

## SOUTH WEBER PLANNING COMMISSION AGENDA

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PUBLIC NOTICE is hereby given that the Planning Commission of SOUTH WEBER CITY, Utah, will meet in a regular public meeting on Thursday December 8, 2022, in the Council Chambers, 1600 E. South Weber Dr., commencing at 6:00 p.m.

**OPEN** (Agenda items may be moved in order or sequence to meet the needs of the Commission)

1. Pledge of Allegiance: Commissioner Boatright
2. Public Comment: Please respectfully follow the guidelines below: Comments will also be accepted at [publiccomment@southwebercity.com](mailto:publiccomment@southwebercity.com) to be included with the meeting minutes.
  - a. Individuals may speak once for 3 minutes or less
  - b. State your name and address
  - c. Direct your comments to the entire Commission
  - d. Note: Planning Commission will not respond during the public comment period
3. Approval of Consent Agenda
  - a. PC2022-11-10 Minutes
4. Updated Final Plat w/Phasing for Petersen Farms PUD (25 Lot Plat) (Combined R-L, R-LM & R-7 zoning) 13.06 acres located at approx. 6950 S 475 E by Applicant: Timothy Grubb.
5. **Public Hearing & Action on South Weber City's Development, Design & Construction Standards**
6. Discussion on Residential Multi-family (R-7) Zoning Code Updates w/R-5 Overlay
7. Planning Commission 2023 Goals
8. Planning Commission Comments (Boatright, Davis, Losee, McFadden, Walton)
9. Adjourn

In compliance with the Americans with Disabilities Act, individuals needing special accommodations during this meeting should notify the City Recorder, 1600 East South Weber Drive, South Weber, Utah 84405 (801-479-3177) at least two days prior to the meeting.

THE UNDERSIGNED DULY APPOINTED DEVELOPMENT COORDINATOR FOR THE MUNICIPALITY OF SOUTH WEBER CITY HEREBY CERTIFIES THAT A COPY OF THE FOREGOING NOTICE WAS MAILED, EMAILED, OR POSTED TO: 1. CITY OFFICE BUILDING 2. FAMILY ACTIVITY CENTER 3. CITY WEBSITE [www.southwebercity.com](http://www.southwebercity.com) 4. UTAH PUBLIC NOTICE WEBSITE [www.pmn.utah.gov](http://www.pmn.utah.gov) 5. THE GOVERNING BODY MEMBERS 6. OTHERS ON THE AGENDA

**DATE: November 30 2022**

**DEVELOPMENT COORDINATOR: Kimberli Guill**

# **SOUTH WEBER CITY PLANNING COMMISSION MEETING**

**DATE OF MEETING:** 10 November 2022

**TIME COMMENCED:** 6:00 p.m.

**LOCATION:** South Weber City Office at 1600 East South Weber Drive, South Weber, UT

**PRESENT:**

**COMMISSIONERS:**

Gary Boatright  
Jeremy Davis  
Julie Losee  
Marty McFadden (via zoom)  
Taylor Walton

**COMMUNITY SERVICE DIRECTOR:** Trevor Cahoon

**DEVELOPMENT COORDINATOR:** Kimberli Guill

**Minutes:** Michelle Clark

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**ATTENDEES:** Paul Sturm, Rod Westbrook, and Blair Halverson.

**Commissioner Davis called the meeting to order and welcomed those in attendance.**

**1. Pledge of Allegiance:** Commissioner Losee

**2. Public Comment:** Please respectfully follow these guidelines.

- Individuals may speak once for 3 minutes or less: Do not remark from the audience. State your name & city and direct comments to the entire Commission (Commission will not respond).

**ACTION ITEMS:**

**3. Consent Agenda**

- 13 October 2022

**Commissioner Walton moved to approve the consent agenda as written. Commissioner Losee seconded the motion. A roll call vote was taken. Commissioners Davis, Losee, and Walton voted aye. Commissioners Boatright and McFarland abstained as they were excused from the meeting. The motion carried.**

**4. Discussion on Residential Multi-family (R-7) Zoning Updates:**



Community Services Director Trevor Cahoon explained in a discussion item with the City Council on October 25, the council expressed a desire for the Planning Commission to have a more in-depth discussion on the reduction of density within the R-7 Zone to 5 units per acre and the creation of draft ordinance for an overlay zone to grant bonus density of up to 2 units and the implementation of design standards. It is the City Council's opinion that the exploration of creating an overlay zone now would be pertinent to protect the interests of the city in facilitating development standards for projects in South Weber City.

The Planning Commission met on October 13 to discuss the draft ordinance and make their recommendation to City Council. In a 3-0 decision by the Planning Commissioners present a recommendation was made to approve the drafted changes to the Residential Multi-family zone, and recommend the council begin the process in the creation of overlay zones to address design standards in accordance with Utah State code.

Mr. Cahoon reported in a discussion item with the City Council on October 25, the council expressed a desire for the Planning Commission to have a more in-depth discussion on the reduction of density within the R-7 zone to 5 units per acre and the creation of draft ordinance for an overlay zone to grant bonus density of up to 2 units and the implementation of design standards. The council feels that the exploration of creating an overlay zone now would be pertinent to protect the interests of the city in facilitating development standards for projects in South Weber. He added the two main questions the council would like answered are: What should be included or covered within an overlay zone? What are the design standards that need to be established within the zoning overlay?

Mr. Cahoon explained the Planning Commission needs to make recommendations tonight concerning design styles, materials, designs, specifications, etc. Commissioner Davis requested the council identify more specifically what they would like to see as far as architectural designs. Blair Halverson suggested moving away from vinyl siding and stucco. Commissioner McFarland suggested every single multi-family home should have its own identity. He pointed out certain materials of natural elements brings variety as well as roofing styles. He included windows having a special trim.

Commissioner Davis asked the Planning Commission their recommendations for what should be included in an overlay zone. Trevor added it should be a separate section in the city code. Commissioner Boatright queried if this is for an R-5 Zone. It was stated that is correct.

Commissioner Walton mentioned both R-P and R-7 zones discuss dwelling units and then all other residential zones are building lots. He recommended the language in the purpose statement needs to be addressed in the R-P and R-7 Zones. He expressed interest in creating overlay zones for all the zones and voiced he is less concerned about density as he is look and feel. Commissioner Davis suggested focusing on correlation between the two zones when it comes to density.

Commissioner McFarland discussed going down from an R-7 Zone to an R-5 Zone and the difficulty with marketing an R-7 Zone. He noted a single family home can still be built in an R-5 Zone. Commissioner Losee questioned how much incentive should be given to the developer for the R-5 Zone. Mr. Cahoon replied it depends on the design character and requirements.

Commissioner Walton conveyed because the current code doesn't address a variety of housing styles and design standard, he feels the overlay is the way to go.

Commissioner Boatright inquired on the problem and what is the commission trying to solve. Commissioner Davis replied the current city code doesn't allow for the Planning Commission to dictate design standards in an R-7 Zone, but if the zone is reduced to R-5 Zone with an overlay zone it will allow for design standards. Commissioner Boatright discussed design standards being subjective. Commissioner McFarland expressed the need for quality design standards.

Commissioner Davis and Commissioner McFarland agreed with creating an R-5 Zone.

The Planning Commission reviewed the design standards.

### **Height**

The commission discussed the standards for height of the structure. In the R-7 Zone the maximum height is 35 ft. Commissioner McFarland favored allowing extra height of 40 ft. which allows for more flexibility and creativity in design of the structure. The commission agreed on a maximum of 40 ft.

### **Roof**

Commissioner McFarland asked the city staff to create a hierarchy of quality of roof styles. Commissioner Losee discussed products changing all the time. Commissioner Boatright suggested asking staff to come up with some best practice recommendations because he is not a builder and doesn't have expertise in that area.

The commission discussed creating a variety of building styles without the use of vinyl or stucco. Commissioner Boatright suggested narrowing it down to quality, variety, and compatibility. It was suggested requiring a certain percentage of materials. Commissioner Boatright recommended styles should be compatible with surrounding areas.

No more than 35% stucco. Distinct articulation between units including front and back. Eliminate vinyl or aluminum siding. Variations in unit styles including roof line. Quality materials. Window trimming options. 25% front to be window openings. Discussion took place regarding height of the structure and making sure it follows city fire code.

Commissioner Walton queried the current code identifies no more than 12 units per dwelling unit, and inquired if that should be reduced. Mr. Cahoon explained the 12 units per dwelling unit is for multi-family developments, and townhomes are single-family attached units with no more than 4 units per structure. He recommended the commission look at whether or not the restrictions coincide with what they really want. He understands the difficulty in writing code, which is why the Legislature is continually re-writing code. Commissioner Walton discussed his research regarding passive construction and providing thermal bridging in structures and opined this should be included as part of a structures quality of heating and cooling.

Commissioner Losee suggested the landscape should require a certain number of trees. It can be done with water wise plants because the State of Utah is in a drought. Mr. Cahoon reported the current landscaping requirements for the R-7 Zone include water-wise landscaping and more

than 15% turf in non-active areas. Commissioner Losee suggested including design curbing around the landscape beds.

Mr. Cahoon discussed density incentives. Commissioner McFarland voiced this may not be for South Weber because any incentive may cause the structure to go higher. Commissioner Losee suggested not permitting this style because it is not something that fits South Weber.

Commissioner Davis favored Mansion style structures. Commissioner McFarland agreed.

Commissioner Davis stated he can see going to an R-8, if it is a Mansion style. Commissioner McFarland pointed out R-7 is not considered high density to the rest of the world around us.

Commissioner Davis asked the Planning Commission if there is any appetite above R-7. Blair Halverson discussed the history of the R-7 and how it was a number that was thrown out there.

Commissioner Davis suggested the City Council decide on how dense they are willing to go. He queried what a tiered structure looks like and should there be a limit.

### **5. Discussion on Planning Commission Priorities for 2023:**

Mr. Cahoon and Commissioner Davis attended the APA Conference and afterwards were having a conversation about the role and purpose of the Planning Commission. Sometimes the Planning Commission ends up being a reaction commission, but another major responsibility of the commission is to advise the council on the general plan and land use ordinances. As the Planning Commission goes through the process they identify areas where there are gaps or problem areas. Mr. Cahoon queried as to what the commission identifies as problem areas and suggested creating goals as to what to advise the council on. Commissioner Davis favored being more proactive verses reactive. Commissioner McFarland opined the commercial areas in the city are doing nothing and just sitting there not generating any revenue for the city. He suggested discussing how to get sustainable businesses in the city including businesses that don't necessarily get a lot of traffic. Commissioner Losee shared she doesn't think that is the responsibility of the Planning Commission. Commissioner Boatright agreed and expressed the Planning Commission is not in charge of code, but recommends and advises the City Council. Mr. Cahoon reminded the Planning Commission that they are responsible to act as an administrative body and are the land use officials for the city. They advise the council on land use code items and items within the general plan. He conveyed economic development is outside the Planning Commissions scope. Commissioner Davis explained the intent is to be more proactive within the Planning Commissions scope, and right now we don't talk about something unless somebody identifies an issue and then we address it. He urged the Planning Commission to know the code better so they can proactively address deficiencies within city code and then recommend them to the City Council. Commissioner Losee voiced she does her best to study code as it relates to agenda items, but she doesn't have the time to spend hours reviewing deficiencies in city code. Commissioner Walton discussed the difficulty to balance because the Code Committee looks to the Planning Commission as the land use authority to provide the ultimate recommendation to them. Mr. Cahoon relayed the Code Committee doesn't necessarily only advise on land use items, but convenes on behalf of the City Council's priority list. Commissioner Walton proclaimed with the current downturn in development he feels the timing is right for the Planning Commission to review water and how to tie the general plan and land use development to water usage. Mr. Cahoon added the State is requiring cities incorporate that by 2025. Commissioner Walton suggested including dust mitigation and what the city's standards include when the amount of pollutants in the air is violated by some of the land uses in the community. He included architectural standards review. Commissioner McFarland

advocated a discussion on Staker Parsons gravel pit and possibilities for this property after it is no longer a gravel pit. Commissioner Walton communicated he would like a definition of commercial recreation zone and what are we using it for. He also included reviewing an open land zone for an urban forest interface. This would include making sure wildfires can't jump into other areas of our city in those open land areas. He suggested reviewing the sensitive land areas and how to provide standards in city codes and what is the appetite to develop on a hillside. Commissioner McFarland included trails and active transportation. Commissioner Walton queried as to what the city is doing to actively pursue them and which ones are viable and which ones are not. Commissioner Davis suggested Mr. Cahoon include these items for discussion on the next City Council meeting agenda. Mr. Cahoon replied he will communicate these items to the City Council.

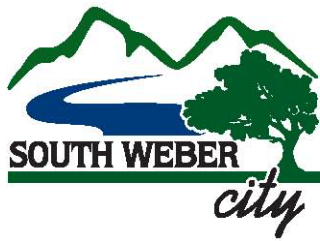
**PLANNING COMMISSION COMMENTS: (None)**

**ADJOURN:** Commissioner Losee moved to adjourn the Planning Commission meeting at 7:56 p.m. Commissioner Walton seconded the motion. A roll call vote was taken. Commissioners Boatright, Davis, Losee, McFarland, and Walton voted aye. The motion carried.

**APPROVED:** \_\_\_\_\_ **Date**  
**Chairperson: Jeremy Davis**

\_\_\_\_\_  
**Transcriber: Michelle Clark**

**Attest:** \_\_\_\_\_  
**Development Coordinator: Kimberli Guill**



## PLANNING MEMORANDUM

4 Petersen Farms Phasing Update

1600 E. South Weber Drive  
South Weber, UT 84405

www.southwebercity.com

801-479-3177  
FAX 801-479-0066

To: Planning Commission  
From: Trevor Cahoon, Community Services Director; Brandon Jones, City Engineer  
Re: Petersen Farms PUD Final Plat Amendment for Petersen Farms PUD (25 Lot Plat)  
(Combined R-L, R-LM & R-7 zoning) 13.06 acres located at approx. 6950 S 475 E.

Project Information	
Project Name	Petersen Farms PUD
Site Location	Approx. 6950 S 475 E
Tax ID Number	130230209, 130180084, 130800060, 131610002
Applicant	Timothy Grubb
Owner	Timothy Grubb
Proposed Actions	Final Subdivision Plat & Agreements
Current Zoning	A, R-L, R-LM, R-7
General Plan Land Use Classification	R-LM & R-7
Gross Site	13.06 Acres

### ACTION

Administrative Action: Consider recommendation of approval of Petersen Farms Final Plat Amendment and Necessary Agreements.

### ITEMS FOR PLANNING COMMISSION REVIEW

- **Final Plat.** After the preliminary plan approval, the next step in the process is recommending approval or denial of the Final Plat to the City Council. The Planning Commission as the Land Use Authority has made approvals of the preliminary plans after which the City Staff verifies the improvement plans are finalized to construction ready drawings. **A Final Plat has already been considered for this development; however, the developer wishes to amend that plat to include phasing for the project. The overall development is being platted in 2 phases. Both phases are being requested to be approved at the same time.** The Plat is the only item that needs City Council approval as this is a decision about how to subdivide the property. Petersen Farms Final Plat Items to Consider:
  - *Legal Description:* This has been supplied
  - *Subdivision Name:* The Subdivision name appears on the plat and is consistent with the application that has been submitted.
  - *Lot Sizes and Orientation:* A Planned Unit Development allows for the developer to use the individual underlying zones for lot sizing and configurations. All lot sizes are consistent with the underlying zones and comply with conditions of the code.
  - *Addresses and Street Names:* This has been completed.

- *Parcel Numbers or Lot Numbers of Surrounding Properties:* When recording the plat it is necessary to indicate the parcel identification numbers or the lot number for adjoining subdivisions. This plat has that necessary information.
- *Right-of-Way (ROW) Dedication:* The ROW has been indicated on the drawings for dedication to the City and the widths comply with the City Standards.
- *Utility Easements:* The General Utility Easement required for each property has been indicated on the plat. Storm Drain Easements are indicated on the plat and are consistent with existing recorded easements or new requirements. Hill Air Force Base testing wells are located on the property and are managed by lease agreements, an easement is not recorded against the property and therefore is a matter that is between Hill AFB and the owner of the property. The developer has included the location of the wells on the plat for convenience.
- *Signature Boxes:* All signature boxes are supplied.
- *Setback Information (PUD Only):* The PUD has requested the use of setbacks that are different than the underlying zones. This is within the scope of the PUD and is allowable. We have required the developer to include the setbacks on the plat.

#### **APPROVALS PREVIOUSLY GRANTED BY PLANNING COMMISSION**

- **Site Plan:** The multi-family units required the submission of a site plan to the Planning Commission for approval. The plan was submitted at the April Planning Commission Meeting and was approved with the preliminary plan.
- **Conditional Use Permit:** The conditional use permit for the PUD application was submitted at the April Planning Commission Meeting and was approved with the preliminary plan.
- **Architectural Review:** The multi-family units require an architectural site plan review. The architectural review was completed at the April Planning Commission Meeting as part of the preliminary plan.
- **Improvement Plans:** The planning commission reviewed the preliminary improvement plans at the April Planning Commission Meeting. City Staff has verified that a complete set of construction drawings were submitted with the Final Plan Submittal which comply with all requirements of the submittal.

#### **RECOMMENDATIONS PREVIOUSLY GRANTED BY PLANNING COMMISSION**

- **Fee In Lieu Agreement Landscaping and Storm Water:** The R-7 Zone requires 15% landscaping. Only a portion of the required landscaping is being provided inside the development. The remaining amount is being provided on property that was donated to the City for a public park through an existing agreement. This is being done by paying for their proportionate share of the landscaping going into Canyon Meadows Park (West). This will be documented by Agreement.

All developments are required to control the storm water generated by their development. A portion of this control is done by detaining the peak flows in a storm event. The Old Maple Farms regional detention basin was master planned to include this development area. The developer is meeting their detention requirement by paying for their proportionate share of the cost to construct this detention basin. This will be documented by Agreement.

- **Cross Access Agreement:** Lot 1 is using an existing access that is shared by the Assisted Living Facility and the residential home to the east. There is a shared used cross access agreement already in place and this shared use has been approved by UDOT.
- **Boundary Line Agreement:** There are some discrepancies with the property lines on the north end of the development along the park property. In order to clear up any issues, a Boundary Line Agreement will be recorded that establishes a common line that both property owners agree upon. The newly installed fence along the park property is the line that is being followed.

#### **STAFF REVIEW SUMMARY**

City Staff has done a review of the Petersen Farms PUD and have reviewed the following items:

##### **Planning Review:**

PL-1: Use – **Complies**

Dwelling: Single Family is a permitted use in any of the underlying zones.

Dwelling: Twin Home is a permitted use in the R-7 zone.

Dwelling: Multi-Family is a permitted use in the R-7 Zone.

PL-2: Lot Requirements – **Complies**

Density: Developer can spread density and uses throughout the project. PUD's purpose is to provide greater open space opportunities while clustering the development of the residential uses. The allowed density for this project in combining uses is 35, the developer is proposing 25.

An agreement exists between the city and the Developer to allow the use of the donated portion of Canyon Meadows West Park to be used as open space for the project and be counted in the density calculation.

Lot Area: The development may use any of the underlying zone requirements to fulfill the lot requirements. All lots are compliant to the requirements.

Lot Width: The development may use any of the underlying zone requirements to fulfill the lot requirements. All lots are compliant to the requirements.

PL-3: Set Backs – **Seeking Variation Based on PUD**

The applicant has indicated the setbacks for the various parcels on the plat. Lot 1 is requested to be a 10-foot minimum setback from all property lines. The other lots within the subdivision will utilize 20-foot front, 7-foot side, and 15-foot rear excepting the twin home lots 18 and 19.

PL-4: Parking – **Complies**

The site plan has been approved which addresses parking considerations.

PL-5: Landscaping – **Proposed Agreement**

The R-7 Zone requires 15% landscaping. Only a portion of the required landscaping is being



provided inside the development. The applicant wishes to include this in the Fee In Lieu agreement.

PL-6: Existing Conditions – **No Action Needed**

There is an existing home on 475 East that will be removed in order to connect the proposed Iris Lane with 475 East.

PL-7: Necessary Documents - **Complies**

Applicant has submitted all required documents for a Final Plan Review

**Engineering Review:**

- EN-1: All improvements associated with each phase must “stand alone” and will be required to be installed (as required by city code) before each associated plat can be recorded.
- EN-2: Due to the location of gravity lines, Phase 1 (which connects to 475 East) must be constructed before Phase 2, but if desire, both phases may be constructed at the same time.
- EN-3: The sewer and storm drain associated with the apartments that front South Weber Drive will be privately owned and maintained by the owner.
- EN-4: Since 475 East was recently overlayed, the majority of the area impacted by the new utilities being installed will be re-paved across the entire width of the road.
- EN-5: Developer has received all approval letters necessary for the development, including approvals from South Weber Irrigation Company on the phasing plan as long as “the secondary water system is installed per [their] design specifications and details.”

**PLANNING COMMISSION RECOMMENDATION OPTIONS**

After careful consideration of the information presented, the South Weber Planning Commission moves to:

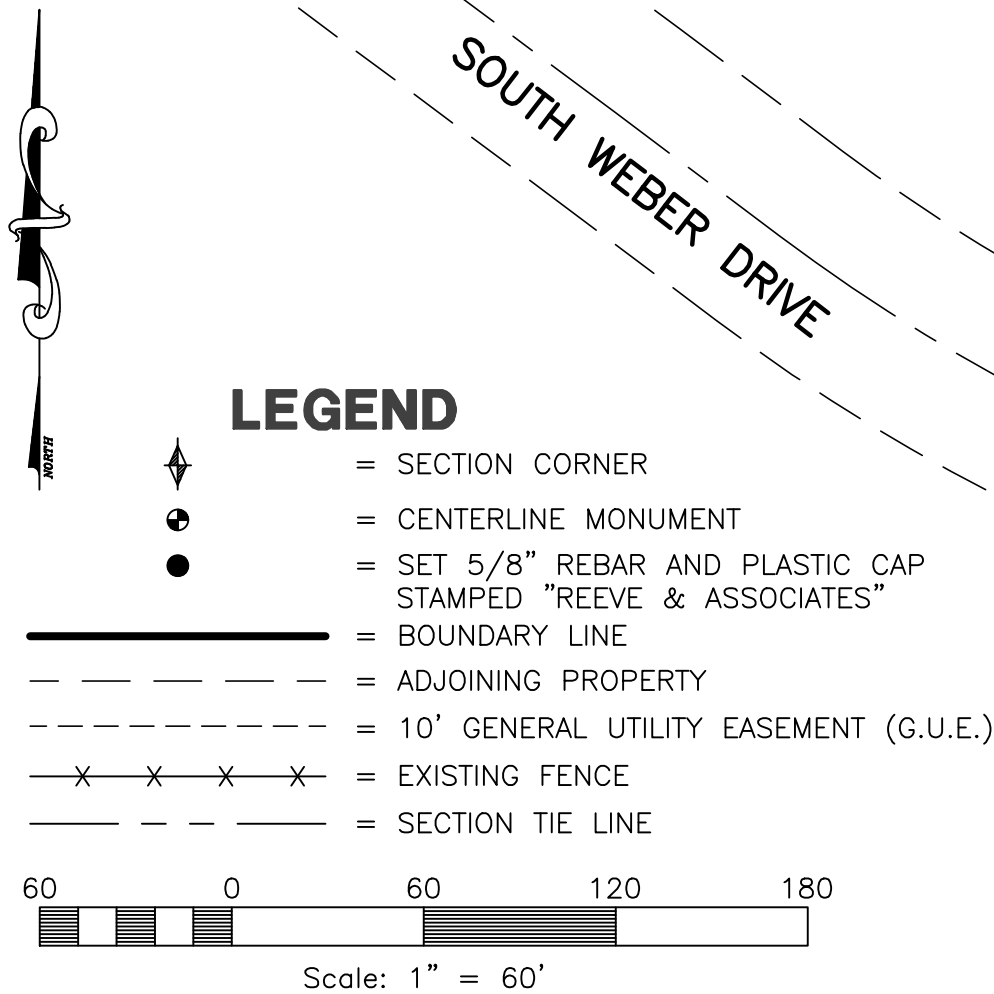
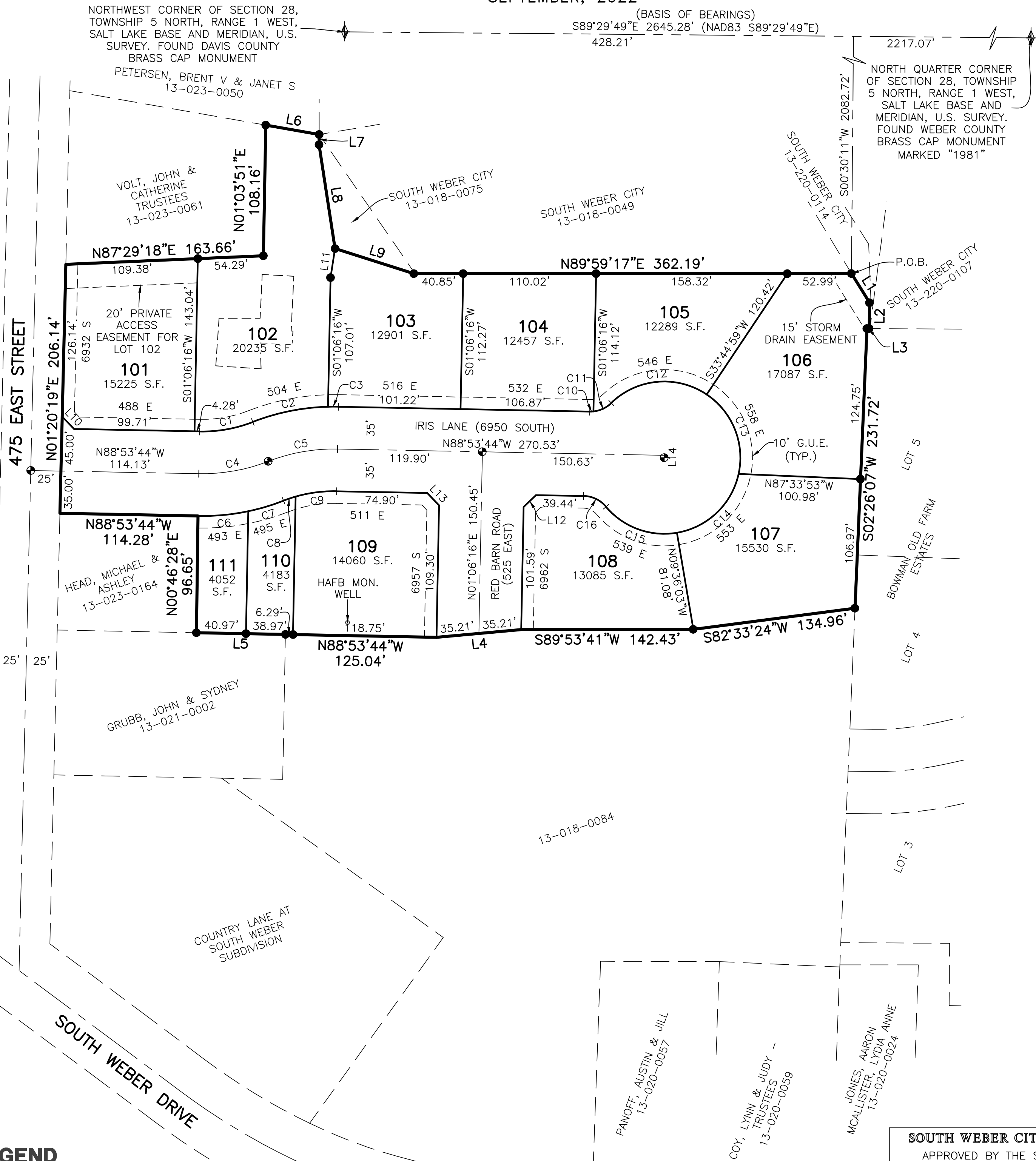
1. Recommend the City Council approve the Petersen Farms PUD Final Plat Final Plat for Petersen Farms PUD (25 Lot Plat) (Combined R-L, R-LM & R-7 zoning) 13.06 acres located at approx. 6950 S 475 E.
2. Recommend the City Council approve the Petersen Farms PUD Final Plat Final Plat for Petersen Farms PUD (25 Lot Plat) (Combined R-L, R-LM & R-7 zoning) 13.06 acres located at approx. 6950 S 475 E with the following conditions or recommendations:
  - a. *(Any other conditions that need to be met)*
3. Recommend the City Council deny the Petersen Farms PUD Final Plat Final Plat for Petersen Farms PUD (25 Lot Plat) (Combined R-L, R-LM & R-7 zoning) 13.06 acres located at approx. 6950 S 475 E for the following reasons:
  - a. *(List reasons based upon City Code.)*



SHEET 1 OF 1

# PETERSEN FARMS PUD PHASE 1

PART OF THE WEST HALF OF SECTION 28 AND THE EAST HALF OF SECTION 29,  
TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY  
CITY OF SOUTH WEBER, DAVIS COUNTY, UTAH  
SEPTEMBER, 2022



## SETBACKS

- LOTS 101-109:**
- FRONT SETBACK: 20'
  - SIDE SETBACK: 7' MIN EACH SIDE/15' MIN FRONTING STREET
  - REAR SETBACK: 15'
- LOTS 110-111:**
- FRONT SETBACK: 20'
  - INTERIOR SIDE SETBACK: 0'
  - EXTERIOR SIDE SETBACK: 7'
  - REAR SETBACK: 15'

### SOUTH WEBER CITY PLANNING COMMISSION

APPROVED BY THE SOUTH WEBER PLANNING COMMISSION ON THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

CHAIRMAN, SOUTH WEBER CITY PLANNING COMMISSION

### SOUTH WEBER CITY COUNCIL

PRESENTED TO THE SOUTH WEBER CITY COUNCIL THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND ACCEPTED.

SOUTH WEBER CITY MAYOR CITY RECORDER

### SOUTH WEBER CITY ENGINEER

APPROVED BY THE SOUTH WEBER CITY ENGINEER THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

SOUTH WEBER CITY ENGINEER

### SOUTH WEBER CITY ATTORNEY

APPROVED BY THE SOUTH WEBER CITY ATTORNEY THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

SOUTH WEBER CITY ATTORNEY

## NOTES

- EXISTING HOMES TO REMAIN.
- 20' PRIVATE ACCESS EASEMENT LOCATED ON LOT 101 IS IN FAVOR OF LOT 102

## BOUNDARY DESCRIPTION

PART OF THE WEST HALF OF SECTION 28 AND THE EAST HALF OF SECTION 29, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY, DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT, SAID POINT BEING SOUTH 89°29'49" EAST 428.21 FEET AND SOUTH 00°30'11" WEST 2082.72 FEET FROM THE NORTHWEST CORNER OF SAID SECTION 28 (NORTHWEST CORNER BEING NORTH 89°29'49" WEST 2645.28 FEET FROM THE NORTH QUARTER CORNER OF SAID SECTION 28); THENCE SOUTH 31°51'59" EAST 28.46 FEET; THENCE SOUTH 00°47'36" WEST 21.39 FEET; THENCE SOUTH 89°53'32" WEST 1.96 FEET TO THE WESTERLY LINE OF BOWMAN OLD FARM ESTATES; THENCE SOUTH 02°26'07" WEST ALONG SAID WESTERLY LINE, 231.72 FEET; THENCE SOUTH 82°33'24" WEST 134.96 FEET; THENCE SOUTH 89°53'41" WEST 142.43 FEET; THENCE SOUTH 84°49'07" WEST 70.42 FEET; THENCE NORTH 88°53'44" WEST 125.04 FEET; THENCE NORTH 88°53'44" WEST 73.65 FEET; THENCE NORTH 00°46'28" EAST 96.65 FEET; THENCE NORTH 88°53'44" WEST 114.28 FEET TO THE EASTERLY RIGHT-OF-WAY LINE OF 475 EAST STREET; THENCE NORTH 01°20'19" EAST 206.14 FEET ALONG SAID EASTERLY RIGHT-OF-WAY LINE; THENCE NORTH 87°29'18" EAST 163.66 FEET; THENCE NORTH 01°03'51" EAST 108.16 FEET; THENCE SOUTH 80°03'36" EAST 44.88 FEET; THENCE SOUTH 00°37'12" WEST 8.52 FEET; THENCE SOUTH 08°45'06" EAST 86.98 FEET; THENCE SOUTH 72°20'48" EAST 68.42 FEET; THENCE NORTH 89°59'17" EAST 362.19 FEET TO THE POINT OF BEGINNING.

CONTAINING 192,810 SQUARE FEET OR 4.426 ACRES.

## LINE TABLE

LINE	BEARING	DISTANCE
L1	S31°51'59"E	28.46'
L2	S00°47'36"W	21.39'
L3	S89°53'32"W	1.96'
L4	S84°49'07"W	70.42'
L5	N88°53'44"W	73.65'
L6	S80°03'36"E	44.88'
L7	S00°37'12"W	8.52'
L8	S08°45'06"E	86.98'
L9	S72°20'48"E	68.42'
L10	S43°46'42"E	14.11'
L11	N08°53'25"E	24.28'
L12	S46°06'16"W	14.14'
L13	N43°53'44"W	14.14'
L14	S01°06'16"W	2.01'

## CURVE TABLE

#	RADIUS	ARC LENGTH	CHD LENGTH	TANGENT	CHD BEARING	DELTA
C1	115.00'	44.97'	44.69'	22.78'	N79°54'06"E	22°24'21"
C2	185.00'	63.84'	63.52'	32.24'	N78°35'04"E	19°46'17"
C3	185.00'	8.51'	8.50'	4.25'	N89°47'14"E	2°38'03"
C4	150.00'	58.66'	58.29'	29.71'	N79°54'06"E	22°24'21"
C5	150.00'	58.66'	58.28'	29.71'	N79°54'05"E	22°24'20"
C6	185.00'	41.88'	41.79'	21.03'	N84°37'07"E	12°58'18"
C7	185.00'	30.46'	30.43'	15.27'	N73°24'57"E	9°26'03"
C8	115.00'	10.61'	10.61'	5.31'	N71°20'30"E	5°17'09"
C9	115.00'	34.36'	34.23'	17.31'	N82°32'40"E	17°07'11"
C10	25.00'	3.14'	3.13'	1.57'	N87°30'39"E	7°11'14"
C11	25.00'	16.59'	16.28'	8.61'	N64°54'42"E	38°00'40"
C12	63.00'	85.64'	79.20'	50.91'	N84°50'59"E	77°53'15"
C13	62.87'	75.32'	70.90'	42.92'	S21°55'10"E	68°38'47"
C14	62.86'	74.86'	70.52'	42.59'	S48°19'09"W	68°14'07"
C15	63.00'	65.40'	62.51'	36.00'	N69°51'34"W	59°28'59"
C16	25.00'	21.28'	20.65'	11.33'	N64°30'24"W	48°46'40"



VICINITY MAP  
SCALE: NONE

### SURVEYOR'S CERTIFICATE

I, **TREVOR J. HATCH**, DO HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF UTAH IN ACCORDANCE WITH TITLE 58, CHAPTER 22, PROFESSIONAL ENGINEERS AND LAND SURVEYORS ACT; AND THAT I HAVE COMPLETED A SURVEY OF THE PROPERTY DESCRIBED ON THIS PLAT IN ACCORDANCE WITH SECTION 17-23-17 AND HAVE VERIFIED ALL MEASUREMENTS, AND HAVE PLACED MONUMENTS AS REPRESENTED ON THIS PLAT, AND THAT THIS PLAT OF **PETERSEN FARMS PUD PHASE 1** IN **SOUTH WEBER CITY, DAVIS COUNTY, UTAH**, HAS BEEN DRAWN CORRECTLY TO THE DESIGNATED SCALE AND IS A TRUE AND CORRECT REPRESENTATION OF THE HEREIN DESCRIBED LANDS INCLUDED IN SAID SUBDIVISION, BASED UPON DATA COMPILED FROM RECORDS IN THE **DAVIS COUNTY** RECORDER'S OFFICE AND FROM SAID SURVEY MADE BY ME ON THE GROUND, I FURTHER CERTIFY THAT THE REQUIREMENTS OF ALL APPLICABLE STATUTES AND ORDINANCES OF **SOUTH WEBER CITY, DAVIS COUNTY** CONCERNING ZONING REQUIREMENTS REGARDING LOT MEASUREMENTS HAVE BEEN COMPLIED WITH.

SIGNED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

9031945

UTAH LICENSE NUMBER

### OWNERS DEDICATION AND CERTIFICATION

WE THE UNDERSIGNED OWNERS OF THE HEREIN DESCRIBED TRACT OF LAND, DO HEREBY SET APART AND SUBDIVIDE THE SAME INTO TWO LOTS AS SHOWN ON THE PLAT AND NAME SAID TRACT **PETERSEN FARMS PUD PHASE 1**, AND DO HEREBY DEDICATE TO SOUTH WEBER CITY, DAVIS COUNTY, UTAH, ALL PARTS OF SAID TRACT OF LAND DESIGNATED AS STREETS, THE SAME TO BE USED AS PUBLIC THOROUGHFARES FOREVER; AND ALSO DEDICATE TO SOUTH WEBER THOSE CERTAIN STRIPS AS EASEMENTS FOR GENERAL UTILITY AND DRAINAGE PURPOSES AS SHOWN HEREON, THE SAME TO BE USED FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF GENERAL UTILITY SERVICE LINES AND DRAINAGE AS MAY BE AUTHORIZED BY SOUTH WEBER CITY WITH NO BUILDINGS OR STRUCTURES BEING ERECTED WITHIN ANY EASEMENT DESCRIBED HEREON.

SIGNED THIS \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

PETERSEN FARMS LLC

NAME/TITLE

### ACKNOWLEDGMENT

STATE OF UTAH )SS.  
COUNTY OF \_\_\_\_\_ )

ON THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_,  
PERSONALLY APPEARED BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, (AND) \_\_\_\_\_ BEING BY ME DULY SWORN, OF \_\_\_\_\_  
ACKNOWLEDGED TO ME THEY ARE \_\_\_\_\_  
SAID LLC AND THAT THEY SIGNED THE ABOVE OWNER'S DEDICATION AND CERTIFICATION FREELY, VOLUNTARILY, AND IN BEHALF OF SAID LLC FOR THE PURPOSES THEREIN MENTIONED.

NOTARY PUBLIC \_\_\_\_\_

MY COMMISSION EXPIRES: \_\_\_\_\_

RESIDING IN \_\_\_\_\_ COUNTY, \_\_\_\_\_

## NARRATIVE

THE PURPOSE OF THIS PLAT IS TO DIVIDE THE PROPERTY INTO LOTS AND STREETS AS SHOWN. THE BOUNDARY ON THE NORTH WAS PLACED ALONG THE SOUTH LINE OF A HANSEN SURVEY WITH POINTS FOUND AS SHOWN HEREON. THE EAST LINE WAS PLACED ALONG THE WEST LINE OF BOWMAN OLD FARM. THE RIGHT OF WAY LINE OF 475 EAST STREET WAS DETERMINED BY A HANSEN RECORD OF SURVEY DELINEATING SAID RIGHT OF WAY. THE PROPERTY LINE ADJACENT TO PARCEL # 13-020-0057 AND PARCEL # 13-020-0059 WAS PLACED ALONG AN EXISTING FENCE. BOUNDARY LINE AGREEMENTS SHOULD BE RECORDED TO CLEAR TITLE DISCREPANCIES. ALL REAR LOT CORNERS WERE SET WITH A 5/8" REBAR AND PLASTIC CAP STAMPED "REEVE & ASSOCIATES".

## BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS PLAT IS THE SECTION LINE BETWEEN THE NORTHWEST CORNER AND THE NORTH QUARTER CORNER OF SECTION 28, TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN. SHOWN HEREON AS S89°29'49"E (NAD83 S89°29'49"E).

### PROJECT INFORMATION

Surveyor: **T. HATCH**  
Project Name: **PETERSEN FARMS PUD PHASE 1**  
Designer: **N. ANDERSON**  
Begin Date: **9-19-2022**  
Number: **6115-03**  
Scale: **1"=60'**  
Revision: \_\_\_\_\_  
Checked: \_\_\_\_\_

### DAVIS COUNTY RECORDER

ENTRY NO. \_\_\_\_\_ FEE PAID \_\_\_\_\_  
\_\_\_\_\_ FILED FOR RECORD  
AND RECORDED, \_\_\_\_\_ AT  
\_\_\_\_\_ IN BOOK \_\_\_\_\_ OF  
THE OFFICIAL RECORDS, PAGE \_\_\_\_\_

RECORDED FOR:

DAVIS COUNTY RECORDER

DEPUTY,





SHEET 1 OF 1

# PETERSEN FARMS PUD PHASE 2

PART OF THE WEST HALF OF SECTION 28 AND THE EAST HALF OF SECTION 29,  
TOWNSHIP 5 NORTH, RANGE 1 WEST, SALT LAKE BASE AND MERIDIAN, U.S. SURVEY  
CITY OF SOUTH WEBER, DAVIS COUNTY, UTAH  
SEPTEMBER, 2022

## NOTES

1. THE OWNERS OF THE PRIVATE STORM DRAIN/SEWER EASEMENTS ON LOTS 208, 209, AND 205 ARE THE OWNERS OF LOT 1, LOT 2, AND LOT 1 OF THE COUNTRY LANE AT SOUTH WEBER SUBDIVISION.
2. THE OWNER OF THE PRIVATE SEWER/STORM DRAIN EASEMENT ON LOT 209 IS THE OWNER OF LOT 208.
3. THE OWNERS OF THE SHARED ACCESS EASEMENT ON LOT 2081 ARE THE OWNERS OF LOT 2 AND LOT 1 OF THE COUNTRY LANE AT SOUTH WEBER SUBDIVISION.
4. THE OWNER OF THE PRIVATE IRRIGATION EASEMENTS IS PETERSEN FARMS LLC.
5. EXISTING HOMES TO REMAIN



VICINITY MAP  
SCALE: NONE

## SURVEYOR'S CERTIFICATE

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9031945  
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PETERSEN FARMS LLC

NAME/TITLE

## ACKNOWLEDGMENT

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COUNTY OF \_\_\_\_\_ )

ON THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_,  
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ACKNOWLEDGED TO ME THEY ARE \_\_\_\_\_ OF  
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NOTARY PUBLIC

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RESIDING IN \_\_\_\_\_ COUNTY, \_\_\_\_\_

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## LINE TABLE

LINE	BEARING	DISTANCE
L1	S35°42'51"W	21.59
L2	S78°04'11"E	10.93
L3	S54°17'09"E	31.81
L4	N72°55'02"E	16.67
L5	S00°13'59"W	34.06
L6	S31°18'15"W	103.62
L7	N18°41'31"E	108.23
L8	N00°13'59"E	54.54
L9	N87°59'22"E	48.43
L10	N00°38'01"E	8.80
L11	N03°12'08"E	12.57
L12	N12°10'56"W	16.35
L13	N24°25'12"W	1.59
L14	N35°42'51"E	2.48
L15	S76°23'00"E	24.28
L16	N35°42'51"E	50.34
L17	N01°12'07"W	29.14
L18	S68°54'24"E	47.73
L19	S88°18'19"E	63.85
L20	S88°18'19"E	21.85
L21	S88°53'44"E	50.66
L22	S89°21'58"E	5.52
L23	N01°06'16"E	68.86

## CURVE TABLE

#	RADIUS	ARC LENGTH	CHD LENGTH	TANGENT	CHD BEARING	DELTA
C1	1489.70'	103.60'	103.58'	51.82'	N79°24'54"W	3°59'04"
C2	1350.90'	61.24'	61.24'	30.63'	N75°54'20"W	2°35'51"
C3	421.45'	77.60'	77.49'	38.91'	N69°19'31"W	10°33'00"
C4	98.00'	23.09'	23.03'	11.60'	S05°38'40"E	13°29'51"
C5	98.00'	68.08'	66.71'	35.48'	S32°17'36"E	39°48'01"
C6	98.00'	64.85'	63.67'	33.66'	S71°08'58"E	37°54'43"
C7	63.00'	100.29'	90.03'	64.34'	S44°30'02"E	91°12'35"
C8	28.00'	44.57'	40.01'	28.60'	S44°30'02"E	91°12'35"
C9	115.01'	42.54'	42.30'	21.52'	N79°17'51"E	21°11'40"
C10	160.00'	61.25'	60.88'	31.00'	N79°40'02"E	21°56'01"
C11	150.01'	55.49'	55.18'	28.07'	N79°17'51"E	21°11'40"
C12	125.00'	47.85'	47.56'	24.22'	N79°40'02"E	21°56'01"
C13	185.01'	68.44'	68.05'	34.61'	N79°17'51"E	21°11'40"
C14	90.00'	34.45'	34.24'	17.44'	N79°40'02"E	21°56'01"
C15	1350.90'	29.72'	29.72'	14.86'	S75°14'13"E	1°15'39"
C16	1350.90'	31.52'	31.52'	15.76'	S76°32'09"E	1°20'13"

## SETBACKS

- LOT 208: 10' SETBACK MIN.  
LOTS 201-207 & 209:  
• FRONT SETBACK: 20'  
• SIDE SETBACK: 7' MIN EACH  
SIDE/15' MIN FRONTING STREET  
• REAR SETBACK: 15'

## SOUTH WEBER CITY PLANNING COMMISSION

APPROVED BY THE SOUTH WEBER PLANNING COMMISSION ON THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

CHAIRMAN, SOUTH WEBER CITY PLANNING COMMISSION

## SOUTH WEBER CITY COUNCIL

PRESENTED TO THE SOUTH WEBER CITY COUNCIL THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_, AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND ACCEPTED.

SOUTH WEBER CITY MAYOR CITY RECORDER

## SOUTH WEBER CITY ENGINEER

APPROVED BY THE SOUTH WEBER CITY ENGINEER THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

SOUTH WEBER CITY ENGINEER

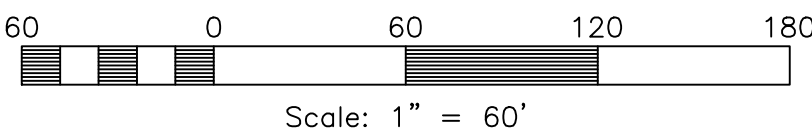
## SOUTH WEBER CITY ATTORNEY

APPROVED BY THE SOUTH WEBER CITY ATTORNEY THIS THE \_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

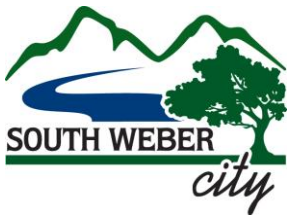
SOUTH WEBER CITY ATTORNEY

## LEGEND

- = SECTION CORNER
- = CENTERLINE MONUMENT
- = SET 5/8" REBAR AND PLASTIC CAP STAMPED "REEVE & ASSOCIATES"
- = BOUNDARY LINE
- = ADJOINING PROPERTY
- = 10' GENERAL UTILITY EASEMENT (G.U.E.)
- = EXISTING FENCE
- = SECTION TIE LINE







# PLANNING COMMISSION MEETING STAFF REPORT

## MEETING DATE

December 8, 2022

## PREPARED BY

Brandon Jones  
City Engineer

## ITEM TYPE

Administrative

## ATTACHMENTS

Public Works Standards  
for Development, Design,  
and Construction, January  
2023 (DRAFT)

## PRIOR DISCUSSION DATES

None

## AGENDA ITEM

Update of the Public Works Standards for Development, Design, and Construction

## PURPOSE

Public Works Standards for Development, Design, and Construction provide consistent guidelines under which public facility designs and infrastructure is implemented. The current version of the Standards was approved in October 2017. These standards, specifications, and construction drawings have been and will continue to be updated periodically as new technology, policy changes, procedure changes, updated methods of design and construction are implemented, or infrastructure materials change.

## BRIEF OVERVIEW OF CHANGES

The changes listed below are only a brief overview. If no change was made to the referenced Section, it is stated as such. To provide for easy navigation of the proposed changes, the list contains a link to the associated page, all changes have been highlighted and/or shown in RED, and the full document contains bookmarks to help with navigation.

### **Section 1 – General**

- 1.03 [More clearly defined meaning of Title / Chapter and specified current Code information.](#)
- 1.04 [Added acronym for Utah Administrative Code](#)

### **Section 2 – Development Standards**

- 2.02 [Added requirement for Developer to be responsible for materials and construction testing.](#)
- 2.04 [Geotechnical Investigation. This is a new section that was added to specify the minimum requirements for what needs to be addressed in a geotechnical report.](#)

### **Section 3 – Design Standards**

- 3.03 [Updates to pipe requirements to meet State Code.](#)
- 3.04 [Updates to requirements for water line crosses to comply with Division of Drinking Water requirements.](#)
- 3.05 [Street/Road Design requirements updated to clarify design specifications.](#)
- 3.06 [Storm Drain and Drainage Design updated to meet State requirements.](#)



## Section 4 – Construction Standards

- 4.01 Updated Contractor licensing requirements to follow State Code (previous version specified license types).
- 4.03 Construction Testing. This section has been updated to include requirements for both development projects and city projects.

## Section 5 – Technical Specifications.

No Changes.

## Section 6 – Standard Drawings, Plans, and Details

See revisions to Drawings.

## Appendix A – Storm Drain and Drainage Design Standards

- Updates to all storm drain and drainage standards to comply with the updated State Code requirements of an 80<sup>th</sup> percentile retention instead of the previous 90<sup>th</sup> percentile retention.
- Addition of Exhibit 3 - Low Impact Development (LID) Best Management Practices (BMPs).

## Appendix B – Geotechnical Report

This is a new Appendix that defines the minimum requirements of all geotechnical investigation reports.

## Appendix C – Modifications and Additions to Manual of Standard Specifications

- 32 12 05 M Bituminous Concrete (Modified). This adds two minor clarifications to the new spec approved and adopted by APWA in April 2022.
- 32 16 13 M Driveway, Sidewalk, Curb, Gutter (Modified). Added requirement for expansion joints where new curb and gutter adjoins existing.
- 32 92 00 M Turf and Grass (Modified). Added requirement to submit seed mix if an alternate mix from the approved provided list is being proposed.
- 33 05 12 Conductive Tracer Wire for Pipe Installation. This is a newly added specification.
- 33 11 00 M Water Distribution and Transmission (Modified). Added requirement to follow Utah Administrative Code for Drinking Water.

## Appendix D – South Weber City Public Works Standard Drawings

New Sheet No.	Original Sheet No.	Updates/Modifications
All Drawing Sheets		Updated individual sheets with the new standards border, updated all drawings sheet page links per the updated sheet naming convention.
Cover	CS-01	Updated signature blocks, updated sheet naming convention (Renaming the drawing sheets allows for simpler future revisions and updates).



R1	CS-02	Updated the irrigation system note on the lot lateral configuration detail, removed tree notes and references.
R2	CS-03	Renamed the South Bench Drive cross sections to Collector Roadways, and updated the street cross section dimensions.
R3		New Detail Sheet - Added the private roadway street cross sections per the City Ordinance.
R4	CS-04	Moved the street sign details to Sheet R9, updated the APWA reference numbers on the survey monument detail.
R5	CS-05	Adjusted drawing sheet to be Drive Approach specific, moved defective concrete detail to Sheet R10, moved asphalt patch plan to Sheet R11.
R6	CS-06	Adjusted drawing sheet to Be ADA Ramp specific, moved concrete related details (sidewalk, curb, etc.) to Sheet R10.
R7	CS-07	Renumbered drawing sheet, no additional changes.
R8		New Detail Sheet - Added the private roadway cul-de-sac and hammerhead turnaround details to the City Standards.
R9		Created a Street Sign specific detail Sheet, added the private road plate detail, updated street sign pole dimensions and notes.
R10		Created a Concrete specific detail Sheet, moved concrete related details to this sheet, updated the concrete collar notes.
R11		Created a Trench Section and Asphalt Patch specific drawing sheet, moved specific details shown to this drawing sheet, updated patch plan dimensions.
R12	CS-05A	Renumbered drawing sheet, no additional changes.
CW1	CS-08	Updated the water later service part numbers, pipe specifications, and added general Note 6 to the drawing sheet.
CW2	CS-09	Updated pipe specifications, added valve collar detail and updated concrete collar notes, and updated Flexi-Flag note.
CW3	CS-10	Renumbered drawing sheet, no additional changes.
CW4	CS-11	Updated the large water meter station to the Octave Meter and components, updated pipe specifications, updated vault dimensions.
CW5	CS-12	Updated pipe specifications.
CW6	CS-13	Moved the Trench Section detail to Sheet R11, updated various notes, added the "Alpha" restraint system as an approved option.
CW7		New Detail Sheet - Added the (RP) Reduced Pressure Backflow Assembly details for commercial irrigation connections to the Culinary Water System.
SS1	CS-14	Renumbered drawing sheet, no additional changes.
SS2	CS-15	Added Sampling Manhole Detail, Moved Concrete Collar Detail to Sheet R10
SD1	CS-16	Updated the catch basin details to reflect current construction methods for installation.
SD2	CS-17	Renumbered drawing sheet, no additional changes.
SD3	CS-18	Updated storm drain manhole notes.
SD4	CS-19	Updated basin slope at the outlet structure.
SD5	CS-20	Updated basin slope at the outlet structure.

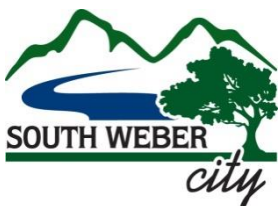
G1	CS-21	Updated the fence post table (depth of posts).
G2		New Detail Sheet - Added "Water Wise" examples and references to the City Code.
SL1-SL3	CS-22	New Detail Sheets - Added the current City Standard Streetlight details and installation practices to the City Standards.
SL4	CS-22	Added the RMP (Rocky Mountain Power) connection detail to the City Standards as part of the streetlight detail sheets.
LID1	CS-23	Updated LID (Low Impact Development) information [er the State of Utah Low Impact Development Guide, Added additional LID examples to the drawing sheet.

# South Weber City Corporation

## Development, Design, & Construction Standards



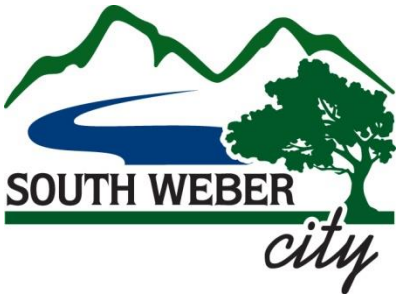
## January 2023



Prepared by  
**JONES & ASSOCIATES**  
*Consulting Engineers*



DEVELOPMENT, DESIGN, AND  
CONSTRUCTION STANDARDS  
for  
SOUTH WEBER CITY



**SUBMITTED & RECOMMENDED:**

**APPROVED:**

\_\_\_\_\_  
Brandon K. Jones, P.E.  
City Engineer

\_\_\_\_\_  
Date

\_\_\_\_\_  
Rod Westbroek  
Mayor

\_\_\_\_\_  
Date

\_\_\_\_\_  
David J. Larson  
City Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
Trevor Cahoon  
Community & Planning Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
Mark B. Larsen  
Public Works Director

\_\_\_\_\_  
Date

\_\_\_\_\_  
Lisa Smith  
Attest, City Recorder

\_\_\_\_\_  
Date



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## APPENDICES

- A STORM DRAIN AND DRAINAGE DESIGN STANDARDS
- B GEOTECHNICAL INVESTIGATION REPORT MINIMUM REQUIREMENTS
- C MODIFICATIONS AND ADDITIONS TO MANUAL OF STANDARD SPECIFICATIONS
- D SOUTH WEBER CITY PUBLIC WORKS STANDARD DRAWINGS

## SECTION 1 GENERAL

### 1.01 South Weber City Municipal Code Governs

Nothing in this document shall be construed to be contrary to South Weber City Municipal Code. Should a conflict exist between this document and the Ordinances, the Code shall govern.

### 1.02 Conformance with Federal, State, and Local Laws

Nothing in this document shall relieve the Developer, Engineer, or Contractor from abiding by any and all Federal, State, and local laws.

### 1.03 Definitions

- A. Title or Chapter – When “Title” or “Chapter” is written, it shall be as if “South Weber City Ordinance, Title (or Chapter)” is written.
- B. Contractor – The individual, firm, co-partnership, or corporation, and his, their, or its heirs, executors, administrators, successors, and assigns, or the lawful agent of any such individual firm, partnership, covenantor, or corporation, or his, their, or its surety under the contract bond, constituting one of the principals to the contract and undertaking to perform the Work.
- C. Drawings – The City-approved construction drawings, the South Weber City Public Works Standard Drawings, and/or the Manual of Standard Drawings, as applicable.
- D. Developer – The person sponsoring construction of the improvements.
- E. Development – The subject subdivision, minor subdivision, or building.
- F. Improvements – See “Work.”
- G. Improvement Plans – See “Drawings.”
- H. Inspector – The authorized representative of the City or City Engineer assigned to make all necessary inspections of the Work performed or being performed, or of materials furnished or being furnished by the Contractor.
- I. Work – All types of work necessary to provide safe access and utility service to and within proposed subdivision or site, including, but not limited to, site grading, utility installation, and street construction. Work includes all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning.<sup>1</sup>
- J. See also the South Weber City Municipal Code, Title 11 Subdivision Regulations. Where definition conflicts arise between City Ordinance and this document, the definitions in this document shall take precedence when in reference to this document.

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<sup>1</sup> From EJCDC® C-700, Standard General Conditions of the Construction Contract.

#### 1.04 Acronyms

- A. BMP – Best Management Practice
- B. CFP – Capital Facilities Plan
- C. DDW – Division of Drinking Water
- D. DWQ – Division of Water Quality
- E. DWRI – Division of Water Rights
- F. FEMA – Federal Emergency Management Agency
- G. HOA – Homeowners' Association
- H. LID – Low Impact Development
- I. RCP – Reinforced Concrete Pipe
- J. SWC – South Weber City
- K. UAC – Utah Administrative Code
- L. UDEQ – Utah Department of Environmental Quality
- M. UDOT – Utah Department of Transportation
- N. UPDES – Utah Pollutant Discharge Elimination System
- O. USACE – United States Army Corps of Engineers

#### 1.05 Modification Process

- A. Whenever, in the opinion of the City Public Works Department, the City Engineer, or the Superintendent having jurisdiction, a literal enforcement of these regulations may work an undue hardship or a literal enforcement of the provisions may be unnecessary to meet the goals and standards of the City, the City may modify those standards in the following manner:
- B. Modifications may be granted when there are practical difficulties involving carrying out the provisions of the Public Works Standards and Technical Specifications, and a panel consisting of the City Manager, City Planner, City Engineer, and the Public Works Director or their Representative determine that granting of a modification for an individual case will meet the goals and requirements of the City without unduly jeopardizing the public and the individual's interest.
  - 1. The City shall first receive a written request for a modification to the standards from any interested party.
  - 2. Upon receipt of the request, the panel discussed above shall find that a special individual reason makes the strict letter of the standard impractical, and shall find the modification is in conformance with the intent and purpose of the standards and shall find that such modification does not in any way lessen the integrity of the standards.

3. When such findings of fact are made, the panel may grant such modification as it deems appropriate. The details of any action granted as modification by this panel shall be recorded and entered in the files of the City, with the specific reasons for the granting of said modification.

## SECTION 2      DEVELOPMENT STANDARDS

### 2.01      Approval Procedure

See Title 11 – Subdivision Regulations of the South Weber City Municipal Code

### 2.02      Developer Responsibilities

- A. Required Improvements and Guarantees – see Title 11 of South Weber City Municipal Code.
- B. Permits and Approvals
  - 1. Developer is responsible for obtaining all necessary permits and approvals for the construction of the Improvements. Copies of all applications and approved permits shall be submitted to the City. Agencies/permits that may be required include, but are not limited to:
    - a. DDW Plan Approval (pre-construction)
    - b. DDW Operating Permit (post-construction)
    - c. UPDES NOI and NOT
    - d. DWRi Stream Alteration
    - e. DWRi Dam Safety
    - f. EPA 404 Wetlands
    - g. FEMA CLOMA and/or CLOMR
    - h. UDOT
    - i. Others as applicable
- C. Improvements
  - 1. The required improvements shall include all street improvements in front of all lots along all dedicated streets to a connection with existing improvements of the same kind or to the boundary or the subdivision nearest existing improvements. Design must provide for future extension to adjacent development and to be compatible with the contour of the ground for proper drainage. All water lines, sewer lines, and any other buried conduit shall be installed to the boundary lines of the subdivision. See Chapter 11.04 for more information.
  - 2. Upsizing based on CFPs – The Developer will be required to construct/install infrastructure sized in accordance with the City’s currently adopted CFPs. The City will be responsible for paying the difference in cost between the master planned infrastructure size and the minimum infrastructure size required for the development.
  - 3. Seal Coat – See Municipal Code.
  - 4. Street Lighting – See Municipal Code.

5. Street Signage – See Municipal Code.
6. Materials and Construction Testing – Developer shall be responsible for all materials and construction testing. Testing must be performed by a properly licensed and qualified testing agency. The results shall be provided to the City’s inspector.
7. Survey of Existing Improvements – Developer shall reimburse City for City Engineer’s time spent surveying in locations of new improvements.

## **2.03 Subdivision Standards**

- A. The general standards for subdivision layout and development are found in Title 11 – Subdivision Regulations.
- B. See also Section 3 – Design Standards and Section 4 – Construction Standards of this document.

## **2.04 Geotechnical Investigation**

- A. A geotechnical investigation should be conducted for the following:
  1. All new subdivisions;
  2. All commercial subdivisions and sites;
  3. Any subdivision that includes public infrastructure improvements;
  4. Any development in Sensitive Lands (see Title 10-14); and
  5. Upon request of the City.
- B. The geotechnical investigation should be complete in nature, and its findings shall be summarized in a Geotechnical Report. The Geotechnical Report shall be signed and sealed by a licensed Professional Engineer with expertise in the field of geotechnical engineering.
- C. See Appendix B for requirements regarding the Geotechnical Report, including minimum testing requirements and design parameters.

## SECTION 3 DESIGN STANDARDS

### 3.01 Required Improvements

- A. See Chapter 11.04 for information on the required improvements.
- B. See also Section 5 – Technical Specifications and Section 6 – Standard Drawings, Plans, and Details of this document for additional information.

### 3.02 Improvement Plans

- A. Complete and detailed, and signed and sealed (in accordance with Utah Code 58-22-602) construction plans and drawings of improvements shall be submitted to the City for the review by the City Engineer prior to receiving final plat approval and prior to commencing construction. Per Chapter 11.04, no construction shall begin until plans have been checked and approved by the City Engineer, and final approval is granted by the City Council.
- B. The following instructions are for the purpose of standardizing the preparation of drawings to obtain uniformity in appearance, clarity, size, and style. The plans and designs shall meet the standards defined in the specifications and drawings hereinafter outlined. The minimum information required on the drawings for improvements is as follows:
  - 1. All drawings and/or prints shall be clear and legible and conform to industry standard engineering and drafting practices.
  - 2. Drawings shall be legible and to a common scale when printed on 11"x17" paper.
  - 3. Both plan view and centerline profile must be shown. On subdivisions along steep cross slopes, profiles for each side of the street may be required to be shown.
  - 4. Plan and profiles shall indicate design and/or existing grades a minimum of 200 feet beyond the limits of the proposed project.
  - 5. All wet utilities (water, sewer, storm drain, irrigation) shall be shown in plan and profiles views.
- C. Each set of plans shall be accompanied by a separate sheet of details for special structures which are to be constructed and are not covered by the City Standards. All structures shall be designed in accordance with the minimum South Weber City Standards and approved by the City Engineer.
- D. Separate drawings of elements of the South Weber City Standards shall not be required to be redrawn and submitted with the construction drawings unless specific deviations from the standards are requested for approval; however, the construction drawings shall refer to the specific items of the Standards that are to be incorporated into the Work.
- E. The plan and profile construction plans shall be submitted in portable document format ("pdf"). Upon approval, the developer's engineer shall provide the City Engineer with electronic files of the final plat and improvement plans in AutoCAD or other City Engineer approved format. A hard copy of the approved construction plans bearing the signature of

the City Engineer shall be kept available at the construction site. Prior to final acceptance by the City, the developer, developer's representative, contractor, or project engineer shall submit to the City Engineer a set of "as built" drawings for permanent City file record.

### 3.03 Sanitary Sewer Design

- A. All design shall be in accordance with Utah Administrative Code R317.
  - 1. Changes in pipe size shall occur in a manhole. Match 0.8 depth point of sewer lines. (R317-3-2-H)
- B. All terminating sewer mains shall end with a city standard manhole.
- C. Service lateral connection shall not be allowed in sewer manholes.
- D. All sewer shall be gravity unless otherwise approved by the City.
- E. Collection lines shall be located in public rights-of-way or private road rights-of-way. Collection lines shall not be located on private property (easements) without the express written permission from the City. If such case is granted, easement shall be a minimum width of 20' and shall be dedicated to the City of South Weber.
- F. All sanitary sewer systems shall be public and shall connect to a public sewer line. Private sanitary sewer systems may be permitted on singularly owned property provided they discharge directly to a public sewer system and obtain the express written permission from the City.

### 3.04 Water Design

- A. All design shall be in accordance with Utah Administrative Code R309.
- B. Valves are required on all branches of tees and crosses. On unbroken lengths of water line, the maximum valve spacing is 1000-ft.
- C. At dead end lines, including temporary dead ends, provide fire hydrant at termination point.
- D. Where a water line crosses surface water, designer/engineer shall contact the DDW and the City prior to final design.
- E. All fire lines shall meet public works standards but shall remain privately owned and maintained.
- F. Fire hydrants
  - 1. Fire hydrants are to be installed in locations as required by the fire code and approved by the Fire Marshal and City Engineer, with a minimum spacing of 500-ft.
  - 2. Fire hydrants shall not be located within 10-ft of any sanitary sewer line or manhole.

### 3.05 Street/Road Design

- A. Streets shall be designed in accordance with these Standards, standard engineering practices, and AASHTO and MUTCD guidelines.



- B. Local (residential) streets shall have not less than 333' radius curves<sup>2</sup>
- C. No changes of grade in excess of 1.5% shall be permitted without a vertical curve.
- D. Sight triangles shall be shown at the request of the City Engineer.
- E. Horizontal points of curvature shall not be located closer than 150' from the center of an intersection.
- F. Intersections
  - 1. Roadway centerlines shall intersect at 90-degrees. Where a 90-degree angle is not feasible, the intersection angle may be reduced to as low as 80-degrees with the City Engineer's concurrence. In no case shall the angle be less than 80-degrees.
  - 2. Intersections shall be no closer than 500-ft to one another, as measured from centerline to centerline.
- G. Cul-de-Sacs
  - 1. Length of cul-de-sac shall not exceed 400-ft as shown in the Standard Drawings.
- H. Pavement / Pavement Section
  - 1. Developments
    - a. Pavement section shall be designed by the developer's geotechnical engineer and included in the Geotechnical Report submitted to the City. See Appendix B of this document for the Geotechnical Report Minimum Requirements, including testing requirements and design parameters.
  - 2. City Projects
    - a. Pavement section shall be included in the Project plans.
  - 3. See Appendix D, Sheet R1 for minimum pavement section and notes.
    - a. Both Development and City Projects must meet the minimum pavement section thicknesses. Where geotechnical pavement design thicknesses exceed the standard minimums, the geotechnical pavement design thicknesses shall govern.
- I. Temporary Turnarounds
  - 1. When turnaround cannot be constructed outside of subdivision, it shall be located on a portion of the subdivision lots (as needed) with the developer placing in escrow an amount of money sufficient to complete the street improvements to the subdivision boundary. These funds will be used at such time the street is extended.
  - 2. The lot(s) on which the turnaround is constructed shall be restricted as follows:
    - a. Platted as "R" (restricted lot).

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<sup>2</sup> AASHTO A Policy on Geometric Design of Highways and Streets (2018): Table 3-13, 30mph,  $e = -2.0\%$ .

- b. This lot cannot be sold or building permits issued until the road is extended beyond the subdivision boundary, complete with curb, gutter, and sidewalk.
  3. Drainage onto adjacent property must be by written approval (easement) of adjacent property owner.
  4. When a temporary turnaround is required at the end of a road where the road and the extension of the road are parts of an approved phased development, in lieu of constructing a paved temporary turnaround in accordance with the Standard Drawings:
    - a. When extension of the road is expected to begin construction within 12 months of conditional acceptance of the road and associated temporary turnaround, Developer may construct 12-inch thick untreated base course temporary turnaround (dimensions per the Standard Plans) and place in escrow the cost of asphalt paving.
    - b. If construction of the extension of the road has not begun within 12 months of conditional acceptance of the road and associated temporary turnaround, City may, at its discretion, utilize the monies in escrow to pave the temporary turnaround.
- J. Landscaping
  1. When landscaping is required to be designed/installed, refer to the Standard Drawings.
- K. UDOT
  1. Roadway intersections with UDOT controlled streets shall be in accordance with UDOT standards. A copy of the approved UDOT Access Permit shall be submitted to the City.

### **3.06 Storm Drain and Drainage Design**

- A. See Appendix A for Storm Drain and Drainage Design Standards.
  1. Low Impact Development (See Appendix A)
  2. 80<sup>th</sup> Percentile Storm Retention (See Appendix A)

## SECTION 4 CONSTRUCTION STANDARDS

### 4.01 General Policies

#### A. General Conditions

1. Permit/License: When the work is in progress, Contractor shall have at the work site a copy of the permit and his contractor's license number.
2. Private access: Temporary all-weather roadways, driveways, walks, and rights-of-way for vehicles and pedestrians shall be constructed and continuously maintained where required.
3. Street excavation in winter: Excavation of City streets during the winter months (herein defined as November 15 to April 1) will be allowed only if the work is a new service connection, required maintenance or emergency, or otherwise approved by the Public Works Department. Permanent patching of City streets excavated in the winter may be delayed until April 1 with the following provisions: Within five working days from the completion of the excavation, the permittee provides/maintains a 1-1/2" thick temporary winter asphalt surface until such time as the permanent asphalt surface is installed; the permittee shall provide/maintain a temporary untreated base course surface until such time as the temporary winter asphalt surface is installed. These provisions apply regardless of whether the permittee or City crews are performing the permanent resurfacing.
4. Existing utilities: The contractor shall use extreme caution to avoid a conflict, contact, or damage to existing utilities, such as power lines, sewer lines, storm drains, streetlights, telephone lines, cable television lines, water lines, gas lines, poles, or other appurtenances during the course of construction of this project. Any such conflict, contact, or damage shall be immediately communicated to said utility company and the Public Works Department. All projects shall be "Blue Staked" prior to construction.
5. Preconstruction pictures of existing public way improvements: The permittee may secure pictures of the conditions of the existing public way improvements such as curbing, sidewalk, landscaping, asphalt surfaces, etc. In the event that public way improvements are damaged and no pictures are taken, the Public Works Department will assume the correction of the damage is the responsibility of the permittee.

#### B. Licensing

1. Contractor (including all sub-contractors) must be licensed with the State of Utah: It is the policy of South Weber City that contractors desiring to perform work in the City's public way shall be properly licensed in the State of Utah. The acceptable licenses shall be in accordance with UAC R156-55a-301.

2. Exceptions: A license shall not be required by the City when the permittee is a public utility company. However, subcontractors for utility companies shall have a valid contractor's license.

C. Permits

1. Developer/Contractor is responsible for obtaining all necessary permits for the construction of the Improvements prior to commencement of said Improvements. Agencies/permits required may include, but are not limited to:
2. Encroachment (City)
  - a. South Weber City's Department of Public Works issues permits to control any excavation and construction operations in the public right-of-way. All contractors, sub-contractors, and utility companies proposing to construct, repair, or replace any facility within the public right-of-way shall contact the South Weber City Building Department and complete all permit requirements prior to commencing proposed work.
  - b. Work by utility companies and their contractors in constructing facilities in new subdivision streets shall be required to post a bond with the City and will be subject to City inspection and compliance with all requirements.
  - c. Emergency Work
    - (i) Maintenance of pipelines or facilities in the public way may proceed without a permit when emergency circumstances demand the work be done immediately provided a permit could not reasonably and practicably have been obtained beforehand.
    - (ii) In the event that emergency work is commenced on or within any public way of the City, the Public Works Department shall be notified within one-half hour when the work commences or as soon as possible from the time the work is commenced. Contact shall be made to the City's "on call" personnel. If emergency work is commenced during off business hours, the Public Works Department will be notified within one (1) hour of the start of work on the first regular business day of which City offices are open after such work commences, and, at the discretion of the Public Works Department, a permit may be issued which shall be retroactive to the date when the work was begun. Before commencing the emergency work, all necessary safety precautions for the protection of the public and the direction and control of traffic shall be taken. None of the provisions of these regulations are waived for emergency situations except for the prior permit requirement.
  - d. Enforcement: Violators of these regulations of working within the Public Way shall be subject to the provisions of the applicable South Weber City Municipal Code.
3. USACE/DWRi Stream Alteration – Stream Alteration

4. UPDES
5. Dam Safety (DWRi)
6. UDOT
7. Davis County Surveyor's Monument
8. Excavation Operations
  - a. Blue Stakes: Before commencing excavation operations, the permittee shall call "Blue Stakes" at 1-800-662-4111 or 811.
9. Traffic control devices: Traffic control devices such as construction signs, barricades, and cones must be in place before excavation begins.
10. Protection of paved surfaces outside of excavation area: In order to avoid unnecessary damage to paved surfaces, backhoes, outriggers, tracked equipment, or any other construction equipment that may prove damaging to asphalt shall use rubber cleats or paving pads when operating on or crossing said surfaces.
11. Open trench limits: Open trenches will be limited to one block at a time or 660 feet, whichever is less.
12. In the event of a planned road closure, Contractor shall notify the City, Fire Department, emergency services dispatch, US Postal Service, and Davis School District a minimum of 24 hours prior to the closure. In the case of an emergency, the above listed agencies will soon be notified at the soonest possible time.
13. Environmental Controls
  - a. Dust and debris: The permittee or contractor shall keep dust and debris controlled at the work site at all times. If necessary, a container shall be provided for debris and dusty areas shall be wet down. The permittee or contractor shall be responsible for the cleanup of mud or debris from public roads deposited by vehicles or construction equipment exiting the work site. The City Engineer reserves the right to shut down the work or issue a citation if dust is not controlled.
  - b. Noise: The permittee or contractor shall keep neighborhood free of noise nuisance in accordance with the Noise Ordinance.
14. Cleanup: The permittee or contractor shall remove all equipment, material, barricades, and similar items from the right-of-way. Areas used for storage of excavated material will be smoothed and returned to their original contour. Vacuum sweeping or hand sweeping shall be required when the Building Department determines cleaning equipment is ineffective.
15. Storm Water: All Contractors working within the boundaries of South Weber City shall conform to all requirements and regulations as outlined by the South Weber City Storm

Water Management Plan. Copies of the plan are available in the South Weber City Offices.

**4.02 Pre-Construction Conference**

- A. The pre-construction conference shall not be held until the City Engineer has approved and signed the construction plans.
- B. A preconstruction conference shall be held before any excavation or other work is begun in the subdivision or Project. The meeting will include:
  - 1. City Engineer
  - 2. Developer or Project Manager
  - 3. Subdivision or Project Engineer
  - 4. All contractors and subcontractors involved with installing the subdivision or project improvements
  - 5. Representatives of affected South Weber City Departments
  - 6. Representatives of local utility companies as may be required by South Weber City.
- C. Items pertaining to the construction and inspection of the subdivision or Project improvements will be discussed.

**4.03 Construction**

- A. Specifications
  - 1. Contractor shall be responsible for constructing all improvements in accordance with the Technical Specifications, per Section 5 of this document.
  - 2. Deviations from such shall be reviewed and authorized by the City Engineer on a case-by-case basis.
- B. Plans and Details
  - 1. Contractor shall be responsible for constructing all improvements in accordance with the Drawings, Plans, and Details, per Section 6 of this document.
  - 2. Deviations from such shall be reviewed and authorized by the City Engineer on a case-by-case basis.
  - 3. In the event that as-built conditions of the improvements are found to be out of compliance with the approved improvement plans and tolerances contained in these Standards, it shall be the contractor's responsibility to remove those improvements and replace them with improvements that comply with the approved improvement plans, and are within the given tolerances. Adjacent improvements may also require replacement in order to bring all improvements into compliance.
- C. Sequence/Timing

1. All underground utility work shall be completed prior to placement and compaction of the roadway base course. Utilities, including service lines, not installed prior to roadway construction shall be bored as approved by the Public Works Director.
2. All concrete collars shall be installed within fourteen (14) days of asphalt placement.

D. Inspection

1. All construction work involving the installation of improvements in the subdivision or project shall be subject to inspection by the City. It shall be the responsibility of the person responsible for construction to insure that inspections take place where and when required. Certain types of construction shall have continuous inspection, while others may have only periodic inspections.

E. Requests for Inspections

1. Requests for inspections shall be made to the Public Works Department by the person responsible for the construction.
2. Requests for inspection on work requiring continuous inspection shall be made three (3) working days prior to the commencing of the work.
3. Notice shall also be given one (1) day in advance of the starting of work requiring periodic inspection, unless specific approval is given otherwise by the City Engineer, or his duly authorized representatives.

F. Continuous Inspection

1. May be required on (but not limited to) the following types of work:
  - a. Laying of street surfacing
  - b. Placing of concrete for curb and gutter, sidewalks, and other structures
  - c. Laying of sewer pipe, irrigation pipe, drainage pipe, water mains, water service laterals and testing.
2. On construction requiring continuous inspection, no work shall be done except in the presence or by permission of the City Engineer or authorized city representative.

G. Periodic inspections

1. Shall be required on (but not limited to) the following types of work:
  - a. Street grading and gravel base
  - b. Excavations for curb and gutter and sidewalks
  - c. Excavations for structures
  - d. Trenches for laying pipe
  - e. Forms for curb and gutter, sidewalks and structures

H. Substantial and Final Completion Inspections

1. A substantial completion inspection shall be requested by the Contractor and made by the City Engineer or authorized representative after all construction work is completed. Any faulty or defective work shall be corrected by the persons responsible for the work within a period of thirty (30) days of the date of the City Engineer's or authorized representative's Punchlist defining the faulty or defective work.
2. A final completion inspection shall be requested by the Contractor and made by the City Engineer or authorized representative after all faulty and defective work has been corrected.

I. Testing

1. Development Projects

- a. Developer/Contractor shall select a properly licensed and qualified testing agency.
- b. Developer/Contractor shall be responsible for coordinating all testing in accordance with the Technical Specifications per Section 5 of this document.
- c. Testing reports shall be submitted to City weekly for review. Areas with failed tests shall be corrected and retested.
- d. Failure to have improvements tested as they are constructed may be cause for work stoppage or rejection by City.

2. City Projects

- a. Contractor shall select a properly licensed and qualified testing agency.
- b. Contractor shall be responsible for coordinating all testing in accordance with the Technical Specifications per Section 5 of this document.
- c. Testing reports shall be submitted to City weekly for review. Areas with failed tests shall be corrected and retested. Contractor may be required to pay for retesting.
- d. Failure to have improvements tested as they are constructed may be cause for work stoppage or rejected by City.

J. Safety

1. Contractor is solely responsible for jobsite safety.
2. Contractor shall comply with all local, state, and federal rules and regulations regarding jobsite safety.
3. City and/or its authorized representatives shall have the authority to shut down a job when unsafe working conditions are found.



## SECTION 5 TECHNICAL SPECIFICATIONS

### 5.01 Technical Specifications for South Weber City

- A. Adoption of Divisions 01 through 34 of the Manual of Standard Specifications, as published by Utah LTAP Center, Utah State University, Logan, Utah, current edition, with all published amendments.
- B. Modifications and Additions to Manual of Standard Specifications (see Appendix C)

### 5.02 Order of Precedence

- A. Approved project-specific specifications (when applicable)
- B. Modifications and Additions to Manual of Standard Specifications
- C. Manual of Standard Specifications, current edition, with all published amendments

## SECTION 6      STANDARD DRAWINGS, PLANS, AND DETAILS

### 6.01      Standard Drawings, Plans, and Details for South Weber City

- A. South Weber City Public Works Standard Drawings, current edition (See Appendix D)
- B. Adoption of Manual of Standard Plans, published by Utah LTAP Center, Utah State University, Logan, Utah, current edition, with all published amendments.

### 6.02      Order of Precedence

- A. Approved project-specific drawings and details (when applicable)
- B. South Weber City Public Works Standard Drawings, current edition
- C. Manual of Standard Plans, current edition, with all published amendments, when not covered by one of the aforementioned items

## APPENDIX A – STORM DRAIN AND DRAINAGE DESIGN STANDARDS

## APPENDIX A

### STORM DRAIN AND DRAINAGE DESIGN STANDARDS

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#### EXHIBITS

1. NOAA Point Precipitation Frequency Estimates – Intensity
2. NOAA Point Precipitation Frequency Estimates – Depth
3. Summary of Allowable LID BMPs

**A1. General Provisions**

- A. This document represents the reporting, design and construction standards for private and public design and construction as it relates to storm drainage within the City.
- B. A Storm Water Report is required for all new development and redevelopment projects.
- C. Implementation of LID measures and 80<sup>th</sup> percentile storm retention does not reduce or eliminate the requirement for detention/retention as contained in this document, but may be included within the designed detention/retention volumes calculated.

**A2. Definitions and Acronyms**

The following terms shall be defined as follows in this document related to storm water:

- A. 80<sup>th</sup> Percentile Storm – The rainfall event whose precipitation total is greater than or equal to 80 percent of all storm events over a given period of record.
- B. Best Management Practices (BMPs) – Construction practices and control measures necessary to protect against pollution generated by construction sites.
- C. Common Plan of Development – "Common plan of development or sale" means one plan for development or sale, separate parts of which are related by any announcement, piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, plat, blueprint, contract, permit application, zoning request, computer design, etc.), physical demarcation (including contracts) that identify the scope of the project. A plan may still be a common plan of development or sale even if it is taking place in separate stages or phases, is planned in combination with other construction activities, or is implemented by different owners or operators.<sup>1</sup> Common plans of development may be residential, commercial, or industrial in nature.
- D. Detention Basin – A water storage pond designed to store a volume of water that reduces the post-development peak runoff of a storm to the pre-development runoff rate or other rate as defined by the governing body. This is accomplished by the use of an outlet which controls the rate of flow out of the pond into the receiving storm drain or water body. Detention ponds contain an inlet, outlet, and spillway; the inlet and outlet may be one and the same. The detention basin is intended to drain the storm water within a period of time to make the volume available for the next storm event.
- E. Development – Any man-made change to unimproved land, including but not limited to site preparation, excavation, filling, grading, paving, and construction of buildings or other structures.

<sup>1</sup> General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s); State of Utah Department of Environmental Quality, Division of Water Quality; May 12, 2021.

- F. Disturb – To alter the physical condition, natural terrain or vegetation of land by clearing, grubbing, grading, excavating, filling, building or other construction activity.
- G. Drain Inlet – A point of entry into a sump, storm water basin, or storm drain system.
- H. Drinking Water Source Protection Zone – Zones determined by geo-hydrology designed to protect groundwater aquifers of a well in a culinary water system.
- I. DWQ – Acronym for Division of Water Quality, a division of the UDEQ.
- J. Freeboard – The vertical distance between the emergency spillway and the top of the basin embankment.
- K. General Permit for discharges from MS4 (Permit) – Authorization for a municipal separate storm sewer system to discharge storm water into waters of the United States.
- L. Hardscape – Generally impervious areas, typically streets, sidewalks, driveways, parking areas, and roofs.
- M. Infiltration – The movement of water through the soil surface and into the soil;<sup>2</sup> the movement of water downward from the ground surface through the upper soil.<sup>3</sup>
- N. Infiltration Rate – The rate at which water actually enters the soils during a storm.<sup>2</sup>
- O. Infiltration System (storm water) – A system which is designed to return storm water runoff into an underground aquifer.
1. Bioretention facilities, rain gardens, and tree boxes that are designed to slow down and hold storm water runoff for biological treatment and use by vegetative uptake are not considered to be infiltration systems if they are not isolated from groundwater. Groundwater isolation may be achieved with impermeable liners or an underdrain that does not discharge into a dug, bored, drilled or driven well, improved sinkhole or other subsurface fluid distribution system.
  2. The discharge of storm water piping below grade for the purpose of infiltration is considered a Class V injection well facility.
- P. Injection Well, Class V – As defined in Utah Administrative Code R317-7-2:
1. A bored, drilled, or driven shaft whose depth is greater than its largest surface dimension, OR
  2. A dug hole whose depth is greater than its largest surface dimension, OR
  3. An improved sinkhole, OR
  4. A subsurface fluid distribution system.

<sup>2</sup> Linsley/Franzini/Freyberg/Tchobanglous. (1992). *Water Resources Engineering and Environmental Engineering*. New York: McGraw-Hill Inc.

<sup>3</sup> Lindeburg. (2003). *Civil Engineering Reference Manual*. Belmont, CA: Professional Publications, Inc.

- Q. Low Impact Development (LID) – An approach to land development (or re-development) that works with nature to more closely mimic pre-development hydrologic functions, reduces or minimizes the quantity of storm water runoff, and protects or improves water quality in receiving water bodies.
- R. LID Analysis and Report – A written analysis of a development or redevelopment site that (1) identifies appropriate methods to reduce storm water runoff, (2) identifies the pollutants to target for each drainage area, and (3) selects appropriate structural controls to implement on the site.
- S. Municipal Separate Storm Sewer System (MS4) – The storm water conveyance system owned by the City which includes streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains. For a full definition, see UAC 317-8.
- T. Outlet – The discharge mechanism of a detention basin, typically a pipe containing a head gate or orifice to control the release of water out of the basin.
- U. Percolation – The movement of water through the subsurface soil layers, usually continuing downward to the groundwater table,<sup>3</sup> measured by a Standard Percolation Test in units of minutes per inch.
- V. Pollutant – Chemicals, sediment, trash, disease-carrying organisms, and other contaminants picked up by storm water which is conveyed into rivers, streams, and other water bodies.
- W. Redevelopment – Alteration of a property that change the footprint of a site or building.
- X. Retention Basin – A water storage pond designed to store the runoff volume of a storm and dispose of water through percolation, infiltration, and evaporation within a period of time to make the volume available for the next storm event. A retention basin contains an inlet and spillway, but no structural outlet.
- Y. Softscape – Generally pervious areas, such as native vegetation and landscaped areas.
- Z. Spillway, Emergency – A storm drain basin feature that controls and guides storm water as it spills over the basin's embankment.
- AA. Spillway, Internal – A storm drain basin feature that allows excess water to leave the basin through discharge piping which is set at an elevation below the emergency spillway.
- BB. Storm Drain System – The system of conveyances (including but not limited to catch basins, detention basins, retention basins, infiltration galleries, curbs, gutters, ditches, cross drains, roads, man-made channels, sumps, pipes, etc.) owned and operated by the City, which is designed and used for collecting and/or conveying storm water.
- CC. Storm Water Pollution Prevention Plan (SWPPP) – A written plan that evaluates and minimizes the impact of pollutants on storm water through the use of control measures and activities that target pollution sources. A SWPPP template can be found on the UDEQ Water Quality website.
- DD. Storm Water Report – A written analysis of a development or redevelopment site that

estimates the volume and rate of storm water runoff generated by the proposed improvements. The report details rationale and calculations for establishing the sizes of storm water piping and storage facilities in compliance with this document. This Report shall also contain the calculations for determining the 80<sup>th</sup> Percentile Storm volume and methods evaluated and selected to manage the rainfall on-site.

1. This Report may be combined with the LID Analysis and Report.

EE. Storm Water Runoff – Precipitation that is not intercepted or otherwise captured at a site which eventually enters into natural water bodies such as rivers, streams, and lakes.

FF. Subsurface Fluid Distribution System – An assemblage of perforated pipes, drain tiles, or other similar mechanisms intended to distribute fluids below the surface of the ground. (i.e. infiltration galleries, underground retention)

GG. UAC – Acronym for Utah Administrative Code.

HH. UDEQ – Acronym for Utah Department of Environmental Quality.

### A3. Rainfall Hydrology

A. All storm drain systems shall be designed to carry the 100-year storm, unless otherwise stated.

B. Storm Specifications

1. Local storm drain piping shall be designed for the 10-year storm, where the road or other above ground conveyance will carry the difference to the 100-year storm.
2. Storm drain piping connecting two (2) streets through private property shall be designed for the 100-yr storm.
3. Local detention basins, including all piping into the basin from the nearest point of entry shall be designed to accommodate a 10-year storm event with a maximum discharge of 0.1 cubic feet per second (cfs).
4. Local retention basins, including piping into the basin from the nearest point of entry, shall be designed to accommodate the 100-year 2-hour storm.
5. Regional detention basins, including all piping into the basin from the nearest point of entry, shall be designed to accommodate the 100-year storm event.
6. The storm duration used for the sizing of basins shall be based upon the worst-case scenario. The time of concentration shall be calculated and shown.
7. See Exhibits 1 and 2 for rainfall data.

C. Hydrologic Methodology

1. Parameters



- a. Hardscape – Proposed streets and sidewalk areas plus the estimated hardscape areas (roofs, driveways, patios, walkways etc.) determined by using a recent subdivision with similarly sized lots, or calculated area as measured from approved site plan.
  - b. Softscape – The remaining area of the subdivision not hardscape.
2. Developments less than 20 acres
- a. The Rational Method may be used. A computer model may also be used. See paragraph 3 for more information.
  - b. Rainfall Intensity – When using the Rational Method, use the rainfall intensity table provided in Exhibit 1 of this document.
  - c. Runoff Coefficients – The following C-values shall be used when using the Rational Method:
    - i. Hardscape – 0.90
    - ii. Softscape (open space, landscaping) – 0.25
    - iii. Values from published sources may be used when pre-approved by the City Engineer.
3. Developments larger than 20 acres
- a. A City Engineer-approved computer model shall be used.
  - b. Rainfall Pattern and Depth – The following rainfall pattern shall be used. This pattern is based on the Farmer-Fletcher Distribution. This pattern is for a 1-inch unit storm and must be multiplied by rainfall depth for storms of other magnitudes, as provided in Exhibit 2.

**Farmer-Fletcher Distribution****Unit Storm**

Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)	Time (Min.)	Depth (inches)
1	0	11	0.004	21	0.033	31	0.052	41	0.012	51	0.005
2	0	12	0.005	22	0.034	32	0.045	42	0.011	52	0.005
3	0.002	13	0.008	23	0.035	33	0.04	43	0.01	53	0.004
4	0.002	14	0.009	24	0.038	34	0.035	44	0.009	54	0.004
5	0.002	15	0.009	25	0.039	35	0.03	45	0.009	55	0.004
6	0.002	16	0.013	26	0.045	36	0.022	46	0.008	56	0.003
7	0.002	17	0.017	27	0.052	37	0.02	47	0.006	57	0.003
8	0.002	18	0.02	28	0.054	38	0.018	48	0.006	58	0.002
9	0.003	19	0.024	29	0.054	39	0.016	49	0.005	59	0.002
10	0.003	20	0.029	30	0.054	40	0.014	50	0.005	60	0.001

**A4. Storm Drain System****A. Independent System**

1. Storm waters shall not be conveyed in irrigation ditches.
2. Irrigation waters shall not be conveyed in storm drain systems.

**B. Groundwater**

1. Where adverse groundwater conditions exist, the City may allow the installation of a subsurface land drain system. Laterals may be installed to each lot for clear groundwater only (surface water may be permitted only upon approval from the City Engineer). Subsurface lines shall be installed with a slope adequate for proper drainage. A backflow control device may be required at the confluence of the land drain system and storm drain system, as determined by the City Engineer.

**C. Piping****1. Storm Drain Lines**

- a. All storm drain lines that are considered to be part of the City's storm drain system shall be reinforced concrete pipe (RCP), of appropriate class when installed in the public right-of-way.
- b. Minimum size for storm drain mains shall be 15-inch diameter.
- c. Public storm drain pipes shall not be curved.
- d. See Section A3 for sizing requirements.

**2. Land Drain Lines**

- a. All land drains shall be PVC or RCP.
- b. Minimum size for land drain mains shall be 8-inch diameter.
- c. Minimum size for land drain laterals shall be 4-inch diameter.

**3. Pipe specifications are included in Section 5 of the Public Works Standards.**

4. Reimbursement / Pioneering Agreements – Where determined by the City Engineer and/or the Storm Drain Capital Facilities Plan, larger drain lines shall be installed to accommodate future development. The cost to provide adequate storm drainage for a development shall be paid for by the Developer. Upsizing will be coordinated at the time of development. The cost of upsizing will be the responsibility of the City or as defined in the agreement.

- D. Access – Storm drain lines shall have cleanout boxes, inlets, or manholes installed at all changes in grade or alignment, with a maximum distance of 400 feet between accesses. Structures shall be installed in accordance with the standard specifications and Standard Drawings.

**E. Sumps**

1. Sumps are not allowed in the City's storm drain system, except as approved by the City Engineer on a case-by-case basis.
2. Sumps shall not be permitted within zones 1, 2, or 3 of any Drinking Water Source Protection Zone of any drinking water source.
3. Class V Injection Well permitting is required.

**F. Grates**

1. Grates shall be provided at all entrances/exits of the storm drain system, and on the upstream end of all culverts greater than 50-ft in length.
2. Grates shall be provided on catch basins, junction boxes, control structures, etc.
3. Bar spacing shall be designed for location, function, and safety. (Generally, bar spacing should not exceed three (3) inches.)

**A5. Detention and Retention Basins****A. When Required**

1. Storm drainage basins are required for all development; however, residential developments less than one (1) acre are not required to have detention or retention, except when determined by the City Engineer.
2. In an effort to increase the City's ability to more easily manage storm events, Regional Detention Basins shall be constructed wherever possible, as shown in the City's Storm Water Capital Facilities Plan.
3. As shown in the City's Storm Water Capital Facilities Plan, Developer may be required to participate in the construction of a new regional detention basin or the upgrading of an existing detention basin that is designated as a regional detention basin in lieu of onsite detention within the proposed development, if the development is located within a regional detention basin's drainage subbasin.

**B. Basin Property, Easement, and Access**

1. Public Basins – Public basins shall be located on a separate parcel dedicated to the City with frontage along a public roadway. The developer shall provide the City permanent access to any public basin.
2. Private Basin – Private basins serving multiple lots shall be located on a separate parcel, owned by the home-or land-owners association. Private basins serving a single lot shall be located within the lot. The City shall be provided an easement to, around, and across the basin for emergency access, operation, and/or repair for a private basin.
3. Access – Each basin shall be constructed with sufficient, all-weather, drivable access to all structures from a public street. A turnaround area shall be provided at the termination of the access road.

## C. Maintenance and Ownership

Actual ownership and responsibility shall be specifically defined in the Owner's Dedication, Certificates, Development Agreements, or by Deed.

1. Local Basins – Local basins shall be constructed by the developer. Following conditional acceptance of the construction, the operation and maintenance shall be conveyed to the City when applicable.
2. Regional Basins – Regional basins shall be owned and maintained by the City, constructed according to the criteria herein, and approved of the City Engineer.
3. Private Basins
  - a. Single Lots (Non-residential only) – When approved, private basins shall be owned and maintained by the property owner.
  - b. Multiple Lots – When approved, private basins shall be owned and maintained by the Homeowners' Association.
  - c. Access may be provided from a private street provided an access easement is granted to the City providing access to/from the basin from a public street.
  - d. For all private basins, Developer is required to enter into a Long-Term Storm Water Maintenance Agreement with the City.

## D. Basin Volume

1. All basin designs and calculations shall be included in the Storm Water Report and submitted to and reviewed by the City Engineer for approval.
2. Volume shall be measured to the internal spillway (overflow) elevation.
3. Volume in pipes, ditches, or roadside swales shall not be considered in the volume calculation for detention and retention basins.
4. Above-grade storage of water shall not be allowed in parking lots.

## E. Allowable Discharge Design

1. See Section A3.B for storm specifications.
2. Discharge shall not exceed the lesser of:
  - a. Pre-development runoff with pre-development, meaning the condition of the land prior to settlement, or
  - b. The discharge rate determined by using the standard rate of 0.1 cubic feet per second per total acre.

Show all calculations or provide spreadsheet or program file.

3. Calculations shall be based on the total acreage of the development draining to the basin.

4. Pass-through of offsite drainage through the development must be considered and will be allowed.

F. Detention and Retention Basin Elements

1. Depth – Basins should not exceed three (3) feet in depth as determined from its lowest point to the overflow or spillway, unless otherwise approved by the City.
2. Side slopes – Side slopes shall not be steeper than 4:1 (horizontal to vertical).
3. Bottom Slope – The basin floor shall be designed so as to prevent the permanent ponding of water. The slope of the floor of the basin shall not be less than 1% to provide drainage of water to the outlet grate and prevent prolonged wet, soggy, or unstable soil conditions.
4. Freeboard – At least one (1) foot of freeboard is required (berm above the high water mark).
5. Spillways
  - a. The spillway shall be designed to carry the 200-year storm flow minus the 100-year storm flow which is handled by the outlet control structure.
  - b. Spillways shall introduce flows back into the pipe or stream downstream of the outlet control.
  - c. Spillways shall include a maintained swale and drainage easement to a safe location.
  - d. The spillway shall be designed to prevent erosion.
  - e. All spillways shall be designed to protect adjacent embankments, nearby structures, and surrounding properties.
6. Ground Covers – The surface area of the basin shall be sodded. Use seed mixture found in the Technical Specifications. A minimum of four (4) inches of top soil must be installed prior to sod placement. A sprinkler irrigation system is also required for all grassed basins. Developer/contractor is responsible for establishing vegetation.
7. Embankment (Fill) Construction – If a raised embankment is constructed for a basin (constructed with granular materials), it shall be provided with a minimum of 6-inches of clay cover on the inside of the berm to prevent water passage through the soil.
8. Excavation (Cut) Construction – If the basin is constructed primarily by excavation, then it may be necessary to provide an impermeable liner and land drain system when constructed in the proximity of basements or other below grade structures as determined by a geotechnical evaluation.
9. Multi-Use Basins – Basins may be designed as multi-use facilities when appropriate precautions are incorporated into the design. If amenities such as pavilions, playground equipment, volleyball courts, etc. are to be constructed within the water detention area of a basin, they shall be designed appropriately. Structures shall be designed for saturated soil conditions and bearing capacities are to be reduced accordingly. Restrooms shall not be located in areas of inundation. Inlet and outlet structures should be located as far as possible from all facilities. No wood chips or floatable objects may be used in the area that will be inundated.

10. Fencing – A conveniently-located access gate, appropriately sized for entrance by maintenance vehicles and equipment, shall be provided for fenced basins. Fencing should not be located at the top of the basin embankment where maintenance equipment, vehicles, and personnel need access. Fencing shall be a minimum of 6-ft tall, with material in accordance with these Public Works Standards and City Zoning Requirements.

G. Detention Basins

1. Percolation – No reduction due to percolation for detention basins volumes shall be permitted.
2. Outlet Control
  - a. Private detention basins may have a calculated fixed orifice plate mounted on the outlet of the basin.
  - b. Public detention basins shall have movable, screw-type head gates set at the calculated opening height with a stop block required to carry the maximum allowable discharge.
3. Low Flow Piping – The inlet and outlet structures may be located in different areas of the basin, requiring a buried pipe to convey any base flows that enter and exit the basin. (Cross gutters and surface flows are prohibited.) The minimum pipe size and material for the low flow pipe shall be 15-inch RCP or as otherwise specified by the City Engineer.
4. Oil/Sediment Separators
  - a. Sizing and design of oil/sediment separators shall be reviewed by the City Engineer and City Personnel prior to installation.
    - i. Manufacturer's recommendations for sizing must be followed with calculations submitted to the City.
    - ii. Consideration must be given to frequency and ease of maintenance of the structure
    - iii. Separator should be installed upstream of detention basin and appropriately sized for such location.
  - b. Any site dealing with large parking lots or particularly dirty parking lots such as auto repair and maintenance will be required to have an oil separator
  - c. Private basins shall have contracts in place with a local sewer company to periodically clean the Separator (at least annually).

H. Retention Basins (excludes 80<sup>th</sup> Percentile Storm Retention, See Section A7)

1. Retention basins must be specifically approved by the City Engineer.
2. Retention basins shall not be permitted within zones 1, 2 or 3 of any Drinking Water Source Protection Zone of any drinking water source.
3. An approved oil/sediment separator shall be installed upstream of retention basin.
4. Retention Basin Criteria – Retention basins may be permitted if the following conditions apply:
  - a. The distance between the nearest City storm drain and the boundary of the development is greater than:

- i. For residential development: 500 feet or 50 feet times the number of lots in the entire development (whichever is greater);
  - ii. For commercial development: 20 feet times the number of parking stalls on site.
- b. The basin is not located within a Hazardous Area (such as a steep slope ) or some other sensitive area (such as a Drinking Water Source Protection Zone).
- c. Site is topographically incapable of draining to the City system.
- d. Recommendation by the City Engineer.
5. Percolation Rate for Retention Basins
  - a. A percolation test shall be performed by a licensed tester. The percolation test shall be performed at the elevation of the proposed grade of the bottom of the retention basin.
  - b. Due to degradation of soils ability to percolate over time, only 80% of the percolation rate shall be used in the calculations for the retention basins.
6. Retention basins shall be designed to completely drain within 48 hours of the primary storm event.

#### I. Subsurface Fluid Distribution Systems

1. Subsurface Fluid Distribution Systems are allowed for private basins only.
2. See Paragraph H for requirements related to Percolation Rate for Retention Basins.
3. A Class V injection well permit is required.
4. An approved oil/sediment separator shall be installed upstream of subsurface fluid distribution system.
5. Subsurface Fluid Distribution Systems are not allowed for storm water disposal if located in Zone 1 or 2 of a drinking water source. They may be allowed in Zone 3 or 4 of a drinking water source if they are equipped with appropriate pretreatment and approved by the City Engineer.
6. Examples of Subsurface Fluid Distribution Systems include but are not limited to: ADS StormTech® systems, ACF Environmental R-Tanks® and similar; perforated pipe infiltration galleries, etc.

#### A6. Water Quality

- A. Long-term Best Management Practices (BMPs) shall be used to maintain, to the maximum extent practical, the quality of the water to the pre-developed condition.
- B. Construction BMPs shall be implemented per the City's Storm Water Management Plan.

#### A7. 80<sup>th</sup> Percentile Storm Retention

- A. All new development and redevelopment projects equal to or greater than one (1) acre, or projects that are less than one (1) acre that are part of a larger common plan of development or sale, shall be required to manage rainfall on-site, and prevent the off-site discharge of the precipitation from all rainfall events less than or equal to the 80<sup>TH</sup>

- percentile rainfall event [storm]. This objective must be accomplished by the use of practices that are designed, constructed, and maintained to infiltrate, evapotranspiration, and/or harvest and reuse rainwater. 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 controls are infeasible due to site constraints.<sup>3</sup>
- B. In South Weber City, the 80<sup>th</sup> percentile storm has been determined to be 0.43 inches of depth.
  - C. The intent is to manage water as close as possible to the point at which it falls.
  - D. Calculations and implementation rationale must be contained in the Storm Water Report.
  - E. LID measures should be implemented to meet the 80<sup>th</sup> Percentile Storm requirements.
  - F. Implementation of this retention standard does eliminate the requirement for detention/retention basins as described in Section A5, but may be included within the designed detention/retention volumes calculated.

#### **A8. Low Impact Development**

All new development and redevelopment projects equal to or greater than one (1) acre, or projects that are less than one (1) acre that are part of a larger common plan of development or sale, shall be required to evaluate Low Impact Development (LID) approaches to infiltrate, evapotranspiration, and/or harvest and use storm water from the site to protect water quality.<sup>4</sup>

- A. Structural controls may include green infrastructure practices such as:
  - 1. Rainwater harvesting (e.g. rain barrels)
  - 2. Rain gardens
  - 3. Permeable pavement or pavers (not permitted on public streets)
  - 4. Vegetated swales
  - 5. Preservation of vegetation (non-disturbance)
  - 6. Xeriscaping
  - 7. Others as approved by the City Engineer
- B. LID approaches must be evaluated and detailed in a LID Analysis and Report, which shall be submitted to and approved by the City Engineer.

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<sup>4</sup> Adapted from General Permit for Discharges from Small Municipal Separate Storm Sewer Systems (MS4s); State of Utah Department of Environmental Quality, Division of Water Quality; May 12, 2021.



- C. If an LID approach cannot be utilized, the Applicant must document an explanation of the reasons preventing this approach and the rationale for the *chosen alternative controls* on a case by case basis for each project.<sup>3</sup>
- D. Implementation of LID measures does not eliminate the requirement for detention/retention basins as described in Section A5 but may be included within the designed detention/retention volumes calculated.

## **EXHIBIT 1 – NOAA POINT PRECIPITATION FREQUENCY ESTIMATES - INTENSITY**



NOAA Atlas 14, Volume 1, Version 5  
Location name: Ogden, Utah, USA\*  
Latitude: 41.1331°, Longitude: -111.9381°  
Elevation: 4511.67 ft\*\*  
\* source: ESRI Maps  
\*\* source: USGS



### POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

--- Intensity ---

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps & aerals](#)

### PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.73 (1.50-2.02)	2.17 (1.90-2.54)	2.95 (2.56-3.46)	3.67 (3.16-4.31)	4.84 (4.06-5.71)	5.93 (4.82-7.08)	7.21 (5.68-8.70)	8.74 (6.62-10.8)	11.2 (8.04-14.2)	13.6 (9.24-17.6)
10-min	1.31 (1.13-1.54)	1.65 (1.45-1.94)	2.25 (1.94-2.63)	2.80 (2.40-3.28)	3.68 (3.08-4.35)	4.51 (3.67-5.38)	5.48 (4.31-6.62)	6.65 (5.04-8.19)	8.54 (6.11-10.8)	10.3 (7.03-13.4)
15-min	1.08 (0.936-1.27)	1.36 (1.19-1.60)	1.86 (1.61-2.18)	2.31 (1.98-2.71)	3.04 (2.55-3.60)	3.72 (3.03-4.45)	4.53 (3.56-5.47)	5.50 (4.16-6.77)	7.06 (5.05-8.96)	8.52 (5.81-11.1)
30-min	0.730 (0.632-0.854)	0.918 (0.802-1.08)	1.25 (1.08-1.46)	1.56 (1.33-1.82)	2.05 (1.72-2.42)	2.51 (2.04-3.00)	3.05 (2.40-3.68)	3.70 (2.80-4.56)	4.75 (3.40-6.03)	5.74 (3.91-7.46)
60-min	0.452 (0.391-0.529)	0.568 (0.496-0.668)	0.773 (0.670-0.906)	0.962 (0.826-1.13)	1.27 (1.06-1.50)	1.55 (1.26-1.85)	1.89 (1.49-2.28)	2.29 (1.74-2.82)	2.94 (2.11-3.73)	3.55 (2.42-4.62)
2-hr	0.294 (0.259-0.338)	0.367 (0.324-0.422)	0.474 (0.416-0.544)	0.575 (0.499-0.663)	0.742 (0.630-0.863)	0.896 (0.742-1.05)	1.08 (0.865-1.28)	1.30 (1.00-1.57)	1.65 (1.20-2.06)	1.97 (1.37-2.53)
3-hr	0.226 (0.203-0.256)	0.279 (0.250-0.317)	0.348 (0.310-0.395)	0.414 (0.365-0.470)	0.520 (0.450-0.595)	0.619 (0.524-0.716)	0.739 (0.610-0.867)	0.881 (0.705-1.05)	1.12 (0.848-1.39)	1.33 (0.971-1.70)
6-hr	0.152 (0.139-0.168)	0.186 (0.170-0.206)	0.224 (0.204-0.248)	0.259 (0.234-0.288)	0.312 (0.278-0.348)	0.356 (0.313-0.400)	0.409 (0.353-0.466)	0.469 (0.395-0.542)	0.586 (0.477-0.702)	0.692 (0.547-0.861)
12-hr	0.097 (0.089-0.107)	0.119 (0.108-0.131)	0.143 (0.130-0.158)	0.164 (0.148-0.181)	0.196 (0.175-0.218)	0.223 (0.196-0.250)	0.251 (0.218-0.285)	0.282 (0.239-0.325)	0.332 (0.273-0.391)	0.373 (0.299-0.448)
24-hr	0.060 (0.056-0.064)	0.073 (0.068-0.079)	0.087 (0.081-0.094)	0.099 (0.092-0.107)	0.115 (0.106-0.124)	0.127 (0.118-0.137)	0.140 (0.129-0.151)	0.153 (0.140-0.165)	0.170 (0.155-0.198)	0.189 (0.165-0.227)
2-day	0.036 (0.033-0.039)	0.044 (0.041-0.047)	0.052 (0.048-0.056)	0.059 (0.055-0.064)	0.068 (0.063-0.074)	0.075 (0.070-0.081)	0.083 (0.076-0.089)	0.090 (0.082-0.097)	0.099 (0.090-0.108)	0.107 (0.096-0.116)
3-day	0.026 (0.024-0.028)	0.032 (0.030-0.035)	0.038 (0.036-0.041)	0.044 (0.041-0.047)	0.051 (0.047-0.054)	0.056 (0.052-0.060)	0.062 (0.057-0.067)	0.067 (0.062-0.073)	0.075 (0.068-0.081)	0.081 (0.073-0.088)
4-day	0.022 (0.020-0.023)	0.026 (0.025-0.028)	0.032 (0.029-0.034)	0.036 (0.033-0.039)	0.042 (0.039-0.045)	0.046 (0.043-0.050)	0.051 (0.047-0.055)	0.056 (0.051-0.061)	0.063 (0.057-0.068)	0.068 (0.061-0.074)
7-day	0.015 (0.014-0.016)	0.018 (0.017-0.020)	0.022 (0.020-0.023)	0.025 (0.023-0.026)	0.029 (0.027-0.031)	0.032 (0.029-0.034)	0.035 (0.032-0.038)	0.038 (0.035-0.041)	0.042 (0.038-0.046)	0.045 (0.041-0.050)
10-day	0.012 (0.011-0.013)	0.015 (0.014-0.016)	0.017 (0.016-0.019)	0.020 (0.018-0.021)	0.022 (0.021-0.024)	0.025 (0.023-0.026)	0.027 (0.025-0.029)	0.029 (0.026-0.031)	0.031 (0.029-0.034)	0.033 (0.030-0.036)
20-day	0.008 (0.007-0.008)	0.010 (0.009-0.010)	0.011 (0.011-0.012)	0.013 (0.012-0.014)	0.014 (0.014-0.015)	0.016 (0.015-0.017)	0.017 (0.016-0.018)	0.018 (0.017-0.019)	0.019 (0.018-0.021)	0.020 (0.019-0.022)
30-day	0.006 (0.006-0.007)	0.008 (0.007-0.008)	0.009 (0.009-0.010)	0.010 (0.010-0.011)	0.012 (0.011-0.012)	0.013 (0.012-0.013)	0.014 (0.013-0.014)	0.014 (0.013-0.015)	0.015 (0.014-0.017)	0.016 (0.015-0.017)
45-day	0.005 (0.005-0.006)	0.007 (0.006-0.007)	0.008 (0.007-0.008)	0.009 (0.008-0.009)	0.010 (0.009-0.010)	0.011 (0.010-0.011)	0.011 (0.011-0.012)	0.012 (0.011-0.013)	0.013 (0.012-0.014)	0.014 (0.013-0.015)
60-day	0.005 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.006-0.007)	0.008 (0.007-0.008)	0.009 (0.008-0.009)	0.009 (0.009-0.010)	0.010 (0.009-0.011)	0.011 (0.010-0.011)	0.011 (0.010-0.012)	0.012 (0.011-0.013)

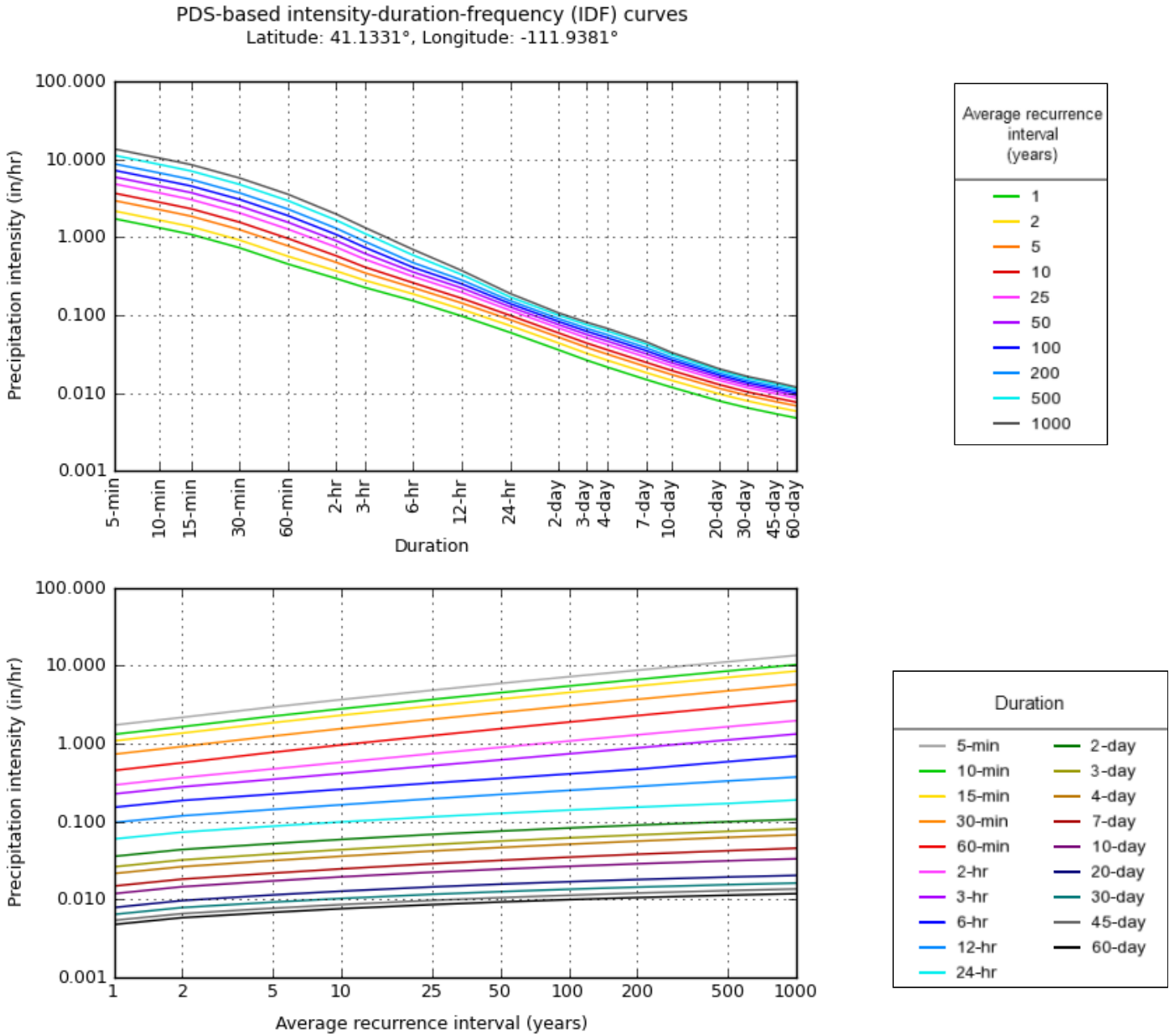
<sup>1</sup> Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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### PF graphical



## EXHIBIT 2 – NOAA POINT PRECIPITATION FREQUENCY ESTIMATES - DEPTH



NOAA Atlas 14, Volume 1, Version 5  
Location name: Ogden, Utah, USA\*  
Latitude: 41.1331°, Longitude: -111.9381°  
Elevation: 4511.67 ft\*\*  
\* source: ESRI Maps  
\*\* source: USGS



### POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

--- Depth ---

[PF\\_tabular](#) | [PF\\_graphical](#) | [Maps & aerals](#)

### PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) <sup>1</sup>										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.144 (0.125-0.168)	0.181 (0.158-0.212)	0.246 (0.213-0.288)	0.306 (0.263-0.359)	0.403 (0.338-0.476)	0.494 (0.402-0.590)	0.601 (0.473-0.725)	0.728 (0.552-0.897)	0.935 (0.670-1.19)	1.13 (0.770-1.47)
10-min	0.219 (0.189-0.256)	0.275 (0.241-0.323)	0.375 (0.324-0.439)	0.466 (0.400-0.546)	0.614 (0.514-0.725)	0.751 (0.611-0.897)	0.914 (0.719-1.10)	1.11 (0.840-1.37)	1.42 (1.02-1.81)	1.72 (1.17-2.24)
15-min	0.271 (0.234-0.317)	0.341 (0.298-0.401)	0.464 (0.402-0.544)	0.578 (0.496-0.677)	0.760 (0.638-0.899)	0.931 (0.758-1.11)	1.13 (0.891-1.37)	1.37 (1.04-1.69)	1.77 (1.26-2.24)	2.13 (1.45-2.77)
30-min	0.365 (0.316-0.427)	0.459 (0.401-0.540)	0.625 (0.542-0.732)	0.778 (0.667-0.912)	1.02 (0.859-1.21)	1.25 (1.02-1.50)	1.53 (1.20-1.84)	1.85 (1.40-2.28)	2.38 (1.70-3.02)	2.87 (1.96-3.73)
60-min	0.452 (0.391-0.529)	0.568 (0.496-0.668)	0.773 (0.670-0.906)	0.962 (0.826-1.13)	1.27 (1.06-1.50)	1.55 (1.26-1.85)	1.89 (1.49-2.28)	2.29 (1.74-2.82)	2.94 (2.11-3.73)	3.55 (2.42-4.62)
2-hr	0.588 (0.518-0.675)	0.734 (0.649-0.845)	0.947 (0.832-1.09)	1.15 (0.998-1.33)	1.49 (1.26-1.73)	1.79 (1.48-2.10)	2.16 (1.73-2.57)	2.59 (2.00-3.15)	3.29 (2.40-4.12)	3.94 (2.74-5.06)
3-hr	0.679 (0.609-0.768)	0.838 (0.751-0.951)	1.05 (0.930-1.19)	1.24 (1.10-1.41)	1.56 (1.35-1.79)	1.86 (1.57-2.15)	2.22 (1.83-2.61)	2.65 (2.12-3.17)	3.35 (2.55-4.16)	3.99 (2.92-5.11)
6-hr	0.912 (0.835-1.00)	1.12 (1.02-1.23)	1.34 (1.22-1.49)	1.55 (1.40-1.72)	1.87 (1.66-2.09)	2.13 (1.87-2.40)	2.45 (2.11-2.79)	2.81 (2.36-3.25)	3.51 (2.86-4.20)	4.14 (3.28-5.16)
12-hr	1.17 (1.07-1.29)	1.43 (1.31-1.57)	1.72 (1.56-1.90)	1.98 (1.79-2.18)	2.36 (2.11-2.63)	2.68 (2.37-3.01)	3.03 (2.62-3.44)	3.40 (2.88-3.91)	4.00 (3.29-4.71)	4.49 (3.60-5.40)
24-hr	1.43 (1.33-1.54)	1.75 (1.63-1.90)	2.09 (1.95-2.26)	2.37 (2.21-2.56)	2.76 (2.55-2.97)	3.06 (2.82-3.29)	3.36 (3.09-3.62)	3.67 (3.36-3.96)	4.09 (3.71-4.76)	4.54 (3.97-5.46)
2-day	1.72 (1.60-1.85)	2.10 (1.95-2.27)	2.50 (2.33-2.70)	2.83 (2.63-3.05)	3.28 (3.04-3.53)	3.62 (3.34-3.91)	3.97 (3.64-4.29)	4.32 (3.94-4.67)	4.78 (4.32-5.19)	5.12 (4.61-5.59)
3-day	1.89 (1.76-2.04)	2.32 (2.16-2.50)	2.77 (2.58-2.98)	3.14 (2.92-3.38)	3.65 (3.38-3.92)	4.04 (3.73-4.35)	4.44 (4.08-4.79)	4.85 (4.43-5.24)	5.39 (4.88-5.85)	5.80 (5.22-6.32)
4-day	2.07 (1.92-2.22)	2.53 (2.36-2.72)	3.03 (2.83-3.25)	3.44 (3.21-3.70)	4.02 (3.73-4.31)	4.46 (4.13-4.79)	4.92 (4.52-5.29)	5.38 (4.92-5.81)	6.01 (5.45-6.51)	6.49 (5.83-7.06)
7-day	2.50 (2.33-2.68)	3.06 (2.86-3.29)	3.66 (3.41-3.92)	4.15 (3.87-4.45)	4.82 (4.48-5.17)	5.34 (4.94-5.73)	5.87 (5.40-6.30)	6.39 (5.86-6.90)	7.10 (6.45-7.71)	7.64 (6.89-8.34)
10-day	2.85 (2.66-3.05)	3.50 (3.26-3.75)	4.15 (3.88-4.44)	4.68 (4.37-5.00)	5.37 (5.00-5.74)	5.88 (5.46-6.29)	6.39 (5.91-6.85)	6.89 (6.35-7.40)	7.52 (6.89-8.12)	7.99 (7.28-8.66)
20-day	3.79 (3.53-4.05)	4.65 (4.34-4.99)	5.49 (5.13-5.88)	6.13 (5.73-6.57)	6.95 (6.49-7.43)	7.54 (7.03-8.06)	8.11 (7.54-8.68)	8.65 (8.02-9.27)	9.31 (8.60-10.0)	9.78 (9.00-10.5)
30-day	4.63 (4.33-4.95)	5.68 (5.31-6.07)	6.66 (6.23-7.12)	7.42 (6.93-7.92)	8.39 (7.82-8.96)	9.08 (8.45-9.70)	9.75 (9.04-10.4)	10.4 (9.60-11.1)	11.1 (10.3-12.0)	11.7 (10.7-12.6)
45-day	5.82 (5.43-6.24)	7.11 (6.63-7.64)	8.33 (7.78-8.94)	9.29 (8.66-9.95)	10.5 (9.79-11.2)	11.4 (10.6-12.2)	12.2 (11.4-13.1)	13.0 (12.1-14.0)	14.0 (12.9-15.1)	14.7 (13.5-15.9)
60-day	6.88 (6.42-7.35)	8.41 (7.85-9.02)	9.85 (9.21-10.5)	11.0 (10.2-11.7)	12.4 (11.5-13.2)	13.4 (12.5-14.3)	14.3 (13.3-15.4)	15.2 (14.1-16.3)	16.3 (15.1-17.6)	17.1 (15.7-18.4)

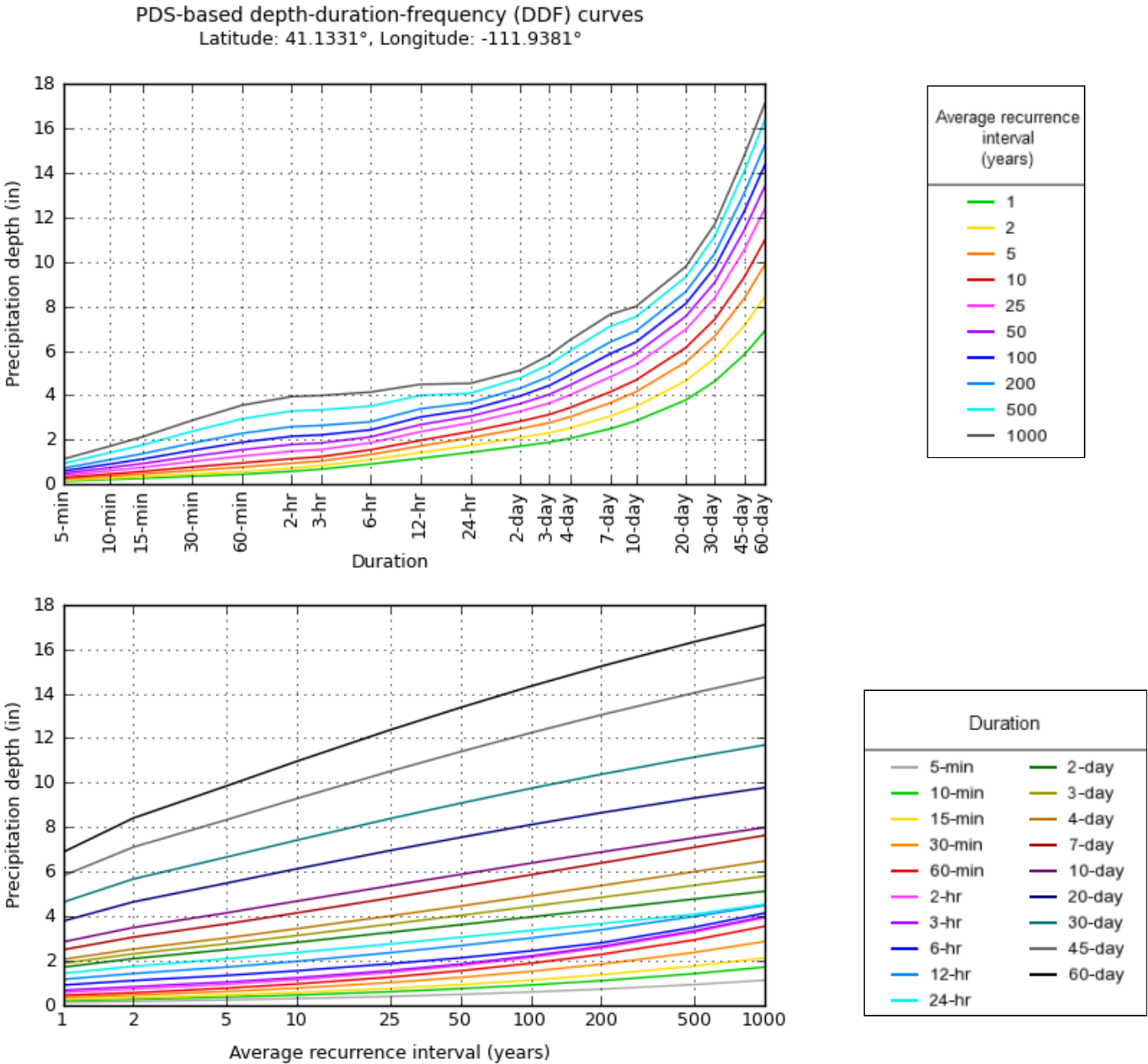
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### PF graphical

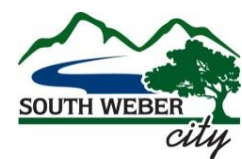


## Maps & aerials

Small scale terrain

### **EXHIBIT 3 – SUMMARY OF ALLOWABLE LID BMPs**





Summary of LID BMPs and Recommendations on Where to Allow  
from *A Guide to Low Impact Development within Utah*  
<https://deg.utah.gov/water-quality/low-impact-development>

LID BMP Category	LID BMP Type	Fact Sheet ID	Removal Effectiveness <sup>1</sup>	Primary Functions			Maintenance Effort	Where Permitted				
				Bioretention	Volume Retention	Biofiltration		Residential - Public Roads	Residential - Private Roads	Residential - Multi-family	Commercial	Industrial
Bioretention	Rain Garden	BR-1	high	yes	yes	yes	low-med	no	yes	yes	yes	yes
	Bioretention Cell	BR-2	high	yes	yes	yes	low-med	yes	yes	yes	yes	yes
	Bioswale	BR-3	medium	yes	some	yes	low	yes	yes	yes	yes	yes
	Vegetated Strip	BR-4	med-high	yes	some	yes	low	yes	yes	yes	yes	yes
	Tree Box Filter	BR-5	med-high	yes	varies	yes	medium	no	yes	yes	yes	yes
	Green Roof	BR-6	med-high	yes	yes	yes	med-high	no <sup>2</sup>	no <sup>2</sup>	no <sup>2</sup>	yes	yes
Pervious Surfaces	Pervious Surfaces	PS-1	high	yes	yes	some	low-med	no <sup>2</sup>	no <sup>2</sup>	yes	yes	yes
Infiltration Devices <sup>5</sup>	Infiltration Basin <sup>3</sup>	ID-1	high	yes	yes	yes	low	yes	yes	yes	yes	yes
	Infiltration Trench	ID-2	high	yes	yes	some	low	yes	yes	yes	yes	no
	Dry Well <sup>3,4</sup>	ID-3	high	yes	yes	no	low-med	no	yes	yes	yes	no
	Underground Infiltration Gallery <sup>3,4</sup>	ID-4	high	yes	yes	no	low-med	no	yes	yes	yes	yes
Harvest and Reuse	Harvest and Reuse <sup>6</sup>	HR-1	varies	varies	yes	varies	low	no <sup>2</sup>	no <sup>2</sup>	no <sup>2</sup>	yes	yes

Notes

- <sup>1</sup> Sediment, Nutrients, Metals, Bacteria, Oil/Grease
- <sup>2</sup> Individual homes may utilize BMP, but it will not count towards LID and retention requirement for development.
- <sup>3</sup> Requires pre-treatment
- <sup>4</sup> Requires UIC Class V injection well permit from State of Utah
- <sup>5</sup> Other factors (e.g. drinking water source protection zone, contaminated groundwater, etc.) may limit use.
- <sup>6</sup> Requires registration with DWRi

## **APPENDIX B – GEOTECHNICAL INVESTIGATION REPORT MINIMUM REQUIREMENTS**

**APPENDIX B****GEOTECHNICAL INVESTIGATION REPORT MINIMUM REQUIREMENTS****B1. General Provisions**

- A. All reports shall include the Minimum Testing Requirements and use the Design Parameters as detailed below.
- B. All reports shall be signed and sealed by a registered Professional Engineer licensed in Utah.

**B2. Report Contents**

- A. Geotechnical Investigation Report submitted to South Weber City shall generally include the following contents, as applicable.

**CONTENTS**

- 1.0 *Project Description/Overview*
  - 1.1 *Existing Conditions*
  - 1.2 *Proposed Improvements*
- 2.0 *Site Conditions*
  - 2.1 *Surface Conditions*
  - 2.2 *Subsurface Conditions*
  - 2.3 *Groundwater*
- 3.0 *Subsurface Investigation*
  - 3.1 *Percolation Test*
  - 3.2 *Infiltration Test*
- 4.0 *Laboratory Testing*
- 5.0 *Geologic Hazards*
  - 5.1 *Rock Fall*
  - 5.2 *Faulting*
  - 5.3 *Seismic/Ground Motions*
  - 5.4 *Lateral Spread*
  - 5.5 *Liquefaction Potential*
  - 5.6 *Landslide and Scarps*
  - 5.7 *Debris Flow/Alluvial Fan*
  - 5.8 *Expansive/Collapsible Soils*
  - 5.9 *Avalanche*
- 6.0 *Earthwork*
  - 6.1 *Site Preparation and Grading*
  - 6.2 *Temporary Excavations*
  - 6.3 *Permanent Cut and Fill Slopes*
  - 6.4 *Fill Material Composition, Placement, and Compaction*
  - 6.5 *Roadway and Embankments Fill*
  - 6.6 *Structural Fill*

- 6.7 *Utility Trenches*
- 6.8 *Re-use of Excavated Soil Materials*
- 7.0 *Foundations*
  - 7.1 *Foundation Recommendations*
  - 7.2 *Installation Requirements*
  - 7.3 *Estimated Settlement*
  - 7.4 *Lateral Resistance*
- 8.0 *Static and Seismic Lateral Earth Pressures (Active, Moderately Yielding, At-Rest, and Passive Conditions)*
- 9.0 *Floor Slabs*
- 10.0 *Drainage Recommendations*
  - 10.1 *Surface*
  - 10.2 *Subsurface*
  - 10.3 *Foundation Drains/Subdrains*
- 11.0 *Pavement Section*
  - 11.1 *(See Section B4)*
  - 11.2 *Exterior Concrete Flatwork*
- 12.0 *Retaining Walls (Required for all retaining walls taller than 4 feet, when used)*
  - 12.1 *Surface and Subsurface Drainage*
  - 12.2 *Internal and Global Stability (Static and Seismic Loading)*
  - 12.3 *Dimensions and Elevations*
  - 12.4 *Settlements*
  - 12.5 *Construction Inspection*
- 13.0 *Slope Stability (Required for slopes greater than 25%)*
- 14.0 *References*
- Tables*
- Figures*
  - A. *Project Location/Site Map*
  - B. *Boring/Test Pit Locations*
  - C. *Boring/Test Pit Logs*
  - D. *Key to Symbols for Boring/Test Pit Logs*
- Appendices, as needed*

### **B3. Minimum Testing Requirements**

- A. Borings (B) and Test Pits (TP), either known as a “hole”
  - 1. Total: Minimum 1 hole per 2 acres, rounded up
    - a. Example: 5.5 acre site:  $5.5 \div 2 = 2.75$ , round up to 3 holes
  - 2. Roadway: 1 hole + 1 hole per 500 lf of roadway (rounded up, along centerline alignment) (counts towards Total)
    - a. Example: 10.5 acre subdivision with 1,850 lf of roadway centerline
      - i. Roadway:  $1 + (1,850 \div 500) = 4.7$ , round up to 5 holes
      - ii. Total, minimum:  $10.5 \div 2 = 5.25$ , round up to 6 holes

- iii. Therefore, 6 total holes are required for subdivision, with 5 of the holes being along the roadway alignment.
- 3. Commercial sites: 1 hole + 1 hole per 5,000 square feet (rounded up) for buildings
  - a. Example: 13,500 sf building:  $1 + (13,500 \div 5,000) = 3.7$ , round up to 4 holes
- 4. Additional borings or test pits as may be required for a representative sampling of the site, as determined by the geotechnical engineer.

**B4. Minimum Design Parameters for Pavement**

- A. Local/Residential
  - 1. 75,000 ESALS per year
  - 2. 20-yr design life
  - 3. 3% growth factor
- B. Cul-de-Sac
  - 1. 50,000 ESALS per year
  - 2. 20-yr design life
  - 3. 3% growth factor
- C. Minor Collector
  - 1. 300,000 ESALS per year
  - 2. 20-yr design life
  - 3. 3% growth factor
- D. Major Collector / Minor Arterial
  - 1. Contact City for traffic requirements

## APPENDIX C - MODIFICATIONS AND ADDITIONS TO MANUAL OF STANDARD SPECIFICATIONS

## APPENDIX C

### MODIFICATIONS AND ADDITIONS TO THE 2017 MANUAL OF STANDARD SPECIFICATIONS

as published by:  
Utah LTAP Center  
Utah State University  
Logan Utah  
2017

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**SECTION 03 20 00 M**  
**CONCRETE REINFORCING (MODIFIED)**

---

**PART 3            EXECUTION**

---

**3.1        PLACING**

*Add paragraphs F and G as follows:*

- F. No steel shall extend from or be visible on any finished surface
- G. All steel shall have a minimum of 1.5-inches of concrete cover.

SECTION 03 30 04 M  
CONCRETE (Modified)

PART 2      PRODUCTS

2.4      Add paragraph F as follows:

- F.      Fiber Reinforcement: A minimum of 1.0 pounds per cubic yard of polyolefin fiber reinforcement shall be evenly distributed into the mix. Mixing shall be as recommended by the manufacturer/supplier such that the fibers do not ball up. Polyolefin fibers shall meet the requirements of ASTM C1116 and ASTM D7508.

2.5      MIX DESIGN

*Replace Paragraph A with the following:*

- A.      **Class:** When not specified in the plans or project specifications, use the following table to select the class of concrete required for the application:

Class	Application
5,000	Reinforced Structural Concrete
4,000	Sidewalks, curb, gutter, cross gutters, waterways, pavements, and unreinforced footings and foundations
3,000	Thrust blocks
2,000	Anchors, mass concrete

**SECTION 03 30 10 M**  
**CONCRETE PLACEMENT (Modified)**

---

**PART 3            EXECUTION**

---

**3.2        PREPARATION**

*Add paragraph F as follows:*

- F. No concrete shall be placed until the surfaces have been inspected and approved by the City Engineer or City Inspector.

**SECTION 31 23 16 M  
EXCAVATION (Modified)**

---

**PART 3            EXECUTION**

---

**3.3        GENERAL EXCAVATION REQUIREMENT**

*Add paragraph I as follows:*

- I.    Excavation for pipelines under existing curb and gutter, concrete slabs, or sidewalks shall be open cut. Neither tunneling nor water jetting is allowed. At the option of the City Engineer, jacking or boring under permanent facilities may be allowed based on his/her direction.

Add Section 31 23 20 Fill

**SECTION 31 23 20  
FILL**

---

**PART 1            GENERAL**

---

**1.1    SECTION INCLUDES**

- A. Non-structural fill materials.
- B. Non-structural placement and compaction.

**1.2    REFERENCES**

**A.    ASTM Standards**

- D 698      Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
- D 1557     Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
- D 2922     Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).

**1.3    SUBMITTALS**

- A. When requested by ENGINEER, submit laboratory dry density and optimum laboratory moisture content for each type of fill to be used.

**1.4    QUALITY ASSURANCE**

- A. Do not change material sources without ENGINEER's knowledge.
- B. Reject material that does not comply with the requirements specified in this Section.

**1.5    STORAGE**

- A. Safely stockpile materials.
- B. Separate differing fill materials, prevent mixing, and maintain optimum moisture content of materials.

**1.6    SITE CONDITIONS**

- A. Do not place, spread, or roll any fill material over material that is damaged by water. Remove and replace damaged material at no additional cost to OWNER.
- B. Control erosion. Keep area free of trash and debris. Repair settled, eroded, and rutted areas.
- C. Reshape and compact damaged structural section to required density.

**1.7    ACCEPTANCE**

- A. General: Native material may be wasted if there is no additional cost to substitute material acceptable to ENGINEER.
- B. Lift thickness: One test per Lot.

- C. Compaction: One test per Lot. Verify density using nuclear tests, ASTM D 2922.

Compaction and Lot sizes as follows:

1. Compact to 92% Standard Proctor
2. One Lot = 1500 square feet per lift

#### 1.8 **WARRANTY**

- A. Repair settlement damage at no additional cost to OWNER.

---

### **PART 2            PRODUCTS**

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#### 2.1 **FILL MATERIALS**

- A. Material shall be free from sod, grass, trash, rocks larger than four (4) inches in diameter, and all other material unsuitable for construction of compacted fills.

#### 2.2 **WATER**

- A. Make arrangements for sources of water during construction and make arrangements for delivery of water to site.
- B. Comply with local Laws and Regulations at no additional cost to OWNER when securing water from water utility company.

---

### **PART 3            EXECUTION**

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#### 3.1 **PREPARATION**

- A. Implement the traffic control plan requirements, Section 01 55 26.
- B. Verify material meets maximum size requirements.
- C. If ground water is in the intended fill zone, dewater.

#### 3.2 **PROTECTION**

- A. Protect existing trees, shrubs, lawns, structures, fences, roads, sidewalks, paving, curb and gutter and other features.
- B. Protect above or below grade utilities. Contact utility companies to repair utility damage. Pay all cost of repairs.
- C. Avoid displacement of and damage to existing installations while compacting or operating equipment.
- D. Do not use compaction equipment adjacent to walls or retaining walls that may cause wall to become over-stressed or moved from alignment.
- E. Restore any damaged structure to its original strength and condition.

#### 3.3 **LAYOUT**

- A. Identify required line, levels, contours, and datum.
- B. Stake and flag locations of underground utilities.

- C. Upon discovery of unknown utility or concealed conditions, notify ENGINEER.
- D. Maintain all benchmarks, control monuments and stakes, whether newly established by surveyor or previously existing. Protect from damage and dislocation.
- E. If discrepancy is found between Contract Documents and site, ENGINEER shall make such minor adjustments in the Work as necessary to accomplish the intent of Contract Documents without increasing the Cost of the Work to CONTRACTOR or OWNER.

#### 3.4 **SUBGRADE**

- A. Protect Subgrade from desiccation, flooding, and freezing.
- B. Before placing fill over Subgrade, get ENGINEER's inspection of subgrade surface preparations.
- C. If Subgrade is not readily compactable get ENGINEER's permission to stabilize the subgrade.

#### 3.5 **TOLERANCES**

- A. Compaction: Ninety-two (92) percent minimum relative to a standard proctor density, Section 31 23 26.
- B. Lift Thickness (before compaction):
  - 1. Eight (8) inches when using riding compaction equipment.
  - 2. Six (6) inches when using hand held compaction equipment.

#### 3.6 **CLEANING**

- A. Remove stockpiles from site. Grade site surface to prevent free standing surface water.
- B. Leave borrow areas clean and neat.

END OF SECTION

**SECTION 31 41 00 M  
SHORING (Modified)**

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**PART 1          GENERAL**

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**1.2      PRICE – MEASUREMENT AND PAYMENT**

A. In Trenching, Shoring:

*Revise subparagraph 1 to read as follows:*

1. A two (2) part Protective System is required if each Side of the Trench is to be shored. The use of a Trench Box shall be classified as one Protective System.

**1.4      DESIGN OF PROTECTIVE SYSTEMS**

*Add paragraphs C and D as follows:*

- C. Trenches five (5) feet deep or greater require a protective system unless the excavation is made entirely in stable rock. If less than five (5) feet deep, a competent person may determine that a protective system is not required.
- D. Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional engineer in accordance with 1926.652(b) and (c).

**1.5      SUBMITTALS**

*Revise paragraph A to read as follows:*

- A. Submit a Protective System plan:
  1. When excavation is over twenty (20) feet deep, or
  2. When requested by ENGINEER.

*Add Article 1.6 as follows:*

**1.6      REFERENCES**

- A. 29 CFR Part 1910 – Occupational Safety and Health Standards
- B. 29 CFR Part 1926 Subpart P – Excavations

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**PART 3          EXECUTION**

---

**3.4      INSPECTIONS**

*Add paragraph C as follows:*

- C. OWNER and/or ENGINEER may order an immediate work stoppage if working conditions are thought to be unsafe. Work may resume only after proper safety precautions are implemented.



**SECTION 32 01 06 M**  
**STREET NAME SIGNS (Modified)**

---

**PART 1          GENERAL**

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**1.2          REFERENCES**

*Add paragraph C as follows:*

- C.    **South Weber City Public Works Standard Drawings**

**SECTION 32 01 13.64 M  
CHIP SEAL (Modified)**

---

**PART 1            GENERAL**

---

**1.2        REFERENCES****A.    ASTM Standards:**

*Add the following to paragraph A:*

- |       |  |
|-------|--|
| C 29  | Standard Test Method for Bulk Density ("Unit Weight") and Voids in Aggregate |
| C 330 | Standard Specification for Lightweight Aggregates for Structural Concrete    |

*Rename Article 1.5 as follows:*

**1.5        WEATHER AND CONDITIONS****D.    Temperature**

*Add subparagraph 4 as follows:*

4. Do not place if forecasted temperature is expected to drop below 40 deg F within 72 hours of placement.

**B.    Moisture and Wind:**

*Add subparagraph 1 as follows:*

1. Do not place chip seal coat if surface moisture is present.

---

**PART 2            PRODUCTS**

---

**2.1        ASPHALT BINDER**

*Revise paragraph B as follows:*

- A. Emulsified Asphalt: CRS-2P or LMCRS, Section 32 12 03. Use any of the following additives to match aggregate particle charge, weather conditions, and mix design:  
(Subparagraphs 1-5 remain unchanged.)

**2.2        COVER AGGREGATE****A.    Material:**

*Revise subparagraph 2 to read as follows:*

2. 100% Crusher processed rotary kiln lightweight expanded shale chips (Utelite or approved equal).

Replace Table 1 with the following:

<b>Table 1 – Physical Properties of Lightweight Aggregate (ASTM C330)</b>			
<b>Property</b>	<b>ASTM</b>	<b>Min.</b>	<b>Max.</b>
Clay Lumps and Friable Particles, percent	C142	-	2
Bulk Density Dry Loose Condition, lb/ft <sup>3</sup>	C29	-	55

- B. Gradation: Analyzed on a dry weight and percent passing basis.

Replace Table 2 with the following:

<b>Table 2 – Master Grading Band for Lightweight Aggregate</b>		
<b>Sieve</b>	<b>ASTM</b>	<b>C330 Requirement</b>
1/2"	C136	100
3/8"		80-100
No. 4		5-40
No. 8		0-20
No 16		0-10
No. 200		0-10

Replace Article 2.3 with the following:

### 2.3 FOG SEAL/FLUSH COAT

- A. Material: Use cationic emulsified asphalt grade CSS-1h, Section 32 12 03.

Add Article 2.4 as follows:

### 2.4 MIX DESIGN

- A. Select Type and grade of emulsified asphalt, ASTM D 3628.
- B. Use the following application rates, or submit mix design for approval by Engineer.
- Emulsion: Use Table 3.

<b>Table 3 – Emulsion Application Rate</b>	
Emulsion	Application Rate (gal/sy)
CRS-2P	0.32 – 0.35
LMCRS-2	0.32 – 0.35

2. Cover Material: Use Table 4.

<b>Table 4 – Cover Material Application Rate</b>	
Emulsion	Application Rate (lbs/sy)
CRS-2P	10.0 – 12.0
LMCRS-2	10.0 – 12.0

3. Fog Seal/Flush Coat: Use 0.10 – 0.12 gal/sy at a 2:1 dilution rate.

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## **PART 3      EXECUTION**

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### **3.2      PREPARATION**

*Add paragraph F as follows:*

- F. Cover manholes, valves boxes, storm drain inlets, and other service utility features before placing any chip seal coat.

### **3.4      APPLICATION**

*Revise paragraph A to read as follows:*

- A. Asphalt Emulsion: Keep viscosity between 50 and 100 centistokes during application, ASTM D 2170. Keep temperature to a minimum of 145 deg F.

*Revise Article 3.6 to read as follows:*

### **3.6      FOG SEAL/FLUSH COAT**

- A. Apply asphalt seal over the chips within 24 hours of placing chips.
- B. Keep viscosity between 50 and 100 centistokes, during application, ASTM D 2170.

**SECTION 32 12 05 M**  
**BITUMINOUS CONCRETE (MODIFIED)**  
**(Amendment 2 of the 2017 Edition APWA Specifications)**

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<b>PART 1</b>	<b>GENERAL</b>
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**1.4 SUBMITTALS**

Revise paragraph C as follows:

*Replace item 11 with the following:*

11. Tensile Strength Ratio or Hamburg Rut Test results.

*Add the following item:*

14. Unless otherwise specified, Road Class II shall be used for the selection of Mix Design parameters.

**SECTION 32 16 13 M**  
**DRIVEWAY, SIDEWALK, CURB, GUTTER (Modified)**

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**PART 3            EXECUTION**

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**3.4        CONTRACTION JOINTS**

D. Curb, Gutter, Waterway:

*Revise subparagraph 1 to read as follows:*

1. Place joints at intervals not exceeding 10 feet.

**3.5        EXPANSION JOINTS**

B. Sidewalks:

*Add subparagraph 5 as follows:*

5. Expansion joints are to be placed at 48-foot intervals (minimum) or wherever new sidewalk adjoins existing sidewalks, driveways, or aprons.

**C. Curb, Gutter, Waterway:**

*Add subparagraph 4 as follows:*

4. Place expansion joint where new curb and gutter adjoins existing curb and gutter.

**SECTION 32 31 13 M**  
**CHAIN LINK FENCES AND GATES (Modified)**

**PART 2            PRODUCTS**

**2.6        POSTS, CAPS, RAILS, COUPLINGS**

A. Posts, Frames, Stiffeners, Rails: ASTM F 1043:

*Revise applicable rows of Table 1 to read as follows:*

Top Rail	1-5/8" pipe
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**PART 3            EXECUTION**

**3.6        INSTALLATION OF FENCE FABRIC**

*Revise paragraph A to read as follows:*

- A. Place fence fabric on roadway side of posts unless otherwise specified. Place fabric approximately 1 inch above the grounds. Maintain a straight grade between posts by excavating ground high points and filling depressions with soil.

**SECTION 32 31 16 M**  
**WELDED WIRE FENCES AND GATES (Modified)**

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**PART 1            GENERAL**

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**1.2        REFERENCES**

*Add paragraph D as follows:*

- D.    UDOT Standard Drawing
  - FG 2A        Right of Way Fence and Gates (Metal Post)
  - FG 2B        Right of Way Fence and Gates (Metal Post)

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**PART 3            EXECUTION**

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**3.2        INSTALLATION**

*Add paragraph N as follows:*

- N.    Install per UDOT Standard Drawings FG 2A and FG 2B.



Add Section 32 31 23 Poly(Vinyl Chloride)(PVC) Fences and Gates

**SECTION 32 31 23**  
**POLY(VINYL CHLORIDE)(PVC) FENCES AND GATES**

**PART 1**            **GENERAL**

**1.1 SECTION INCLUDES**

- A. PVC fencing, posts, gates, and appurtenances.

**1.2 REFERENCES**

**A. ASTM Standards:**

- D 1784      Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
- F 626       Fence Fittings
- F 964       Rigid Poly(Vinyl Chloride)(PVC) Exterior Profiles Used for Fencing and Railing
- F 1999      Installation of Rigid Poly(Vinyl Chloride)(PVC) Fence Systems

**1.3 SUBMITTALS**

- A. Drawings: Indicate plan layout, grid, size and spacing of components, accessories, fittings, anchorage, and post section.
- B. Data: Submit manufacturer's installation instructions and procedures, including details of fence and gate installation.
- C. Submit sample of fence fabric and typical accessories.

**PART 2**            **PRODUCTS**

**2.1 GENERAL**

- A. Products from other qualified manufacturers having a minimum of 5 years' experience manufacturing PVC fencing will be acceptable by the architect as equal, if approved in writing, ten days prior to bidding, and if they meet the following specifications for design, size, and fabrication. PVC Profiles, lineals, and extrusions used as components must "meet or exceed" the minimum performance guidelines laid out in ASTM 964.

**2.2 PVC FENCE**

- A. Pickets, rails, and posts fabricated from PVC extrusion. The PVC extrusions shall comply with ASTM D 1784, Class 14344B and have the following characteristics:

Specific Gravity (+/- 0.02)	1.4
Using 0.125 specimen Izod impact ft. lbs./in. notch	23.0
Tensile strength, PSI	6,910
Tensile modulus, PSI	336,000
Flexural yield strength, PSI	10,104
Flexural modulus, PSI	385,000
DTUL at 264 PSI	67°C

- B. All fence parts made from PVC shall have a minimum thickness of 0.17 in except where specified otherwise.

### 2.3 POST CAPS

- A. Molded, one piece.
- B. Cross Section: Match post or gate upright cross section.
- C. Thickness: 0.095" minimum.
- D. Configuration: Flat or four-sided as required for installation to top of posts and gate.

### 2.4 ACCESSORIES

- A. Standard gate brace, screw caps, rail end reinforcers, and other accessories as required.

### 2.5 MISCELLANEOUS MATERIALS

- A. Stiffener Chemicals: Galvanized steel structural channel. Configure channels for concealed installation within PVC rails with pre-drilled holes for drainage. Aluminum extruded channel available upon request.
  - 1. Cross Section: 3.00" x 3.00" x 1.500" hourglass shape to grip picket.
  - 2. Thickness: 0.040 Gauge (minimum)
- B. Fasteners and Anchorage: Stainless Steel. All fasteners to be concealed or colored heads to match. Provide sizes as recommended by fence manufacturer.
- C. PVC Cement: As recommended by fence manufacturer.

### 2.6 GATE HARDWARE AND ACCESSORIES

- A. General: Provide hardware and accessories for each gate according to the following requirements.
- B. Hinges: Size and material to suit gate size, non-lift-off type, self-closing, glass filled nylon with stainless steel adjuster plate, offset to permit 120 degree gate opening. Provide one pair of hinges for each gate.
  - 1. Stainless Steel, painted with carbo zinc base.
  - 2. Finish: Pre-painted, 2 coats "Polane."
  - 3. Color: Black Gravity Latch or dual access gravity latch.
- C. Latch: Manufacturers' standard self-latching, thumb latch, pre-finished steel, or stainless steel gravity latch. Provide one latch per gate.

1. Finish: Match gate hinge finish.
- D. Hardware: Stainless Steel. Provide sizes as recommended by fence manufacturer.
  1. Finish: Match gate hinge finish.
- 2.7 **CONCRETE**
  - A. Use Class 3000 concrete. Section 03 30 04.
- 2.8 **REINFORCING FOR FILLED POSTS**
  - A. Steel Reinforcing:
    1. Steel Reinforcing Bars: ASTM A 615. Grade 60. Deformed (#4 or ½").
    2. Install 2 bars for each corner or gate post as specified in the drawings.

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## **PART 3            EXECUTION**

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- 3.1 **PREPARATION**
  - A. Locate and preserve utilities, Section 31 23 16.
  - B. Excavation, Section 31 23 16.
  - C. Review to ASTM F 567 and CLFMI products manual for chain link fence installation.
  - D. Protect roots and branches of trees and plants to remain.
  - E. Limit amount of clearing and grading along fence line to permit proper installation.
- 3.2 **LAYOUT OF WORK**
  - A. Accurately locate and stake locations and points necessary for installation of fence and gates.
  - B. General arrangements and location of fence and gates are indicated. Install except for minor changes required by unforeseen conflicts with work of other trades.
- 3.3 **INSTALLATION – GENERAL**
  - A. Install fence in compliance with manufacturer's written instructions.
  - B. PVC components shall be carefully handled and stored to avoid contact with abrasive surfaces.
  - C. Install components in sequence as recommended by fence manufacturer.
  - D. Install fencing as indicated on the drawings provided.
  - E. Variations from the installation indicated must be approved.
  - F. Variations from the fence and gate installation indicated and all costs for removal and replacement will be the responsibility of the CONTRACTOR.
- 3.4 **INSTALLATION OF POSTS**
  - A. Excavation
    1. Drill or hand-excavate (using post hole digger) holes for posts to diameters and spacings indicated, in firm, undisturbed or compacted soil.

2. If not indicated on drawings, excavate holes for each post to a minimum diameter of 12 inches.
3. Unless otherwise indicated, excavate hole depths not less than 30 inches or to frost line.

**B. Posts**

1. Install posts in one piece, plumb and in line. Space as noted in the drawings. Enlarge excavation as required to provide clearance indicated between post and side of excavation.
2. Protect portion of posts above ground from concrete splatter. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment and hold in position during placement and finishing operations.
  - a. Unless otherwise indicated, terminate top of concrete footings 3 inches below adjacent grade and trowel to a crown to shed water.
  - b. Secure posts in position for manufacturer's recommendations until concrete sets.
  - c. After installation of rails and unless otherwise indicated, install reinforcing in posts in opposing corners of post as shown and fill end and gate posts with concrete to level as indicated. Concrete fill shall completely cover the reinforcing steel and gate hardware fasteners. Consolidate the concrete by striking the post face with a rubber mallet, carefully tamping around the exposed post bottom.
  - d. Install post caps. Use #8 screws, nylon washers and snap caps.
  - e. Remove concrete splatters from PVC fence materials with care to avoid scratching.

**3.5 INSTALLATION OF RAILS**

**A. Top and Bottom Rails**

1. Install rails in one piece into routed hole fabricated into posts to receive top and bottom rails, and middle where necessary. Except at sloping terrain, install rails level.
  - a. Prior to installation of rails into posts, insert concealed steel channel stiffeners in top rail, where necessary. Bottom rails shall include minimum 2- $\frac{1}{4}$ " drainage holes.
  - b. At posts to receive concrete fill, tape rail ends to prevent seepage when filling post with concrete.

**B. Middle Rails:**

1. Where necessary, install middle rails in one piece into routed hole in posts with larger holes facing down. Except at sloping terrain, install middle rails level. Secure mid rail to pickets with 2-#8 x 1- $\frac{1}{2}$ " screws evenly spaced.
  - a. At posts to receive concrete fill, tape rail ends to prevent seepage when filling post with concrete.

**3.6 INSTALLATION OF FENCE FABRIC/PICKETS**

- A. Pickets:** Install pickets in one piece as per manufacturer recommendations. Install pickets plumb.

**3.7 INSTALLATION ON SLOPING TERRAIN**

- A. At sloping terrain rails may be racked (sloped) or stepped to comply with manufacturer's recommendations.

**3.8 INSTALLATION OF GATES**

- A. Prior to installation of rails into posts, apply PVC cement into sockets per manufacturer's recommendations. Bottom rail shall include minimum 2-¼" drainage holes.
- B. Assemble gate prior to fence installation to accurately locate hinge and latch post. Align gate horizontal rails with fence horizontal rails.
- C. Install gates plumb, level, and secure for full opening without interference according to manufacturer's instructions.
- D. Gate Latch Installation. Install gate latch according to manufacturer's instructions.
- E. Allow minimum 72 hours to let concrete set-up before opening gates.

END OF SECTION

**SECTION 32 92 00 M**  
**TURF AND GRASS (Modified)**

**PART 1 GENERAL**

**1.3 SUBMITTALS**

*Add paragraph C as follows:*

C. Submit seed mix if proposing alternate seed mix show in paragraph 2.1.0 below.

**PART 2 PRODUCTS**

**2.1 SEED**

*Add paragraph D as follows:*

D. Seed Mix:

<u>SEED #</u>	<u>BOTANICAL NAME</u>	<u>COMMON NAME</u>	<u>% by Weight</u>
1	Agropyron cristatum 'Fairway'	Fairway Crested Wheatgrass	15%
2	Agropyron riparium 'Sodar'	Streambank Wheatgrass	20%
3	Bromus inermis 'Manchar'	Smooth Brome	32%
4	Fescue rubra 'Fortress'	Red Fescue	25%
5	Poa compressa 'Reuben's'	Reuben's Canadian Bluegrass	6%
6	Trifolium repens	White Dutch Cover	2%

**PART 3 EXECUTION**

**3.4 SEEDING**

*Revise paragraph A to read as follows:*

A. Apply seed at a rate of eight (8) pounds per 1,000 square feet evenly in two (2) intersecting directions. Rake in lightly.

*Add Section 33 05 12 Conductive Tracer Wire for Pipe Installation***SECTION 33 05 12****CONDUCTIVE TRACER WIRE FOR PIPE INSTALLATION****PART 1 GENERAL****1.1 SUMMARY**

This section covers the requirements for installation of a conductive tracer wire with underground pipe

**1.2 SYSTEM DESCRIPTION**

Install electrically continuous tracer wire with access points as described herein to be used for locating pipe with an electronic pipe locator after installation.

**PART 2 PRODUCTS**

- 2.1 Tracer wire shall be twelve (12) gauge minimum solid copper with thermoplastic insulation recommended for direct burial. Wire connectors shall be 3M DBR, or approved equal, and shall be watertight and provide electrical continuity.

**PART 3 EXECUTION****3.1 ERECTION / INSTALLATION / APPLICATION AND/OR CONSTRUCTION**

A. General: Tracer wire shall be installed in the same trench and inside bored holes and casing with pipe during pipe installation. It shall be secured to the pipe as required to insure that the wire remains adjacent to the pipe. The tracer wire shall be securely bonded together at all wire joints with an approved watertight connector to provide electrical continuity, and it shall be accessible at all new water valve boxes, water meter boxes, fire hydrants, sewer manholes, and sewer cleanouts as applicable to the utility line being installed.

B. Manholes: The wire shall be installed from the exterior of the manhole to the interior by installing the wire underneath the manhole frame.

**3.2 TESTING**

CONTRACTOR shall perform a continuity test on all tracer wire in the presence of ENGINEER or ENGINEER's representative. Testing shall be performed prior to road construction.

**3.3 REPAIR / RESTORATION**

If the tracer wire is found to be not continuous after testing, CONTRACTOR shall repair or replace the failed segment of wire.

END OF SECTION

**SECTION 33 05 25 M  
PAVEMENT RESTORATION (Modified)**

**PART 1            GENERAL**

**1.2        REFERENCES**

*Replace paragraph A to read as follows:*

- A.    **South Weber City Public Works Standard Drawings**

**PART 2            PRODUCTS**

**2.2        ASPHALT PAVEMENT**

*Revise paragraph A to read as follows:*

- A.    Permanent Warm Weather Asphalt Concrete: Section 32 12 05 M unless indicated otherwise.

*Revise paragraph C to read as follows:*

- C.    Pavement Sealing:
  - 1.    Crack Seal: Section 32 01 17
  - 2.    Chip Seal: Section 32 01 13.64 and 32 01 13.64 M.
  - 3.    Fog Seal: Section 32 01 13.50.

**PART 3            EXECUTION**

**3.5        ASPHALT PAVEMENT RESTORATION**

*Revise paragraphs A and B to read as follows:*

- A.    Follow South Weber City Public Works Standard Drawings.
- B.    Match existing pavement thickness or 4-inches minimum, whichever is greater.



**SECTION 33 08 00 M**  
**COMMISSIONING OF WATER UTILITIES (Modified)**

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**PART 3            EXECUTION**

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**3.5       INFILTRATION TEST**

*Revise paragraph A to read as follows:*

- A. General: 150 gallons per inch diameter per mile per day. If the ground water table is less than two (2) feet above the crown of the pipe, the infiltration test is not required.

*Revise Article 3.6 in its entirety to read as follows:*

**3.6       EXFILTRATION TEST**

A. Non-Pressurized System:

- 1. General: Air test or hydrostatic test is CONTRACTOR's choice.
- 2. Air Test:
  - a. Plastic Pipe: ASTM F 1417.
    - (i) For pipe up to 30 inches diameter, pressure drop is 0.5 psi.
    - (ii) For pipe larger than 30 inches diameter, isolated joint test is 3.5 psi maximum pressure drop is 1.0 psi in 5 seconds.
  - b. Concrete Pipe:
    - (i) ASTM C 1214 for concrete pipe 4" to 24" diameter.
    - (ii) ASTM C 1103 for concrete pipe 27" and larger.
- 3. Hydrostatic Test: Provide air release taps at pipeline's highest elevations and expel all air before the test. Insert permanent plugs after test has been completed.
  - a. Plastic Pipe: ASTM F 2497.
  - b. Concrete Pipe: ASTM C 497. Abide by Section 3 and Section 16 in the ASTM standard and applicable recommendations of manufacturer.

B. Pressurized System:

- 1. Pressure Test: All newly laid pipe segments and their valves, unless otherwise specified, shall be subjected to a hydrostatic pressure test of 225 psi or 50 psi above working pressure, whichever is higher. The hydrostatic pressure test shall be conducted after the pipe segments have been partially backfilled.
- 2. Duration of Pressure Test: The duration of each hydrostatic pressure test shall be at least two (2) hours.
- 3. Test Procedure: Each pipe segment shall be slowly filled with water and the specified test pressure, measured at the point of lowest elevation, shall be applied by means of a pump connected to the pipe in a satisfactory manner. Testing against closed valves will be allowed. The pump, pipe connection, and all necessary apparatus including gauges

and meters shall be furnished by the CONTRACTOR. CONTRACTOR shall provide all labor and equipment necessary to perform the test.

4. Expelling Air Before Test: Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, air release mechanisms shall be installed, if necessary, at points of highest elevation, and afterwards tightly capped.
5. Examination Under Pressure: All pipes, fittings, valves, hydrants, joints, and other hardware will be subject to examination under pressure during the hydrostatic test. Any defective pipes, fittings, hydrants, valves, or other hardware discovered in consequence of this pressure test shall be removed and replaced by the CONTRACTOR with sound material, at no expense to the OWNER, and the test shall be repeated until the ENGINEER is satisfied.
6. No piping installation will be acceptable until the leakage is less than the amount allowed by industry standards for the type of pipe material being tested. Or, if no standard prevails, then the number of gallons per hour is determined by the formula:

$$Q = \frac{LD\sqrt{P}}{148,000}$$

Where: Q = allowable leakage, gallons per hour  
L = length of pipe under test, feet  
D = diameter of pipe, inches  
P = average test pressure, psig

**SECTION 33 11 00 M**  
**WATER DISTRIBUTION AND TRANSMISSION (Modified)**

**PART 1**      **GENERAL**

**1.2 REFERENCES**

*Revise paragraph B to read as follows:*

**B. South Weber City Public Works Standard Drawings**

*Add to paragraph C. AWWA Standards:*

C105	Polyethylene Encasement for Ductile Iron Pipe Systems
C110	Ductile-Iron and Gray-Iron Fittings
C111	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
C223	Fabricated Steel and Stainless Steel Tapping Sleeves
M14	AWWA Recommended Practice for Backflow Prevention and Cross-Connection Control

*Add paragraph F and G as follows:*

**F. ANSI/NSF Standards:**

61	Drinking Water System Components
----	----------------------------------

**G. Utah Administrative Code**

R309	Drinking Water
------	----------------

**1.3 PERFORMANCE REQUIREMENTS**

*Replace paragraph A with the following:*

**A. Depth of Cover:**

1. Minimum as indicated on the drawings. If minimum cannot be achieved, contact ENGINEER.
2. Maximum of 72 inches unless indicated on the plans or approved by ENGINEER.

**1.5 SITE CONDITIONS**

*Revise paragraph D to read as follows:*

- D.** Do not operate any water valve until its owner and water company's permission is secured.

---

**PART 2            PRODUCTS**

---

**2.1        PIPES AND FITTINGS**

*Revise paragraph A to read as follows:*

- A. Provide piping materials and factory fabricated piping products of sizes, types, pressure ratings, and capacities indicated. Use only NSF 61 approved products in drinking water systems. All such products shall be appropriately stamped with the NSF logo.

*Add paragraphs E and F as follows:*

- E. Mechanical Joint Fittings: Ductile iron, Class 250
- F. Flanged Fittings: Ductile iron, Class 250

**2.3        VALVE BOX**

*Revise paragraph A to read as follows:*

- A. Buried Valves in Traffic Areas: Cast iron two (2) piece slip sleeve type, 5-1/4 inch shaft, with a drop lid, rated for HL-93 loading.

*Revise paragraph C to read as follows:*

- C. Markings: Potable water main line valves box covers shall contain the wording "SOUTH WEBER WATER."

*Add Articles 2.9 and 2.10 as follows:*

**2.9        TAPPING SLEEVE AND VALVE**

- A. AWWA C223.
- B. Sleeve shall be full circumferential seat with all stainless steel tapping sleeve.
- C. Flanged outlet with flanged by MJ valve.

**2.10      FIRE SPRINKLER/SUPPRESSION LINES**

- A. Lines:
  - 1. Ductile iron, Class 51, or as approved in writing by OWNER or ENGINEER.
  - 2. Meet all specifications for main lines.
- B. Valve:
  - 1. All fire lines shall be equipped with an isolation gate valve located at the main line.

---

**PART 3            EXECUTION**

---

**3.3        LAYOUT**

*Replace paragraph B with the following:*

- B.        The Utah Division of Drinking Water must grant an exception where a potable water line crosses under a sanitary sewer line.

**3.4        INSTALLATION – PIPE AND FITTING**

- A. General:

*Add subparagraphs 3 through 7 as follows:*

- 3. Encase all buried ductile iron valves, fitting, connections, and specialties in minimum 8 mil. polyethylene sheets in accordance with AWWA C105.
- 4. Waterline shall be laid and maintained to lines and grades established by the drawings, with fittings and valves at the required locations. Deviations as approved in writing by OWNER or ENGINEER.
- 5. Lay water lines on a continuous grade to avoid high points except as shown on the plans.
- 6. Cut edges and rough ends shall be ground smooth. Bevel end for push-on connections.
- 7. Do not drop pipe or fittings into trench.

*Add paragraph I as follows:*

- I. Tie-Ins:
  - 1. All tie-ins shall be made dry and not on a day proceeding a weekend or holiday.
  - 2. OWNER requires 48-hours' notice for water turn-off.
  - 3. At least 24-hours prior to a service disruption, CONTRACTOR shall notify all affected water users.
  - 4. Where shutting down a line is not feasible as determine by OWNER or ENGINEER, CONTRACTOR shall make a wet tap using a tapping sleeve and valve.

**3.5        INSTALLATION – CONCRETE THRUST BLOCK**

*Revise paragraph A to read as follows:*

- A. South Weber City Public Works Standard Drawings.

**3.8        INSTALLATION – TAPS**

*Revise paragraph A to read as follows:*

- A. South Weber City Public Works Standard Drawings.

**3.9 INSTALLATION – SERVICE LINE**

*Revise paragraph C to read as follows:*

- C. Meter Box: South Weber City Public Works Standard Drawings.

*Add paragraph D as follows:*

- D. New Water Service Line
  - 1. 1" Service
    - a. All laterals must be of one continuous copper tube between the corp stop and the meter box. No joints or copper to copper connectors are allowed.
  - 2. 1.5" and 2" Services
    - a. All solder joints shall be 95-5 solder or better, or Mueller compression fittings.

**3.10 INSTALLATION – WATERMAIN LOOP (SYPHON)**

*Revise paragraph A to read as follows:*

- A. South Weber City Public Works Standard Drawings.

**3.12 BACKFILLING**

- B. Trenches: Section 33 05 20:

*Revise subparagraphs 1 and 2 to read as follows:*

- 1. Pipe zone backfill, South Weber City Public Works Standard Drawings.
- 2. Trench backfill, South Weber City Public Works Standard Drawings.

**3.13 SURFACING RESTORATION**

- A. Roadway Trenches and Patches: Section 33 05 25:

*Revise subparagraphs 1 and 2 to read as follows:*

- 1. Asphalt concrete patch, South Weber City Public Works Standard Drawings.
- 2. Concrete pavement patch, contact OWNER for instructions.

*Add new Article 3.14 as follows:*

**3.14 FIRE SPRINKLER/SUPPRESSION LINES**

- A. Notify OWNER 48 hours prior to installation.
- B. Unless written authorization is given by OWNER, no services shall be connected to the fire sprinkler/suppression lines.
- C. Location: As approved by OWNER.

**SECTION 33 12 16 M  
WATER VALVES (Modified)**

---

**PART 1            GENERAL**

---

**1.2        REFERENCES**

*Modify the fourth (4<sup>th</sup>) item in paragraph A to read as follows:*

C509            Resilient-Seated Gate Valves for Water Supply Service

*Add paragraph B as follows:*

**B.    South Weber City Public Works Standard Drawings**

---

**PART 2            PRODUCTS**

---

**2.1        VALVES – GENERAL**

A.    Underground:

*Add subparagraph 3 as follows:*

3.    Valves over five (5) feet in depth shall have a valve nut extension stem.

**2.2        GATE VALVES**

*Add paragraph D as follows:*

D.    Model: Mueller A-2361

*Add Article 2.10 as follows:*

**2.10       AIR/VACUUM RELIEF VALVES**

- A.    Operation: Relieve air build-up and/or allow intrusion of air to prevent vacuum conditions within pipe.
- B.    Location: Valve and vent placement location as approved by OWNER or ENGINEER.
- C.    Connection: Service saddle.

---

**PART 3            EXECUTION**

---

**3.1        INSTALLATION**

*Add paragraphs D, E, and F as follows:*

- D.    Prior to installation, inspect valves for direction of opening, freedom of operation, tightness of pressure-containing bolting, and cleanliness of valve ports and seating surfaces.
- E.    Examine all valves for damage or defects immediately prior to installation.
- F.    Mark and hold defective materials for inspection by OWNER or ENGINEER. Replace rejected materials.

**SECTION 33 12 19 M  
HYDRANTS (Modified)**

---

**PART 1            GENERAL**

---

**1.2        REFERENCES**

*Revise paragraph A to read as follows:*

- A.    **South Weber City Public Works Standard Drawings**

---

**PART 2            PRODUCTS**

---

**2.1        DRY-BARREL FIRE HYDRANT**

*Add paragraph C as follows:*

- C.    Model: Mueller Super Centurion.

**2.2        VALVES**

*Revise paragraph A to read as follows:*

- C.    Gate Valve: Section 33 12 16.

**2.3        ACCESSORIES**

*Revise paragraph D to read as follows:*

- D.    Valve Box, Valve Chamber: Section 33 11 00.

---

**PART 3            EXECUTION**

---

**3.2        INSTALLATION**

*Revise paragraph A to read as follows:*

- C.    Install hydrant according to South Weber City Public Works Standard Drawings and AWWA M17.

*Revise paragraph H to read as follows:*

- H.    Install thrust block according to South Weber City Public Works Standard Drawings.



**SECTION 33 12 33 M  
WATER METER (Modified)**

---

**PART 1            GENERAL**

---

**1.2        REFERENCES**

*Add paragraph B as follows:*

- E.    **South Weber City Public Works Standard Drawings.**

---

**PART 2            PRODUCTS**

---

**2.2        METERS FOR SERVICE PIPING**

*Revise paragraph A to read as follows:*

- F.    OWNER shall supply and set all 1" meters. All other meters supplied and set by CONTRACTOR.

**2.3        SERVICE LINE, VALVES, AND FITTINGS**

*Revise paragraph A to read as follows:*

- A.    Service Pipe: Type K Copper, Section 33 05 03, with compression copper fittings made of brass.

*Revise paragraph B to read as follows:*

- B.    Service Valves and Fittings:
1.    AWWA C800.
  2.    1-Inch Service Laterals – Brass corporation stops with CC thread.
  3.    1.5-Inch and 2-Inch Service Laterals – Copper or brass screw-type fittings (ball valves, strainers, nipples, tees, bends, etc.).
  4.    Greater than 2-Inch – Coordinate with and obtain approval from OWNER and ENGINEER.

*Replace Article 2.4 with the following:*

**2.4        METER BOXES**

- A.    See South Weber City Public Works Standard Drawings.

---

**PART 3            EXECUTION**

---

**3.1        INSTALLATION**

*Revise paragraph D to read as follows:*

D. OWNER Supplied Meters: Installed by OWNER unless indicated otherwise.

*Add paragraphs E and F as follows:*

E. Install one solid piece of copper pipe from main to meter.

F. Install service laterals with 60-inches of cover, minimum.

**SECTION 33 13 00 M  
DISINFECTION (Modified)**

---

**PART 1          GENERAL**

---

**1.2          REFERENCES**

*Modify paragraph B to read as follows:*

- B. Utah Administrative Code  
R309 Drinking Water

*Add paragraph C as follows:*

- C. NSF/ANSI Standards:  
60 Drinking Water Treatment Chemicals – Health Effects

**1.4          SUBMITTALS**

*Delete paragraphs B, C, and D in their entirety.*

*Add Article 1.8 as follows:*

**1.8          WORK PERFORMED BY OWNER**

- A. OWNER will perform bacteriological and high chlorine sampling and testing. CONTRACTOR shall provide all other work associated with this Section.

---

**PART 2          PRODUCTS**

---

**1.1          DISINFECTANT**

*Add paragraph E as follows:*

- E. All products shall comply with NSF/ANSI 60.

---

**PART 3          EXECUTION**

---

**3.1          PREPARATION**

*Add paragraphs C and D as follows:*

- C. Notify OWNER at least 72 hours prior to any flushing or disinfecting.
- D. Install temporary connections for flushing water lines after disinfection. After the satisfactory completion of the flushing work, remove and plug the temporary connection.

**3.2 DISINFECTION OF WATER LINES**

*Revise paragraph D to read as follows:*

- D. Coordinate with OWNER to collect a bacteriological water sample at end of line to be tested. If sample fails bacteriological test, flush system and retest. Continue flushing and retesting until sample passes test.

*Revise paragraph G to read as follows:*

- G. After a passing bacteriological test sample is obtained, let the system relax for 24 hours. Flush and coordinate with OWNER to collect a subsequent bacteriological sample for testing. If the subsequent test passes, then water line is acceptable.

**3.5 FIELD QUALITY CONTROL**

- A. Bacteriological Test:

*Revise subparagraphs 1 and 2 to read as follows:*

1. Coordinate with OWNER to collect samples for testing no sooner than 16 hours after system flushing.
2. OWNER will have water samples analyzed per State of Utah requirements.

*Add Article 3.6 as follows:*

**3.6 SPECIAL PROCEDURE FOR TAPPING SLEEVES**

- A. Before a tapping sleeve is installed, the exterior of the main to be tapped shall be thoroughly cleaned, and the interior surface of the sleeve shall be lightly dusted with calcium hypochlorite powder.

## APPENDIX D – SOUTH WEBER CITY PUBLIC WORKS STANDARD DRAWINGS

# SOUTH WEBER CITY CORPORATION

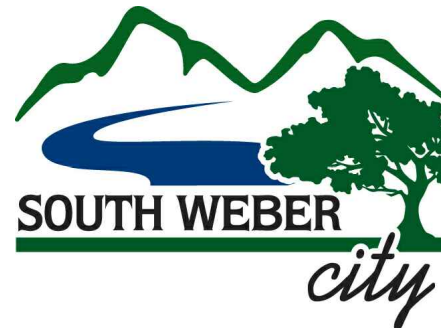
## PUBLIC WORKS STANDARD DRAWINGS

### SUBMITTED & RECOMMENDED

*Brandon K. Jones*  
 BRANDON K. JONES, P.E.  
 SOUTH WEBER CITY ENGINEER

REGISTERED PROFESSIONAL ENGINEER  
 BRANDON KENT JONES  
 No. 5148758  
 State of Utah

30/22 DATE



### APPROVAL

ROD WESTBROEK  
 SOUTH WEBER CITY MAYOR

DATE

DAVID J. LARSON  
 SOUTH WEBER CITY MANAGER

DATE

TREVOR CAHOON  
 SOUTH WEBER CITY COMMUNITY & PLANNING DIRECTOR

DATE

MARK B. LARSEN  
 SOUTH WEBER CITY PUBLIC WORKS DIRECTOR

DATE

LISA SMITH  
 ATTEST, SOUTH WEBER CITY RECORDER

DATE



### Index of Drawings (33 Sheets)

#### ROAD IMPROVEMENT STANDARDS

- R1.....TYPICAL LOCAL STREET SECTION & UTILITY LATERAL CONFIGURATION DETAILS
- R2.....SOUTH WEBER DRIVE & COLLECTOR ROADWAY TYPICAL CROSS SECTION DETAILS
- R3.....PRIVATE ROADWAY STREET CROSS SECTION DETAILS
- R4.....TYPICAL STREET INTERSECTION & STREET MONUMENT DETAILS
- R5.....TYPICAL DRIVE APPROACH DETAILS
- R6.....TYPICAL ADA RAMP DETAILS
- R7.....CUL-DE-SAC & TEMPORARY TURNAROUND DETAILS
- R8.....PRIVATE ROAD CUL-DE-SAC AND HAMMERHEAD TURNAROUND DETAILS
- R9.....STREET SIGN DETAILS
- R10....TYPICAL SIDEWALK, CURB & GUTTER, CONCRETE COLLAR, AND DEFECTIVE CONC. REPLACEMENT DETAILS
- R11....UTILITY TRENCH AND ASPHALT PATCH PLAN DETAILS
- R12....APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH

#### CULINARY WATER SYSTEM STANDARDS

- CW1....RESIDENTIAL WATER SERVICE CONNECTION DETAILS
- CW2....FIRE HYDRANT, GATE VALVE, AND AIR/VACUUM RELIEF STATION DETAILS
- CW3....TRACER WIRE INSTALLATION DETAILS
- CW4....TYPICAL WATER METER STATIONS
- CW5....PRESSURE REDUCTION STATION
- CW6....THRUST BLOCK, WATERLINE LOOP, AND MISC. VAULT DETAILS
- CW7....REDUCED PRESSURE (RP) BACKFLOW PREVENTION ASSEMBLY

#### SANITARY SEWER SYSTEM STANDARDS

- SS1.....SEWER / LAND DRAIN LATERAL & MAIN LINE CONNECTION DETAILS
- SS2.....SANITARY SEWER MANHOLE DETAILS

#### STORM DRAIN SYSTEM STANDARDS

- SD1....SINGLE AND DOUBLE CATCH BASIN DETAILS
- SD2....DRAINAGE INLET BOX AND GENERAL GRATE & FRAME DETAILS
- SD3....STORM DRAIN MANHOLE DETAILS
- SD4....LARGE DETENTION BASIN DETAILS
- SD5....SMALL DETENTION BASIN DETAILS

#### GENERAL CONSTRUCTION & LANDSCAPING STANDARDS

- G1.....CHAIN LINK FENCE STANDARD DETAILS
- G2.....WATER EFFICIENT LANDSCAPING

#### STREET LIGHTING STANDARDS

- SL1.....POLES AND FIXTURES
- SL2.....DEVELOPER/CONTRACTOR INSTALLATION PORTION OF STREETLIGHT STANDARDS
- SL3.....CITY CONTRACTOR INSTALLATION PORTION OF STREETLIGHT STANDARDS
- SL4.....ROCKY MOUNTAIN POWER CONNECTION DETAILS

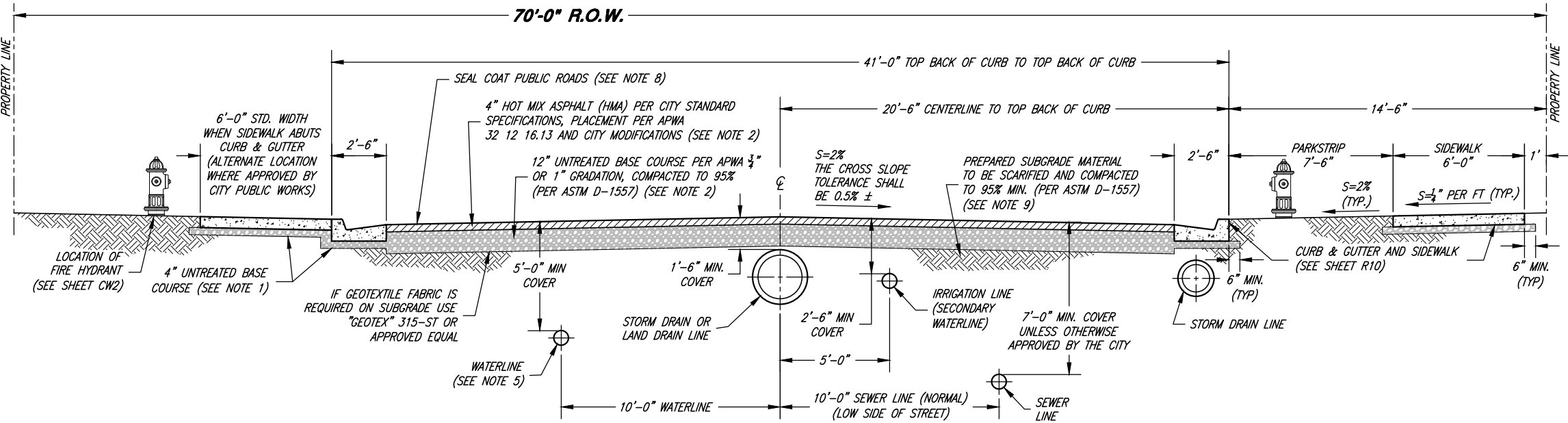
#### LID (LOW IMPACT DEVELOPMENT) STANDARDS

- LID1....GENERAL LID (LOW IMPACT DEVELOPMENT) EXAMPLES

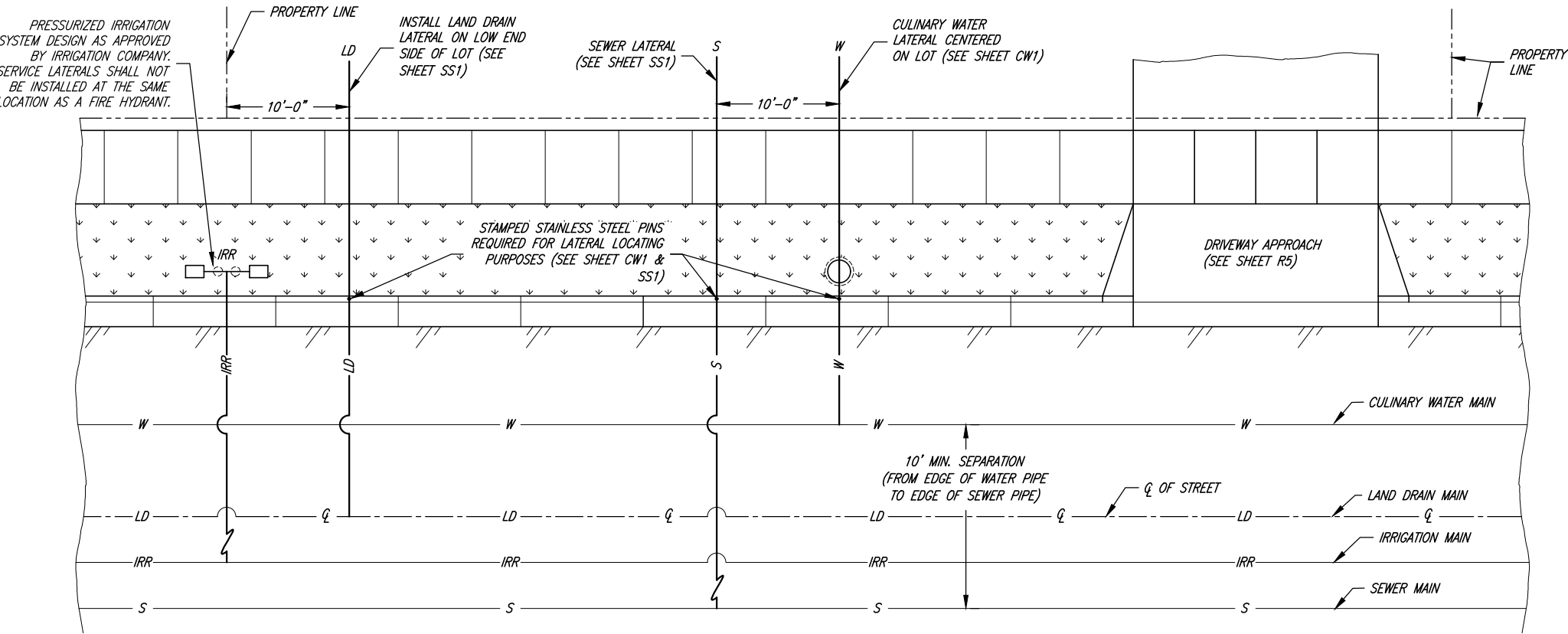
**ADOPTED JANUARY XX, 2023**

GENERAL NOTES:

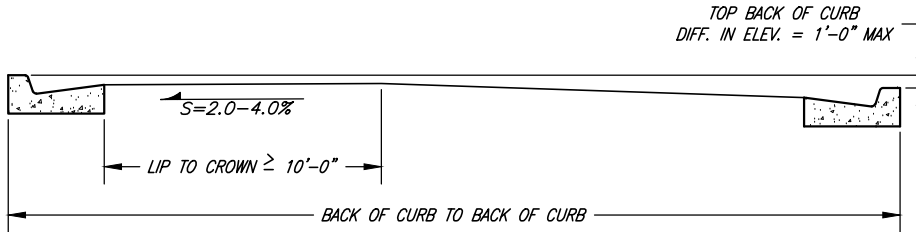
1. PROVIDE 4" THICKNESS OF 3/4" OR 1" UNTREATED BASE COURSE UNDER SIDEWALK, DRIVEWAY APPROACHES AND CURB & GUTTER, COMPACTED TO 95%, PER ASTM D-1557.
2. THESE PAVEMENT THICKNESS SHALL BE CONSIDERED AS CITY MINIMUMS AND MAY BE INCREASED BY THE CITY ENGINEER WHEN A GREATER DEPTH IS NECESSARY TO PROVIDE SUFFICIENT STABILITY. DESIGNER AND/OR DEVELOPER MAY SUBMIT AN ALTERNATIVE PAVEMENT DESIGN BASED ON A DETAILED SOILS ANALYSIS FOR APPROVAL BY THE CITY ENGINEER WHICH MAY MODIFY PAVEMENT THICKNESS, BUT IN NO CASE SHALL THE BITUMINOUS SURFACE COURSE BE LESS THAN 4" AND UNTREATED BASE COURSE LESS THAN 12" THICK.
3. ALL ROAD CUTS SHALL BE PATCHED PER R11 AND R12
4. CURB & GUTTER AND SIDEWALKS SHALL BE CONSTRUCTED USING FIBER REINFORCED CONCRETE AND IN COMPLIANCE WITH SOUTH WEBER CITY TECHNICAL SPECIFICATIONS AND THESE DRAWINGS.
5. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION FROM ALL SEWER MAINS AND LATERALS OF 10'-0" HORIZONTAL AND 18" VERTICAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER RULES SECTION R309-550-7
6. THE 6'-0" SIDEWALK SHOWN ABOVE IS TO BE CONSIDERED THE "CITY STANDARD." OTHER LOCATIONS AND TYPES OF SIDEWALK AS REQUESTED BY THE DEVELOPER MUST BE APPROVED BY THE CITY. IF SIDEWALK IS LOCATED AGAINST THE TBC, IT MUST BE A MINIMUM OF 6 FEET IN WIDTH.
7. NATURAL GAS TYPICALLY LOCATED IN THE PARKSTRIP, POWER AND COMMUNICATION LINES TYPICALLY LOCATED BEHIND PROPERTY LINES OR IN LOT EASEMENTS.
8. "SEAL COAT" CONSISTS OF THE FOLLOWING:  
a. CHIP SEAL PER APWA 32 01 13.64 AND CITY MODIFICATIONS, AND  
b. FOG SEAL PER APWA 32 01 13.50 AND CITY MODIFICATIONS.
9. IMPORTED FILL UNDER ROADWAY SHALL BE GRANULAR BORROW 2" MAX.
10. PRIOR TO THE INSTALLATION OF PAVEMENT, THE CITY INSPECTOR MUST GIVE WRITTEN PERMISSION TO PROCEED.



STANDARD LOCAL STREET SECTION



GENERAL LOT LATERAL CONFIGURATION DETAIL



CROWN LOCATION FOR VARIOUS CROSS SLOPES

CROWN NOTES:

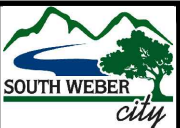
- A. MAXIMUM DIFFERENCE IN ELEVATION BETWEEN CURBS ON OPPOSITE SIDES OF THE STREET SHALL NOT EXCEED 1'-0" AS SHOWN IN DETAIL.
- B. ON CERTAIN STREETS APPROVED BY THE CITY COUNCIL, THE CITY ENGINEER WILL PROVIDE A PAVEMENT DESIGN. LOCATION OF SIDEWALK AND CURB & GUTTER MAY VARY PER DIRECTION OF THE CITY ENGINEER.
- C. ALL STREET CROSS SECTIONS SHALL BE AS APPROVED BY THE CITY ENGINEER.



PROJECT ENGINEER	DATE
BRANDON K. JONES	11/30/2022
REV.	DATE
DATE	APPR.

SCALE:	DESIGNED	DRAWN	CHECKED
N. T.S.	BKJ	BEB	BKJ

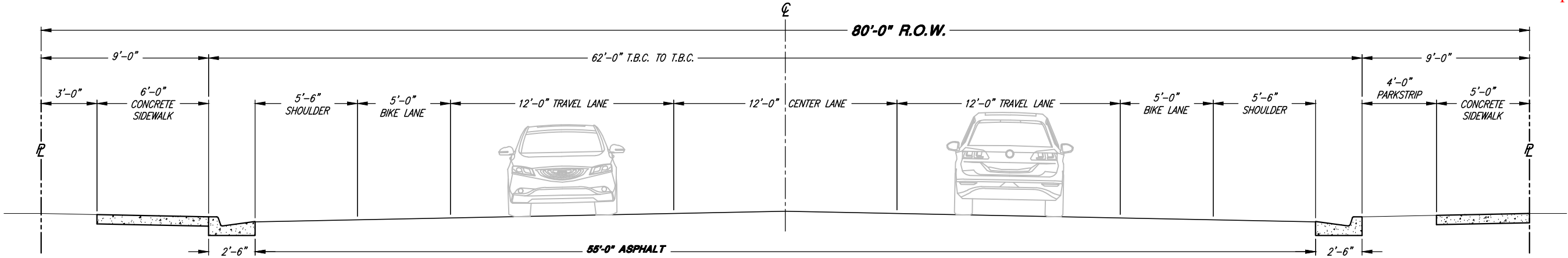
**J.A. JONES & ASSOCIATES**  
CONSULTING ENGINEERS  
6080 Fashion Point Drive  
South Ogden, Utah 84403 (801) 476-9767  
www.jonescivil.com



**SOUTH WEBER CITY CORPORATION**  
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS  
TYPICAL LOCAL STREET SECTION & UTILITY LATERAL CONFIGURATION DETAILS

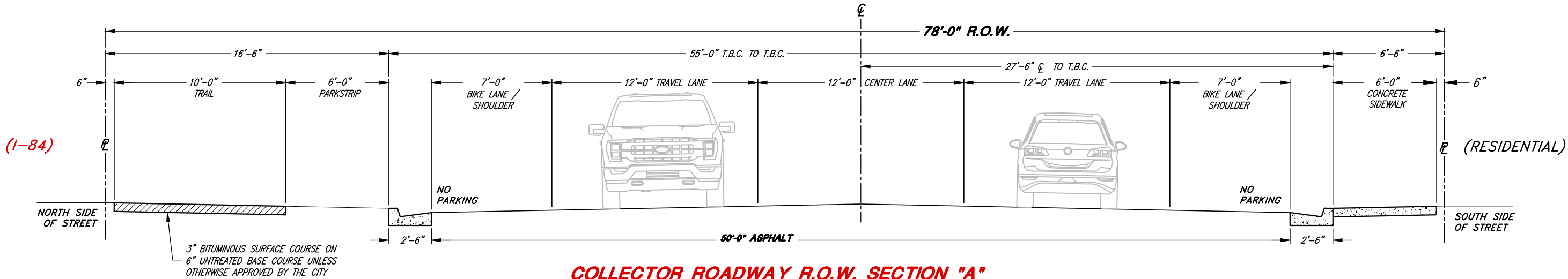
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OF 33 SHEETS  
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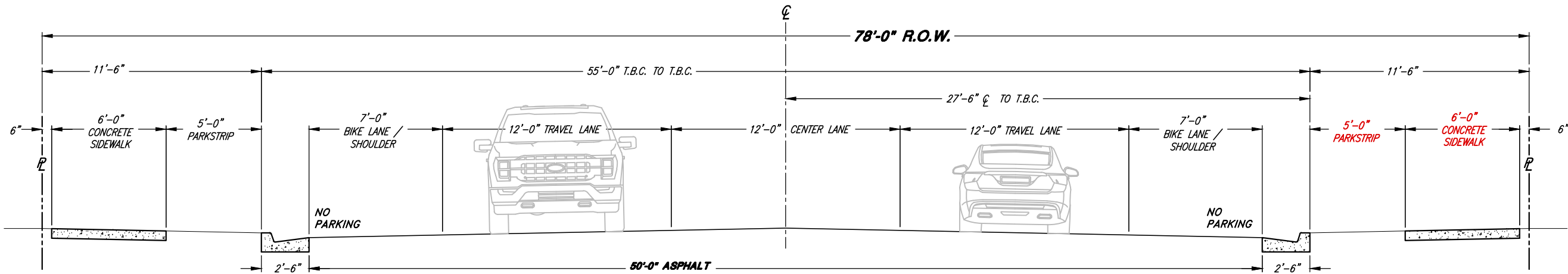
**SOUTH WEBER DRIVE R.O.W. SECTION**

THE 80'-0" ROADWAY SECTION SHOWN ABOVE IS TO BE CONSIDERED THE "CITY STANDARD" FOR SOUTH WEBER DRIVE. WHERE DESIGNATED BY THE CITY ON A CASE BY CASE BASIS IN AREAS OF PRE-EXISTING ROADWAY IMPROVEMENTS, ALTERNATE STREET CROSS SECTION DESIGNS MAY BE USED WITH THE PRIOR APPROVAL OF THE CITY ENGINEER AND THE CITY PUBLIC WORKS DEPARTMENT. SUBMIT ENGINEERED CONSTRUCTION PLANS TO THE CITY ENGINEER FOR REVIEW AND WRITTEN ACCEPTANCE PRIOR TO CONSTRUCTION.



**COLLECTOR ROADWAY R.O.W. SECTION "A"**

(ADJACENT TO I-84)



**COLLECTOR ROADWAY R.O.W. SECTION "B"**

(I-84 TO SOUTH WEBER DRIVE)



PROJECT ENGINEER  
11/30/2022  
DATE

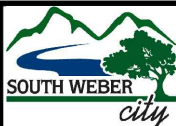
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N. T.S.

DESIGNED BKJ  
DRAWN BEB  
CHECKED BKJ



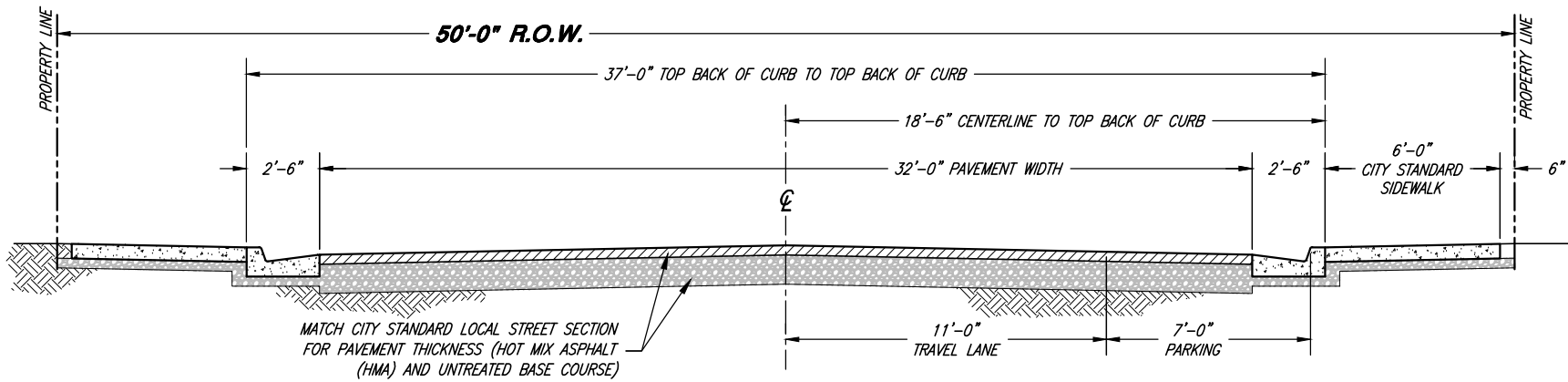
CONSULTING ENGINEERS  
6080 Fashion Point Drive  
South Ogden, Utah 84403 (801) 476-9767  
www.jajones.com



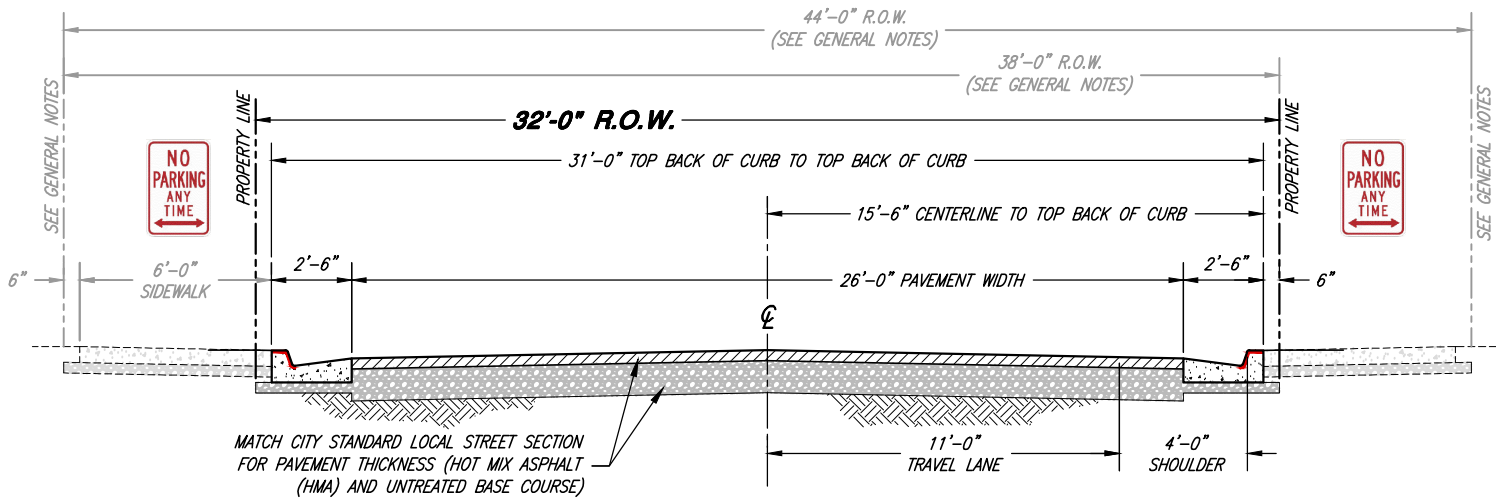
SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS  
SOUTH WEBER DRIVE & COLLECTOR ROADWAY  
TYPICAL CROSS SECTION DETAILS

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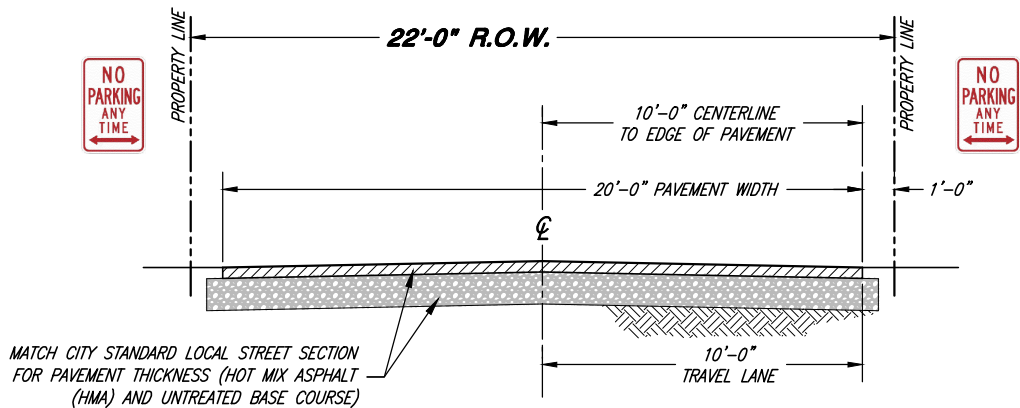




50' RIGHT-OF-WAY  
PRIVATE ROADWAY STREET SECTION **A**



32' RIGHT-OF-WAY  
PRIVATE ROADWAY STREET SECTION **B**



22' RIGHT-OF-WAY  
PRIVATE ROADWAY STREET SECTION **C**

- GENERAL NOTES:
1. SIDEWALK OR PEDESTRIAN PATH MUST BE MADE AVAILABLE ON THE FRONT FACADE OF RESIDENCE AND CONNECT TO A PUBLIC RIGHT-OF-WAY WITHOUT HAVING TO CROSS A ROAD.
  2. IF THE NUMBER OF AND SPACING REQUIRED FOR UTILITIES CANNOT FIT WITHIN THE PAVEMENT WIDTH, THEN THE PAVEMENT WIDTH AND R.O.W. MUST BE WIDENED TO ACCOMMODATE THE UTILITIES.



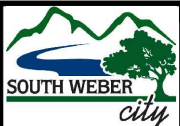
PROJECT ENGINEER	DATE	REV.	DATE	APPR.
Brandon K. Jones	11/30/2022			

SCALE:	DESIGNED
N. T.S.	BKJ
	DRAWN
	BEB
	CHECKED
	BKJ



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6080 Fashion Point Drive  
South Ogden, Utah 84403 (801) 476-9767  
www.jajones.com

Page 107 of 111



SOUTH WEBER CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
PRIVATE ROADWAY STREET CROSS SECTION DETAILS

SHEET:
R3
OF 33 SHEETS
0

STREET NOTES:

- 1. PRESSURIZED IRRIGATION SYSTEM LAYOUT AS APPROVED BY EITHER THE WEBER BASIN WATER CONSERVANCY DISTRICT, SOUTH WEBER WATER IMPROVEMENT DISTRICT, DAVIS AND WEBER COUNTIES CANAL COMPANY, OR THE SOUTH WEBER IRRIGATION COMPANY.
- 2. EXACT LOCATION OF STREET AND REGULATORY SIGNS SHALL BE SPECIFIED BY THE PUBLIC WORKS DIRECTOR.
- 3. THE NUMBER OF VALVES REQUIRED AT EACH INTERSECTION SHALL BE DETERMINED BY THE CITY ENGINEER.

(NOTES CONTINUED BELOW)



20' RADIUS FOR RESIDENTIAL;  
40' RADIUS FOR STATE ROADS  
OR AS APPROVED BY UDOT

FIRE HYDRANT  
(TYP.)

30 FOOT NO PARKING  
ZONE (SEE SHEET CW2)

10' (TYP.)  
OR AS DIRECTED  
CITY ENGINEER

CULINARY WATER

STORM DRAIN  
OR LAND DRAIN

SD/LD

SECONDARY WATER  
IRR

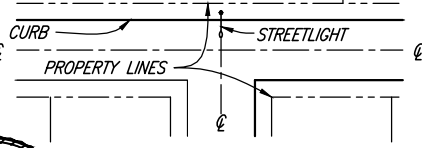
SANITARY SEWER

SANITARY SEWER LINES SHALL BE LOCATED  
ON LOW SIDE OF STREET UNLESS OTHERWISE  
DIRECTED BY THE CITY ENGINEER

STORM DRAIN

STOP SIGN  
LOCATION (TYP.),

- a. WHEN LOCATING STREET LIGHTING, ALWAYS INSTALL ASSEMBLY WITH MAST ARM AT RIGHT ANGLES TO STREET.
- b. LOCATE STREETLIGHT IN CLOSE PROXIMITY TO STREET SIGN.
- c. T-INTERSECTION SHALL BE LIT WITH LIGHT ASSEMBLY LOCATED OPPOSITE OF CENTERLINE OF INTERSECTING STREET. (SEE DIAGRAM BELOW)
- d. SEE SHEETS SL1, SL2, AND SL3 FOR STREETLIGHT DETAILS.



PROJECT ENGINEER  
*Brandon K. Jones*  
11/30/2022  
DATE

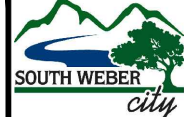
REV.	DATE	APPR.

SCALE:  
N. T.S.

DESIGNED *BKJ*  
DRAWN *BEB*  
CHECKED *BKJ*



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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS  
TYPICAL STREET INTERSECTION & STREET MONUMENT DETAILS

SHEET:  
**R4**  
OF 33 SHEETS  
0

MAILBOX/CBU NOTES:

- A1. MAILBOXES SHALL NOT BE PLACED IN THE SIDEWALK. NO MAILBOX OR CBU EDGES SHALL EXTEND PAST THE TBC.
- A2. CONTACT THE LOCAL POSTMASTER FOR APPROVAL ON THE LOCATION OF THE MAILBOX OR CBU PRIOR TO INSTALLATION.
- A3. FOLLOW USPS GUIDELINES & POLICIES FOR THE PLACEMENT, INSTALLATION, AND ACCESS REQUIREMENTS FOR ALL MAILBOX AND CBU UNITS.
- A4. INDIVIDUAL MAILBOXES ALLOWED ONLY FOR SINGLE HOMES BEING BUILT IN SUBDIVISIONS THAT WERE PREVIOUSLY ALLOWED INDIVIDUAL BOXES.

CONCRETE SIDEWALK TYP.  
(SEE SHEET R10)

R.O.W.  
(PROPERTY)  
LINE

SIDEWALK EXPANSION JOINTS  
EVERY 48' & SCRIBE JOINTS  
EVERY 6' TYP. (SEE JOINT DETAIL  
ON SHEET R10)

EXPANSION JOINTS (TYP.)

STD. ADA RAMP (SEE SHEET R6)

STREET SIGN  
LOCATION (TYP.)

CONCRETE  
COLLAR  
(TYP.)

ROW (PROPERTY)  
LINE PROJECTION

SECONDARY WATER VALVE, SQUARE CONC.  
COLLAR REQ'D (LID MUST SPECIFY "IRR")

STANDARD SINGLE OR DOUBLE CATCH BASIN  
AS SPECIFIED BY THE CITY ENGINEER

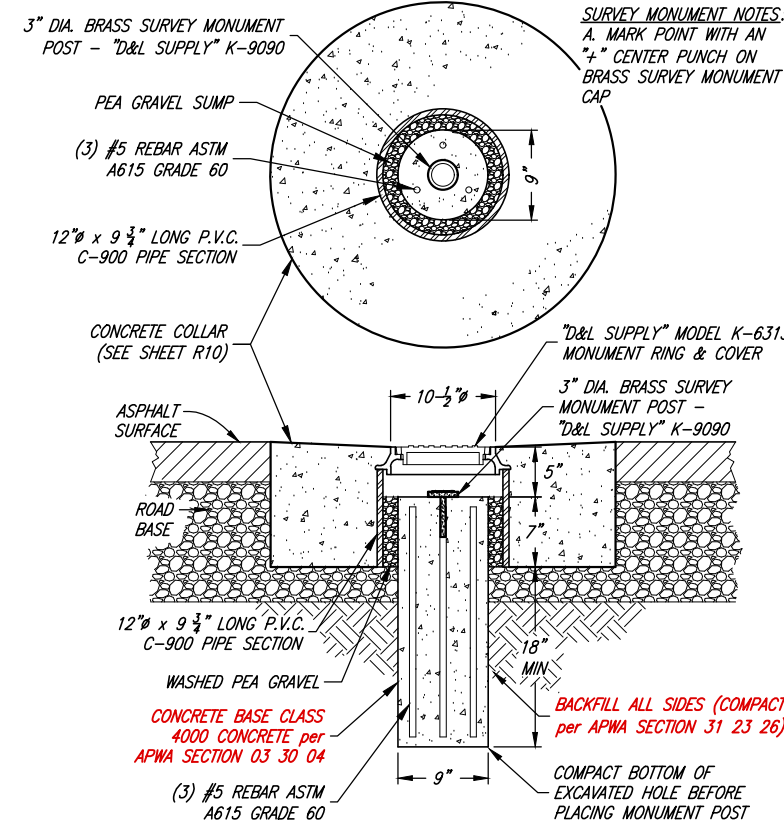
STREETLIGHT ASSEMBLY,  
LOCATION TYPICAL FOR  
INTERSECTION (SEE  
SHEET SL2)

MAILBOX/CBU  
(SEE NOTES A1-A4  
THIS SHEET)

CONC. CURB & GUTTER  
CONSTRUCTION JOINTS EVERY 10' (TYP.)

R.O.W. (PROPERTY)  
LINE

STANDARD WHEN  
SIDEWALK INSTALLED  
BACK OF CURB

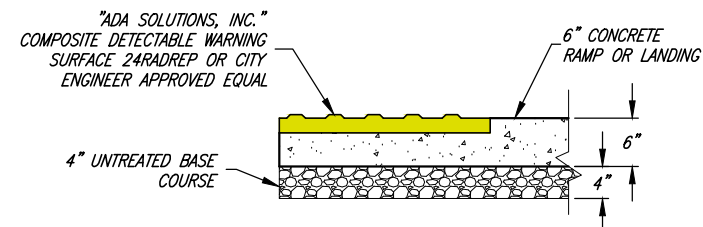


SURVEY MONUMENT DETAIL

*DROP DOWN STYLE (CITY STANDARD)*

DETECTABLE WARNING SURFACE NOTES:

1. LOCATE THE DETECTABLE WARNING SURFACE SO THE OUTSIDE CORNER NEAREST THE STREET IS WITHIN 1 INCH OF THE BACK OF CURB (TBC). PROVIDE 2-FOOT MINIMUM DEPTH.
2. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF CURB CUT.
3. THE DETECTABLE WARNING SURFACE DOMES SHALL BE ORIENTED SUCH THAT THE ROWS ARE PARALLEL WITH THE DIRECTION OF PEDESTRIAN TRAVEL TO THE RAMP ON THE OPPOSITE SIDE OF THE STREET.
4. THE STANDARD COLOR FOR THE DETECTABLE WARNING SURFACE SHALL BE YELLOW OR PRE-APPROVED CONTRASTING COLOR. WHEN THE EXISTING SIDEWALK COLOR IS NOT STANDARD CONCRETE, THE COLOR OF THE DETECTABLE WARNING SURFACE SHALL BE DETERMINED BY THE CITY ENGINEER OR AUTHORIZED REPRESENTATIVE.
5. WHEN A DETECTABLE WARNING SURFACE DOME IS CUT, THE REMAINING PORTION OF THE DOME SHALL BE BEVELED TO A MAXIMUM SLOPE OF 1:2.



**DETECTABLE WARNING SURFACE DETAIL**

ADA RAMP NOTES:

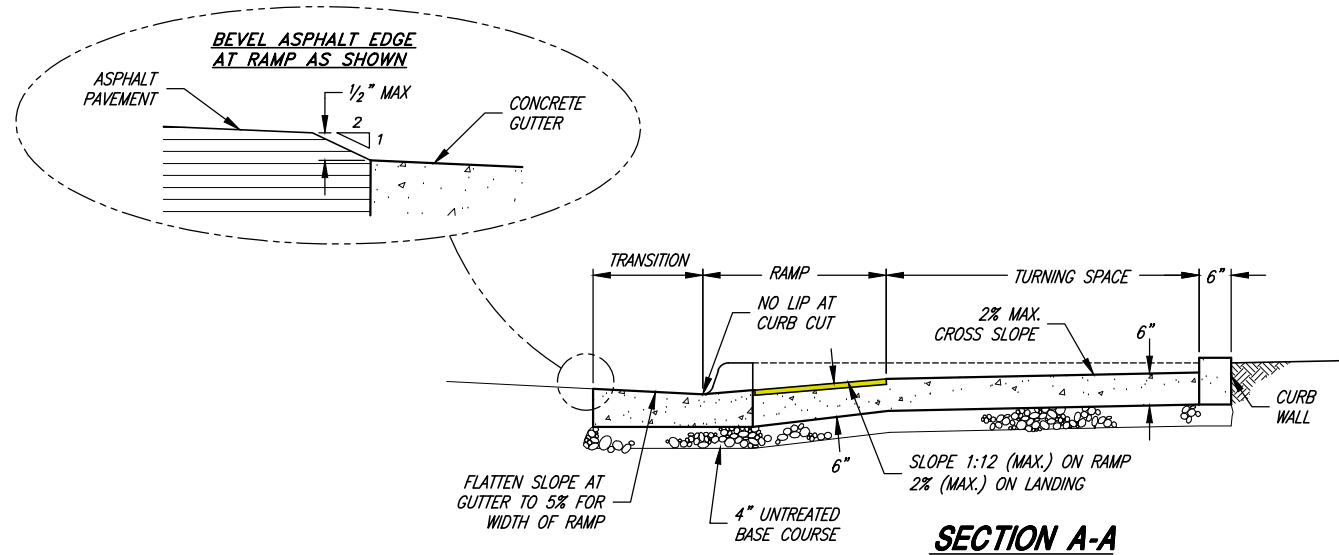
- A. WHERE DESIGNATED BY THE CITY, ALTERNATE UDOT OR APWA RAMP DESIGNS MAY BE USED WITH THE PRIOR APPROVAL OF THE CITY ENGINEER AND THE CITY PUBLIC WORKS DEPARTMENT. SUBMIT ENGINEERED CONSTRUCTION PLANS TO CITY ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
- B. SITE CONDITIONS WILL VARY. CONFIGURATION OF RAMP, LANDING, AND TRANSITION MAY BE CHANGED, BUT THEY MUST MEET DIMENSIONS AND SLOPES AS SHOWN IN THE MOST RECENT EDITION OF THE U.D.O.T. STANDARDS & SPECIFICATIONS (SHEETS PA1 THROUGH PA5). THE USE OF FLARES, CURB WALLS, ETC. ARE AT THE DISCRETION OF THE ENGINEER.
- C. LOCATE CURB CUT WITHIN CROSSWALK.
- D. RAMP GRADE BREAK MUST BE PERPENDICULAR TO THE RUNNING SLOPE.

	<i>ITEM</i>	<i>MAX RUNNING SLOPE*</i>	<i>MAX. GROSS SLOPE*</i>
(T)	TURNING SPACE <sup>2</sup>	2% (1V:48H)	2% (1V:48H)
(R)	RAMP	8.3% (1V:12H)	2% (1V:48H)
(S)	SIDEWALK	5% (1:20) <sup>1</sup>	2% (1V:48H)
(F1)	TRAVERSABLE SURFACE	10% (1V:10H)	--
(F2)	NON-TRAVERSABLE SURFACE	25% (1V:4H)	--
(B)	BLENDED TRANSITION	5% (1V:20H) 2% MIN.	2% (1V:48H)

\* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL.  
CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.

<sup>1</sup> 5% MAX OR NATURAL SLOPE OF LAND

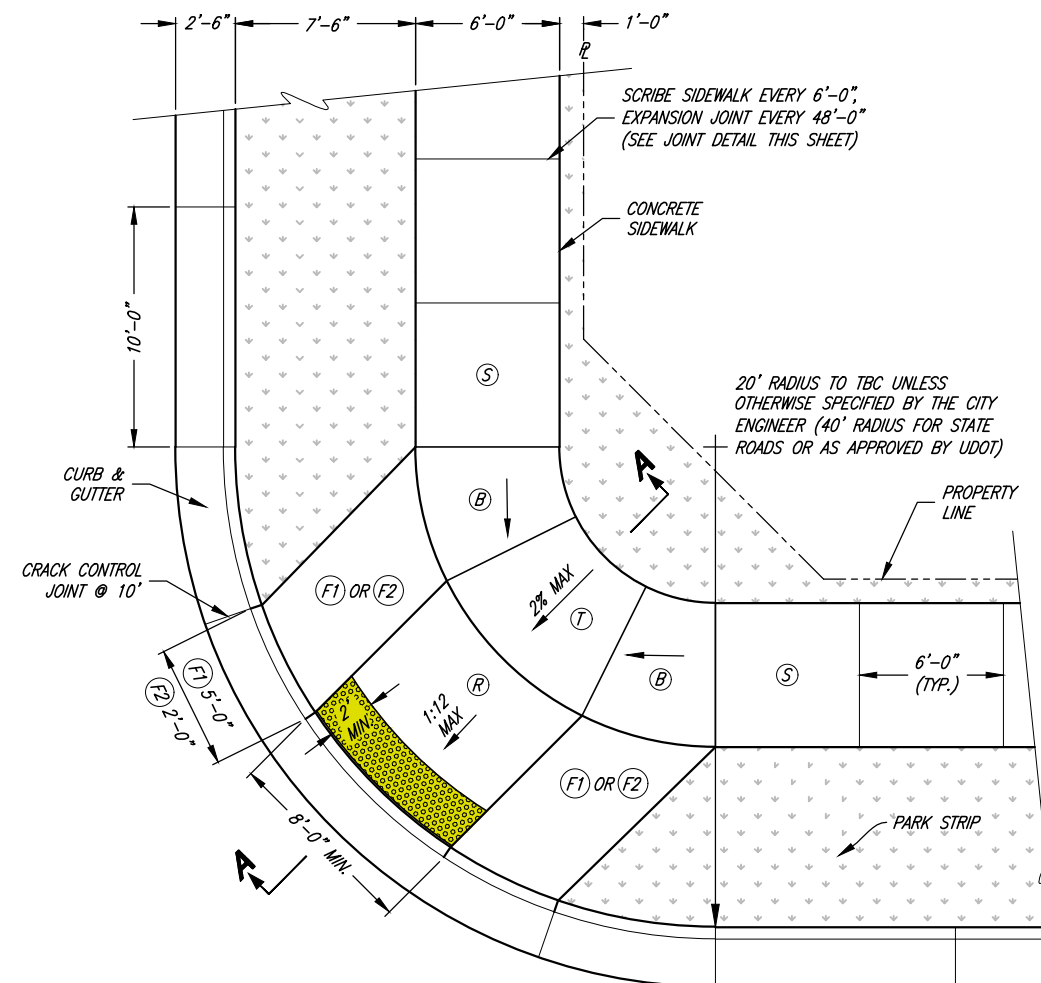
<sup>2</sup> NOT TO EXCEED 2% IN ANY DIRECTION



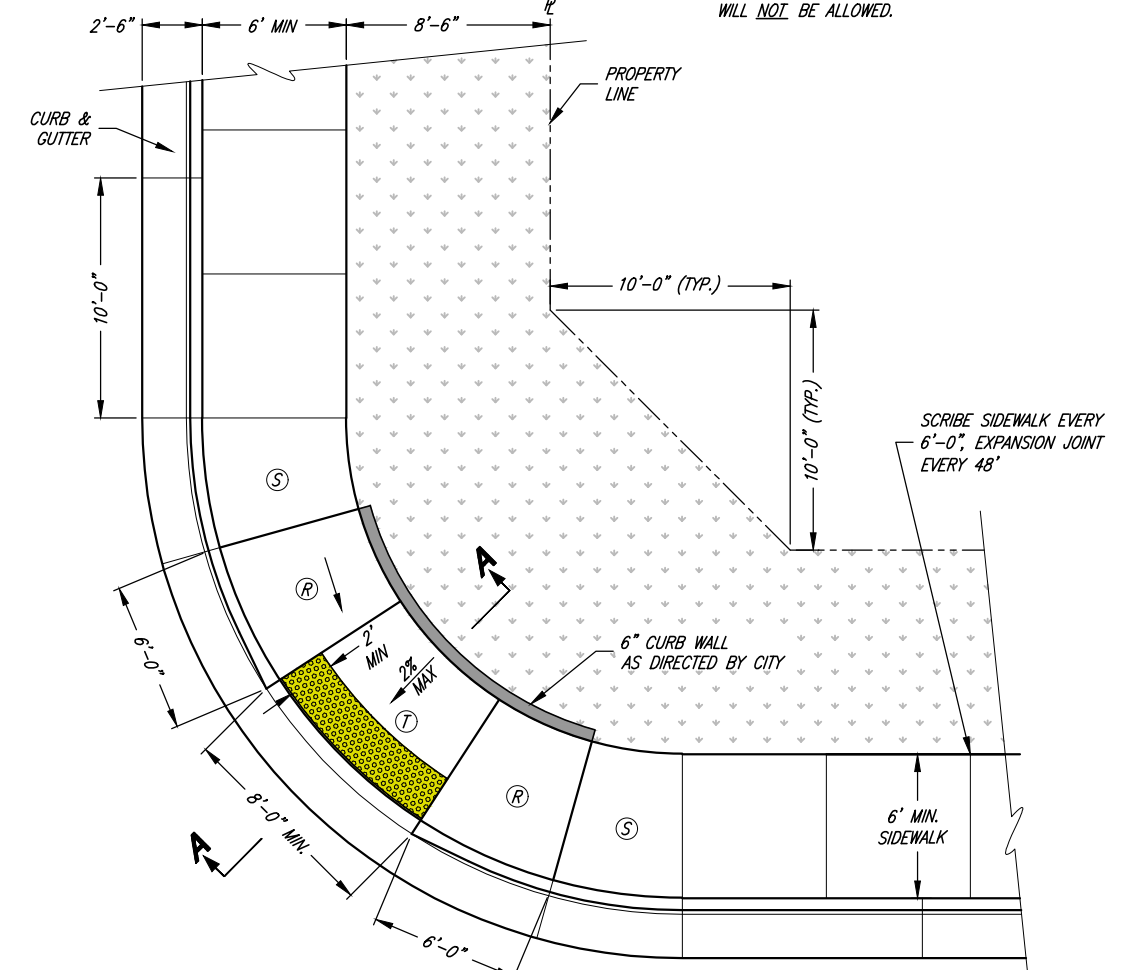
**SECTION A-A**

GENERAL NOTES:

- A1. *INSTALLATION TOLERANCES ON CURB & GUTTER AND SIDEWALK PER APWA 32 16 13, 3.7.*
- A2. *AS-BUILT SURVEY MAY BE REQUIRED TO VERIFY COMPLIANCE WITH TOLERANCES.*
- A3. *GRINDING OF CONCRETE, TO MEET TOLERANCES, WILL NOT BE ALLOWED.*



**TYPICAL ADA RAMP**  
(WITH PARK STRIP)



**ADA RAMP-DETAIL "B"**  
(WITHOUT PARK STRIP)



PROJECT ENGINEER  
11/30/2022  
DATE

SCALE:

*N.T.S.*

DESIGNED BKJ  
DRAWN BEB  
CHECKED BKJ



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***PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS***

## TYPICAL ADA RAMP DETAILS

EFT.

36

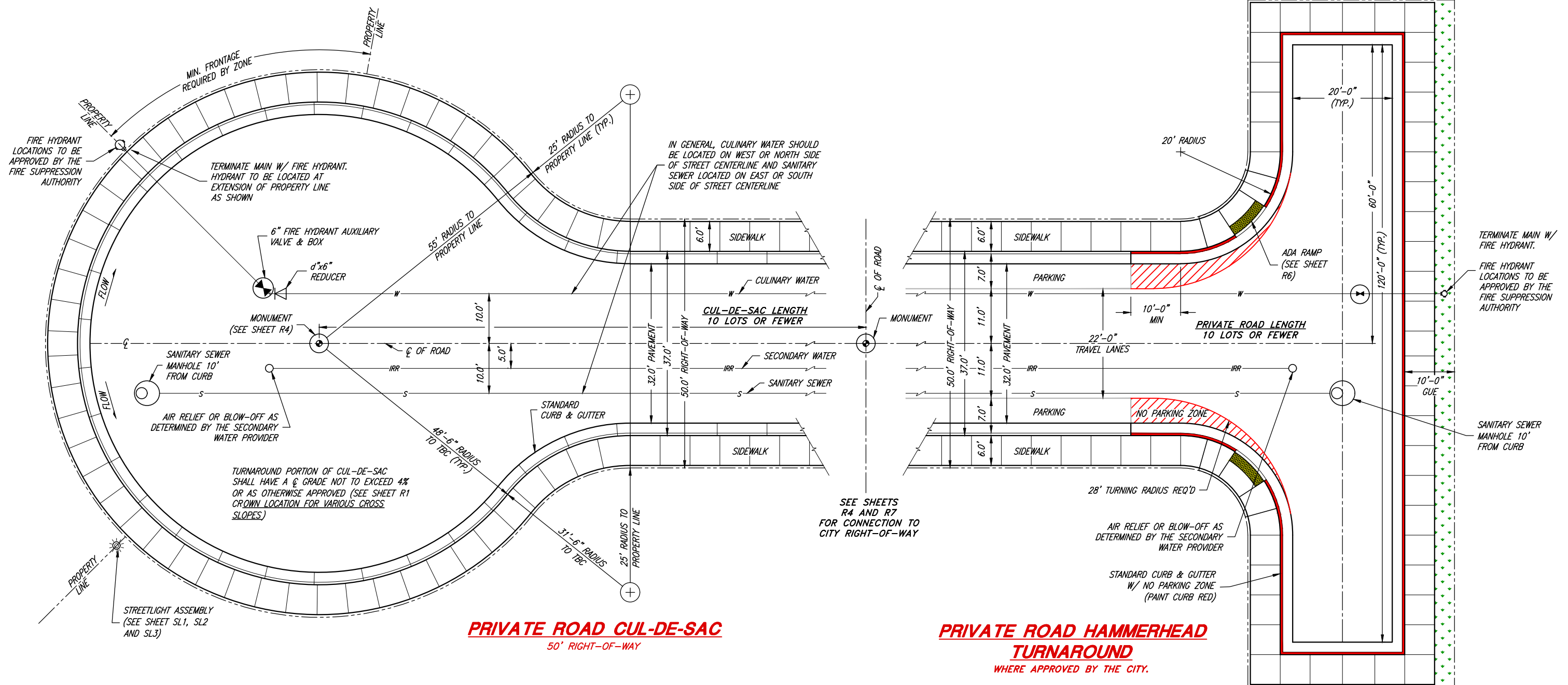
33 SHEETS





GENERAL NOTES:

1. THE CIRCULAR CUL-DE-SAC LAYOUT ON THIS SHEET IS TO BE CONSIDERED AS THE CITY STANDARD DESIGN FOR PRIVATE ROADS. OTHER ALTERNATE DESIGNS MAY BE CONSIDERED AS APPROVED BY THE CITY.
2. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION FROM ALL SEWER MAINS AND LATERALS OF 10'-0" HORIZONTAL AND 18" VERTICAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER RULES SECTION R309-550-7
3. NATURAL GAS, POWER AND COMMUNICATION LINES SHALL BE LOCATED BEHIND PROPERTY LINES OR IN LOT EASEMENTS.
4. THE PRIVATE ROAD CROSS SECTION IS NOT PERMITTED ON THROUGH ROADS.
5. ALL PRIVATE ROADS SHALL TERMINATE WITH A TURNAROUND.



PROJECT ENGINEER  
11/30/2022  
DATE

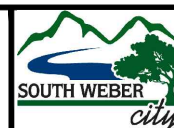
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**Page 112 of 171** [www.jrjescivil.com](http://www.jrjescivil.com)

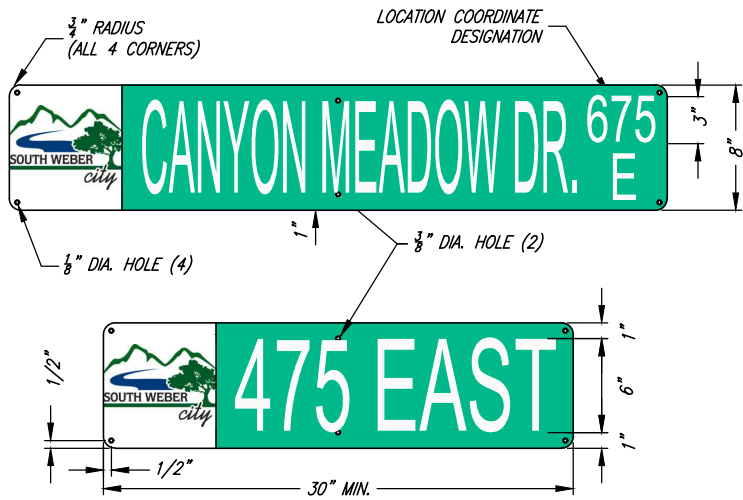


<b><i>SOUTH WEBER CITY CORPORATION</i></b>
<b><i>PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS</i></b>
<b><i>PRIVATE ROAD CUL-DE-SAC AND HAMMERHEAD TURNAROUND DETAILS</i></b>

8 SHEETS

STREET SIGN NOTES:

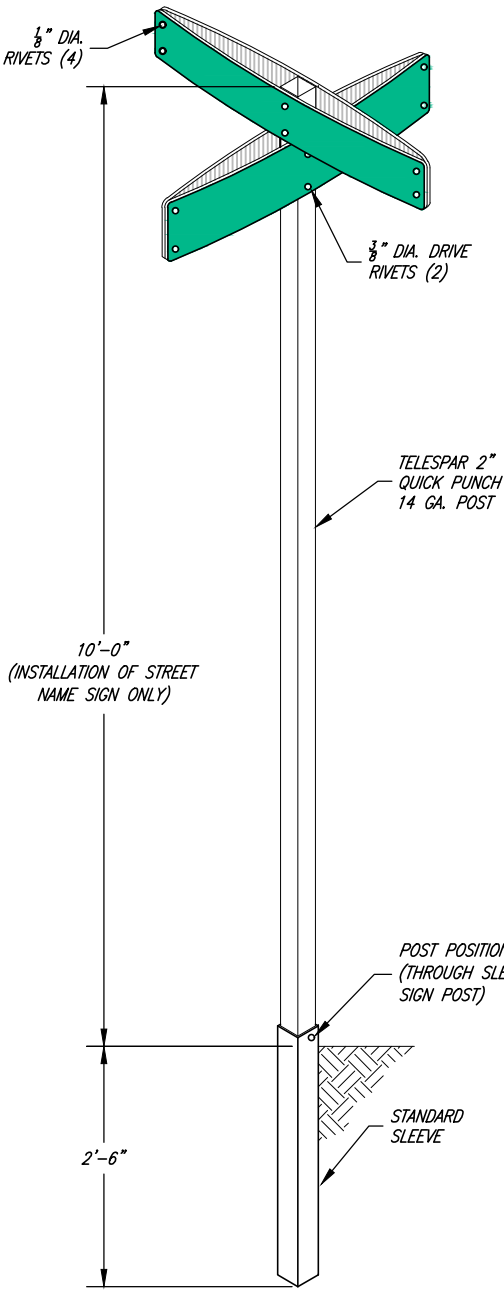
- A. STREET SIGN BACKGROUND SHALL BE REGULATORY GREEN, BOTH STREET AND TRAFFIC SIGNS SHALL BE AT THE VERY LEAST HIGH INTENSITY REFLECTIVE SHEETING (9FP-85 TYPE IIIA)
- B. LEGEND SHALL BE WHITE LETTERS (FONT: HIGHWAY C), HIGH INTENSITY REFLECTIVE SHEETING (9FP-85 TYPE IIIA)
- C. SIGN BLANK SHALL BE 6081-T6 HEAT TREATED HIGH TENSILE DEGREASED ALUMINUM W/ ALODINE 1200 FINISH-THICKNESS SHALL BE 0.08"
- D. EACH SIGN SHALL CONSIST OF TWO PLATES RIVETED TOGETHER & MOUNTED AS SHOWN
- E. SIGNS ON PRIVATE ROADS SHALL MEET ALL SPECIFICATIONS FOR STANDARD SIGNS. (PRIVATE SIGNS WILL NOT BE MAINTAINED BY THE CITY.)
- F. ALL STREETS WITH NAMES MUST ALSO SHOW COORDINATE DESIGNATION
- G. ALL SIGNS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES"



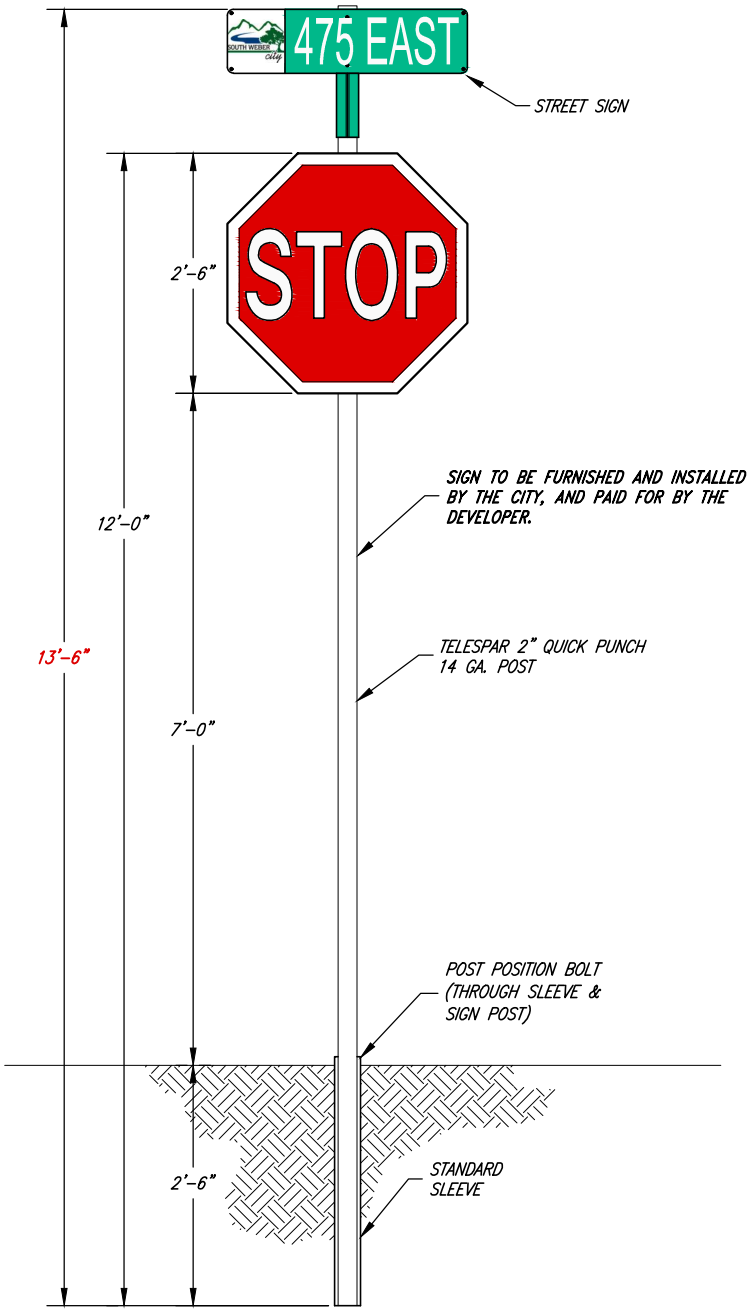
CITY STANDARD PLATE DETAIL



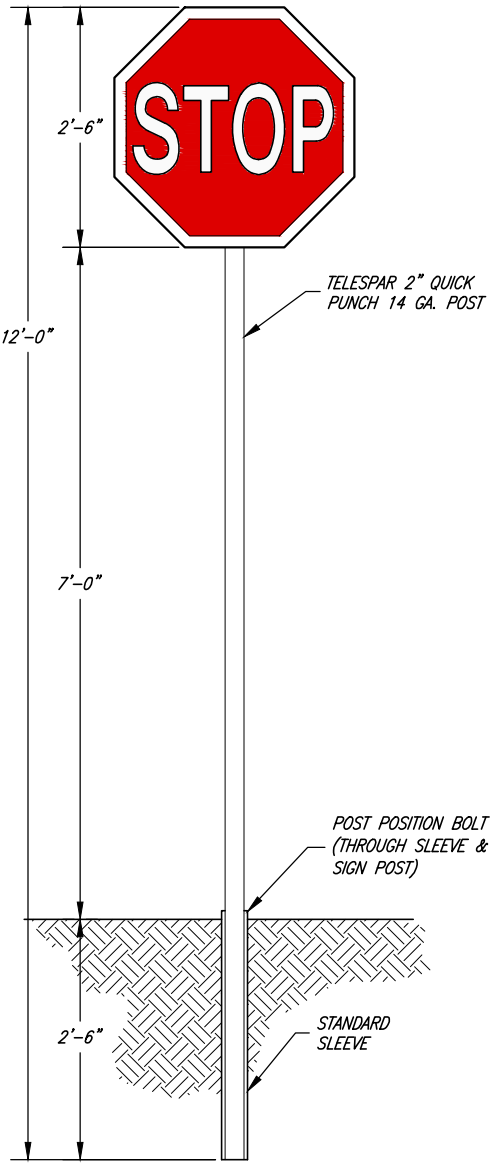
PRIVATE ROAD PLATE DETAIL  
(SEE STREET SIGN NOTE E THIS SHEET)



STREET SIGN & POST



STREET / TRAFFIC  
SIGN & POST



TRAFFIC SIGN & POST



PROJECT ENGINEER  
11/30/2022  
DATE

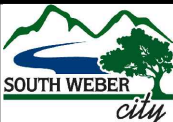
REV.	DATE	APPR.

SCALE:  
N. T.S.

DESIGNED BKJ  
DRAWN BEB  
CHECKED BKJ



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PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

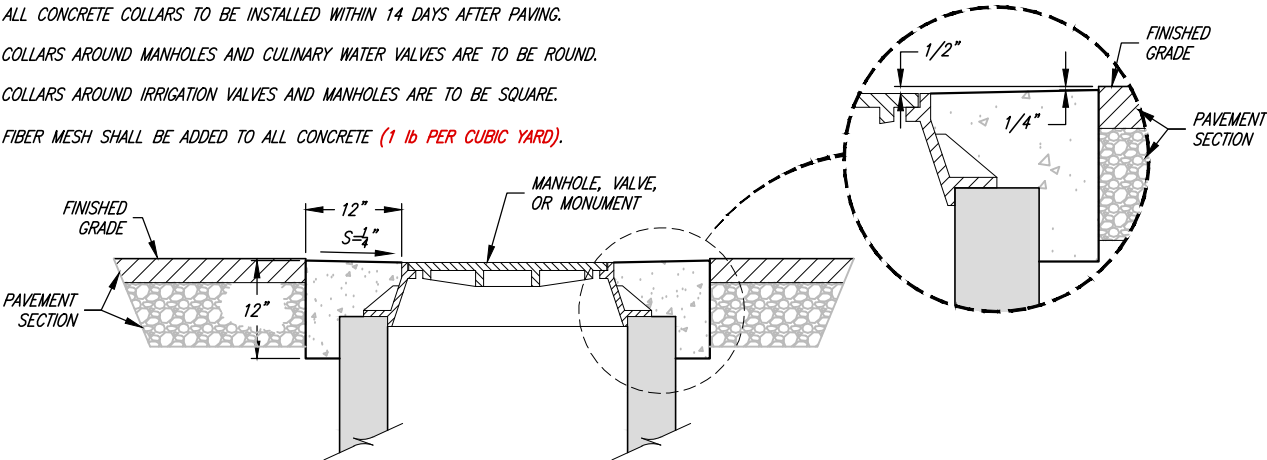
STREET SIGN DETAILS

SHEET:  
**R9**  
OF 33 SHEETS  
0

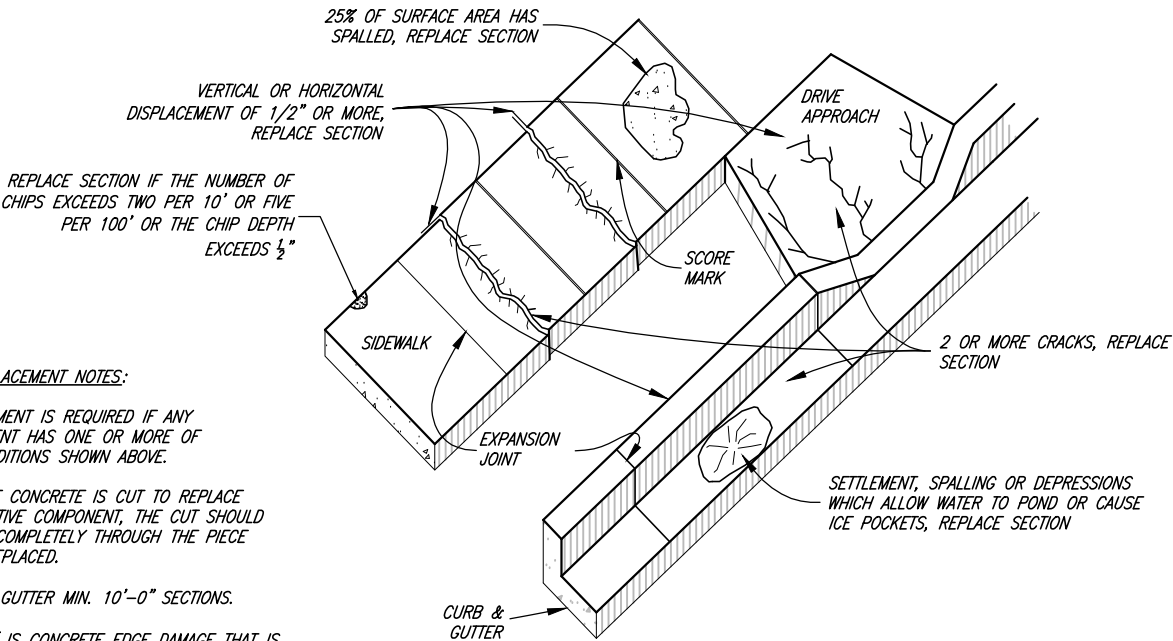


CONCRETE COLLAR NOTES:

- B1. ALL CONCRETE COLLARS TO BE INSTALLED WITHIN 14 DAYS AFTER PAVING.
- B2. COLLARS AROUND MANHOLES AND CULINARY WATER VALVES ARE TO BE ROUND.
- B3. COLLARS AROUND IRRIGATION VALVES AND MANHOLES ARE TO BE SQUARE.
- B4. FIBER MESH SHALL BE ADDED TO ALL CONCRETE (1 lb PER CUBIC YARD).



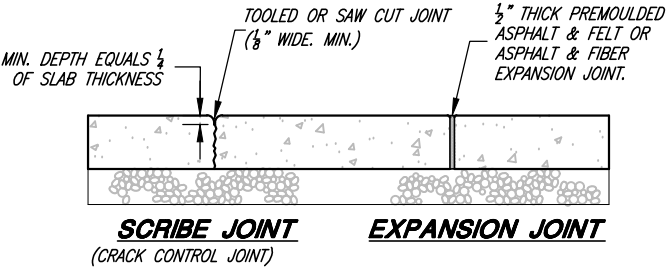
CONCRETE COLLAR DETAIL



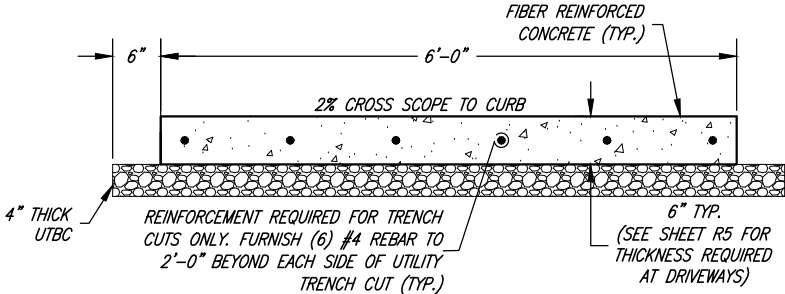
CONCRETE REPLACEMENT NOTES:

- A. REPLACEMENT IS REQUIRED IF ANY COMPONENT HAS ONE OR MORE OF THE CONDITIONS SHOWN ABOVE.
- B. ANY TIME CONCRETE IS CUT TO REPLACE A DEFECTIVE COMPONENT, THE CUT SHOULD EXTEND COMPLETELY THROUGH THE PIECE BEING REPLACED.
- C. CURB & GUTTER MIN. 10'-0" SECTIONS.
- D. A "CHIP" IS CONCRETE EDGE DAMAGE THAT IS DEEPER THAN 1/2" AND LARGER THAN 2" DIA.

DEFECTIVE CONCRETE REPLACEMENT CRITERIA



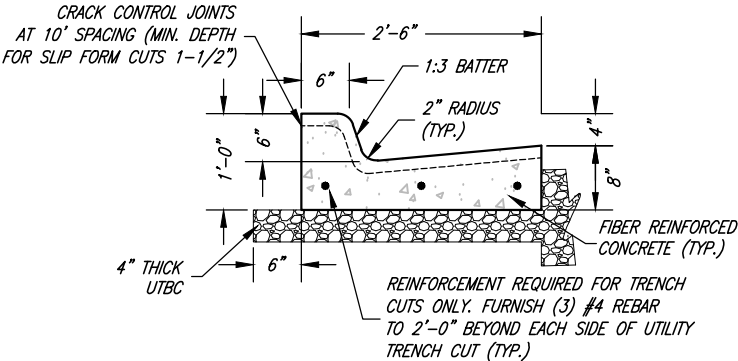
JOINT DETAIL



SIDEWALK SECTION  
(CITY STANDARD)

GENERAL NOTES:

- A1. INSTALLATION TOLERANCES ON CURB & GUTTER AND SIDEWALK PER APWA 32 16 13, 3.7.
- A2. AS-BUILT SURVEY MAY BE REQUIRED TO VERIFY COMPLIANCE WITH TOLERANCES.
- A3. GRINDING OF CONCRETE, TO MEET TOLERANCES, WILL NOT BE ALLOWED.



CURB & GUTTER SECTION  
(CITY STANDARD)

CURB & GUTTER NOTES:

- 1. WHEN REPLACING CURB DUE TO CONSTRUCTION ACTIVITY, NEW CURB MUST EXTEND 5' MIN. PAST TRENCH ON EACH SIDE.
- 2. CONCRETE CURB TO BE CONSTRUCTED USING SLIPFORMS, HAND FORMED OR STATIONARY FORMS ARE ONLY ALLOWED FOR CURB TIE-INS.
- 3. THE SLOPE FOR CURB & GUTTER MUST BE A MINIMUM OF 0.5%.

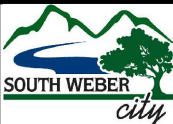


PROJECT ENGINEER 11/30/2022 DATE		
REV.	DATE	APPR.

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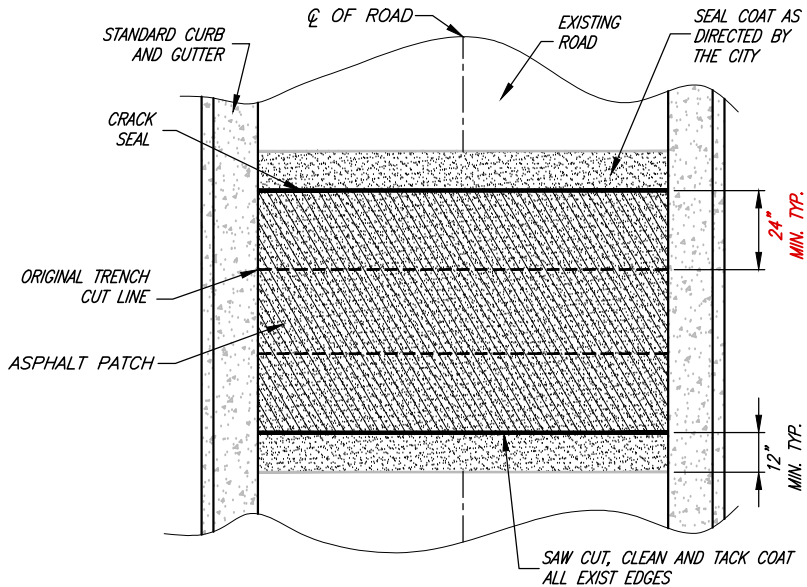
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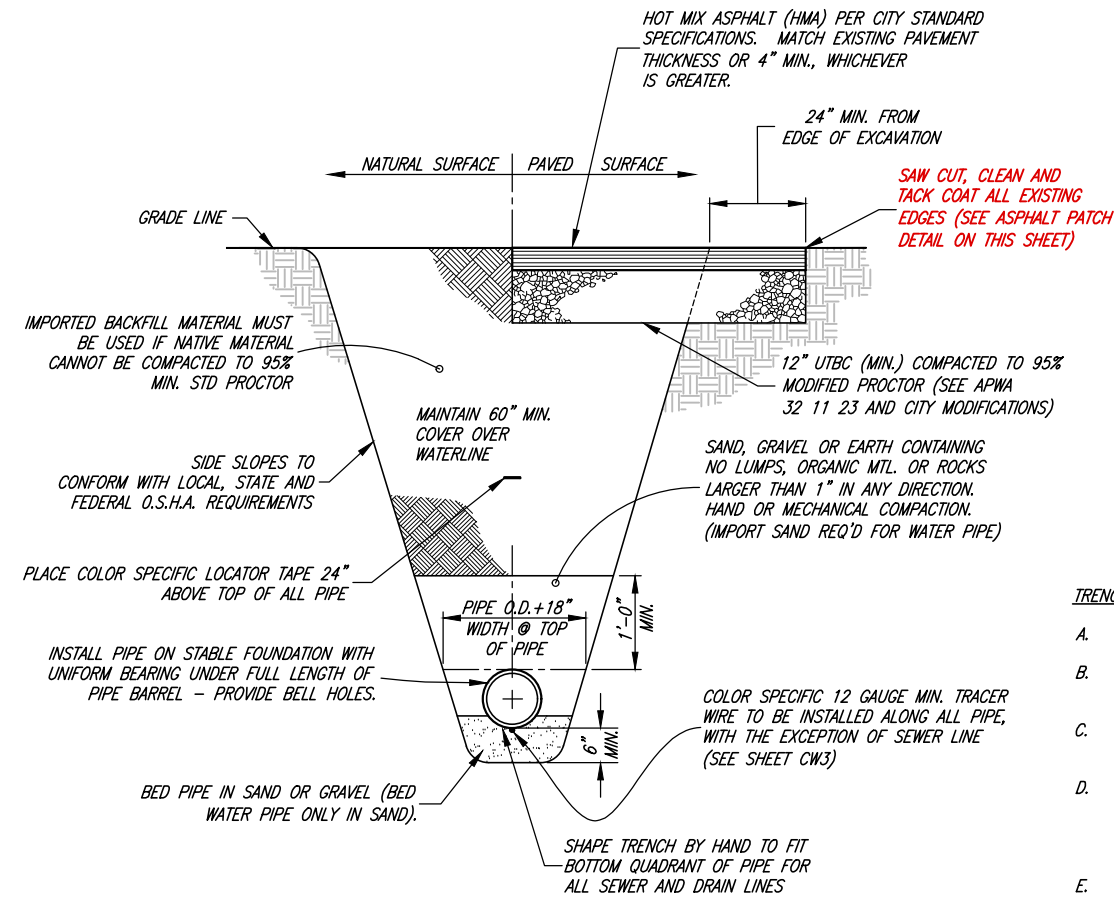
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PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS  
TYPICAL SIDEWALK, CURB & GUTTER, CONCRETE COLLAR,  
AND DEFECTIVE CONC. REPLACEMENT DETAILS

SHEET:  
R10  
OF 33 SHEETS  
0





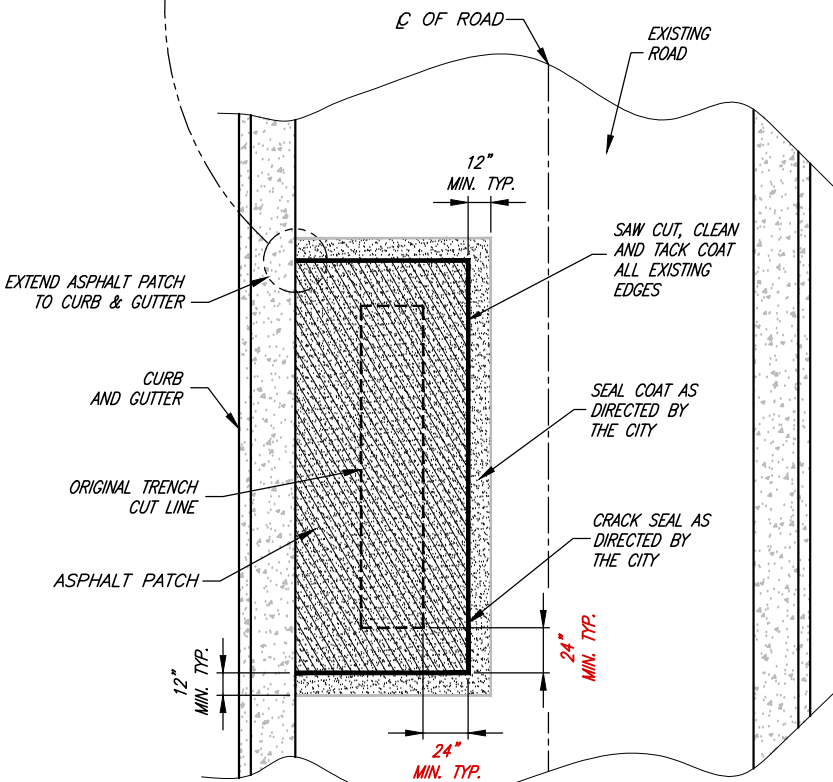
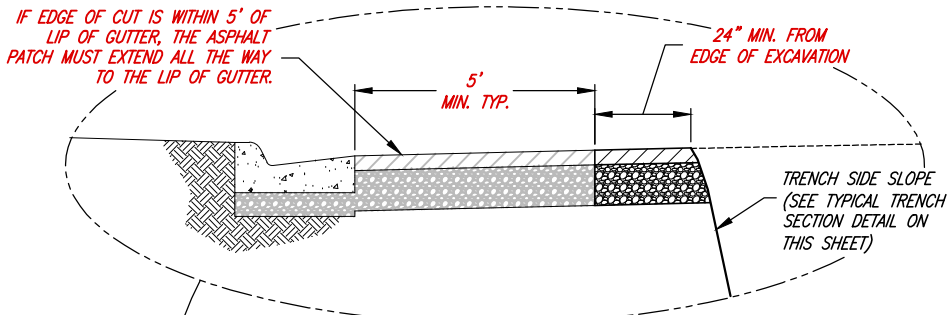
TYPICAL HORIZONTAL ASPHALT PATCH PLAN



TYPICAL TRENCH SECTION  
(WATER, IRRIGATION, SEWER, STORM DRAIN, AND LAND DRAIN)

TRENCH NOTES:

- A. BACKFILL PER APWA 33 05 20 AND CITY MODIFICATIONS.
- B. COMPACTION TEST REQUIRED AT SPRING-LINE FOR ALL P.V.C. OR H.D.P.E. PIPES.
- C. PAVEMENT RESTORATION PER APWA 33 05 25 AND CITY MODIFICATIONS.
- D. GRAVEL SURFACED AREAS, SUCH AS ROADS AND SHOULDERS, PARKING AREAS, AND UNPAVED DRIVEWAYS, SHALL BE REPAIRED WITH 8" THICK (MIN.) 1" UNTREATED BASE COURSE COMPACTED TO 95% MODIFIED PROCTOR.
- E. WATER & SEWER LINES, INCLUDING SERVICE LINES, SHALL NOT BE INSTALLED IN THE SAME TRENCH.




TYPICAL PARALLEL ASPHALT PATCH PLAN

ASPHALT PATCH NOTE:

- 1. ON ANY ROAD PAVED OR OVERLAYED WITHIN THE LAST 10 YEARS, THE PATCH MUST BE COMPLETED PER APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH. (SEE SHEET R12)

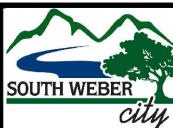


					
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SOUTH WEBER CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
UTILITY TRENCH AND ASPHALT PATCH PLAN DETAILS

SHEET:	R11
OF 33 SHEETS	0

BITUMINOUS PAVEMENT T-PATCH NOTES:

1. GENERAL:

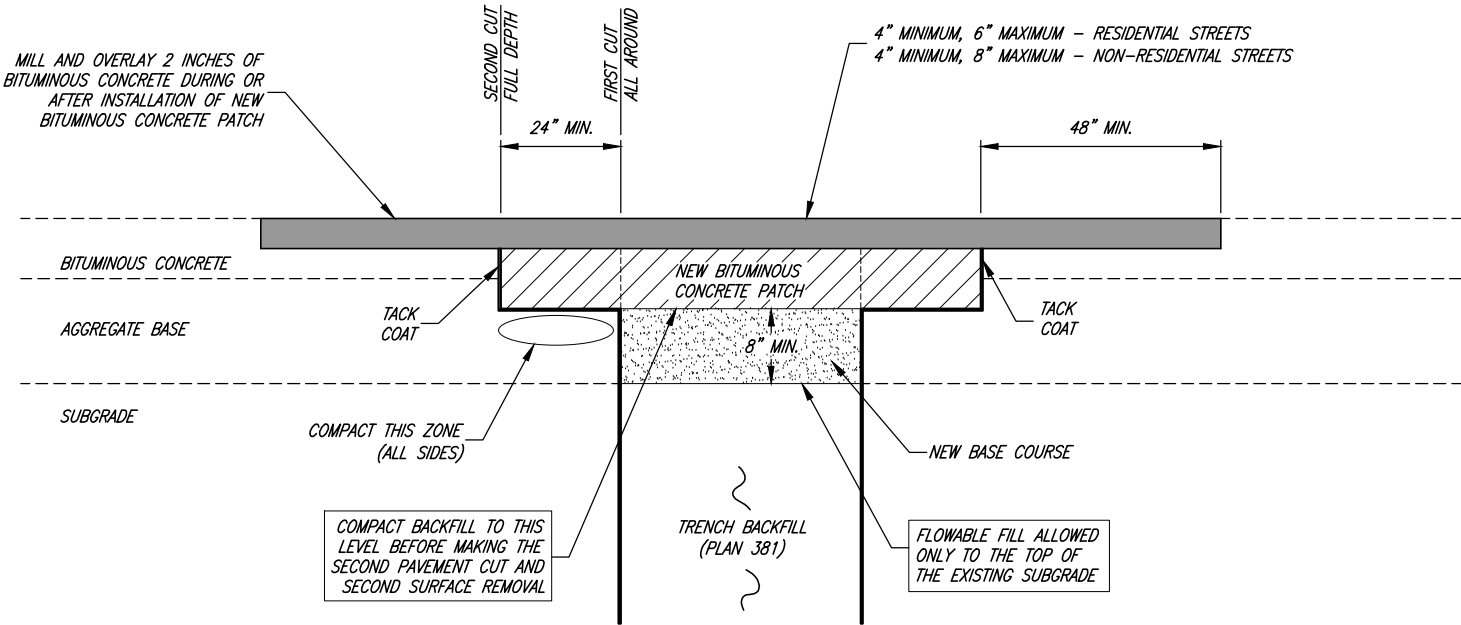
- A. VERTICAL CUTS IN BITUMINOUS PAVEMENT MAY BE DONE BY SAW OR PAVEMENT ZIPPING. IF CUTS GREATER THAN 6 INCHES ARE NECESSARY TO PREVENT PAVEMENT "BREAK OFF" CONSULT CITY ENGINEER FOR DIRECTION ON HANDLING ADDITIONAL COSTS.
- B. REPAIR A T-PATCH RESTORATION IF ANY OF THE FOLLOWING CONDITIONS OCCUR PRIOR TO FINAL PAYMENT OR AT THE END OF THE ONE YEAR CORRECTION PERIOD:
- 1) PAVEMENT SURFACE DISTORTION EXCEEDS 1/4-INCH DEVIATION IN 10 FEET.  
REPAIR OPTION - PLANE OFF SURFACE DISTORTIONS. COAT PLANED SURFACE WITH A CATIONIC OR ANIONIC MULSION THAT COMPLIES WITH APWA SECTION 32 12 03.
- 2) SEPARATION APPEARS AT A CONNECTION TO AN EXISTING PAVEMENT OR ANY STREET FIXTURE.  
REPAIR OPTION - BLOW SEPARATION CLEAN AND APPLY JOINT SEALANT, PLAN 265.
- 3) CRACKS AT LEAST 1-FOOT LONG AND 1/4-INCH WIDE OCCUR MORE OFTEN THAN 1 IN 10 SQUARE FEET.  
REPAIR OPTION - BLOW CLEAN AND APPLY CRACK SEAL, PLAN 265.
- 4) PAVEMENT RAVELING IS GREATER THAN 1 SQUARE FOOT PER 100 SQUARE FEET.  
REPAIR OPTION - MILL AND INLAY, APWA SECTIONS 32 01 16.71 AND 32 12 05.

2. PRODUCTS:

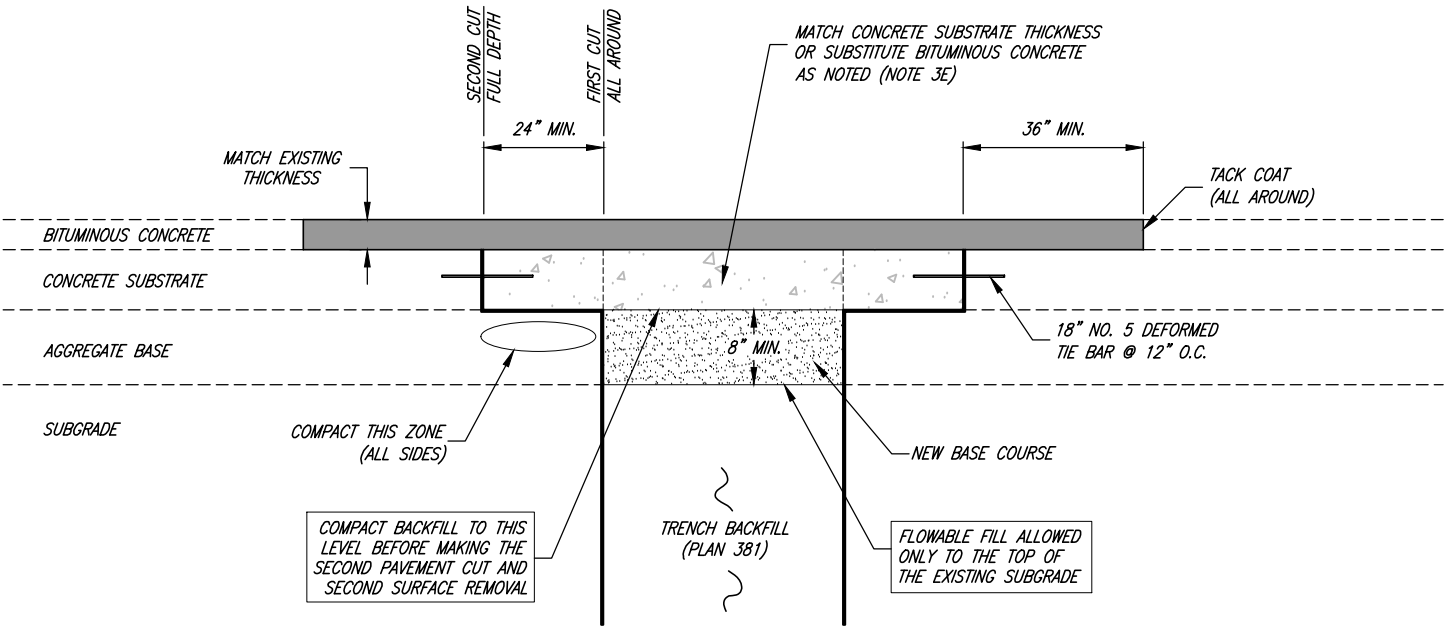
- A. BASE COURSE: UNTREATED BASE COURSE, APWA SECTION 32 11 23. DO NOT USE GRAVEL AS A BASE COURSE WITHOUT ENGINEER'S PERMISSION.
- B. FLOWABLE FILL: TARGET IS 60 PSI IN 28 DAYS WITH 90 PSI MAXIMUM IN 28 DAYS, APWA SECTION 31 05 15. IT MUST FLOW EASILY REQUIRING NO VIBRATION FOR CONSOLIDATION.
- C. REINFORCEMENT: NO. 5 GALVANIZED OR EPOXY COATED, DEFORMED, 60 KSI YIELD GRADE STEEL, ASTM A615.
- D. CONCRETE: CLASS 4000, APWA SECTION 03 30 04.
- E. TACK COAT: APWA SECTION 32 12 05.
- F. BITUMINOUS CONCRETE: APWA SECTION 32 12 05.
- 1) WARM WEATHER PATCH: PG64-22-DM-1/2, UNLESS INDICATED OTHERWISE.
- 2) COLD WEATHER PATCH: MODIFIED MC-250-FM-1 AS INDICATED IN APWA SECTION 33 05 25.

3. EXECUTION:

- A. BASE COURSE PLACEMENT: APWA SECTION 32 05 10. MAXIMUM LIFT THICKNESS BEFORE COMPACTION IS 8-INCHES WHEN USING RIDING EQUIPMENT OR 6-INCHES WHEN USING HAND HELD EQUIPMENT. COMPACTION IS 95 PERCENT OR GREATER RELATIVE TO A MODIFIED PROCTOR DENSITY, APWA SECTION 31 23 26.
- B. FLOWABLE FILL: CURE TO INITIAL SET BEFORE PLACING AGGREGATE BASE OR BITUMINOUS PAVEMENT. USE IN EXCAVATIONS THAT ARE TOO NARROW TO RECEIVE COMPACTION EQUIPMENT.
- C. TACK COAT: CLEAN ALL HORIZONTAL AND VERTICAL SURFACES. APPLY FULL COVERAGE ALL SURFACES.
- D. PAVEMENT PLACEMENT: FOLLOW APWA SECTION 32 12 16.13. UNLESS INDICATED OTHERWISE, LIFT THICKNESS IS 3-INCHES MINIMUM AFTER COMPACTION. COMPACT TO 94 PERCENT OF ASTM D2041 (RICE DENSITY) PLUS OR MINUS 2 PERCENT.
- E. BITUMINOUS CONCRETE SUBSTITUTION: IF BITUMINOUS CONCRETE IS SUBSTITUTED FOR PORTLAND CEMENT CONCRETE SUBSTRATE, OMIT REBAR AND PROVIDE 1.25 INCHES OF BITUMINOUS CONCRETE FOR EACH 1 INCH OF PORTLAND CEMENT CONCRETE. FOLLOW PARAGRAPH E REQUIREMENTS.
- F. REINFORCEMENT: REQUIRED IF THICKNESS OF EXISTING PORTLAND-CEMENT CONCRETE SUBSTRATE IS 6-INCHES OR GREATER. NOT REQUIRED IF:
- 1) LESS THAN 6-INCHES THICK,
- 2) IF EXISTING CONCRETE IS DETERIORATING,
- 3) IF EXCAVATION IS LESS THAN 3 FEET SQUARE, OR
- 4) IF BITUMINOUS PAVEMENT IS SUBSTITUTED FOR PORTLAND-CEMENT CONCRETE SUBSTRATE.
- G. CONCRETE SUBSTRATE: CURE TO INITIAL SET BEFORE PLACING NEW BITUMINOUS CONCRETE PATCH.



BITUMINOUS CONCRETE RESTORATION



COMPOSITE RESTORATION



Bituminous pavement T-patch

Plan  
255  
November 2015



PROJECT ENGINEER  
11/30/2022  
DATE

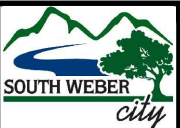
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SCALE:  
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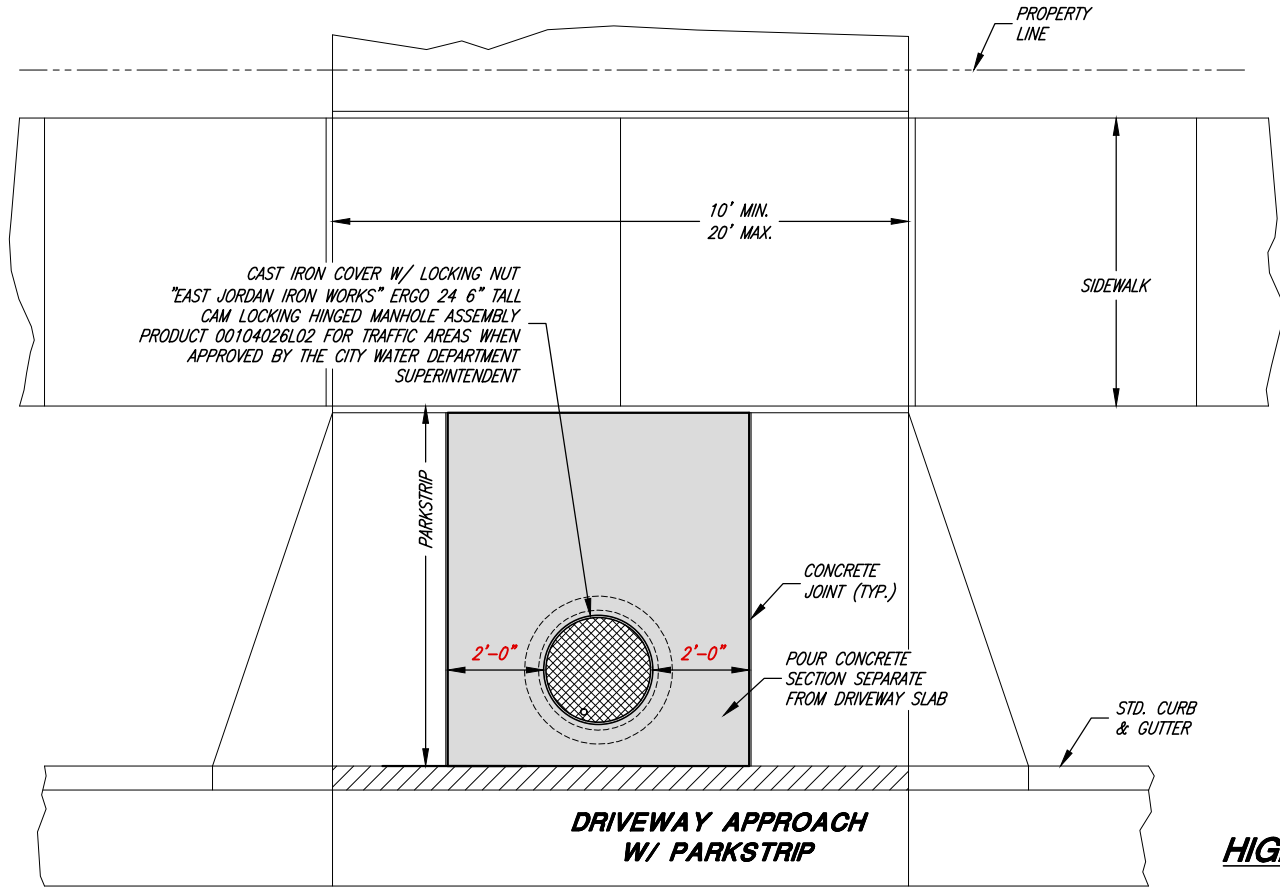
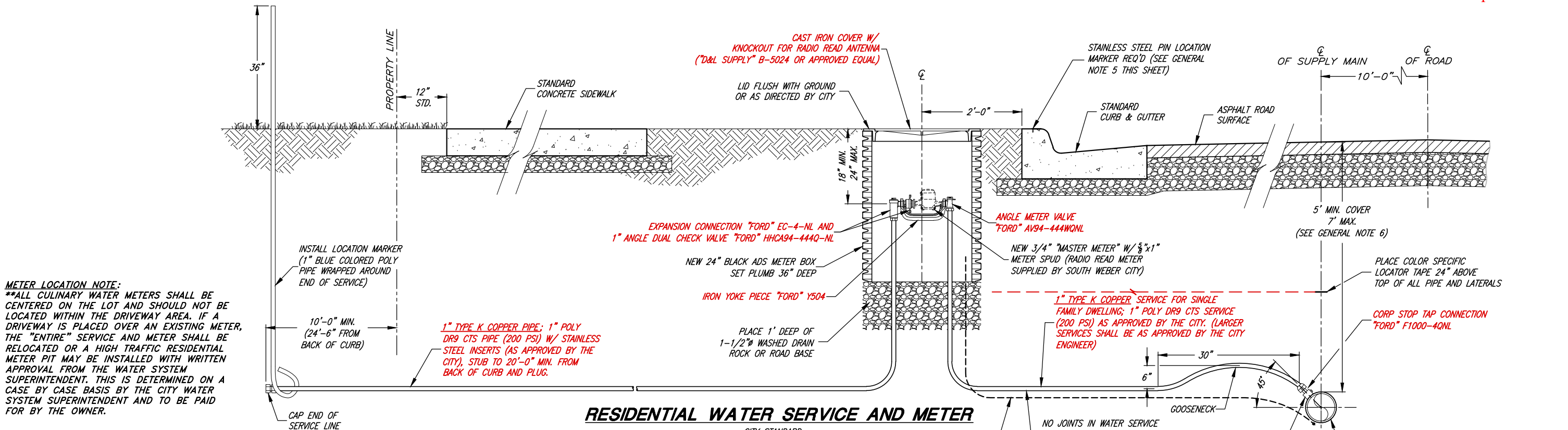


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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS  
APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH

SHEET:  
R12  
OF 33 SHEETS  
0



**CAST IRON COVER W/ LOCKING NUT AND KNOCKOUT FOR RADIO READ ANTENNA** ("EAST JORDAN IRON WORKS" ERGO 24 6" TALL CAM LOCKING HINGED MANHOLE ASSEMBLY PRODUCT 00104026L02 FOR TRAFFIC AREAS WHEN APPROVED BY THE CITY WATER SYSTEM SUPERINTENDENT)

**TRACER WIRE REQUIRED ON POLY LATERALS FROM THE MAIN TO THE METER BOX (SEE SHEET CW3)**

**PVC MAINS:** USE BRASS SADDLE W/ DOUBLE STAINLESS STEEL STRAPS: "ROMAC" 202BS

**EXIST. D.I.P. MAINS:** TAP DIRECTLY INTO MAIN

**C900 - CITY STANDARD (UNLESS OTHERWISE SPECIFIED)**  
BLUE COLOR PIPE W/ BLUE 12 GAUGE TRACER WIRE.  
8"-12" MAINS SHALL BE C900 DR-18  
14" OR LARGER MAINS SHALL BE C900 DR-18

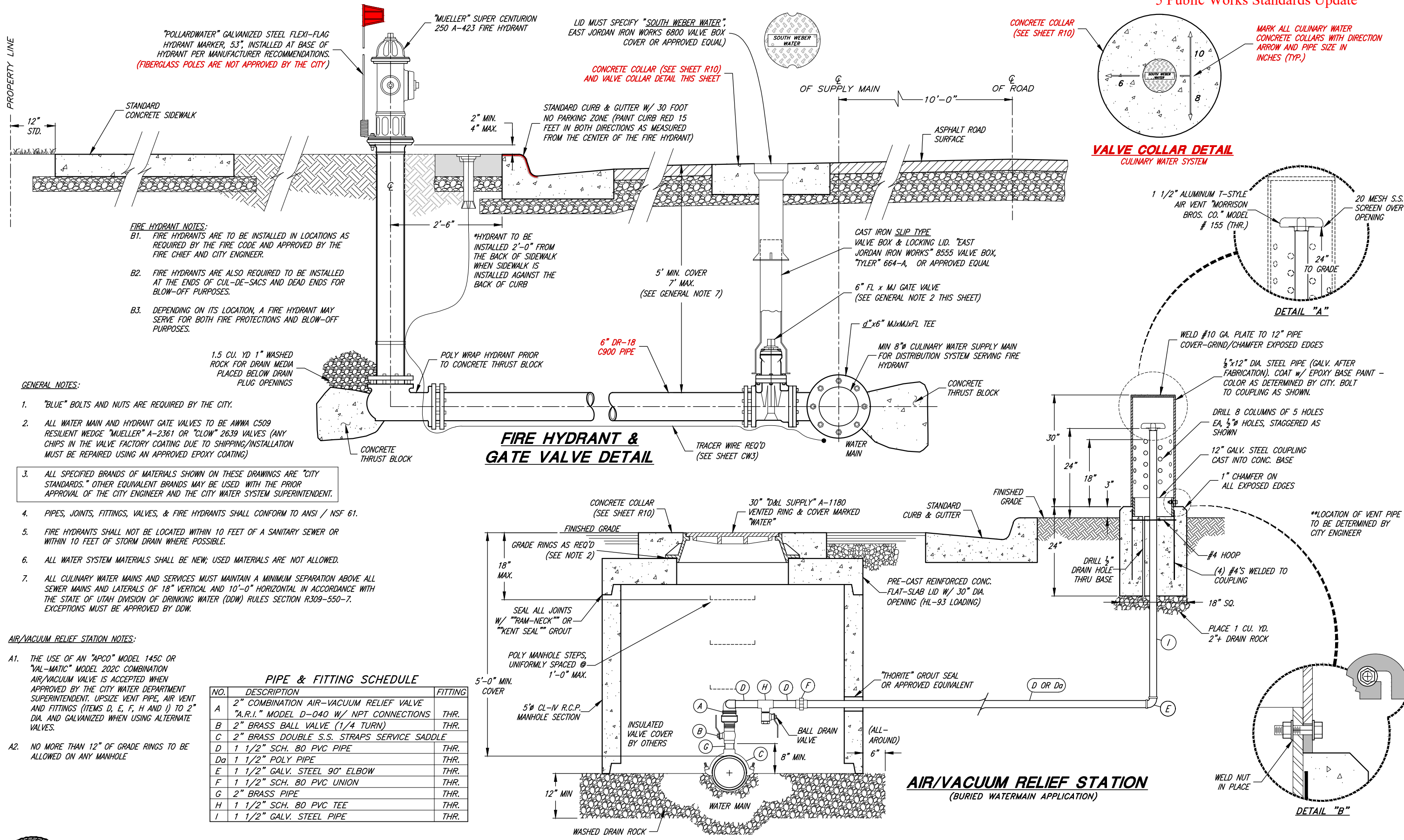
**DUCTILE IRON PIPE IS ALSO ALLOWED BY THE CITY - POLYWRAP ALL D.I. WATERLINES**  
8"-12" MAINS SHALL BE CLASS 51.  
14" OR LARGER MAINS SHALL BE CLASS 250 psi

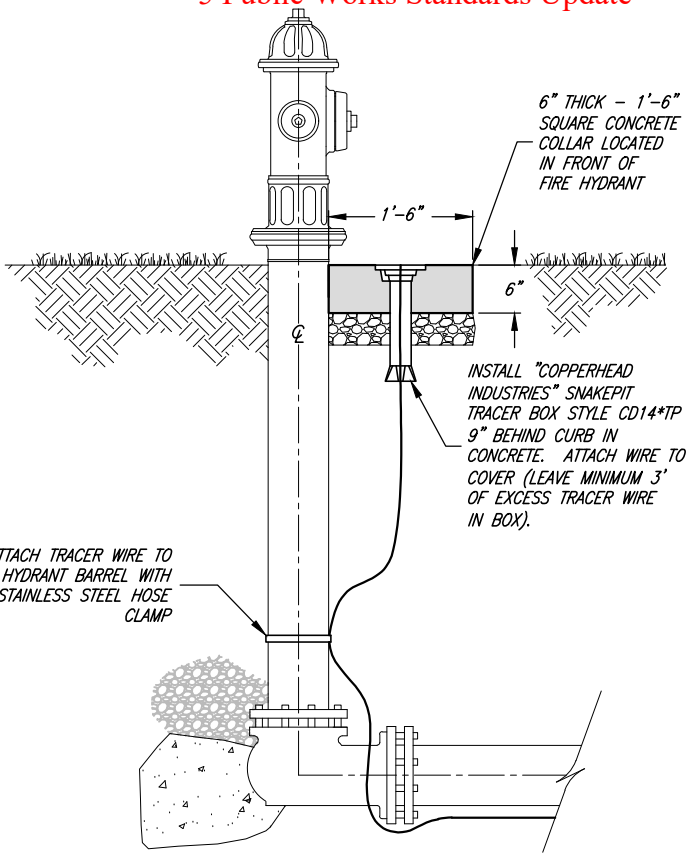
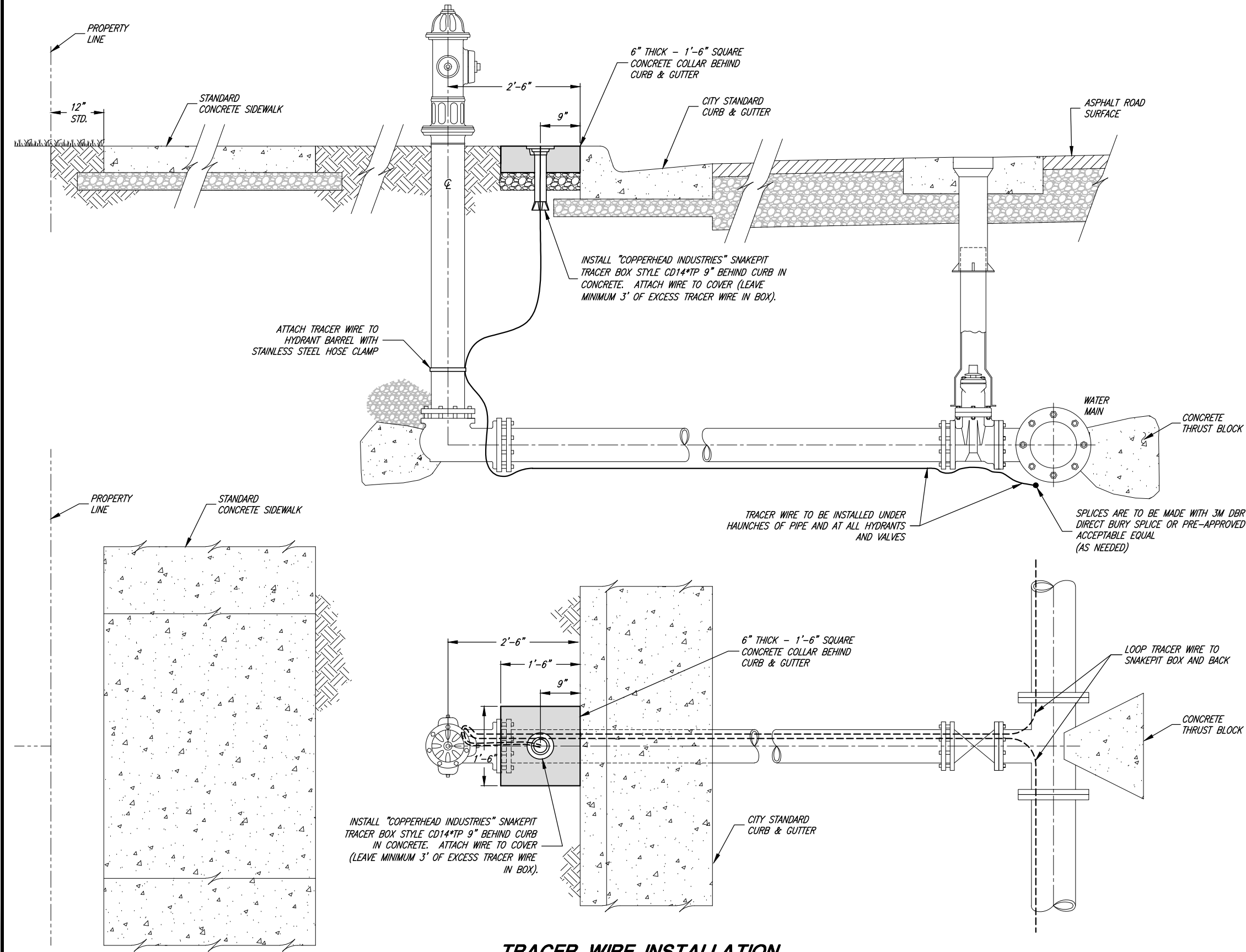
**HIGH TRAFFIC RESIDENTIAL METER PIT DETAIL**

THE USE OF A HIGH TRAFFIC RESIDENTIAL SERVICE METER PIT IS SITE SPECIFIC AND REQUIRES WRITTEN APPROVAL FROM THE WATER SYSTEM SUPERINTENDENT PRIOR TO INSTALLATION

- GENERAL NOTES:**
- ALL FITTINGS SHALL BE "MUELLER" COMPRESSION TYPE UNLESS OTHERWISE NOTED.
  - "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
  - ALL SUPPLIES, LABOR, MACHINERY, ETC. WILL BE SUPPLIED BY THE CONTRACTOR. SOUTH WEBER CITY WILL SUPPLY AND SET THE METER ONLY ON 1" CONNECTIONS. THE CONTRACTOR SHALL SUPPLY METERS FOR CONNECTIONS GREATER THAN 1" (SEE SHEET CW4).
  - ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH THE PRIOR APPROVAL OF THE CITY ENGINEER AND THE CITY WATER SYSTEM SUPERINTENDENT.
  - STAMPED STAINLESS STEEL PINS USED FOR LATERAL LOCATING ARE REQUIRED BY THE CITY. BLANK S.S. PINS SHALL BE PROVIDED BY THE CITY AND INSTALLED AND STAMPED BY THE CONTRACTOR DURING ALL NEW CONSTRUCTION OR RESTORED WHEN REPLACING DAMAGED CURB & GUTTER DUE TO ANY CONSTRUCTION RELATED ACTIVITY. S.S. PINS SHALL BE STAMPED "S" FOR SANITARY SEWER, "W" FOR CULINARY WATER, AND "L" FOR LAND DRAIN.
  - ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.







### ALTERNATE TRACER WIRE INSTALLATION

WHERE APPROVED BY THE WATER SYSTEM SUPERINTENDENT ON STREET SECTIONS WITH NO CURB & GUTTER

- NOTES:
1. ALL WATERLINES SHALL HAVE A MINIMUM 12 GA. INSULATED TRACER WIRE INSTALLED UNDER THE HAUNCHES OF THE PIPE PRIOR TO BACKFILLING.
  2. TRACER WIRES SHALL TERMINATE AT ALL FIRE HYDRANTS. AT SERVICE SADDLES AND TAPPING SLEEVES, THE TRACER WIRE SHALL NOT BE ALLOWED TO BE PLACED BETWEEN THE SADDLE AND THE PIPE. A GROUNDING ROD SHALL BE INSTALLED AT ALL TRACER SYSTEM TERMINAL POINTS.
  3. TRACER WIRE SHALL BE COPPER WIRE WITH BLUE INSULATION RATED FOR DIRECT BURIAL. ALL WIRE CONNECTORS SHALL BE 3M DBR DIRECT BURY SPLICE OR PRE-APPROVED ACCEPTABLE EQUAL AND SHALL BE WATERTIGHT TO PROVIDE ELECTRICAL CONTINUITY.
  4. ALL TRACER WIRE SHALL BE TESTED FOR CONTINUITY IN THE PRESENCE OF THE PUBLIC WORKS INSPECTOR PRIOR TO ASPHALT PLACEMENT. ANY TRACER WIRE FOUND NOT TO BE CONTINUOUS AFTER TESTING SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR PRIOR TO ASPHALT PLACEMENT.

### TRACER WIRE INSTALLATION

CITY STANDARD STREET SECTION (CURB & GUTTER)



PROJECT ENGINEER  
*Brandon K. Jones*  
11/30/2022  
DATE

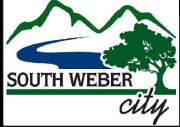
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CHECKED *BKJ*



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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS  
TRACER WIRE INSTALLATION DETAILS

SHEET:  
**CW3**  
OF 33 SHEETS  
0



PIPE & FITTING SCHEDULE

NO.	DESCRIPTION (3", 4" & 6" METER STA.)	JOINT TYPE	3" LINE	4" LINE	6" LINE
1	"MASTER METER" OCTAVE ULTRASONIC METER W/ 3G INTEGRATED REGISTER	FL	3"	4"	6"
2	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL (3)	FL	3" A-2362	4" A-2361	6" A-2361
3	"ROMAC" DJ400 DISMANTLING JOINT (2)	FL	3"	4"	6"
4	NIPPLE	FLxPE	3"	4"	6"
5	TEE	MJ	3"	4"	6"
6	PIPE SECTION	PE	3"	4"	6"
7	90° ELBOW	MJ	3"	4"	6"
8	SPOOL PIECE	FL	3"	4"	6"
9	SPOOL PIECE	FL	3"	4"	6"
10	"CLOW" F-1608 OR "ANVIL" #264 GALV. PIPE SUPPORT W/ COMPANION FLANGE & VARIABLE HEIGHT NIPPLE (4 EA REQ'D)				

NO.	DESCRIPTION (1 1/2" & 2" METER STA.)	JOINT TYPE	1 1/2" LINE	2" LINE
11	"MASTER METER" INTERMEDIATE MULTI-JET METER W/3G INTEGRATED REGISTER	FL	1 1/2"	2"
12	"MUELLER" B-2423-2 METER YOKE (18" RISER)	-	1 1/2"	2"
13	"MUELLER" 110 COMPRESSION CONN. COUPLING	-	1 1/2"	2"

3", 4" & 6" METER VAULT NOTES:

- ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC", MJRG, OR APPROVED EQUAL).
- PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.
- THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.
- ALL FITTINGS SHALL BE AWWA C-110 WITH 125 LB. FLANGES. ALL PIPING SHALL BE DUCTILE IRON PIPE CLASS 350 P.S.I. MIN.

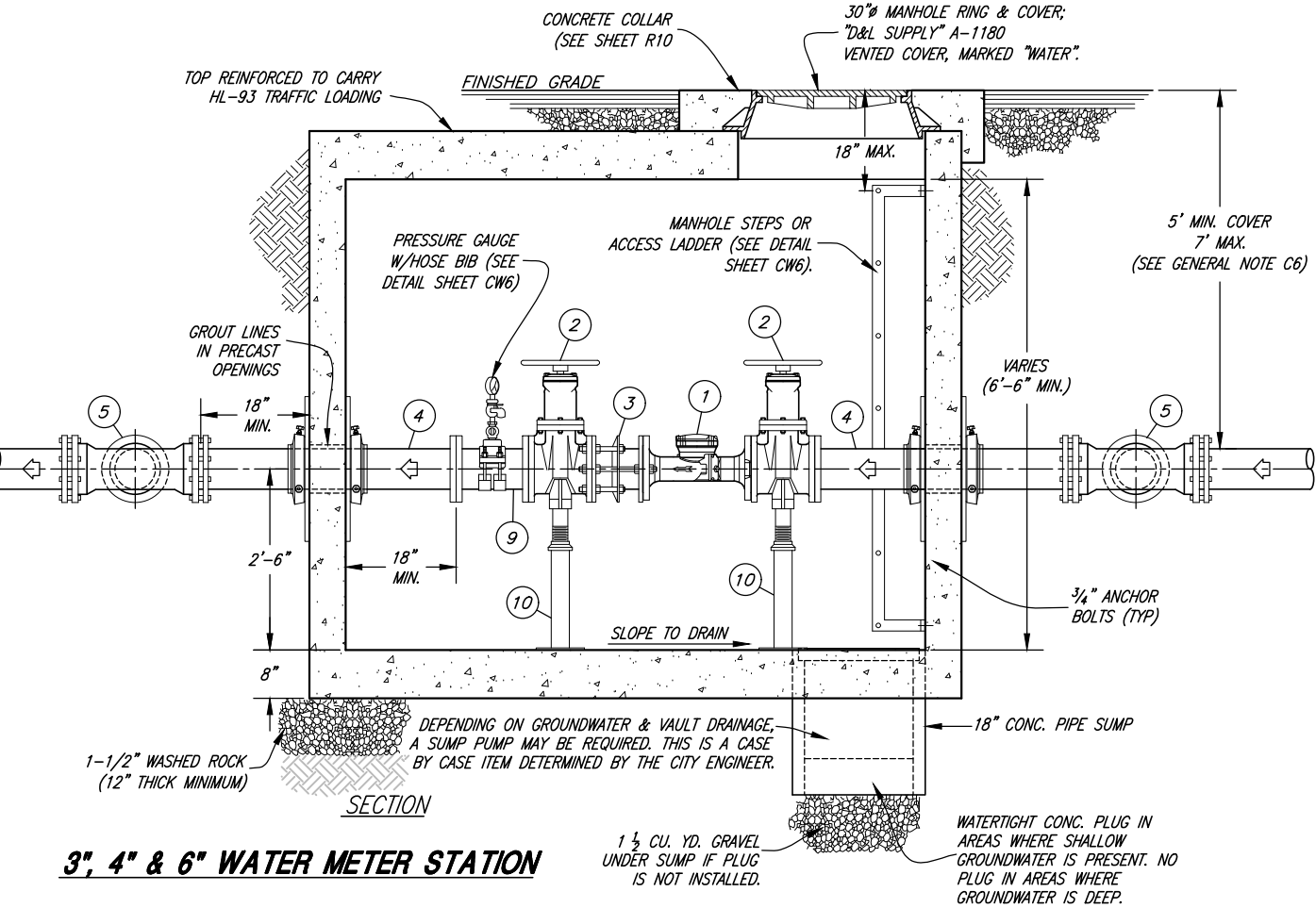
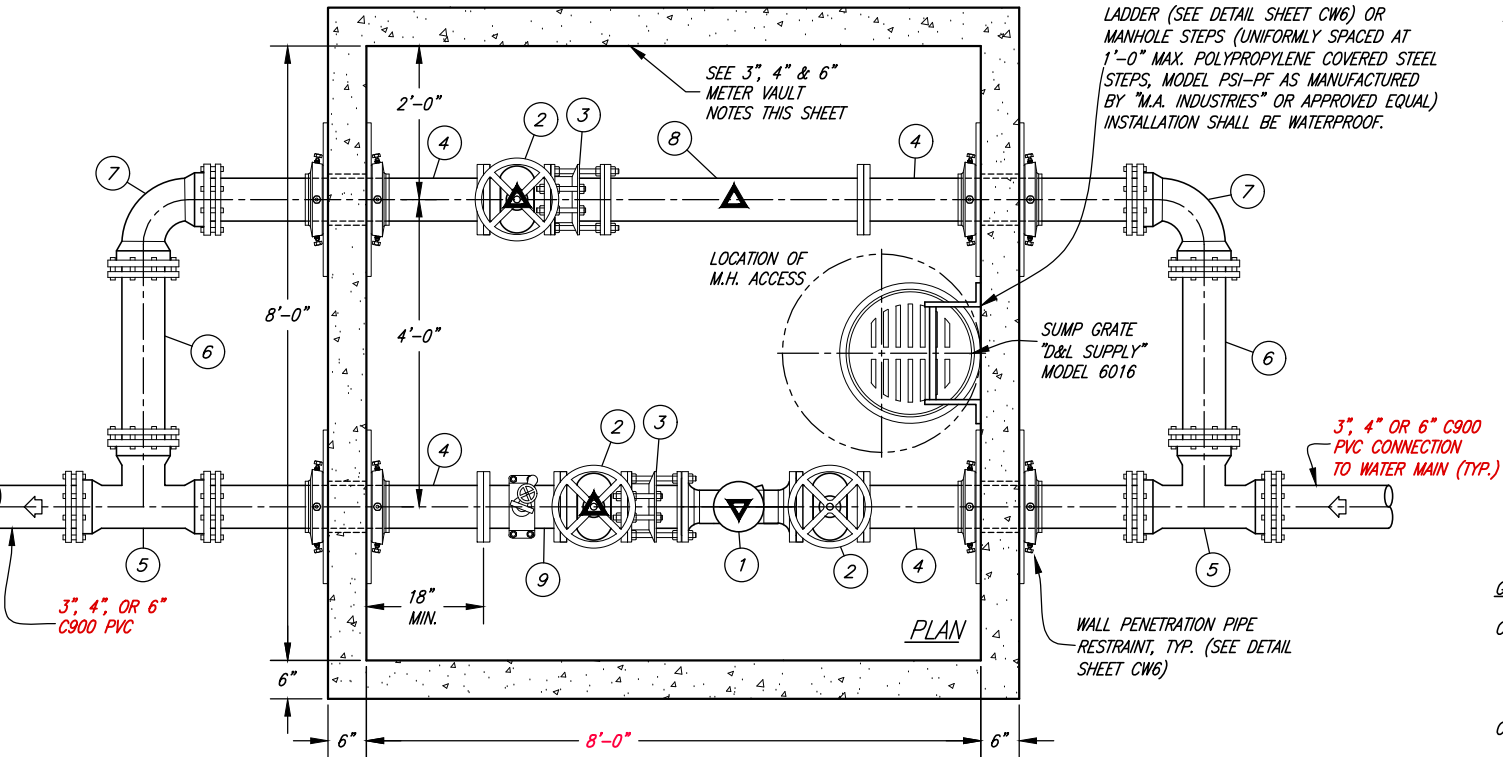
NOTE:  
ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH THE PRIOR APPROVAL OF THE CITY ENGINEER AND THE CITY WATER SYSTEM SUPERINTENDENT.

GENERAL NOTES:

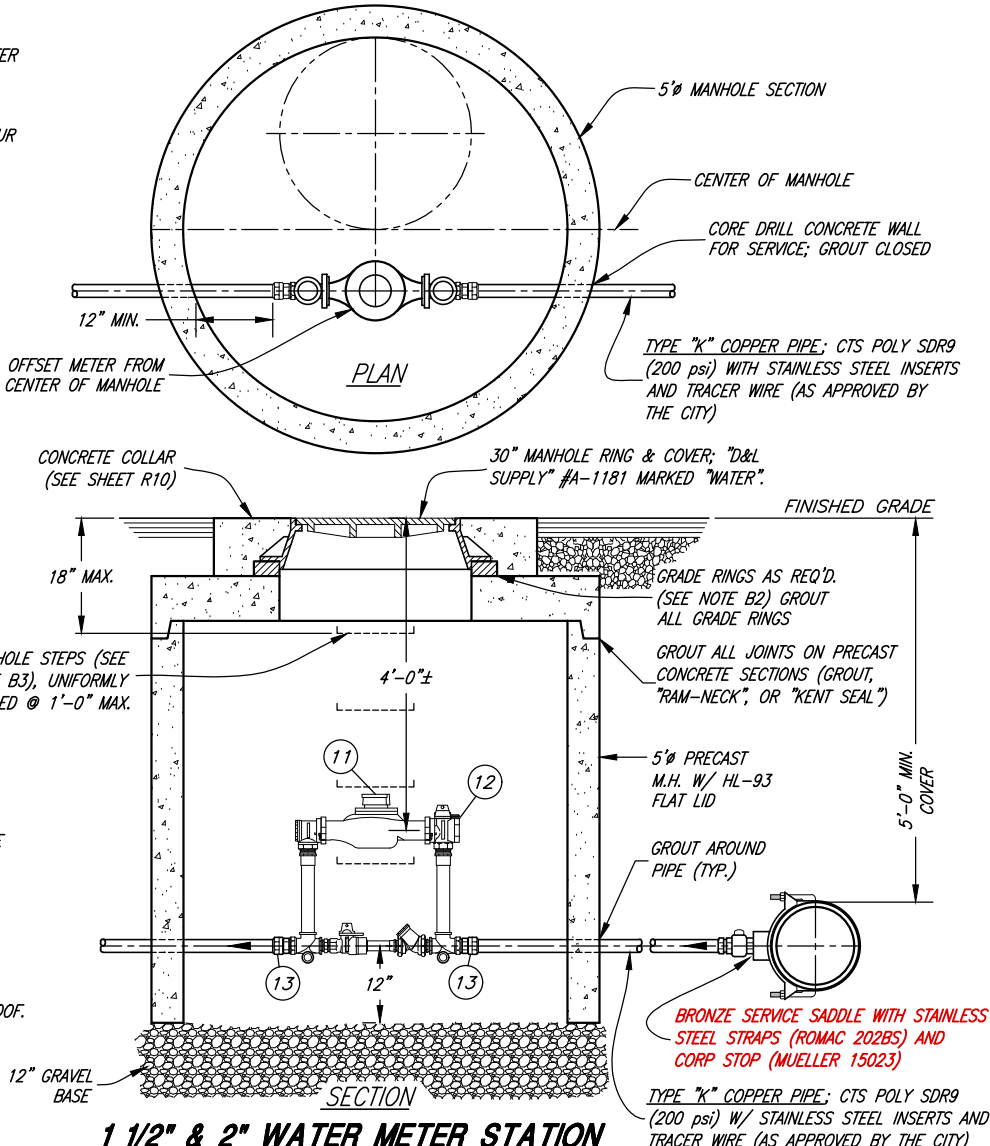
- PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.
- INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY WATER DEPARTMENT, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.
- IF APPLICABLE, A CITY EXCAVATION PERMIT MUST BE REQUESTED AND APPROVED PRIOR TO START OF WORK.
- "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
- CONTRACTOR TO SUPPLY ALL METERS 1 1/2" OR LARGER.
- ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.

1 1/2" & 2" METER NOTES:

- 1 1/2" SERVICE LINE-13" METER  
2" SERVICE LINE-17" METER
- NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE
- MANHOLE STEPS (FOR MANHOLES OVER 6' DEEP.) UNIFORMLY SPACED (1'-0" MAX.) POLYPROPYLENE COVERED STEEL STEPS, MODEL PSI-PF AS MANUFACTURED BY "M.A. INDUSTRIES" OR APPROVED EQUAL - INSTALLATION OF STEPS SHALL BE WATERPROOF.



3", 4" & 6" WATER METER STATION



1 1/2" & 2" WATER METER STATION



PROJECT ENGINEER  
11/30/2022  
DATE

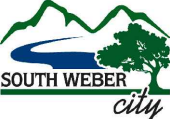
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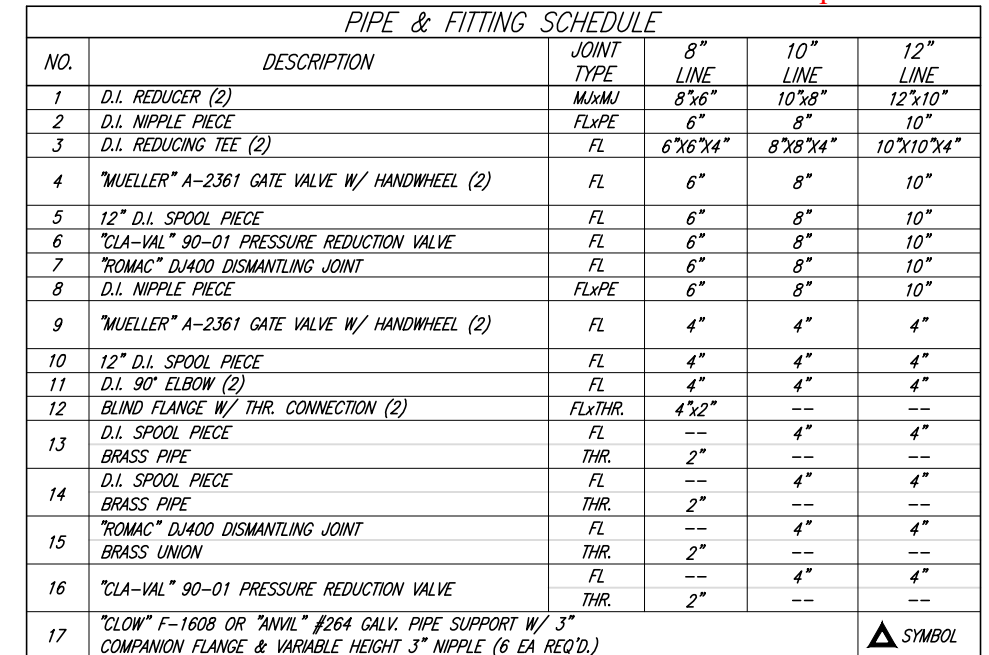


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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS  
TYPICAL WATER METER STATIONS

SHEET:  
CW4  
OF 33 SHEETS  
0

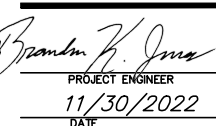


E. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.

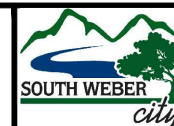
- A1. PRV TO BE CLA-VAL #90-01 YBSCSK
- A2. 150 # FLANGED FOR 250 PSI WORKING PRESSURE,  
300# FLANGED IF GREATER THAN 250 PSI
- A3. DUCTILE IRON BODY GLOBE PATTERN
- A4. EPOXY LINED AND COATED
- A5. STAINLESS STEEL INTERNAL TRIM
- A6. BRONZE PILOT CONTROLS
- A7. STAINLESS STEEL TUBES & FITTINGS
- A8. SPRING RANGES FOR PRESSURE REDUCING PILOT
- A9. X101 VALVE POSITION INDICATOR
- A10. CK2 ISOLATION BALL VALVES (STAINLESS)
- A11. CV FLOW CONTROL (OPENING)

- B1. THE P.R.V. VALVE SHALL INCLUDE FACTORY INSTALLED INTERIOR EPOXY COATING.
- B2. ALL NEW AND EXISTING PIPING, VALVES, FITTINGS, METERS, ETC, INSIDE THE VAULT SHALL BE EPOXY PAINTED.
- B3. METAL SURFACES TO BE PAINTED SHALL BE PRIMED AND THEN PAINTED W/ TWO COATS OF EPOXY PAINT.
- B4. COLORS AS DIRECTED BY THE CITY ENGINEER OR CITY WATER SYSTEM SUPERINTENDENT.

- C1. PRE-PLUMBED PRV VAULTS ARE THE PREFERRED OPTION FOR INSTALLATION. THE USE AND LOCATION OF A PRE-PLUMBED PRV VAULT SHALL BE AS DIRECTED BY THE CITY ENGINEER FOLLOWING REVIEW OF CURRENT SITE CONDITIONS.
- C2. WHERE APPLICABLE, PRESSURE RELIEF VALVE ASSEMBLY MAY BE REQUIRED. THIS IS A CASE BY CASE ITEM DETERMINED BY THE CITY WATER DEPARTMENT (PRV VAULT WILL NEED TO BE LENGTHENED TO ACCOMMODATE SUCH VALVE)
- C3. PRECAST CONCRETE STRUCTURE CAN BE REPLACED WITH CAST-IN-PLACE CONCRETE VAULT. SUBMIT ENGINEERED CONSTRUCTION PLANS WITH REBAR DETAILS TO CITY ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
- C4. PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.
- C5. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO HL-93 TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.

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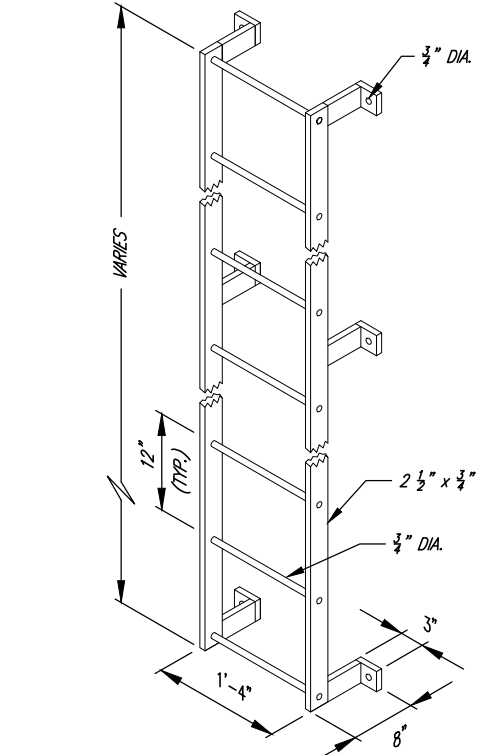


**PRESSURE REDUCTION STATION**

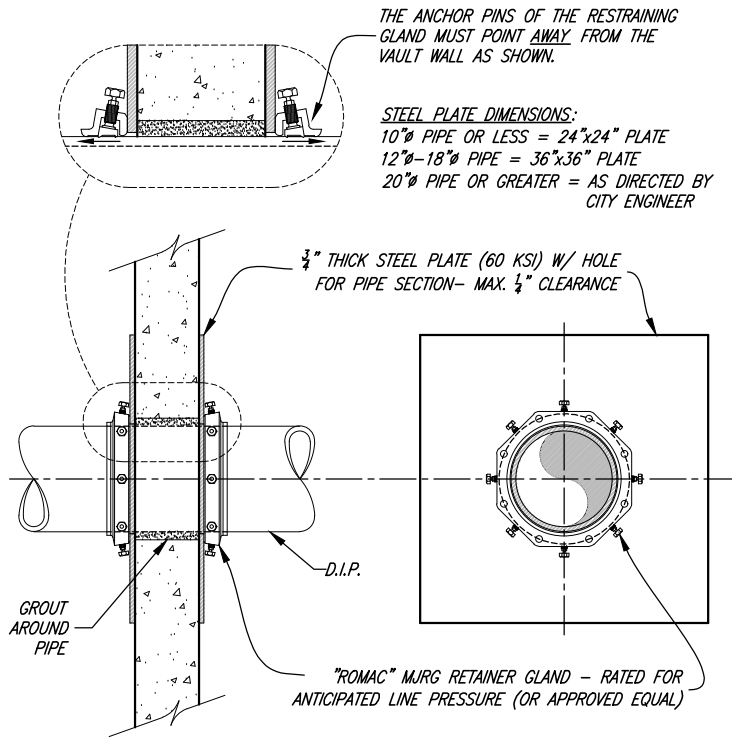
**CW5**

OF 33 SHEETS

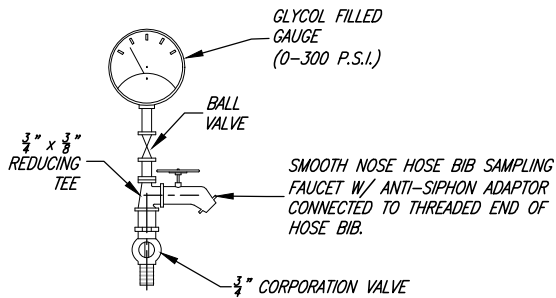




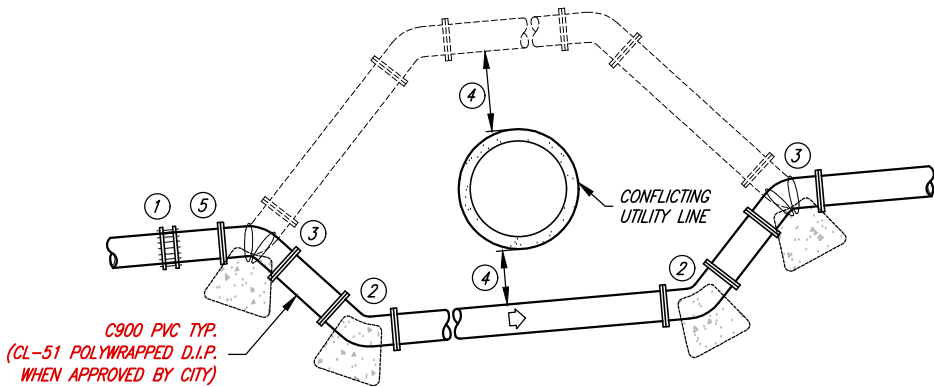
**LADDER DETAIL**  
HOT DIP GALVANIZE AFTER FABRICATION



**WALL PENETRATION DETAIL**  
FOR PRECAST VAULT (TYP)



**PRESSURE GAUGE**  
W/SAMPLING FAUCET DETAIL



**TYPICAL WATERLINE LOOP**

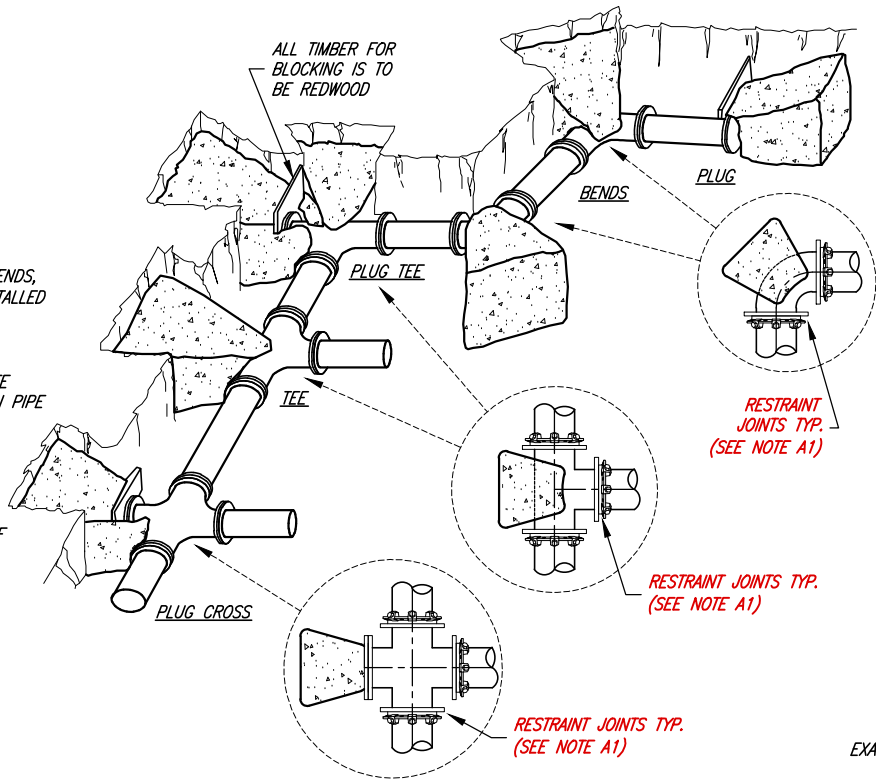
- ① TRANSITION COUPLING; "ROMAC" ALPHA, "ROMAC" MACRO, OR APPROVED EQUAL
- ② MJ 45° BEND W/RETAINER GLANDS
- ③ CONSTRUCT THRUST BLOCKS AT EACH 45° BEND W/(3) #6 REBAR SECURING BLOCK TO FITTING (EPOXY COATING)
- ④ MINIMUM OF 12" COVER BETWEEN THE WATERLINE AND CONFLICTING UTILITY LINE TO BE CROSSED, EXCEPT LOOPS INVOLVING SEWER MAINS WHERE A MINIMUM OF 18" VERTICAL COVER ABOVE THE SEWER MAIN IS REQUIRED. EXCEPTIONS MUST BE APPROVED BY THE UTAH DIVISION OF DRINKING WATER (DDW.)
- ⑤ AN AIR/VACUUM RELIEF VALVE MAY BE REQUIRED ON A CASE BY CASE BASIS AS DIRECTED BY THE CITY WATER SYSTEM SUPERINTENDENT.

**PIPE RESTRAINT**

- A1. FOR NOMINAL PIPE DIAMETERS 8" AND GREATER, ALL BENDS, CROSSES, TEES, REDUCERS, AND VALVES SHALL BE INSTALLED WITH RESTRAINING JOINTS ("MEGA-LUG", "ALPHA" OR APPROVED EQUAL).
- A2. DESIGN SHALL ALSO BE REQUIRED TO ENSURE ADEQUATE RESTRAINT FOR PIPING JOINTS NEAR FITTINGS BASED ON PIPE DIAMETER AND PIPE PRESSURE.

**THRUST BLOCKING NOTES:**

- B1. CONCRETE SHALL NOT BE PLACED WITHIN 1-1/2" OF JOINTS AND BOLTS. COVER ALL METAL CONTACT AREAS WITH A POLY WRAP PRIOR TO CONCRETE PLACEMENT.
- B2. IN THE ABSENCE OF A SOILS REPORT, ALL THRUST BLOCKS SHALL BE SIZED ON THE BASIS OF A MAXIMUM LATERAL BEARING VALUE FOR 2000 P.S.F. AND A THRUST RESULTING FROM 200% OF THE WATER LINE STATIC LINE TEST.
- B3. THRUST BLOCKS ARE REQUIRED AT ALL BENDS OF 22-1/2° OR MORE. 11-1/4° BENDS SHALL HAVE RETAINER GLANDS.
- B4. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.



**TYPICAL RETAINER GLANDS & THRUST BLOCKING**

THRUST PER PSI OF WATER PRESSURE AT VARIOUS FITTINGS				
PIPE SIZE (IN.)	DEAD END OR TEE (LB.)	90° ELBOW (LB.)	45° ELBOW (LB.)	22-1/2° ELBOW (LB.)
4	19	27	15	7
6	39	55	30	15
8	67	94	51	26
10	109	154	84	43
12	155	218	119	61
14	210	296	161	82
16	272	383	209	106
18	351	494	269	137
20	434	611	333	169
24	623	878	487	244
30	947	1,332	722	377
36	1,356	1,905	1,032	542

- NOTES:**
- C1. IN USING THE ABOVE TABLE, USE THE MAXIMUM INTERNAL PRESSURE ANTICIPATED (I.E. HYDROSTATIC TEST PRESSURE, POSSIBLE SURGE PRESSURE DUE TO PUMP SHUT OFF, ETC.).
- C2. SEE SOILS REPORT FOR BEARING STRENGTH OF SOIL. IN THE ABSENCE OF A SOILS REPORT, AN AVERAGE SOIL (SPADABLE MEDIUM CLAY) CAN BE ASSUMED TO HAVE A BEARING STRENGTH OF 2000 P.S.F.

**EXAMPLE:**

8-INCH 90° ELBOW, PRESSURE 200 LB./SQ. IN.  
FROM TABLE: THRUST = 94 X 200 = 18,800 LB.  
ASSUME BEARING STRENGTH = 2,000 LB./SQ. FT.

$$\frac{18,800}{2,000} = 9.4 \text{ SQ. FT. AREA OF BEARING REQUIRED FOR THRUST BLOCK}$$



PROJECT ENGINEER  
*Brandon K. Jones*  
11/30/2022  
DATE

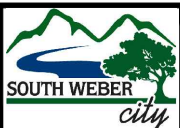
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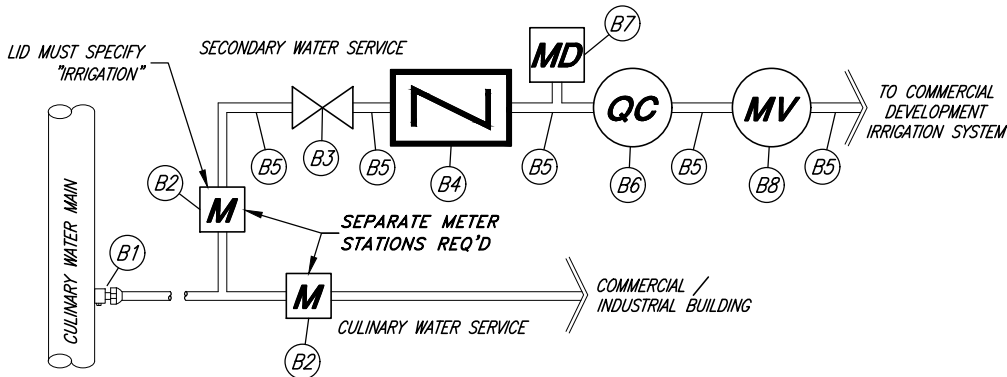


**SOUTH WEBER CITY CORPORATION**  
**PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS**  
**THRUST BLOCK, WATERLINE LOOP, AND MISC. VAULT DETAILS**

SHEET:  
**CW6**  
OF 33 SHEETS  
0



COMMERCIAL DEV. POINT OF CONNECTION	
NO.	DESCRIPTION
B1	WATER SERVICE CONNECTION
B2	CITY STANDARD CULINARY WATER SERVICE METER (SEE SHEET CW1 AND/OR CW4)
B3	GATE VALVE & VALVE BOX
B4	BACKFLOW ASSEMBLY (REDUCED PRESSURE ZONE ASSEMBLY)
B5	WATER SERVICE PIPE
B6	QUICK COUPLER/FOR BLOW OUT
B7	MANUAL DRAIN VALVE
B8	MASTER VALVE

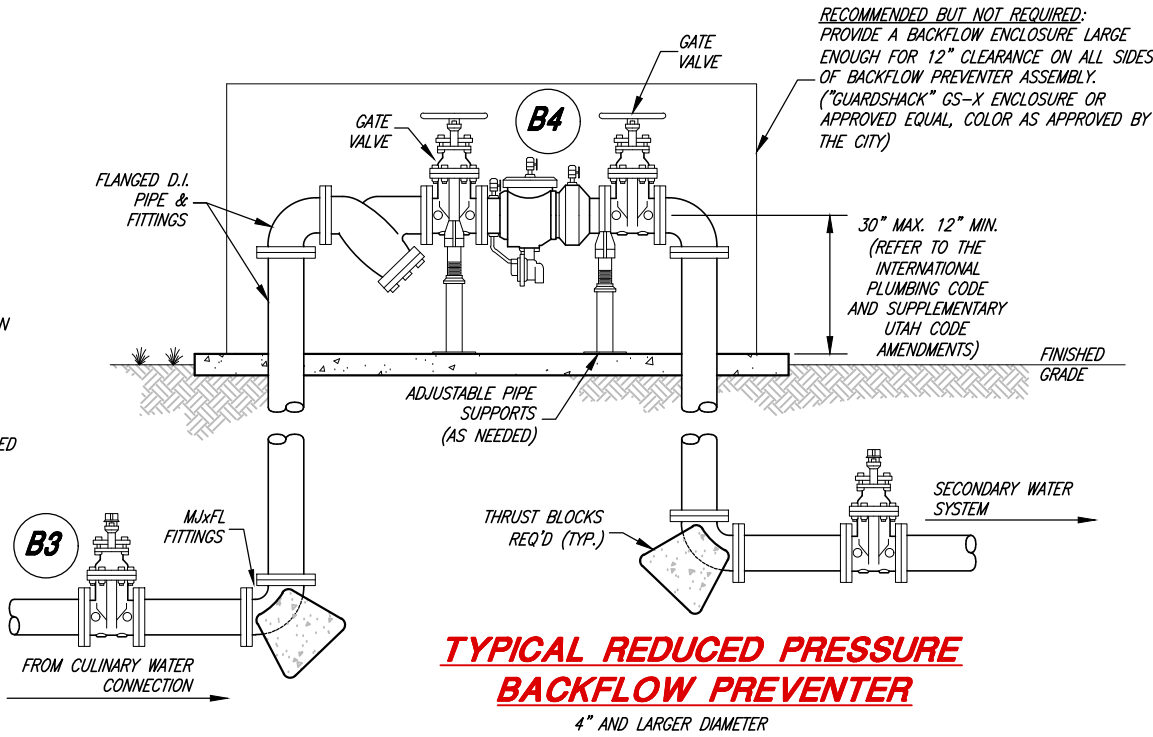


**TYPICAL COMMERCIAL / INDUSTRIAL DEVELOPMENT  
POINT OF CONNECTION SCHEMATIC DIAGRAM**

REQUIRES PRE-APPROVAL BY THE PUBLIC WORKS DEPARTMENT AND THE CITY ENGINEER  
PRIOR TO CONSTRUCTION (CONNECTION SHALL BE DETERMINED ON A CASE BY CASE BASIS)

**GENERAL NOTES:**

- DESIGN, CONSTRUCTION, AND INSTALLATION SHALL BE DONE ACCORDING TO AND COMPLY WITH ALL CURRENT ADOPTED BUILDING AND PLUMBING CODES, AND TO MANUFACTURERS WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
- ALL TESTING, MAINTENANCE, AND/OR REPAIR SHALL BE PERFORMED BY A STATE CERTIFIED BACKFLOW ASSEMBLY TECHNICIAN.
- THE ASSEMBLY MUST BE THOROUGHLY DRAINED AND WINTERIZED EACH WINTER.
- THE RP ASSEMBLY SHALL BE PROTECTED FROM FREEZING AND VANDALISM WHERE APPLICABLE.
- ABOVE GROUND FITTINGS TO BE EPOXY PAINTED BLUE ON THE CULINARY SIDE AND PURPLE ON THE SECONDARY SIDE.
- PROVIDE BOLLARDS OR OTHER PROTECTION IF AND AS DIRECTED BY THE CITY.
- RP ASSEMBLY DESIGN AND CONSTRUCTION DETAILS/DRAWINGS TO BE SUBMITTED TO THE CITY ENGINEER AND THE CITY WATER DIVISION FOR APPROVAL PRIOR TO INSTALLATION.
- LOCATION OF BACKFLOW ASSEMBLY SHALL BE APPROVED BY THE CITY WATER DIVISION PRIOR TO INSTALLATION.
- ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE TESTED WITHIN 10 DAYS OF INITIAL USE BY A LICENSED BACKFLOW ASSEMBLY TESTER.
- ALL BACKFLOW PREVENTION ASSEMBLIES ARE TO BE TESTED ANNUALLY BY A CERTIFIED TESTER AND REPAIRS OR MAINTENANCE COMPLETED AS NEEDED. ANNUALLY SUBMIT TEST RESULTS TO THE CITY WATER DIVISION.

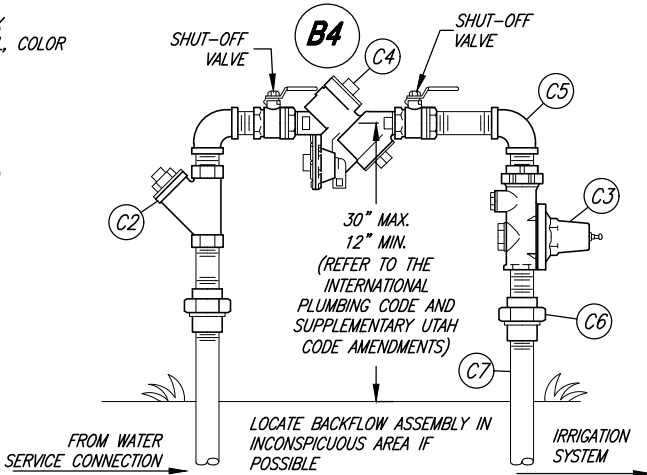
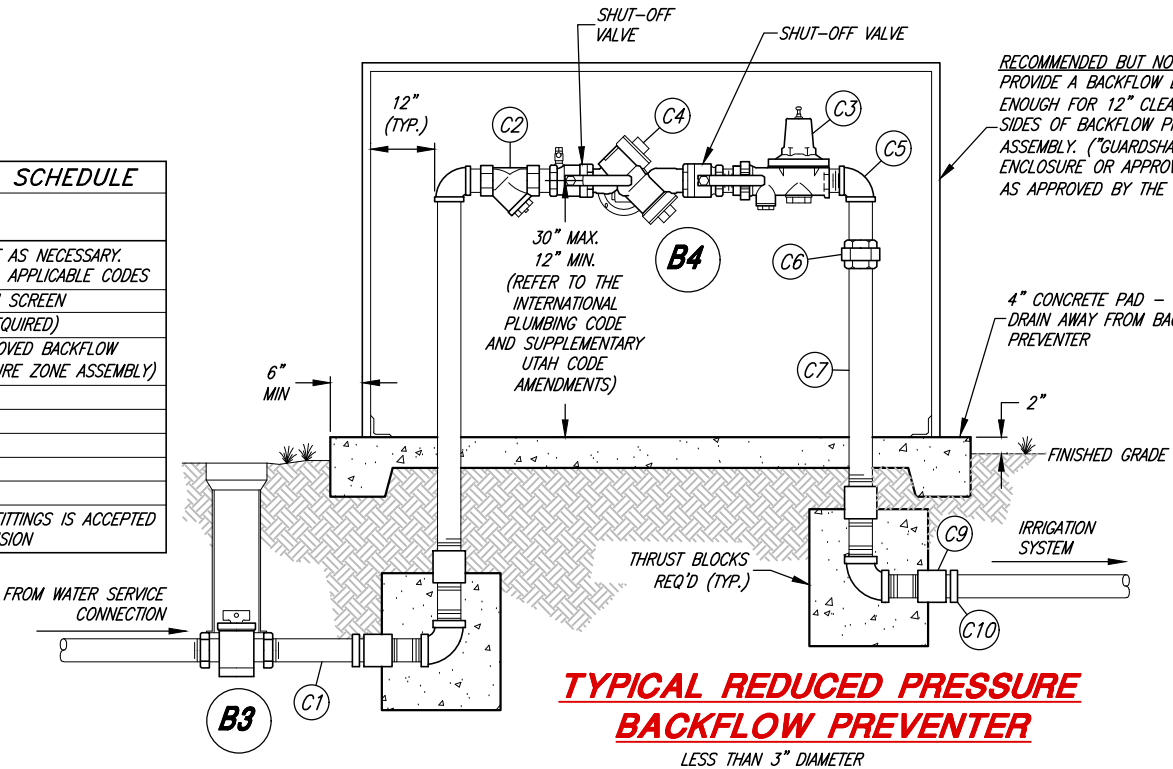


**REDUCED PRESSURE ASSEMBLY (RP) NOTES:**

- AN RP ASSEMBLY SHALL BE INSTALLED WHEN A SECONDARY SERVICE IS CONNECTED TO THE CULINARY WATER SYSTEM.
- THE RP ASSEMBLY SHALL BE INSTALLED IN A HORIZONTAL POSITION ONLY.
- RP ASSEMBLIES SHALL NOT BE INSTALLED IN A PIT.
- THE BODY OF THE RP ASSEMBLY SHALL BE A MINIMUM OF 12 INCHES FROM ANY WALLS, CEILINGS, OR ENCUMBRANCES AND SHALL BE READILY ACCESSIBLE FOR TESTING, REPAIR AND/OR MAINTENANCE.
- THE BOTTOM OF THE RP ASSEMBLY SHALL BE A MINIMUM OF 12 INCHES ABOVE THE GROUND FLOOR.
- RP VALVE ASSEMBLY AND PIPES TO MATCH SECONDARY LATERAL/MAIN SIZE.
- THE BACKFLOW PREVENTER SHALL BE BRONZE FOR 6-INCH AND SMALLER VALVES, AND EPOXY COATED DUCTILE IRON FOR 8-INCH AND LARGER VALVES.
- BACKFLOW PREVENTION DEVICES SHALL BE SELECTED FROM A LIST OF APPROVED DEVICES SET FORTH BY THE UTAH DIVISION OF DRINKING WATER. REDUCED PRESSURE ASSEMBLIES (RP) AND CITY ENGINEER APPROVED DOUBLE CHECK VALVE ASSEMBLIES (DCA) WILL BE THE ONLY ACCEPTED STYLES OF BACKFLOW PREVENTION DEVICES.

TYPICAL PIPE & FITTING SCHEDULE	
NO.	DESCRIPTION
C1	TO POINT OF CONNECTION - ADAPT AS NECESSARY. ALL WORK SHALL CONFORM TO ALL APPLICABLE CODES
C2	BRASS WYE STRAINER W/ 60 MESH SCREEN
C3	PRESSURE REDUCING VALVE (AS REQUIRED)
C4	DIVISION OF DRINKING WATER APPROVED BACKFLOW PREVENTER UNIT (REDUCED PRESSURE ZONE ASSEMBLY)
C5	BRASS 90 DEGREE ELBOW (TYP.)
C6	BRASS UNION (TYP.)
C7	BRASS PIPE (TYP.)
C9	BRASS COUPLING
C10	PIPE ADAPTER AND MAINLINE PIPE

THE USE OF GALVANIZED STEEL PIPE & FITTINGS IS ACCEPTED WHEN APPROVED BY THE CITY WATER DIVISION



PROJECT ENGINEER  
11/30/2022  
DATE

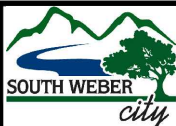
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DRAWN BEB  
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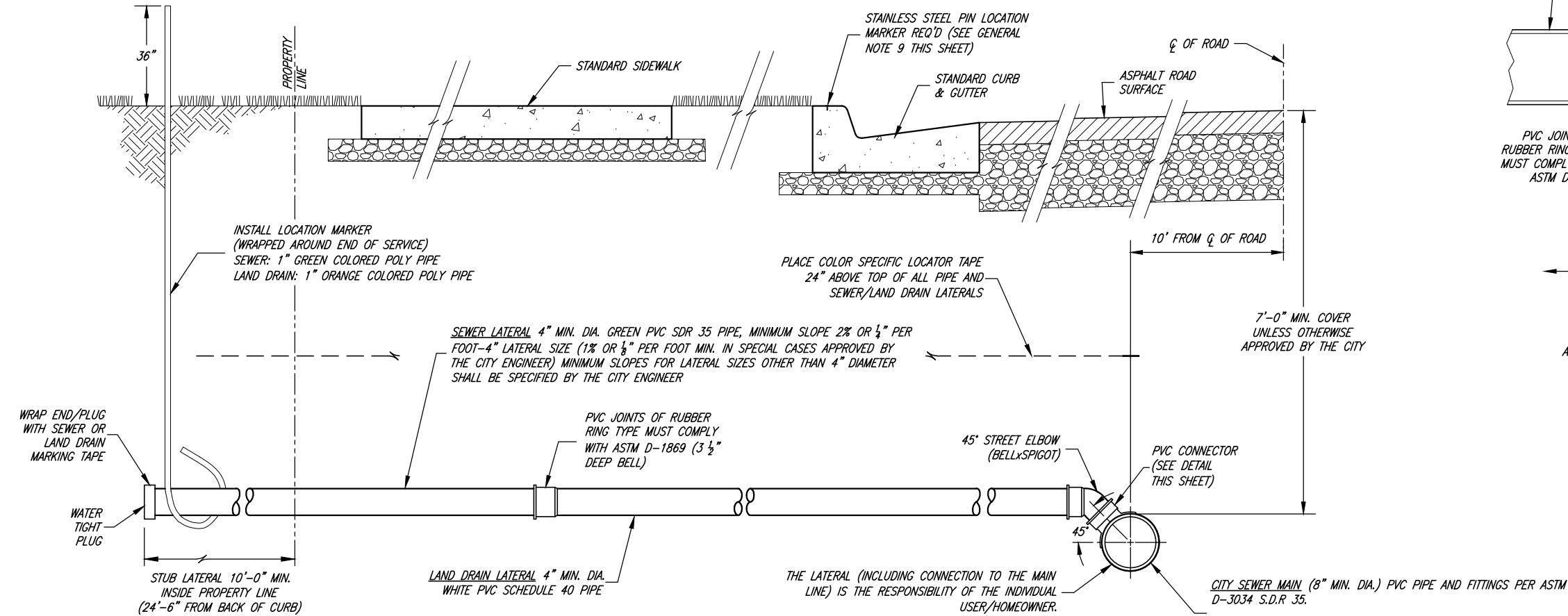
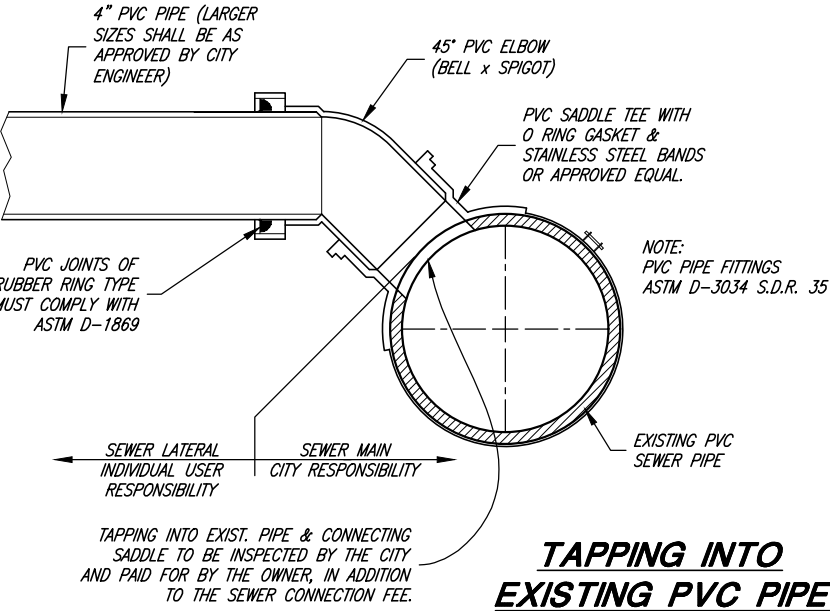
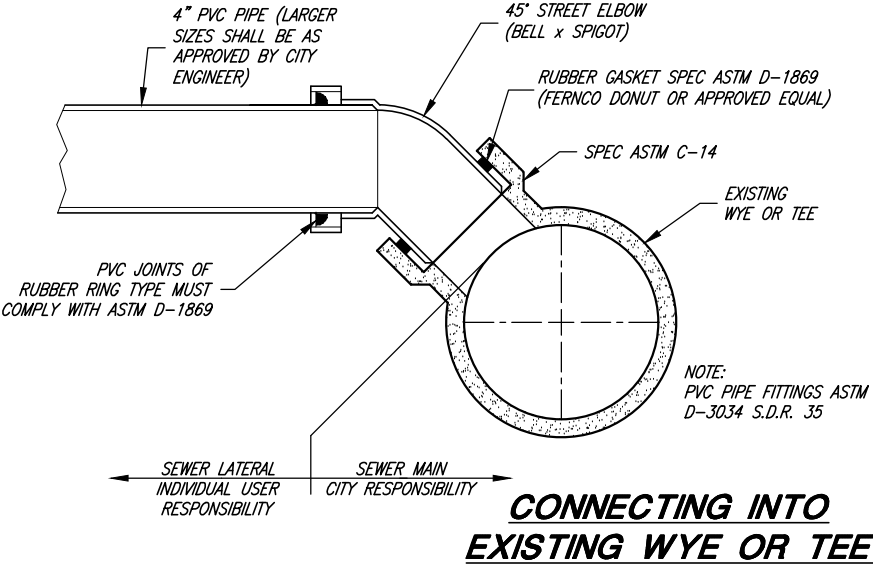


SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS  
REDUCED PRESSURE (RP) BACKFLOW PREVENTION ASSEMBLY

SHEET:  
CW7  
OF 33 SHEETS  
0

GENERAL NOTES:

1. ALL SANITARY SEWER LATERAL CONNECTIONS ON SEWER MAINS IN NEW SUBDIVISIONS SHALL BE MADE WITH IN LINE PRE-FORMED WYES OR TEES UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. FLOWLINE ELEVATION OF LATERALS SHALL EQUAL THE INSIDE TOP OF PIPE ON MAINLINE AT THE CONNECTING POINT (THE LATERAL TAP SHALL BE IN THE TOP QUARTER OF THE SEWER MAIN LINE PREFERABLY IN THE 10:00 OR 2:00 POSITION).
3. SANITARY SEWER SERVICE LATERAL CONNECTIONS SHALL NOT BE ALLOWED IN SEWER MANHOLES.
4. SANITARY SEWER MAINS AND LATERALS SHALL BE "GREEN" IN COLOR. LAND DRAIN MAIN LINES SHALL BE "GREEN" IN COLOR AND LAND DRAIN LATERAL LINES SHALL BE "WHITE" IN COLOR. IRRIGATION PIPES SHALL BE "PURPLE" IN COLOR. PREVIOUS YEARS PIPE COLORS VARY THROUGHOUT THE CITY. CONTRACTOR TO VERIFY EXISTING PIPE PRIOR TO MAKING ANY CONNECTION.
5. INSERTA TEE PRODUCT IS NOT APPROVED BY THE CITY
6. ALL CLEANOUTS SHALL BE MARKED AND FITTED WITH A METAL LID FOR LOCATION PURPOSES
7. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.
8. ALL SANITARY SEWER LINES SHALL BE INSPECTED BY MEANS OF VIDEO CAMERA WHEN CONSTRUCTED.
9. STAMPED STAINLESS STEEL PINS USED FOR LATERAL LOCATING ARE REQUIRED BY THE CITY. BLANK S.S. PINS SHALL BE PROVIDED BY THE CITY AND INSTALLED AND STAMPED BY THE CONTRACTOR DURING ALL NEW CONSTRUCTION OR RESTORED WHEN REPLACING DAMAGED CURB & GUTTER DUE TO ANY CONSTRUCTION RELATED ACTIVITY. S.S. PINS SHALL BE STAMPED "S" FOR SANITARY SEWER, "W" FOR CULINARY WATER, AND "L" FOR LAND DRAIN.
10. DOWNSTREAM LAND DRAIN CONNECTION TO AN EXISTING STORM DRAIN SYSTEM IS REQUIRED.



PROJECT ENGINEER  
*Brandon K. Jones*  
11/30/2022  
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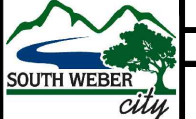
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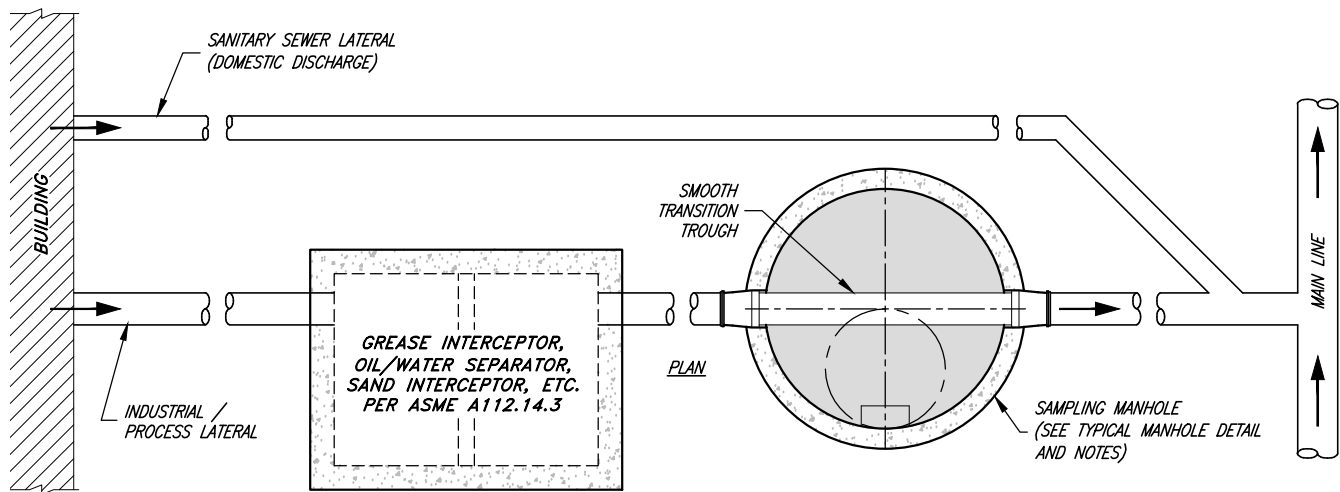


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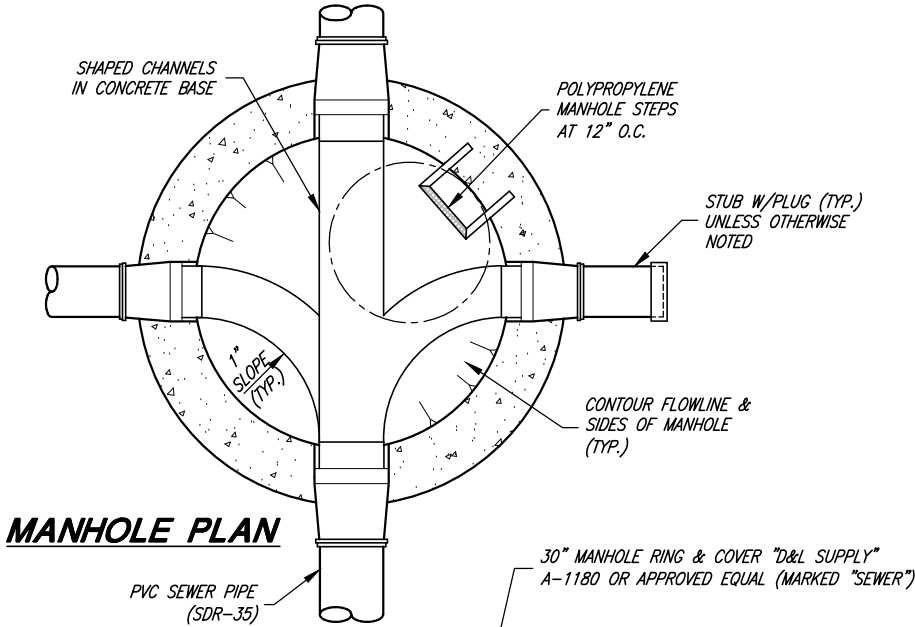


**SOUTH WEBER CITY CORPORATION**  
**PUBLIC WORKS - SANITARY SEWER SYSTEM STANDARDS**  
**SEWER / LAND DRAIN LATERAL & MAIN LINE CONNECTION DETAILS**

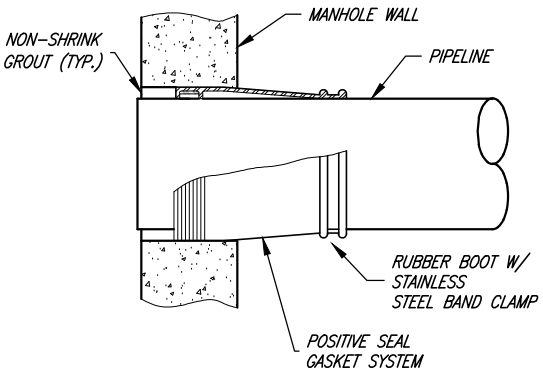
SHEET:  
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OF 33 SHEETS  
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**SAMPLING MANHOLE**



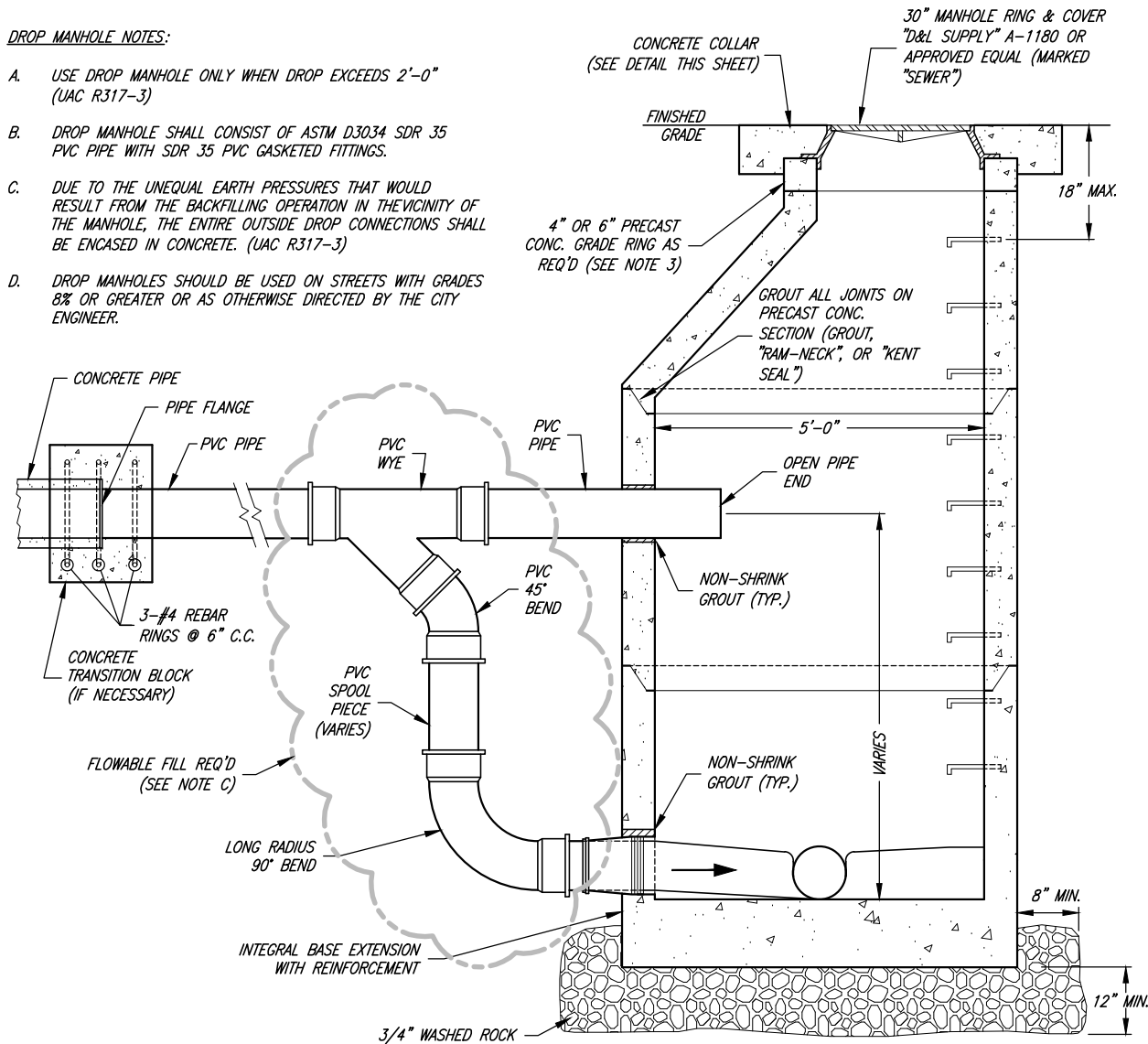
**MANHOLE PLAN**



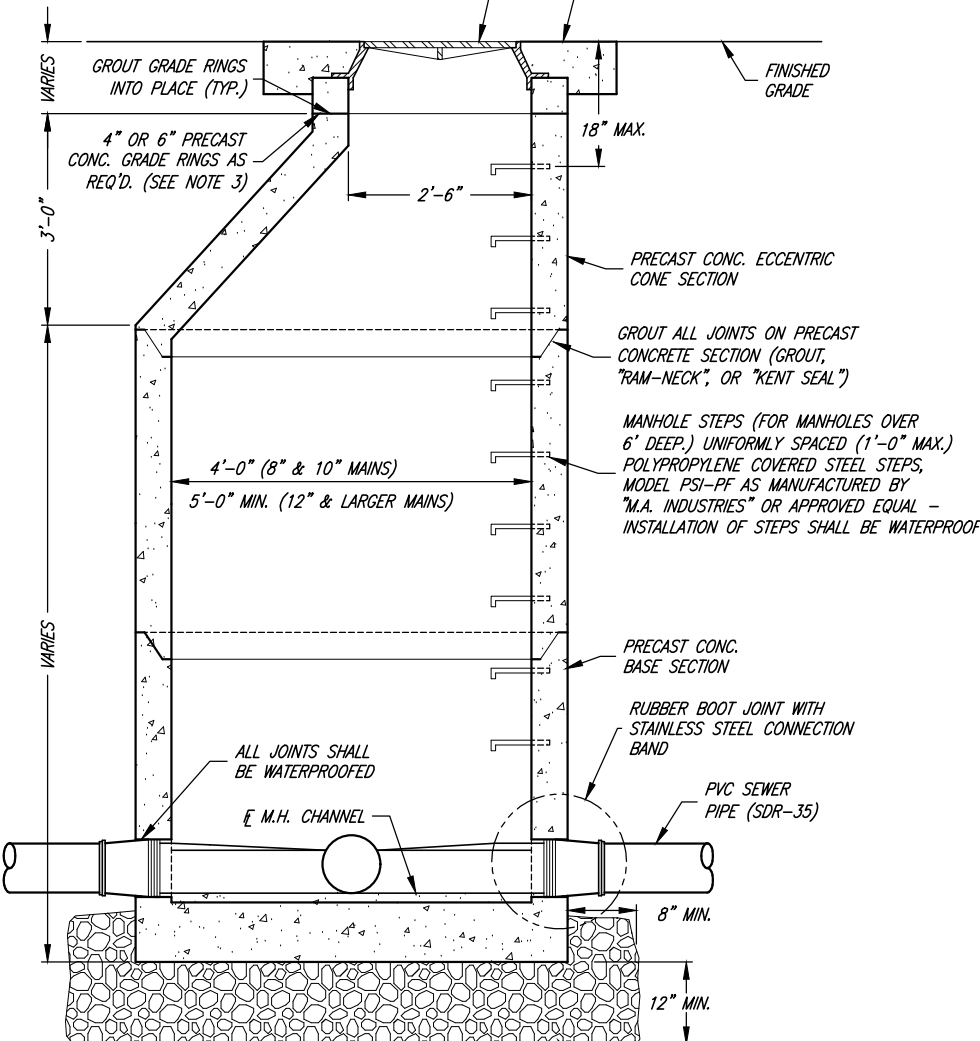
**RUBBER BOOT DETAIL**

**DROP MANHOLE NOTES:**

- A. USE DROP MANHOLE ONLY WHEN DROP EXCEEDS 2'-0" (UAC R317-3)
- B. DROP MANHOLE SHALL CONSIST OF ASTM D3034 SDR 35 PVC PIPE WITH SDR 35 PVC GASKETED FITTINGS.
- C. DUE TO THE UNEQUAL EARTH PRESSURES THAT WOULD RESULT FROM THE BACKFILLING OPERATION IN THE VICINITY OF THE MANHOLE, THE ENTIRE OUTSIDE DROP CONNECTIONS SHALL BE ENCASED IN CONCRETE. (UAC R317-3)
- D. DROP MANHOLES SHOULD BE USED ON STREETS WITH GRADES 8% OR GREATER OR AS OTHERWISE DIRECTED BY THE CITY ENGINEER.



**TYPICAL DROP MANHOLE SECTION**



**TYPICAL MANHOLE SECTION**

**GENERAL NOTES:**

- 1. SECURE INVERTS IN ALL MANHOLES DURING CONSTRUCTION SO AS TO PREVENT GRAVEL AND OTHER DEBRIS FROM COLLECTING INSIDE.
- 2. A LARGER DIAMETER MANHOLE MAY BE REQUIRED BY THE DESIGN ENGINEER AFTER EVALUATION OF THE NUMBER, SIZE, AND ANGLE OF THE PIPES THAT CONNECT TO THE MANHOLE.
- 3. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE.
- 4. ALL TERMINATING SEWER MAINS SHALL END WITH A CITY STANDARD MANHOLE.
- 5. SERVICE LATERAL CONNECTIONS SHALL NOT BE ALLOWED IN SEWER MANHOLES.
- 6. ALL SANITARY SEWER LINES SHALL BE INSPECTED BY MEANS OF VIDEO CAMERA AND AIR TESTED WHEN CONSTRUCTED. SEE APWA 33 08 00 AND CITY MODIFICATIONS FOR MORE INFORMATION.
- 7. WHERE THE DIFFERENCE IN ELEVATION BETWEEN THE INCOMING SEWER AND MANHOLE INVERT IS LESS THAN 24 INCHES, THE INVERT SHOULD BE FILLETED.
- 8. FLAT MANHOLE RINGS & COVERS (SLAB CONSTRUCTION) ARE NOT ALLOWED ON ANY MANHOLE CONE SECTION.



PROJECT ENGINEER  
*Brandon K. Jones*  
11/30/2022  
DATE

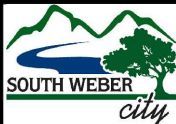
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DRAWN *BEB*  
CHECKED *BKJ*



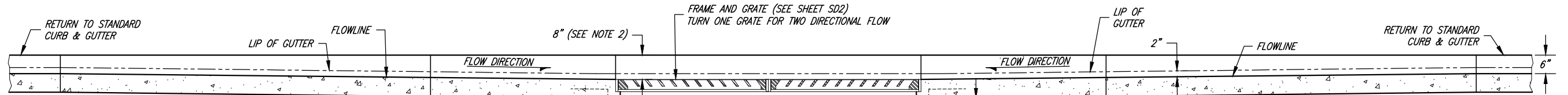
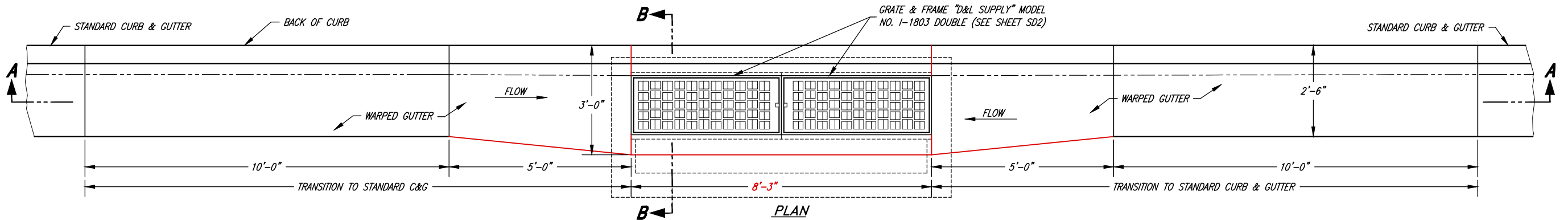
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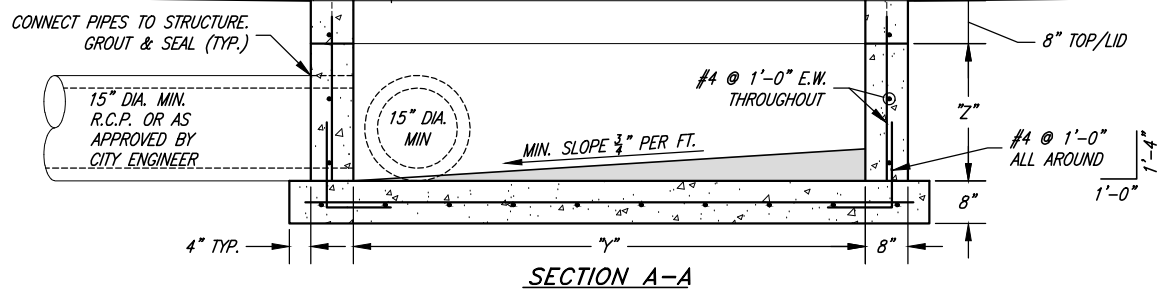
**SOUTH WEBER CITY CORPORATION**  
**PUBLIC WORKS - SANITARY SEWER SYSTEM STANDARDS**  
**SANITARY SEWER MANHOLE DETAILS**

SHEET:  
**SS2**  
OF 33 SHEETS  
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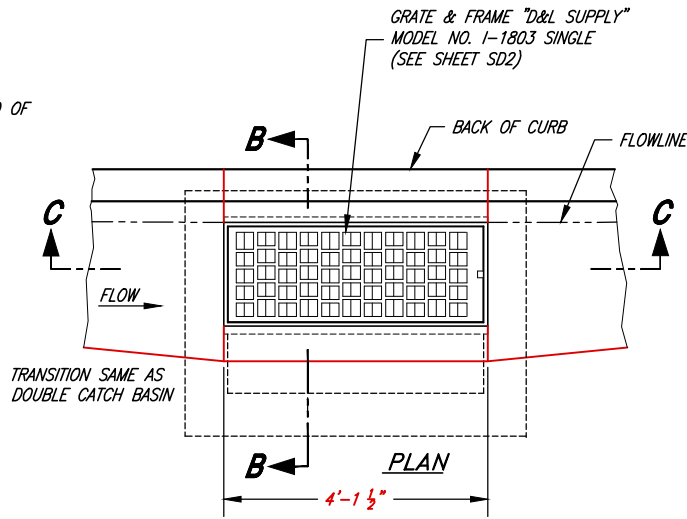
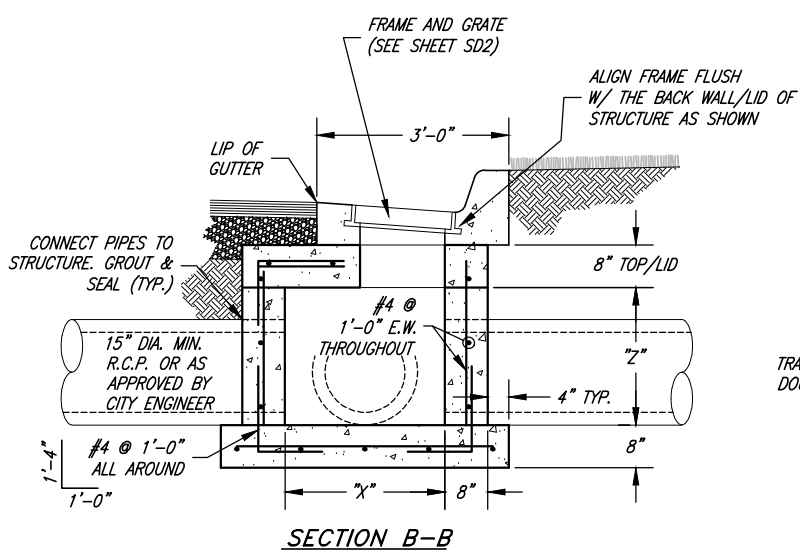
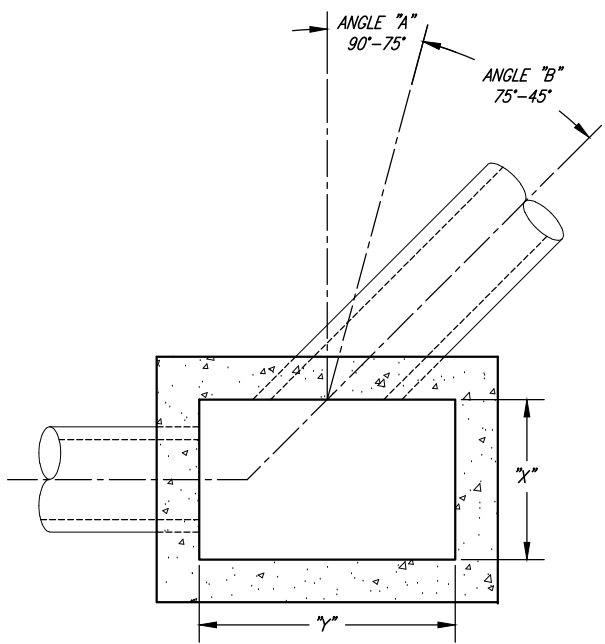


STANDARD CATCH BASIN DIMENSION TABLE					
PIPE SIZE (IN.)	"X"	SINGLE CATCH BASIN		DOUBLE	"Z" MIN.
		"Y" (ANGLE A)	"Y" (ANGLE B)	"Y"	
15	2'-6"	4'-0"	4'-0"	8'-0"	2'-0"
18	2'-6"	4'-0"	4'-0"	8'-0"	2'-6"
21	4'-0"	4'-0"	4'-0"	8'-0"	3'-0"
24	4'-0"	4'-0"	5'-0"	8'-0"	3'-0"
30	4'-0"	4'-0"	6'-0"	8'-0"	3'-6"
36	4'-0"	5'-0"	6'-0"	8'-0"	4'-0"
42	6'-0"	6'-0"	7'-0"	8'-0"	5'-0"
48	6'-0"	6'-0"	8'-0"	8'-0"	5'-6"

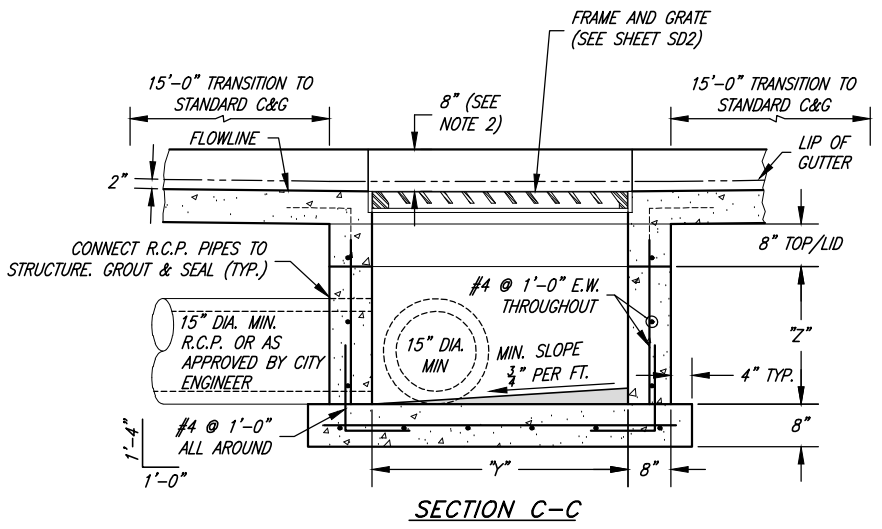


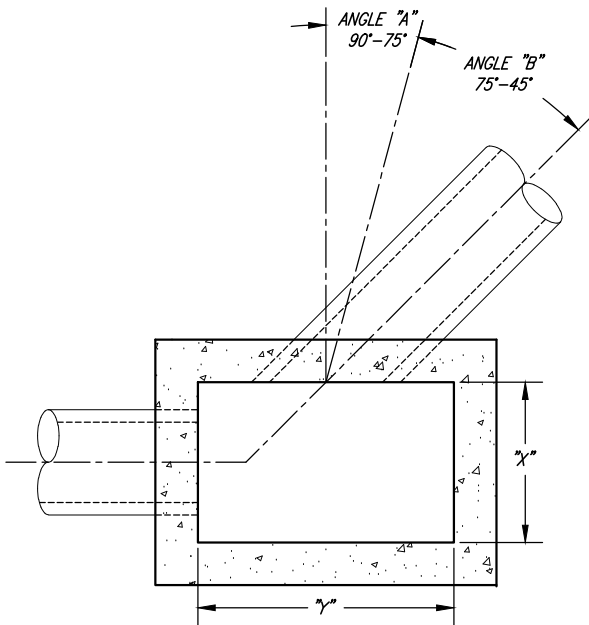
DOUBLE CATCH BASIN

- GENERAL NOTES:
- ALL CATCH BASIN BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15" PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES.
  - DEPTH MAY VARY FROM 6" TO 10" AS DIRECTED BY THE CITY ENGINEER
  - CAST-IN-PLACE CONCRETE CATCH BASINS CAN BE REPLACED WITH PRECAST CONCRETE CATCH BASINS WITH HL-93 DECK LOADING AND COMPARABLE SIZE.
  - ALL BOXES SHALL BE FORMED ON THE INSIDE AND OUTSIDE OF THE BOX AND INSPECTED BY THE CITY PRIOR TO THE PLACING OF CONCRETE.
  - DOUBLE CATCH BASINS WILL BE REQUIRED IN LOCATIONS SPECIFIED BY THE CITY ENGINEER (TYPICALLY IN LOW SPOTS OR WHERE ADDITIONAL INLET CAPACITY IS NEEDED).
  - STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
  - ALTERNATE STRUCTURE (E.G. COMBO BOXES) MAY BE USED WITH APPROVAL OF THE CITY ENGINEER. STRUCTURES SHALL FOLLOW APWA STANDARD PLANS AND BE A COMMON SIZE.



SINGLE CATCH BASIN

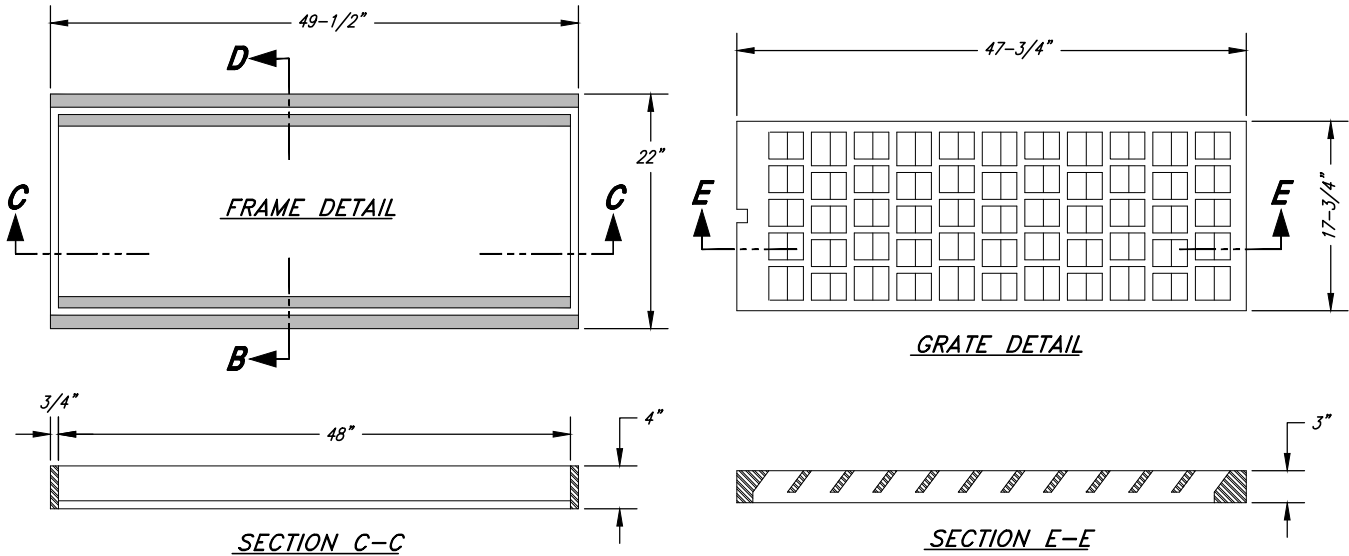
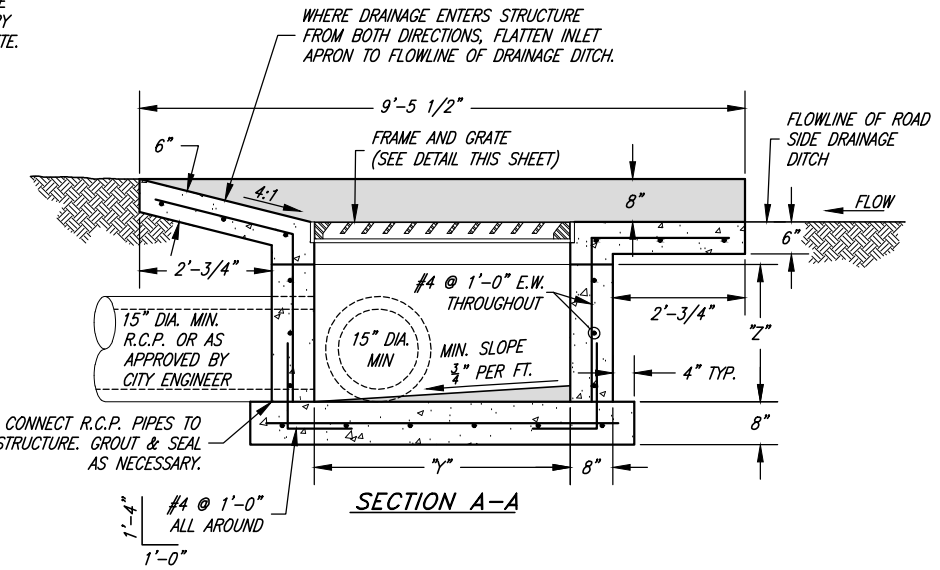
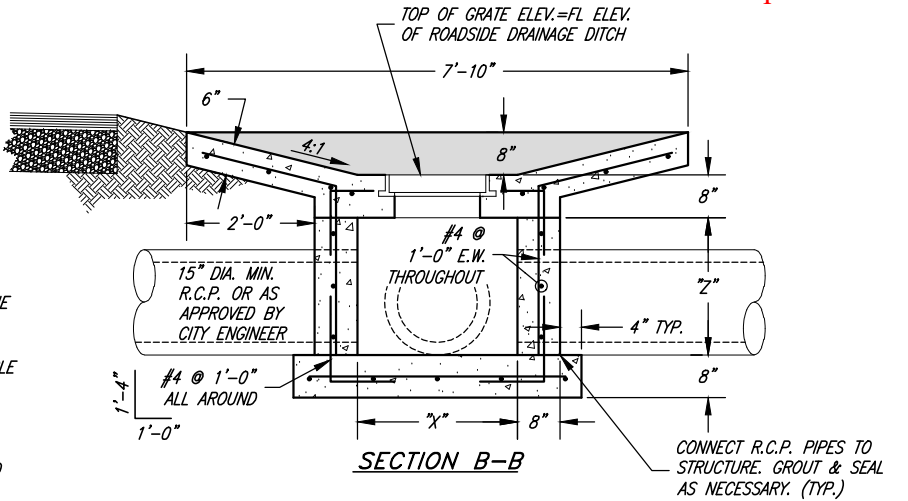




PIPE SIZE (IN.)	"X"	INLET BOX		"Z" MIN.
		"Y" (ANGLE A)	"Y" (ANGLE B)	
15	2'-6"	4'-0"	4'-0"	2'-0"
18	2'-6"	4'-0"	4'-0"	2'-6"
21	4'-0"	4'-0"	4'-0"	3'-0"
24	4'-0"	4'-0"	5'-0"	3'-0"
30	4'-0"	4'-0"	6'-0"	3'-6"
36	4'-0"	4'-0"	6'-0"	4'-0"
42	6'-0"	6'-0"	7'-0"	5'-0"
48	6'-0"	6'-0"	8'-0"	5'-6"

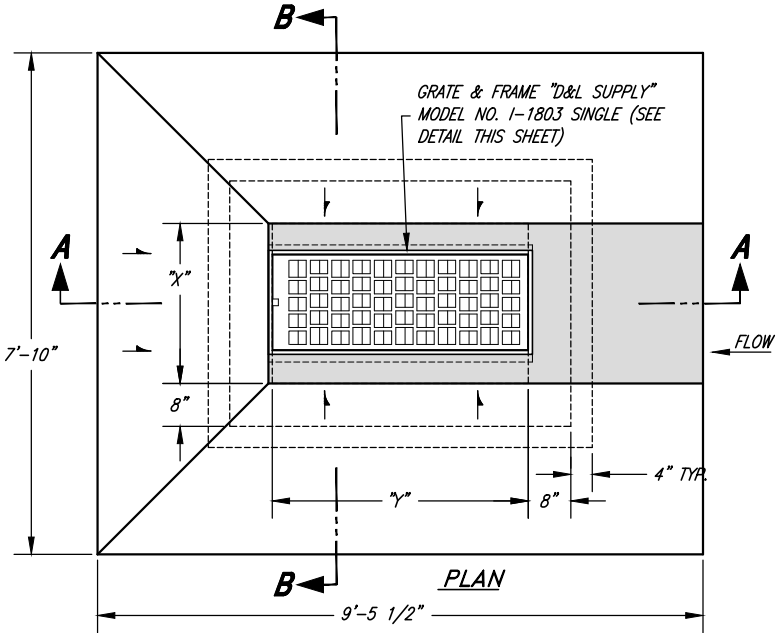
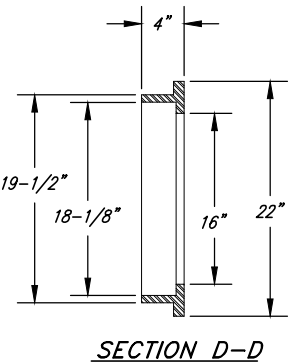
GENERAL NOTE:  
STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.

- DRAINAGE BOX NOTES:
- ALL BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15" RCP PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES. (SEE TABLE THIS SHEET)
  - CAST-IN-PLACE CONCRETE STRUCTURES CAN BE REPLACED WITH PRECAST CONCRETE STRUCTURES WITH HL-93 DECK LOADING AND COMPARABLE SIZE.
  - ALL BOXES SHALL BE FORMED ON THE INSIDE AND OUTSIDE OF THE BOX AND INSPECTED BY THE CITY PRIOR TO THE PLACING OF CONCRETE.



FRAME & GRATE DETAILS

- FRAME AND GRATE NOTES:
- GRATE AND FRAME SHALL BE AS MANUFACTURED BY "D&L SUPPLY" I-1803
  - BICYCLE SAFE GRATE REQUIRED.
  - "OR EQUAL" GRATES AND FRAMES WILL BE CONSIDERED AS APPROVED BY THE CITY ENGINEER.



DRAINAGE DITCH / SWALE INLET BOX

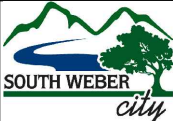


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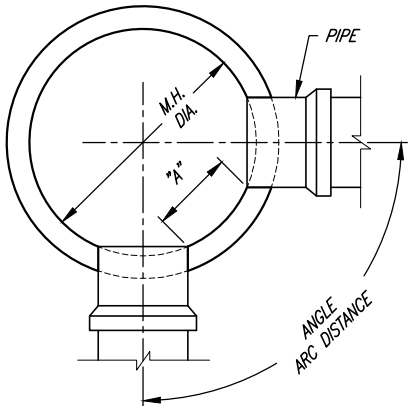
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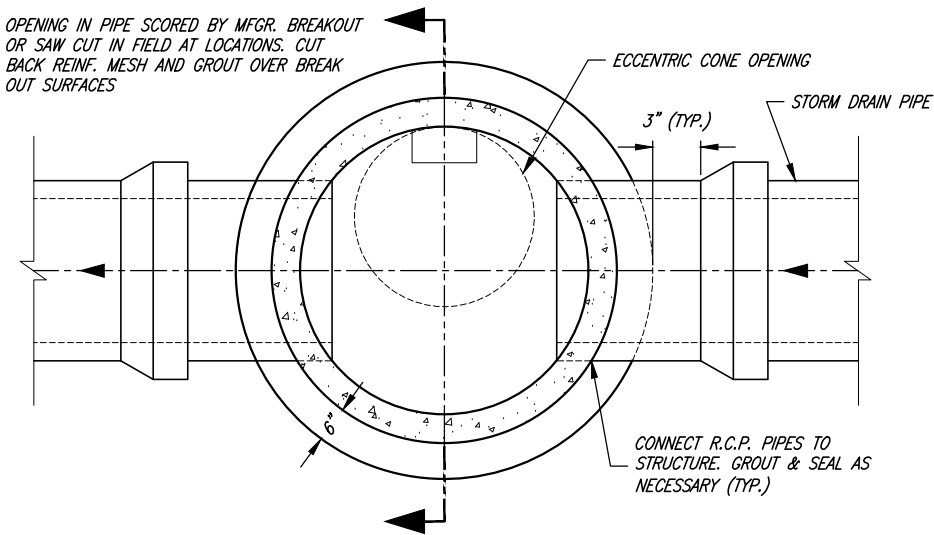
SOUTH WEBER CITY CORPORATION
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
DRAINAGE INLET BOX AND GENERAL GRATE & FRAME DETAILS

SHEET:	SD2
OF 33 SHEETS	0

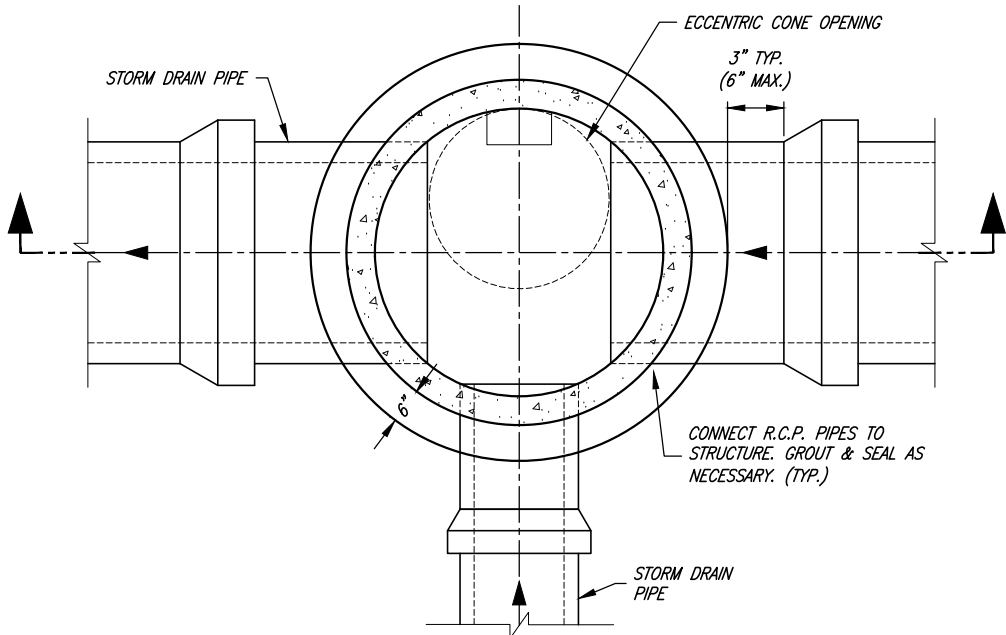
PIPE SIZES											
M.H. SIZE	IN-LINE M.H. 180°	JUNCTION MANHOLE (ANGLE / ARC DISTANCE)									
		90°	85°	80°	75°	70°	65°	60°	55°	50°	45°
4" M.H.	15"-24"	15"-18"	15"-18"	15"	15"	--	--	--	--	--	--
5" M.H.	27"-30"	21"-24"	21"-24"	18"-21"	18"-21"	15"-18"	15"-18"	15"	--	--	--
6" M.H.	36"-48"	27"-30"	27"-30"	24"-27"	24"	21"-24"	21"	18"	15"-18"	15"	--
7" M.H.	54"	36"	36"	30"	27"-30"	27"	24"	21"-24"	21"	18"	15"
8" M.H.	60"	42"	42"	36"	36"	30"	27"-30"	27"	24"	21"	18"



- MANHOLE SIZING NOTES:**
1. SUGGESTED "A" DISTANCE IS 6" OR GREATER FOR 48", 60" AND 72" DIAMETER MANHOLES
  2. SUGGESTED "A" DISTANCE IS 8" OR GREATER FOR 84" AND 96" DIAMETER MANHOLES

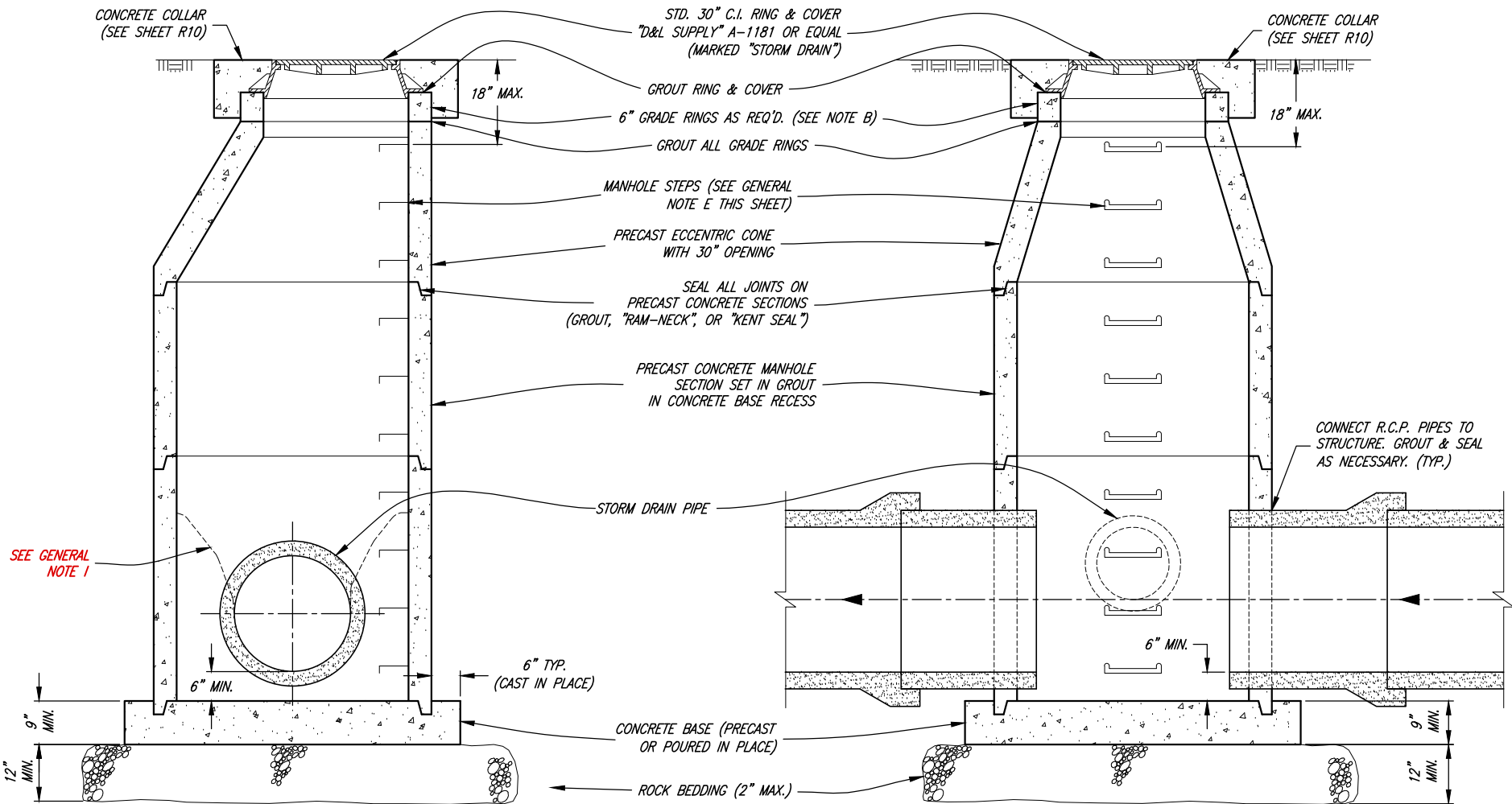


TYPICAL LINE MANHOLE



TYPICAL JUNCTION MANHOLE

- GENERAL NOTES:**
- A. STORM DRAIN MANHOLE DIAMETER TO BE DETERMINED BY THE DESIGN ENGINEER AFTER EVALUATION OF THE NUMBER, SIZE, AND PIPE ENTRY ANGLE OF THE PIPES THAT CONNECT TO THE MANHOLE.
  - B. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE
  - C. PLYWOOD COVERS SHALL BE USED AT MANHOLE FLOOR TO COVER FLOWLINE DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES.
  - D. ALL INTERIOR JOINTS SHALL BE SMOOTH AND EVENLY GROUTED WITH NON-SHRINK GROUT MIX.
  - E. MANHOLE STEPS UNIFORMLY SPACED (1'-0" MAX) ON ALL MANHOLES. POLYPROPYLENE COVERED STEEL STEPS, MODEL PSI-PF AS MANUFACTURED BY "M.A. INDUSTRIES" OR APPROVED EQUAL - INSTALLATION OF STEPS SHALL BE WATERPROOF.
  - F. STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
  - G. FLAT MANHOLE RINGS & COVERS (SLAB CONSTRUCTION) ARE NOT ALLOWED ON ANY MANHOLE CONE SECTION.
  - H. THE USE OF STORM DRAIN UTILITY VAULTS (BOXES) WITH STD. 30" C.I. RING & COVER ("D&L SUPPLY" A-1181 MARKED "STORM DRAIN") AND A CONCRETE COLLAR IS ACCEPTED WHEN APPROVED BY THE CITY ENGINEER.
  - I. CONTOUR THE FLOWLINE & SIDES OF ANY LINE OR JUNCTION MANHOLES WHEN DIRECTED BY THE CITY ENGINEER.



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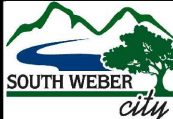
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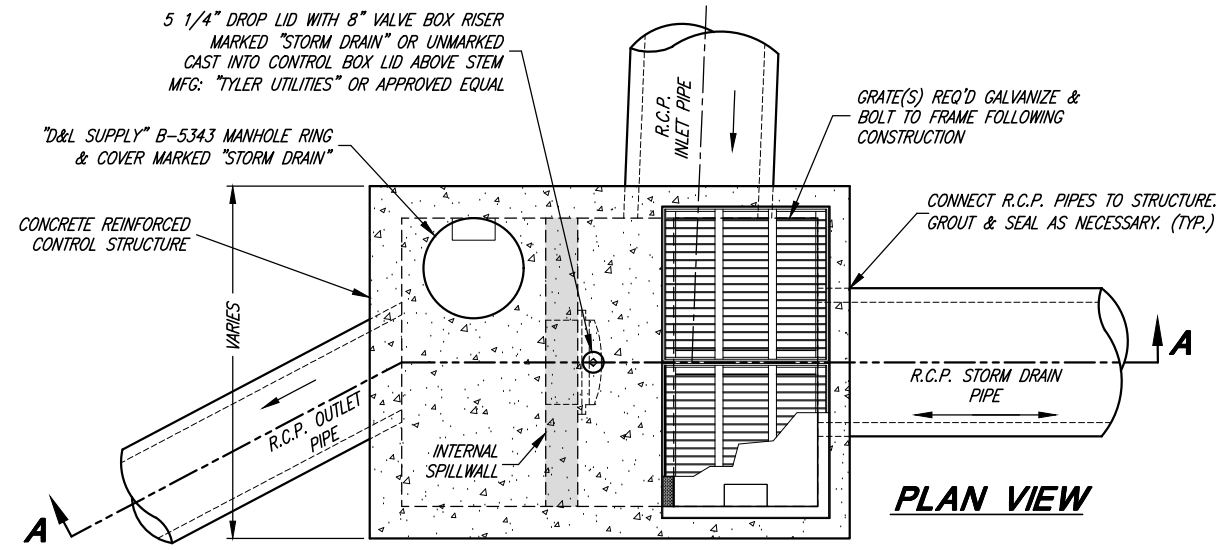
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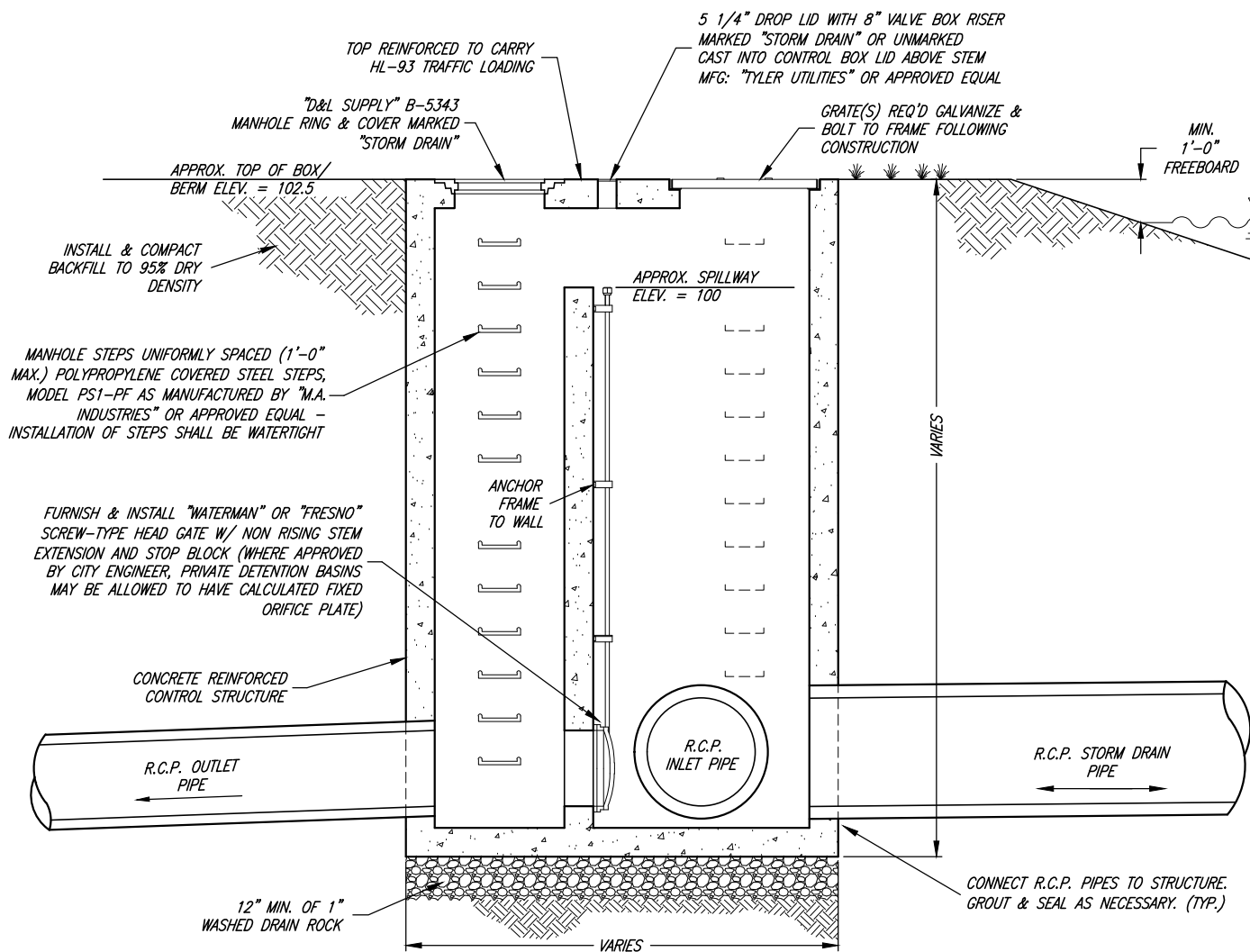
SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS  
STORM DRAIN MANHOLE DETAILS

SHEET:  
**SD3**  
OF 33 SHEETS  
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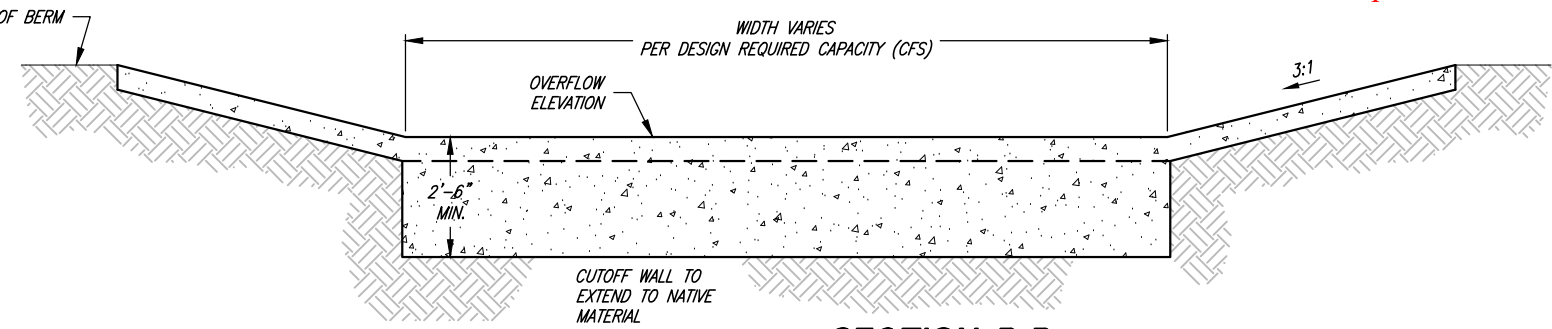


**DETENTION INLET/OUTLET CONTROL STRUCTURE**  
(PRECAST OR CAST-IN-PLACE)

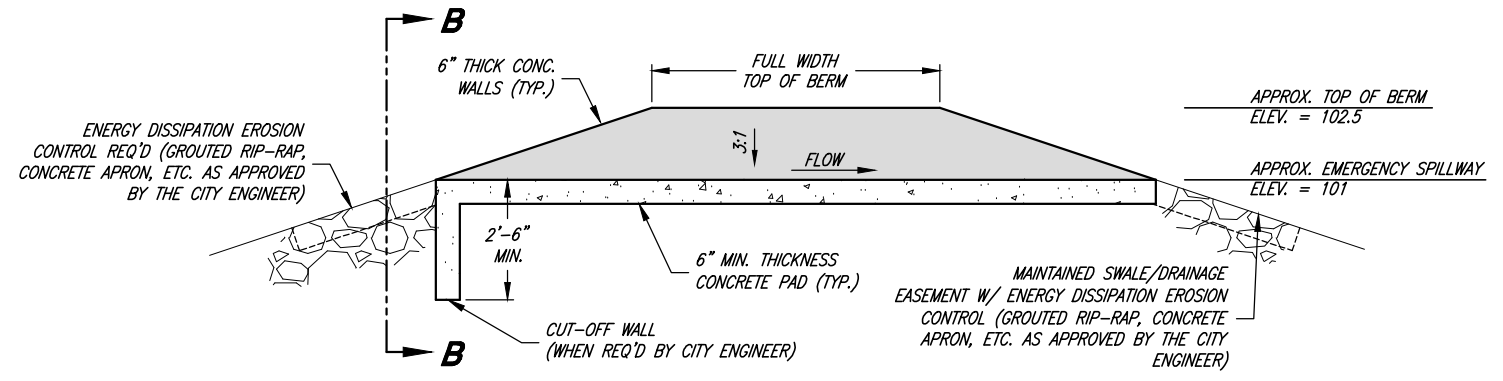


**SECTION A-A**

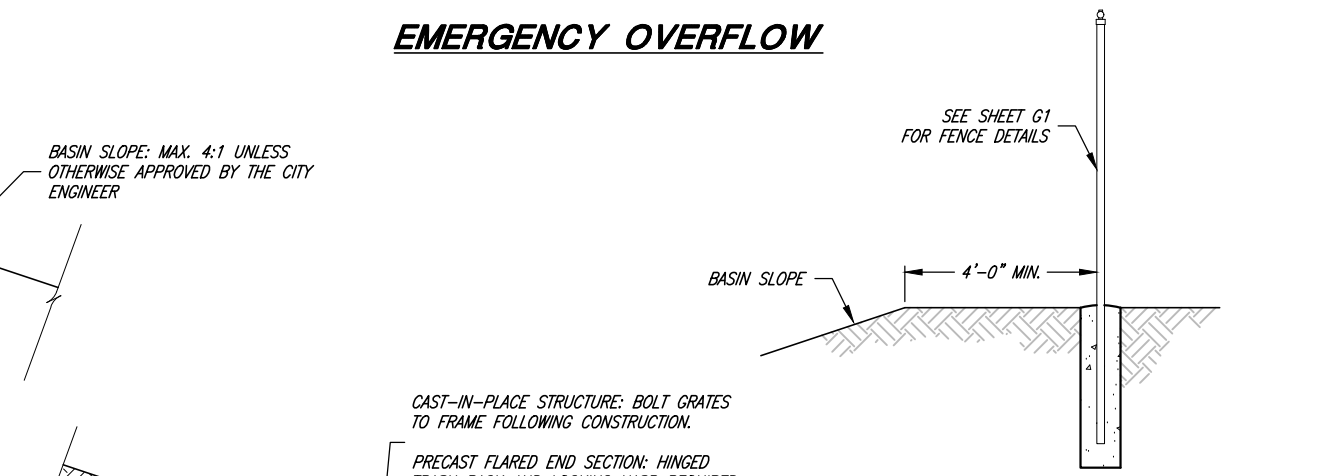
GENERAL AND STRUCTURAL NOTES:  
SEE SHEET SD5



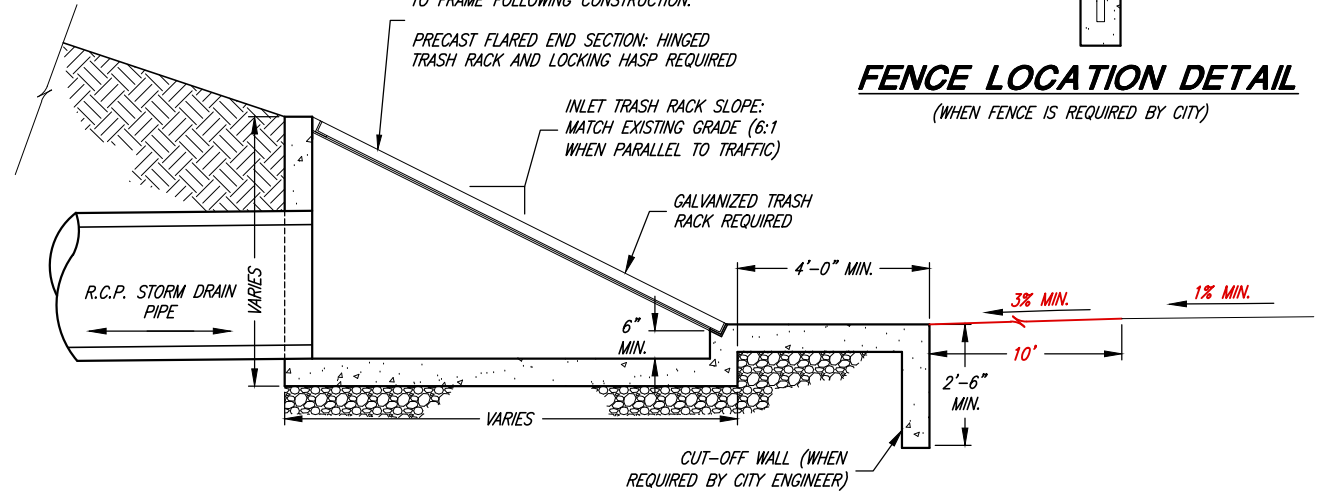
**SECTION B-B**



**EMERGENCY OVERFLOW**

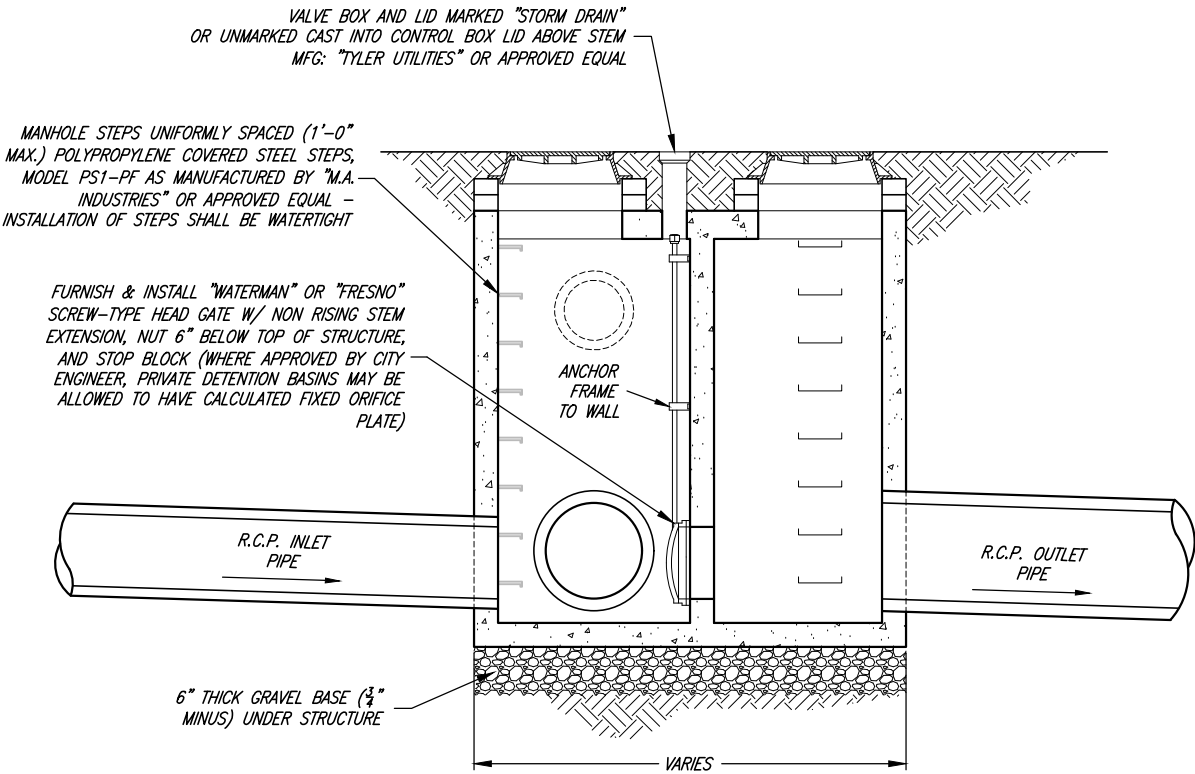


**FENCE LOCATION DETAIL**  
(WHEN FENCE IS REQUIRED BY CITY)

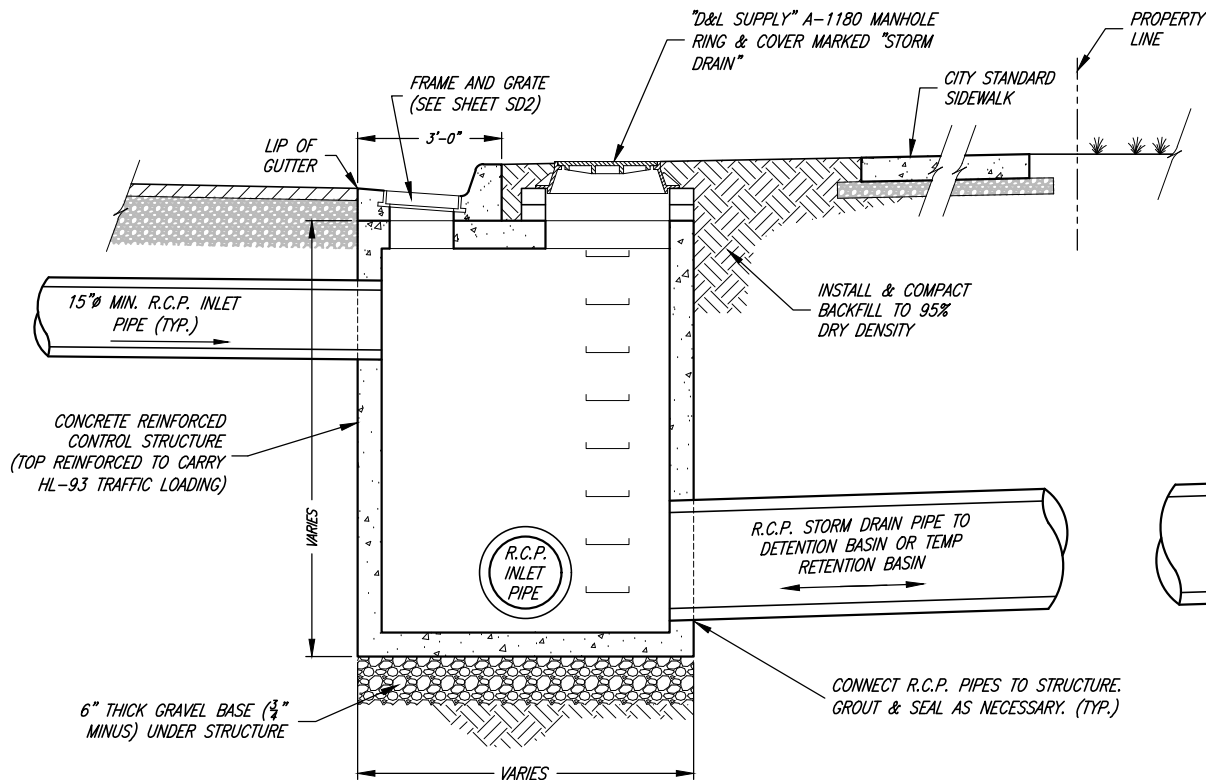


**INCLINED GRATE STORM DRAIN INLET**

\*\*INCLINED GRATES ARE REQ'D ON ALL PIPES/INLETS WHERE OPEN CHANNELS, DITCHES, OR PONDS DISCHARGE DIRECTLY INTO THE STORM DRAIN SYSTEM.



SECTION B-B



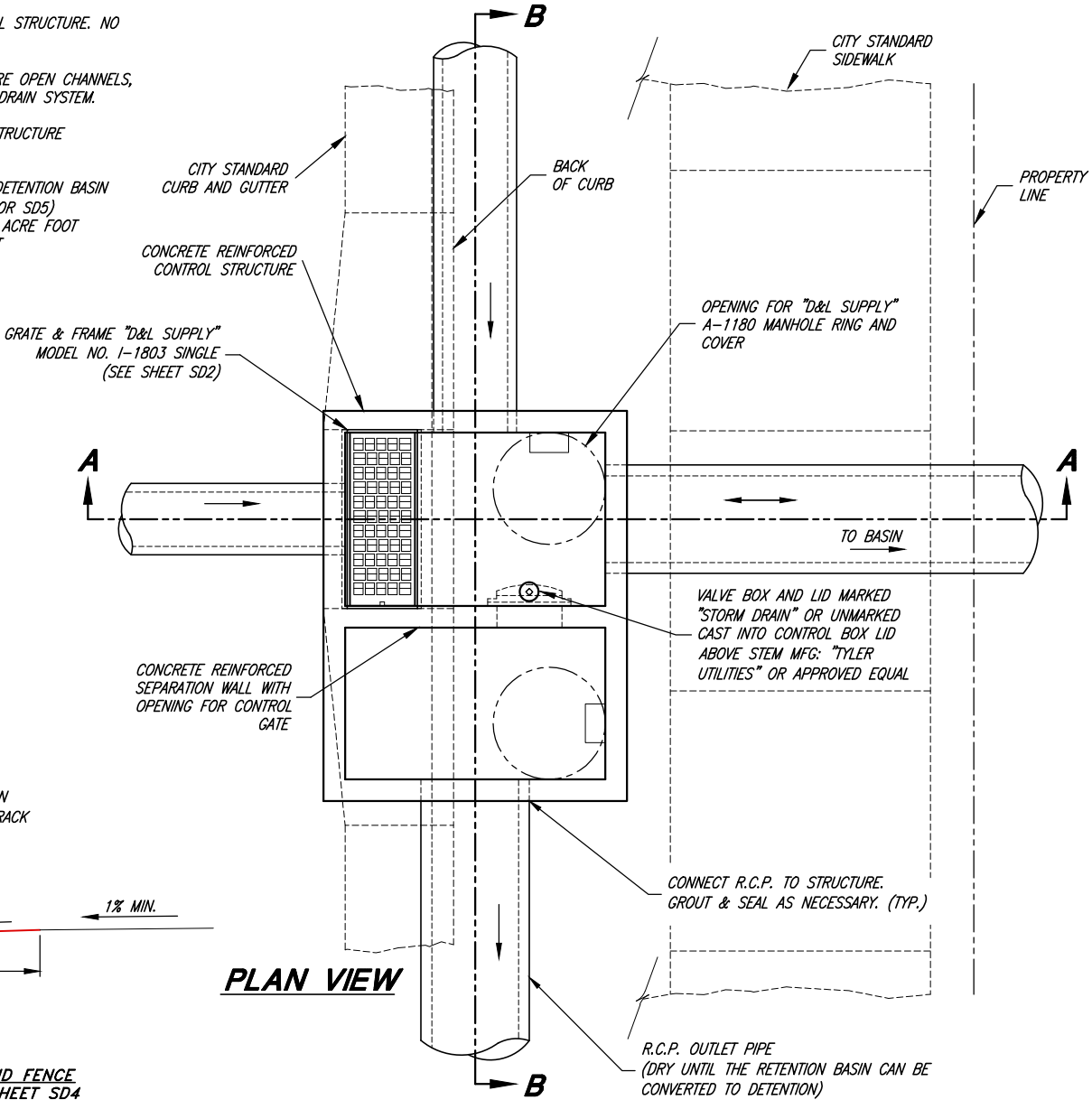
SECTION A-A

GENERAL NOTES:

1. ALL BASINS REGARDLESS OF LOCAL OR REGIONAL SHALL BE DESIGNED TO ACCOMMODATE A 100 YEAR STORM EVENT.
2. A DAM SAFETY (UTAH DIVISION OF WATER RIGHTS) HAZARD PERMIT MAY BE REQUIRED.
3. STRUCTURE DESIGN AND FLOW CALCULATIONS MUST BE APPROVED BY CITY ENGINEER PRIOR TO CONSTRUCTION.
4. STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
5. THE SURFACE AREA OF THE BASIN SHALL BE SODDED AND SHALL BE PROVIDED WITH AN AUTOMATED SPRINKLER SYSTEM APPROVED BY THE CITY ENGINEER.
6. GRATES SHALL BE REMOVABLE FOR MAINTENANCE PURPOSES
7. GRATES SHALL BE HOT DIPPED GALVANIZED WITH BARS AT MAXIMUM 3 INCH SPACING.
8. LOW FLOWS MUST BE PIPED CONTINUOUSLY TO THE CONTROL STRUCTURE. NO OPEN FLOW IS PERMITTED THROUGH THE BASIN.
9. INCLINED GRATES ARE REQUIRED ON ALL PIPES/INLETS WHERE OPEN CHANNELS, DITCHES, OR PONDS DISCHARGE DIRECTLY INTO THE STORM DRAIN SYSTEM.
10. AN INTERNAL SPILLWAY MAY BE CONSTRUCTED INSIDE THE STRUCTURE DEPENDING ON SITE CONDITIONS AND ELEVATIONS.
11. BASIN STRUCTURES ARE DETERMINED BY THE SIZE OF THE DETENTION BASIN OR AS REQUIRED BY THE CITY ENGINEER. (SEE SHEET SD4 OR SD5)
  - a. SMALL DETENTION BASIN: LESS THAN OR EQUAL TO 1 ACRE FOOT
  - b. LARGE DETENTION BASIN: GREATER THAN 1 ACRE FOOT

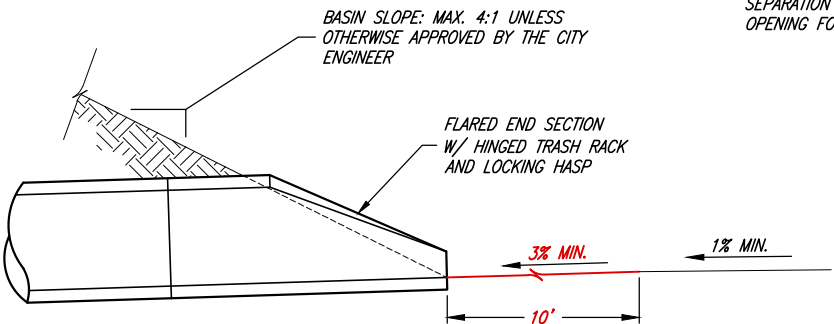
STRUCTURAL NOTES:

- A. PRECAST CONCRETE STRUCTURE CAN BE REPLACED WITH CAST-IN-PLACE CONCRETE VAULT. SUBMIT ENGINEERED CONSTRUCTION PLANS WITH REBAR DETAILS TO CITY ENGINEER FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
- B. ADD REINFORCEMENT AROUND OPENINGS EQUAL TO REINFORCEMENT DISPLACED BY OPENING.
- C. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.
- D. REINFORCEMENT TO CONFORM WITH ASTM A 615 GRADE 60
- E. CONCRETE SHALL HAVE A 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI
- F. USE AN AIR-ENTRAINING AGENT ON ALL CONCRETE EXPOSED TO THE WEATHER.
- G. HL-93 LOADING



INLET/OUTLET CONTROL STRUCTURE

(PRECAST OR CAST-IN-PLACE)



EMERGENCY OVERFLOW AND FENCE LOCATION DETAIL : SEE SHEET SD4



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11/30/2022  
DATE

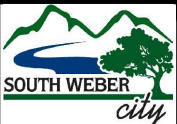
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SCALE:  
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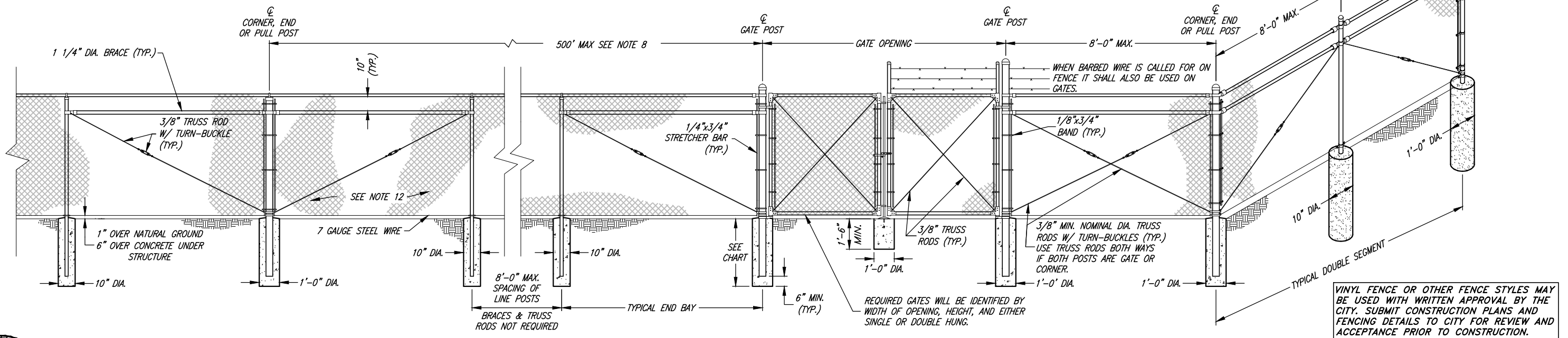
SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS  
SMALL DETENTION BASIN DETAILS

SHEET:  
SD5  
OF 33 SHEETS  
0





HEIGHT OF FABRIC	DEPTH OF POSTS	LENGTH OF END, CORNER OR PULL POST	LENGTH OF LINE POST	SIZE OF POSTS	
				END, CORNER, & PULL POSTS	LINE POST
				NOM. SIZE	NOM. SIZE
7'	3'	10'	9'-8"	2 1/2"	2"
6'	3'	9'	8'-8"	2 1/2"	2"
5'	3'	8'	7'-8"	2"	1 1/2"
4'	2'	6'	5'-8"	2"	1 1/2"
3'	2'	5'	4'-8"	2"	1 1/2"



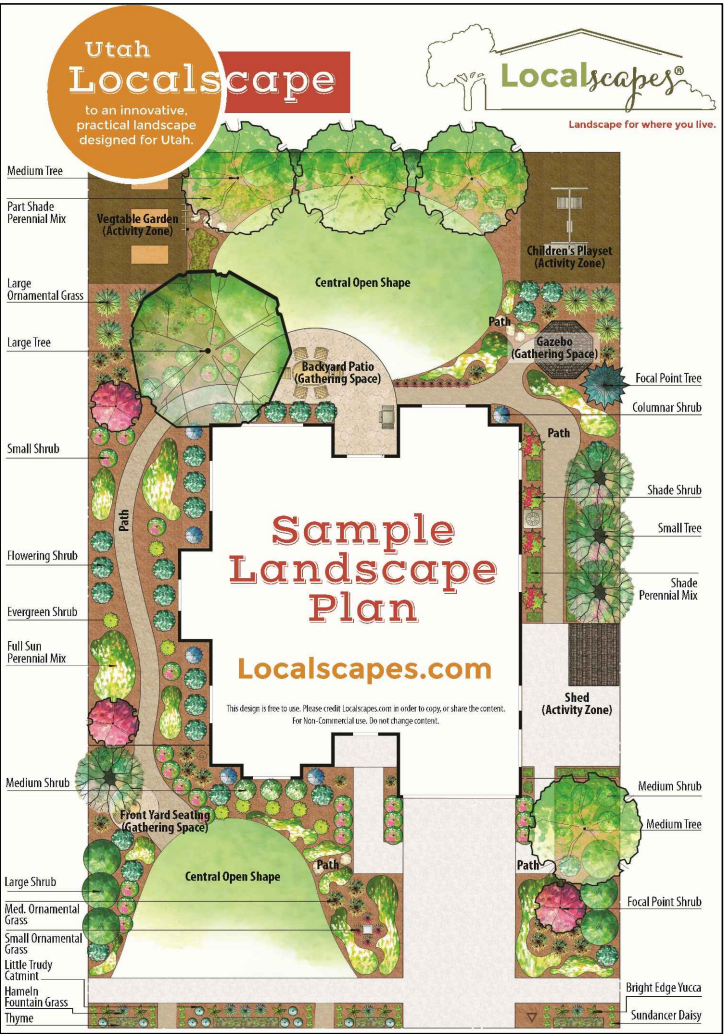


WATER EFFICIENT (WATER WISE) LANDSCAPING:

1. PURPOSE:  
  
THE PURPOSE OF THESE WATER EFFICIENCY STANDARDS IS TO CONSERVE THE PUBLIC'S WATER RESOURCES BY ESTABLISHING WATER CONSERVATION STANDARDS FOR OUTDOOR LANDSCAPING.
2. REFER TO SOUTH WEBER CITY CODE TITLE 10 CHAPTER 15 – WATER EFFICIENT LANDSCAPE REQUIREMENTS
3. "WATER WISE LANDSCAPING"  
  
A. LANDSCAPES IN EXISTING SINGLE-FAMILY RESIDENTIAL DEVELOPMENTS: "WATER WISE LANDSCAPING" IS RECOMMENDED BUT NOT REQUIRED.  
  
B. LANDSCAPES IN NEW SINGLE-FAMILY RESIDENTIAL DEVELOPMENTS: SEE CITY CODE TITLE 10 CHAPTER 15  
  
C. LANDSCAPES IN ALL OTHER TYPES OF DEVELOPMENTS: SEE CITY CODE TITLE 10 CHAPTER 15
4. ADDITIONAL "WATER WISE LANDSCAPING" RESOURCES: REFER TO THE FOLLOWING WEBSITES:  
  
a. <https://localscapes.com>  
  
B. <https://conservationgardenpark.org>  
  
C. <https://extension.usu.edu/cwel/principles>

ALL WATER METERS TO BE CLEAR AND ACCESSIBLE  
(DO NOT BURY OR PLACE ANYTHING ON TOP OF THE METER LID)

DISCLAIMER:  
THE "WATER WISE LANDSCAPING" EXAMPLES SHOWN ON THIS SHEET ARE POSSIBLE RECOMMENDATIONS FOR USE WITHIN THE CITY. ANY SPECIFIC WEBSITES, COMMERCIAL PRODUCTS, PROCESS OR SERVICE BY TRADE NAME, TRADEMARK, MANUFACTURER, OR OTHERWISE, DOES NOT CONSTITUTE OR IMPLY ITS ENDORSEMENT, RECOMMENDATION, OR FAVORING BY SOUTH WEBER CITY. THE PURPOSE OF PROVIDING SPECIFIC PRODUCT INFORMATION IS TO ENSURE THAT THE HOME OWNER, CONTRACTOR AND/OR DEVELOPER HAS ALL THE APPROPRIATE INFORMATION AND REFERENCES TO ASSESS THE USEFULNESS OF THE PRODUCT.



<https://localscapes.com>  
<https://conservationgardenpark.org>  
<https://extension.usu.edu/cwel/principles>

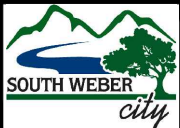


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			BKJ		

DESIGNED	BKJ
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CHECKED	BKJ



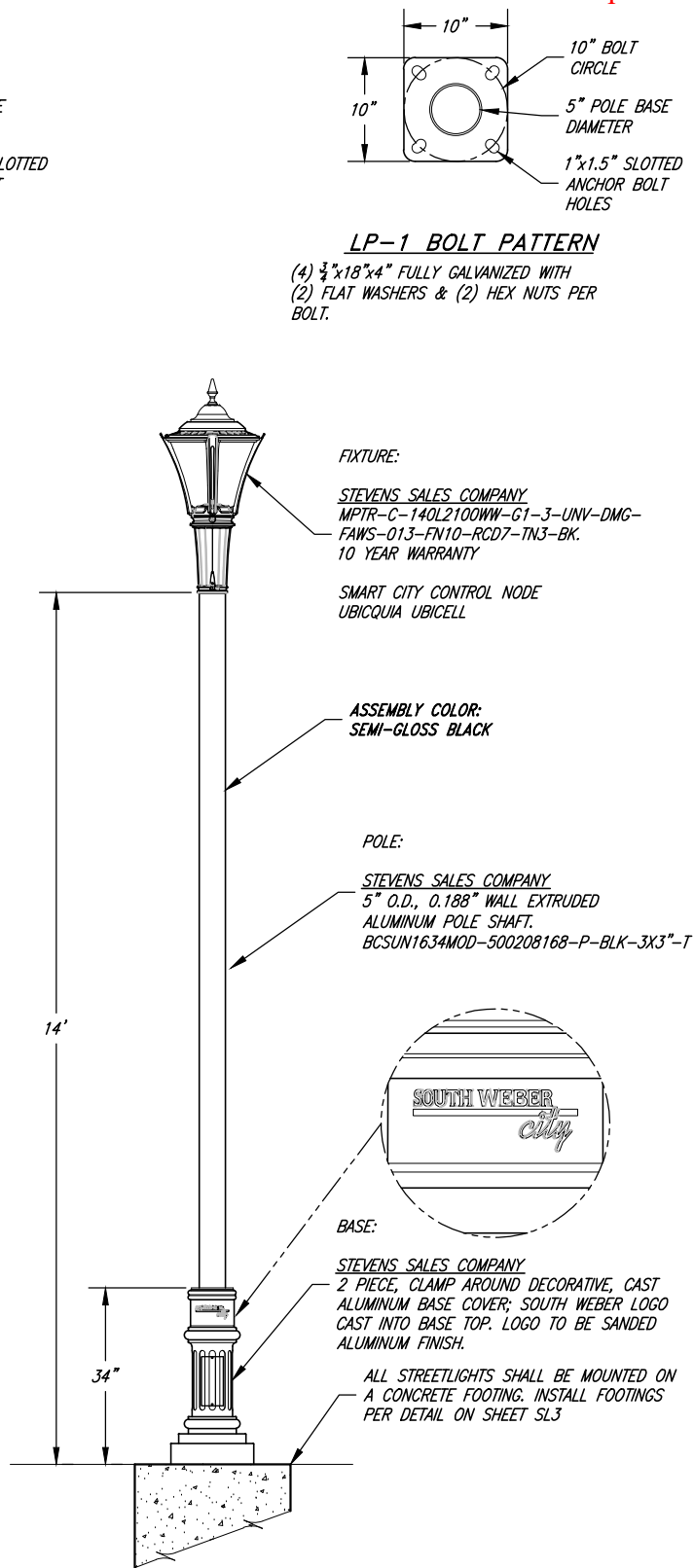
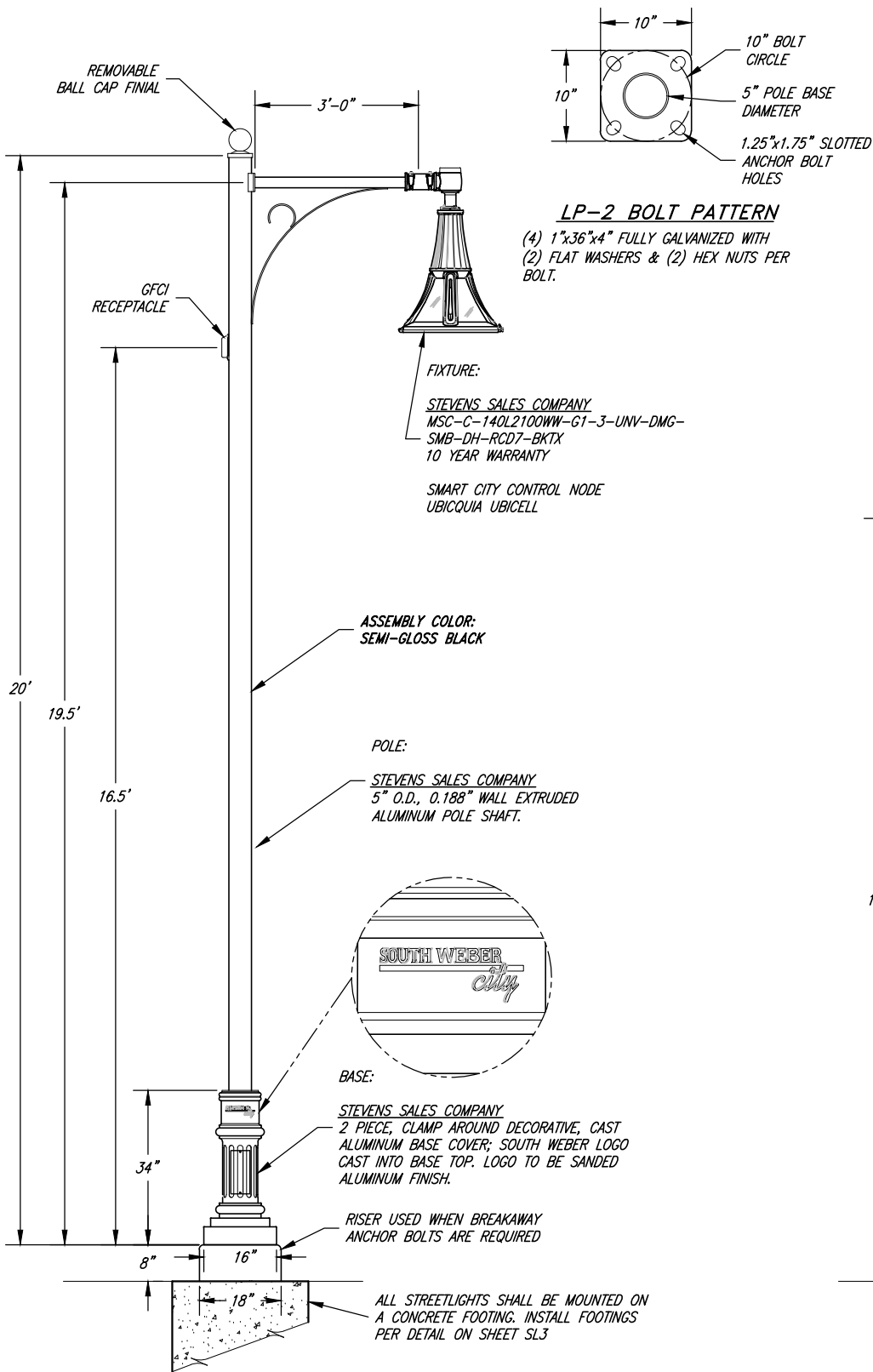
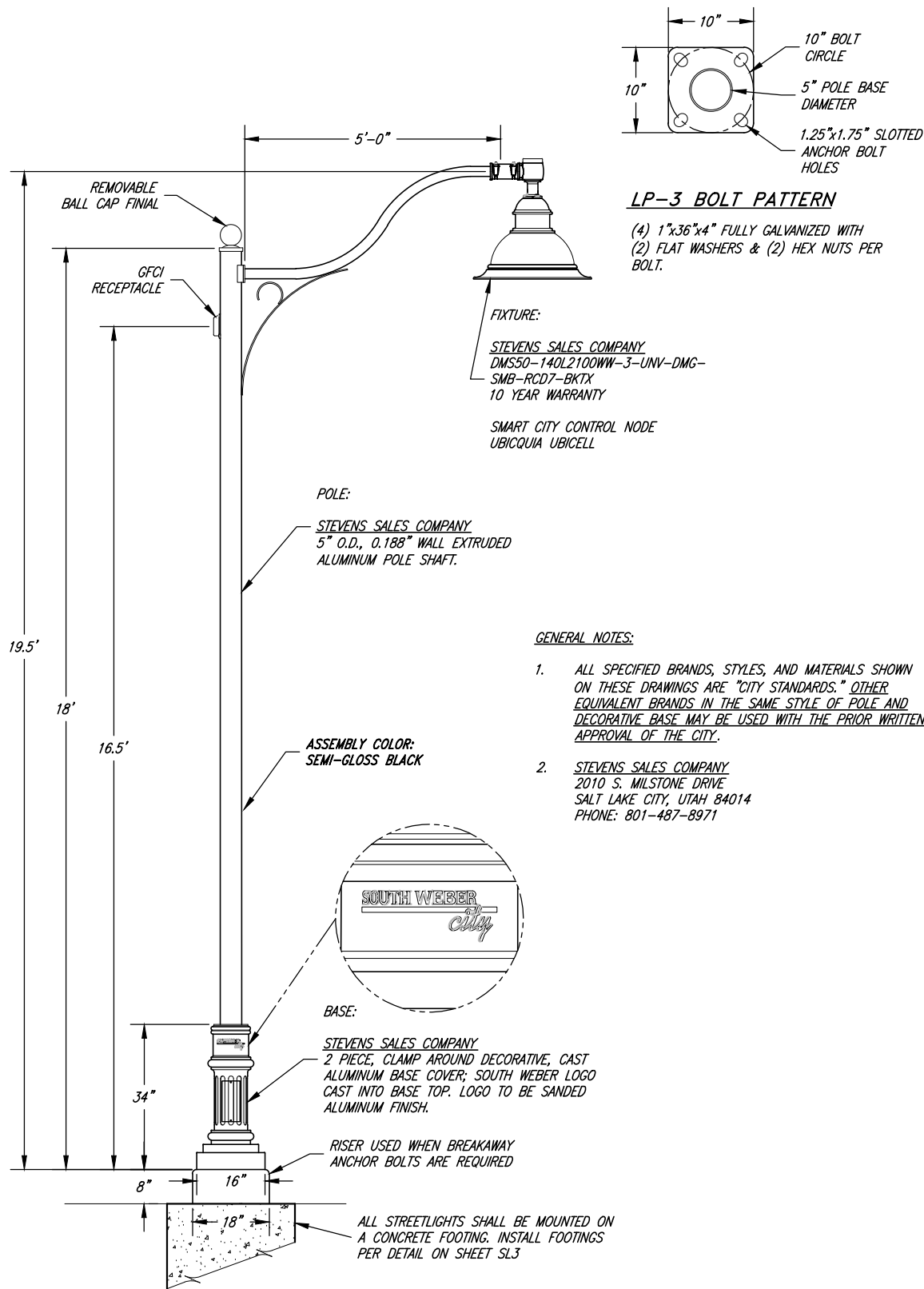
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[www.jajones.com](http://www.jajones.com)



SOUTH WEBER CITY CORPORATION	
PUBLIC WORKS - GENERAL CONSTRUCTION & LANDSCAPING STANDARDS	
WATER EFFICIENT LANDSCAPING	

SHEET:
G2
OF 33 SHEETS
0





**LP-3 CORRIDOR STREETLIGHT**

- A. ALL HARDWARE STAINLESS STEEL
- B. ALL WELDS IN ACCORDANCE WITH AWS WELDING CODE
- C. ENTIRE ASSEMBLY FINISH COATED SEMI-GLOSS BLACK PER CITY SPECIFICATIONS

**LP-2 INTERSECTION STREETLIGHT**

- A. ALL HARDWARE STAINLESS STEEL
- B. ALL WELDS IN ACCORDANCE WITH AWS WELDING CODE
- C. ENTIRE ASSEMBLY FINISH COATED SEMI-GLOSS BLACK PER CITY SPECIFICATIONS

**LP-1 RESIDENTIAL STREETLIGHT**

- A. ALL HARDWARE STAINLESS STEEL
- B. ALL WELDS IN ACCORDANCE WITH AWS WELDING CODE
- C. ENTIRE ASSEMBLY FINISH COATED SEMI-GLOSS BLACK PER CITY SPECIFICATIONS



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11/30/2022  
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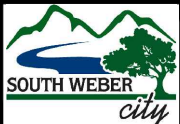
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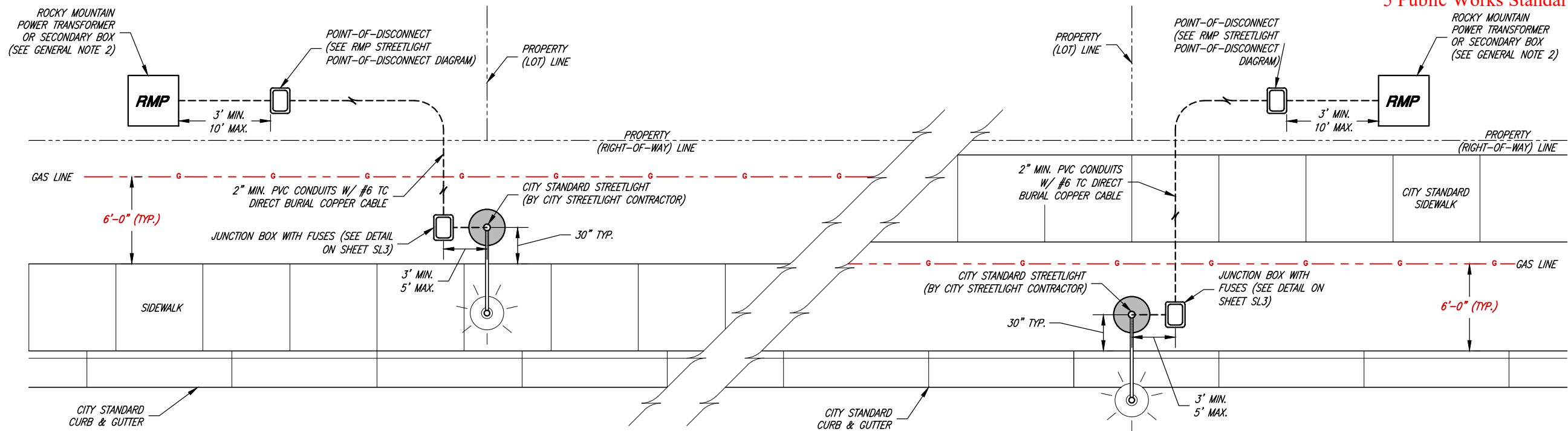


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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - STREET LIGHTING STANDARDS  
POLES AND FIXTURES

SHEET:  
**SL1**  
OF 33 SHEETS  
0



**TYPICAL CONDUIT AND POWER LAYOUT "B"**  
(STANDARD LOCAL STREET SECTION WITHOUT PARKSTRIP)

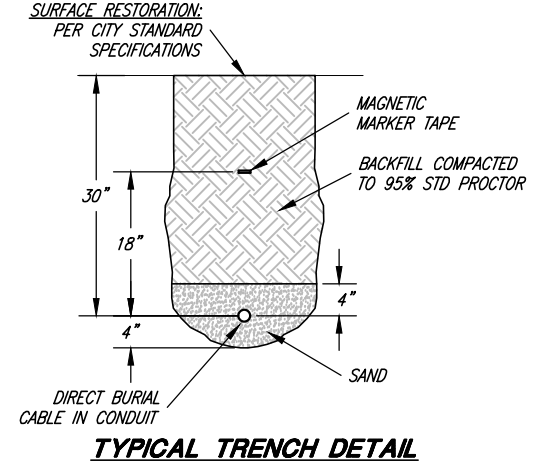
**TYPICAL CONDUIT AND POWER LAYOUT "A"**  
(STANDARD LOCAL STREET SECTION WITH PARKSTRIP)

**GENERAL NOTES:**

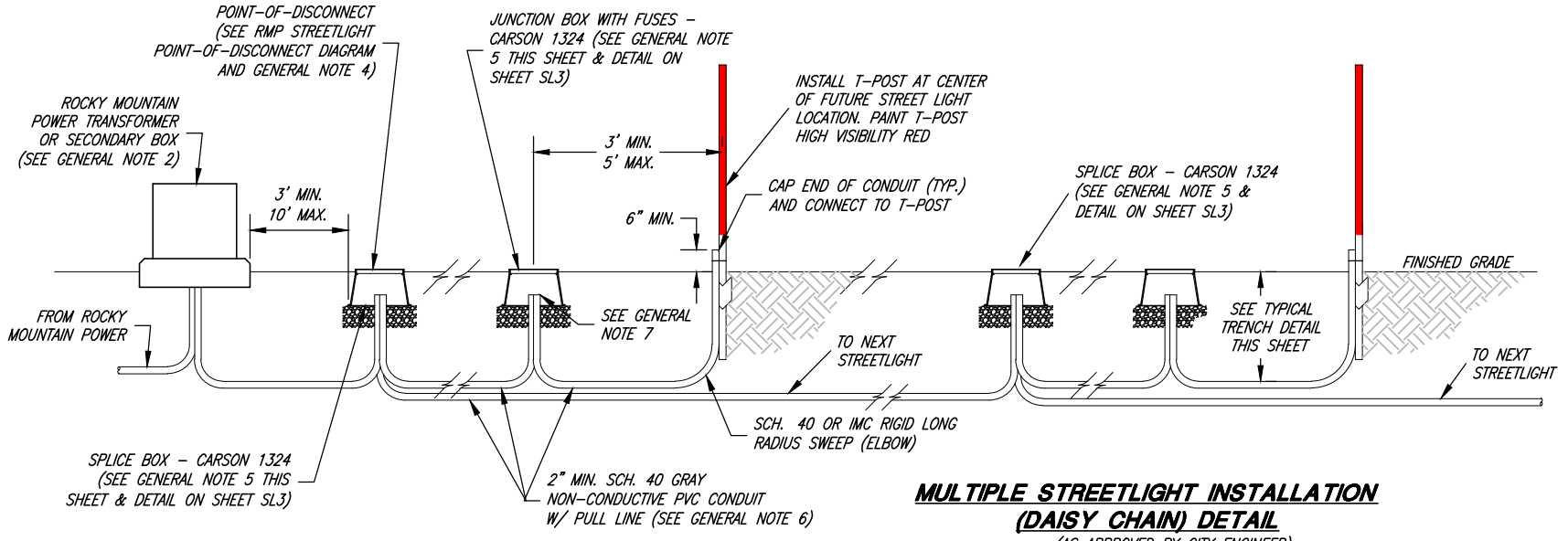
1. FOR THE STREETLIGHT DESIGN STANDARDS AND SPECIFICATIONS REFER TO THE APPLICABLE SECTIONS IN THE SOUTH WEBER CITY DEVELOPMENT, DESIGN & CONSTRUCTION STANDARDS.
2. DEVELOPER/CONTRACTOR SHALL CONSULT THE POWER COMPANY ON THE JUNCTION BOX LOCATION, PEDESTAL LOCATION, CONDUIT LOCATION, AND DIGGING PRIOR TO INSTALLATION.
3. WHERE POSSIBLE, LOCATE STREETLIGHT CONDUIT PARALLEL WITH RMP CONDUIT.
4. JUNCTION BOX CONNECTING TO STREETLIGHT MAY ALSO SERVE AS POINT-OF-DISCONNECT IF LOCATED WITHIN 10' FROM THE POWER SOURCE.

**GENERAL NOTES CONT.:**

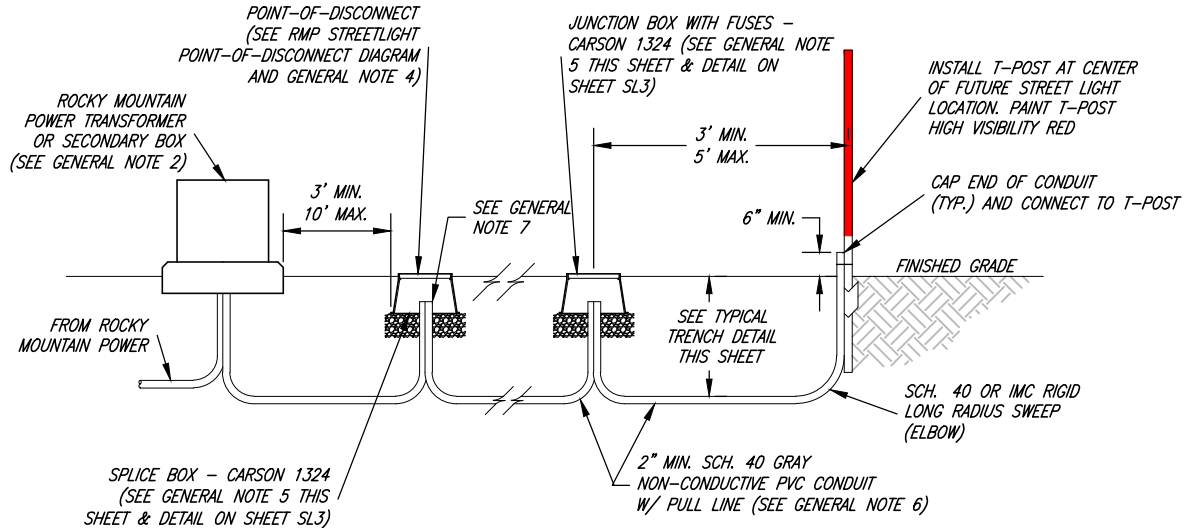
5. INGROUND BOXES LOCATED WITHIN 20' OF APPROACHES OR INTERSECTIONS SHALL BE TRAFFIC RATED. WHERE APPROVED BY THE CITY ENGINEER, ANY BOX INSTALLATION IN SIDEWALK OR CONCRETE WILL REQUIRE THE GROUND BOX TO BE DESIGNED AND LISTED FOR USE IN CONCRETE. SUBMIT BOX SPECIFICATIONS TO CITY ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. ALL BOXES SHALL HAVE THE WORDS "SOUTH WEBER STREET LIGHTING" ON THE COVER.
6. FLAT PULL LINE CAPABLE OF WITHSTANDING 1000 LBS OF TENSION, INSTALLED WITH 72 INCHES OF EXTRA LINE CAPABLE OF EXTENDING FROM EACH END OF CONDUIT. THE PULL LINE SHALL BE SECURED INSIDE THE ENDS OF THE CONDUIT AND BOTH ENDS SHALL BE CAPPED.
7. CONDUIT SHALL EXTEND A MAX. OF 3 INCHES ABOVE THE GRAVEL IN THE BASE OF THE GROUND BOX AND A MINIMUM OF 2" ABOVE THE GRAVEL.



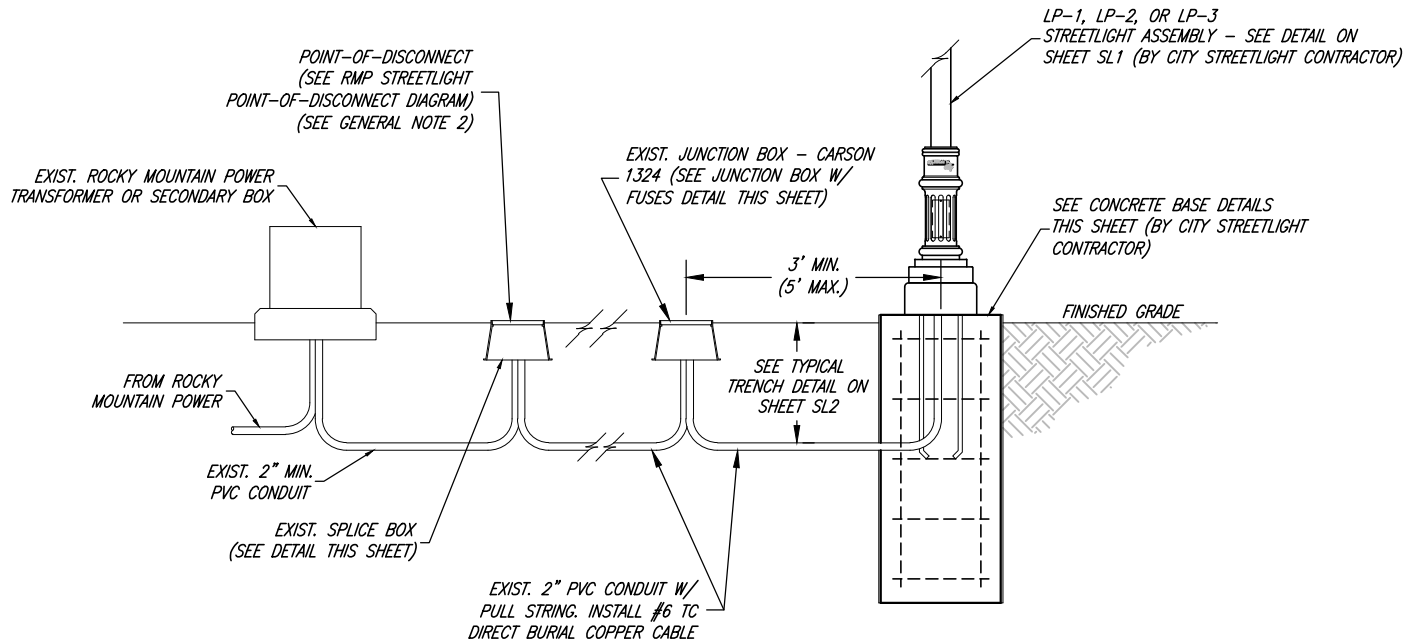
**TYPICAL TRENCH DETAIL**



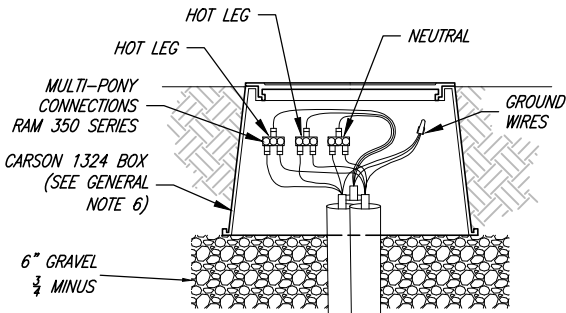
**MULTIPLE STREETLIGHT INSTALLATION (DAISY CHAIN) DETAIL**  
(AS APPROVED BY CITY ENGINEER)



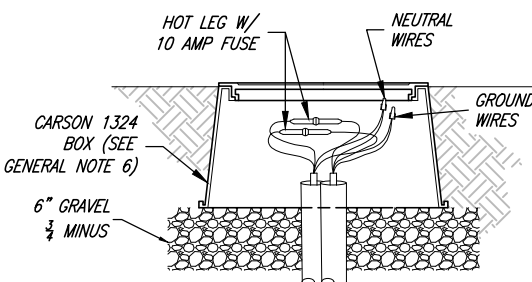
**TYPICAL STREETLIGHT INSTALLATION**



**STANDARD STREETLIGHT WITH BASE**



**SPLICE BOX DETAIL**



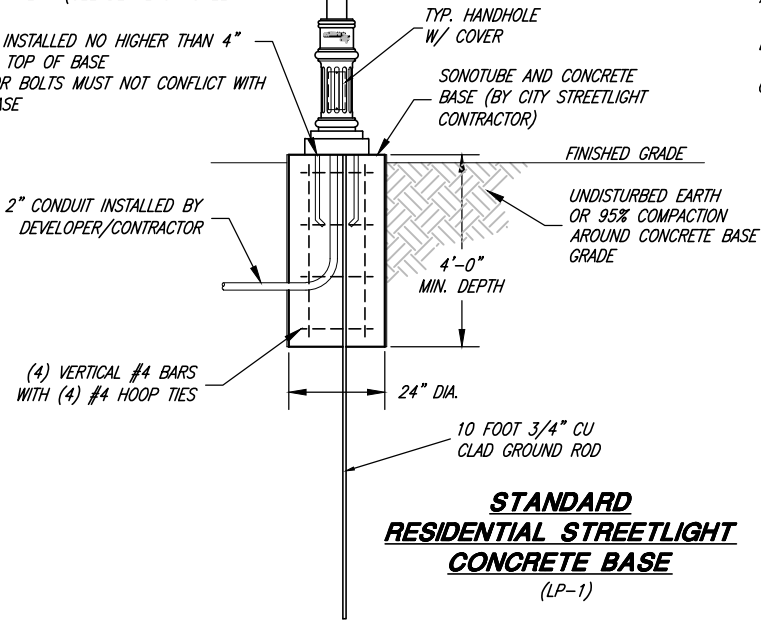
**JUNCTION BOX WITH FUSES**

**GENERAL NOTES:**

1. EACH LIGHT POLE ASSEMBLY SHALL HAVE A JUNCTION BOX WITH FUSES. FUSE HOT WIRES IN JUNCTION BOXES, SUPPLY SPLICE KIT FOR NEUTRAL CABLE.
2. LEAVE PIGTAIL 8 FEET LONG TO SECONDARY BOX; ROCKY MOUNTAIN POWER TO MAKE CONNECTION.
3. ALL CONDUCTORS SHALL BE OKONITE-FMR TYPE TC-CABLE #112-10-4054; OKONITE X-OLENE OKOSEAL #112-31-3747; OR ANIXTER VNTC #3H-0603 COPPER ONLY.
4. FUSE HOLDERS SHALL BE IN-LINE, WATER TIGHT LEC-AA
5. WIRE MUST EXTEND 18 INCHES ABOVE GRADE TO SPLICE IN GROUND BOX.
6. CARSON 1324 BOX SPECIFICATIONS:
  - a. 12" DEPTH (TYP.)
  - b. FLUSH SOLID LID
  - c. COLOR OPTION BLACK
  - d. LID SECURED WITH STAINLESS STEEL HEX BOLTS
  - e. LID MUST SPECIFY "SOUTH WEBER STREET LIGHTING"
7. ALL BELOW GRADE SPlicing / FUSES SHALL BE WATERTIGHT.

**ANCHOR BOLTS (LP-1):**

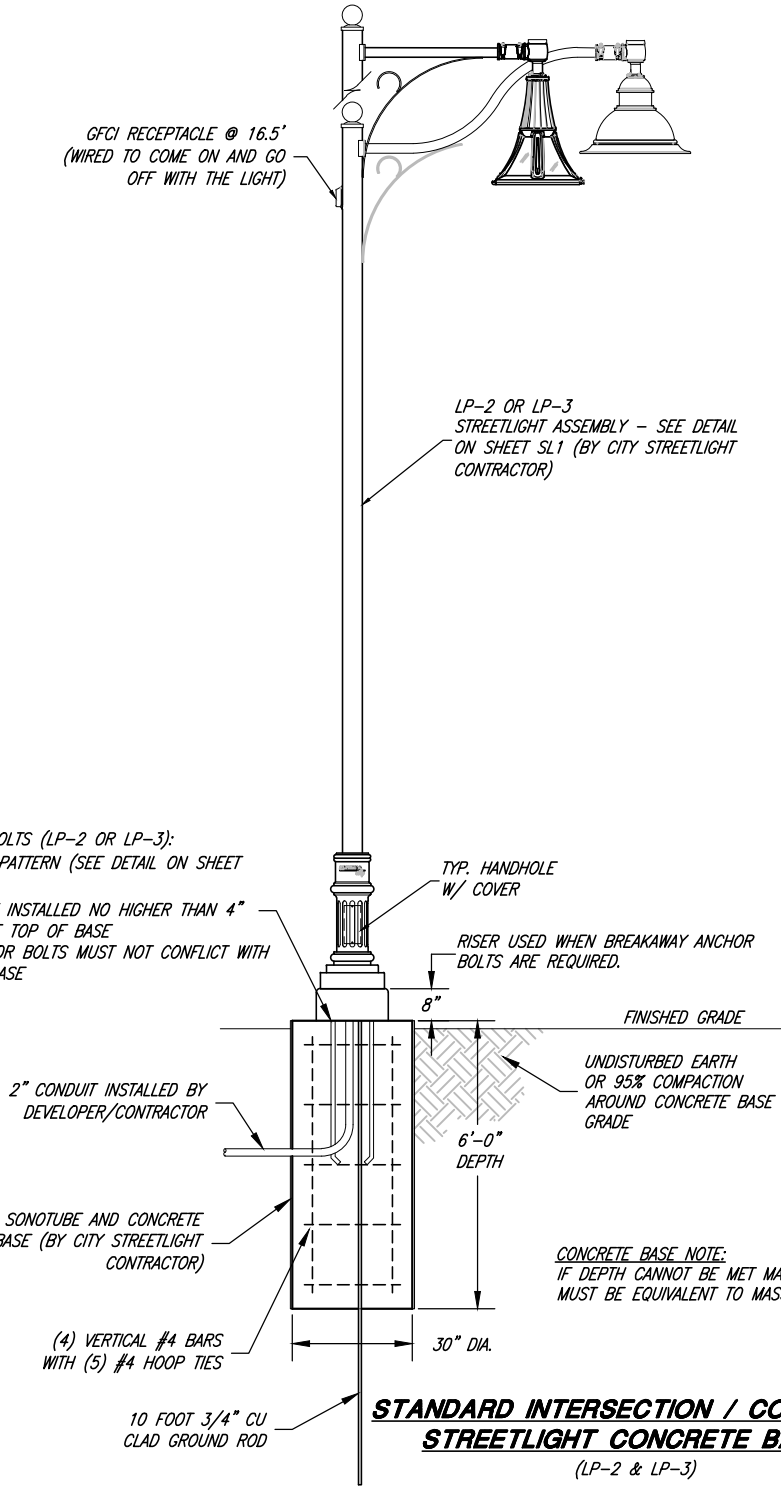
- A. BOLT PATTERN (SEE DETAIL ON SHEET SL1)
- B. TO BE INSTALLED NO HIGHER THAN 4" ABOVE TOP OF BASE
- C. ANCHOR BOLTS MUST NOT CONFLICT WITH THE BASE



**STANDARD RESIDENTIAL STREETLIGHT CONCRETE BASE (LP-1)**

**ANCHOR BOLTS (LP-2 OR LP-3):**

- A. BOLT PATTERN (SEE DETAIL ON SHEET SL1)
- B. TO BE INSTALLED NO HIGHER THAN 4" ABOVE TOP OF BASE
- C. ANCHOR BOLTS MUST NOT CONFLICT WITH THE BASE



**STANDARD INTERSECTION / CORRIDOR STREETLIGHT CONCRETE BASE (LP-2 & LP-3)**

**CONCRETE BASE NOTE:**  
IF DEPTH CANNOT BE MET MASS MUST BE EQUIVALENT TO MASS SHOWN.



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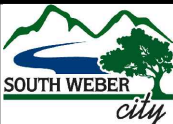
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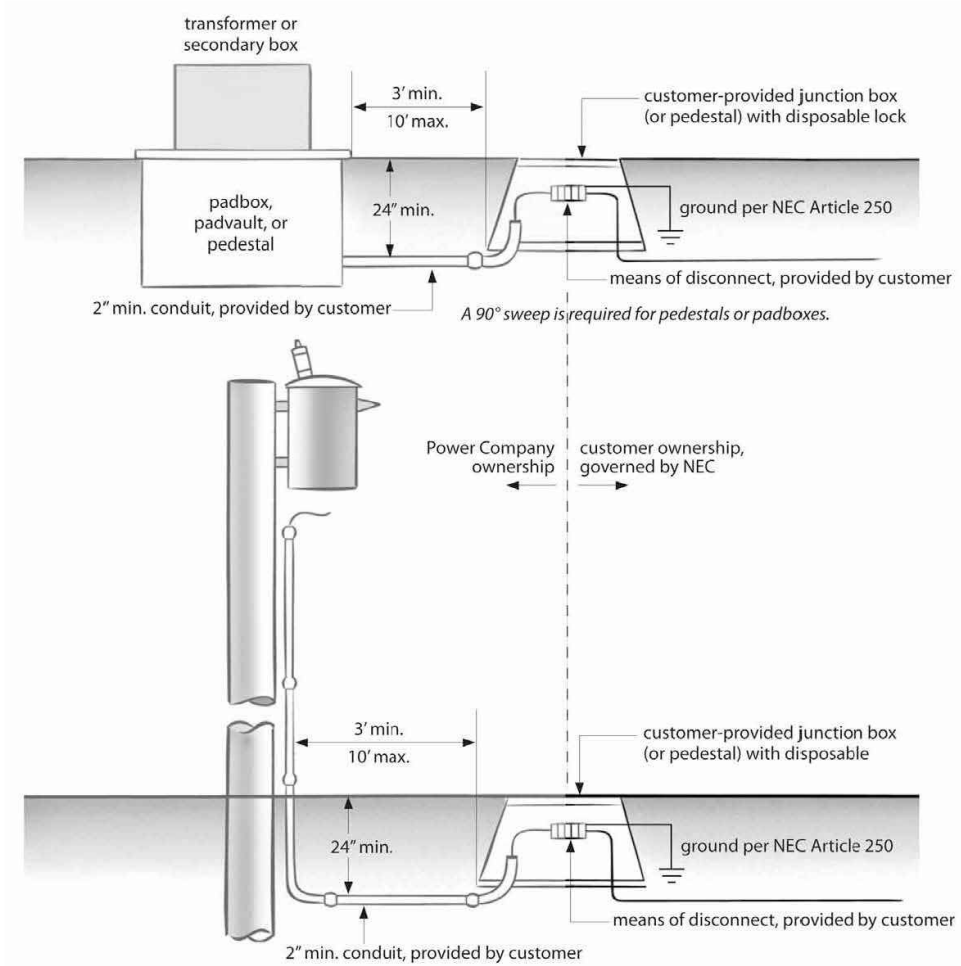


**SOUTH WEBER CITY CORPORATION**  
**PUBLIC WORKS - STREET LIGHTING STANDARDS**  
**CITY CONTRACTOR INSTALLATION PORTION**  
**OF STREETLIGHT STANDARDS**

SHEET:  
**SL3**  
OF 33 SHEETS  
0



Figure 63—Street Lighting Points of Connection Diagram



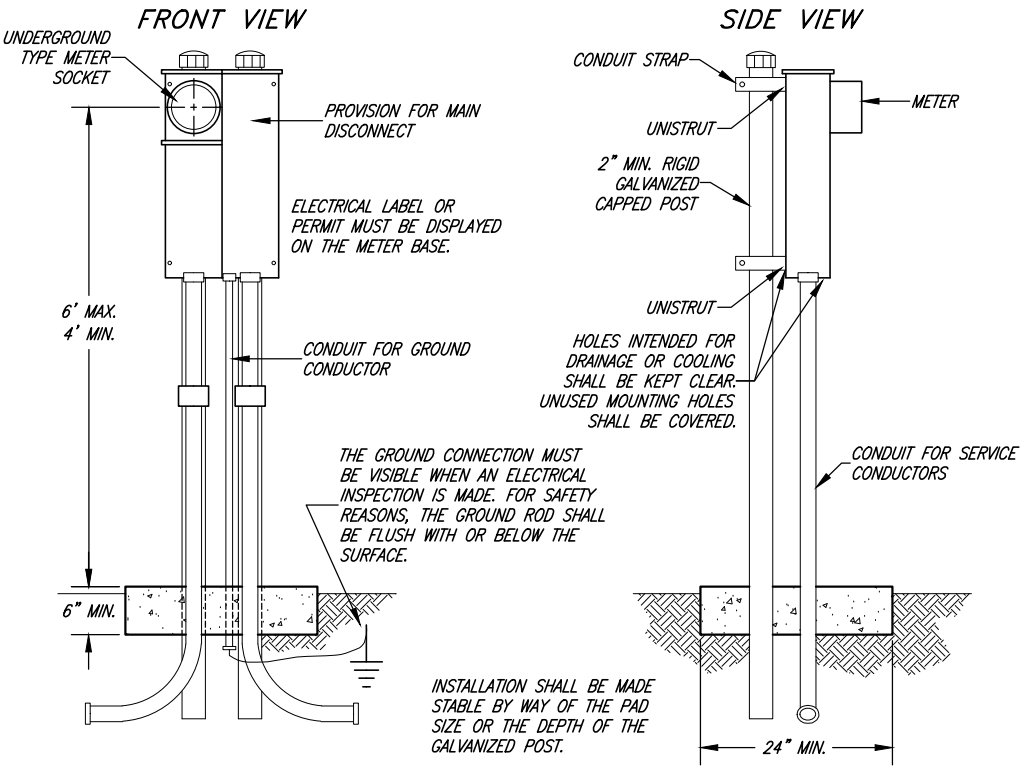
More information on streetlights is posted online at: <https://www.pacificpower.net/working-with-us/municipalities.html> and <https://www.rockymountainpower.net/working-with-us/municipalities.html>.

**GENERAL NOTE:**

REFER TO THE MOST RECENT EDITION OF THE ROCKY MOUNTAIN POWER ELECTRIC SERVICE REQUIREMENTS MANUAL FOR GUIDANCE AND INSTRUCTIONS ON ELECTRIC SERVICE REQUIREMENTS.



This manual shall be distributed and interpreted in its entirety. Individual pages will not represent all the requirements necessary for an installation. © 2019 PacifiCorp.



**UNDERGROUND SERVICE TO A FREE-STANDING METER BASE**

(STEEL POLE)

INSTALLATION PER ROCKY MOUNTAIN POWER ELECTRIC SERVICE REQUIREMENTS MANUAL

- DEVELOPER/CONTRACTOR WILL FURNISH AND INSTALL:
- A. METER SOCKET ENCLOSURE (UNDERGROUND TYPE WITH MANUAL-LINK BYPASS)
  - B. PEDESTAL HARDWARE
  - C. CONDUIT
  - D. RIGHT-OF-WAY OR EASEMENT
  - E. TRENCH EXCAVATION AND BACKFILL
  - F. GROUNDING PER NEC
  - G. CONCRETE PAD 24" x 24" x 6" DEPTH
  - H. LONG RADIUS SWEEP
  - I. 36" SWEEP

**FREE-STANDING METER BASE REQUIREMENTS:**

- A1. THE DEVELOPER/CONTRACTOR SHALL MEET WITH THE POWER COMPANY TO DETERMINE THE LOCATION OF THE FREE-STANDING METER BASE.
- B1. THE FREE-STANDING METER BASE SHALL BE LOCATED ADJACENT TO, OR IN, THE POWER COMPANY EASEMENT.
- C1. THE FREE-STANDING METER BASE SHALL MEET ALL LOCAL ORDINANCE REQUIREMENTS.
- D1. THE METER SOCKET SHALL BE PROTECTED FROM DAMAGE BY USE OF BARRIER POSTS OR OTHER SUITABLE PROTECTION APPROVED BY THE POWER COMPANY.
- E1. THE DEVELOPER/CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN AN APPROVED PEDESTAL OR POLE POST.
- F1. THE ACCESS DOOR TO POWER COMPANY CONNECTIONS SHALL BE KEPT FREE OF OBSTRUCTIONS A MINIMUM OF 6" ABOVE THE FINAL GRADE, WITH A SEALABLE PROVISION FOR THE POWER COMPANY.
- G1. THE UNMETERED SERVICE CONDUCTOR AND THE METERED SERVICE CONDUCTOR SHALL NOT BE RUN IN THE SAME CONDUIT, RACEWAY, OR GUTTER.
- H1. THE METER SOCKET AND SERVICE EQUIPMENT SHALL BE NEMA TYPE 3R (RAINPROOF), IN GOOD CONDITION WITH NO HOLES, DENTS OR DAMAGE, AND PLUMB IN ALL DIRECTIONS. THE INSTALLATION SHALL BE MADE WITH SUFFICIENT MATERIALS AND INSTALLED SUCH THAT IT REMAINS PLUMB FOR THE DURATION OF THE SERVICE.
- I1. CONDUIT AND CONDUCTOR TRENCHERS SHALL BE LOCATED AWAY FROM (AND NEVER UNDERNEATH) THE PAD AND FOUNDATION. FOR MOBILE HOMES, TRENCHES SHALL BE LOCATED CLEAR OF THE AREA PROVIDED FOR THE DWELLING.
- J1. WHERE TWO OR MORE METERS ARE LOCATED SIDE-BY-SIDE (SUCH AS WITH DUPLEXES OR IN MOBILE HOME PARKS), THE METER SOCKET ENCLOSURE SHALL BE PERMANENTLY LABELED WITH THE SPACE OR BERTH NUMBERS.



PROJECT ENGINEER  
*Brandon K. Jones*  
11/30/2022  
DATE

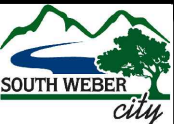
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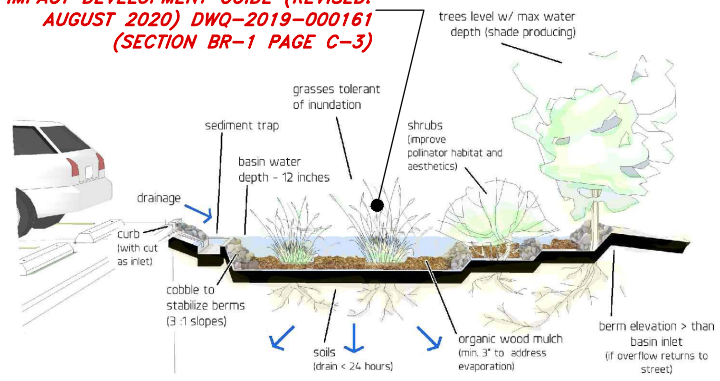
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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - STREET LIGHTING STANDARDS  
ROCKY MOUNTAIN POWER CONNECTION DETAILS

SHEET:  
**SL4**  
OF 33 SHEETS  
0

FOR RAIN GARDEN DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION BR-1 PAGE C-3)

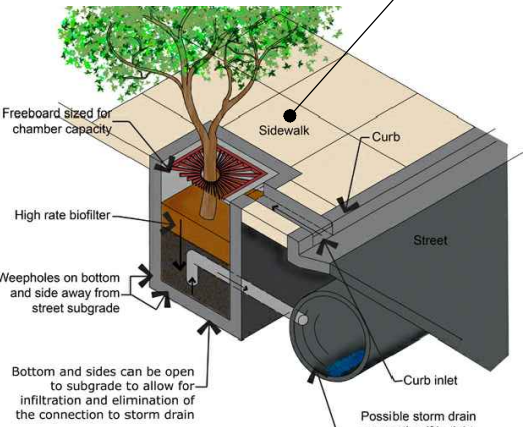


Basic Basin Design Considerations

**RAIN GARDEN**

\*\*\* [http://www.lid-stormwater.net/site\\_map.htm](http://www.lid-stormwater.net/site_map.htm) \*\*\*

FOR TREE BOX FILTER DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION BR-5 PAGE C-28)



**TREE BOX FILTER**

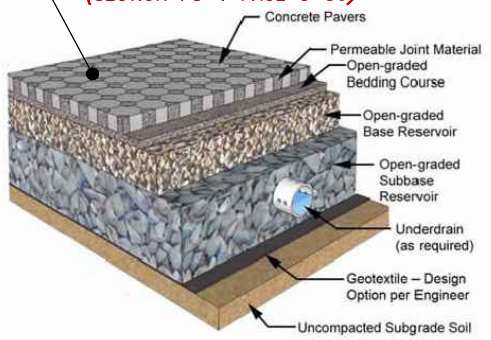
From [www.wbdg.org](http://www.wbdg.org)



**RAIN BARREL**

<http://www.goodideasinc.com/products/rain-barrels/rain-wizard-50/>

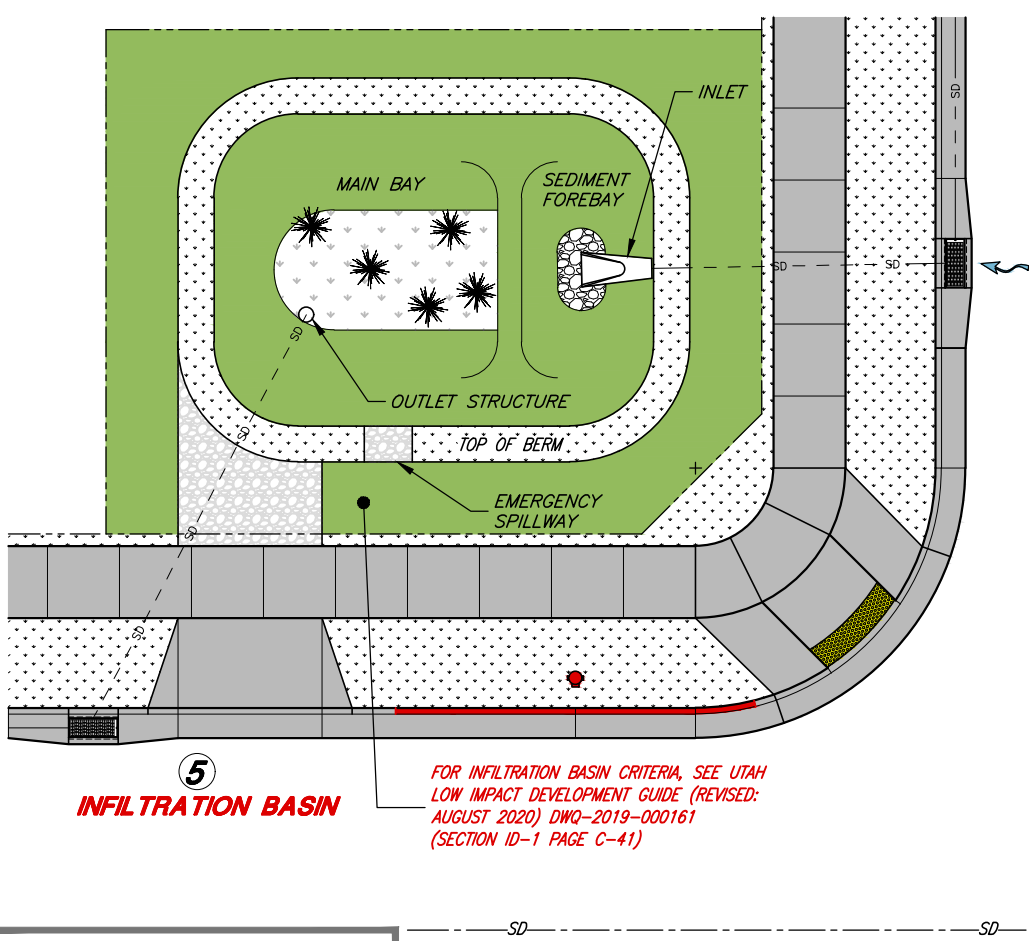
FOR PERVIOUS SURFACES SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION PS-1 PAGE C-36)



**PERMEABLE PAVER**

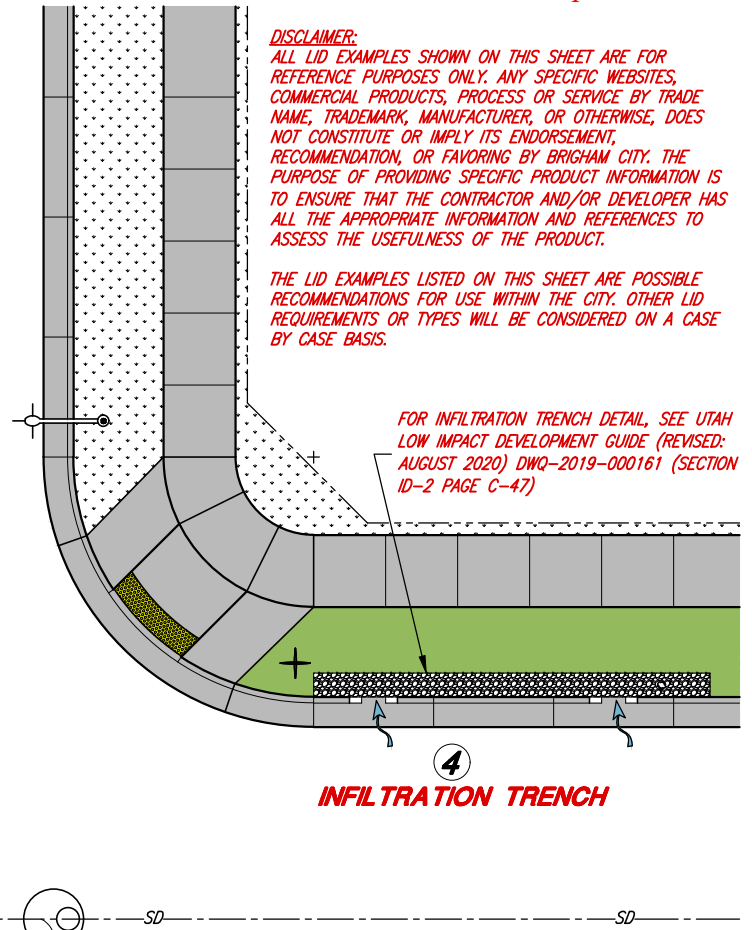
From Smith, D. 2006. *Permeable Interlocking Concrete Pavement—selection design, construction and maintenance. Third Edition.* Interlocking Concrete Pavement Institute. Herndon, VA

FOR RAIN BARREL SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION HR-1 PAGE C-62)



**INFLTRATION BASIN**

FOR INFILTRATION BASIN CRITERIA, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION ID-1 PAGE C-41)



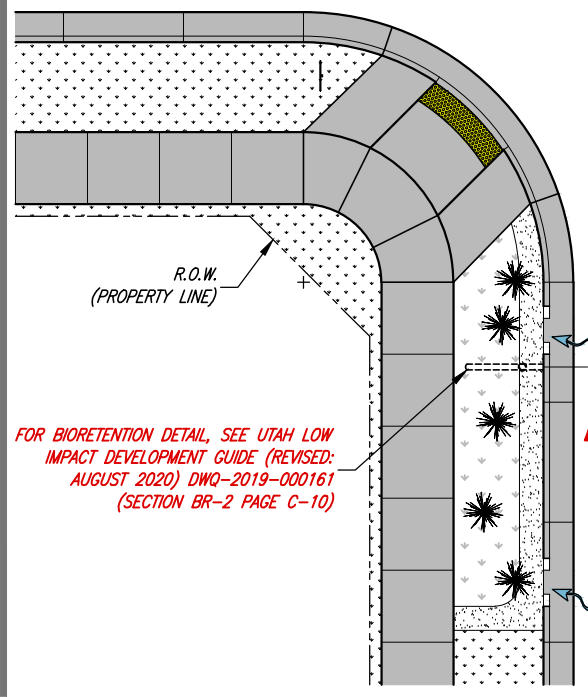
**INFLTRATION TRENCH**

FOR INFILTRATION TRENCH DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION ID-2 PAGE C-47)

**DISCLAIMER:**  
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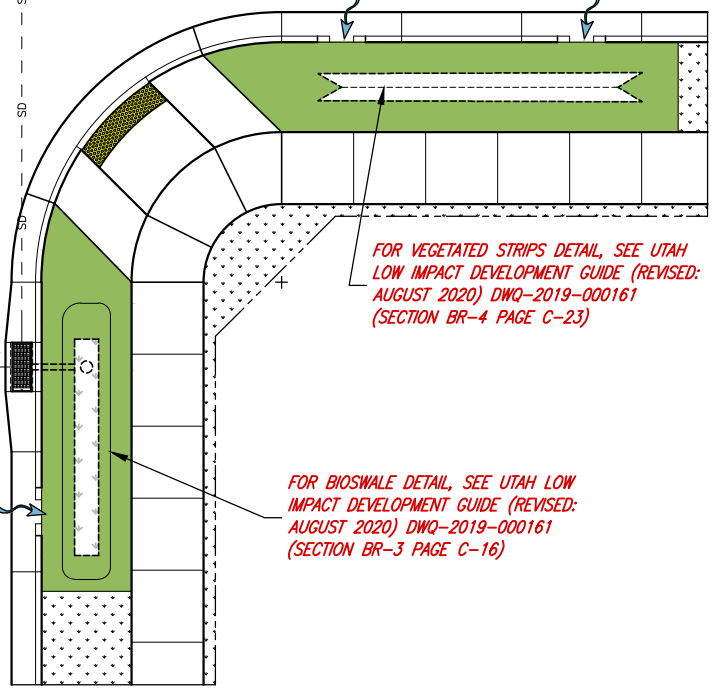
THE LID EXAMPLES LISTED ON THIS SHEET ARE POSSIBLE RECOMMENDATIONS FOR USE WITHIN THE CITY. OTHER LID REQUIREMENTS OR TYPES WILL BE CONSIDERED ON A CASE BY CASE BASIS.

**STANDARD LOCAL STREET SECTION**



FOR BIORETENTION DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION BR-2 PAGE C-10)

**BIOSWALE**



FOR VEGETATED STRIPS DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION BR-4 PAGE C-23)

FOR BIOSWALE DETAIL, SEE UTAH LOW IMPACT DEVELOPMENT GUIDE (REVISED: AUGUST 2020) DWQ-2019-000161 (SECTION BR-3 PAGE C-16)



BRANDON KENT JONES  
No. 5148758  
PROJECT ENGINEER  
11/30/2022  
DATE

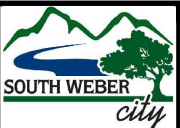
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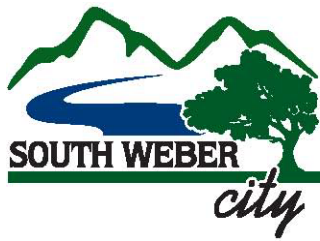


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SOUTH WEBER CITY CORPORATION  
PUBLIC WORKS - LID (LOW IMPACT DEVELOPMENT) STANDARDS  
**GENERAL LID (LOW IMPACT DEVELOPMENT) EXAMPLES**

SHEET:  
**LID1**  
OF 33 SHEETS  
0



To: Planning Commission  
From: Trevor Cahoon, Community Services Director  
Re: Discussion on Residential Multi-family (R-7) Zoning Updates

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### **ACTION**

Discussion on the Residential Multi-family (R-7) zone amendments.

### **ORDINANCE REVIEW**

In the November Planning Commission meeting the Planning Commission discussed the creation of an overlay zone to help encourage quality construction. Throughout the conversation the Commission discussed what things they would like to regulate and require to allow for increased density. Based upon that discussion Staff has drafted an ordinance for a Strategic Growth Overlay zone and made amendments to all areas of the code that reference to the R7 zone to now say R5.

### **BACKGROUND**

The City Council when approving the Final Plat for the South Weber Gateway project, instructed the Code Committee to consider zoning text amendments to facilitate the development in amending the approved final plat to allow for a townhome development for individual ownership. The items that were brought forward by City Staff as areas that prohibited this type of development included the following:

- The exclusion of provisions surrounding zero lot line developments.
- The absence of a dwelling, townhome definition within the code.
- The inclusion of setback provisions that oriented buildings based on lot configuration and not on orientation of the buildings toward a right-of-way.

As the Code Committee reviewed the R-7 zone, it became clear that the ordinance was written with parameters in a similar fashion to a single-family zone thus making it difficult to plan a multi-family development. The reason that these inconsistencies were not noticed in other developments lies in the fact that other projects utilized the Planned Unit Development conditional use section of our code. The South Weber Gateway was the first project to follow development guidelines strictly under the R-7 zoning code.

As conversation progressed within the Code Committee other areas of concern toward multi-family developments were discussed in relation to the R-7 code and future development. While it is still a desire to limit the use of this zone, the Code Committee discussed various housing types that would be more appealing to future development other than traditional townhome, high-rise, or garden style apartments. Through the conversation the Committee identified the main issue with multi-family housing is the visual appeal and congruence of form with surrounding single-family units already



established within the area. To answer these concerns two concepts were discussed, type of housing unit and design standards.

In the case of design standards, the State of Utah has limited the City's Ability to impose design standards upon single-family developments. It does not prohibit a city from imposing design standards on multi-family units. Therefore, if the City wishes to pursue developing a design standard for multi-family housing this is a possibility. Townhomes are the outlier within this context because although there is more than one unit within the building, state code does identify these units as single-family attached developments. Within the state code there is a provision to allow a City to impose a design standard on single family developments if the code allows for a density incentive utilizing an overlay zone. This would mean that if the city were to allow a developer to have more density than a zone would typically allow then we would be able to impose design standards for the development.

With this line of thinking if the City were to seek for particular multi-family or single family units by offering more density then we would be able to dictate the form of the units themselves. The Code Committee then discussed the possibility of reducing the allowed density within the R-7 zone to 5 units an acre and offering an incentive of 7 units and acre then the City may be able to better control the type of development that is found within the City.

For example, including smaller single-family housing complexes like Cottage Courts. In these types of development, we would offer a higher density for the creation of single-family homes with smaller lots on a shared court. Some items to discuss would be how many units an acre we would want to encourage and the style of development.

Mansion style apartments or condos was another housing concept that was attractive to the Code Committee. Allowing a building to look like a large single-family home, but housing 4-7 units within the home. So that appearance would be single family while providing more variety and density of housing.

While the idea is new and needs more work to determine the viability of the incentive, the prospect of this update with an eye toward the Moderate Income Housing Updates becomes an idea that can provide a better development and use of land within the future. Further discussion on whether it is viable to reduce the R-7 zone's density further and then offer the now current density as incentive would provide the desired outcome would be important for the Planning Commission to discuss.

At this stage it has become necessary to get the feedback from the Planning Commission on the potential changes the R-7 zone and receive their recommendations on what to include in the draft ordinance. The following table breaks down the changes proposed by the Code Committee for the Planning Commission review.

After a discussion in Planning Commission on September 15, the Commission gave the following directions to staff to update the code in the following ways:

- Update the definitions as recommended
- Allow townhouses as a permitted use
- Maintain density at 7 units an acre, but explore in a future update overlay zones
- Establish a minimum lot area and minimum lot width

- Utilize sections for zero lot lines and setback orientation for share common space as recommended
- Alter front setback lines to 25 feet to accommodate for large vehicles
- Include diagrams to demonstrate setback requirements

Staff has made updates based on the recommendations from the Planning Commission. The only exception is including a minimum lot area. Staff would recommend that having a minimum lot width would be sufficient to dictate design aesthetic and would allow for more flexibility of design than restricting a minimum lot area. This is something that the Planning Commission could recommend be included back in the ordinance.

The Planning Commission met on October 13 to discuss the draft ordinance and make their recommendation to City Council. In a 3-0 discussion by the Planning Commissioners present a recommendation was made to approve the drafted changes to the Residential Multi-family zone, and recommend the council begin the process in the creation of overlay zones to address design standards in accordance with Utah State code.

In a discussion item with the City Council on October 25, the Council expressed a desire for the Planning Commission to have a more in-depth discussion on the reduction of density within the R-7 zone to 5 units per acre and the creation of draft ordinance for an overlay zone to grant bonus density of up to 2 units and the implementation of design standards. The Council feels that the exploration of creating an overlay zone now would be pertinent to protect the interests of the City in facilitating development standards for projects in South Weber.

The two main questions that the council would like answered are: What should be included or covered within an overlay zone? and What are the design standards that need to be established within the zoning overlay? This was be an initial discussion with the Planning Commission on what the creation of an overlay zone will look like and what design standards would be subject to review.

**4-8-3: DEFINITIONS:**

RESIDENTIAL AREA, RESIDENTIAL ZONE:	Any area of the city with a zoning designation of Agricultural (A), Residential Low Density (R-L), Residential Low-Moderate Density (R-LM), Residential Moderate Density (R-M), Residential Patio (R-P), Residential Multi-Family Seven (R-5) under title 10 of this code and the abutting public streets and public premises.
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**10-1-10: DEFINITIONS:**

Zero Lot Line Setback: The location of a structure on a lot in such a manner that one or more of the structure's sides rests directly on a lot line.

Dwelling, Townhouse: A one-family dwelling unit, with a private entrance, which is part of a structure whose dwelling units are attached horizontally in a linear arrangement, with no more than four (4) units per structure.

YARD: A space or lot other than a court, unoccupied and unobstructed from the ground upward.

YARD, FRONT: Any yard between the front lot line or street right-of-way boundary line and the front line of the main building; any yard meeting the minimum frontage requirements of the applicable zone may be designated as the front yard. See section 10-1-11, appendix A of this chapter.

YARD, REAR: A yard between the rear lot line or neighboring setback line and the rear line of a main building.

YARD, SIDE: Any yard between the side lot line or neighboring setback line and the sideline of the main building extending from the front yard to the rear yard. See section 10-1-11, appendix A of this chapter.

SETBACK: The shortest horizontal distance between the structure or part thereof for single family dwelling or other main building.

**10-1-10A: LAND USE MATRIX**

	C	C H	C R	LI	TI	N R	A	R L	R L M	R M	R P	R 5
Accessory Building	P	P	C	C	P	P	P	P	P	P	P	P
Accessory Use	P	P	C	C	P	P	P	P	P	P	P	P
Agriculture	P	P	C				P	P	P	P	P	P
Agricultural Building	P	P	C				P	P	P	P	P	P
Animal Keeping							P	P	P	P		
*Assisted Living Facility	P								C	C	C	C
Beauty and Barber Services	P	P										

Building, Public	P	P	C	C	P	P	C	C	C	C	C	C
Business Services and Professional Offices	P	P		C	P							
Cannabis Cultivation Facility**					C							
Cannabis Production Establishment**					C							
Commercial Storage				C	P							
*Communications Tower	C	C	C	C	C	C	C	C	C	C	C	C
Construction Services				C	C							
Contractor's Office/Storage Yard				C	C							
Day Care, Commercial	C											
Day Care, Home							C	C	C	C	C	C
Drive-Through Facility	C	C										
Drycleaning Or Laundry Services	C	C		C								
Dwelling, Accessory Unit (Internal)**							P	P	P	P		
Dwelling, Accessory Unit For Owner Or Employee				C	P							
Dwelling, Condominium												P
Dwelling, Multi-Family												P
Dwelling, Single-Family							P	P	P	P	P	P
Dwelling, Townhouse												P
Dwelling, Twin Home								C	C	C	C	P
Dwelling, Two-Family								C	C	C	C	P
Dwelling Unit, Manufactured								C	C	C		C
Electronic Communications Facilities and Equipment	C	C	C	C			C					
Excavation or Extraction						C						
Family Food Production or Farm Animals							P	P	P	P		
Farm Industry			C				P					
Farm Stand							P	P	P	P	P	P

Farmer's Market	C	C										
Gasoline Service Stations	C	C										
Golf Course			C			C						
*Group Home	C											
*Group Home, Residential Facility For Elderly Persons	C							C	C	C	C	C
*Group Home, Residential Facility For Persons With A Disability	C							C	C	C	C	C
Gun Range, Indoor	C	C		C								
Home Occupation							P	P	P	P	P	P
Hotel		C										
Kennel, Commercial	C			C	C		C					
Kennel, Sportsman's or Hobby							C	C	C	C		
Manufacturing, Light				C	P							
Medical, Dental and Related Health Services	P	P										
Medical Laboratory	C	C		C	C							
Mobile Business	C	C	C									
Nursery, Garden Center	C	C			P	P	C					
Personal Care Service	P	P										
Public Use	C	C	C	C	P	P	C	C	C	C	C	C
Public Utility				C	P	P	C	C	C	C	C	C
Quasi-Public Use	P	P	C	C	P	P	C	C	C	C	C	C
Recreation Center	C	C	C									
Recycling Collection Center				C	C							
Recycling Processing Facility				C	C							
Retail Sales and Services	P	P										
Retail Sales and Services (Community Commercial)	P	P										
Retail Sales and Services (Regional)	P	P										

Restaurant	P	P										
Self-Service Storage				C	P							
Service Accessory Use							C	C	C	C		
Service Station	C	C										
Sexually Oriented Business					C							
Short Term Rental							C	C	C	C	C	C
Stable, Private							P	P	P	P		
Stable, Public			C				P					
Temporary Building Incidental To Construction	C	C		C	P	P	P	P	P	P		
Temporary Use	C	C										
Transient Lodging												
Vehicle and Equipment Repair (Major)		C		C								
Vehicle and Equipment Repair (Minor)		C		C								
Vehicle and Equipment Sale and Rental		C										
Warehousing				C	P							
Wholesale Trade or Distribution				C								
Wind Energy Systems, Large						P						

## ARTICLE C. RESIDENTIAL MULTI-FAMILY FIVE ZONE (R-5)

### 10-5C-1: PURPOSE:

To provide for areas in appropriate locations where neighborhoods of varying degrees of density may be established, maintained and protected. The regulations of this zone are designed to promote an intensively developed residential environment suitable primarily for adult living. With proper controls that ensure the integrity of the zone, alternate forms of residential living ranging from single-family to twelve-family dwellings and necessary public services. (Ord. 2000-9, 7-11-2000; amd. Ord. 2001-4, 2-13-2001; Ord. 2021-06, 5-25-2021)

### 10-5C-2: ARCHITECTURAL SITE PLAN REVIEW:

All dwellings which are designed to be occupied by three (3) or more families shall receive architectural site plan approval according to the requirements of chapter 12 of this title. (Ord. 2000-9, 7-11-2000; amd. Ord. 2021-06, 5-25-2021)

### 10-5C-3: PERMITTED USES:



Permitted uses shall be in accordance with Chapter 1, Section 10A of this title and shall have meanings as defined in accordance with Chapter 1, Section 10 of this title. (Ord. 2000-9, 7-11-2000; amd. Ord. 16-21, 9-13-2016; Ord. 2021-06, 5-25- 2021)

**10-5C-4: CONDITIONAL USES:**

Conditional uses shall be in accordance with Chapter 1, Section 10A of this title and shall have meanings as defined in accordance with Chapter 1, Section 10 of this title. Conditions for approval shall be made in accordance with the provisions of chapter 7 of this title. (Ord. 2000-9, 7-11-2000; amd. Ord. 2001-4, 2-13-2001; Ord. 01-24, 11-27-2001; Ord. 02-7, 5-28-2002; Ord. 13-11, 5-14-2013; Ord. 16-22, 9-13-2016; Ord. 2021-06, 5-25-2021)

**10-5C-5: BUILDING LOT REQUIREMENTS:**

A. Density: There shall be no more than five (5) dwelling units per acre contained within the boundaries of each phase of every development; except when previously completed phases of the same development have sufficiently low density so that the average is still seven (7) dwelling units per acre or less.

1. Areas within a given development that contain land use easements purchased by the State of Utah for the purpose of protecting the health and safety of the citizens of Utah and assuring the continued operation of Hill Air Force Base as an active military base, shall not be utilized in density calculations.

B. Lot Area:

1. There shall be a minimum of six thousand (6,000) square feet in each lot on which a single-family dwelling is built.

2. There is no minimum lot area for other dwelling types, but the density requirement listed above must be adhered to in all cases.

C. Lot Width:

1. There shall be a minimum width of sixty-five (65) feet in each lot on which a single-family dwelling is built
2. There shall be a minimum width of twenty-four (24) feet in each lot on which a townhouse is built.
3. Minimum lot widths for all other dwelling types shall be recommended by the planning commission and approved of the City Council.

C. Zero Lot Line:

1. To facilitate separate ownership or leasehold of two-family, twin home, or multi-family dwellings a residential zero lot line setback is permitted upon recommendation of the planning commission and approval of the City Council.
2. In no case shall a zero lot line setback be allowed adjacent to a property line that is not part of the subdivision

**10-5C-6: LOCATION OF STRUCTURES:**

All buildings and structures shall be located as provided in chapter 11 of this title and as follows:

Shared Common Space: Subdivisions with shared common space under single ownership with multi-family, townhouse, or two-family structures shall orient main structure setbacks in relation to the street right-of-way and other main structures on the shared property.

Structures	Front Setback	Side Setback	Rear Setback
Dwelling, Single-Family	20 feet	6 feet minimum for each side, except 12 feet minimum for side fronting on a street	10 feet
Dwelling, Two-Family, Twin Home, Townhouse, Multi-family  (See Appendix A of this chapter)	25 feet	12 feet minimum for each side that is an exterior side wall and 20 feet minimum for side fronting on a street.	15 feet
Other main buildings	30 feet from all front lot lines	20 feet minimum for each side	30 feet
Detached accessory buildings and garages	30 feet from all front lot lines	Same as for dwellings, except when the structure is at least 10 feet behind the main building or 10 feet behind a line extending from the rear corners of the main building to the side lot lines parallel to the rear lot line(s); the side and rear setbacks may be reduced to 1 foot; provided, that the structure must be at least 20 feet from main buildings on adjacent lots; and on corner lots the minimum setback for a side facing a street is 20 feet and minimum rear setback adjacent to a side lot line is 10 feet	

(Ord. 2000-9, 7-11-2000; amd. Ord. 2021-06, 5-25-2021)

#### **10-5C-7: MAXIMUM STRUCTURE HEIGHT:**

Main, accessory and temporary buildings and structures are not to exceed thirty five feet (35'). (Ord. 2000-9, 7-11-2000; amd. Ord. 2021-06, 5-25-2021)

#### **10-5C-8: OFF STREET PARKING AND LOADING:**

The provisions of chapter 8 of this title shall apply and shall be in full force and effect in this zone, except in the case of a bona fide temporary use. (Ord. 2000-9, 7-11-2000; amd. Ord. 2021-06, 5-25-2021)

#### **10-5C-9: PERMITTED SIGNS :**

Class 1 signs shall be permitted. For home occupations, Class 2 signs will be allowed in addition to Class 1 signs. For public and institutional uses as allowed by conditional use permit, Class 3 signs will be allowed in addition to Class 1 signs. (Ord. 2000-9, 7-11-2000; amd. Ord. 2001-4, 2-13-2001; Ord. 2021-06, 5-25-2021)

**10-5C-10: SPECIAL CONDITIONS:**

Due to the higher residential densities permitted by this article, the following conditions are required in order to assure a quality livable environment:

- A. Minimum And Maximum Area: The minimum area that may be zoned R-5 shall be two (2) acres and the maximum area which may be zoned R-5 in any zone district shall be nine point five (9.5) acres.
- B. Open Space: Multi-family dwellings shall provide usable functional open space for outdoor leisure in the following amounts:
  - 1. Eight hundred (800) square feet per unit for one- and two- family dwellings;
  - 2. Six hundred (600) square feet per unit for three- and four- family dwellings; and
  - 3. An additional four hundred (400) square feet per dwelling unit for each additional unit over four (4).
- C. Outdoor Storage Space: Three-family, four-family and multi- family dwellings shall provide enclosed outside storage space of at least thirty (30) square feet for each dwelling unit. (Ord. 2000-9, 7-11-2000; amd. Ord. 19-16, 11-26-2019; Ord. 2021-06, 5-25-2021)

**10-5C-11: LANDSCAPING REQUIREMENTS:**

- A. General Landscaping: At least fifteen percent (15%) of the total site shall be thoroughly landscaped, including an irrigation system to maintain such landscaping. Landscaping shall meet the requirements of chapter 15 of this title. For use of exceptional design and materials, as determined by the Planning Commission, the landscaping may be reduced to ten percent (10%) of the total site.
- B. Fencing: A six foot (6') tall solid screening fence shall be required between the Residential Multi-Family (R-5) Zone and all lower density residential zones. (Ord. 18-05, 8-14-2018; amd. Ord. 19-16, 11-26-2019; Ord. 2021-06, 5-25-2021)

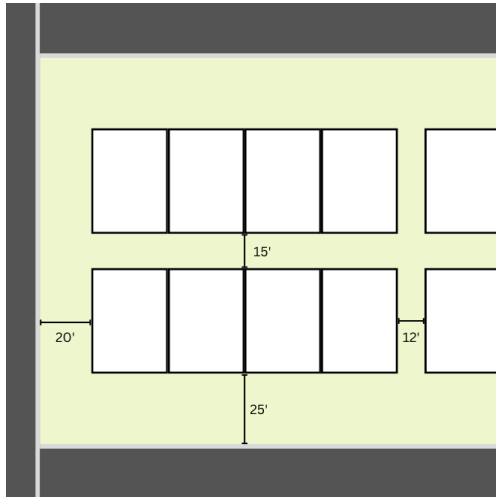
**10-5C-12: PRIVATE RIGHTS-OF-WAY:**

- A. Private rights-of-way shall be permitted in compliance with 11-4-4 and Public Works Standard Drawings - Private Roadway Street Section A.
- B. Sidewalk or pedestrian path must be made available on the front façade of residence and connect to a public right-of-way without having to cross a road.
  - 1. The private rights-of-way must be expanded to include sidewalks, where required.
- C. The following utilities (where required) shall be located under the pavement portion of the private road: culinary water, sewer, storm drain, land drain, and irrigation.

1. The private rights-of-way must be expanded to include all utilities with the required spacing.  
(Ord. 2021-14, 1-11-2022)

#### 10-5C-13 APPENDICES

##### Appendix A: Dwelling, Two-Family, Twin Home, Townhouse, Multi-family



#### 10-15-2: GENERAL REQUIREMENTS:

A. Required: All land approved for development in the city shall be constructed as required by city ordinances and the planning commission or city council. In order to control the potential for adverse conditions resulting from dust, mud and erosion, land remaining on developed sites that is not covered with structures or impervious surfaces such as driveways, walks, courts, landscape features (sculptures, boulders, etc.), shall be landscaped in accordance with this chapter and when applicable irrigated with an appropriate system to maintain plants in a healthy, growing condition, compatible with the general neighborhood appearance.

B. Residential Front, Side, And Back Yard Areas: Landscaping shall be installed in all residential front yards, side yards, and back yards in residential low-moderate (R-LM), residential moderate (R-M), and residential multi-family (R-5) zones. Front and side yard landscaping shall be completed within eighteen (18) months of occupancy. Back yards shall be landscaped within twenty-four (24) months of occupancy. Landscaping of a residential site shall include an irrigation system sufficient to maintain the health and beauty of the landscaping. Residents who fail to abide by these landscaping regulations are subject to penalties as set forth in section 10-15-8 of this chapter. (Ord. 07-02, 2-13-2007; amd. Ord. 19-16, 11-26-2019; Ord. 2022-04, 2-22-2022)

Title 10 Chapter XX Overlay Zones Established

10-XX-1: OVERLAY ZONES ESTABLISHED:

The following overlay zones are established for application with base zone:

- A. SG, Strategic Growth overlay zone, Chapter 10-XXA.

10-XX-2: USE OF OVERLAY ZONES:

- A. Nomenclature: An Overlay Zoning classification is appended to a base zoning district so that the lands are classified as Base Zoning District-Overlay District. As an example, property in the Residential Multi-family (R-5) may be designated with a to form a zone titled (R5-SG).
- 

Article XX Strategic Growth Overlay Zone

10-XXA-1: Purpose

10-XXA-2: Multi

A. Combination With Residential Zone R5: The Strategic Growth Zone shall be approved only as specified in this Article. The Strategic Growth Zone shall be used in combination with the R5 Zone designated herein and provisions of the Strategic Growth Overlay Zone shall become supplementary to the provisions of the R5 Zone. The SG Zone shall not be applied to a land area as an independent zone. Property to which the SG Zone has been applied shall be developed only in conformance with an approved final development plan.

B. Designation On Official Zoning Map: The Strategic Growth Zone designation (SG) shall become a suffix to the R5 Zone with which it is combined and shall be shown on the Official Zoning Map in parenthesis as "R5 (SG)".

- C. Minimum Acreage: The minimum land area for a Strategic Growth Zone shall be five (5) acres.

10-XXA-3: STANDARDS AND REQUIREMENTS:

A Strategic Growth Zone established under the provisions of this Article shall conform to the following standards: (Ord. 84-06B, 9-11-1984)

A. Density Bonus: Residential density within a planned development may exceed that permitted by the R5 Zone up to a maximum of twenty percent (60%), at the discretion of the Planning Commission and subject to concurrence of the City Council. The Planning Commission must find, however, that any increase in density will be compensated by increased amenity and improved design which, in its opinion, are proportional to the density increase which it authorizes.

B. Building Locations: With the following exceptions, dwellings and permitted structures may be located as approved in the final development plans. Locations and arrangements of buildings on the lot should be accomplished in a manner that will best utilize the lot area and create an attractive living environment. The following exceptions shall be considered as minimum requirements as they apply:

1. Garages with entrances facing directly on the street, whether in a front or side yard, shall be set back at least twenty feet (20') from the property line or right-of-way.

2. Setbacks shall be maintained along the peripheral property lines of the planned development which shall be equal to that required by the zone on the property immediately adjacent thereto.

3. In those instances where a proposed planned development will front upon one or more existing streets, the setback from the street shall be equal to that required by the most restrictive zone on property immediately adjacent along the same street frontage.

C. Open Space: Not less than ten percent (10%) of the gross area of the planned developed shall be retained in permanent open space, parks and playgrounds for the use of the occupants of the planned developments. Land proposed to be devoted to vehicular streets or roads, parking, driveways, required setbacks and slopes greater than twenty five percent (25%) shall not be included in computations of open space, park or playground area.

D. Utilities: All dwelling units shall be served by public sewer and a public water supply. All utilities within the planned development shall be placed underground, including telephone, electrical and television cables. Dwelling units under separate ownership shall have separate utility metering.

E. Maximum Height: The maximum height of buildings within a planned development shall be the same as the permitted by the R5 Zone.

F. Design Standards: Architectural site plan review shall be as outlined in South Weber City Code 10-12-3. Finishes of the exterior of the buildings will be subject to the following conditions:

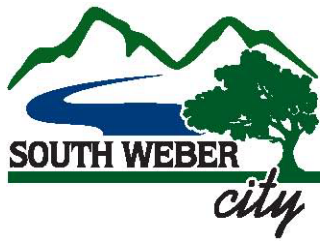
1. Exterior Finishes. All structures shall use durable materials on exterior finishes, including brick, stone, Hardie board, architectural metal, or engineered wood on all facades. Aluminum or vinyl siding shall not be used as an exterior finish. Use of stucco shall be limited to no more than 35% of the total surface.

2. Architectural Variation. Structures shall provide variable articulation in their design. Articulation shall be required on each side of the structures.

3. Garage Dimensions. Individual garages shall be constructed to reasonably accommodate two standard vehicles, measured no less than 22 feet in width and length.

5. Roof Style. Roof design shall not include the use of flat roofs.





## PLANNING MEMORANDUM

7 PC Goals 2023

1600 E. South Weber Drive  
South Weber, UT 84405

www.southwebercity.com

801-479-3177  
FAX 801-479-0066

To: Planning Commission  
From: Trevor Cahoon, Community Services Director  
Re: Planning Commission Goals for 2023

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### **ACTION**

Discussion on goals for 2023 that the Planning Commission can work on throughout the year.

### **BACKGROUND**

The following items were listed as potential items to focus efforts on in 2023:

- Review water and how to tie the general plan and land use development to water usage
- Dust mitigation and what the city's standards include when the number of pollutants in the air is violated by some of the land uses in the community.
- Architectural standards review.
- Staker Parsons gravel pit and possibilities for this property after it is no longer a gravel pit.
- Definition of commercial recreation zone and what are we using it for.
- Open land zone for an urban forest interface. This would include making sure wildfires can't jump into other areas of our city in those open land areas.
- Reviewing the sensitive land areas and how to provide standards in city codes and what is the appetite to develop on a hillside.
- Trails and active transportation.