



# CITY OF NORTH SALT LAKE

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## CITY COUNCIL MEETING NOTICE & AGENDA APRIL 21, 2020

Posted April 17, 2020

Notice is given that the North Salt Lake City Council will hold a regular meeting on **APRIL 21, 2020** at 6:15 pm via electronic video conference. The following items of business will be discussed; the order of business may be changed as time permits. Note: Regular session to follow RDA meeting at 6:00 pm.

Join Zoom Meeting: <https://zoom.us/j/97900055388>

### REGULAR SESSION - 6:15 p.m.

1. Introduction by Mayor Len Arave
2. Citizen Comment
3. Parks Trails Arts and Recreation Advisory Board Appointment
4. Consideration of **Ordinance 2020-12**: An ordinance vacating lots 1A & 1B of the North Redwood Industrial Park Subdivision, Plat A-Amended, located at approximately 1100 West Center Street, Kimwell Corp. and UDOT, applicants
5. Consideration of a site plan approval for Dickson Company Phase 2, office warehouse building at 920 West Center Street, Scott Thorsen, CIR Engineering, applicant
6. Consideration of **Resolution 2020-07R**: A resolution adopting standards and specification manuals for public infrastructure including Streets, Water, Storm Water and Parks
7. Discussion of Proposed Budget for FY2021
8. Approve City Council Minutes of April 7, 2020
9. Action Items
10. Council Reports
11. Mayor's Report
12. City Attorney Report
13. City Manager Report
14. Adjourn

**CLOSED SESSION**

1. Possible closed session for the purpose of discussing pending or reasonably imminent litigation; to discuss the character professional competence, or physical or mental health of an individual; to discuss collective bargaining; or to discuss the purchase, exchange, sale, or lease of real property. *Utah Code 52-4-205*

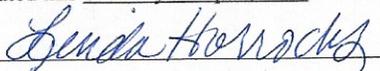
This meeting will be held via Zoom. Members of the public are invited to listen to the meeting at the following link: Join Zoom Meeting: <https://zoom.us/j/97900055388>

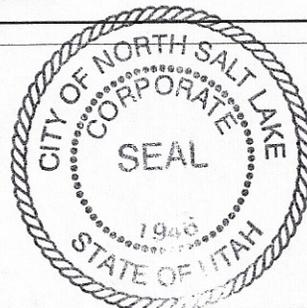
Questions for the governing body may be submitted ahead of time to [lindah@nslcity.org](mailto:lindah@nslcity.org).

Notice of Posting:

I, the duly appointed City Recorder for the City of North Salt Lake, hereby certify that the foregoing agenda was posted on the Utah Public Notice website, at city hall, and sent to the required newspapers this 17th day of April, 2020.

Dated this 17th day of April, 2020.







# CITY OF NORTH SALT LAKE COMMUNITY & ECONOMIC DEVELOPMENT

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10 East Center Street, North Salt Lake, Utah 84054  
(801) 335-8700  
(801) 335-8719 Fax

## MEMORANDUM

**TO:** Honorable Mayor and City Council  
**FROM:** Sherrie Llewelyn, Community Development Director  
**DATE:** April 21, 2020  
**SUBJECT:** Consideration of ORD 2020-12 vacating lots 1A & 1B of the North Redwood Industrial Park Subdivision, Plat A, Amended

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### RECOMMENDATION

The Planning Commission recommends approval to the City Council the vacation of lots 1A & 1B of the North Redwood Industrial Park Subdivision, Plat A, Amended with the following findings:

1. There is good cause for the vacation or amendment; and
2. No public street or municipal utility easement has been vacated or amended.

### BACKGROUND

The owners of the remaining lots in the North Redwood Industrial Park, Plat A subdivision are UDOT and Kimwell Corporation. The owners have requested the plat vacation for the purposes of combining the lots with adjacent property for the sale to the Gardner Batt Company for the distribution center proposed to be constructed at the site. The vacation of the plat will have no effect on the recorded rights of way. The vacation will only vacate lots 1A and 1B, of which Kimwell is the majority property owners and with UDOT owning portions of those lots that are to be sold to Kimwell.

Once the vacation of the lots has been completed, the remaining properties will be combined by consolidation deed and lot line adjustment. The consolidated property will be sold to the Gardner Batt Company for the distribution facility.

### REVIEW

Utah State Code 10-9a-608 to 609 governs the regulations for vacating a portion of a recorded subdivision plat. No public hearing is required if all owners of the proposed vacation have signed the petition for vacation. In this instance both owners, Kimwell and UDOT, have signed. However, city ordinance still requires the public hearing. Notice was posted and mailed in accordance with the state statute and no comments have been received to date. In order to vacate a plat the city must be able to find that there is good cause for the vacation and that no public street or municipal utility easement will be affected.

The two lots in question to be vacated each have limited frontage on Center street and Redwood Road, but are irregular in shape and are better suited for development if incorporated into the former Gun Range property. The Planning Commission held a public hearing on April 14, 2020 and made a favorable recommendation to the City Council.

**POSSIBLE MOTION**

I move that the City Council approve ORD 2020-12 vacating lots 1A & 1B of the North Redwood Industrial Park Subdivision, Plat A, Amended, with the following findings:

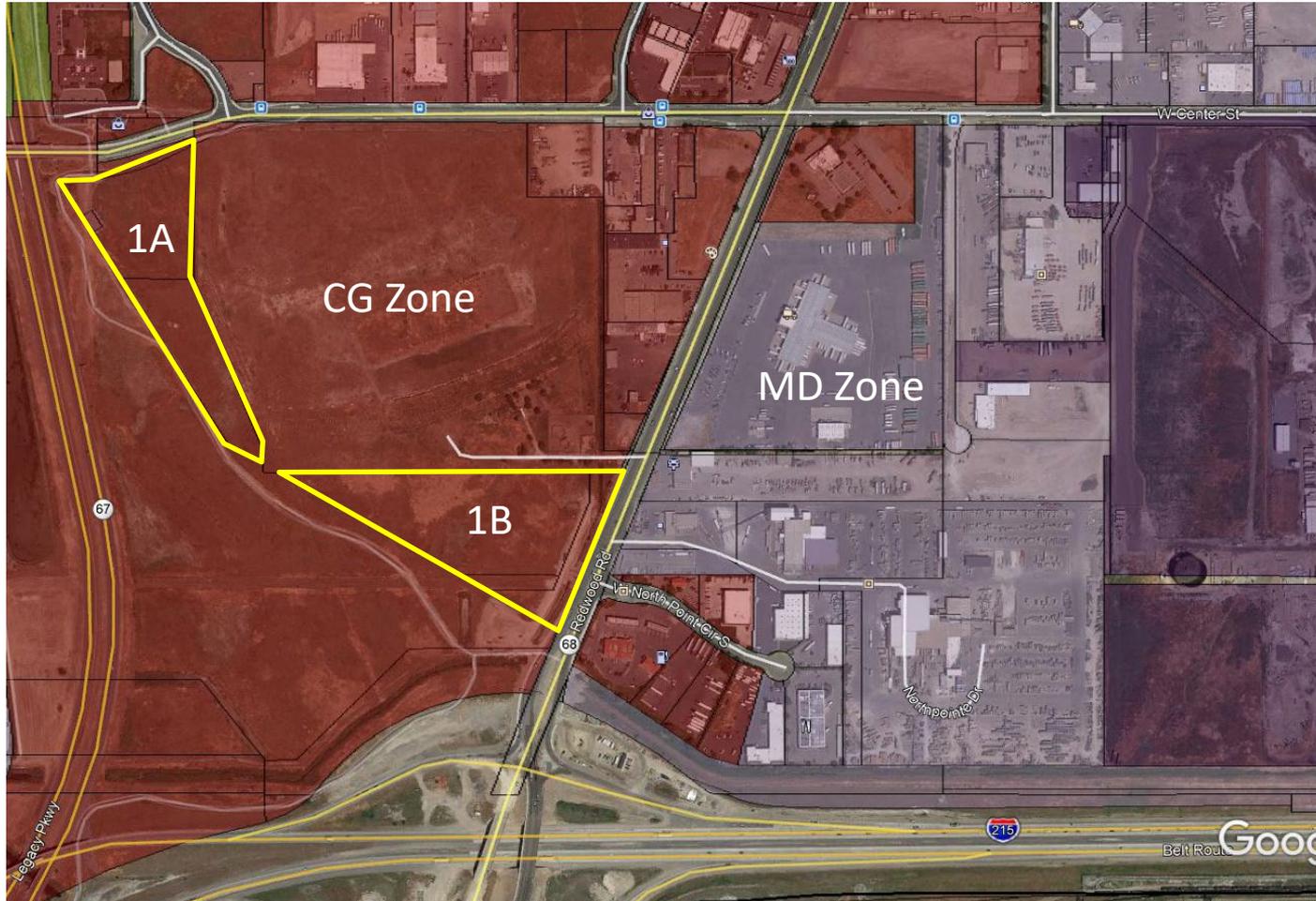
1. There is good cause for the vacation or amendment; and
2. No public street or municipal utility easement has been vacated or amended.

Attachments

- 1) Aerial Map
- 2) Ordinance 2020-12



# North Redwood Industrial Park Plat A-Vacation 1100 West Center Street Aerial/Zoning Map

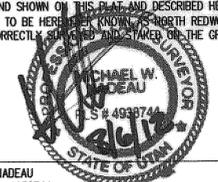


# NORTH REDWOOD INDUSTRIAL PARK PLAT "A" AMENDED

AMENDING ENTIRE SUBDIVISION TO DEFINE THE RIGHT OF WAY EXTENTS OF  
LEGACY PARKWAY THROUGH SAID SUBDIVISION BY VACATING ALL STREETS AND  
ORIGINAL LOTTING AND CREATING LOTS 1A & 1B, PARCELS 1, 2, & 3, AND STREET  
DEDICATION FOR THE REALIGNMENT OF CENTER STREET  
SITUATE IN THE NE1/4 AND THE NW1/4 OF SECTION 10, T.1N., R.1W., SLB&M,  
NORTH SALT LAKE CITY, DAVIS COUNTY, STATE OF UTAH

## SURVEYOR'S CERTIFICATE

I, MICHAEL W. NADEAU, A PROFESSIONAL LAND SURVEYOR, HOLD CERTIFICATE NO. 4938744, AS PRESCRIBED BY THE STATE OF UTAH, AND DO HEREBY CERTIFY THAT BY AUTHORITY OF THE OWNERS, I HAVE MADE AN ACCURATE SURVEY OF THE TRACT OF LAND SHOWN ON THIS PLAT AND DESCRIBED HEREIN, AND HAVE SUBDIVIDED SAID TRACT OF LAND INTO LOTS AND STREETS TO BE HEREBY KNOWN AS NORTH REDWOOD INDUSTRIAL PARK PLAT "A" AMENDED, AND THAT THE SAME HAS BEEN CORRECTLY SURVEYED AND LAYED OUT ON THE GROUND AS SHOWN ON THIS PLAT.



MICHAEL W. NADEAU  
UTAH PLS NO. 4938744

## RECORD DESCRIPTION

FROM NORTH REDWOOD INDUSTRIAL PARK PLAT "A" SUBDIVISION PLAT: BOOK 873 PAGE 147.  
(VERBATIM)

BEGINNING ON THE SECTION LINE AT A POINT N 89°45'51" W 274.690 FEET ALONG THE SECTION LINE FROM THE NORTH 1/4 CORNER OF SECTION 10 TOWNSHIP 1N. RANGE 1W. SLB. & M. (DAVIS CO. BEARING BASE) AND RUNNING THENCE SOUTH 649.950 FEET, THENCE S 22°20'55" E 713.00 FEET, THENCE SOUTH 85.00 FEET, THENCE EAST 1402.036 FEET TO THE WESTERLY LINE OF REDWOOD ROAD, THENCE S 22°17'10" W 745.372 FEET ALONG SAID WESTERLY LINE, THENCE S 89°36'06" W 548.338 FEET, THENCE S 45°06'36" W 622.390 FEET, THENCE S 89°56'00" W 120.721 FEET, THENCE N 38°12'49" W 405.561 FEET, THENCE S 89°56'00" W 894.288 FEET, THENCE N 0°06'00" W 350.00 FEET, THENCE N 89°56'00" E 48.538 FEET, THENCE N 0°06'00" W 1863.002 FEET TO THE SECTION LINE, THENCE S 89°45'51" E 819.997 FEET ALONG THE SECTION LINE TO THE POINT OF BEGINNING.  
CONTAINS 3 LOTS AND 2 PARCELS

## OWNER'S DEDICATION

KNOW ALL MEN BY THESE PRESENTS THAT WE THE UNDERSIGNED OWNERS OF THE DESCRIBED TRACT OF LAND, HAVING CAUSED THE SAME TO BE SUBDIVIDED INTO LOTS AND STREETS TO HEREAFTER BE KNOWN AS NORTH REDWOOD INDUSTRIAL PARK PLAT "A" AMENDED, DO HEREBY DEDICATE FOR PERPETUAL USE OF THE PUBLIC ALL PARCELS OF LAND SHOWN ON THIS PLAT AS INTENDED FOR PUBLIC USE, AND DO WARRANT, DEFEND, AND SAVE THE CITY HARMLESS AGAINST ANY EASEMENTS OR OTHER ENCUMBRANCES ON THE DEDICATED STREETS WHICH WILL INTERFERE WITH THE CITY'S USE, OPERATION, AND MAINTENANCE OF THE STREETS AND DO FURTHER DEDICATE THE EASEMENTS AS SHOWN FOR THE USE BY ALL SUPPLIERS OF UTILITY OR OTHER NECESSARY SERVICES, IN WITNESS WHEREOF, WE HAVE HEREUNTO SET OUR HANDS THIS 28th DAY OF August, 2012.

James A. Olschewski (TYPED OR PRINTED) SIGNED  
Dir. Director Right of Way (UDOT) (TYPED OR PRINTED) SIGNED

## OWNER'S ACKNOWLEDGMENT

UTAH DEPARTMENT OF TRANSPORTATION  
IN WITNESS WHEREOF, SAID UTAH DEPARTMENT OF TRANSPORTATION HAS CAUSED THIS INSTRUMENT TO BE EXECUTED THIS 10th DAY OF August, A.D. 2012, BY ITS DIRECTOR OF RIGHT OF WAY.

STATE OF UTAH } S.S. UTAH DEPARTMENT OF TRANSPORTATION  
COUNTY OF DAVIS } BY: [Signature] Dir. Director of Right of Way

ON THE DATE FIRST ABOVE WRITTEN PERSONALLY APPEARED BEFORE ME, WHO, BEING BY ME DULY SWORN, DID SAY THAT HE IS THE DIRECTOR OF RIGHT OF WAY, AND HE FURTHER ACKNOWLEDGED TO ME THAT SAID INSTRUMENT WAS SIGNED BY HIM IN BEHALF OF SAID UTAH DEPARTMENT OF TRANSPORTATION.

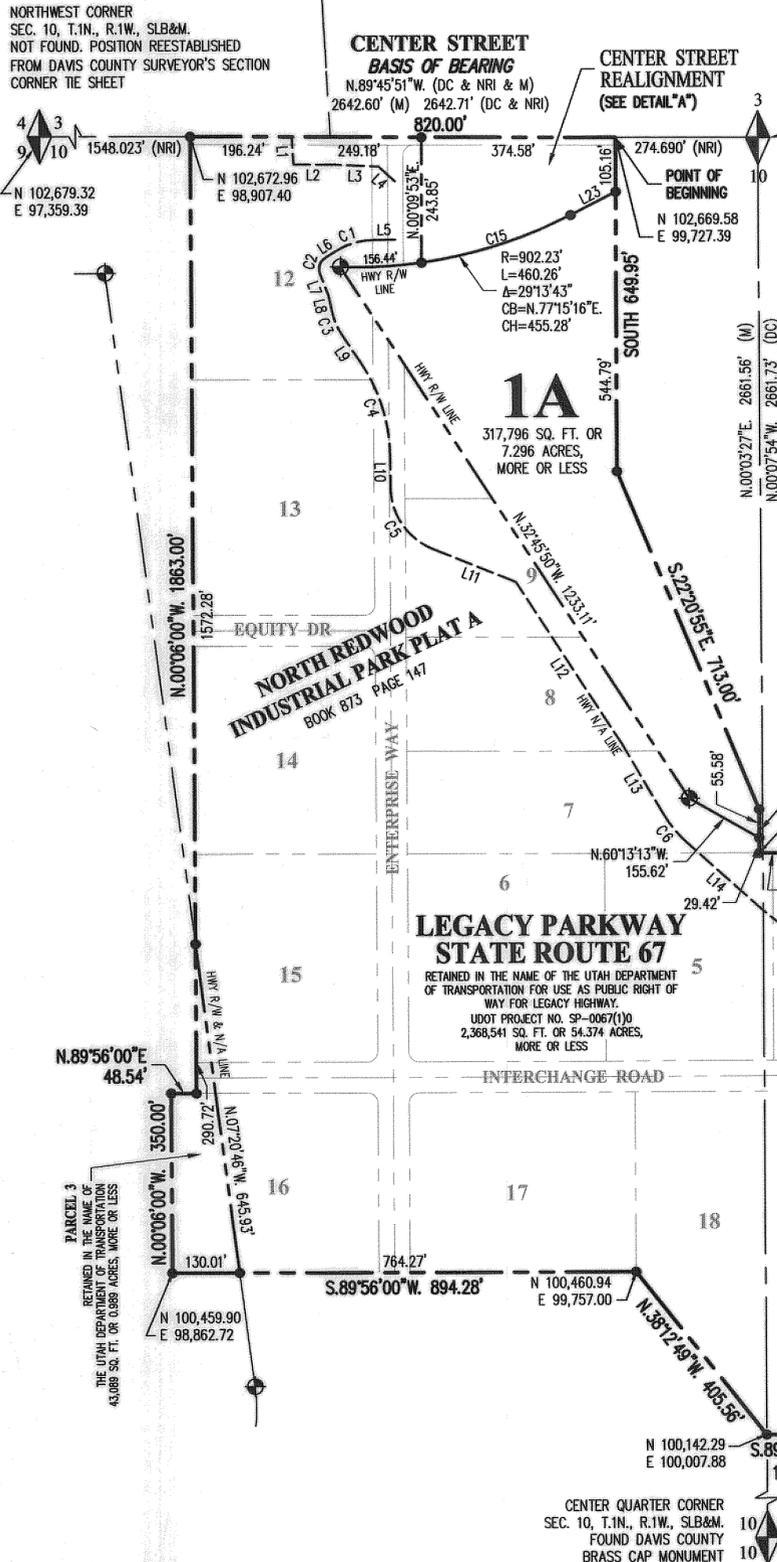
WITNESS MY HAND AND OFFICIAL STAMP THE DATE IN THIS CERTIFICATE FIRST ABOVE WRITTEN.  
November 25, 2013 MY COMMISSION EXPIRES  
[Signature] NOTARY PUBLIC  
MICHAEL CHRISTIAN TIMOTHY Notary Public, State of Utah Commission # 580874 My Commission Expires November 25, 2013

## SURVEY NOTES

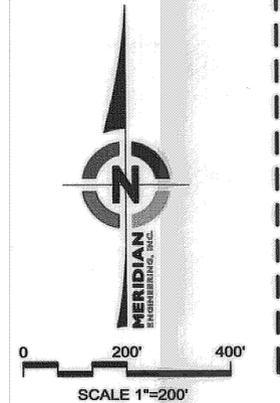
- (M) BEARING AND/OR DISTANCE DATA TAKEN DIRECTLY FROM ACTUAL SURVEYED MEASUREMENTS.
- (DC) BEARING AND/OR DISTANCE INFORMATION TAKEN FROM DAVIS COUNTY TOWNSHIP REFERENCE PLAT: T.1N., R.1W., SLB&M.
- (NRI) BEARING AND/OR DISTANCE INFORMATION TAKEN FROM NORTH REDWOOD INDUSTRIAL PARK PLAT "A" SUBDIVISION: BOOK 873, PAGE 147.
- UNLESS OTHERWISE NOTED, SET 5/8" x 24" REBAR WITH ORANGE PLASTIC CAP. CAP IS STAMPED: "MERIDIAN 801-569-1315".

## NORTH REDWOOD INDUSTRIAL PARK PLAT "A" AMENDED

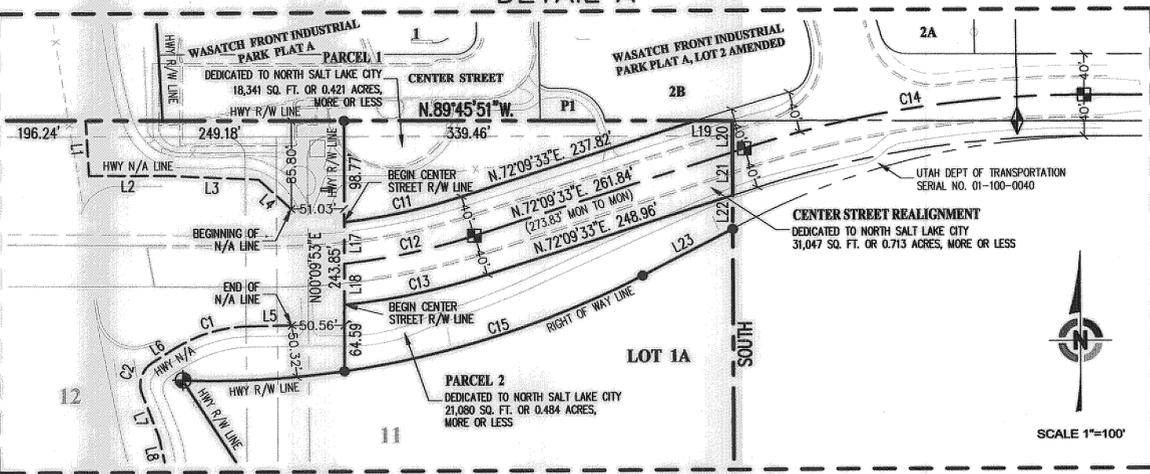
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STREET SITUATE IN THE NE1/4 AND THE NW1/4 OF SECTION 10, T.1N.,  
R.1W., SLB&M, NORTH SALT LAKE CITY, DAVIS COUNTY, STATE OF UTAH



NOTES:  
1. ALL COORDINATES SHOWN ARE BASED ON DAVIS COUNTY SURVEYOR'S OFFICE DATUM.  
2. APPROVAL OF THIS DEVELOPMENT PLAT BY NORTH SALT LAKE CITY DOES NOT CONSTITUTE ANY REPRESENTATION AS TO THE ADEQUACY OF SUB-SURFACE SOIL CONDITION NOR THE LOCATION OR DEPTH OF GROUNDWATER TABLES.



## DETAIL "A"



CURVE TABLE					
CURVE	LENGTH	RADIUS	DELTA	CHORD BEARING	CHORD LENGTH
C1	76.89	140.00	31°28'09"	S.73°16'18"W.	75.93
C2	34.29	25.00	78°35'21"	S.18°14'33"W.	31.67
C3	46.55	125.00	21°20'11"	S.22°51'40"E.	46.28
C4	195.98	340.00	33°01'35"	S.17°00'58"E.	193.28
C5	153.14	130.00	67°29'40"	S.34°15'01"E.	144.44
C6	74.88	240.00	17°52'33"	S.39°00'43"E.	74.57
C7	309.05	600.00	29°30'44"	S.62°42'22"E.	305.65
C8	104.00	325.00	18°20'06"	S.68°17'41"E.	103.56
C9	199.71	420.00	27°14'39"	S.45°30'19"E.	197.83
C10	52.15	138.96	21°30'09"	S.41°14'59"E.	51.85
C11	116.17	590.00	11°16'53"	N.77°48'00"E.	115.98
C12	128.76	630.00	11°42'36"	N.78°00'51"E.	128.53
C13	141.34	670.00	12°05'14"	N.78°12'10"E.	141.08
C14	333.18	1060.00	18°00'34"	N.81°09'51"E.	331.81
C15	303.82	902.23	19°17'38"	N.72°17'14"E.	302.39

## LEGEND

- SUBDIVISION BOUNDARY LINE
- EXISTING SUBDIVISION LINE
- NEW RIGHT OF WAY LINE
- EXISTING RIGHT OF WAY LINE
- NO ACCESS LINE
- NEW LOT LINE
- SECTION LINE
- CURB & GUTTER
- CHAINLINK FENCE
- EDGE OF ASPHALT
- FOUND UDOT RIGHT OF WAY MARKER
- STREET MONUMENT TO BE SET

LINE TABLE								
LINE	BEARING	LENGTH	LINE	BEARING	LENGTH	LINE	BEARING	LENGTH
L1	S.03°14'42"E.	53.84	L9	S.33°31'46"E.	63.47	L17	S.00°09'53"W.	40.26
L2	S.89°55'47"E.	75.27	L10	S.00°30'11"E.	60.75	L18	S.00°09'53"W.	40.23
L3	S.87°25'40"E.	88.30	L11	S.67°59'51"E.	171.90	L19	S.89°45'51"E.	35.12
L4	S.47°25'39"E.	42.59	L12	S.32°45'05"E.	374.66	L20	SOUTH	30.57
L5	S.89°00'23"W.	41.53	L13	S.30°04'26"E.	157.96	L21	SOUTH	42.02
L6	S.57°32'13"W.	24.64	L14	S.47°57'00"E.	186.46	L22	SOUTH	32.57
L7	S.21°03'08"E.	45.68	L15	S.59°07'38"E.	84.17	L23	S.62°38'24"W.	98.22
L8	S.12°11'35"E.	34.86	L16	S.31°52'59"E.	221.27			

PREPARED BY:  
**MERIDIAN ENGINEERING, INC.**  
9217 SOUTH REDWOOD ROAD SUITE A  
WEST JORDAN, UTAH 84088  
PHONE (801) 569-1315 FAX (801) 569-1319

RECOMMENDED FOR APPROVAL  
THIS 28th DAY OF August, 2012  
[Signature]  
CITY ENGINEER

CITY COUNCIL'S APPROVAL  
PRESENTED TO THE CITY COUNCIL OF NORTH SALT LAKE CITY, UTAH.  
THIS 21st DAY OF August, 2012 AT WHICH TIME THIS SUBDIVISION WAS APPROVED AND  
CITY RECORDER ATTEST: [Signature]  
MAYOR: [Signature]

RECOMMENDED FOR APPROVAL  
THIS 31st DAY OF JULY, 2012  
[Signature]  
CHAIRMAN PLANNING COMMISSION

RECOMMENDED FOR APPROVAL  
THIS 4th DAY OF Sept, 2012  
[Signature]  
CITY ATTORNEY

DAVIS COUNTY RECORDER  
ENTRY NUMBER \_\_\_\_\_ FEE PAID \_\_\_\_\_  
FILED FOR RECORD AND RECORDED THIS \_\_\_\_\_  
DAY OF \_\_\_\_\_, 20 \_\_\_\_\_ AT \_\_\_\_\_  
IN BOOK \_\_\_\_\_ OF \_\_\_\_\_  
COUNTY RECORDER \_\_\_\_\_ DEPUTY \_\_\_\_\_

COMP. FILE 09070-04  
N. REDWOOD IND.  
PROJECT NO. 10059-03  
SHEET NO. 1 OF 1

U:\Projects\10070-04\North Salt Lake Surveys\10070-04\_North Redwood Industrial Park A NEW LOTTING - DRAFT CHECK POINTS.dwg Aug 08, 2012 - 9:18am

**ORDINANCE NO. 2020-12**

**AN ORDINANCE VACATING A PORTION OF THE NORTH  
REDWOOD INDUSTRIAL PARK, PLAT A, LOTS 1A & 1B  
IN THE CITY OF NORTH SALT LAKE, UTAH AND  
ESTABLISHING AN EFFECTIVE DATE**

**WHEREAS**, the City of North Salt Lake is an incorporated city in Davis County Utah; and

**WHEREAS**, the City the city has received a petition to vacate parcels 1A & 1B of the North Redwood Industrial Park, Plat A Subdivision, amended; and

**WHEREAS**, the petition was requested and signed by the property owners of lots 1A & 1B; and

**WHEREAS**, lawful notice of a public hearing has been given pursuant to 10-9a-609 of the Utah Code and North Salt Lake City Code; and

**WHEREAS**, the North Salt Lake City Planning Commission held a public hearing on this matter on April 14, 2020 and determined that there is good cause for vacating lots 1A & 1B of the North Redwood Industrial Park Subdivision, Plat A, Amended and that no public street or municipal easement will be vacated or amended; and

**WHEREAS**, the North Salt Lake Planning Commission made a favorable recommendation to the City Council subsequent to said public hearing.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF NORTH SALT LAKE, STATE OF UTAH, AS FOLLOWS:**

**Section 1.** Pursuant to Utah Code 10-9a-609, lots 1A and 1B of the North Redwood Road Industrial Park Subdivision, Plat A, Amended are hereby vacated as attached in Exhibit A.

**Section 2. Severability.** If any section, part or provision of this Ordinance is held invalid or unenforceable, such invalidity or unenforceability shall not affect any other portion of this Ordinance, and all sections, parts and provisions of this Ordinance shall be severable.

**Section 3. Effective Date.** This Ordinance shall become effective upon recordation of the ordinance with the Davis County Recorder's office and publication or posting.

**PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF NORTH SALT LAKE, STATE OF UTAH, THIS 21<sup>st</sup> DAY OF APRIL, 2020.**

**CITY OF NORTH SALT LAKE**

By: \_\_\_\_\_  
Len Arave, Mayor

**ATTEST:**

\_\_\_\_\_  
City Recorder

City Council Vote as Recorded:

<u>Name</u>	<u>Vote</u>
Council Member Baskin	_____
Council Member Gordon	_____
Council Member Horrocks	_____
Council Member Mumford	_____
Council Member Porter	_____

**Exhibit A**  
**Legal Description**

**Parcels:** 01-451-0013; 01-451-0008; 01-451-0012

**Description:**

ALL OF LOT 1A OF THE NORTH REDWOOD INDUSTRIAL PARK SUBDIVISION, PLAT A, AMENDED

**Parcels:** 01-451-0010; 01-451-0011; 01-451-0009

**Description:**

ALL OF LOT 1B OF THE NORTH REDWOOD INDUSTRIAL PARK SUBDIVISION, PLAT A, AMENDED



# CITY OF NORTH SALT LAKE COMMUNITY & ECONOMIC DEVELOPMENT

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10 East Center Street, North Salt Lake, Utah 84054  
(801) 335-8700  
(801) 335-8719 Fax

## MEMORANDUM

**TO:** Honorable Mayor and City Council  
**FROM:** Sherrie Llewelyn, Community Development Director  
**DATE:** April 21, 2020  
**SUBJECT:** Consideration of a site plan for the Dickson Companies, Phase 2 office warehouse building at 920 West Center Street

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### RECOMMENDATION

The Planning Commission recommends approval of the site plan for Dickson Companies, Phase 2 at 920 West Center Street with the following conditions:

1. Completion and recordation of the lot line adjustment; and
2. Sheltering elements, such as an awning or other roof structure shall be added to the building as required by the design standards.

### BACKGROUND

The proposed site plan is located at the corner of Center Street and Cutler Drive on lots 18A and 19A of the North Wood Business Center Plat, amended. The two lots will be combined as part of a lot line adjustment approved administratively by city staff. The proposed site is currently vacant and is 3.2 acres in size.

The proposed site plan has been evaluated based upon compliance with the site plan application requirements found in 10-20-3 of the City Code. The site plan complies with requirements for parking, circulation, & traffic, as well as health, safety & noise. Landscaping and lighting also comply with the minimum requirements of city code.

### REVIEW

The proposed office and warehouse building will be 48,138 sq. ft. and will contain 10,430 sq. ft. dedicated to office space and 38,537 sq. ft. dedicated to warehousing. A final tenant has not been identified for the building as the interior will be built to suit future tenants.

The building site plan meets the minimum requirements for setbacks, has provided the required parking for 76 vehicles, including a minimum of 3 ADA spaces, and exceeds the minimum 10% landscape requirement with a total of 18.2%. The building meets the minimum standards for design with varied

parapets on the roof line, vertical and horizontal elements in facades visible from public streets, and high quality materials. Entry coverings will be added to the plans prior to issuance of a building permit.

The applicant has submitted corrected drawings in response to staff redlines. The planning redlines have been satisfied. The city engineer will need to verify that his redlines have been satisfied. The building is greater than 30,000 sq. ft. in size and therefore the final site plan approval is reserved for the City Council with recommendation from the Planning Commission.

### **POSSIBLE MOTION**

I move that the City Council approve the site plan for Dickson Companies phase 2 at 920 West Center Street with the following conditions:

1. Completion and recordation of the lot line adjustment; and
2. Sheltering elements, such as an awning or other roof structure shall be added to the building as required by the design standards.

### Attachments

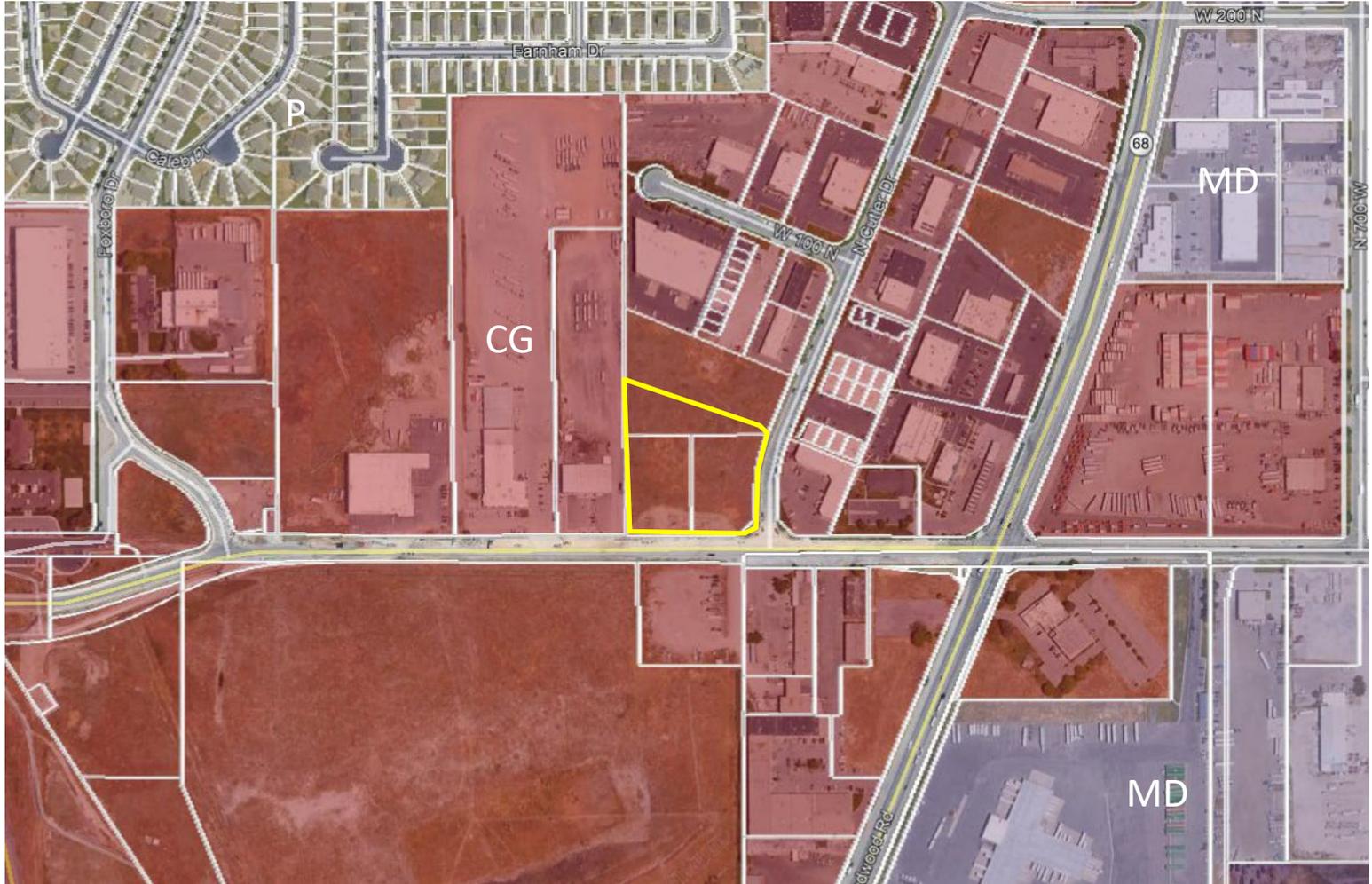
- 1) Aerial/Zoning Map
- 2) Site Plan
- 3) Landscape Plan
- 4) Elevations

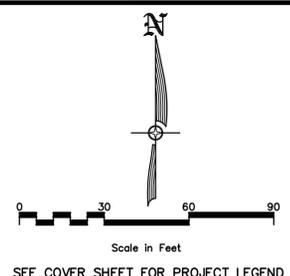
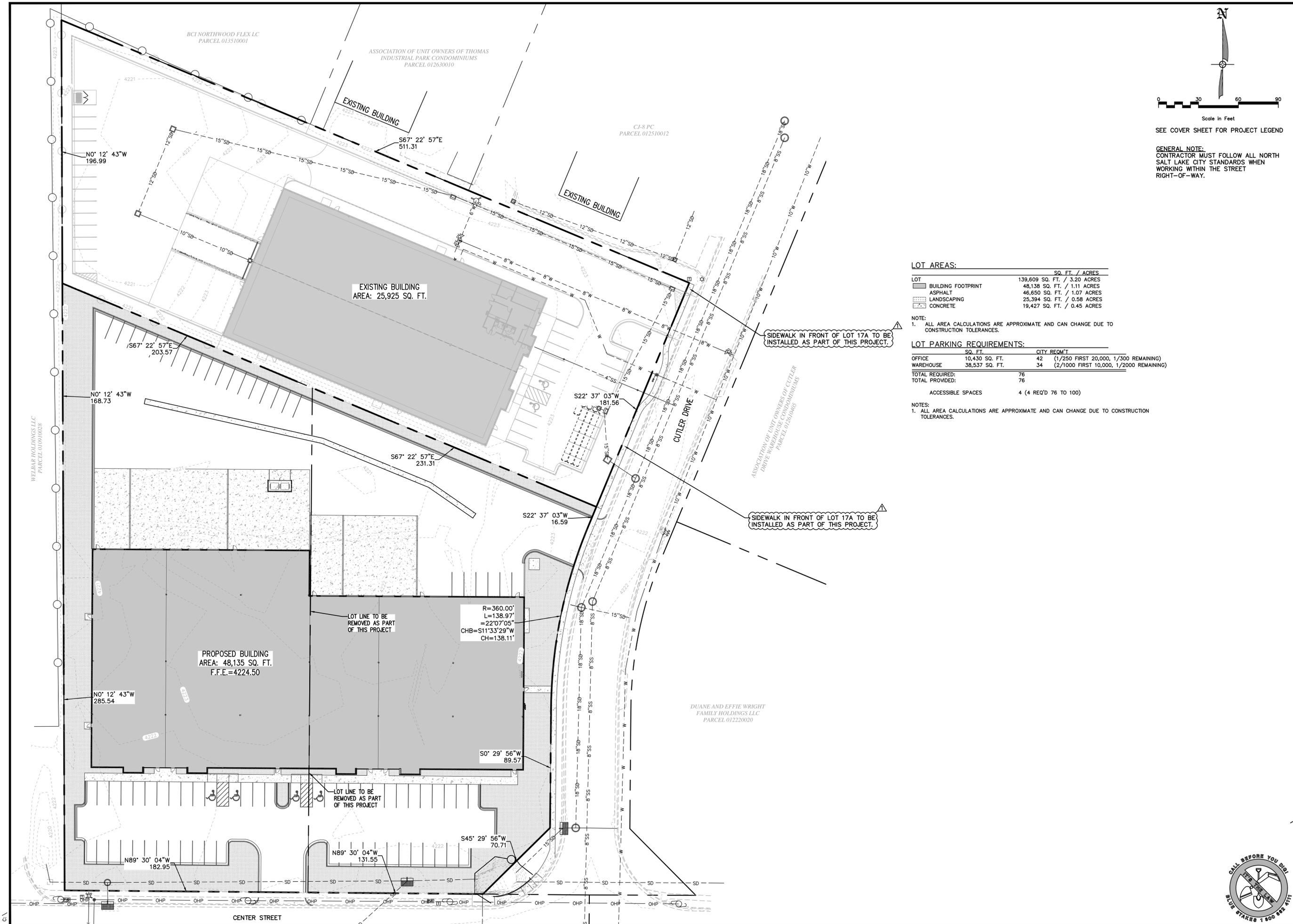


# Site Plan

## Dickson Companies, Ph. 2

### Aerial/Zoning





SEE COVER SHEET FOR PROJECT LEGEND

GENERAL NOTE:  
CONTRACTOR MUST FOLLOW ALL NORTH SALT LAKE CITY STANDARDS WHEN WORKING WITHIN THE STREET RIGHT-OF-WAY.

**LOT AREAS:**

LOT	SQ. FT.	ACRES
BUILDING FOOTPRINT	139,609	3.20
ASPHALT	48,138	1.11
LANDSCAPING	46,650	1.07
CONCRETE	25,394	0.58
	19,427	0.45

NOTE:  
1. ALL AREA CALCULATIONS ARE APPROXIMATE AND CAN CHANGE DUE TO CONSTRUCTION TOLERANCES.

**LOT PARKING REQUIREMENTS:**

	SQ. FT.	CITY REQ'T
OFFICE	10,430	42 (1/250 FIRST 20,000, 1/300 REMAINING)
WAREHOUSE	38,537	34 (2/1000 FIRST 10,000, 1/2000 REMAINING)
TOTAL REQUIRED:	76	
TOTAL PROVIDED:	76	
ACCESSIBLE SPACES		4 (4 REQ'D 76 TO 100)

NOTE:  
1. ALL AREA CALCULATIONS ARE APPROXIMATE AND CAN CHANGE DUE TO CONSTRUCTION TOLERANCES.

NO.	REVISIONS	BY	DATE
1			

DESIGNER: SDT  
PROJECT ENGINEER: SDT

**CIR**  
**ENGINEERING, L.L.C.**  
3032 SOUTH 1030 WEST, SUITE 202  
S.L.C. Utah 84119 - 801-949-6296

DICKSON WAREHOUSE PHASE 2  
910 WEST CENTER STREET, NORTH SALT LAKE CITY, UTAH  
OVERALL SITE PLAN



SHEET NO. C1.0  
PROJECT ID: A1097-02  
DATE: 03/10/20  
FILE NAME: PRJ-CTL  
SCALE: 1"=30'





GENERAL EXTERIOR FINISH NOTES

- ALL EXTERIOR CONCRETE WALLS THAT REQUIRE PAINTING SHALL BE SACK AND PATCHED PRIOR TO PAINTING.
- REFER TO ELECTRICAL SHEETS FOR ALL EXTERIOR LIGHTING AND COORDINATE ALL NECESSARY POWER LOCATIONS APPROPRIATELY.
- SEE DETAILS ON A511 FOR TYPICAL CONCRETE REVEALS AND PANEL JOINTS.
- CAULK AND SEAL ALL EXTERIOR JOINTS WITH APPROVED POLYURETHAN SEALANT.
- REFER TO MECHANICAL COM-CHECK FOR GLAZING STANDARDS.
- ALL GLAZING TO MATCH LOOK AND STYLE.

EXTERIOR ELEVATION COLOR:

- [Dark Gray Box] = DARK GRAY PAINTED CONCRETE TILT UP PANEL - SW7069 IRON ORE
- [Medium Gray Box] = GRAY PAINTED CONCRETE TILT UP PANEL - SW7067 CITYSCAPE
- [Light Gray Box] = LIGHT GRAY PAINTED CONCRETE TILT UP PANEL - SW7071 GRAY SCREEN

WINDOW FRAMES:

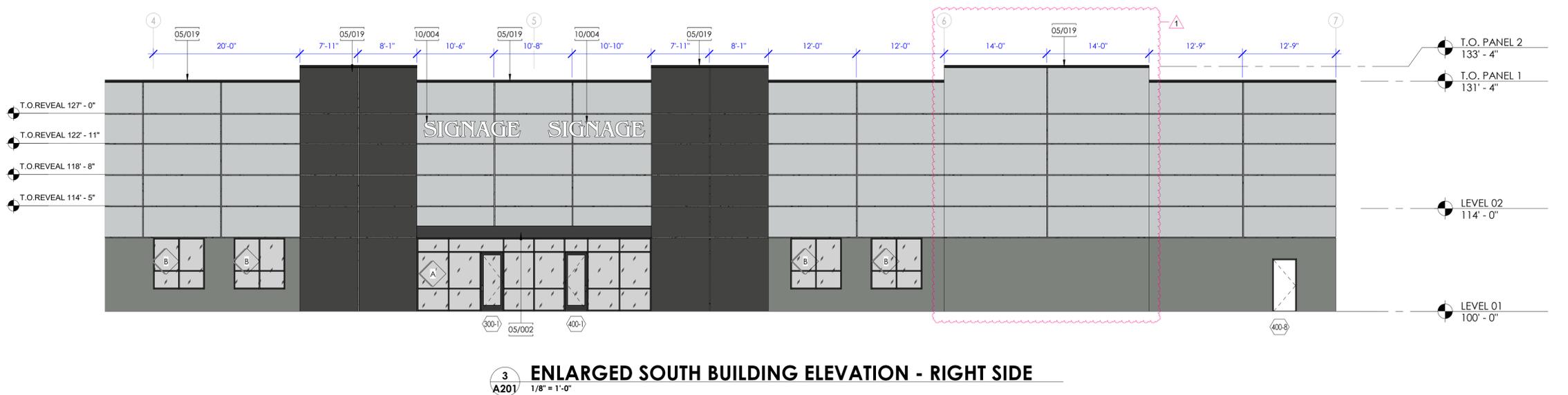
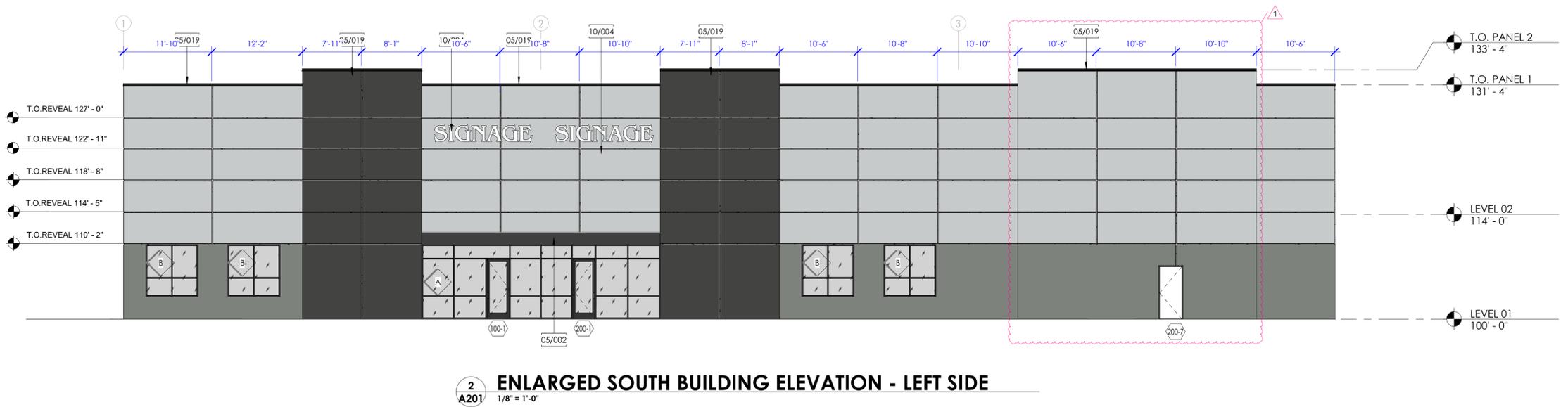
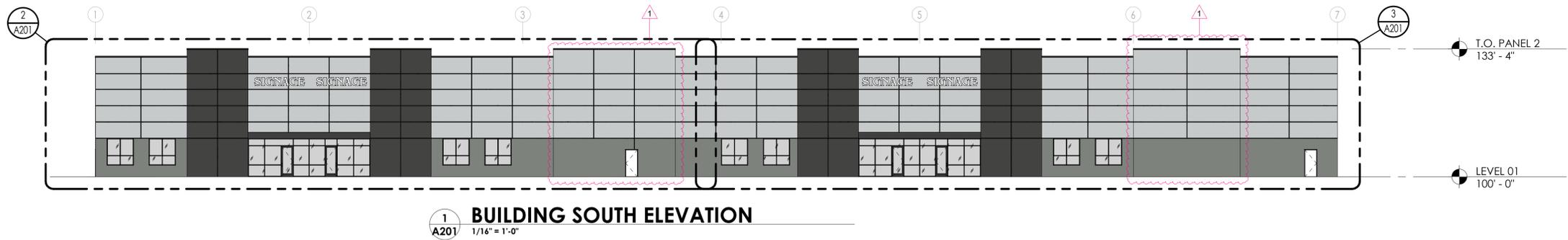
- [Dark Line Box] = ALUMINUM STOREFRONT; DARK BRONZE
- [Hatched Box] = GRAY TINTED GLAZING (OR APPROVED EQUAL) (AS PER COMCHECK, SEE MECH)

NOTES

- CONTRACTOR TO PROVIDE SUBMITTALS FOR APPROVAL.
- ALL GLAZING WITHIN 24" INCH OF A DOOR/FLOOR SHALL BE TEMPERED.
- SEE SHEET A531 FOR WINDOW HEADER, JAMB AND SILL DETAILS.
- ALL EXTERIOR GLASS TO BE DOUBLE PANE TINTED AND TO BE LOW 'E'. VERIFY GLASS SPECIFICATIONS WITH COM-CHECK PROVIDED BY MECHANICAL ENGINEER.
- REFER TO MECHANICAL COMCHECK FOR MINIMUM DESIGN STANDARDS FOR GLAZING.

KEYNOTE LEGEND

05/002	ENTRANCE CANOPY, PAC-CLAD MIDNIGHT BRONZE METAL FAÇADE, PROVIDE DRAINING WITH SLOPED STRUCTURE
05/019	METAL PARAPET CAP
10/004	EXTERIOR SIGNAGE BY OWNER. SIGNAGE IS TO BE REVIEWED AND PERMITTED UNDER A SEPARATE SIGN PERMIT APPLICATION



**aeurbia**  
architects and engineers  
909 West South Jordan Parkway  
South Jordan, Utah 84095  
phone: 801.746.0456 - fax: 801.575.0456  
webpage: aeurbia.com

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**NSL SPEC WAREHOUSE #2**  
DICKSON WAREHOUSE  
910 WEST CENTER STREET, NORTH SALT LAKE UT 84054

Revision Schedule	DATE	DESCRIPTION
MARK	04/02/2020	CITY COMMENTS #001

**AE2020.035**  
**BUILDING ELEVATIONS**  
DATE: MARCH 20, 2020  
SHEET #:  
**A201**  
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GENERAL EXTERIOR FINISH NOTES

1. ALL EXTERIOR CONCRETE WALLS THAT REQUIRE PAINTING SHALL BE SACK AND PATCHED PRIOR TO PAINTING.
2. REFER TO ELECTRICAL SHEETS FOR ALL EXTERIOR LIGHTING AND COORDINATE ALL NECESSARY POWER LOCATIONS APPROPRIATELY.
3. SEE DETAILS ON A511 FOR TYPICAL CONCRETE REVEALS AND PANEL JOINTS.
4. CAULK AND SEAL ALL EXTERIOR JOINTS WITH APPROVED POLYURETHAN SEALANT.
5. REFER TO MECHANICAL COM-CHECK FOR GLAZING STANDARDS.
6. ALL GLAZING TO MATCH LOOK AND STYLE.

EXTERIOR ELEVATION COLOR:

- = DARK GRAY PAINTED CONCRETE TILT UP PANEL - SW7069 IRON ORE
- = GRAY PAINTED CONCRETE TILT UP PANEL - SW7067 CITYSCAPE
- = LIGHT GRAY PAINTED CONCRETE TILT UP PANEL - SW7071 GRAY SCREEN

WINDOW FRAMES:

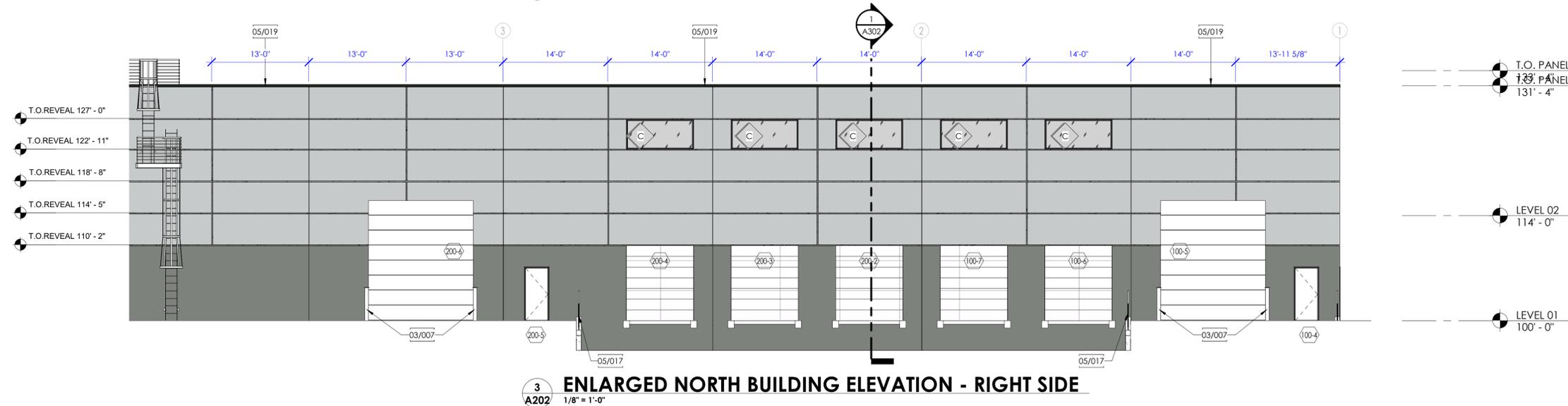
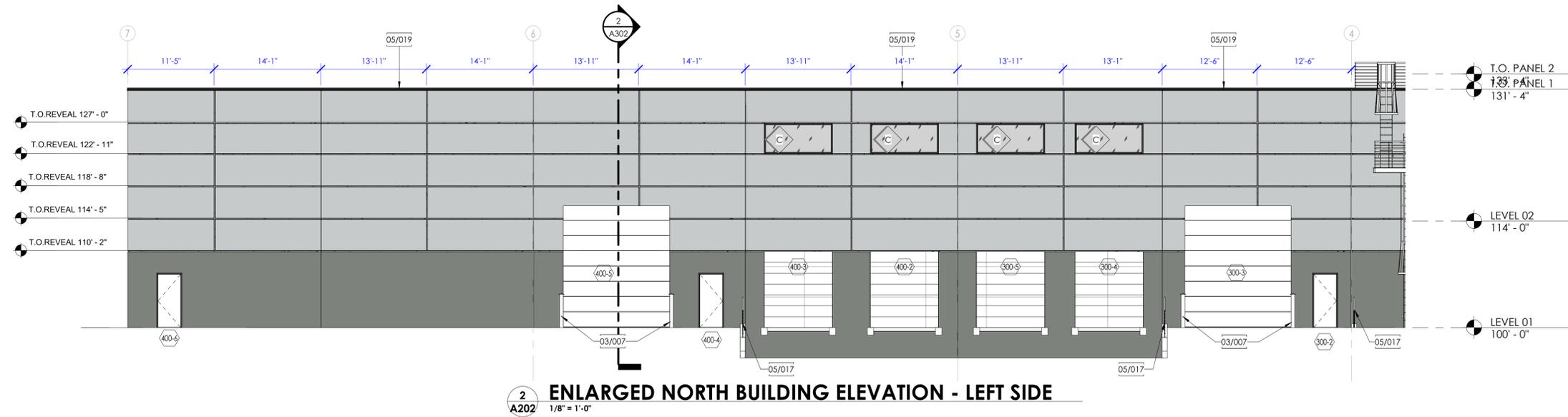
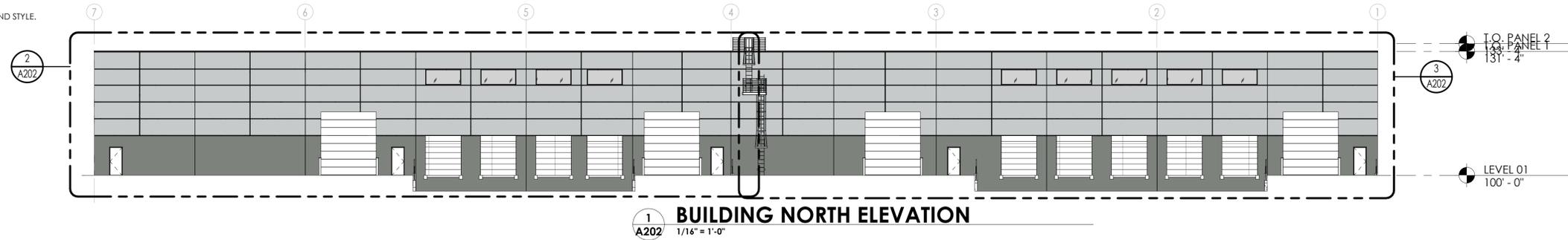
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NOTES

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KEYNOTE LEGEND

03/007	PRECAST CONCRETE BOLLARD. SEE DETAIL 6/A001
05/017	EXTERIOR DOCK RAILING. SEE DETAIL 14/A001
05/019	METAL PARAPET CAP



**ae urbia**  
architects and engineers

909 West South Jordan Parkway  
South Jordan, Utah 84095  
phone: 801.746.0456 - fax: 801.575.0456  
webpage: aeurbia.com

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REVISION	DATE	DESCRIPTION

**AE2020.035**  
**BUILDING ELEVATIONS**

DATE: MARCH 20, 2020  
SHEET #:  
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CONSTRUCTION DOCUMENTS



# NORTH SALT LAKE PUBLIC WORKS

10 East Center Street  
North Salt Lake, Utah 84054  
801-335-8700  
[www.nslcity.org](http://www.nslcity.org)

Leonard K. Arave  
Mayor  
David Frandsen  
Public Works Director

---

**TO:** Honorable Mayor and City Council  
**FROM:** David Frandsen, Public Works Director  
**DATE:** April 16, 2020  
**SUBJECT:** City Construction Standards

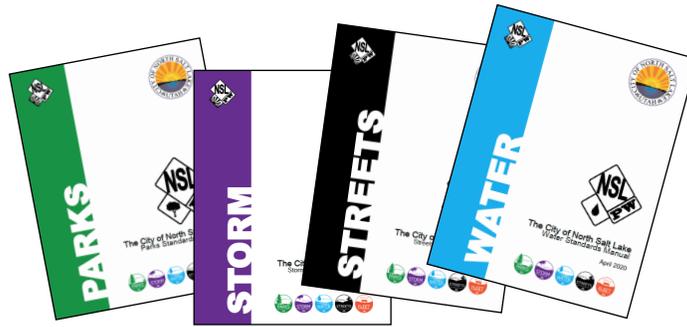
Honorable Mayor and City Council,

We are very pleased to propose to you our new Construction Standards manuals for the Streets, Water, Storm Water and Parks Departments. These manuals have been developed through a collaborative effort from the Public Works, Engineering and Community Development Departments. Our objective is for our City to have a living document to guide developers, engineers and contractors in the development, repair and replacement of our critical infrastructure. These manuals have been prepared as a tool to make the steps and requirements clear to everyone who does work in our City. Careful effort has been made to include pictures, diagrams and charts that make it easy to understand and locate information.

These standards are comprised of design guidelines, material requirements and technical specifications to provide maximum life-cycle usefulness and ensure maintainability of this infrastructure for years to come. These Standards will be available in print, on our website and we will be taking them to local supply houses so they can guide contractors to make purchases based on our requirements. We look forward to answering any questions you may have regarding these proposed Standards.

Regards,

David Frandsen  
Public Works Director



## A quick overview of what you will see in these new Standards Manuals

### Material Specifications

	<b>Pipe</b> 1200 and 2400. Pipe size will be approved by the North Salt Lake Water Department. Double pipe may be required by NSL based on engineering requirements.		<b>Tape</b> 12" Wide 20 Mil Tape. No other tape will be allowed.
	<b>Pipe Wrap</b> Polyethylene Encasement. All fittings, hydrants and valves must be wrapped with address approved polyethylene.		<b>Grease</b> NSL Food Quality Grease. Applied to all nuts and bolts.
	<b>Fittings</b> Ductile iron. Cement lining and aliphatic cast coat.		<b>Tapping Sleeves</b> Ford or Romac stainless steel sleeve. Should be ground and wrapped in accordance with these specs.
	<b>Grip Rings</b> Romac with Blue Bolts up to 12". Mergals should be used on installation 14" and above.		<b>Fire Hydrants</b> Mueller Super Centurion 230.
	<b>Valves</b> Gate. Mueller type resilient seat valves or the use of a suitable equivalent with approval by North Salt Lake Water Department prior to installation.		<b>Service Line</b> CTS Polyethylene Pipe. Minimum service new installations will be 14". All other SWPPP related materials can be found on the North Salt Lake City website.
	<b>Valve Boxes</b> Sliding adjustable type, cast iron, with the word "WATER" or appropriate word cast into it.		<b>Service Fittings</b> Ford or Mueller with insert in accordance with AWWA standards.

7 Water Department

Detailed material specifications with pictures and description of requirements

### Construction Information

**Pre Construction**

- All connections, extensions or alterations to a storm drain system owned by North Salt Lake City must be approved in advance by the Public Works Director or designee in accordance with North Salt Lake City Code.
- Before working within North Salt Lake City street right-of-way, the contractor must get an approved excavation permit.
- A preconstruction meeting must be held before construction can begin. The meeting will be scheduled by North Salt Lake and shall include appropriate North Salt Lake City personnel, developer, developer's contractor's (suppliers), and anyone else deemed necessary.
- A signed copy of the Storm Water Pollution Prevention Plan (SWPPP) is required on all construction sites that will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land, or a process discharge has been designated by the City of North Salt Lake as needing a Storm Water Pollution Prevention Plan (SWPPP).

The city must receive and review:

- A signed copy of the NOI (Notice of Intent)
- A signed copy of the SWPPP (Storm Water Pollution Prevention Plan)

These items must be submitted and reviewed by the City prior to any type of (building, excavating, grubbing/grading, etc.) permits are given.

- Guidelines on how to file the NOI and how to prepare a SWPPP can be found at the link below: <https://nsll.utah.gov/water-quality/general-construction-storm-water-updates-permits>
- All other SWPPP related materials can be found on the North Salt Lake City website
  - LID Manual
  - BMP Manual
  - SWPPP Preparation Checklist

A storm water maintenance agreement must be completed and submitted to North Salt Lake City before construction can begin.

**Construction**

- North Salt Lake City must be given 48 hour advance notification of when work is to begin.
  - A signed copy of the SWPPP (Storm Water Pollution Prevention Plan)
- North Salt Lake City personnel will inspect all work being performed and nothing shall be buried until approved by an authorized inspector. North Salt Lake City maps all new construction with a global positioning system (GPS) and any storm water infrastructure buried before inspection and documentation will be uncovered by the contractor.
- North Salt Lake City personnel will require extended range ball markers be installed to help with future locating when deemed necessary by the Public Works Department. These ball markers will be provided by North Salt Lake City.
- When installing rigid storm drain pipe contractors will be required to install a manhole at every change of direction and change of grade of the pipe. When changing type or size of pipe contractor will also be required to install a manhole.

3 Storm Water Department

Information to assist engineers, developers and contractors though the entire project from design phases to final inspection. We have included project requirements and contact information.

### NSL

**SWPPP Inspections** will be conducted by North Salt Lake personnel at a minimum of once a month unless conditions require more inspections.

- North Salt Lake City personnel must be made aware of any construction site de-watering or pumping activities that will impact NSL storm drain system.
- Television inspection of all new and modified storm drain pipes and structures is required to be performed at the expense of the contractor. A video log of the new pipe must be submitted to the City.
- Maximum distance between inlets is 800 feet.
- Maximum distance between manholes is 400 feet.

**Hydrant Meter Rentals for Construction Water**

- The City of North Salt Lake offers hydrant meter rentals to sign up contact us at 801.335.8700.

**Post Construction**

- North Salt Lake City, Davis County Health Department and South Davis Metro Fire must give final approval before a Certificate of Occupancy can be issued.
- As-built drawings must be submitted to North Salt Lake before a Certificate of Occupancy can be issued.
- Notice of Completion (NOC) must be filed upon completion of project prior to final SWPPP inspection and all BMP's must be removed.

**Contact Information**

Name	Title	Phone	Email
Randy Simmons	Public Works Inspector	801.510.2379	randy@nsllcity.org
Denny Rhodes	Storm Compliance Officer	801.335.8662	denny@nsllcity.org

4 Public Works Specification Manual

Detailed material specifications with pictures and description of requirements

### Design Requirements

#### Drive Approaches

##### FLARE DRIVE APPROACH PLAN

STANDARD LAYOUT

**SECTION A-A**

**DRIVE APPROACH NOTES:**

- MINIMUM CONCRETE THICKNESS IS 4" FOR DRIVEWAY AND 6" FOR SIDEWALK.
- MINIMUM CONCRETE THICKNESS IS 4" FOR DRIVEWAY AND 6" FOR SIDEWALK.
- MINIMUM CONCRETE THICKNESS IS 4" FOR DRIVEWAY AND 6" FOR SIDEWALK.
- MINIMUM CONCRETE THICKNESS IS 4" FOR DRIVEWAY AND 6" FOR SIDEWALK.
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- MINIMUM CONCRETE THICKNESS IS 4" FOR DRIVEWAY AND 6" FOR SIDEWALK.

5 Streets Department

#### OPEN DRIVE APPROACH PLAN

ALTERNATE LAYOUT FOR USE IN COMMERCIAL AND INDUSTRIAL ZONES WITH PRIOR APPROVAL

**SECTION B-B**

6 Public Works Specification Manual

### Underground Irrigation Systems

#### 2.11 DRIP IRRIGATION

- Drip irrigation materials shall be manufactured by Rain Bird.
- All drip emitters shall be Rain Bird XBT or PCT 1/2" threaded emitter on 1/2" spiral barbed male adapter and swing pipe.
- Complete tubing shall be constructed of high quality linear, low density, UV-resistant, polyethylene resin materials with tri-male. Integral emitters at specified intervals.
- All insert barbed fittings shall be constructed of malleable, UV-resistant plastic. Each fitting shall have a minimum of two (2) ridges or bumps per outlet. All fittings shall be from the manufacturer and shall be available in one of the following end configurations:
  - Barbed insert fittings.
  - Male pipe threads (MPT) with barbed insert fittings.
  - Female pipe threads (FPT) with barbed insert fittings.
- Each drip remote control valve assembly shall contain the following components (in required sequence):
  - PVC ball valve.
  - In-line disc or screen filter with 100 micron/150 mesh filter element.
  - Remote control valve.
  - In-line pressure regulator.
- Provide the following equipment to each drip valve circuit, located and installed per manufacturer's recommendations:
  - Line flushing valve(s) - minimum of one (1) on each exhaust header and one (1) for every fifteen (15) gpm in the circuit.
  - Air/vacuum relief valve(s) at all high points in the system.

GPS	Assignment
2.0	1 Assigned to each 1/2 gallon plant
4.0	8 Assigned to each 12 gallon plant
4.0	8 Assigned to each 2" out-pipe
2.0	2 Assigned to each 3 gallon plant

Figure 15 Drip Valve Assembly

23 Parks Department

Detailed material specifications with pictures and description of requirements

Design requirements to help with design and construction.

Detailed construction drawings with descriptions to help contractors build to our requirements.



# PARKS



## The City of North Salt Lake Parks Standards Manual

April 2020





**The City of North Salt Lake**  
10 East Center Street  
North Salt Lake City, Utah 84054  
Phone 801.335.8700  
[www.nslcity.org](http://www.nslcity.org)



# The City of North Salt Lake Public Works Specification Manual

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# Pre Construction

## Pre Construction

- Prior to installation all extensions, or connections to water mains must be approved in advance by the public services director or designee in accordance with North Salt Lake City Code.
- Obtain all street cut permits and any other permits applicable to the work being preformed.
- On mainline pipe jobs a pre construction meeting should be set up by the developer. The meeting should include the developer, contractors and North Salt Lake City personnel who will be involved in the project. This meeting is generally beneficial for all parties involved.

## Construction

- North Salt Lake City will be given advance notification of when work is to begin.
- It is unlawful for any person, without authority, to open any valve or other fixture attached to the city waterworks system in accordance with North Salt Lake City Code 7-4.1.
- North Salt Lake City personnel will inspect all work being performed and nothing shall be buried until approved by an authorized inspector. North Salt Lake maps all new construction with a global positioning system (GPS) and if water features are buried before they are documented or inspected you will be asked to uncover them.
- North Salt Lake personnel may also require extended range ball markers be installed to help with future locating. These ball markers will be provided by North Salt Lake City.

## Hydrant Meter Rentals & Construction Water

- The City of North Salt offers hydrant meter rentals during construction.
- To sign up contact us at 801.335.8700.



## Contact Information

Name	Title	Phone	Email
City Hall	General Information	801.335.8700	
TJ Riley	Parks Superintendent	801.335.8663	tjriley@nslcity.org

## List of Detail Drawings

FIG #	TITLE	PAGE
1	Hydrometer (Master Valve)	11
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# Material Specifications

	<b>Master Valve</b>
	Netafim Hydrometer (Arad)
	<b>Isolation Valve</b>
	Mainline Valves Apollo (Full Port)
	<b>Remote Control Valve</b>
	Rain Bird PESB
	<b>Quick Coupling Valve</b>
	Rain Bird 44LRC
	<b>Manual Drain Valve</b>
	Mueller with Minneapolis Threaded Top
	<b>Valve Boxes</b>
	Carson

	<b>Backflow Preventer</b>
	Wilkins 375 XLT (Reduced Pressure Only)
	<b>Filters</b>
	Amiad
	<b>Controller</b>
	Rain Master Evolution DX2 Series
	<b>PVC Pipe Fittings</b>
	Lasco, Spears, Dura
	<b>Ductile Iron Fittings</b>
	Harco, Tyler Mechanical Joint
	<b>Unions</b>
	Action

	<b>Spray Sprinkler</b>
	<b>Rotor Sprinkler</b>
	<b>Drip Irrigation Emitters, Inline Drippers</b>
	<b>Rigid Swing Joint</b>
	<b>Swing Pipe</b>
	<b>Wire Splice</b>

	<b>PVC Primer</b>
	<b>PVC Glue</b>
	<b>PRV Pipe</b>



# Underground Irrigation Systems

## Part 1– General

### 1.01 SUMMARY

- A. Section includes:
  - 1. Underground irrigation systems complete with heads, valves, controls, and accessories.
- B. Related sections:
  - 1. Section 02910 Planting

### 1.02 REFERENCE STANDARDS

- A. NFPA 70: National Electric Code.
- B. ASTM: American Society for Testing and Materials
- C. IA: The Irrigation Association: Main BMP Document, Landscape Irrigation Scheduling and Water Management Document.
- D. ASIC: American Society of Irrigation Consultants: ASIC Grounding Guideline
- E. North Salt Lake City: City Code/Ordinance relating to Landscape and Irrigation

### 1.03 DEFINITIONS

- A. Water Supply: Culinary and/or secondary pumping, piping, and components provided and installed by others to provide irrigation water to this project. Includes but is not limited to: storage ponds, pump stations, saddles, nipples, spools, shut-off valves, corporation stop valves, water meters, pressure regulation valves, and piping or components upstream of (or prior to) the Point-of-Connection.
- B. Point-of-Connection: Location where the Contractor shall tie into the water supply for landscape irrigation needs and use. Tie to existing piping.
- C. Main Line Piping: Pressurized piping downstream of the point-of-connection to provide water to remote control valves and quick coupling valves. Normally under constant pressure.
- D. Lateral Line Piping: Circuit piping downstream of the remote control valves to provide water to sprinkler heads, drip system, or bubblers. Normally under pressure only when control valve is in operation.

### 1.04 PERFORMANCE REQUIREMENTS

- A. The work to be performed under this Section shall consist of furnishing all labor and materials necessary to construct a complete working and tested underground sprinkler irrigation system per all drawings and specifications, providing one hundred (100) percent head-to-head coverage on all lawn and planting areas on the site without overspray onto hardscape, buildings, or other site features. Included also will be system maintenance and warranties.
- B. The efficiency of the completed irrigation system shall meet the following minimum efficiency standards:
  - 1. Circuits using spray sprinklers shall perform at a minimum 60% efficiency.
  - 2. Circuits using rotor sprinklers shall perform at a minimum 70% efficiency.
  - 3. Efficiency shall be determined by an independent water audit performed by a certified irrigation auditor selected by the City. The Contractor shall include in his bid price the cost of this audit. The audit shall be conducted after substantial completion and before final acceptance of the irrigation system.
- C. The Contractor shall perform, but not be limited to, all of the following functions: paying all connection fees, deposits, and all other charges related to the connection to the water source; obtain all permits; complete all excavation and backfill; provide backflow device, tapping saddle, yoke, stop and waste, corp. cock, concrete vaults and miscellaneous pipe fittings; make necessary road repairs; provide safety barrier; make connection to water source; install all electric valves, valve control devices, meter base, conduit, junction boxes, and all necessary wiring. All work shall be in compliance to applicable codes and requirements of the utility companies involved.
- D. If any or all of the above mentioned fees or charges are not listed on the bidding schedule or on plan, they shall be included in the bid lump sum price of the irrigation sprinkling system item.



- E. Contractor shall verify with the appropriate water district the location of the water service main line and water pressure, and complete all requirements necessary to bring water service to the site. Total cost to be included in the irrigation sprinkling system bid item.
- F. The above specification statement supersedes the graphic representation location of the contract limit line. This pertains to the water line location on either side of the street adjacent to the project site.
- G. All work shall be done in accordance with the drawings and specifications, as well as all applicable water and electrical codes.
- H. The Contractor shall operate, maintain until acceptance, and guarantee the new system until all lawn and plants installed on this project have become established and have been approved by the City Project Manager.

#### 1.05 SUBMITTALS

- A. Product Data: Complete set of manufacturer's technical data and installation instructions for all equipment to be installed on the project. Submittal shall be made prior to commencement of any irrigation work.
- B. Main line and lateral line pressure test results: Submitted at the time of occurrence.
- C. Operation and Maintenance (O&M) Manual:
  - 1. O&M manual shall contain the following information:
    - a. Manufacturer cut sheets and current printed specifications for each element or component of the irrigation system.
    - b. Parts list for each operating element of the system.
    - c. Manufacturer's printed literature on operation and maintenance of operating elements of the system.
    - d. Section listing instructions for overall system operation and maintenance. Include directions for spring start-up and winterization.
  - 2. Manual shall be submitted at least thirty (30) days prior to final inspection and acceptance of the project.
- D. Complete As-Built Drawings:
  - 1. Drawings shall conform to the following criteria:
    - a. One (1) 24" x 36" and one (1) 11" x 17" drawing shall be submitted.
    - b. All submitted drawings shall be made of Mylar.
    - c. Show detail and dimension changes made during installation.
    - d. Include field dimension locations of sleeving, points of connection, main line piping, wiring runs not contained in main line pipe trenches, valves and valve boxes, quick coupling valves.
    - e. Dimensions shall be taken from permanent constructed surfaces, features, or finished edges located at or above finished grade.
  - 2. As-Built drawings shall be submitted prior to final inspection and acceptance.
- E. Controller Map: Each controller shall be equipped with a color-coded copy of the area that the controller services. Include valve zone number, type of plant material irrigated, and zone location on the project. Laminate map with heat shrink clear plastic and mount inside controller.



# Underground Irrigation Systems

## 1.06 QUALITY ASSURANCE

- A. Acceptance: Do not install work of this section prior to acceptance of the area by the City Project Manager as being properly prepared to receive said work (i.e. at proper grade, properly compacted, permanent fixtures in place, etc.).
- B. Adequate Water Supply: Contractor shall verify that proper connection is available to supply lines, and is of adequate size and volume. Perform static water pressure test prior to commencement of work. Notify City project manager of problems encountered prior to proceeding.
- C. Workmanship: It is the intent of this specification that all materials herein specified and shown on the construction documents shall be of the highest quality available and meet the requirements specified. All work shall be performed in accordance with the best standards of practice relating to the trade.
- D. The Contractor shall provide to the City a document or resume which includes the following information:
  - 1. The Contractor has been installing sprinkler systems on commercial projects for at least ten (10) previous consecutive years.
  - 2. The Contractor is currently licensed to perform landscape construction in the State of Utah.
  - 3. The Contractor is bondable and insurable for the work to be performed.
  - 4. References of at least five (5) projects of similar size and scope completed within the last ten (10) years. Three (3) of the projects listed must be located in the Wasatch Front area.
  - 5. List of suppliers from whom materials will be obtained for use on this project.
  - 6. Project site Foreman or Supervisor has at least five (5) consecutive years of experience in commercial irrigation installation. This person shall be a current Certified Irrigation Contractor (CIC) in good standing as set forth by The Irrigation Association. This person shall be on the project site at least seventy-five (75) percent of each working day.
  - 7. Evidence that the Contractor currently employs a sufficient quantity of workers to complete the project within the time limits established by this project contract.
  - 8. List of employees to be assigned to this project and their individual irrigation installation experience. All general laborers or workers on the project shall be previously trained and familiar with sprinkler installation, and supervised by a foreman with at least one (1) year of supervisory experience.
  - 9. All workers engaged in handling, assembling, and gluing of PVC solvent weld pipe shall carry on the project site a certificate of training from the IPS factory representative authorizing said worker to prime and glue PVC pipe.
  - 10. All workers engaged in the handling and installation of buried power wire, remote control valve wire, wire connectors, controllers, and grounding equipment shall carry on the project site a certificate of training from a Paige Wire factory representative authorizing said worker to install wire, wire connectors, and grounding equipment.
  - 11. All workers engaged in the handling and installation of low volume tubing, emission devices, and other low volume components shall carry on the project site a certificate authorizing said worker to install low volume irrigation equipment.
  - 12. Documents verifying CIC, PVC pipe certification, and electrical component certification shall be provided at least 60 days in advance of any irrigation installation on the project site.

## 1.07 PROJECT CONDITIONS

- A. Any discrepancies between existing site conditions and those indicated on the plans shall be called to the attention of the Inspector and/or Landscape Architect, prior to continuance of the project.
- B. The Contractor shall use only the equipment and products specified in the construction drawings. No substitution of materials will be allowed on the irrigation system without prior authorization from the Landscape Architect and the Owner.



- C. During delivery, installation, and storage of materials for the project, all materials shall be protected from contamination, damage, vandalism, and prolonged exposure to sunlight. All material stored at the project site shall be neatly organized in a compact arrangement and storage shall not disrupt the project Owner or other trades on the project site. All material to be installed shall be handled by the Contractor with care to avoid breakage or damage. Materials damaged by the Contractor shall not be used, but shall be replaced with new materials at the Contractor's expense.
- D. The Contractor shall familiarize himself and his workmen with all hazards and existing utilities prior to commencing work.

## Part 2– Products

### 2.01 GENERAL

- A. All materials shall be manufactured by United States companies.
- B. The Contractor shall provide all materials to be used on this project. The Contractor shall not remove any material purchased for this project from the project site, nor mix these project materials with other contractor-owned materials. The Owner retains the right to purchase and provide project materials.
- C. Handling and unloading of all equipment, pipe, and fittings shall be in such a manner as to insure delivery at the job site in a sound, undamaged condition. Any equipment or pipe found to be damaged or defective in workmanship or materials shall be rejected or removed and replaced if found installed.

### D. 2.02 PIPE

- A. All PVC pipe used on this project for the irrigation system shall conform to the requirements of ASTM - 1685. It shall be free from cracks, holes, foreign material, blisters, inside bubbles, wrinkles, and dents.
- B. All pipe, 3 inches inside diameter and smaller (including all fittings), shall be Schedule 40 PVC solvent weld bell end unless otherwise specified.
- C. All pipe, 3 inches inside diameter and larger (including all fittings), shall be PVC (except as required for conversion to metal fittings), Class 200 gasketed bell end.
- D. Maximum flows allowed through main line and lateral line pipe shall be determined by water speed in the pipe. The maximum water speed allowed in both main lines and lateral lines is five (5) feet per second. The resulting maximum gallons per minute (gpm) allowed to flow through PVC pipes are as follows:

Pipe Size	GPM
3/4"	8
1"	12
1 1/4"	22
1 1/2"	30
2"	50
2 1/2"	75
3"	110
4"	190
6"	425

For sizes larger than 3", consult manufacturer's recommendations.

- E. No bends in pipe shall be permitted. The Contractor shall use elbow fittings of ninety (90), forty-five (45), twenty-two and one half (22-1/2), and eleven and one quarter (11-1/4) degrees as individual situations demand.



# Underground Irrigation Systems

## 2.03 FITTINGS

- A. All PVC fittings used on this project for the irrigation system shall conform to the requirements of ASTM D-2466.
- B. Main Line Fittings:
  - 1. All main line fittings larger than three (3) inches inside diameter shall be push-on, gasketed, and constructed of ductile iron material.
  - 2. All ductile iron fittings having a change of direction shall have proper concrete thrust blocks installed. The size and type of thrust block depends on pressure, pipe size, kind of soil, and type of fitting. As a general rule, one (1) cubic foot minimum of class AA (AE) Type II concrete is required for each thrust block. Follow ductile iron fitting manufacturer's recommendations for thrust block size.
  - 3. All main line fittings three (3) inches and smaller inside diameter shall be solvent weld Schedule 80 PVC.
  - 4. Epoxy coated double strap saddles, M.J. tees, Schedule 80 tees with SxT Schedule 80 bushings, or Harco ductile iron service tees are approved on PVC main lines for automatic control valve installation. M.J. fittings shall be greased and wrapped.
- C. Lateral Line Fittings:
  - 1. All lateral line fittings shall be solvent weld Schedule 40 PVC.
  - 2. All risers and exposed fittings shall be solvent weld Schedule 80 PVC, including conversions to metal pipe and fixtures, unless otherwise noted on the plans.

## 2.04 VALVES

- A. **Master Valve:** All master valves shall be Netafin (Arad) hydrometer. Master valve assembly shall be installed according to detail in drawings.

### Hydrometer (Master Valve)

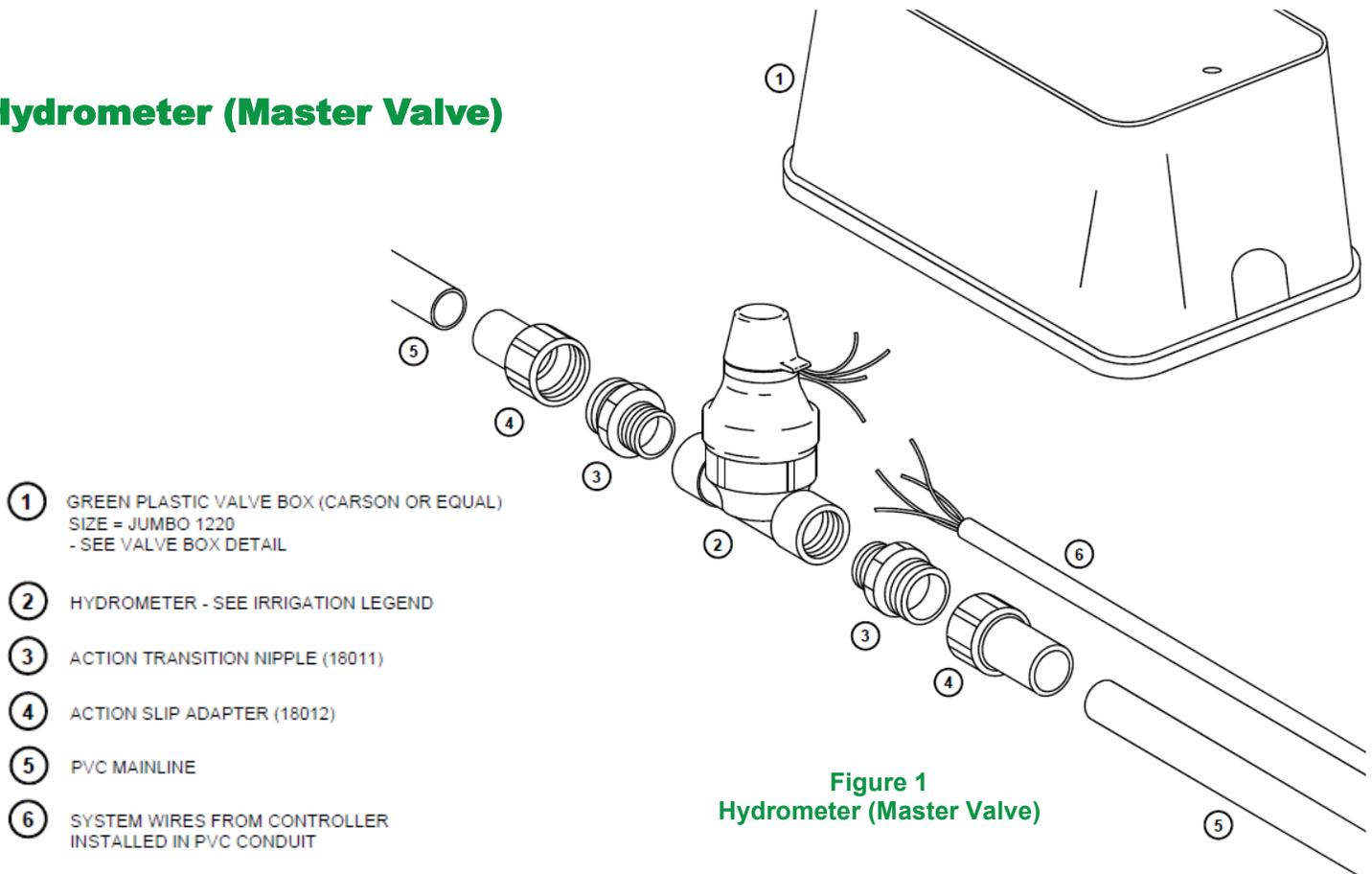
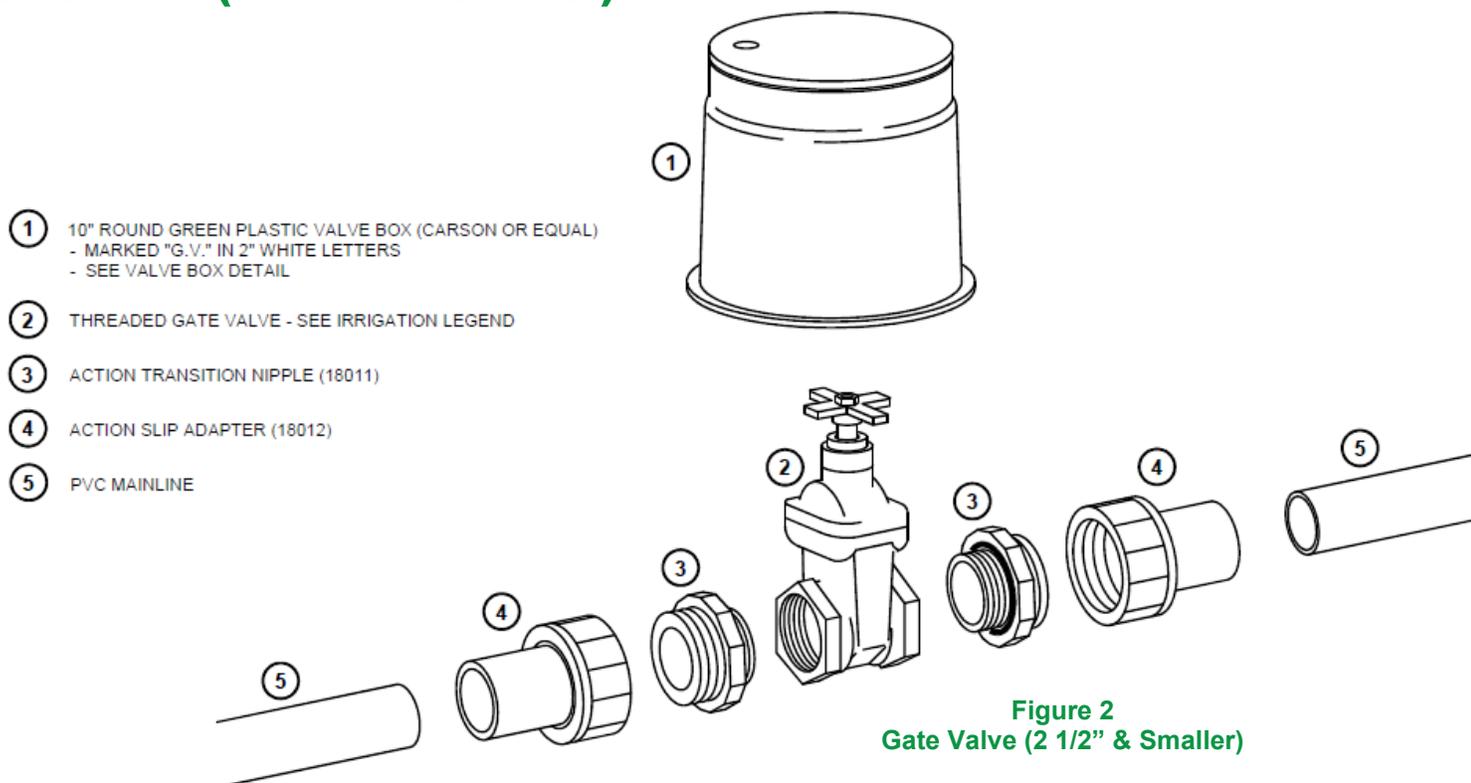


Figure 1  
Hydrometer (Master Valve)

**B. Isolation Valve:**

1. Isolation valves shall only be used on the main line.
2. Isolation valves three (3) inches and larger shall conform to AWWA specification C 509. They shall be of Class 200 cast iron body, resilient-seat, and have a non-rising stem with rubber "O" rings. Stems shall be of cold rolled, solid bronze, high tensile strength. Valves shall be hydrostatically pressure tested for 400 P.S.I. and shall be designated for a working pressure of 200 P.S.I. Each valve shall contain a resilient wedge urethane rubber seat. Unless otherwise shown or specified, valves shall have flanged end connections.
3. Valves two and one half (2 ½) inches and smaller shall be Apollo ball valves and installed in a valve box of large enough size to accommodate easy access and maintenance. Valves shall have threaded end connections and installed with Schedule 80 PVC toe nipples on both sides of the valve. Each valve shall be placed so that the shut off handle is on the side rather than the top of the valve. The handle shall be vertical and pointing toward the top of the valve box in the off position, and turned on by moving the handle down and parallel with the main line.
4. Buried valves shall have two (2) inch square operating nuts. No handles or wheels will be permitted. Valves inside structures (vaults or valve boxes) shall have lever handles.
5. Action unions shall be installed on each side of all valves except flanged valves.
6. The Contractor shall provide adequate material for the connection of valves to the system, i.e., adapters, flanges, nuts, bolts, gaskets, etc.
7. All buried main line isolation valves shall be fitted with a four (4) inch minimum diameter pipe sleeve placed over the top of the valve vertically and extended to grade. Cover with a ten (10) inch round "Carson" valve box with bolt down lid and set at finished grade.

**Gate Valve (2 1/2" and Smaller)**





# Underground Irrigation Systems

## Gate Valve (3" and Larger)

- ① 10" ROUND GREEN PLASTIC VALVE BOX (CARSON OR EQUAL)  
- MARKED "G.V." IN 2" WHITE LETTERS  
- SEE VALVE BOX DETAIL
- ② FLANGED GATE VALVE - SEE IRRIGATION LEGEND
- ③ FLANGE GASKET
- ④ SCH.80 PVC FLANGE ADAPTER
- ⑤ PVC MAINLINE

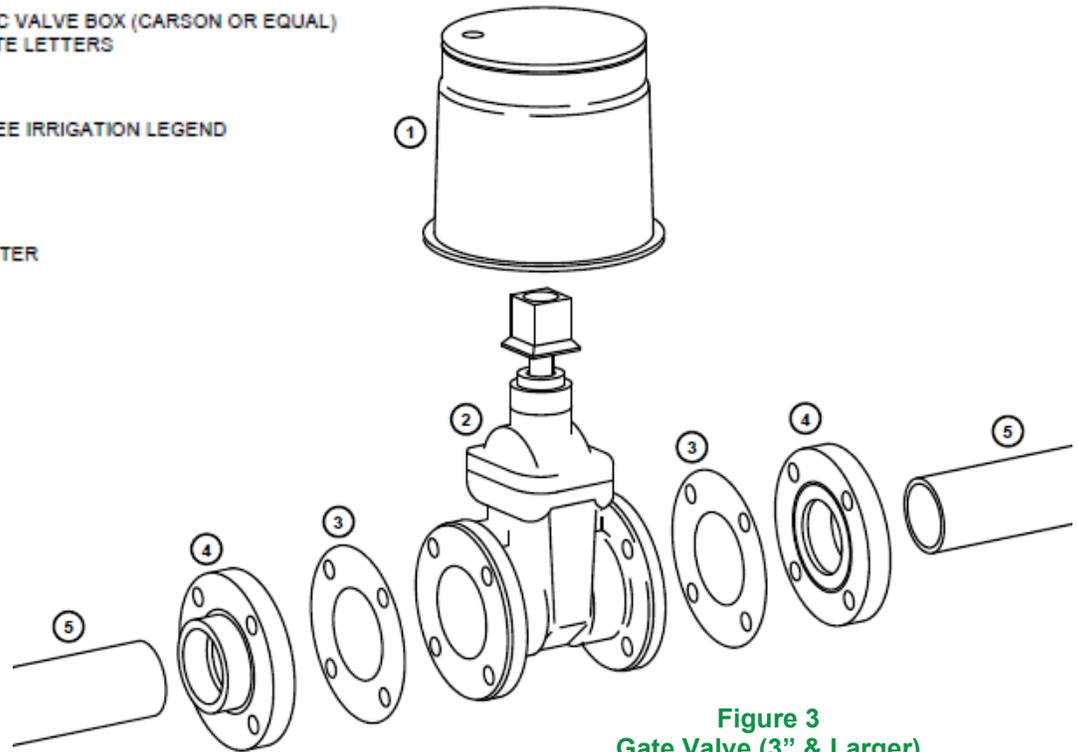


Figure 3  
Gate Valve (3" & Larger)

### C. Remote Control Valve Assembly:

1. Remote control valves shall be Rain Bird PESB scrubber valves only.
2. Remote control valves shall be globe configuration, electrically activated, normally closed, forward flow design.
3. All pipe on the control valve assembly shall be Schedule 80 PVC pipe. See detailed drawings.
4. Action unions shall be installed on each side of the control valve assembly, allowing valve to be removed from the box for maintenance without cutting pipe.
5. Each control valve shall have an Apollo ball valve installed immediately upstream of the valve and located within the same valve box.
6. Flows through each remote control valve shall not exceed the following limits:

Valve Size	GPM
1"	1-30
1 1/2"	31-75
2"	76-150

7. Each drip remote control valve assembly shall contain the following components:
  - a. PVC ball valve.
  - b. Inline disc or screen filter with 100 micron/150 mesh filter element.
  - c. Remote control valve capable of operating at very low flow levels.
  - d. Inline pressure regulator.

All components shall be installed according to manufacturer's recommendations, and located within a single valve box, one valve per box (no multi-valve assemblies permitted)

## Control Valve Assembly (Remote Control Valve)

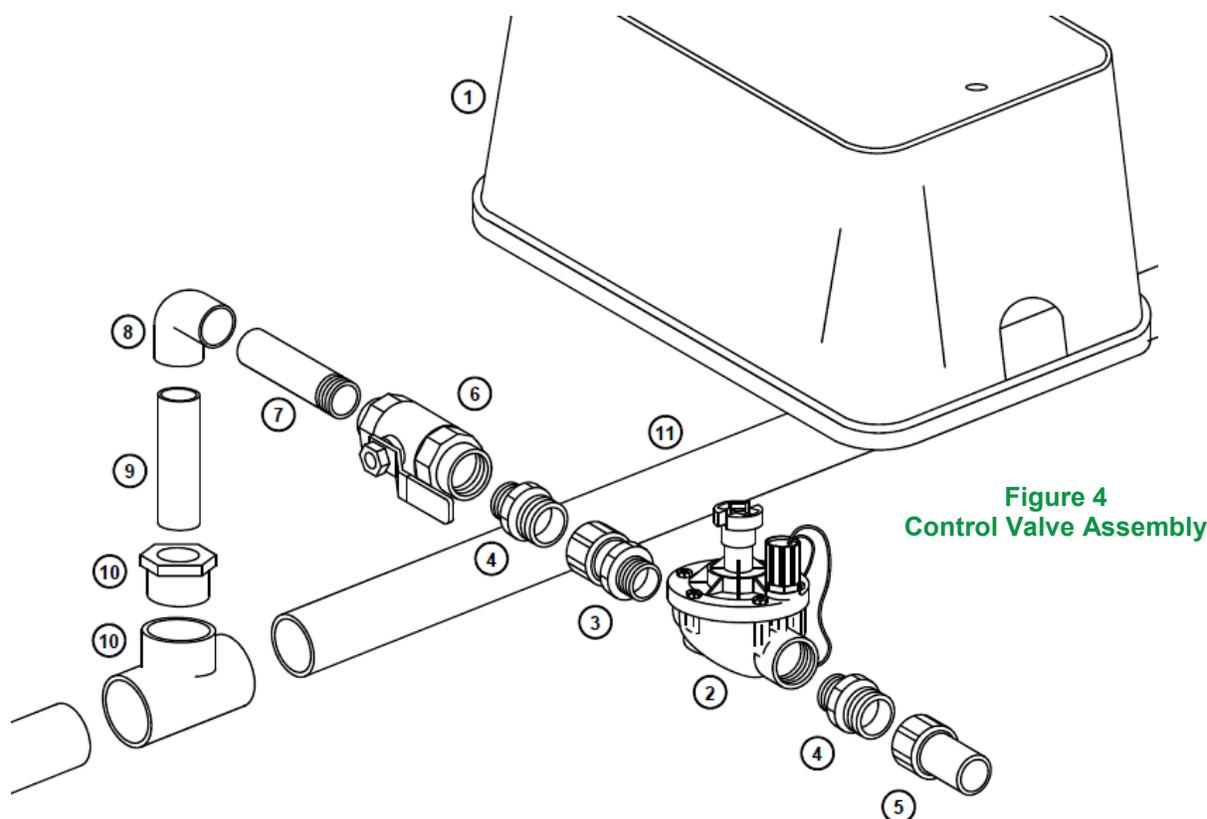


Figure 4  
Control Valve Assembly

- |  |   |
|--|---|
| <p>① GREEN PLASTIC VALVE BOX (CARSON OR EQUAL)<br/>SIZE VALVE BOX PER CONTROL VALVE SIZE:<br/>1" = STANDARD 1419 or 1-1/2" and 2" = JUMBO 1220<br/>- SEE VALVE BOX DETAIL</p> <p>② CONTROL VALVE - SEE IRRIGATION LEGEND</p> <p>③ ACTION MALE ADAPTER (18010)</p> <p>④ ACTION TRANSITION NIPPLE (18011)</p> <p>⑤ ACTION SLIP ADAPTER (18012)</p> | <p>⑥ FULL PORT BRASS BALL VALVE<br/>SAME SIZE AS CONTROL VALVE</p> <p>⑦ PVC T.O.E. NIPPLE</p> <p>⑧ SCH.80 SLIP PVC ELBOW</p> <p>⑨ SCH.80 PVC PIPE</p> <p>⑩ SCH.80 SLIP PVC TEE and if needed<br/>SCH.80 SLIP x SLIP PVC REDUCER BUSHING</p> <p>⑪ PVC MAINLINE</p> |
|--|---|



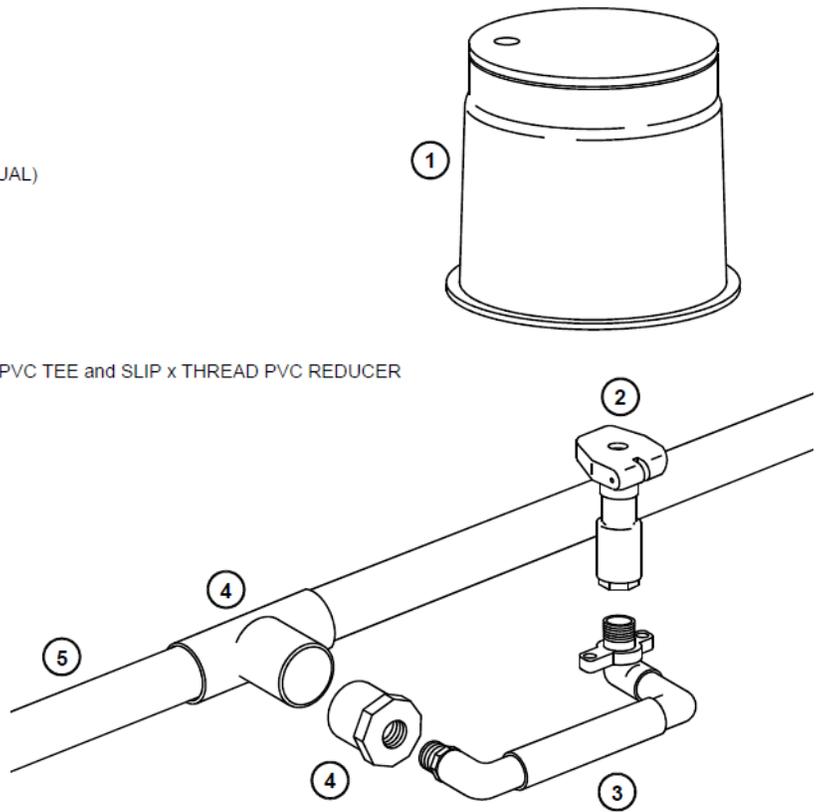
# Underground Irrigation Systems

## D. Quick Coupling Valve Assembly:

1. Quick coupling valves shall be Rain Bird 44LRC only.
2. Quick coupling valves shall be heavy duty brass, two-piece, single lug locking cap.
3. The Contractor shall provide to the Landscape Architect at least 1 cap lock key and 1 quick coupling key with a swivel hose bib attached. These keys shall be delivered prior to final acceptance of the project.

## Quick Coupler Valve

- 1 10" ROUND GREEN PLASTIC VALVE BOX (CARSON OR EQUAL)  
- SEE VALVE BOX DETAIL
- 2 QUICK COUPLER VALVE - SEE IRRIGATION LEGEND
- 3 PRE-MANUFACTURED SWING JOINT
- 4 SCH.80 SLIP x THREAD PVC SERVICE TEE or SCH.80 SLIP PVC TEE and SLIP x THREAD PVC REDUCER
- 5 PVC MAINLINE

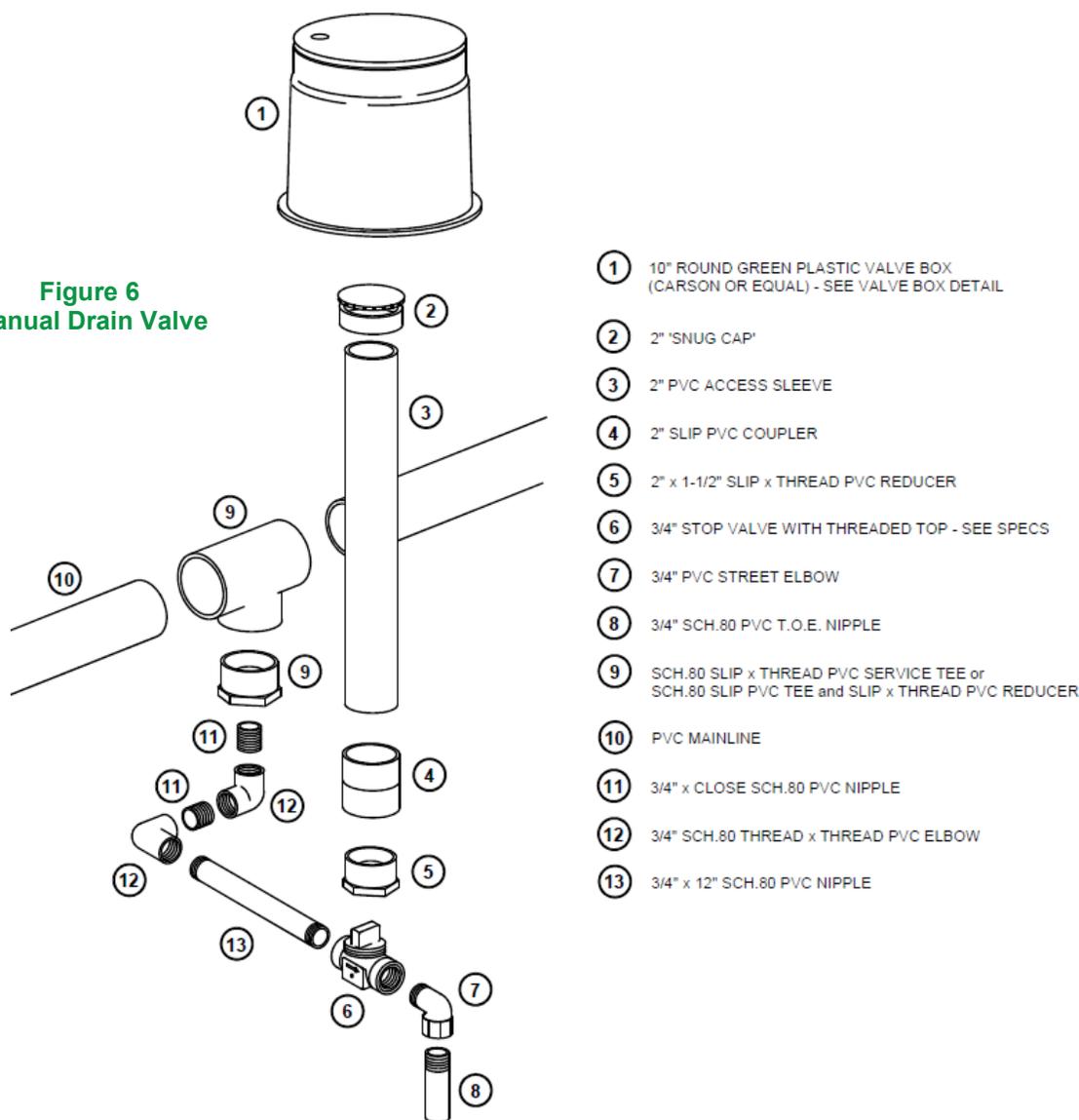


**Figure 5**  
**Quick Coupler Valve**

**E. Manual Drain Valve Assembly:**

1. All manual drains shall be three quarter (3/4) inch Mueller with a Minneapolis threaded top Drain Valve (weld top) heavy duty brass ball valve.
2. Manual drain valves shall be required at all low points in the main lines. See plans, notes, and details.
3. The location of each manual drain shall be shown on the "as built" drawing with dimensions from the nearest permanent fixture, such as a building corner, etc.
4. Each manual drain valve will be accessed by a vertical two (2) inch PVC Schedule 40 pipe sleeve, capped by a locking valve cap with a key, enclosed within a ten (10) inch round valve box with bolt down lid. The top of the drain sleeve shall be three to six (3 - 6) inches below the lid of the valve box.
5. Each manual drain shall empty into a gravel sump, a minimum of eighteen (18) inches by eighteen (18) inches by twelve (12) inches deep. The gravel shall be washed three quarter (3/4) inch rock.

**Figure 6**  
**Manual Drain Valve**



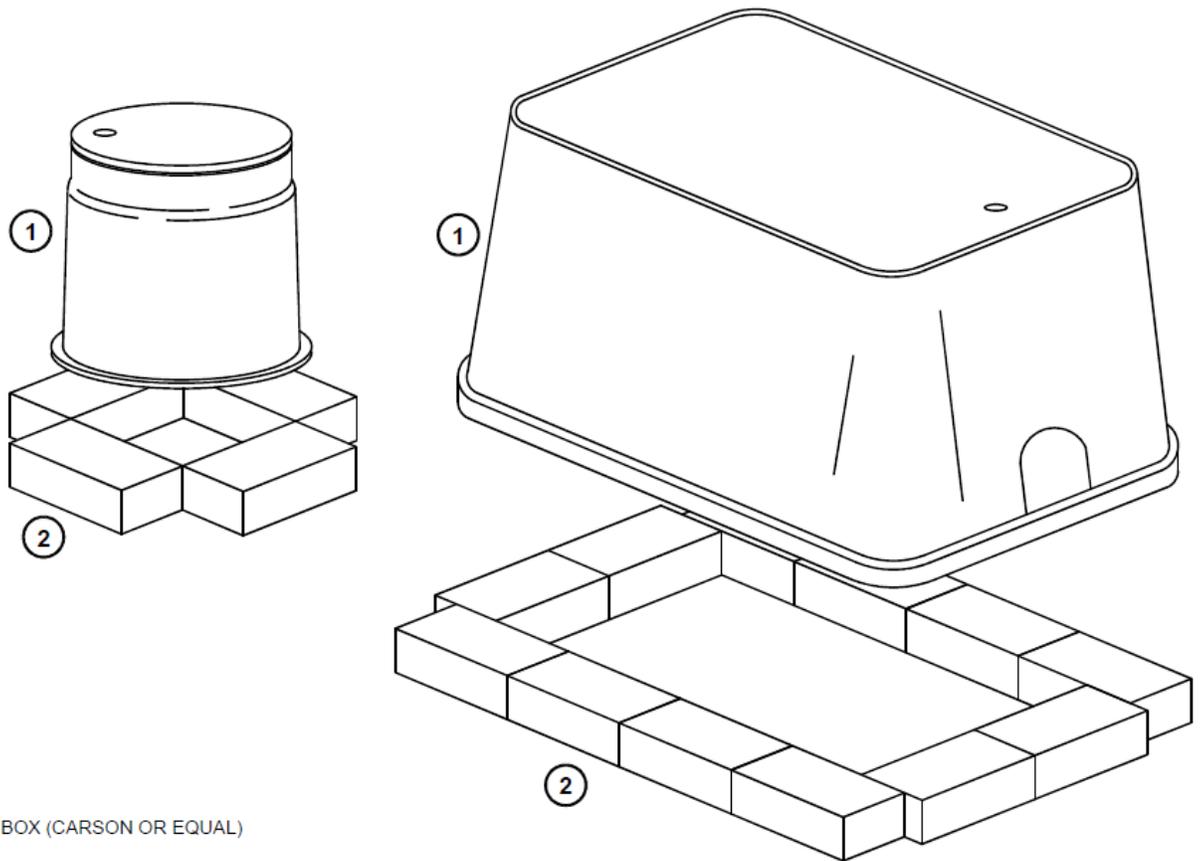
**F. Automatic Drain Valves: Automatic drain valves shall not be used.**



# Underground Irrigation Systems

## 2.05 VALVE BOXES

- A. All valve boxes shall be Carson series with locking lid.
- B. Valve box size shall be listed in the installation details for each irrigation system component.

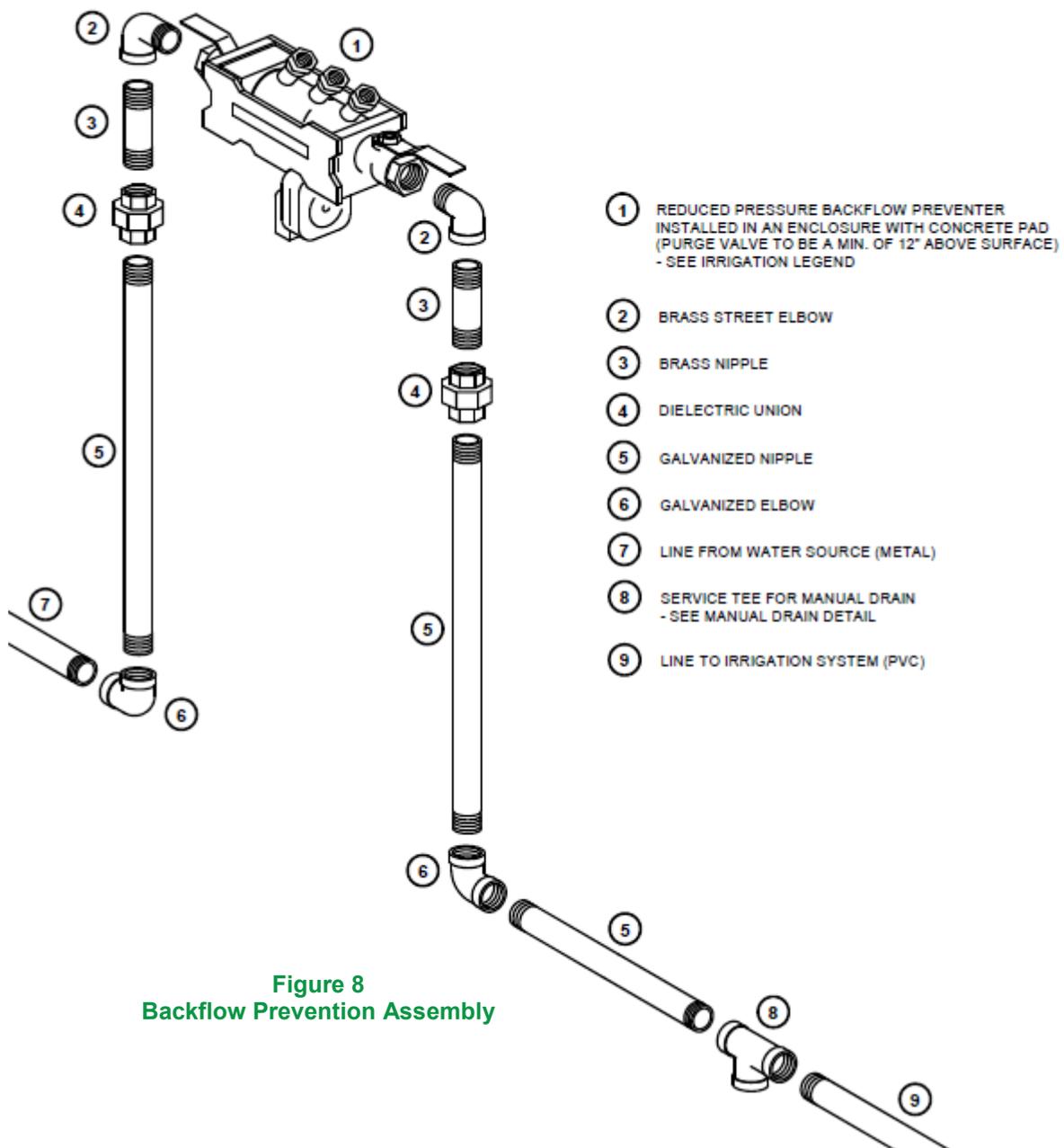


- ① PLASTIC VALVE BOX (CARSON OR EQUAL)
- ② BRICK PAVER  
- STACK AROUND THE ENTIRE PERIMETER OF THE VALVE BOX BASE

**Figure 7**  
**Valve Boxes**

## 2.06 BACKFLOW PREVENTION ASSEMBLY

- A. Backflow prevention devices shall be a reduced pressure principle backflow preventer consisting of a pressure differential relief valve located between two independently operated spring-loaded "Y" type center guided check valves. Assembly shall also have two full port resilient seated ball valves for shut-off and four resilient seated ball valve test cocks and bronze body construction. Larger sizes (2 1/2" and up) may have two non-rising stem resilient wedge gate valves in lieu of ball valves.
- B. Backflow preventer shall be manufactured by Wilkins.



**Figure 8**  
**Backflow Prevention Assembly**



# Underground Irrigation Systems

## 2.07 FILTER AND ENCLOSURE

- A. Filters and their enclosures shall be required on all systems using secondary water. Systems using reclaimed water (from a wastewater treatment plant) shall not require a filter.
- B. Filters shall be manufactured by Amiad Filtration Systems. Filters may be either plastic or steel construction, with screen (perforated or weave wire stainless steel) or plastic disc filter elements.
- C. Filter enclosures shall be either commercially or custom fabricated. They shall be constructed of solid sheet marine grade aluminum, with one hundred (100) percent stainless steel hardware, and locking mechanism. They shall exhibit vandal- and weather-resistance and offer easy access.
- D. Enclosures shall be mounted on either a pre-manufactured mounting pad with support base or minimum six (6) inch concrete pad. See detail.

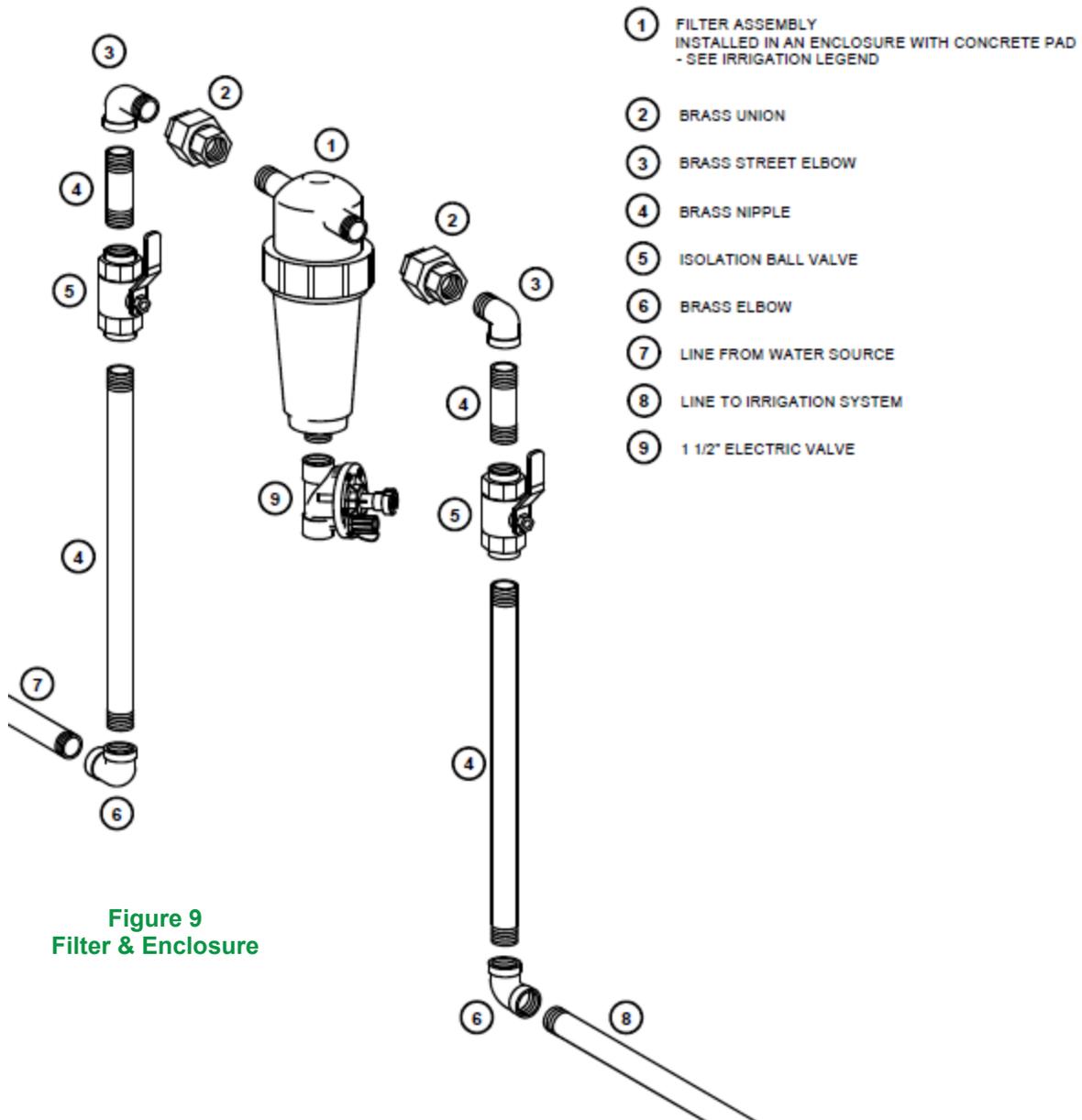
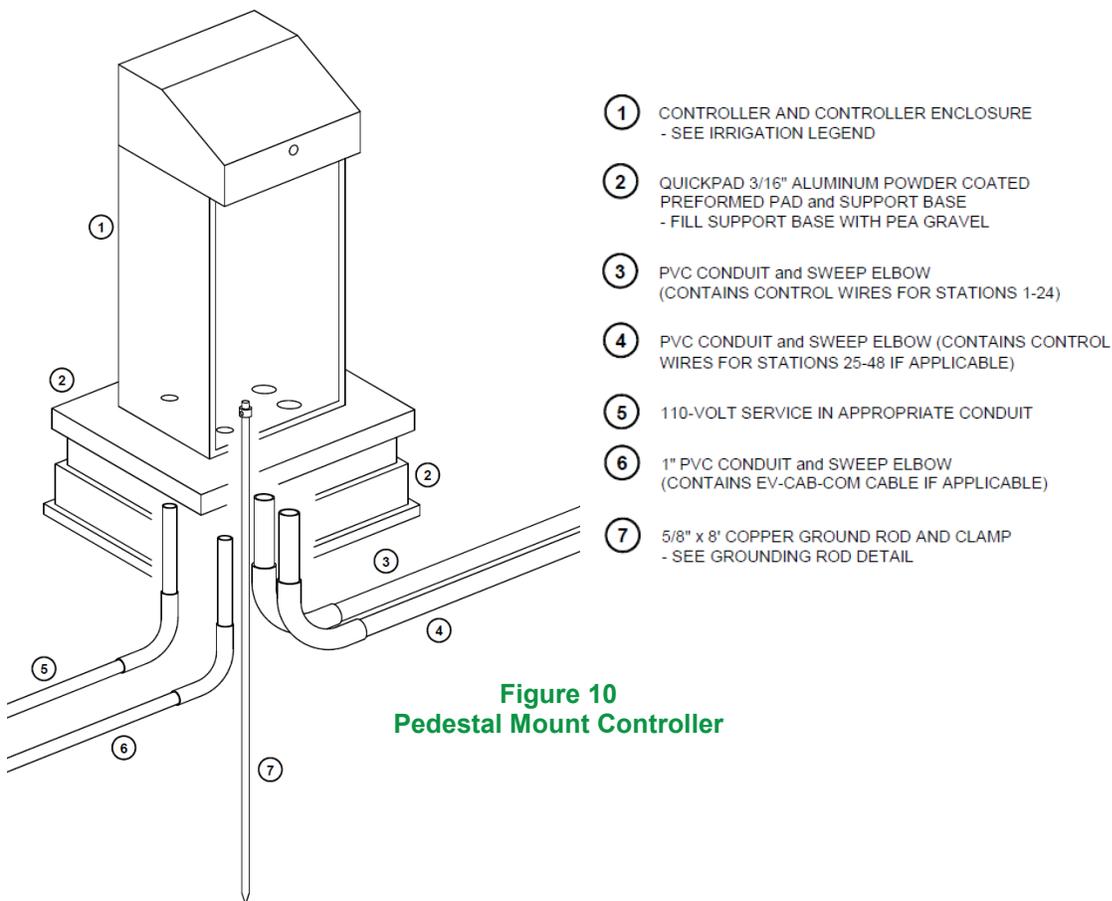


Figure 9  
Filter & Enclosure

## 2.08 AUTOMATIC CONTROL SYSTEM

- A. Furnish a low voltage automatic control system manufactured expressly for the operation of automatic control valves used in an underground irrigation system.
- B. Automatic controller devices shall be WeatherTRAK Pro3 or WeatherTRAK Optiflow XR. No substitutions shall be allowed. Coordinate with parks manager for Pro3 or Optiflow XR decision. Size/type as required (6 station thru 96 station, (Conventional Wire).
  - b. Install in Strong Box Stainless Steel Enclosure Model PE-A16-10K, which combines a commercial meter socket with the enclosure.
  - c. Provide the following with the above equipment:
    - 1. 9 Year additional WeatherTRAK service (WT-CIM-9YA)
    - 2. Site consult provide by local irrigation distribution (WT-SITECONSULT)
    - 3. If the controller web signal of is less than 10, provide external antenna (WT-ANT-OMNT)
    - 4. Install WeatherTRAK Flow3 (or FlowHD with Netafim master valve) at the point of connection as the master valve and flow sensor. Size as needed and install as per manufacturer recommendations, The irrigation designer and/or contractor shall pay special attention to the high and low flow capabilities of the Flow3/HD that is selected so that all of the sites flow can be accommodated.
    - 5. Provide dedicated wiring for the master valve and flow sensor. Utilize PE
  - 5. Whenever a single site has 2 or more controllers, the 2nd and subsequent controllers may be mounted in a Strong Box Quick pad mount.
- C. Provide adequate capacity to accommodate each valve on the system separately. Do not double valves to circuits.
- D. The landscape contractor shall provide 120-volt electrical service to the controller. Install meter inside meter socket of the enclosure. Coordinate this work with the City and other trades involved in the project.

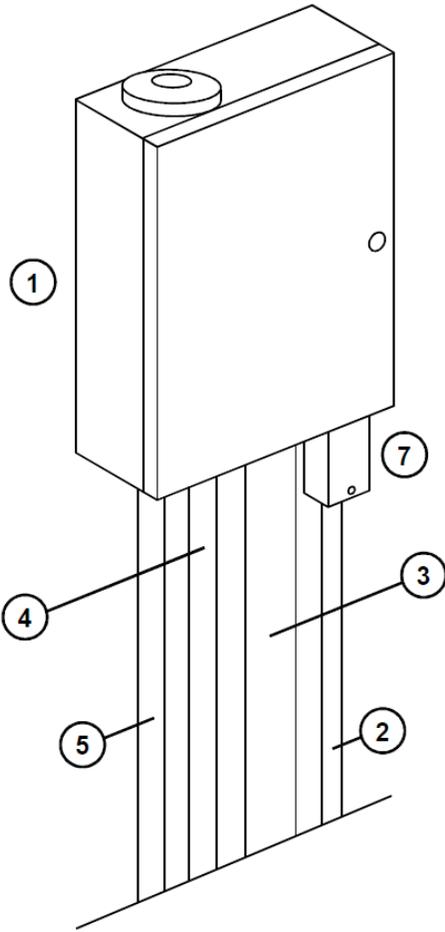


**Figure 10**  
**Pedestal Mount Controller**



# Underground Irrigation Systems

## Wall Mount Controller



- ① CONTROLLER AND CONTROLLER ENCLOSURE  
- SEE IRRIGATION LEGEND
- ② 110-VOLT SERVICE IN GALVANIZED IMC CONDUIT
- ③ LOW VOLTAGE CONTROL WIRING TO MAINLINE  
IN GALVANIZED IMC CONDUIT
- ④ EV-CAB-COM CABLE TO HYDROMETER  
IN GALVANIZED IMC CONDUIT
- ⑤ #6 COPPER GROUND WIRE TO GROUND ROD or PLATE  
IN GALVANIZED IMC CONDUIT
- ⑦ POWER JUNCTION BOX

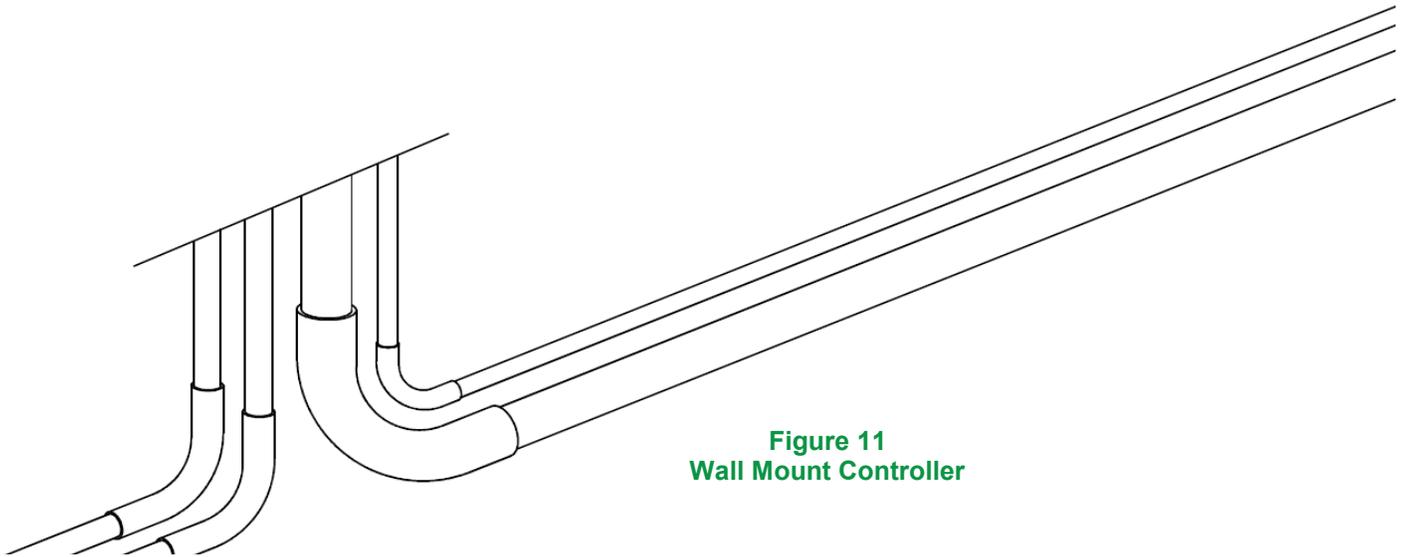


Figure 11  
Wall Mount Controller



## 2.09 CONTROL VALVE WIRE

- A. All irrigation control wire shall bear approval as U.L. listed type of underground feeder (direct burial) and each conductor shall be of electrical conductivity grade solid copper in accordance with ASTM 30.
- B. No aluminum wire shall be used on this project.
- C. Wire size shall be #14 gauge.
- D. Two spare wires shall be run from each controller to the farthest valve under its control in all directions and any valve which is on a dead-end line.
- E. All wire crossing water, attached to bridges, going under paving, or where conditions require protection, shall be housed in conduit or sleeves. All out-of-ground conduits shall be rigid metal. All buried conduit may be PVC.
- F. All splices shall be water-tight. All connections made inside the box to connect wires to the valve shall be made using a dry-splice connector. Each connector shall be completely sealed and water-proof.
- G. All other splices in control wire shall be housed in a separate valve box.
- H. The pigment or color of the wires shall be integrated into the covering, rather than painted on. All common or ground wires shall be white in color. Where more than one controller is required, a different colored hot wire shall be used for each controller. A separate color shall be used for all spare wires.

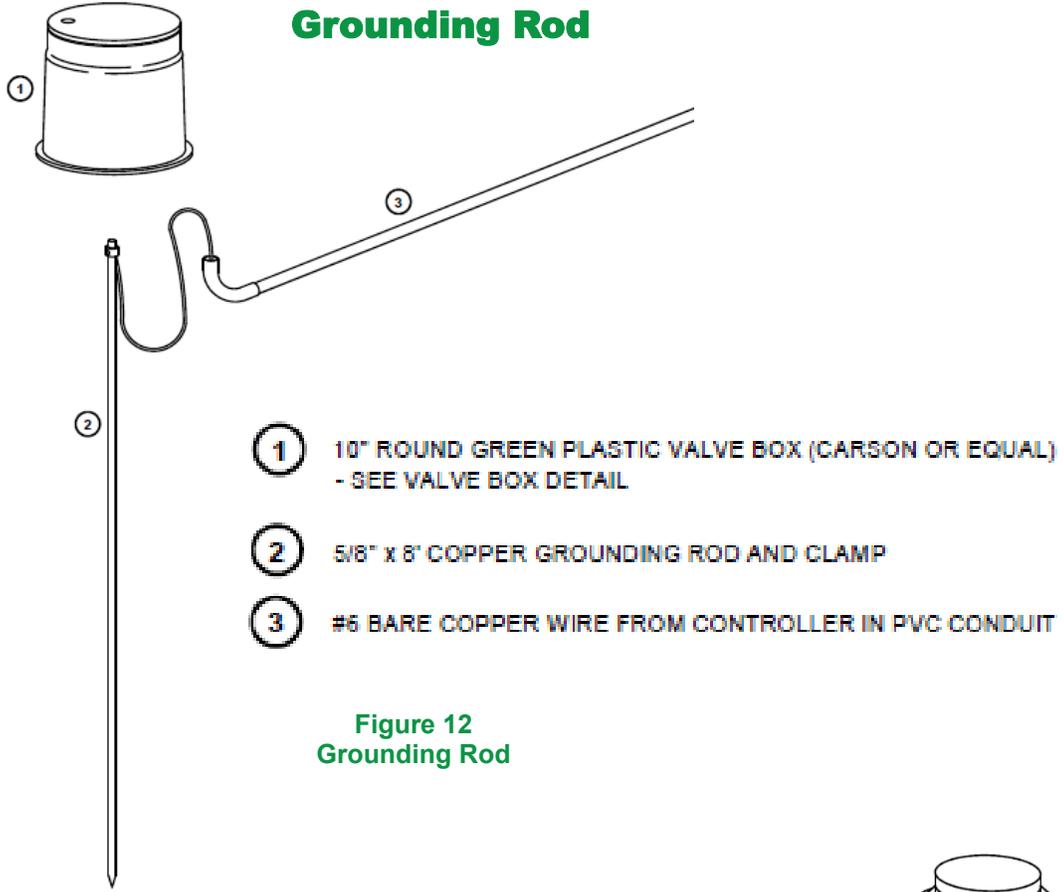
## 2.10 SPRINKLER HEADS

- A. General:
  - 1. All heads used on this project shall be as specified in the Irrigation Equipment Schedule shown on the plans.
  - 2. All sprinkler heads and nozzles shall be manufactured by Rain Bird.
- B. Spray Sprinklers:
  - 1. Spray sprinklers shall be model 1800-SAM series, with four (4), six (6), or twelve (12) inch pop-up height and built-in check valve. In areas where water pressures are high or fluctuating, model 1800-SAM-PRS series sprinklers shall be used.
  - 2. Spray sprinkler nozzles shall be plastic MPR nozzles. VAN variable arc nozzles may be used to meet irregular-shaped areas.
  - 3. Attachment options shall be as specified in the installation details.
- C. Rotor Sprinklers:
  - 1. Rotor sprinklers shall be equipped with stainless steel rotor sleeve and check valve.
  - 2. Rotor sprinkler nozzles shall be as manufactured for each individual model.
  - 3. Small rotor sprinklers (½" bottom inlet) may be installed using swing pipe per installation details. Medium (¾" bottom inlet) and large (1" or greater bottom inlet) rotor sprinklers shall be installed using swing joints as shown in the installation details.
- D. Bubblers, Tree Well, and Root Watering Systems: Manufactured by Rain Bird and installed per manufacturer's recommendations. Use only where and when specified.



# Underground Irrigation Systems

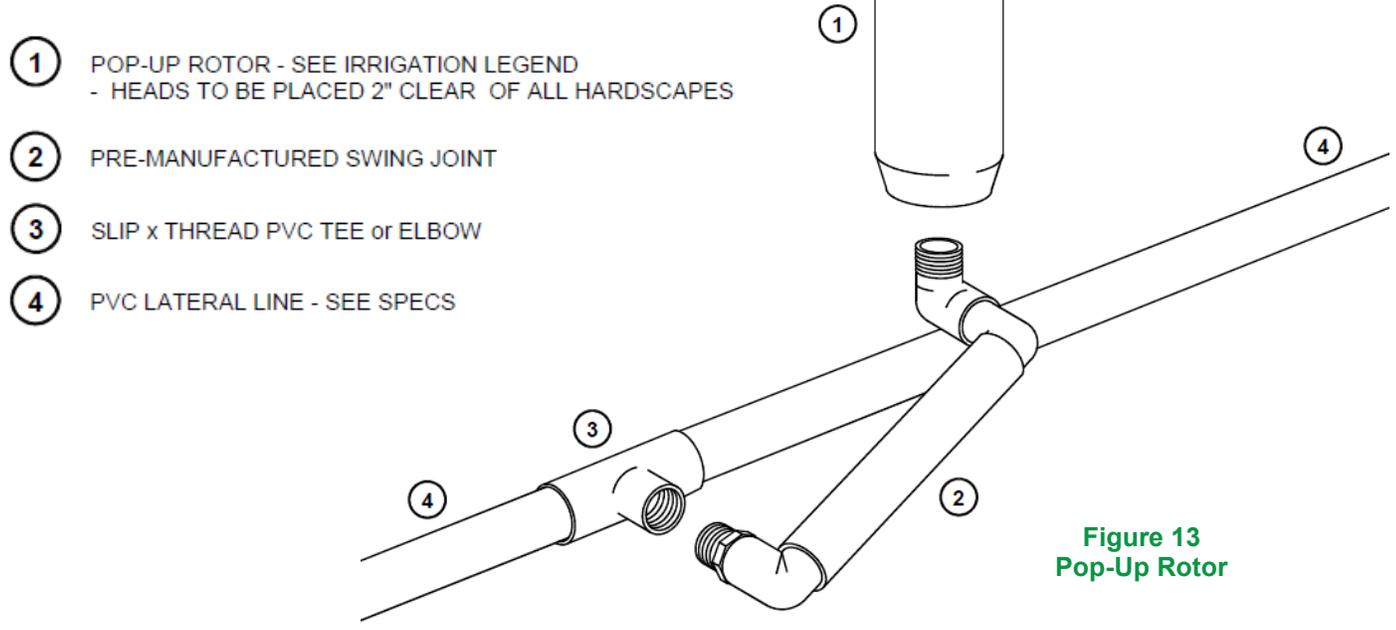
## Grounding Rod



- ① 10" ROUND GREEN PLASTIC VALVE BOX (CARSON OR EQUAL)  
- SEE VALVE BOX DETAIL
- ② 5/8" x 8' COPPER GROUNDING ROD AND CLAMP
- ③ #6 BARE COPPER WIRE FROM CONTROLLER IN PVC CONDUIT

Figure 12  
Grounding Rod

## Pop-Up Rotor



- ① POP-UP ROTOR - SEE IRRIGATION LEGEND  
- HEADS TO BE PLACED 2" CLEAR OF ALL HARDSCAPES
- ② PRE-MANUFACTURED SWING JOINT
- ③ SLIP x THREAD PVC TEE or ELBOW
- ④ PVC LATERAL LINE - SEE SPECS

Figure 13  
Pop-Up Rotor

## 4" Spray/Rotary Sprinkler

- ① POP-UP SPRAY HEAD - SEE IRRIGATION LEGEND  
- HEADS TO BE PLACED 2" CLEAR OF ALL HARDSCAPES
- ② SWING PIPE (12" MIN LENGTH)
- ③ MARLEX STREET ELBOW
- ④ 1/2" SPIRAL BARBED ELBOW
- ⑤ PVC SLIP X THREAD TEE OR ELBOW
- ⑥ PVC LATERAL LINE

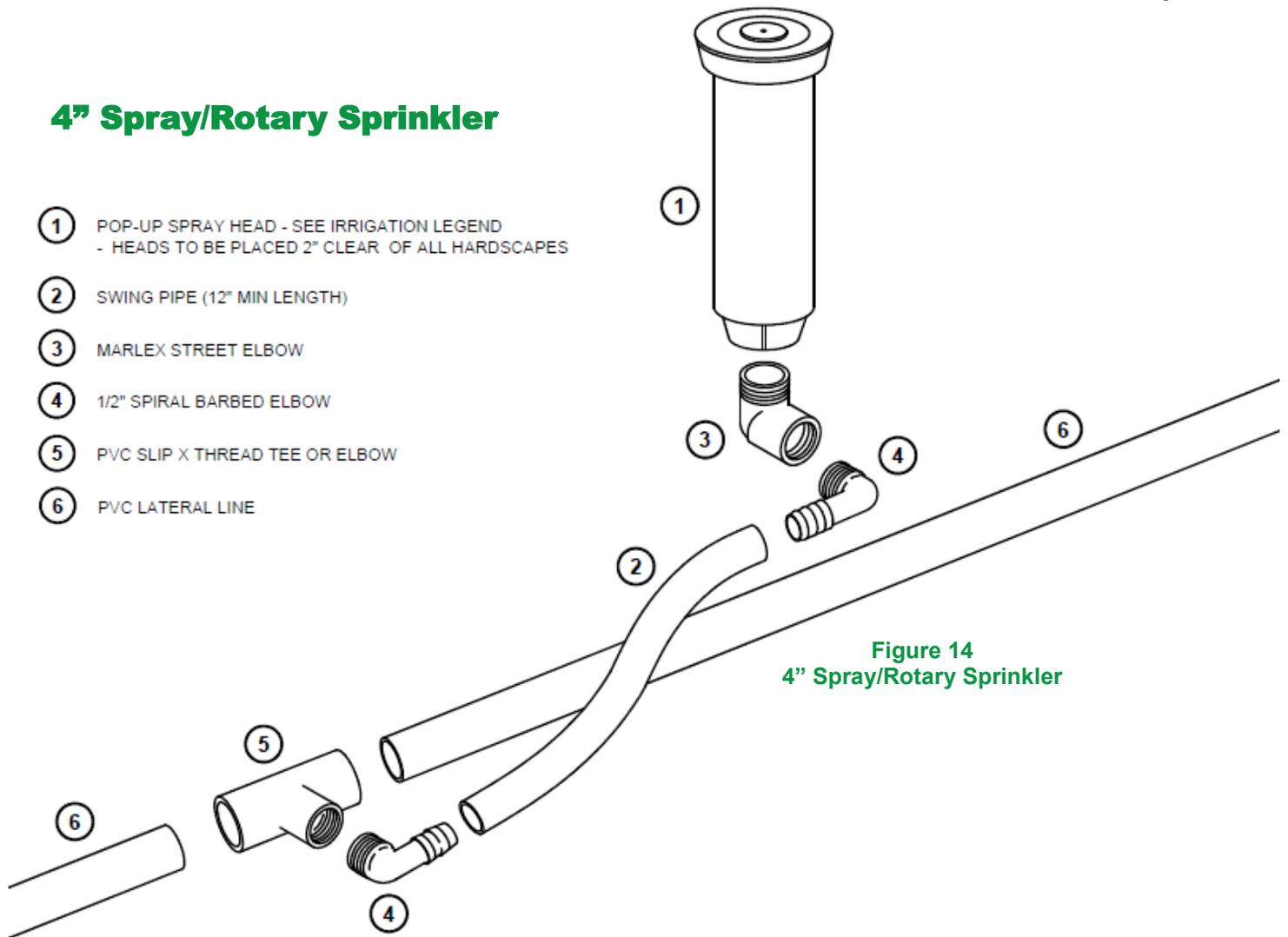


Figure 14  
4" Spray/Rotary Sprinkler



# Underground Irrigation Systems

## 2.11 DRIP IRRIGATION

- A. Drip irrigation materials shall be manufactured by Rain Bird.
- B. All drip emitters shall be Rain Bird XBT or PCT 1/2" threaded emitter on 1/2" spiral barbed male adapter and swing pipe.
- C. Dripline tubing shall be constructed of high quality linear, low density, UV-resistant, polyethylene resin materials with internal, integral emitters at specified intervals.
- D. All insert barbed fittings shall be constructed of molded, UV-resistant plastic. Each fitting shall have a minimum of two (2) ridges or barbs per outlet. All fittings shall be from the manufacturer and shall be available in one of the following end configurations:
  - 1. Barbed insert fittings.
  - 2. Male pipe threads (MPT) with barbed insert fittings
  - 3. Female pipe threads (FPT) with barbed insert fittings.
- E. Each drip remote control valve assembly shall contain the following components (in required sequence):
  - 1. PVC ball valve.
  - 2. Inline disc or screen filter with 100 micron/150 mesh filter element.
  - 3. Remote control valve.
  - 4. Inline pressure regulator.
- F. Provide the following equipment to each drip valve circuit, located and installed per manufacturer's recommendations:
  - 1. Line flushing valve(s) - minimum of one (1) on each exhaust header and one (1) for every fifteen (15) gpm in the circuit.
  - 2. Air/Vacuum relief valve(s) at all high points in the system.

GPH	Assignment
2.0	1 Assigned to each 1 gallon plant
4.0	8 Assigned to each 15 gallon plant
4.0	8 Assigned to each 2" caliper
2.0	2 Assigned to each 5 gallon plant

- ① GREEN PLASTIC VALVE BOX (CARSON OR EQUAL)  
SIZE - JUMBO 1220  
- SEE VALVE BOX DETAIL
- ② CONTROL VALVE - SEE IRRIGATION LEGEND
- ③ ACTION MALE ADAPTER (18010)
- ④ ACTION TRANSITION NIPPLE (18011)
- ⑤ ACTION SLIP ADAPTER (18012)
- ⑥ ACTION FEMALE TRANSITION NIPPLE (18017)
- ⑦ FILTER/REGULATOR COMBO - SEE IRRIGATION LEGEND
- ⑧ SCH.80 THREADED PVC ELBOW
- ⑨ SCH.80 PVC NIPPLE
- ⑩ THREADED PVC BALL VALVE
- ⑪ SCH. 80 PVC T.O.E. NIPPLE
- ⑫ SCH. 80 SLIP PVC ELBOW
- ⑬ SCH. 80 PVC PIPE
- ⑭ SCH.80 SLIP PVC TEE and if needed  
SCH.80 SLIP x SLIP PVC REDUCER BUSHING
- ⑮ PVC MAINLINE

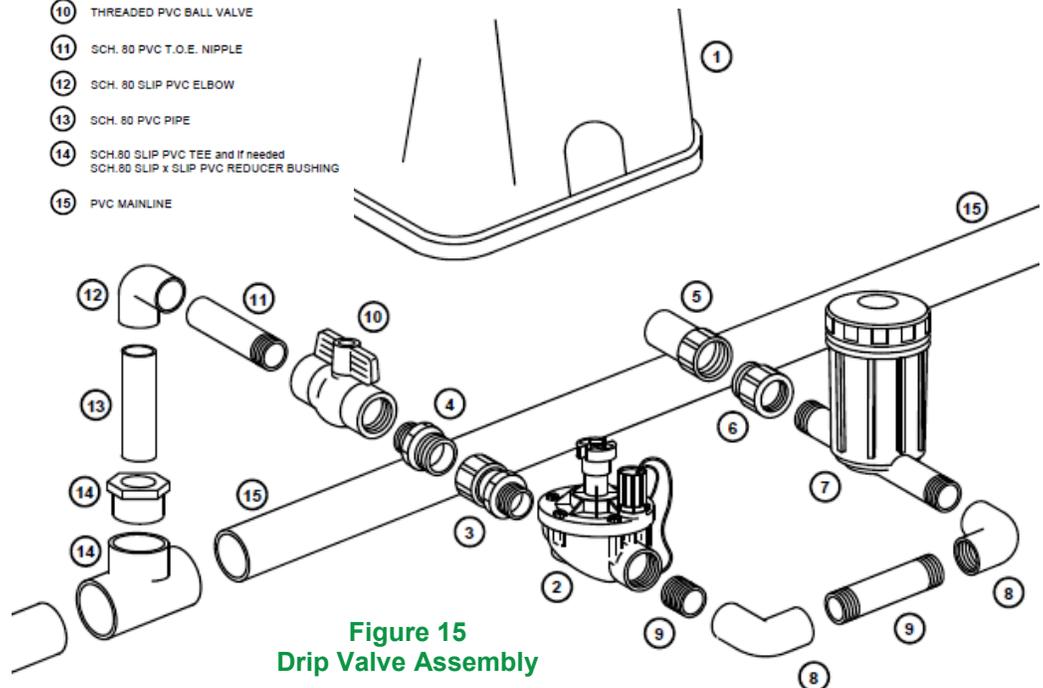
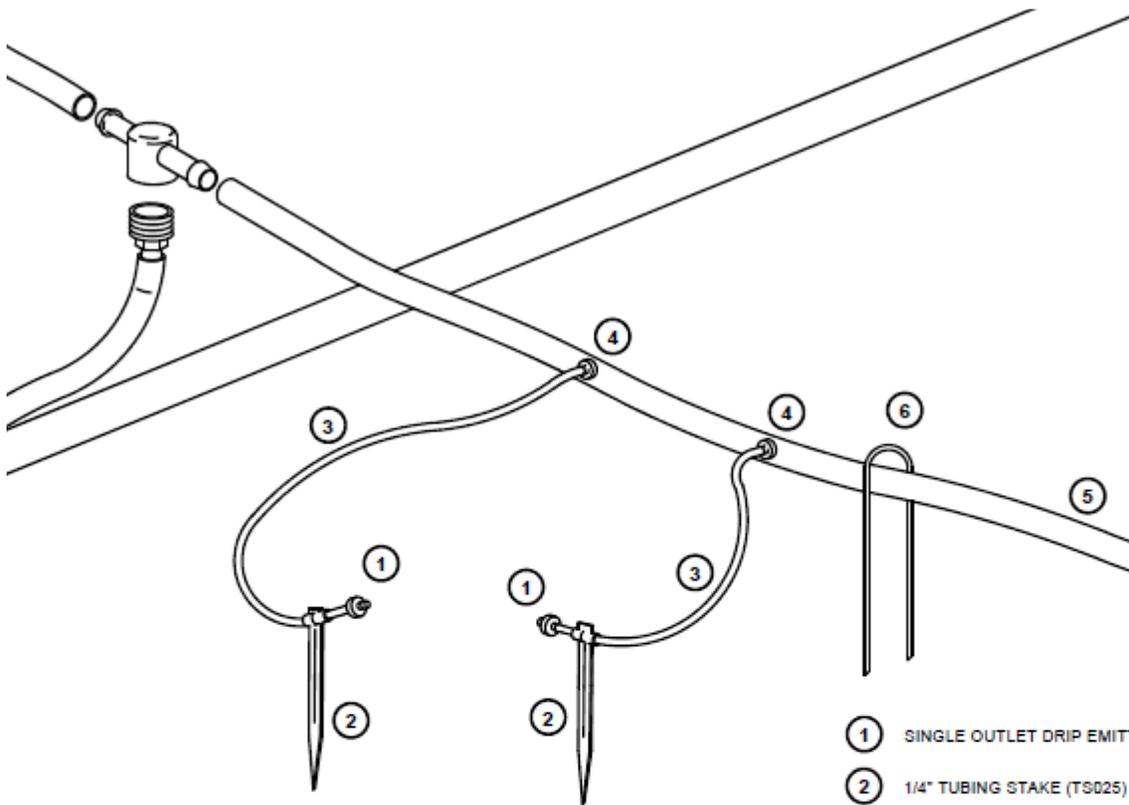


Figure 15  
Drip Valve Assembly



**Figure 16**  
**Single Outlet Drip Emitter**

- ① SINGLE OUTLET DRIP EMITTER - SEE EMITTER SCHEDULE
- ② 1/4" TUBING STAKE (TS025)
- ③ 1/4" DISTRIBUTION TUBING (XQ100)
- ④ 1/4" SELF-PIERCING BARB (SPB025)
- ⑤ 1/2" DRIP TUBING
- ⑥ 6" DRIP TUBING STAKE

## 2.12 FLOW SENSING EQUIPMENT

- A. Each controller shall be installed with its own corresponding flow sensor on a single point of connection to the water source.
- B. Size the flow sensor so that it is able to read the high and low flows of the valves used on that particular controller. Install per manufacturer's specifications.



# Underground Irrigation Systems

## Part 3– Execution

### 3.01 GENERAL

- A. The irrigation plan is diagrammatic in nature, and some drafting liberties have been taken to maintain the graphic clarity of the drawings. All irrigation equipment shall be located in planting areas only, unless noted otherwise. The Contractor shall install piping to minimize changes in direction, avoid placement under large trees or large shrubs, and avoid placement under hardscape features. Refer to the irrigation legend, details, and specifications for equipment and proper installation.
- B. Site Visit: The Contractor shall visit and inspect the project site. He shall take into consideration known and reasonably inferable conditions affecting the proposed work. Failure to visit the site shall not relieve the Contractor of furnishing materials and performing the work required. Any discrepancies between existing site conditions and those indicated on the plans shall be called to the attention of the City Project Manager prior to continuance of the project.
- C. The Contractor shall keep the premises clean and free of excess equipment, materials, and rubbish incidental to work of this project. Work areas shall be swept clean and trash and debris picked up daily. Open trenches or hazards shall be protected with yellow caution tape. The Contractor is responsible for removal and legal disposal (offsite) of trash and debris generated by his work on this project.
- D. Existing Landscapes:
  - 1. Where existing landscape areas are a part of the project, the Contractor shall repair or replace work damaged by his irrigation system installation at his own expense. If the damaged work is new, the Contractor or the original installer of that work shall perform repairs. The existing landscape shall remain in place, protected and undisturbed.
  - 2. The Contractor shall protect and work around all existing plant materials designated to remain.
  - 3. Coordination of trench and valve locations shall be laid out prior to any excavation work. Plant material deemed damaged by the City Project Manager shall be replaced with new plant material at the Contractor's expense. The Contractor shall not cut existing tree roots larger than two (2) inches in diameter. Route pipe, wire, and irrigation components around tree canopy drip lines where possible to minimize damage to tree roots.
  - 4. The Contractor shall leave no part of the existing landscape without water for more than forty-eight (48) hours at a time.
- E. Pre-Construction Meeting: A pre-construction shall be held prior to beginning any work on a City project. The City Project Manager, the project designer, the Owner, and the Contractor and his sub-contractors shall all be in attendance.
  - 1. The purpose of this meeting is to review project goals and expectations, the project schedule, and all procedures relative to inspections, permits, and changes that may arise.
  - 2. In the pre-construction meeting, it shall be made clear that the construction documents (plans, details, specifications, and contract) shall be binding upon the Contractor and upon all of his work. Any work not in accordance with the plans and specifications shall be rejected, and the Contractor shall bring the project into compliance at his own expense.

### 3.02 CONSTRUCTION STAKING

- A. The Contractor shall provide the necessary staking to obtain the layout shown on the plans. The points of reference shall be as indicated in the drawings, and shall include such features as the existing walks, buildings, curbs, etc. The staking shall be approved by the City Project Manager prior to commencing installation operations. Any changes in the system which appear necessary due to field conditions must be called to the attention of the City Project Manager and approved at the time they are discovered and prior to making any changes.



### 3.03 EXCAVATION AND BACKFILLING

#### A. Excavation:

1. Excavation work shall be as deep and as wide as will be required to safely perform the work, such as making mainline connections or forming vaults.
2. Trenches shall be deep and wide enough to provide working space for placing two (2) inches of bedding underneath all new mainline pipe and fittings where the soil is rocky or gravelly. Place eighteen (18) to thirty (30) inches of cover over the top of all pipe and fittings on main lines. All trench bottoms shall be sloped so that the pipe will gravity drain back to the main connection point or the nearest manual drain. If the existing main line is deeper than thirty (30) inches, the Contractor shall install a riser to a depth of eighteen (18) to thirty (30) inches and then install the new line at the required depth. At no time will the mainline be installed less than eighteen (18) inches or deeper than thirty (30) inches unless prior approval is given by the City Project Manager.
3. Trenches shall be deep enough to maintain eight (8) to fourteen (14) inches of cover over the top of all lateral line pipe and fittings. They shall be deep enough to guarantee that all swing joints drain back to the lateral lines. Trenches shall be a minimum of twelve (12) inches away from any walks and/or curbs, buildings, or other hardscape improvements. They shall be of sufficient width to accommodate tees and other fittings that come out sideways (horizontally) from the lateral lines. Lateral lines may be pulled by a mechanical puller provided all other applicable specifications are met.
4. Any rocks or other debris over one (1) inch in diameter uncovered during excavation or trenching shall be removed from the area.
5. If more than one (1) pipe line is required in a single trench, that trench shall be deep and wide enough to allow for at least six (6) inches of horizontal separation (if both are lateral lines), or six (6) inches of both horizontal and vertical separation (if one line is a main line) between pipes.
6. Any existing utility lines damaged during excavating or trenching shall be reported immediately to the utility owner and the City Project Manager. After proper notification to utility owner and City, repairs to the damaged utility shall be made immediately. Repair materials and methods shall meet industry standards and the owner's satisfaction. Should utility lines be encountered which are not indicated on the plans, the City Project Manager shall be notified. The repair of any damage shall be done as soon as possible by the Contractor or the utility owner, and proper compensation will be negotiated by the City. Such utility locations shall be noted on the "As-Built" drawings required before final payment of the irrigation system contract.
7. Where trenching is done in established lawn, care shall be taken to keep the trenches only as wide as is necessary to accomplish the work. The trenches shall be backfilled as specified and then twelve (12) inches of topsoil (unless otherwise approved by the City Project Manager) placed to bring the trench up to existing grade so that sod can be laid. Only new sod shall be used as trench cover. It shall be established new sod of standard width and shall be laid along the trenches so as to match the existing sod. No small pieces of sod shall be used and only standard lengths shall be accepted. No sod from the construction site shall be used unless otherwise specified. In the event of any backfill settlement, the Contractor shall perform the required repairs at his own expense.

#### B. Backfilling:

1. No backfilling of trenches shall be done until the system has been inspected and approved by the City Project Manager for proper trench depths, installation of equipment, control wire, and location of heads.
2. Before trenches are backfilled, the Contractor must show the City Project Manager the redlined "As-Built" drawing he has been keeping on the site, indicating that changes and corresponding dimensions have been recorded where such changes have been made.
3. Prior to backfilling, the system shall be tested under pressure for leaks and general operation of the equipment. The main line shall be tested for a period of four (4) hours at a pressure of 120 PSI. Lateral lines shall be tested for one (1) hour at design pressure. Design pressure shall be considered to be the highest operating PSI listed on the irrigation equipment schedule. Any failures detected during the testing period shall be repaired by the Contractor and the testing shall be repeated. The City Project Manager shall certify the testing to insure that it has been completed and that the system has met all testing requirements. All defects discovered by the pressurization and operation test shall be corrected by the Contractor before proceeding with further work.

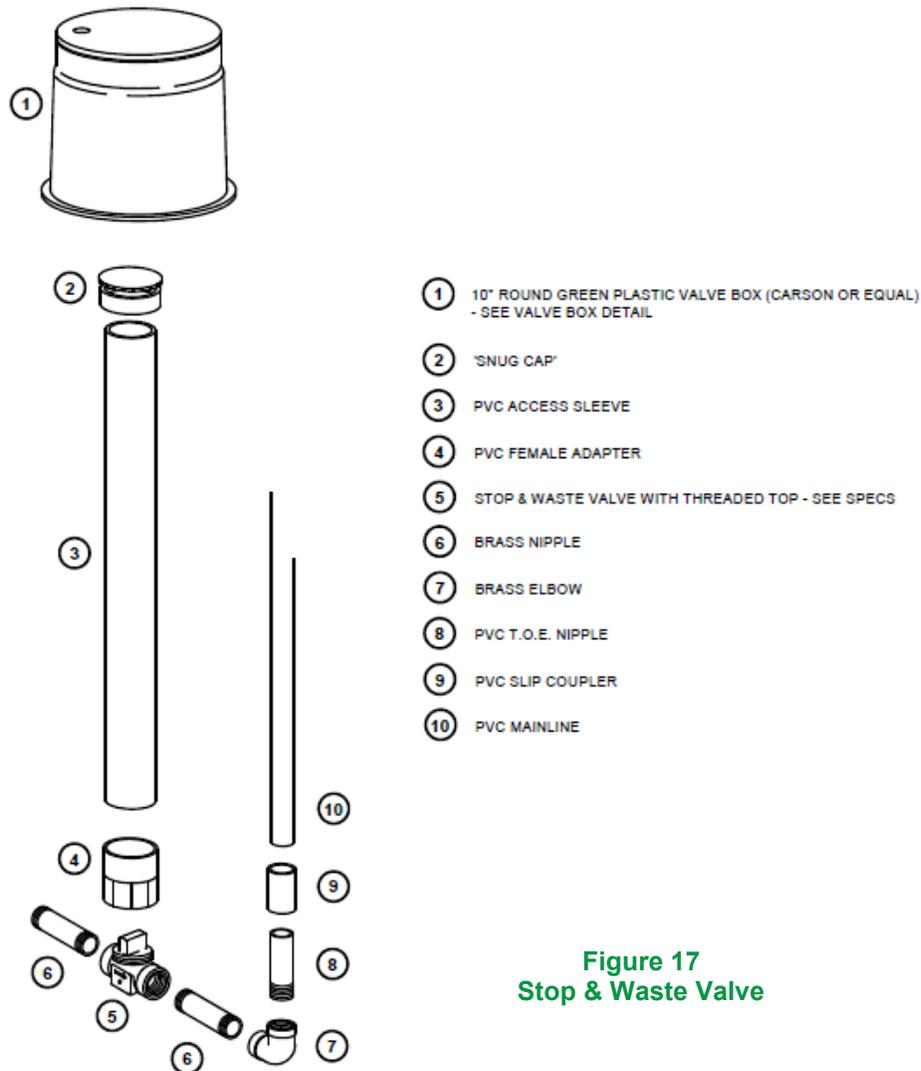


# Underground Irrigation Systems

4. Trench bedding and backfill material shall be existing site soil free of rocks larger than one (1) inch in diameter and any other debris. Wasted pipe and other excess project materials or rubbish (tape, wire, trash, wrappers, boxes, bottles, etc.) shall not be backfilled into the trenches. All trenches shall be backfilled, then watered sufficiently to insure no settling of the surface. In the event of any backfill settlement prior to the end of the guarantee period, the Contractor shall perform all required repairs at his own expense.
5. Backfill under and around the lines to the center line of the pipe shall be placed in maximum layers of six (6) inches and thoroughly compacted. Compaction shall be ninety-five (95) percent relative density (modified proctor) under walks and roads, and eighty-five (85) percent in planting areas.
6. Special care shall be taken to assure complete compaction under the haunches of the pipe. Backfill compaction under the haunches of the pipe shall be compacted to the original density. Compaction requirements above the pipe shall be the same as for surrounding areas.

### 3.04 POINT-OF-CONNECTION

- A. The Contractor shall verify the location of the irrigation point-of-connection (POC) and the static water pressure at that location prior to beginning any irrigation work. If the location or water pressure is different than that expressed by the irrigation designer, or if the pressure appears to be unusually high or low, the contractor shall notify the City Project Manager immediately.



**Figure 17**  
**Stop & Waste Valve**



### 3.05 ELECTRICAL POWER SUPPLY

- A. If 110-120-volt ac electrical service is not already in place, the Contractor shall be required to make all necessary arrangements with the appropriate power company, including but not limited to: paying fees, making power connections, providing poles, weather head and meter, etc., as specified on the plans or as required by the power company and the City. The exact location of the automatic controller which shall receive the power shall be determined by the irrigation designer and the City Project Manager.

### 3.06 PIPE AND FITTINGS

- A. Install pipe to allow for expansion and contraction as recommended by pipe manufacturer. Where the main line will be allowed to sit uncovered for any length of time in the trench prior to testing, shade the main line with a thin covering of backfill soil to minimize weather-related expansion or contraction of pipe. Do not cover up valves or other installed equipment prior to inspection and acceptance.
- B. The ends of all pipe shall be cut squarely, and reamed free of all inside scale or burrs. Spigot ends of pipes three (3) inches and larger shall be beveled. Threads shall be cut clean and sharp, and to a length equal to one and one eighth (1 1/8) times the length of the female thread receiving the pipe. The threaded pipe shall be screwed into a full length of the female thread.
- C. All threaded pipe joints shall be properly sealed using Teflon tape and pipe dope properly applied to the areas to be joined.
- D. Solvent weld joints shall not be glued unless ambient temperatures are at least fifty (50) degrees F. Pipe shall not be glued in rainy conditions unless properly tented. Use only the brand and type of primer and glue specified. All workers performing glue operations shall provide evidence of certification. Glued main line pipe shall cure a minimum of twenty-four (24) hours prior to being energized. Lateral lines shall cure a minimum of two (2) hours prior to being energized and shall not remain under constant pressure unless cured for twenty-four (24) hours.
- E. Every care shall be taken during installation to prevent dirt and debris (especially rocks) from getting into the pipes.
- F. All tees coming out of main lines for valves and other fixtures shall be vertical and constructed with Sch. 80 PVC pipe.
- G. All tees coming out of the lateral lines for heads and other fixtures shall be horizontal so that no direct weight or pressure may be exerted through the head to the top or bottom of the lateral line pipe. Tees on lateral lines shall also be SxSxT to the head swing joints.

### 3.07 THRUST BLOCKS

- A. Thrust blocks are needed wherever the main pipe line:
  - 1. Changes any direction at tees, angles, and crosses vertical and horizontal.
  - 2. Changes size at reducers.
  - 3. Stops at a dead-end.
  - 4. Valves at which thrust develops when closed.The size and type of thrust block depends on pressure, pipe size, kind of soil, and type of fitting. As a general rule, one cubic foot (minimum) of class AA(AE) Type II concrete is required for each thrust block. Follow the ductile iron fitting manufacturer's recommendations for the minimum thrust block size.
- B. Thrust blocks shall rest against undisturbed original earth in the direction of thrust.
- C. Where a fitting is used to make a vertical bend, use a bar to anchor the fitting to a thrust block braced against undisturbed soil. The thrust block should have enough resistance to withstand upward and outward thrusts at the fitting.

### 3.08 PIPE SLEEVES

- A. Pipe sleeves shall be required for all piping under all new concrete or other new paving. The size of the sleeve shall be at least twice the size of the pipe or wires to be sleeved. Wires shall be sleeved separately within their own sleeve. All pipe sleeves four (4) inches and smaller in diameter shall be PVC Schedule 40 pipe; sleeves greater than four (4) inches in diameter shall be Class 200 PVC.



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## 3.09 VALVES

### A. General:

1. Isolation valves, remote control valves, and quick coupling valves shall be installed according to manufacturer's recommendations and these drawings and specifications.
2. Valve boxes shall be set over valves so that all parts of the respective valve assembly can be reached for service. Valve box and lid shall be set to be flush with the proposed finished grade.
3. No valve box shall rest directly upon the valve or any fixture associated with it, including main line and lateral lines. Each valve box shall be centered on the valve assembly it covers. Each valve box shall have five (5) inches of three quarter (3/4) inch rock placed in the bottom underneath the valve and lines to reduce the potential of mud and standing water therein.

### B. Remote Control Valve:

1. Each control valve shall have its own ball valve, and only one (1) control valve and ball valve per valve box. No valve manifolds shall be allowed.
2. The bottom of the remote control valve shall be a minimum of five (5) inches above the gravel.
3. Quick coupling valves shall be installed within a ten (10) inch round Carson valve box unless next to concrete pad. In the latter case, install at finished grade.
4. All control valve assemblies shall be placed within planting areas and in the approximate location as shown on the plans. No grouping of valves in any one spot shall be allowed.
5. Control valve assemblies shall be installed no closer to one another than five (5) feet.
6. No control valve shall be installed more than twelve (12) inches below finished grade.
7. Tag each control valve with a permanent and non-smearing label indicating its proper controller and valve number as shown on the irrigation plans.

## 3.10 VALVE BOX

- A. Where indicated in the installation details, valve boxes shall rest on brick pavers, thus eliminating any weight or pressure from being exerted on the main line or valve inside the valve box. There shall be a minimum of three to six (3 to 6) inches of clear space between the valve box lid and the topmost part of the valve (including solenoid).
- B. Valve box extensions shall be used where necessary to prevent soil around the valve from collapsing into the space inside the valve box.

## 3.11 BACKFLOW PREVENTION ASSEMBLY

- A. The Contractor shall install backflow prevention equipment behind (downstream from) the point-of-connection to the supplying main and lateral lines. Installation shall comply with local, state, and national codes and regulations, and per manufacturer's recommendations (whichever is most restrictive). See plans and details for more information. Install a quick coupling valve just downstream of the backflow prevention assembly for blowout purposes.
- B. The Contractor shall have the backflow prevention assembly's operation tested within ten (10) days of the time of installation by a certified backflow preventer assembly tester. Testing shall be conducted per state requirements to insure proper and safe operation. Subsequent annual testing at spring start-up shall be the responsibility of the City.

## 3.12 FILTER & ENCLOSURE

- A. The Contractor shall install the filter and its enclosure just downstream from the point-of-connection and backflow prevention assembly (if present).
- B. The filter shall be equipped with a ten (10) foot length of hose that can be attached to the exhaust port of the filter to direct water and debris away from the enclosure during flushing operations. Auto-flush filter models shall be provided with a permanent method of capturing and directing exhaust water away from the filter assembly without creating puddles, ponding, or any other nuisance drainage problems.



### 3.13 WIRE & CABLES

- A. Multiple wires in the same trenches shall be banded together at ten (10) foot intervals for protection. Where wires pass under paved areas, Schedule 40 PVC sleeves shall be installed prior to installation of the paving, if possible, and prior to installation of the wires. Sleeves for fourteen (14) gauge wires shall be sized as follows:

# of Wires	Sleeve Size
1—10	1"
11—18	1 1/4"
19—25	1 1/2"
26—40	2"
41—56	2 1/2"
57—88	3"
89—150	4"

- B. All control wires shall be bundled and taped together every ten (10) feet and installed in the pipe trench directly under the pipe. See detailed drawing showing the wire located in those positions. Control wires not placed in the trenches under the pipes shall be placed in conduit and buried eighteen (18) inches or deeper and marked on the "as built" drawings.
- C. Two (2) spare wires shall be run from each controller to the farthest valve under its control in all directions and to any valve which is on a dead-end line. The spare wires shall be a different color from the regular wires and shall be labeled at both ends. Each spare wire shall be brought up to the surface in each valve box it passes through and coiled with twenty-four (24) inches for use in future connections. Each spare wire shall be tested for continuity prior to final acceptance of the project and guaranteed by the Contractor to be functional. Should the maintenance personnel discover a defect within one (1) year afterwards, the Contractor shall locate the problem and cause it to be repaired at his own cost. Install extra wires as needed for moisture sensors.
- D. Run a single 14-gauge wire along the top of the main line to be used for tracking the location of the main line. The color of the tracing wire shall be different than any other wire color used.
- E. Isolation valves, quick coupling valves, and wire splices not specifically associated with the control valve shall be located in separate valve boxes.



# Underground Irrigation Systems

## 3.14 SPRINKLERS

### A. General:

1. All sprinkler heads shall be installed above grade so as to minimize washing of the topsoil and seed during the landscaping establishment period, except those which border paving or flat work of any kind. These heads shall be installed at the finished grade of the adjacent paving or flat work. Prior to final acceptance of the project, all heads shall be raised or lowered to final lawn or planting grade.
2. All sprinkler heads shall be installed using the bottom inlet. No side outlets shall be used.
3. Rotor heads located on hillsides shall be adjusted to the downhill side to avoid cutting into the hill by the stream of water and causing erosion.
4. Heads installed in existing sod shall be set at the grade of the soil.
5. All rotary pop-up heads shall be installed at final grade on double swing joints. All swing joints must drain by gravity back to the supply lines.
6. All pop-up, shrub spray, lawn spray, bubbler and strip spray heads shall be installed as shown in the details.
7. All pipes, lines, and risers shall be flushed thoroughly with water before installation of any heads. All debris and rocks found at that time shall be removed from the area as soon as possible.
8. All spray sprinklers shall be flushed thoroughly with water a second time before installation of nozzles.
9. The Contractor shall adjust all heads to provide a uniform coverage and to keep spray off buildings, walkways, walls, parking areas, and drives.
10. Check valves shall be used where indicated and where necessary to prevent water flow from lower elevation heads when system is turned off. Install per manufacturer's recommendations.

### B. Inline Drippers

1. Inline drip tubing shall be spaced at a distance equal to or less than the inline emitter spacing. For slope applications, place drip tubing laterals parallel to the slope contour. When slopes exceed thirty (30) percent, increase the recommended lateral spacing by twenty-five (25) percent on the lower one third (1/3) of the slope.
2. Inline dripper tubing shall be installed at finished grade with soil staples and covered with three (3) inches of specified mulch. Supply and exhaust headers shall be installed at normal lateral line depths.
3. All drip tubing shall be held in place by soil staples and shall conform to the following:
  - a. Sandy Soil - One staple per every three (3) feet and two (2) staples on each change of direction (tee, elbow, or cross)
  - b. Loam Soil - One staple every four (4) feet and two (2) staples on each change of direction (tee, elbow, or cross)
  - c. Clay Soil - One staple every five (5) feet and two (2) staples on each change of direction (tee, elbow, or cross)
4. Installation of inline drip circuits shall generally conform to the following steps:
  - a. Assemble and install ball valve, filter, remote control valve and pressure regulating valve assembly in accordance with installation details.
  - b. Assemble and install supply header(s) in accordance with installation details. Tape or plug all open connections to prevent debris contamination.
  - c. Install lateral drip lines in accordance with details and relevant specifications and manufacturer's recommendations. Tape or plug all open ends while installing to prevent debris contamination.
  - d. Assemble and install exhaust header(s) in accordance with installation details. Tape or plug all open connections to prevent debris contamination.
  - e. Install air/vacuum relief valve(s) at the zone's highest point(s) in accordance with installation details.
  - f. Thoroughly flush supply header(s) and connect drip lateral lines while flushing.
  - g. Thoroughly flush drip lateral lines and connect to exhaust header(s) and any interconnecting lateral lines while flushing.
  - h. Thoroughly flush exhaust header(s) and install line flushing valves in accordance with details.



### 3.15 AS-BUILT DOCUMENTS

- A. The Contractor shall keep a current and accurate record of exact dimensioned locations, grades, elevations, and the size of all exterior and interior underground piping, valves, and drains. Dimensions shall indicate distances from columns, buildings, curbs, and similar permanent features on the site. This information shall be recorded on a print as the work progresses, but shall be permanently recorded on a reproducible two (2) mil Mylar original which shall be given to the City Project Manager before the project is accepted. The Mylar shall be a copy of the original plans for the project produced by a local printer at the Contractor's expense.
- B. Final payment for the contract will not be processed until "As-Built" drawings or plans are received by the City Project Manager.

### 3.16 OPERATIONAL TEST AND MAJOR INSPECTIONS

- A. Substantial Completion:
  - 1. At substantial completion of the irrigation system, the Contractor shall call for an operational and coverage test. Substantial completion shall be defined as the complete installation of all irrigation equipment, and completion of all backfilling and grading operations in their entirety. Substantial completion shall not be given for designated portions of the project.
  - 2. Notice by the Contractor shall be given, in writing, at least three (3) days in advance to the City Project Manager so that proper scheduling can be made for those who are to attend.
  - 3. At the appointed time, an inspection of all irrigation equipment, including control valve assemblies, controllers, isolation valves, quick coupling valves, drain valves, and sprinklers shall be made. The entire system will be tested for operation, coverage, and head adjustment. Please note that the pressure testing of the main lines and lateral lines shall already have been completed prior to this time.
  - 4. A list of uncompleted items or repairs (punch list) shall be generated by the City Project Manager and distributed to the Contractor and other involved parties within three (3) days of the operational testing. Each item on the punch list shall be corrected before the system will be approved and accepted by the City Project Manager. The Contractor will be back charged for time spent by the City and any consultants who have been brought to the site for a final inspection when the project is not ready for said inspection.
- B. Maintenance/Establishment Period:
  - 1. The maintenance period shall begin one (1) day after the substantial completion inspection. The Contractor shall complete all punch list items during the maintenance period, as well as maintain and operate the entire irrigation system.
  - 2. The irrigation Contractor (if different than the landscaping Contractor) shall coordinate with the landscaping Contractor during the entire plant and lawn establishment period on the use, scheduling, and maintenance of the sprinkler system.
- C. Final Acceptance:
  - 1. A second inspection shall be held at the end of the maintenance period to insure that all punch list items have been completed and the entire system is ready for acceptance by the City.
  - 2. Upon satisfaction that the Contractor has completed all punch list items, the irrigation system is fully and completely functional, and the required As-Built drawings, molars and maintenance manuals have been submitted, the City shall accept the project,
  - 3. An official letter of final acceptance shall be prepared and issued to the Contractor, designer, and the City Project Manager. Upon acceptance of the system by the City Project Manager, the City shall assume full responsibility for the system, and the guarantee period shall begin.



# Underground Irrigation Systems

## 3.17 GUARANTEE AND MAINTENANCE

### A. Guarantee:

1. Upon final acceptance of the sprinkler irrigation system as being operational and properly installed, the Contractor shall guarantee the workmanship, materials, fixtures, and equipment to be free from defects for a period of one (1) year after that date.
2. The Contractor shall insure and guarantee complete drainage of the system. In working with or connecting to an existing system, the Contractor shall guarantee compatibility in operation and drainage between the two systems.

### B. Maintenance Required During Guarantee Period:

1. In the fall of the year during the installation and guarantee period, the Contractor shall meet with the City's maintenance personnel on the site. The Contractor shall winterize the system by draining all of the water and doing everything necessary to insure protection of the system until spring. Blowing out the lines by compressor shall be permitted during the one (1) year guarantee. Maximum compressor pressure shall be 30 psi on spray, 50 psi on rotor circuits, and 20 psi on all drip circuits. The individuals involved from both parties shall exchange all information necessary for the eventual take-over of the system by the City.
2. The Contractor, with the City's maintenance personnel and City Project Manager in attendance, shall energize the sprinkler irrigation system again the following spring and shall repair all defects found as a result of winter damage, improper installation, improper maintenance, defective materials or inadequate sprinkler drainage.
3. At the end of the guarantee period, when the lawn and landscaping have been approved, the Contractor shall call for a final inspection of the sprinkler irrigation system. There shall be at least five (5) days prior notice given in writing to the City Project Manager so that the appropriate people have opportunity to attend.
4. Prior to that time, the City shall adjust all heads to their proper pattern, radii, and height. The system shall have been flushed out, checked for operation, and any defects not covered by the guarantee corrected shall be repaired. The entire system shall be inspected and checked to determine if everything is in working order. A final list of warranty items found in need of correction (if any) shall be made and the Contractor shall correct them. The Contractor shall notify the City Project Manager when he has verified that every item is corrected.
5. After all warranty items have been corrected, the City shall, in writing, officially release the Contractor from all warranty claims pertaining to the irrigation system and assume full and complete responsibility for said system.



## Part 1– General

### 1.01 SUMMARY

- A. Section includes:
  - 1. Trees, shrubs, perennials, vines, and groundcover requirements.
  - 2. Bedding, topsoil, and temporary support.
- B. The work to be performed under this section shall consist of furnishing all materials, labor, and plants necessary for the proper planting or all trees, shrubs, perennials, vines, and groundcovers of the kind and sizes specified at the prescribed locations, and otherwise in accordance with the drawings and specifications or as directed by the Landscape Architect.
- C. Related sections:
  - 1. Section 02810 Underground Irrigation Systems

### 1.02 REFERENCES

- A. ANN: American Associations of Nurserymen, Inc.
- B. ANSI Z60.1: American Standard for Nursery Stock.
- C. FS O-F-241: Fertilizers, Mixed Commercial.

### 1.03 QUALITY ASSURANCE

- A. Perform work in conformity with applicable requirements of AAN.
- B. Obtain nursery stock and other plant materials from approved sources prior to order and delivery.
- C. Provide plants that are declared free of disease and insect pests.

### 1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Exercise care in digging, transporting, handling, and packing of all plants.
- B. Handle plants so roots are protected at all times. If delivery is in open vehicles, cover entire load without causing over heating.
- C. Deliver plant material immediately prior to placement. Keep plant material moist.
- D. Protect root balls from sun and wind by covering with soil or other suitable material if not planted immediately on delivery.
- E. Store fertilizer in a weatherproof location such that its effectiveness will not be impaired.

### 1.05 ACCEPTANCE

- A. Plants shall be accepted if the ball of earth surrounding roots (rootball) has not been cracked or broken.
- B. Plants shall be accepted if burlap, staves, and ropes required in connection with transplanting are installed and still intact upon delivery.
- C. Heeled in stock from cold storage shall not be accepted.

### 1.06 SAMPLES

- A. Samples of the materials listed below shall be submitted to the City Project Manager for inspection and approval prior to the beginning of work under this contract.
- B. Delivery of materials may begin only after samples have been approved. All materials furnished for the work shall conform in every respect to the approved samples. Any non-conforming materials will be rejected.



# Planting Specifications

## Part 2– Products

### 2.01 GENERAL

- A. The planting plan is diagrammatic, and all plant locations are approximate. Plant symbols take precedence over plant quantities shown on the plans and in the plant material schedule. The Contractor shall verify all plant quantities and notify the City Project Manager of any discrepancies between the quantities and the symbols shown.
- B. Provide plants of normal growth and uniform height, according to species, with straight canes and well developed leaders, roots, and tops.
- C. Provide plants of sizes indicated. The size stated in each case shall be interpreted to mean dimensions of plant as it stands in its mature position in the nursery without straightening of any branches or leaders.
- D. Provide legible labels attached to all plants, specimens, bundles, boxes, bales, or other containers indicating botanical genus, species, and size of each.
- E. Plants cut back from larger sizes to meet specifications shall be rejected.
- F. Balled and burlapped deciduous shrubs may be acceptable in lieu of container growth deciduous shrubs only if there is a significant shortage of container grown stock.

### 2.02 PLANTS

- A. All plants shall comply with federal and state laws requiring inspection for plant disease and infestations.
- B. Any inspection certificates required by law shall accompany each delivery of plants and such certificate shall be filed with the City Project Manager. All plants shall be subject to inspection and approval at the place of growth or upon delivery to the site for their quality, size, species, and variety. Such approval shall not impair the right of inspection and rejection at the site or during progress of work for size and condition of the plants, latent defects, or injuries. Any and all rejected plants shall be removed immediately from the premises by the Contractor. The Contractor shall make all replacements at his expense should he fail to comply in full with any of the specifications. Necessary replacements will be made as soon as weather conditions permit and all such plants replaced shall conform to all specifications herein.
- C. Names and Grades:
  - 1. Plant names shall conform to the nomenclature of “Standard Plant Names” or “Bailey’s Encyclopedia of Horticulture.” When a name is not found in either reference, consult the accepted name used in the nursery trade. All plants shall be tagged by the nursery with the proper identification labels to insure the correct varieties of plants.
  - 2. Size and grading standards shall conform to those of the American Association of Nurserymen, Inc., as published in “American Standard for Nursery Stock”, 1959 Edition, with all current revisions unless otherwise specified.
  - 3. The caliper of trees shall be measured six (6) inches above the surface of the ground.
  - 4. Measurements on all trees and shrubs shall be taken with the branches in a normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch or root tip to tip. No trees which have had their leaders cut or so damaged that cutting is necessary, will be accepted.
- D. No substitution of size, grade, variety or any species shall be permitted except by written permission of the City Project Manager.
- E. Plant Size:
  - 1. All plants shall conform to the size, age, and condition as specified in the plant list shown on the drawings. Undersized plant material shall not be approved.
  - 2. No additional compensation shall be due the Contractor if larger than specified plant material is provided.
  - 3. Due to the large size of the trees and evergreens being specified, only balled and burlapped or container stock shall be accepted. No bare root stock shall be accepted.



F. Plant List:

1. Plants lists indicate minimum size requirements only. Plant materials shall be equal to or greater in size than those specified.
2. Any discrepancies between plant lists and plans shall be immediately brought to the attention of the City Project Manager.
3. In all cases the Contractor shall be held responsible for all plant materials indicated on the plans unless otherwise directed in writing by the City Project Manager.
4. Each bidder shall investigate sources of supply and satisfy himself that he can supply all of the plants mentioned in the planting lists in size, variety, and quantity noted and specified before submitted his bid. Failure to take this precaution will not relieve the successful bidder from his responsibility as Contractor to furnish and install all plant material in strict accordance with the contract requirements without additional expense to the owner.
5. All plants shall be fresh and vigorous, of normal habit and growth, and free of disease, insects and insect eggs and insect larvae, weeds and weed seed. No heeled-in plants from cold storage shall be accepted except on approval by the City Project Manager prior to installation.

**2.04 TOPSOIL**

- A. All planting areas shall receive either a minimum of twelve (12) inches of stockpiled or imported topsoil in turf areas and twelve (12) inches in planting beds unless otherwise approved by the City Project Manager.
- B. All topsoil used on this project (stockpiled or import) shall meet the following criteria:
  1. pH: 5.5 - 8.0
  2. EC (electrical conductivity): <2.0 mmhos per centimeter
  3. SAR (sodium absorption ratio): <3.0
  4. % OM (percent organic matter): <sup>3</sup>2%
  5. Texture (particle size per USDA classification):
    - a. Sand: <70%
    - b. Clay: <30%
    - c. Silt: Balance
  6. Stone Fragments (gravels or any soil particle greater than two (2) mm is size): <5% (by volume)
- C. In addition, the topsoil shall be fertile, friable, natural loam and shall be capable of sustaining vigorous plant growth. It shall be free of stones, lumps, clods of hard earth, plants or their roots, sticks, and other extraneous matter. The topsoil shall contain no noxious weeds nor their seeds. It shall not be used for planting operations while in a frozen or muddy condition.

**2.05 MULCH**

- A. Shredded bark mulch shall be used as a top dressing for all planting beds unless specified otherwise.
- B. Shredded bark mulch shall conform to the following criteria:
  1. Bark pieces shall not exceed two (2) inches when passed through a screen of that size.
  2. Large chunks of bark or wood shall not be mixed in with the mulch.
  3. The bark mulch shall be primarily from coniferous trees.
- C. Where used, the shredded bark mulch shall be place to a depth of three (3) inches on top of the topsoil.
- D. Other mulches may be used only as specified on the drawings or in the planting notes and details.



# Planting Specifications

## 2.06 FERTILIZER

- A. Commercial fertilizer shall be uniform in composition, dry, and free flowing. Deliver fertilizer mixed as specified in bulk or bag, showing weight analysis, formula, and manufacturer's name.
- B. A 16-16-16 balanced fertilizer shall be used. Any exceptions to this formula shall be based on horticultural recommendations resulting from a site-specific soils test, and must be approved prior to application by the City Project Manager.

## 2.07 MOWSTRIP

- A. Where turf areas are separated from planting beds, a concrete mowstrip shall be used. No other edging materials may be used unless specifically noted on the plans and approved by the City Project Manager.
- B. The mowstrip shall be constructed using concrete having a compressive strength rating of four thousand pounds per square inch (4,000 psi) or greater, and a maximum slump of four (4) inches.
- C. A three eighth (3/8) inch diameter rebar (#3) shall be placed continuously in the center of the mowstrip to provide support and help prevent differential settling of the mowstrip after cracking. Overlap joints a minimum of twelve (12) inches.

## Part 3– Execution

### 3.01 GENERAL

- A. Site Visit: The Contractor shall visit and inspect the site. He shall take into consideration known and reasonably inferable conditions affecting work. Failure to visit the site will not relieve the Contractor of furnishing materials and performing the work required.
- B. Prior to any planting operations, the irrigation system shall be fully operational and all planting areas shall be thoroughly moistened.
- C. Where weeds or other undesirable vegetation are present in planting areas, the Contractor shall apply a contact herbicide a minimum of ten (10) days prior to commencement of any planting or irrigation work. Apply herbicide per manufacturer's recommendations. The poisoned vegetation shall be allowed to completely die back, including the roots, before proceeding with the work. Dead vegetation shall then be removed from the site and disposed of in a legal manner.
- D. The Contractor shall conform to the following requirements with regard to existing vegetation:
  - 1. The Contractor shall be fully responsible for any damage to existing trees or shrubs. He shall use all reasonable means to protect and preserve plants on the project not designated for demolition.
  - 2. No pruning, thinning, or cutting of existing vegetation shall be allowed unless written permission is given by the City Project Manager.
  - 3. The Contractor shall replace any trees or existing shrubs damaged by him or his sub-contractors with like kind and size.

### 3.02 PLANTING SEASONS

- A. All new plant installation shall be completed between April 15 and October 1. If planting must be done after October 1 or before April 15, the Contractor shall obtain specific approval to do so from the City Project Manager prior to beginning any planting operations.
- B. No planting shall be done in frozen soil or during unfavorable weather conditions, subject to the approval of the City Project Manager.



- C. The following procedure shall be followed in placing all topsoil:
1. All areas to receive topsoil which have a slope of less than ten (10) percent shall be cross-rippled to a depth of four (4) to six (6) inches.
  2. The subgrade material shall be rough graded to plus or minus one tenth ( $\pm 0.1$ ) foot of the final rough grade, which will allow the Contractor to achieve final finished grade through the placement of the topsoil.
  3. The surface of the subgrade shall be scarified to a depth of two (2) inches to provide a transition zone between the subgrade and the topsoil. Place the topsoil on the subgrade and fine grade to the final finished grade and topsoil depths as indicated on the drawings and in these specifications.
  4. Any required soil amendments (i.e. mulch, organic matter, etc.) shall be placed directly on the topsoil at the required rates and spread evenly over the planting area. The amendments shall then be thoroughly blended into the topsoil to a depth of four (4) inches. Where only a dry, granular fertilizer is to be added, it may be applied to the surface and raked in during the fine grading procedures.
- D. The Contractor shall maintain a minimum of two (2) percent drainage away from all buildings, structures, and walls. Finished grades shall be smoothed to eliminate puddling or standing water.
- E. All finished grades shall be a minimum of two (2) percent unless otherwise approved by the City Project Manager prior to installation of any plant materials.

### 3.04 PLANT CONDITION

- A. All precautions customary in commercial landscape installation practice shall be taken in preparing plants for planting. Workmanship that fails to meet these minimum standards shall be rejected. All balled and burlapped plants shall have firm and natural balls of earth around their roots. No plant shall be planted if the rootball is cracked or broken, either before or during the process of planting. Loose, broken or manufactured rootballs shall be rejected.
- B. All plants materials in five (5) gallon containers or larger shall have been established in that container for a period of not less than six (6) months and not more than two (2) years. Plant material shall not be root bound. They shall exhibit sound, healthy, and vigorous growth and be free from diseases and pests.
- C. The contractor shall have the City Project Manager approve plant material size and quality prior to installation. Any plants which are not true to form, appear stressed or unhealthy, are infested with pests, infected with disease, or are undersized for their containers shall be rejected.
- D. All plant material shall be planted as soon upon arrival on the premises as possible. If planting cannot be done immediately, the roots shall be protected from the sun and kept in a moist condition until the time of planting. Such protection may be provided by laying the plants on the north side of the building and covering the roots with wet straw.
- E. If it is anticipated that planting will not be done for more than twenty-four (24) hours after the arrival of plants upon the premises, the bare root and ball and burlap stock shall be heeled-in on the north side of a building and all roots completely covered with dirt which shall be wetted down frequently. Care will be taken in the handling of all ball and burlap materials so that the earth around the roots is disturbed as little as possible.

### 3.05 PLACEMENT OF PLANTS

- A. Plants shall be generally located as indicated by the drawing. The Contractor shall stake out the location of all plants and planting areas with identified plant stakes, and no excavation shall commence until such locations have been approved by the City Project Manager.
- B. In the event that underground construction work or obstructions are encountered during excavation of the plant holes, alternate locations will be assigned and approved by the City Project Manager.
- C. Except for turf and groundcovers, plants shall not be placed within twelve (12) inches of sprinkler heads.
- D. The Contractor must locate and stake any sprinkling head or valve box within 10' feet of proposed tree location, and must establish the direction of the lateral or main irrigation line that serves the staked sprinkler head or valve box. This procedure will help eliminate hitting underground irrigation pipes.



# Planting Specifications

## 3.06 PLANT INSTALLATION

- A. All concrete work, sprinkling systems, and finished grading shall be completed and approved by the City Project Manager before any planting of the specified plant materials is begun.
- B. No tree planting shall be initiated until sprinkling system is complete and tested. However, tree planting shall precede lawn planting.
- C. Each plant will be placed in an individual plant pit. The sharing of pits shall not be allowed.
- D. All trees and shrubs shall be planted in pits as detailed in the planting details contained herein or as noted on the drawings. Tree and shrub pits shall be circular in outline, with a diameter at least three (3) times the diameter of the rootball of each plant to be installed. They shall be one to two and one half (1 - 2 ½) inches shallower than the rootball depth. When the plant is properly placed in the plant pit, the root collar shall be approximately one (1) inch above finished grade. All trees shall be planted with the root collar two (2) to three (3) inches above finished grade. The sides of the plant pit shall be roughened, and not smooth or sculpted.
- E. Plant backfill mix shall be one hundred (100) percent native site soil.
- F. For container grown plants, remove the container and place the plant vertically in the plant pit, directly on undisturbed soil. The root crown or collar shall be at or just above the finished grade.
- G. For balled and burlapped plants, place the plant vertically in the center of the pit, with the rootball resting on undisturbed soil. Cut and remove the wire basket and burlap or other wrapping material from the rootball. This may be done with the rootball in the pit. Any burlap or wire pieces underneath the rootball may be left in place if they cannot be removed. Do not fold the burlap over, but cut away as much as possible without disturbing the rootball. No burlap shall be pulled from under the rootball. Backfill the bottom one third (1/3) of the pit as the wire and burlap are removed. In all cases, maintain the integrity of the rootball.
- H. Specified backfill material shall be carefully and firmly worked and tamped under and around the rootball to fill all voids. When backfilled and compacted to two thirds (2/3) the depth of the pit, thoroughly water with a hose to completely soak the roots and remove any air pockets.
- I. The plant pit shall then be completely backfilled with the specified backfill mix and tamped well. A shallow watering basin or rain cup shall be formed around each plant. This basin will be equal in diameter to that of the original planting pit.
- J. Monitor all plants to insure that no settling occurs. Pits which settle shall be immediately filled with additional soil mixture at no additional expense to the City.
- K. After planting, the following operations shall be performed:
  - 1. Stake and mulch all trees per installation details.
  - 2. Remove all nursery stakes ties, and tags from all plants. Prune and remove any dead, damaged, or broken branches. Maintain side growth on all trees.

## 3.07 STAKING

- A. All trees, including evergreen trees, shall be staked.
- B. Staking shall be performed as follows:
  - 1. Two (2) 2"x 2" wood stakes, eight (8) feet in length, shall be used to support each tree planted under this contract unless otherwise indicated.
  - 2. Tree ties shall conform to the staking detail shown on the planting detail sheet.
  - 3. Each stake will be located adjacent to the rootball, on opposing sides, to provide maximum support to the trunk. Do not penetrate the rootball with the stake.
  - 4. The stakes will be driven into the pit bottom after the tree has been placed in the pit, but before backfilling begins so as to avoid damage to the roots.
- C. Stakes and ties shall be removed after one (1) full growing season from the time the tree was installed.



### 3.08 WATERING

- A. All plants shall be thoroughly watered immediately after planting. This shall mean full and thorough saturation of all backfill in the pits and beds during the same day of planting. Water shall be applied only by open end hose at very low pressure to avoid air pockets, injury to the plant, or washing away of backfill. When installed, watered, and fully settled, the plants shall be vertical.
- B. Subsequent watering shall be provided by the site's irrigation system. The Contractor shall insure that all plants, especially trees, receive sufficient water to maintain healthy growth and vigor. Overwatering shall be avoided, and prolonged saturation of the soil around the trees shall be eliminated by appropriately controlling the irrigation circuit which provides water to that area.

### 3.09 MULCHING

- A. Shredded bark mulch shall be placed to a depth of three (3) inches on top of the topsoil in all planting beds and over tree planting pits.
- B. The finished grade of the bark mulch shall be as follows:
  - 1. Two (2) inches below the surface or finished grade of any paving, mowstrips, or walks adjacent to the planting area.
  - 2. At adjacent finished grade of the turf surrounding tree planting pits.
- C. In tree pits, the bark shall be kept six (6) inches away from the base of the tree.
- D. Just prior to placement of the mulch, the Contractor shall treat the mulched areas with a pre-emergent herbicide according to the manufacturer's recommendations.

### 3.10 SOD INSTALLATION

- A. All turf shall be sod unless otherwise approved in writing by the City Project Manager prior to installation.
- B. Sod shall be obtained only from approved sources. The sod shall have been mowed regularly and carefully maintained from planting to harvest.
- C. The sod shall be free of grassy and broad-leaf weeds, contain no bare or burned spots, and be clean and strongly rooted. It shall be of the varieties noted on the plans and notes.
- D. The sod shall be cut using approved methods and equipment. It shall be cut in pieces not exceeding one (1) square yard, with a minimum of one (1) inch and maximum one and one half (1 ½) inch thickness
- E. The Contractor shall notify the City Project Manager of the source of the sod prior to placement. The sod shall be stripped and delivered to the site not more than twenty four (24) hours prior to laying. The sod shall be maintained in a moist and healthy condition to encourage immediate growth.
- F. The following procedure shall be followed when installing the sod:
  - 1. Lay the sod on smooth, moist topsoil, working off planks if required.
  - 2. Rake the topsoil to loosen and level prior to placing each course of sod.
  - 3. Lay strips perpendicular to the direction of the slope. Strips shall be parallel to each other, with their end seams staggered. The sod shall be neither stretched nor overlapped, and all joints shall be butted tightly together.
  - 4. Roll the sod immediately after placing and thoroughly water with a fine spray to a depth sufficient that the underside of the new sod and the soil immediately below the sod are thoroughly wet.
  - 5. On slopes two (2) horizontal to one (1) vertical or steeper, lay the sod perpendicular to the slope and secure every row with wooden pegs at two (2) feet maximum on center. Drive the pegs flush with the soil portion of the sod.



# Planting Specifications

## 3.11 HYDROSEEDING

### A. General:

1. Wood fiber mulch shall be virgin wood fiber, free of growth or germination inhibiting substances. The mulch shall be air dried with not more than fifteen (15) percent moisture by weight. The total organic weight shall be a minimum of ninety eight (98) percent. Inorganic ash content shall be  $0.7 \pm 0.2$  percent. Water holding capacity shall be 1000G/100G (oven dried weight). The pH range shall be 4.0 - 6.0. The fiber length shall meet the following:
  - a. Fifty (50) percent shall be at least 0.15 inches in length or longer.
  - b. Fifty (50) percent shall be retained on the twenty eight (28) mesh screen.  
It shall be echofiber or Conwed or equal.
2. The seed mix shall be as specified on the plans. Provide written certification that the seed conforms to Utah seed law and is in compliance with Utah State Department of Agriculture regulations.
3. The tackifier shall be M-Binder or Plantego or equal.
4. Application rates shall be as follows:
  - a. Wood fiber mulch..... 50 pounds (min.)/1,000 SF
  - b. Seed mix..... See plans (7 pounds/1,000 SF typ.)
  - c. Tackifier..... 100 pounds/Acre
  - d. Fertilizer..... 7 - 8 pounds/1,000 SF
  - e. Water..... 92 gallons/1,000 SF

### B. One-step preparation and application of hydroseed mulch shall be as follows:

1. The wood fiber mulch, seed, tackifier, fertilizer, and water shall be mixed together in a hydroseeding machine having a capacity of at least two thousand (2,000) gallons to allow for a homogeneous slurry which is thoroughly mixed and can be applied easily without clogging. The machine shall be mounted on a traveling unit which is either self-propelled or drawn by a separate unit. Equipment used in the hydroseeding process shall be thoroughly cleaned of all seed and other materials used in any previous hydroseeding process, prior to hydroseeding on this project.
2. The equipment shall have a built in agitation system and operating capacity sufficient to agitate, suspend, and homogeneously mix a slurry containing not less than fifty (50) pounds of organic mulching amendment plus chemical additives and solids for each one hundred (100) gallons of water.
3. The slurry shall be prepared at the site and its components shall be mixed to supply the rates of application as specified. The slurry preparation shall begin by adding water to the tank when the engine is at one half ( $\frac{1}{2}$ ) throttle. The engine throttle shall be open to full speed when the tank is one half ( $\frac{1}{2}$ ) filled with water. All organic amendments, fiber, and chemicals shall then be added by the time the tank is two thirds ( $\frac{2}{3}$ ) to three fourths ( $\frac{3}{4}$ ) full. At this time and not before, the seed mix shall also be added. Spraying shall commence immediately when the tank is full and the slurry is mixed.
4. Apply the hydroseed to form even appearing cover over the required areas. The slurry shall be applied in a downward drilling motion via a fan stream nozzle. It is important to ensure that all of the components enter and mix with the soil. Use only qualified and trained personnel to insure uniformity of the hydroseed applications.
5. The hydroseeding slurry components shall not be left in the hydroseed machine for more than two (2) hours in order to avoid seed deterioration.

### C. A two-step hydroseeding procedure may be used in lieu of the one-step method. The two-step procedure shall consist of first sowing the seed mix by broadcasting, and second, applying the hydromulch. Specifically, this procedure shall conform to the following:

1. The seed shall be broadcast over the planting bed at the rates noted in the plant schedule. The seed shall be sown in two (2) perpendicular directions with a cyclone seeder or other similar mechanical seeder. Lightly rake the seed into the soil.
2. Apply a fine spray watering immediately after each area has been sown.
3. Prepare and apply hydromulch slurry (minus the seed mix) according to the procedure outlined in 3.11 B, steps 1 through 5 above.



### 3.12 CLEAN UP

- A. Throughout the course of planting, excess and waste materials as well as excavated subsoil shall be continuously and promptly removed. All areas shall be kept clear and all reasonable precautions taken to avoid damage to existing structures, plants, and grass.
- B. When planting has been completed in an area, it shall be thoroughly cleaned of all debris, rubbish, subsoil, and waste materials. These shall be removed from the property and disposed of legally. All planting tools shall also be put away.
- C. The ground surface shall be left in a condition satisfactory to the City Project Manager.

### 3.13 AS-BUILT DOCUMENTS

- A. The Contractor shall keep a record of all departures from the working drawings that occur during construction. These changes shall be shown on a clean set of prints, and the prints kept on the job site at all times for review.
- B. As a part of his observation work, the City Project Manager shall review the as-built drawings regularly to verify that changes are being recorded. At the conclusion of the work, the Contractor shall present the drawings to the City Project Manager and they shall become part of the permanent record of the project.

### 3.14 MAINTENANCE

- A. Substantial Completion:
  - 1. At substantial completion of all planting work outlined in these plans, the Contractor shall contact the City to arrange for a walk through to verify that all aspects of the work have been completed. Work must be fully completed (except for final clean-up) according to all plans, notes, and specifications and exhibit professional workmanship. Substantial completion shall be defined as the complete installation of all plant materials, staking, mulching, and other work on the project in its entirety. Substantial completion shall not be given on designated portions of a project.
  - 2. Notice by the Contractor shall be given, in writing, at least three (3) days in advance to the City Project Manager so that proper scheduling can be made for those who are to attend.
  - 3. At the appointed time, an inspection of all plant materials, including staking and mulching, shall be made.
  - 4. A list of uncompleted items (punch list) shall be generated by the City Project Manager and distributed to the Contractor and other involved parties within three (3) days of the substantial completion inspection. Each item on the punch list shall be corrected before the project will be approved and accepted by the City Project Manager. The Contractor will be back charged for time spent by the City and any consultants who have been brought to the site for a final inspection when the project is not ready for said inspection.
- B. Maintenance/Establishment Period:
  - 1. The maintenance/establishment period shall begin one (1) day after the substantial completion inspection. The Contractor shall complete all punch list items during this period, as well as maintain and operate the entire irrigation system.
  - 2. The Contractor shall maintain all plantings until the turf is fully established. The turf shall be considered fully established when grass stands come in uniform and thick, with no bare or thin spots, and roots have begun to spread and knit together. No weeds shall be allowed in the grass. This shall be a minimum period of sixty (60) days. The maintenance work required shall include but not be limited to the following:
    - a. Appropriate watering of all plant materials.
    - b. Weeding and removal of all weeds from groundcover and planting areas.
    - c. Replacement of any dead, dying, or damaged trees, shrubs, perennials, or groundcover.
    - d. Filling and replanting of any low areas which may cause standing water.
    - e. Adjusting or sprinkler head heights and watering patterns.
    - f. Filling and recompaction of eroded areas, along with any required reseeding and/or replanting.
    - g. The grass shall be mowed when the blades reach three (3) inches tall and maintained to a minimum height of two (2) inches. No more than one third (1/3) of the blade shall be removed per cutting. The cutting frequency shall be once every five (5) to seven (7) days depending upon grass height and growth rate.
    - h. feet until the grass is established.



# Planting Specifications

- i. At thirty (30) days after planting, a balanced fertilizer (16-16-16) shall be applied to the grass areas at a rate of one half (½) pound of nitrogen per one thousand (1,000) square feet.
- j. At intervals of thirty (30) days after the first application of fertilizer to the grass, apply a balanced fertilizer (16-16-16) at a rate of one half (½) pound of nitrogen per one thousand (1,000) square feet until the grass is established.

## C. Final Acceptance:

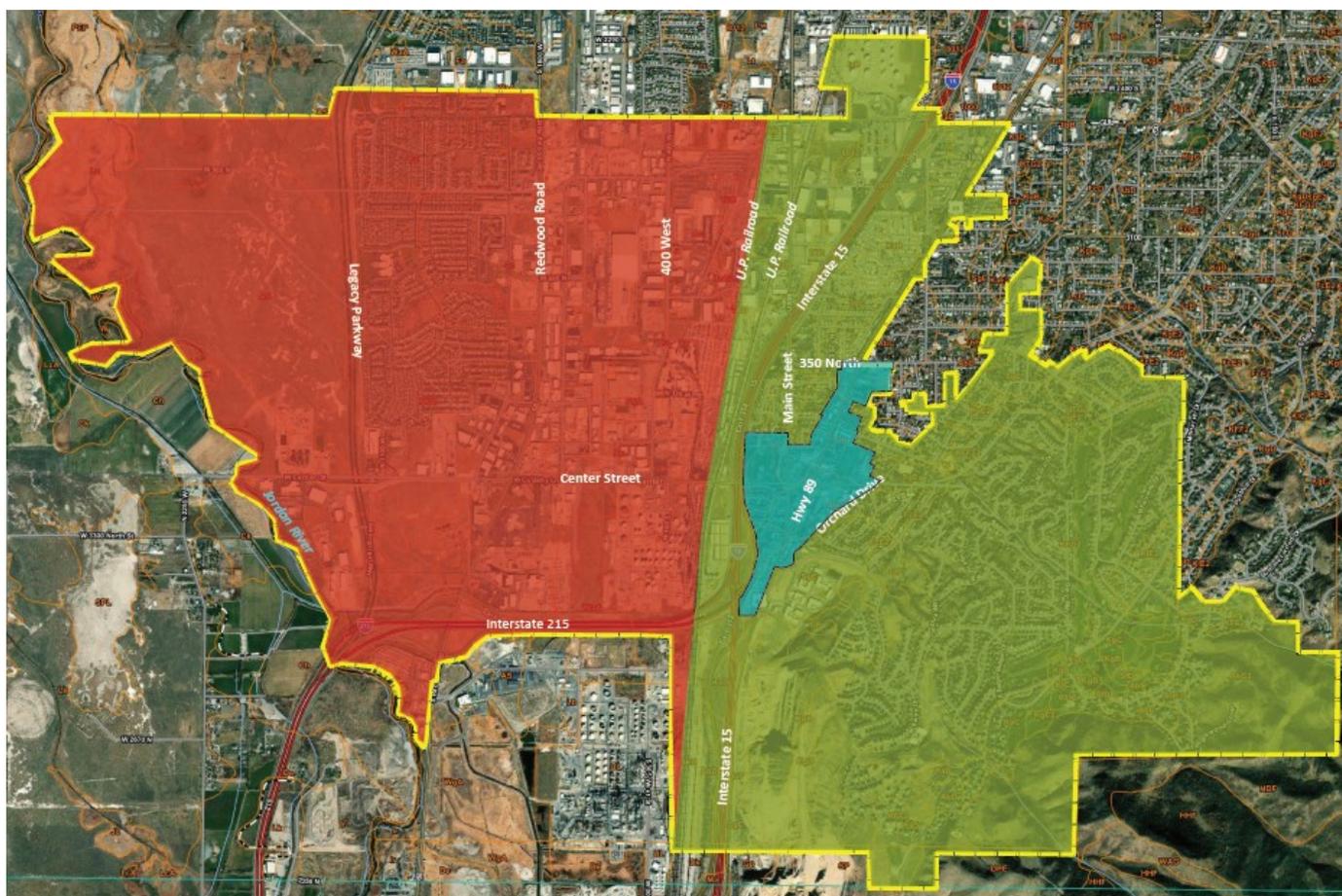
1. A final inspection shall be held prior to the end of the maintenance period to insure that all punch list items have been completed and the entire project is ready for acceptance by the City.
2. Upon satisfaction that the Contractor has completed all punch list items, the irrigation system is fully and completely functional, and the required As-Built drawings, mylars and maintenance manuals have been submitted, the City shall accept the project.
3. An official letter of final acceptance shall be prepared and issued to the Contractor, designer, and the City Project Manager. Upon final acceptance of the project by the City Project Manager, the City shall assume full responsibility for the project, and the guarantee period shall begin.

## 3.15 GUARANTEE

- A. Upon final acceptance of the project as being properly installed, the Contractor shall guarantee the plant materials as follows:
  1. All shrubs and groundcovers shall be guaranteed by the Contractor as to growth and health for a period of sixty (60) days after completion of the maintenance period and final acceptance.
  2. All trees shall be guaranteed by the contractor to live and grow in an acceptable upright position for a period of one (1) year after completion of the maintenance period and final acceptance.
- B. The Contractor shall, within fifteen (15) days after receiving written notification by the City Project Manager, remove and replace all guaranteed plant materials which die or become unhealthy or appear to be in a badly impaired condition at any time during the guarantee period. Any plants that settle below or rise above the desired finished grade shall also be reset to the proper grade.
- C. All replacements shall be plants of the same kind, size, and quality as originally specified in the "plant list" and they shall be furnished, planted, staked, and maintained as specified herein at no additional cost.
- D. The Contractor will not be responsible for plants destroyed or lost due to occupancy of the project, vandalism on the part of others, or improper maintenance or lack thereof.
- E. At the conclusion of the guarantee period and prior to final inspection of the plant materials by the City Project Manager, the Contractor shall remove all tree stakes. This period of time shall be approximately 1 year after initial planting.
  1. Stakes shall be removed by first cutting the ties securing the tree to stakes and secondly pulling stakes or guys out of the ground.
  2. Stakes shall not be broken off above, at, or below ground levels but removed completely.
- F. At the conclusion of the guarantee period a final inspection of all planting included in this contract shall be made by the City Project Manager. At that time any plant found to be unhealthy, broken, damaged, or otherwise in an impaired condition shall be noted. Plants so noted shall be removed immediately from the site by the Contractor and replaced by him, as specified under this section, with plants of like kind and size in the manner previously specified for the original planting without extra compensation.

## Tree Selection

The City of North Salt Lake's adopted Community Forestry ordinance maps dictates three distinct tree areas based on soil planting conditions. While the ordinance refers to trees planted within the City Right-of-Way the accompanying map and list of acceptable trees should be used for any trees that are planted on City owned property. A larger map and full tree list is available upon request.



### Tree Area A

**Most Suitable for Good to Moderate Soil Conditions** - Areas dominated by soils with good drainage and no salinity issues

### Tree Area B

**Most Suitable for Challenging Soil Conditions** - Areas dominated by clay soils with salinity and drainage issues

### Tree Area C

**Most Suitable for Downtown/ Urban Planting Conditions** - Areas requiring planting in tree grates, compacted soils and other particularly challenging urban planting/growth conditions



**The City of North Salt Lake**  
10 East Center Street  
North Salt Lake City, Utah 84054  
Phone 801.335.8700  
[www.nslcity.org](http://www.nslcity.org)



# PUBLIC WORKS





# STORM



## The City of North Salt Lake Storm Water Standards Manual

April 2020





**The City of North Salt Lake**  
10 East Center Street  
North Salt Lake City, Utah 84054  
Phone 801.335.8700  
[www.nslcity.org](http://www.nslcity.org)



# The City of North Salt Lake

## Storm Water Department Specification Manual

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# Construction Information

## Pre Construction

- All connections, extensions or alterations to a storm drain system owned by North Salt Lake City must be approved in advance by the Public Works Director or designee in accordance with North Salt Lake City Code.
- Before working within North Salt Lake City street right-of-way, the contractor must get an approved excavation permit.
- A preconstruction meeting must be held before construction can begin. The meeting will be scheduled by North Salt Lake and shall include appropriate North Salt Lake City personnel, developer, developer's contractor(s) supplier(s), and anyone else deemed necessary.
- A signed copy of the Storm Water Pollution Prevention Plan (SWPPP) is required on all construction sites that will disturb one or more acres of land, or will disturb less than one acre of land but are part of a common plan of development or sale that will ultimately disturb one or more acres of land; or a projects discharges have been designated by the City of North Salt Lake as needing a Storm Water Pollution Prevention Plan (SWPPP).

### The city must receive and review:

- A signed copy of the NOI (Notice of Intent)
- A Signed copy of the SWPPP (Storm Water Pollution Prevention Plan)

These items must be submitted and reviewed by the City prior to any type of (building, excavating, grubbing/grading, etc.) permits are given.

- Guidelines on how to file the NOI, and how to prepare a SWPPP can be found at the link below

<https://deq.utah.gov/water-quality/general-construction-storm-water-updes-permits>

All other SWPPP related materials can be found on the North Salt Lake City website

- LID Manual
- BMP Manual
- SWPPP Preparation Checklist
- A storm water maintenance agreement must be completed and submitted to North Salt Lake City before construction can begin.

## Construction

- North Salt Lake City must be given 48 hour advance notification of when work is to begin.
- North Salt Lake City personnel will inspect all work being performed and nothing shall be buried until approved by an authorized inspector. North Salt Lake City maps all new construction with a global positioning system (GPS) and any storm water infrastructure buried before inspection and documentation will be uncovered by the contractor.
- North Salt Lake City personnel will require extended range ball markers be installed to help with future locating when deemed necessary by the Public Works Department. These ball markers will be provided by North Salt Lake City.
- When installing rigid storm drain pipe contractors will be required to install a manhole at every change of direction and change of grade of the pipe. When changing type or size of pipe contractor will also be required to install a manhole



- SWPPP inspections will be conducted by North Salt Lake personnel at a minimum of once a month unless conditions require more inspections
- North Salt Lake City personnel must be made aware of any construction site de-watering or pumping activities that will impact NSL storm drain system.
- Television inspection of all new and modified storm drain pipes and structures is required to be performed at the expense of the contractor. A video log of the new pipe must be submitted to the City.
- Maximum distance between inlets is 800 feet.
- Maximum distance between manholes is 400 feet.

## Hydrant Meter Rentals for Construction Water

- The City of North Salt Lake offers hydrant meter rentals to sign up contact us at 801.335.8700.

## Post Construction

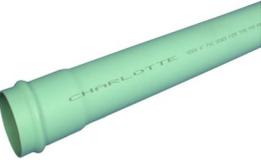
- North Salt Lake City, Davis County Health Department and South Davis Metro Fire must give final approval before a Certificate of Occupancy can be issued.
- As built drawings must be submitted to North Salt Lake before a Certificate of Occupancy can be issued.
- Notice of Termination (NOT) must be filed upon completion of project prior to final SWPPP inspection and all BMP's must be removed.

## Contact Information

Name	Title	Phone	Email
Randy Simmons	Public Works Inspector	801.510.2379	randys@nslcity.org
Danny Rhodes	Storm Compliance Officer	801.335.8682	dannyr@nslcity.org

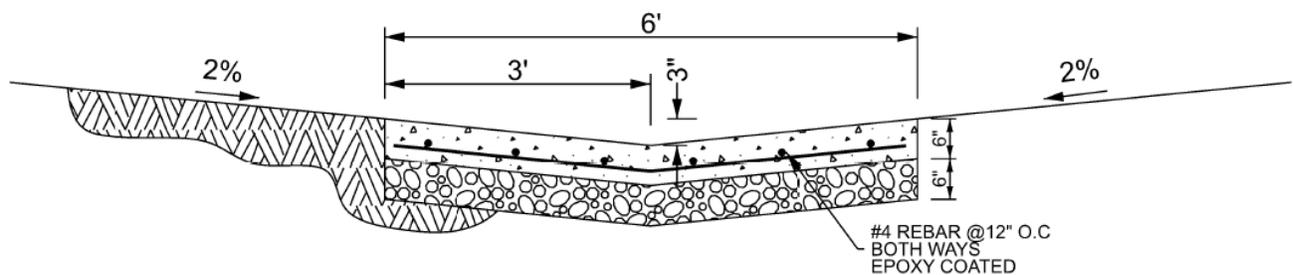


# Material Specifications

	<p><b>RCP</b></p> <p>Required under all City right of way. With a minimum of 15" pipe. All RCP should be Class III or greater.</p>
	<p><b>PVC</b></p> <p>ASTM D 3034 (SDR 26) Only allow between 4" and 10" diameter.</p>

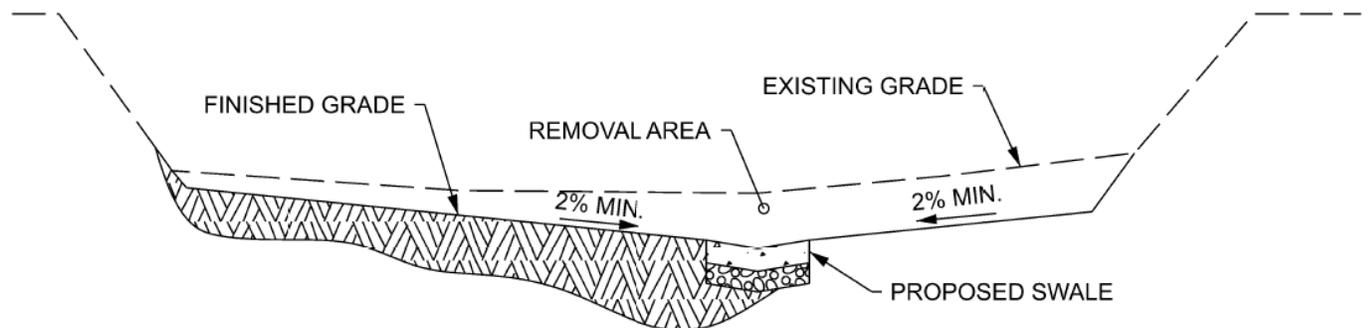
	<p><b>Manhole Covers</b></p> <p>City Logo version must be purchased through EJ Co.</p>
	<p><b>HDPE</b></p> <p>ASTM F 2306 (DR 21) Required in certain installations with City approval.</p>

## Detention Basin Drawings



**SWALE CROSS-SECTION (TYPICAL)**

NTS



**DETENTION BASIN CROSS-SECTION B-B**

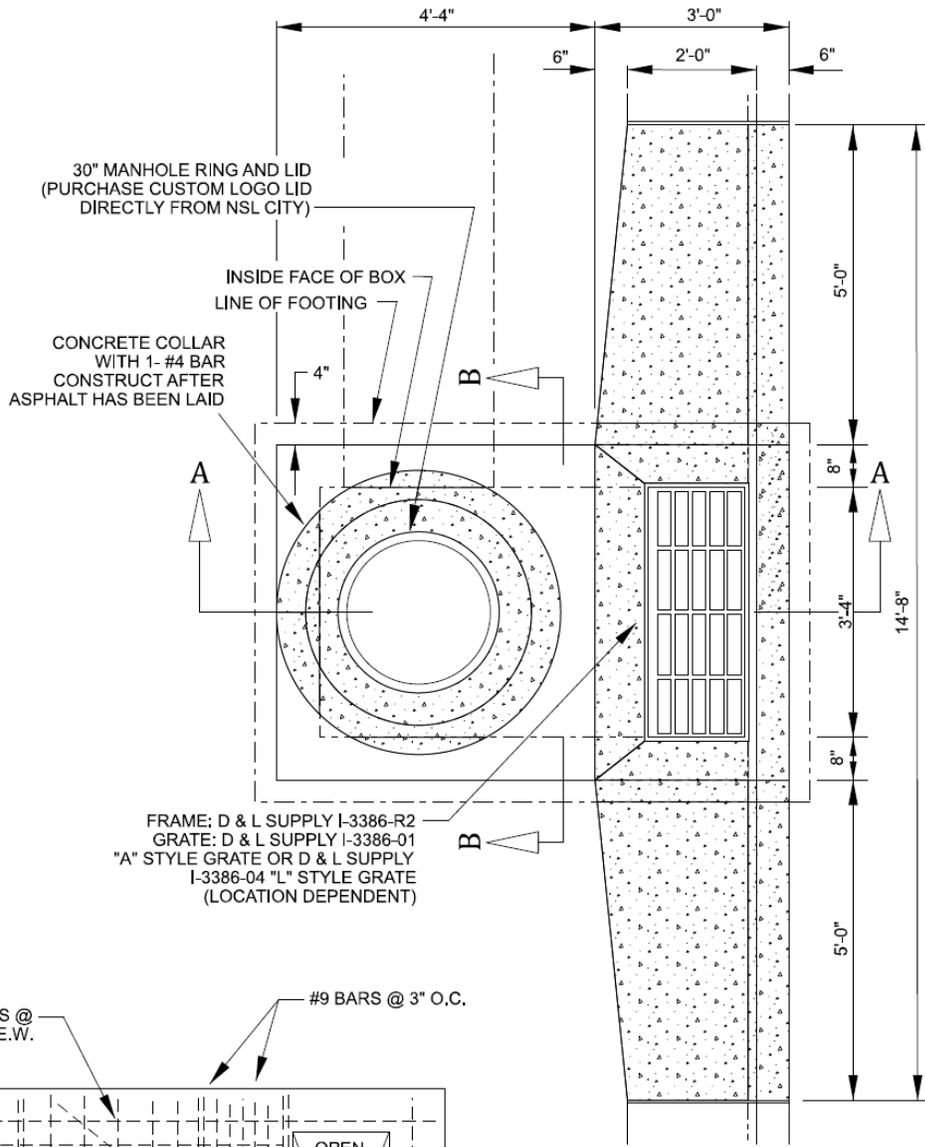
NTS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NORTH SALT LAKE STANDARDS AND SPECIFICATIONS.
2. EXISTING UTILITY LOCATIONS ARE NOT SHOWN. THIS DOES NOT IMPLY THE ABSENCE OF ANY UTILITIES. CONTACT BLUE STAKES PRIOR TO EXCAVATION.
3. THE CONTRACTOR IS REQUIRED TO CONTACT THE ENGINEER AT LEAST 24 HOURS PRIOR TO STARTING ANY PHASE OF CONSTRUCTION.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE STREET FREE AND CLEAN OF ALL CONSTRUCTION DEBRIS AND DIRT TRACKED FROM SITE.
5. THE CONTRACTOR SHALL ENSURE THAT EXISTING FACILITIES AND IMPROVEMENTS WITHIN THE CITY RIGHT-OF-WAY AND ON PRIVATE PROPERTY ARE PROTECTED FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE CAUSED TO ADJACENT SURFACE IMPROVEMENTS DURING CONSTRUCTION .
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PROJECT SAFETY.
7. ALL MATERIALS TO BE REMOVED (I.E. ASPHALT, CONCRETE, SOIL, ETC.) SHALL BE HAULED AWAY AND DISPOSED OF IN A SAFE AND LEGAL MANNER BY THE CONTRACTOR.

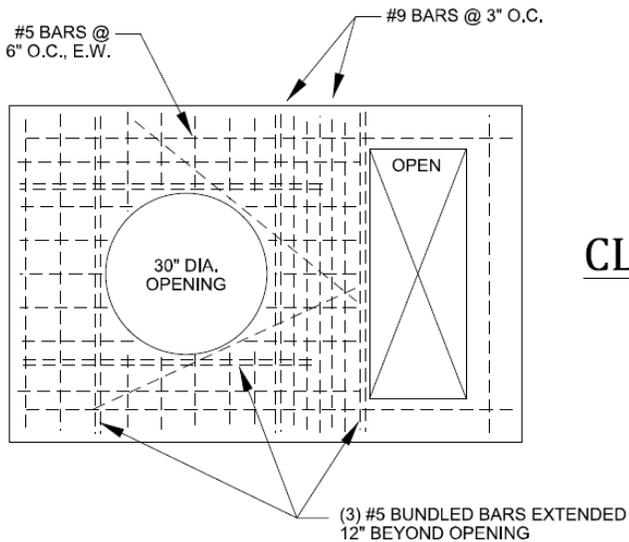


# Installation

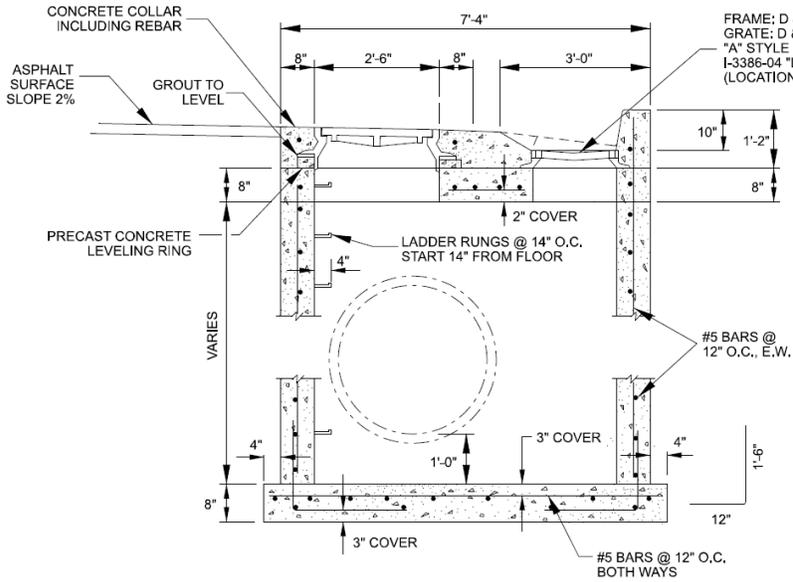
## Cast-In-Place Storm Drain Cleanout and Combination Boxes



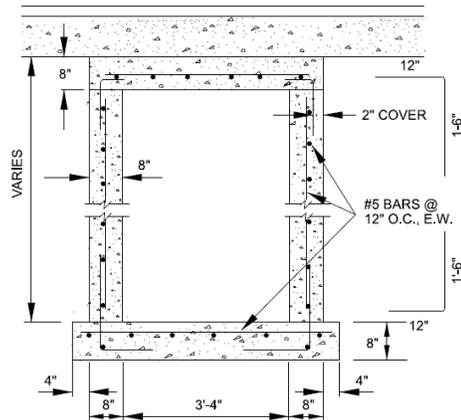
**COMBINATION  
CLEANOUT-INLET BOX**  
NTS



**TOP SLAB REINFORCEMENT**  
NTS

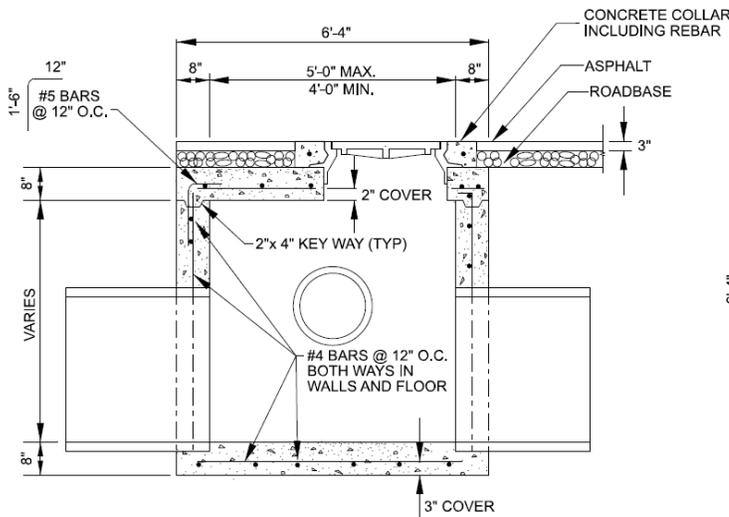


SECTION A-A

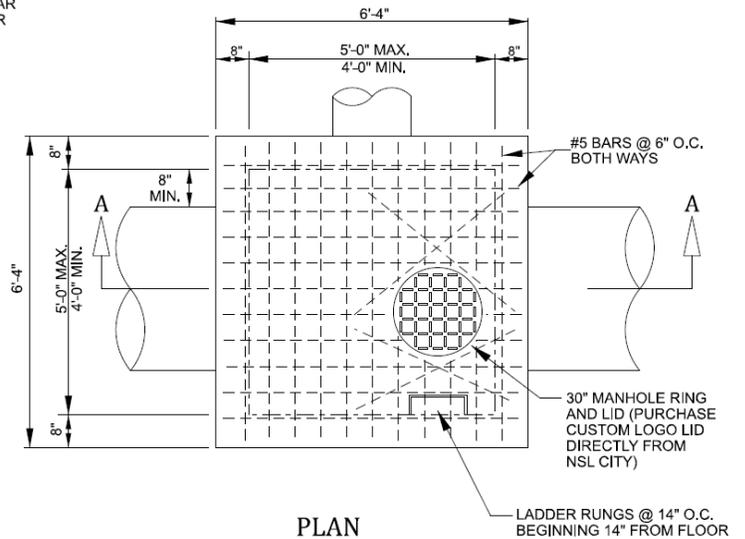


SECTION B-B

NOTE:  
PRE-CAST BOXES MUST  
MEET H-20 LOADING REQUIREMENTS



SECTION A-A



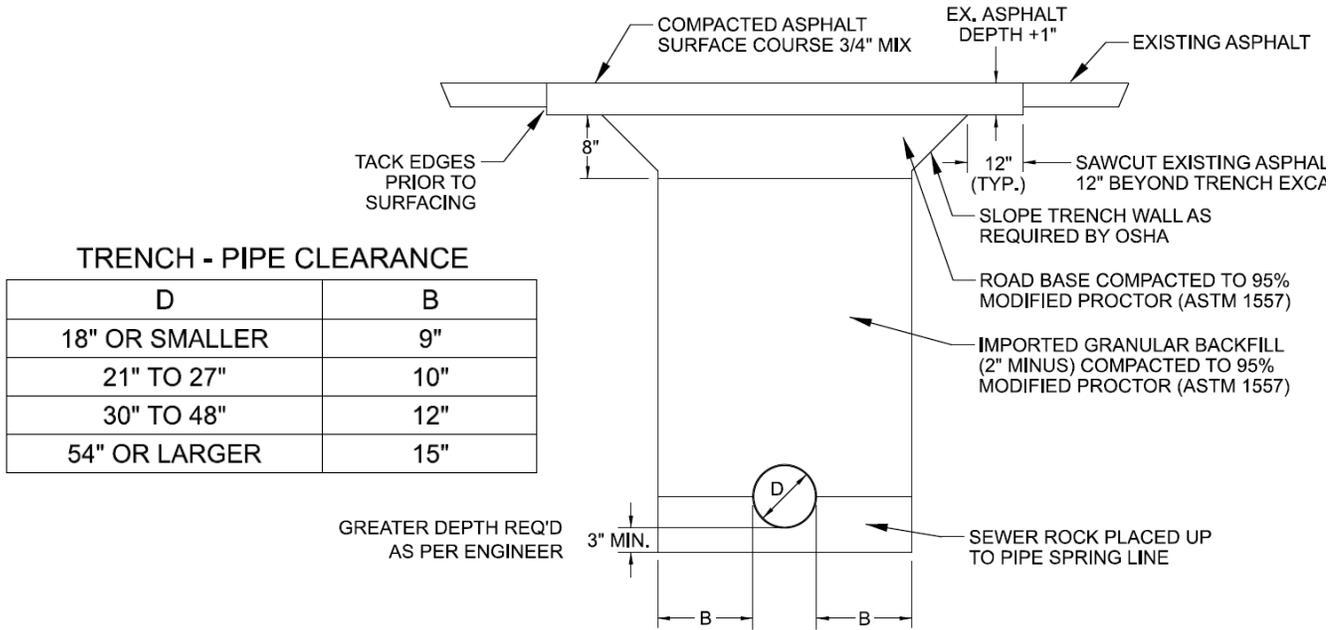
PLAN

**CLEANOUT BOX**  
NTS



# Installation

## Trench Sections & Junction Box



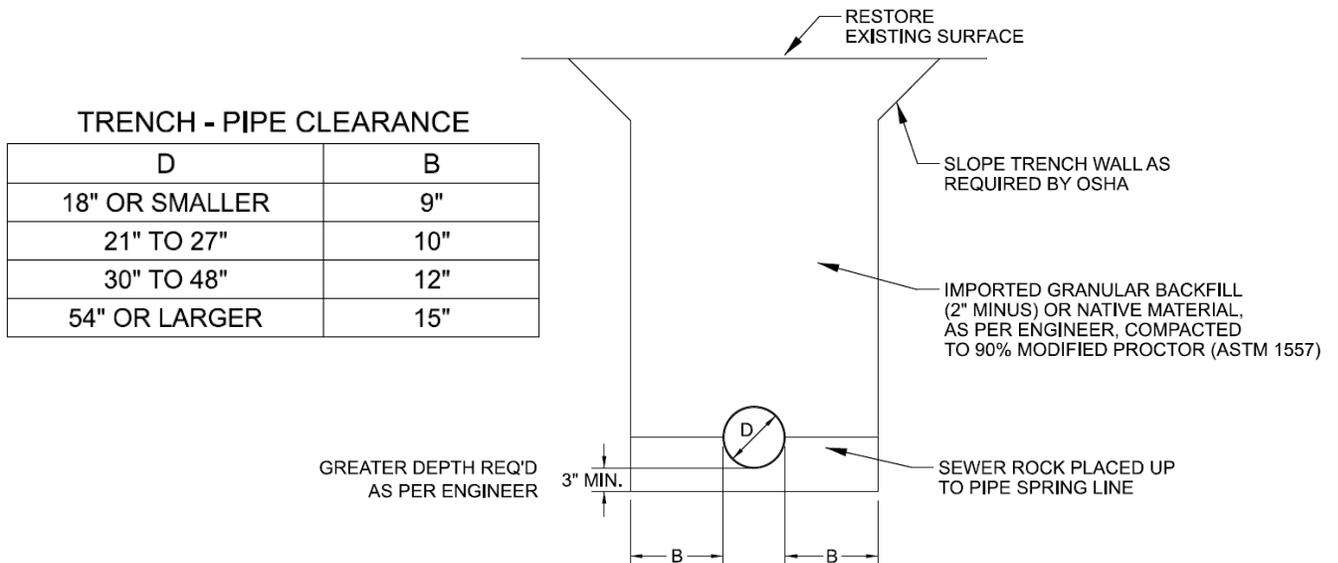
TRENCH - PIPE CLEARANCE

D	B
18" OR SMALLER	9"
21" TO 27"	10"
30" TO 48"	12"
54" OR LARGER	15"

GREATER DEPTH REQ'D AS PER ENGINEER

## STORM DRAIN TRENCH WITHIN CITY STREET RIGHT-OF-WAY

NTS



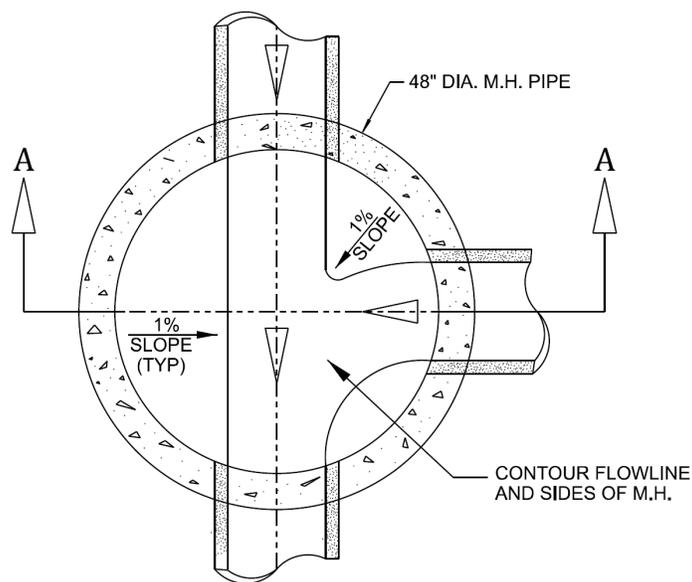
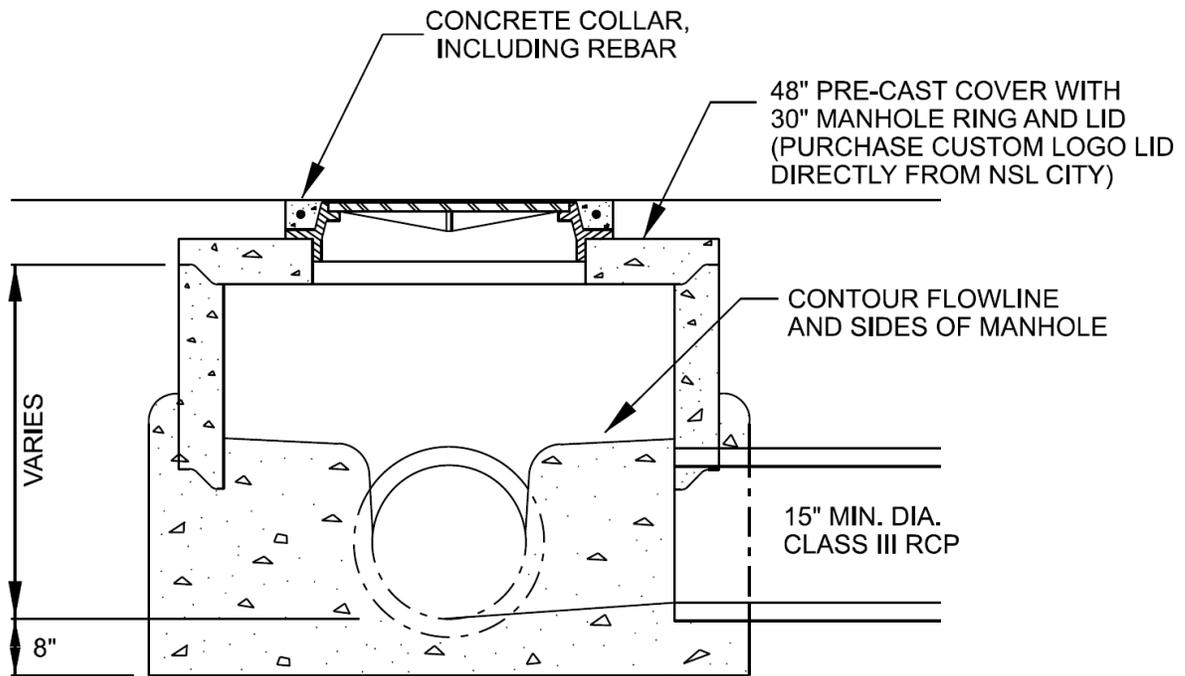
TRENCH - PIPE CLEARANCE

D	B
18" OR SMALLER	9"
21" TO 27"	10"
30" TO 48"	12"
54" OR LARGER	15"

GREATER DEPTH REQ'D AS PER ENGINEER

## STORM DRAIN TRENCH OUTSIDE CITY STREET RIGHT-OF-WAY

NTS



PLAN

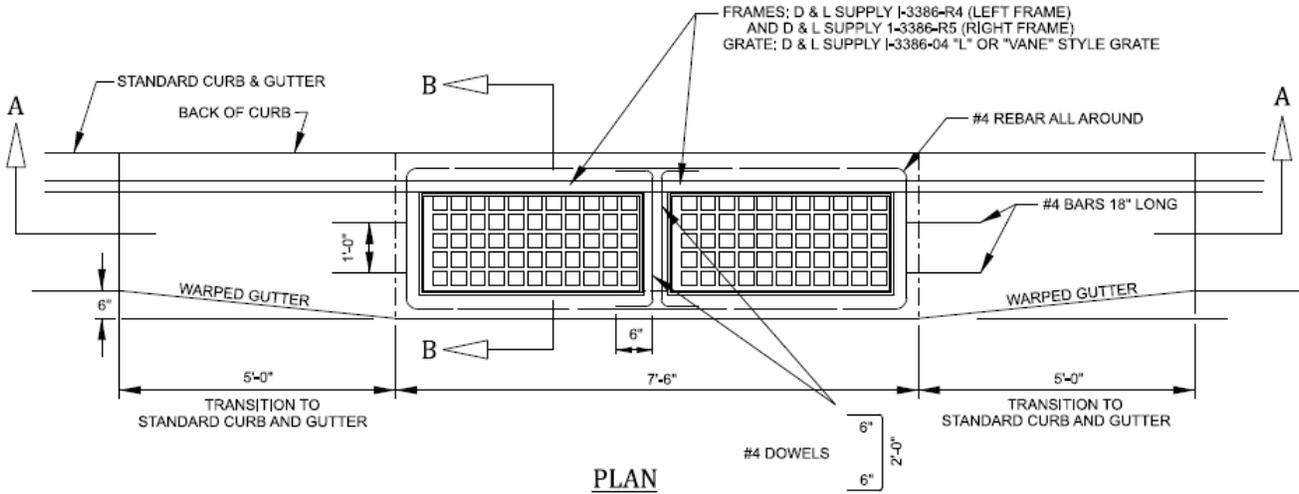
# JUNCTION BOX

NTS



# Installation

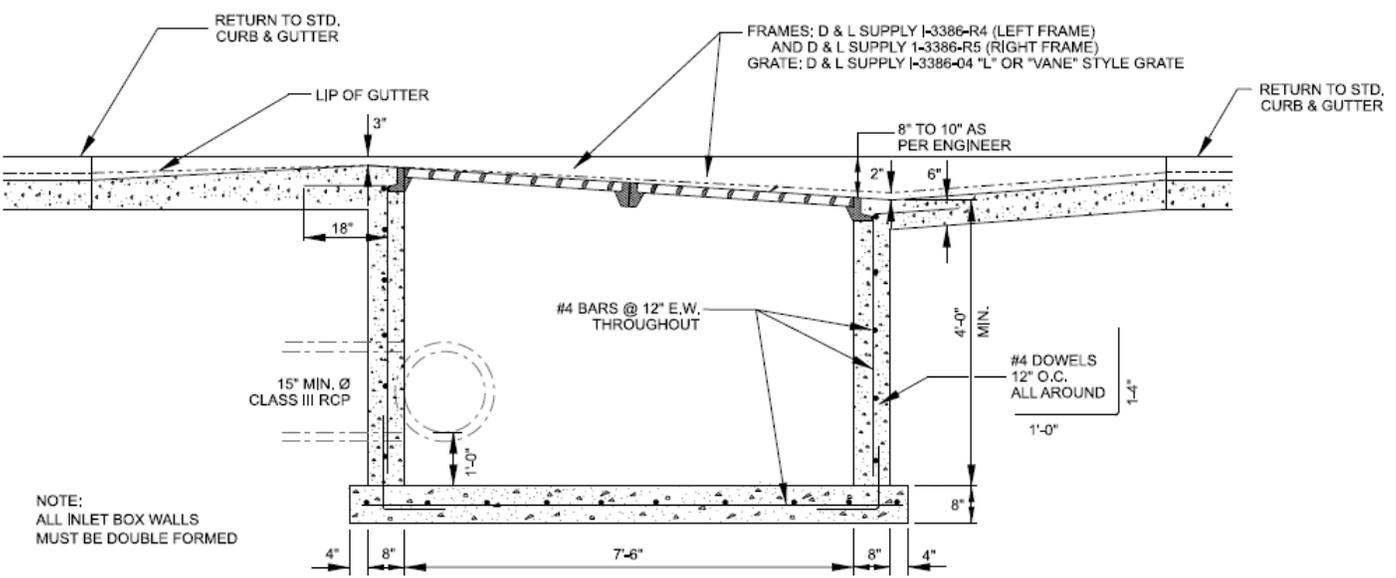
## Inlet Box



PLAN

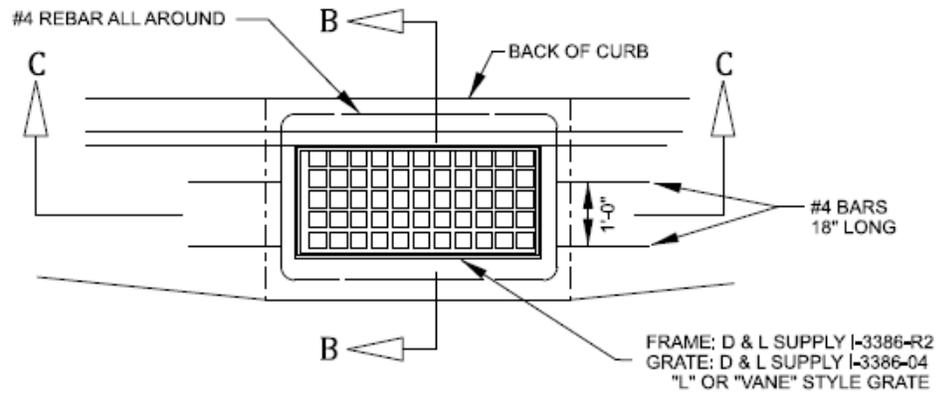
### INLET BOX - TYPE I DOUBLE

NTS



NOTE:  
ALL INLET BOX WALLS  
MUST BE DOUBLE FORMED

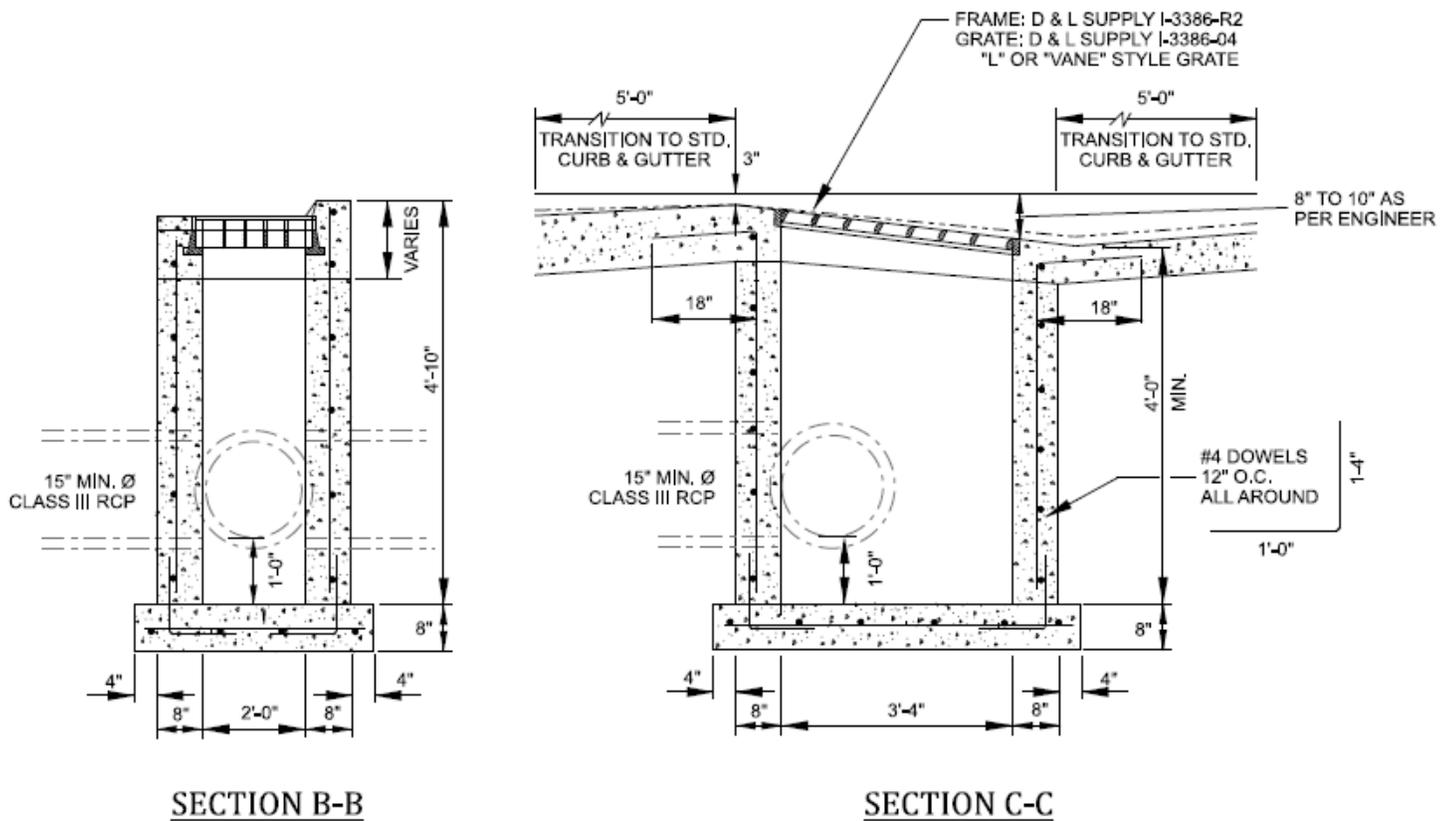
SECTION A-A



PLAN

**INLET BOX - TYPE I SINGLE**

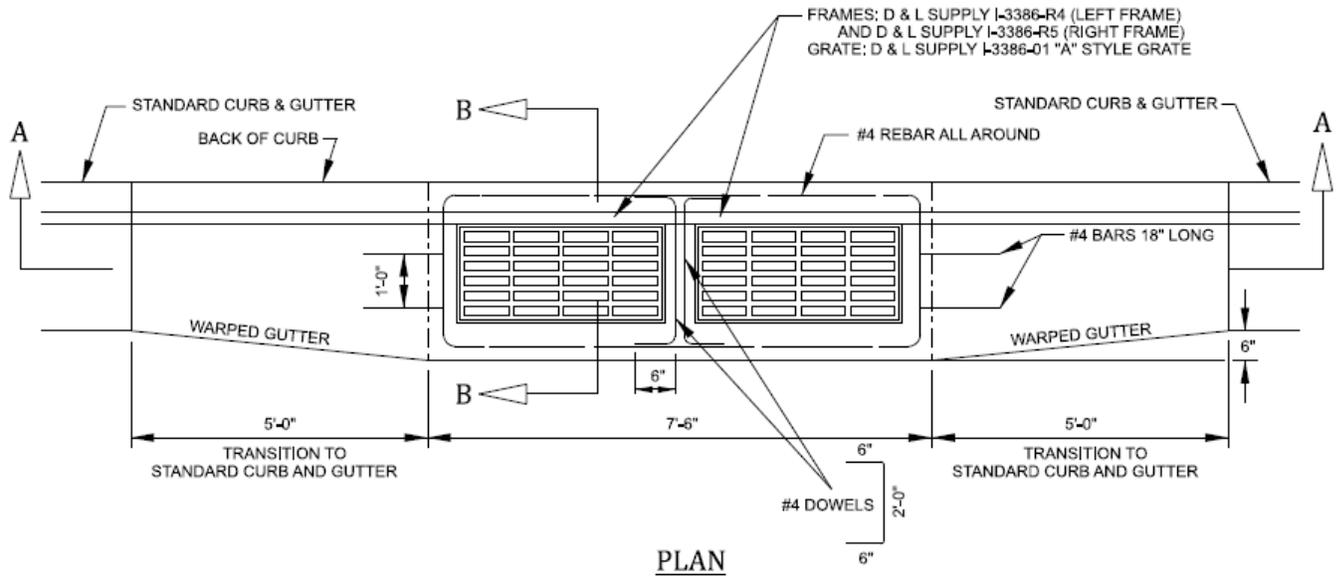
NTS





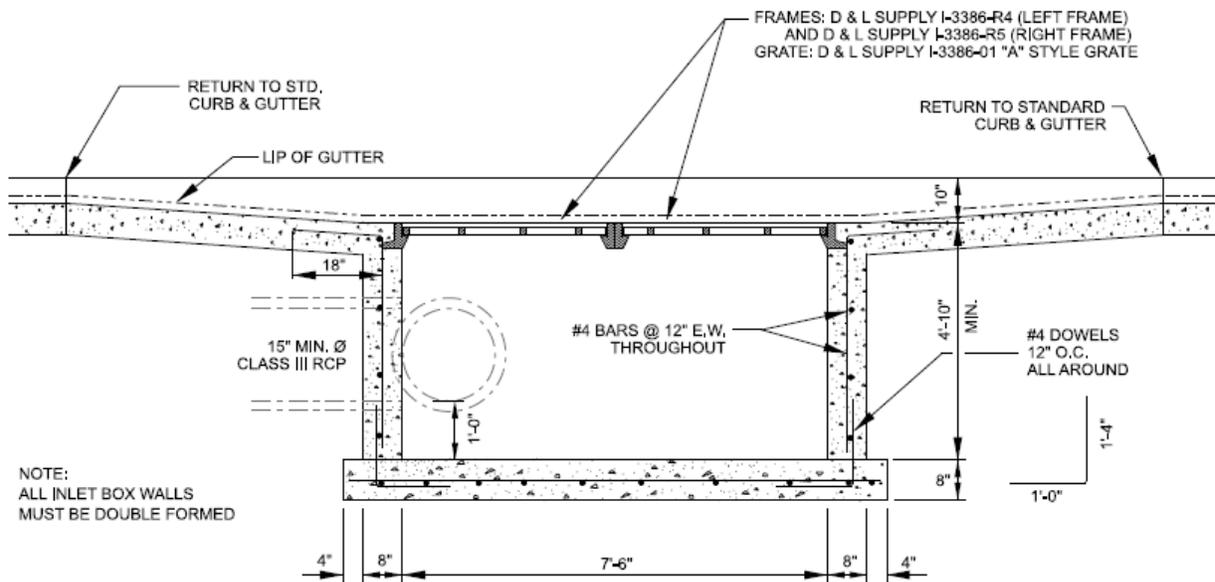
# Installation

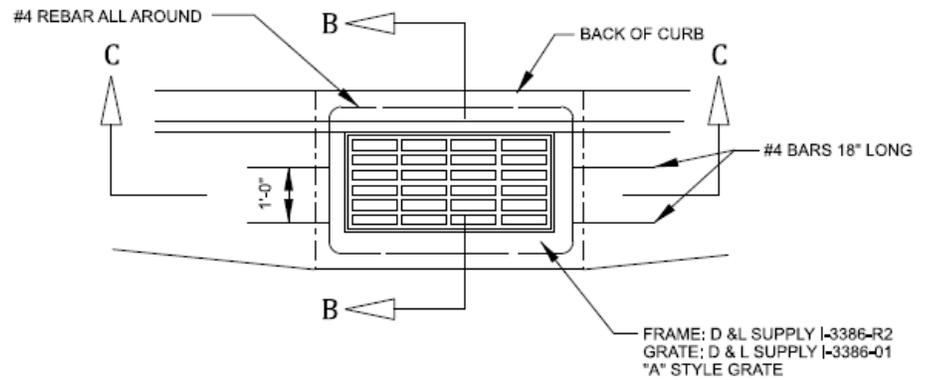
## Inlet Boxes in Low Point



### INLET BOX - TYPE II DOUBLE

NTS

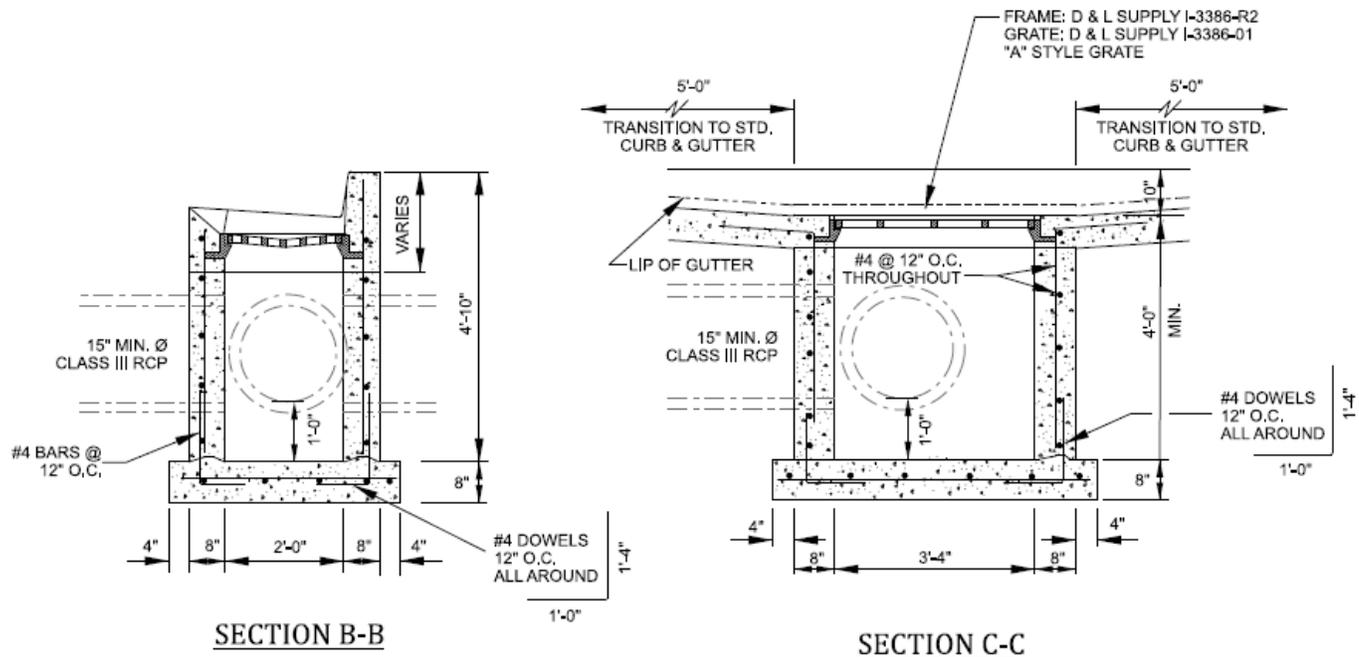




PLAN

**INLET BOX - TYPE II SINGLE**

NTS





**The City of North Salt Lake**

10 East Center Street

North Salt Lake City, Utah 84054

Phone 801.335.8700

[www.nslcity.org](http://www.nslcity.org)



# PUBLIC WORKS





# STREETS



## The City of North Salt Lake Streets Standards Manual

April 2020





**The City of North Salt Lake**  
10 East Center Street  
North Salt Lake City, Utah 84054  
Phone 801.335.8700  
[www.nslcity.org](http://www.nslcity.org)



# The City of North Salt Lake

## Streets Department Specification Manual

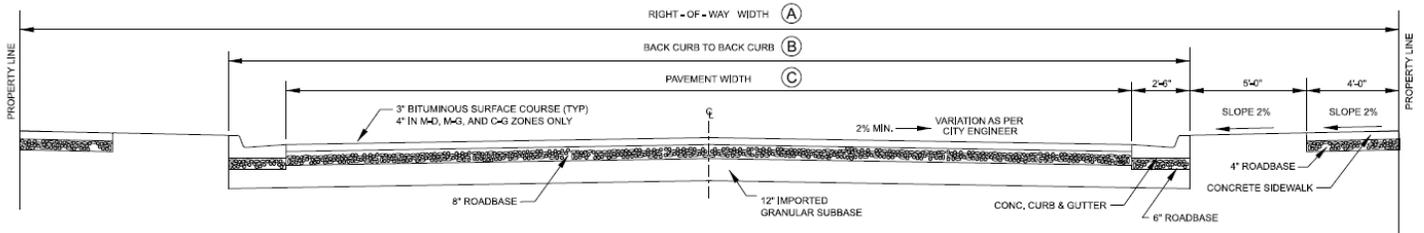
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  - Cross Drain Section ..... 3
  - Standard Curb & Gutter ..... 3
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# Design Requirements

## Standard Roadway Section

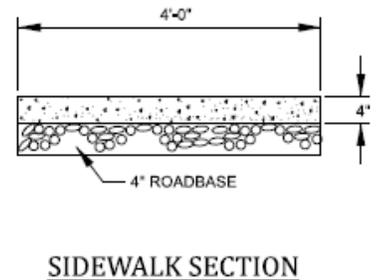
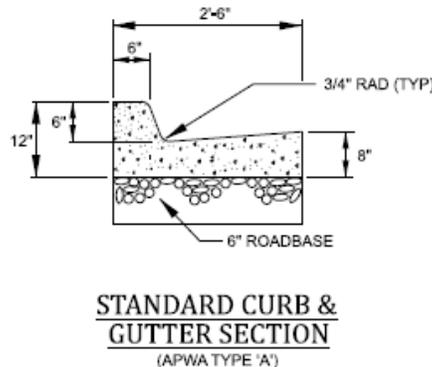
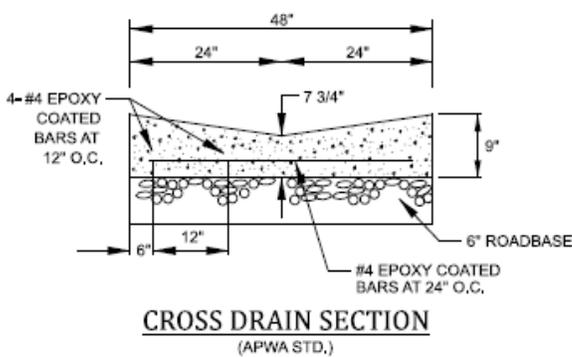


STREET DESIGNATION	A	B	C
MINOR	50'	32'	27'
MINOR COLLECTOR	60'	42'	37'
MAJOR COLLECTOR	66'	48'	43'
MINOR ARTERIAL	80'	62'	57'

STANDARD ROADWAY SECTION  
NTS

NOTE: THIS SECTION IS THE MINIMUM STRUCTURAL SECTION ALLOWED IN THE CITY UNLESS FIELD TESTS ARE MADE AND ANOTHER SECTION IS RECOMMENDED BY A QUALIFIED SOILS ENGINEER AND ACCEPTED BY THE CITY ENGINEER. SECTION MAY BE INCREASED DUE TO SOIL CONDITIONS OR TRAFFIC LOADS.

## Concrete Details



CROSS DRAIN SECTION  
(APWA STD.)

STANDARD CURB & GUTTER SECTION  
(APWA TYPE 'A')

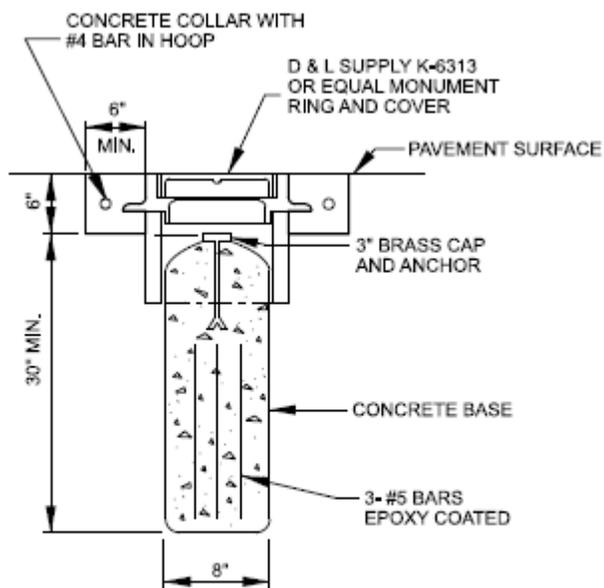
SIDEWALK SECTION

### CONCRETE NOTES:

1. SIDEWALK CONCRETE AND ROADBASE TO EACH BE 6" THICK WHERE ADJACENT TO DRIVE APPROACH
2. MINIMUM SLOPE OF CURB & GUTTER, WATERWAYS, AND STREETS IS 0.3%
3. REBAR TO BE COVERED BY CONCRETE A MINIMUM OF 3"
4. EXPANSION JOINTS PLACEMENT:  
A. EVERY 50' FOR SIDEWALK  
B. EVERY 100' FOR FORMED CURB & GUTTER  
C. AS PER ENGINEER FOR SLIPPED CURB & GUTTER

CONCRETE DETAILS  
NTS

## Survey Monument Section



## SURVEY MONUMENT SECTION

NTS



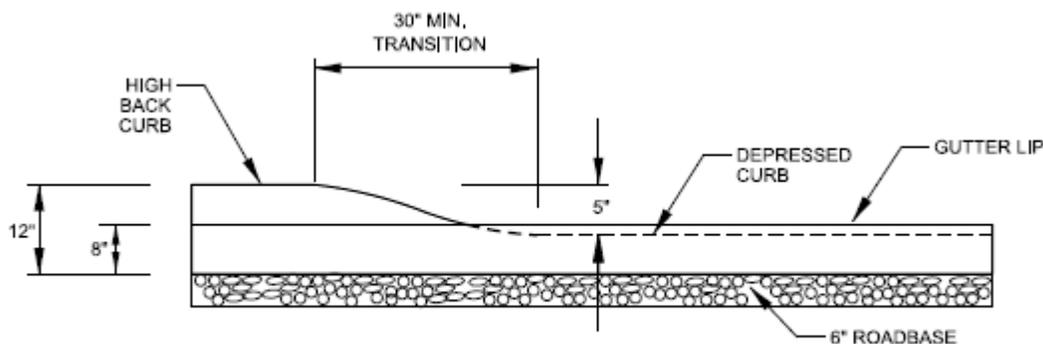
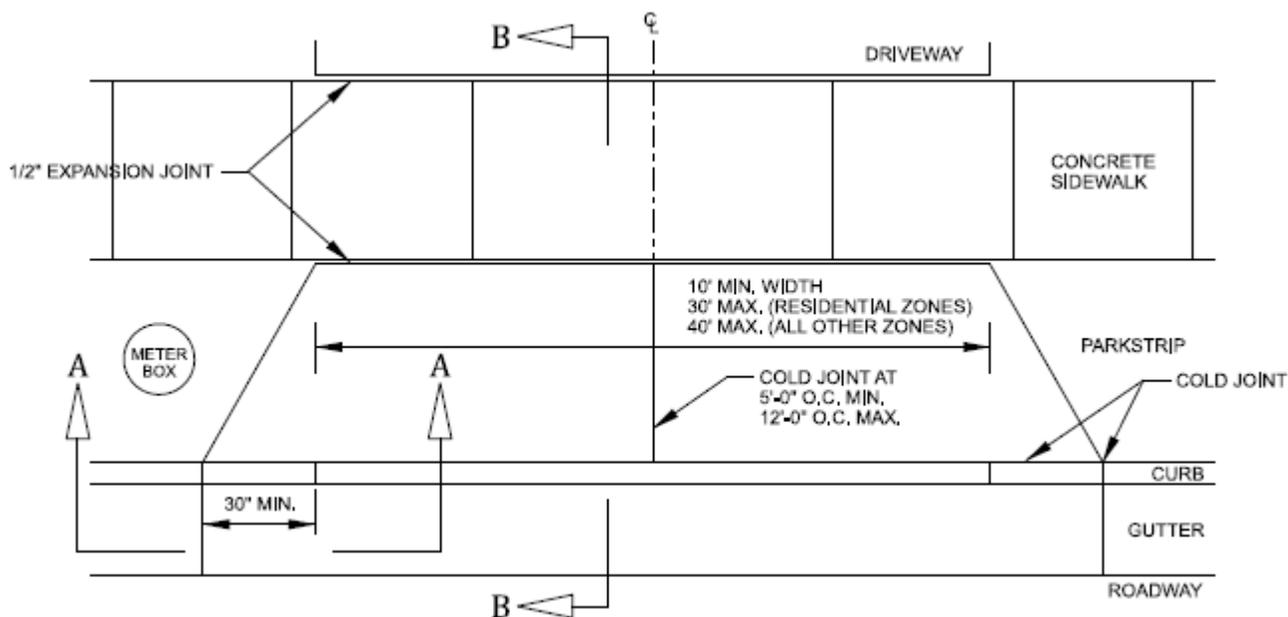
# Design Requirements

## Drive Approaches

## FLARE DRIVE APPROACH PLAN

STANDARD LAYOUT

NTS



**SECTION A-A**

**DRIVE APPROACH NOTES:**

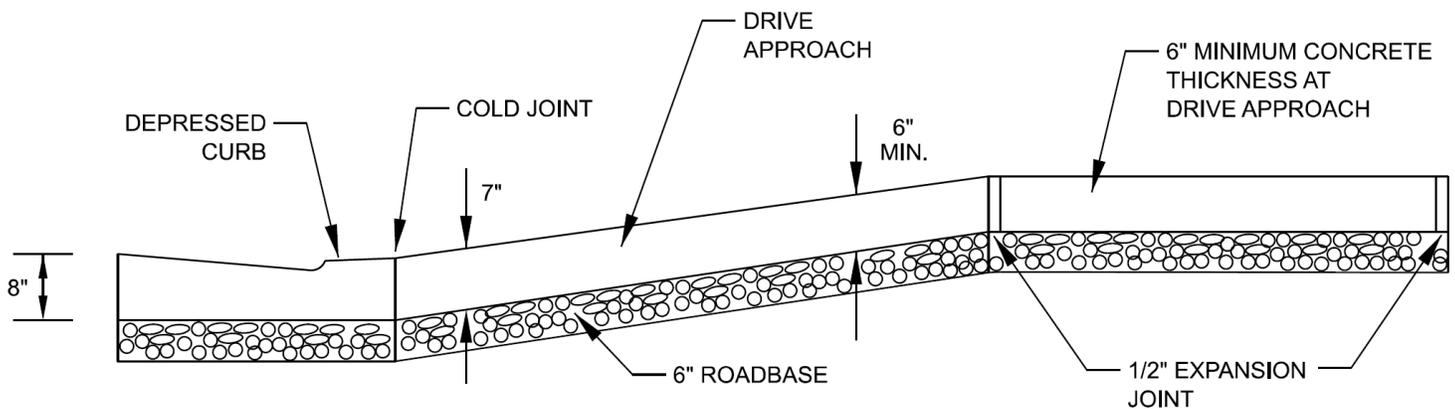
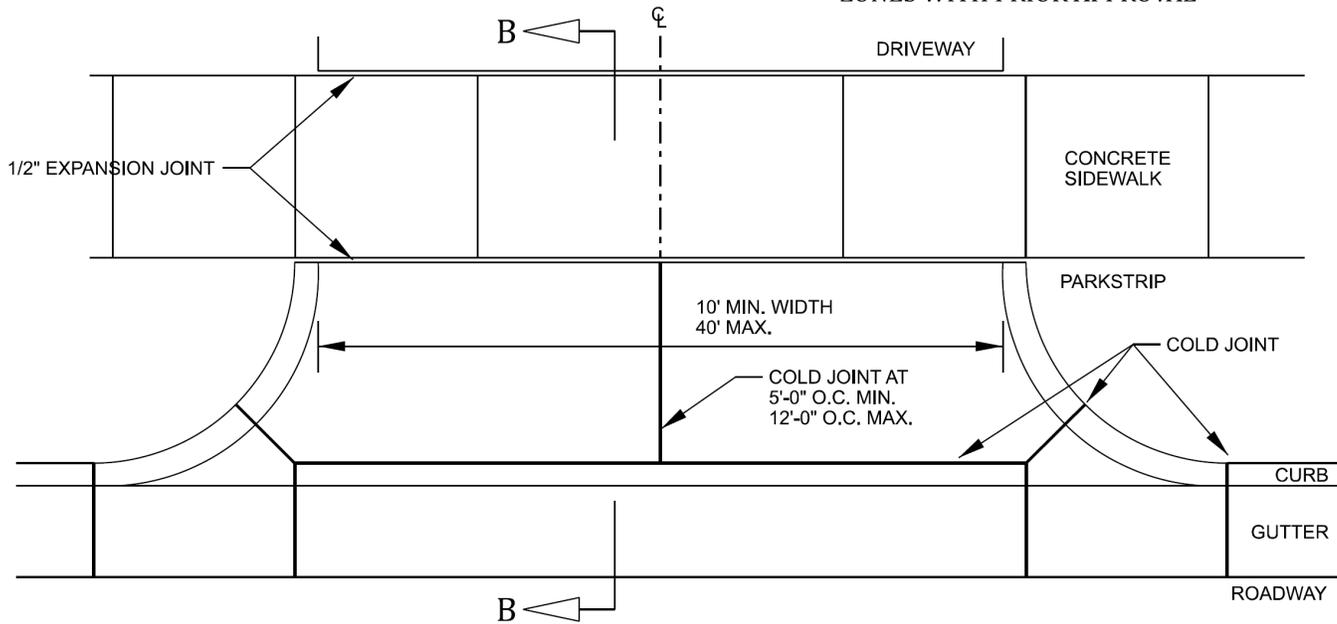
1. MINIMUM CONCRETE THICKNESS IS 6" IN APPROACH AND ADJACENT SIDEWALK
2. MINIMUM ROADBASE THICKNESS IS 6" IN APPROACH AND ADJACENT SIDEWALK
3. MINIMUM CONCRETE THICKNESS IS 8" IN ALL COMMERCIAL AND INDUSTRIAL ZONES
4. INSTALL EPOXY-COATED #4 BARS AT 12" O.C. (BOTH WAYS) IN ALL APPROACHES IN COMMERCIAL AND INDUSTRIAL ZONES
5. MAXIMUM APPROACH WIDTH CANNOT BE INCREASED EXCEPT AS ESTABLISHED BY CONDITIONAL USE PERMIT
6. WATER METER BOXES SHALL NOT BE PLACED IN NEW CONCRETE APPROACH AND SHALL NOT REMAIN IN CONCRETE IF APPROACH IS REPLACED. RELOCATIONS AT PROPERTY OWNER'S EXPENSE



# OPEN DRIVE APPROACH PLAN

ALTERNATE LAYOUT FOR USE IN  
COMMERCIAL AND INDUSTRIAL  
ZONES WITH PRIOR APPROVAL

NTS

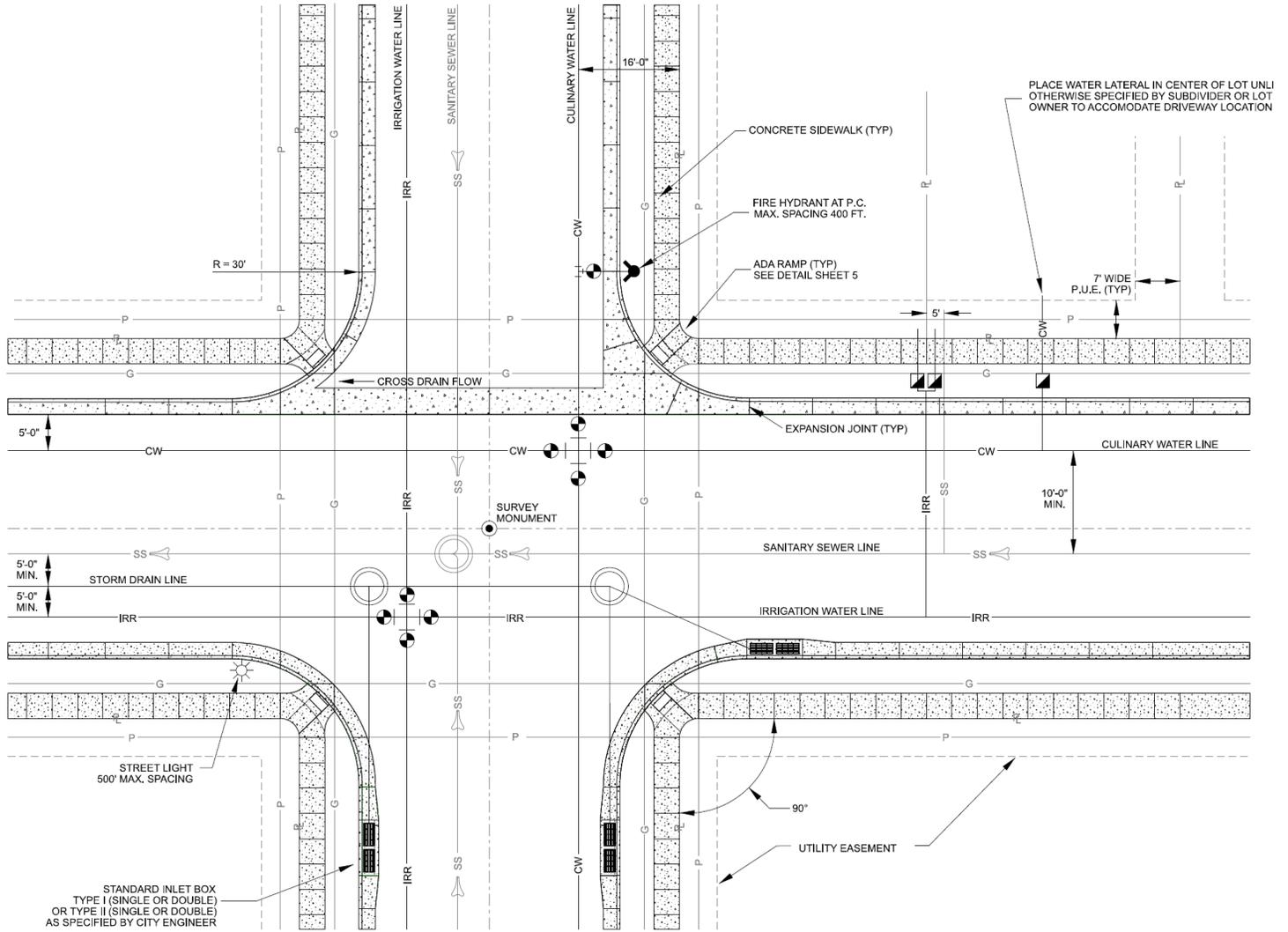


## SECTION B-B

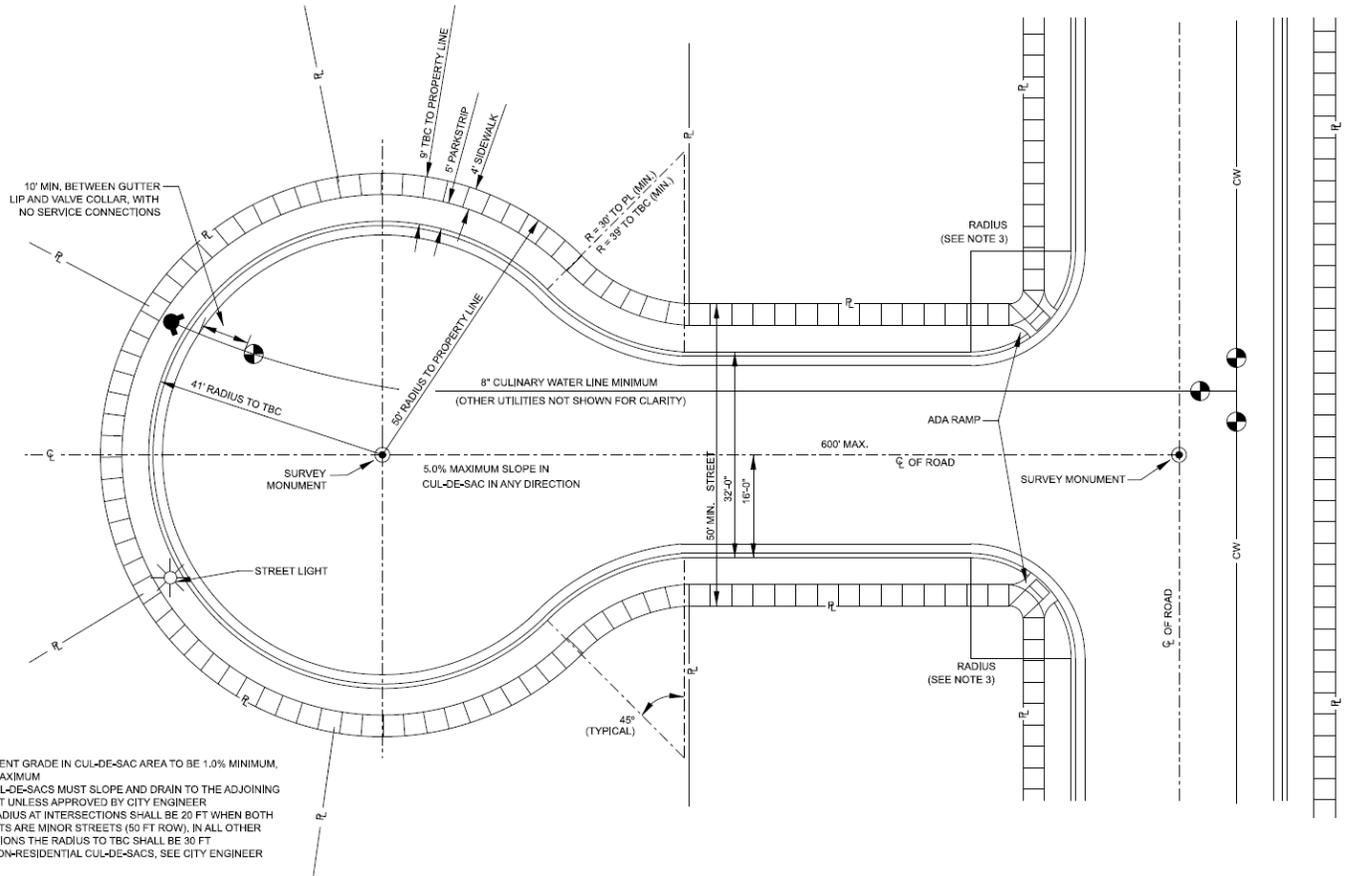


# Design Requirements

## Typical Residential Intersection with Utility Locations



# Typical Residential Cul-de-sac

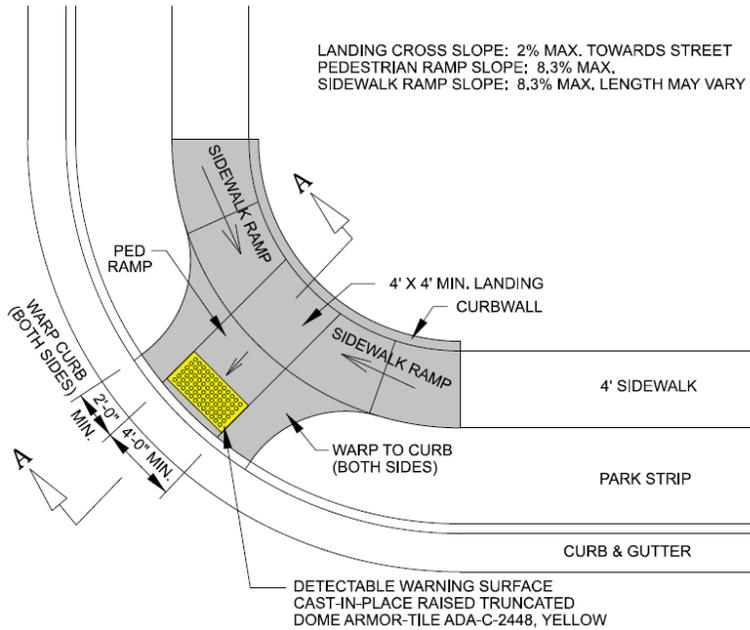


- NOTES:
1. PAVEMENT GRADE IN CUL-DE-SAC AREA TO BE 1.0% MINIMUM, 5.0% MAXIMUM
  2. ALL CUL-DE-SACS MUST SLOPE AND DRAIN TO THE ADJOINING STREET UNLESS APPROVED BY CITY ENGINEER
  3. TBC RADIUS AT INTERSECTIONS SHALL BE 20 FT WHEN BOTH STREETS ARE MINOR STREETS (50 FT ROW), IN ALL OTHER SITUATIONS THE RADIUS TO TBC SHALL BE 30 FT
  4. FOR NON-RESIDENTIAL CUL-DE-SACS, SEE CITY ENGINEER

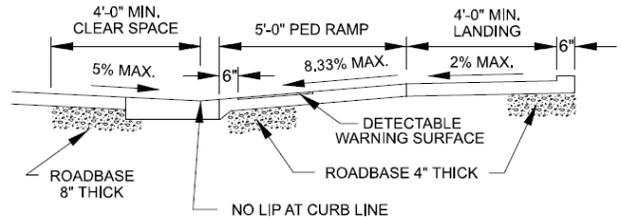


# Design Requirements

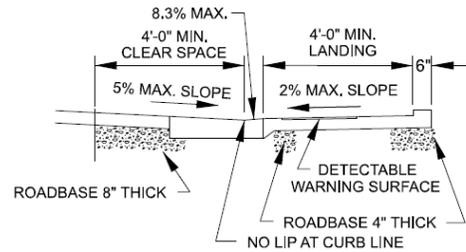
## Typical ADA Ramps



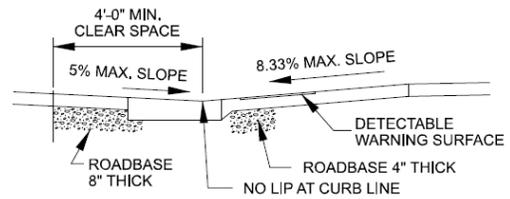
**TYPE 1 PEDESTRIAN RAMP**



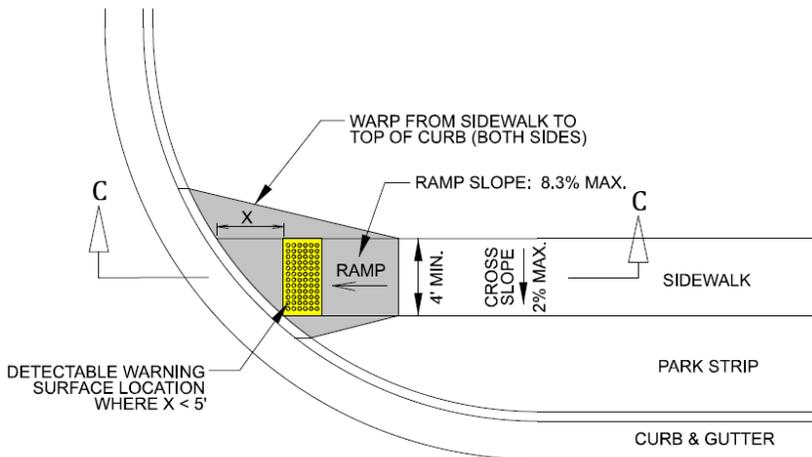
**SECTION A-A**



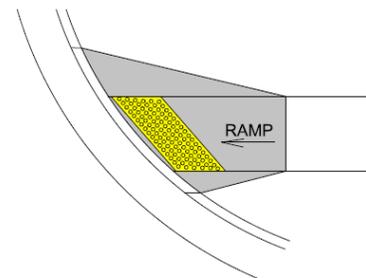
**SECTION B-B**



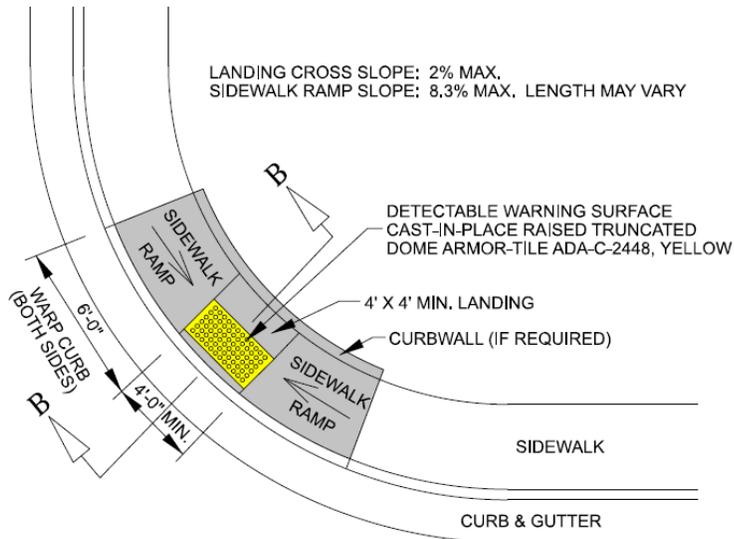
**SECTION C-C**



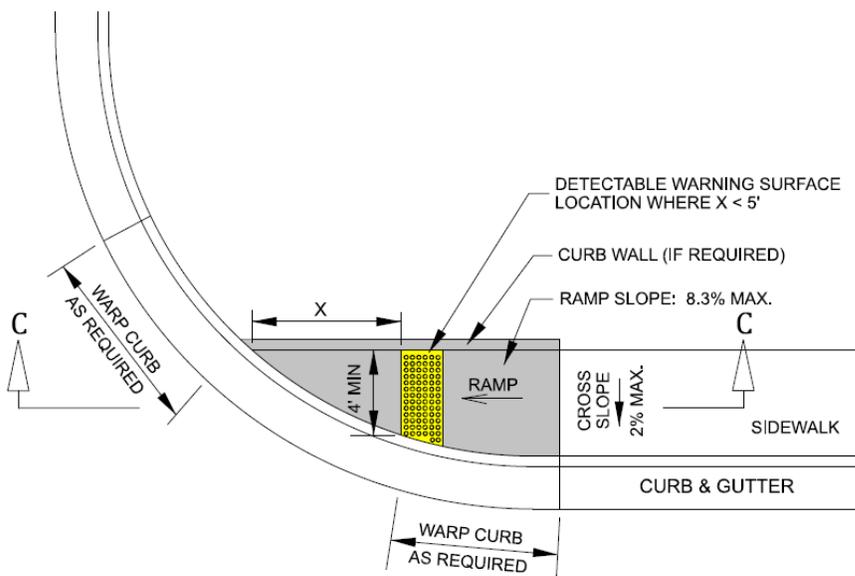
**TYPE 2 PEDESTRIAN RAMP**



REQUIRED DETECTABLE WARNING SURFACE LOCATION WHERE X > 5' FOR TYPE 2 & 2A



**TYPE 1A PEDESTRIAN RAMP**

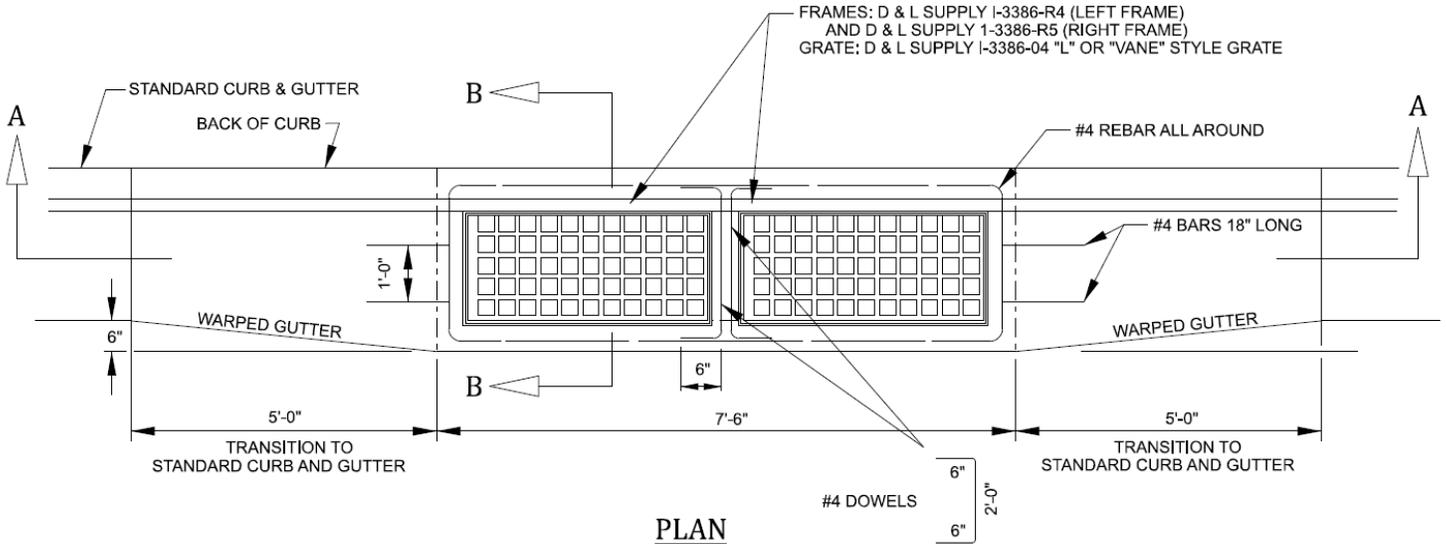


**TYPE 2A PEDESTRIAN RAMP**



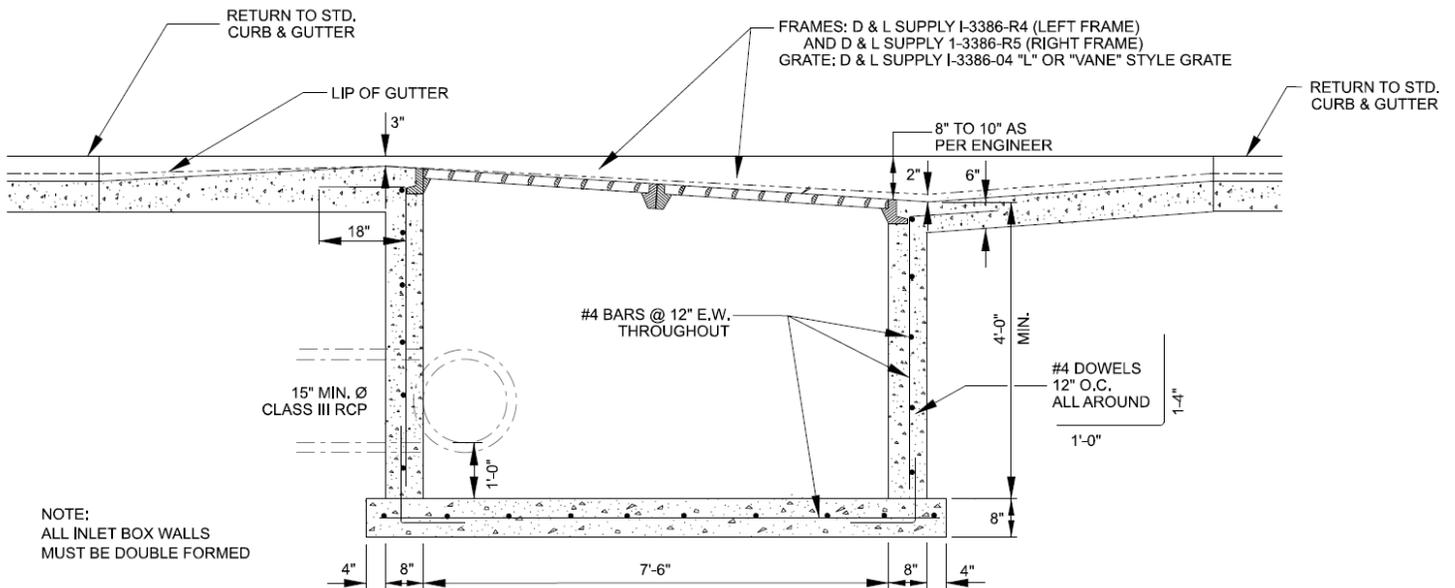
# Design Requirements

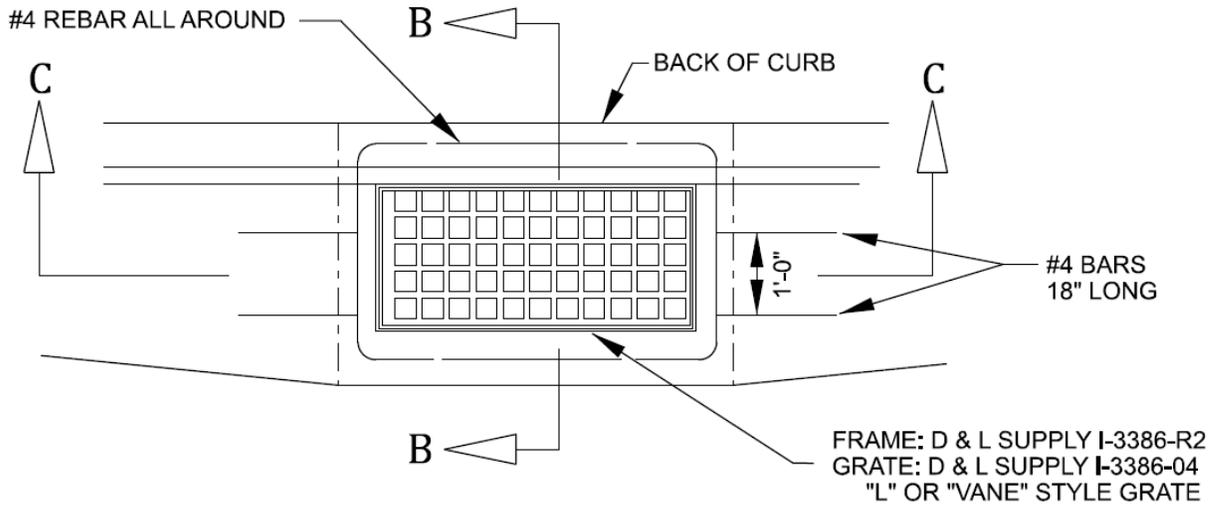
## Cast-in-place Storm Drain Inlet Boxes in Sloped Street



### INLET BOX - TYPE I DOUBLE

NTS

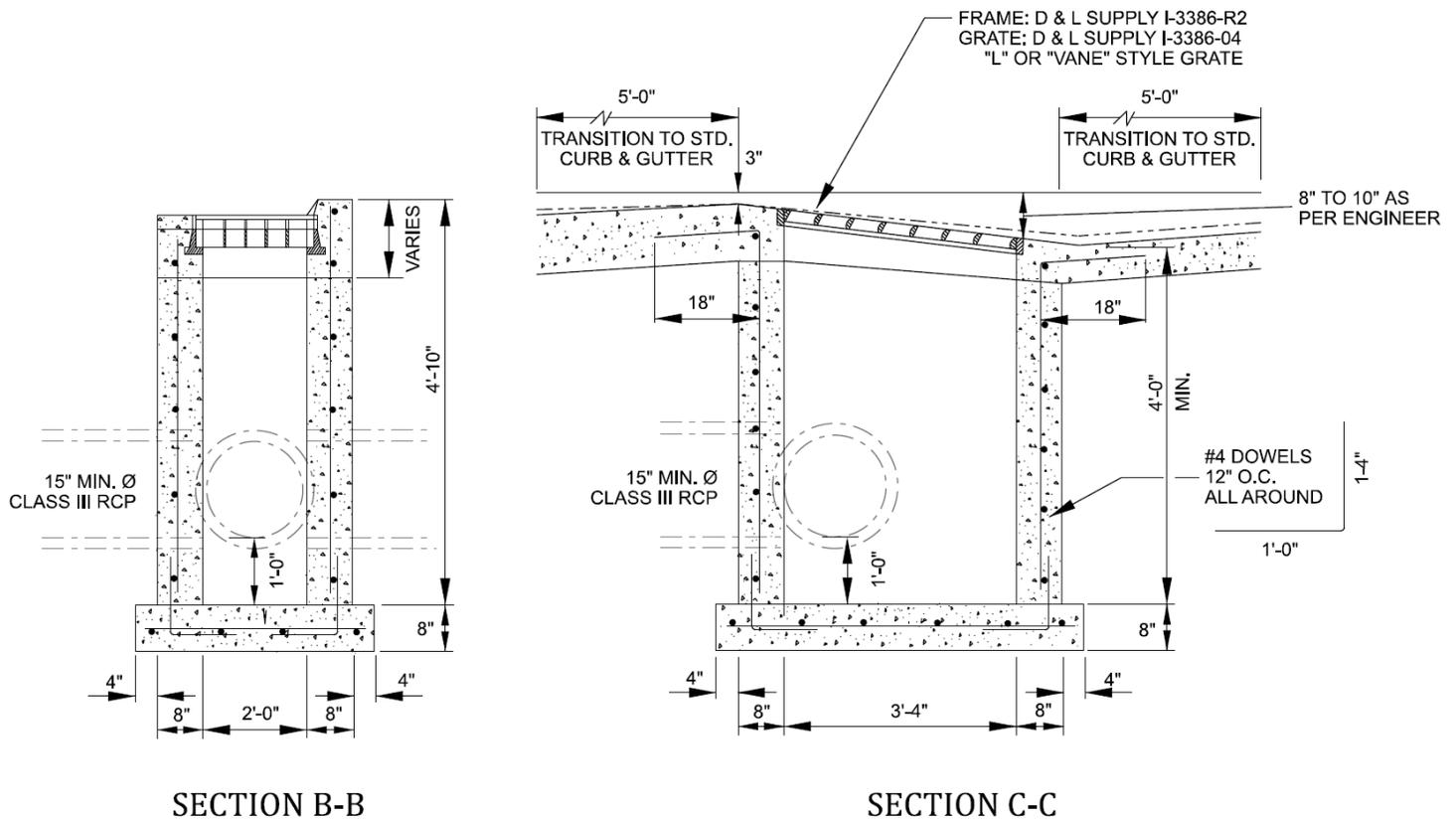




PLAN

INLET BOX - TYPE I SINGLE

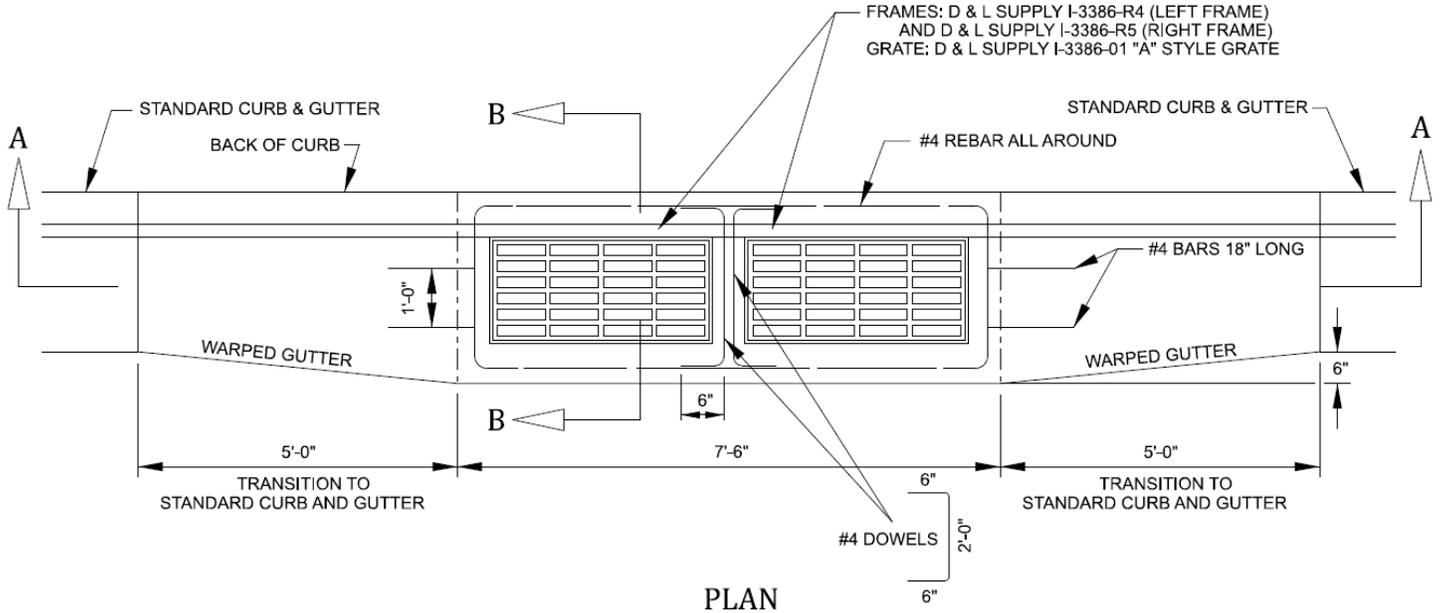
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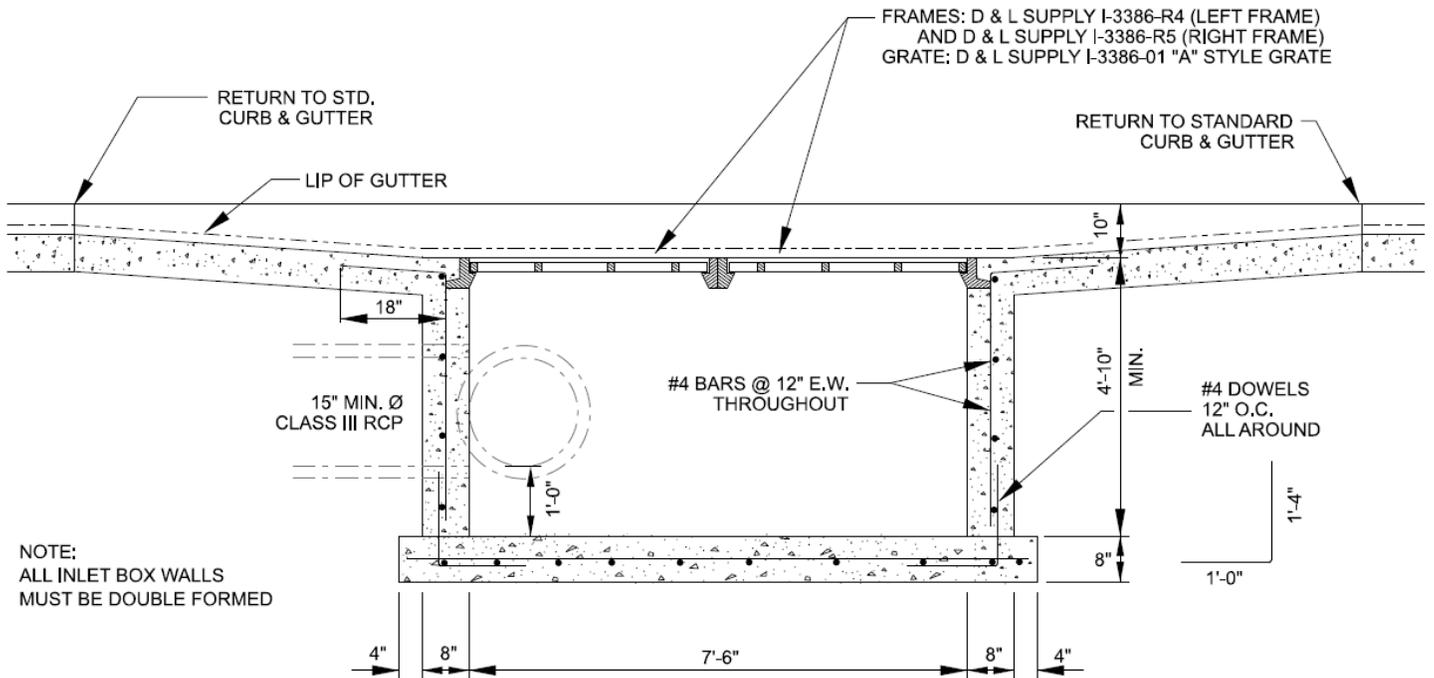
# Design Requirements

## Cast-in-place Storm Drain Inlet Boxes in Low Points

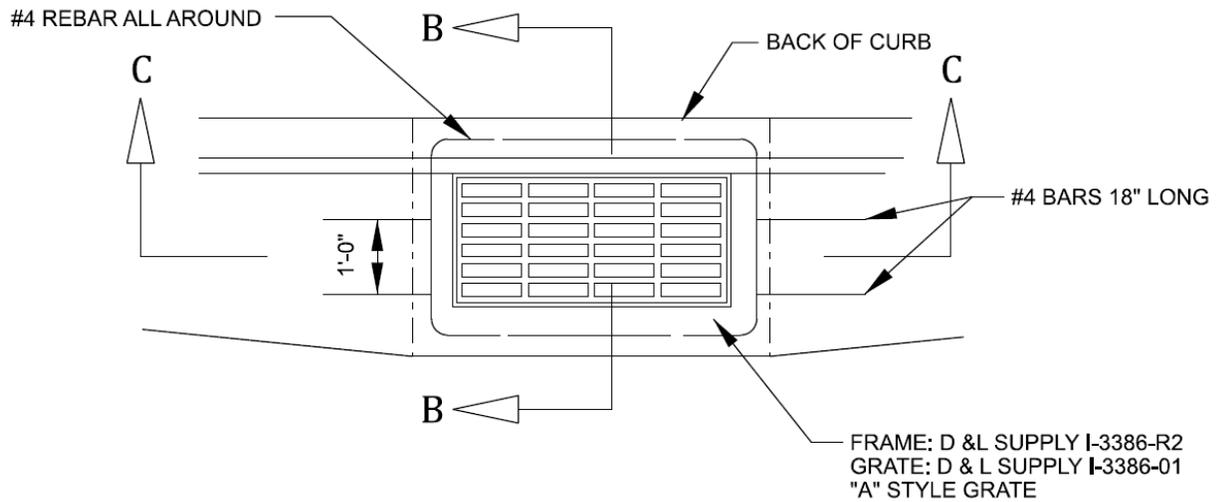


### INLET BOX - TYPE II DOUBLE

NTS



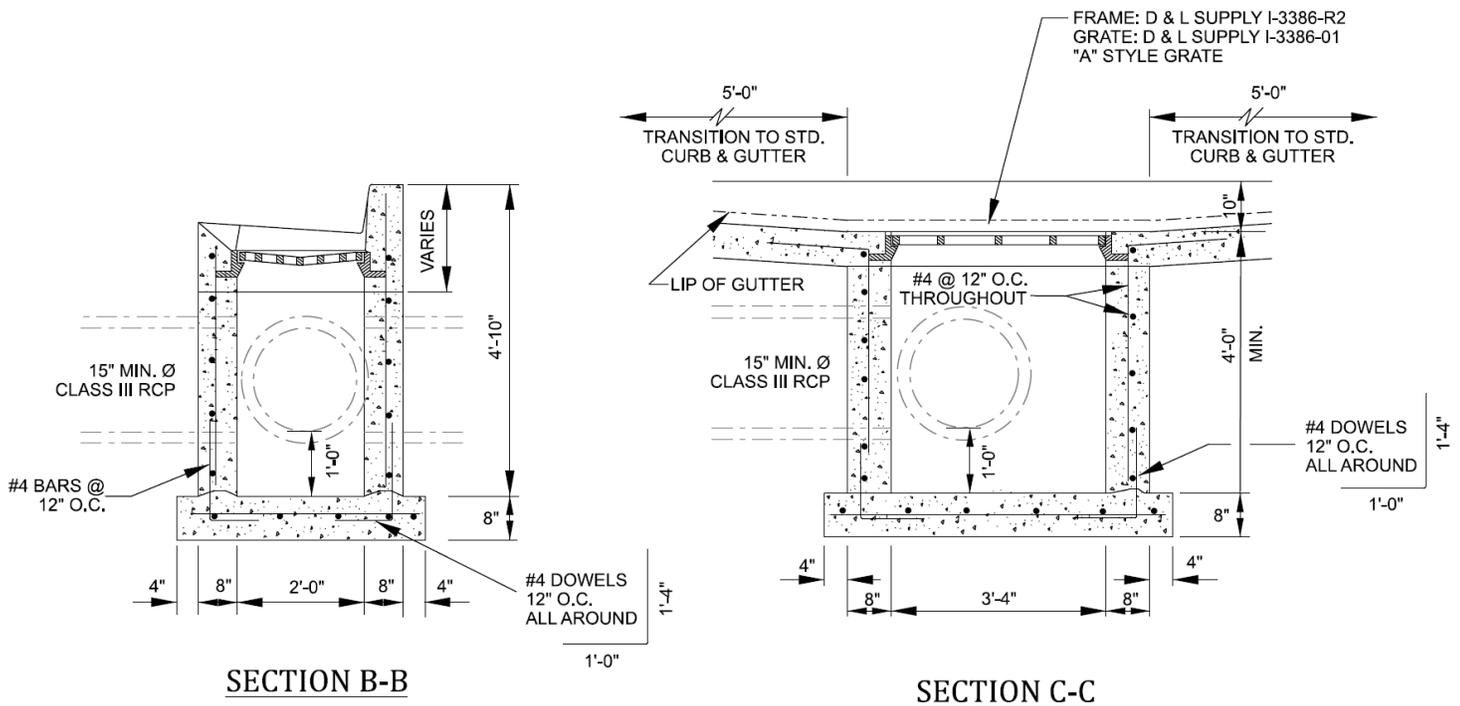
NOTE:  
ALL INLET BOX WALLS  
MUST BE DOUBLE FORMED



PLAN

INLET BOX - TYPE II SINGLE

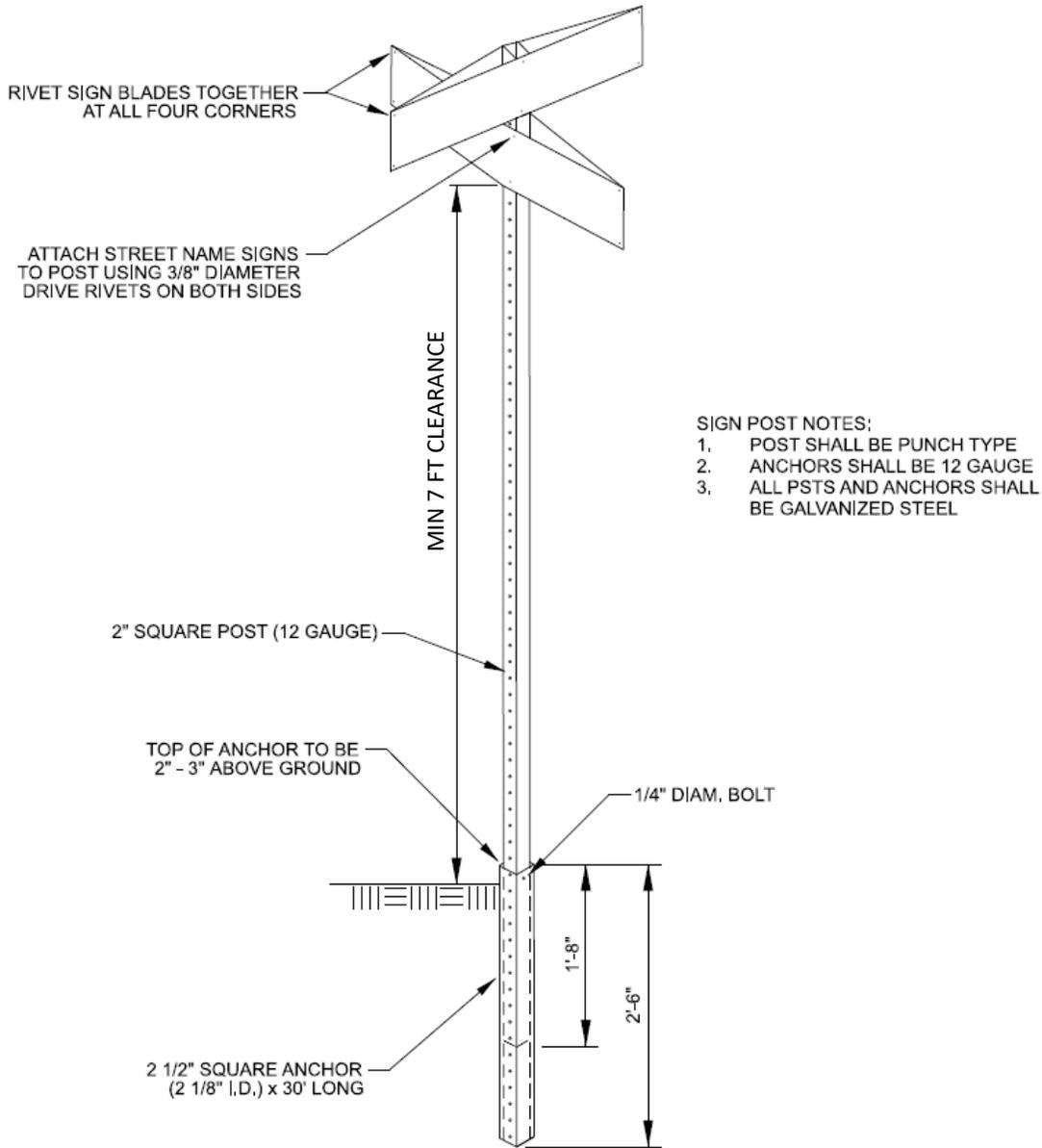
NTS





# Design Requirements

## Street Signs



## STREET SIGN POST

NTS



## STANDARD STREET SIGN

NTS

### STREET SIGN NOTES:

1. BACKGROUND SHALL BE GREEN (PUBLIC STREETS) OR BLUE (PRIVATE STREETS) HIGH INTENSITY PRISMATIC GRADE
2. LEGEND SHALL BE WHITE LETTERING HIGH INTENSITY PRISMATIC GRADE
3. STANDARD CITY STREET SIGNS SHALL HAVE INITIAL CAPITAL LETTERS 6" IN HEIGHT AND LOWERCASE LETTERS 4.5" IN HEIGHT
4. SIGNS PLACED ON REDWOOD ROAD OR HIGHWAY 89 SHALL HAVE INITIAL CAPITAL LETTERS 8" IN HEIGHT AND LOWERCASE LETTERS 6" IN HEIGHT
5. CITY LOGO SHALL BE FULL COLOR 7.25" x 7.25" HIGH INTENSITY PRISMATIC GRADE
6. SIGN BLANK SHALL BE 5052H38 HEAT TREATED HIGH TENSILE DEGREASED ALUMINUM WITH ALODINE 1200 FINISH. THICKNESS SHALL BE 0.080"
7. EACH SIGN SHALL CONSIST OF TWO PLATES RIVETED TOGETHER AND MOUNTED AS REQUIRED
8. CONTACT CITY ENGINEER PRIOR TO ORDERING SIGNS TO VERIFY CORRECT STREET NAMES AND COORDINATES



# Design Requirements

## Roadway Lighting

### REQUIRED NOTES ON STREETLIGHT PLANS

1. All street lighting work will be performed in accordance with The City of North Salt Lake street lighting standards.
2. Electrical contractor will contact the Public Works Inspector prior to commencement of construction to review project before any work is performed.
3. Contractor shall be responsible to inspect poles and fixtures upon delivery to the job site and to protect the same from damage until installation is complete and lighting system is accepted by the City.
4. Contractor shall be responsible to coordinate construction of lighting system with Rocky Mountain Power and the City. It shall be the responsibility of the contractor to confirm final location of RMP transformers or secondary boxes before starting construction.
5. All light poles, fixtures, junction boxes, POD boxes transformers, secondary boxes, underground conduit and wiring shall be placed only within the public street right-of-way and/or designated public utility easement.
6. All underground work shall be completed and inspected prior to backfilling. Failure to call for inspection, the contractor will be responsible for potholing conduit in as many locations as the Public Works Inspector deems necessary to insure piping was installed to city standards.
7. All aspects of street lighting installation shall be inspected by the Public Works Inspector, call to schedule appointments at least 48 hours in advance. There will be a minimum of three (3) required inspection/meets.
  - a. Pre-work meet to discuss layout and installation criteria.
  - b. Underground inspection
  - c. Final inspection after system is completely installed.
8. All work shall be performed by a licensed electrical contractor. City has the right to reject any contractor that fails to comply with these standards and/or has a history of poor performance of jobs completed in the city.

### STREET LIGHT STANDARD SPECIFICATION

1. The developer shall show streetlight locations on all residential, commercial and industrial development plats. Streetlights shall be placed at lot line boundaries to avoid unnecessary obstruction along property frontage. City Public Works Department, Engineer or City Planner may require additional or fewer streetlights at their discretion. Additional streetlights may be required in locations that pose a safety hazard or special traffic need. Cost for additional streetlights shall be incurred by the developer.
2. The developer shall be responsible for the installation of all underground infrastructure and light pole foundations. The city's electrical contractor shall install all new or replacement street lights and the developer shall be responsible for payment to the city the per light contracted price established each contract year with the city contractor. Those cost shall include labor, material and equipment to provide and install a complete and functioning streetlight system as per approved plans and shown on development plats. It shall be the responsibility of the developer's contractor to install all underground conduit, junction/splice and point of disconnect boxes. The city will bill the developer for installation costs and materials to connect streetlight poles and luminaires by the city's electrical contractor which exceed the contracted price for variables particular to the development site.
3. Components of the street lighting system shall follow the standards, specifications and styles currently adopted by the City. Consult with Public Works Inspector, City Engineer or City Planner for streetlight styles required in area of development. **(Please see attached map on Page 20)**
4. City contractor shall install light poles and luminaires in accordance with manufactures written instructions and recommendations. Poles shall be plumb, and luminaires shall be level or as to meet best light distribution.
5. An operational demonstration shall be required for all newly installed street lights. Luminaires shall be continuously operated for a minimum of 48hrs
6. Developer shall warranty street lighting system for one (1) year starting from the date of final project approval.

### STREET LIGHTS SPACING AND PLACEMENT

1. Streetlights abutting residential streets shall be placed on alternating sides of the road at a maximum of 300' centered in park strip and centered on property lines as close as possible. Light spacing adjacent to major collector roads or located in the town center or in industrial areas will be as approved as part of the Site Plan Approval.
2. Streetlights shall be installed at all road intersections, curves in the road and at the end of each cul-de-sac.



## POLE INSTALLATION

1. Contractor shall contact blue stakes prior to any excavation. Contractor is responsible for any damage to underground utilities or structures.
2. Contractor is responsible for verification of streetlight location and restoration of environment compromised by installation.
3. All concrete shall be a 4000psi mix as per APWA 03 30 04. Pole placement shall meet city standards and be inspected prior to the pour. Base shall meet lighting manufactures size and requirements with a minimum of a 48 inch deep base from finished grade and 24 inch diameter. Concrete must be poured against undisturbed soil at a point 12 inches below grade. Base shall be 4 to 6 inches above final grade for pole protection from edging and mowers. Base shall include a minimum of five (5) #4 vertical bars and six (6) #4 rings placed every 12 inches. Anchor bolts shall be installed according to manufactures template. Digging a hole and placing a full length Sonotube type form will not be accepted unless conditions do not allow for a standard installation and change has been approved by the city.
4. Pole shall be plumb and secure.
5. All poles shall be centered in park strip and centered on property lines as close as possible. Poles shall be oriented at right angles to the survey line of roadway unless otherwise specified on plan sheet
6. Streetlights shall have a 5' minimum separation from any fire hydrant so it will not restrict the access for emergency personnel.
7. Orient all poles such that a technician facing the hand hole will face the roadway or oncoming traffic
8. Light poles may be located behind sidewalks in rare cases of conflicts. Location shall be approved by the Public Works Inspector, City Engineer or City Planner.
9. Pole shall be cleaned from dirt and debris after installation and before final inspection.
10. Direct buried poles shall be installed as per manufactures recommendations with a minimum of 48" depth for pole base to be set in ground from finished landscape. Backfilled with compactable material and compacted to, at least a 90% compaction. No rocks bigger than ¾" shall be next to or compacted around the pole base.
11. Each light pole and luminaire shall be grounded. All rebar will have a #6 bare copper wire tied to the bottom ring with an approved fitting for that application in each base. Grounding wire from base shall be tied to the ground lug on pole and into the ground wire for the streetlight system. All luminaire's will be grounded regardless of pole material type.

## JUNCTION/SPLICE AND POD BOXES

1. Junction/splice and POD boxes shall be a traffic rated pre-cast polymer box 25"x16"x24" in all commercial and industrial developments and high traffic areas.
2. Junction/splice and POD boxes in residential and non-high traffic areas shall be Carson Brooks 1419 green boxes or equal. Two boxes will be required for each junction/splice location. Boxes at junction/splices shall be clam shelled together with 1 ¼ epoxy coated deck screws eight (8) total screws spaced equally around the boxes. Lids shall be installed on both sides. Drain holes shall be drilled in bottom lid as per city standard detail. Conduits shall enter bottom of box with long bend 90° fittings to maintain proper depth. Holes in box shall be cut as tight as possible.
3. All lids will shall be manufactured with "STREET LIGHTING" in the logo area with 1' lettering. Lid shall attach to base with stainless steel bolts and washers.
4. Place a 24"x24"x4" area of ¾" gravel under each box for drainage.
5. Box shall be level with final grading.
6. All Junction/splice and POD boxes shall have an 8'x5/8" ground rod installed inside and driven in 6" above bottom level of box. Street lighting grounding system shall be tied to ground rod, luminaire head, metal pole, concrete base ground ring and bonded to the neutral system as per NEC code 250.4. All luminaire heads shall be grounded regardless of pole material type.
7. POD boxes shall be installed no further than 10' from RMP feed location.
8. If a streetlight is located on the same property as the POD box and is within 100' of the POD box, no additional splice box will be needed. If streetlight is not on same property line or further than 100' from the POD box, then a splice box within 5' of street light shall be required. If more than one (1) streetlight is on feeder from a POD box a splice box will be required at each streetlight location.
9. Wire shall extend minimum of 24 inches above final grade of junction/splice and POD boxes.



# Design Requirements

## Roadway Lighting

### CONDUIT

1. 1 ½" gray schedule 40 PVC electrical conduit shall be installed at a minimum of 30" deep for all underground work. When direct buried streetlight poles are used, it shall be permissible to install 1" PVC conduit from the pole to the splice box located within 5' of the pole.
2. RMP feeder sizes will need to meet the requirements of their specs.
3. Conduits shall be installed in park strips or within the public utility easement behind sidewalk.
4. Conduits in an extreme case that need to cross roadway shall be 1 ½" schedule 80 PVC installed in 4" HDPE electrical piping or a gray 4" PVC sleeve pipe. NO EXCEPTIONS!
5. All conduits in each junction/splice and POD boxes shall be sealed with duct seal.
6. Bell end bushing shall be installed on all pipe ends located in junction/splice and POD boxes.
7. All underground conduit shall be bedded with sand, NO EXCEPTIONS! Trenches will be backfilled and compacted as per city standards.
8. 6" red warning taped marked "DANGER UNDERGROUND ELECTRICAL" shall be placed in trench 12" below grade above street lighting underground conduits.

### WIRING

1. The contractor shall provide 2 #6 RHH copper conductors or equivalent copper direct burial wires for the wiring of the streetlights to the RMP point of distribution. Wire jacket colors shall be black and white.
2. The contractor shall install 3 #6 RHH copper conductors for all streetlight locations. Wire jacket colors shall be white, black and green.
3. The contractor shall install 3 #10 RHH copper wires from pole base to luminaires. Wire jacket colors shall be white, black and green. #10 wire only will be allowed up light poles and must be tied off at top to support weight of wire and not put strain on connections.
4. Voltage supplying streetlights shall be permanently labeled in each junction/splice and POD box.

### CONNECTIONS

1. Minimum accepted connection at luminaries shall be taped wire nut connections. This will be the only place wire nuts are allowed.
2. Wires shall be supported at top of poles to take strain off connection points from weight of wires.
3. Connections at base of poles shall be of the butt crimp type and sealed with an NSI Industries Easy-Splice GEL Stub 2 (part # GSS-2) connector or an NSI Industries Easy-Splice GEL 2/0 SL (part # ESSLK-2/0) connector for all #6 wire connections or approved equals. NO WIRE NUTS ALLOWED.
4. Connections in ground boxes shall be made with the NSI Easy Splice GEL 2/0 SL (part # ESSLK-2/0) connector for 3 wire connections or a NSI Easy Splice GEL TAP 2/0 (part # ESGTS-2/0) connector for 4 wire connections or approved equals such as Blackburn USB-S squids. WIRE NUTS ARE NOT ALLOWED!
5. Fuse assembly shall be Bussman HEB-JJ with Bussman 2A0660 boots, no substitutions, and fused with KTK-10-amp fuse. POD fuse will have a fuse size of 10 amp for 1 light and adding an additional 5 amp for every light added to feeder with a maximum of 30 amp. Each feeder that feeds more than one (1) streetlight shall have a fuse at the streetlight location and be fused with a KTK-5 fuse.

### ROCKY MOUNTAIN POWER POINTS OF CONNECTION

1. All points of connection to RMP facilities shall comply with the current RMP release of the electric service requirements published by RMP available on their web site.
2. Final hookup to RMP equipment will be by RMP crews. Five (5) additional feet of wire between RMP POD box and transformer or secondary box shall be provided for RMP crews to make connection into transformer or secondary box.
3. Locations where a master meter is used, the City Engineer will arrange for the meter account set up with Rocky Mountain Power. The city's electrical contractor will set meter base (Milbank CP3B1111FASS). The city will bill the developer for installation costs and materials.



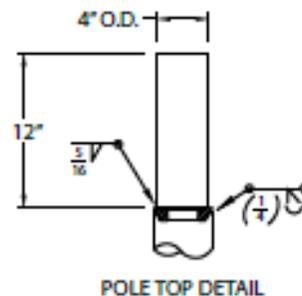
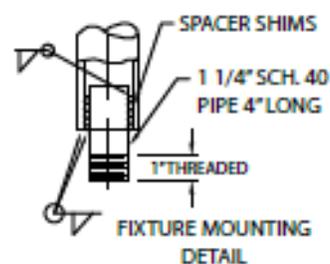
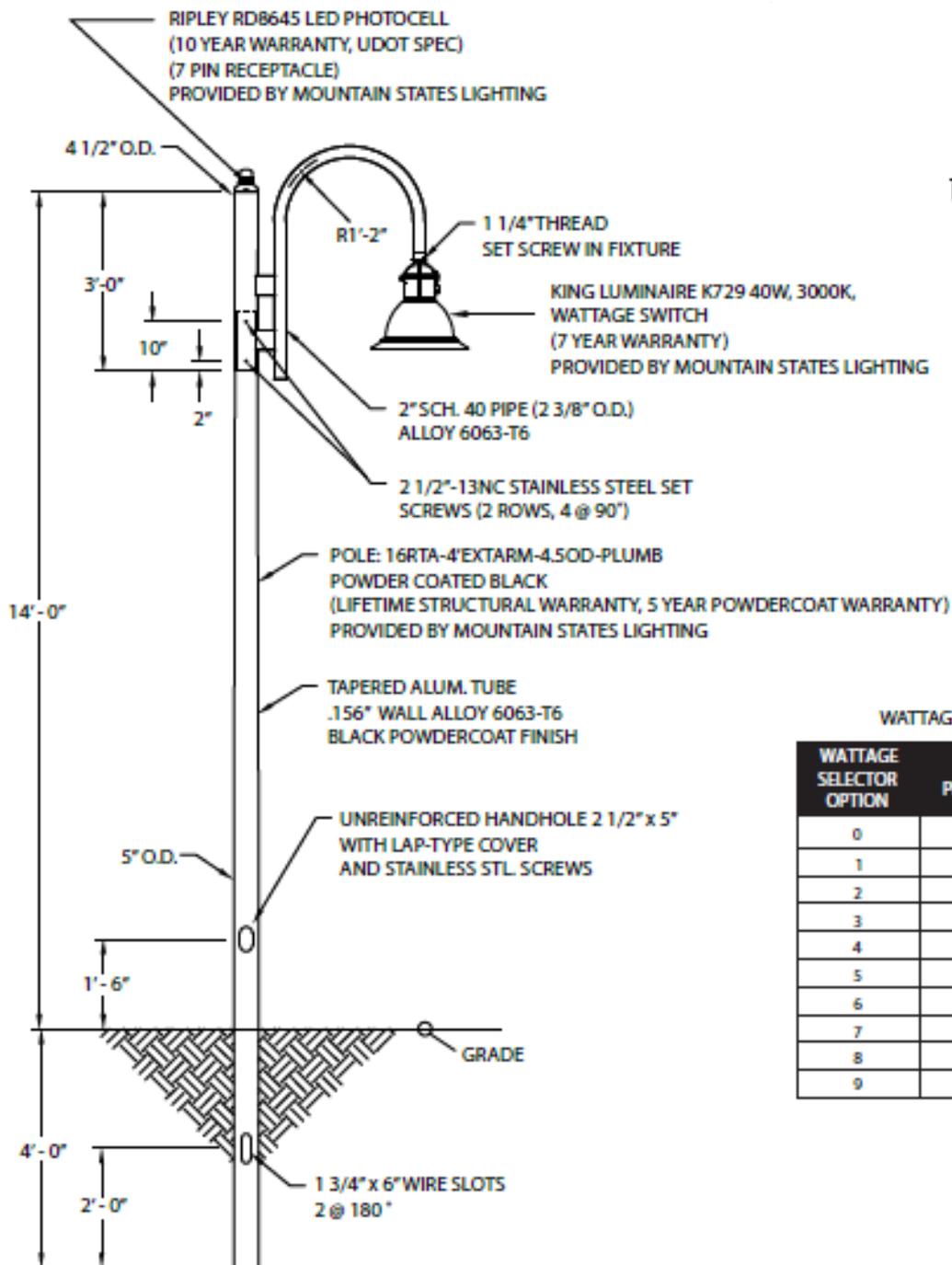
## Roadway Lighting Map

Map goes here.



# Design Requirements

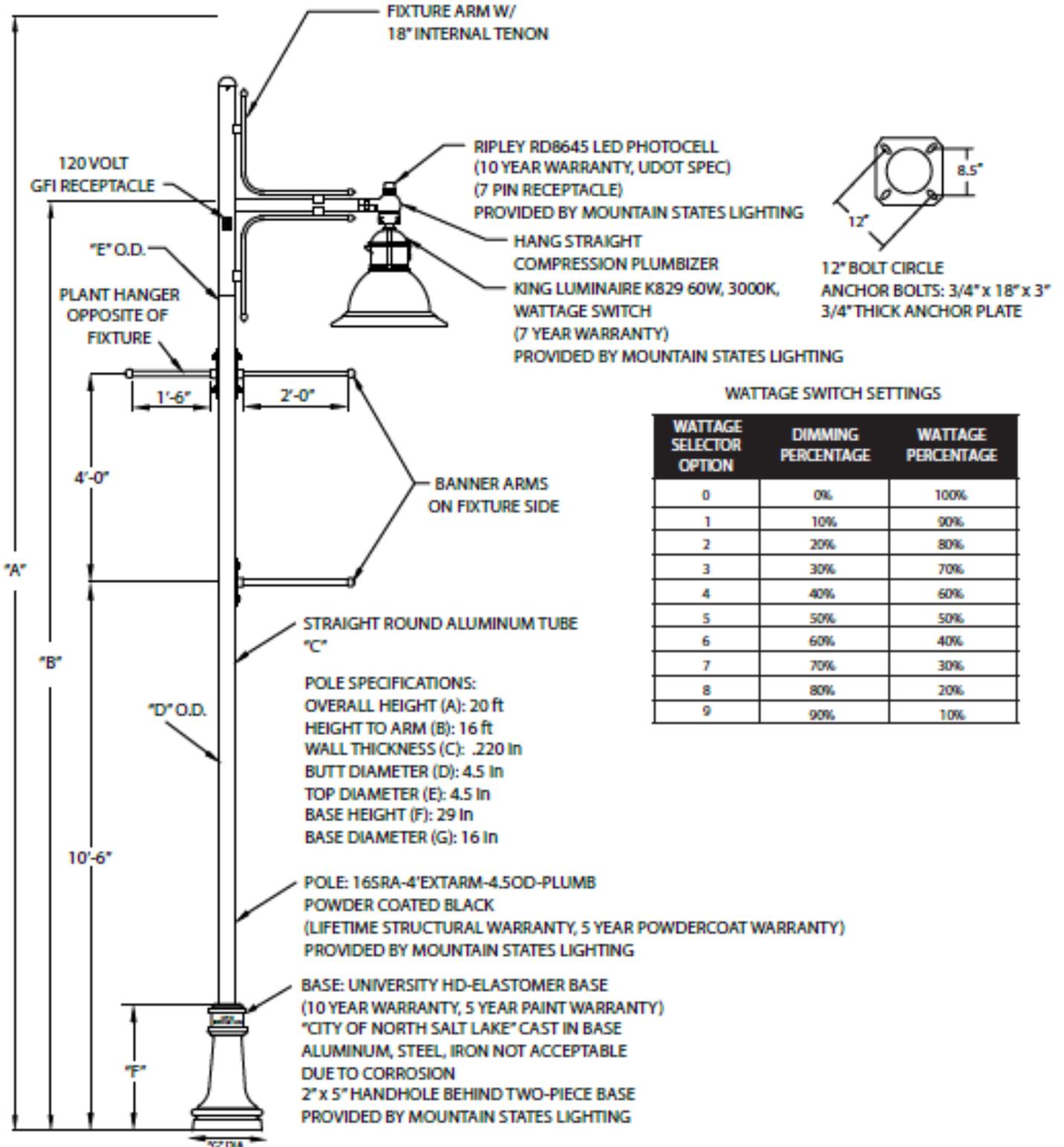
## Residential Standard



WATTAGE SWITCH SETTINGS

WATTAGE SELECTOR OPTION	DIMMING PERCENTAGE	WATTAGE PERCENTAGE
0	0%	100%
1	10%	90%
2	20%	80%
3	30%	70%
4	40%	60%
5	50%	50%
6	60%	40%
7	70%	30%
8	80%	20%
9	90%	10%

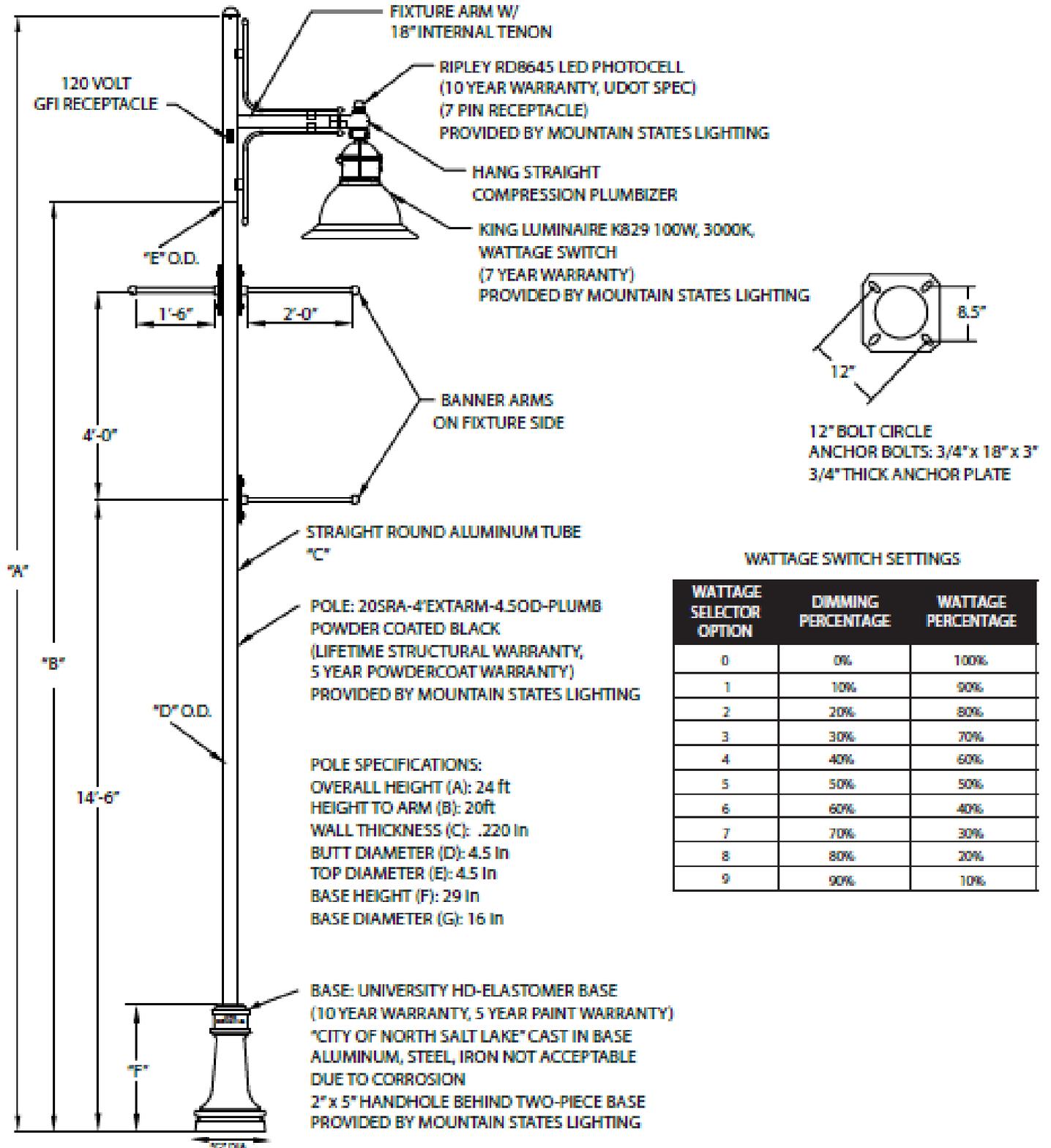
# Collector Standard





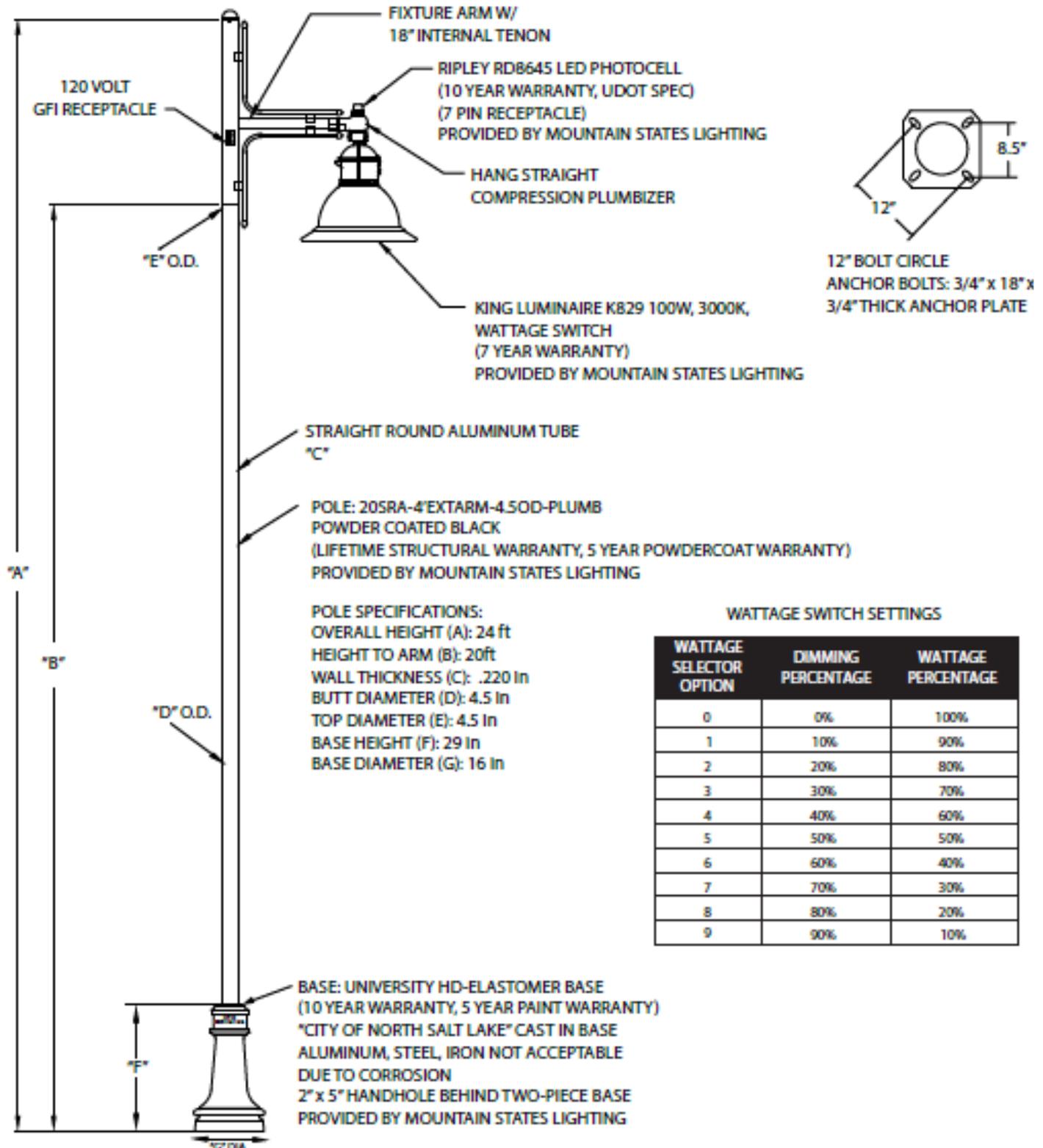
# Design Requirements

## Arterial Decorative Standard w/ Banner Arms





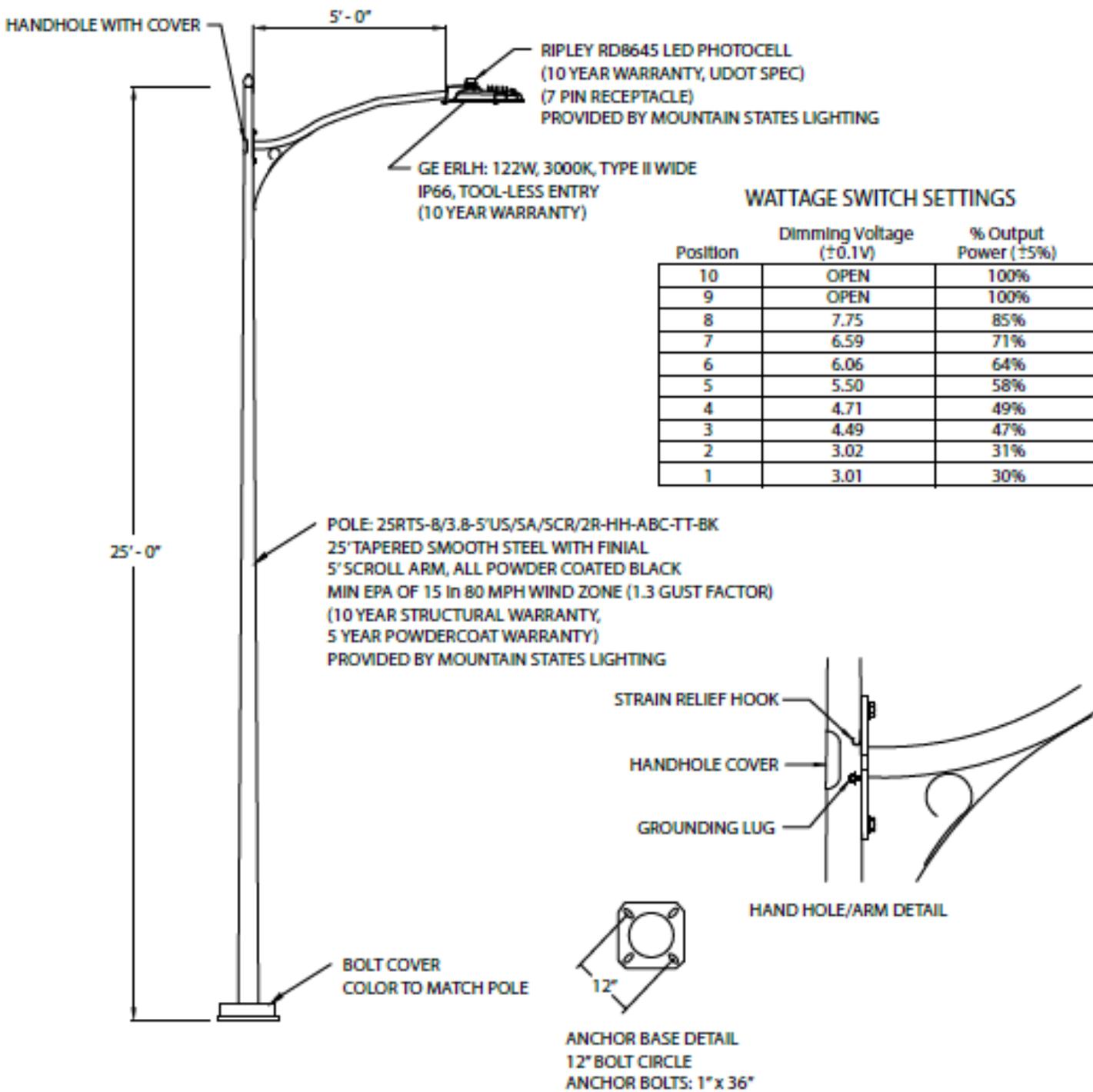
## Arterial Decorative Standard





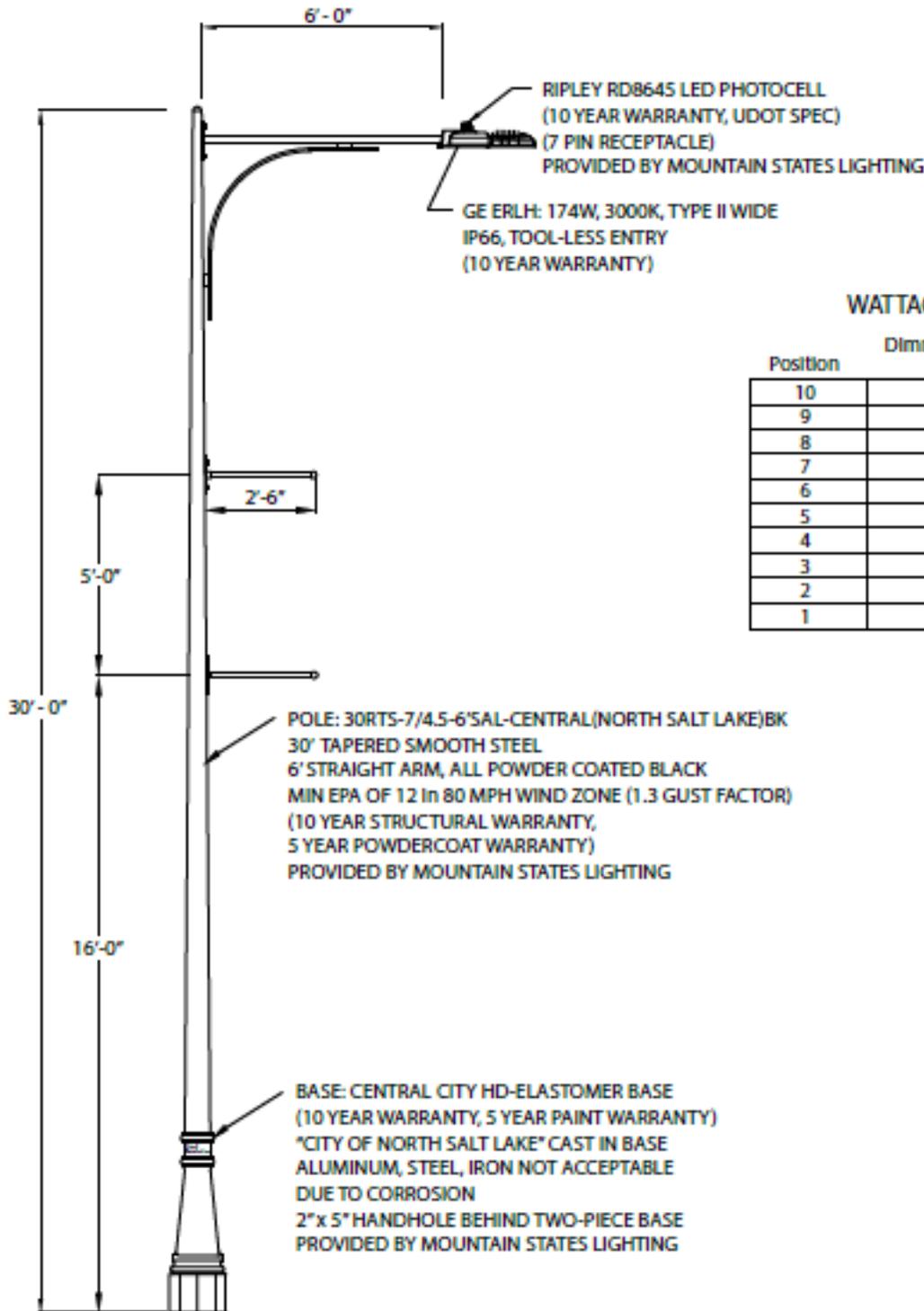
# Design Requirements

## Arterial Standard



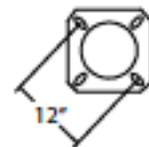


# Redwood Road Standard



## WATTAGE SWITCH SETTINGS

Position	Dimming Voltage (±0.1V)	% Output Power (±5%)
10	OPEN	100%
9	OPEN	100%
8	7.75	85%
7	6.59	71%
6	6.06	64%
5	5.50	58%
4	4.71	49%
3	4.49	47%
2	3.02	31%
1	3.01	30%



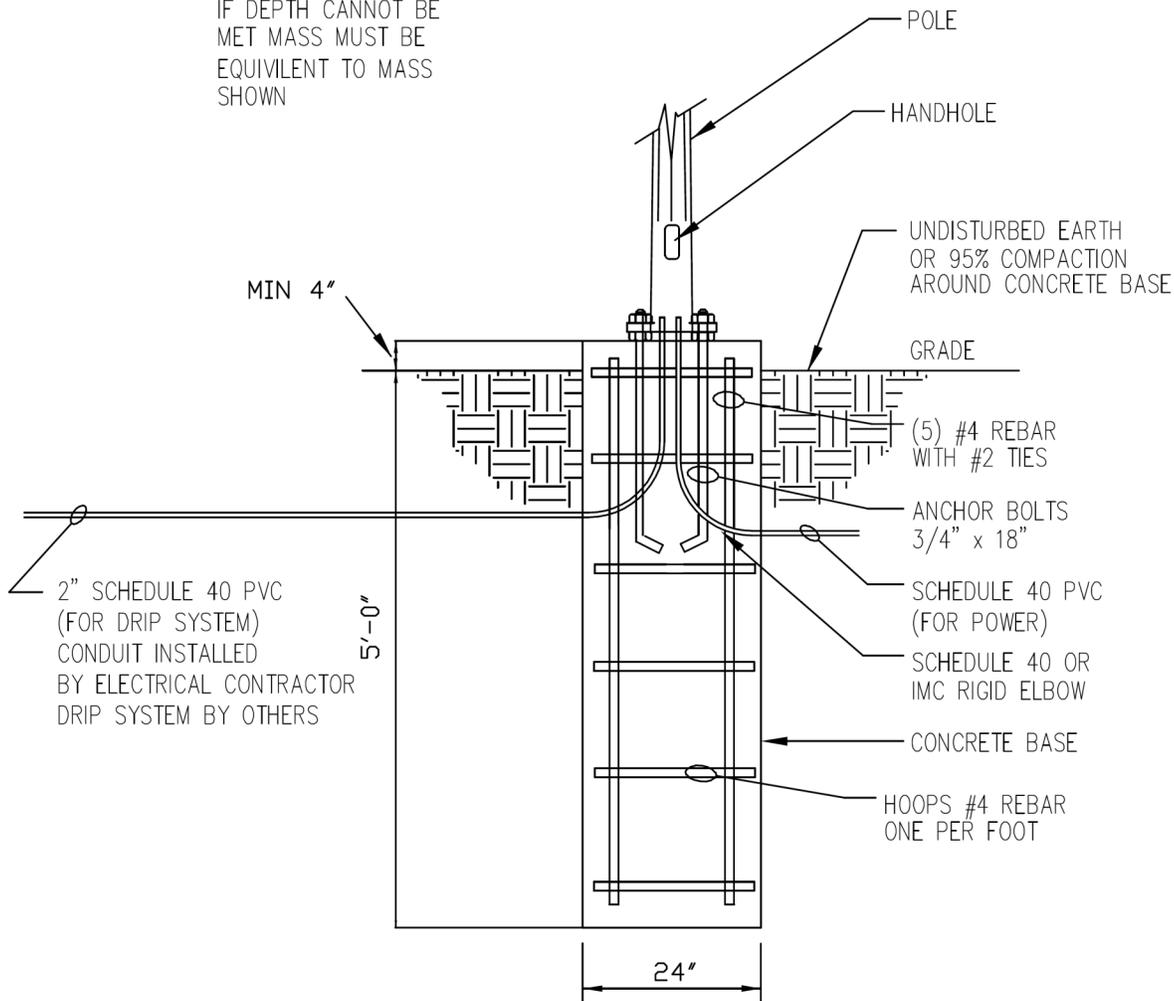
ANCHOR BASE DETAIL  
12" BOLT CIRCLE  
ANCHOR BOLTS: 1" x 36"



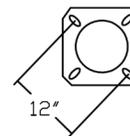
# Design Requirements

## Concrete Base Detail

NOTE!  
IF DEPTH CANNOT BE  
MET MASS MUST BE  
EQUIVALENT TO MASS  
SHOWN



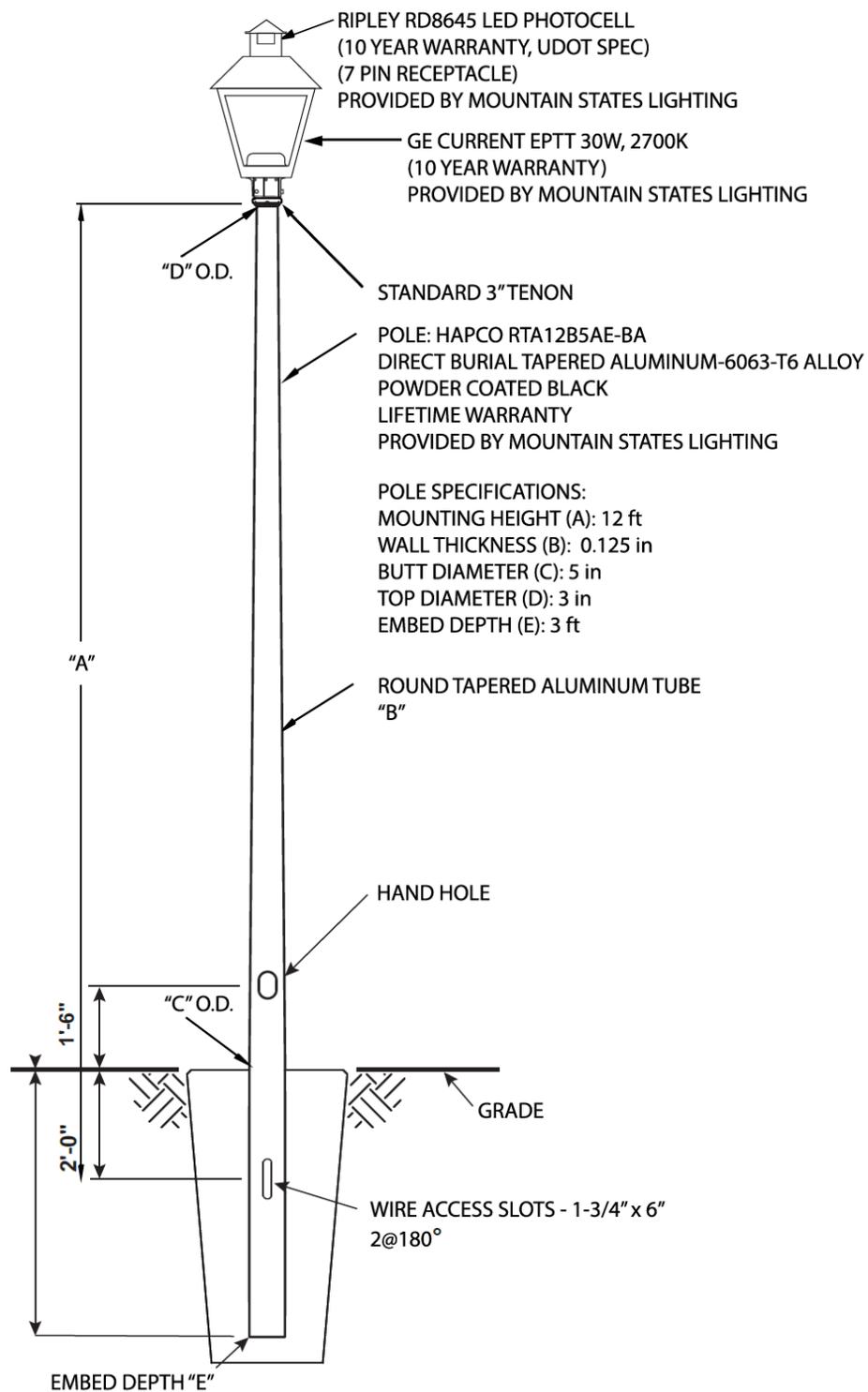
NSL - CONCRETE BASE DETAIL



ANCHOR BASE DETAIL  
12" BOLT CIRCLE  
ANCHOR BOLTS: 3/4" x 18"

## Town and Country Style Lighting

Only for replacement installations



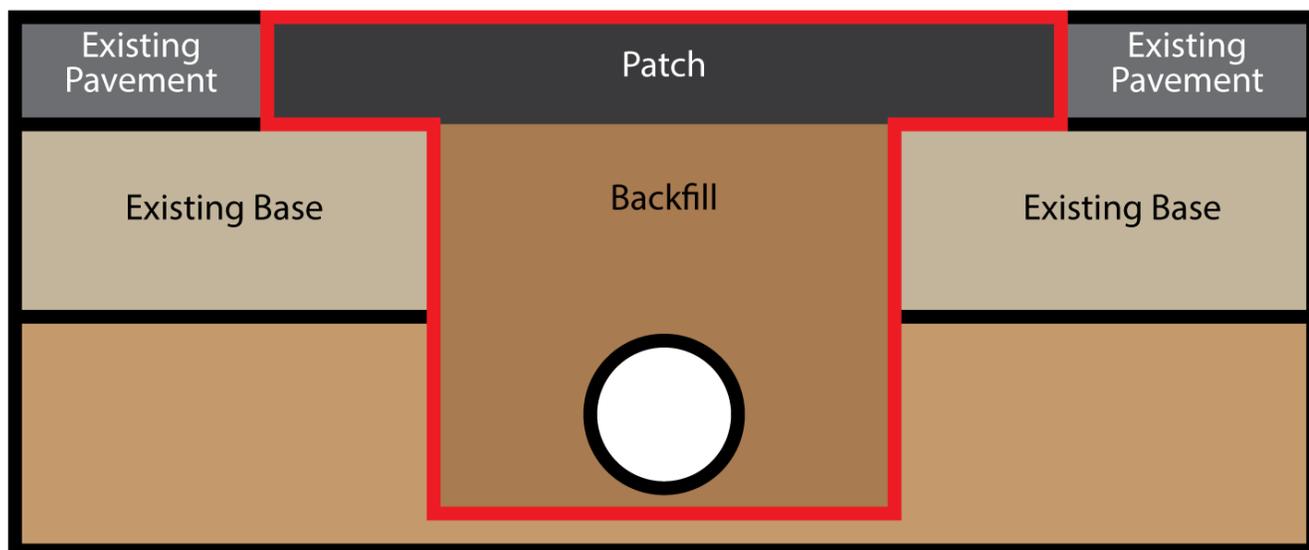


# Design Requirements

## Excavation/Road Cut Requirements

1. **Excavation Permit & Agreement.** The applicant must complete the Excavation Permit form, and be familiar with the City of North Salt Lake's Standards and Specifications.
2. **Access Agreements.** This Permit is only valid for work in City right-of-ways. The Applicant/Contractor must obtain easements and/or access agreements for all work outside of the City right-of-way.
3. **Bond.** The applicant, in conjunction with their surety company, shall provide a bond in the amount of \$5,000 in paved areas and \$2,000 in unpaved areas. The bond guarantees that the excavated street or public right-of-way is restored or repaired by the applicant in accordance with City specifications. The bond shall be conditioned that the applicant shall guarantee the materials and workmanship for a period of three years from completion of such work. Reasonable wear and tear excepted at the discretion of the City Engineer.
4. **Activation/Inspection.** Activation of permit must be scheduled with the inspector 24 hours prior to commencing work, 48 hours if work is scheduled on weekends or holidays.
5. **Noncompliance in work zone.** If permit holder fails to comply with City of North Salt Lake requirements, specifications or instructions pertinent to the permit, subsequent permits may not be issued.
6. **Traffic Control Plan.** If required, the applicant shall submit a formal traffic control plan which must meet the City's approval as a condition for the issuance of the permit. (Must meet MUTCD standards).
7. **Trench Backfill.** All trench backfill material shall meet City of North Salt Lake standards. Place material at a maximum lift thickness of 8" before compaction. Backfill material shall be compacted to 95% of the modified proctor density as determined by ASTM 1557. Compaction testing may be required and shall be conducted by a certified materials testing lab at the contractor's/permit holder's expense.
8. **Flowable Fill.** Use flowable fill in excavations that are too narrow or too small to receive compaction equipment. Provide 28 day 60 psi controlled low strength material as specified in Section 31 05 15 of APWA 2012 Standard Specifications.
9. **Asphalt Saw Cut.** All excavations in roadways shall be saw cut at least 1 foot beyond the excavation in all directions to form a "T" patch. Remove additional pavement to a painted lane stripe, an existing pavement patch, or an edge of pavement if such street feature is within 2' of the second cut.
10. **Asphalt Patchwork.** All asphalt patchwork shall be done by an approved asphalt paving company. Provide full tack coat coverage on all vertical surfaces. Asphalt patch material for all roadways shall be PG 58-28 ½". Patch thickness shall be existing thickness + 1" (4" min.). Compaction testing may be required and shall be conducted by a certified materials testing lab at the contractor's/permit holder's expense. Do not patch if surface is wet or weather is unsuitable (no frost in ground, 50 degrees F and rising). Asphalt placed between November 15<sup>th</sup> and March 15<sup>th</sup> will be considered temporary and will need to be replaced when weather conditions are suitable.
11. **Painted Traffic Lines and Markings.** Any Painted traffic lines and markings disturbed during the excavation shall be re-painted in the same location with materials meeting City standards.
12. **Storm Water Pollution Prevention.** Catch basins and storm drain inlets within 300 feet of the excavation location must be protected from dewatering, sediment, excavated materials, and general construction debris.
13. **Clean Up.** Upon completion of the excavation and patchwork the area shall be swept and returned to original condition.

## Typical T Patch





**The City of North Salt Lake**

10 East Center Street

North Salt Lake City, Utah 84054

Phone 801.335.8700

[www.nslcity.org](http://www.nslcity.org)



# PUBLIC WORKS





# WATER



## The City of North Salt Lake Water Standards Manual

April 2020





**The City of North Salt Lake**  
10 East Center Street  
North Salt Lake City, Utah 84054  
Phone 801.335.8700  
[www.nslcity.org](http://www.nslcity.org)



# The City of North Salt Lake Water Department Specification Manual

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# Design Requirements

## Water System Design

### Minimum Water Main Size

- North Salt Lake City requires that all new culinary water main lines be a minimum of eight inches in diameter. Larger diameter main lines may be required based on flow demands and pressure requirements in accordance with the North Salt Lake City Water Master Plan or City Engineer requirements.
- Fire hydrant laterals shall be six inches in diameter

### Fire Protection

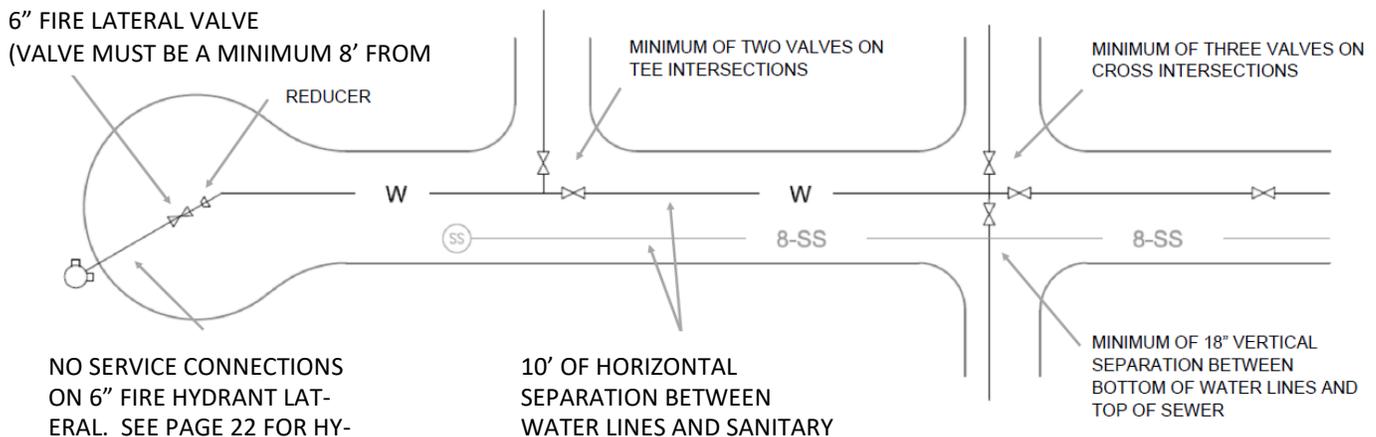
- Fire hydrants shall be installed at locations determined by the North Salt Lake City Engineering, Water Department and South Davis Metro Fire.
- Hydrant spacing shall meet the requirements of Appendix C of the International Fire Code (IFC).
- No dwelling unit shall be located farther than 250' from a fire hydrant, measured along the curb.

### Dead Ends

- All dead-end water mains shall be equipped with a fire hydrant.
- Blow-offs or other considerations must be approved by North Salt Lake City Water Department.

### Valve Installation

- A sufficient number of isolation valves shall be provided on mains to minimize inconvenience, sanitary hazards and loss of service during repairs. No more than four valves should be needed to isolate a section of main line.
- One valve shall be placed at each branch off of a main. A minimum of two valves shall be installed at every tee-intersection and a minimum of three valves at every cross-intersection.
- Valves shall be located at not more than 500 foot intervals in commercial districts and not more than 800 foot intervals in other districts.
- More valves may be required at North Salt Lake City's discretion.





## Separation of Water & Sewer Lines

- Water lines and sewer lines must have a horizontal separation of at least 6 feet, this distance shall be measured edge to edge.
- Where local conditions prevent 6 feet of separation, or when water and sewer lines must cross, the bottom of the water line shall be at least 18 inches above the top of the sewer line.
- If the separation requirements above cannot be met, the following construction standards shall be used:
  1. Sewer lines passing over or under water lines shall be constructed with a solid length of new ductile iron pipe or PVC pipe, extending at least 10 feet in both directions of the water line;
  2. Approved stainless-steel shear band couplings;
  3. Adequate structural support for sewer line to prevent deflection of joints and settling on water line (concrete cradle may be required); and
  4. Separation of at least 6 inches must be maintained between all utilities;
  5. If a sewer line must go over a lateral water line, it must have a 10 foot minimum sleeve (C900 or C905)
- Anything deviating from these requirements must be approved by North Salt Lake City Public Works and the City Engineer.

## Pressure Reducing Valve Stations

- Any water line construction involving pressure reducing stations on more than one pressure zone must have an engineered plan taking into consideration the Water System's hydraulic grade line.

## Surface Water Crossings

- All surface water crossings must have engineered plans, approved by the City of North Salt Lake that meet the Utah Administrative Code Rule R309-550-8 (8) dealing with transmission and distribution pipelines and the installation of water mains.

## Sampling Station Requirements

- The City of North Salt Lake may require the installation of sampling stations locations and the quantity will be determined at Plan Review.



# Pre Construction

## Pre Construction

- Prior to installation, all extensions or connections to water mains must be approved in advance by the City Engineer or designated Professional Engineer (P.E.) in accordance with North Salt Lake City Code.
- Water connection impact fees must be paid prior to new development which includes remodeling, building enlargement, or any other construction or improvement which will place an increased burden on the city water system in accordance with North Salt Lake City Code 9-11c.
- Obtain all street excavation permits and any other permits applicable to the work being performed.
- On mainline pipe jobs a pre construction meeting must be set up by the City and attended by the developer. The meeting should include the developer, contractors and North Salt Lake City personnel who will be involved in the project. This meeting is generally beneficial for all parties involved.

## Construction

- North Salt Lake City must be given a minimum 48 hours advance notification of when work is to begin.
- It is unlawful for any person, without authority, to open any valve or other fixture attached to the city waterworks system in accordance with North Salt Lake City Code 7-4.1.
- North Salt Lake City personnel will inspect all work being performed and nothing shall be buried until approved by an authorized inspector. North Salt Lake maps all new construction with a global positioning system (GPS) and if water features are buried before they are documented or inspected they must be exposed for inspection.
- North Salt Lake personnel may also require extended range ball markers be installed to help with future locating. These ball markers will be provided by North Salt Lake City.
- All testing shall be overseen by North Salt Lake personnel. No waterline will be accepted into the existing system until all tests have been completed. A complete disinfection and testing requirements checklist has been provided in this manual (Please see page 27).
- Water shut down date and time frame must be approved by North Salt Lake personnel prior to public notification and shut downs can only be performed by North Salt Lake personnel.
- Any time water will be shut off, it is the contractors job to give a minimum of 24 hours advanced notification to all those who will be affected. This notification shall include: Contractors name and telephone number, the date the water will be shut off, and an approximate time that the water will be shut off and turned back on.

## Hydrant Meter Rentals & Construction Water

- The City of North Salt offers hydrant meter rentals.
- Home construction water is only available after the lateral has passed inspection and the meter has been set. North Salt Lake does not allow jumpers in place of the meter.
- To sign up contact North Salt Lake City at 801.335.8700.



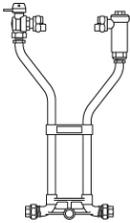
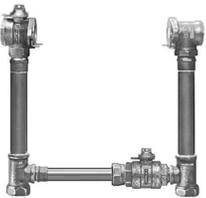
## Contact Information

Name	Title	Phone	Email
City Hall	General Information	801.335.8700	
Sam Christiansen	Public Works Operations Manager	801.335.8681	samc@nslcity.org
Randy Simmons	Public Works Inspector	801.510.2379	randys@nslcity.org
John Lovato	Water Foreman	801.335.8685	johnl@nslcity.org
Brian Holsten	Water Lead Worker	801.949.0167	Brian.holsten@nslcity.org



# Material Specifications

	<p><b>Pipe</b></p> <p>C900 and C905, Pipe size will be approved by the North Salt Lake Water Department</p> <p>Ductile pipe may be required by NSL based on engineering requirements</p>		<p><b>Tape</b></p> <p>2" Wide 20 Mill Tape</p> <p>No other tape will be allowed</p>
	<p><b>Pipe Wrap</b></p> <p>Polyethylene Encasement</p> <p>All fittings, hydrants and valves must be wrapped with AWWA approved polyethylene</p>		<p><b>Grease</b></p> <p>FM Food Quality Grease</p> <p>Applied to all nuts and bolts</p>
	<p><b>Fittings</b></p> <p>Ductile Iron</p> <p>Cement Lining and Asphaltic seal coat</p>		<p><b>Tapping Sleeves</b></p> <p>Ford or Romac stainless steel sleeves. Should be greased and wrapped in accordance with these specs</p>
	<p><b>Grip Rings</b></p> <p>Romac with Blue Bolts up to 12"</p> <p>Megalugs should be used on installation 14" and above</p>		<p><b>Fire Hydrants</b></p> <p>Mueller Super Centurion 250</p>
	<p><b>Valves</b></p> <p>Gate: Mueller type resilient seat valves or the use of a suitable equivalent with approval by North Salt Lake Water Department prior to installation.</p>		<p><b>Service Line</b></p> <p>CTS Polyethylene Pipe</p> <p>Minimum service new installations will be 3/4"</p> <p>North Salt Lake City may require larger lines to meet minimum flow requirements</p>
	<p><b>Valve Boxes</b></p> <p>Sliding adjustable type, cast iron, with the word "WATER" or appropriate word cast into it</p>		<p><b>Service Fittings</b></p> <p>Ford or Mueller with insert in accordance with AWWA Standards</p>

	<p><b>Corporation Stops</b></p> <p>All corporation stops to be ball valve Compression fittings either Ford or Mueller for all connections</p>
	<p><b>Saddles</b></p> <p>Double strap brass saddles Ford or Mueller</p>
	<p><b>CULINARY WATER 3/4" or 1" Meter Setters</b></p> <p>18" copper setter with a ball valve, check valve, cross bar and unions. Ford or Mueller</p>
	<p><b>SECONDARY WATER 3/4" or 1" Meter Setters</b></p> <p>18" copper setter with a ball valve, cross bar (No check valve required) and unions. Ford or Mueller</p>
	<p><b>1 1/2" &amp; 2" Meter Setters</b></p> <p>1 1/2" and 2" meter setters must be an 18" copper setter. Double valve, inlet and outlet with lockable bypass and check valve. Ford or Mueller</p>
	<p><b>3/4" &amp; 1" Meter Box</b></p> <p>ADS 21" Wide 36" Tall Note: 2" Conduit may be required to connect adjacent meter boxes for radio equipment when deemed appropriate</p>

	<p><b>1 1/2" &amp; 2" Meter Box</b></p> <p>4X4 Dura-Crete removable top box without a floor, or pre-approved suitable equivalent Contractor to provide drawings which must be approved by North Salt Lake City</p>
	<p><b>Meter Rings &amp; Lids</b></p> <p>Cast iron that fit the appropriate box with 2" recessed holes for the AMR systems. 21" Diameter. Marked "WATER" or "IRRIGATION" Available at DL Supply</p>
	<p><b>Larger Meter Lids</b></p> <p>Cast iron that fit the appropriate box with 2" recessed holes for the AMR systems. 30" Diameter. Marked "WATER" or "IRRIGATION" Available at DL Supply</p>
	<p><b>Water Meters</b></p> <p>North Salt Lake provides all water meters based on planned flow (Sensus Meters) All meters above 2" the contractor is required to supplies as per this specification.</p>
	<p><b>Sampling Stations</b></p> <p>Kupferle Eclipse #88-SS</p>
	<p><b>Electronic Marker Balls</b></p> <p>North Salt Lake City provides and installs marker balls Note: Contractor assistance may be requested during installation</p>



# Installation

## Pipe & Pipe Fittings

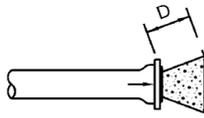
1. The contractor shall have on the job site with each pipe laying crew, all the proper tools to install the pipe.
2. All pipe and fittings shall be thoroughly cleaned before being laid and shall be kept clean until installed.
3. All materials that come in contact with drinking water shall meet ANSI/NSF Standard 61, Drinking Water System Components-Health Effects.
4. Pre-used materials must be approved by North Salt Lake personnel and have only been previously used for drinking water. Used materials should meet all standards, be cleaned and restored to their original condition.
5. Pipe should be laid in the dry trench conditions. At no time should water in the trench be allowed to flow into the pipe. At any time that work is not in progress, or the trench is unattended, the end of the pipe shall be suitably closed to prevent the entry of animals, earth, water, etc. using a water tight expandable plug. The expandable plug will always be kept at a close proximity to the end of the pipe in case of an emergency.
6. Lay pipe and fittings in accordance with the requirements of AWWA C600, except when noted otherwise herein.
7. North Salt Lake City has a minimum depth requirement of 42 inches to top of pipe for culinary and 36 inches for irrigation water lines. Once the excavation has been completed to the proper depth the pipe bed should be prepared as follows.
  - Pipe that is to be laid on undisturbed sub grade should be manually excavated around the pipe bells assuring a uniform surface along the pipe barrel.
  - North Salt Lake City requires that pipe be laid on an imported bedding material unless the native soil meets the sand specification requirements and is approved by North Salt Lake.
9. Jointing shall conform to manufacturer's instructions and appropriate AWWA standards. Apply lubricant to the exposed surface of the gasket and plain end of the pipe in accordance with the pipe manufacturer's recommendations. Lubricant is furnished in sterile containers, and every effort should be made to protect against contamination.
10. North Salt Lake City requires the use of Grip Rings (Megalug, Stargrip or the use of a suitable equivalent with the approval of the North Salt Lake City Water Department prior to construction).
11. All fitting installations should conform to the manufacturer's instructions.
12. All fittings should be greased on nuts and bolts and then wrapped with polyethylene encasement and secured with 2" wide 20 mill tape. All small rips, tears and other damaged should be repaired with 2" wide 20 mill tape.
13. Install concrete thrust blocks at all fittings and other locations, as directed by North Salt Lake City Water Department. 6 1/2 Bag Class 3000 is the minimum requirement for all concrete (See page 11 for minimum size of thrust blocks).



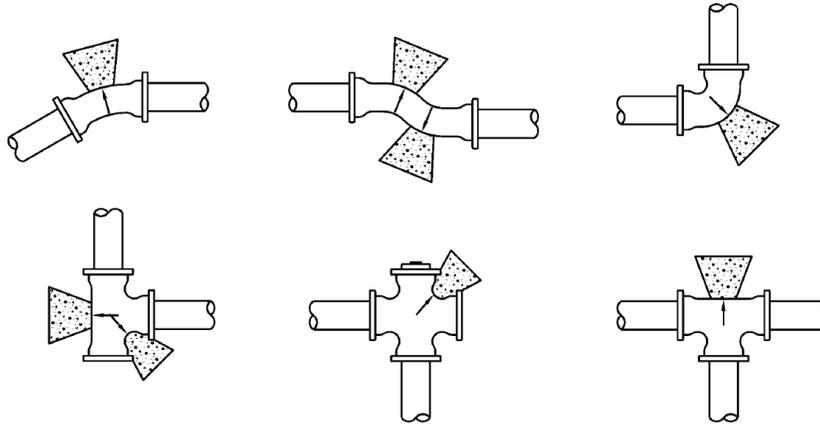


# Installation

## Pipe & Pipe Fittings (Continued)



NOTE: DEPTH OF THRUST BLOCK (D) SHALL BE 3 TIMES PIPE DIAMETER



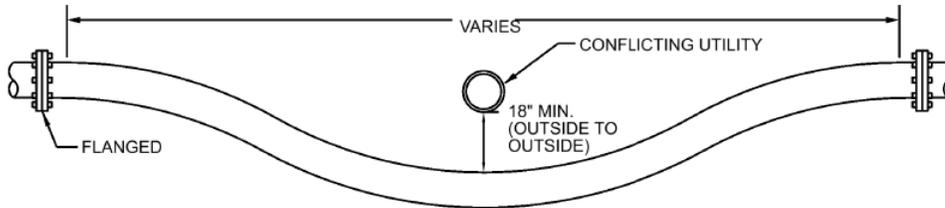
## WATER MAIN LINE THRUST BLOCKS

NTS

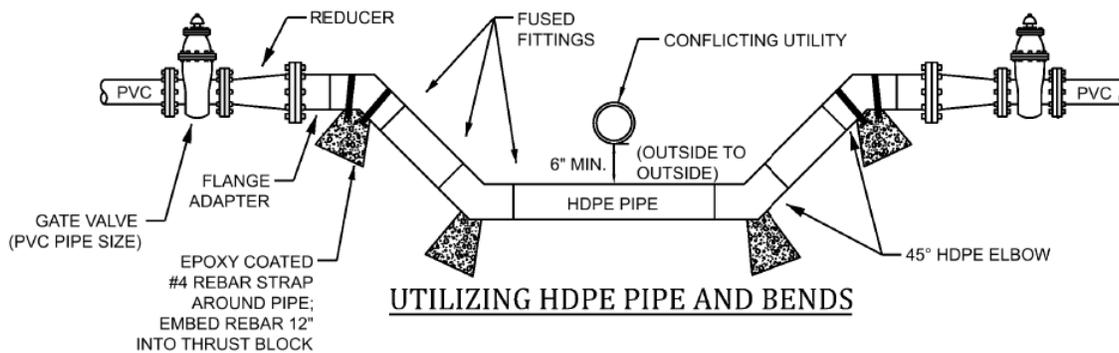
### THRUST BLOCK NOTES:

1. NORTH SALT LAKE REQUIRES BOTH CONCRETE THRUST BLOCKS AND THRUST RESTRAINING FOLLOWER RINGS (NSL-APPROVED).
2. THRUST BLOCKS ARE REQUIRED AT ALL BENDS AND TEES.
3. CONCRETE USED FOR THRUST BLOCKS SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI AND SHALL BE CAST AGAINST UNDISTURBED SOILS.
4. CONCRETE SHALL NOT BE PLACED AROUND BOLTS, AND FITTINGS SHALL BE WRAPPED WITH 8-MIL POLYETHYLENE TO KEEP CONCRETE FROM DIRECT CONTACT WITH FITTINGS. THRUST BLOCKS SHALL BE ALLOWED TO CURE FOR 5 DAYS PRIOR TO PRESSURE TESTING THE PIPE.
5. ALL THRUST BLOCKS SHALL BE VISUALLY INSPECTED AND ACCEPTED BY THE NORTH SALT LAKE ENGINEERING DEPARTMENT OR PUBLIC WORKS BEFORE BACKFILLING.
6. BEARING AREAS FOR THRUST BLOCKS SHALL BE AS SHOWN IN THE TABLE, SIZED FOR THE LARGEST PIPE INVOLVED. GENERAL BLOCK SHAPE SHALL BE TRAPEZOIDAL AS SHOWN IN DETAILS BELOW. CONFIGURATIONS NOT SHOWN SHALL REQUIRE SPECIAL DESIGN AND ACCEPTANCE BY CITY PERSONNEL.
7. THE CITY MAY REQUIRE THRUST BLOCK SIZES INCREASED DEPENDING ON THE SOIL BEARING CAPACITY.

MINIMUM THRUST BLOCK BEARING AREA IN SQ. FT.					
SIZE OF PIPE	TEES, VALVES, DEAD ENDS	90° BENDS	45° BENDS	22.5° BENDS	11.25° BENDS
4"	2	3	2	2	2
6"	4	5.5	3	1.5	1
8"	6.5	9.5	5	2.75	1.5
10"	10	15	8	4	2.25
12"	14	20	11	5.5	3
14"	19	26.5	14.5	7.5	4
16"	24	34	18.5	9.5	6
20"	27	52	28.5	14.5	16
24"	53	74	41	21	53
30"	81	114	62	32	16



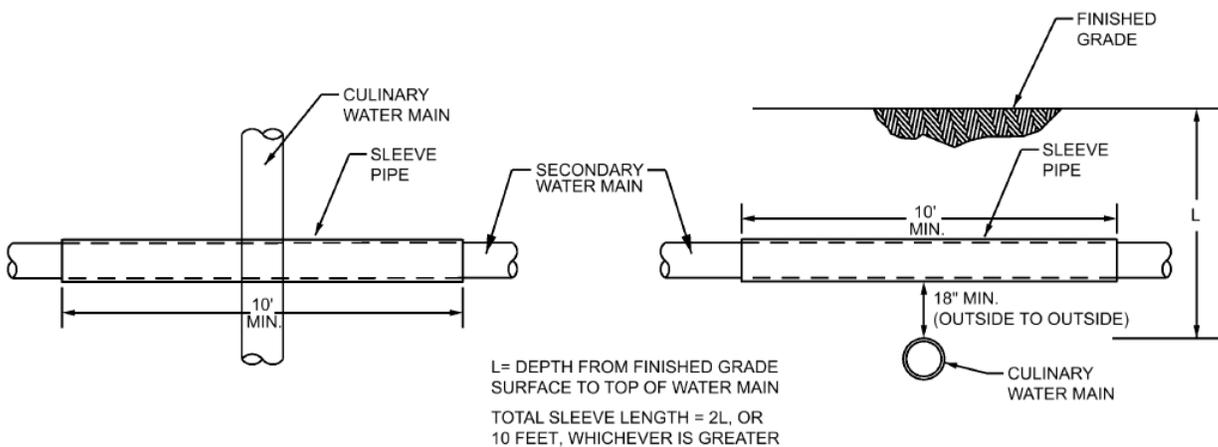
## UTILIZING HDPE PIPE WITHOUT BENDS-PREFERRED



## WATER LOOP UNDER CONFLICTING UTILITY

OPTIONAL MUST HAVE APPROVAL

NTS



PLAN VIEW

PROFILE VIEW

## SECONDARY WATER MAIN CROSSING OVER CULINARY MAIN

MUST HAVE CITY OF NORTH SALT LAKE AP-

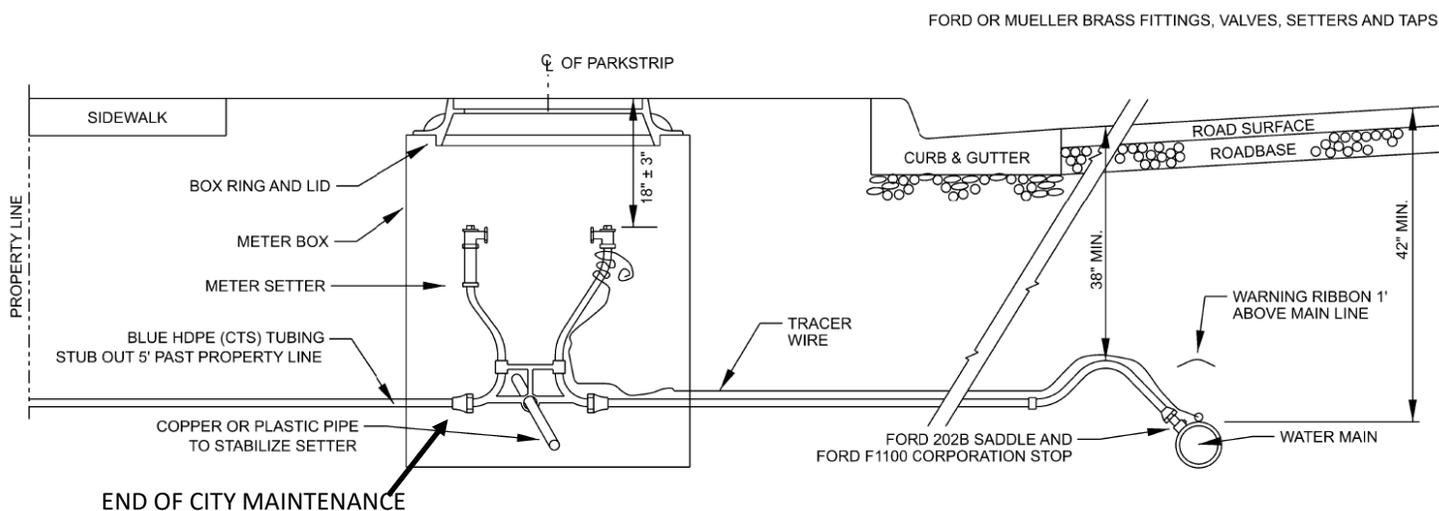
NTS



# Installation

## Water Service Installation

1. All corporation stops should be rotated so that the valve actuator runs parallel with the pipe or in other words the valve actuator is not on the top or bottom but placed on the side (see photo below).
2. Do not install corporation stops in the new water main at the time of pipe installation. They shall be installed later when the service connections are constructed. Service connections shall not be installed until after the mainline has been disinfected and tested.
3. Corporation stops shall be tightened only sufficiently to be watertight.
4. Install blue HDPE (CTS) tubing with tracer wire from the corporation stop to the water meter, or to the existing service if performing a changeover.
5. Care should be exercised in the placing and laying of HDPE (CTS) tubing to be sure that the pipe does not have any kinks and is not installed near any sharp stones that may cause damage to the HDPE.
6. Blue HDPE (CTS) tubing must also be installed from the water main to the (Point of Use) building or residence



METER SIZE	SETTER TYPE	BALL VALVE	METER BOX - 36" DEEP	METER RING AND LID
3/4"	FORD VBHC72-18W-11-33-NL	FORD B41-333-Q-NL	21" DIAM ADS PIPE	D&L SUPPLY L-2242 RING AND L-2240-10 LID MARKED "WATER"
1"	FORD VBHC74-18W-11-44-NL	FORD B41-444-Q-NL	21" DIAM ADS PIPE	D&L SUPPLY L-2242 RING AND L-2240-10 LID MARKED "WATER"
3" OR MORE	SEE CITY WATER DEPARTMENT	SEE CITY	SEE CITY	SEE CITY

## CULINARY WATER SERVICE

NTS

### CULINARY WATER SYSTEM NOTES:

1. CULINARY WATER MAIN LINES SHALL BE BLUE PVC C900/905 (CLASS 150 - DR18). DUCTILE IRON PIPE MAY BE USED IF APPROVED BY CITY ENGINEER.
2. CULINARY WATER MAIN LINES SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 42" TO TOP OF PIPE.
3. ALL MECHANICAL JOINT FITTINGS SHALL BE TORQUED AS RECOMMENDED BY MANUFACTURER.
4. ALL BEVELED EDGES SHALL BE CUT OFF BEFORE BEING CONNECTED TO A MECHANICAL JOINT FITTING
5. ALL CULINARY METER BOX LIDS SHALL HAVE A 2" DIAMETER HOLE IN THEM
6. ALL POLYETHYLENE LATERALS MUST HAVE A STAINLESS STEEL INSERT STIFFENER AT ALL CONNECTIONS
7. TRACER WIRE TO BE INSTALLED FOR ALL WATER LINES AND LATERALS CONNECTED TO THE SYSTEM.
8. ALL SPLICES ON TRACER WIRE TO BE CONNECTED WITH 3M DBR (DIRECT BURIAL) CONNECTOR OR EQUIVALENT.
9. CULINARY METER BOXES SHALL NOT BE INSTALLED IN DRIVEWAY APPROACH.
10. 3/4" TO 2" CULINARY WATER METERS TO BE SUPPLIED AND INSTALLED BY NSL CITY.
11. 4" AND GREATER CULINARY WATER METERS TO BE SUPPLIED AND INSTALLED BY CONTRACTOR. METER MUST BE SENSUS OMNI AS PER WATER DEPARTMENT. METER MUST BE EQUIPPED WITH A CHECK VALVE, SHUT OFF VALVES AND BYPASS DEPENDING ON APPLICATION. ALL VALVES MUST BE FLANGED.
12. METALLIC WARNING TAPE SHALL BE INSTALLED 1' ABOVE MAIN LINE.
13. ALL METER SETTERS SHALL HAVE THE CORRECT SIZE PIPE INSTALLED IN BOTTOM OF EYELET TO PREVENT SETTER FROM TIPPING OR RESTING AGAINST METER BOX.

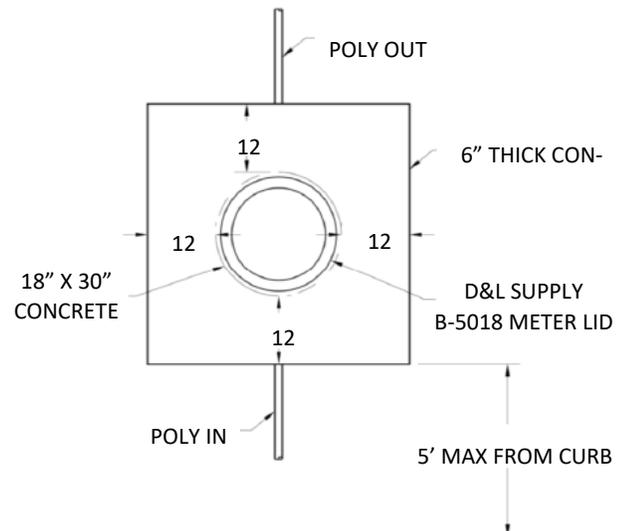
## Meter Box Installation

1. All meters are to be installed in the park strip or within 5 feet of the property line (street side where sidewalk is present).
2. Do not install meter boxes under driveway approaches, sidewalks, in parking lots, or under curb and gutter. Box shall be placed in a landscaped area.
3. The box shall be set so that the grade of the frame and the cover matches the grade of the surrounding surface.
4. Concrete meter boxes with larger, traffic safe lids may be deemed necessary by North Salt Lake City personnel in a situation where the meter must be placed in an asphalt, concrete or other high traffic area (See drawing below).
5. All meter relocations must be approved by North Salt Lake City personnel and all costs will be the responsibility of the property owner.

## Meter Box in Concrete Installation

(When approved for an asphalt, concrete or other high traffic area)

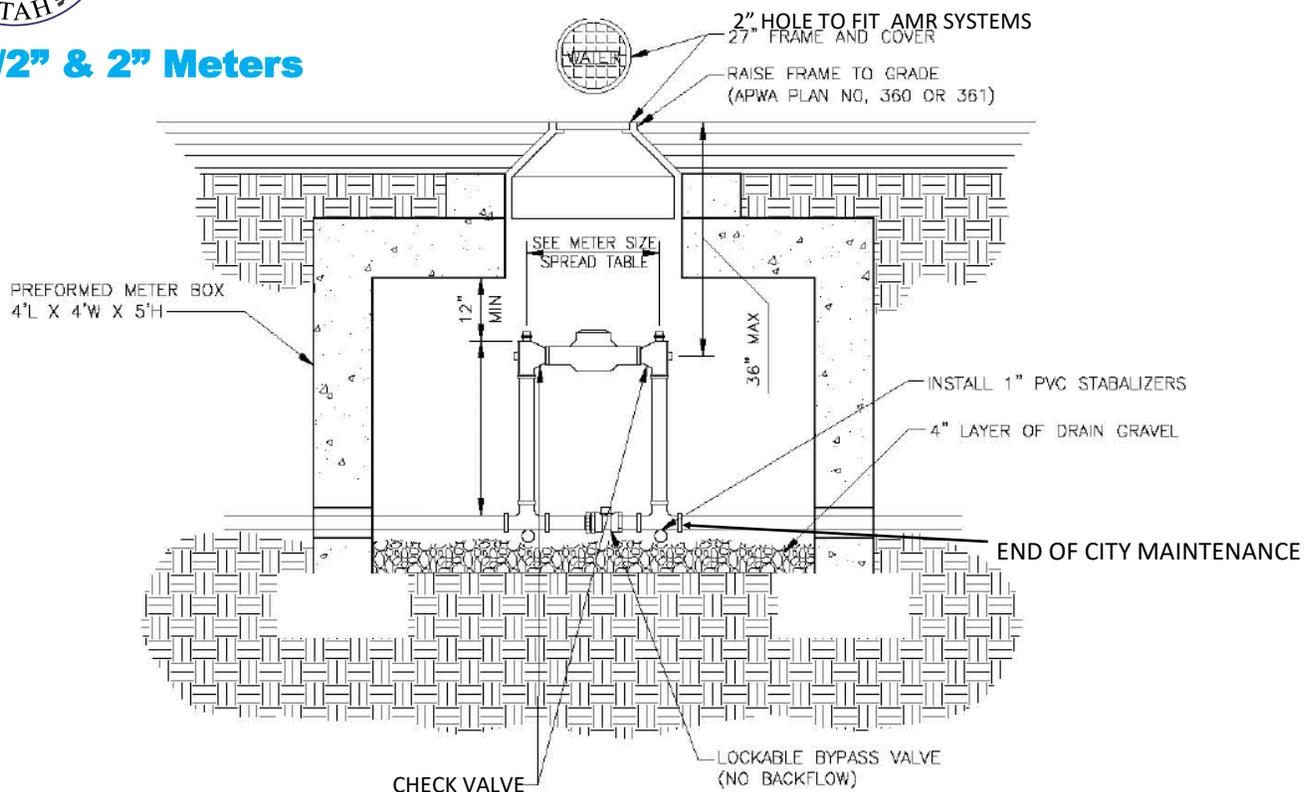
1. Concrete meter boxes with larger lids may be deemed necessary by North Salt Lake City personnel in a situation where the meter must be placed in an asphalt, concrete or other high traffic area.
2. All work must be inspected by North Salt Lake personnel.
3. Concrete shall be 6" thick, 3000 psi.
4. Expansion board all around
5. Control joints from lid to edge of pad
6. Box shall be set so that the grade of the frame and the cover matches the grade of the surrounding surface.





# Installation

## 1 1/2" & 2" Meters

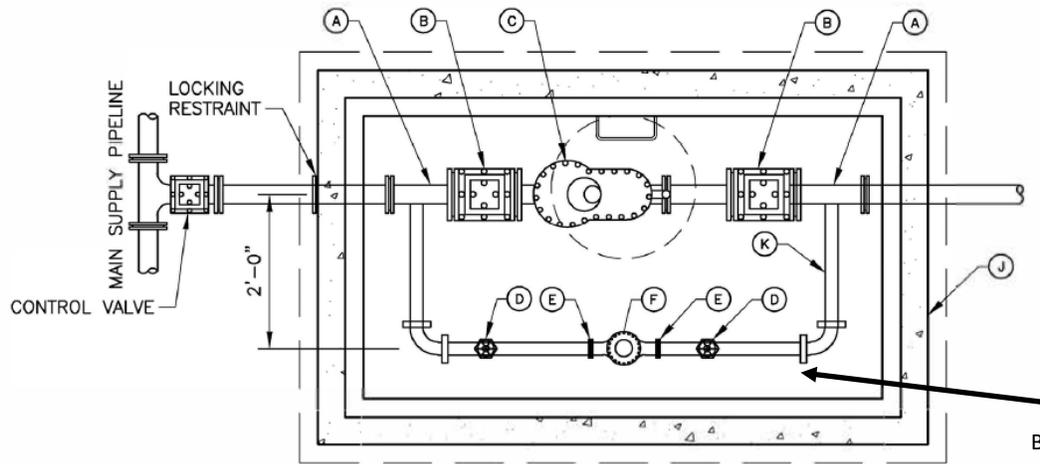


### NOTES

1. All work must be inspected by North Salt Lake personnel prior to backfill
2. Center manhole over meter
3. Turbine meters on all systems used exclusively for irrigation or fire protection where domestic use is to be used, use a standard meter
4. Bypass valve to be left in the open position
5. 6" grade ring required
6. North Salt Lake City to supply water meter
7. Minimum depth for water service to be 48 inches except where designated by the engineer

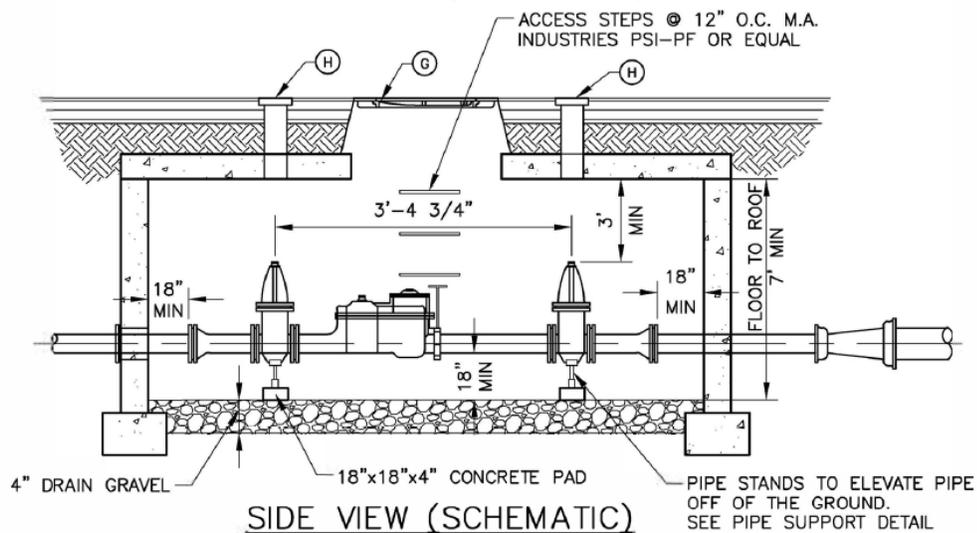
METER SIZE SPREAD TABLE	
METER SIZE	SPREAD
1 1/2"	13"
2"	17"

## Meters Larger than 2"



BYPASS MUST BE APPROVED BY PUBLIC WORKS DEPARTMENT

PLAN VIEW (SCHEMATIC)



SIDE VIEW (SCHEMATIC)

No.	ITEM
A	FLANGE X MJ ADAPTER
B	GATE VALVE WITH 2" X 2" OPERATING NUT
C	METER (SENSUS OMNI) *CONTRACTOR SUPPLIED
D	VALVE (TYPE & SIZE APPROVED BY CITY)
E	METER FLANGE

No.	ITEM
F	BYPASS METER
G	27" FRAME AND COVER WITH 2" HOLE TO FIT AMR
H	TOP SECTION OF VALVE BOX WITH LID
J	CONCRETE BOX
K	STAINLESS STEEL 316

4" VAULT CONSTRUCTION SHOWN AS AN EXAMPLE

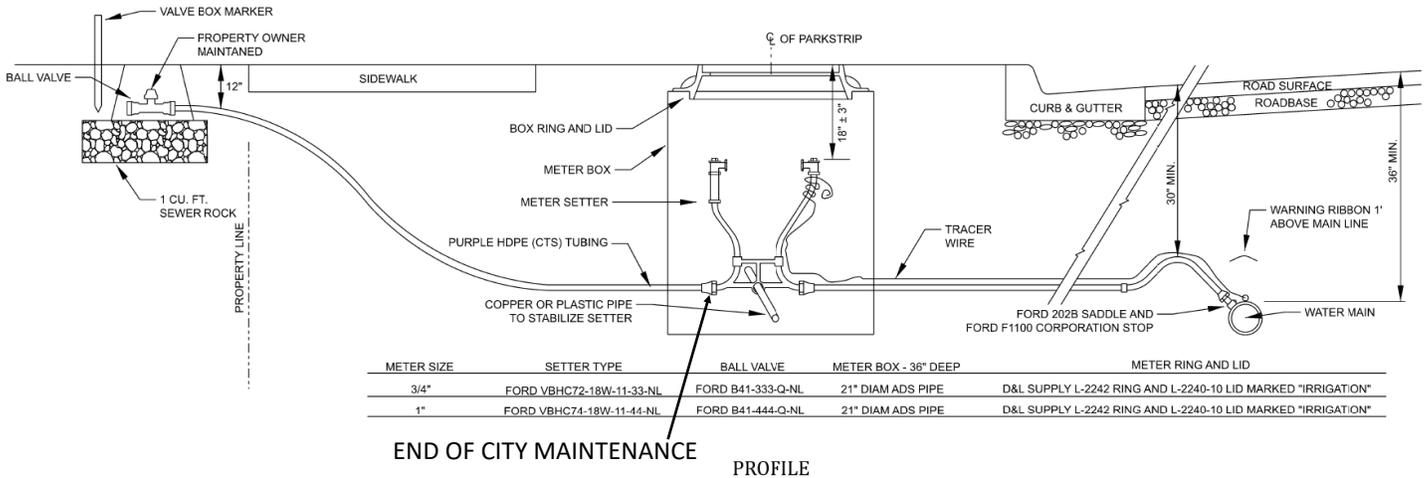
FOR WATER METERS 4" AND LARGER REFER TO 2017 APWA STANDARDS PLANS: 523,525, AND 527.

FOR METER BOX CONSTRUCTION ON 4" AND LARGER PLEASE SEE 2017 APWA STANDARDS PLAN 505



# Installation

## Irrigation Water Service Installation



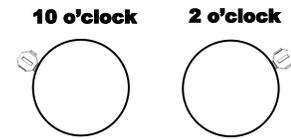
### SECONDARY WATER SERVICE

NTS

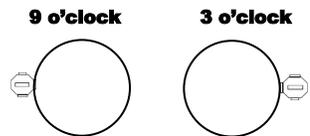
#### SECONDARY WATER SYSTEM NOTES:

- SECONDARY WATER MAIN LINES SHALL BE PURPLE PVC C900/905 (CLASS 150 - DR18). DUCTILE IRON PIPE MAY BE USED IF APPROVED BY CITY ENGINEER AND IF COVERED IN PURPLE POLYETHYLENE WRAP.
- SECONDARY WATER MAIN LINES SHALL BE CONSTRUCTED WITH A MINIMUM COVER OF 36" TO TOP OF PIPE.
- ALL MECHANICAL JOINT FITTINGS SHALL BE TORQUED AS RECOMMENDED BY MANUFACTURER.
- ALL BEVELED EDGES SHALL BE CUT OFF BEFORE BEING CONNECTED TO A MECHANICAL JOINT FITTING.
- ALL SINGLE SECONDARY METER BOX LIDS SHALL HAVE A 2" DIAMETER HOLE IN THEM. WHEN INSTALLED IN PAIRS, ONE LID SHALL HAVE A 2" DIAMETER HOLE AND THE BOXES SHALL BE CONNECTED BY A 2" CONDUIT, AS SHOWN ON THE DETAIL SHEET 18.
- ALL POLYETHYLENE LATERALS MUST HAVE A STAINLESS STEEL INSERT STIFFENER AT ALL CONNECTIONS
- TRACER WIRE TO BE INSTALLED FOR ALL WATER LINES CONNECTED TO THE SYSTEM OR IN CITY R.O.W.
- ALL SPLICES ON TRACER WIRE TO BE CONNECTED WITH 3M DBR (DIRECT BURIAL) CONNECTOR OR EQUIVALENT.
- SECONDARY METER BOXES SHALL NOT BE INSTALLED IN DRIVEWAY APPROACH.
- SECONDARY WATER METERS 3/4" TO 2" TO BE SUPPLIED AND INSTALLED BY NSL CITY, 4" AND GREATER TO BE SUPPLIED BY CONTRACTOR.
- METALLIC WARNING TAPE SHALL BE INSTALLED 1' ABOVE MAIN LINE.
- ALL METER SETTERS SHALL HAVE THE CORRECT SIZE PIPE INSTALLED IN BOTTOM OF EYELET TO PREVENT SETTER FROM TIPPING OR RESTING AGAINST METER BOX.

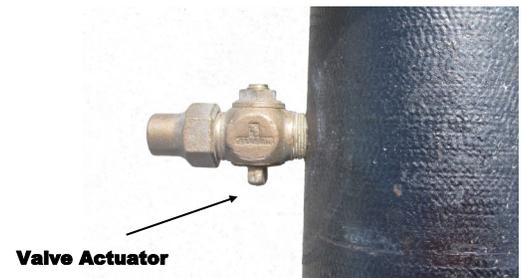
#### 3/4" & 1" Corporation Stop

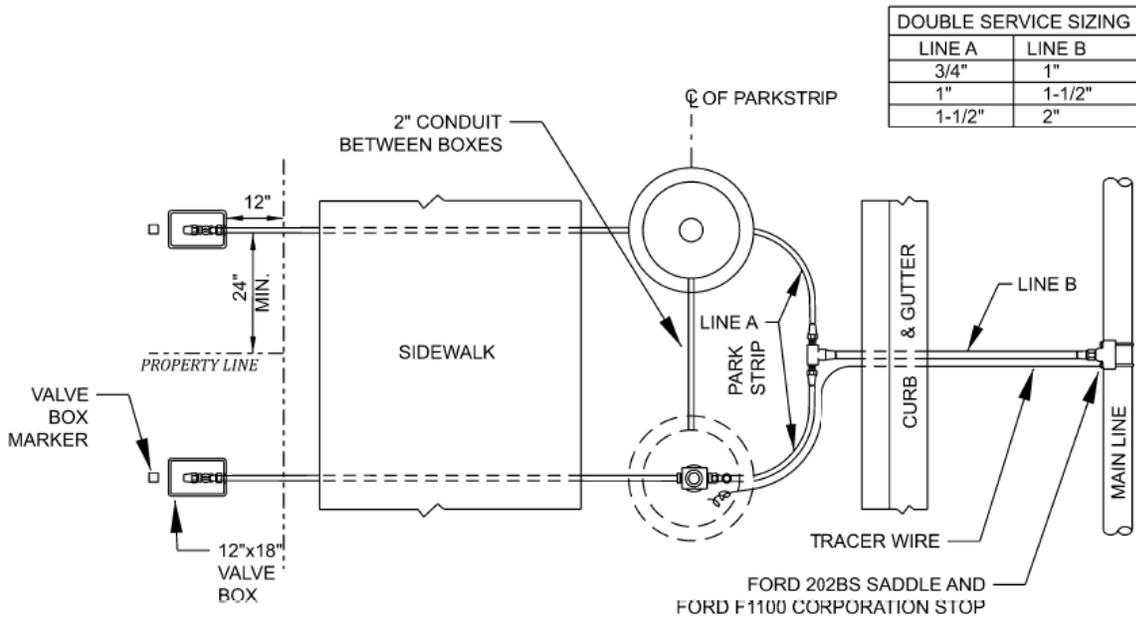


#### 1 1/2" & 2" Corporation Stop



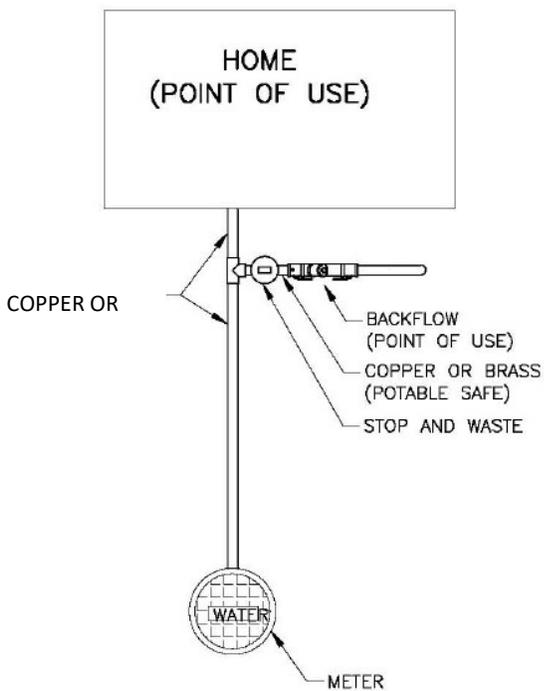
#### Plan View of Corporation Stop Installation



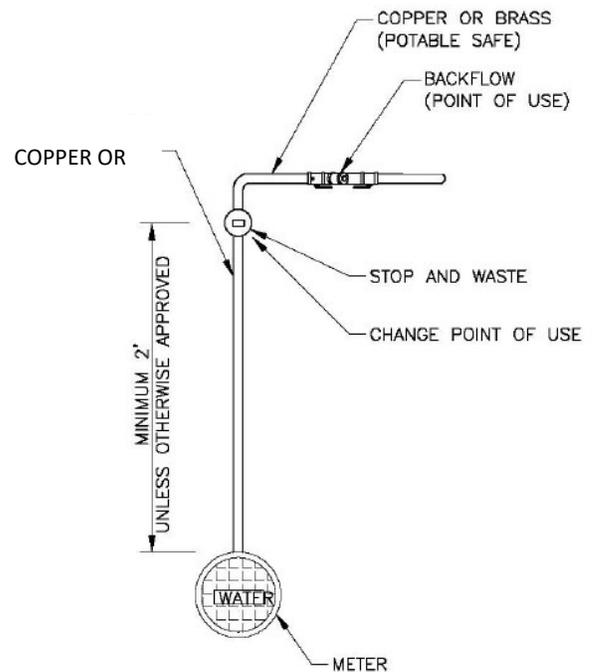


**PLAN - DOUBLE SERVICE**  
IRRIGATION ONLY-2" MAX

## Drinking Water Point of Use Information



**HOME CONNECTION**



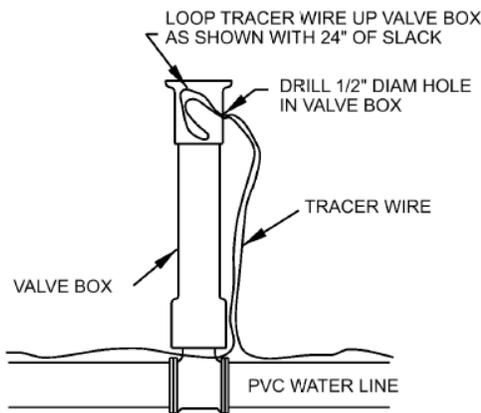
**SPRINKLER/IRRIGATION CONNECTION**



# Installation

## Valve Installation

1. All valves shall be set perpendicular to the road surface.
2. All nuts and bolts shall be given a heavy coat of FM food quality grease.
3. Valves should be wrapped with polyethylene with only the operating nut exposed. The valve should be taped using 2" wide 20 mill tape in a way to not infringe on the operation of the valve.
4. North Salt Lake City may request that a concrete block be placed underneath each valve and wedged tightly to support the weight and prevent slippage.
5. Valve boxes of the sliding adjustable type must be centered over the nut or the valve so that a valve key can access the nut and open and close it smoothly. The contractor is also responsible to make sure all valve boxes are clear of dirt and debris, open and ready for operation.
6. All valves are required to have a concrete collar with minimum 24" diameter collar with 6" deep concrete with #4 bar in hoop (See drawing below).



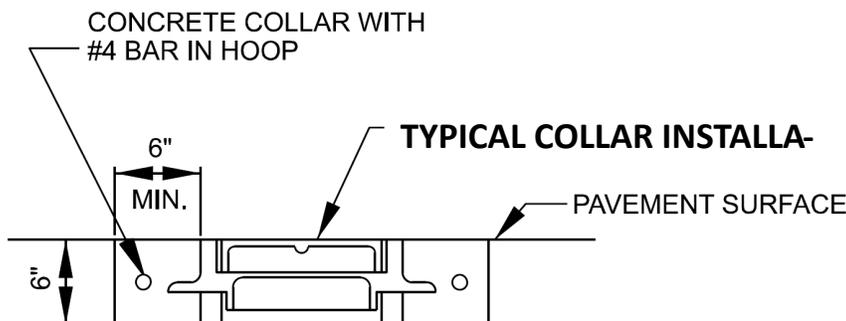
**TRACER WIRE INSTALLATION  
AT VALVE BOX**

NTS

### TRACER WIRE NOTES:

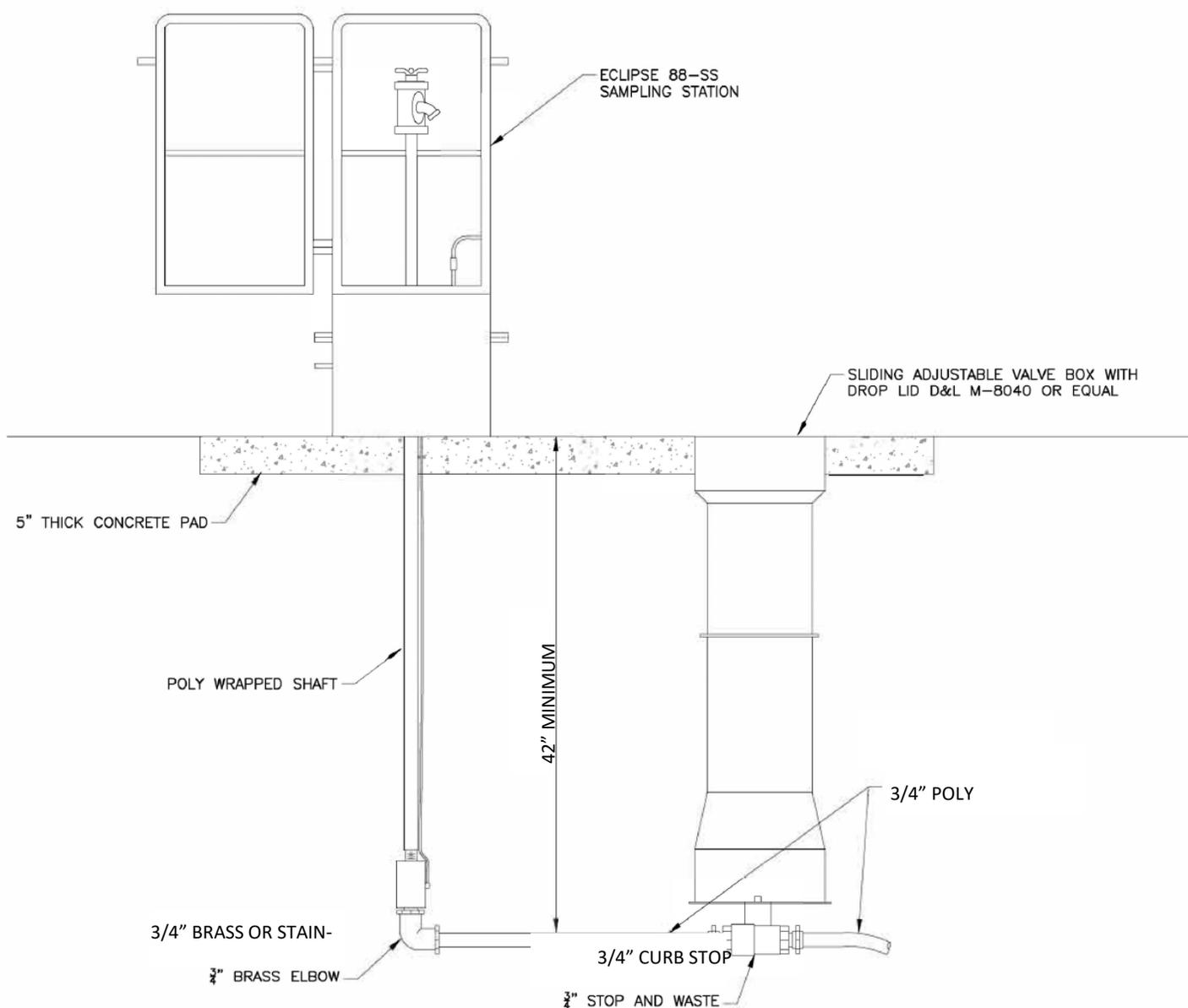
1. ALL TRACER WIRE SHALL HAVE HDPE INSULATION INTENDED FOR DIRECT BURY, COLOR-CODED PER APWA STANDARDS FOR SPECIFIC UTILITY BEING MARKED
2. OPEN TRENCH TRACER WIRE SHALL BE #12 AWG COPPER CLAD STEEL, HIGH STRENGTH WITH MINIMUM BREAK LOAD OF 450 LB WITH MINIMUM 30 MIL HDPE INSULATION THICKNESS
3. DIRECTIONAL DRILLING / BORING TRACER WIRE SHALL BE #12 AWG COPPER CLAD STEEL, EXTRA HIGH STRENGTH WITH MINIMUM 1,150 LB BREAK LOAD WITH MINIMUM 30 MIL HDPE INSULATION THICKNESS
4. PIPE BURSTING / SLIP LINING TRACER WIRE SHALL BE 7x7 STRANDED COPPER CLAD STEEL, EXTREME STRENGTH WITH 4,700 LB BREAK LOAD, WITH A MINIMUM 50 MIL HDPE INSULATION THICKNESS
5. ALL MAINLINE TRACER WIRES MUST BE INTERCONNECTED IN INTERSECTIONS, AT MAINLINE TEES, AND MAINLINE CROSSES.
  - A. AT TEES, THE THREE WIRES SHALL BE JOINED USING A SINGLE 3-WAY LOCKABLE CONNECTOR
  - B. AT CROSSES, THE FOUR WIRES SHALL BE JOINED USING A 4-WAY CONNECTOR. USE OF TWO 3-WAY CONNECTORS WITH A SHORT JUMPER WIRE BETWEEN THEM IS AN ACCEPTABLE ALTERNATIVE
6. DIRECT BURY WIRE CONNECTORS SHALL INCLUDE 3-WAY LOCKABLE CONNECTORS AND MAINLINE-TO-LATERAL LUG CONNECTORS SPECIFICALLY MANUFACTURED FOR USE IN UNDERGROUND TRACER WIRE INSTALLATION. CONNECTORS SHALL BE DIELECTRIC SILICON FILLED TO SEAL OUT MOISTURE AND CORROSION, AND SHALL BE INSTALLED IN A MANNER SO AS TO PREVENT ANY UNINSULATED WIRE EXPOSURE
7. NON-LOCKING FRICTION FIT, TWIST ON, OR TAPED CONNECTORS ARE PROHIBITED

## Collar Installation



## Sampling Station Installation

1. 3/4" tap shall be installed using the same methods as a typical water service.
2. Blue HDPE (CTS) tubing must be installed from the water main to the sampling station.
3. All connections shall be lead free brass or stainless steel.
4. All work must be inspected by North Salt Lake City personnel prior to being backfilled.
5. Bottom of sampling station enclosure needs to be wrapped in 20 mill tape and set in concrete pad for support using the same criteria as a fire hydrant concrete pad.



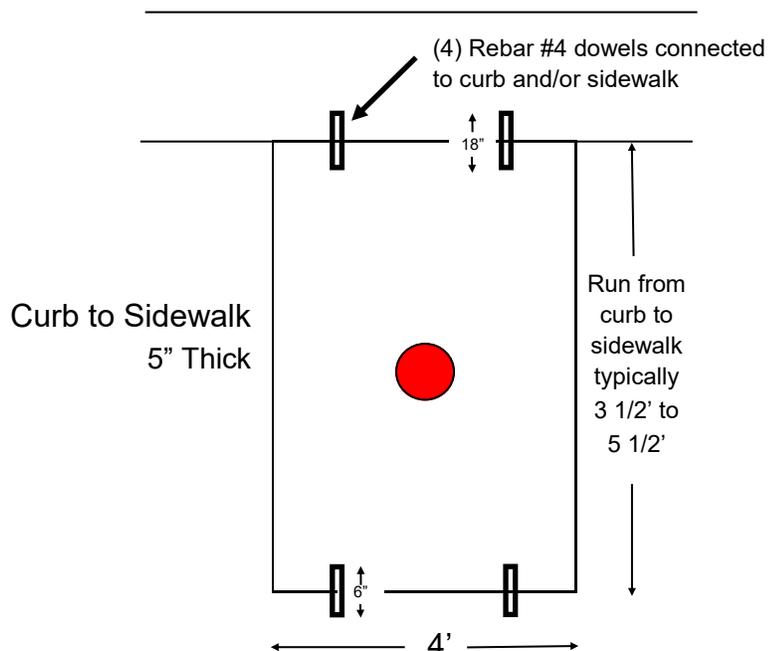
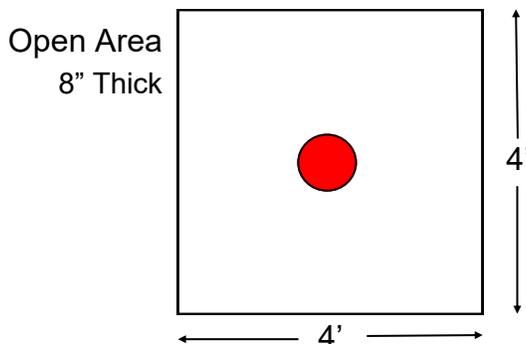


# Installation

## Hydrant Installation

- Hydrants shall be set at the location shown and bedded on a firm foundation. Each hydrant shall be set in true vertical alignment. All nuts and bolts below the finished grade shall be given a heavy coat of FM food quality grease. Every thing below the finished grade shall be wrapped completely with polyethylene and tapping appropriately. Polyethylene shall be cut at the bottom to allow drainage from the drain ports.
- Hydrants shall be set a minimum of 1 foot from the back of the curb.
- Concrete thrust blocks shall be placed between the rear of the hydrant inlet and undisturbed soil at the end of the trench. Special care shall be taken so that concrete does not plug the drain port. 6 1/2 Bag Class 3000 is the minimum requirement for concrete.
- When there is a bell between an auxiliary valve and a hydrant there must be a locking gasket and blocking installed. The bell shall be located near the auxiliary valve. Anytime the distance between the auxiliary valve and hydrant is under 17' a solid length of pipe must be installed.
- During backfill pea gravel should be placed around the rear of the hydrant to a point 12 inches above the drain port.
- No hydrant shall be backfilled until directed by a North Salt Lake City inspector.
- All hydrant bonnets must be painted by the contractor to coincide with the size of the water main serving the hydrant, specifically the larger main in the street not the 6" auxiliary line between the main and the hydrant (See color code on page 22). Must be painted with Sherwin Williams B-54Z Industrial Enamel or equal.
- Concrete pads must be installed around the completed hydrant, in an open area they are to be 4' X 4' and in a park strip area it should be 4' wide and run from curb to sidewalk (See drawing below). The concrete should be 6 1/2 Bag Class 3000, concrete will be 5" thick on a curb to sidewalk application and 8" thick in a open area installation. If the bolts on the hydrant are touching or are in the concrete a hydrant riser must be installed. Curb to sidewalk installation will have four rebar #4 dowels connected to the curb and/or sidewalk.
- Concrete finish grade shall be to bury line depth.

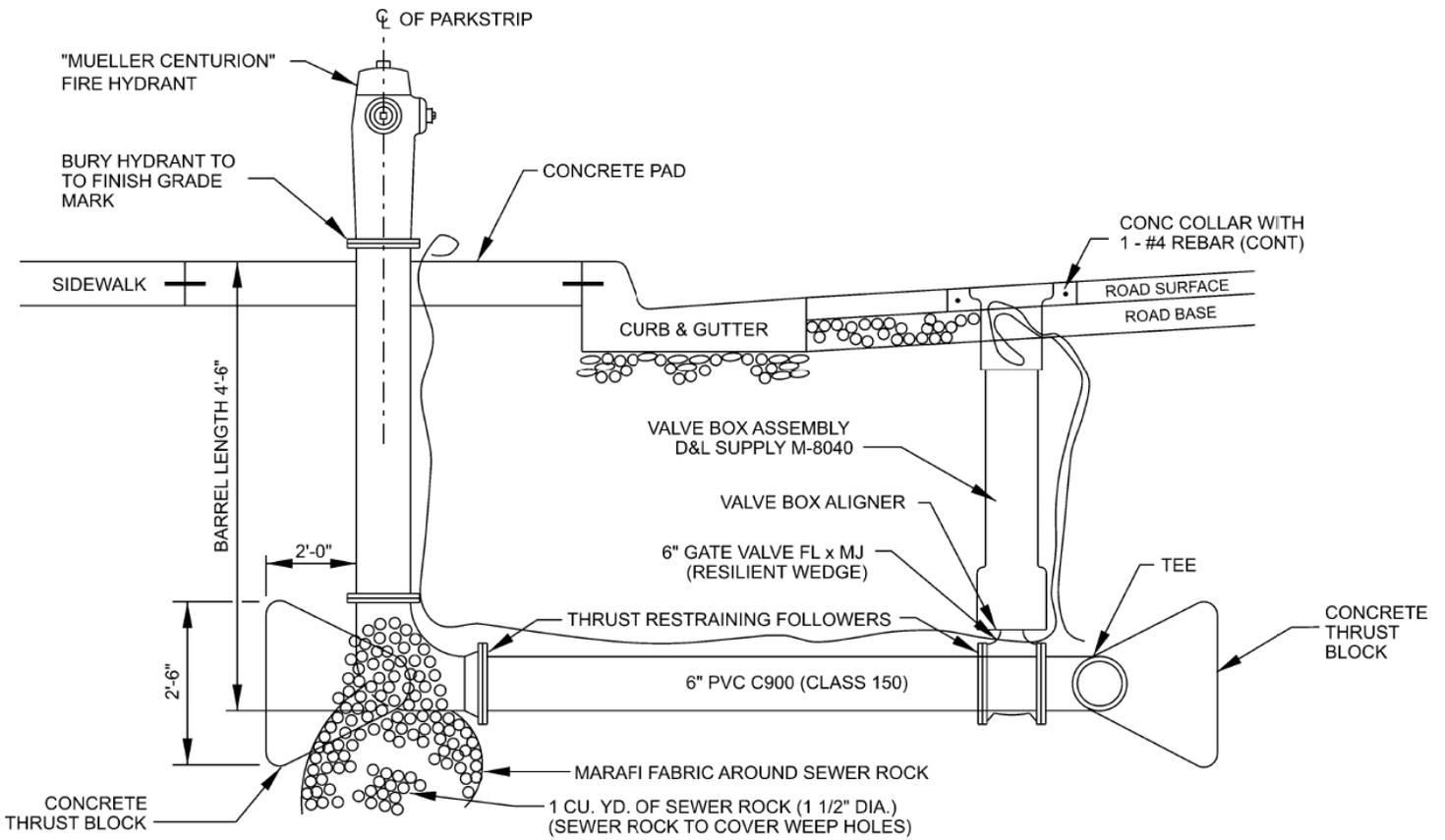
## Hydrant Concrete Pads



## Hydrant Bonnet Color Code

Fire hydrants shall be color coded to coincide with the size of the water main serving the hydrant.

- |                             |   |        |
|-----------------------------|---|--------|
| 1. 4" and smaller main..... |  | White  |
| 2. 6" main.....             |  | Red    |
| 3. 8" and 10" main.....     |  | Orange |
| 4. 12" or larger main.....  |  | Green  |



## FIRE HYDRANT CONNECTION

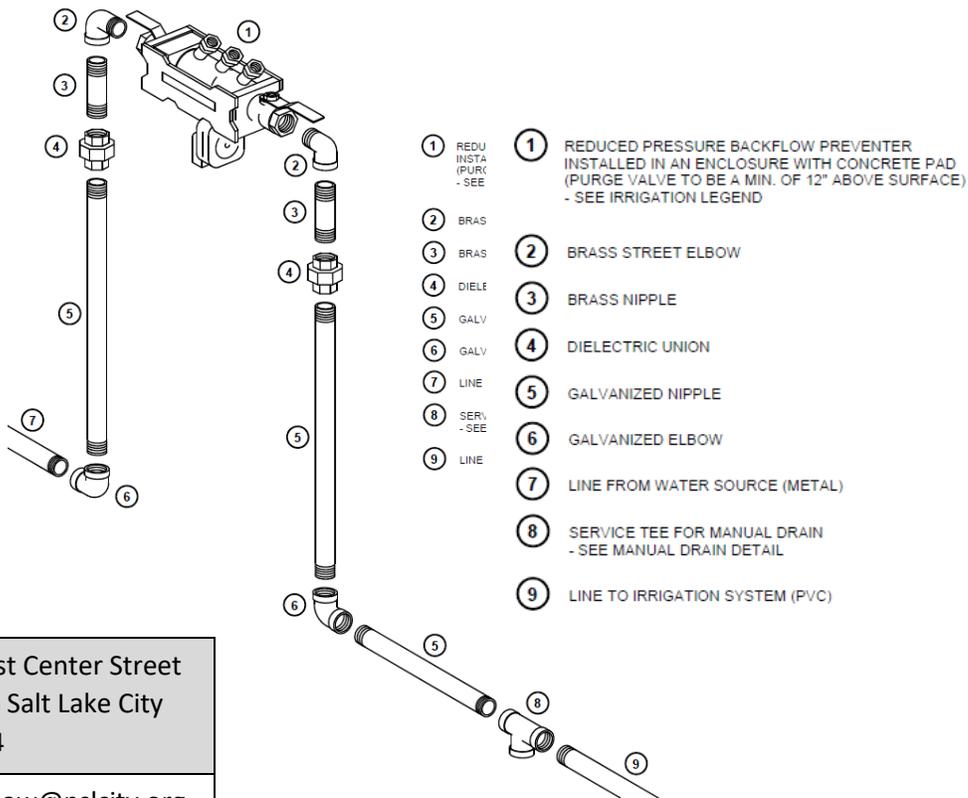
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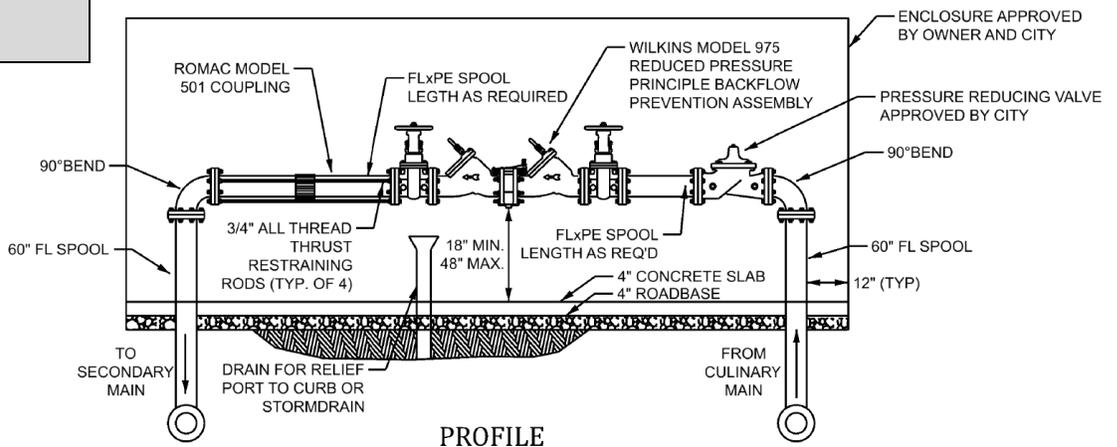
# Installation

## Backflow Prevention Requirements

- Whenever North Salt Lake Public Works Department deems a service connection's water usage contributes a sufficient hazard to the water supply, an approved backflow prevention assembly shall be installed on the service line of the identified consumer's water system, at or near the property line, or immediately inside the building being served; but, in all cases, before the first branch line leading off the service line.
- Backflow device must be tested within ten days of being placed in service.
- Device must be tested annually by a Certified Backflow Tester with results sent to "Backflow" through standard mail, email or fax referencing "Backflow" in the subject line.
- All assemblies shall be installed as required by International Plumbing Code, Utah State amendments and City Code



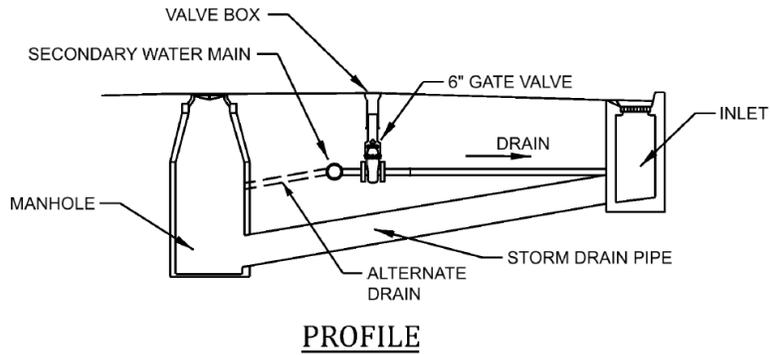
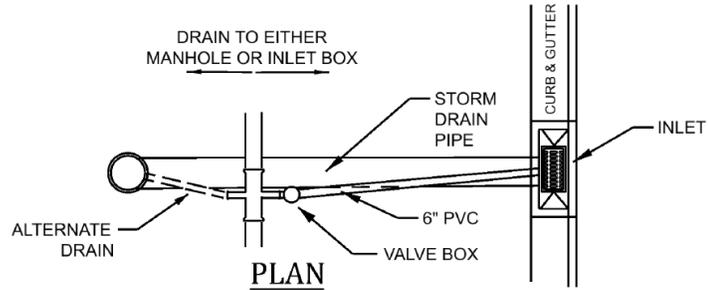
Mail	10 East Center Street North Salt Lake City 84054
Email	backflow@nslcity.org
Fax	801.397.0640



## Secondary Water Drain

### SECONDARY DRAIN NOTES:

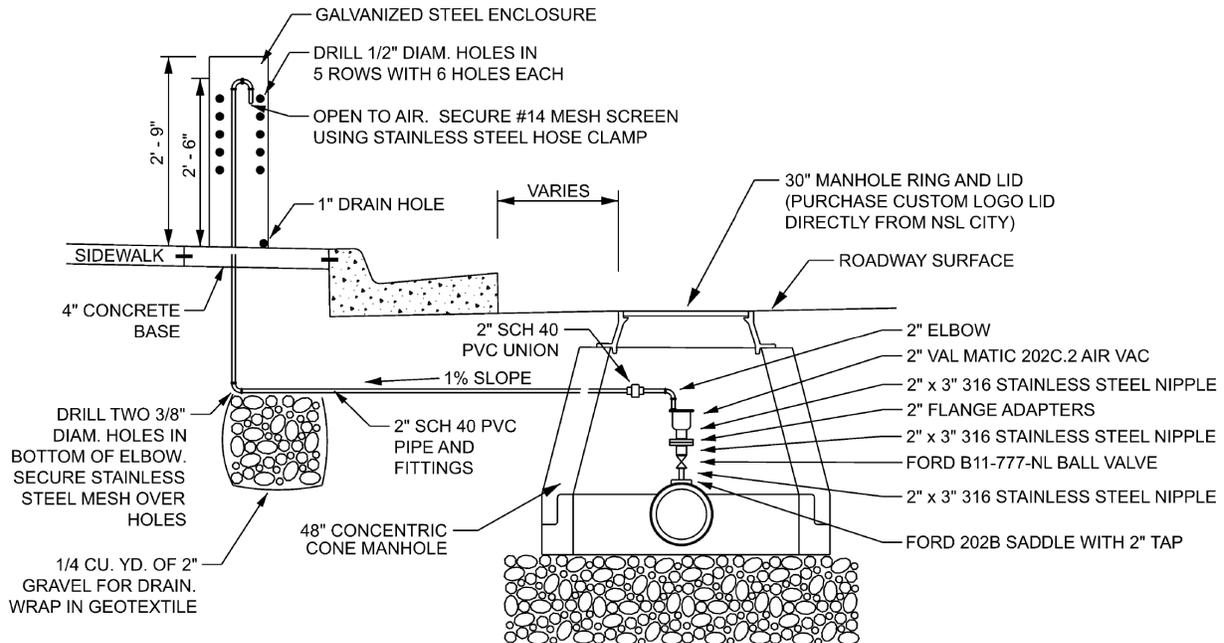
1. DRAIN POINTS ON THE SECONDARY WATER MAIN SHALL BE INSTALLED AT LOW POINTS AND SHALL BE PIPED TO EITHER THE STORM WATER COLLECTION SYSTEM OR SEWER MANHOLE (WHERE SPECIFICALLY APPROVED BY SOUTH DAVIS SEWER DISTRICT).
2. DRAIN VALVE BOX LIDS SHALL BE MARKED "DRAIN"



## SECONDARY WATER MAIN DRAIN

NTS

## Air Vac Requirements



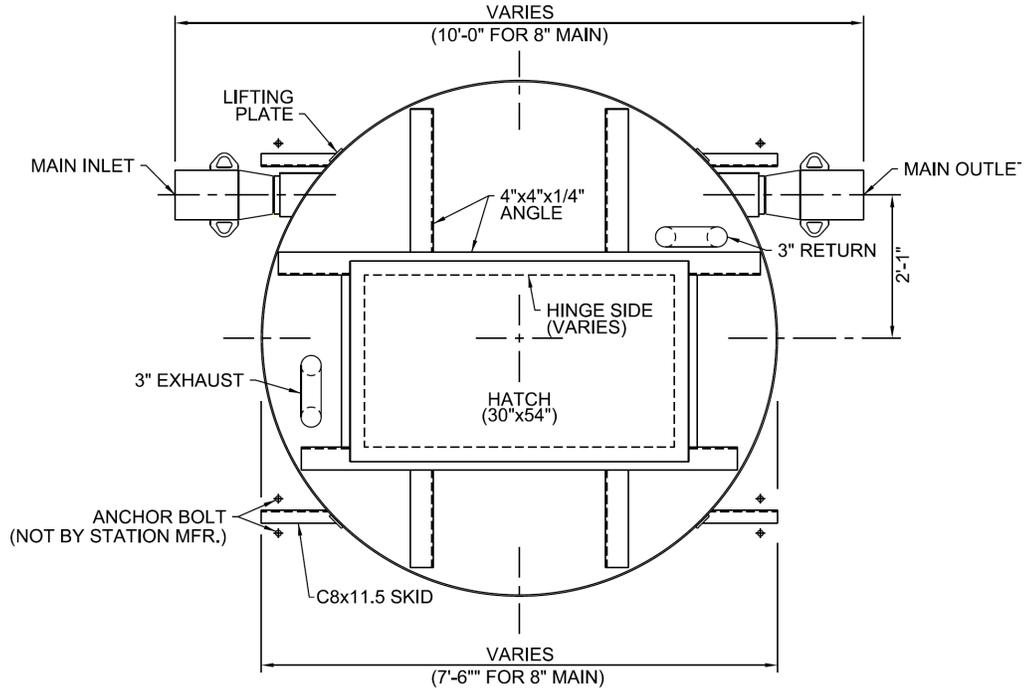
### CULINARY AND SECONDARY

## AIR VAC

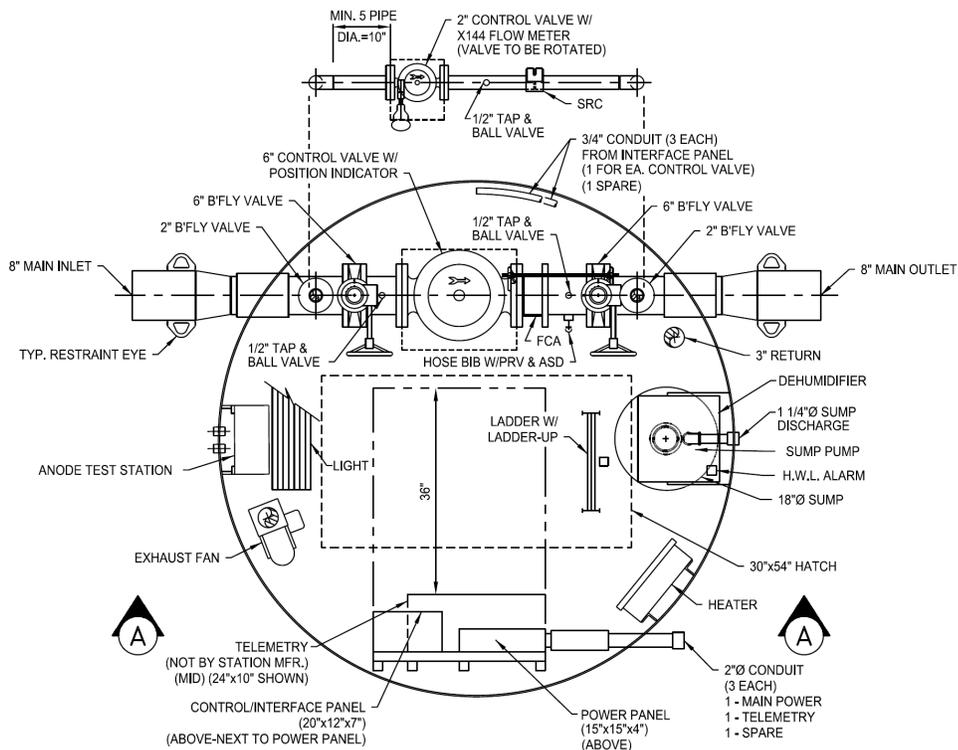
NTS



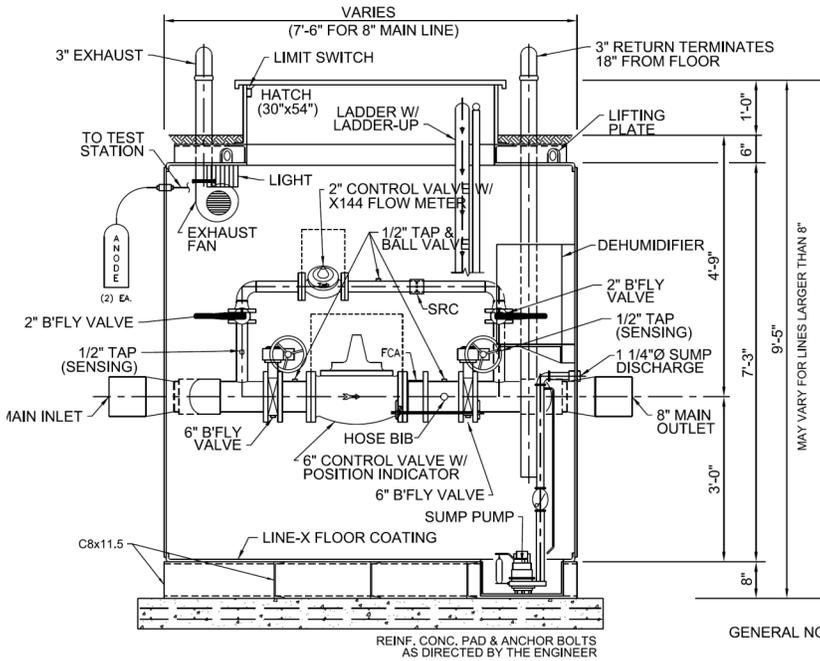
# PRV Station Requirements



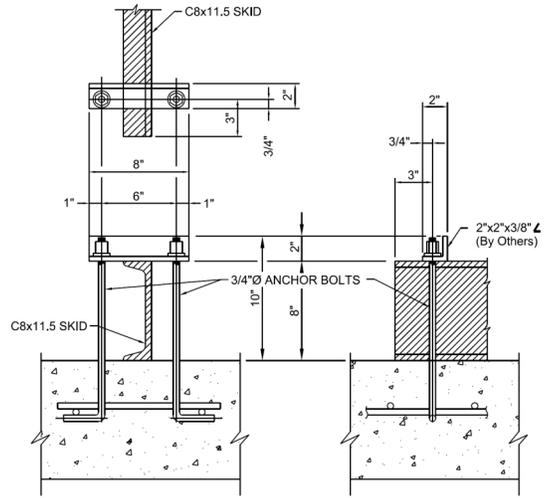
**EXTERIOR PLAN**



**INTERIOR PLAN**



**SECTION A-A**  
INTERIOR PIPING SIZES ARE PROVIDED FOR 8" MAIN LINE



**TYPICAL ANCHOR DETAIL**

NOTE: ANCHOR CLIPS, ANCHOR BOLTS & NUTS BY INSTALLER

**GENERAL NOTES:**

1. THE ACTUAL SIZE OF THE CONTROL VALVES, PIPES, AND BUTTERFLY VALVES WILL VARY DEPENDING ON FLOW REQUIREMENTS OF THE STATION.
2. THE MAIN PRV WILL BE 2" SMALLER THAN THE WATERLINE, THE DRAWING IS BASED ON AN 8" MAIN LINE, BUT ALL PRV'S SHALL BE DESIGNED AND APPROVED BASED ON ACTUAL LINE SIZES.
3. THE BYPASS LINE SHALL BE 2" UNLESS THE MAIN LINE IS 14" DIAMETER OR MORE, IN WHICH CASE THE BYPASS LINE AND ITS CORRESPONDING FITTINGS, VALVES, ETC. SHALL BE UP-SIZED TO 4" DIAMETER.
2. FITTINGS, VALVES, SPOOLS, REDUCERS, ETC. ARE REPEATED ON THE DOWNSTREAM SIDE OF THE PRESSURE REDUCING VALVES.
3. ALL FLANGED CONNECTIONS SHALL BE MADE USING 316 STAINLESS STEEL BOLTS.
4. ALL PIPING AND EQUIPMENT SHALL BE ADEQUATELY SUPPORTED AND BRACED.
5. CAPSULE AND STRUCTURAL STEEL SHALL CONFORM TO ASTM A-36.
6. SCHEDULE 40 STEEL PIPE.
7. MANUFACTURER REQUIRES A 3-4 MONTH LEAD TIME PRIOR TO DELIVERY OF PRV.
8. PLATE AND STRUCTURAL STEEL: ASTM A36.
9. ALL PILOTING SHALL BE STAINLESS STEEL COMPRESSION FITTINGS, NO FLARED FITTINGS.
10. ALL VENT AND INTAKE PIPES SHALL REQUIRE ENCLOSURE AS PER DETAIL ON SHEET 15 (SHOWN FOR AIR VAC).
11. ALL PRV'S SHALL BE EPOXY COATED INSIDE AND OUT, INCLUDING ALL INTERNAL PARTS.
12. TWO ANODES WITH TEST METER ARE REQUIRED.
13. THE PRV STATION SHALL HAVE ALL TUBING AND EQUIPMENT NECESSARY TO ACCEPT INSTALLATION OF TELEMTRY WIRING AND PLC, INCLUDING PRESSURE TRANSMITTERS AND CLA-VAL FLOW MEASURING SYSTEM X133. ALL TELEMTRY SHALL BE DONE BY OTHERS.
14. HATCH SHALL BE INSTALLED IN PARK STRIP, WITH HINGE TOWARDS CURB (OPENING TOWARDS THE SIDEWALK). IN THE EVENT OF A REPLACEMENT PRV WHERE IT IS NOT FEASIBLE TO INSTALL PRV STATION BENEATH CURB AND PARK STRIP AREA, THE PRV STATION SHALL BE ORDERED FROM MANUFACTURER WITH A HINGED, WATER-TIGHT, TRAFFIC RATED ROUND HATCH (ONLY IF APPROVED BY CITY ENGINEER IN ADVANCE).

**CONTRACTOR NOTES:**

1. CONTRACTOR SHALL PROVIDE FULL METER ENCLOSURE (STRONGBOX NEMA TYPE 3R MPE-SERIES STAINLESS STEEL) FOR METER BASE. CONTRACTOR SHALL RUN POWER TO METER BASE. PRV STATION SHALL BE A FULLY FUNCTIONING STATION.
2. INSTALL PRV STATION SLOPING TO THE SUMP (LOCATION MAY VARY FROM PLAN VIEW AS PER SITE CONDITIONS). STATION MUST BE ORDERED WITH CORRECT SUMP LOCATION.
3. SUMP PUMP AND DEHUMIDIFIER MUST BE POWERED UP AND TURNED ON IMMEDIATELY AFTER THE STATION IS SET IN PLACE.
4. DO NOT SHIM STATION. IT IS INTENDED THAT THE MAIN FLOOR MEMBERS BE IN CONTINUOUS CONTACT WITH THE CONCRETE PAD. MUST HAVE MINIMUM 2" GRADE.
5. WATERLINE SHALL BE INSTALLED TO PREVENT THE NEED FOR AN AIR VAC WHEREVER FEASIBLE. THIS SHALL REQUIRE THE WATERLINE TO BE GRADUALLY DEEPENED ON THE DOWNHILL SIDE OF THE PRV STATION FOR WHATEVER DISTANCE IS NECESSARY TO REACH THE REQUIRED DEPTH OF THE INFLOW/OUTFLOW LINES.
6. SUMP DISCHARGE LINE SHALL BE CONNECTED TO NEAREST STORM DRAIN MANHOLE. IN THE EVENT THAT THERE IS NO STORM DRAIN IN THE STREET, CITY ENGINEER SHALL PROVIDE ALTERNATE DISCHARGE PLAN.
7. POWER PEDESTAL AND SCADA BOX SHALL BE INSTALLED AT NEAREST PROPERTY LINE, LOCATION AS PER ENGINEER IF DISTANCE TO PROPERTY LINE IS GREATER THAN 50 FT.

ALL SPECIFIC PIPE SIZES PROVIDED ARE FOR AN 8" MAIN LINE PIPE. FOR OTHER WATERLINE SIZES, DIMENSIONS AND INTERIOR PIPE SIZES WILL VARY.

PRESSURE REDUCING STATION MANUFACTURED BY: ENGINEERED FLUID, INC.  
P.O. DRAWER 723 • CENTRALIA, ILLINOIS 62801 • 618-533-1351



# Testing Requirements

## Disinfection & Hydrostatic Testing Requirements

North Salt Lake City recognizes the American Water Works Association (AWWA) standard C651-92 is widely accepted and recognized within the water industry as the guide to use for main water line disinfection. However, North Salt Lake City has found additional safety measures must be observed to protect the water quality within newly constructed water mains.

For the purpose of main water line disinfection, we recommend using one of the methods described in the AWWA standard C651-92. For ease and safety purposes we recommend using a granular type of hypochlorite. However, any of the disinfection methods given would be adequate.

Once a section of pipe has been completed and is ready to be filled the testing process can begin. At this point the following steps should be taken.

1. North Salt Lake City personnel will slowly fill the section of pipe that is to be tested. Contractors are not to operate valves at any time.
2. Once the line has been filled, North Salt Lake City personnel will take a chlorine residual sample at two different locations. There must be a free chlorine residual greater than 100mg/L to proceed to step 3. If the chlorine residual is less than 100mg/L then steps must be taken to chlorinate the line again before testing can proceed.
3. The line must remain static for a minimum of 24 hours to allow the disinfection process to take place.
4. After the minimum 24 hour period North Salt Lake City personnel will again take two chlorine residual samples to verify that the free chlorine residual is greater than 100mg/L. If the residual is still greater than 100mg/L then testing can proceed and the main can be flushed. While disposing of chlorinated water care must be taken not to pollute the environment in any way and in compliance with UPDES regulations.
5. After flushing has been completed North Salt Lake City personnel will take a chlorine residual test to make sure the waterline is free from chlorine. If chlorine is present more flushing will be needed. Once the line is chlorine free testing can proceed.
6. North Salt Lake City personnel will take the first bacteriological samples. One sample is required for every 800 feet of being put into service. Sample results take a minimum of 24 hours to receive and sometimes longer based on when the sample is received by the lab. If the sample results are negative you may proceed to step 8, if the sample results are positive then additional flushing will be required along with repeat samples, all repeat samples will be at the expense of the contractor.
7. Hydrostatic testing shall comply with AWWA Standard C600-10. However, North Salt Lake City requires that a pressure of 200 psi be maintained for two hours. Special care must be taken during the pressure test not to contaminate the water in the main. All components of the pressure test must be supplied by the contractor.
8. A second set of bacteriological samples will now be taken from the previous sample points used in step 7. If the sample results return negative the water main will be accepted and put into service. **Positive results will result in further testing at the contractors' expense as well as a charges for the water used. Also the contractor will be required to pump in chlorine bleach (T-Chlor, Sodium Hypochlorite) to disinfect the line also at their expense.**



## Fire Flow Testing

Fire flow testing is the determination of actual flow conditions within a water system. North Salt Lake City does not perform the actual fire flow test but requires North Salt Lake City and South Davis Metro Fire personnel be present during the testing and requires that all results be submitted to North Salt Lake City.

- Fire flow test should be arranged in advance with North Salt Lake City personnel.
- Hydrant fire flow shall be performed by a certified contractor and paid for by the developer.
- North Salt Lake City personnel will open and close all hydrants slowly and fully to prevent a pressure surge. It is unlawful for anyone besides North Salt Lake City personnel to operate a fire hydrant.
- Special care should be taken to make sure that water from the flow test does not impact traffic or do damage to property. North Salt Lake City reserves the right to stop the testing process at anytime if personnel believes the test is creating a negative environment in any way.
- All results of the fire flow test must be submitted to North Salt Lake City Water Department and South Davis Metro Fire through standard mail, email or fax.



North Salt Lake City Water	
Mail	c/o John Lovato 642 North 400 West North Salt Lake City, Utah 84054
Email	johnl@nslcity.org
Fax	801.397.0640

South Davis Metro Fire	
Mail	c/o Casey Vorwaller 255 South 100 West P.O. Box 1547 Bountiful, Utah 84011
Email	cvorwaller@sdmetrofire.org
Fax	801.677.0166



**The City of North Salt Lake**  
10 East Center Street  
North Salt Lake City, Utah 84054  
Phone 801.335.8700  
[www.nslcity.org](http://www.nslcity.org)



# PUBLIC WORKS



**RESOLUTION NO. 2020-07R**

**A RESOLUTION OF THE GOVERNING BODY OF THE CITY OF NORTH SALT LAKE ADOPTING STANDARDS AND SPECIFICATION MANUALS FOR PUBLIC INFRASTRUCTURE INCLUDING STREETS, WATER, STORM WATER AND PARKS.**

**WHEREAS**, the City desires to protect the public infrastructure by updating and outlining City construction manuals to be more consistent with industry standards and current practices; and

**WHEREAS**, City staff from the Public Works, Engineering and Community Development Departments have collaboratively developed a new set of construction standards manuals for City infrastructure including Streets, Water, Storm Water and Parks; and

**WHEREAS**, these documents were created to guide developers, engineers and contractors in the design, repair and replacement of the City’s critical infrastructure and will apply to all new development and City projects moving forward; and

**WHEREAS**, technical revisions and corrections may be completed from time to time, as needed, to maintain consistency with industry standards.

**NOW THEREFORE, BE IT RESOLVED** by the Governing Body of the City of North Salt Lake that:

**Section 1.** The Standards and Specification Manuals for Streets, Water, Storm Water and Parks are hereby adopted and shall be used in the construction of all public infrastructure.

**Section 2. Effective Date.** This Resolution shall become effective immediately upon passage.

APPROVED AND ADOPTED by the City of North Salt Lake, Utah, on this 21st day of April, 2020.

BY THE CITY COUNCIL:

\_\_\_\_\_  
Len Arave, Mayor

City Council Vote as Recorded:

<u>Name</u>	<u>vote</u>
Lisa Baskin	_____
Natalie Gordon	_____
Brian Horrocks	_____
Ryan Mumford	_____
Stan Porter	_____

ATTEST:

\_\_\_\_\_  
Linda Horrocks, City Recorder



# CITY OF NORTH SALT LAKE

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10 East Center Street  
North Salt Lake, Utah 84054  
(801) 335-8700  
(801) 335-8719 Fax

Len Arave  
Mayor

Ken Leetham  
City Manager

## MEMORANDUM

**TO:** Honorable Mayor and City Council

**FROM:** Ken Leetham, City Manager

**DATE:** April 21, 2020

**SUBJECT:** Discussion of Proposed FY2021 Budget

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As planned, we have a discussion item on the City Council agenda for the upcoming Fiscal Year 2021 budget. Since our meeting on March 31<sup>st</sup> the City's executive staff has worked very hard to make revised assumptions and find ways to create a funding plan for the remainder of the current fiscal year and the upcoming fiscal year that will allow the City to continue to operate at adequate service levels without sacrificing a great deal of progress on our long-term objectives. As a reminder, the subject of all of our review is the General Fund and funds impacted by sales tax and direct market changes; that is, the information in this memo and attachments is not all funds of the City.

This memo, together with the budget schedules and attached information, is a description of what we have done for both fiscal years and will be the basis of our discussion on Tuesday night. In the attached schedules, there is a summary of what we are proposing for the current fiscal year (2020) and the proposed fiscal year (2021). These two sheets are titled, "Schedule of Changes to General Fund Revenues and Expenditures" and are found behind the General Fund Schedule which also contains the summaries for both fiscal years.

### Revenue Projections

*Sales Taxes* – We have adjusted our revenue projections for the current fiscal year by \$580,000. We also project a 25% reduction for FY 2021 in sales tax. We made these projections by looking specifically at every sales tax payer in NSL and making detailed assumptions (guesses) about the remainder of the fiscal year. We also looked at month-over-month historical data and reduced our current projections by at least 25%. These reductions have been made in sales tax, Class C road revenue and gasoline taxes. For FY 2021, the affected sales taxes have been reduced by 25%.

*Development-Related Revenues* – We have carefully altered our development-related revenues also for both fiscal years. Prior to this current financial challenge, Sherrie Llewelyn was keeping excellent data on development and growth projections. She has recently reached out to every developer and builder that are included in those projections and we have used data gathered in this way to make projections. I have also personally spoken to a few of our development groups in this regard. The principal feedback we are getting is "cautious optimism". Developers are completing the projects that are approved and

then taking a less aggressive stance on newer projects that are not yet financed. We also have a developer on the Gun Club property who is moving forward and whose project will be a significant source of development revenue whether it happens in the current fiscal year or the next. For your information, the Gun Club development revenue is projected in the current fiscal year. In short, we have adjusted our estimates downward over both fiscal years and been very conservative in our estimation of revenues. So, even though you see an increase in development revenue, this increase is based upon our discussions with entities who are now prepared to pay application and permitting fees.

*Other Revenue Reductions* – You will see on the attached schedule of changes that we also reduced recreation revenues, court revenues and park reservation revenues for the current fiscal year due to the impacts of not being able to meet as groups and canceling our summer recreation program.

### Expenditure Proposals

#### *Current Fiscal Year*

As I mentioned above, the executive staff has worked hard to constrict expenditures within a specific framework. In the current fiscal year we have stopped most discretionary spending for the rest of the fiscal year. That strategy, combined with our revised revenue projections, ends up using approximately \$317,000 in general fund balance (see the General Fund Schedule). The Council should note though that even though we are projected to use fund balance, we also added a significant amount to our cash balance this year by transferring to the Capital Projects Fund. So, this might be more correctly stated that we added less to our fund balance than originally projected.

#### *Proposed Fiscal Year*

For FY 2021, we have made many adjustments in order to reduce the size of General Fund expenditures. The spirit of what we have proposed is to defer or put off expenditures and projects rather than “cut” things out of the budget. I would also note that many of these strategies work very well for a one-year period, but will not be good long-term strategies. With all of the changes being proposed, we estimate a use of almost \$47,000 in Fund Balance.

*Impacts of changes on City Employees* – In the attached schedule for FY 2021, that there are no COLAs or merit increases for any City employees. It should be noted that the 8% adjustment to wages in the Police Department is still included in the General Fund proposal. This is because we are trying very hard to stay competitive and during the March 31 budget retreat you received information about our turnover and hiring experiences for Police. I have also attached at the end of the schedules, salary data that has been compiled about what other cities and towns are doing in the upcoming fiscal year.

Other changes impacting employees include the elimination of the sick leave buyout program and the removal of the incentive or equalization contribution for employees whose health insurance premiums are significantly less (single/double vs. family premiums). This incentive is currently paid into qualified retirement accounts and so does not come directly out of any employee’s wages. This is a set of benefits that we would hope and expect would be returned at a future time when the City Council feels we can re-instate them.

There are 2.5 FTE that we are proposing to remove from the General Fund. They are: City Planner,

Management Analyst and ½ of a Police Officer (defer hiring until January). You may remember that the elimination of the Management Analyst position would have made room for a new Communications position as we discussed in our last meeting. So, the employee in the Management Analyst position will be terminated by June 30 and we will not fill that position or create the new Communications position.

*Fleet Fund Savings* - The attached schedule of changes also contains a proposal to not purchase any new vehicles in the upcoming fiscal year and to not do a charge back to General Fund departments in the fleet fund. This is a doable and reasonable approach for one year, but would not be a good long-term strategy.

*Miscellaneous Expenditure Adjustments* – There are many reductions that are minor, but when taken together have produced a large savings in the General Fund. We have gone through all departments and taken almost \$196,000 out of operations. We also include additional proposed reductions by not having Liberty Fest activities or a recreation program in FY 2021.

#### *A final word about North Salt Lake*

We are about to enter a challenging period of time when it comes to managing the City's financial resources. There are many reasons to be optimistic, however, mostly because North Salt Lake is a financially healthy City that can endure changes and even shocks to our economy. The City Council, including recent and past councilmembers, have been forward thinking about all aspects of operating the City. We are fortunate to have strong cash balances and strong commitments to fund balances. The City has a diversified revenue stream and has been conservative in its expansion of employees and programs.

This challenge will cause us to alter many practices particularly as we move forward with uncertainty about society's ability to gather, shop, eat out and celebrate together. I propose that in Council meetings moving forward, a portion of every City Manager report be devoted to a status report on economic and health conditions and the status of the City's revenues and expenditures. We will continually monitor conditions and discuss those changing conditions with the Council as often as necessary and certainly in every meeting. I believe that this will help all of us to know more clearly what decisions and steps are necessary and when to make them.

**GENERAL FUND  
REVENUE AND EXPENDITURES  
ACTUAL, BUDGET, PROJECTED AND RECOMMENDED**

	<b>Actual FY 2019</b>	<b>Budget FY 2020</b>	<b>Projected FY 2020</b>	<b>Recommended FY 2021</b>
<b>Revenues</b>				
Taxes:				
Property	2,885,300	\$ 2,932,000	\$ 2,926,000	\$ 2,933,000
Sales and use	4,482,100	5,019,600	4,440,000	3,765,000
Franchise	1,781,300	1,851,000	1,836,000	1,754,800
Licenses and permits	225,900	228,000	220,000	225,000
Intergovernmental revenues	1,142,200	1,155,000	1,019,000	984,500
Charges for services	775,700	1,147,000	1,093,700	585,200
Fines and forfeitures	387,500	440,000	330,000	380,000
Interest	109,900	80,000	80,000	80,000
Miscellaneous	57,900	40,000	60,600	53,600
<b>Total Revenues</b>	<b>11,847,800</b>	<b>12,892,600</b>	<b>12,005,300</b>	<b>10,761,100</b>
<b>Expenditures</b>				
General government:				
Legislative	219,900	247,700	241,800	260,300
Administrative	931,700	1,102,600	994,000	918,000
Buildings	78,000	88,500	112,800	112,800
Judicial	311,100	341,800	335,600	337,900
Total general government	<b>1,540,700</b>	<b>1,780,600</b>	<b>1,684,200</b>	<b>1,629,000</b>
Public safety:				
Police department	3,770,900	4,318,900	4,030,700	4,140,800
Fire department	1,334,700	1,351,000	1,351,000	1,402,600
Total public safety	<b>5,105,600</b>	<b>5,669,900</b>	<b>5,381,700</b>	<b>5,543,400</b>
Public works:				
Streets department	1,472,900	1,666,900	1,664,900	1,273,900
Engineering	197,200	245,800	231,900	192,800
Total public works	<b>1,670,100</b>	<b>1,912,700</b>	<b>1,896,800</b>	<b>1,466,700</b>
Community Development				
Planning and zoning	335,100	422,900	387,000	339,700
Building inspection	192,100	212,000	208,000	214,700
Total community development	<b>527,200</b>	<b>634,900</b>	<b>595,000</b>	<b>554,400</b>
Parks	969,800	1,046,500	998,100	913,900
<b>Total Expenditures</b>	<b>\$ 9,813,400</b>	<b>\$ 11,044,600</b>	<b>\$ 10,555,800</b>	<b>\$ 10,107,400</b>
<b>Excess (Deficiency) of Revenues Over (Under) Expenditures</b>	<b>\$ 2,034,400</b>	<b>\$ 1,848,000</b>	<b>\$ 1,449,500</b>	<b>\$ 653,700</b>
<b>Other Financing Sources (Uses)</b>				
Transfer in - RDA	22,000	30,000	30,000	75,000
Transfer out-capital fund	(639,000)	(647,500)	(647,500)	-
Transfer out-park fund	-	(100,000)	(100,000)	-
Transfer out-road fund	(1,568,000)	(1,140,500)	(1,056,500)	(783,000)
Contributions	8,000	10,000	7,500	7,500
<b>Total Other Financing Sources (Uses)</b>	<b>(2,177,000)</b>	<b>(1,848,000)</b>	<b>(1,766,500)</b>	<b>(700,500)</b>
<b>Net Change in Fund Balance</b>	<b>\$ (142,600)</b>	<b>\$ -</b>	<b>\$ (317,000)</b>	<b>\$ (46,800)</b>
<b>Fund Balance, Beginning</b>	<b>3,289,700</b>	<b>3,147,100</b>	<b>3,147,100</b>	<b>2,830,100</b>
<b>Fund Balance, Ending</b>	<b>\$ 3,147,100</b>	<b>\$ 3,147,100</b>	<b>\$ 2,830,100</b>	<b>\$ 2,783,300</b>

SCHEDULE OF CHANGES TO GENERAL FUND REVENUES AND EXPENDITURES  
Fiscal Year 2019-2020

	General Fund
<b>Revenues-Reductions</b>	
Sales Tax	\$ (579,600)
Road and Transportation Tax	(125,000)
Courts	(50,000)
Recreation Programs (Gathering Restrictions)	(43,500)
Park Reservations (Gathering Restrictions)	(13,000)
Property Tax - Increase	64,000
Development - Increase	167,000
	\$ (580,100)
 <b>Expenses-Reductions</b>	
Wages (Unfilled Positions- Development, Police )	\$ 63,500
Benefits (Unfilled Positions- Development, Police )	89,200
Operating Expenditures	107,700
Recreation Programs (Gathering Restrictions)	30,000
Transfer-out Road and Transportation Tax	125,000
	\$ 415,400

SCHEDULE OF CHANGES TO GENERAL FUND REVENUES AND EXPENDITURES  
Fiscal Year 2020-2021

	<u>General Fund</u>	<u>Fleet Fund</u>	<u>Total</u>
<b>Revenues-Reductions</b>			
Sales Tax - 25%	\$ (1,004,000)	\$ -	\$ (1,004,000)
Development	(492,300)	-	(492,300)
Road and Transportation Tax	(159,500)	-	(159,500)
Recreation Programs (Gathering Restrictions)	(41,500)	-	(41,500)
Park Reservations (Gathering Restrictions)	(13,000)	-	(13,000)
Property Tax - Increase	56,000	-	56,000
Fleet Chargeback	-	(596,000)	(596,000)
	<u>\$ (1,654,300)</u>	<u>\$ (596,000)</u>	<u>\$ (2,250,300)</u>
<b>Expenses-Reductions</b>			
Wages (No Step or COLA, Hold on 2.5 Positions)	\$ 262,000	\$ -	\$ 262,000
Benefits (No Step or COLA, Hold on 2.5 Positions, No Insurance Incentive or Sick Buy-out)	187,600	-	187,600
Operating Expenditures	195,800	-	195,800
Employee Appreciation	12,000	-	12,000
Fleet Chargeback	596,000	-	596,000
Freedom Festival (Gathering Restrictions)	45,000	-	45,000
5K Run(Gathering Restrictions)	4,000	-	4,000
Recreation Programs (Gathering Restrictions)	30,000	-	30,000
Vehicle Purchases	-	450,000	450,000
Transfer-out Road and Transportation Tax	41,500	-	41,500
Transfer-out Road Unrestricted Cash	133,600	-	133,600
Transfer-out Parks	100,000	-	100,000
	<u>\$ 1,607,500</u>	<u>\$ 450,000</u>	<u>\$ 2,057,500</u>
<b>Net Change in Fund Balance</b>	<b>\$ (46,800)</b>		

**DEBT SERVICE  
REVENUE AND EXPENDITURES  
ACTUAL, BUDGET, PROJECTED AND RECOMMENDED**

	<b>Actual FY 2019</b>	<b>Budget FY 2020</b>	<b>Projected FY 2020</b>	<b>Recommended FY 2021</b>
<b>Revenues</b>				
Sales taxes - RAP	\$ 454,600	\$ 450,000	\$ 395,000	\$ 345,000
Intergovernmental	45,900	45,000	22,000	-
Interest	13,600	7,200	8,000	8,000
<b>Total Revenues</b>	<b>514,100</b>	<b>502,200</b>	<b>425,000</b>	<b>353,000</b>
<b>Expenditures</b>				
Principal	185,000	190,000	189,000	217,000
Interest	142,000	134,100	134,100	45,042
<b>Total Expenditures</b>	<b>\$ 327,000</b>	<b>\$ 324,100</b>	<b>\$ 323,100</b>	<b>\$ 262,042</b>
<b>Excess (Deficiency) of Revenues Over (Under) Expenditures</b>	<b>\$ 187,100</b>	<b>\$ 178,100</b>	<b>\$ 101,900</b>	<b>\$ 90,958</b>
<b>Other Financing Sources (Uses)</b>				
Transfer out-	(257,000)	(175,000)	(190,000)	(100,000)
<b>Total Other Financing Sources (Uses)</b>	<b>(257,000)</b>	<b>(175,000)</b>	<b>(190,000)</b>	<b>(100,000)</b>
<b>Net Change in Fund Balance</b>	<b>\$ (69,900)</b>	<b>\$ 3,100</b>	<b>\$ (88,100)</b>	<b>\$ (9,042)</b>
<b>Fund Balance, Beginning</b>	<b>329,300</b>	<b>259,400</b>	<b>259,400</b>	<b>171,300</b>
<b>Fund Balance, Ending</b>	<b>\$ 259,400</b>	<b>\$ 262,500</b>	<b>\$ 171,300</b>	<b>\$ 162,258</b>

**CAPITAL PROJECT FUND  
REVENUE AND EXPENDITURES  
ACTUAL, BUDGET, PROJECTED AND RECOMMENDED**

	<u>Actual FY 2019</u>	<u>Budget FY 2020</u>	<u>Projected FY 2020</u>	<u>Recommended FY 2021</u>
<b>Revenues</b>				
Intergovernmental - grant	\$ 24,000	\$ -	\$ -	\$ -
Interest	48,800	25,000	50,000	50,000
<b>Total Revenues</b>	<u>72,800</u>	<u>25,000</u>	<u>50,000</u>	<u>50,000</u>
<b>Expenditures</b>				
General government - projects	742,700	682,400	300,000	100,000
<b>Total Expenditures</b>	<u>\$ 742,700</u>	<u>\$ 682,400</u>	<u>\$ 300,000</u>	<u>\$ 100,000</u>
<b>Excess (Deficiency) of Revenues Over (Under) Expenditures</b>	<u>\$ (669,900)</u>	<u>\$ (657,400)</u>	<u>\$ (250,000)</u>	<u>\$ (50,000)</u>
<b>Other Financing Sources (Uses)</b>				
Transfer in-	684,000	672,500	672,500	35,000
<b>Total Other Financing Sources (Uses)</b>	<u>684,000</u>	<u>672,500</u>	<u>672,500</u>	<u>35,000</u>
<b>Net Change in Fund Balance</b>	<u>\$ 14,100</u>	<u>\$ 15,100</u>	<u>\$ 422,500</u>	<u>\$ (15,000)</u>
<b>Fund Balance, Beginning</b>	<u>3,088,800</u>	<u>3,102,900</u>	<u>3,102,900</u>	<u>3,525,400</u>
<b>Fund Balance, Ending</b>	<u>\$ 3,102,900</u>	<u>\$ 3,118,000</u>	<u>\$ 3,525,400</u>	<u>\$ 3,510,400</u>

**GOLF FUND**  
**REVENUE AND EXPENDITURES**  
**ACTUAL, BUDGET, PROJECTED AND RECOMMENDED**

	<b>Actual</b>	<b>Budget</b>	<b>Projected</b>	<b>Recommended</b>
	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2020</b>	<b>FY 2021</b>
<b>Operating Revenues</b>				
Charges for services:				
Admissions and lesson fees	\$ 572,300	\$ 580,000	\$ 410,000	\$ 634,100
Equipment and facility rents	381,300	432,000	321,000	411,900
Concession and merchandise sales	158,800	213,000	131,000	207,000
<b>Total Operating Revenues</b>	<b>1,112,400</b>	<b>1,225,000</b>	<b>862,000</b>	<b>1,253,000</b>
<b>Operating Expenses</b>				
Salaries and benefits	781,700	809,200	796,400	923,800
Office expense and supplies	10,100	9,400	8,200	10,100
Equipment - supplies and maintenance	136,400	129,500	125,500	131,500
Buildings and grounds - supplies and maintenance	40,400	34,500	34,100	37,100
Power purchases	35,000	36,000	37,000	38,000
Water purchases	106,200	105,500	106,200	109,300
Professional services	34,900	39,000	39,000	39,000
Merchandise	102,100	95,000	118,400	124,000
Miscellaneous	36,700	40,000	35,000	69,500
<b>Total Operating Expenses</b>	<b>1,283,500</b>	<b>1,298,100</b>	<b>1,299,800</b>	<b>1,482,300</b>
<b>Operating Income (Loss)</b>	<b>(171,100)</b>	<b>(73,100)</b>	<b>(437,800)</b>	<b>(229,300)</b>
<b>Nonoperating Income (Expense)</b>				
Capital-Infrastructure & Equipment	(96,900)	-	(19,000)	-
Debt Service Payments	(78,600)	(80,500)	(80,500)	(53,000)
Interest expense	(12,200)	(19,200)	(19,200)	(17,500)
<b>Total Non-operating</b>	<b>(187,700)</b>	<b>(99,700)</b>	<b>(118,700)</b>	<b>(70,500)</b>
<b>Fund Balance - use of(-) cont to +</b>	<b>(358,800)</b>	<b>(172,800)</b>	<b>(556,500)</b>	<b>(299,800)</b>

**FLEET FUND**  
**REVENUE AND EXPENDITURES**  
**ACTUAL, BUDGET, PROJECTED AND RECOMMENDED**

	<b>Actual</b>	<b>Budget</b>	<b>Projected</b>	<b>Recommended</b>
	<b>FY 2019</b>	<b>FY 2020</b>	<b>FY 2020</b>	<b>FY 2021</b>
<b>Operating Revenues</b>				
Charges for services:	\$ 892,000	\$ 970,200	\$ 969,600	\$ 449,700
Intergovernmental- grants	-	-	127,000	-
<b>Total Operating Revenues</b>	<u>892,000</u>	<u>970,200</u>	<u>1,096,600</u>	<u>449,700</u>
<b>Operating Expenses</b>				
Salaries and benefits	187,900	177,600	185,000	221,700
Equipment - supplies and maintenance	191,900	204,000	202,000	228,000
<b>Total Operating Expenses</b>	<u>379,800</u>	<u>381,600</u>	<u>387,000</u>	<u>449,700</u>
<b>Operating Income (Loss)</b>	<u>512,200</u>	<u>588,600</u>	<u>709,600</u>	<u>-</u>
<b>Nonoperating Income (Expense)</b>				
Interest income	8,300	5,000	8,000	8,000
Gain (loss) from sale of capital assets	79,300	12,000	40,000	-
Interest expense	(12,400)	(11,500)	(11,500)	(7,700)
Debt Service Payments	(129,300)	(133,000)	(133,000)	(136,000)
Capital-Infrastructure & Equipment	(545,400)	(250,100)	(377,100)	-
<b>Total Nonoperating Income (Expense)</b>	<u>(599,500)</u>	<u>(377,600)</u>	<u>(473,600)</u>	<u>(135,700)</u>
<b>Fund Balance - use of(-) cont to +</b>	<u>(87,300)</u>	<u>211,000</u>	<u>236,000</u>	<u>(135,700)</u>

ESIMATED CASH BALANCE ON JUNE 30, 2020

FUND	CASH BALANCE
GENERAL FUND	\$ 2,900,000
RAP TAX DEBT SERVICE	225,000
CAPITAL PROJECTS	1,250,000
FLEET	726,000

Agency	HR Contact - or you can use a contact you are familiar with in the City.	HR Contact Phone	HR Contact Email	COLA - All employees, or only specific groups (which groups)	Merit - All employees, or only specific groups (which groups)	Step Increase - All employees, or only specific groups (which groups)	Bonus/Skipend - All employees, or only specific groups (which groups)	URS - Is City going to pick up employee portion on Tier II Public Safety retirement?	Sales Tax Projection (are you reducing revenues)	Insurance Increase Amount - Is City going to pick up or split with employees?	Other	Notes	
Bountiful	Shannon Cottom	801-298-6119	<a href="mailto:scottam@bountifulutah.gov">scottam@bountifulutah.gov</a>	2%	0%	5%		Yes	Yes - projected flat - same as last year - 5% to 10% contingency	5% Employer Pick Up		As for now the COLA is in the budget but not sure it will remain.	
Brigham City	Rick Bosworth	435-734-6613	<a href="mailto:rbosworth@bcutah.org">rbosworth@bcutah.org</a>	0%	Unknown	N/A	No	Unknown	Unknown	No increase			
Cedar City	Natasha Hirschi	435-865-2880	<a href="mailto:bnatasha@cedarcity.org">bnatasha@cedarcity.org</a>	Unknown	Unknown	Don't have Steps	Unknown	Yes	Unknown	No increase		Everything is still being discussed at this time. They did not receive an increase to health care and revenue projections are still being discussed.	
Centerville	Jacob Smith	801-677-6434	<a href="mailto:jacobs@centervilleut.com">jacobs@centervilleut.com</a>	0%	0%	0%	0%	Yes	Yes, by 30%	Dont know the increase amount yet, they put it back up for bid but most likely City will pay 100% of the increase			
Clearfield City	Audrey Curtis	801-525-2740	<a href="mailto:audrey.curtis@clearfieldcity.org">audrey.curtis@clearfieldcity.org</a>	0%	0%		Top of Range for Merit	Yes	Yes - 15% to 20%	7% Employer Pick Up	2.27% Tier II general emp also to 401k	2% Market and 1% Merit which were scheduled are now on hold. Will	
Clinton	Dennis Cluff	801-614-0700	<a href="mailto:dcluff@clintoncity.com">dcluff@clintoncity.com</a>	2%	2%	None	None	Yes	Yes 20%	4.9% Employer Pick Up	Increased deductible \$500 individual, \$1000 family	Left voicemail on 4/9 at 2:30	
Draper	Hazel Dunsmore	801-576-6560	<a href="mailto:hazel.dunsmore@draper.ut.us">hazel.dunsmore@draper.ut.us</a>	2%	3%	3%	None	Yes	Unknown	7% renewal, dental is 1.5% See other column	The City will continue to pay 100% for employee only premium and 90% for two-party and family premiums.	This information was originally placed in the budget, but it is possible that it will be revisited before it goes to Council for approval.	
Farmington	Gregory Davis	801-451-2383	<a href="mailto:gdavis@farmington.utah.gov">gdavis@farmington.utah.gov</a>	Unknown	Unknown	Unknown	None	Unknown at this time	Yes, 20%	Yes, 4% split with employee	Stalling for 6 months until economy gets better may rethink COLA and merit increases	Send data results to Greg	
Layton	Kiley Day	801-336-3825	<a href="mailto:kday@laytoncity.org">kday@laytoncity.org</a>	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	No increase - self fund		3% merit/topped out bonus prior to COVID.	
Lehi	David Kitchen	385-201-2265	<a href="mailto:dkitchen@lehi-ut.gov">dkitchen@lehi-ut.gov</a>	1%	3%		Top of Range for Merit	Yes	Unknown	City only pays 10% of premium			
Logan	Greg Cox	435-716-9046	<a href="mailto:greg.cox@loganutah.org">greg.cox@loganutah.org</a>	0%	3%	0%	Unknown	No	Unknown	9% Employer Pick Up			
Mapleton	Camille Brown	801-489-5655	<a href="mailto:cbrown@mapleton.org">cbrown@mapleton.org</a>	Unknown	Unknown	Unknown	Unknown	Yes	Yes - 10%		They have briefly discussed increases but at this time it is unknown.	Send Camille results on survey	
Midvale	Rori Anderson	801-567-7207	<a href="mailto:randerson@midvale.com">randerson@midvale.com</a>	0%	0%	0%	None	See notes	Yes, anticipating a \$895,000 shortfall	Insurance increased 8.7% please see other column	We pay 95% of the premium for the HDHP and 90% of the premium for the traditional plan. So the increase will be split based on those percentages	They contract with UPD and UFA for public safety so they are not dealing with the URS increase. Will review midyear for increases.	
Murray	Robyn Colton	801-264-2657	<a href="mailto:rcolton@murray.utah.gov">rcolton@murray.utah.gov</a>	0%	N/A	2.5% to 5%			Yes - 15%	Reducing sales tax revenues by 30%		Using reserves for step increases	
North Ogden	Annette Spendlove	801-737-9830	<a href="mailto:aspend@nogden.org">aspend@nogden.org</a>	0%	0%	0%	Unknown	Still deciding	Yes - 15%	Insurance increase 4.5% - City will cover 90% for traditional, 95% for QHD	They are looking at market adjustments to see if they can fit them into the budget. The market adjustments are for employee who are below 90% market rate.	Send result to new HR Manager Jami Jones	
North Salt Lake	Janice Larsen	801-335-8731	<a href="mailto:janice@nslcity.org">janice@nslcity.org</a>	0%	0%							4-8% for Police to catch up with increases	Left voicemail 4/10 at 9:30 a.m.
Ogden	Heather Briskey	801-629-8736	<a href="mailto:heatherbriskey@ogden-city.com">heatherbriskey@ogden-city.com</a>	Unknown	Unknown	Unknown	Unknown	Yes	Yes	8% Unknown			
Orem	Keri Rugg	801-229-7164	<a href="mailto:krugg@orem.org">krugg@orem.org</a>	0%	0%	0%	0%	Yes	Yes	Yes, Employer Pick Up		Will review in the fall when sales tax is more available. Possible COLA in January. Career Ladder for Public Safety only.	Left voicemail 4/10 at 9:30 a.m.
Park City	Brook Watters	435-615-5241	<a href="mailto:bwatters@parkcity.org">bwatters@parkcity.org</a>	On Hold	On Hold		On Hold	Yes	Yes, but amount unknown.	3.9% Employer Pick Up		No increase as of now.	
Payson	Melanie Marsh	801-465-5202	<a href="mailto:melaniem@payson.org">melaniem@payson.org</a>	4%	Unknown	Yes, unknown at this time	Unknown	No	Yes, 16% City is still evaluating this	Went up 4% see other column		We are looking at a 4% market adjustment as well as possibility moving some employees to midpoint that are not at midpoint. The entire police department will also be receiving more increases. We have to keep moving the police scale because of market conditions. She stated they have some big deficits with regards to their Sgt. wages and are being looked at. Some of the differences are around \$6000 annually and they want to be more competitive with Sgt. pay	
Pleasant Grove	Kyler Ludwig	801-780-8529	<a href="mailto:kludwig@pgcity.org">kludwig@pgcity.org</a>	0%	0%	0%						Reevaluate in the fall for increases	
Pleasant View	Heather Gale	801-780-8529	<a href="mailto:hgale@pleasantviewcity.com">hgale@pleasantviewcity.com</a>	Unknown, see notes	Unknown	Unknown	Unknown	Unknown, see other column	Yes they are still working on numbers but as of right now - 2.3% reduction from their initial budget and 2.5% reduction for the new budget numbers	We have a 5.5% increase in health insurance and 0% in dental. The city pays for 95% of the premiums.	The council has not addressed URS increases yet. Her guess is that they will pick it up.	They use a market adjustment each year. The average market adjustment is 3.05%. On employee's anniversary dates employees could be eligible for a performance adjustment. They are still working on their budget and will be presenting the first budget to the council this coming Tuesday.	
Provo	Daniel Softley	801-852-6189	<a href="mailto:dsoftley@provo.utah.gov">dsoftley@provo.utah.gov</a>	Unknown	Unknown	Unknown	Unknown	Unknown	They are reducing revenues but unknown on the amount.	Unknown		Left voicemail 4/10 at 9:34 a.m.	
Riverdale	Stacey Comeau	801-394-5541	<a href="mailto:scomeau@riverdalecity.com">scomeau@riverdalecity.com</a>	0%	0	5.6% Average	N/A	Yes	Yes	3.9% Split 80/20			
Riverton	Trish Dixon	801-208-3114	<a href="mailto:tdixon@rivertoncity.com">tdixon@rivertoncity.com</a>	0%	4% possibility 3.5%	0%	Yes, for anyone topped out	Yes	Unknown	Have not received health insurance rates yet.			
Roy City	Abbie Hufstetler	801-774-1043	<a href="mailto:ahufstetler@royutah.org">ahufstetler@royutah.org</a>	0%	General employees 2.5%	3.75% Public Safety	None	No	They are projecting a 10% decrease in sales tax	4.5% increase employer pick up. They only pass on a small percentage of increases to employees each year.	We are considering doing a merit increase based on our step program (2.5% for regular employees and 3.75% for public safety), but we are leaning towards making it effective January 1 <sup>st</sup> . We would then prorate the merits back to the original merit date back to July 1 <sup>st</sup> . We do merit's based on anniversary date. This would give us time to make sure of how the economy is trending before we implement merits.	Share data with Camille Cook	
Salt Lake City	David Salazar	801-535-7906	<a href="mailto:david.salazar@slcgov.com">david.salazar@slcgov.com</a>	Unknown	Unknown	Unknown	Unknown	TBD	Doesn't know the exact adjustments but they most likely will be reduced.	4.5% increase with the city maintaining its 95% cost share	The step increase are for those under the MOU	Union EE with MOU like to get their merit increase (FF, PO, Trade/Craft, clerical, paraprofessional).	



1 CITY OF NORTH SALT LAKE  
2 CITY COUNCIL MEETING-REGULAR SESSION  
3 APRIL 7, 2020  
4

5 **DRAFT**  
6

7 Mayor Arave called the meeting to order at 6:00 p.m. Note: The meeting was held electronically  
8 through Zoom.  
9

10 PRESENT: Mayor Len Arave  
11 Council Member Lisa Watts Baskin  
12 Council Member Natalie Gordon  
13 Council Member Brian Horrocks  
14 Council Member Ryan Mumford  
15 Council Member Stan Porter  
16

17 STAFF PRESENT: Ken Leetham, City Manager; Paul Ottoson, City Engineer; David Frandsen,  
18 Public Works Director; Janice Larsen, Finance Director; Craig Black, Police Chief; David  
19 Church, City Attorney; Brent Moyes, Golf Course Director; Sherrie Llewelyn, Community  
20 Development Director; Linda Horrocks, City Recorder; Andrea Bradford, Minutes Secretary.  
21

22 OTHERS PRESENT: Michael Pate, Amarok.  
23

24 1. CITIZEN COMMENT  
25

26 There were no citizen comments.  
27

28 2. PARKS TRAILS ARTS AND RECREATION ADVISORY BOARD APPOINTMENTS  
29

30 Mayor Arave reported that he was not ready to make an appointment at this time.  
31

32 Council Member Mumford reported that his choice for appointment to the board was Dallas  
33 Golden. He added that Mr. Golden had an interest in photography and visual arts.  
34

35 **Council Member Mumford moved to appoint Dallas Golden to the Parks and Arts**  
36 **Advisory Board. Council Member Baskin seconded the motion. The motion was approved**  
37 **by Council Members Baskin, Gordon, Horrocks, Mumford and Porter.**  
38

39 3. CONSIDERATION OF ORDINANCE 2020-11: AN ORDINANCE AMENDING THE  
40 NSL CITY LAND USE CODE, SECTION 10-1-33(F)(2)(c) ELECTRIC FENCING  
41

42 Sherrie Llewelyn reported that the City had recently received an application to amend the electric  
43 fence ordinance. Currently the ordinance required that an electric fence be surrounded by a solid  
44 perimeter fence. She said when the ordinance was adopted in 2012 the reasoning for the solid

45 fence was for safety purposes to prohibit individuals from touching the electric fence.  
46 Historically a solid wall was interpreted to be a chain-link fence with slats. The applicant has  
47 since requested a code amendment to change the code to state that a chain-link fence with slats  
48 could be used to fulfill the requirement for a solid wall.

49  
50 The Planning Commission held a public hearing on this item and determined that if the perimeter  
51 fence was solid then the interior perimeter fence could be a chain-link fence without slats as this  
52 was more aesthetically pleasing and would lessen security issues related to visibility. The  
53 Planning Commission recommended changes to the code that would remove the requirement for  
54 the solid fence but would require a non-electrical fence outside of the electric fence for safety, as  
55 well as a requirement that the fencing and signage be maintained with failure to do so resulting  
56 in a civil violation. She also said that the code change would not allow for chain-link fencing  
57 along frontages and was only related to electric fencing and not outdoor screening.

58  
59 Council Member Gordon clarified that this would not allow chain-link fencing in any areas  
60 where they were not currently allowed and would only allow chain-link without slats a foot away  
61 from the electric fence in areas where it was already allowed. Sherrie Llewelyn replied that  
62 electric fences were only permitted in the industrial and commercial zones.

63  
64 Council Member Baskin commented that while she did not like allowing electric fences but as it  
65 was already permitted she recommended several amendments including removing the word  
66 “easily” from the phrase “and is not easily climbable” from the code. She explained that there  
67 should be a clear standard. She also suggested that the comma be removed from subsection J.

68  
69 Council Member Horrocks commented that with the proposed change that this would eliminate  
70 chain-link fencing.

71  
72 Council Member Gordon was in agreeance with Council Member Baskin in that electric fencing  
73 was a concern and related the story that her daughter had been shocked by an electric fence. She  
74 suggested chain-link fencing with barbed wire on the top be placed around electric fencing.  
75 Sherrie Llewelyn replied that three strand barbed wire was permitted in the MD and MG zones.

76  
77 Council Member Mumford asked about the applicant’s needs or the purpose of the electric fence  
78 in the zone. Sherrie Llewelyn commented that the City Council needed to look beyond the  
79 applicant as it would affect all MD and MG zones where electric fencing was allowed. She said  
80 the applicant was MESCO who requested the electric fencing along the side and rear property  
81 lines to prohibit individuals from accessing their construction equipment.

82  
83 Council Member Mumford asked about certain concerns related to the fact that the two fences  
84 would be a foot apart including maintenance, individuals or items falling between the fences, etc.  
85 He also asked about signage notifying that it was an electric fence. Sherrie Llewelyn replied that

86 the code required warning signs to be placed every 30 feet along the perimeter of the fence,  
87 security boxes for fire personnel, and limits on the voltage.

88  
89 Michael Pate, Amarok, commented that there were requirements for the fence to be six feet in  
90 height. He also said that the fence was an alarm system tied to a 12-volt battery that was  
91 amplified with an energizer. The alarm system was set at 2,000 volts and would audibly sound  
92 on the site and was paired with a video camera system. Mr. Pate said he understood screening the  
93 fence for aesthetic purposes but felt that this would cause security issues. He explained that the  
94 fencing was required to meet international standards and was just meant as a deterrent as they  
95 had previously had issues with break-ins.

96  
97 Council Member Porter commented that an individual would most likely try to cut the fence  
98 rather than climb it especially if the intent was to steal. He felt that the electric fence behind  
99 another fence was appropriate in the industrial area.

100  
101 Council Member Horrocks said he was not in favor of allowing razor or barbed wire at the top of  
102 the fence. Sherrie Llewelyn said that the code allowed three strand barbed wire but prohibited  
103 razor wire.

104  
105 Council Member Baskin commented that while Mr. Pate said there was no fence that was not  
106 scalable that the word “easily” should be removed from the amendment. She clarified that the  
107 intent was that the fence was designed not to be climbable. She also did not like the idea of the  
108 barbed wire across the top of the fencing.

109  
110 **Council Member Porter moved that the City Council adopt Ordinance 2020-11 amending**  
111 **the North Salt Lake City Land Use code Section 10-1-33(F) Electric Fencing.**

112  
113 Mayor Arave commented that Council Member Baskin suggested several changes including  
114 removing a comma from subsection j and removing the word “easily” from climbable.

115  
116 Michael Pate asked for clarification of what would constitute “not easily climbable”. Sherrie  
117 Llewelyn suggested removing “and is not easily climbable”.

118  
119 **Council Member Porter amended his motion to remove the term “and is not easily**  
120 **climbable” and the comma. Council Member Horrocks seconded the motion. The motion**  
121 **was approved by Council Members Baskin, Gordon, Horrocks, Mumford and Porter.**

122  
123 4. CONSIDERATION OF RESOLUTION 2020-09R: A RESOLUTION AMENDING  
124 THE CITY’S CONSOLIDATED FEE SCHEDULE TO INCREASE CERTAIN USER  
125 FEES AT THE EAGLEWOOD GOLF COURSE AND ESTABLISHING AN  
126 EFFECTIVE DATE

127

128 Ken Leetham reported that the City Council had previously reviewed the consolidated fee  
129 schedule and the Golf Course Oversight Committee was recommending approval of the  
130 amendment to the fee schedule. He said that the dynamic flexible pricing aspect had been  
131 removed at this time but staff would bring back more information on the flexible pricing for  
132 further discussion. The fee increases for an 18-hole round with a cart would be increased from  
133 \$46 to \$52.

134  
135 Mayor Arave asked about the rate comparison with other courses in Davis County. Brent Moyes  
136 replied that it would put Eaglewood about \$1 above Bountiful Ridge and even with Davis and  
137 Valley View courses.

138  
139 Mayor Arave then asked for an update on pricing and current conditions. Brent Moyes replied  
140 the course was available for walking customers only and the current rate for online bookings was  
141 the senior rate of \$13 for nine holes and \$26 for 18 holes. He said the course was steady with  
142 most tee times booked.

143  
144 Council Member Horrocks said he liked the concept of dynamic pricing particularly in raising  
145 the prices on busy Saturdays. He said the reception center pricing needed to be adjusted so that  
146 weekend bookings were more expensive than weekdays. Ken Leetham said the reception center  
147 pricing was one of the initiatives that needed to be corrected.

148  
149 Council Member Mumford asked about the technical distinction between a wedding reception  
150 and a dinner. He said someone could pay the weekend dinner rate of \$550 for their versus the  
151 \$1,100 weekend wedding reception rate. Ken Leetham replied that it seemed like wedding  
152 required extra accommodations such as tables, etc.

153  
154 Brent Moyes replied that there was a lot more setup required for a wedding including tables,  
155 linens, etc.

156  
157 Council Member Mumford asked if the current concessionaire had a proposal on pricing. He said  
158 the pricing needed to be solidified as there had been wedding cancellations that would need to be  
159 rescheduled. Ken Leetham replied that there was a proposal from another wedding venue  
160 operator, which he would like to pursue. He said the contract would be adjusted with the  
161 concessionaire to allow for a professional wedding group to come in and handle that portion of  
162 the business. Mr. Leetham said this was something staff could pursue now.

163  
164 Council Member Baskin asked what the term “single rider” meant under the cart fees section.  
165 Brent Moyes replied that the cost would be per person per seat so that an individual did not have  
166 to pay the entire cart fee regardless if there were one or two people in the cart.

167  
168 Council Member Baskin then asked about the corporate pricing and if the proposed \$44 or \$49  
169 was per player. She also asked for clarification about the corporate membership fees. Brent

170 Moyes replied that the corporate pricing was per player. He said the corporate membership was  
171 \$2,500 or \$2,000 if a tournament was booked. Mr. Moyes also explained that \$2,500/\$2,000  
172 included one tee time per day for a year. The cart fee would not be included in that cost.

173

174 **Council Member Gordon moved to approve Resolution 2020-09R a resolution of the**  
175 **governing body of the City of North Salt Lake amending the City's consolidated fee**  
176 **schedule for certain user fees at Eaglewood Golf Course and establishing an effective date.**  
177 **Council Member Horrocks seconded the motion.**

178

179 Council Member Horrocks commented that he assumed the amended fee schedule would be  
180 effective as of June 1<sup>st</sup>. He suggested honoring the old rate for any wedding that had been booked  
181 but had to be cancelled or postponed due to the pandemic. Mayor Arave commented that it  
182 seemed like the Council was in agreeance.

183

184 **The motion was approved by Council Members Baskin, Gordon, Horrocks, Mumford and**  
185 **Porter.**

186

187 5. DISCUSSION OF ONGOING OPERATIONS OF EAGLEWOOD GOLF COURSE  
188 AND CITY PARKS AND RECREATION FACILITIES

189

190 Mayor Arave commented that Salt Lake had reopened their courses, Bountiful Ridge and other  
191 courses were allowing carts, and the City was the only course in Davis County that was not  
192 allowing carts.

193

194 Ken Leetham said the precautions taken at the course had made it as safe for employees and  
195 players as it could be. He commented that while more revenue would be generated if carts were  
196 allowed that it would be less safe. Mr. Leetham recommended that due to the rate of COVID-19  
197 spread in South Davis County, that further review should be done in several weeks.

198

199 Brent Moyes said that Bountiful Ridge allowed carts and had actually been shut down for several  
200 days due to players congregating at the clubhouse. He commented that the other courses were  
201 sanitizing their carts with hot water or rubbing alcohol.

202

203 Council Member Porter spoke on different methods to sanitize the carts including professional  
204 cart cleaning machinery and DIY equipment.

205

206 Council Members Gordon and Baskin were in favor of continuing to operate without offering the  
207 use of golf carts. Council Member Baskin suggested that plastic gloves could potentially be  
208 offered to players.

209

210 Mayor Arave recommended that staff research what other courses were doing and sanitization  
211 methods.

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Ken Leetham then spoke on other recreational facilities including the tennis courts. He said the City's courts were still open and asked for feedback from the Council.

Mayor Arave asked what other cities were doing. Ken Leetham replied that the City should monitor how busy the courts were. He said that some cities would close a facility resulting in those that were left open to then become too busy. Mr. Leetham said the basketball courts and playgrounds had been closed per the County Health Department.

Council Member Horrocks felt that the tennis courts could remain open. Mayor Arave replied that the City could leave them open until the State or County recommended otherwise.

6. CONSIDERATION OF BID AWARD FOR STORM DRAIN PROJECT AT UNION AVENUE AND MAIN STREET, TO COUNTERPOINT CONSTRUCTION COMPANY IN THE AMOUNT OF \$153,332

Paul Ottoson reported that this project had been on the list for several years. He said it was along the Union Pacific UTA railroad tracks from Main Street to Union Avenue. The pipe would be installed on property owned by UTA and approvals had been obtained. He said that there was concern that flaggers would be needed but the nearest tracks only run at night. Mr. Ottoson spoke on the phragmites, which caused water to back up there. Staff obtained five bids with the low bidder, Counterpoint Construction Co, at \$153,332. He said that while he had hoped for lower bids that contractors were still busy and prices were high. The current budget for the project was \$100,000, which would require a budget adjustment for the \$53,332.

Mayor Arave asked why the bid amounts were higher than the proposed budget. Paul Ottoson replied that he did not originally think the cost would be that much for the project.

Council Member Horrocks asked if this was a project that should be delayed in the hopes that companies may not have as much work in the next several months. Paul Ottoson responded that even though the five bids varied that the lower three were very close in price. He felt that the cost would not get much lower and attributed the difference to his cost estimate.

**Council Member Horrocks moved that the City Council award the storm drain along UPRR- Union Avenue to Main Street project to Counterpoint Construction Company for the price of \$153,332. Council Member Gordon seconded the motion.**

Mayor Arave asked where the funds for this project would come from. Ken Leetham replied that he thought they came from the Storm Drain Fund and not impact fees.

**The motion was approved by Council Members Baskin, Gordon, Horrocks, Mumford and Porter.**

254 7. APPROVE CITY COUNCIL MINUTES OF MARCH 17, 2020

255

256 The City Council minutes of March 17, 2020 were reviewed and approved. **Council Member**  
257 **Porter moved to approve the minutes of March 17, 2020 as written. Council Member**  
258 **Horrocks seconded the motion. The motion was approved by Council Members Baskin,**  
259 **Gordon, Horrocks, Mumford and Porter.**

260

261 8. ACTION ITEMS

262

263 The action items list was reviewed. Completed items were removed from the list.

264

265 9. COUNCIL REPORTS

266

267 Council Member Horrocks commented on the cancellation of the spring cleanup and if the  
268 Saturday garbage pickup could be extended to twice a month. Ken Leetham said there were two  
269 options including a Saturday trash pickup every Saturday in May or to have the spring cleanup,  
270 for green waste only, at the Public Works building for two weekends in May. He suggested  
271 holding the extra Saturday pickups combined with the green waste cleanup in May. Mr. Leetham  
272 also said that the County Commission may be able to persuade Wasatch Integrated Waste to re-  
273 open the transfer station to the public. He asked what the Council would prefer.

274

275 Mayor Arave clarified that the landfill was closed to residents and said that if the City held a  
276 green waste cleanup that identification would need to be checked to verify residency.

277

278 David Frandsen commented that he thought the cleanup could be done safely. He said the only  
279 negative was that staff would not be able to help the residents unload this year.

280

281 Mayor Arave asked how much the extra Saturday pickup would cost. Ken Leetham replied that  
282 staff could obtain that information.

283

284 Council Member Mumford said that as neighborhood groups were unable to do cleanup service  
285 projects that there may not be as big of a need for green waste. He said people may just want to  
286 through away regular trash this time. He suggested postponing the spring cleanup and only  
287 offering the extra Saturday pickup. Council Member Porter was in agreeance as it may  
288 encourage people to gather.

289

290 The Council discussed expanding the service to twice a month Saturday pickups for a month.

291

292 Ken Leetham commented that staff would obtain the extra Saturday pickup pricing and share this  
293 information with the City Council via email.

294

295 Council Member Horrocks reported that he had a conference call with the Northpoint annexation  
296 group on Thursday. He said that while he was not actively seeking the annexation that the City  
297 should be involved.

298  
299 Council Member Mumford reported that over the past few weeks there had been several events  
300 with the odor from the sewer plant. He said while Dal Wayment had been very responsive that  
301 there were regular issues with the odor. He said he received a lot of messages and had seen  
302 comments on social media so it was important for the City to stay on top of the issue.

303  
304 Council Member Mumford spoke on upcoming events including the Easter egg hunt, Kite  
305 Festival, and 5K and suggested that they be postponed rather than cancelled. Council Member  
306 Gordon said that it would be a great idea to do the events in the future to give residents  
307 something to look forward to.

308  
309 Council Member Mumford talked about the Palmquist Park remodel and asked if there was any  
310 reason the construction could not occur now. Ken Leetham said that while work did need to be  
311 done that park impact fees could not be used for Palmquist Park. He said corrections needed to  
312 be made at that park related to the water tank and the suggestion for City crews to perform some  
313 of the work.

314  
315 David Frandsen commented that he had obtained pricing for the designs and the dirt moving cost  
316 was high at \$200,000. He said that this would need to be discussed with the Parks and Arts  
317 Board.

318  
319 Council Member Mumford said that it would be a good time to work on the parks and asked if  
320 City staff could perform the work safely. David Frandsen said that he would work with the  
321 Board and Ken Leetham to create an agenda for the top projects this year.

322  
323 Council Member Baskin talked about mailbox theft in the Springwood neighborhood. She also  
324 spoke about cloudy water in the neighborhood which was related to air in the pumps. As far as  
325 she had heard the seniors were doing ok in spite of the earthquake and isolation.

326  
327 Council Member Baskin reported on the Arbor Day celebration and suggested a tentative date of  
328 May 16<sup>th</sup>.

329  
330 Council Member Porter reported on the virtual scavenger hunt and said that Target provided a  
331 50% discount on the prizes. He said it would be a fun family activity for residents with prizes,  
332 such as a TV, Go Pro camera, etc. to only be awarded to City and Woods Cross residents.

333 10. MAYOR'S REPORT

334

335 Mayor Arave reported that the landfill was closed to noncommercial traffic but may reopen for  
336 public use due to political pressure. He said the Recreation District was closed until further  
337 notice.

338

339 He spoke on the South Davis Sewer District including the smells and that the south plant was out  
340 of compliance, which may take a year to fix. He said the Fire District was busy.

341

342 Council Member Porter said the Bountiful Dump was still open and felt there should be some  
343 pressure to reopen the dump facilities to residents. Mayor Arave said the main concern was the  
344 potential for employees to become infected. He said it was interesting to see the positions taken  
345 by different cities in regards to precautions related to the virus.

346

347 11. CITY ATTORNEY'S REPORT

348

349 David Church had nothing to report.

350

351 12. CITY MANAGER'S REPORT

352

353 Ken Leetham reported on the status of the City and said staff was still operating in two groups at  
354 City Hall. He said equipment had been purchased to allow employees to work from home.

355

356 Mayor Arave asked about security, such as unauthorized access, for those working at home. He  
357 asked about password policies. Ken Leetham replied that the City's IT company, ETS, provided  
358 hardware and software with the same level of protection as that found in the office. He said that  
359 one employee had a family member who tested positive and that employee would be quarantined  
360 at home for 14 days. Mr. Leetham said that the phones were being answered and services were  
361 being delivered.

362

363 Ken Leetham reported that a construction project on Lacey Way would result in water being  
364 shutoff for ten residents on Thursday. He said the residents had been notified via flyer and  
365 telephone. The water would be off from 8 a.m. to 4:30 p.m. on Thursday.

366

367 13. ADJOURN

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369 Mayor Arave adjourned the meeting at 7:47 p.m.

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372

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Mayor

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City Recorder

### Action Items for April 21, 2020

Item	Staff	Description
<b>New</b>		
1	Ken	Staff to pursue the proposal from the wedding venue operator for the upcoming needs at the golf course. Staff to also look into adjusting the contract with the current concessionaire to allow for a professional wedding group to provide those services.
2	Brent	Staff to look into methods for allowing golf carts including sanitization measures (professional cleaning booth, machinery, cleaning supplies, and providing gloves for players, and what other courses are doing.)
3	David	Staff to look into the cost of providing additional Saturday trash pickup and provide to Council via email.
4	David	Staff to create a to do list for park projects this year with the help of the Parks and Arts Board and Ken Leetham
<b>Current</b>		
1	David/Ken	Staff to follow up and obtain key/legend or more information on call information, leash law, citations and fines, etc. on Davis County report.
2	David/Ken /Linda?	Provide information on leash law and fines to City Council (potentially through social media as well?)
3	David, Ken	Staff to follow-up on adding trees to park strips on Fox Hollow at roundabout. <i>Ken will report during FY21 budget meetings.</i>
4	Janice	Provide analysis to City Council for whether to pay off Water Revenue Refunding Bonds. <i>Staff will provide analysis during upcoming budget meetings.</i>
5	David	CM Porter suggested placing signage to warn bike riders on railroad tracks.
6	CD Dept.	Staff to work with Bountiful Veterans Park Foundation to reach out to the community to obtain the names of veterans in the community that would like to be honored on the memorial wall at the park. Staff to also work with Stan Porter and the PTAR Board to plan for next phases of possible improvements in the City's Veterans Memorial Park. <i>Ali has reached out to Bountiful to get the info and will be researching grant opportunities. (3/5/20)</i>
7	Sherrie, Ken	Mayor Arave requested setting up a community wellness committee by ordinance so that we could make efforts similar to Centerville related to wellness in the community.
8	Linda	Coordinate an afternoon time with UTA and Council for Frontrunner/UVX tour to Provo. <i>Linda has contacted Hal Johnson – He is coordinating with Beth Holbrook and will get back to us on potential dates. (Postponed until after COVID-19 restrictions.)</i>
9	Ken	Renewed effort to discuss and prepare for cyber security. <i>ETS will be providing briefing and training on this March 3rd.</i>
10	Ken	Contact the SD Rec District and see if there is a possibility of a “free” North Salt Lake day. <i>Ken talked to Tiff Miller and he said that we can schedule this anytime we wish and that some of our other cities already do this every year. (Postponed until after COVID-19 restrictions.)</i>
11	Brent, Julie Mc	Look at the possibility of expanding a recreation program up at the golf course. Clinics, lessons, paid classes/workshops, etc. <i>This idea will be included in the new proposals related to the golf course and efforts to increase revenues.</i>
12	Sherrie, DRC	Council requested zoning recommendations from staff for two parcels on the east side of Orchard Drive north of Center Street, Odell Lane, and the RM-20-zoned neighborhood on the west side of Orchard Drive south of Center Street. <i>The DRC has reviewed the parcels and is currently considering options for rezoning the property.(3/5/20)</i>
13	Ken, David Church	Staff (David Church) to review current law related to annexation of unincorporated areas and to send an email to Senator Weiler ASAP (for the current legislative session) if the current law is not sufficient for the City's needs. <i>Sherrie has provided a memo to Ken (3/5/20)</i>
14	Sherrie Ken etc.	Get number for Jeremy Holt at LDS Hospital from Mayor re: partnering with NSL on mental illness outreach. Also, the Council discussed the possibility of staff preparing outreach/educational

		information in the newsletter and on the City's website some sources of help for suicide and mental illness. Council also discussed working with LDS Hospital, League of Cities and Towns, creating a citizen committee/group, hosting an educational class, and preparing a packet related to mental illness. <i>Ken has spoken with a non-profit group who may host a social services open house in NSL.</i>
15	Ken	Staff would prepare a proposal related to small insurance claims and a fund to pay for these types of items in-house rather than submitting them through insurance.
16	Linda	Digital PDF of new resident information packet on the website with link on social media – <i>Linda is working on new packet.</i>
17	David Ken	Staff to work with Woods Cross to improve their dog park and discuss potential for a new dog park in the area. <i>City Staff is reviewing other communities' dog parks and preparing a recommendation for the City Council. Woods Cross City has tentatively indicated a willingness to participate.</i>
18	Ken Craig	Staff to work on emergency preparedness reporting and coordination with Davis County rather than NSL – and whether it should be organized and run by South Davis Fire. <i>Staff is working with surrounding communities and Fire District to evaluate staffing needs and possible employee sharing</i>
19	Paul David Ken	Various assignments related to water and water planning including: collection of water usage data by area, analysis and recommendation related to water conservation rate structure, and long-range planning for water needs. <i>Comments have been received from Weber Basin Water Conservancy District. Staff will make a recommendation to the City Council on 2/18/20.</i>
20	Linda Ken	CM Porter asked for recognition/formalization of the City's History Committee on a future agenda. <i>Staff reviewing history committees of other cities and will draft resolution.</i>
21	Linda	Staff to arrange a tour of Wasatch Resource Recovery Plant for interested City Council members and staff. <i>Scheduled for early April. Now postponed until after COVID-19 passes.</i>