# SOUTH WEBER CITY CORPORATION PUBLIC WORKS STANDARD DRAWINGS

#### SUBMITTED & RECOMMENDED



JOLENE C. SJOBLOM
SOUTH WEBER CITY MAYOR

DAVID S. LARSON
SOUTH WEBER CITY MANAGER

DATE

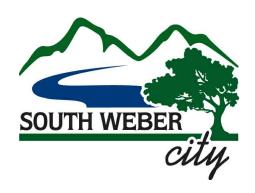
BARRY BURTON
SOUTH WEBER CITY PLANNER

DATE

MARK B. LARSEN
SOUTH WEBER CITY PUBLIC WORKS DIRECTOR

3/5/19

LISA SMITH DATE
ATTEST, SOUTH WEBER CITY RECORDER





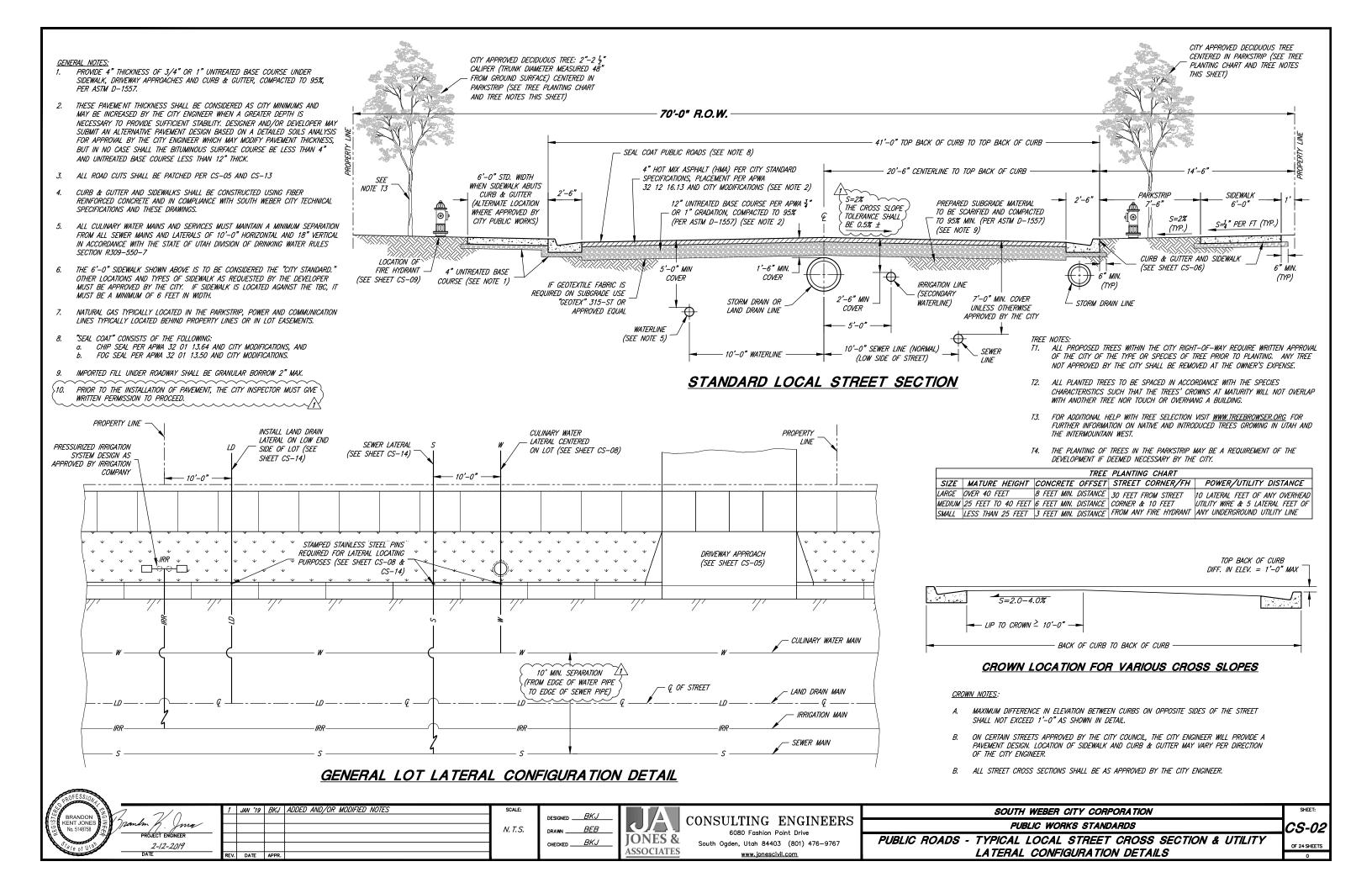


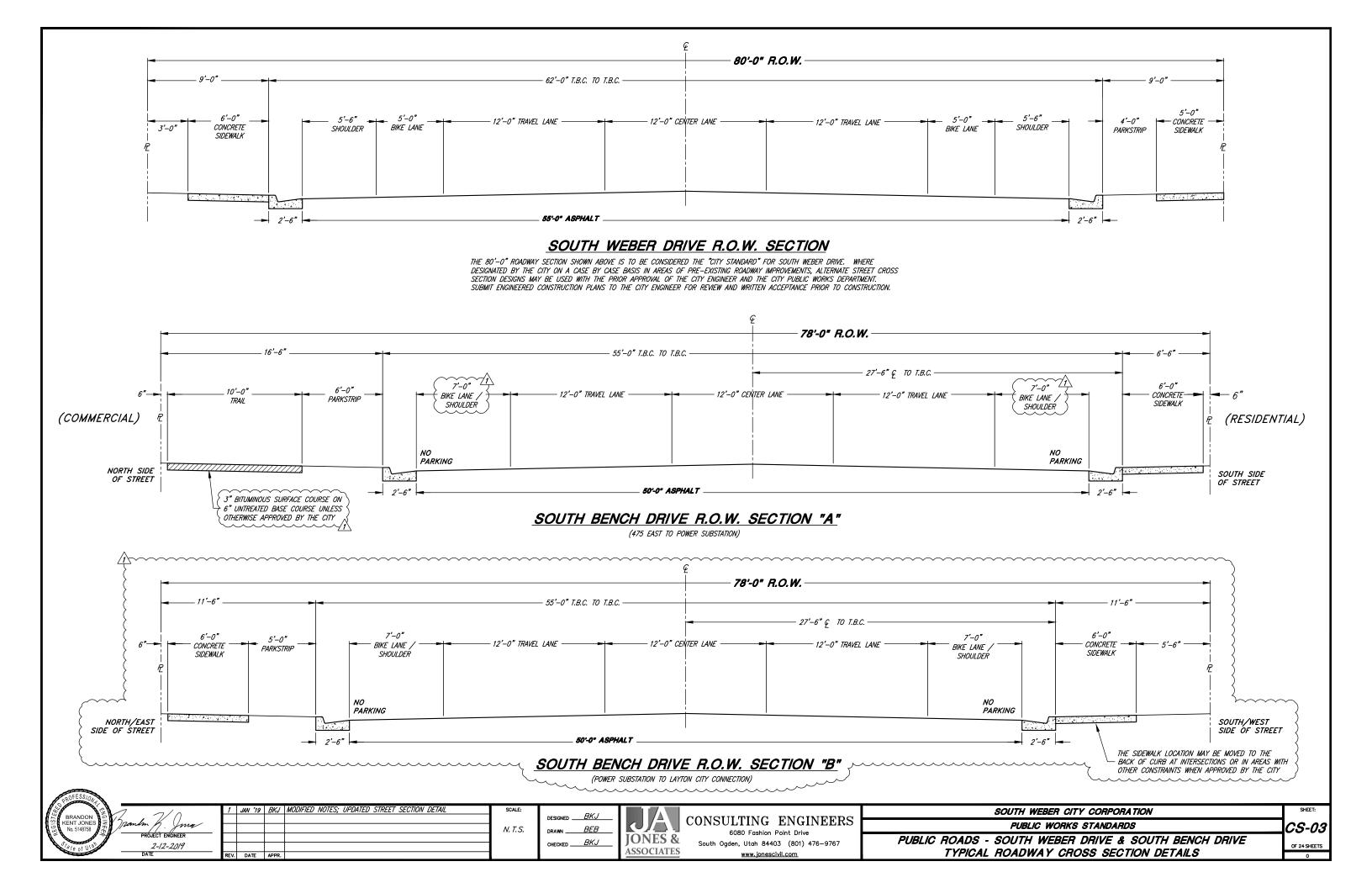
△ REVISION 1 - FEBRUARY 12, 2019
ORIGINAL - ADOPTED OCTOBER 24 2017

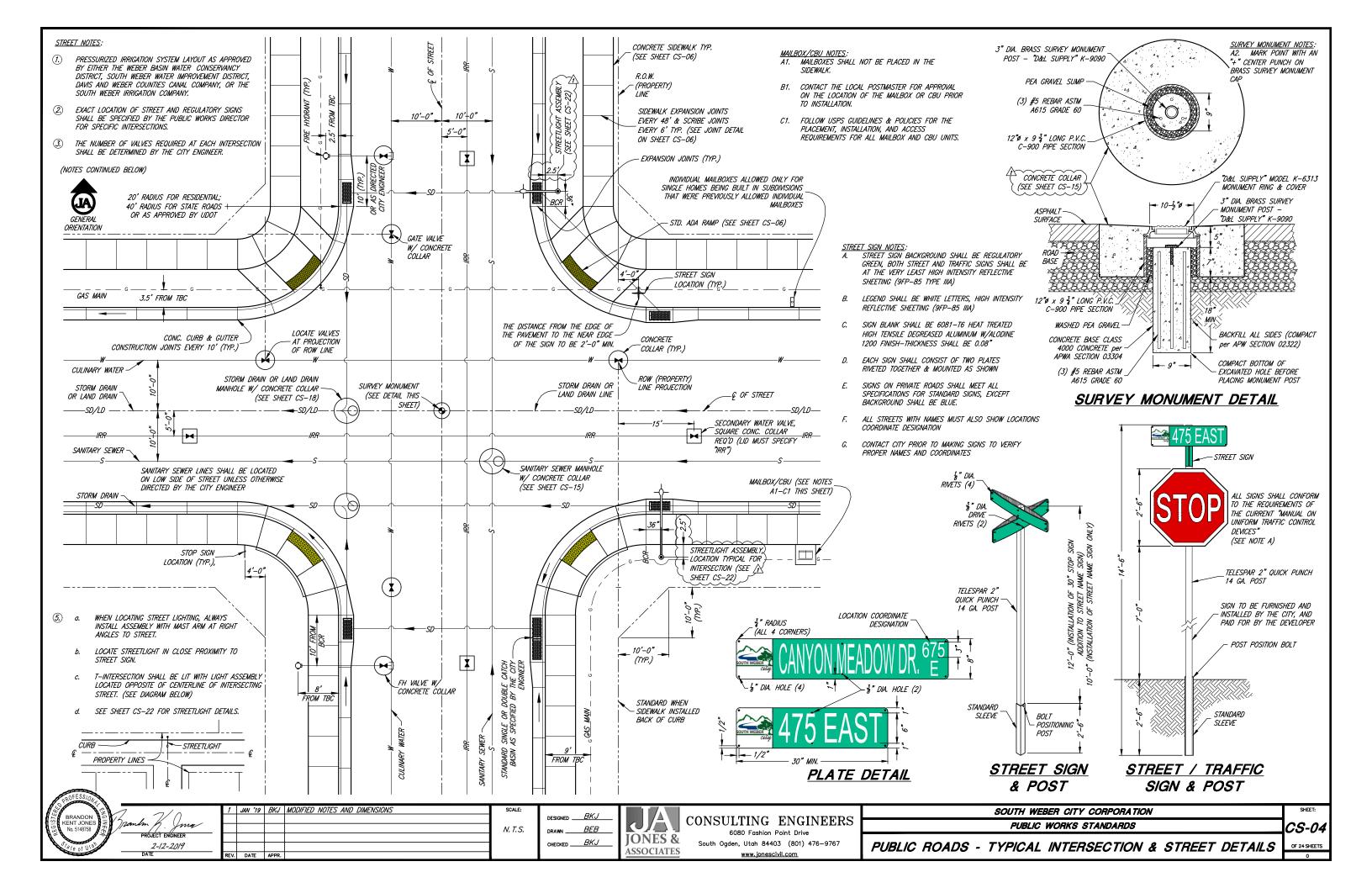
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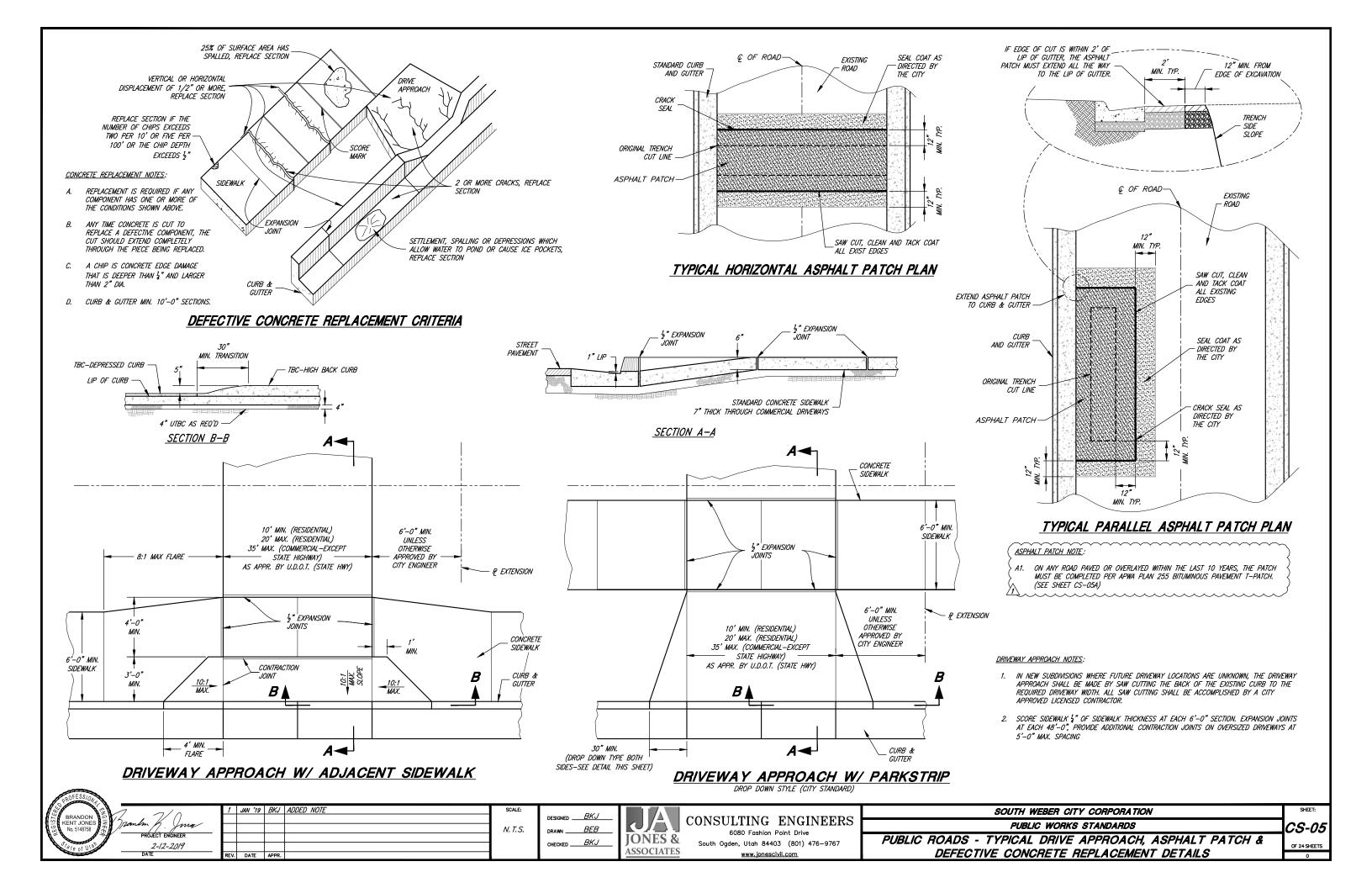
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- CS-22.....GENERAL STREET LIGHTING STANDARDS
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#### BITUMINOUS PAVEMENT T-PATCH NOTES:

#### 1. GENERAL:

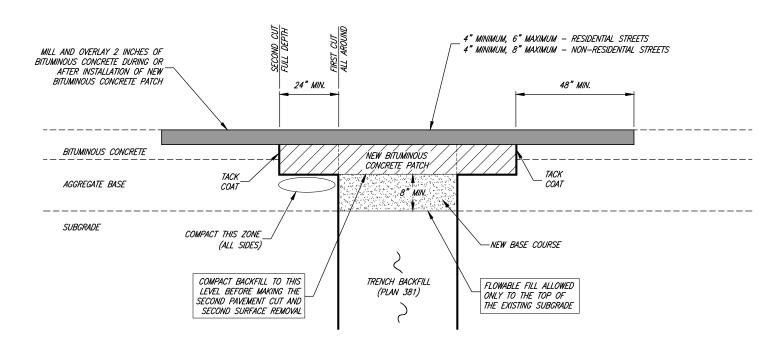
- VERTICAL CUTS IN BITUMINOUS PAVEMENT MAY BE DONE BY SAW OR PAVEMENT ZIPPING. IF CUTS GREATER THAN 6 INCHES ARE NECESSARY TO PREVENT PAVEMENT "BREAK OFF" CONSULT CITY ENGINEER FOR DIRECTION ON HANDLING ADDITIONAL COSTS
- REPAIR A T-PATCH RESTORATION IF ANY OF THE FOLLOWING CONDITIONS OCCUR PRIOR TO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

#### 2. PRODUCTS:

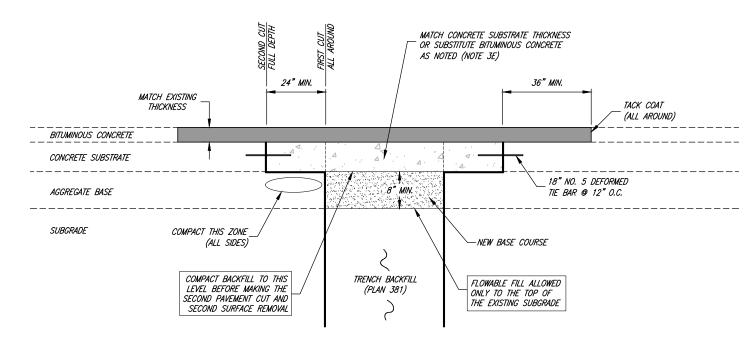
- BASE COURSE: UNTREATED BASE COURSE, APWA SECTION 32 11 23. DO NOT USE GRAVEL AS A BASE COURSE WITHOUT ENGINEER'S PERMISSION.
- FLOWABLE FILL: TARGET IS 60 PSI IN 28 DAYS WITH 90 PSI MAXIMUM IN 28 DAYS, APWA SECTION 31 05 15. IT MUST FLOW EASILY REQUIRING NO VIBRATION FOR CONSOLIDATION.
- REINFORCEMENT: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

#### 3. EXECUTION:

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



#### BITUMINOUS CONCRETE RESTORATION



#### COMPOSITE RESTORATION



Bituminous pavement T-patch

Plan November 2015



JULY '19 BKJ ADDED APWA REFERENCE NOTES & DETAILS TO STANDARDS

DESIGNED <u>BKJ</u> N. T.S. DRAWN CHECKED BKJ



*BEB* 

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

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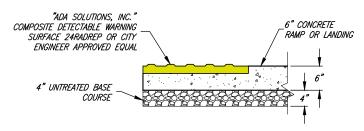
SOUTH WEBER CITY CORPORATION **PUBLIC WORKS STANDARDS** 

PUBLIC ROADS - APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH

CS-05A

#### DETECTABLE WARNING SURFACE NOTES:

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



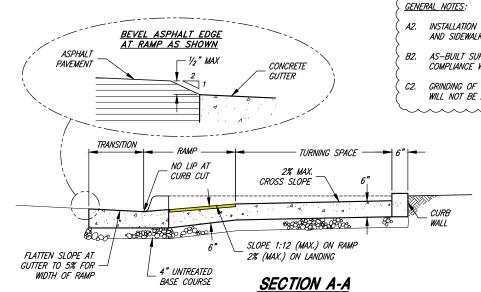
#### DETECTABLE WARNING SURFACE DETAIL

#### ADA RAMP NOTES:

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

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

- \* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL. CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.
- 1 5% MAX OR NATURAL SLOPE OF LAND
- <sup>2</sup> NOT TO EXCEED 2% IN ANY DIRECTION



SCRIBE SIDEWALK EVERY 6'-0".

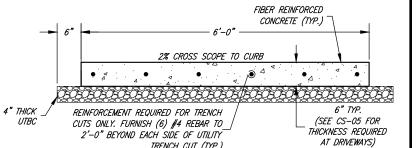
- EXPANSION JOINT EVERY 48'-0"

(SEE JOINT DETAIL THIS SHEET)

INSTALLATION TOLERANCES ON CURB & GUTTER AND SIDEWALK PER APWA 32 16 13, 3.7.

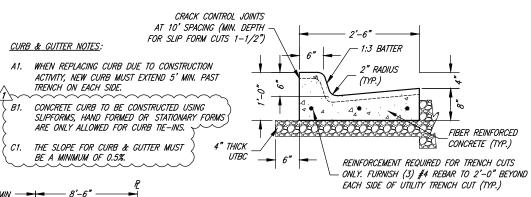
B2. AS-BUILT SURVEY MAY BE REQUIRED TO VERIFY COMPLIANCE WITH TOLERANCES.

GRINDING OF CONCRETE, TO MEET TOLERANCES, WILL NOT BE ALLOWED.



#### SIDEWALK SECTION

(CITY STANDARD)



## CURB & GUTTER SECTION

(CITY STANDARD.

1 " THICK PREMOULDED TOOLED OR SAW CUT ASPHALT & FELT OR MIN. DEPTH EQUALS 1 JOINT (%" WIDE. MIN.) ASPHALT & FIRER OF SLAB THICKNESS **EXPANSION JOINT** 

> **SCRIBE JOINT** (CRACK CONTROL JOINT)

> > 6' MIN. SIDEWALK

**EXPANSION JOINT** 

JOINT DETAIL

 $(\mathcal{S})$ R 6" CURB WALL AS DIRECTED BY CITY

PROPERTY

ADA RAMP-DETAIL "B" (WITH PARK STRIP)

> CONSULTING ENGINEERS 6080 Fashion Point Drive

> > www.jonescivil.com

CURB &

SOUTH WEBER CITY CORPORATION **PUBLIC WORKS STANDARDS** 

(WITHOUT PARK STRIP)

PUBLIC ROADS - TYPICAL ADA RAMP. SIDEWALK. CURB & GUTTER. AND CONCRETE JOINT DETAILS

CS-06 OF 24 SHEETS

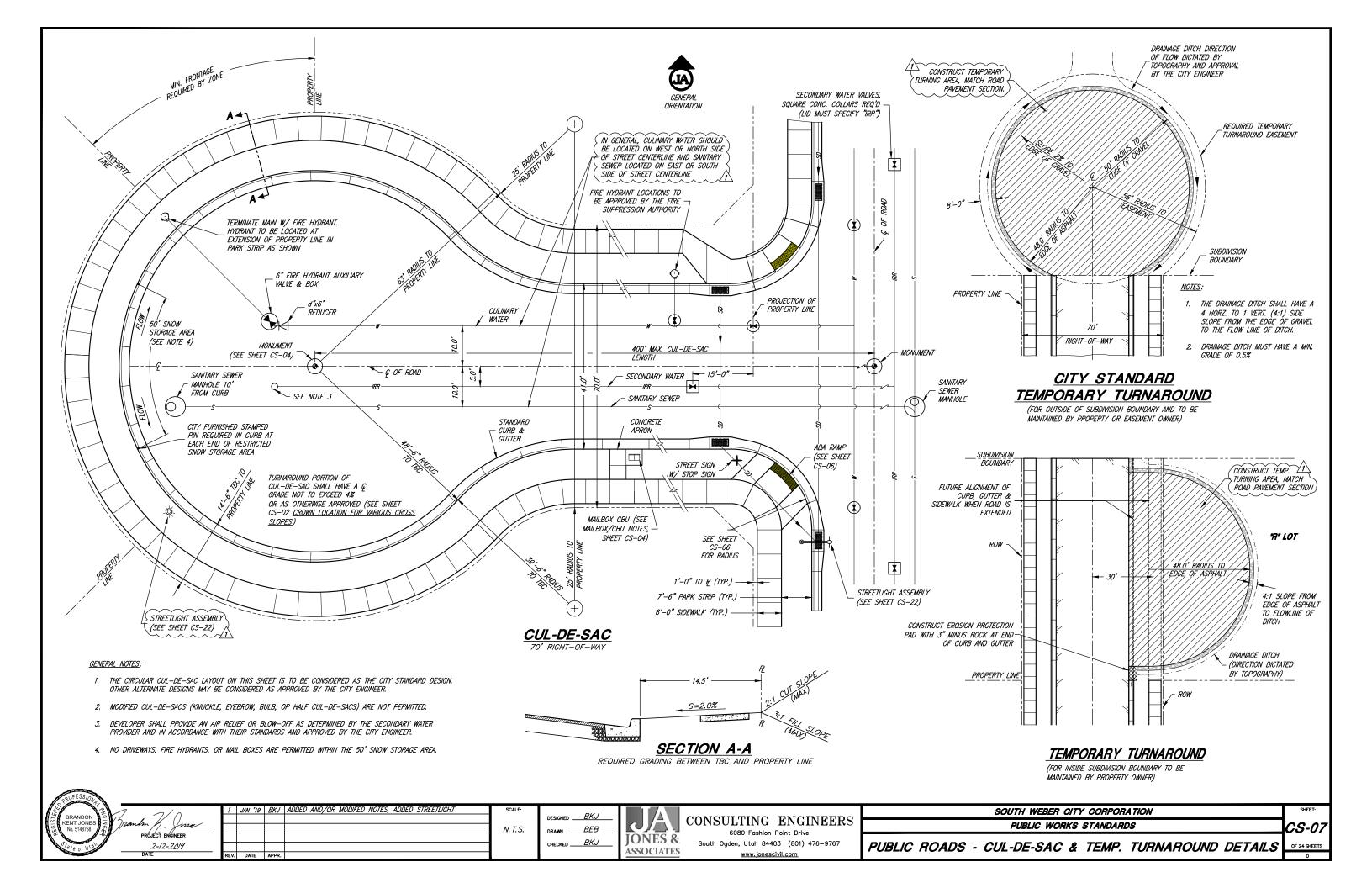
RAMP TY		* * * * * *		1	,	GUTTER
T VIEW	+	- · · · · · · · · · · · · · · · · · · ·		CONCRETE SIDEWALK		7
IG, AND INS		*		*		
E	10,-01	* * * * * * * * * * * * * * * * * * *		Ψ		,0,0
PA5). ON OF		* * * * * * * * * * * * * * * * * * *	<b>S</b>	* * * * * * * * * * * * * * * * * * *	20' RADIUS TO TBC UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER (40' RADIUS FOR STATE	
NG	CURB & GUTTER	* * * * * * * * * * * * * * * * * * * *	(B)		ROADS OR AS APPROVED BY UDOT)  PROPERTY LINE	_
	CRACK CONTROL JOINT @ 10'	F1 OR F2		mad D	* * * * * * * * * * * * * * * * * * * *	
S				/	6'-0"	
)	(E) 5: -0.		1:12 P	$ \checkmark  {}^{\textcircled{$\mathcal{B}}}$	(TYP.)	
)	o. /			F1 OR F2	\(\psi\) \(\nu\) \(\nu	
		S.S.			PARK STRIP	<b>b</b>
)				* * * * * *	* * * * * * * * * * * * * * * * * * *	4
						7
				TYPICAL	ADA RAMP	$\neg$

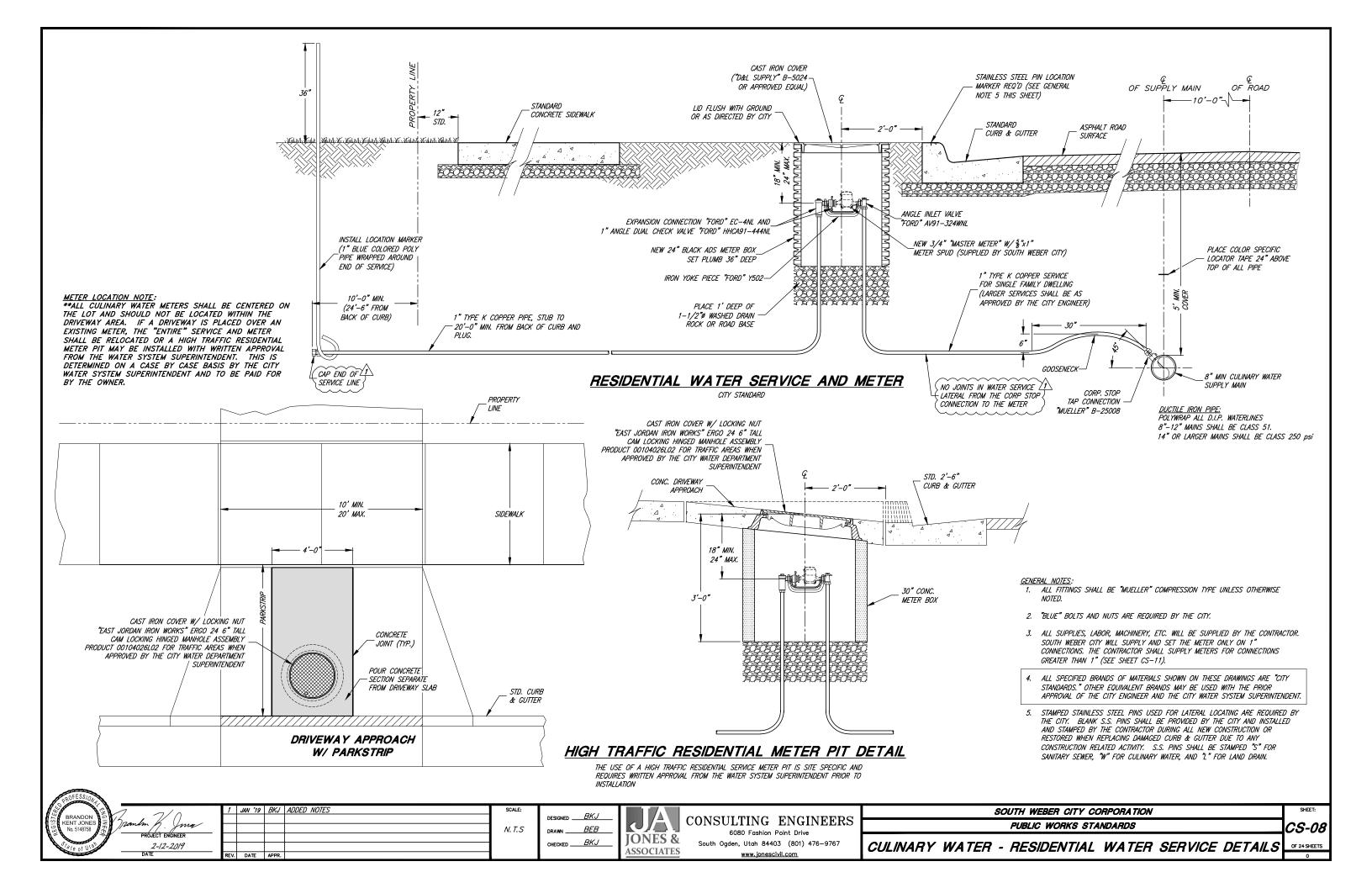
JAN '19 BKJ ADDED NOTES

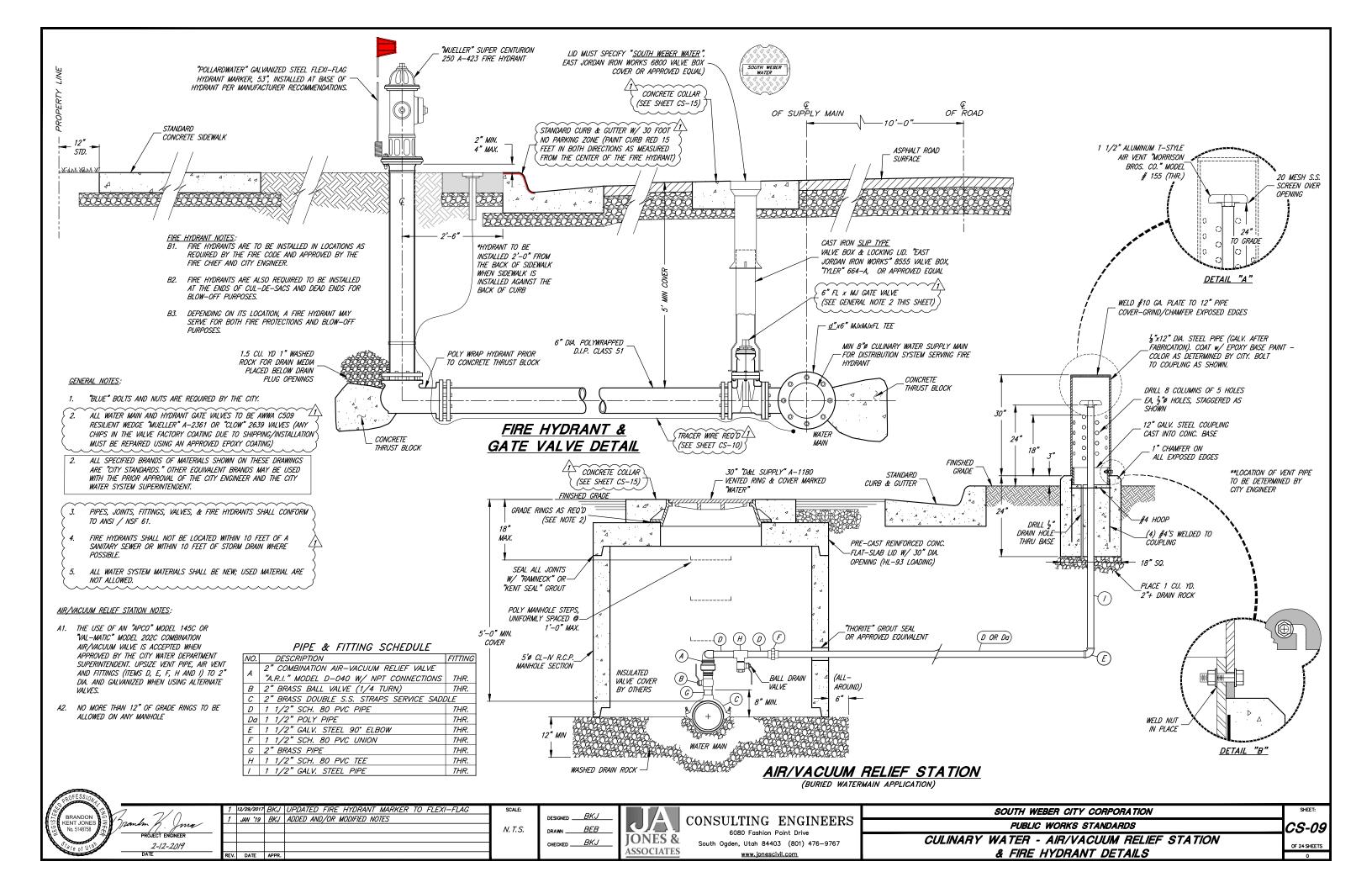
**JONES &** ASSOCIATES

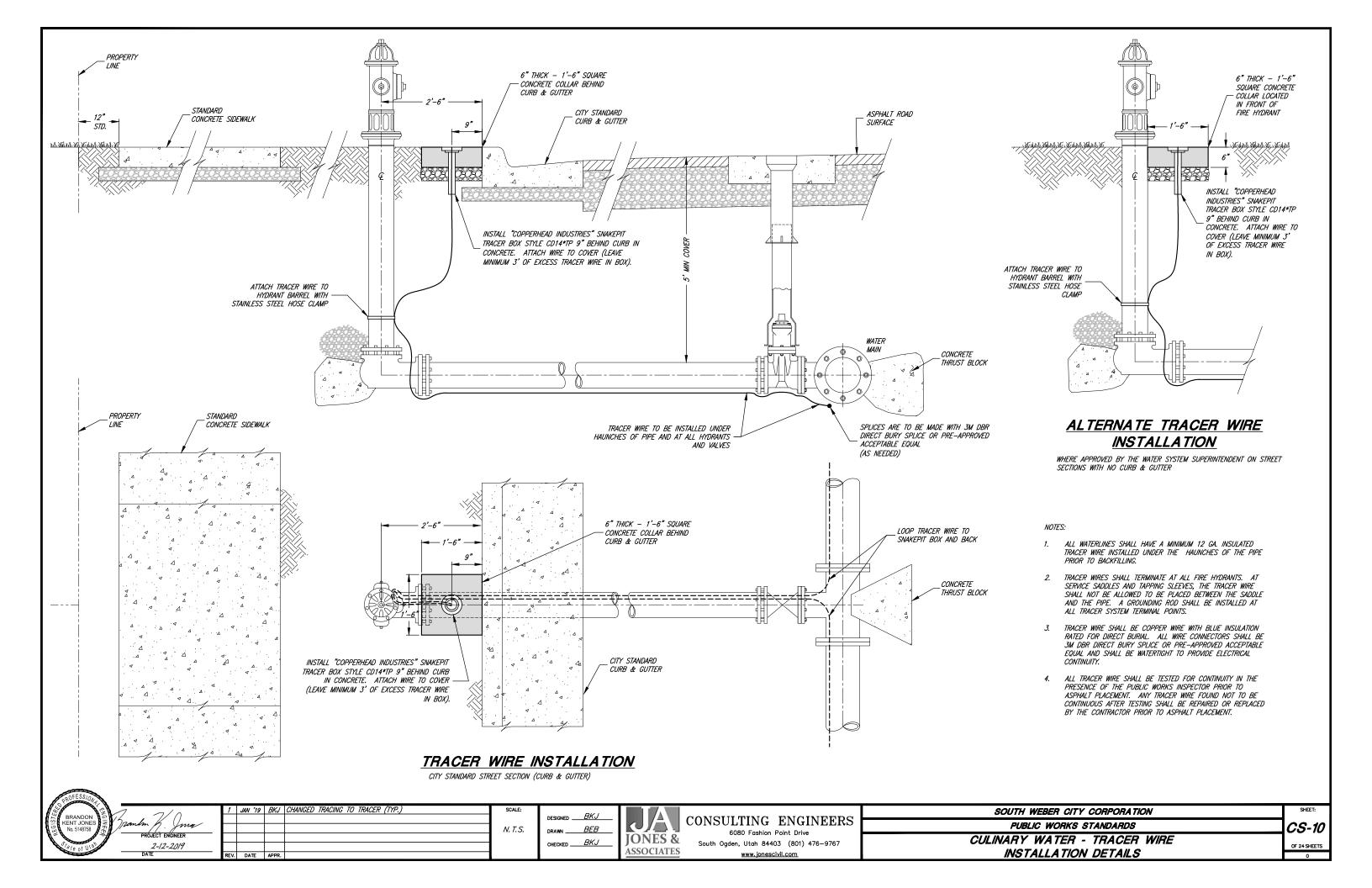
South Ogden, Utah 84403 (801) 476-9767

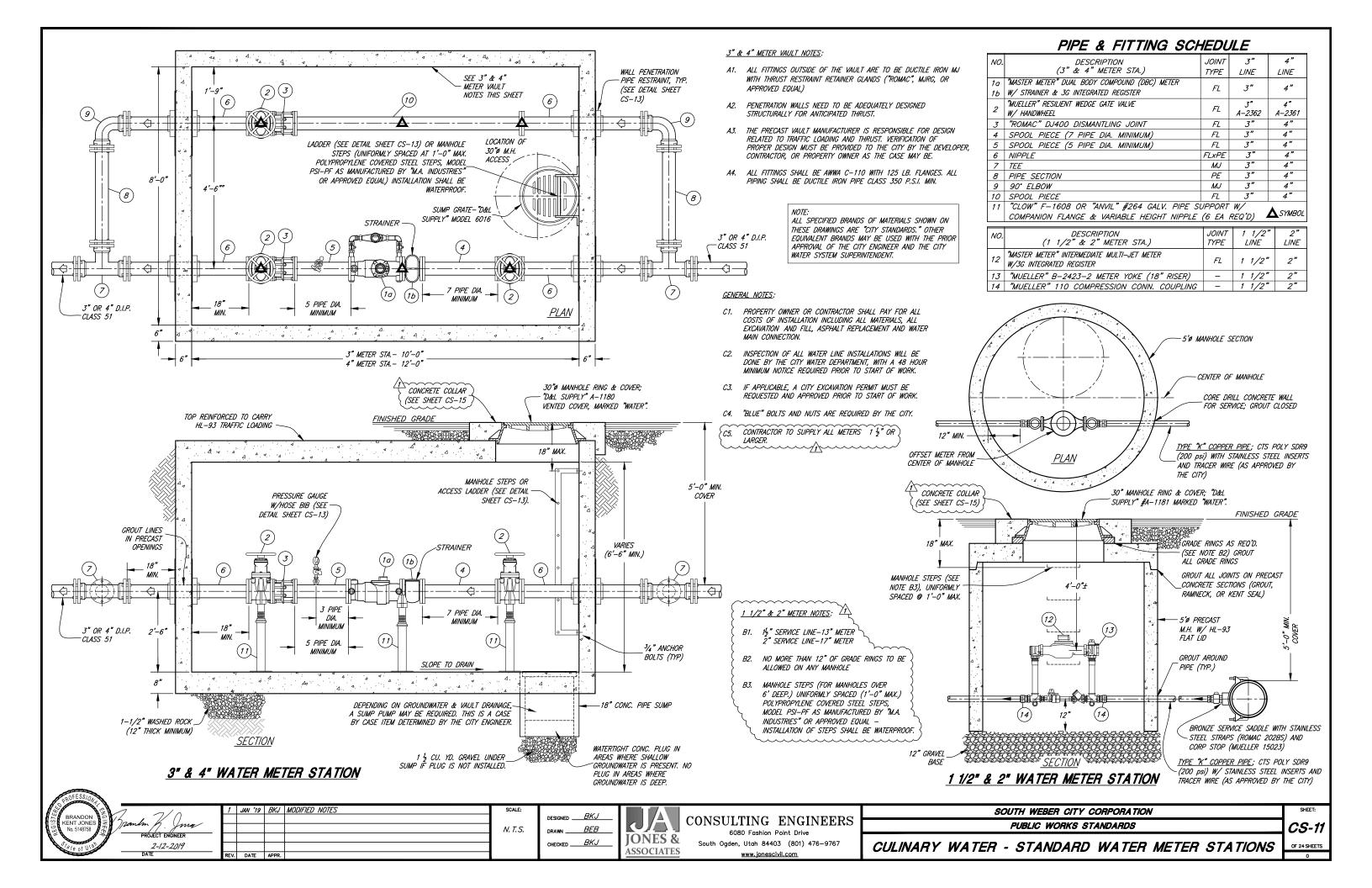
#### DESIGNED \_ N. T.S. **BEB** CHECKED BKJ 2-12-2019

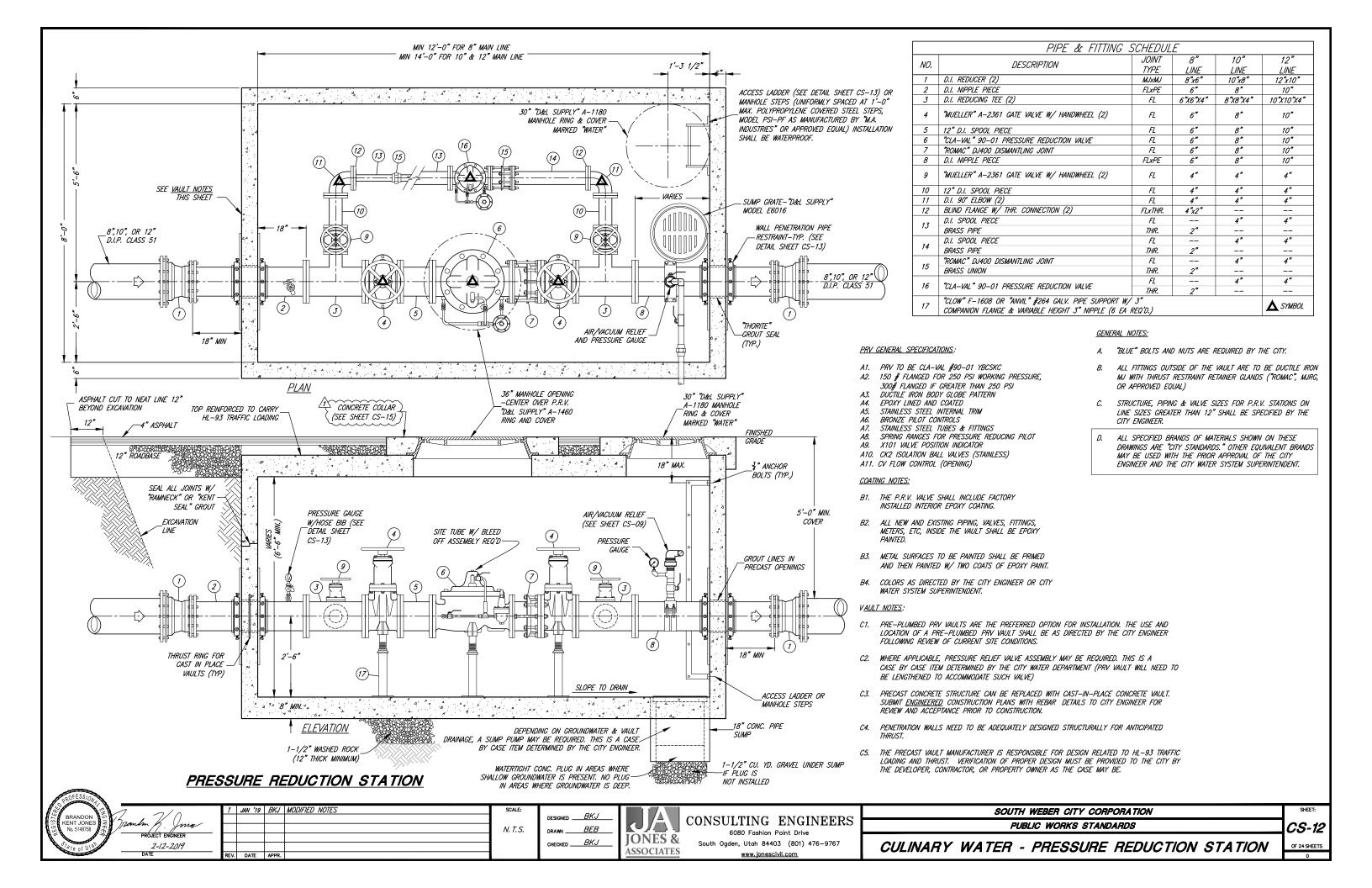


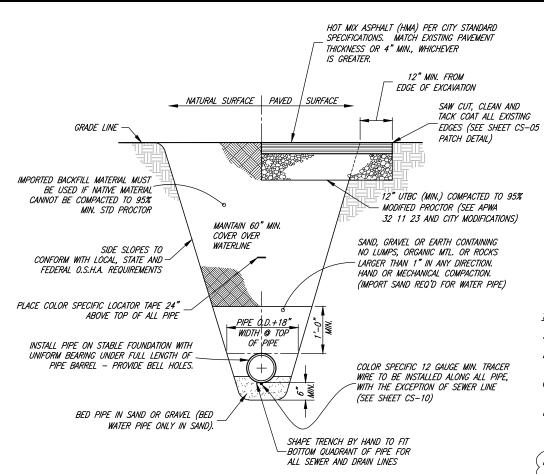












# TYPICAL TRENCH SECTION (WATER, IRRIGATION, SEWER, STORM DRAIN, AND LAND DRAIN)

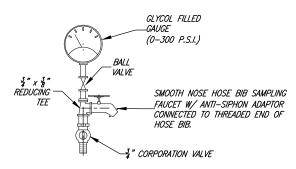
CL-51 POLYWRAPPED D.I.P. (TP.)

## TYPICAL WATERLINE LOOP

- (1) TRANSITION COUPLING; "ROMAC" MODEL 501
- ② MJ 45° BEND W/RETAINER GLANDS

2-12-2019

- (3) CONSTRUCT THRUST BLOCKS AT EACH 45' BEND W/(3) #6 REBAR SECURING BLOCK TO FITTING (EPOXY COATING)
- MINIMUM OF 12" COVER BETWEEN THE WATERLINE AND CONFLICTING UTILITY
  LINE TO BE CROSSED, EXCEPT LOOPS INVOLVING <u>SEWER MAINS</u> WHERE A
  MINIMUM OF 18" VERTICAL COVER ABOVE THE SEWER MAIN IS REQUIRED. EXCEPTIONS
  MUST BE APPROVED BY THE UTAH DIVISION OF DRINKING WATER (DDW.)
- (5) AN AIR/VACUUM RELIEF VALVE MAY BE REQUIRED ON A CASE BY CASE BASIS AS DIRECTED BY THE CITY WATER SYSTEM SUPERINTENDENT.



## PRESSURE GAUGE W/SAMPLING FAUCET DETAIL

#### TRENCH NOTES:

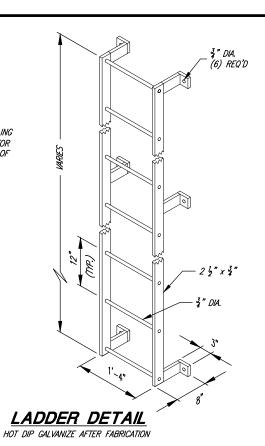
- A. BACKFILL PER APWA 33 05 20 AND CITY MODIFICATIONS.
- B. COMPACTION TEST REQUIRED AT SPRING—LINE FOR ALL P.V.C. OR H.D.P.E. PIPES.
- C. PAVEMENT RESTORATION PER APWA 33 05 25 AND CITY MODIFICATIONS.
- D. GRAVEL SURFACED AREAS, SUCH AS ROADS AND SHOULDERS, PARKING AREAS, AND UNPAVED DRIVENAYS, SHALL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

#### <u>PIPE RESTRAINT</u>

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

#### THRUST BLOCKING NOTES:

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



GLAND MUST POINT AWAY FROM THE VAULT WALL AS SHOWN.

SIEEL PLATE DIMENSIONS:
10"® PIPE OR LESS = 24"x24" PLATE
12"Ø-18"® PIPE = 36"x36" PLATE
20"® PIPE OR GREATER = AS DIRECTED BY
CITY ENGINEER

3" THICK STEEL PLATE (60 KSI) W/ HOLE
FOR PIPE SECTION- MAX. 1" CLEARANCE

GROUT
AROUND

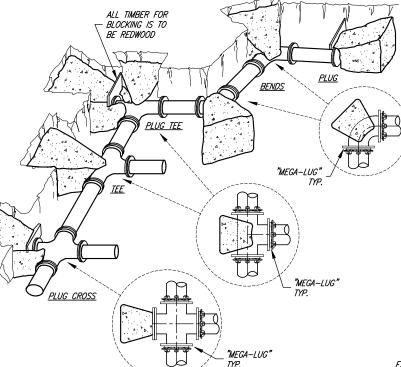
THE ANCHOR PINS OF THE RESTRAINING

WALL PENETRATION DETAIL

"ROMAC" MJRG RETAINER GLAND — RATED FOR

ANTICIPATED LINE PRESSURE (OR APPROVED EQUAL)

FOR PRECAST VAULT (TYP)



# TYPICAL RETAINER GLANDS & THRUST BLOCKING

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

#### NOTE

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

#### EXAMPLE:

8-INCH 90° ELBOW, PRESSURE 200 LB./SQ. IN. FROM TABLE: THRUST = 94 X 200 = 18,800 LB. ASSUME BEARING STRENGTH = 2.000 LB./SQ. FT.

18,8000 AREA OF BEARING REQUIRED 2,000 = 9.4 SQ. FT. FOR THRUST BLOCK

PROFESS/ONA				
	1	JAN '19	BKJ	ADDED AND/OR MODIFIED NOTES & DETAIL
BRANDON S Zamen Z				
No. 5148758 & Pandy				

V 19	BKJ	ADDED AND/OR MODIFIED NOTES & DETAIL	SCALE:
			N. T. S.
A TE	ADDD		



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SOUTH WEBER CITY CORPORATION

PUBLIC WORKS STANDARDS

CULINARY WATER - THRUST BLOCK, WATERLINE LOOP, PIPE TRENCH
& MISC. VAULT DETAILS

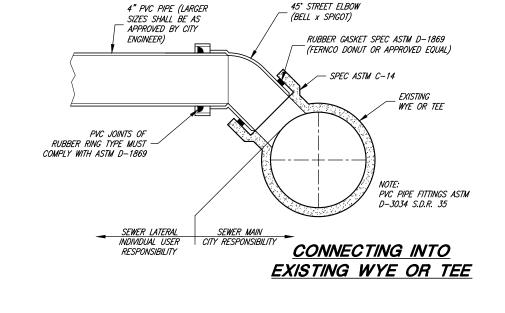
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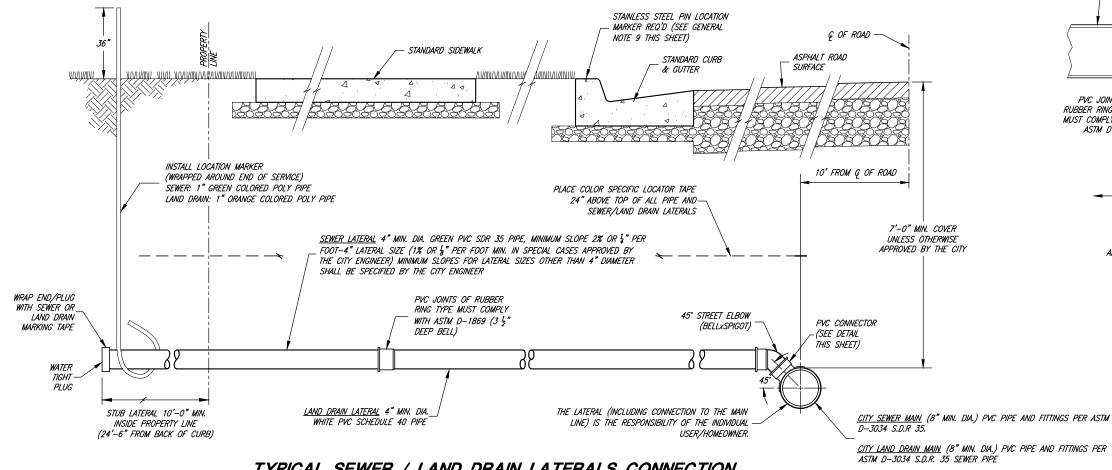
CS-13

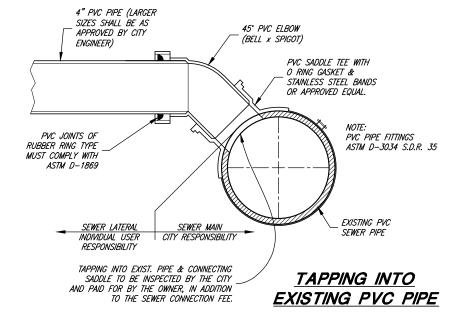
OF 24 SHEETS

#### GENERAL NOTES.

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







TYPICAL SEWER / LAND DRAIN LATERALS CONNECTION

' JAN '19 BKJ DELETED EX. DETAIL; MODIFIED NOTES 2-12-2019

DESIGNED <u>BKJ</u> N. T.S. *BEB* CHECKED BKJ

**JONES &** ASSOCIATES

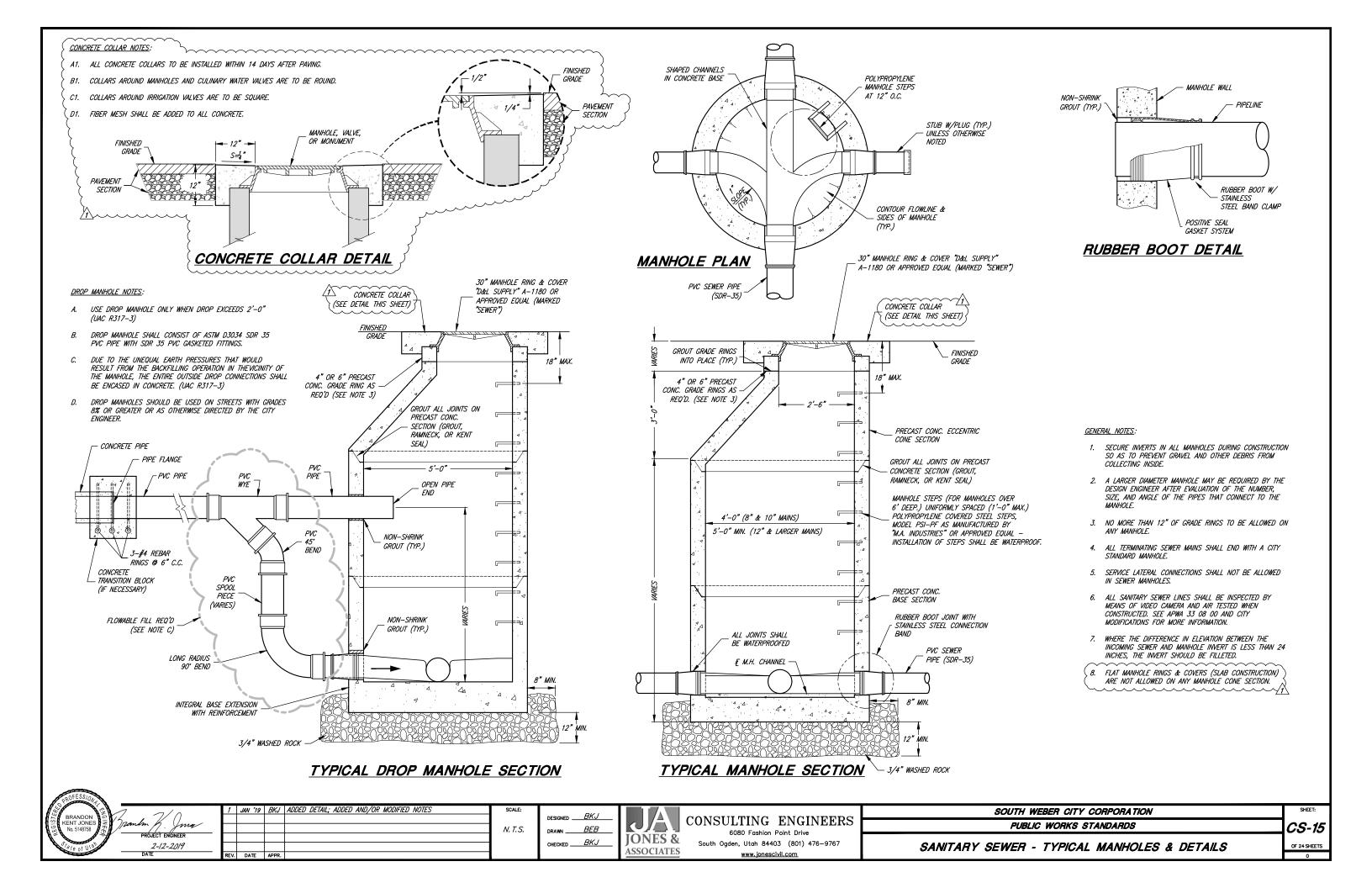
CONSULTING ENGINEERS 6080 Fashion Point Drive

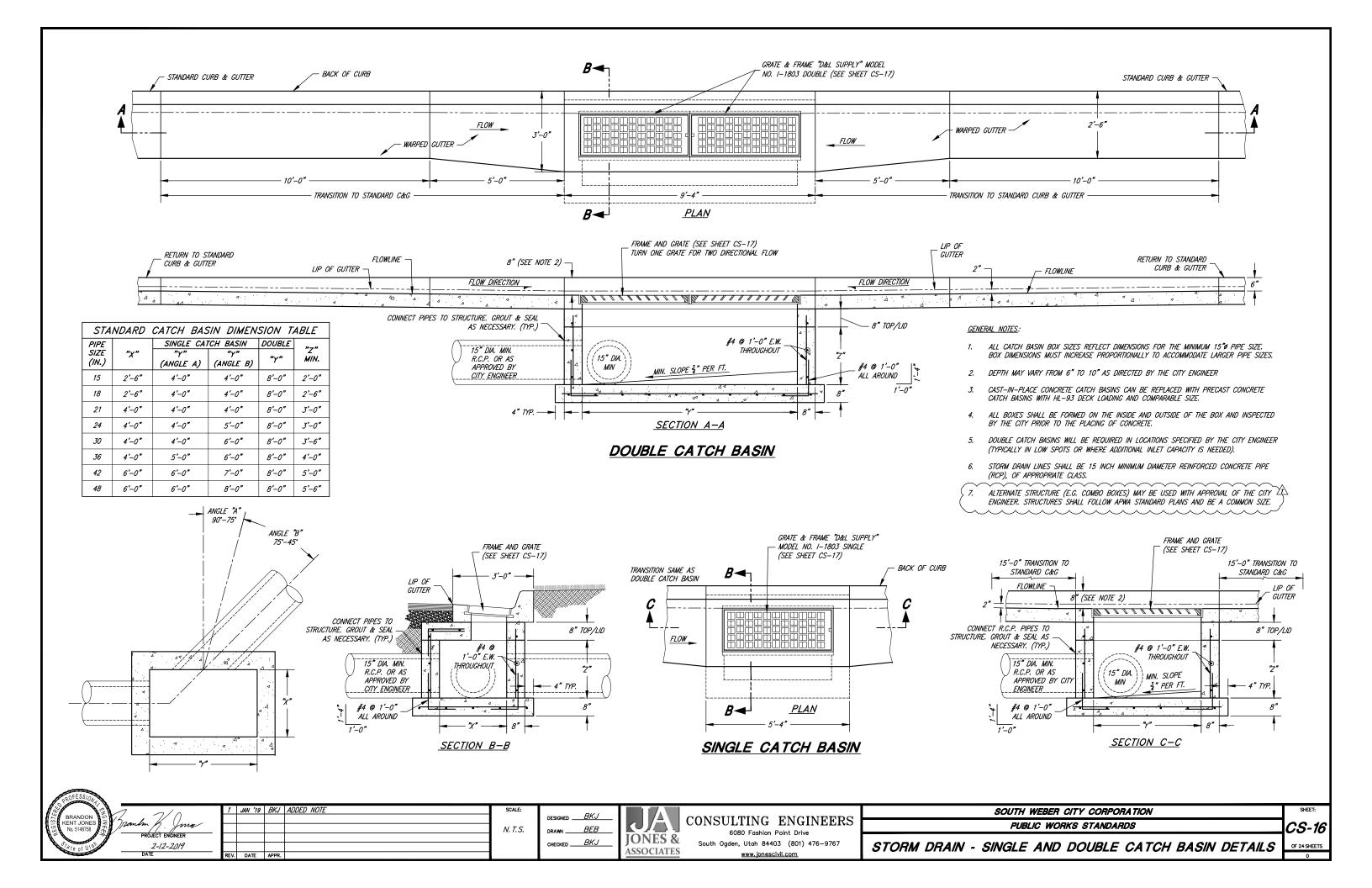
South Ogden, Utah 84403 (801) 476-9767 www.jonescivil.com

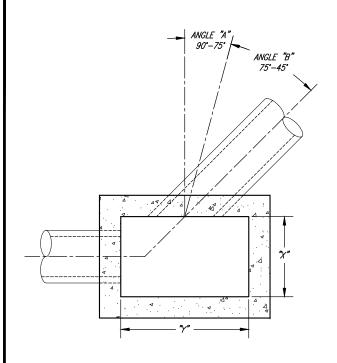
SOUTH WEBER CITY CORPORATION **PUBLIC WORKS STANDARDS** 

SANITARY SEWER - LATERAL & CONNECTION DETAILS

CS-14



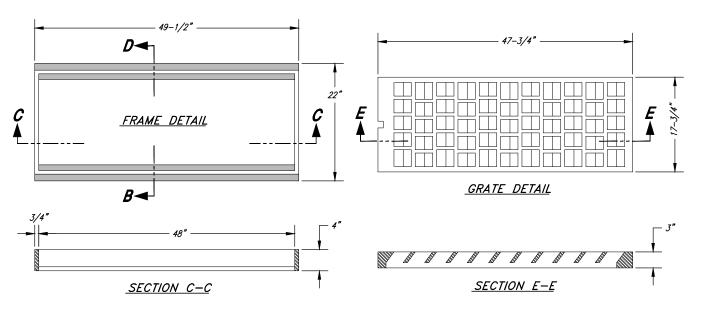




DRAINAGE DITCH INLET BOX DIMENSION TABLE						
PIPE SIZE (IN.)	"X"	INLET "Y" (ANGLE A)	"Z" MIN.			
15	2'-6"	4'-0"	4'-0"	2'-0"		
18	2'-6"	4'-0"	4'-0"	2'-6"		
21	4'-0"	4'-0"	4'-0"	3'-0"		
24	4'-0"	4'-0"	5'-0"	3'-0"		
30	4'-0"	4'-0"	6'-0"	3'-6"		
36	4'-0"	4'-0"	6'-0"	4'-0"		
42	6'-0"	6'-0"	7'-0"	5'-0"	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

#### **GENERAL NOTE**:

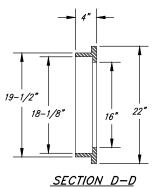
STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.

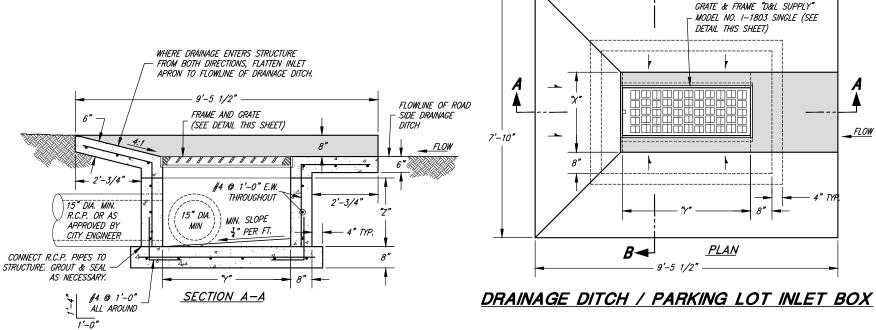


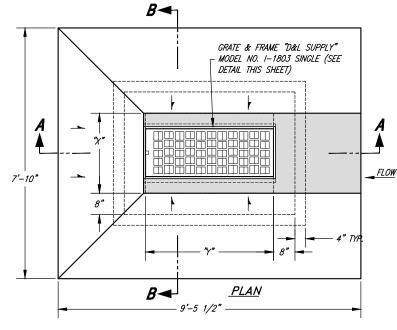
#### FRAME & GRATE DETAILS

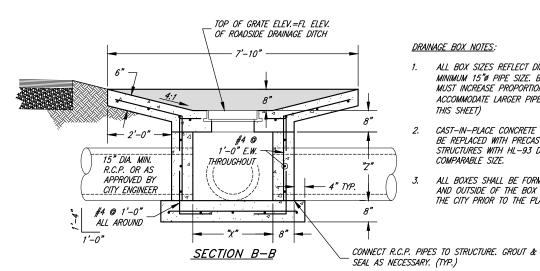
#### FRAME AND GRATE NOTES:

- A1. GRATE AND FRAME SHALL BE AS MANUFACTURED BY "D&L SUPPLY" 1-1803
- B1. BICYCLE SAFE GRATE REQUIRED.
- "OR EQUAL" GRATES AND FRAMES WILL BE CONSIDERED AS APPROVED BY THE CITY ENGINEER.









#### DRAINAGE BOX NOTES:

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

QROFESS/ON					
	7 2/2				SCALE:
BRANDON S	5-1/1				
DE No. 5148758	framen of ma				N. T. S
	PROJECT ENGINEER				
Vale of Ula	2-12-2019				
	DATE	DEV	DATE	ADDD	

DESIGNED	BKJ
DRAWN	BEB
CHECKED	BKJ



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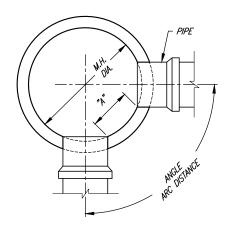
PUBLIC WORKS STANDARDS STORM DRAIN - DRAINAGE INLET BOX & GENERAL GRATE AND FRAME DETAILS

SOUTH WEBER CITY CORPORATION

CS-17

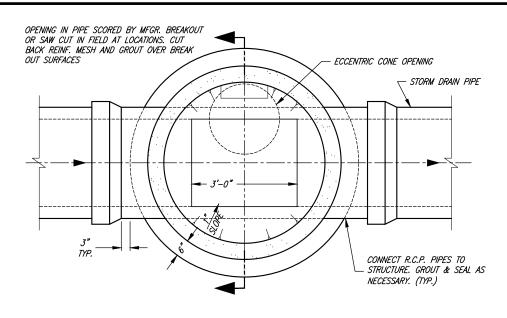
OF 24 SHEETS

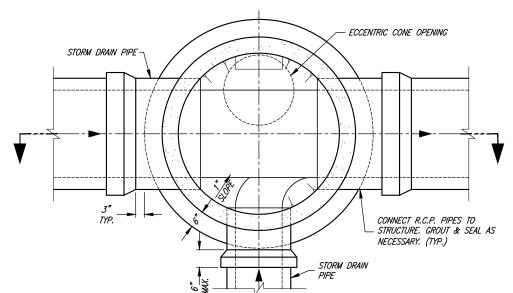
PIPE SIZES											
M.H.	IN-LINE M.H.			JUNCTION	MANHOLE (	ANGLE / AF	RC DISTANCE	<del>.</del> )			
SIZE	180°	90°	85°	80°	75°	70°	65°	60°	55°	50°	45°
4'ø M.H.	15"-24"	15"-18"	15"-18"	15"	<i>15"</i>						
5'ø M.H.	27"-30"	21"-24"	21"-24"	18"-21"	18"-21"	15"-18"	15"-18"	15"			
6'ø M.H.	36"-48"	27"-30"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



#### SIZING NOTES:

- 1. SUGGESTED "A" DISTANCE IS 6" OR GREATER FOR 48", 60" AND 72" DIAMETER MANHOLES
- SUGGESTED "A" DISTANCE IS 8" OR GREATER FOR 84" AND 96" DIAMETER MANHOLES



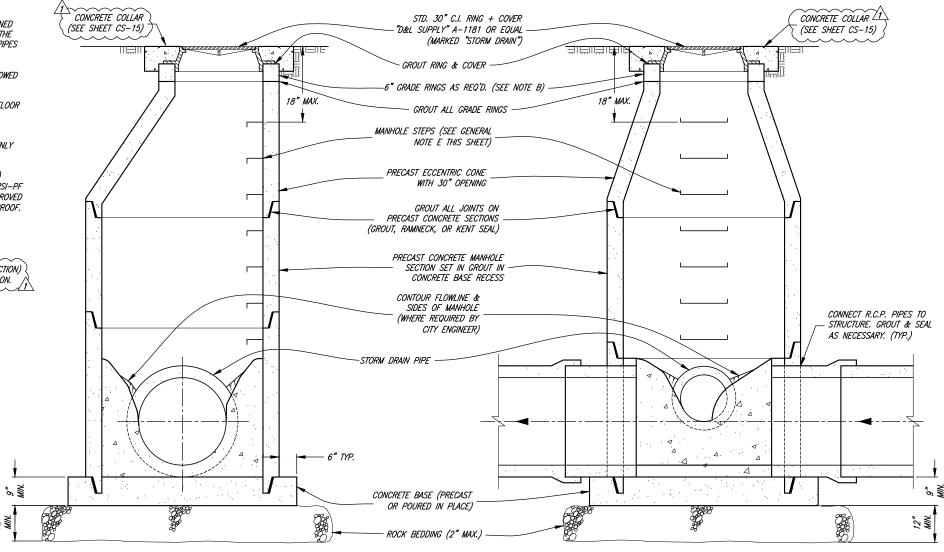


#### TYPICAL LINE MANHOLE

#### GENERAL NOTES:

- A. STORM DRAIN MANHOLE DIAMETER TO BE DETERMINED BY THE DESIGN ENCINEER AFTER EVALUATION OF THE NUMBER, SIZE, AND PIPE ENTRY ANGLE OF THE PIPES THAT CONNECT TO THE MANHOLE.
- B. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE
- C. PLYWOOD COVERS SHALL BE USED AT MANHOLE FLOOR TO COVER FLOWLINE DURING CONSTRUCTION AND MAINTENANCE ACTIVITIES.
- D. ALL INTERIOR JOINTS SHALL BE SMOOTH AND EVENLY GROUTED WITH NON-SHRINK GROUT MIX.
- E. MANHOLE STEPS UNIFORMLY SPACED (1'-0" MAX.)
  POLYPROPYLENE COVERED STEEL STEPS, MODEL PSI-PF
  AS MANUFACTURED BY "M.A. INDUSTRIES" OR APPROVED
  EQUAL-INSTALLATION OF STEPS SHALL BE WATERPROOF.
- F. STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
- G. FLAT MANHOLE RINGS & COVERS (SLAB CONSTRUCTION) ARE NOT ALLOWED ON ANY MANHOLE CONE SECTION.

## TYPICAL JUNCTION MANHOLE





1 JAW '19 BKJ CONCRETE COLLAR-DELETED NOTE/DIMENSIONS; ADDED NOTES

PROJECT ENGINEER

2-12-2019

 SCALE:
 DESIGNED
 BKJ

 N. T. S.
 DRAWN
 BEB

 CHECKED
 BKJ



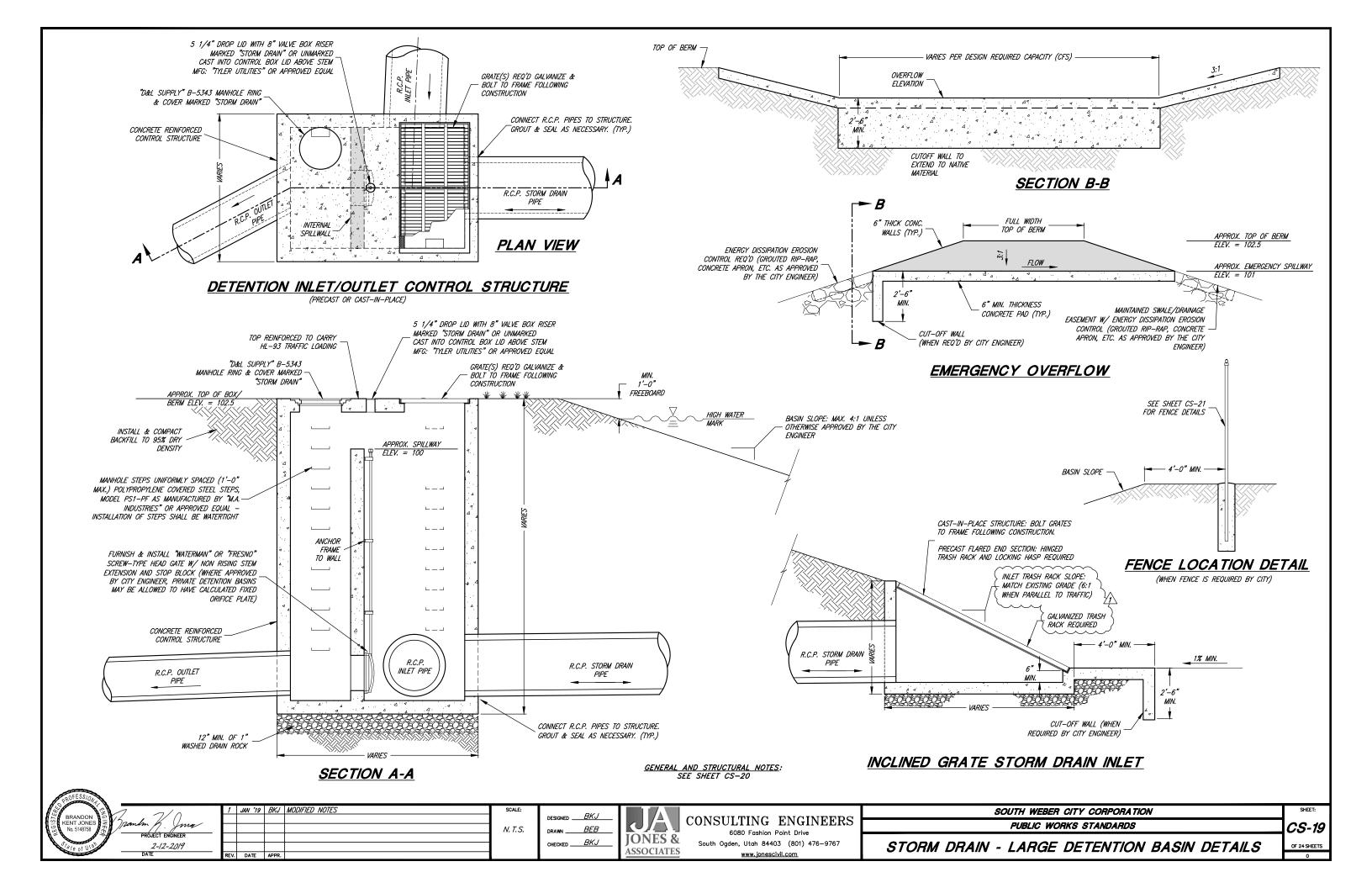
CONSULTING ENGINEERS

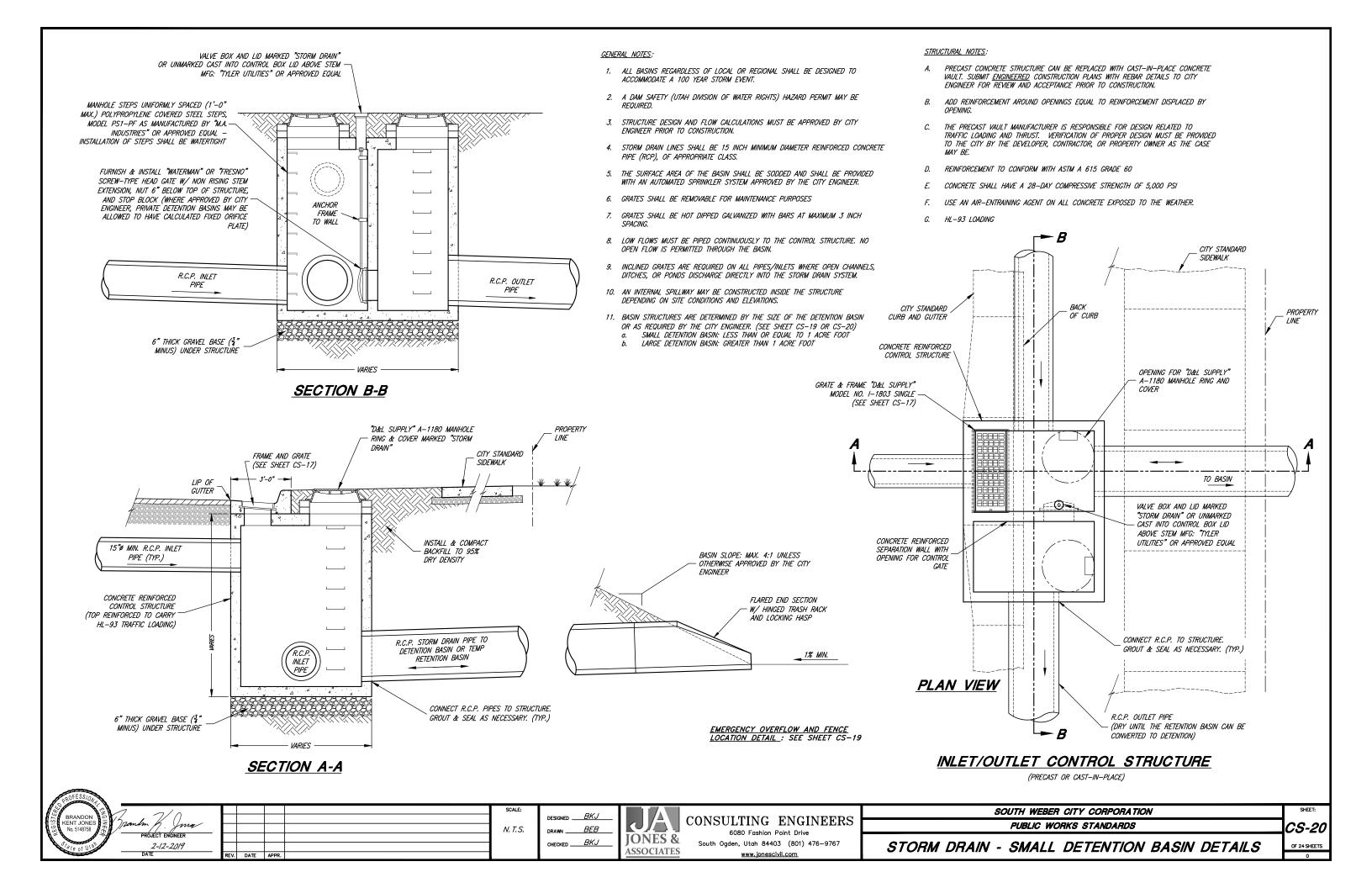
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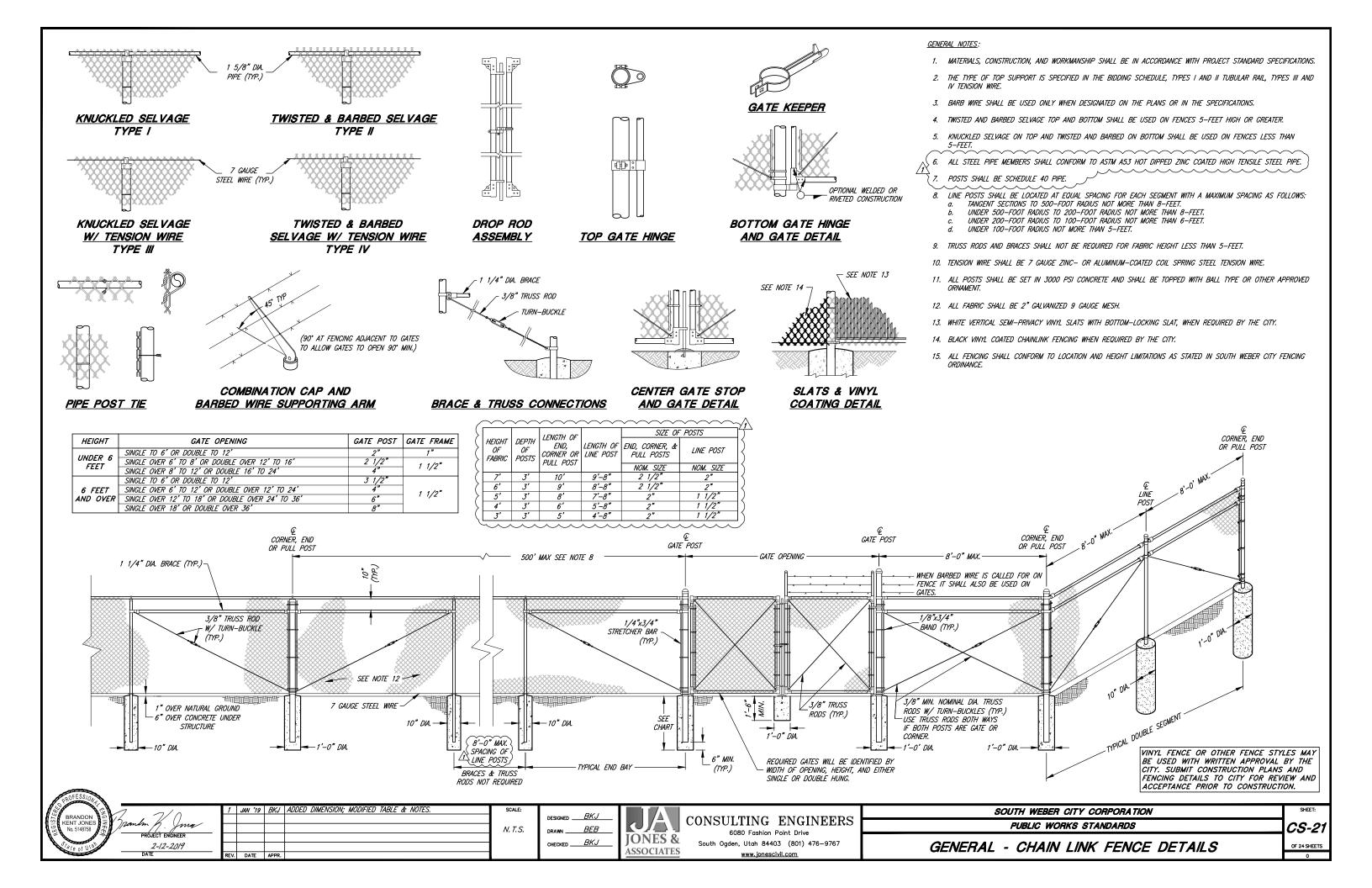
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SOUTH WEBER CITY CORPORATION	SHEET:
PUBLIC WORKS STANDARDS	CS-1
STORM DRAIN - MANHOLE DETAILS	OF 24 SHEE







#### STREETLIGHT STYLES AND LOCATIONS

#### RESIDENTIAL (SL-1):

- FIXTURE STYLE: LAMP POST
- POLE HEIGHT: 14 FEFT
- SPACING: MAXIMUM 400 FEET. ON ALTERNATING SIDES OF THE STREET
- LOCATION: CUL-DE-SACS, MID-BLOCK, AND MINOR INTERSECTIONS (WHEN APPROVED)

#### INTERSECTION (SL-2):

- FIXTURE STYLE: OVERHEAD WITH STRAIGHT DECORATIVE MAST ARM
- POLE HEIGHT: 18 FEET
- SPACING: INTERSECTIONS
- LOCATION: INTERSECTIONS AND PARKING LOTS (OR AS OTHERWISE DIRECTED)

#### CORRIDOR (SL-3):

- FIXTURE STYLE: OVERHEAD WITH CURVED DECORATIVE MAST ARM
- POLE HEIGHT: 18 FEET
- SPACING: MAXIMUM 300 FEET, ON ALTERNATING SIDES OF THE STREET
- LOCATION: ALONG THE SOUTH WEBER DRIVE AND SOUTH BENCH DRIVE CORRIDORS (OR AS OTHERWISE DIRECTED)
- ADDITION DECORATIVE FEATURES: BANNER POLES, FLOWER BASKETS, ETC. (AS APPROVED)

#### STREETLIGHT REQUIREMENTS

- POLES:

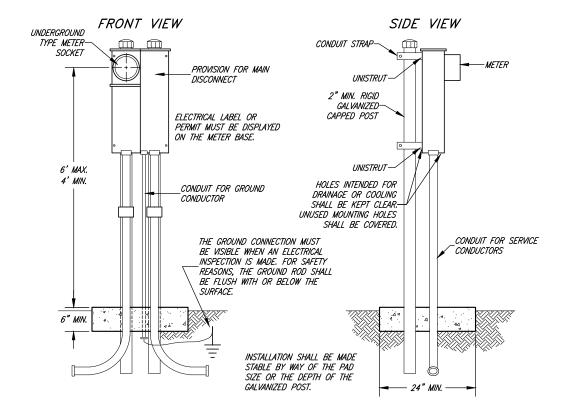
  1. ALL POLES MUST BE SEMI-GLOSS BLACK
  - 2. ALL POLES MUST BE THE SAME DIAMETER (NON-TAPERED), BUT HEIGHT VARIES AS STATED ABOVE
  - 3. ALL POLES MUST BE MOUNTED TO A CONCRETE FOOTING PER MANUFACTURER RECOMMENDATIONS
  - 4. ANCHOR BOLTS MUST NOT CONFLICT WITH THE BASE
  - 5. INTERSECTION AND CORRIDOR POLES MUST HAVE A GFCI LOCATED 2 FEET BELOW THE TOP OF THE POLE

- 6. ALL BASES MUST BE SEMI-GLOSS BLACK
- 7. ALL BASES MUST BE THE SAME STYLE AND SIZE
- 8. ALL BASES MUST BE TWO-PIECE CAST ALUMINUM
- 9. ALL BASES MUST CONTAIN THE CITY NAME IN SANDED ALUMINUM TEXT, AS APPROVED BY THE CITY
- 10. ALL BASES MUST HAVE A HANDHOLE WITH COVER

#### LIGHT FIXTURE:

- 11. ALL STREETLIGHT FIXTURES MUST BE LED
- 12. ALL STREETLIGHT FIXTURES MUST BE FULLY DARK-SKY COMPLIANT

- 13. THE COST OF ALL NEW DEVELOPMENT STREETLIGHTS IS THE RESPONSIBILITY OF THE DEVELOPER, AND IS PAID DIRECTLY TO THE CITY, PRIOR TO THE RECORDING OF THE PLAT
- 14. THE CITY IS RESPONSIBLE FOR INSTALLATION OF ALL STREETLIGHTS
- 15. THE DEVELOPER IS RESPONSIBLE TO PROVIDE ALL POWER INFRASTRUCTURE FOR THE DEVELOPMENT, INCLUDING COORDINATION WITH THE POWER COMPANY FOR CONNECTION AND SERVICE TO THE PROPOSED STREETLIGHTS
- 16. ALL PROPOSED STREETLIGHT TYPES AND LOCATIONS MUST BE SHOWN ON THE APPROVED IMPROVEMENT PLANS
- 17. THE JUNCTION BOX MUST BE FLUSH TO GRADE AND LOCATED WITHIN A MINIMUM OF 4' AND MAXIMUM OF 10' FROM THE BASE OF THE POLE
- 18. FOR SAFETY PURPOSES, STREETLIGHTS MUST CONTAIN BREAK-AWAY STYLE FEATURES
- 19. ALL STREETLIGHTS MUST BE DESIGNED TO MEET ALL BUILDING CODE STRUCTURAL REQUIREMENTS
- 20. ALL STREETLIGHTS SHOULD BE LOCATED ON LOT LINES WHEN NOT LOCATED AT AN INTERSECTION
- 21. ALL STREETLIGHTS SHOULD BE LOCATED 2.5 FEET BEHIND THE BACK OF CURB OR BACK OF SIDEWALK



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

(STEEL POLE)

INSTALLATION PER ROCKY MOUNTAIN POWER ELECTRIC SERVICE REQUIREMENTS MANUAL

#### DEVELOPER/CONTRACTOR WILL FURNISH AND INSTALL:

- METER SOCKET ENCLOSURE (UNDERGROUND TYPE WITH MANUAL-LINK BYPASS)
- PEDESTAL HARDWARE
- CONDUIT
- RIGHT-OF-WAY OR EASEMENT
- TRENCH EXCAVATION AND BACKFILL GROUNDING PER NEC
- CONCRETE PAD 24" x 24" x 6" DEPTH
- LONG RADIUS SWEEP
- 36" SWEEP

#### FREE-STANDING METER BASE REQUIREMENTS:

- A1. THE DEVELOPER/CONTRACTOR SHALL MEET WITH THE POWER COMPANY TO DETERMINE THE LOCATION OF THE
- B1. THE FREE-STANDING METER BASE SHALL BE LOCATED ADJACENT TO, OR IN, THE POWER COMPANY EASEMENT.
- C1. THE FREE-STANDING METER BASE SHALL MEET ALL LOCAL ORDINANCE REQUIREMENTS.
- THE METER SOCKET SHALL BE PROTECTED FROM DAMAGE BY USE OF BARRIER POSTS OR OTHER SUITABLE PROTECTION APPROVED BY THE POWER COMPANY.
- E1. THE DEVELOPER/CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN AN APPROVED PEDESTAL OR POLE POST.
- F1. THE ACCESS DOOR TO POWER COMPANY CONNECTIONS SHALL BE KEPT FREE OF OBSTRUCTIONS A MINIMUM OF 6" ABOVE THE FINAL GRADE, WITH A SEALABLE PROVISION FOR THE POWER COMPANY.
- G1. THE UNMETERED SERVICE CONDUCTOR AND THE METERED SERVICE CONDUCTOR SHALL NO BE RUN IN THE SAME CONDUIT. RACEWAY. OR GUTTER.
- H1. THE METER SOCKET AND SERVICE EQUIPMENT SHALL BE NEWA TYPE 3R (RAINPROOF), IN GOOD CONDITION WITH NO HOLES, DENTS OR DAMAGE, AND PLUMB IN ALL DIRECTIONS. THE INSTALLATION SHALL BE MADE WITH SUFFICIENT MATERIALS AND INSTALLED SUCH THAT IT REMAINS PLUMB FOR THE DURATION OF THE SERVICE.
- CONDUIT AND CONDUCTOR TRENCHERS SHALL BE LOCATED AWAY FROM (AND NEVER UNDERNEATH) THE PAD AND FOUNDATION. FOR MOBILE HOMES, TRENCHES SHALL BE LOCATED CLEAR OF THE AREA PROVIDED FOR THE
- WHERE TWO OR MORE METERS ARE LOCATED SIDE-BY-SIDE (SUCH AS WITH DUPLEXES OR IN MOBILE HOME PARKS), THE METER SOCKET ENCLOSURE SHALL BE PERMANENTLY LABELED WITH THE SPACE OR BERTH NUMBERS.



JAN '19 | BKJ | DELETED EX. LIGHT DETAILS; UPDATED STREETLIGHT NOTES

DESIGNED <u>BKJ</u> N. T.S. *BEB* DRAWN CHECKED BKJ



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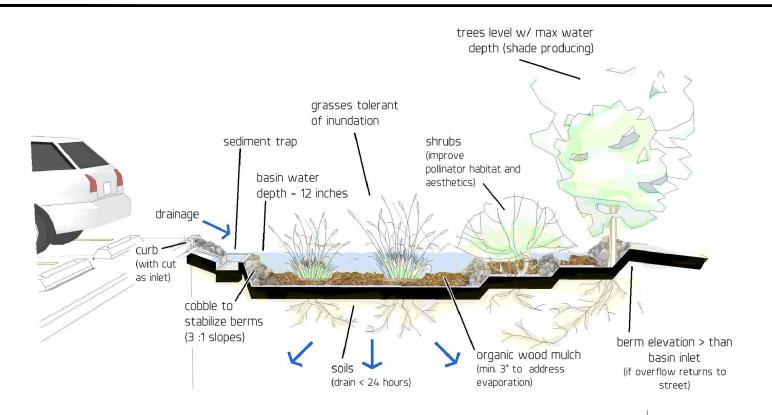
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SOUTH WEBER CITY CORPORATION **PUBLIC WORKS STANDARDS** 

CS-22

OF 24 SHEETS

GENERAL - STREET LIGHTING STANDARDS



Basic Basin Design Considerations

#### RAIN GARDEN

\*\*\* http://www.lid-stormwater.net/site\_map.htm \*\*\*



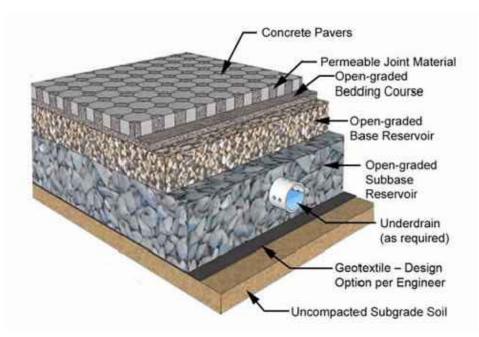
RAIN BARREL \*\*\* http://www.goodideasinc.com/products/rain-barrels/rain-wizard-50/ \*\*\*

diagram by

for SUH

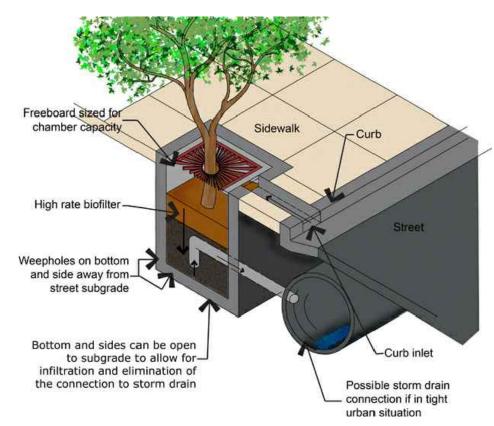
Paul Navrot

<u>DISCLAIMER:</u>
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#### PERMEABLE PAVER

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



TREE BOX FILTER From www.wbdg.org

N. T.S. **BEB** CHECKED BKJ 2-12-2019



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SOUTH WEBER CITY CORPORATION
PUBLIC WORKS STANDARDS

CS-23 GENERAL - LID (LOW IMPACT DEVELOPMENT) EXAMPLES