 per year. The cost attributed to each year is then divided by the estimated number of ERUs each year to arrive at a payment per ERU. This represents the average amount that will be needed, per ERU, through a source such as storm drain utility rates. Therefore, if new development pays the entire impact fee, plus contributes through property taxes, utility rates, etc., it will pay for more than its fair share of storm drain capital costs. The last step in calculating the credit is to calculate the net present value (NPV) of the annual payments and to subtract this amount from the gross impact fee.

TABLE 9: PROPORTIONATE SHARE CALCULATION – CREDITS

Year	Payment per Year	ERUs	Payment per ERU	NPV*
1	$22,004	3,110	$7.08	$51.30
2	$22,004	3,345	$6.58	$46.28
3	$22,004	3,395	$6.48	$41.55
4	$22,004	3,446	$6.39	$36.73
5	$22,004	3,498	$6.29	$31.82
6	$22,004	3,551	$6.20	$26.80
7	$22,004	3,605	$6.10	$21.68
8	$22,004	3,660	$6.01	$16.44
9	$22,004	3,716	$5.92	$11.09
10	$22,004	3,773	$5.83	$5.61

*NPV = net present value discounted at 4.0 percent

Summary of Maximum Impact Fee Calculation

The maximum impact fee allowed by law includes new system improvement costs of $1,274.60 per ERU, plus consultant costs of $28.60 per ERU. The maximum impact fee also includes a credit for existing deficiencies in the amount of $51.30 per ERU. This results in total maximum impact fees of $1,251.90 per ERU. New development will pay the fee based on the development type as outlined in the table below.

TABLE 10: PROPORTIONATE SHARE IMPACT FEE CALCULATION

Summary of Impact Fees	
Buy-In Excess Capacity	$0.00
New Construction	$1,274.60
Consultant Costs	$28.60
Deficiency Credit	($51.30)
Total Maximum Impact Fee per ERU for 2021	**$1,251.90**
Residential – Single Family, Duplexes, Townhomes, Condos = 1.0 ERU per lot/unit	**$1,251.90**
Residential – Apartments = 0.75 ERUs per unit	**$938.92**
Non-Residential – Commercial, Industrial, Institutional, etc. = 1.0 ERU per 3,365 sf of hard surface	**Varies**

Due to the deficiency credits outlined previously, the maximum impact fee per ERC will increase each year as the NPV of the bond credits lower each year. The table below shows how this will affect the maximum impact fee that can be charged.

TABLE 11: MAXIMUM IMPACT FEE PER ERU BY YEAR

	2021	**2022**	**2023**	**2024**	**2025**
Maximum Impact Fee per ERU	$1,251.90	$1,256.92	$1,261.65	$1,266.46	$1,271.38

CHAPTER 6: MANNER OF FINANCING, CREDITS, ETC

Utah Code 11-36a-304(2)(c)(d)(e)(f)(g) and (h)

An impact fee is a one-time fee that is implemented by a local government on new development to fund and pay for the proportionate costs of public facilities (system improvements) that are needed to serve new development. As a matter of policy and legislative discretion, a City may choose to have new development pay the full cost of its proportionate share of new public facilities and existing facilities that have excess capacity to service new development through impact fees. Alternatively, local governments may elect to subsidize new development by using other sources of revenue (user charges, special assessments, bonds, taxes, grants) to pay for the new facilities required to service new development and use impact fees to recover the cost difference between the total cost of the new facilities and the other sources of revenue.

At the current time, no other sources of funding other than impact fees have been identified, but to the extent that any are identified and received in the future, then impact fees will be reduced accordingly. The City has found that it is necessary to charge an impact fee to maintain the existing level of service into the future.

Additional system improvements beyond those funded through impact fees that are desired to raise the level of service will be paid for by the community through other revenue sources such as user charges, special assessments, General Obligation bonds, general taxes, etc.

Impact Fee Credits

The Impact Fees Act requires that the IFA consider the relative extent to which new development activity will contribute to financing the excess capacity of and system improvements for new and public facilities, by such means as user charges, special assessments, or payment from the proceeds of general taxes so that new development is not charged twice. There is no excess capacity in the existing system and therefore no credits apply from buy-in to existing, excess capacity.

In terms of new facilities, all impact fee amounts collected must be spent for the specific project improvements listed in the IFFP and incorporated into this IFA. No user fees, special assessments, etc., are contemplated to offset any of the costs associated with the new transportation facilities.

Credits may also be paid back to developers who have constructed or directly funded system improvements that are included in the IFFP or donated to the City in lieu of impact fees, including the dedication of land for system improvements. This situation does not apply to developer exactions for project improvements. Any item for which a developer receives credit should be included in the IFFP and must be agreed upon with the City before construction begins.

The standard impact fee can also be decreased to respond to unusual circumstances in specific cases in order to ensure that impact fees are imposed fairly. In certain cases, a developer may submit studies and data that clearly show a need for adjustment.

Extraordinary Costs and Time Price Differential

It is not anticipated that there will be any extraordinary costs in servicing newly-developed properties. To account for the time-price differential inherent in fair comparisons of amounts paid at different times,

current costs have been used to compute impacts on system improvements required by anticipated development activity to maintain the established level of service for each public facility.

CERTIFICATION

Zions Bank Public Finance certifies that the attached impact fee analysis:

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;

3. Offsets costs with grants or other alternate sources of payment; and

4. Complies in each and every relevant respect with the Impact Fees Act.