

CLEARFIELD CITY CORPORATION

CONSTRUCTION AND DEVELOPMENT

STANDARD DRAWINGS

SUBMITTED & RECOMMENDED

INDEX OF DRAWINGS (39 Sheets)

DocuSigned by:
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JONES & ASSOCIATES CONSULTING ENGINEERS



APPROVAL

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MARK SHEPHERD
CLEARFIELD CITY MAYOR
4/23/2024
DATE

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SPECIAL STANDARD NOTES:

A. THE CITY ADOPTS THE FOLLOWING AS STANDARDS FOR ALL ISSUES RELATED TO THE DESIGN, CONSTRUCTION, AND MAINTENANCE OF IMPROVEMENTS NOT SPECIFICALLY COVERED BY THIS MANUAL:

- APWA: MANUAL OF STANDARD SPECIFICATIONS (CURRENT EDITION) AND ALL ADOPTED AMENDMENTS
- APWA: MANUAL OF STANDARD PLANS (CURRENT EDITION)

B. AS TO ANY PARTICULAR ISSUE, IF A CONFLICT EXISTS BETWEEN ANY OF THE FOREGOING STANDARDS, THE CITY STANDARDS TAKE PRECEDENCE.

C. AT THE CITY'S SOLE DISCRETION, ALTERNATE METHODS OF CONSTRUCTION OR DEVIATIONS FROM THESE STANDARDS MAY BE REQUIRED OR APPROVED BY THE CITY ENGINEER AND PUBLIC WORKS DIRECTOR (OR THEIR DESIGNEE), WHEN SUCH ARE NECESSARY TO MEET THE BEST INTERESTS OF THE CITY.

D. WHEN CITY APPROVAL IS REQUIRED, IT SHALL MEAN APPROVAL FROM THE ADMINISTRATIVE LAND USE AUTHORITY, PUBLIC WORKS DIRECTOR, CITY ENGINEER, OR THEIR DESIGNEE.

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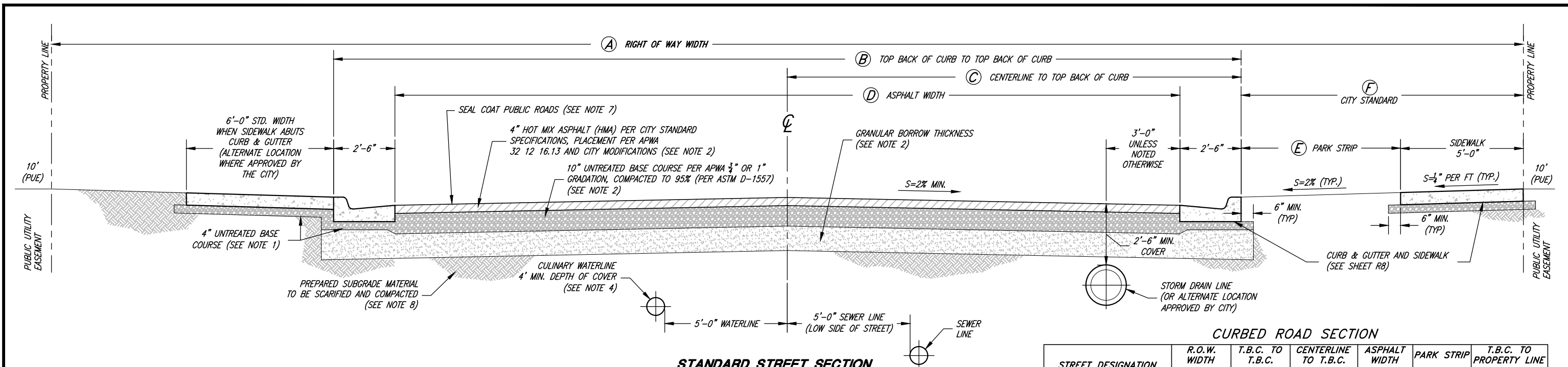
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APRIL 2024

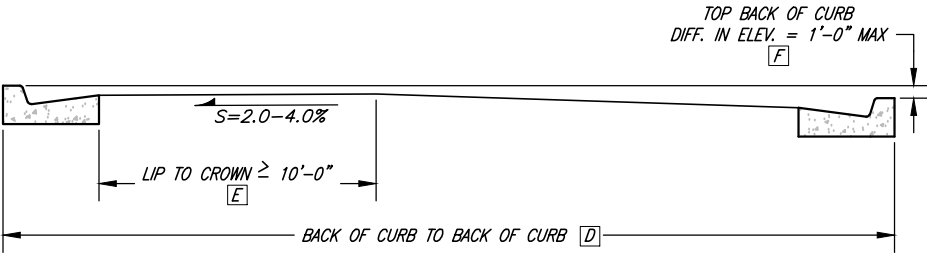


STANDARD STREET SECTION

CURBED ROAD SECTION

STREET DESIGNATION	R.O.W. WIDTH A	T.B.C. TO T.B.C. B	CENTERLINE TO T.B.C. C	ASPHALT WIDTH D	PARK STRIP E	T.B.C. TO PROPERTY LINE F
LOCAL RESIDENTIAL	60'-0"	37'-0"	18'-6"	32'-0"	6'-6"	11'-6"
SPECIAL RESIDENTIAL (SEE GENERAL NOTE 11)	60'-0"	41'-0"	20'-6"	36'-0"	4'-6"	9'-6"
MINOR COLLECTOR	66'-0"	47'-0"	23'-6"	42'-0"	4'-6"	9'-6"
MAJOR COLLECTOR	80'-0"	61'-0"	30'-6"	56'-0"	4'-6"	9'-6"
ARTERIAL (STATE ROADS/UDOT)	PER COORDINATION WITH THE CITY AND UDOT					

- NOTES:
- B1. THE ROAD SECTION REQUIRED SHALL BE AS DETERMINED BY THE CITY BASED UPON ZONING, GENERAL PLAN, MASTER PLAN, SIZE OF DEVELOPMENT, ESTIMATED TRAFFIC VOLUME, & AMOUNT OF OPEN SPACE ASSOCIATED WITH DEVELOPMENTS, AS WELL AS THE PROXIMITY TO HIGH VOLUME ROADS OR COMMERCIAL ZONING.
- B2. LOCATION OF SIDEWALK AND CURB & GUTTER MAY VARY ON INDIVIDUAL ARTERIAL STREETS PER DIRECTION OF THE CITY.



- CROWN NOTES:
- A1. MAXIMUM DIFFERENCE IN ELEVATION BETWEEN CURBS ON OPPOSITE SIDES OF THE STREET SHALL NOT EXCEED 1'-0" AS SHOWN IN DETAIL AND TABLE.
- A2. ON ARTERIAL STREETS AND CERTAIN STREETS APPROVED BY THE CITY ADMINISTRATIVE LAND USE AUTHORITY, THE CITY WILL PROVIDE A PAVEMENT DESIGN. LOCATION OF SIDEWALK AND CURB & GUTTER MAY VARY ON INDIVIDUAL ARTERIAL STREETS PER DIRECTION OF THE CITY.
- A3. ALL OTHER PROPOSED STREET CROSS SECTIONS SHALL BE AS APPROVED BY THE CITY.

CROWN LOCATION TABLE		
D	E	F
41'-0"	18'-0"	0'-0"
41'-0"	12'-0"	0'-6"
41'-0"	10'-0"	1'-0"
47'-0"	21'-0"	0'-0"
47'-0"	10'-6"	0'-6"
47'-0"	10'-6"	1'-0"
CUL-DE-SAC		1'-0" MAX.

CROWN LOCATION FOR VARIOUS CROSS SLOPES

- GENERAL NOTES:
1. PROVIDE 4" THICKNESS OF 3/4" OR 1" UNTREATED BASE COURSE UNDER SIDEWALK, DRIVEWAY APPROACHES AND CURB & GUTTER, COMPACTED TO 95%, PER ASTM D-1557.
2. THE PAVEMENT THICKNESS SHALL BE CONSIDERED AS CITY MINIMUMS AND MAY BE REQUIRED TO BE ADJUSTED WHEN A GREATER DEPTH IS NECESSARY TO PROVIDE STABILITY, OR PER THE GEOTECHNICAL REPORT OR CITY. DESIGNER AND/OR DEVELOPER MAY SUBMIT AN ALTERNATIVE PAVEMENT DESIGN BASED ON A DETAILED SOILS ANALYSIS FOR APPROVAL BY THE CITY WHICH MAY MODIFY PAVEMENT THICKNESS, BUT IN NO CASE SHALL THE BITUMINOUS SURFACE COURSE BE LESS THAN 4" THICK AND UNTREATED BASE COURSE LESS THAN 10" THICK. GRANULAR BORROW THICKNESS PER GEOTECHNICAL REPORT.
3. ALL ROAD CUTS SHALL BE PATCHED PER SHEET R9 AND SHEET R10
4. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION FROM ALL SEWER MAINS AND LATERALS OF 10'-0" HORIZONTAL AND 18" VERTICAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER RULES SECTION R309-550-7
5. THE 5'-0" SIDEWALK SHOWN ABOVE IS TO BE CONSIDERED THE "CITY STANDARD." OTHER LOCATIONS AND TYPES OF SIDEWALK AS REQUESTED BY THE DEVELOPER MUST BE APPROVED BY THE CITY. IF SIDEWALK IS LOCATED AGAINST THE T.B.C., IT MUST BE A MINIMUM OF 6'-0" IN WIDTH.
6. NATURAL GAS AND POWER AND COMMUNICATION LINES TYPICALLY LOCATED BEHIND PROPERTY LINES IN THE 10' PUBLIC UTILITY EASEMENT.
7. SEAL COAT NEW PAVEMENT APPROXIMATELY 6 MONTHS TO ONE YEAR AFTER INSTALLATION, PRIOR TO THE END OF THE ONE-YEAR DEVELOPMENT WARRANTY PERIOD, OR AS OTHERWISE DIRECTED BY THE CITY. "SEAL COAT" CONSISTS OF THE FOLLOWING:
- a. TYPE II SLURRY SEAL (RESIDENTIAL ROADS);
- b. CHIP SEAL WITH CAPE SEAL (LIGHTWEIGHT AGGREGATE).
8. IMPORTED FILL UNDER ROADWAY SHALL BE GRANULAR BORROW, 3" MAX.
9. ALL EARTHWORK SHALL BE SUBJECT TO SOIL TESTING.
10. TREES IN PARK STRIPS MUST BE APPROVED BY THE CITY.

- GENERAL NOTES CONT.:
11. THE SPECIAL RESIDENTIAL STREET SECTION SHALL BE USED FOR RESIDENTIAL ROADWAYS THAT QUALIFY TO BE WIDER (AS PER UTAH CODE 10-9A-508(51)). THE CITY CAN REQUIRE THE INSTALLATION OF PAVEMENT IN EXCESS OF 32 FEET FOR RESIDENTIAL ROADS THAT MEET THE FOLLOWING CONDITIONS:
- TO ADDRESS SPECIFIC TRAFFIC FLOW CONSTRAINTS AT AN INTERSECTION, MID-BLOCK CROSSINGS, OR OTHER AREAS;
 - TO ADDRESS AN APPLICABLE GENERAL OR MASTER PLAN IMPROVEMENT, INCLUDING TRANSPORTATION, BICYCLE LANES, TRAILS, OR OTHER SIMILAR IMPROVEMENTS THAT ARE NOT INCLUDED WITHIN AN IMPACT FEE AREA;
 - TO ADDRESS TRAFFIC FLOW CONSTRAINTS FOR SERVICE TO OR ABUTTING HIGHER DENSITY DEVELOPMENTS OR USES THAT GENERATE HIGHER TRAFFIC VOLUMES, INCLUDING COMMUNITY CENTERS, SCHOOLS, AND OTHER SIMILAR USES;
 - AS NEEDED FOR THE INSTALLATION OR LOCATION OF A UTILITY WHICH IS MAINTAINED BY THE MUNICIPALITY AND IS CONSIDERED A TRANSMISSION LINE OR REQUIRES ADDITIONAL ROADWAY WIDTH;
 - FOR THIRD-PARTY UTILITY LINES THAT HAVE AN EASEMENT PREVENTING THE INSTALLATION OF UTILITIES MAINTAINED BY THE MUNICIPALITY WITHIN THE ROADWAY;
 - FOR UTILITIES OVER 12 FEET IN DEPTH;
 - FOR ROADWAYS WITH A DESIGN SPEED THAT EXCEEDS 25 MILES PER HOUR;
 - AS NEEDED FOR FLOOD AND STORMWATER ROUTING;
 - AS NEEDED TO MEET FIRE CODE REQUIREMENTS FOR PARKING AND HYDRANTS;
 - OR AS NEEDED TO ACCOMMODATE STREET PARKING.

CITY ENGINEER					
3/8/2024					
DATE	REV.	DATE	APPR.		

SCALE:
N.T.S.



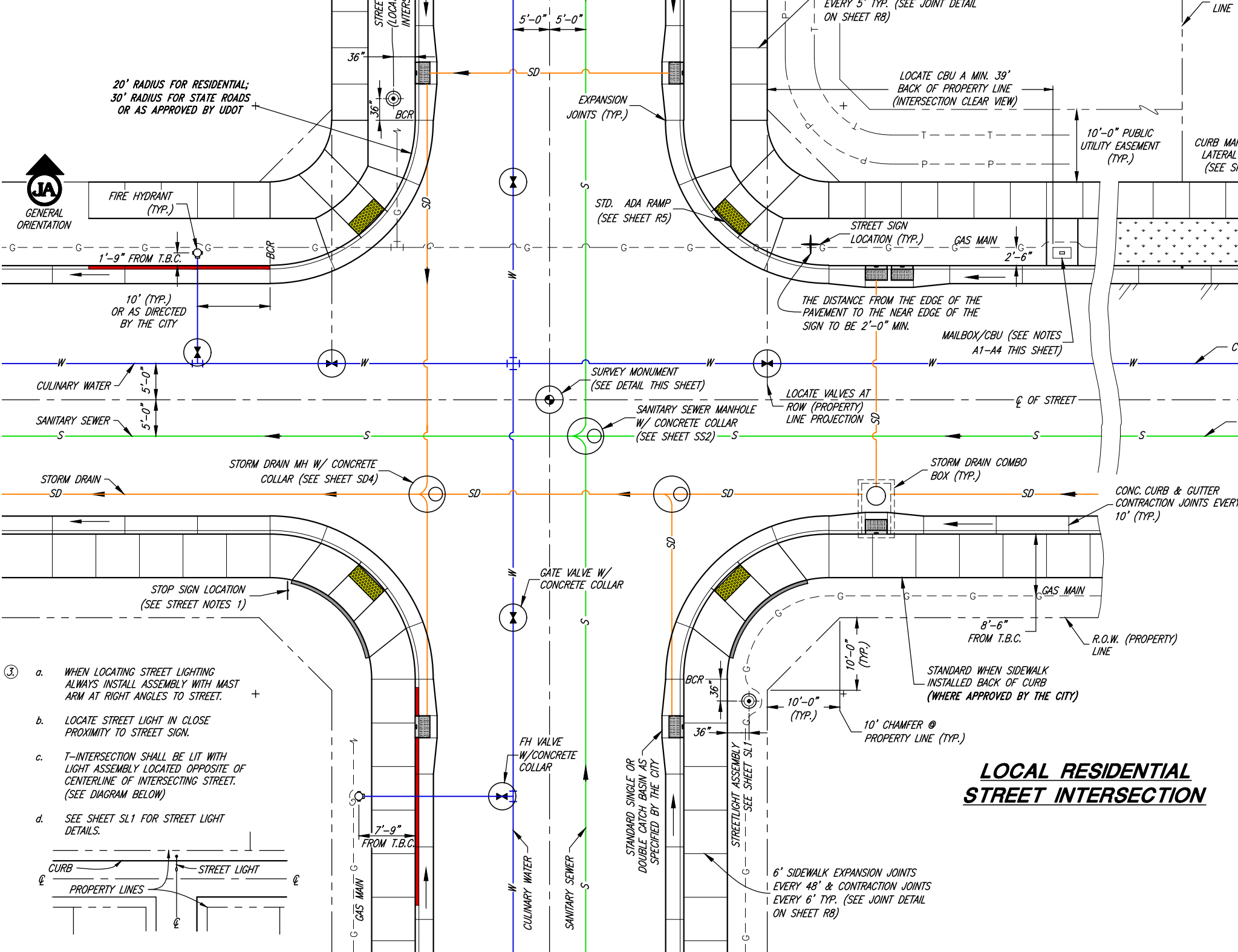
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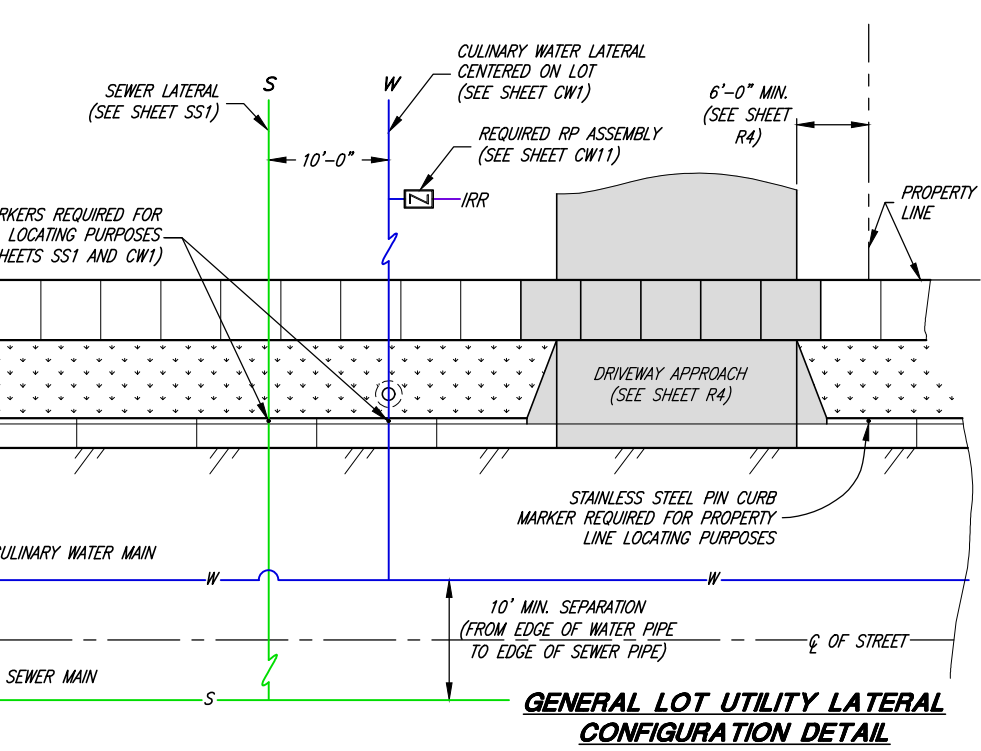
CLEARFIELD CITY CORPORATION	SHEET:
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS	R1
TYPICAL STREET SECTION DETAILS	OF X SHEETS
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- STREET NOTES:**
1. EXACT LOCATION OF STREET AND REGULATORY SIGNS SHALL BE SPECIFIED BY THE CITY.
 2. CITY UTILITY LINES MUST BE LOCATED IN A PUBLIC RIGHT-OF-WAY. NO CITY UTILITIES MAY BE CONSTRUCTED ON PRIVATE PROPERTY. ANY UTILITY LINES MAINTAINED BY THE CITY MUST ALSO BE IN A PUBLIC RIGHT-OF-WAY.

(NOTES CONTINUED BELOW)

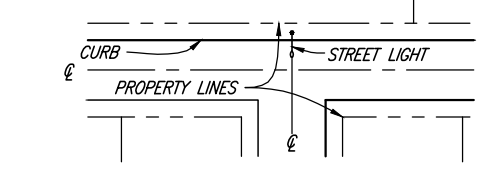


- MAILBOX/CBU NOTES:**
- A1. MAILBOXES SHALL NOT BE PLACED IN THE SIDEWALK. NO MAILBOX OR CBU EDGES SHALL EXTEND PAST THE T.B.C..
 - A2. PRIOR TO INSTALLATION, CONTACT THE LOCAL POSTMASTER FOR MAILBOX/CBU LOCATION APPROVAL.
 - A3. FOLLOW USPS GUIDELINES & POLICIES FOR THE PLACEMENT, INSTALLATION, AND ACCESS REQUIREMENTS FOR ALL MAILBOX AND CBU UNITS.
 - A4. INDIVIDUAL MAILBOXES SHALL ONLY BE PERMITTED FOR SINGLE FAMILY HOMES BUILT IN SUBDIVISIONS WITH EXISTING SINGLE MAILBOXES.

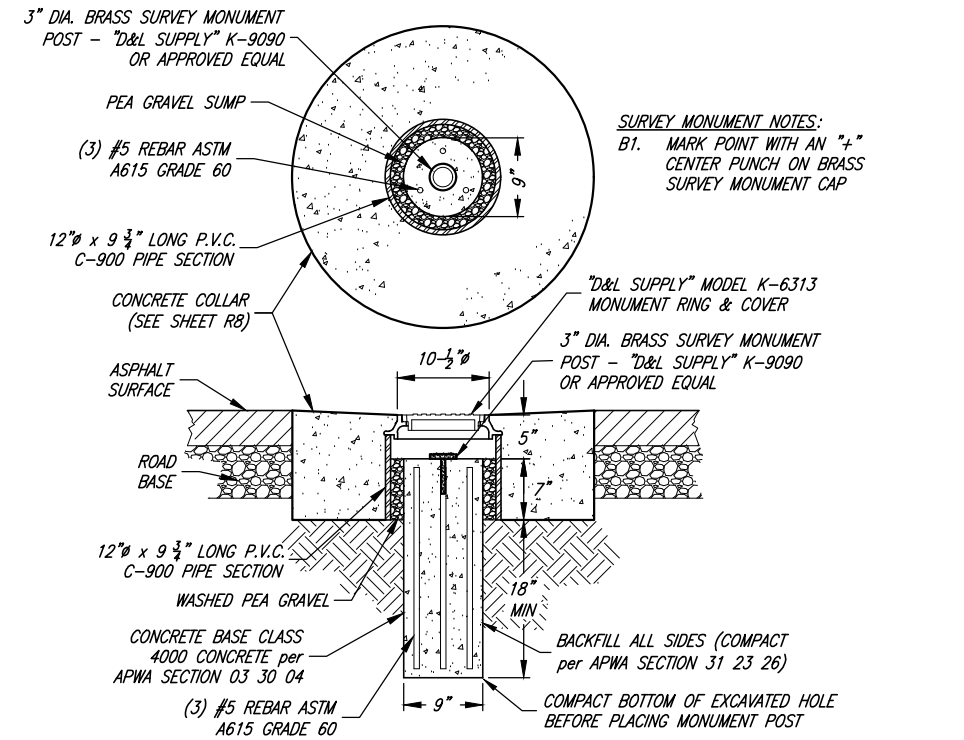


GENERAL LOT UTILITY LATERAL CONFIGURATION DETAIL

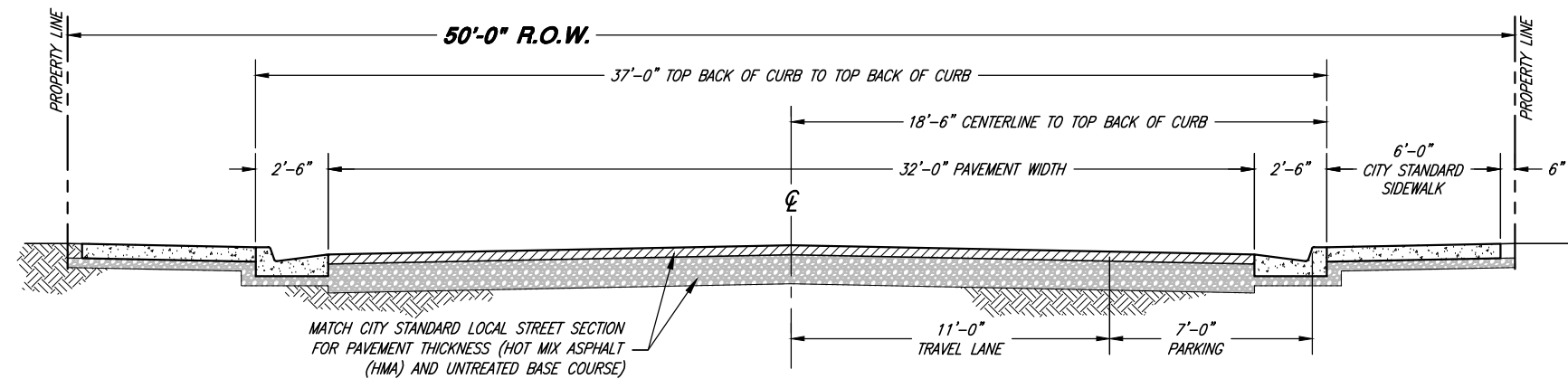
- a. WHEN LOCATING STREET LIGHTING ALWAYS INSTALL ASSEMBLY WITH MAST ARM AT RIGHT ANGLES TO STREET.
- b. LOCATE STREET LIGHT IN CLOSE PROXIMITY TO STREET SIGN.
- c. T-INTERSECTION SHALL BE LIT WITH LIGHT ASSEMBLY LOCATED OPPOSITE OF CENTERLINE OF INTERSECTING STREET. (SEE DIAGRAM BELOW)
- d. SEE SHEET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



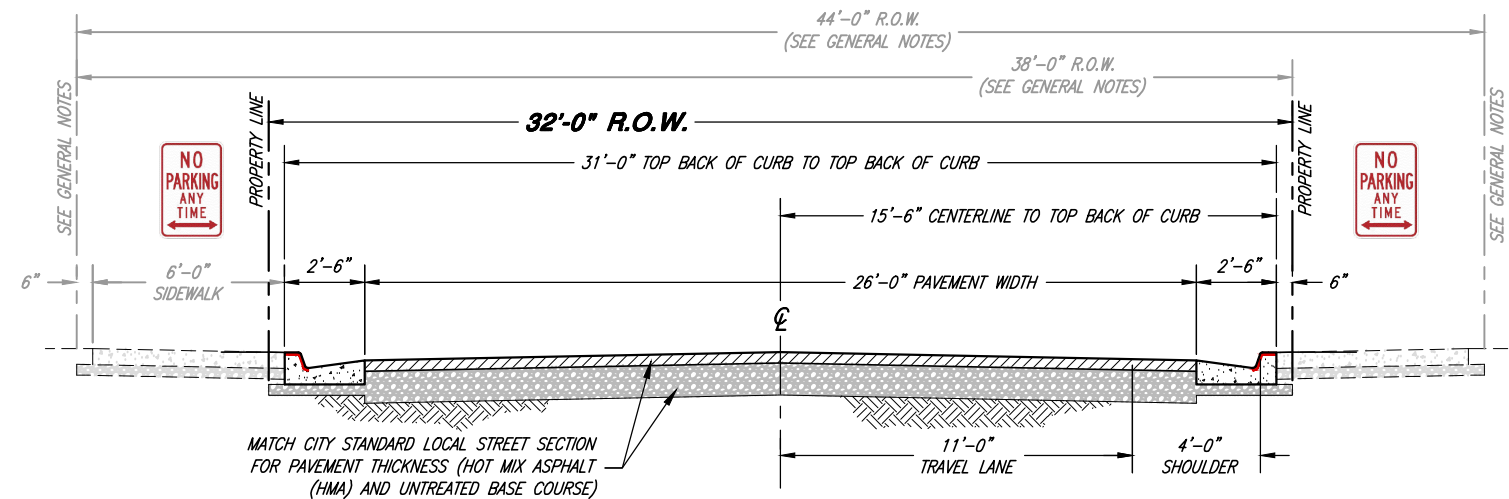
LOCAL RESIDENTIAL STREET INTERSECTION



SURVEY MONUMENT DETAIL



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



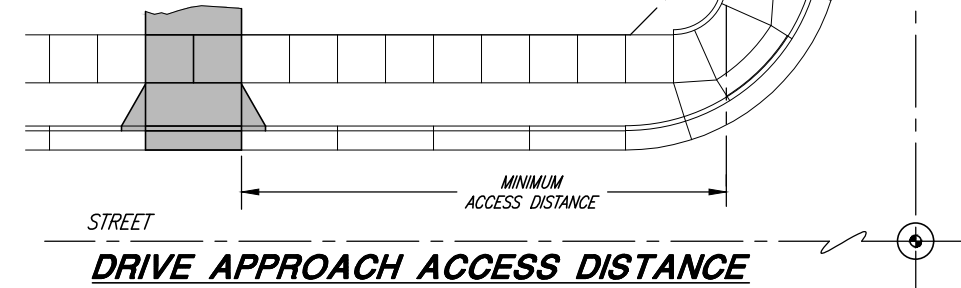
**32' RIGHT-OF-WAY
PRIVATE ROADWAY STREET SECTION B**

GENERAL NOTES:

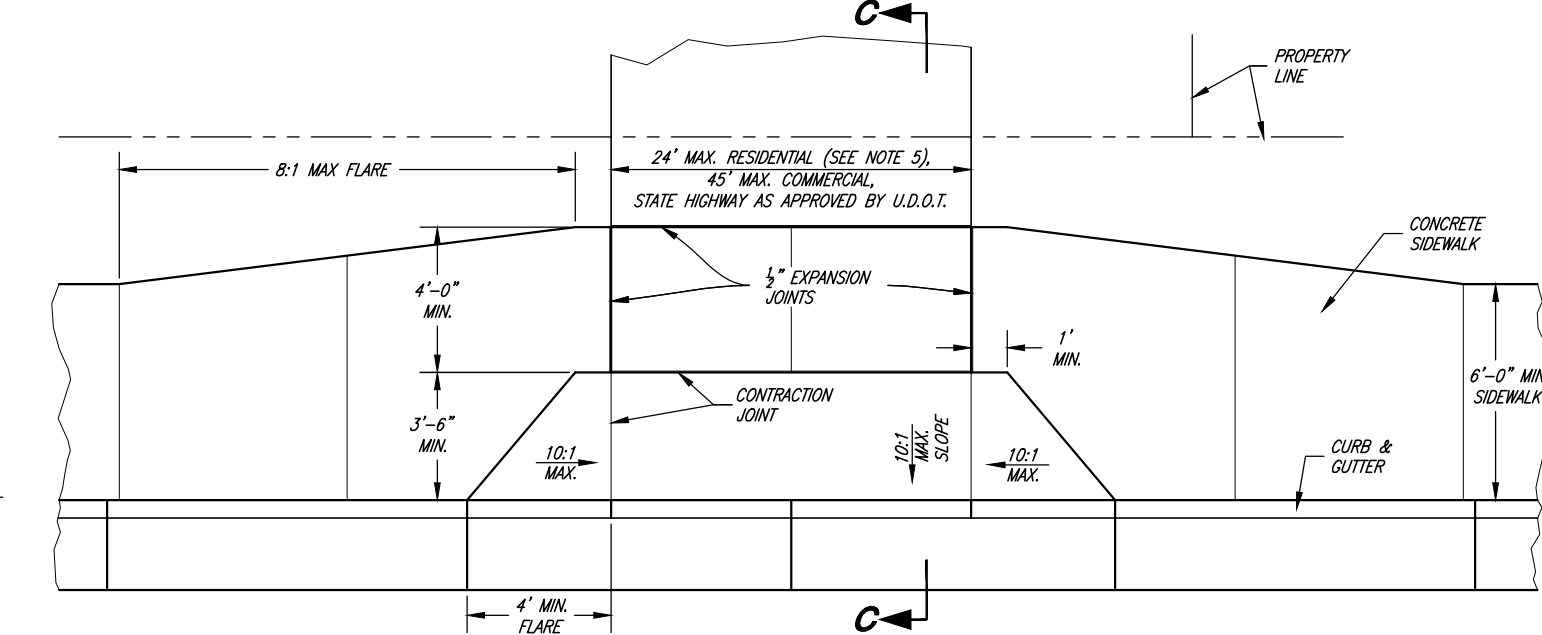
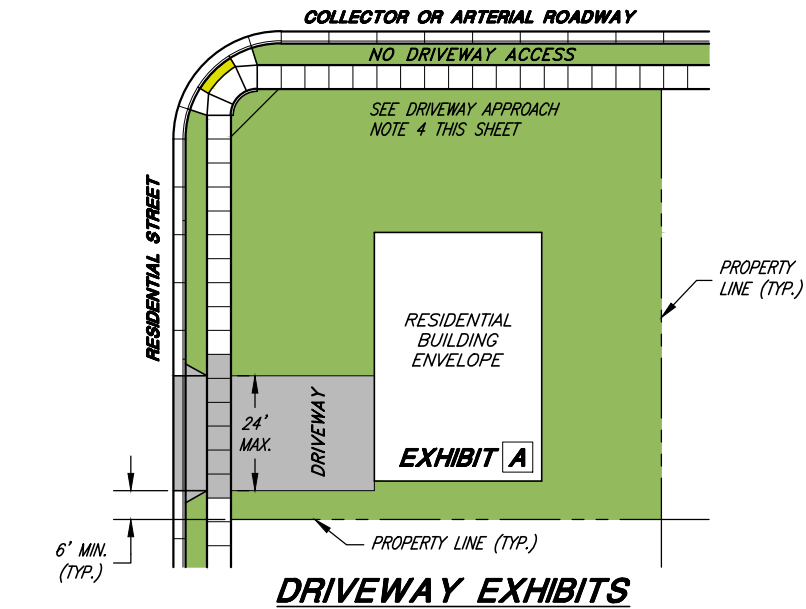
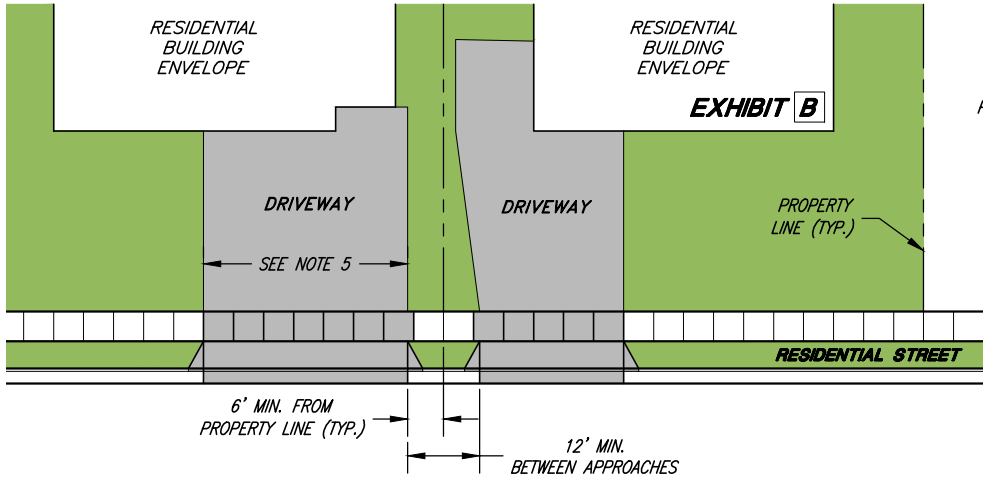
1. SIDEWALK OR PEDESTRIAN PATH MUST BE MADE AVAILABLE ON THE FRONT FACADE OF RESIDENCE AND CONNECT TO A PUBLIC RIGHT-OF-WAY WITHOUT HAVING TO CROSS A ROAD.
2. IF THE NUMBER OF AND SPACING REQUIRED FOR UTILITIES CANNOT FIT WITHIN THE PAVEMENT WIDTH, THEN THE PAVEMENT WIDTH AND R.O.W. MUST BE WIDENED TO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

HIGHEST CAPACITY STREET DESIGNATION*	MINIMUM ACCESS DISTANCE (FEET)	
	COMMERCIAL DRIVE APPROACH	RESIDENTIAL DRIVE APPROACH
RESIDENTIAL	NOT PERMITTED	30'-0"
MINOR COLLECTOR	50'-0" (80'-0" SIGNALIZED INTERSECTION)	NOT PERMITTED
MAJOR COLLECTOR	150'-0"	NOT PERMITTED
ARTERIAL (STATE ROADS/UDOT)	PER UDOT ACCESS PERMIT	

* AS PER CURRENT STREETS MASTER PLAN

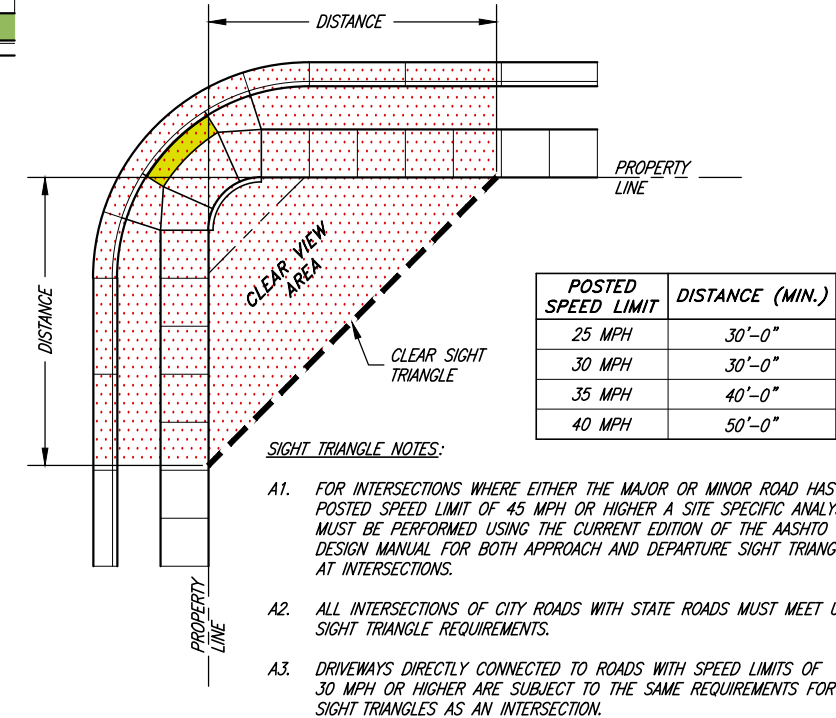
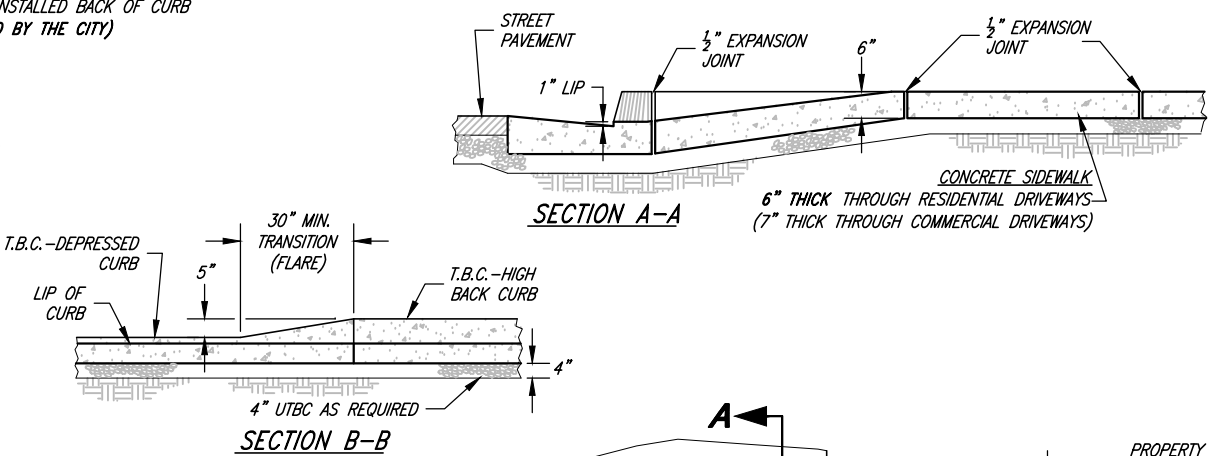
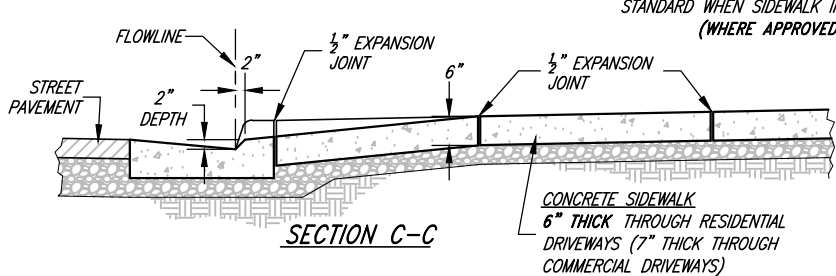


- DRIVE APPROACH ACCESS DISTANCE**
- (A) THE MINIMUM ACCESS DISTANCE (DRIVE APPROACH TO THE NEAREST CONNECTING STREET PROPERTY LINE) SHALL BE AS DESCRIBED IN THE DETAIL AND TABLE ABOVE.
- (B) THE ABOVE DISTANCES SHALL BE CONSIDERED AS CITY MINIMUMS. DESIGNER AND/OR DEVELOPER MAY SUBMIT AN ALTERNATE DESIGN BASED ON A DETAILED TRAFFIC STUDY FOR APPROVAL BY THE CITY.



DRIVEWAY APPROACH W/ ADJACENT SIDEWALK

STANDARD WHEN SIDEWALK INSTALLED BACK OF CURB (WHERE APPROVED BY THE CITY)



INTERSECTION SIGHT TRIANGLES

POSTED SPEED LIMIT	DISTANCE (MIN.)
25 MPH	30'-0"
30 MPH	30'-0"
35 MPH	40'-0"
40 MPH	50'-0"

- SIGHT TRIANGLE NOTES:**
- A1. FOR INTERSECTIONS WHERE EITHER THE MAJOR OR MINOR ROAD HAS A POSTED SPEED LIMIT OF 45 MPH OR HIGHER A SITE SPECIFIC ANALYSIS MUST BE PERFORMED USING THE CURRENT EDITION OF THE AASHTO DESIGN MANUAL FOR BOTH APPROACH AND DEPARTURE SIGHT TRIANGLES AT INTERSECTIONS.
- A2. ALL INTERSECTIONS OF CITY ROADS WITH STATE ROADS MUST MEET UDOT SIGHT TRIANGLE REQUIREMENTS.
- A3. DRIVEWAYS DIRECTLY CONNECTED TO ROADS WITH SPEED LIMITS OF 30 MPH OR HIGHER ARE SUBJECT TO THE SAME REQUIREMENTS FOR SIGHT TRIANGLES AS AN INTERSECTION.

- DRIVEWAY APPROACH NOTES:**
1. IN NEW DEVELOPMENTS WHERE FUTURE DRIVEWAY LOCATIONS ARE UNKNOWN, THE DRIVEWAY APPROACH SHALL BE MADE BY SAW CUTTING THE BACK OF THE EXISTING CURB TO THE REQUIRED DRIVEWAY WIDTH. ALL SAW CUTTING SHALL BE ACCOMPLISHED BY A CITY APPROVED LICENSED CONTRACTOR.
2. SCORE SIDEWALK 1/4 OF SIDEWALK THICKNESS AT EACH 5'-0" OR 6'-0" SECTION. EXPANSION JOINTS AT EACH 50'-0" (5'-0" SIDEWALK) OR 48'-0" (6'-0" SIDEWALK).
4. APPROACHES SHALL NOT BE ALLOWED ON CORNER LOTS WITHIN THE CLEAR VIEW AREA. (SEE CLEAR VIEW DETAIL THIS SHEET)
5. IF A RESIDENTIAL LOT HAS TWO FRONTAGES AND ONE OF THOSE FRONTAGES IS LOCATED ON A COLLECTOR OR ARTERIAL STREET, THE DRIVEWAY SHALL BE LOCATED ON THE RESIDENTIAL STREET ONLY. NO DRIVEWAY ACCESS WILL BE PERMITTED ONTO THE COLLECTOR OR ARTERIAL STREET. (SEE DRIVEWAY EXHIBIT A)
6. WHEN APPROVED BY THE CITY, THE RESIDENTIAL DRIVEWAY MAY BE INCREASED TO A MAX. 34'-0" WIDTH FOR ACCESSORY PARKING (THREE CAR GARAGE, RV PARKING, ETC.). APPROVAL WILL BE CONSIDERED ON A CASE BY CASE BASIS PER PROPERTY SETBACKS, DRIVE APPROACH CLEAR VIEW AREA, AND CITY CODE.

DRIVEWAY APPROACH W/ PARK STRIP

DROP DOWN STYLE (CITY STANDARD)

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

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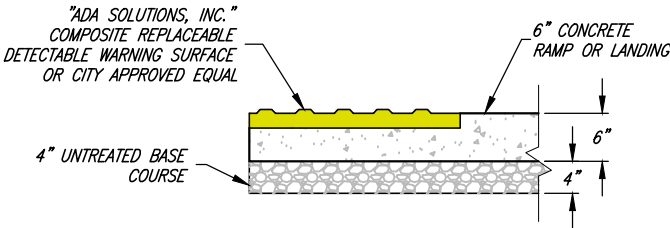


CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
TYPICAL DRIVE APPROACH DETAILS

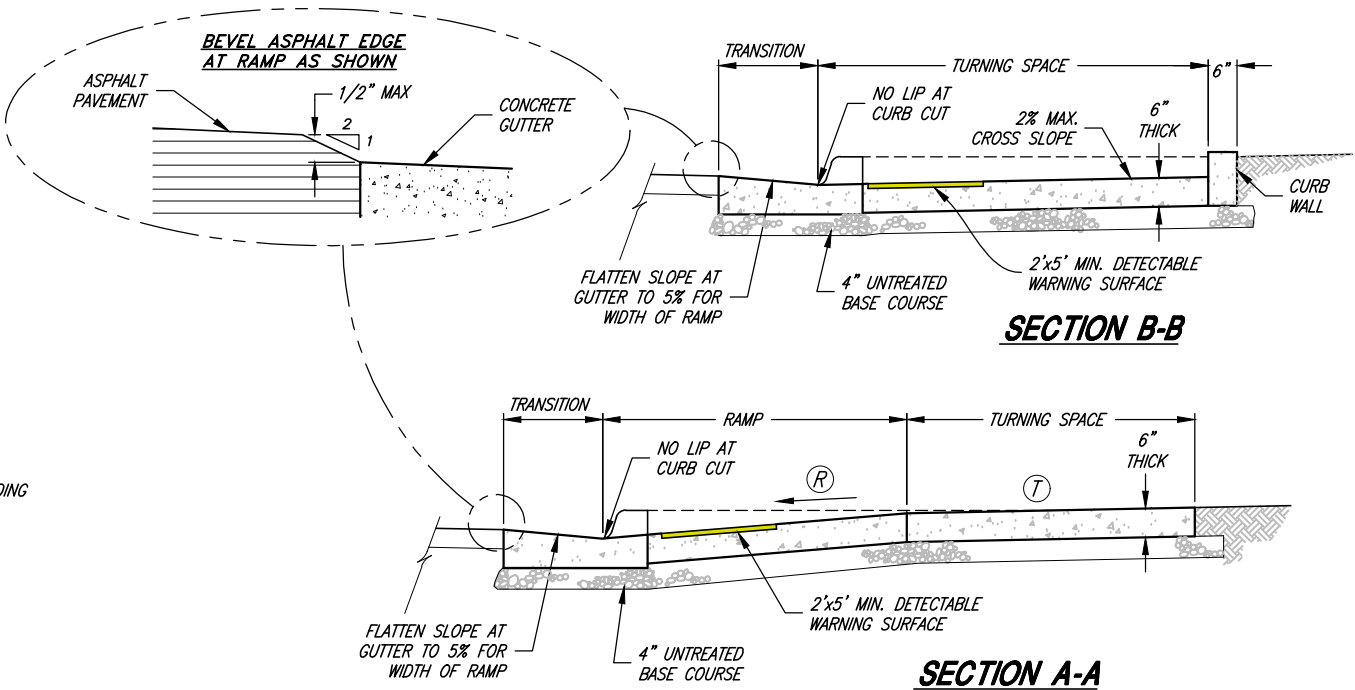
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DETECTABLE WARNING SURFACE NOTES:

1. LOCATE THE DETECTABLE WARNING SURFACE SO THE OUTSIDE CORNER NEAREST THE STREET IS WITHIN 1 INCH OF THE BACK OF CURB (T.B.C.). PROVIDE 2'-0" MINIMUM DEPTH.
2. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF CURB CUT.
3. THE DETECTABLE WARNING SURFACE DOMES SHALL BE ORIENTED SUCH THAT THE ROWS ARE PARALLEL WITH THE DIRECTION OF PEDESTRIAN TRAVEL TO THE RAMP ON THE OPPOSITE SIDE OF THE STREET.
4. THE STANDARD COLOR FOR THE DETECTABLE WARNING SURFACE SHALL BE YELLOW OR PRE-APPROVED CONTRASTING COLOR. WHEN THE EXISTING SIDEWALK COLOR IS NOT STANDARD CONCRETE, THE COLOR OF THE DETECTABLE WARNING SURFACE SHALL BE DETERMINED BY THE CITY.
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 - DETAIL "C"

(WITHOUT PARK STRIP)
REQUIRES CITY APPROVAL

ADA RAMP NOTES:

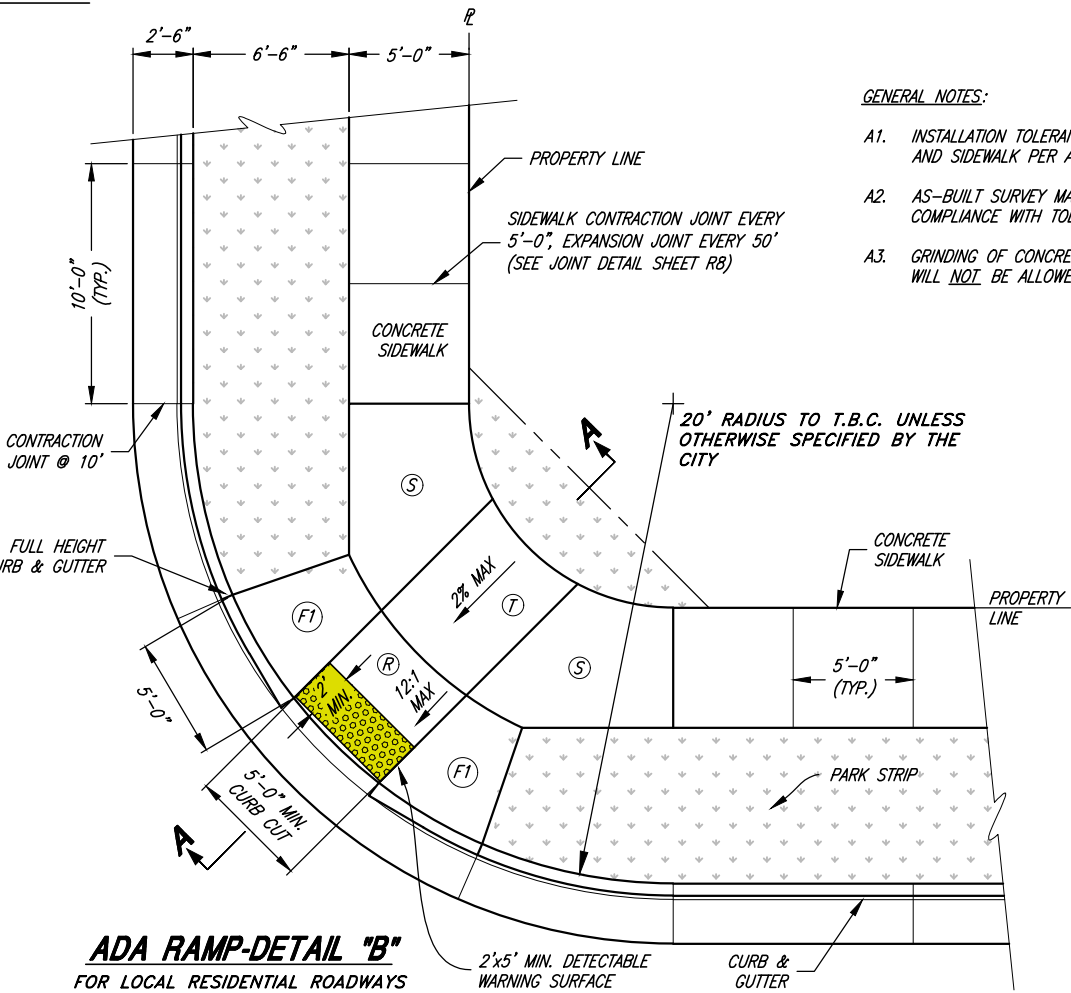
- A. WHERE DESIGNATED BY THE CITY, ALTERNATE UDOT OR APWA RAMP DESIGNS MAY BE USED WITH PRIOR APPROVAL OF THE CITY. SUBMIT ENGINEERED CONSTRUCTION PLANS TO CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
- B. SITE CONDITIONS WILL VARY. CONFIGURATION OF RAMP, LANDING, AND TRANSITION MAY BE CHANGED,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

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

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

¹ 5% MAX OR NATURAL SLOPE OF LAND

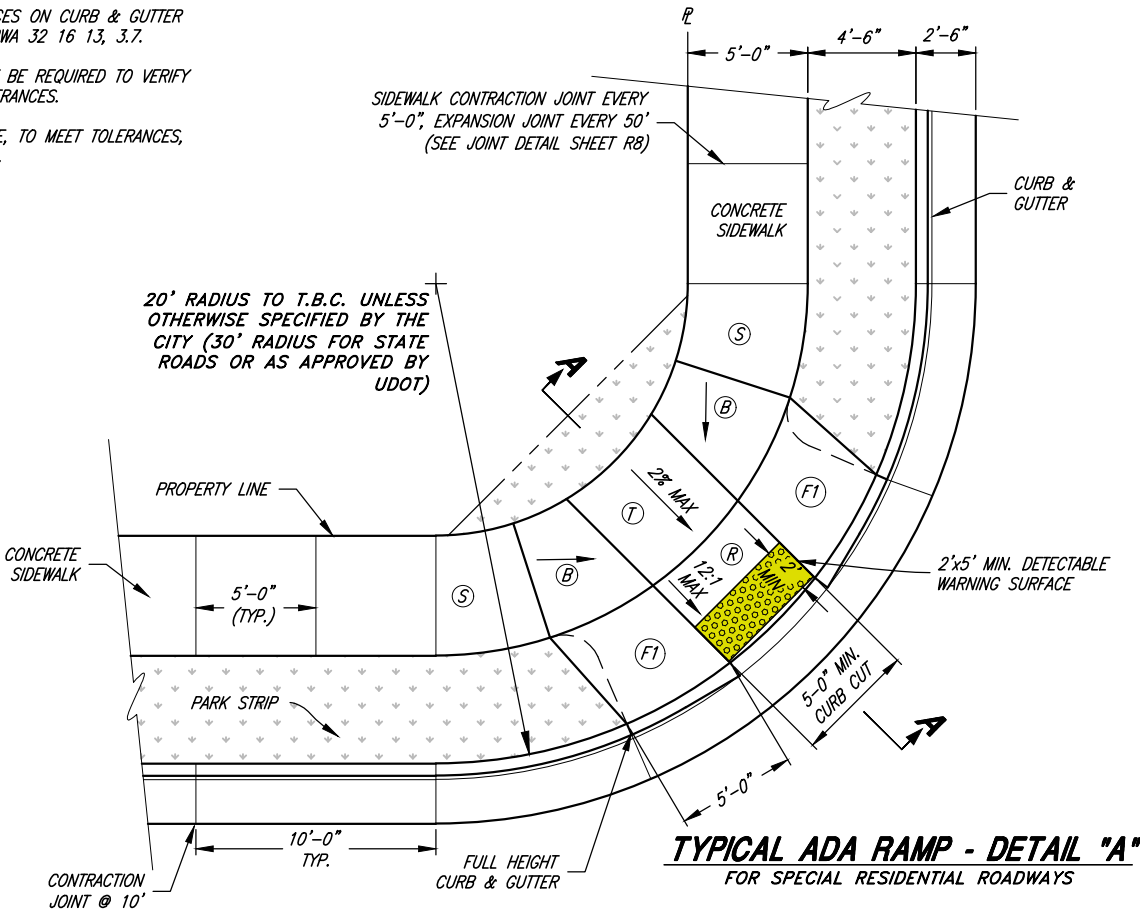
² NOT TO EXCEED 2% IN ANY DIRECTION



ADA RAMP-DETAIL "B"
FOR LOCAL RESIDENTIAL ROADWAYS

GENERAL NOTES:

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



TYPICAL ADA RAMP - DETAIL "A"
FOR SPECIAL RESIDENTIAL ROADWAYS

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:

N.T.S.



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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

TYPICAL ADA RAMP DETAILS

SHEET:

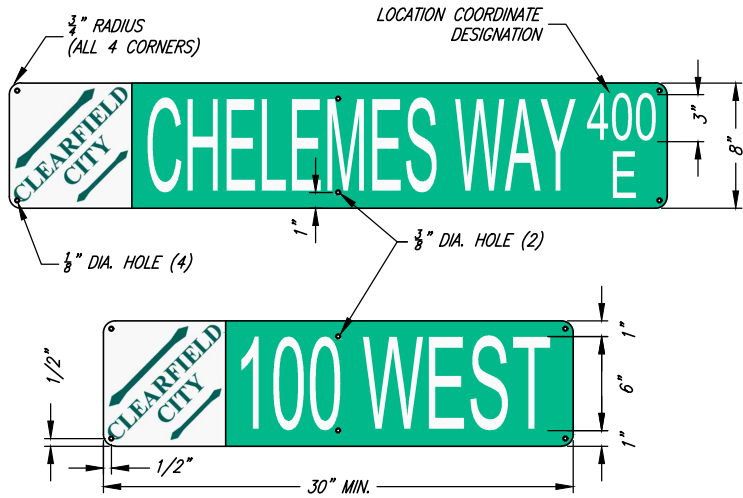
R5

OF X SHEETS

0

STREET SIGN NOTES:

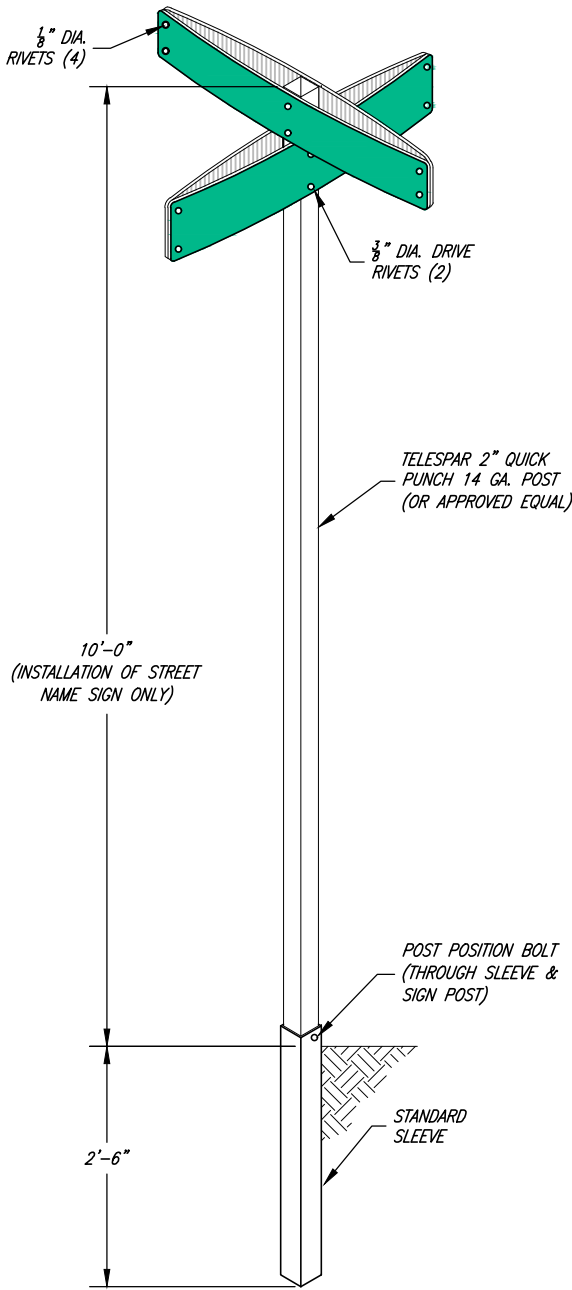
- A. STREET SIGN BACKGROUND SHALL BE REGULATORY GREEN, BOTH STREET AND TRAFFIC SIGNS SHALL BE AT THE VERY LEAST HIGH INTENSITY REFLECTIVE SHEETING (9FP-85 TYPE IIIA)
- B. LEGEND SHALL BE WHITE LETTERS (FONT: HIGHWAY C), HIGH INTENSITY REFLECTIVE SHEETING (9FP-85 IIA)
- C. SIGN BLANK SHALL BE 6081-T6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



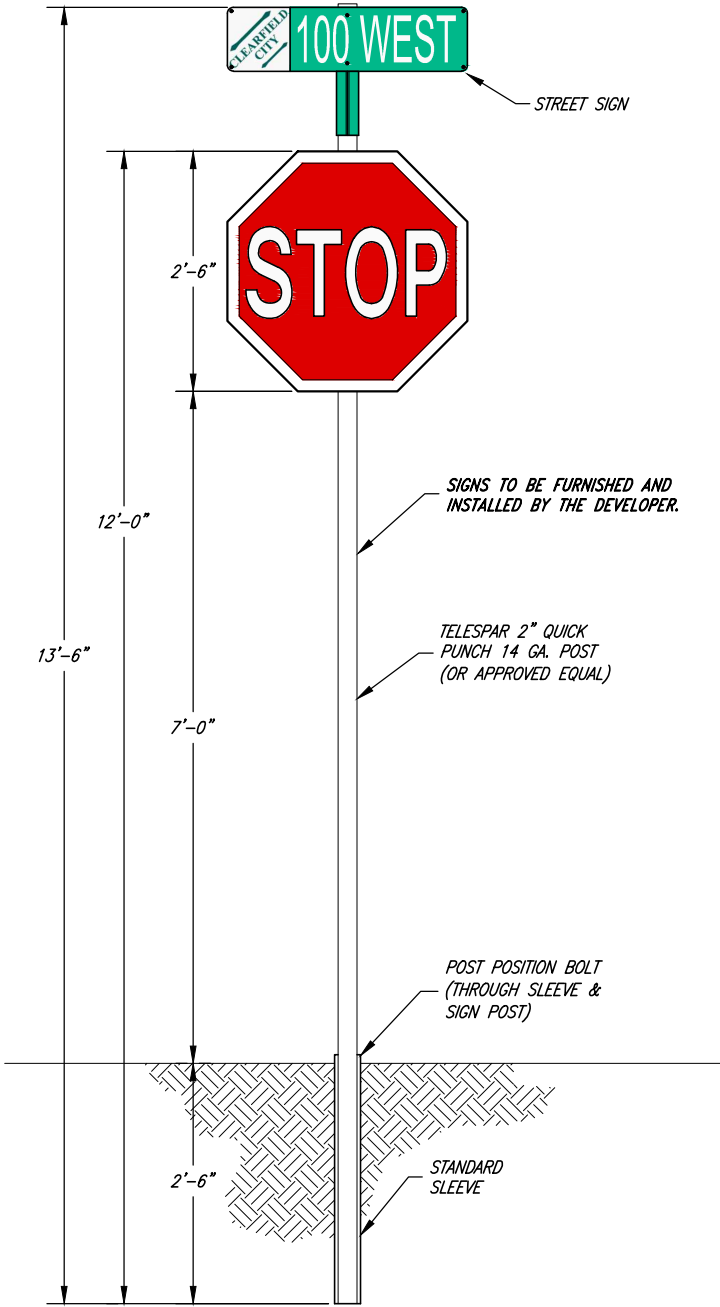
CITY STANDARD PLATE DETAIL



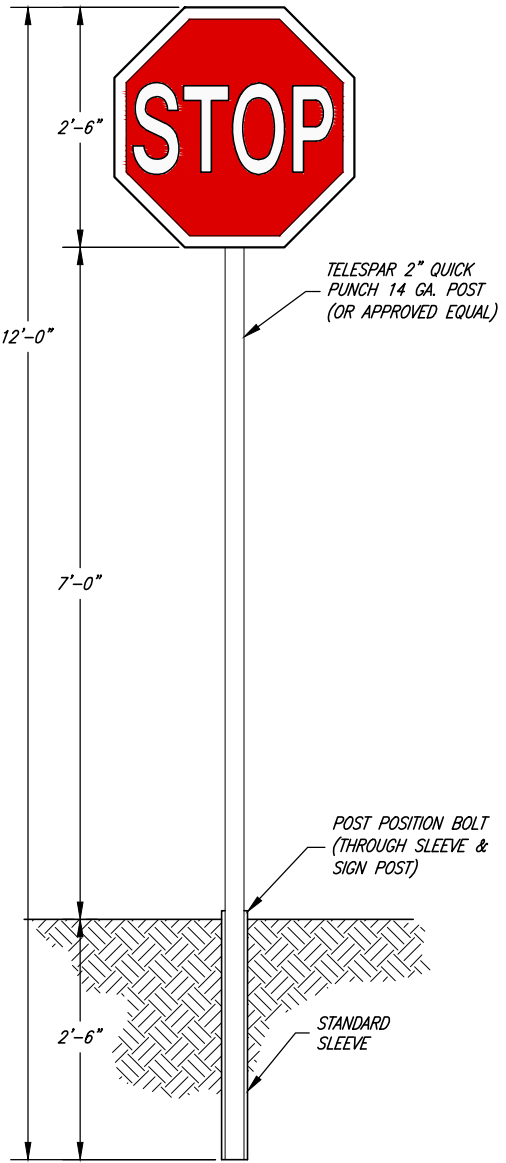
PRIVATE ROAD PLATE DETAIL
(SEE STREET SIGN NOTE E THIS SHEET)



STREET SIGN & POST



STREET / TRAFFIC
SIGN & POST



TRAFFIC SIGN & POST

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:

N.T.S.



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



CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS

STREET SIGN DETAILS

SHEET:

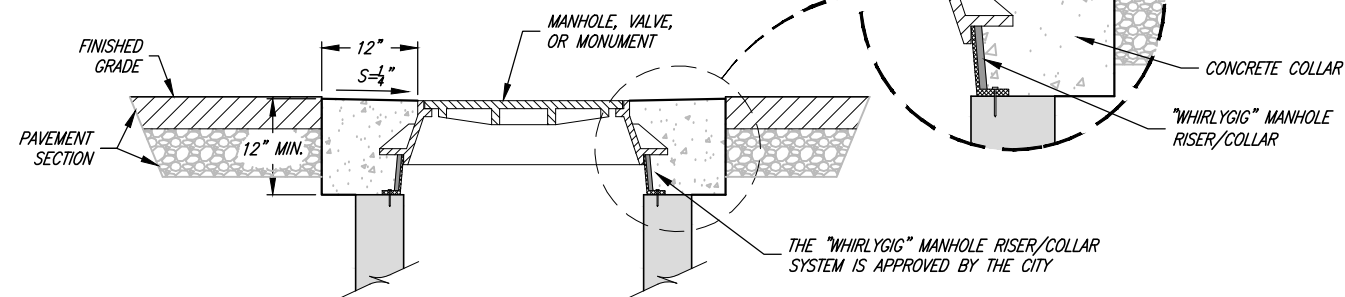
R7

OF X SHEETS

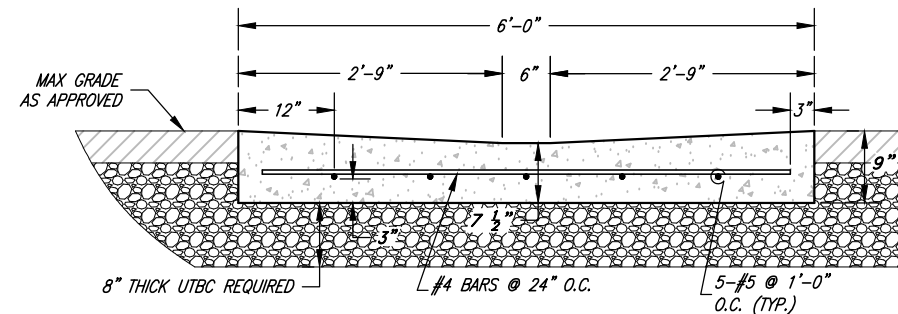
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CONCRETE COLLAR NOTES:

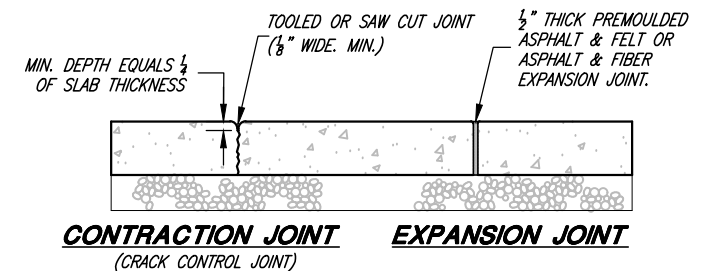
- B1. ALL CONCRETE COLLARS TO BE INSTALLED WITHIN 14 DAYS AFTER PAVING.
B2. COLLARS AROUND MANHOLES AND CULINARY WATER VALVES ARE TO BE ROUND.



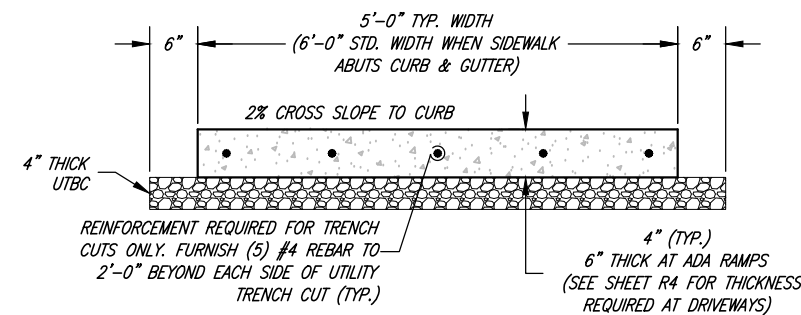
CONCRETE COLLAR DETAIL



CROSS DRAIN SECTION
(FOR REPLACEMENTS ONLY - NO NEW CONSTRUCTION)

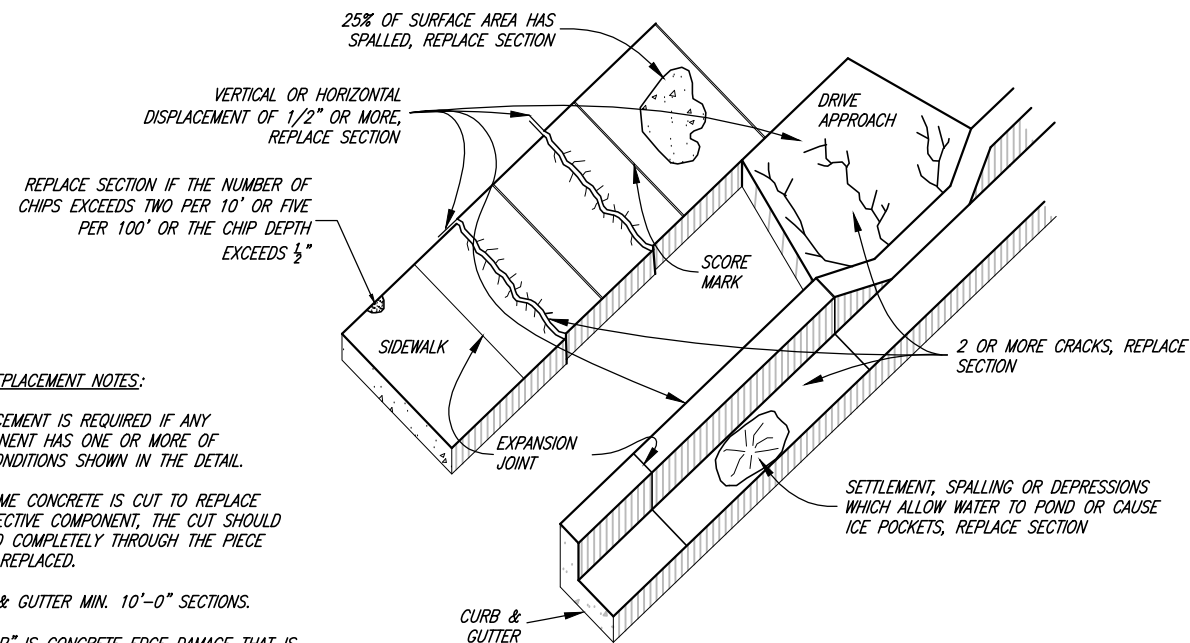


JOINT DETAIL



SIDEWALK SECTION
(CITY STANDARD)

SIDEWALK NOTE:
WHEN REPLACING EXISTING SIDEWALK,
MATCH THE EXISTING SIDEWALK WIDTH
UNLESS OTHERWISE DIRECTED BY THE
CITY.

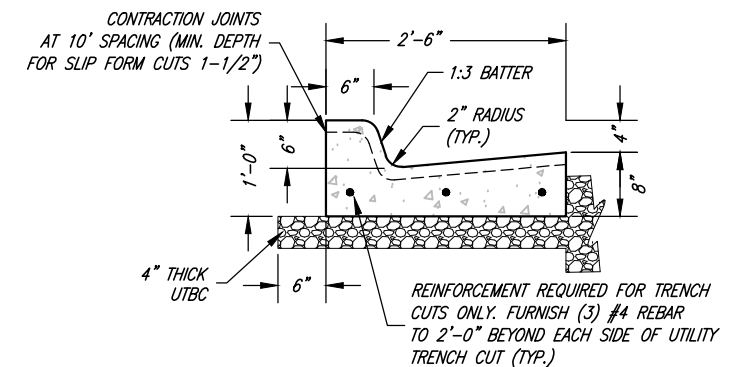


DEFECTIVE CONCRETE REPLACEMENT CRITERIA

GENERAL NOTES:

- A1. INSTALLATION TOLERANCES ON CURB & GUTTER AND SIDEWALK PER APWA 32 16 13, 3.7.
A2. AS-BUILT SURVEY MAY BE REQUIRED TO VERIFY COMPLIANCE WITH TOLERANCES.
A3. GRINDING OF CONCRETE, TO MEET TOLERANCES, WILL NOT BE ALLOWED.
A4. CONCRETE CLASS: WHEN NOT SPECIFIED IN THE PLANS OR PROJECT SPECIFICATION, USE THE FOLLOWING TABLE TO SELECT THE CLASS OF CONCRETE REQUIRED FOR THE APPLICATION.

CONCRETE CLASS	APPLICATION
5,000	REINFORCED STRUCTURAL CONCRETE
4,000	SIDEWALKS, CURB, GUTTER, CROSS GUTTERS, WATERWAYS, PAVEMENTS, AND UNREINFORCED FOOTINGS AND FOUNDATIONS
3,000	THRUST BLOCKS
2,000	ANCHORS, MASS CONCRETE

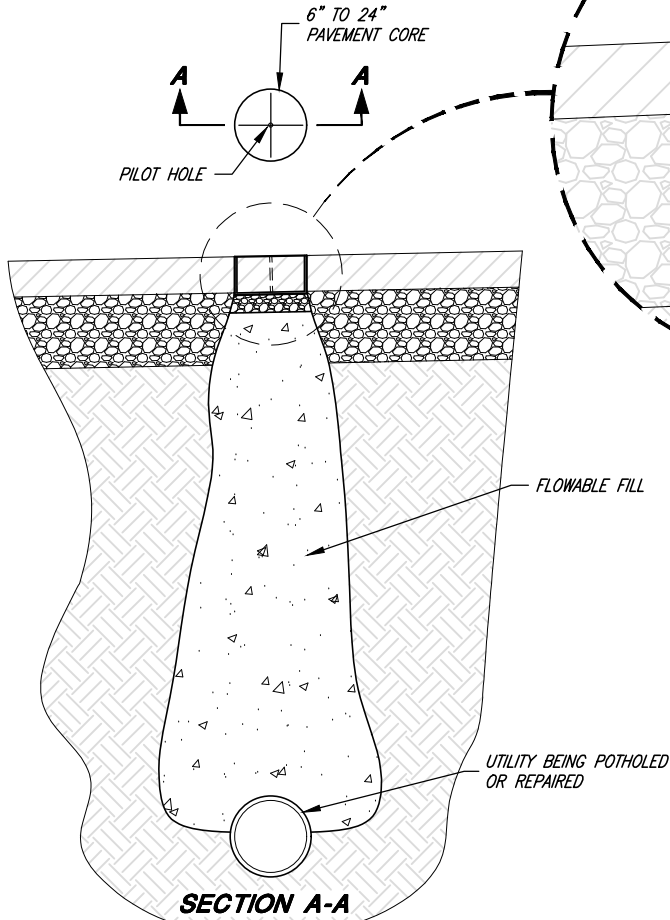


CURB & GUTTER SECTION
(CITY STANDARD)

CURB & GUTTER NOTES:

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

BOND MATERIAL PROPERTIES		
PROPERTY	ASTM TEST METHOD	REQUIREMENTS
BOND STRENGTH, PSI (@ 70° F., 30 MIN. CURE)	C882	200 MIN.
COMPRESSIVE STRENGTH, PSI (@ 70° F., 60 MIN. CURE)	C109	1500 MIN.

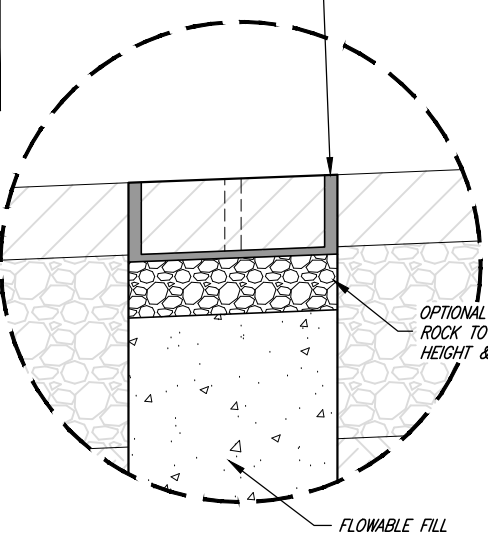


UTILITY POTHOLES DETAIL
KEYHOLE METHOD

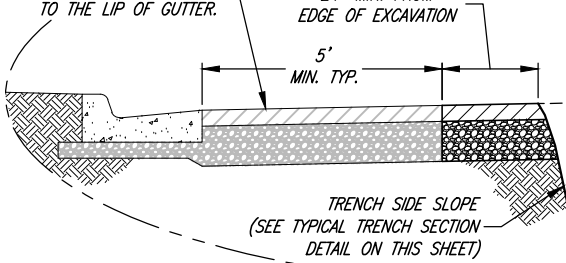
UTILITY POTHOLE NOTES:

- CONTRACTOR SHALL PLACE A TEMPORARY PAINT MARK ON THE PAVEMENT TO ASSURE CORE IS REPLACED IN THE SAME ORIENTATION.
- CORING SHALL BE COMPLETED PERPENDICULAR TO THE HORIZON (NOT THE PAVEMENT), AND SHALL EXTEND THE FULL ASPHALT DEPTH. CORING SHALL BE COMPLETED USING A KEYHOLE CORING SAW CAPABLE OF REMOVING AN INTACT CORE OF PAVEMENT.
- CORES SHALL NOT BE LESS THAN 6 INCHES IN DIAMETER AND NO MORE THAN 24 INCHES IN DIAMETER.
- SOIL SHALL BE REMOVED USING AIR/VACUUM EXTRACTION METHODS AND DISPOSED PROPERLY OFF SITE.
- FLOWABLE FILL SHALL BE USED TO BACKFILL THE HOLE TO WITHIN ONE TO TWO INCHES OF THE BOTTOM OF THE EXISTING PAVEMENT.
- COMPACTED GRAVEL IF NECESSARY SHALL BE USED TO BRING THE POTHOLE TO THE BOTTOM OF PAVEMENT GRADE. THE TEMPORARY PAINT MARK SHALL BE USED TO ALIGN THE CORE TO ITS ORIGINAL POSITION AND THE GRAVEL SHALL BE USED TO LEVEL THE CORE SO THE FINISH GRADE IS FLUSH WITH THE SURROUNDING ASPHALT.
- PAVEMENT BONDING COMPOUND SHALL BE USED TO RESTORE THE CORE TO ITS ORIGINAL CONDITION COMPLETELY FLUSH WITH THE SURROUNDING ASPHALT. THE COMPOUND SHALL BE POURED IN THE POTHOLE AND THE CORE PLACED IN AFTER CAUSING THE PAVEMENT BONDING COMPOUND TO FLOW TO THE SURFACE. ALL EXCESS BONDING AGENT SHALL BE REMOVED.
- CORES SHALL BE ALLOWED TO CURE PER MANUFACTURER'S RECOMMENDATIONS PRIOR TO OPENING TO TRAFFIC.

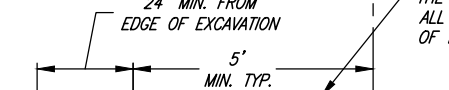
"UTILIBOND" PAVEMENT BONDING COMPOUND OR APPROVED EQUAL



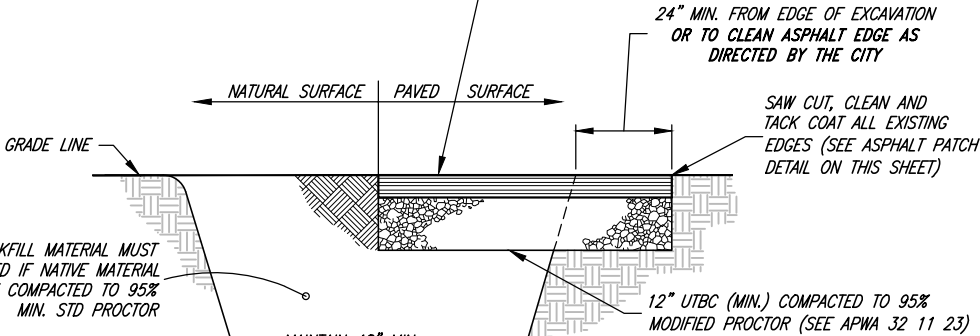
IF EDGE OF CUT IS WITHIN 5'-0" OF LIP OF GUTTER, THE ASPHALT PATCH MUST EXTEND ALL THE WAY TO THE LIP OF GUTTER.



IF EDGE OF CUT IS WITHIN 5'-0" OF THE CENTERLINE OF THE ROAD, THE ASPHALT PATCH MUST EXTEND ALL THE WAY TO THE CENTERLINE OF THE ROAD.



HOT MIX ASPHALT (HMA) PER CITY STANDARD SPECIFICATIONS. MATCH EXISTING PAVEMENT THICKNESS + 1" OR 4" MIN., WHICHEVER IS GREATER. (MAX. 8" THICKNESS)



TRENCHING TO CONFORM WITH LOCAL, STATE AND FEDERAL O.S.H.A. REQUIREMENTS

PLACE COLOR SPECIFIC LOCATOR TAPE 24" ABOVE TOP OF ALL PIPE

INSTALL PIPE ON STABLE FOUNDATION WITH UNIFORM BEARING UNDER FULL LENGTH OF PIPE BARREL - PROVIDE BELL HOLES.

BED PVC PIPE IN SAND. ALL OTHER PIPE TO BE BEDDED IN SAND OR PEA GRAVEL IN UNSTABLE GROUND AREAS OR THROUGH ROCK EXCAVATION. 6" MIN. DEPTH UNDER PIPE TO BE COVERED W/BEDDING MATERIAL. BEDDING DEPTH FOR PIPE LARGER THAN 12" DIA. SHALL BE SPECIFIED BY THE CITY

COLOR SPECIFIC 12 GAUGE MIN. TRACER WIRE TO BE INSTALLED ALONG ALL PIPE, WITH THE EXCEPTION OF GRAVITY SEWER LINE (SEE SHEET CW4)

SHAPE TRENCH BY HAND TO FIT BOTTOM QUADRANT OF PIPE FOR ALL SEWER AND DRAIN LINES

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

TRENCH NOTES:

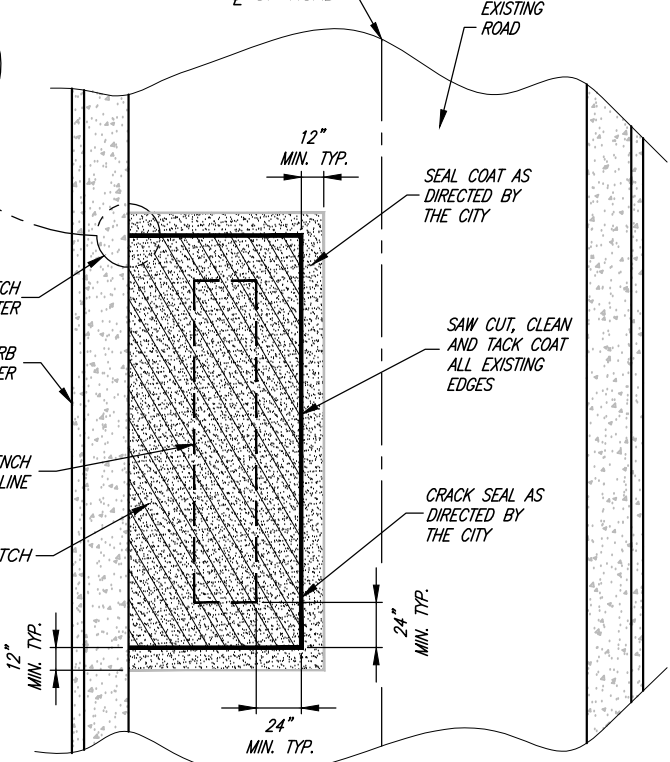
- BACKFILL PER APWA 33 05 20
- PAVEMENT RESTORATION PER APWA 33 05 25 AND CITY MODIFICATIONS.
- GRAVEL SURFACED AREAS, SUCH AS ROADS AND SHOULDERS, PARKING AREAS, AND UNPAVED DRIVEWAYS, SHALL BE REPAIRED WITH 8" THICK (MIN.) 1" UNTREATED BASE COURSE COMPACTED TO 95% MODIFIED PROCTOR.
- WATER & SEWER LINES, INCLUDING SERVICE LINES, SHALL NOT BE INSTALLED IN THE SAME TRENCH.

EXTEND ASPHALT PATCH TO CURB & GUTTER

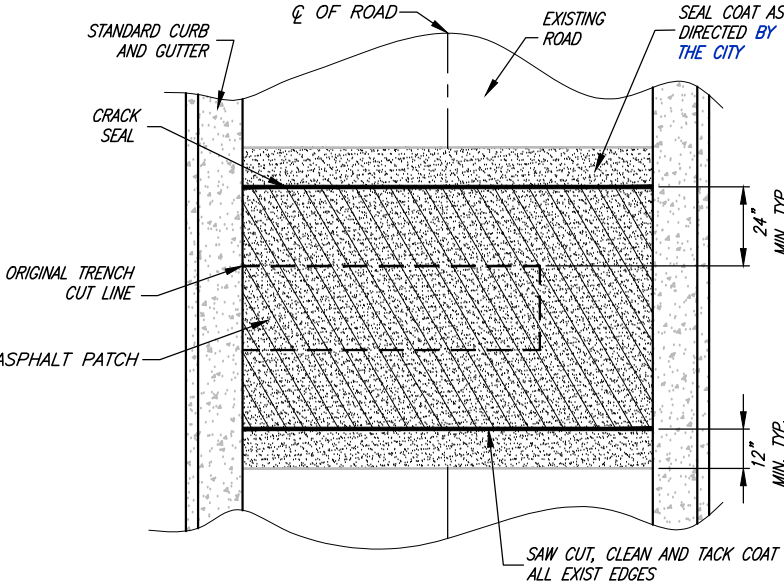
CURB AND GUTTER

ORIGINAL TRENCH CUT LINE

ASPHALT PATCH



TYPICAL PARALLEL ASPHALT PATCH PLAN



TYPICAL HORIZONTAL ASPHALT PATCH PLAN

ASPHALT PATCH NOTE:

- ON ANY ROAD PAVED OR OVERLAYED WITHIN THE LAST 10 YEARS, THE PATCH MUST BE COMPLETED PER APWA PLAN 255 BITUMINOUS PAVEMENT T-PATCH. (SEE SHEET R10)
- NO ANGLED ASPHALT PATCHING ALLOWED.

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - ROAD IMPROVEMENT STANDARDS
UTILITY TRENCH, UTILITY POTHOLES, AND
ASPHALT PATCH PLAN DETAILS

SHEET:

R9

OF X SHEETS
0

BITUMINOUS PAVEMENT T-PATCH NOTES:

1. GENERAL:

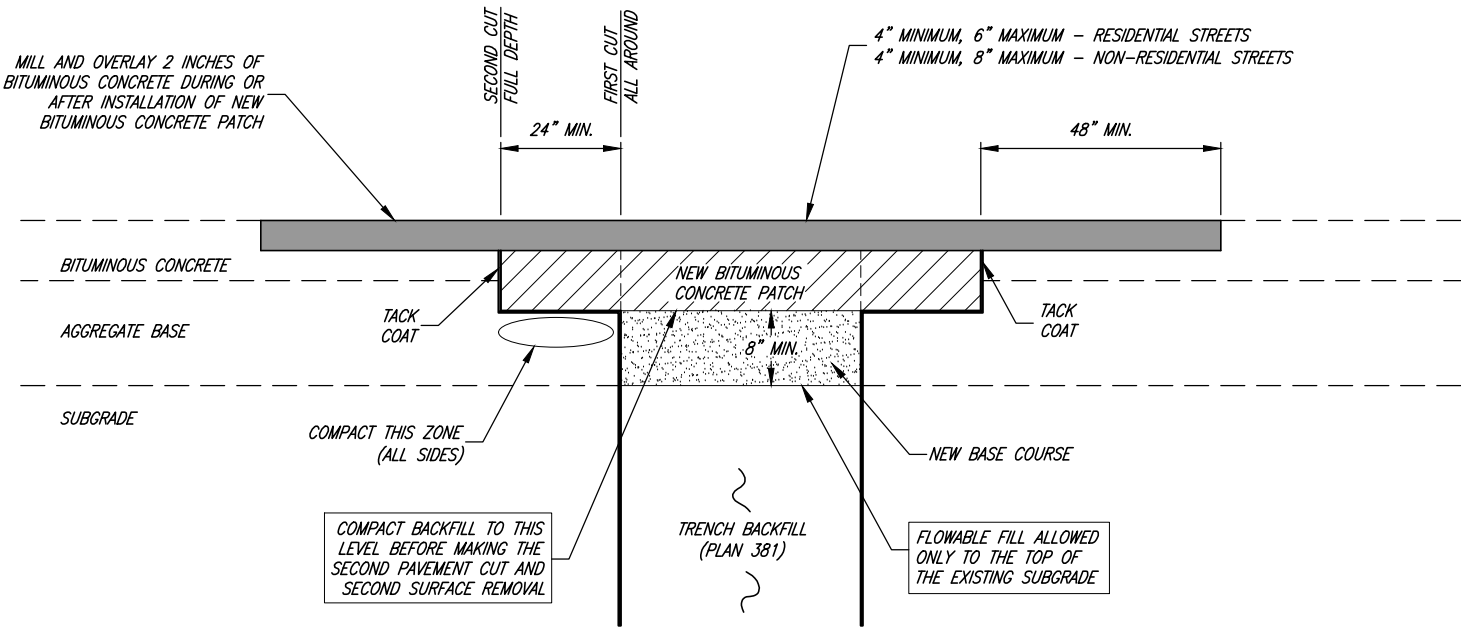
- A. VERTICAL CUTS IN BITUMINOUS PAVEMENT MAY BE DONE BY SAW OR PAVEMENT ZIPPING. IF CUTS GREATER THAN 6 INCHES ARE NECESSARY TO PREVENT PAVEMENT "BREAK OFF" CONSULT CITY ENGINEER FOR DIRECTION ON HANDLING ADDITIONAL COSTS.
- B. REPAIR A T-PATCH RESTORATION IF ANY OF THE FOLLOWING CONDITIONS OCCUR PRIOR TO FINAL PAYMENT OR AT THE END OF THE ONE YEAR CORRECTION PERIOD:
- 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 EXISTING 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:

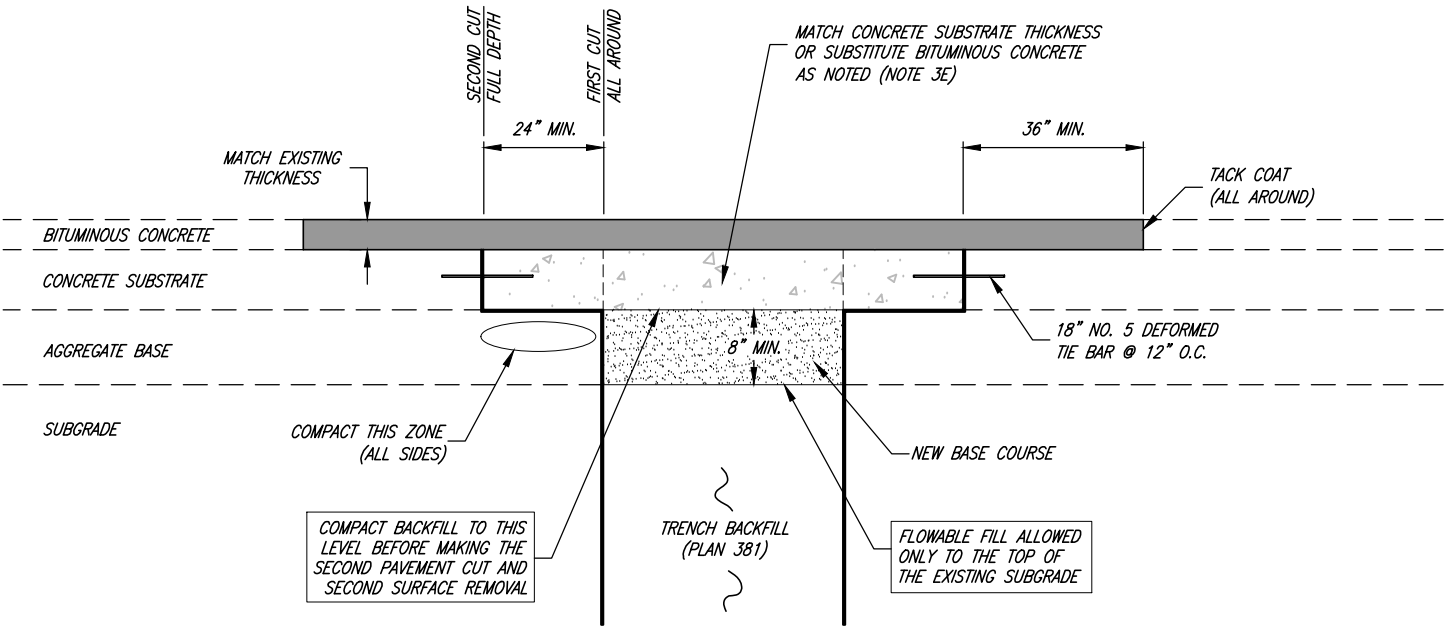
- A. BASE COURSE: UNTREATED BASE COURSE, APWA SECTION 32 11 23. DO NOT USE GRAVEL AS A BASE COURSE WITHOUT ENGINEER'S PERMISSION.
- B. FLOWABLE FILL: TARGET IS 60 PSI IN 28 DAYS WITH 90 PSI MAXIMUM IN 28 DAYS, APWA SECTION 31 05 15. IT MUST FLOW EASILY REQUIRING NO VIBRATION FOR CONSOLIDATION.
- C. REINFORCEMENT: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

3. EXECUTION:

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



BITUMINOUS CONCRETE RESTORATION



COMPOSITE RESTORATION



Bituminous pavement T-patch

Plan
255
November 2015

CITY ENGINEER					
3/8/2024					
DATE	REV.	DATE	APPR.		

SCALE:

N.T.S.



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

SHEET:

R10

OF X SHEETS

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1. THE USE OF "MUELLER", "FORD", OR "A.Y. McDONALD" COMPRESSION TYPE FITTINGS IS ACCEPTED BY THE CITY.
2. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
3. ALL SUPPLIES, LABOR, EQUIPMENT, ETC. SHALL BE SUPPLIED BY THE DEVELOPER/CONTRACTOR EXCEPT THE WATER METERS. WATER METERS SHALL BE PAID FOR BY THE DEVELOPER/CONTRACTOR. CLEARFIELD CITY WILL SUPPLY AND SET ALL WATER METERS.
4. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.
4. INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.
6. 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.
7. STAMPED STAINLESS STEEL PINS (UTILITY WASHERS) USED FOR LATERAL LOCATING ARE REQUIRED BY THE CITY. PINS SHALL BE PROVIDED BY THE CITY AND INSTALLED BY THE CONTRACTOR DURING ALL NEW CONSTRUCTION OR RESTORED WHEN REPLACING DAMAGED CURB & GUTTER DUE TO ANY CONSTRUCTION RELATED ACTIVITY. PINS SHALL BE STAMPED "S" FOR SANITARY SEWER LATERALS AND "W" FOR CULINARY WATER LATERALS.

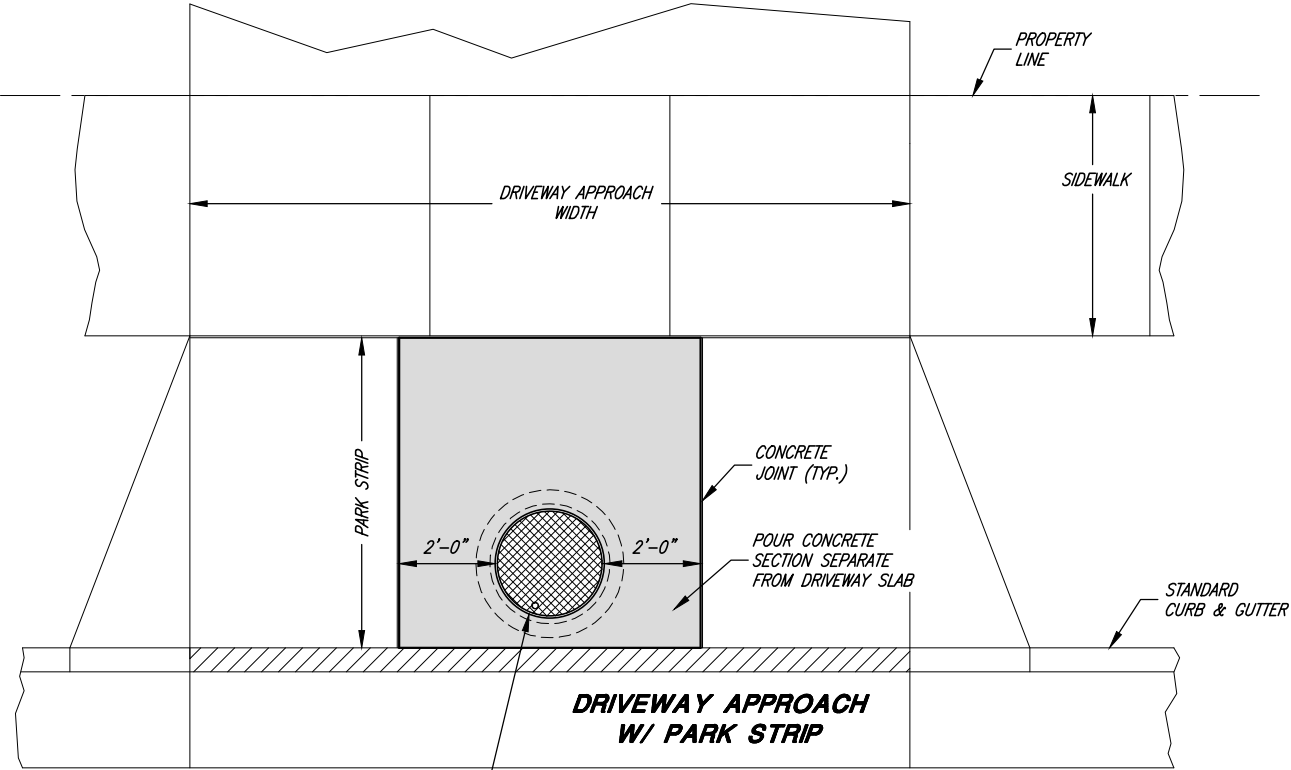


A. THE PROPERTY OWNER IS RESPONSIBLE FOR ALL MATERIALS, INSTALLATION, REPAIR AND FUTURE MAINTENANCE FOR THE ENTIRE FIRE LINE LATERAL FROM THE CITY MAIN WATER LINE TO THE POINT OF CONNECTION WITH THE FIRE SUPPRESSION SYSTEM.

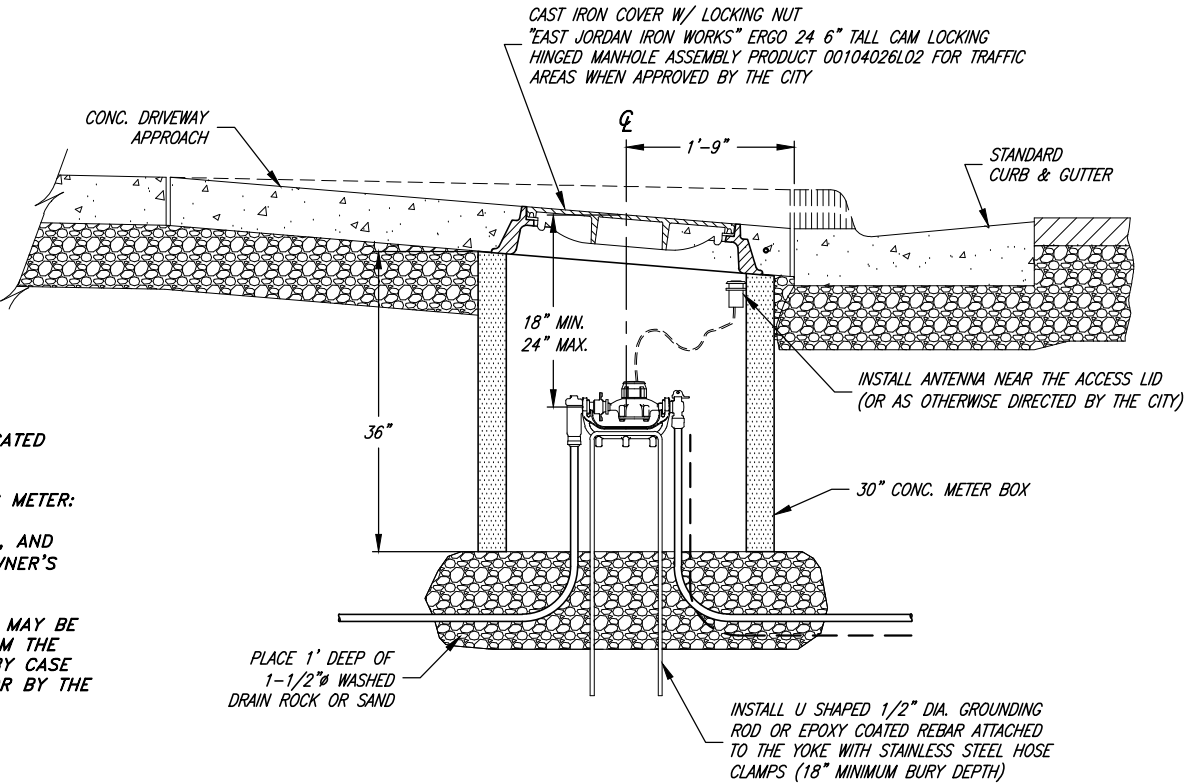
B. ALL FIRE LINES SHALL BE SIZED PER CLEARFIELD CITY FIRE CODE (4" 6" 8" OR AS REQUIRED).

- C. THE PROPERTY OWNER IS RESPONSIBLE FOR ALL INSTALLATION OF THE CULINARY WATER SERVICE LATERAL, INCLUDING METER BOX COMPLETE AND CONNECTION TO MAIN WATERLINE.
- D. THE PROPERTY OWNER IS RESPONSIBLE FOR ALL REPAIR AND MAINTENANCE OF THE CULINARY WATER SERVICE LATERAL FROM THE CITY WATER METER TO THE POINT OF CONNECTION WITH THE PRIVATE FACILITIES.
- E. ONCE THE METER IS SET, CLEARFIELD CITY IS RESPONSIBLE FOR ALL REPAIR AND MAINTENANCE OF THE CULINARY WATER SERVICE FROM THE CULINARY WATER MAIN PIPE TO AND INCLUDING THE WATER METER, METER BOX, LID & FACILITIES CONTAINED THEREIN.
- F. CULINARY WATER METERS SHALL NOT BE LOCATED WITHIN THE DRIVEWAY AREA. IN THE CIRCUMSTANCE THAT A DRIVEWAY IS PLACED OVER AN EXISTING METER, THE PROPERTY OWNER SHALL FOLLOW THE CITY STANDARD GUIDELINES AS OUTLINED IN THE METER LOCATION NOTES ON SHEET CW2.

CITY ENGINEER 3/8/2024						SCALE: N.T.S.	JONES & ASSOCIATES CONSULTING ENGINEERS 6080 Fashion Point Drive South Ogden, Utah 84403 (801) 476-9767 www.jonescivil.com	Clearfield City Public Works	CLEARFIELD CITY CORPORATION PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS RESIDENTIAL WATER SERVICE CONNECTION DETAILS	SHEET: CW1 OF X SHEETS 0
DATE	REV.	DATE	APPR.							



CAST IRON COVER W/ LOCKING NUT
"EAST JORDAN IRON WORKS" ERGO 24 6" TALL CAM LOCKING HINGED MANHOLE ASSEMBLY PRODUCT 00104026L02 FOR TRAFFIC AREAS WHEN APPROVED BY THE CITY

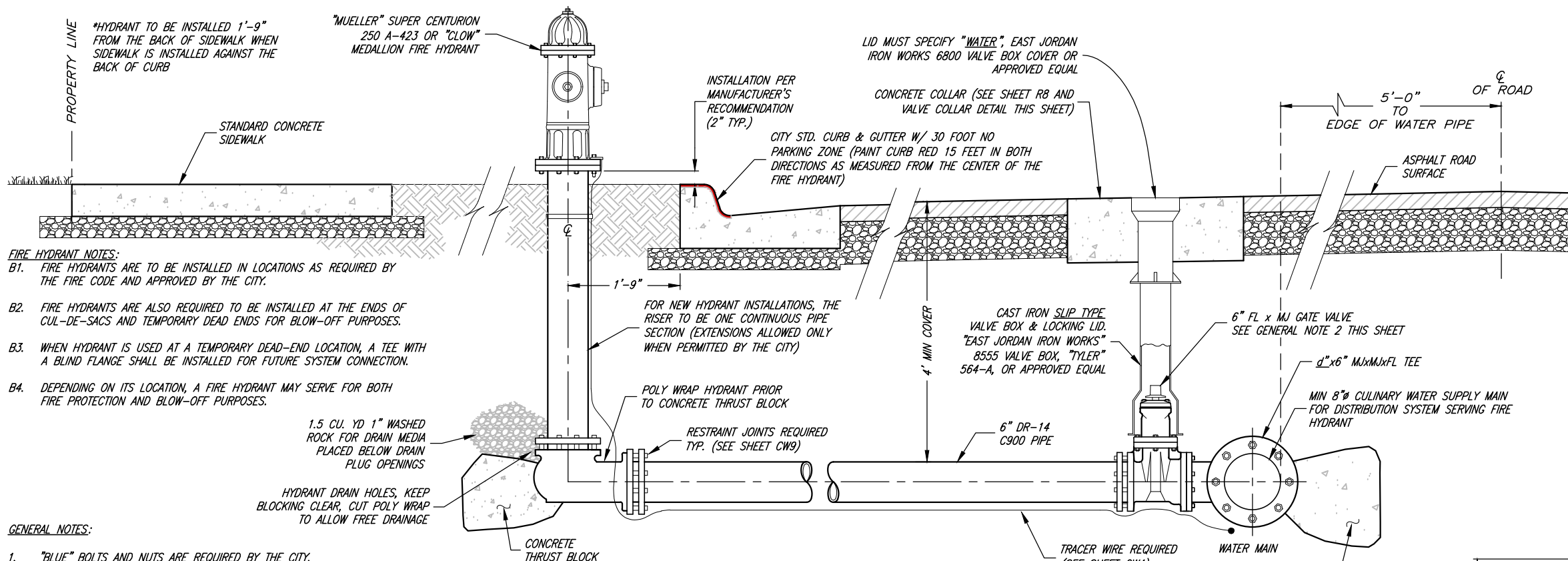


METER LOCATION NOTES:

1. CULINARY WATER METERS SHALL NOT BE LOCATED WITHIN THE DRIVEWAY AREA.
2. IF A DRIVEWAY IS PLACED OVER AN EXISTING METER:
 - a. THE "ENTIRE" SERVICE LINE, CORP STOP, AND METER SHALL BE RELOCATED AT THE OWNER'S EXPENSE, OR
 - b. A HIGH TRAFFIC RESIDENTIAL METER PIT MAY BE INSTALLED WITH WRITTEN APPROVAL FROM THE CITY. THIS IS DETERMINED ON A CASE BY CASE BASIS BY THE CITY AND TO BE PAID FOR BY THE OWNER.

HIGH TRAFFIC RESIDENTIAL METER PIT DETAIL

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



FIRE HYDRANT NOTES:

- B1. FIRE HYDRANTS ARE TO BE INSTALLED IN LOCATIONS AS REQUIRED BY THE FIRE CODE AND APPROVED BY THE CITY.
- B2. FIRE HYDRANTS ARE ALSO REQUIRED TO BE INSTALLED AT THE ENDS OF CUL-DE-SACS AND TEMPORARY DEAD ENDS FOR BLOW-OFF PURPOSES.
- B3. WHEN HYDRANT IS USED AT A TEMPORARY DEAD-END LOCATION, A TEE WITH A BLIND FLANGE SHALL BE INSTALLED FOR FUTURE SYSTEM CONNECTION.
- B4. DEPENDING ON ITS LOCATION, A FIRE HYDRANT MAY SERVE FOR BOTH FIRE PROTECTION AND BLOW-OFF PURPOSES.

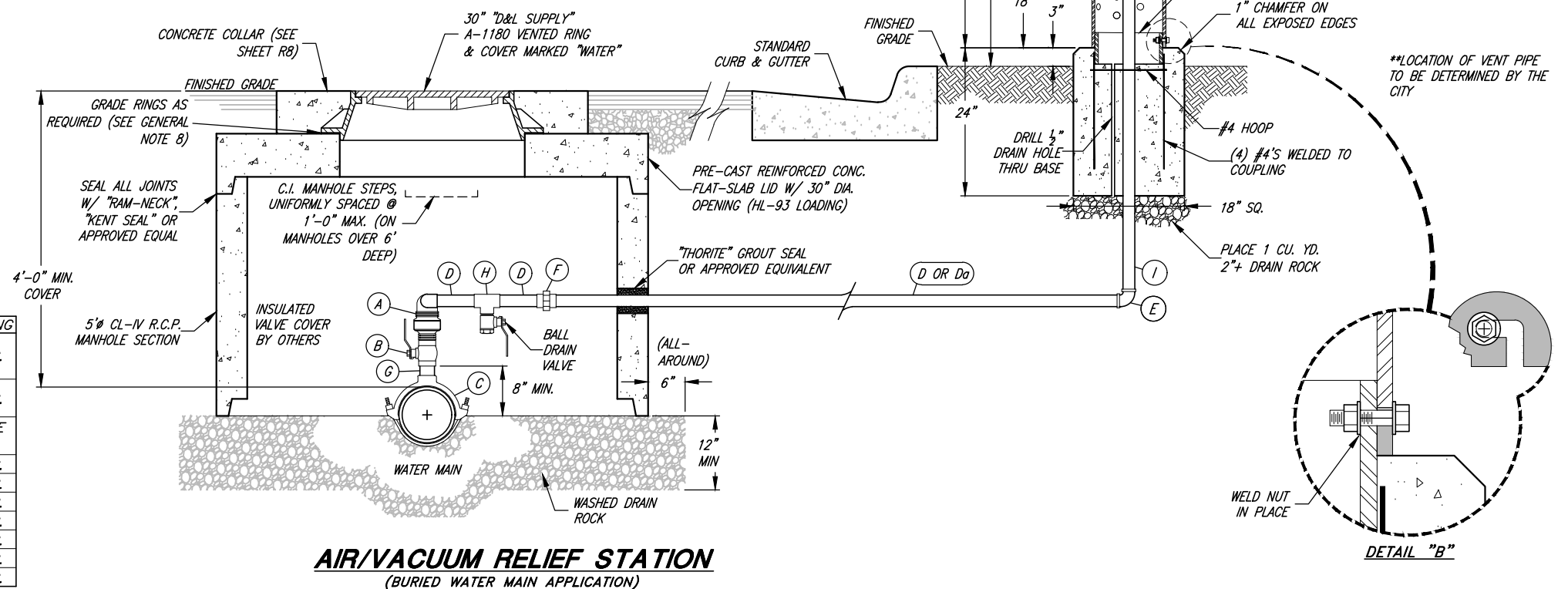
GENERAL NOTES:

1. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
2. ALL WATER MAIN AND HYDRANT GATE VALVES TO BE AWWA C509 RESILIENT WEDGE "MUELLER" A-2361 OR "CLOW" 2639 VALVES (ANY CHIPS IN THE VALVE FACTORY COATING DUE TO SHIPPING/INSTALLATION MUST BE REPAIRED USING AN APPROVED EPOXY COATING)
3. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.
4. PIPES, JOINTS, FITTINGS, VALVES, & FIRE HYDRANTS SHALL CONFORM TO ANSI / NSF 61.
5. FIRE HYDRANTS SHALL NOT BE LOCATED WITHIN 10'-0" OF A SANITARY SEWER OR WITHIN 10'-0" OF STORM DRAIN WHERE POSSIBLE.
6. ALL WATER SYSTEM MATERIALS SHALL BE NEW (DISCOLORED PIPE OR PIPE MATERIALS STOCKPILED LONGER THAN 1 YEAR WILL NOT BE ACCEPTED BY THE CITY); USED MATERIALS ARE NOT ALLOWED.
7. ALL CULINARY WATER MAINS AND SERVICES MUST MAINTAIN A MINIMUM SEPARATION ABOVE ALL SEWER MAINS AND LATERALS OF 18" VERTICAL AND 10'-0" HORIZONTAL IN ACCORDANCE WITH THE STATE OF UTAH DIVISION OF DRINKING WATER (DDW) RULES SECTION R309-550-7. EXCEPTIONS MUST BE APPROVED BY DDW.
8. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE

PIPE & FITTING SCHEDULE

NO.	DESCRIPTION	FITTING
A	2" COMBINATION AIR-VACUUM RELIEF VALVE "A.R.I." MODEL D-040 W/ NPT CONNECTIONS	THR.
B	2" BRASS BALL VALVE (1/4 TURN) "FORD" B11-777-HB-67-NL OR APPROVED EQUAL	THR.
C	2" NYLON COATED W/ DOUBLE S.S. STRAPS SERVICE SADDLE "ROMAC" 202NS OR APPROVED EQUAL	
D	1 1/2" SCH. 80 PVC PIPE	THR.
Da	1 1/2" POLY PIPE	THR.
E	1 1/2" GALV. STEEL 90° ELBOW	THR.
F	1 1/2" SCH. 80 PVC UNION	THR.
G	2" BRASS PIPE	THR.
H	1 1/2" SCH. 80 PVC TEE	THR.
I	1 1/2" GALV. STEEL PIPE	THR.

FIRE HYDRANT & GATE VALVE DETAIL



AIR/VACUUM RELIEF STATION (BURIED WATER MAIN APPLICATION)

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:

N.T.S.



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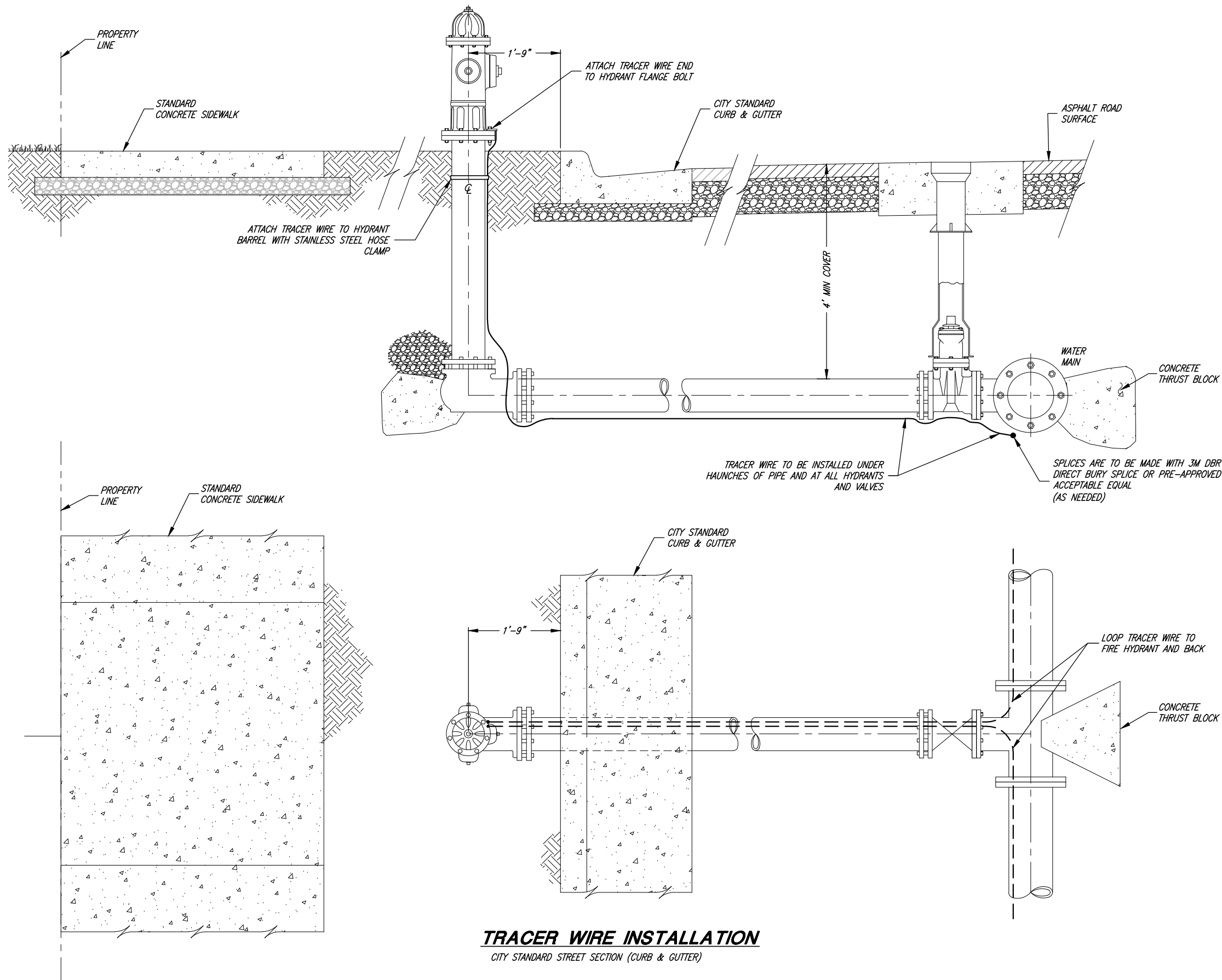


CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
FIRE HYDRANT, GATE VALVE, AND
AIR/VACUUM RELIEF STATION DETAILS

SHEET:

CW3

OF X SHEETS
0



NOTES:

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

TRACER WIRE INSTALLATION

CITY STANDARD STREET SECTION (CURB & GUTTER)

CITY ENGINEER					
3/8/2024					
DATE	REV.	DATE	APPR.		

SCALE:

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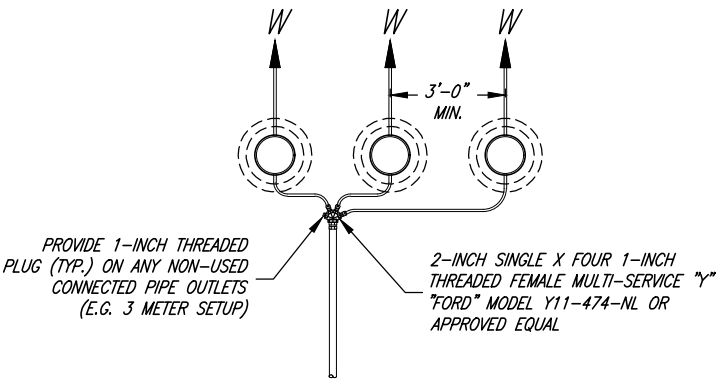


CLEARFIELD CITY CORPORATION
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS
TRACER WIRE INSTALLATION DETAILS

SHEET:

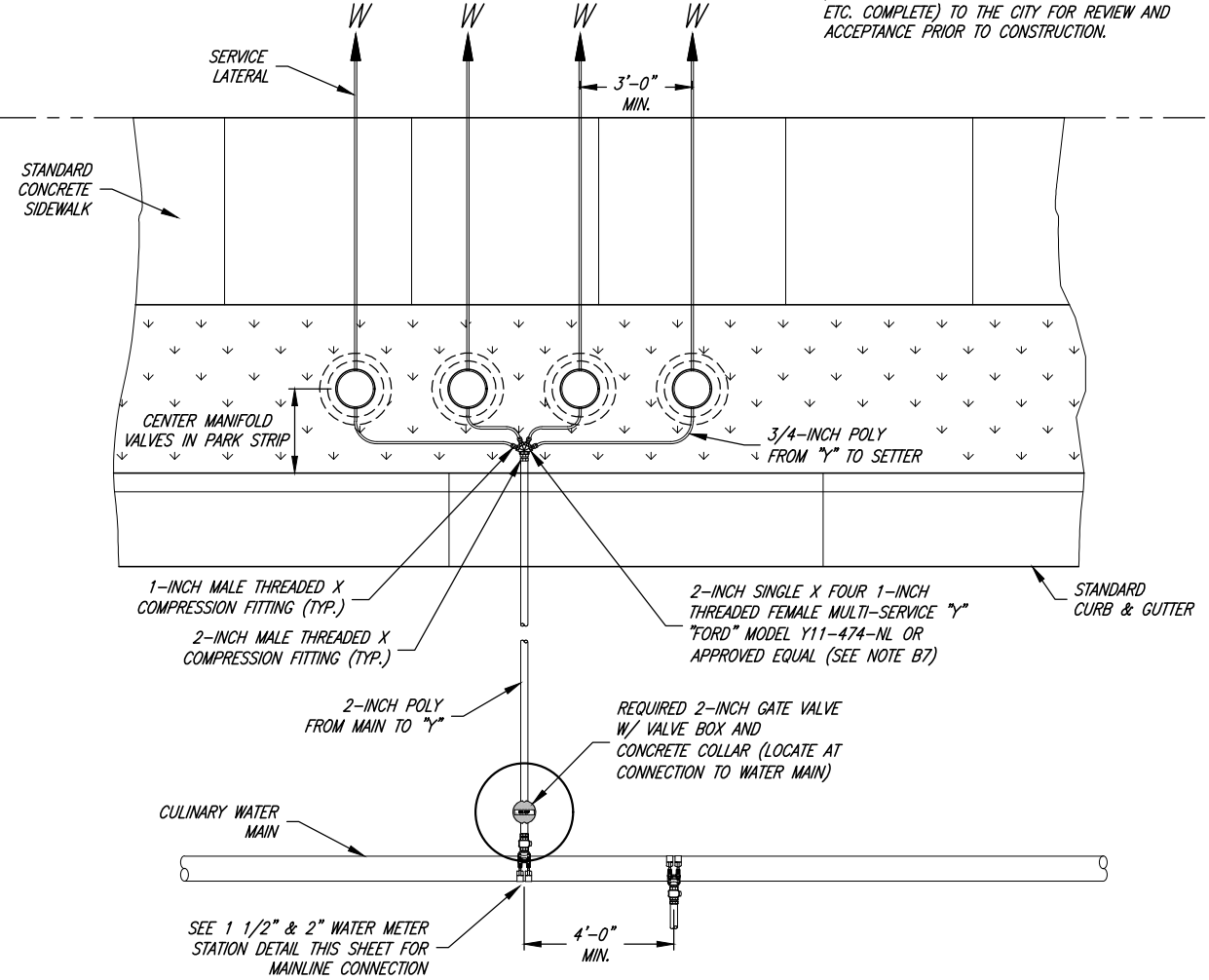
CW4

OF X SHEETS
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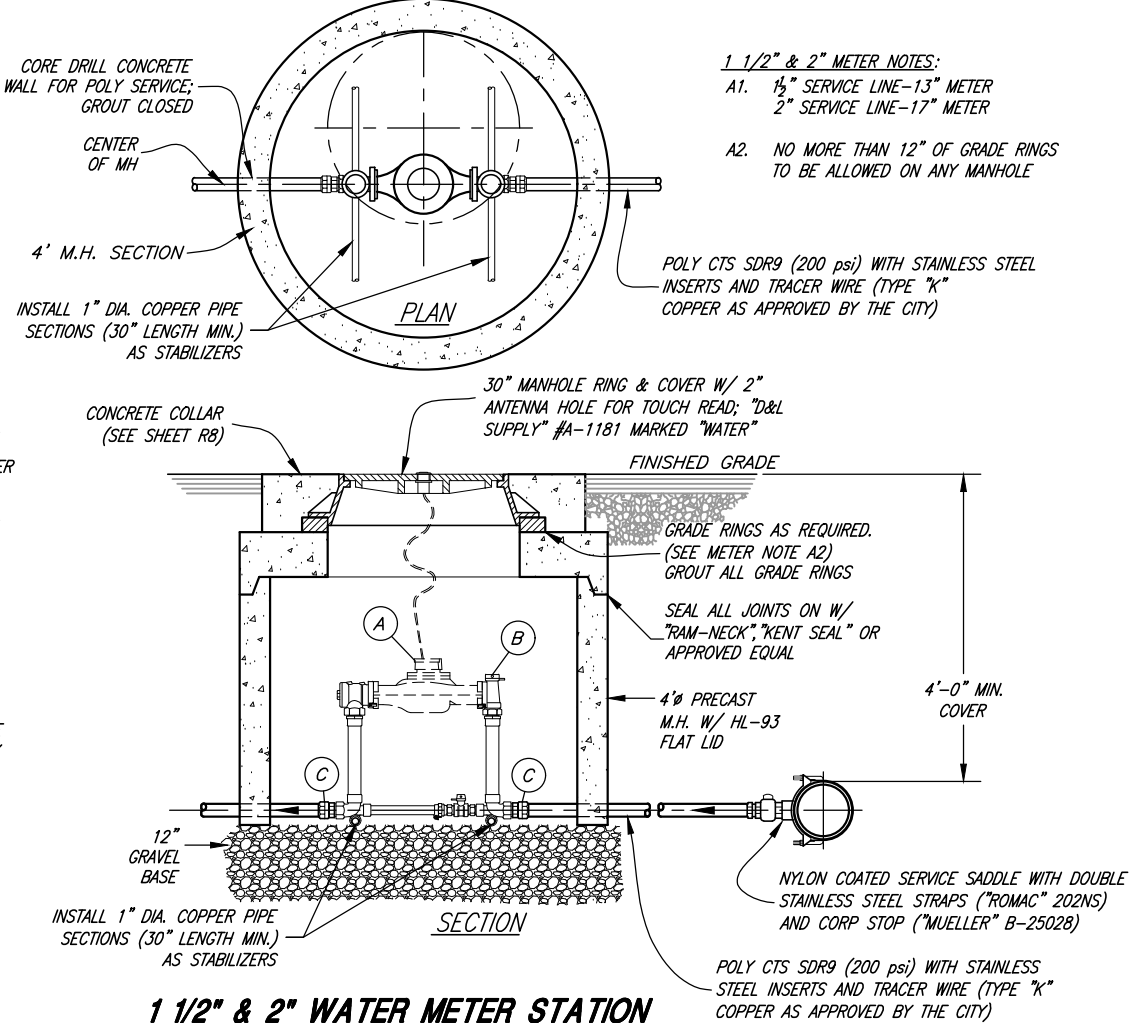
- METER MANIFOLD NOTES:
- B1. PIPES AND PIPE FITTINGS MUST MEET THE SPECIFICATIONS OF ANSI/NSF 61
 - B2. MINIMUM 4'-0" BETWEEN SERVICE SADDLES
 - B3. TYPICAL 3'-0" MINIMUM BETWEEN METER BOXES
 - B4. SEE STANDARD DETAIL SHEETS CW1 FOR WATER SERVICE AND METER BOX DETAILS
 - B5. FOUR SERVICES MAXIMUM PER MAINLINE CONNECTION
 - B6. PROVIDE AN IMPRINTED ALUMINUM TAG TO BE ATTACHED TO EACH YOKE WITH CORRESPONDING UNIT ADDRESS.
 - B7. THE "FORD" METERING MANIFOLD MAY BE USED WITH WRITTEN APPROVAL BY THE CITY. SUBMIT ENGINEERED CONSTRUCTION PLANS, DETAILS, AND SPECIFICATIONS (METER BOX, LID, SETTER, SERVICE PIPING, CONNECTIONS ETC. COMPLETE) TO THE CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.

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



WATER METER MANIFOLD DETAIL
FOR USE WITH TOWNHOME (INDIVIDUAL BILLING) TYPE DEVELOPMENTS
(REQUIRES APPROVAL BY THE CITY)

NO.	DESCRIPTION (1 1/2" & 2" METER STA.)	JOINT TYPE	1 1/2" LINE	2" LINE
A	"BADGER" E-SERIES ULTRASONIC FLOW METER	FL	1 1/2"	2"
B	"FORD" VBHH76-18B-11-66-NL METER SETTER (18" HEIGHT)		1 1/2"	--
	"FORD" VBHH77-18B-11-77-NL METER SETTER (18" HEIGHT)		--	2"
C	"MUELLER" H-15428 ADAPTER	--	1 1/2"	2"



- 1 1/2" & 2" METER NOTES:
- A1. 1 1/2" SERVICE LINE-13" METER
2" SERVICE LINE-17" METER
 - A2. NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE

- GENERAL NOTES:
- C1. PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.
 - C2. INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.
 - C3. IF APPLICABLE, A CITY EXCAVATION PERMIT MUST BE REQUESTED AND APPROVED PRIOR TO START OF WORK.
 - C4. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
 - C5. ALL SUPPLIES, LABOR, EQUIPMENT, ETC. SHALL BE SUPPLIED BY THE DEVELOPER/CONTRACTOR EXCEPT THE WATER METERS. WATER METERS SHALL BE PAID FOR BY THE DEVELOPER/CONTRACTOR. CLEARFIELD CITY WILL SUPPLY AND SET ALL WATER METERS.
 - C6. FOR METER STATIONS LOCATED IN TRAFFIC AREAS, CONTACT CITY FOR METER LID SPECIFICATIONS.
 - C7. ALL RADIO-READ ANTENNAS ARE TO BE INSTALLED ABOVE THE ACCESS LID, RECESSED INTO THE MANHOLE OR METER PIT COVER.

1 1/2" & 2" WATER METER STATION

CITY ENGINEER					
3/8/2024					
DATE	REV.	DATE	APPR.		

SCALE: N.T.S.

JA JONES & ASSOCIATES

CONSULTING ENGINEERS

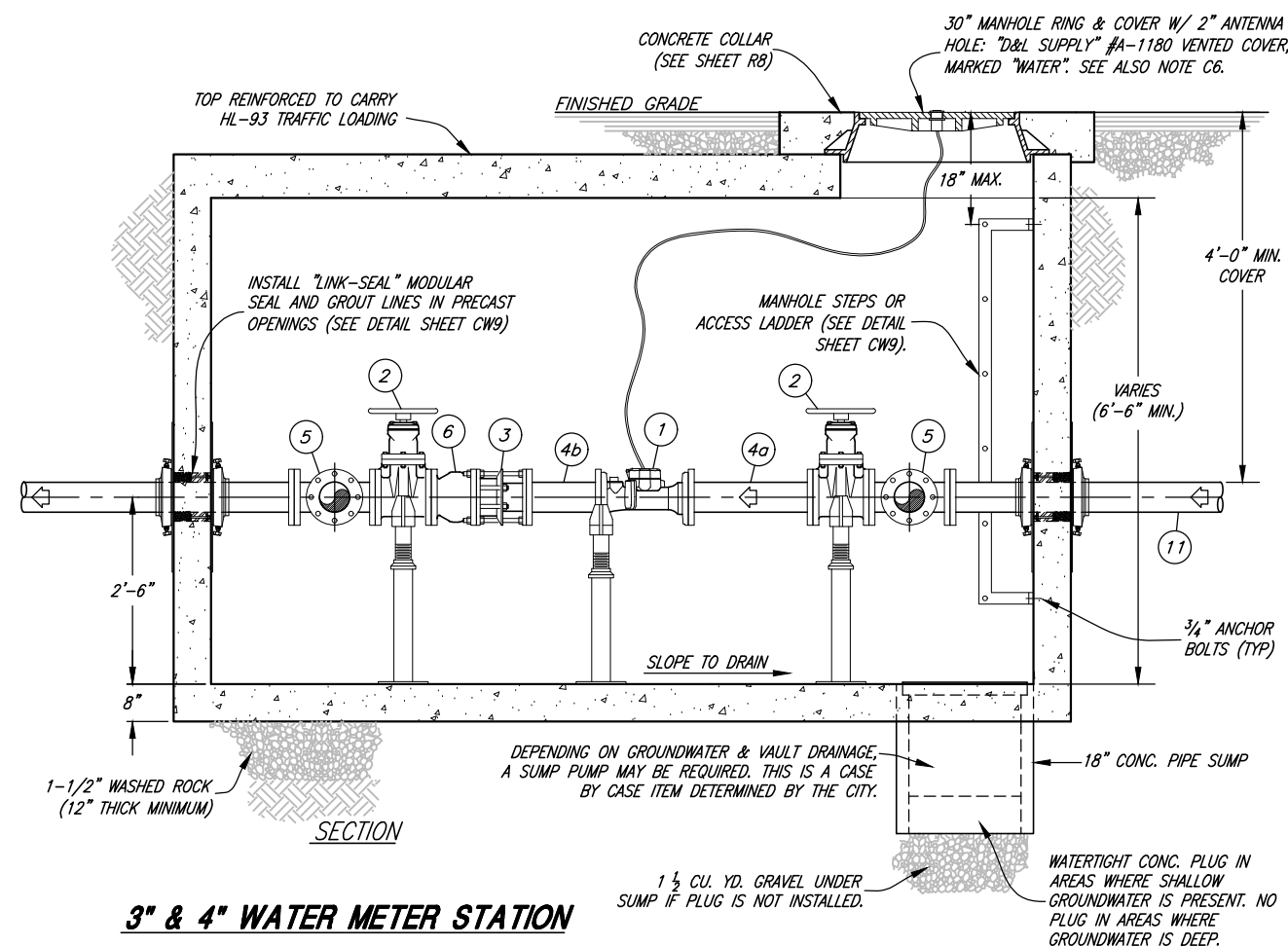
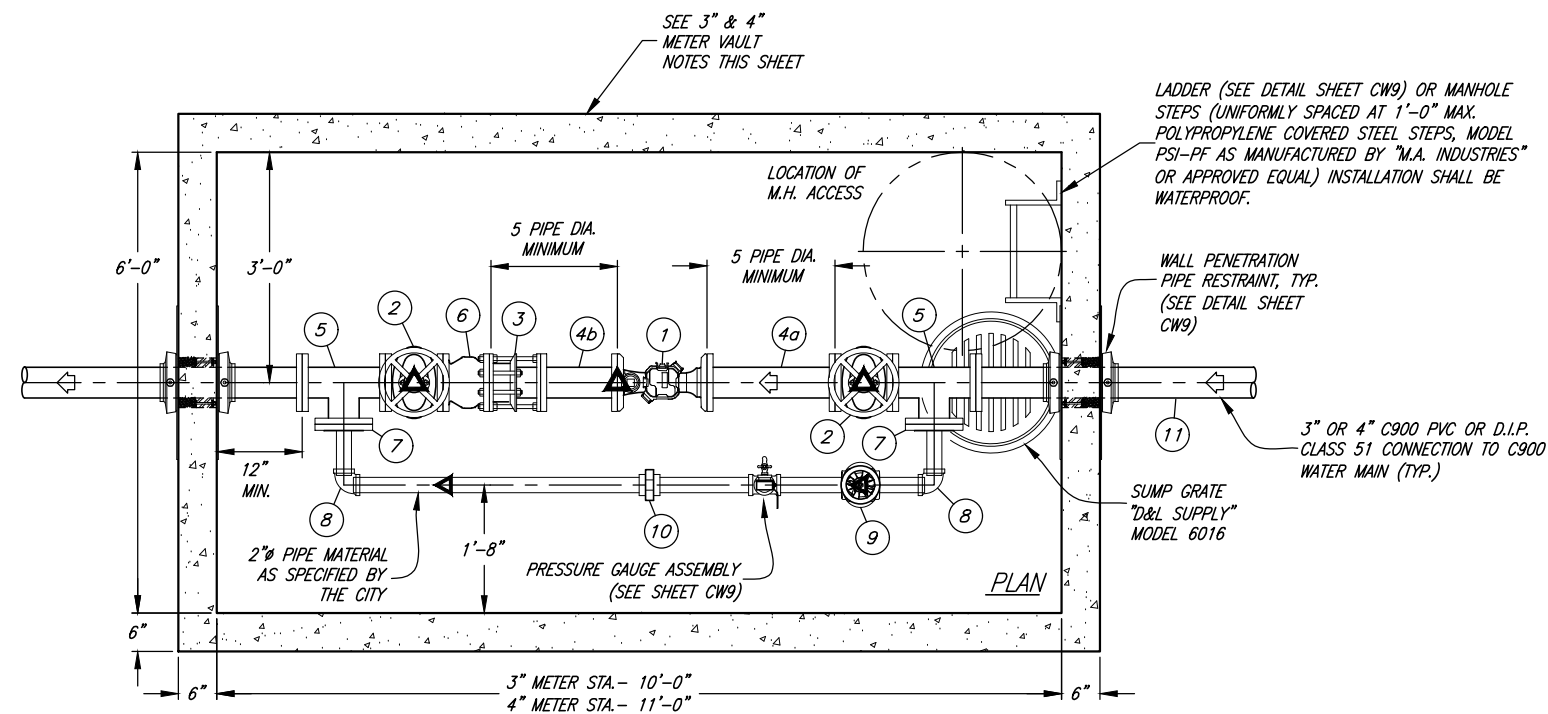
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CLEARFIELD CITY CORPORATION

PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS

TYPICAL 1 1/2" & 2" WATER METER STATIONS, AND WATER METER MANIFOLD DETAILS



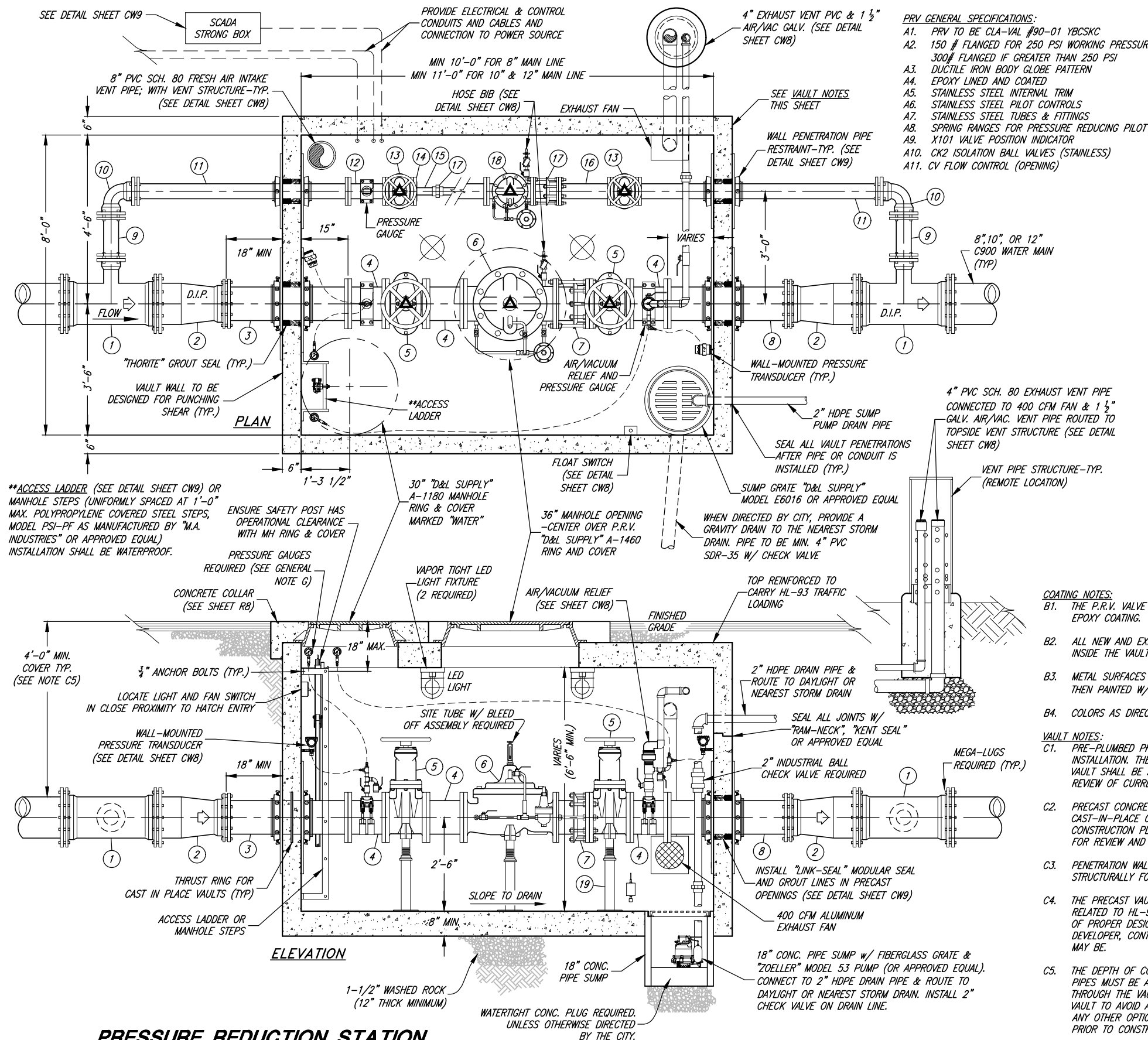
PIPE & FITTING SCHEDULE				
NO.	DESCRIPTION (3" & 4" METER STA.)	JOINT TYPE	3" LINE	4" LINE
1	"BADGER" E-SERIES ULTRASONIC FLOW METER	FL	3"	4"
2	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL	FL	3" A-2362	4" A-2361
3	"ROMAC" DJ400 DISMANTLING JOINT	FL	3"	4"
4a	SPOOL PIECE	FL	3"	4"
4b	SPOOL PIECE	FL	3"	4"
5	TEE	FL	3"	4"
6	"CRISPIN" GLOBE STYLE SILENT CHECK VALVE	FL	3"	4"
7	COMPANION FLANGE W/ 2"Ø THREADED CONNECTION	FL	3"	4"
8	PIPE 90° BEND	THR.	2"	2"
9	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL	THR.	2" A-2362	2" A-2362
10	PIPE UNION	THR.	2"	2"
11	NIPPLE	FLxPE	3"	4"
12	"ANVL" #264 GALV. PIPE SUPPORT W/ COMPANION FLANGE & VARIABLE HEIGHT NIPPLE OR APPROVED EQUAL (5 EA REQUIRED)			

3" & 4" METER VAULT NOTES:

- A1. ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC"; MJRG, OR APPROVED EQUAL)
- A2. PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.
- A3. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.
- A4. ALL FITTINGS SHALL BE AWWA C-110 WITH 125 LB. FLANGES. ALL PIPING SHALL BE DUCTILE IRON PIPE CLASS 350 P.S.I. MIN.

GENERAL NOTES:

- C1. *PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.*
- C2. *INSTALLATION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.*
- C3. *IF APPLICABLE, A CITY EXCAVATION PERMIT MUST BE REQUESTED AND APPROVED PRIOR TO START OF WORK.*
- C4. *"BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.*
- C5. *ALL SUPPLIES, LABOR, EQUIPMENT, ETC. SHALL BE SUPPLIED BY THE DEVELOPER/CONTRACTOR EXCEPT THE WATER METERS. WATER METERS SHALL BE PAID FOR BY THE DEVELOPER/CONTRACTOR. CLEARFIELD CITY WILL SUPPLY AND SET ALL WATER METERS.*
- C6. *FOR METER STATIONS LOCATED IN TRAFFIC AREAS, CONTACT CITY FOR METER LID SPECIFICATIONS.*
- C7. *ALL RADIO-READ ANTENNAS ARE TO BE INSTALLED ABOVE THE ACCESS LID, RECESSED INTO THE MANHOLE OR METER PIT COVER.*



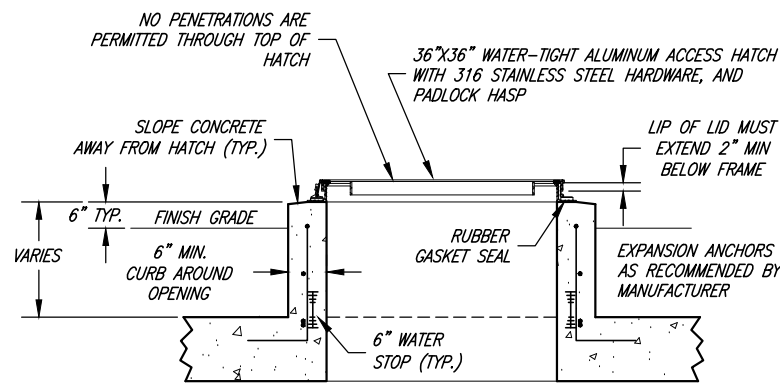
- PRV GENERAL SPECIFICATIONS:**
- A1. PRV TO BE CLA-VAL #90-01 YBCSKC
 - A2. 150 # FLANGED FOR 250 PSI WORKING PRESSURE, 300# FLANGED IF GREATER THAN 250 PSI
 - A3. DUCTILE IRON BODY GLOBE PATTERN
 - A4. EPOXY LINED AND COATED
 - A5. STAINLESS STEEL INTERNAL TRIM
 - A6. STAINLESS STEEL PILOT CONTROLS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

PIPE & FITTING SCHEDULE					
NO.	DESCRIPTION	JOINT TYPE	8" LINE	10" LINE	12" LINE
1	D.I. REDUCING TEE (2)	MJ	8"x8"x4"	10"x10"x4"	12"x12"x4"
2	D.I. REDUCER (2)	MJ	8"x6"	10"x8"	12"x10"
3	D.I. NIPPLE PIECE	FLxPE	6"	8"	10"
4	12" D.I. SPOOL PIECE (3)	FL	6"	8"	10"
5	"MUELLER" A-2361 GATE VALVE W/ HANDWHEEL (2)	FL	6"	8"	10"
6	"CLA-VAL" 90-01 PRESSURE REDUCTION VALVE	FL	6"	8"	10"
7	"ROMAC" DJ400 DISMANTLING JOINT	FL	6"	8"	10"
8	D.I. NIPPLE PIECE	FLxPE	6"	8"	10"
9	D.I. PIPE SECTION (2)	PE	4"	4"	4"
10	D.I. 90° ELBOW (2)	MJ	4"	4"	4"
11	D.I. NIPPLE PIECE (2)	FLxPE	4"	4"	4"
12	12" D.I. SPOOL PIECE	FL	4"	4"	4"
13	"MUELLER" A-2361 GATE VALVE W/ HANDWHEEL (2)	FL	4"	4"	4"
14	BLIND FLANGE W/ THR. CONNECTION (2)	FLxTHR.	4"x2"	--	--
15	D.I. SPOOL PIECE	FL	--	4"	4"
16	D.I. SPOOL PIECE	THR.	2"	--	--
17	"ROMAC" DJ400 DISMANTLING JOINT	FL	--	4"	4"
18	"CLA-VAL" 90-01 PRESSURE REDUCTION VALVE	THR.	2"	--	--
19	"ANVIL" #264 GALV. PIPE SUPPORT W/ 3" COMPANION FLANGE & VARIABLE HEIGHT 3" NIPPLE OR APPROVED EQUAL (6 EA REQUIRED.)	FL	2" THR.	4"	4"

- GENERAL NOTES:**
- A. "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
 - B. ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC", MJRG, OR APPROVED EQUAL)
 - C. STRUCTURE, PIPING & VALVE SIZES FOR P.R.V. STATIONS ON LINE SIZES GREATER THAN 12" SHALL BE SPECIFIED BY THE CITY.
 - D. ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.
 - E. WHEN BENDS ARE USED TO ACHIEVE PROPER DEPTH & DIMENSIONS, AIR/VAC SHALL BE LOCATED PRIOR TO BENDS ON DOWNHILL SIDE OF PRV; OTHERWISE AIR/VAC SHALL BE LOCATED IN PRV VAULT.
 - F. ADD HIGH PRESSURE RELIEF VALVE IN PRVs WHEN DIRECTED BY THE CITY. THIS IS A CASE BY CASE ITEM DETERMINED BY THE CITY (PRV VAULT WILL NEED TO BE LENGTHENED TO ACCOMMODATE SUCH VALVE).
 - G. WHEN AN AIR/VACUUM RELIEF IS NOT NEEDED A PRESSURE GAUGE IS STILL REQUIRED ON THE DOWNSTREAM SIDE OF THE PRV.
 - H. NO MORE THAN 12" OF GRADE RINGS TO ALLOWED ON ANY MANHOLE OR STRUCTURE.
 - I. ALL WALL PIPE PENETRATIONS AND JOINTS SHALL BE SEALED TO PREVENT WATER INFILTRATION. USE "LINK-SEAL" ON CAST-IN-PLACE VAULTS. PRECAST VAULTS SEAL AS DIRECTED BY CITY. APPROVED PRODUCTS ARE:
 - (a) "PRIME RESIN"- PRIMEFLEX 900XLV
 - (b) "MANUS PRODUCTS"- MANUS BOND 75AM
 - J. VAULT PENETRATIONS FOR THE AIR/VACUUM RELIEF LINES, EXHAUST FAN LINES, AND SUMP PUMP DISCHARGE LINES, SHALL BE CORE DRILLED IN LOCATIONS APPROVED BY THE CITY TO AVOID CONFLICT WITH OTHER NECESSARY VAULT EQUIPMENT.
 - K. ALL VENTILATION AND DISCHARGE PIPING SHALL BE CEILING OR WALL MOUNTED AND SECURED BY UNISTRUT OR APPROVED EQUAL.
 - L. VAULT SHALL BE SUPPLIED WITH POWER FOR ALL EQUIPMENT, WHETHER SHOWN AND/OR NOTED, FOR A COMPLETE AND OPERABLE INSTALLATION. DEVELOPER, CONTRACTOR, OR OWNER SHALL BE RESPONSIBLE FOR COORDINATING WITH POWER COMPANY AND PROVIDING POWER SOURCE.
 - M. EXHAUST FAN AND AIR INTAKE AND EXHAUST PIPING SHALL BE ADEQUATELY SIZED TO PROVIDE THE REQUIRED NUMBER OF AIR EXCHANGES IN ACCORDANCE WITH THE GOVERNING CODE.

- COATING NOTES:**
- B1. THE P.R.V. VALVE SHALL INCLUDE FACTORY INSTALLED INTERIOR EPOXY COATING.
 - B2. ALL NEW AND EXISTING PIPING, VALVES, FITTINGS, METERS, ETC, INSIDE THE VAULT SHALL BE EPOXY PAINTED.
 - B3. METAL SURFACES TO BE PAINTED SHALL FIRST BE PRIMED AND THEN PAINTED W/ TWO COATS OF EPOXY PAINT.
 - B4. COLORS AS DIRECTED BY THE CITY.
- VAULT NOTES:**
- C1. PRE-PLUMBED PRV VAULTS ARE THE PREFERRED OPTION FOR INSTALLATION. THE USE AND LOCATION OF A PRE-PLUMBED PRV VAULT SHALL BE AS DIRECTED BY THE CITY FOLLOWING REVIEW OF CURRENT SITE CONDITIONS.
 - C2. PRECAST CONCRETE STRUCTURE CAN BE REPLACED WITH A CAST-IN-PLACE CONCRETE VAULT. SUBMIT ENGINEERED CONSTRUCTION PLANS WITH REBAR DETAILS TO CITY FOR REVIEW AND ACCEPTANCE PRIOR TO CONSTRUCTION.
 - C3. PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.
 - C4. THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO HL-93 TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.
 - C5. THE DEPTH OF COVER OVER THE UPSTREAM AND DOWNSTREAM PIPES MUST BE ADJUSTED TO MATCH THE DEPTH OF THE LINE THROUGH THE VAULT FOR A SUFFICIENT DISTANCE OUTSIDE THE VAULT TO AVOID ANY HIGH POINT IN THE LINE OUTSIDE THE VAULT. ANY OTHER OPTION MUST BE APPROVED BY THE CITY PRIOR TO CONSTRUCTION.

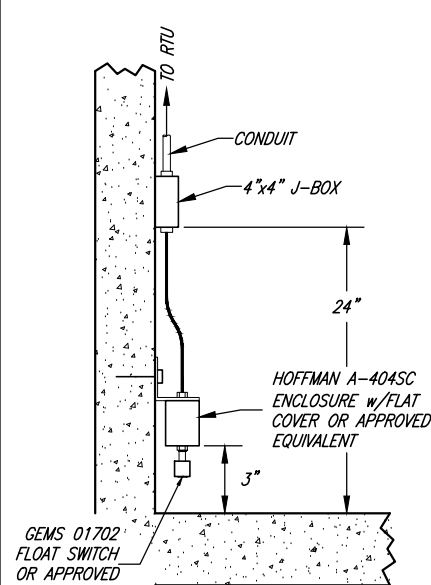
PRESSURE REDUCTION STATION



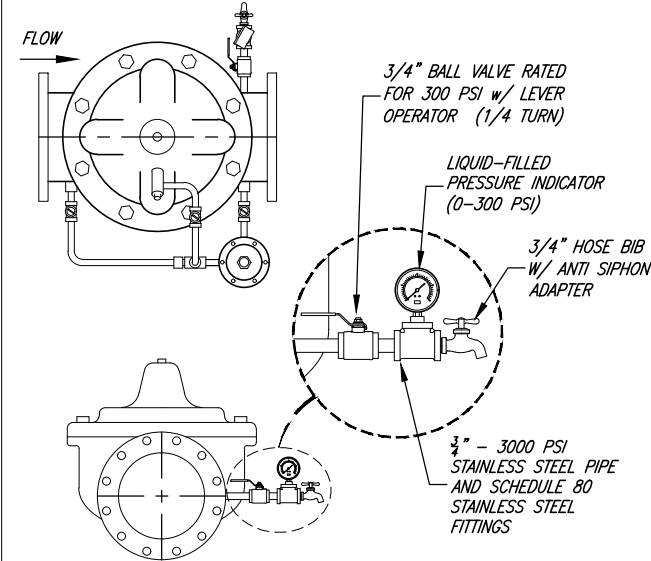
TYPICAL ENTRY HATCH & CURB WALL DETAIL
N.T.S.

ENTRY HATCH NOTES:

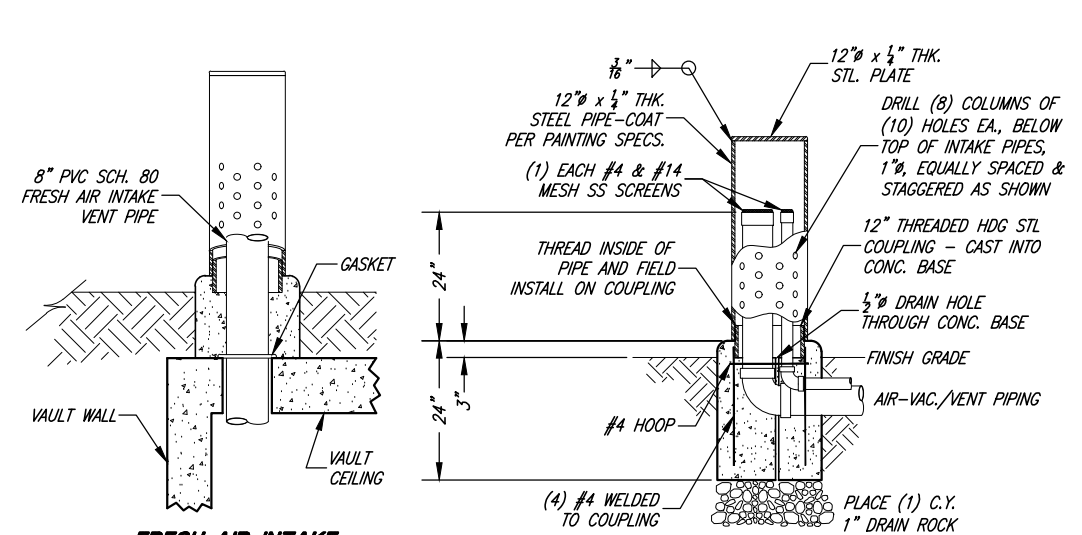
1. ALUMINUM ACCESS HATCHES ARE REQUIRED WHEN THE VAULT IS CONSTRUCTED OUTSIDE OF THE CITY ROADWAY (OFFSITE). USE MANHOLE RING & COVER AS SPECIFIED ON SHEET CW7 WHEN PRV VAULT IS INSTALLED WITHIN ROAD RIGHT-OF-WAY.
2. NO PENETRATIONS SHALL BE ALLOWED THROUGH THE HORIZONTAL FACE OF THE ACCESS HATCH PER THE STATE OF UTAH ADMINISTRATIVE RULES FOR PUBLIC DRINKING WATER SYSTEMS R309-545-14(2)



FLOAT SWITCH DETAIL
N.T.S.



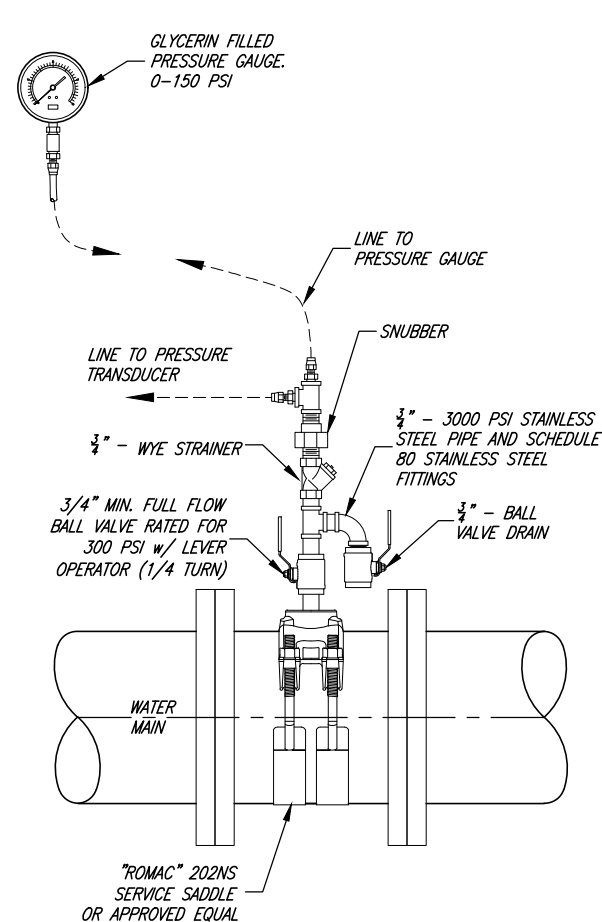
PRV VALVE HOSE BIB AND PRESSURE GAUGE DETAIL
N.T.S.



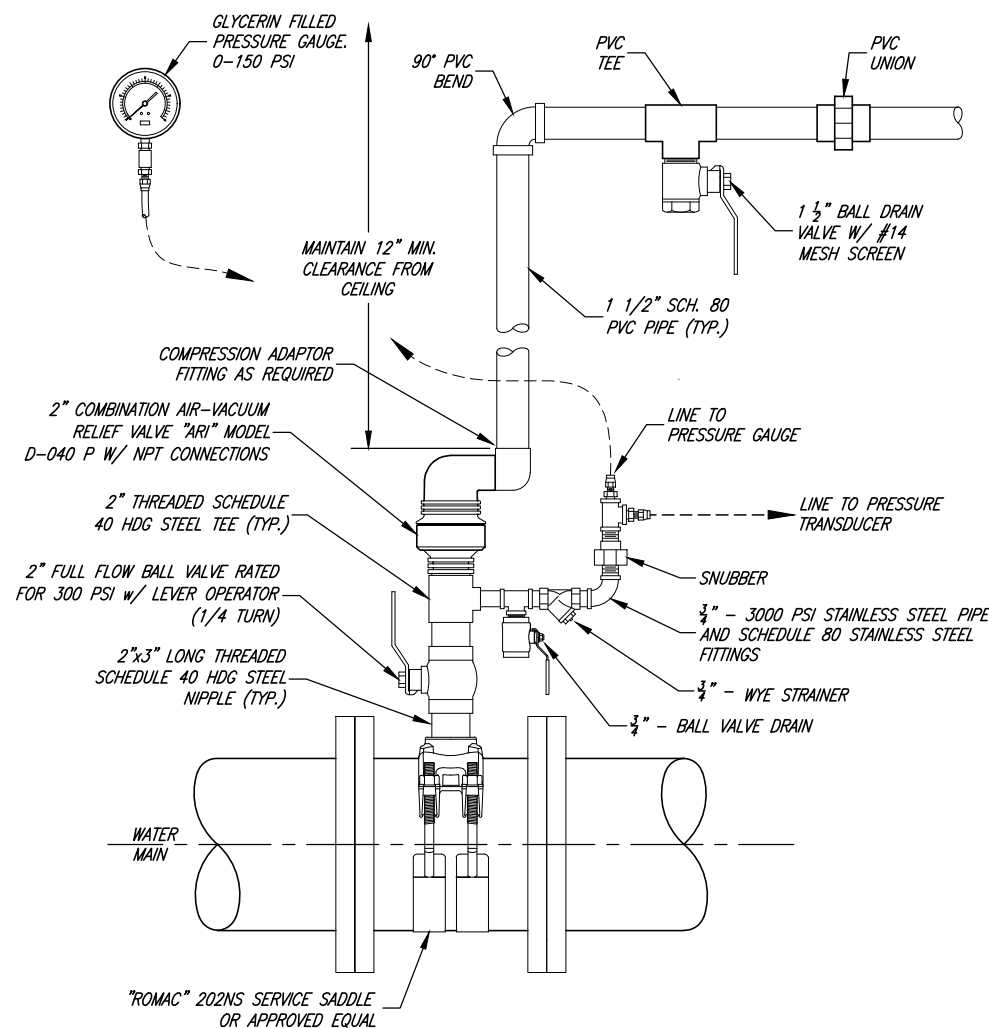
FRESH AIR INTAKE VENT STRUCTURE DETAIL

THE FRESH AIR INTAKE VENT SHALL BE INSTALLED ONLY WHEN THE PRV VAULT IS CONSTRUCTED OUTSIDE OF THE CITY ROADWAY (OFFSITE).

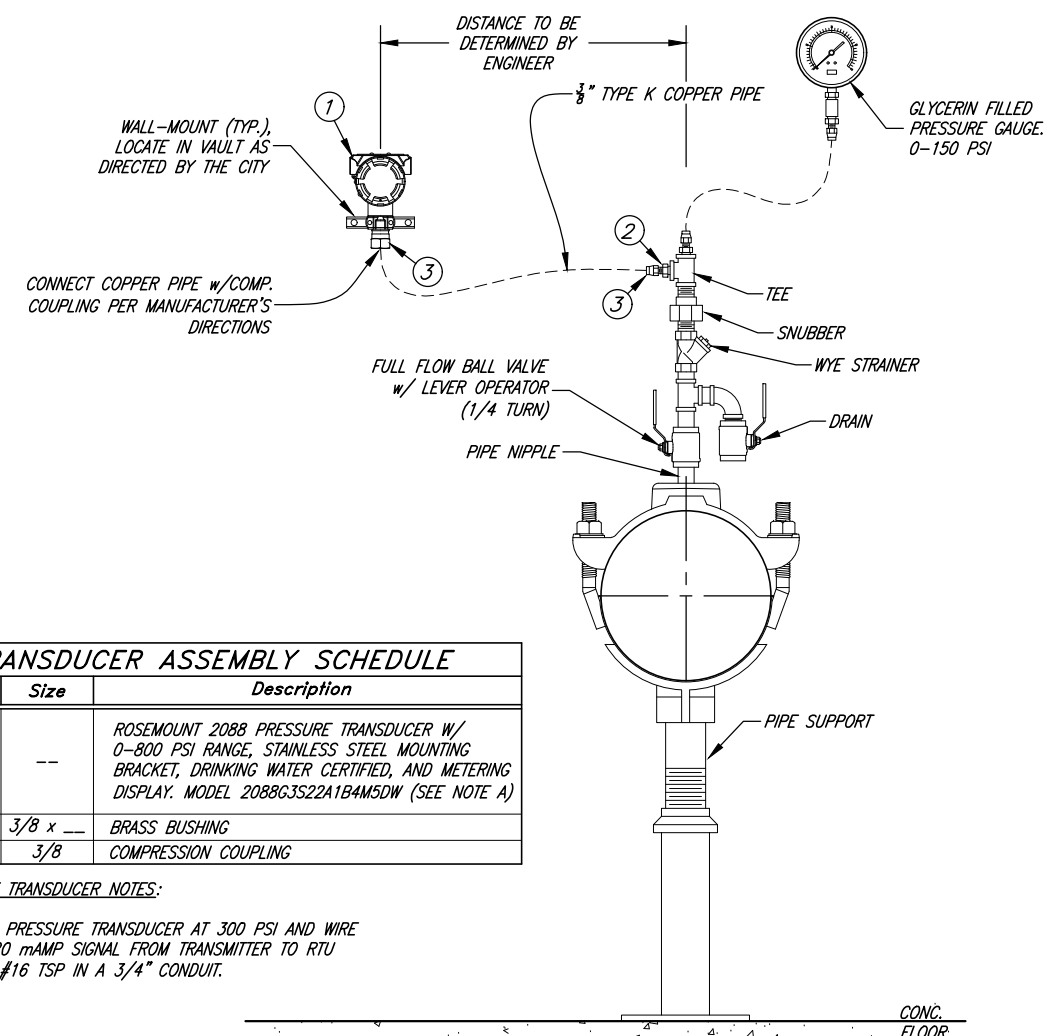
AIR/VACUUM VALVE AND EXHAUST FAN VENT STRUCTURE DETAIL
N.T.S.



PRESSURE GAUGE AND PRESSURE TRANSDUCER CONNECTION ASSEMBLY
N.T.S.



COMBINATION AIR-VAC RELIEF VALVE ASSEMBLY
N.T.S.



TRANSDUCER ASSEMBLY SCHEDULE			
No.	Qua.	Size	Description
1	1	--	ROSEMOUNT 2088 PRESSURE TRANSDUCER W/ 0-800 PSI RANGE, STAINLESS STEEL MOUNTING BRACKET, DRINKING WATER CERTIFIED, AND METERING DISPLAY. MODEL 2088GJS22A1B4M5DW (SEE NOTE A)
2	1	3/8 x --	BRASS BUSHING
3	2	3/8	COMPRESSION COUPLING

PRESSURE TRANSDUCER NOTES:

1. SET PRESSURE TRANSDUCER AT 300 PSI AND WIRE 4-20 mA SIGNAL FROM TRANSMITTER TO RTU W/ #16 TSP IN A 3/4" CONDUIT.

PRESSURE TRANSDUCER ASS'Y. DETAIL

CITY ENGINEER	3/8/2024	DATE
REV.	DATE	APPR.

SCALE:
N.T.S.



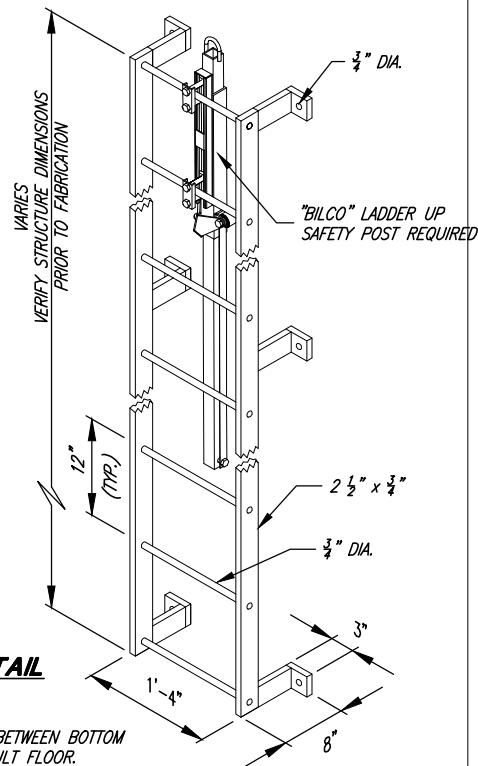
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PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS

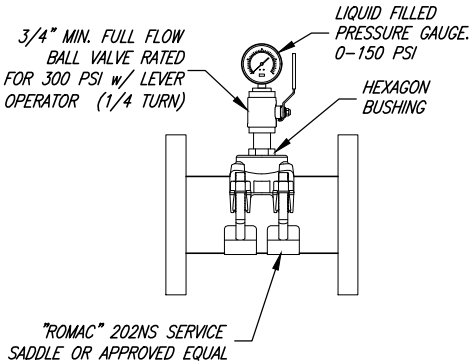
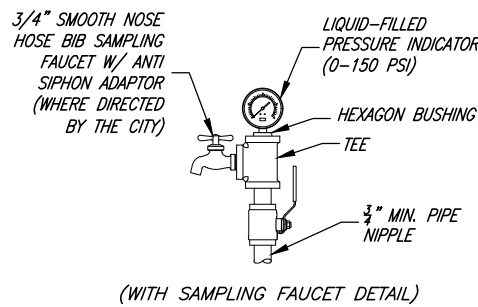
MISC. PRV VAULT DETAILS

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CW8
OF X SHEETS
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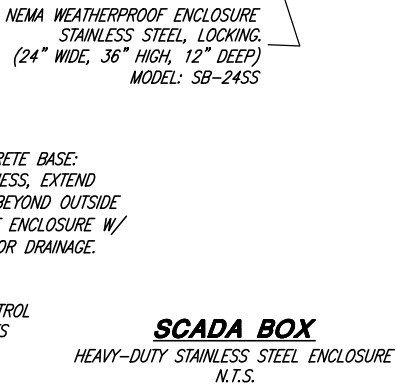
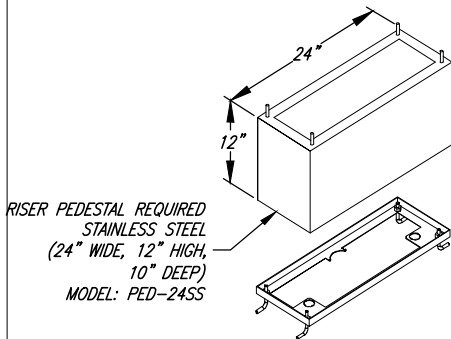


LADDER DETAIL

- LADDER NOTES:**
- A1. MAX. 12" SPACING BETWEEN BOTTOM OF LADDER AND VAULT FLOOR.
 - A2. HOT DIP GALVANIZE AFTER FABRICATION.

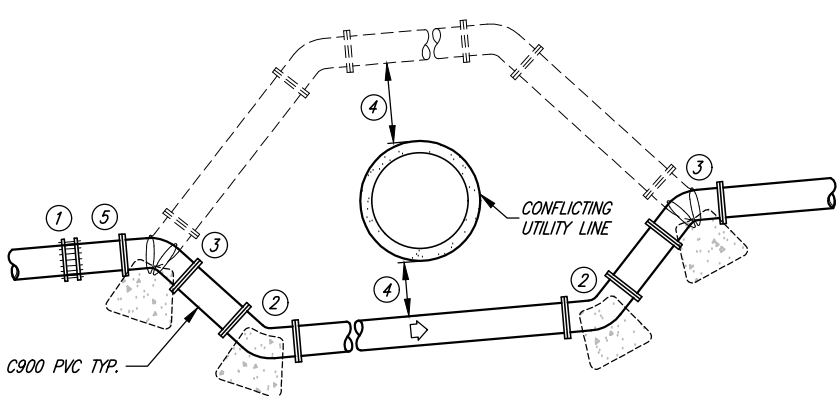


PRESSURE GAUGE ASSEMBLY
N.T.S.



SCADA BOX

HEAVY-DUTY STAINLESS STEEL ENCLOSURE
N.T.S.

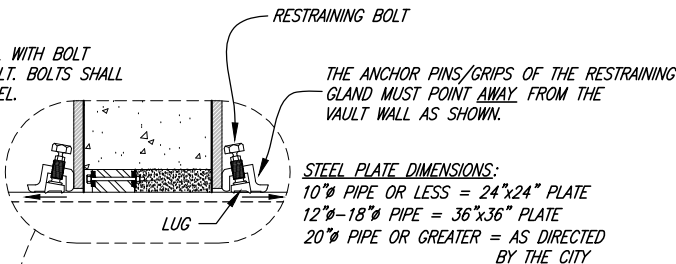


TYPICAL WATERLINE LOOP

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

NOTE:

INSTALL LINK-SEAL WITH BOLT HEADS INSIDE VAULT. BOLTS SHALL BE STAINLESS STEEL.



STEEL PLATE(S) SHALL BE PRIMED AND THEN PAINTED W/ TWO COATS OF EPOXY PAINT.

WATER LINE

3/4" THICK STEEL PLATE (60 KSI) W/ HOLE FOR PIPE SECTION- MAX. 1/4" CLEARANCE

"ROMAC" MJRG RETAINER GLAND - RATED FOR ANTICIPATED LINE PRESSURE (OR APPROVED EQUAL)

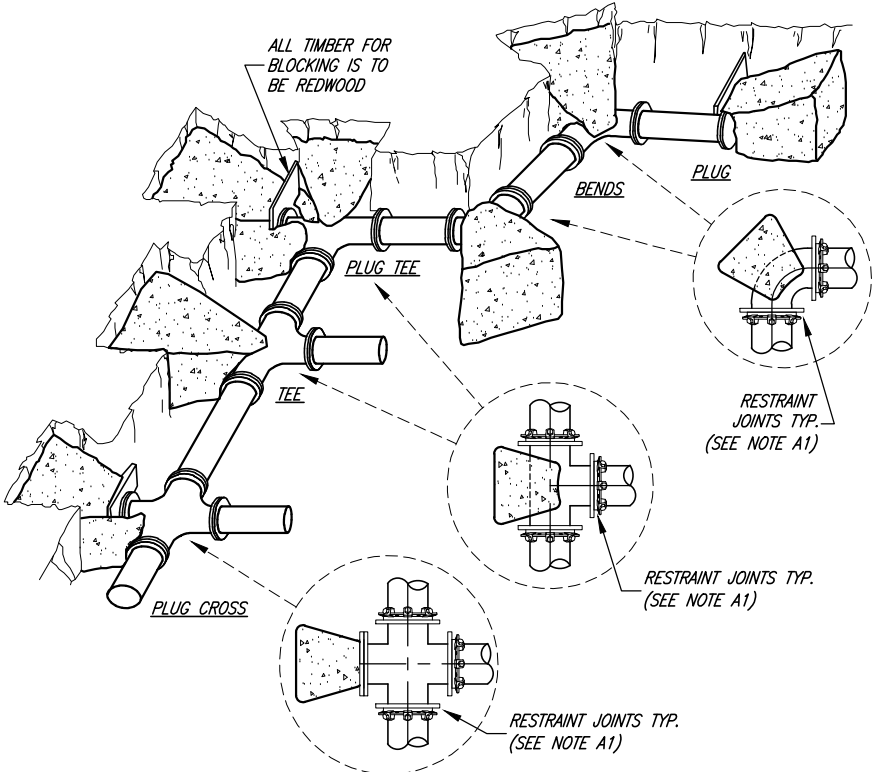
WALL PENETRATION DETAIL
FOR PRECAST VAULT (TYP.)

PIPE RESTRAINT

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

THRUST BLOCKING NOTES:

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



TYPICAL RETAINER GLANDS & THRUST BLOCKING

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

NOTES:

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

EXAMPLE:

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

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

REV.	DATE	APPR.

SCALE:
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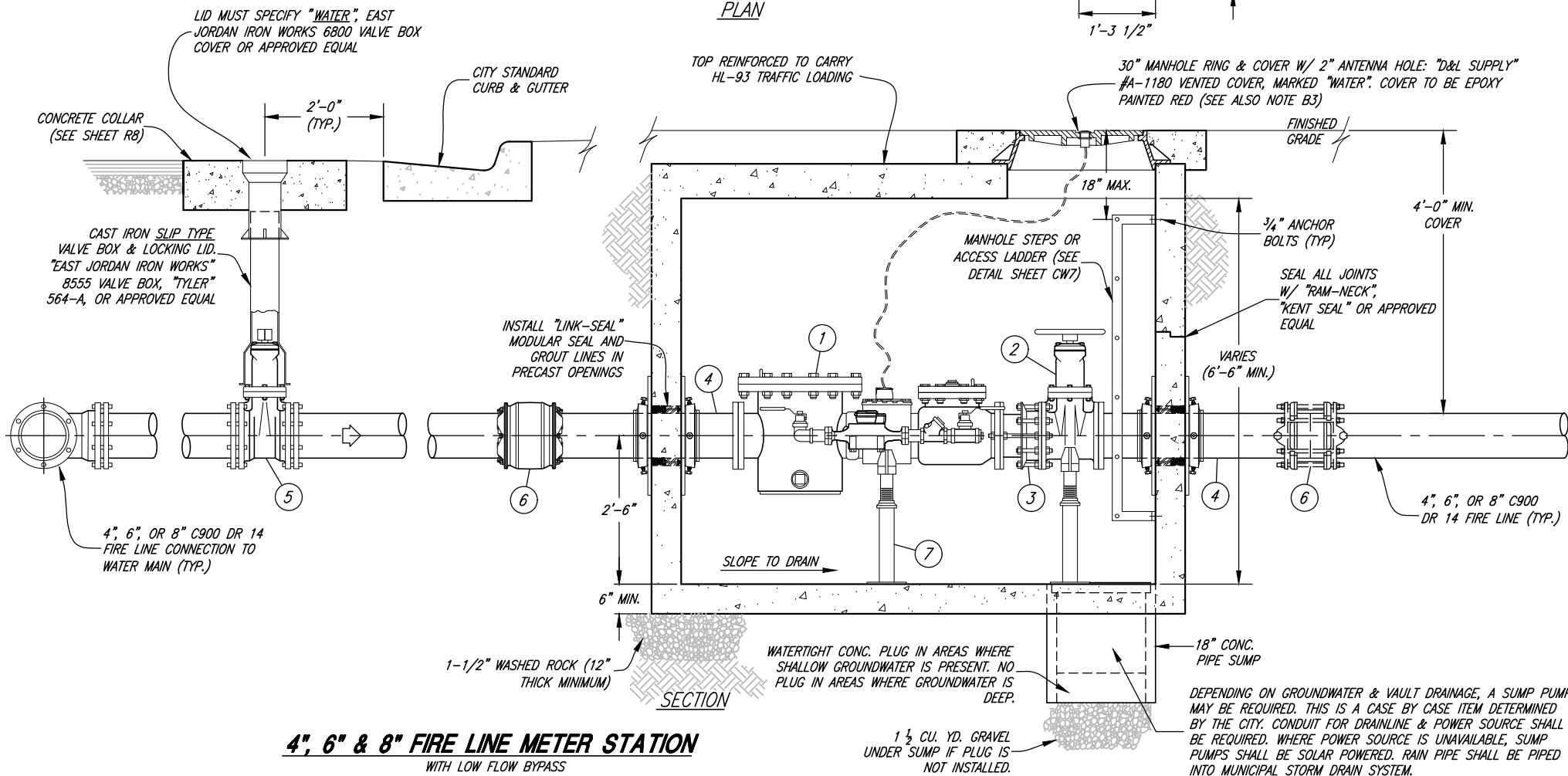
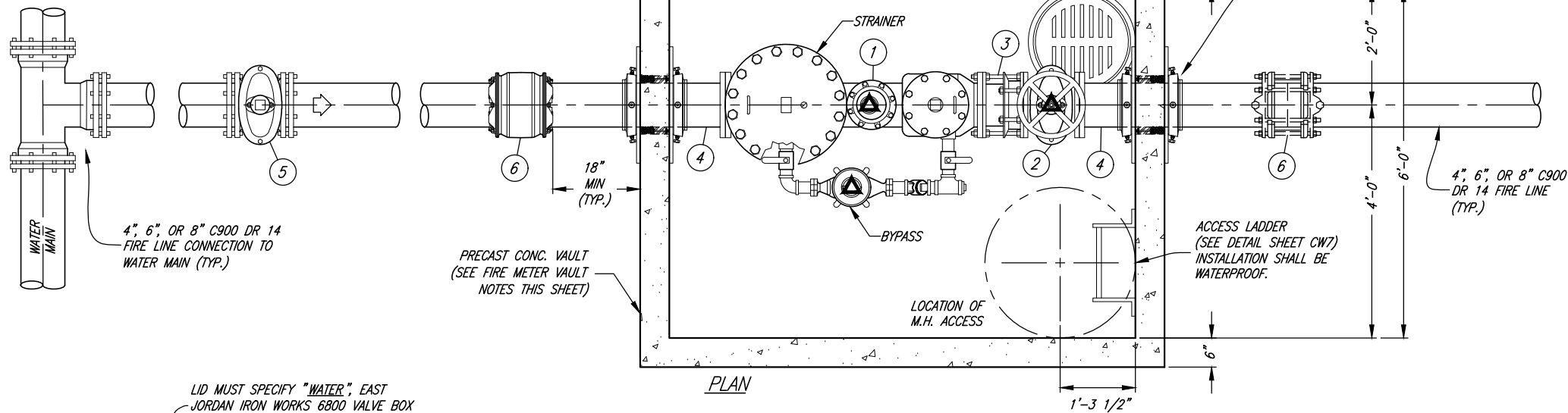


CLEARFIELD CITY CORPORATION	
PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS	
THRUST BLOCK, WATERLINE LOOP, AND MISC. VAULT DETAILS	

SHEET:
CW9
OF X SHEETS
0

3/4" TO 2" FIRE LINE METER STATION NOTES

- D1. METERS:
3/4" AND 1" SERVICE LINE: "BADGER" E-SERIES ULTRASONIC COLD WATER STAINLESS STEEL UL CERTIFIED FIRE SERVICE METER
1 1/2" SERVICE LINE: "BADGER" E-SERIES ULTRASONIC COLD WATER STAINLESS STEEL UL CERTIFIED FIRE SERVICE METER, 13" METER
2" SERVICE LINE: "BADGER" E-SERIES ULTRASONIC COLD WATER STAINLESS STEEL UL CERTIFIED FIRE SERVICE METER, 17" METER
- D2. INSTALLATION: SMALL FIRE METER STATIONS SHALL BE CONSTRUCTED PER CITY STANDARD DETAILS ON SHEETS CW1 AND CW5. THE MANHOLE COVER OR METER PIT CAST IRON COVER TO BE EPOXY PAINTED RED. (SEE ALSO ALL FIRE LINE, METER, AND GENERAL NOTES ON THIS SHEET)



4", 6" & 8" FIRE LINE METER STATION
WITH LOW FLOW BYPASS

PIPE & FITTING SCHEDULE

NO.	DESCRIPTION (6" & 8" METER STA.)	JOINT TYPE	4" LINE	6" LINE	8" LINE
1*	"BADGER" RECORDALL FIRE SERIES ASSEMBLY (FSAA), METER & STRAINER WITH DISC BYPASS	FL	4"	6"	8"
2	"MUELLER" RESILIENT WEDGE GATE VALVE W/ HANDWHEEL	FL	4" A-2361	6" A-2361	8" A-2361
3	"ROMAC" DJ400 DISMANTLING JOINT	FL	4"	6"	8"
4	D.I. NIPPLE PIECE	FLxPE	4"	6"	8"
5	"MUELLER" RESILIENT WEDGE GATE VALVE	FLxMJ	4" A-2361	6" A-2361	8" A-2361
6	SLEEVE COUPLING CONNECTION ("ROMAC" RESTRAINED COUPLING ADAPTER OR MJxMJ SLEEVE W/ MEGA-LUGS)	--	4"	6"	8"
7	"ANVIL" #264 GALV. PIPE SUPPORT W/ 3" COMPANION FLANGE & VARIABLE HEIGHT 3" NIPPLE OR APPROVED EQUAL (3 EA REQUIRED.)				▲ SYMBOL

* ALL FIRE LINE METERS SHALL BE SUPPLIED BY OWNER OR CONTRACTOR AND NOT BY THE CITY.

FIRE LINE NOTES:

- NO WATER SERVICE OR FIRE LINES TO BUILDINGS ARE PERMITTED TO CONNECT TO AUXILIARY LINES SERVICING FIRE HYDRANTS.
- COMMERCIAL FIRE LINES FROM THE MAIN TO BUILDING SHALL BE SEPARATE LINES AND NOT PART OF THE WATER SERVICE LATERAL.
- FIRE LINES ARE TO BE MAINTAINED BY THE PROPERTY OWNER UP TO THE VALVE AT THE MAIN. THE CITY SHALL OWN AND MAINTAIN THE VALVE AT THE MAIN.
- THE FIRE LINE METER STATION TO BE LOCATED WITHIN THE 10'-0" PUBLIC UTILITY EASEMENT (PUE)

FIRE METER VAULT NOTES:

- ALL FITTINGS SHALL BE AWWA C-110 WITH 125 LB. FLANGES. ALL PIPING SHALL BE DUCTILE IRON PIPE CLASS 350 P.S.I. MIN.
- ALL FITTINGS OUTSIDE OF THE VAULT ARE TO BE DUCTILE IRON MJ WITH THRUST RESTRAINT RETAINER GLANDS ("ROMAC", MJRG, OR APPROVED EQUAL).
- "BLUE" BOLTS AND NUTS ARE REQUIRED BY THE CITY.
- PENETRATION WALLS NEED TO BE ADEQUATELY DESIGNED STRUCTURALLY FOR ANTICIPATED THRUST.
- THE PRECAST VAULT MANUFACTURER IS RESPONSIBLE FOR DESIGN RELATED TO TRAFFIC LOADING AND THRUST. VERIFICATION OF PROPER DESIGN MUST BE PROVIDED TO THE CITY BY THE DEVELOPER, CONTRACTOR, OR PROPERTY OWNER AS THE CASE MAY BE.
- ALL WALL PIPE PENETRATIONS ARE TO BE SEALED TO PREVENT WATER INFILTRATION. USE "LINK-SEAL" ON CAST-IN-PLACE VAULTS. PRECAST VAULTS SEAL AS DIRECTED BY CITY.
- NO MORE THAN 12" OF GRADE RINGS TO BE ALLOWED ON ANY MANHOLE OR STRUCTURE.

METER NOTES:

- ALL METERS TO BE RADIO-READ COMPATIBLE & EQUIPPED WITH A THROUGH THE LID ANTENNA.
- METERS TO BE APPROVED BY CITY PRIOR TO INSTALLATION.
- ALL RADIO-READ ANTENNAS ARE TO BE INSTALLED ABOVE THE ACCESS LID, RECESSED INTO THE MANHOLE OR METER PIT COVER.

GENERAL NOTES:

- PROPERTY OWNER OR CONTRACTOR SHALL PAY FOR ALL COSTS OF INSTALLATION INCLUDING ALL MATERIALS, ALL EXCAVATION AND FILL, ASPHALT REPLACEMENT AND WATER MAIN CONNECTION.
- INSPECTION OF ALL WATER LINE INSTALLATIONS WILL BE DONE BY THE CITY, WITH A 48 HOUR MINIMUM NOTICE REQUIRED PRIOR TO START OF WORK.
- CONTRACTOR IS RESPONSIBLE FOR ALL COUNTY, STATE, OR CITY ROAD CUT PERMITS AND REGULATIONS.
- ALL SPECIFIED BRANDS OF MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS MAY BE USED WITH PRIOR APPROVAL OF THE CITY.

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

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PUBLIC WORKS - CULINARY WATER SYSTEM STANDARDS

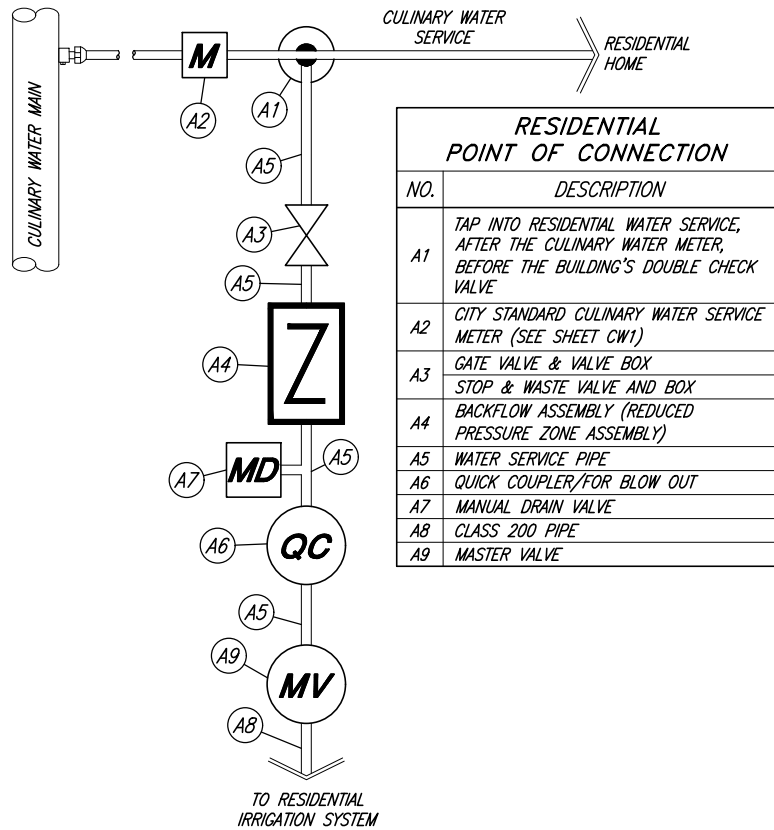
FIRE LINE METER STATIONS

SHEET:

CW10

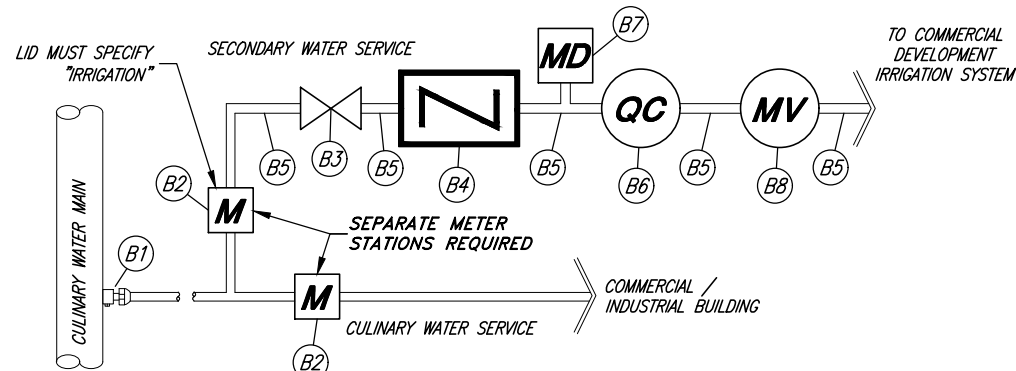
OF X SHEETS

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TYPICAL RESIDENTIAL POINT OF CONNECTION SCHEMATIC DIAGRAM
N.T.S.

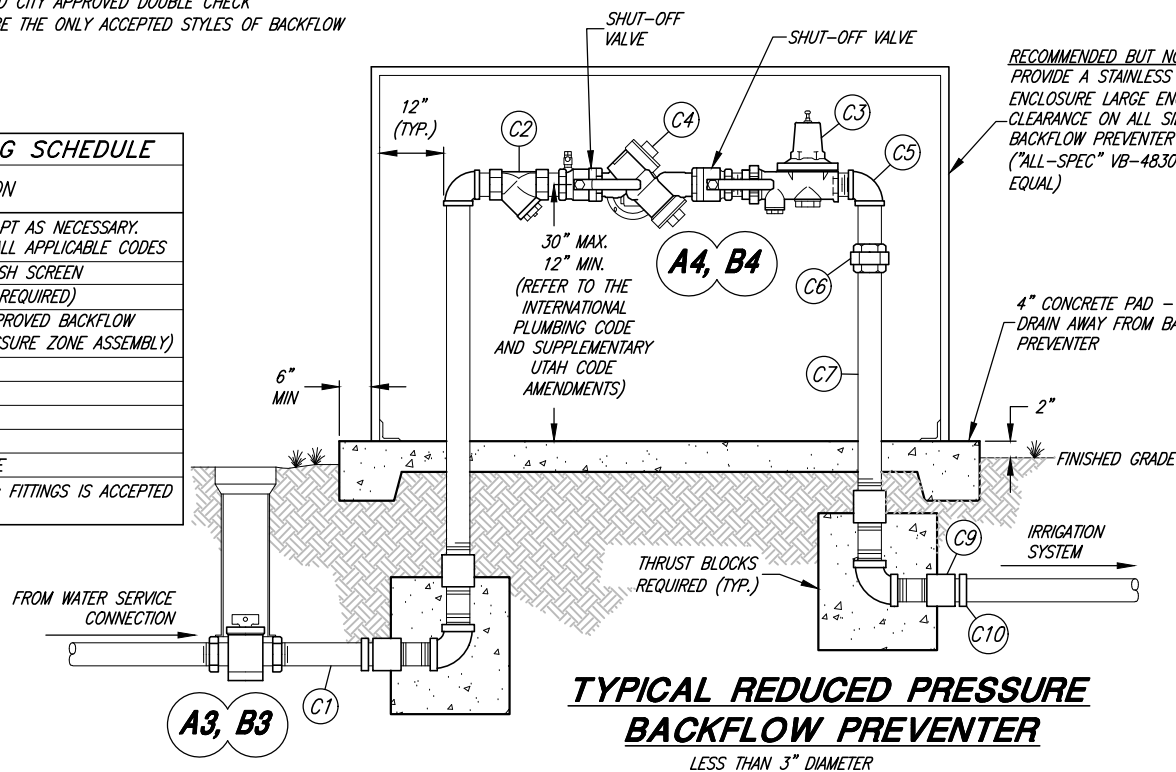
- GENERAL NOTES:**
- DESIGN, CONSTRUCTION, AND INSTALLATION SHALL BE DONE ACCORDING TO AND COMPLY WITH ALL CURRENT ADOPTED BUILDING AND PLUMBING CODES, AND TO MANUFACTURERS WRITTEN INSTRUCTIONS AND RECOMMENDATIONS.
 - ALL TESTING, MAINTENANCE, AND/OR REPAIR SHALL BE PERFORMED BY A STATE CERTIFIED BACKFLOW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



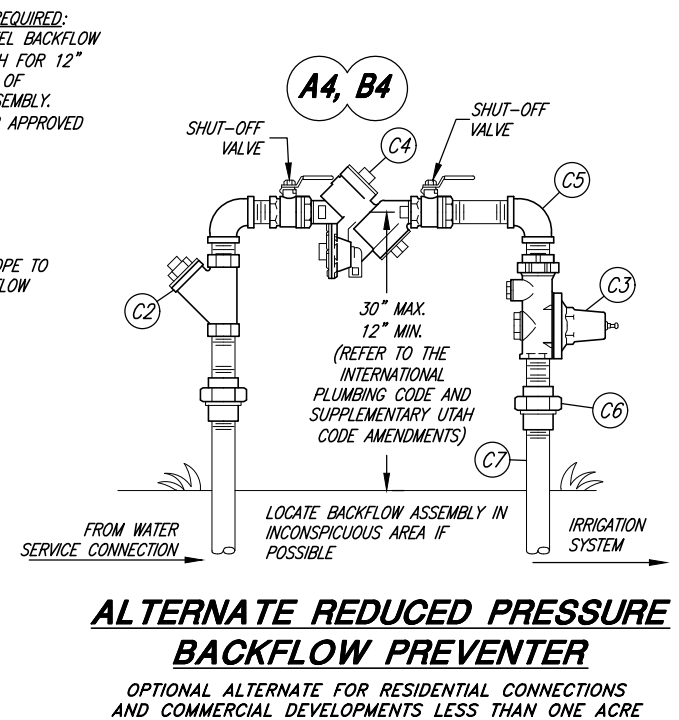
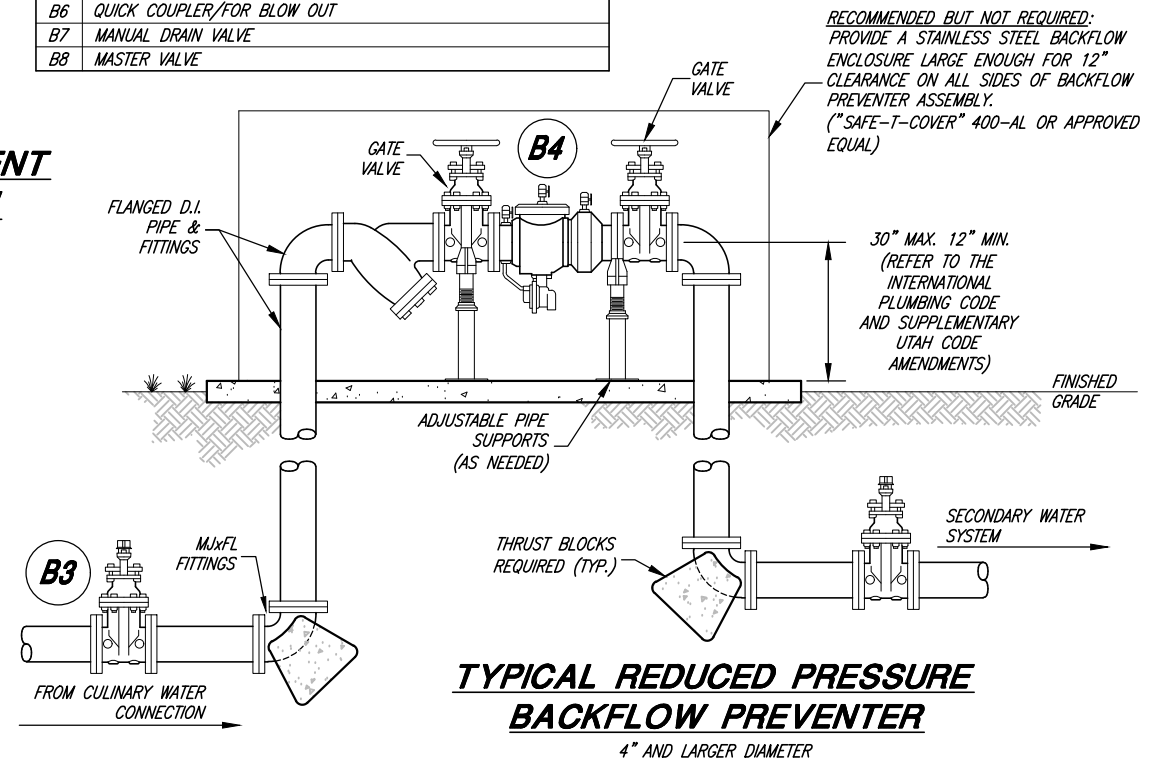
- REDUCED PRESSURE ASSEMBLY (RP) NOTES:**
- AN RP ASSEMBLY SHALL BE INSTALLED WHEN A SECONDARY SERVICE IS CONNECTED TO THE CULINARY WATER SYSTEM.
 - THE RP ASSEMBLY SHALL BE INSTALLED IN A HORIZONTAL POSITION ONLY.
 - RP ASSEMBLIES SHALL NOT BE INSTALLED IN A PIT.
 - THE BODY OF THE RP ASSEMBLY SHALL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

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

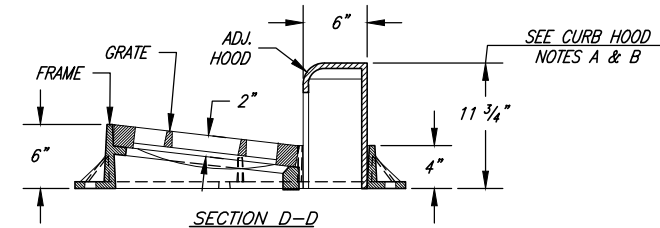
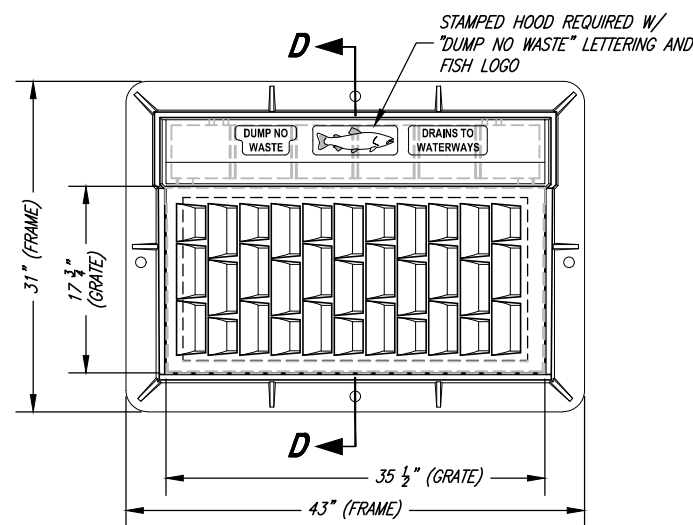
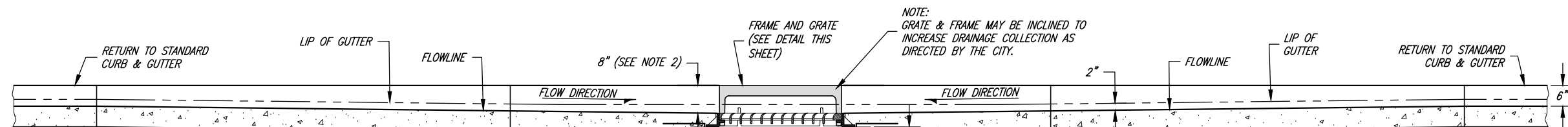
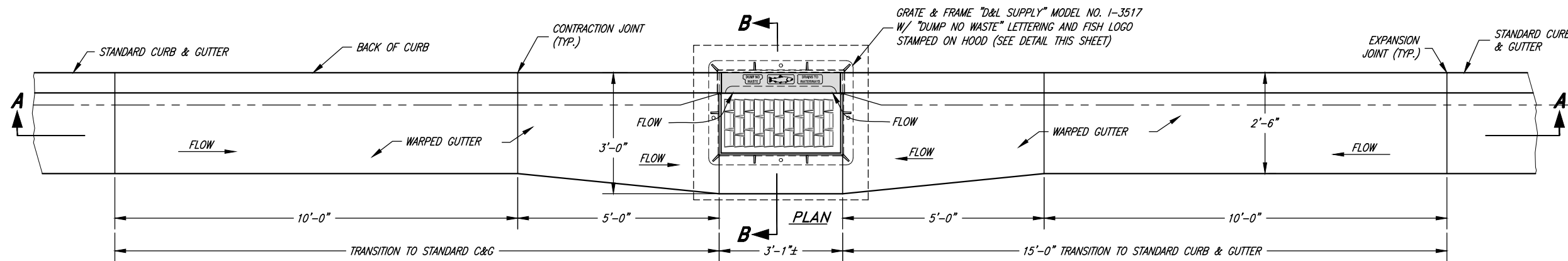
THE USE OF GALVANIZED STEEL PIPE & FITTINGS IS ACCEPTED WHEN APPROVED BY THE CITY



NO.	DESCRIPTION
B1	WATER SERVICE CONNECTION
B2	CITY STANDARD CULINARY WATER SERVICE METER (SEE SHEET CW1 AND/OR CW5, CW6)
B3	GATE VALVE & VALVE BOX
B4	STOP & WASTE VALVE AND BOX
B5	BACKFLOW ASSEMBLY (REDUCED PRESSURE ZONE ASSEMBLY)
B6	WATER SERVICE PIPE
B7	QUICK COUPLER/FOR BLOW OUT
B8	MANUAL DRAIN VALVE
B9	MASTER VALVE





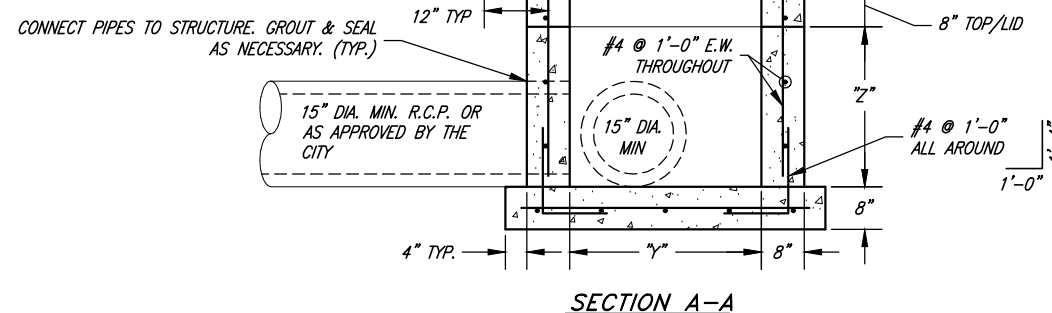


CURB HOOD INLET FRAME & TYPE "L" GRATE

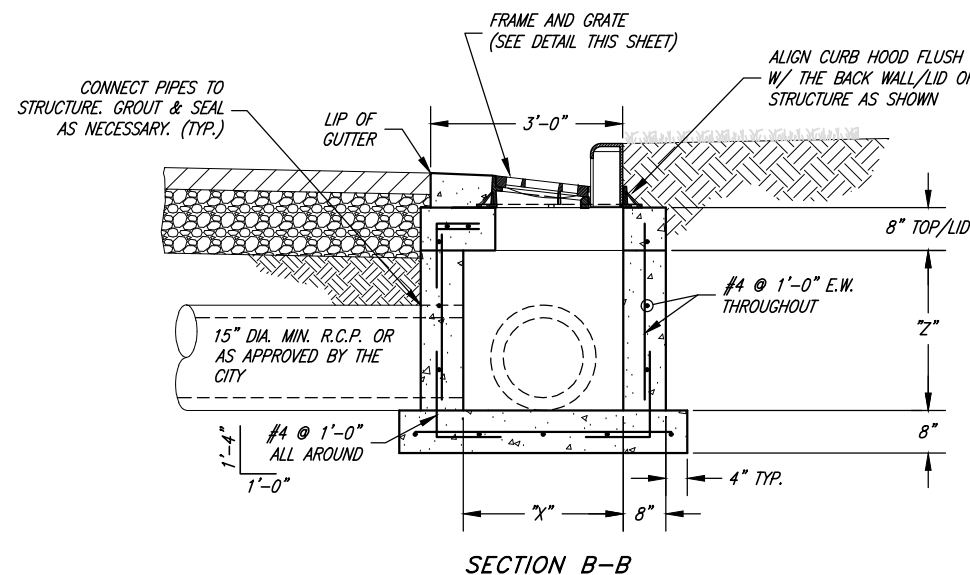
"D&L SUPPLY" I-3517	
PRODUCT NUMBER:	
GRATE:	I-3517-02
ADJ. HOOD:	I-3516-13
FRAME:	I-3516-R8

CURB HOOD NOTES:

- 13 13/16" APPROXIMATE MAXIMUM HEIGHT FOR THE ADJUSTABLE HOOD.
- 9 9/16" APPROXIMATE MINIMUM HEIGHT FOR THE ADJUSTABLE HOOD.



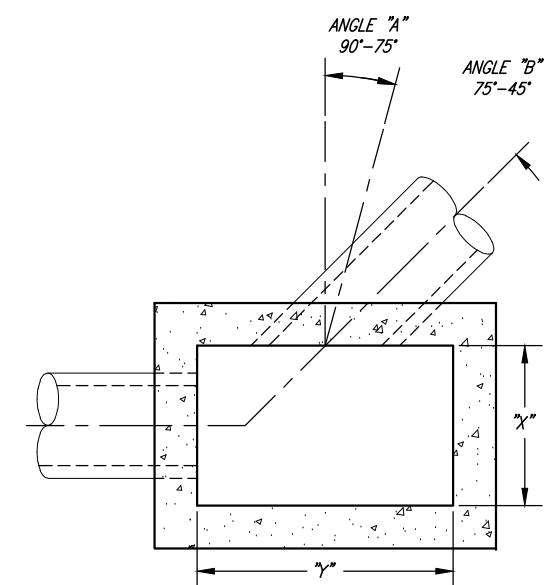
SINGLE HOODED CATCH BASIN

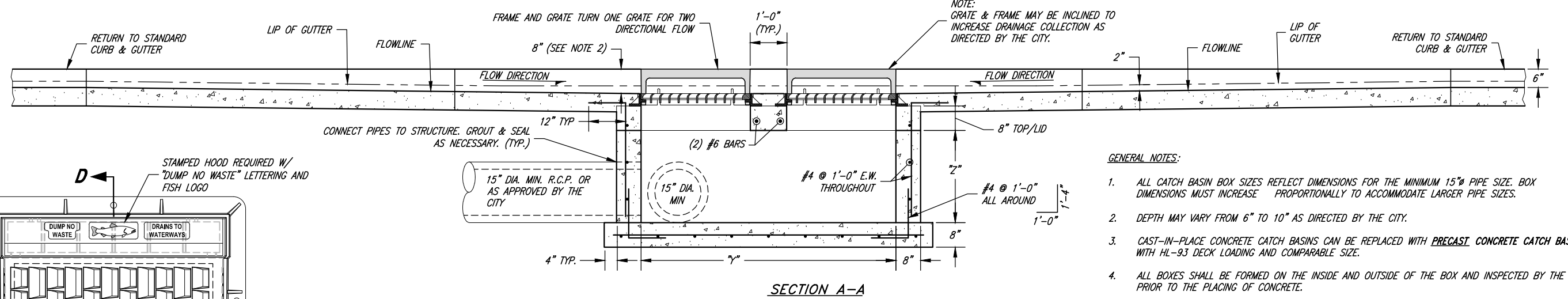
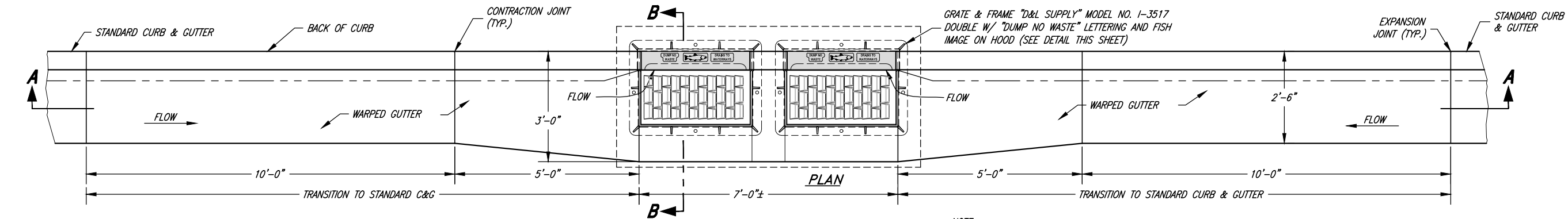


GENERAL NOTES:

- ALL CATCH BASIN BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15" PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES.
- DEPTH MAY VARY FROM 6" TO 10" AS DIRECTED BY THE CITY.
- CAST-IN-PLACE CONCRETE CATCH BASINS CAN BE REPLACED WITH PRECAST CONCRETE CATCH BASINS WITH HL-93 DECK LOADING AND COMPARABLE SIZE.
- ALL BOXES SHALL BE FORMED ON THE INSIDE AND OUTSIDE OF THE BOX AND INSPECTED BY THE CITY PRIOR TO THE PLACING OF CONCRETE.
- DOUBLE CATCH BASINS WILL BE REQUIRED IN LOCATIONS SPECIFIED BY THE CITY (TYPICALLY IN LOW SPOTS OR WHERE ADDITIONAL INLET CAPACITY IS NEEDED). FOR CONSTRUCTION OF DOUBLE CATCH BASIN, SEE DETAILS AND NOTES ON SHEET SD2b.
- STORM DRAIN LINES SHALL BE 15 INCH MINIMUM DIAMETER REINFORCED CONCRETE PIPE (RCP), OF APPROPRIATE CLASS.
- ALTERNATE STRUCTURE (E.G. COMBO BOXES) MAY BE USED WITH APPROVAL OF THE CITY. STRUCTURES SHALL FOLLOW APWA STANDARD PLANS AND BE A COMMON SIZE.

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

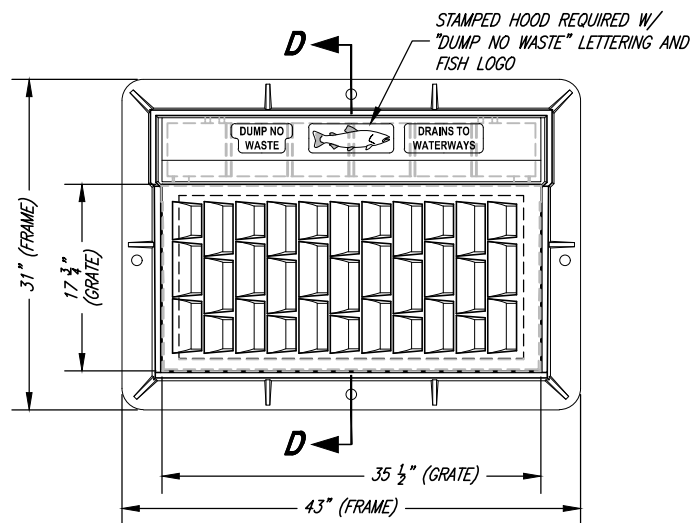




DOUBLE HOODED CATCH BASIN

GENERAL NOTES:

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

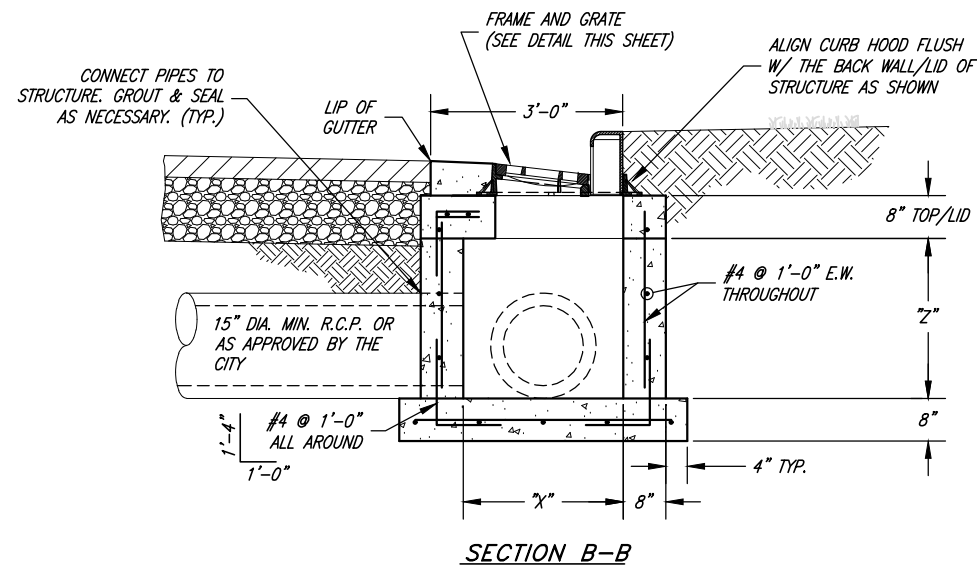


CURB HOOD INLET FRAME & TYPE "L" GRATE

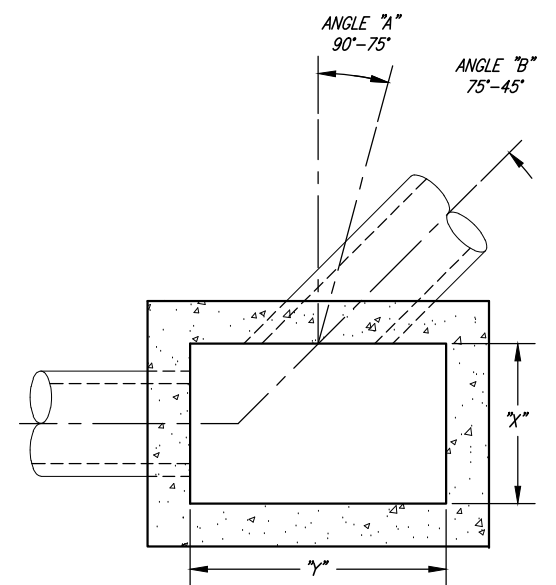
"D&L SUPPLY" I-3517	
PRODUCT NUMBER:	
GRATE:	I-3517-02
ADJ. HOOD:	I-3516-13
FRAME:	I-3516-R8

CURB HOOD NOTES:

- 13 13/16" APPROXIMATE MAXIMUM HEIGHT FOR THE ADJUSTABLE HOOD.
- 9 9/16" APPROXIMATE MINIMUM HEIGHT FOR THE ADJUSTABLE HOOD.



CATCH BASIN DIMENSION TABLE				
PIPE SIZE (IN.)	"X"	"Y" MIN. (ANGLE A)	"Y" MIN. (ANGLE B)	"Z" MIN.
15	2'-6"	6'-11"	6'-11"	2'-0"
18	2'-6"	6'-11"	6'-11"	2'-6"
21	4'-0"	6'-11"	6'-11"	3'-0"
24	4'-0"	6'-11"	6'-11"	3'-0"
30	4'-0"	6'-11"	6'-11"	3'-6"
36	4'-0"	6'-11"	6'-11"	4'-0"
42	6'-0"	6'-11"	8'-0"	5'-0"
48	6'-0"	6'-11"	8'-0"	5'-6"



CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:

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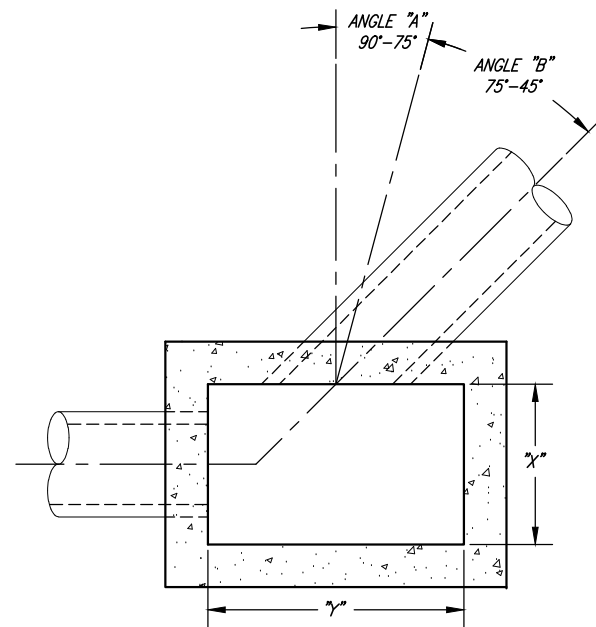


CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS
DOUBLE HOODED CATCH BASIN DETAILS

SHEET:

SD2

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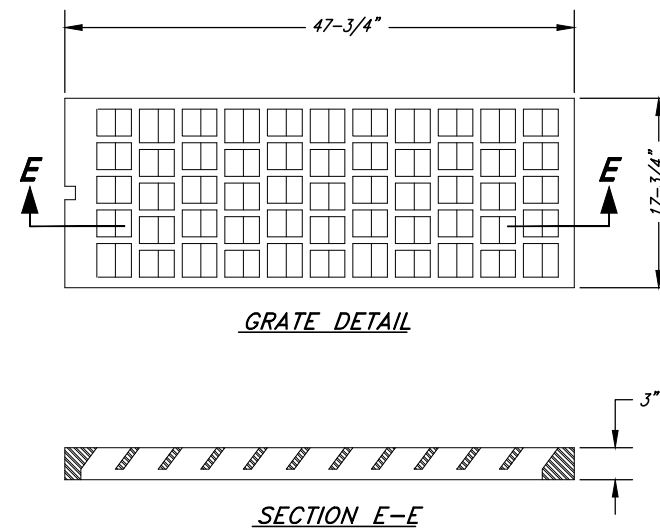
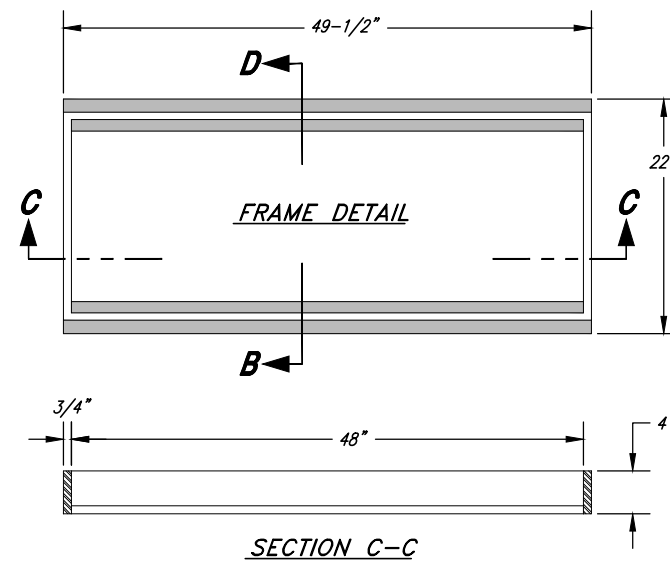
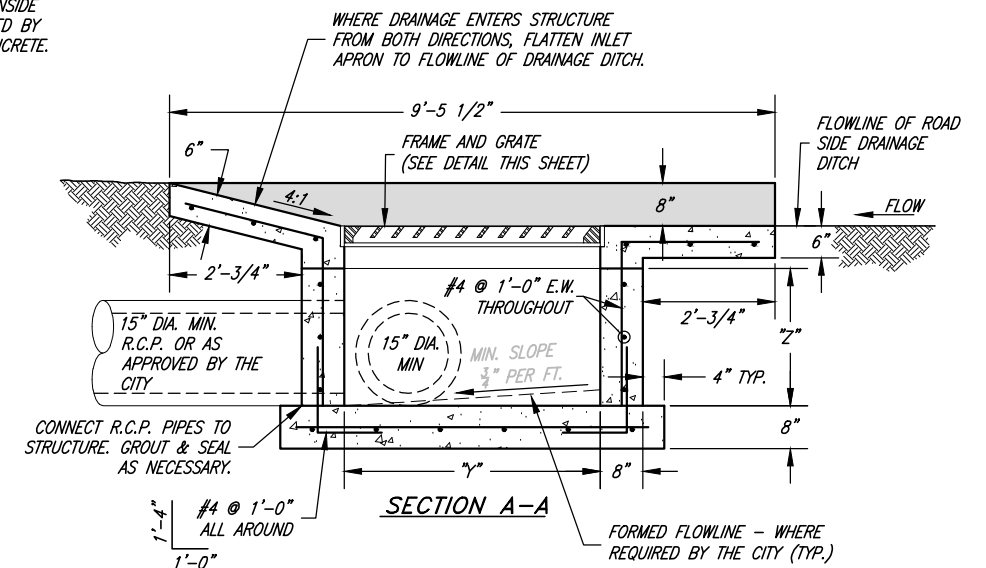
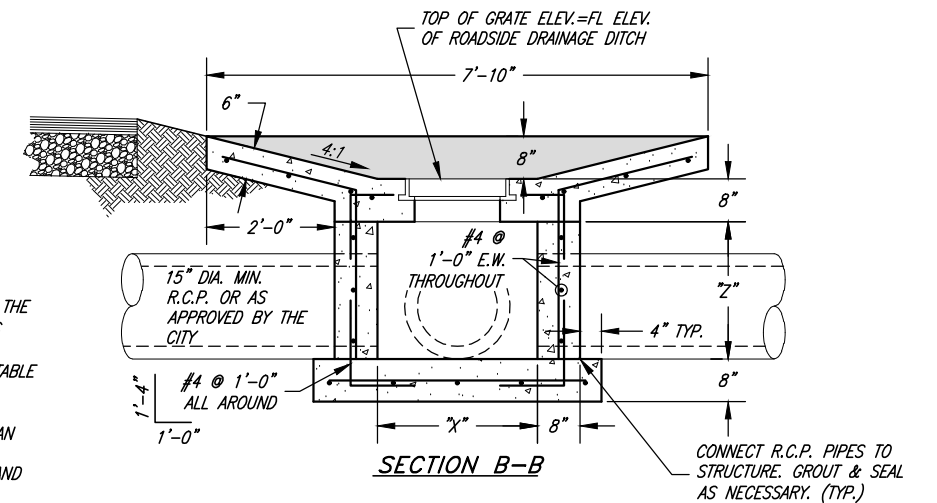
PIPE SIZE (IN.)	"X"	INLET BOX		"Z" MIN.
		"Y" (ANGLE A)	"Y" (ANGLE B)	
15	2'-6"	4'-0"	4'-0"	2'-0"
18	2'-6"	4'-0"	4'-0"	2'-6"
21	4'-0"	4'-0"	4'-0"	3'-0"
24	4'-0"	4'-0"	5'-0"	3'-0"
30	4'-0"	4'-0"	6'-0"	3'-6"
36	4'-0"	4'-0"	6'-0"	4'-0"
42	6'-0"	6'-0"	7'-0"	5'-0"
48	6'-0"	6'-0"	8'-0"	5'-6"

GENERAL NOTE:

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

DRAINAGE BOX NOTES:

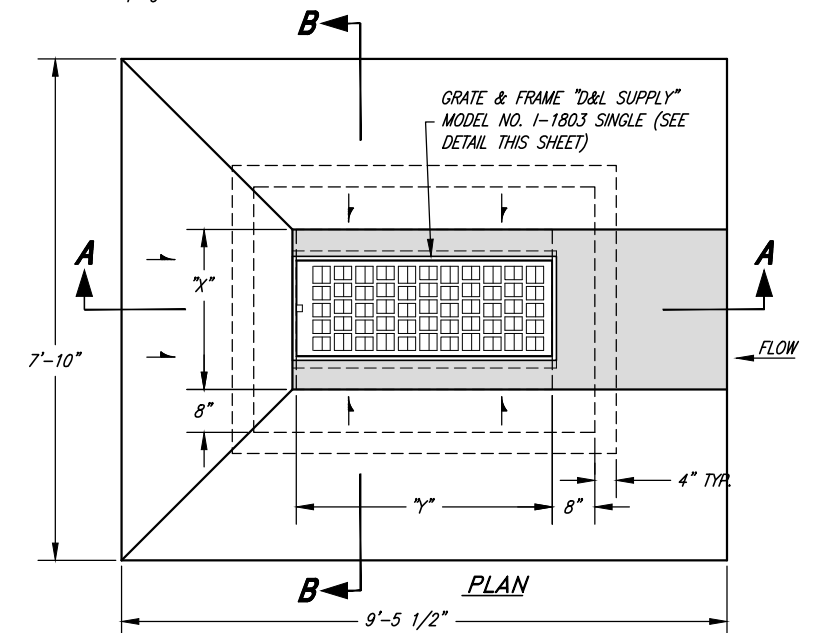
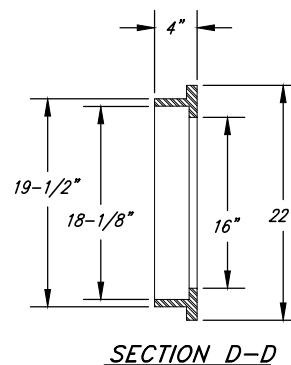
- ALL BOX SIZES REFLECT DIMENSIONS FOR THE MINIMUM 15" DIA. PIPE SIZE. BOX DIMENSIONS MUST INCREASE PROPORTIONALLY TO ACCOMMODATE LARGER PIPE SIZES. (SEE TABLE THIS SHEET)
- CAST-IN-PLACE CONCRETE STRUCTURES CAN BE REPLACED WITH PRECAST CONCRETE STRUCTURES WITH HL-93 DECK LOADING AND COMPARABLE SIZE.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



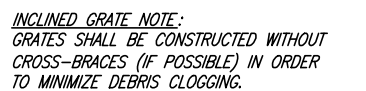
FRAME & GRATE DETAILS

FRAME AND GRATE NOTES:

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

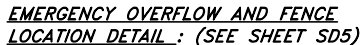


DRAINAGE DITCH / SWALE INLET BOX



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

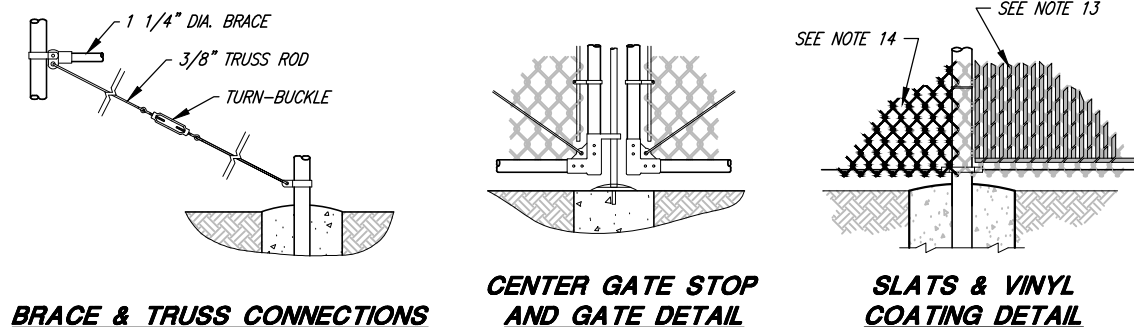
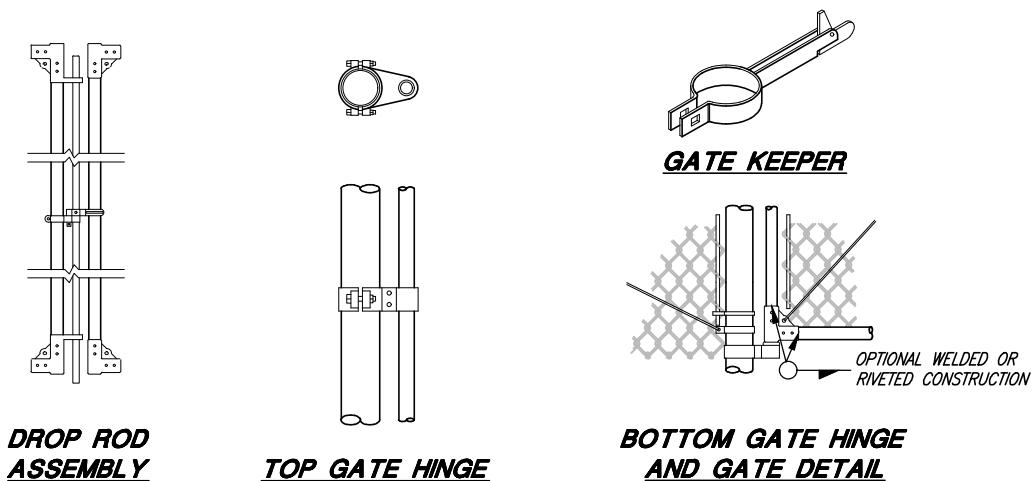
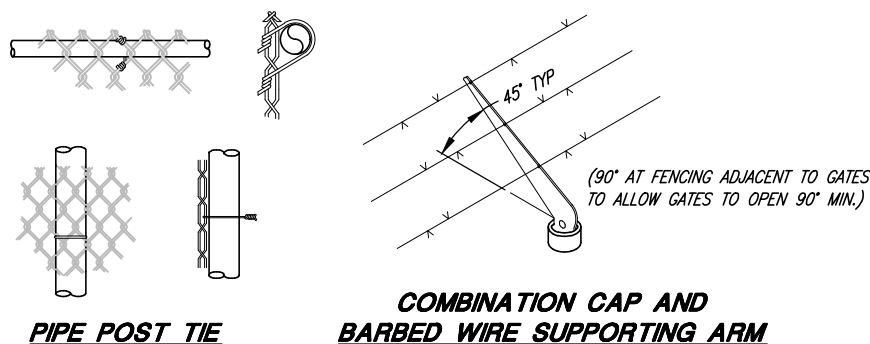
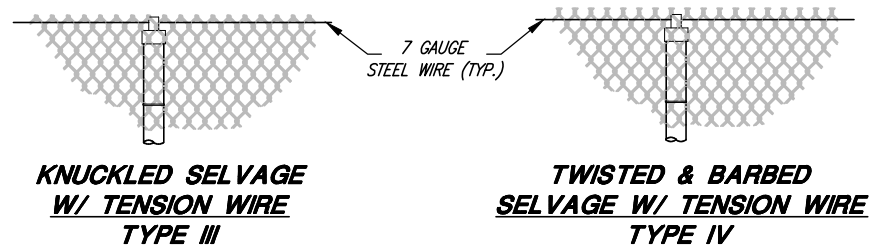
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SHEETS
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INLET/OUTLET CONTROL STRUCTURE

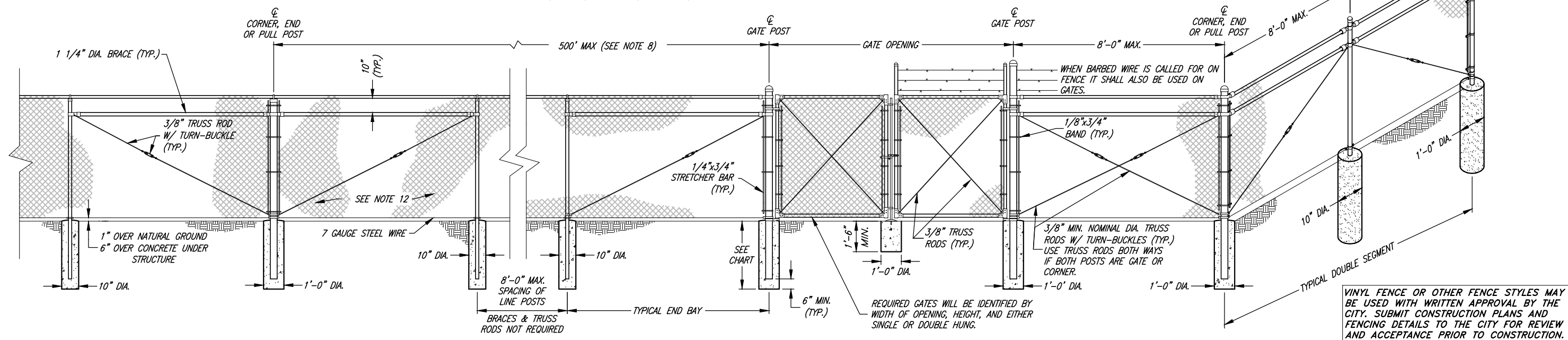
(PRECAST OR CAST-IN-PLACE)

				SCALE:		<div><div>JA</div><div>JONES & ASSOCIATES</div></div> <div>CONSULTING ENGINEERS</div> <div>6080 Fashion Point Drive</div> <div>South Ogden, Utah 84403 (801) 476-9767</div> <div>www.jonescivil.com</div>		<div><div>Clearfield City</div><div>Public Works</div></div> <div></div>		<div>CLEARFIELD CITY CORPORATION</div>		SHEET:	
										SD6			
CITY ENGINEER				N.T.S.						<div>PUBLIC WORKS - STORM DRAIN SYSTEM STANDARDS</div>		OF X SHEETS	
3/8/2024										<div>SMALL DETENTION BASIN DETAILS</div>		0	
DATE		REV.		DATE		APPR.							



HEIGHT	GATE OPENING	GATE POST	GATE FRAME
UNDER 6 FEET	SINGLE TO 6' OR DOUBLE TO 12'	2"	1"
	SINGLE OVER 6' TO 8' OR DOUBLE OVER 12' TO 16'	2 1/2"	1 1/2"
	SINGLE OVER 8' TO 12' OR DOUBLE 16' TO 24'	4"	
6 FEET AND OVER	SINGLE TO 6' OR DOUBLE TO 12'	3 1/2"	1 1/2"
	SINGLE OVER 6' TO 12' OR DOUBLE OVER 12' TO 24'	4"	
	SINGLE OVER 12' TO 18' OR DOUBLE OVER 24' TO 36'	6"	
	SINGLE OVER 18' OR DOUBLE OVER 36'	8"	

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



1. MATERIALS, CONSTRUCTION, AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
2. TOP SUPPORT - TYPES I AND II TUBULAR RAIL, TYPES III AND IV TENSION WIRE. (SEE SECTION 32 31 13M)
3. BARB WIRE SHALL BE USED ONLY WHEN APPROVED BY THE CITY.
4. TWISTED AND BARBED SELVAGE TOP AND BOTTOM SHALL BE USED ON FENCES 5'-0" HIGH OR GREATER.
5. KNUCKLED SELVAGE ON TOP AND TWISTED AND BARBED ON BOTTOM SHALL BE USED ON FENCES LESS THAN 5'-0".
6. ALL STEEL PIPE MEMBERS SHALL CONFORM TO ASTM A53 HOT DIPPED ZINC COATED HIGH TENSILE STEEL PIPE.
7. POSTS SHALL BE SCHEDULE 40 PIPE.
8. LINE POSTS SHALL BE LOCATED AT EQUAL SPACING FOR EACH SEGMENT WITH A MAXIMUM SPACING AS FOLLOWS:
 - a. TANGENT SECTIONS TO 500-FOOT RADIUS NOT MORE THAN 8'-0".
 - b. UNDER 500-FOOT RADIUS TO 200-FOOT RADIUS NOT MORE THAN 8'-0".
 - c. UNDER 200-FOOT RADIUS TO 100-FOOT RADIUS NOT MORE THAN 6'-0".
 - d. UNDER 100-FOOT RADIUS NOT MORE THAN 5'-0".
9. TRUSS RODS AND BRACES SHALL NOT BE REQUIRED FOR FABRIC HEIGHT LESS THAN 5- FEET.
10. TENSION WIRE SHALL BE 7 GAUGE ZINC- OR ALUMINUM-COATED COIL SPRING STEEL TENSION WIRE.
11. ALL POSTS SHALL BE SET IN 3000 PSI CONCRETE AND SHALL BE TOPPED WITH BALL TYPE OR OTHER APPROVED ORNAMENT.
12. ALL FABRIC SHALL BE 2" GALVANIZED 9 GAUGE MESH.
13. WHITE VERTICAL SEMI-PRIVACY VINYL SLATS WITH BOTTOM-LOCKING SLAT, WHEN REQUIRED BY THE CITY.
14. BLACK VINYL COATED CHAIN LINK FENCING WHEN REQUIRED BY THE CITY.
15. ALL FENCING SHALL CONFORM TO LOCATION AND HEIGHT LIMITATIONS AS STATED IN THE CITY FENCING CODE.

CITY APPROVED TREE: SEE FORM BASED CODE FOR PERMITTED STREET TREE TYPES, SIZES, AND STANDARDS.

STREET TREES SPACING:
MINIMUM 40'-0"
MAXIMUM 60'-0"

STREET LIGHTS ALIGNED
WITH STREET TREES (TYP.)

DOUBLE ACORN
STREET LIGHT
(SEE SHEET SL1)

PEDESTRIAN FACILITIES
MINIMUM 8'-0" WIDTH

STREET BUFFER
MINIMUM 7'-6" WIDTH

CONCRETE PAVERS: "BELGARD" HOLLAND
CONCRETE PAVERS, HARVEST BLEND COLOR,
4 INCHES BY 8", PLACEMENT SPACING
APPROX. 1/2" JOINT (TYP.)

CONCRETE PAVERS TO EXTEND TO ADA RAMP OR
DRIVEWAY APPROACH FLARE (TYP.)

DOWNTOWN URBAN CORE ARTERIAL STREETSCAPE

SEE FORM BASED CODE CHAPTER 5 "STREET & STREETSCAPE
STANDARDS" FOR ADDITIONAL STREETSCAPE DESIGN STANDARDS

"URBAN ACCESSORIES"
CHINOOK MODEL, 6" SQUARE,
GREY IRON, RAW PATINA FINISH
TREE GRATE

FOUR PIECE CASTING

GRATE

TAB, EQUAL SPACING
(NOT TO EXCEED 18" O.C. TYP.)

SQ. TYP., SIZED TO
COORDINATE WITH
TREE OPENING

3/8"x2" FLAT
BAR REMOVABLE
CROSS SUPPORT

FRAME

"URBAN ACCESSORIES" TYPE "PA" PEDESTRIAN
DUTY (ADJACENT PAVER), 6" SQUARE, GREY IRON,
RAW PATINA FINISH TREE GRATE FRAME (SEE
TREE GRATE FRAME NOTES THIS SHEET)

TREE GRATE FRAME NOTES:

A. THE "URBAN ACCESSORIES" TYPE "PA" PEDESTRIAN DUTY FRAME (NON PAVER MODEL) SHALL BE INSTALLED IN LOCATIONS WHERE THE CONCRETE SURFACE WILL NOT HAVE THE ADJACENT DECORATIVE PAVER BORDER. THIS IS DETERMINED ON A CASE BY CASE BASIS AND REQUIRES WRITTEN APPROVAL FROM THE CITY PRIOR TO ANY CONSTRUCTION.

SECTION A-A

TREE GRATE DETAIL

NTS

SECTION B-B

CONCRETE PAVERS: "BELGARD" HOLLAND CONCRETE PAVERS,
HARVEST BLEND COLOR, 4" BY 8",
PLACEMENT SPACING APPROX. 1/2" JOINT (TYP.)

COMPACTED MIN. 6" THICK AGGREGATE BASE.
(CEMENT TREATMENT BASE CAN BE USED OVER
WEAK OR SATURATED SUBGRADE SOILS)

GEOTEXTILE SEPARATION FABRIC ON ENTIRE
BOTTOM OF AGGREGATE BASE; OPTIONAL IF
SUB-BASE OF #2 IS USED AS A DRAINAGE LAYER

COMPACTED SUBGRADE, PREPARE
ACCORDING TO RECOMMENDATIONS
IN GEOTECHNICAL REPORT.

PAVER DETAIL

REFER ALSO TO THE MANUFACTURER SPECIFICATIONS AND
INSTALLATION DETAIL SHEETS (BELGARD STANDARD PAVING
DETAIL, BOULEVARD SAND SET ON AGGREGATE BASE)

CITY ENGINEER	3/8/2024	DATE
REV.	DATE	APPR.

SCALE:

N.T.S.



CONSULTING ENGINEERS

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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - MISCELLANEOUS CONSTRUCTION STANDARDS
DOWNTOWN URBAN CORE ARTERIAL STREETSCAPE DETAILS

SHEET:

M2

OF X SHEETS

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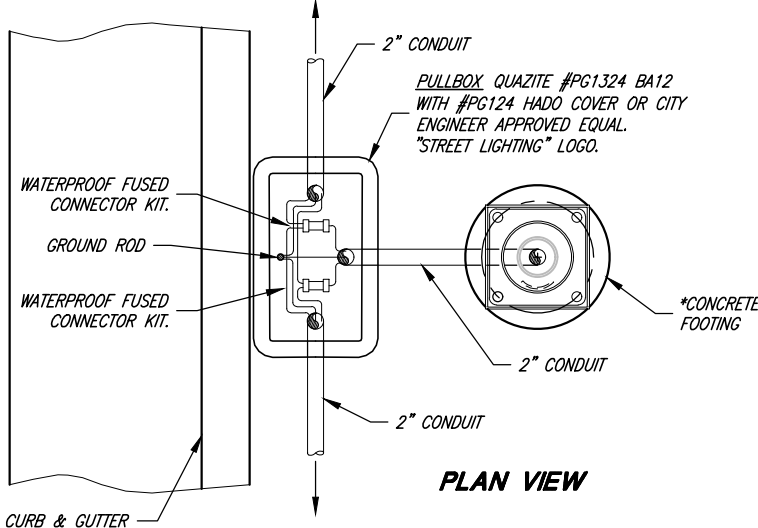
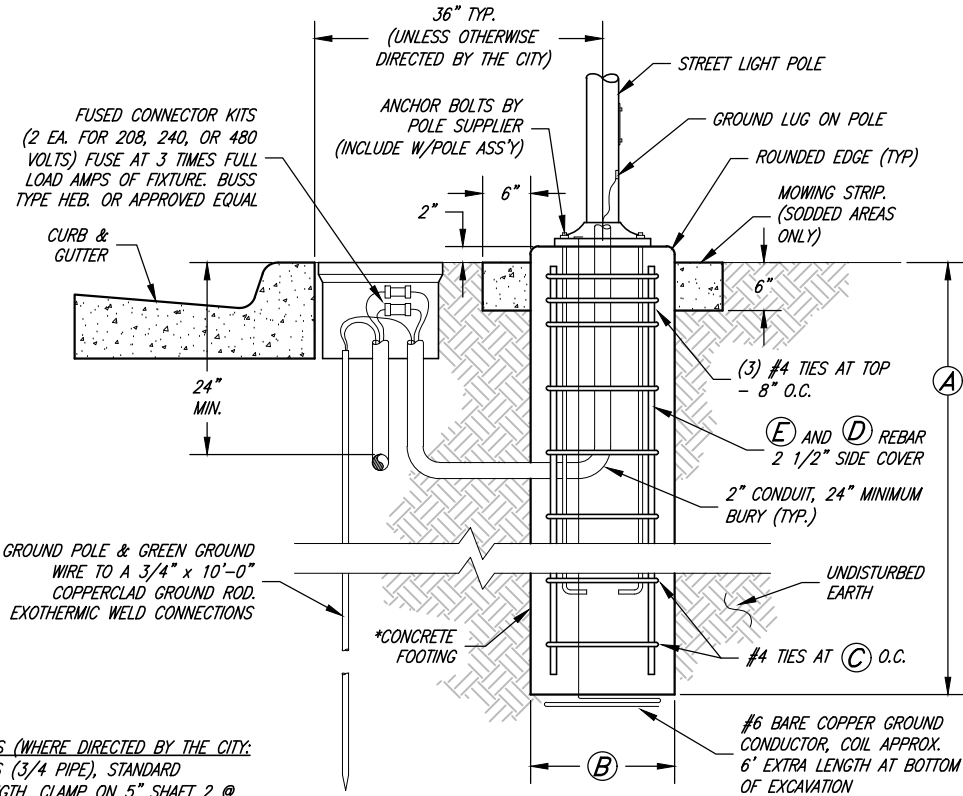
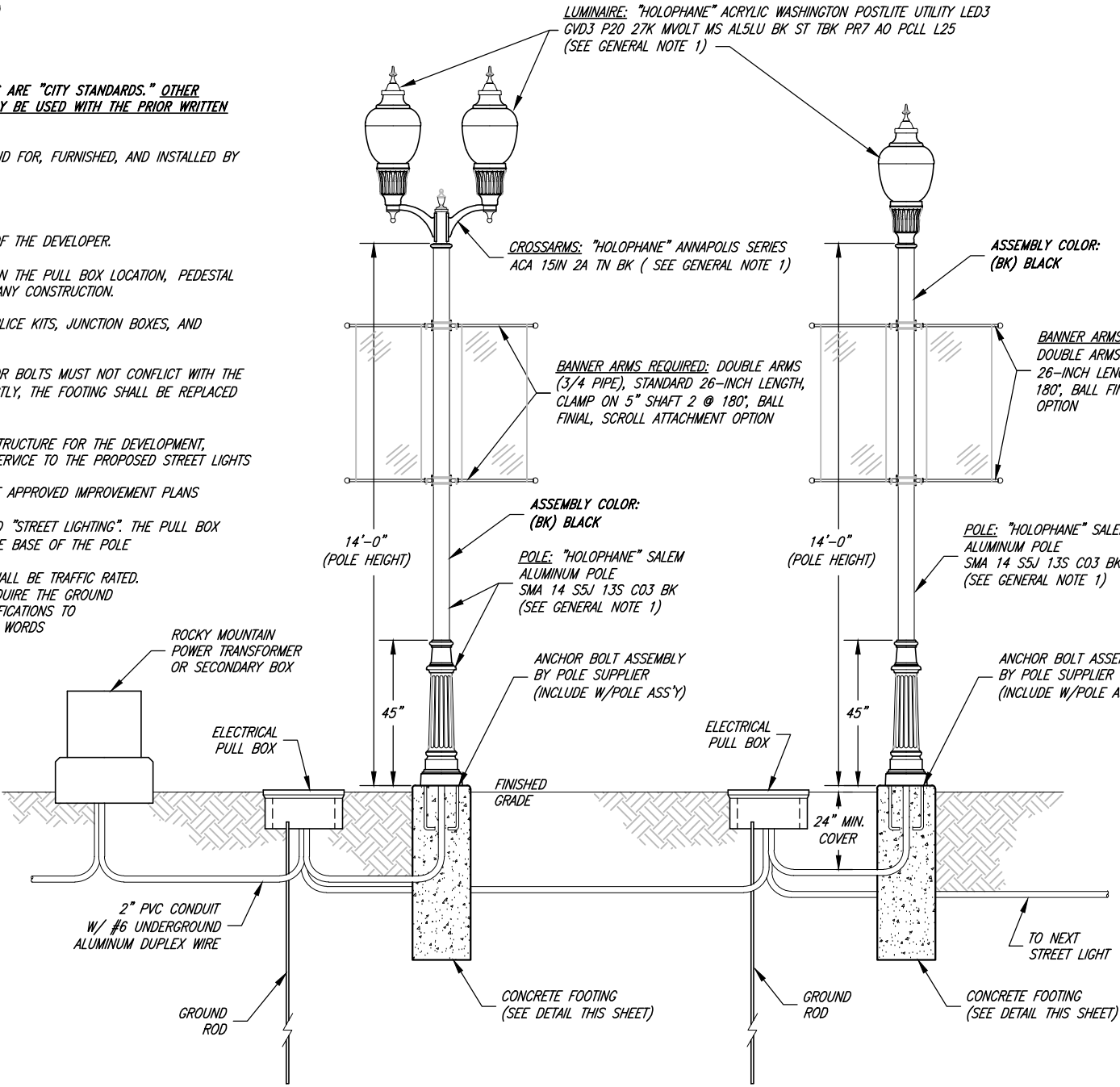
CITY OWNED STREET LIGHT STYLES AND LOCATIONS

- SL-1 SINGLE ACORN STREET LIGHT:
- FIXTURE STYLE: LED LAMP POST (FULLY DARK-SKY COMPLIANT)
 - POLE HEIGHT: 14'-0"
 - LOCATION: COMMERCIAL, RESIDENTIAL DEVELOPMENTS, CUL-DE-SACS, ACCESS ROADS, AND INTERSECTIONS
 - SPACING: (A) FORM BASE CODE AREAS: 40'-0" MIN, 80'-0" MAX., SAME SIDE STREET (NON-ALTERNATING)
 - (B) RESIDENTIAL DEVELOPMENTS: MAXIMUM 400'-0", ON ALTERNATING SIDES OF THE STREET
- (OR AS OTHERWISE APPROVED/DIRECTED BY THE CITY)

- OPTIONAL SL-2 DOUBLE ACORN STREET LIGHT:
- FIXTURE STYLE: DOUBLE LED LAMP POST (FULLY DARK-SKY COMPLIANT)
 - POLE HEIGHT: 14 FEET
 - LOCATION: 700 SOUTH (SR193), STATE STREET (SR126)
 - SPACING: 60 FT MIN, 90 FT MAX., SAME SIDE STREET (NON-ALTERNATING)

STREET LIGHT GENERAL NOTES

- LIGHT FIXTURES AND POLES:
1. ALL SPECIFIED BRANDS, STYLES, AND MATERIALS SHOWN ON THESE DRAWINGS ARE "CITY STANDARDS." OTHER EQUIVALENT BRANDS IN THE SAME STYLE OF POLE AND DECORATIVE BASE MAY BE USED WITH THE PRIOR WRITTEN APPROVAL OF THE CITY.
 2. THE SL-1 AND SL-2 STREET LIGHT (LIGHT POLE AND LED FIXTURE) TO BE PAID FOR, FURNISHED, AND INSTALLED BY THE DEVELOPER/CONTRACTOR.
- DEVELOPER/CONTRACTOR GENERAL NOTES:
3. THE COST OF ALL NEW DEVELOPMENT STREET LIGHTS IS THE RESPONSIBILITY OF THE DEVELOPER.
 4. DEVELOPER/CONTRACTOR SHALL CONSULT WITH THE POWER COMPANY (RMP) ON THE PULL BOX LOCATION, PEDESTAL LOCATION, CONDUIT LOCATION, FOOTING INSTALLATION, AND DIGGING PRIOR TO ANY CONSTRUCTION.
 5. ALL SPECIFICATIONS AND MODEL NUMBERS FOR WIRE, CONDUIT, FUSE KITS, SPLICE KITS, JUNCTION BOXES, AND CONNECTIONS MUST BE APPROVED BY CITY PRIOR TO INSTALLATION
 6. DEVELOPER/CONTRACTOR TO FURNISH AND INSTALL CONCRETE FOOTING. ANCHOR BOLTS MUST NOT CONFLICT WITH THE STREET LIGHT POLE BASE. (IF THE CONCRETE FOOTING IS INSTALLED INCORRECTLY, THE FOOTING SHALL BE REPLACED AT THE DEVELOPER'S/CONTRACTOR'S EXPENSE)
 7. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL POWER INFRASTRUCTURE FOR THE DEVELOPMENT, INCLUDING COORDINATION WITH THE POWER COMPANY FOR CONNECTION AND SERVICE TO THE PROPOSED STREET LIGHTS
 8. ALL PROPOSED STREET LIGHT TYPES AND LOCATIONS MUST BE SHOWN ON THE APPROVED IMPROVEMENT PLANS
 9. EACH LIGHT POLE ASSEMBLY SHALL HAVE A PULL BOX (WITH A COVER MARKED "STREET LIGHTING". THE PULL BOX MUST BE FLUSH TO GRADE AND LOCATED WITHIN A MAXIMUM OF 4' FROM THE BASE OF THE POLE
 10. INGROUND BOXES LOCATED WITHIN 20' OF APPROACHES OR INTERSECTIONS SHALL BE TRAFFIC RATED. WHERE APPROVED BY THE CITY, ANY BOX INSTALLATION IN CONCRETE WILL REQUIRE THE GROUND BOX TO BE DESIGNED AND LISTED FOR USE IN CONCRETE. SUBMIT BOX SPECIFICATIONS TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION. ALL BOXES SHALL HAVE THE WORDS "STREET LIGHTING" ON THE COVER.
 11. ALL RESIDENTIAL DEVELOPMENT STREET LIGHTS SHOULD BE LOCATED ON LOT LINES WHEN NOT LOCATED AT AN INTERSECTION.
 12. ALL STREET LIGHTS SHOULD BE LOCATED 3 FEET BEHIND THE BACK OF CURB OR BACK OF SIDEWALK (OR AS OTHERWISE DIRECTED BY THE CITY). ON ROAD SECTIONS WITHOUT CURB & GUTTER LOCATE STREET LIGHT AS DIRECTED BY THE CITY.



STREET LIGHT POLE, CONCRETE ANCHOR BASE AND PULL BOX
N.T.S.

POLE SIZE	DEPTH (A)	DIAMETER (B)	REBAR TIES O.C. (C)	NO. OF VERT. REBAR (D)	REBAR SIZE (E)
10'-15'	4'-6"	18"	8"	6	#6
16'-25'	6'-0"	24"	8"	8	#7
26'-50'	9'-0"	30"	8"	12	#7

* CONCRETE CLASS 4000 PER APWA 03.33.04, PLACEMENT PER APWA 03.33.10, AND CURE PER APWA 03.33.90

ATTENTION

DEVELOPER/CONTRACTOR SHALL NOTIFY THE ROCKY MOUNTAIN POWER OFFICE PRIOR TO LIGHTING INSTALLATION TO ARRANGE FOR POWER TO BE PROVIDED ON SITE, AS WELL AS APPROVAL OF LIGHTING UNIT LOCATIONS.

ALL FINAL WORK AND MATERIALS TO BE APPROVED BY THE CITY .

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:
N.T.S.

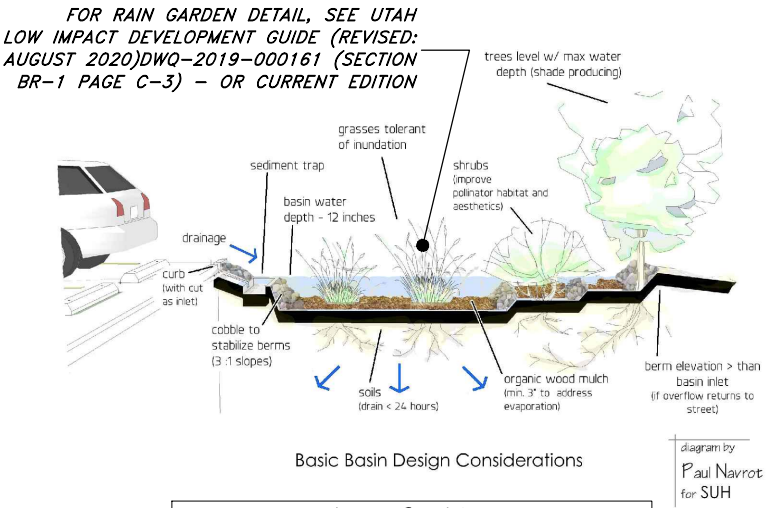


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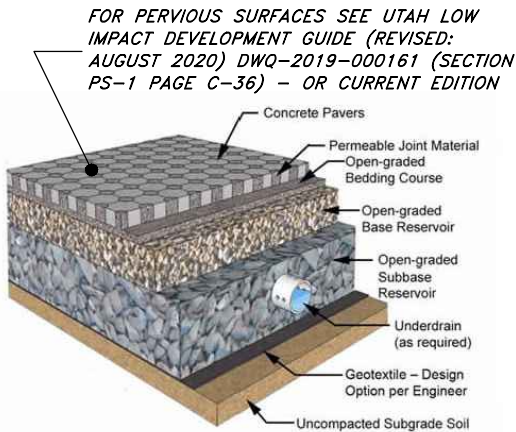
CLEARFIELD CITY CORPORATION
PUBLIC WORKS - STREET LIGHTING STANDARDS
GENERAL STREET LIGHTING STANDARDS

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SL1
OF X SHEETS
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RAIN GARDEN

*** http://www.lid-stormwater.net/site_map.htm ***



PERMEABLE PAVER

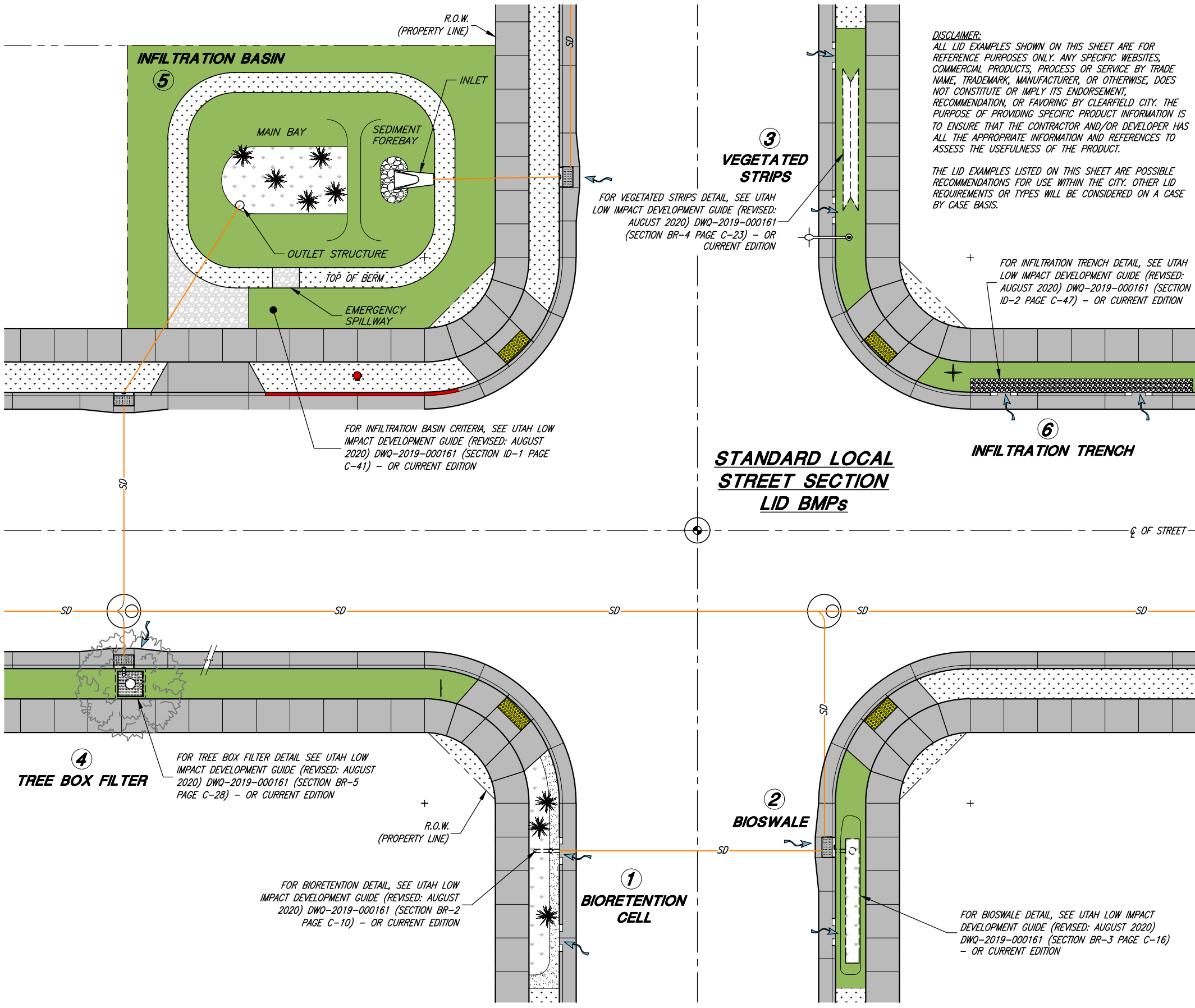
From Smith, D. 2006. *Permeable Interlocking Concrete Pavement—selection design, construction and maintenance, Third Edition*. Interlocking Concrete Pavement Institute. Herndon, VA



RAIN BARREL

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

OTHER LID BMPs



DISCLAIMER:
ALL LID EXAMPLES SHOWN ON THIS SHEET ARE FOR REFERENCE PURPOSES ONLY. ANY SPECIFIC WEBSITES, COMMERCIAL PRODUCTS, PROCESS OR SERVICE BY TRADE NAME, TRADEMARK, MANUFACTURER, OR OTHERWISE, DOES NOT CONSTITUTE OR IMPLY ITS ENDORSEMENT, RECOMMENDATION, OR FAVORING BY CLEARFIELD CITY. THE PURPOSE OF PROVIDING SPECIFIC PRODUCT INFORMATION IS TO ENSURE THAT THE CONTRACTOR AND/OR DEVELOPER HAS ALL THE APPROPRIATE INFORMATION AND REFERENCES TO ASSESS THE USEFULNESS OF THE PRODUCT.

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

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:
N.T.S.



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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - LID (LOW IMPACT DEVELOPMENT) STANDARDS
GENERAL LID (LOW IMPACT DEVELOPMENT) EXAMPLES

SHEET:
LID1
OF X SHEETS
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SUBDIVISION PLAT REQUIREMENTS			
	PLAT NOTES	PRELIM. PLAT	FINAL PLAT
1	PLAT TO SHOW ALL PHASES & FUTURE DEVELOPMENT	X	
2	PLAT PHASE BEING SUBMITTED/CONSTRUCTED		X
3	VICINITY MAP (SUBD. LOCATION)	X	X
4	NAME OF THE SUBDIVISION	X	X
5	TRUE NORTH ARROW	X	X
6	DATE	X	X
7	PLAT LEGEND	X	X
8	SECTION, TOWNSHIP, RANGE	X	X
9	NAMES OF DEVELOPER(S)	X	X
10	SUBDIVISION BOUNDARY DESCRIPTION	X	X
11	ADJOINING LAND OWNER(S)	X	X
12	TOTAL ACREAGE OF DEVELOPMENT	X	X
13	SURVEY NARRATIVE		X
14	BASIS OF BEARINGS	X	X
15	TIES TO TWO SECTION CORNERS WITH BEARINGS & DISTANCES	X	X
SIGNATURE BLOCKS FOR:			
16	COUNTY RECORDER		X
17	OWNER DEDICATION		X
18	CITY PLANNER/LAND USE AUTHORITY		X
19	CITY ENGINEER		X
20	MAYOR		X
21	CITY RECORDER		X
22	CITY ATTORNEY		X
23	SURVEYOR'S CERTIFICATE		X
MEASUREMENTS & DIMENSIONS			
24	SCALE, GRAPHIC SCALE	X	X
25	LENGTHS	X	X
26	ANGLES & BEARINGS	X	X
CURVE DATA			
27	RADIUS, CENTRAL ANGLE, TANGENTS, ARC LENGTH	X	X
28	BEARING DIMENSIONS FOR ALL LOT LINES	X	X
29	SQ FT OF EACH LOT	X	X
30	SURVEY MONUMENTS	X	X
31	PUBLIC LANDS & STREETS IDENTIFIED	X	X
32	RIGHT-OF-WAY LINES	X	X
33	IDENTIFY SPECIFIC DEDICATIONS (ROADS, PARCEL X, ETC.)	X	X
34	WIDTHS/LOCATIONS OF STREETS & PUBLIC PROPERTIES	X	X
35	STREET NAMES AND/OR COORDINATE NUMBERS	X	X
36	SHOW AND LABEL ALL EASEMENTS	X	X
37	NOTES & RESTRICTIONS	X	X
38	SHOW "R" ON ALL RESTRICTED LOTS	X	X
39	SPECIALIZED DEVELOPMENT STANDARDS	X	X
40	CCR'S WHERE APPLICABLE	X	X
41	SHOW SPECIAL UTILITIES AND DISTRICTS	X	X
42	OTHER RESTRICTIVE LANGUAGE, TERMS, RESTRICTIONS, CONDITIONS	X	X
43	EASEMENT APPROVAL (AS APPLICABLE)	X	X
44	NEW LOT ADDRESSES (ASSIGNED BY THE CITY)	X	X
45	DRINKING WATER SOURCE PROTECTION ZONES	X	X
46	FEMA FLOOD ZONES, FAULT, DEBRIS FLOW OR OTHER GEOLOGICAL HAZARD SETBACKS	X	X

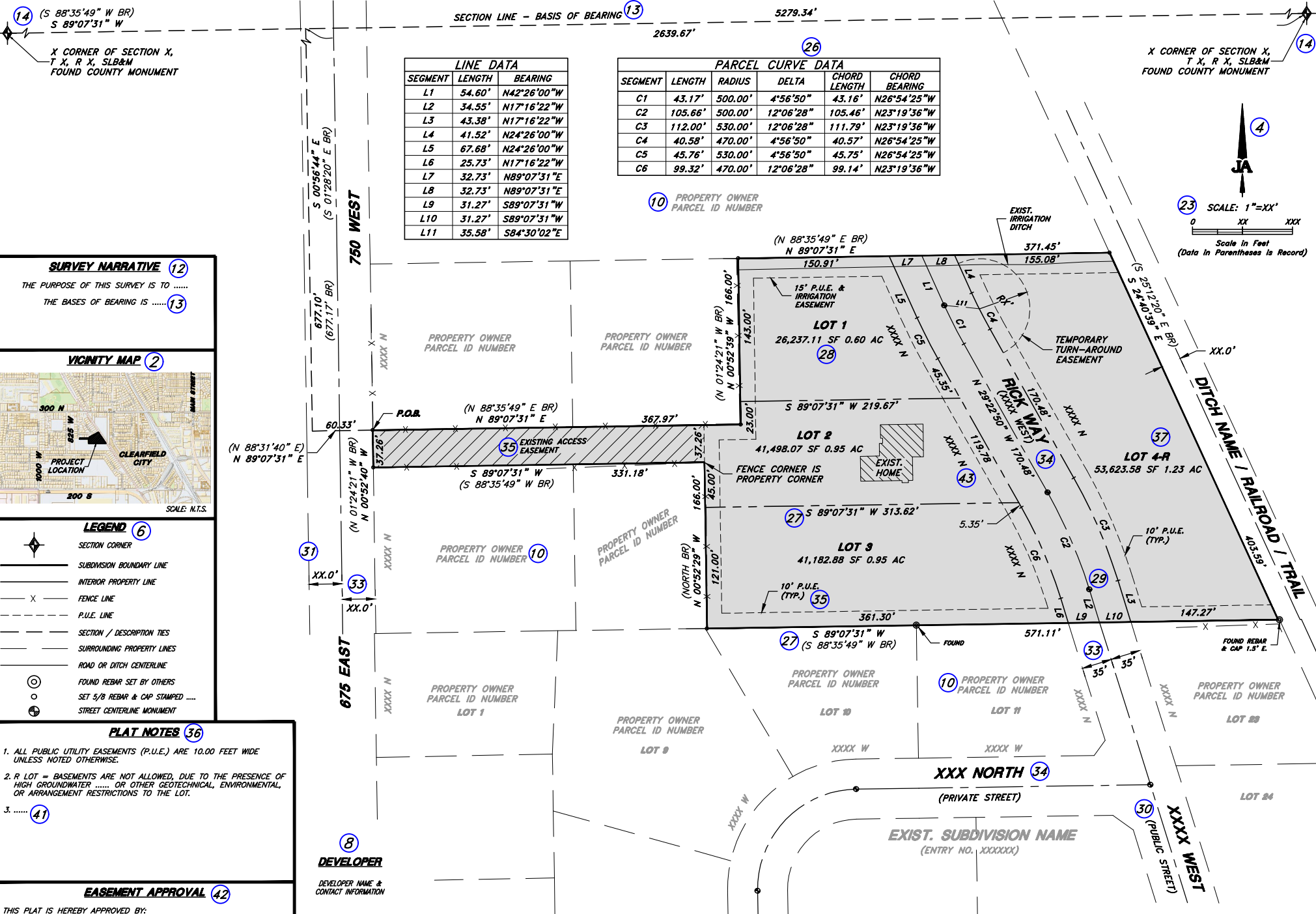
GENERAL NOTE:
1. THIS SHEET (DEV1) IS INTENDED AS AN EXAMPLE. TO GIVE A GRAPHICAL REPRESENTATION OF THE MAIN ITEMS TO BE INCLUDED ON A PLAT, IT IS NOT INTENDED TO BE A COMPLETE REPRESENTATION OF ALL ITEMS THAT MAY BE NEEDED ON A PLAT.
2. THE BLUE CIRCLED ITEMS ARE REFERENCED ON THIS SHEET. THE BLACK CIRCLED ITEMS ARE NOT REPRESENTED.

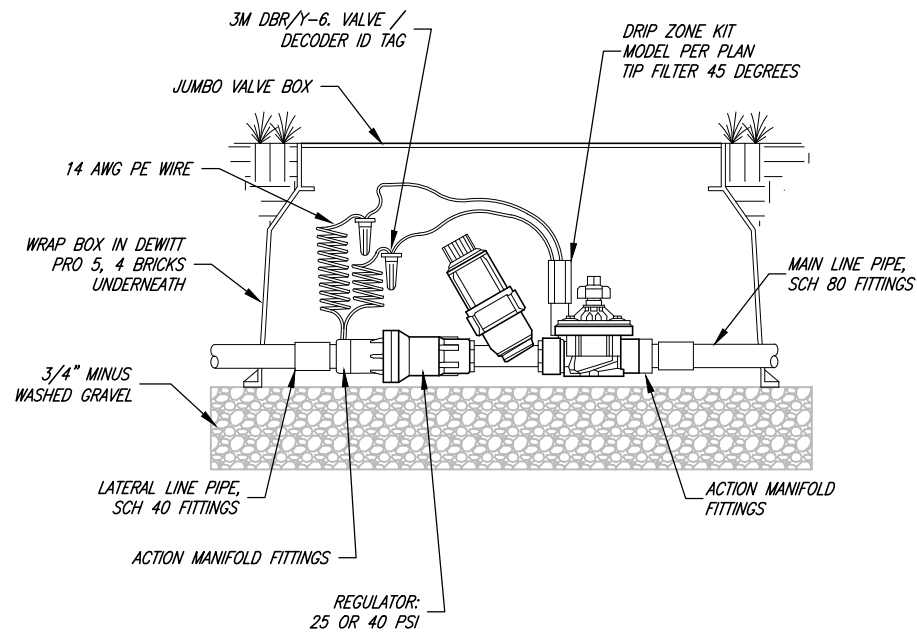
SHEET 1 OF X

3 SUBDIVISION NAME

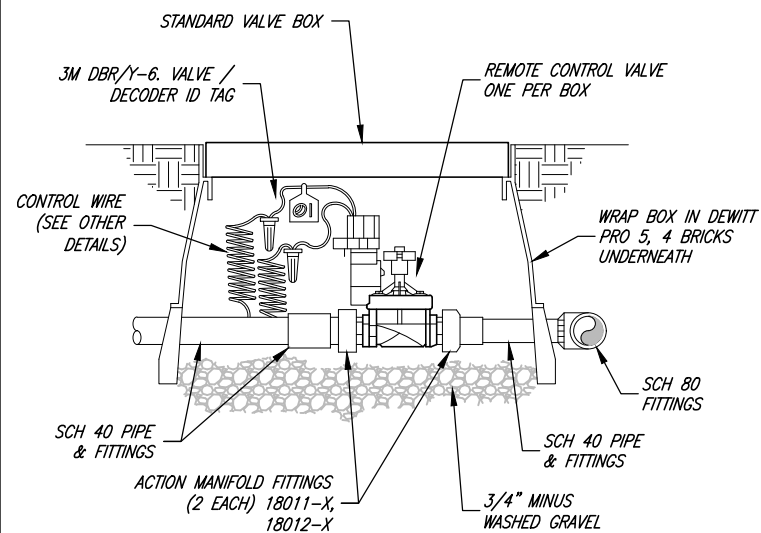
7 A PART OF SECTION X, TOWNSHIP X, RANGE X, S.L.B.&M.
CLEARFIELD CITY, DAVIS COUNTY, UTAH

5 DATE

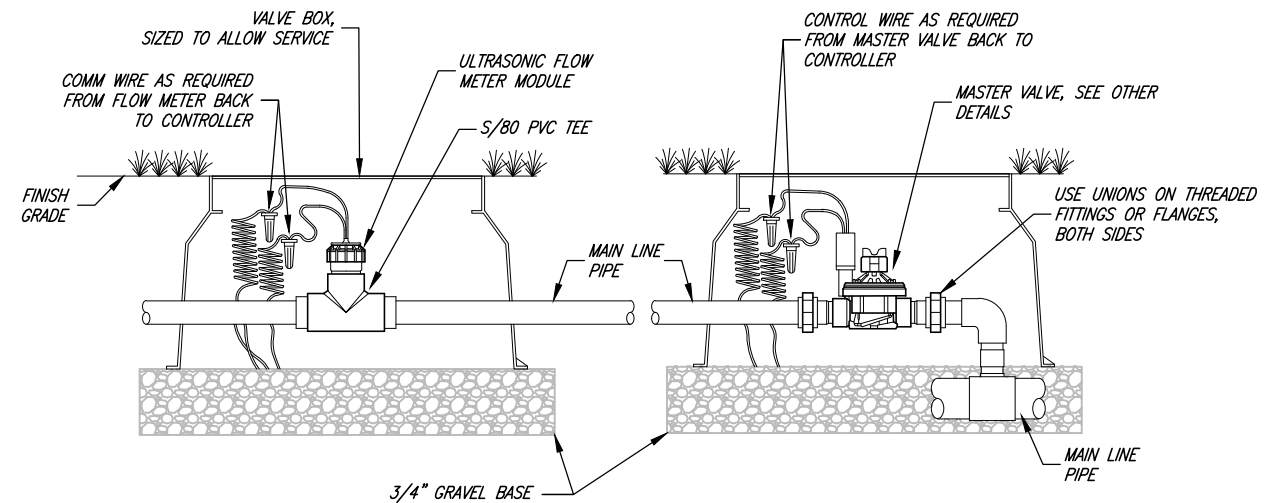




DRIP CONTROL ZONE

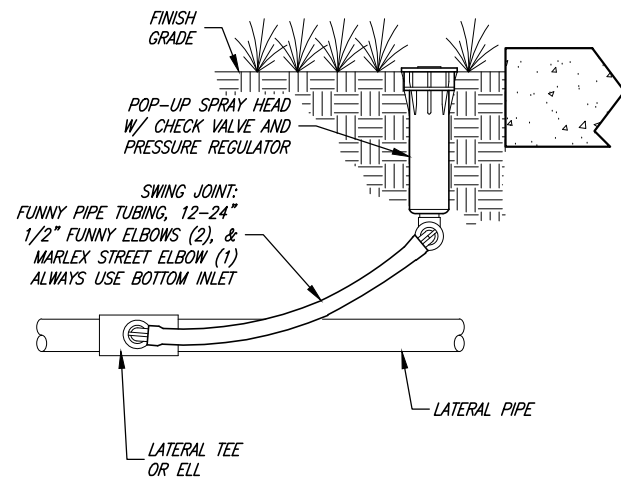


REMOTE CONTROL VALVE

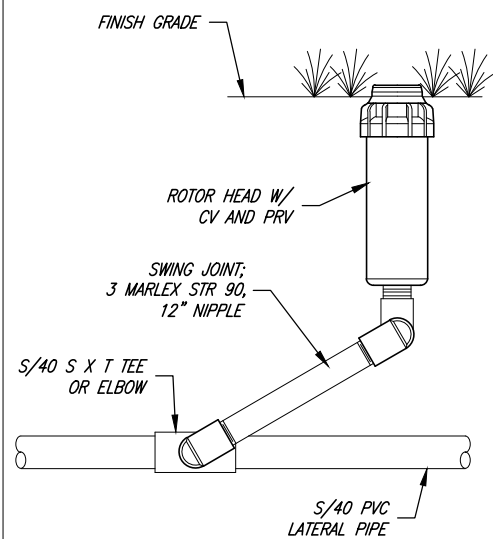


NOTE:
INLET PIPE LENGTH OF FLOW METER MUST BE A MINIMUM OF 10X THE PIPE
DIAMETER; OF STRAIGHT, CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.
OUTLET PIPE LENGTH OF FLOW METER MUST BE A MINIMUM OF 5X THE
PIPE DIAMETER OF STRAIGHT CLEAN RUN OF PIPE, NO FITTINGS OR TURNS.

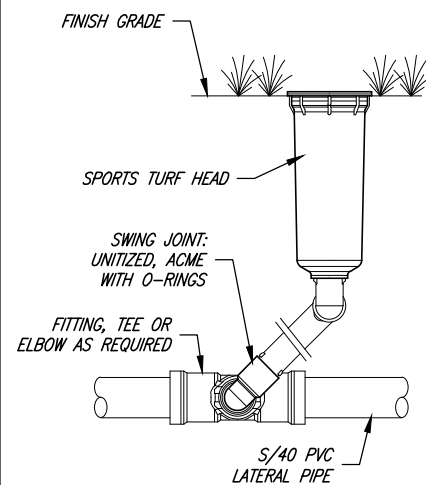
MASTER VALVE & FLOW METER



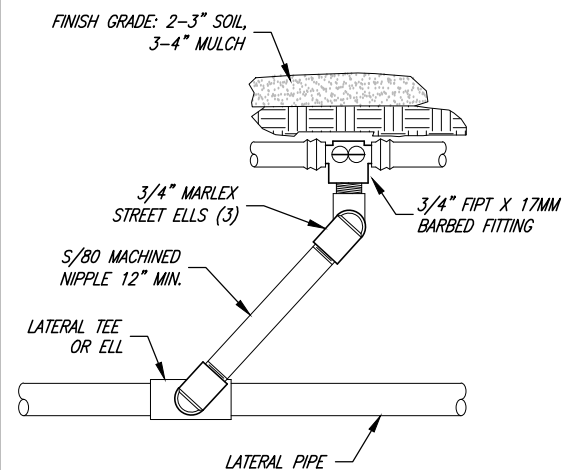
**SPRAY HEAD WITH FIXED OR
ROTARY NOZZLE**



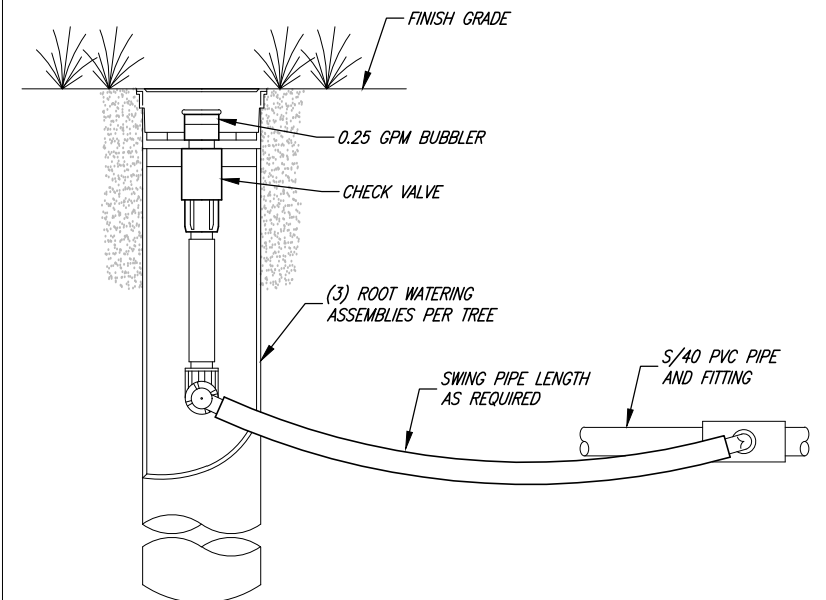
**POP-UP ROTOR HEAD
DETAIL**



SPORTS TURF ROTOR



**DRIP PVC TO
POLY TRANSITION**



ROOT WATERING BUBBLER ASSEMBLY

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:
N.T.S.



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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS
TYPICAL IRRIGATION SYSTEM DETAILS

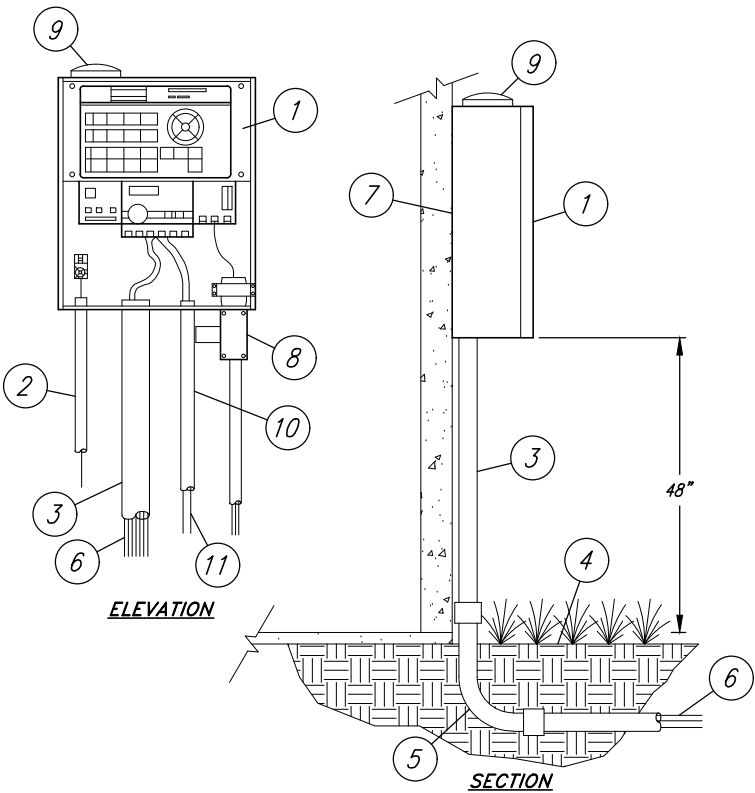
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OF X SHEETS
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1	WEATHERTRAK CONTROLLERS SHALL BE USED EXCLUSIVELY, STAINLESS STEEL CABINET
2	#6 AWG COPPER GROUND WIRE IN CONDUIT. CONNECT TO BUILDING GROUND AND SUPPLEMENTARY EXTERIOR GROUND PER ASIC GUIDELINES
3	2" RIGID GALVANIZED ELECTRICAL CONDUIT. USE FOR BOTH 2-WIRE & CONVENTIONAL WIRE OPTIONS. (ABOVE GRADE)
4	FINISH GRADE OUTSIDE OF BUILDING
5	2" PVC S/40 GRAY ELECTRICAL LONG SWEEP ELL AND CONDUIT. USE FOR BOTH 2-WIRE DECODER AND CONVENTIONAL WIRE OPTIONS. (BELOW GRADE)
6	CONVENTIONAL VALVE OR DECODER WIRES
7	WALL SURFACE. ANCHOR CONTROLLER TO OUTSIDE WALL PER MANUFACTURER'S RECOMMENDATION. FACE PLATE SHALL BE LOCATED AT 65" ABOVE FINISH GRADE
8	'J' NOX FOR 120 VAC TO CONTROLLER. INCLUDE AG-2401 SURGE DEVICE
9	LOW PROFILE ANTENNA
10	1" RIGID GALVANIZED CONDUIT WITH PVC GRAY SWEEP ELL AND CONDUIT FOR FLOW SENSOR & MASTER VALVE WIRE.
11	FLOW SENSOR CABLE & MASTER VALVE OR HYDROMETER WIRE PER SPECIFICATIONS.

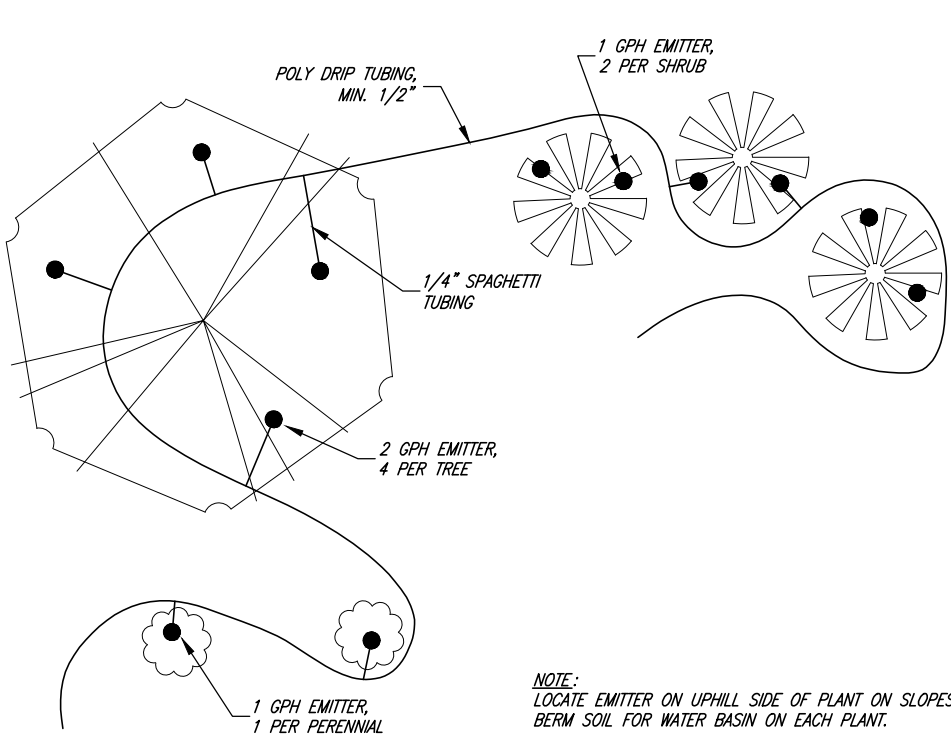
NOTES:
ALL IN-GROUND WIRES SHALL BE ENCASED IN GRAY S/40 PVC ELECTRICAL CONDUIT.

ALL 120 VAC POWER WIRE SHALL BE ENCASED IN CONDUIT, AND INSTALLED TO MEET OR EXCEED ALL LOCAL, STATE & NATIONAL CODES.

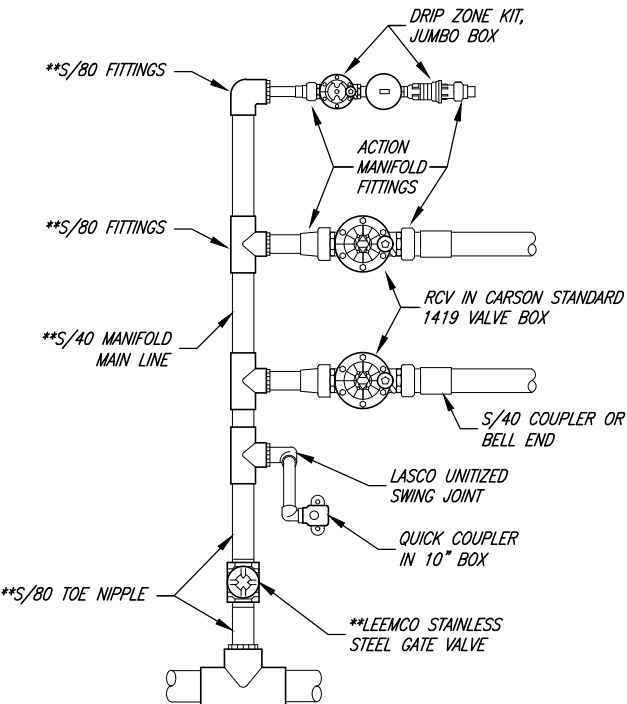
SEE DETAIL CØ FOR SPECIFIC MODEL AND FEATURE REQUIREMENTS FOR CONTROLLERS.



OUTDOOR WALL MOUNT CONTROLLER

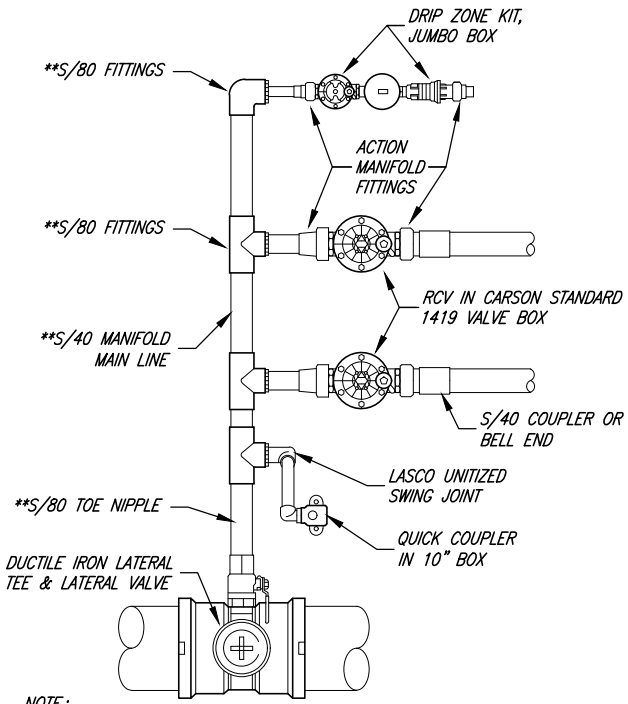


DRIP POINT SOURCE EMITTER LAYOUT



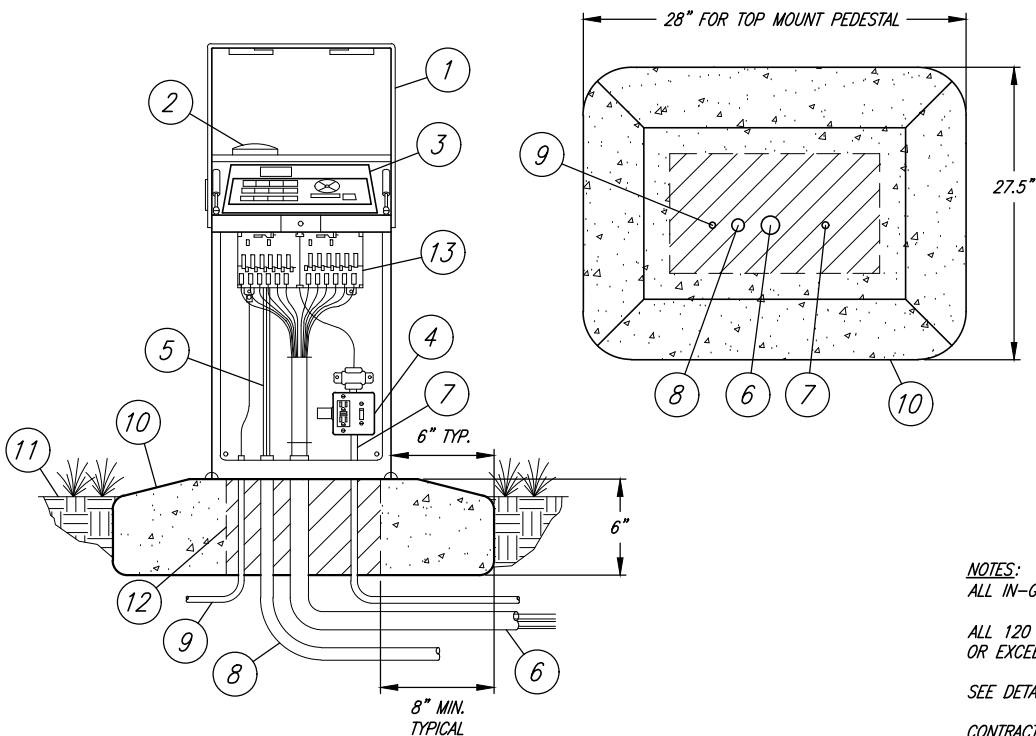
NOTE:
**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF GATE VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40.

VALVE MANIFOLD
(MAIN SMALLER THAN 2")



NOTE:
**INDICATES COMPONENT SHALL BE SAME SIZE AS LARGEST LATERAL ON THIS MANIFOLD. DOWNSTREAM OF BALL VALVE: MANIFOLD FITTINGS SHALL BE S/80, PVC PIPE SHALL BE S/40. QUICK COUPLERS ARE NOT REQUIRED AT EVERY MANIFOLD. SEE PLAN FOR LOCATIONS

VALVE MANIFOLD
(MAIN 2" AND LARGER)



PEDESTAL TOP ENTRY ENCLOSURE

1	WEATHERTRAK CONTROLLERS SHALL BE USED EXCLUSIVELY, STAINLESS STEEL CABINET
2	LOW PROFILE ANTENNA
3	WEATHERTRAK ET PRO3 SERIES CONTROLLER. SEE CØ FOR MODEL AND FEATURE REQUIREMENTS
4	GFCI & POWER SWITCH, 120 VAC TO CONTROLLER, INCLUDE AG-2401 SURGE DEVICE
5	FLOW SENSOR CABLE & MASTER VALVE WIRES PER SPECIFICATIONS
6	3" PVC S/40 SWEEP 90 AND CONDUIT FOR CONTROL WIRES
7	1" PVC S/40 SWEEP 90 AND CONDUIT FOR 120 VAC FROM METERED SUPPLY
8	2" PVC S/40 SWEEP 90 AND CONDUIT FOR FLOW SENSOR AND MASTER VALVE WIRING
9	1-1/2" PVC S/40 SWEEP 90 AND CONDUIT FOR GROUNDING, PER ASIC GUIDELINES
10	POURED CONCRETE BASE, SLOPE TO DRAIN
11	FINISH GRADE, 2" BELOW TOP OF CONCRETE BASE
12	FILL VOIDS WITH CONCRETE SLURRY MIX

NOTES:
ALL IN-GROUND WIRES SHALL BE ENCASED IN GRAY S/40 PVC ELECTRICAL CONDUIT.

ALL 120 VAC POWER WIRE SHALL BE ENCASED IN CONDUIT, AND INSTALLED TO MEET OR EXCEED ALL LOCAL, STATE & NATIONAL CODES.

SEE DETAIL CØ FOR SPECIFIC MODEL AND FEATURE REQUIREMENTS FOR CONTROLLERS.

CONTRACTOR SHALL BE PREPARED TO INSTALL PEDESTAL CONTROLLER ON A POURED CONCRETE OR A VIT QUICKPAD BASE. OWNER SHALL NOTIFY CONTRACTOR WHICH BASE SHALL BE USED PRIOR TO COMMENCEMENT OF THE PROJECT. CONTRACTOR SHALL VERIFY NUMBER AND SIZE OF CONDUITS REQUIRED FOR INSTALLATION. PROVIDE A MINIMUM OF 2" OF CONCRETE FROM MOUNTING BOLT TO INTERIOR BASE OPENING.

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:

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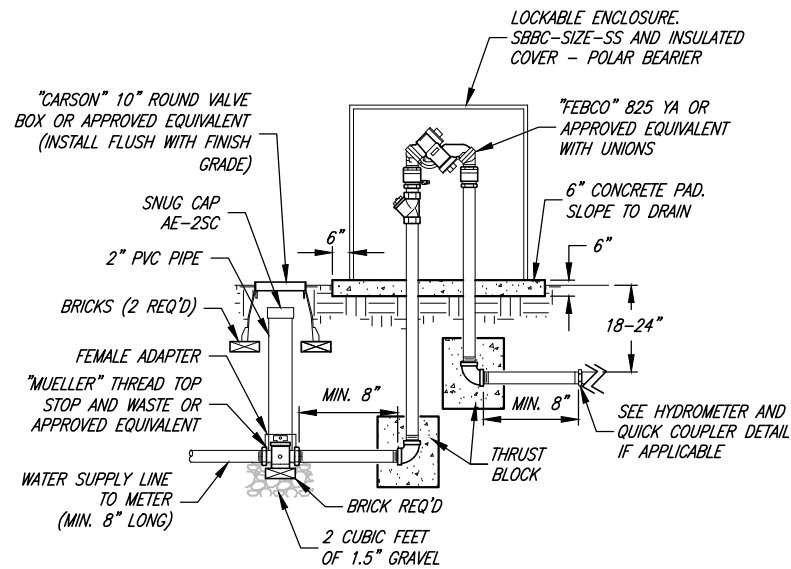


CLEARFIELD CITY CORPORATION
PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS
IRRIGATION SYSTEM CONTROLLERS, EMITTER LAYOUT,
AND VALVE MANIFOLD DETAILS

SHEET:

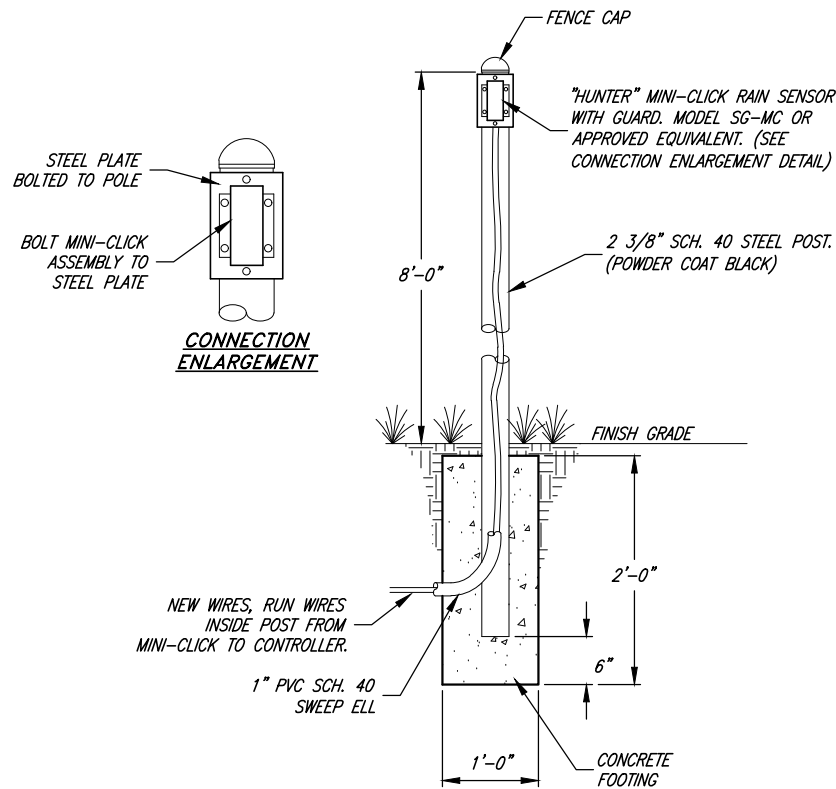
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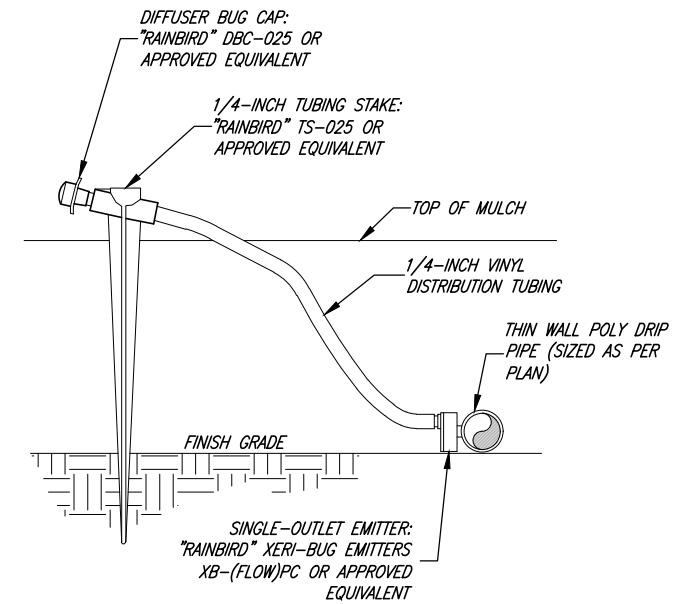


NOTE:
1. ALL PIPE & FITTINGS TO BE BRASS UP TO THE MASTER VALVE.
2. SEE DETAIL SHEET CW11

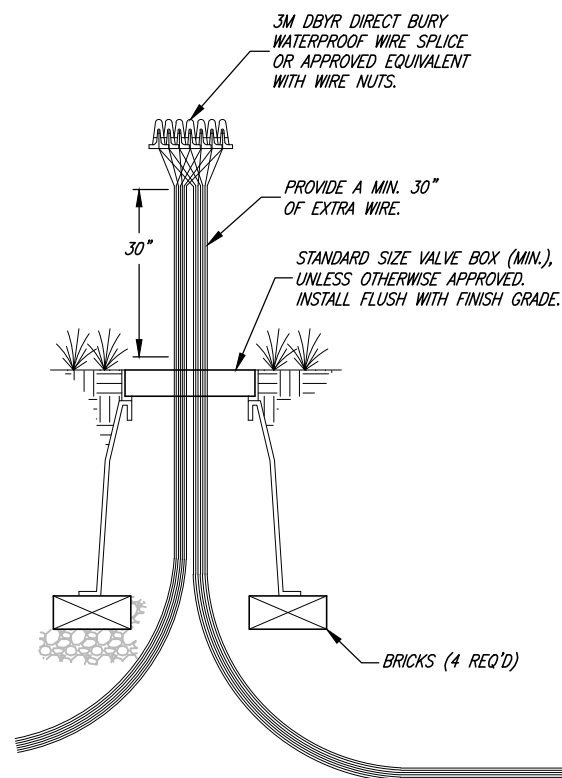
MAINLINE CONNECTION DETAIL
(2 INCHES OR LESS)



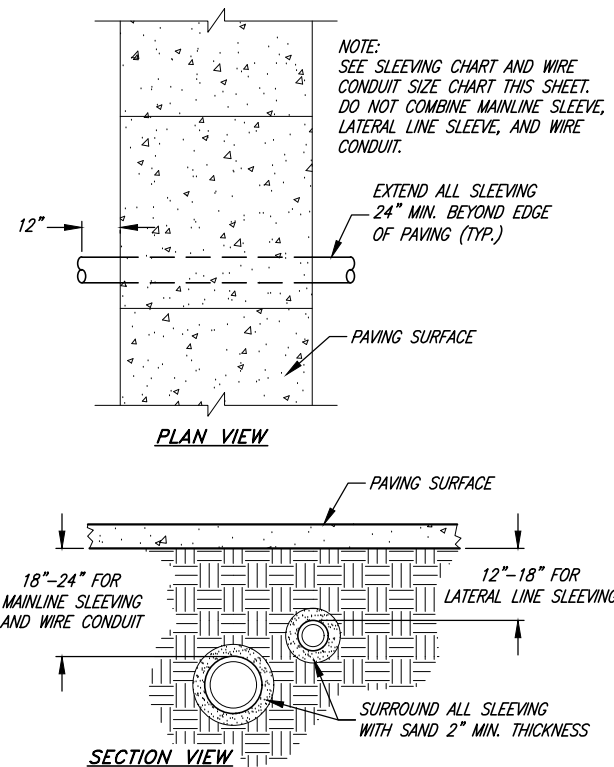
MINI-CLICK INSTALLATION DETAIL



EMITTER INTO POLY-TUBE DETAIL



WIRE SPLICE DETAIL



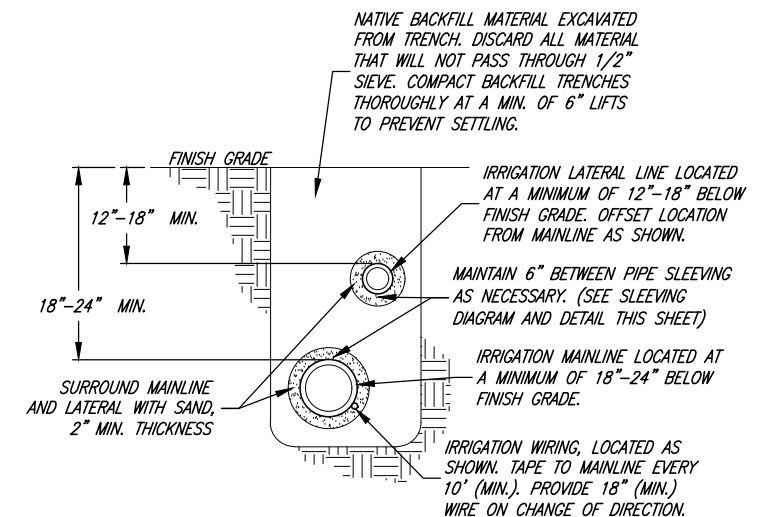
TYPICAL SLEEVING DETAIL

SLEEVE SIZE CHART	
PIPE SIZE	MIN. SLEEVE SIZE
3/4"	1 1/2"
1"	2"
1 1/4"	2 1/2"
1 1/2"	2 1/2"
2"	3"
2 1/2"	4"
3"	4"
4"	6"
6"	8"

- DO NOT COMBINE MAINLINE, LATERAL LINE, AND WIRE CONDUIT IN ONE SLEEVE.
- USE SLEEVE AS PER CHART.
- CONTROL OR "HOT" WIRES RED 14 GA.
- COMMON OR "GROUND" WIRE WHITE 12 GA. USE SEPARATE COMMON FOR EACH CONTROLLER.
- "SPARE" WIRE ORANGE 14 GA.
- "TRACER" WIRE YELLOW 14 GA.

WIRE CONDUIT SIZE (SCH 40 CONDUIT PVC)	
NUMBER OF WIRE	MIN. CONDUIT SIZE
1-4	3/4"
5-7	1"
8-11	1 1/2"
12-22	2"
23-31	2 1/2"
32-36	3"

SLEEVING DIAGRAM



LANDSCAPE TRENCH DETAIL

CITY ENGINEER	REV.	DATE	APPR.
3/8/2024			
DATE			

SCALE:
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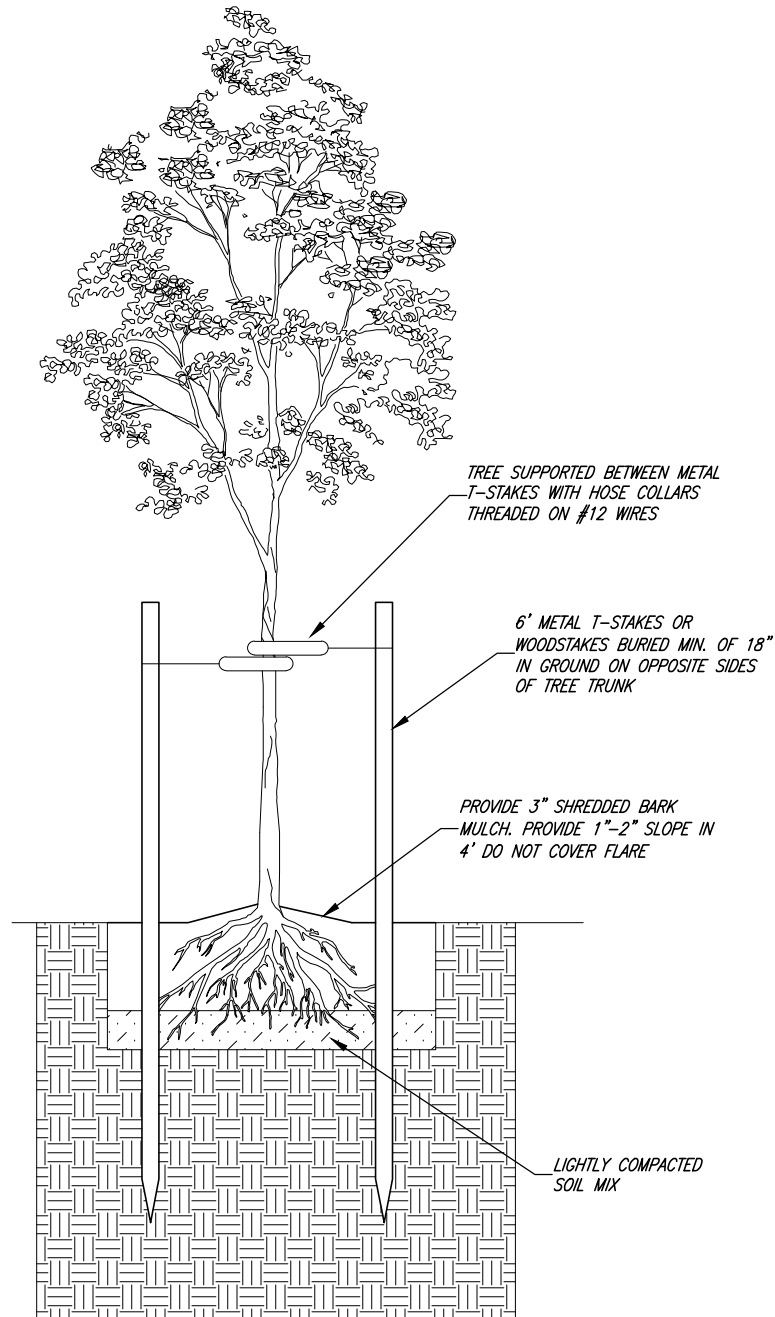


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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS
IRRIGATION SYSTEM CONNECTION, MINI-CLICK, WIRE SPLICE, SLEEVING, AND TRENCH SECTION DETAILS

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TREE PLANTING NOTES:

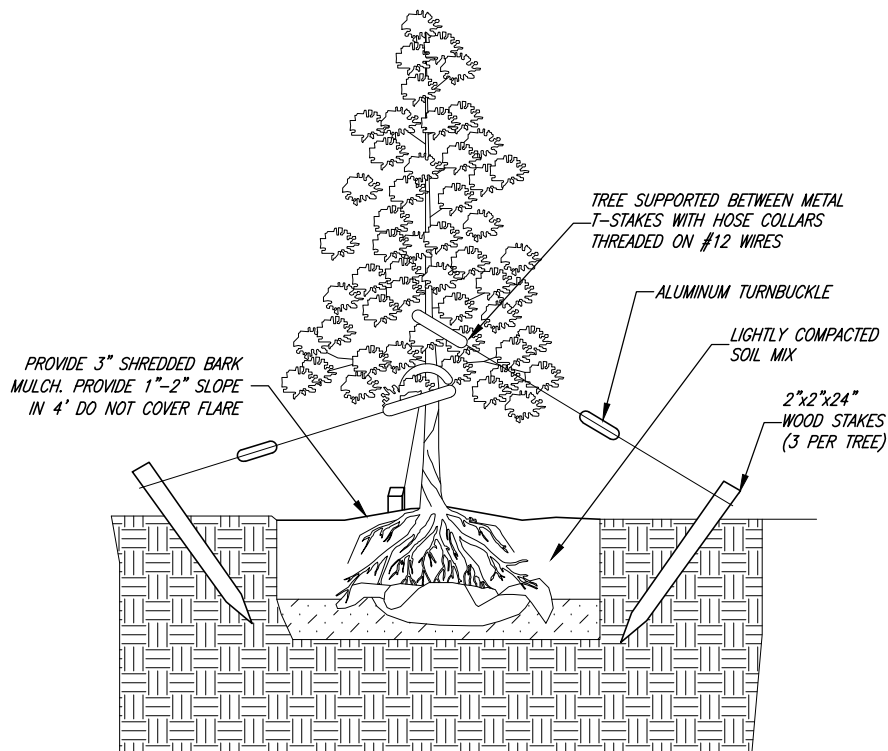
1. SOIL MIX FOR ALL TREES, SHRUBS AND GROUND COVER SHALL BE 30% EXISTING SOIL EXCAVATED FROM PLANT HOLE, 30% IMPORTED LOAMY TOPSOIL, 20% CLEAN COARSE SAND, AND 20% PEAT MOSS.

TYPICAL PLANTING DEPTH: FROM ROOT FLAIR TO BOTTOM OF BALL LESS 2"

TYPICAL PLANTING WIDTH: TWICE THE WIDTH OF ROOT BALL + 6"

2. TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISABLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. CUT AND REMOVE BURLAP, TWINE AND WIRE FROM TOP 2/3 OF BALL.

**TREE PLANTING AND STAKING
DETAIL**



CONIFER PLANTING NOTES:

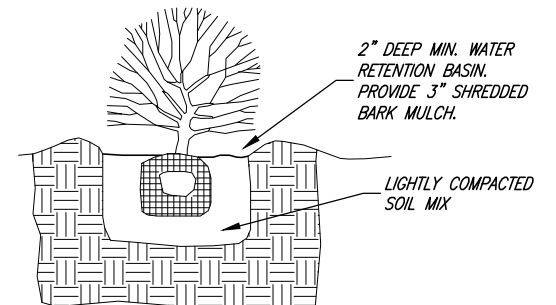
- A1. SOIL MIX FOR ALL TREES, SHRUBS AND GROUND COVER SHALL BE 30% EXISTING SOIL EXCAVATED FROM PLANT HOLE, 30% IMPORTED LOAMY TOPSOIL, 20% CLEAN COARSE SAND, AND 20% PEAT MOSS.

TYPICAL PLANTING DEPTH: FROM ROOT FLAIR TO BOTTOM OF BALL LESS 2"

TYPICAL PLANTING WIDTH: 6" TWICE THE WIDTH OF BALL

- A2. TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISABLE AT THE TOP OF THE ROOT BALL. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. CUT AND REMOVE BURLAP, TWINE AND WIRE FROM TOP 2/3 OF BALL.

**CONIFER PLANTING AND STAKING
DETAIL**



SHRUB NOTES:

- B1. SOIL MIX FOR ALL TREES, SHRUBS AND GROUND COVER SHALL BE 30% EXISTING SOIL EXCAVATED FROM PLANT HOLE, 30% IMPORTED LOAMY TOPSOIL, 20% CLEAN COARSE SAND, AND 20% PEAT MOSS.

TYPICAL PLANTING DEPTH: DEPTH OF BALL + 3"

TYPICAL PLANTING WIDTH: WIDTH OF BALL + 6"

SHRUB PLANTING DETAIL

CITY ENGINEER					
3/8/2024					
DATE	REV.	DATE	APPR.		

SCALE:

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CLEARFIELD CITY CORPORATION
PUBLIC WORKS - IRRIGATION AND LANDSCAPING STANDARDS
TREE & SHRUB PLANTING AND STAKING DETAILS

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