

**CARSON CITY STANDARD DETAILS  
FOR PUBLIC WORKS CONSTRUCTION  
August 22, 2023 (PAGE 1 OF 3)**

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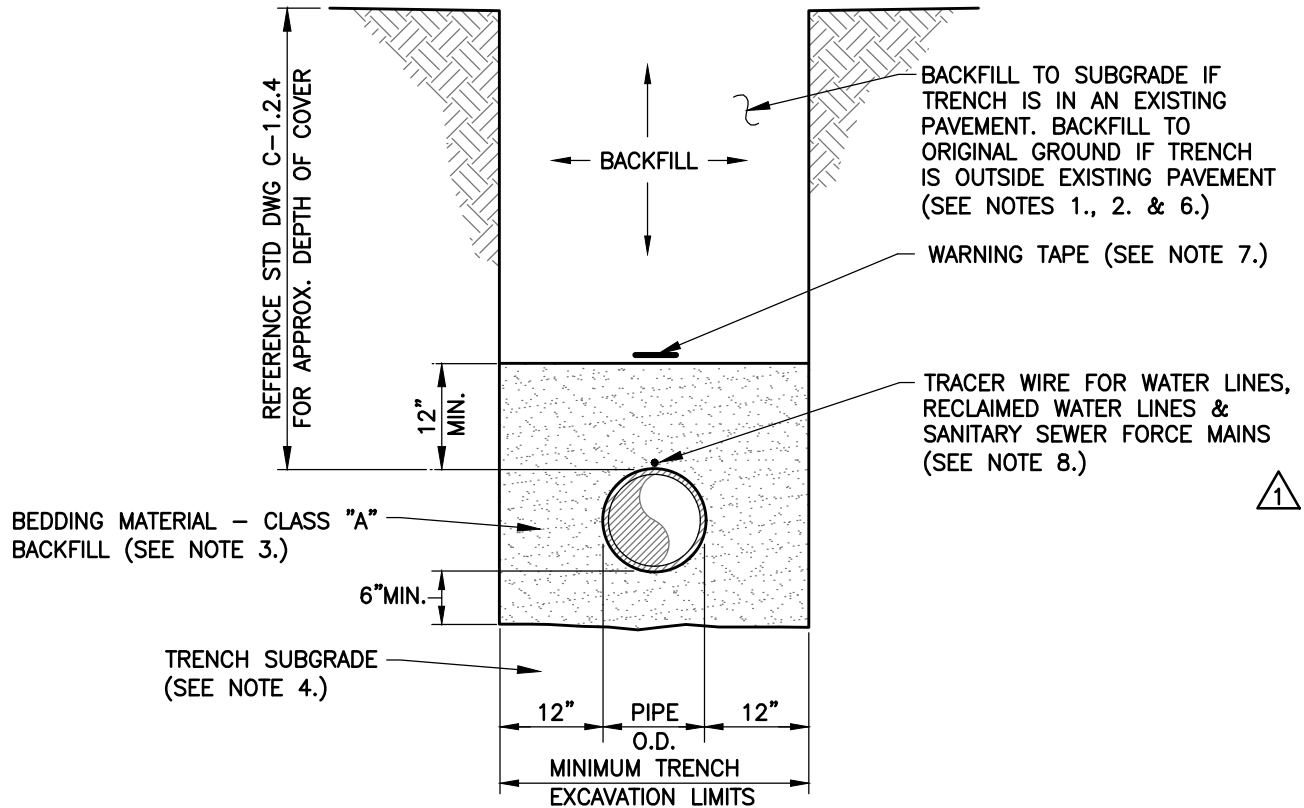
1. ALL WORK SHALL CONFORM TO THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" (SSPWC) AND THE "STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION" (SDPWC) AS ADOPTED BY CARSON CITY. THE CONTRACTOR SHALL OBTAIN A PERMIT FOR PUBLIC WORKS CONSTRUCTION FROM THE CARSON CITY PERMIT CENTER PRIOR TO THE START OF CONSTRUCTION.
2. ALL TRAFFIC CONTROL AND BARRICADING WITHIN THE CARSON CITY RIGHT-OF-WAY SHALL CONFORM TO SECTION 100.33, 332.04 AND 332.05 OF THE STANDARD SPECIFICATIONS, PART 6 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND THE UNR T2 CENTER, TEMPORARY TRAFFIC CONTROL GUIDELINES LATEST EDITION. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CARSON CITY ENGINEERING DIVISION PRIOR TO ANY STREET CLOSURES.
3. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT "CALL BEFORE YOU DIG" (811) OR 1-800-227-2600) AT LEAST TWO (2) WORKING DAYS PRIOR TO START OF CONSTRUCTION AND COMPLY WITH THE REQUIREMENTS OF NRS AND NAC 455 THROUGHOUT THE COURSE OF THE WORK, SEWER SERVICE LATERALS ARE NOT OWNED OR MARKED BY CARSON CITY.
4. THE CONTRACTOR SHALL CALL THE CARSON CITY ENGINEERING DIVISION (887-2300) TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL CALL ONE (1) WORKING DAY PRIOR TO REQUIRED INSPECTIONS AND TESTING. THE REQUIRED INSPECTIONS AND TESTING ARE LISTED ON THE INSPECTION RECORD ISSUED WITH EACH PERMIT. THE CONTRACTOR MUST HAVE THE PERMIT NUMBER AND THE DESCRIPTION LISTED ON THE INSPECTION RECORD TO SCHEDULE REQUIRED INSPECTIONS AND TESTING. FOR CITY CONTRACTED PROJECTS, THE CONTRACTOR SHALL SCHEDULE INSPECTIONS PER THE CONTRACT DOCUMENTS.
5. FINAL INSPECTIONS WILL BE PERFORMED BY CARSON CITY ENGINEERING DIVISION ACCORDING TO THE CARSON CITY INSPECTIONS AND TESTING PROCEDURES. NOTE: THESE PROCEDURES REQUIRE SUBMITTAL OF RECORD DRAWING PRINTS BY THE CONTRACTOR AND 10 WORKING DAYS TO PREPARE A FINAL PUNCH LIST. ALL CONDITIONS OF THE FINAL INSPECTION MUST BE COMPLETED PRIOR TO FINAL ACCEPTANCE OR ANY APPROVAL OF A CERTIFICATE OF OCCUPANCY BY THE CARSON CITY ENGINEERING DIVISION.
6. MODIFICATIONS TO THE APPROVED PLANS REQUIRES REVIEW AND APPROVAL BY THE CARSON CITY ENGINEERING DIVISION. WORK PERFORMED WITHOUT WRITTEN APPROVAL BY CARSON CITY ENGINEERING WILL REQUIRE REMOVAL AT THE CONTRACTORS EXPENSE.
7. THE APPROVED PLAN, PERMIT AND INSPECTION RECORD MUST BE ON THE JOB SITE AT ALL TIMES.
8. PLAN APPROVAL FOR SEWER AND WATER CONSTRUCTION SHALL EXPIRE ONE YEAR FROM DATE OF APPROVAL UNLESS CONSTRUCTION HAS BEEN INITIATED. (CCMC 12.06.180F, 12.01.140D)
9. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR ACQUIRING A STORMWATER DISCHARGE PERMIT FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) INCLUDING DEVELOPING, SUBMITTING AND IMPLEMENTING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE CONTRACTOR SHALL DEVELOP, PLACE AND MAINTAIN STORM WATER PROTECTION DEVICES IN COMPLIANCE WITH THE NEVADA CONTRACTORS FIELD GUIDE FOR CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (JUNE 2013).
10. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR LOCATING EXISTING UTILITIES. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THESE LOCATIONS AT THE PROPOSED POINTS OF CONNECTIONS AND IN AREAS OF POSSIBLE CONFLICT WITH NEW UTILITY INSTALLATION, PRIOR TO BEGINNING CONSTRUCTION. POTHOLES IS REQUIRED. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THE CONSTRUCTION DRAWINGS, HE SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION.
11. THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS. THE DUTIES OF THE ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE CONSTRUCTION SITE.
12. SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THE CONSTRUCTION PLANS, THE CONTRACTOR SHALL CONTACT THE ENGINEER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.

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NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 10,11,12	9/17	<b>GENERAL NOTES</b>	CARSON CITY
				DRAWING NO. C-1.1.1
				DATE SEP 2017
APPROVED BY: 		9/17		



### TYPICAL TRENCH SECTION

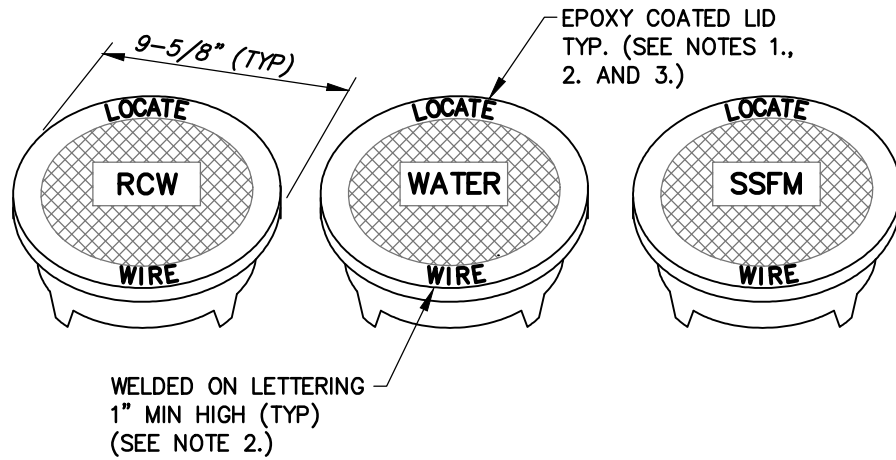
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#### NOTES:

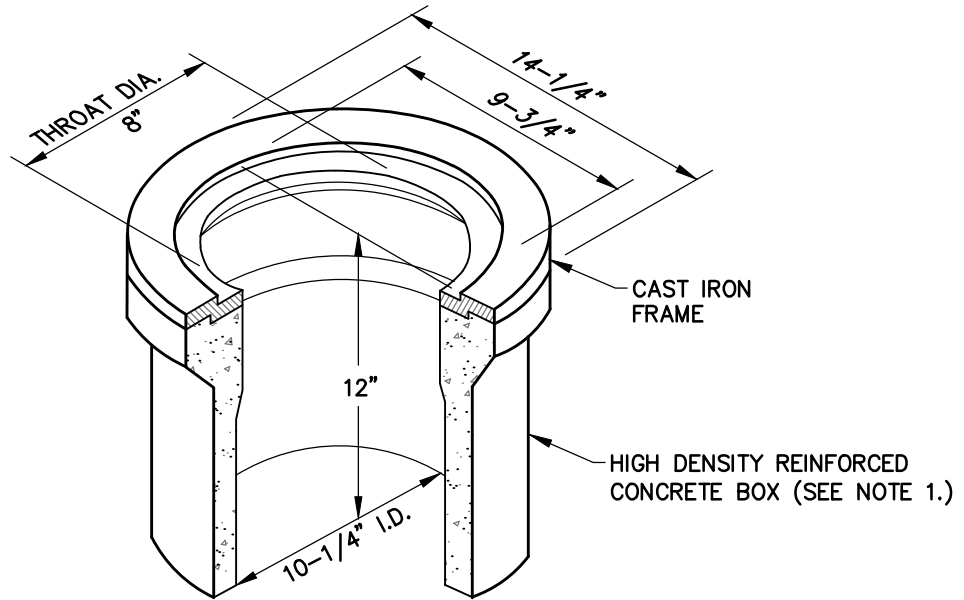
1. WATER DENSIFIED BACKFILL AND TUNNELING SHALL BE BY SPECIAL PROVISION ONLY.
2. BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF CLASS E BACKFILL AS SPECIFIED IN SUBSECTION 200.03.06 OF THE SSPWC. MATERIAL SHALL BE PLACED IN LIFT THICKNESS SPECIFIED IN SUBSECTION 305.10 OF THE SSPWC AND DENSIFIED TO 90% RELATIVE COMPACTION PER ASTM D1557 MODIFIED PROCTOR.
3. BEDDING SHALL CONFORM TO THE REQUIREMENTS OF CLASS A BACKFILL AS SPECIFIED IN SUBSECTION 200.03.02 OF THE SSPWC. MATERIAL SHALL BE DENSIFIED TO 90% RELATIVE COMPACTION PER ASTM D1557 MODIFIED PROCTOR.
4. PLANS SHALL INCLUDE A DETAIL FOR SUBGRADE STABILIZATION INCLUDING BACKFILL MATERIAL, STRUCTURAL GEOTEXTILE FILTER FABRIC AND MODIFIED CUTOFF COLLARS WHEN POTENTIAL FOR UNSTABLE SUBGRADES EXIST, SUBJECT TO THE APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
5. FOR TRENCHES IN ROADWAY SECTION, SEE PAVEMENT PATCH DETAIL (DWG. No. C-5.1.6).
6. FOR THE PURPOSE OF PAYMENT; EXCAVATION AND BACKFILL QUANTITIES ARE BASED ON THESE STANDARD DRAWINGS, AND NO ADDITIONAL COMPENSATION WILL BE MADE. SHORING OR SLOPED CUT SLOPES MAY BE NECESSARY, BUT THERE WILL BE NO ADDITIONAL PAYMENT. ALL EXCAVATIONS SHALL CONFORM TO THE LATEST O.S.H.A. REQUIREMENTS.
7. PLACE WARNING TAPE 1 FOOT ABOVE ALL BURIED PIPES AND CONDUITS.
8. TRACER WIRE SHALL BE 12 GAUGE (MINIMUM THICKNESS) INSULATED SOLID COPPER WIRE. INSULATION SHALL BE 30 MIL HDPE. PLANS SHALL SPECIFY WIRE STRENGTH AND INSULATION THICKNESS FOR BORING APPLICATIONS. SPLICES SHALL BE CONNECTED BY WIRE NUTS, SEALED WITH AQUA SEAL OR SILICON FILLED, AND DOUBLE WRAPPED WITH U/L LISTED ELECTRICAL TAPE. TRACER WIRE COLOR SHALL BE, BLUE FOR WATER, PURPLE FOR RECLAIMED WATER, GREEN FOR SANITARY SEWER FORCE MAINS AND YELLOW FOR ELECTRICAL OR FIBER OPTIC.



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE SEWER	3/22	<b>TRENCH EXCAVATION AND BACKFILL</b>	CARSON CITY
				DRAWING NO. C-1.2.1 (305)
				DATE MAR 2022
APPROVED BY: 		3/22		



WELDED ON LETTERING  
1" MIN HIGH (TYP)  
(SEE NOTE 2.)

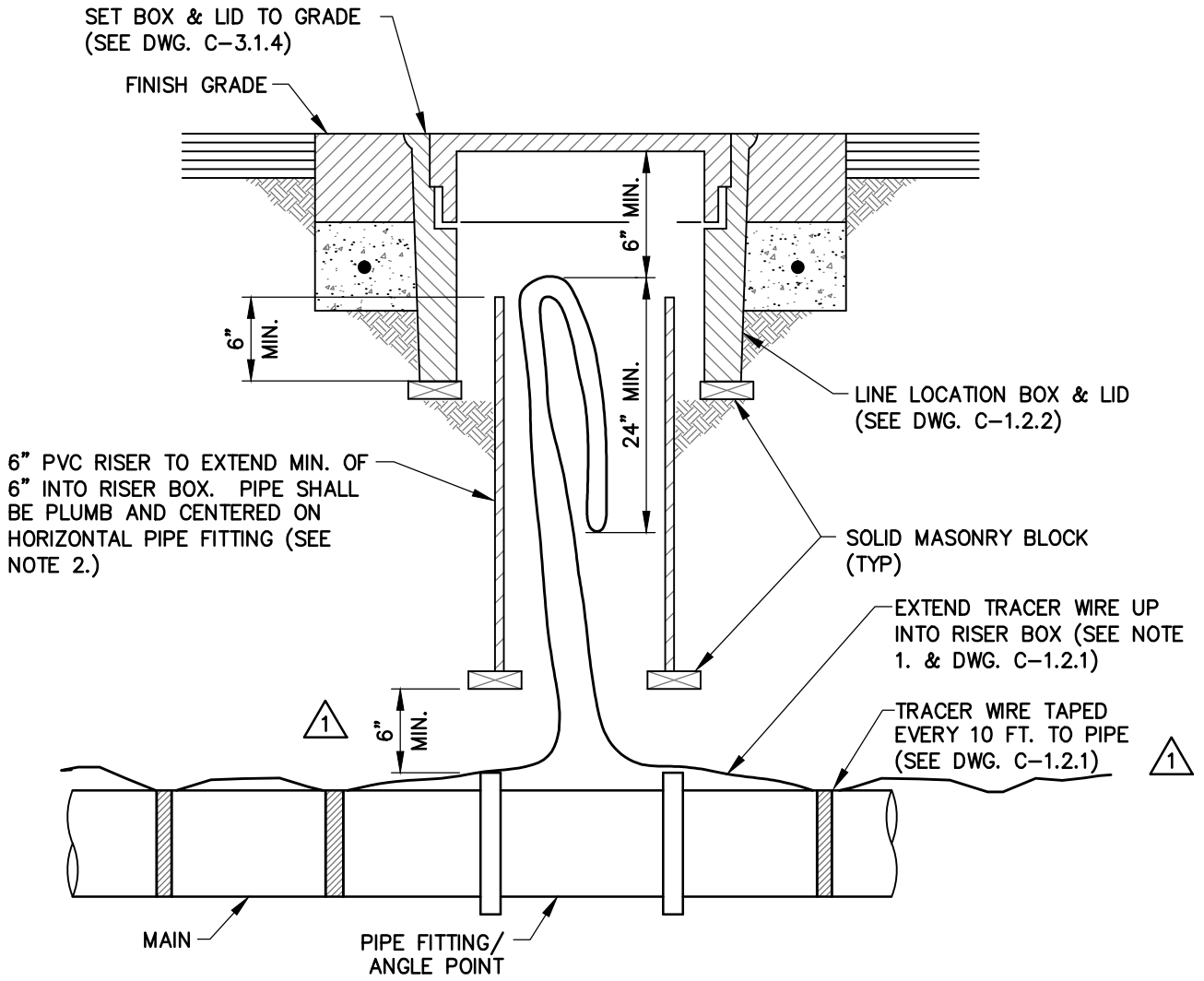


**ISOMETRIC VIEW**  
N.T.S.

**NOTES:**

1. BOX AND LID SHALL BE TRAFFIC RATED WITH A MINIMUM INSIDE DIAMETER OF 10 INCHES (CHRISTY G3 TRAFFIC VALVE BOX & LID OR APPROVED EQUAL)
2. CAST IRON LID SHALL BE MARKED AT THE FACTORY "LOCATE WIRE", AND "WATER" FOR WATER APPLICATIONS, "RCW" FOR RECLAIMED WATER APPLICATIONS, AND "SSFM" FOR SANITARY SEWER FORCE MAIN APPLICATIONS.
3. CAST IRON LID SHALL BE EPOXY COATED AT THE FACTORY, OR POWDER COATED, COLOR SHALL BE BLUE FOR WATER APPLICATIONS, PURPLE FOR RECLAIMED WATER APPLICATIONS AND GREEN FOR SANITARY SEWER FORCE MAIN APPLICATIONS.
4. BOX SHALL BE SET OR ADJUSTED TO GRADE PER DRAWING NO. C-3.1.4, RISER FOR ADJUSTED BOX SHALL BE PER DRAWING NO. C-3.1.4. FOR OVERLAY ADJUSTMENTS, RISER WILL NOT REQUIRE REPLACEMENT OR EXTENSION IF IT EXTENDS A MINIMUM OF 2 INCHES INTO ADJUSTED BOX.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REM SSCO	3/22	<b>LINE LOCATION BOX &amp; LID</b>	CARSON CITY
				DRAWING NO. C-1.2.2 (306,307)
				DATE MAR 2022
APPROVED BY:		3/22		

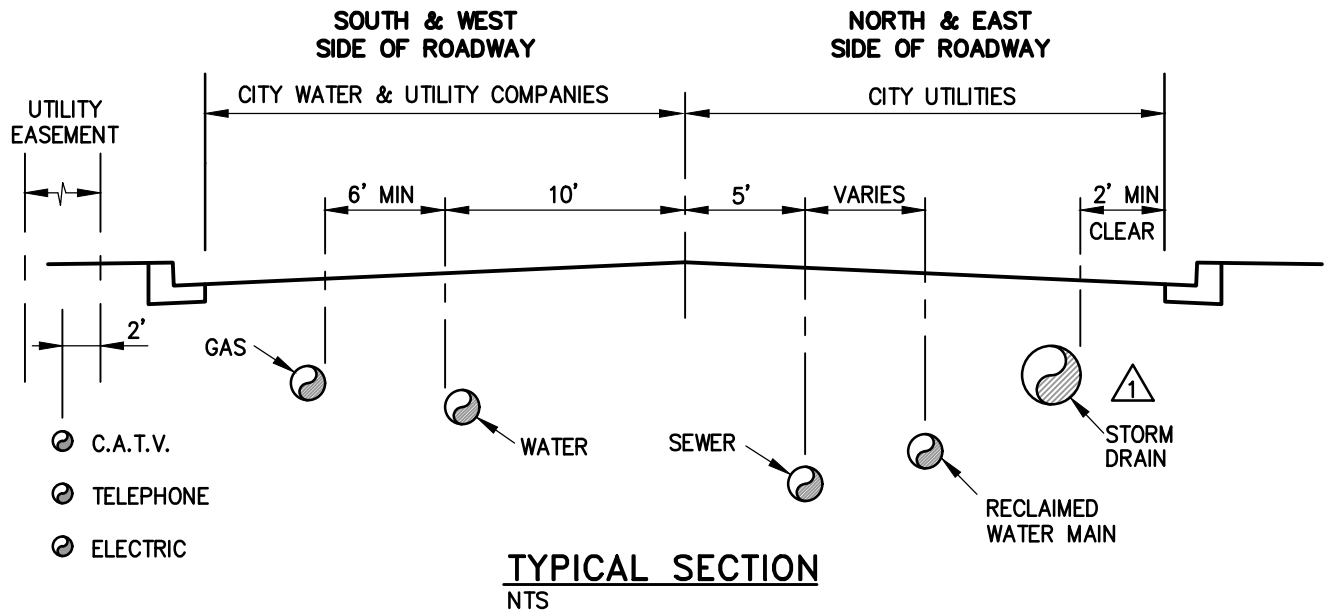


**TYPICAL SECTION**  
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**NOTES:**

1. WIRE SHALL BE CONTINUOUS IN RISER AND SHALL NOT BE SPLICED WITHIN 10 FEET OF RISER.
1. 2. RISER COLOR SHALL BE BLUE FOR WATER APPLICATIONS, PURPLE FOR RECLAIMED WATER APPLICATIONS, AND GREEN FOR SANITARY SEWER APPLICATIONS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 2	9/17	<b>LINE LOCATION RISER</b>	CARSON CITY
				DRAWING NO. C-1.2.3 (203,306)
				DATE SEP 2017
APPROVED BY: <i>[Signature]</i>		9/17		



UTILITY	TYPICAL DEPTH OF COVER	MIN DEPTH OF COVER	MIN HORIZ SEPARATION	MIN VERT SEPARATION	MIN HORIZ SEPARATION FROM <b>WATER</b>	MIN VERT SEPARATION FROM <b>WATER</b>
STORM DRAIN	2'	2'	2'	1.5'	10'	1.5'
SANITARY SEWER	6'	4'	3'	1.5'	10'	1.5'
WATER MAIN	4'	3.5'	5'	1.5'	N/A	N/A
RECLAIMED WATER	5'	5'	5'	1.5'	10'	1.5'
GAS MAIN *, **	3'	2.5'	6'	2'	6'	2'
C.A.T.V. *, **	3'	3'	PER UTILITY CO	PER UTILITY CO	5'	1.5'
ELECTRICITY *, **	5'	5'	PER UTILITY CO	PER UTILITY CO	5'	2'
TELEPHONE *, **	3.5'	3.5'	PER UTILITY CO	PER UTILITY CO	5'	1.5'

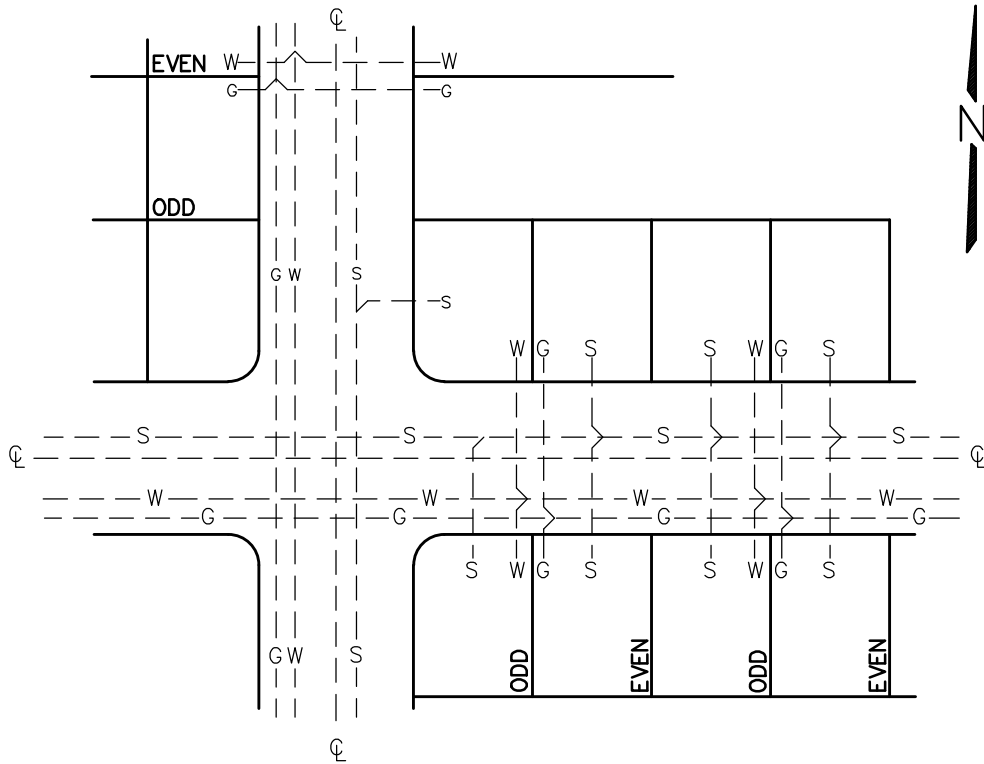
\* MINIMUM OR LOCAL UTILITY STANDARDS – WHICHEVER IS GREATER  
 \*\* SEE NOTE 5

**NOTES:**

- FOR COMMON TRENCH SECTION, SEE DETAIL, DWG. C-1.2.1. COMMON TRENCH WITH OTHER UTILITIES IS NOT ALLOWED FOR WATER, SEWER, RECLAIMED WATER OR STORMWATER.
- DEPTHS OF COVER AND LOCATION OTHER THAN THOSE PROVIDED HEREIN ARE SUBJECT TO CARSON CITY DEVELOPMENT ENGINEERING & PUBLIC WORKS APPROVAL.
- LOCATION AND DEPTH SHALL BE AS REQUIRED TO MEET THE REQUIREMENTS OF NAC CHAPTER 445A AND THE NDEP BUREAU OF SAFE DRINKING WATER VERTICAL CROSSING CONFLICTS SUMMARY.
- DEPTH SHALL BE AS REQUIRED TO PROVIDE ADEQUATE CLEARANCE FROM OTHER UTILITIES AND TO SERVE UPSTREAM TRIBUTARY AREAS, AND TO MEET PROPER DESIGN REQUIREMENTS FOR DOWNSTREAM CONNECTIONS.
- HORIZONTAL AND VERTICAL SEPARATIONS MUST BE PROVIDED UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
	NOTES & SEPARATIONS	3/22	<b>TYPICAL UTILITY MAIN LOCATIONS</b>	DRAWING NO. C-1.2.4
				DATE MAR 2022
APPROVED BY:		3/22		





### UTILITY LOCATION

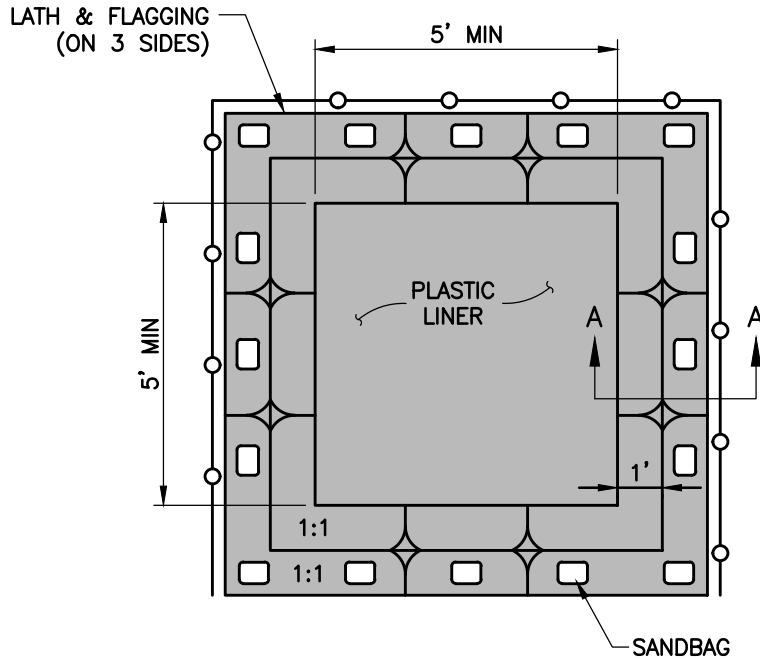
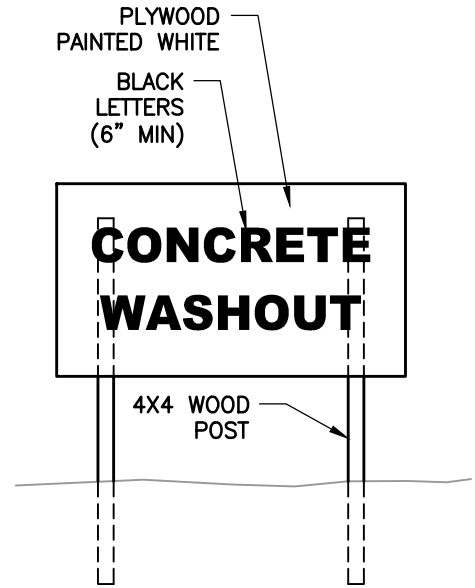
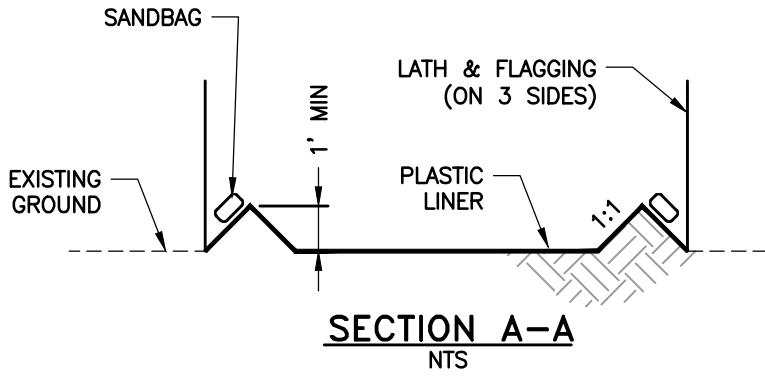
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#### NOTES:

1. SANITARY SEWER LATERAL TO BE CENTERED ON LOT (CHANGES MAY BE REQUIRED DUE TO LOT SIZE AND TOPOGRAPHY AND REQUIRE APPROVAL OF THE CARSON CITY SEWER UTILITY). EACH LOT TO BE SERVED BY A SEWER MAIN IN AN ADJACENT STREET.
2. COMMON LOT CORNERS ARE DEFINED AS ODD OR EVEN AS COUNTED NORTH OR EAST FROM THE PRECEDING STREET INTERSECTION.
3. WATER SERVICES SHALL BE PLACED ON ODD LOT CORNERS ON EAST-WEST STREETS AND ON EVEN LOT CORNERS ON NORTH-SOUTH STREETS. ADDITIONALLY, WATER SERVICES SHALL BE ONE FOOT WEST OR NORTH OF THE RESPECTIVE LOT LINE.
4. GAS SERVICES SHALL BE PLACED ON THE SAME LOT CORNERS AS FOR THE WATER DESCRIBED ABOVE-EXCEPT THAT IT SHALL BE FOUR FEET EAST OR SOUTH OF THE RESPECTIVE LOT LINE (OPPOSITE SIDE OF WATER). MAINTAIN 5 FOOT CLEARANCE FROM WATER OR SEWER SERVICES.
5. ELECTRICITY, TELEPHONE, AND CABLE T.V. SHALL BE PLACED ON EVEN LOT CORNERS ON EAST-WEST STREET AND ON ODD LOT CORNERS ON NORTH-SOUTH STREETS. MAINTAIN 5 FOOT CLEARANCE FROM WATER OR SEWER SERVICES.
6. LOCATION AND DEPTH OF WATER, SEWER, RCW, AND STORM DRAIN LATERALS SHALL BE AS REQUIRED TO MEET THE REQUIREMENTS OF THE NDEP BUREAU OF SAFE DRINKING WATER AND NAC CHAPTER 445A. SEPARATION OF LINES CONSTRUCTED MUST MEET REQUIREMENTS OF NAC 445A.6715 THROUGH NAC 445.6718, INCLUSIVE.
7. FOR MAIN LOCATIONS AND DEPTH OF COVER SEE DWG. C-1.2.4.
8. ALL LATERALS/SERVICES SHALL HAVE 1.5' MINIMUM COVER UNDER FINISHED GRADE INCLUDING STORMWATER CHANNELS.



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 8	3/22	<b>TYPICAL UTILITY LATERAL LOCATIONS</b>	CARSON CITY
				DRAWING NO. C-1.2.5
				DATE MAR 2022
APPROVED BY:		3/22		



**PLAN**  
NTS


**CONCRETE WASHOUT  
SIGN DETAIL**  
NTS




**NOTES:**




1. WHERE POSSIBLE, CONCRETE SUPPLIERS SHALL CONDUCT WASHOUT ACTIVITIES AT THEIR OWN PLANTS OR DISPATCH FACILITIES.
2. AN EFFECTIVE MEANS OF ELIMINATING THE DISCHARGE OF WATER FROM THE WASHOUT CONCRETE SHALL BE PROVIDED.
3. CONCRETE WASHOUT FACILITIES SHALL NOT BE USED FOR THE DISPOSAL OF EXCESS CONCRETE AND CEMENT. TRUCKS SHALL NOT BE ALLOWED TO BACK TURN AND DISPOSE OF RESIDUAL LOADS.
4. LOCATE WASHOUT AREAS A MINIMUM OF 50 FEET FROM WATER WAYS AND STORM DRAIN SYSTEM INLETS.
5. WHEN THE WASHOUT IS 75 PERCENT FULL, IT MUST BE CLEANED OR A NEW WASHOUT MUST BE CONSTRUCTED. DISPOSE OF WASTE AT LEAST ONCE A WEEK.
6. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 15 FEET OF THE TEMPORARY CONCRETE WASHOUT BASIN.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
			<b>CONCRETE WASHOUT BASIN</b>	DRAWING NO. C-1.2.6
				DATE SEP 2017
APPROVED BY: 				
		9/17		

1. ALL SEWER MAINS AND LATERALS IN THE RIGHT-OF-WAY/EASEMENT SHALL BE PVC SDR35 UNLESS OTHERWISE APPROVED BY CARSON CITY ENGINEER. C900 PVC MAY BE SUBSTITUTED FOR SDR35 TO MEET NDEP BUREAU OF SAFE DRINKING WATER SEPARATION REQUIREMENTS.
2. NON-FLEXIBLE TRANSITION COUPLINGS ARE REQUIRED WHEN CONNECTING NEW SEWER LINES TO EXISTING LINES AND/OR FITTINGS, SEE DWG. C-2.1.6.
3. THE CONTRACTOR SHALL INSTALL A PLUG AT THE POINT OF EXTENSION OF A SEWER MAIN PRIOR TO THE START OF CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL ALL LINES HAVE BEEN INSPECTED, TESTED, CLEANED AND FLUSHED. REMOVAL OF THE PLUG BY THE CONTRACTOR PRIOR TO APPROVAL IS A VIOLATION OF THE CARSON CITY MUNICIPAL CODE AND MAY RESULT IN FINES UP TO \$1,000 A DAY.
4. SEWER LINES SHALL BE TESTED PER SECTION 336.03.07 OF THE SSPWC AS ADOPTED BY CARSON CITY. AN AIR PRESSURE TEST PER SECTION 336.03.07.04 AND A DEFLECTION TEST PER SECTION 336.03.09 OF THE CARSON CITY AMENDMENT TO THE SSPWC SHALL BE PERFORMED ON ALL SEWER LINES.
5. WARNING TAPE SHALL BE INSTALLED 12 INCHES ABOVE ALL SEWER MAINS AND LATERALS. TAPE WIDTH SHALL BE 3 INCHES; THICKNESS SHALL BE FOUR 4 MIL OR GREATER AND SHALL BE GREEN AND BEAR LARGE PRINTING DENOTING "CAUTION BURIED SEWER LINE BELOW" OR EQUIVALENT WORDING.

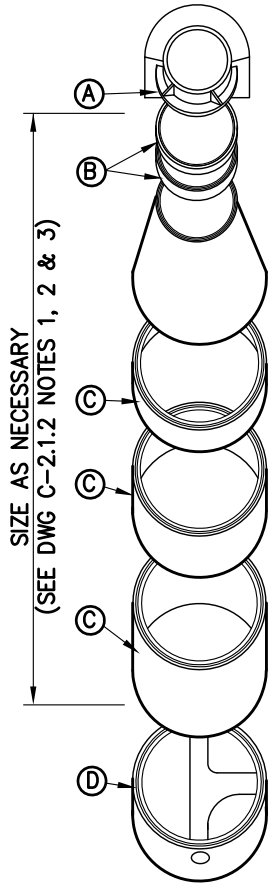
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE	3/22	<b>SEWER GENERAL NOTES</b>	CARSON CITY
	TRACER WIRE			DRAWING NO.
				C-2.1.1 (204,306,323)
				DATE
APPROVED BY:		3/22		MAR 2022

1. MANHOLE BASE(S) SHALL BE PRECAST UNLESS OTHERWISE APPROVED BY CARSON CITY PUBLIC WORKS. NO FIELD MODIFICATIONS TO PRECAST BASES WILL BE ALLOWED. TROUGHS AND BENCHES TO BE CAST IN BASE(S) AT PRECAST FACTORY. BASE CONFIGURATION TO BE INSTALLED AS SHOWN ON THE APPROVED PLANS. NO PLUGGING OR FIELD MODIFYING ALLOWED.
2. PRECAST MANHOLE COMPONENTS SHALL CONFORM TO ASTM C-478.
3. ARRANGE MANHOLE SECTION LENGTHS TO FIT DEPTH. ALL SHIMS TO BE REMOVED AND VOIDS GROUTED.
4. PIPES SHALL NOT PROTRUDE MORE THAN 3 INCHES INSIDE MANHOLE SECTION, AS MEASURED FROM THE INSIDE WALL AT THE SPRING LINE OF THE PIPE.
5. MANHOLE MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE STANDARD SPECIFICATIONS.
6. PRECAST MANHOLE SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS "RAM-NEK" OR EQUAL AS PER MANUFACTURER'S RECOMMENDATIONS.
7. EXCAVATION AND BACKFILL SHALL BE AS SPECIFIED FOR "TRENCH EXCAVATION AND BACKFILL" IN SECTION 305 OF THE STANDARD SPECIFICATIONS. (SEE C-1.2.1)
8. NO SEWER LINE PIPE WITH A DIAMETER OF LESS THAN 8 INCHES SHALL BE CONNECTED TO A MANHOLE WITHOUT THE APPROVAL OF THE CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
9. MATCH PIPE INVERTS TO MANHOLE INVERTS WHERE PIPES CONNECT TO MANHOLE BASE.
-  10. ALL MANHOLES SHALL BE SEALED WATERTIGHT. COVERS SHALL HAVE NO "THRU" HOLES. CLOSED PICK HOLES ONLY: D & L FOUNDRY A-1024 OR APPROVED EQUAL.
11. COAT OUTSIDE OF SEWER MANHOLE WITH FLEXIBLE RUBBERIZED COATING WHEN GROUNDWATER IS ENCOUNTERED.
12. PRIOR TO BACKFILLING, ALL MANHOLES SHALL BE VACUUM TESTED PER THE REQUIREMENTS OF ASTM C-1244.
13. MANHOLE VACUUM TESTING SHALL REQUIRE THAT A VACUUM OF 10 INCHES OF MERCURY SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. WITH THE VALVES CLOSED, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO 9 INCHES. THE MANHOLE SHALL PASS IF THE TIME IS GREATER THAN 60 SECONDS FOR 48" DIAMETER, 75 SECONDS FOR 60" DIAMETER AND 90 SECONDS FOR 72" DIAMETER MANHOLES.
-  14. NO STEPS, LADDERS OR OTHER CLIMBING DEVICES SHALL BE INSTALLED IN MANHOLES.
15. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6 INCH TYPE 2, CLASS B AGGREGATE BASE (CONFORMING TO THE SSPWC SECTION 200.01.02) AND SEWER MANHOLE MARKERS SHALL BE INSTALLED. SEWER MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKER (CUM 375), 5 FEET-2 INCHES (5'-2") WITH MANHOLE DECAL (668-MH) OR APPROVED EQUAL. PLACE MARKERS ON EASEMENT LINE NEAREST TO MANHOLE OR AS DIRECTED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
-  16. WHEN PIPE CONNECTIONS TO EXISTING MANHOLES ARE ALLOWED, THEY SHALL BE MADE BY CORE DRILLING THE MANHOLE AND CONNECTING THE PIPE PENETRATION WITH AN NPC KOR-N-SEAL PIPE-TO-MANHOLE CONNECTOR OR A LINK-SEAL MODULAR SEAL.

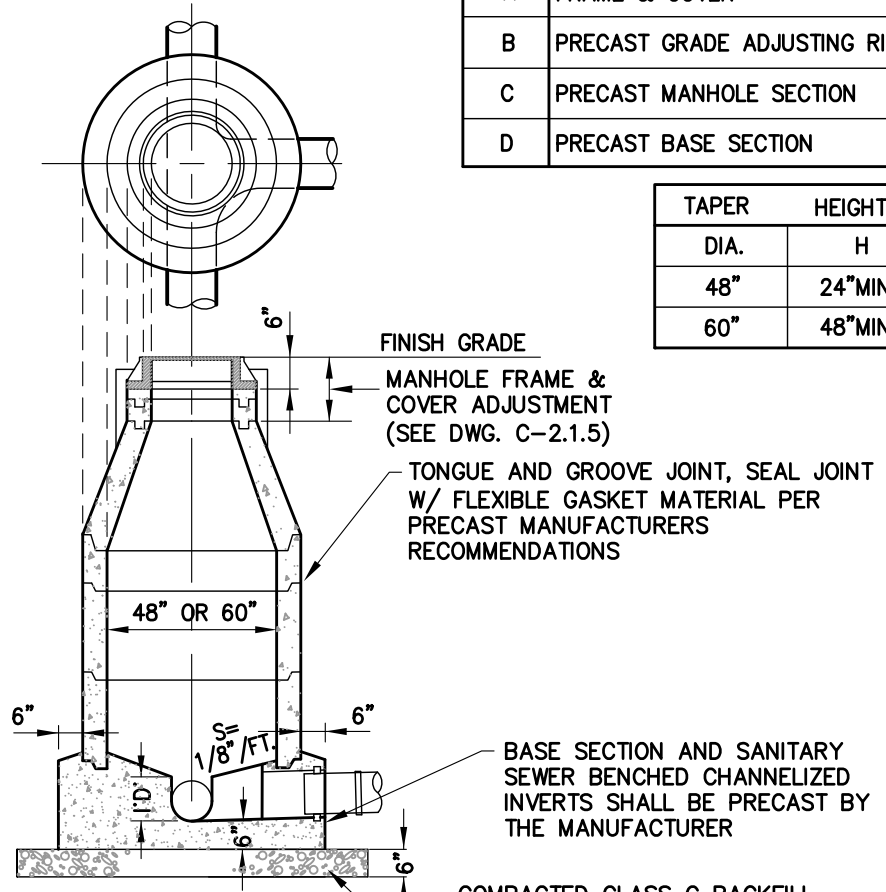
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	NOTE 13&16	9/17	<b>SEWER MANHOLE NOTES</b>	CARSON CITY
	NOTE 10	1/21		DRAWING NO. C-2.1.2 (204,306,323)
				DATE JAN 2021
APPROVED BY:		1/21		

SYM	ITEM
A	FRAME & COVER
B	PRECAST GRADE ADJUSTING RING
C	PRECAST MANHOLE SECTION
D	PRECAST BASE SECTION

TAPER		HEIGHT
DIA.		H
48"		24"MIN.
60"		48"MIN.



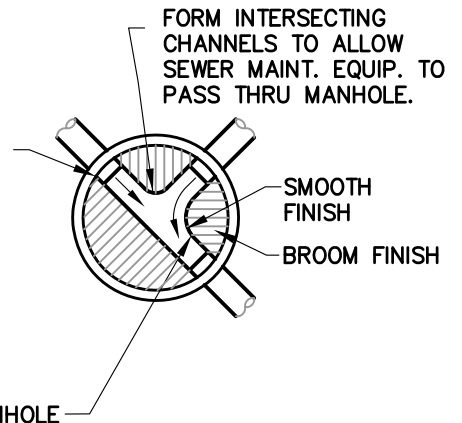
**EXPLODED VIEW**  
NTS



**TYPICAL SECTION**  
NTS

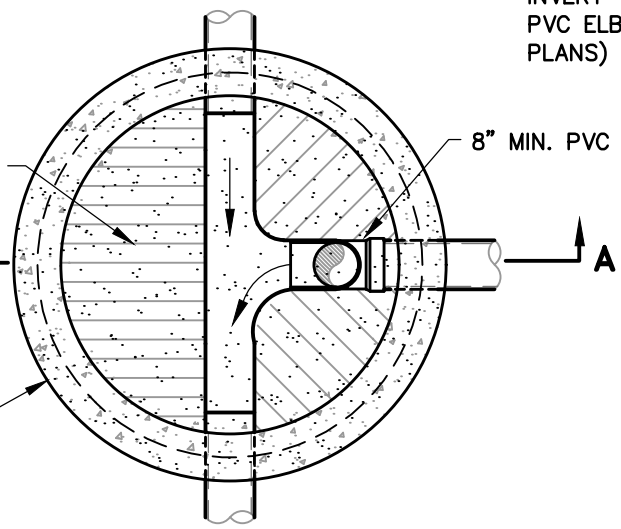
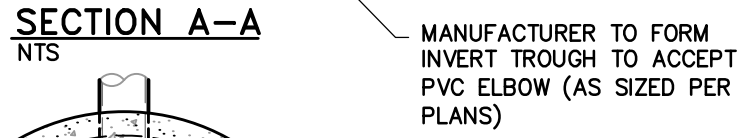
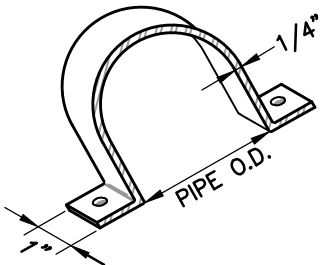
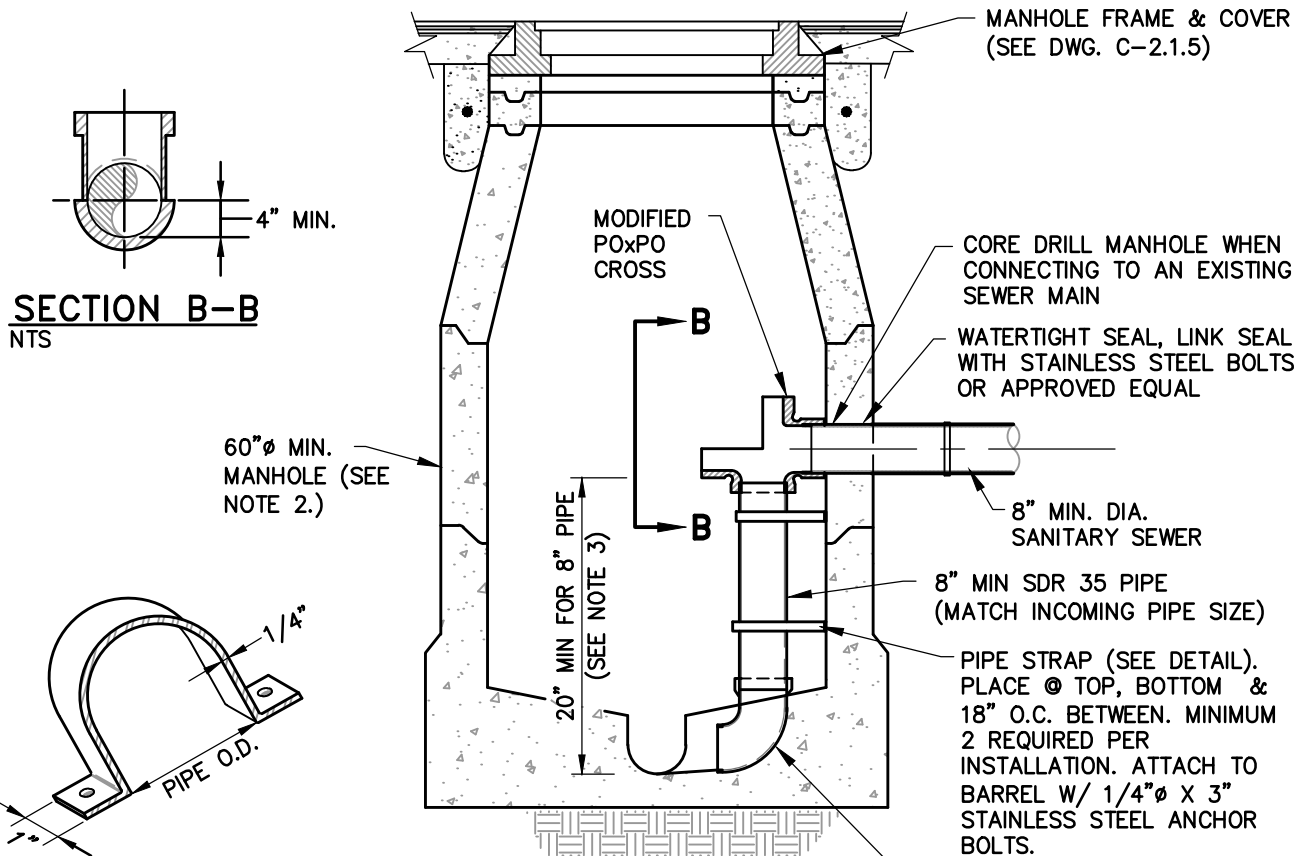
COMPACTED CLASS C BACKFILL (SSPWC 200.03.04), MUST BE INSPECTED PRIOR TO PLACEMENT OF MANHOLE BASE

PIPES SHALL NOT PROTRUDE MORE THAN 3" INSIDE OF MANHOLE SECTION, AS MEASURED FROM THE INSIDE WALL AT THE SPRINGLINE OF THE PIPE. SANITARY SEWER MANHOLES SHALL HAVE WATERTIGHT GASKET (A-LOK X-CEL CONNECTOR OR APPROVED EQUAL) CAST INTO BASE SECTION BY PRECAST MANUFACTURER. INSERT PIPE PER GASKET MANUFACTURER'S RECOMMENDATIONS



**PLAN VIEW-BASE**  
NTS

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE		<b>MANHOLE TYPE 1</b>	CARSON CITY
	TRACER WIRE	1/21		DRAWING NO. C-2.1.3 (204, 306)
				DATE
				JAN 2021
APPROVED BY:				

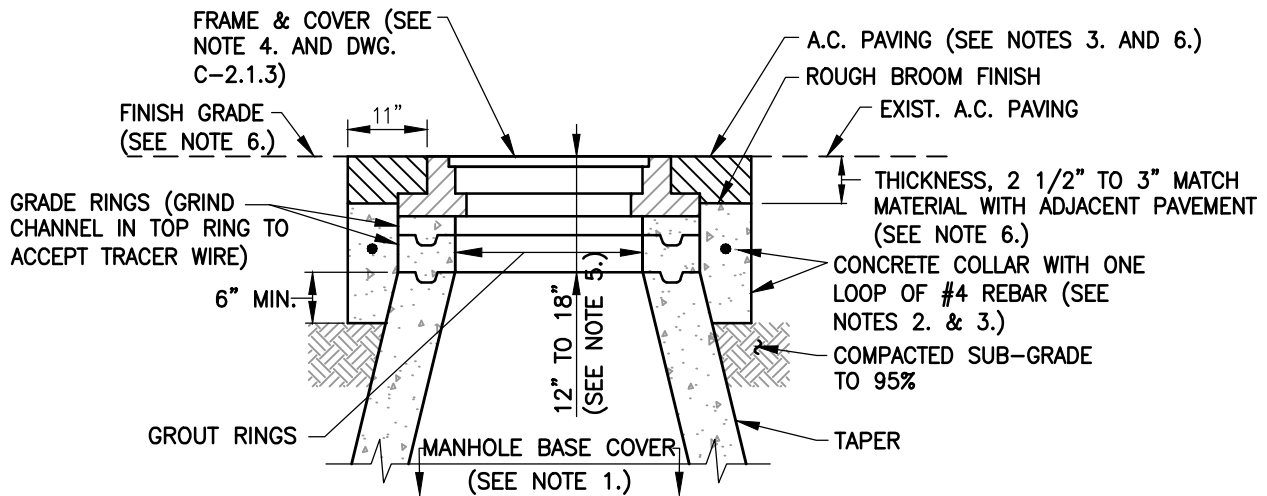


**NOTES:**

1. USE OF A DROP MANHOLE REQUIRES APPROVAL FROM CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
2. SEE DWGS. C-2.1.2 AND C-2.1.3 FOR ADDITIONAL NOTES, DIMENSIONS AND DETAILS.
3. PROVIDE ADEQUATE PIPE LENGTH TO ALLOW FOR REMOVAL OF MODIFIED CROSS.

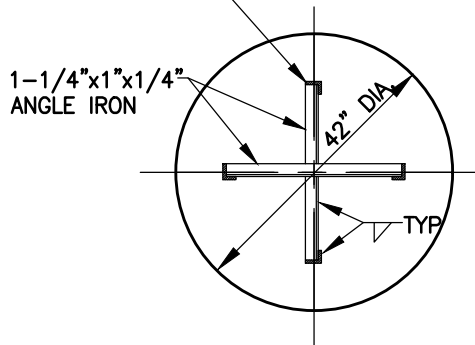
STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION				SECTION	
NO.	REVISION	DATE		CARSON CITY	
1	REMOVE			DRAWING NO.	
	TRACER WIRE	3/22		C-2.1.4 (203,204,306)	
				DATE	
APPROVED BY:		3/22		MAR 2022	

**DROP MANHOLE**



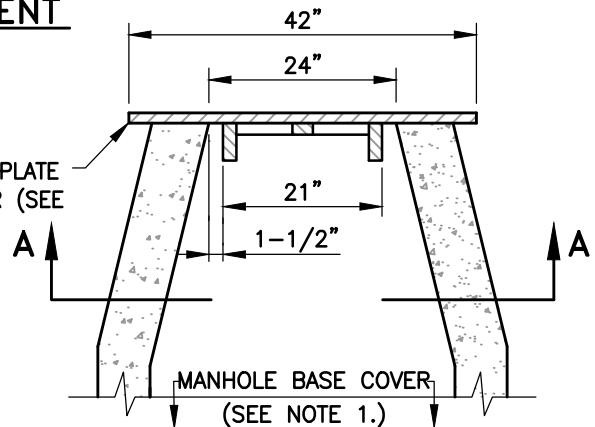
**MANHOLE ADJUSTMENT  
TYPICAL SECTION**  
NTS

1-1/4"x1"x1/4"  
ANGLE IRON x 6" LONG  
(4 PLACES, TYP.)




**SECTION A-A**  
NTS

3/8" STEEL PLATE  
TEMP. COVER (SEE  
NOTE 1.)

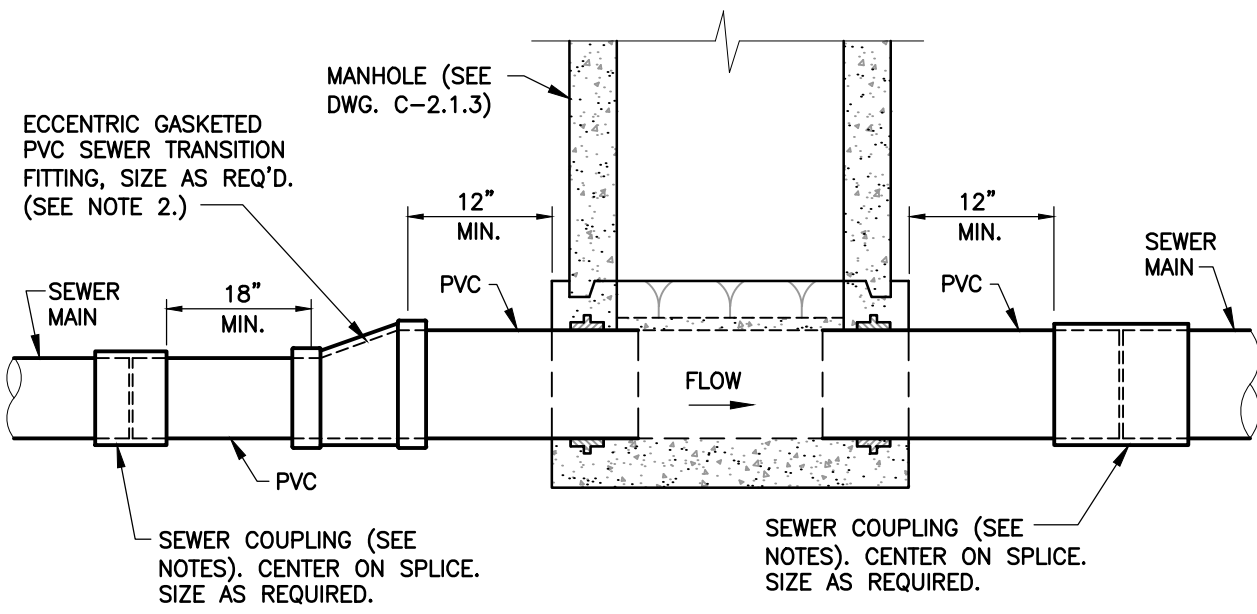


**TEMPORARY COVER  
TYPICAL SECTION**  
NTS

**NOTES:**

1. INSTALL TEMPORARY COVER WITH CONE INSTALLATION WHEN INSTALLING NEW MANHOLE OR PRIOR TO REMOVING EXISTING FRAME & COVER AND GRADE RINGS TO ADJUST TO FINISH GRADE. INSTALL COVER OVER MANHOLE BASE TO PREVENT DEBRIS FROM ENTERING SEWER SYSTEM. THE MANHOLE BASE COVER SHALL BE IN PLACE PRIOR TO PERFORMING ANY ADJUSTMENTS OR GROUTING AND SHALL REMAIN IN PLACE WHILE ADJUSTMENTS OR GROUTING ARE BEING PERFORMED. REMOVE BASE COVER UPON ADJUSTMENT APPROVAL BY CARSON CITY.
2. CONCRETE SHALL CONFORM TO THE SSPWC SECTION 202.01.12. REBAR SHALL BE USED ONLY WHEN THE MANHOLE IS LOCATED OUTSIDE PAVED AREAS.
3. THE CONCRETE COLLAR SHALL BE LEFT 2 1/2 INCHES TO 3 INCHES BELOW FINISHED ASPHALT SURFACE. APPLY AN APPROVED TACK COAT (CONFORMING TO THE SSPWC SECTION 316) AND FILL VOID BETWEEN ADJACENT PAVEMENT AND FRAME WITH TYPE 3 AC 20 PAVING (CONFORMING TO THE SSPWC SECTION 320). APPLY FOG SEAL (CONFORMING TO SSPWC SECTION 317) TO THE ASPHALT SURFACE. ALL CUTS IN PAVING SHALL BE STRAIGHT AND EVEN. EXCEPTION: WHEN STRUCTURE NOT LOCATED IN ASPHALT PAVEMENT OR LOCATED IN AN UNPAVED AREA, EXTEND CONCRETE TO FINISH GRADE.
4. INSTALL NEW FRAME & COVER UNLESS OTHERWISE SHOWN ON THE PLANS OR SPECIAL CONDITIONS. FRAME & COVER SHALL BE SET FLUSH WITH FINISH GRADE UNLESS OTHERWISE NOTED.
5. FOR NEW MANHOLE INSTALLATIONS, DISTANCE FROM COVER TO CONE SHALL BE 12 INCHES MINIMUM AND 24 INCHES MAXIMUM. FOR ADJUSTING EXISTING FRAME & COVERS THE DISTANCE FROM COVER TO CONE SHALL NOT EXCEED 24 INCHES. 
6. WHEN LOCATED IN NDOT RIGHT-OF-WAY, CONCRETE COLLAR SHALL CONFORM TO NDOT STANDARD PLAN SHT R-4.7.3 AND STANDARD SPECIFICATION 609.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
	RISER DEPTH	3/22	<b>MANHOLE FRAME &amp; COVER ADJUSTMENT</b>	DRAWING NO. C-2.1.5 (204, 323)
				DATE MAR 2022
APPROVED BY:		3/22		



**TYPICAL SEWER LINE & MANHOLE TRANSITION**  
NTS

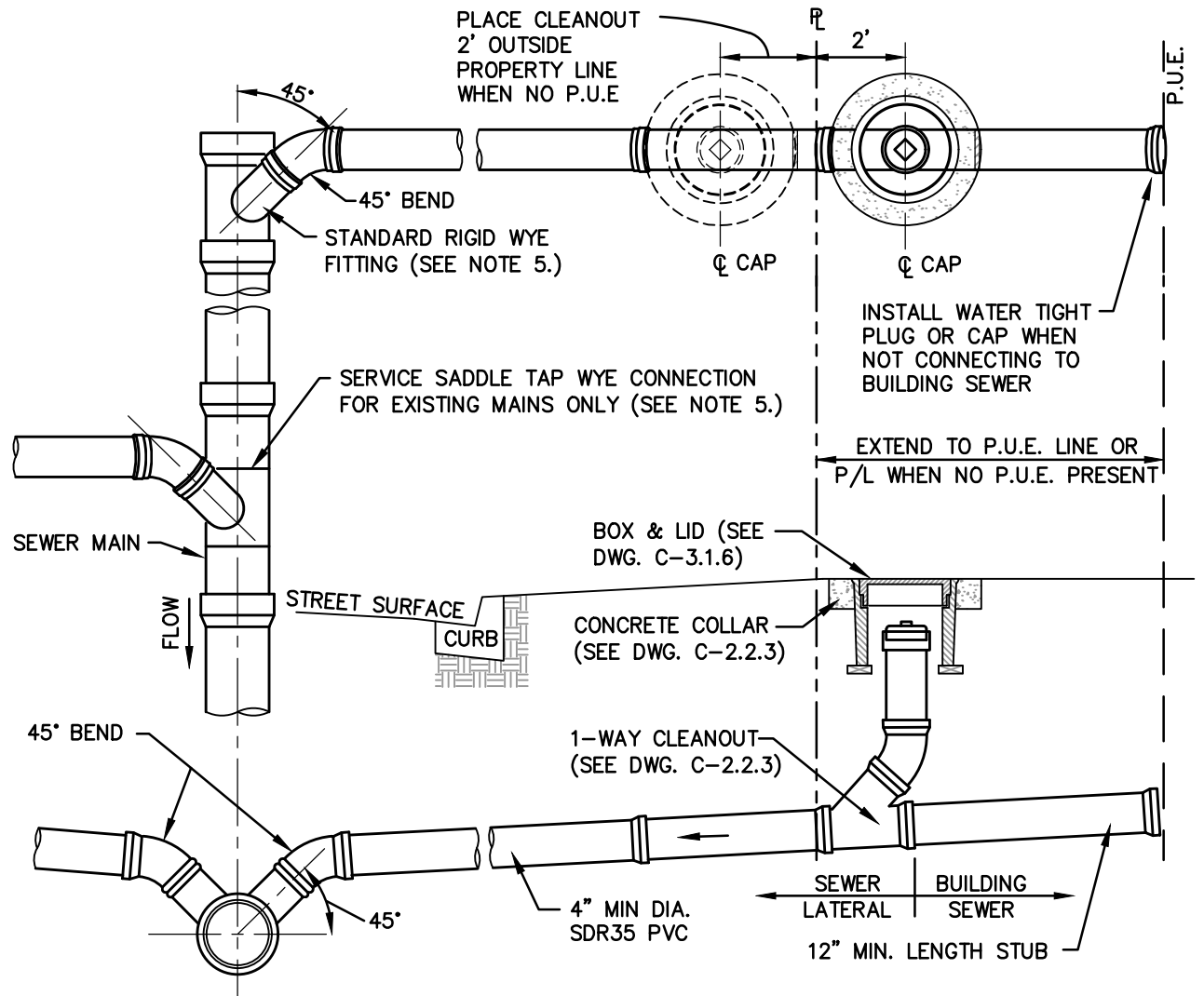
**NOTES:**

1. SEWER COUPLINGS SHALL BE USED AT LOCATIONS WHERE TWO PIPES OF EQUAL NOMINAL SIZE AND EQUAL OR DIFFERENT DIAMETERS ARE BEING JOINED. (ie. 8 INCH SDR PVC TO 8 INCH SDR PVC, OR 8 INCH PVC TO 8 INCH CLAY.)
2. ECCENTRIC GASKETED PVC SEWER TRANSITION FITTINGS SHALL BE USED AT ALL LOCATIONS WHERE TWO PIPES OF UNEQUAL NOMINAL SIZES ARE TO BE JOINED. (ie. 6 INCH PIPE TO 8 INCH PIPE)
3. GASKETED PVC SEWER FITTINGS, SEWER CLAMP COUPLINGS OR SEWER STRAIGHT COUPLINGS SHALL BE USED AT LOCATIONS WHERE TWO PIPES OF EQUAL SIZE AND DIAMETER ARE BEING JOINED. (ie. 8 INCH SDR PVC TO 8 INCH SDR PVC, 8 INCH C900 PVC TO 8 INCH C900 PVC)
4. SEWER TRANSITION COUPLINGS SHALL BE USED AT LOCATIONS WHERE TWO PIPES OF EQUAL NOMINAL SIZE AND UNEQUAL DIAMETER ARE BEING JOINED. (ie. 8 INCH SDR PVC TO 8 INCH CLAY, 8 INCH SDR PVC TO 8 INCH C900 PVC) ECCENTRIC COUPLINGS WHICH MATCH PIPE INVERTS SHALL BE USED AT LOCATIONS WHERE THE EXISTING DOWNSTREAM PIPE INNER DIAMETER IS LESS THAN THE UPSTREAM PIPE INNER DIAMETER.
5. SEWER CLAMP COUPLING BODY AND CLAMP BOLTS, WASHERS & NUTS SHALL BE 304 STAINLESS STEEL, CLAMP COUPLING LENGTH SHALL BE 12 INCH MINIMUM FOR 8 INCH PIPE AND LARGER, ROMAC STYLE LSS1, LSS2, LSS3 FOR SEWER OR APPROVED EQUAL.
6. SEWER STRAIGHT AND TRANSITION COUPLINGS SHALL BE RIGID TYPE, DUCTILE IRON BODY AND END RINGS WITH HIGH STRENGTH LOW ALLOY STEEL NUTS & BOLTS, ROMAC STYLE 501 FOR SEWER OR APPROVED EQUAL. COAT ALL EXPOSED BARE METAL, NUTS AND BOLTS WITH COLD-APPLIED WATER BASED ENAMEL OR BLACK ASPHALT.
7. ECCENTRIC COUPLINGS FOR MATCHING INVERTS OF NEW PIPE FLOWING INTO EXISTING PIPE SHALL BE ROMAC COUPLINGS OR APPROVED EQUAL. COAT ALL EXPOSED BARE METAL, NUTS AND BOLTS ON ROMAC COUPLINGS WITH COLD-APPLIED WATER BASED ENAMEL OR BLACK ASPHALT.



NO.	REVISION	DATE	<b>SEWER MAIN AND LATERAL TRANSITIONS</b>	SECTION
	NOTE 4 & 7	9/17		CARSON CITY
				DRAWING NO. C-2.1.6 (203,306)
				DATE SEP 2017
APPROVED BY:				



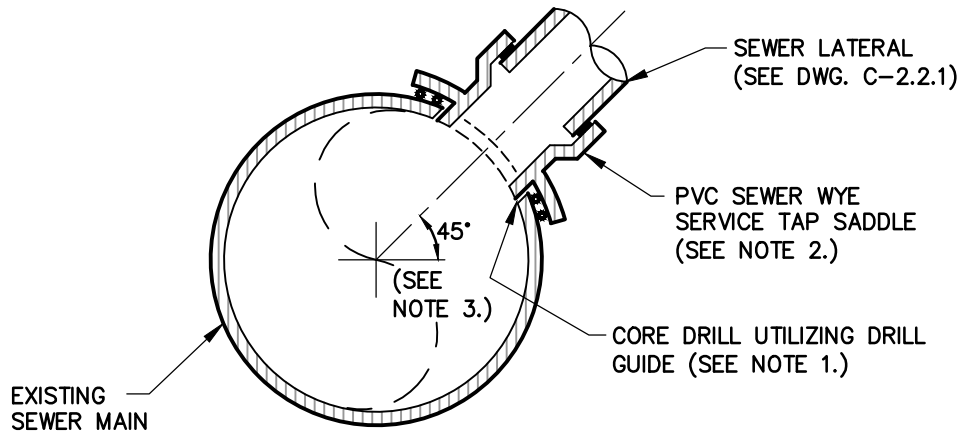


**NOTES:**

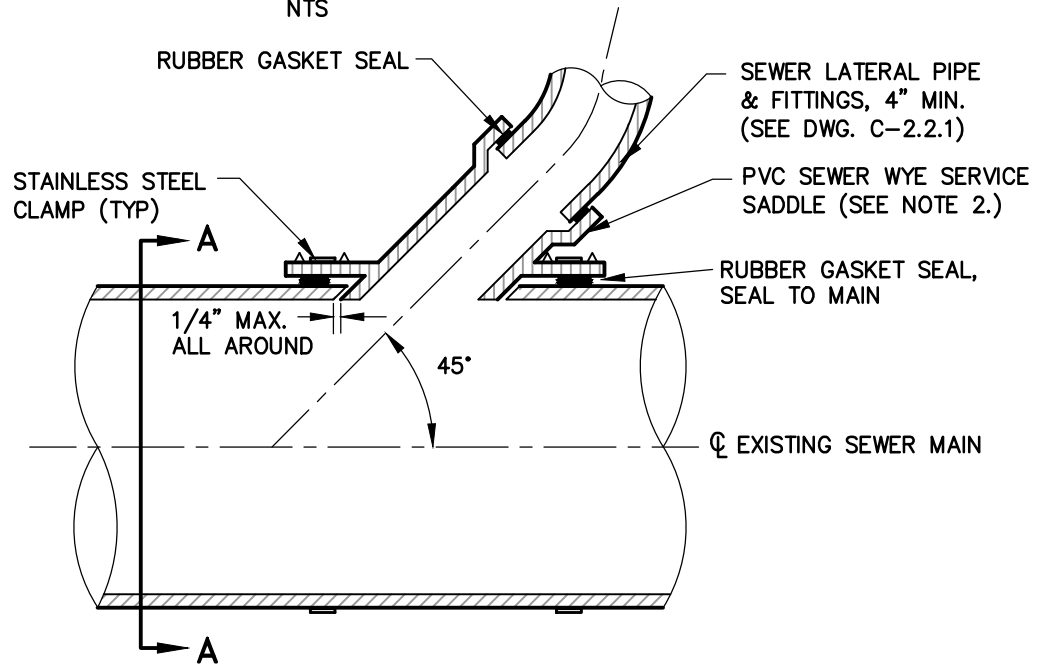
**TYPICAL SECTION**  
NTS

1. LATERALS SHALL NOT CONNECT TO THE SEWER MAIN DIRECTLY ON TOP OR MATCH THE FLOWLINE OF THE PIPE.
2. SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 2%. PLANS SHALL INDICATE INVERT ELEV. REQUIRED TO SERVE PROPERTY AND CLEAR UNDERGROUND OBSTRUCTIONS.
3. ALL JOINTS ON SEWER LATERAL PIPE WITHIN THE RIGHT-OF-WAY SHALL BE GASKETED BELL TYPE UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
4. LATERAL SHALL BE INSTALLED PERPENDICULAR TO THE MAIN UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
5. USE OF SEWER SERVICE TAP SADDLE CONNECTIONS SHALL NOT BE ALLOWED FOR NEW SEWER MAIN CONSTRUCTION. WHEN A TAP SADDLE CONNECTION IS TO BE USED ON AN EXISTING SEWER MAIN, IT SHALL BE A WYE SADDLE AND BE INSTALLED PER DWG. C-2.2.2.
6. DISCONTINUANCE OF USE OF AN EXISTING SEWER LATERAL REQUIRES ABANDONMENT OF THE LATERAL. CUT, REMOVE 1 FOOT OF EXISTING LATERAL AND CAP BOTH ENDS OF THE EXISTING SEWER LATERAL TO BE ABANDONED WITHIN 6 INCHES OF THE SEWER MAIN. INSPECTION BY CARSON CITY SEWER UTILITY IS REQUIRED PRIOR TO BACKFILL.
7. PROPERTY OWNER SHALL BE RESPONSIBLE FOR OPERATION, MAINTENANCE AND REPAIR OF THE SEWER LATERAL WITHIN THE PUBLIC RIGHT-OF-WAY PER CCMC 12.05.050.5.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE		<b>SEWER LATERAL</b>	CARSON CITY
	TRACER WIRE	3/22		DRAWING NO.
				C-2.2.1 (203,306)
				DATE
APPROVED BY:		3/22		MAR 2022



**SECTION A-A**  
NTS

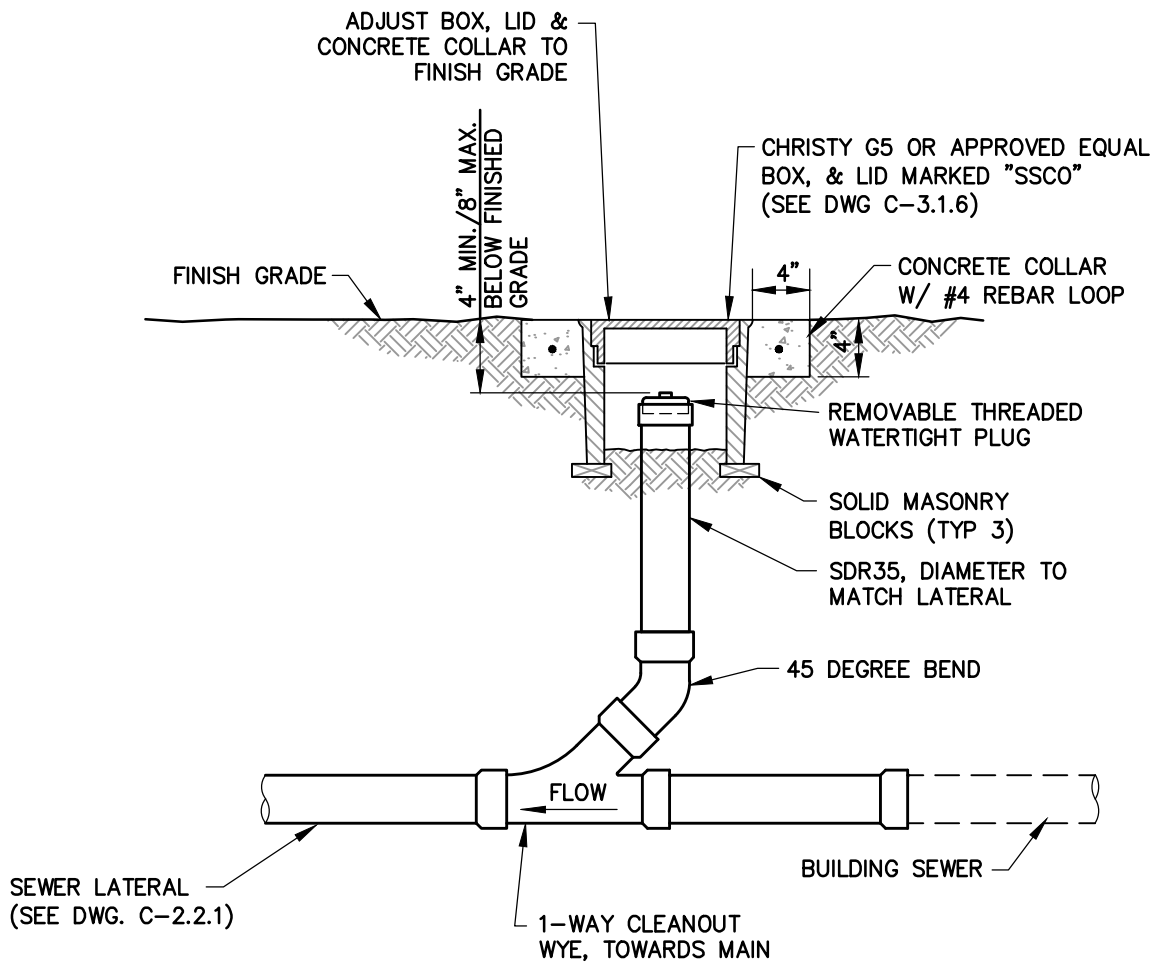


**SIDE VIEW**  
NTS

**NOTES:**

1. EXISTING SEWER MAINS SHALL BE CORE DRILLED UTILIZING A DRILL GUIDE FOR A WYE SADDLE AND A CORE DRILL WITH A LENGTH EXCEEDING THE LATERAL DIAMETER, INSERT-A-DRILL IDY75 & EXTRA LONG HOLE SAW OR APPROVED EQUAL. DIAMOND CORE BITS SHALL BE USED ON NON-PVC MAINS.
2. SERVICE TAP SADDLES SHALL BE PVC SEWER WYE SADDLES. A ROMAC STYLE "CB" SEWER SADDLE OR APPROVED EQUAL MAY BE USED ON EXISTING SEWER MAINS ONLY WHEN MAIN IS NOT PVC.
3. SADDLES SHALL BE INSTALLED AT 45 DEGREES TO MAIN AS SHOWN IN SECTION A-A. IN NO CASE SHALL A LATERAL CONNECTING TO THE EXISTING SEWER MAIN BE LOCATED DIRECTLY ON TOP OF THE PIPE, NOR SHALL IT MATCH THE FLOWLINE OF THE PIPE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE		<b>SEWER SERVICE TAP SADDLE</b>	CARSON CITY
	TRACER WIRE	3/22		DRAWING NO. C-2.2.2 (203,306)
				DATE
	APPROVED BY:	3/22		MAR 2022





**TYPICAL SECTION**  
NTS



**NOTES:**


1. CONCRETE SHALL CONFORM TO THE SSPWC SECTION 337.10.
2. LIDS SHALL BE SET FLUSH WITH FINISH GRADE UNLESS OTHERWISE NOTED.
3. WHEN LOCATED IN NDOT RIGHT-OF-WAY, CONCRETE COLLAR SHALL CONFORM TO NDOT STANDARD PLAN SHT R-4.3.3 AND STANDARD SPECIFICATION 609.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE		<b>SEWER CLEANOUT</b>	CARSON CITY
	TRACER WIRE	3/22		DRAWING NO.
				C-2.2.3 (203,306)
				DATE
APPROVED BY:		3/22		MAR 2022

1. ALL WORK MUST CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) AND THE AMERICAN WATER WORKS ASSOCIATION (AWWA) STANDARDS PER NAC 445A.67145 (1)(A).
  
2. WATER MAIN SHUTDOWNS/INTERRUPTION OF WATER/FIRE SERVICE:
  - A. THE CONTRACTOR MUST MAKE A WRITTEN REQUEST WITH A MINIMUM OF 5 BUSINESS DAYS IN ADVANCE OF ANY PLANNED WATER MAIN SHUTDOWN AND OBTAIN APPROVAL FROM THE CARSON CITY WATER UTILITY MANAGER OR THEIR DESIGNEE PRIOR TO PLANNED SHUTDOWN.
  
  - B. THE CONTRACTOR MUST PROVIDE WATER UTILITY CUSTOMERS TWO (2) DAYS WRITTEN NOTICE PRIOR TO ANY PLANNED WATER SERVICE SHUTDOWN. THE CONTRACTOR MUST USE THE CITY'S ESTABLISHED NOTIFICATION PROCEDURES AND MUST COORDINATE ALL WATER UTILITY CUSTOMER CORRESPONDENCE WITH THE WATER UTILITY MANAGER OR THEIR DESIGNEE. THE CONTRACTOR MUST PROVIDE THE CITY A COMPLETE LISTING OF THE DATE, TIME AND ADDRESS OF ALL PERSONS NOTIFIED FOR CITY APPROVAL AND VERIFICATION. THE CONTRACTOR WILL BE SUBJECT TO DAMAGE CLAIMS SHOULD THEY FAIL TO PROPERLY NOTIFY CUSTOMERS OR MAINTAIN DOCUMENTATION OF CUSTOMER NOTIFICATIONS.
  
  - C. REPORTING TO THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) WILL BE PERFORMED BY CITY STAFF.
  
  - D. NOTIFICATIONS FOR PRECAUTIONARY BOIL WATER SHUTDOWNS WILL BE DONE BY CITY STAFF. CITY STAFF IS RESPONSIBLE FOR SHUTTING OFF AFFECTED WATER METERS IMMEDIATELY BEFORE SHUTDOWN. CONTRACTOR TO COORDINATE SHUTDOWN WITH CITY STAFF TO LIMIT THE AMOUNT OF DISRUPTION TO CUSTOMERS.
  
  - E. THE TOTAL TIME OF ANY WATER SERVICE INTERRUPTION IS LIMITED TO 5 HOURS MAXIMUM UNLESS APPROVED OTHERWISE IN ADVANCE BY THE WATER UTILITY MANAGER OR THEIR DESIGNEE. IF SERVICE INTERRUPTION GOES LONGER THAN APPROVED TIME, THE CONTRACTOR MUST SUPPLY EACH RESIDENCE WITH 2 GALLONS OF BOTTLED WATER PER EXTRA HOUR OF OUTAGE ON THE HOUR.
  
  - F. PLANNED WATER MAIN SHUTDOWNS WILL ONLY BE SCHEDULED FOR MONDAYS THROUGH WEDNESDAYS, EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY. IF A HOLIDAY IS ON A TUESDAY, WEDNESDAY OR THURSDAY, NO SHUTDOWN WILL BE ALLOWED THAT WEEK, UNLESS PERMISSION IS GIVEN BY THE WATER UTILITY MANAGER OR THEIR DESIGNEE.
  
  - G. ONCE WORK IS COMPLETED, TWO CONSECUTIVE BACTERIOLOGICAL SAMPLES TAKEN BY CITY WATER OPERATORS ARE NEEDED TO CONFIRM THE ABSENCE OF TOTAL COLIFORM BACTERIA. AFTER THE SECOND SUCCESSFUL TEST, THE PRECAUTIONARY BOIL WATER NOTICE MAY BE RESCINDED BY CITY STAFF. REPORTING TO THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) WILL BE PERFORMED BY CITY STAFF.
  
3. THE CONTRACTOR MUST NOT OPERATE ANY EXISTING CITY WATER VALVES, INCLUDING METER SHUT OFF VALVES. CONTRACTOR MUST NOTIFY THE FIRE DEPARTMENT OF ANY FIRE HYDRANTS AFFECTED BY THE CONSTRUCTION.
  
4. WATER MAINS MUST BE PVC C900, SDR 18 MINIMUM WALL THICKNESS UNLESS HIGHER PRESSURE IS SPECIFIED ON THE PLANS. ALL SEPARATIONS MUST BE IN ACCORDANCE WITH THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION RULES AND REGULATIONS. WATER SERVICES 2 INCHES OR LESS MUST BE C901 CTS PE TUBING, MINIMUM PRESSURE CLASS 200 PSI. WATER SERVICES 4 INCHES OR GREATER MUST BE PVC C900, DR 18 OR AS SPECIFIED ON THE PLANS.

NO.	REVISION	DATE	<b>WATER GENERAL NOTES</b>	SECTION
	ALL NOTES	3/22		CARSON CITY
				DRAWING NO. C-3.1.1 (307)
				DATE MAR 2022
APPROVED BY: 		3/22		


5. MAINTAIN 18 INCHES VERTICAL AND 5 FEET HORIZONTAL SEPARATION BETWEEN ALL UNDERGROUND UTILITY LINES AND WATER LINES. IF WATER LINE IS BELOW POWER LINE OR IS WITHIN 18 INCH VERTICAL SEPARATION OF POWER LINE, POWER/TELEPHONE LINE MUST BE ENCASED WITH 4 INCHES MINIMUM OF CONCRETE EXTENDING 5 FEET EACH SIDE OF CROSSING (SEE NV ENERGY SPECS). CONCRETE ENCASEMENT OF WATER LINES IS NOT ALLOWED. PIPELINE DEPTHS MUST BE INSTALLED PER PLAN TO AVOID ADDITIONAL HIGHPOINTS IN THE WATERLINE AND TO SUPPORT AIR RELIEF VALVE LOCATIONS SHOWN IN THE PLANS.
6. ALL HOT TAPS, 4 INCH DIAMETER TO 12 INCH DIAMETER, ARE TO BE PERFORMED BY CARSON CITY WATER UTILITY. THE CONTRACTOR MUST CONTACT THE WATER OPERATIONS SUPERVISOR AT LEAST 2 WORKING DAYS PRIOR TO SCHEDULING HOT TAP DATE AND TIME. HOT TAPS ARE PERFORMED MONDAY THRU THURSDAY EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY. PRIOR TO HOT TAPPING, THE SADDLE MUST BE HYDROSTATICALLY PRESSURE TESTED TO 150 PSI MINIMUM OR THE DESIGN OF PIPE SYSTEM FOR A MINIMUM OF 5 MINUTES BY THE WATER UTILITY PERSONNEL. FOR ALL TAPS PERFORMED BY THE CONTRACTOR, ALL TAPPING EQUIPMENT MUST BE INSPECTED BY AND DISINFECTED IN THE PRESENCE OF CITY FORCES PRIOR TO TAPPING A CITY MAIN.
7. WATER VALVE MARKERS MUST BE BLUE CARSONITE UTILITY MARKER (CRM-306608), 5 FEET-2 INCHES (5'-2") WITH CARSON CITY WATER VALVE DECAL (CWV-116) OR APPROVED EQUAL. PLACE MARKER NO MORE THAN 5 FEET FROM THE VALVE OR AS DIRECTED BY THE CARSON CITY INSPECTOR.
8. REDUCED PRESSURE PRINCIPLE AND DOUBLE CHECK VALVE BACKFLOW ASSEMBLIES MUST BE APPROVED BY THE CARSON CITY INSPECTOR, AND TESTED BY A CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS MUST BE APPROVED BY CARSON CITY WATER UTILITY. FOR NEW WATER METER SETS, THE REQUIRED BACKFLOW PREVENTION ASSEMBLY MUST BE INSTALLED, INSPECTED, APPROVED AND CERTIFIED TEST RESULTS PROVIDED TO THE CARSON CITY INSPECTOR WITHIN 5 DAYS OF METER SET, UNLESS THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR APPROVES OTHERWISE. THE SERVICE WILL BE LOCKED OFF IF INSPECTIONS AND CERTIFICATIONS ARE NOT COMPLETED AS SPECIFIED ABOVE. A 25 DOLLAR FEE WILL BE ASSESSED AT TIME OF TURN-ON WHEN LOCK IS REMOVED DURING NORMAL WORKING HOURS. THE FEE WILL BE ASSESSED ON THE BUILDING PERMIT FOR THE INSTALLATION OF THE BACKFLOW DEVICE.
9. ALL WATER MAIN, WATER/FIRE SERVICE, AND BACKFLOW PREVENTION INSPECTIONS AND TESTING MUST BE APPROVED PRIOR TO APPROVAL OF ANY CERTIFICATE OF OCCUPANCY.
10. A WATER MAIN MUST NOT BE PLACED INTO SERVICE AFTER ITS INITIAL CONSTRUCTION UNTIL THE WATER MAIN HAS BEEN DISINFECTED AND TESTED IN ACCORDANCE WITH AWWA STANDARD C651, AS ADOPTED BY REFERENCE IN NAC 445A.6663. CITY STAFF WILL BE RESPONSIBLE FOR PERFORMING AND FUNDING UP TO (2) TWO BACTERIOLOGICAL TESTS PER RUN OF PIPE CONSTRUCTED. IF MORE THAN TWO TESTS ARE REQUIRED THE COST WILL BE PLACED ON THE CONTRACTOR. TWO (2) SETS OF CONSECUTIVE BACTERIOLOGICAL TESTS MUST BE CONDUCTED AT LEAST 24 HOURS APART, FROM EVERY 1200 FEET OFF MAIN, AT THE END OF THE LINE, AND FROM EACH BRANCH. BACTERIOLOGICAL TEST SAMPLES WILL NOT BE COLLECTED ON FRIDAYS, WEEKENDS, CARSON CITY OBSERVED HOLIDAYS OR THE DAY BEFORE A CARSON CITY OBSERVED HOLIDAY, UNLESS AUTHORIZED BY THE WATER UTILITY MANAGER OR THEIR DESIGNEE. THE RESULTS OF THE WATER MAIN ANALYSIS INDICATING THAT THE WATER MEETS PRIMARY DRINKING WATER STANDARDS FOR COLIFORM BACTERIA (ABSENT OF COLIFORM BACTERIA) MUST BE OBTAINED AND REPORTED TO THE BUREAU OF SAFE DRINKING WATER BY CITY STAFF PER AWWA STANDARD C651.
11.  DISINFECTION TABLETS MUST BE PLACED USING LOCTITE H3101 METHACRYLATE ADHESIVE OR APPROVED FOOD GRADE NSF CERTIFIED EQUAL. PROVIDE 30 MINUTE ADHESIVE CURING TIME PRIOR TO EXPOSURE TO WATER. THE DISPOSAL OF ANY SPENT CHLORINE SOLUTIONS MUST BE COORDINATED WITH THE BUREAU OF WATER POLLUTION CONTROL.
12.  ALL ASBESTOS CEMENT (AC) PIPE CUTS SHALL BE MADE USING A CHAIN STYLE SNAPPING TOOL. NO SAWCUTTING OF AC PIPE WILL BE ALLOWED. COORDINATE WITH CARSON CITY WATER DIVISION PRIOR TO CUTTING OR CONNECTING TO EXISTING ASBESTOS CEMENT PIPE TO ALLOW THE CITY TO OBTAIN A WATER SAMPLE DOWNSTREAM FROM WORK LOCATION AFTER CONSTRUCTION HAS BEEN COMPLETED AND THE SYSTEM IS FLUSHED BUT PRIOR TO RECOMMISSIONING THE WATER MAIN. THE CITY WILL HAVE THE SAMPLE ANALYZED FOR THE PRESENCE OF ASBESTOS.

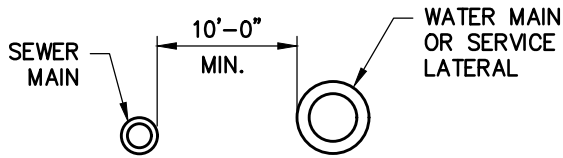
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	ALL NOTES	1/21	<b>WATER GENERAL NOTES</b>	CARSON CITY
	NOTE 11&12	3/22		DRAWING NO. C-3.1.1.1 (307)
				DATE
APPROVED BY: 		3/22		MAR 2022

13. PRIOR TO ANY PRESSURE TESTING, A SAMPLE OF THE WATER IN THE MAIN MUST PASS AN INITIAL BACTERIOLOGICAL WATER QUALITY TEST.

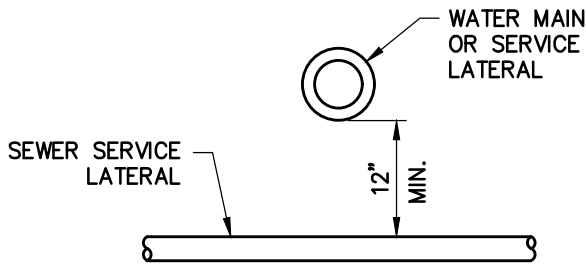
THE PIPING INSTALLED IN A DISTRIBUTION SYSTEM MUST, IF THE PIPING CONSISTS OF:

- A. DUCTILE IRON, BE PRESSURE TESTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD C600, AS ADOPTED BY REFERENCE IN NAC 445A.6663.
  - B. PVC, BE PRESSURE TESTED IN ACCORDANCE WITH AMERICAN WATER WORKS ASSOCIATION STANDARD C605, AS ADOPTED BY REFERENCE IN NAC 445A.6663; OR
  - C. ALL OTHER MATERIALS SHALL BE PRESSURE TESTED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND AWWA STANDARDS AS ADOPTED BY REFERENCE IN NAC 445A.6663.
14. ALL PARTS OF THE PIPELINE MUST BE BACKFILLED AND BRACED SUFFICIENTLY TO PREVENT MOVEMENT UNDER PRESSURE. DO NOT PRESSURE TEST AGAINST FRESHLY POURED CONCRETE THRUST BLOCKS. ALLOW A MINIMUM OF 24 HOURS FOR CONCRETE TO SET BEFORE SUBJECTING THEM TO TEST PRESSURE. IF THE 24 HOUR SET TIME IS NOT POSSIBLE, ALL FITTINGS MUST BE RESTRAINED. ALL TESTING MUST BE DONE UNDER THE DIRECT SUPERVISION OF CITY INSPECTOR OR THEIR DESIGNEE.
15. DURING CONSTRUCTION OF WATER MAINS, ANY OPENINGS IN UNFINISHED PIPING OR APPURTENANCES MUST BE SEALED AT THE END OF EACH WORKING DAY OR WHENEVER THE OPENINGS ARE LEFT UNATTENDED WITH WATERTIGHT PLUGS TO PREVENT THE ENTRY OF BIRDS AND OTHER ANIMALS, DIRT, TRENCH WATER AND OTHER SOURCES OF POLLUTION OR CONTAMINATION.
16. ALL PIPE, FITTINGS, AND ASSOCIATED APPURTENANCES MUST BE INSPECTED FOR DEFECTS PRIOR TO INSTALLATION. ANY DEFECTIVE, DAMAGED OR MATERIALS MUST BE REPAIRED OR REPLACED. ALL FOREIGN MATTER OR DIRT MUST BE REMOVED FROM THE INTERIOR OF THE PIPE, FITTINGS, AND APPURTENANCES BEFORE LOWERING INTO POSITION IN THE TRENCH AND MUST BE KEPT CLEAN DURING AND AFTER LAYING.
17. ALL WATERLINE MATERIALS MUST BE CERTIFIED TO NATIONAL SANITATION FOUNDATION/AMERICAN NATIONAL STANDARDS INSTITUTE (NSF/ANSI) 61 AND 372 STANDARDS (OR APPROVED EQUIVALENT).
18. SOIL RETENTION MUST BE PROVIDED AROUND WATER METER BOXES, FIRE HYDRANTS AND OTHER FACILITIES IF SLOPES EXCEED 15%.
19. RESTRAINED PUSH-ON JOINTS AND MECHANICAL JOINTS FOR PIPE AND FITTINGS MUST BE DESIGNED FOR 235 PSI WATER OPERATING PRESSURE UNLESS OTHERWISE NOTED. THE CONTRACTOR MUST COMPLY WITH THE MANUFACTURERS RECOMMENDATIONS REGARDING MECHANICALLY RESTRAINED JOINTS AND MUST ENSURE THAT SUFFICIENT PIPE LENGTH IS RESTRAINED TO RESTRICT MOVEMENT. CONTRACTOR MUST VERIFY THRUST RESTRAINT REQUIREMENTS FOR ALL PROPOSED JOINTS. CONCRETE THRUST BLOCKING MAY BE USED WHEN CONNECTING TO EXISTING PIPING THAT HAS INSUFFICIENT THRUST RESTRAINT.
20. ALL STANDARD SERVICE (NOT SUBMERGED) BOLTS, ANCHOR BOLTS AND NUTS MUST BE STAINLESS STEEL 304 COATED WITH TRIPAC 2000 BLUE, XYLAN 1424 OR APPROVED EQUAL, EXCEPT AS OTHERWISE SHOWN OR SPECIFIED. SUBMERGED SERVICE BOLTS, NUTS, WASHERS, TIE RODS, AND OTHER THREADED FASTENERS MUST BE TYPE 316 STAINLESS STEEL COATED WITH TRIPAC 2000 BLUE, XYLAN 1424 OR APPROVED EQUAL.
21. CONTRACTOR'S PERSONNEL PERFORMING WORK ON ASBESTOS OR TRANSITE PIPE, INCLUDING WITHOUT LIMITATION CUTTING, TAPPING, REPAIRING, OR REMOVING, MUST HAVE SUCCESSFULLY COMPLETED SPECIALIZED OSHA TRAINING IN THE HANDLING AND DISPOSAL OF ASBESTOS PRIOR TO THE PERFORMANCE OF ANY SUCH WORK, OR CONTRACTOR MUST HIRE A SUBCONTRACTOR THAT HAS SUCCESSFULLY COMPLETED SPECIALIZED OSHA TRAINING IN THE HANDLING AND DISPOSAL OF ASBESTOS TO PERFORM SUCH WORK.
22. VIOLATIONS OF TESTING PROCEDURES CAN BE PENALIZED WITH UP TO A \$5,000 FINE PER CCMC 12.07.070

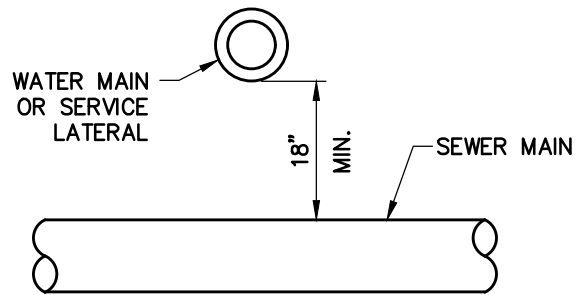
NO.	REVISION	DATE	<b>WATER GENERAL NOTES</b>	SECTION
1	NUMBERING	3/22		CARSON CITY
				DRAWING NO. C-3.1.1.2 (307)
				DATE MAR 2022
APPROVED BY: 		3/22		



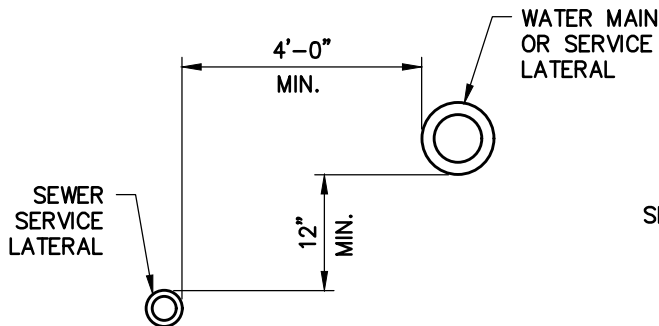
**SEWER MAIN INSTALLATION  
PARALLEL TO WATER MAIN  
OR WATER SERVICE LATERAL  
(TYP.)**



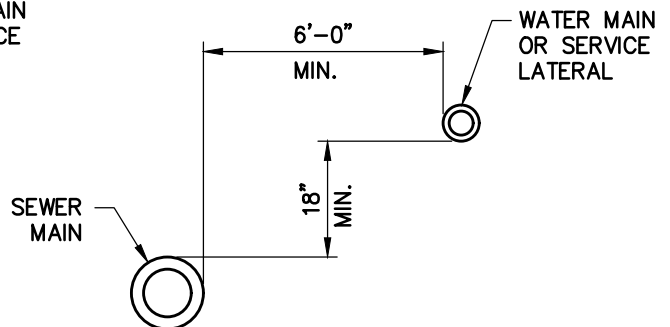
**SEWER SERVICE LATERAL  
CROSSING WATER MAIN OR  
WATER SERVICE LATERAL  
(TYP.)**



**SEWER MAIN CROSSING WATER  
MAIN OR WATER SERVICE LATERAL  
(TYP.)**




**SEWER SERVICE LATERAL  
INSTALLATION PARALLEL TO  
WATER MAIN OR WATER  
SERVICE LATERAL  
(TYP.)**



**SEWER MAIN INSTALLATION  
PARALLEL TO WATER MAIN OR  
WATER SERVICE LATERAL  
(ALT.)**

**NOTES:**

1. INSTALLATION OF WATER, SEWER AND STORM DRAIN MAINS AND LATERALS SHALL BE IN CONFORMANCE WITH NAC 445A.67155 TO NAC 445A.6718 FOR WATER AND SEWER SEPARATION AND CROSSING REQUIREMENTS.
2. WHENEVER POSSIBLE, SEWER LINES AND LATERALS SHALL BE INSTALLED IN SEPARATE TRENCHES IN THE TYPICAL CONFIGURATIONS SHOWN ABOVE. IF NOT THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM CITY ENGINEER FOR ANY OTHER CONFIGURATION.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>WATER AND SEWER SEPARATION</b>	CARSON CITY
				DRAWING NO. C-3.1.2
				DATE
				MAR 2022
APPROVED BY: 			3/22	

1. "SPECIAL CONSTRUCTION" IS REQUIRED WHENEVER:

- a. SEWER MAINS RUN PARALLEL TO WATER MAINS WITH BETWEEN 6 FEET AND 10 FEET OF HORIZONTAL SEPARATION AND LESS THAN 18 INCHES VERTICAL SEPARATION BELOW WATER MAINS OR LATERALS
  - b. SEWER SERVICE LATERALS RUN PARALLEL TO WATER MAINS OR WATER SERVICE LATERALS WITH LESS THAN 4 FEET OF HORIZONTAL SEPARATION AND LESS THAN 12 INCHES VERTICAL SEPARATION BELOW WATER MAINS OR LATERALS
  - c. SEWER MAINS CROSSING WATER MAINS OR WATER SERVICE LATERALS WITH SEWER ABOVE THE WATER BY ANY DISTANCE OR SEWER BELOW WATER BY LESS THAN 18 INCHES
  - d. SEWER SERVICE LATERALS CROSSING WATER MAINS OR WATER SERVICE LATERALS WITH SEWER ABOVE WATER BY ANY DISTANCE OR SEWER BELOW WATER BY LESS THAN 12 INCHES
- \*THE TERM "SEWER" IS INCLUSIVE OF STORM SEWER AND SANITARY SEWER FOR THE CONDITIONS LISTED ABOVE


2. WHEN "SPECIAL CONSTRUCTION" IS REQUIRED, THE FOLLOWING MEASURES ARE TO BE FOLLOWED:

- a. WATER MAINS: ONE STICK OF WATER MAIN PIPE IS TO BE CENTERED OVER THE CROSSING WITH MECHANICAL RESTRAINTS INSTALLED ON ALL JOINTS WITHIN 10 FEET OF THE CROSSING.
- b. WATER LATERALS: WATER LATERAL PIPE SHALL NOT CONTAIN SPLICES OR JOINTS WITHIN 10 FEET OF THE CROSSING.
- c. SANITARY SEWER: SANITARY SEWER MAIN AND LATERAL PIPES ARE TO BE CENTERED OVER THE CROSSING WITH MITIGATION TO ALL JOINTS WITHIN 10 FEET OF THE CROSSING. PIPE JOINTS ARE TO BE MECHANICALLY RESTRAINED, FUSED OR WELDED, OR MEET ASTM D3212. WHERE THE SEWER MAIN IS TO REMAIN AS EXISTING, JOINTS MAY BE CONCRETE ENCASED IN LIEU OF THE OTHER MITIGATION METHODS LISTED.
- d. STORM SEWER: STORM SEWER PIPE IS TO BE CENTERED OVER THE CROSSING WITH MITIGATION TO ALL JOINTS WITHIN 10 FEET OF THE CROSSING. PIPE JOINTS ARE TO HAVE INTERNAL OR EXTERNAL JOINT SEALANT, BE WATER TIGHT, MEET ASTM D3212, OR BE MECHANICALLY RESTRAINED. WHERE THE STORM DRAIN PIPE IS TO REMAIN AS EXISTING, JOINTS MAY BE CONCRETE ENCASED IN LIEU OF OTHER MITIGATION METHODS LISTED.
- e. WHEN WATER QUALITY PIPE CONFORMING TO AWWA REQUIREMENTS IS USED FOR BOTH INTERSECTING PIPES, NO ADDITIONAL MITIGATION IS REQUIRED FOR EITHER PIPE.

3. 6 INCHES MINIMUM VERTICAL SEPARATION IS TO BE MAINTAINED IN ALL CASES.

4. 6 FEET HORIZONTAL SEPARATION IS TO BE MAINTAINED IN ALL CASES FOR SEWER MAINS IN PARALLEL WITH WATER MAINS. 4 FEET HORIZONTAL SEPARATION IS TO BE MAINTAINED IN ALL CASES FOR SEWER LATERALS IN PARALLEL WITH WATER MAINS.

5. REFERENCE NDEP GUIDANCE FOR AREAS REQUIRING MITIGATION FOR WATER AND SEWER SEPARATION EDITION 1.1, DATED NOVEMBER 2018 FOR ADDITIONAL GUIDANCE ON MITIGATION REQUIREMENTS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>WATER/SEWER SEPARATION NOTES</b>	CARSON CITY
				DRAWING NO. C-3.1.2.1
				DATE
APPROVED BY:		3/22		MAR 2022



**MATERIAL SPECIFICATIONS**

SHELL: 304 STAINLESS STEEL

LUGS: 304 STAINLESS STEEL

BOLTS, WASHERS AND NUTS: NC ROLLED THREAD  
304 STAINLESS STEEL, 5/8" DIAMETER.

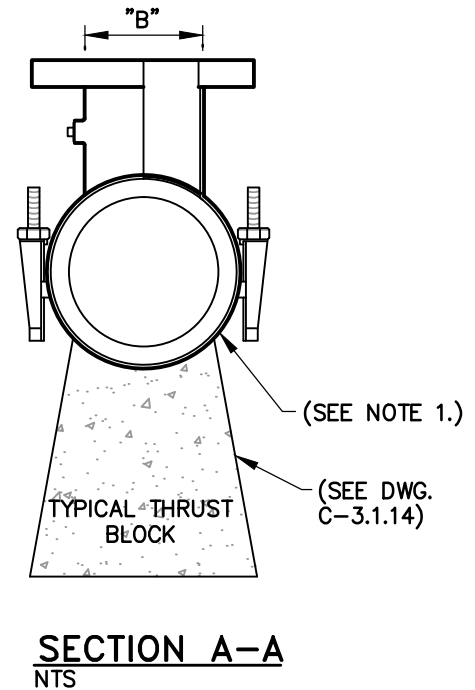
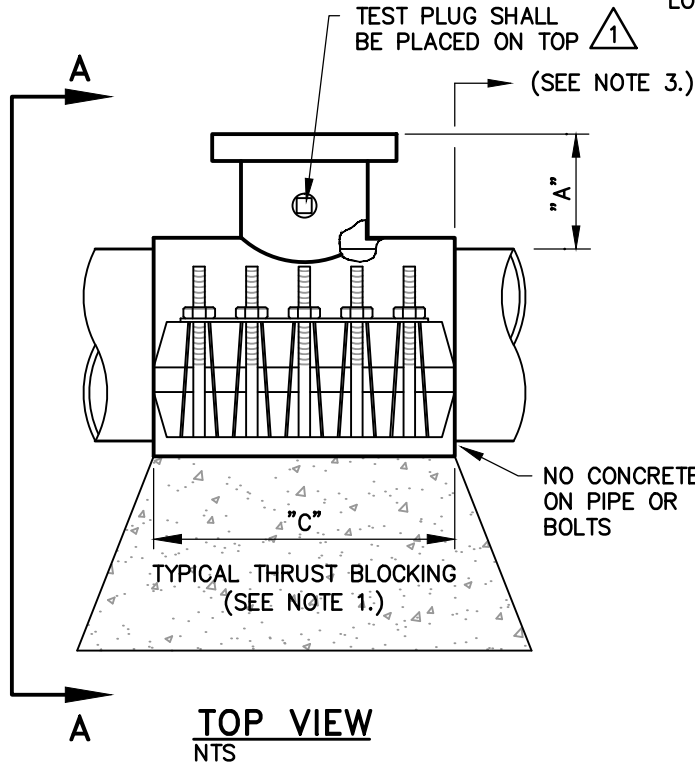
GASKETS: VIRGIN SBR COMPOUNDED FOR WATER SERVICE. ASTM D2000-80MA 4AA607 FULL GASKET. 360° PIPE COVERAGE 150 PSI MIN. WORKING PRESSURE.

FLANGE: 304 STAINLESS STEEL OR HIGH TENSILE DUCTILE (NODULAR) IRON, ASTM A536-80, GRADE 65-45-12.

NOM. FLANGE	A	B	C	NO. BOLTS
4	4"	5-1/32"	16"	10
6*	4-1/2"	7-1/32"	16"	10
8*	4"	9-1/32"	20"	14
10	5-1/2"	11-1/32"	24"	16
12**	6-1/2"	13-1/32"	30"	30

\*TAPPING SLEEVES IN THE 24" NOMINAL PIPE SIZE RANGE WITH 6" OR 8" FLANGES ARE 24" LONG (C-DIMENSION).

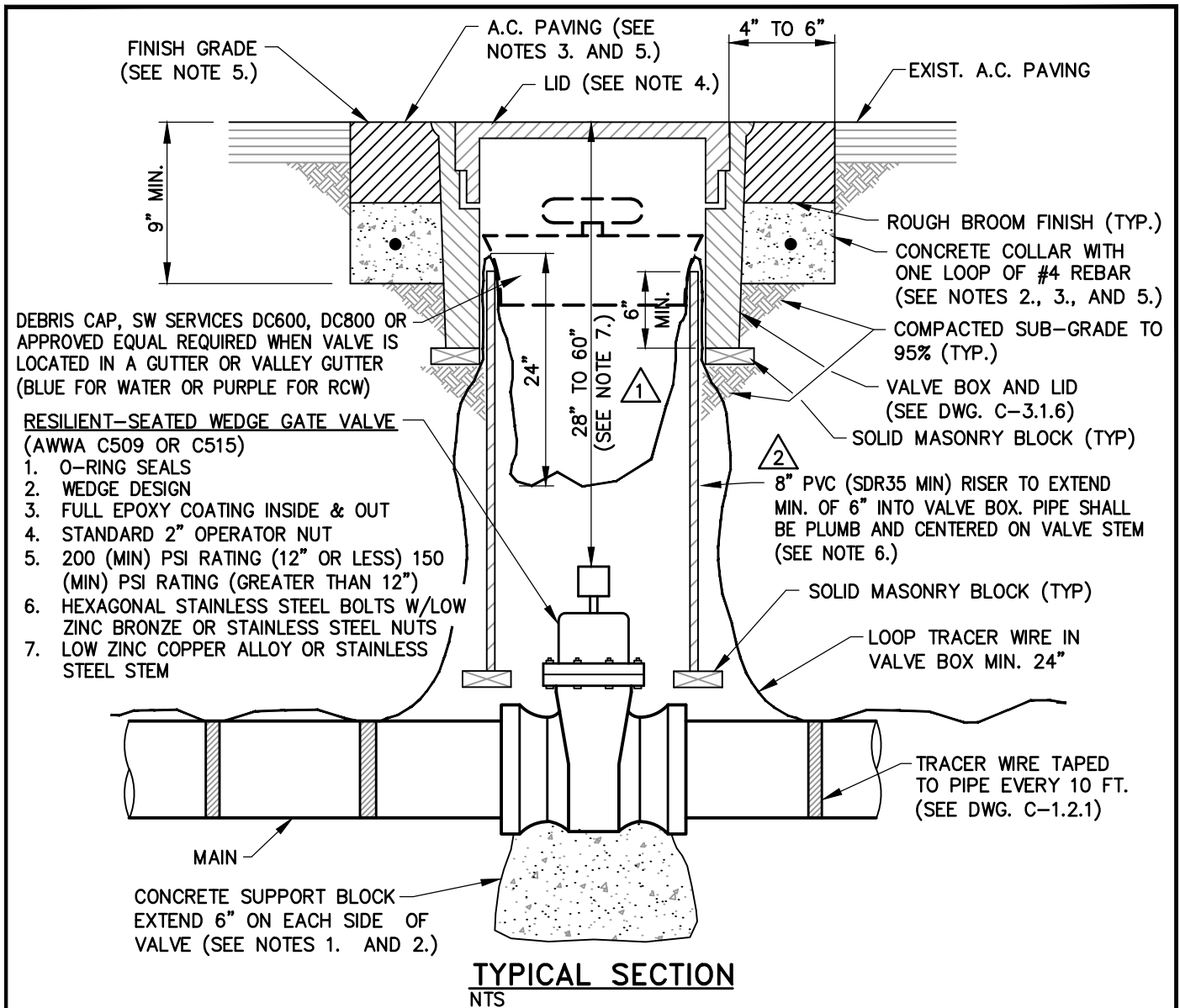
\*\*TAPPING SLEEVES IN THE 12" & 14" NOMINAL PIPE SIZE RANGE W/ 12" FLANGE ARE 24" LONG AND HAVE 24 BOLTS.



**NOTES:**

1. MATERIAL USED FOR THRUST BLOCKING SHALL NOT PREVENT ACCESS TO THE BOLT ASSEMBLY. THRUST BLOCKS SHALL NOT BE POURED UNTIL PRESSURE TEST AND TAPPING ARE COMPLETE.
2. MINIMUM DISTANCE BETWEEN TAP SADDLE, COLLARS, JOINTS, SERVICE TAPS, ETC. SHALL BE 18 INCHES CLEAR.
3. THE CONTRACTOR SHALL CONTACT THE WATER OPERATIONS SUPERVISOR AT LEAST 2 WORKING DAYS PRIOR TO SCHEDULING HOT TAP DATE AND TIME (HOT TAPS ARE PERFORMED TUESDAY THRU THURSDAY EXCLUDING THE WORKING DAYS BEFORE AND AFTER A HOLIDAY). PRIOR TO HOT TAPPING, THE SADDLE SHALL BE HYDROSTATICALLY PRESSURE TESTED TO 150 PSI MINIMUM OR THE DESIGN OF PIPE SYSTEM FOR A MINIMUM OF 5 MINUTES. THE TEST SHALL BE PERFORMED IN THE PRESENCE OF THE WATER UTILITY PERSONNEL PRIOR TO PERFORMING THE TAP. ALL TAPPING EQUIPMENT SHALL BE INSPECTED BY AND DISINFECTED IN THE PRESENCE OF CITY FORCES PRIOR TO TAPPING A CITY MAIN.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 3	9/17	<b>TAPPING SLEEVE</b>	CARSON CITY
				DRAWING NO. C-3.1.3 (203,307)
				DATE SEP 2017
APPROVED BY:		9/17		



DEBRIS CAP, SW SERVICES DC600, DC800 OR APPROVED EQUAL REQUIRED WHEN VALVE IS LOCATED IN A GUTTER OR VALLEY GUTTER (BLUE FOR WATER OR PURPLE FOR RCW)

**RESILIENT-SEALED WEDGE GATE VALVE**  
(AWWA C509 OR C515)

1. O-RING SEALS
2. WEDGE DESIGN
3. FULL EPOXY COATING INSIDE & OUT
4. STANDARD 2" OPERATOR NUT
5. 200 (MIN) PSI RATING (12" OR LESS) 150 (MIN) PSI RATING (GREATER THAN 12")
6. HEXAGONAL STAINLESS STEEL BOLTS W/LOW ZINC BRONZE OR STAINLESS STEEL NUTS
7. LOW ZINC COPPER ALLOY OR STAINLESS STEEL STEM

8" PVC (SDR35 MIN) RISER TO EXTEND MIN. OF 6" INTO VALVE BOX. PIPE SHALL BE PLUMB AND CENTERED ON VALVE STEM (SEE NOTE 6.)

LOOP TRACER WIRE IN VALVE BOX MIN. 24"


TRACER WIRE TAPED TO PIPE EVERY 10 FT. (SEE DWG. C-1.2.1)

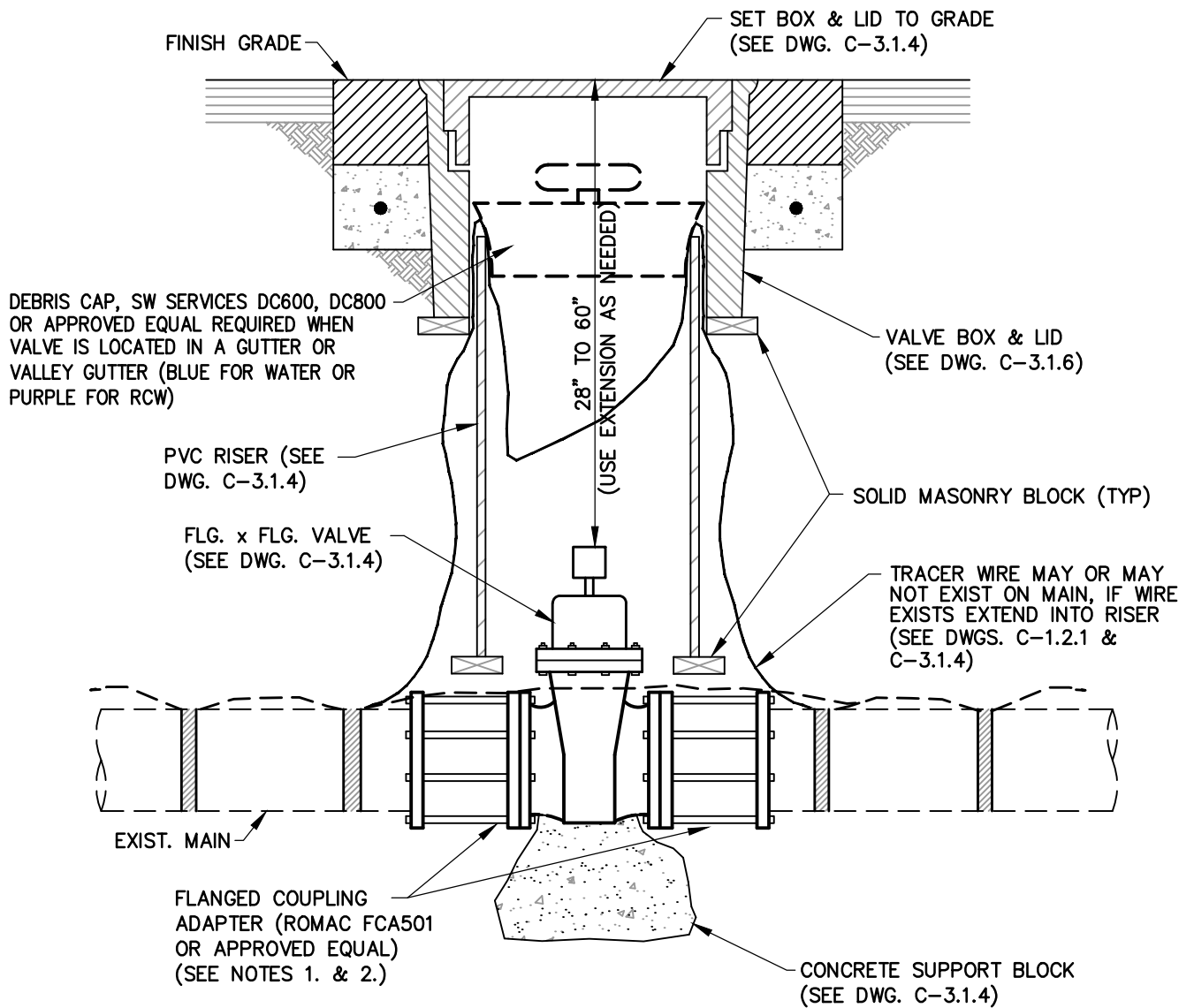
CONCRETE SUPPORT BLOCK EXTEND 6" ON EACH SIDE OF VALVE (SEE NOTES 1. AND 2.)

**TYPICAL SECTION**  
NTS

**NOTES:**

1. SUPPORT BLOCKING SHALL BE POURED AGAINST UNDISTURBED SOIL AND NOT PREVENT ACCESS TO BOLT ASSEMBLY OR VALVE JOINTS.
2. CONCRETE SHALL CONFORM TO THE SSPWC SECTION 337.10. REBAR SHALL ONLY BE USED WHEN THE VALVE BOX IS LOCATED OUTSIDE PAVED AREAS.
3. THE CONCRETE COLLAR SHALL BE LEFT 2 1/2 INCHES - 3 INCHES BELOW FINISHED ASPHALT SURFACE. APPLY AN APPROVED TACK COAT (CONFORMING TO THE SSPWC SECTION 316) AND FILL VOID BETWEEN ADJACENT PAVEMENT AND FRAME WITH TYPE 3 PG 64-22 PAVING (CONFORMING TO THE SSPWC SECTION 320). APPLY FOG SEAL (CONFORMING TO THE SSPWC SECTION 317) TO THE ASPHALT SURFACE. ALL CUTS IN PAVING SHALL BE STRAIGHT AND EVEN. EXCEPTION: WHEN STRUCTURE NOT LOCATED IN ASPHALT PAVEMENT OR IN AN UNPAVED AREA, EXTEND CONCRETE TO FINISH GRADE.
4. LIDS SHALL BE SET FLUSH WITH FINISH GRADE UNLESS OTHERWISE NOTED.
5. WHEN LOCATED IN NDOT RIGHT-OF-WAY, CONCRETE COLLAR SHALL CONFORM TO NDOT STANDARD PLAN SHEET R-4.3.3 AND STANDARD SPECIFICATION 609.
6. VALVES ON FIRE LINES SHALL BE UL/FM APPROVED AND MEET ALL APPLICABLE NFPA REQUIREMENTS.
7. PLACER WATERWORKS INC. VALVE STEM EXTENSIONS OR APPROVED EQUAL SHALL BE USED AS NEEDED TO MAINTAIN A 28 INCH TO 60 INCH DEPTH FROM TOP OF VALVE CAN TO TOP OF OPERATOR NUT. VALVE STEM EXTENSIONS SHALL BE STEEL WITH 2 INCH OPERATOR NUTS AND 5.5 INCH STEEL CENTERING RING. ALL PARTS TO BE POWDER COATED BLUE (T009-BL05). VALVE NUT AND VALVE STEM EXTENSION SHALL BE DRILLED AND PINNED TOGETHER WITH 3/8 INCH X 3 INCH STAINLESS SPRING PIN.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	STEM EXTEN	12/18	<b>GATE VALVE</b>	CARSON CITY
2	8" RISER	8/19		DRAWING NO. C-3.1.4 (203,307)
				DATE AUG 2019
APPROVED BY: 		8/19		

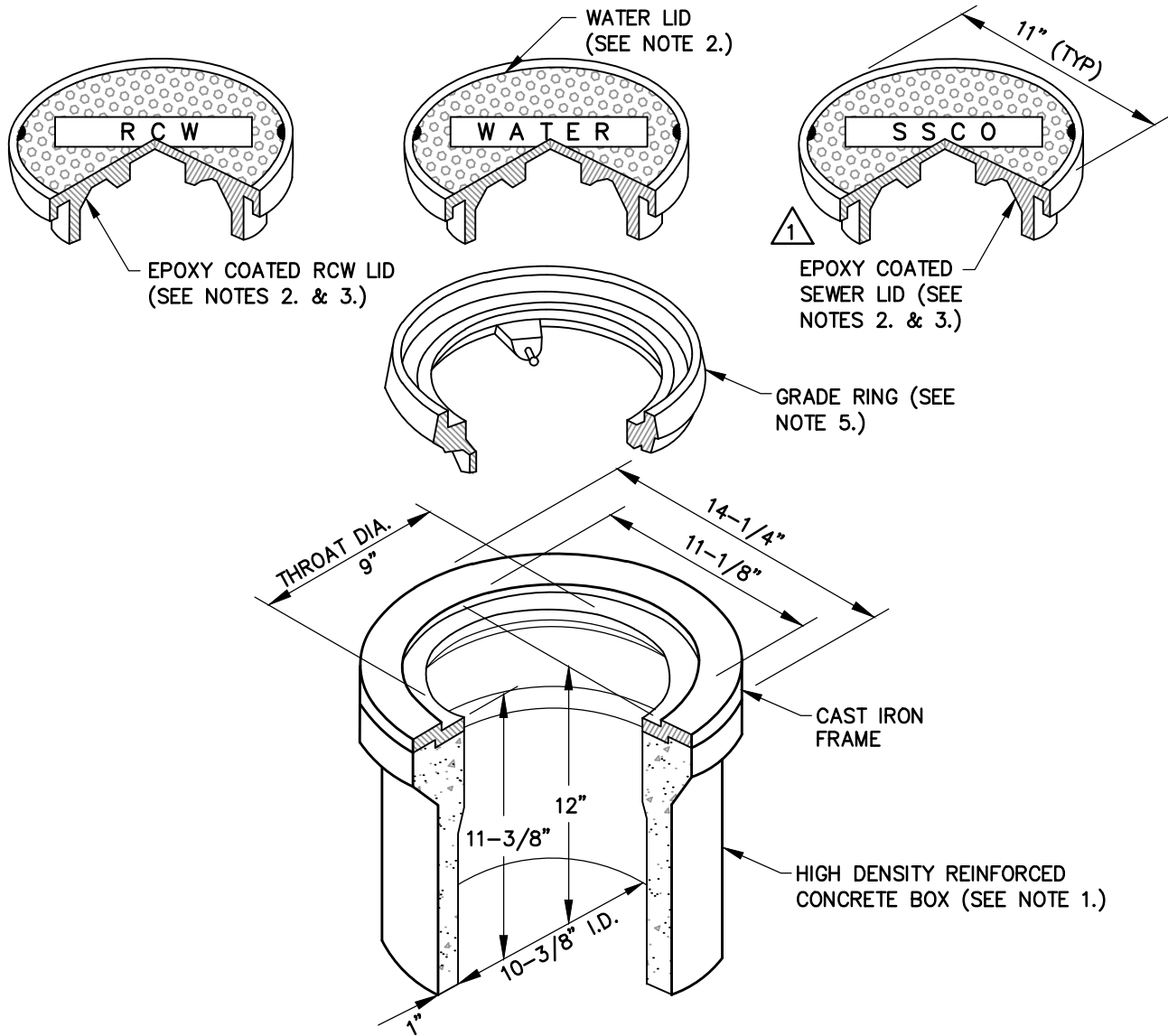


**TYPICAL SECTION**  
NTS

**NOTES:**

1. VALVE SHALL BE CUT IN A MINIMUM OF 40 FEET FROM NEW CONNECTION POINT UNLESS OTHERWISE APPROVED BY CARSON CITY WATER UTILITY.
2. CUT OPENING IN PIPE 1/2 INCH LONGER THAN TOTAL LENGTH OF VALVE, INSERT FLG x FLG VALVE USING FLANGED COUPLING ADAPTERS.


NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NUT DEPTH	9/17	<b>CUT IN GATE VALVE</b>	CARSON CITY
				DRAWING NO. C-3.1.5 (203,307)
				DATE SEP 2017
APPROVED BY: 		9/17		

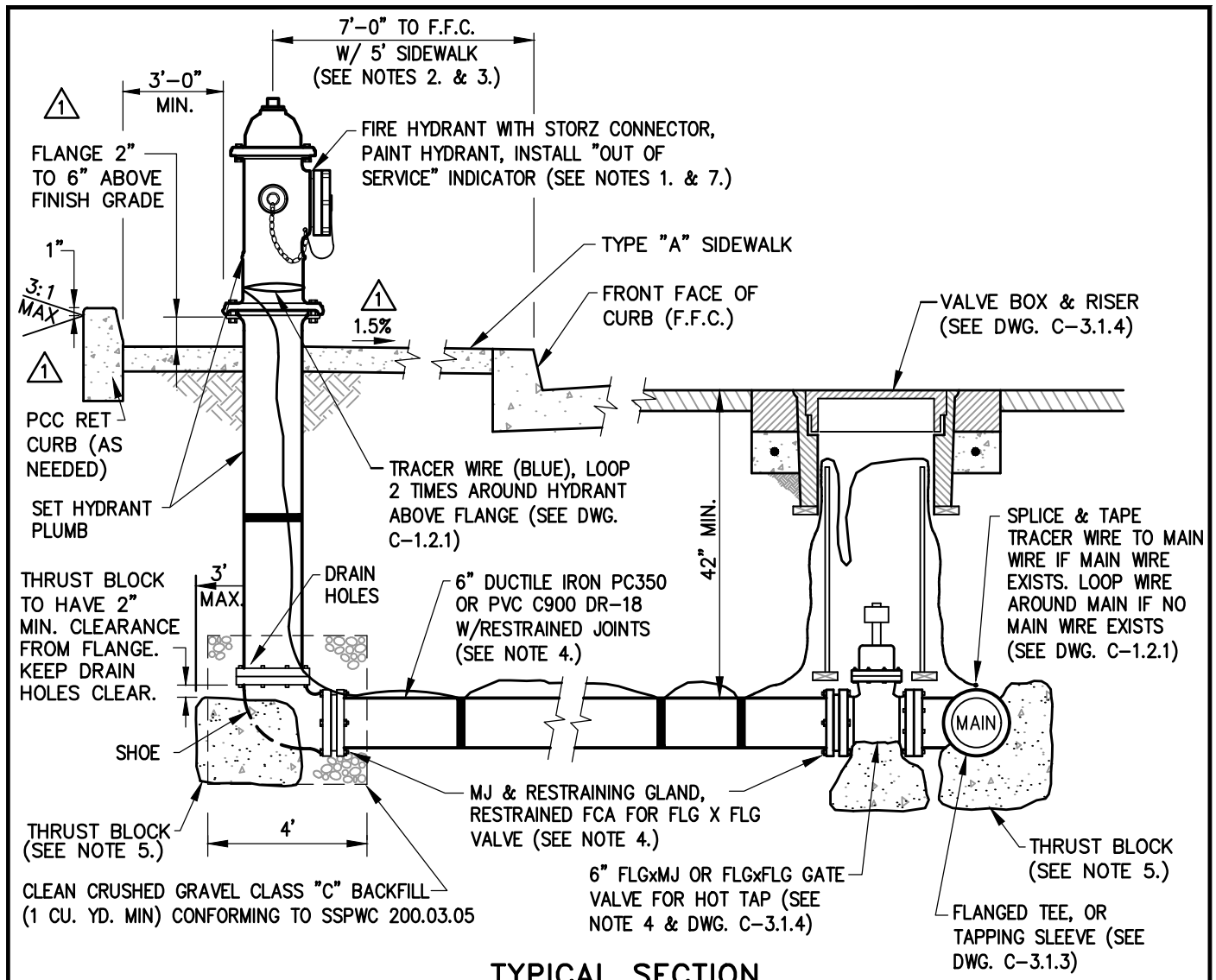


**ISOMETRIC VIEW**  
NTS

**NOTES:**

1. VALVE BOX AND LID SHALL BE H20 TRAFFIC RATED WITH A MINIMUM INSIDE DIAMETER OF 10 INCHES (CHRISTY G5 TRAFFIC VALVE BOX & LID).
1. CAST IRON LID SHALL BE MARKED AT THE FACTORY "WATER" FOR WATER APPLICATIONS, "RCW" FOR RECLAIMED WATER APPLICATIONS, "SSFM" FOR SANITARY SEWER APPLICATIONS OR "SSCO" FOR SANITARY SEWER CLEANOUT APPLICATIONS.
3. FOR RECLAIMED WATER AND SANITARY SEWER APPLICATIONS, CAST IRON LID SHALL BE EPOXY COATED AT THE FACTORY, OR POWDER COATED, COLOR SHALL BE PURPLE FOR RECLAIMED WATER APPLICATIONS AND GREEN FOR SANITARY SEWER APPLICATIONS.
4. VALVE BOX SHALL BE SET OR ADJUSTED TO GRADE PER DRAWING NO. C-3.1.4, RISER FOR ADJUSTED VALVE BOX SHALL BE PER DRAWING NO. C-3.1.4. FOR OVERLAY ADJUSTMENTS, RISER WILL NOT REQUIRE REPLACEMENT OR EXTENSION IF IT EXTENDS A MINIMUM OF 2 INCHES INTO ADJUSTED VALVE BOX.
5. GRADE RING IS NOT ALLOWED FOR NEW VALVE BOX INSTALLATIONS. CAST IRON GRADE RING (CHRISTY G5 GRADE RING) MAY BE USED FOR OVERLAY ADJUSTMENTS WHEN OVERLAY DEPTH EQUALS THE GRADE RING DEPTH. NO MORE THAN ONE GRADE RING ALLOWED PER BOX.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	SEWER LIDS	3/22		CARSON CITY
			<b>VALVE BOX &amp; LID</b>	DRAWING NO.
				C-3.1.6 (203,306,307)
APPROVED BY: 		3/22		DATE
				MAR 2022

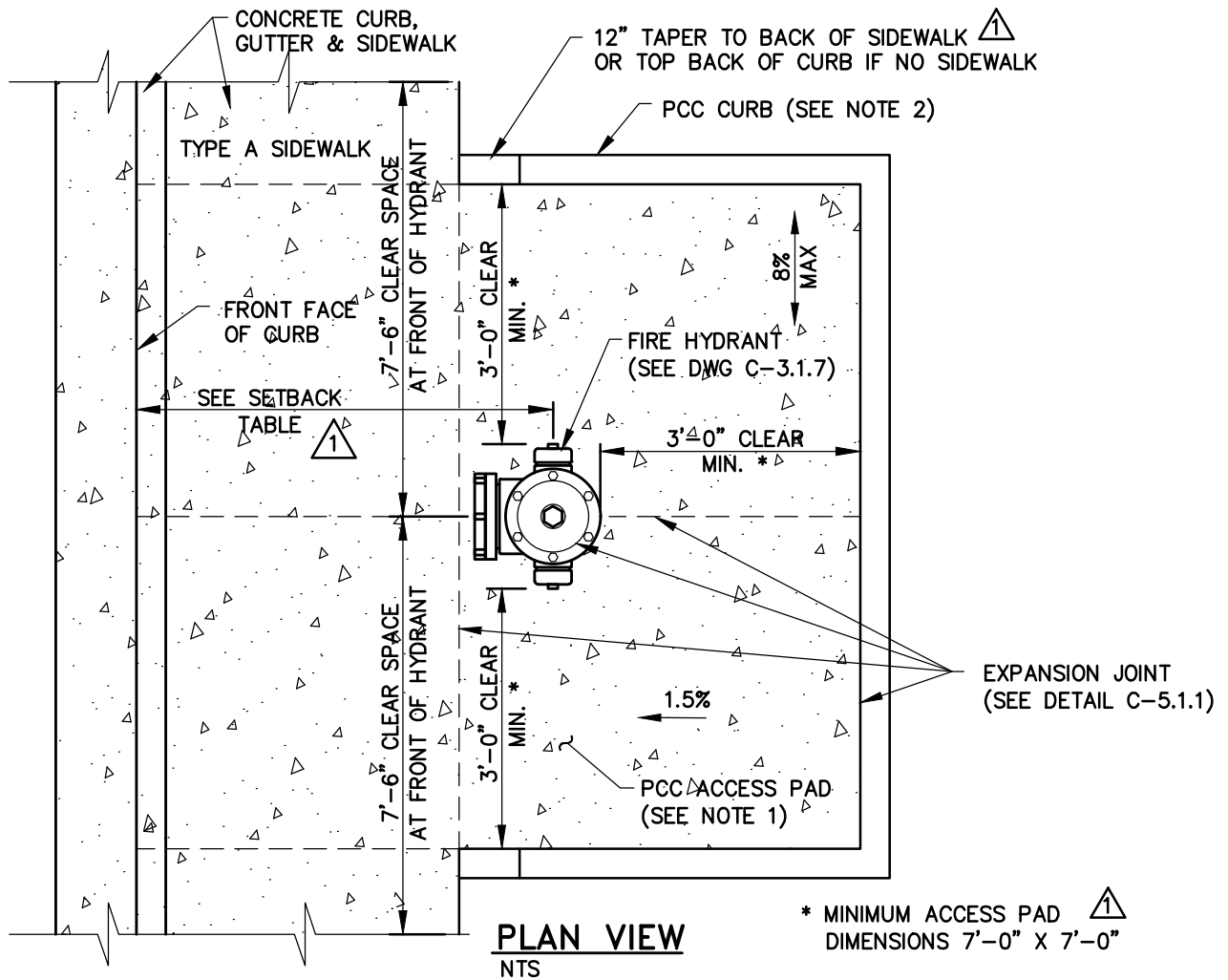


**TYPICAL SECTION**  
NTS

**NOTES:**

1. FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 250, WATEROUS 5 1/4 INCH PACER (WB-67-250) OR AVK SERIES 27 NOSTALGIC. ALL HYDRANTS SHALL HAVE HARRINGTON HIHS 5 INCH INTEGRAL HYDRANT STORZ, OR APPROVED EQUAL, WITH BLIND CAP & CABLE AND "OUT OF SERVICE" INDICATOR. OPERATING NUT SHALL BE 1-1/2 INCH PENTAGON. VALVE OPENING SHALL BE 5-1/4 INCHES AND OPEN COUNTER-CLOCKWISE. HYDRANTS SHALL HAVE (2) 2-1/2 INCH HOSE NOZZLES WITH AMERICAN NATIONAL HOSE COUPLING THREADS, (NO SUBSTITUTIONS).
2. HYDRANT SHALL BE INSTALLED TO PROVIDE CLEARANCE AND A CONCRETE ACCESS PAD IN ALL DIRECTIONS PER DWG. C-3.1.7.1.
3. SEE DETAIL C-3.1.7.1 FOR HYDRANT SETBACK DISTANCE.
4. RESTRAINING GLANDS SHALL BE ROMAC GRIPRING PIPE RESTRAINER FOR MECHANICAL JOINT VALVES OR ROMAC RESTRAINED FCA FOR FLANGED VALVES OR APPROVED EQUAL. PIPE RESTRAINT SHALL BE ROMAC "600" SERIES RESTRAINING SYSTEM OR APPROVED EQUAL. RESTRAINING DEVICES SHALL BE FULL CIRCLE (NON POINT) LOADING TYPE. HYDRANT SHOE MAY BE AQUAGRIP, RESTRAINED MECHANICAL JOINT (MJ) OR APPROVED EQUAL.
5. THRUST BLOCKS SHALL HAVE THREE (3) SQUARE FEET MINIMUM AREA, SHALL BE FORMED AGAINST UNDISTURBED NATIVE SOIL, AND CONFORM TO DWG. C-3.1.14. NO CONCRETE ON HYDRANT DRAIN HOLES OR BOLTS.
6. INSPECTION BY THE CARSON CITY INSPECTOR SHALL BE REQUIRED PRIOR TO BACKFILLING.
7. HYDRANTS SHALL BE PAINTED INTERNATIONAL ORANGE (RUST-OLEUM 7400 HIGH GLOSS ALKYD ENAMEL OR APPROVED EQUAL). DO NOT PAINT 5 INCH STORZ, CAP OR CABLE. RECLAIMED WATER HYDRANTS SHALL BE PAINTED PURPLE. INSTALL "OUT OF SERVICE" INDICATOR COLLAR ON 2-1/2 INCH NOZZLE. INDICATOR SHALL BE HIGHLY VISIBLE, YELLOW WITH BLACK LETTERS, 2-1/2 INCH MINIMUM WIDTH WITH 1 INCH LETTERS STATING "OUT OF SERVICE". INDICATOR SHALL BE "CALPICO" OR EQUAL APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	SWK CROSS SLOPE		<h1 style="margin: 0;">FIRE HYDRANT ASSEMBLY</h1>	CARSON CITY
	NOTE 3	3/22		DRAWING NO.
				C-3.1.7 (203,307)
				DATE
APPROVED BY:		3/22		MAR 2022

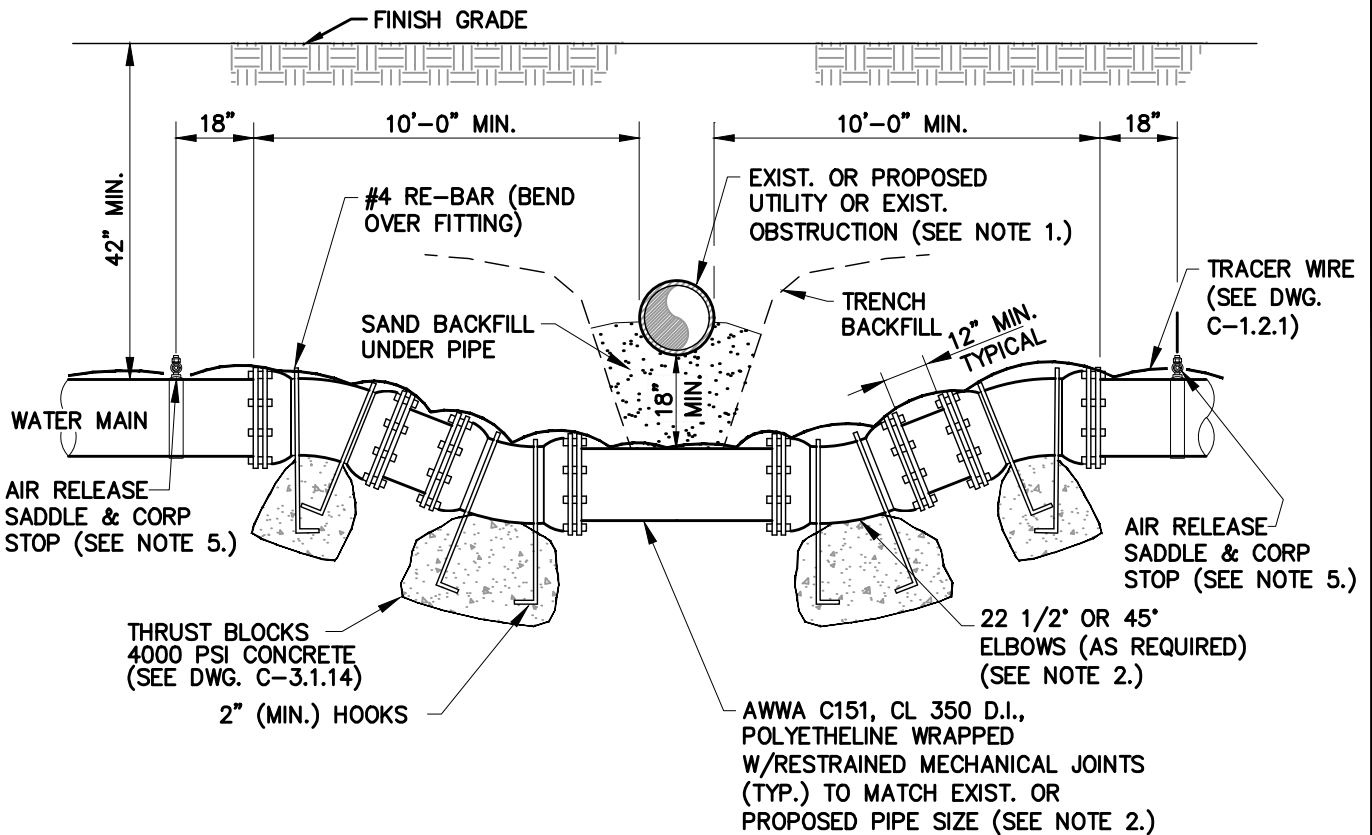


SETBACK TABLE	
CURB W/ ADJACENT SIDEWALK ≤ 9'	7' BEHIND FFC
CURB W/ ADJACENT SIDEWALK > 9'	3' BEHIND FFC
CURB W/ OFFSET SIDEWALK ≤ 3'	7' BEHIND FFC
CURB W/ OFFSET SIDEWALK > 3'	3' BEHIND FFC
CURB W/ NO SIDEWALK	7' BEHIND FFC
NO CURB ≤ 40 MPH	8' BEHIND EDGE OF PAVEMENT
NO CURB - > 40 MPH	12' BEHIND EDGE OF PAVEMENT

**NOTES:**

1. THE CONCRETE ACCESS PAD AS SHOWN MUST BE INSTALLED A MINIMUM 3'-0" CLEAR ON ALL SIDES PER DWG C-5.2.2 WITH EVERY NEW FIRE HYDRANT.
2. PROVIDE PCC RETAINING CURB WHERE EXISTING OR PROPOSED GRADE DIFFERENCE, FENCE, WALL OR OTHER ABOVE GROUND OBSTRUCTIONS EXIST. SEE DWG C-5.3.10.
3. PROVIDE 3'-0" CLEAR SPACE FROM FIRE HYDRANT AT SIDES AND REAR. PROVIDE 7'-6" CLEAR SPACE TO EACH SIDE FROM THE FRONT FACE OF FIRE HYDRANT EXCEPTING BOLLARDS. BOLLARDS SHALL BE PLACED AT 3'-0" CLEAR FROM FIRE HYDRANT WHEN REQUIRED.
4. CONSTRUCT KEYSTONE RETAINING WALL IF NECESSARY TO MEET 3:1 SLOPE REQUIREMENT. RETAINING WALLS OVER 3 FEET MUST BE DESIGNED BY A CIVIL ENGINEER AND MUST HAVE A HANDRAIL IF FALLING HAZARDS EXIST.
5. PROVIDE 48 INCHES CLEAR PASSING SPACE WHEN INSTALLING FIRE HYDRANT IN PEDESTRIAN ACCESS ROUTE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	SETBACK TABLE		<b>FIRE HYDRANT SETBACK &amp; ACCESS PAD</b>	CARSON CITY
	PAD SIZE	3/22		DRAWING NO. C-3.1.7.1 (307)
				DATE
				MAR 2022
APPROVED BY:		3/22		

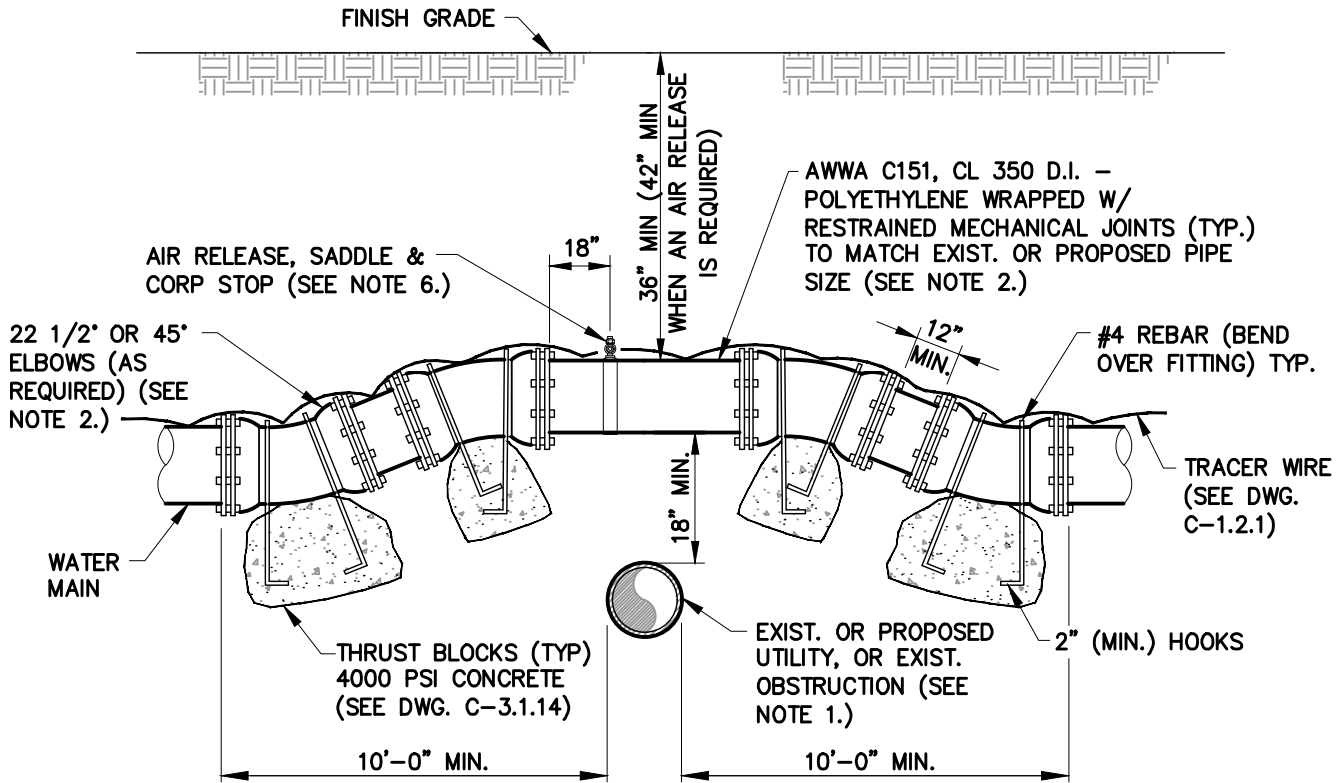


**TYPICAL CROSSING DETAIL**  
NTS

**NOTES:**

1. ALL POTABLE WATER CROSSINGS OF EXISTING OR PROPOSED UTILITIES, OR OTHER UNDERGROUND OBSTRUCTION SHALL BE DETAILED BY THE DESIGN ENGINEER, AND SHALL MEET THE CRITERIA OUTLINED BY NAC CHAPTER 445A. FOR PURPOSES OF SEPARATION AND PROTECTION OF THE WATER SUPPLY, RECLAIMED WATER SHALL BE CONSIDERED A SEWER LINE.
2. THE ENTIRE ASSEMBLY SHALL BE INSTALLED USING DUCTILE IRON RESTRAINED MECHANICAL JOINT FITTINGS.
3. UPON APPROVAL OF CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR, THE ABOVE ASSEMBLY MAY BE REPLACED WITH A WELDED STEEL "SPOOL" OF EQUIVALENT DIAMETER, PRIMED AND WRAPPED (10 MILS MIN.). CONNECT TO EXISTING LINES USING MECHANICAL JOINTS. STEEL SPOOL SHALL BE CONSTRUCTED BY A CERTIFIED WELDER AND PRESSURE CHECKED IN ACCORDANCE WITH SPECIFICATIONS.
4. CONCRETE AND REBAR FOR THRUST BLOCKS SHALL NOT INTERFERE WITH THE REMOVAL OF BOLTED ASSEMBLIES.
5. AN AIR-RELEASE WITH A POSITIVE GRADE FROM MAIN TO RELEASE, SHALL BE INSTALLED ON BOTH SIDES OF CROSSING (18 INCHES MINIMUM FROM ANY FITTING) UNLESS OTHERWISE NOTED ON THE APPROVED PLANS. ONE AIR-RELEASE MAY BE USED WITH ONE LINE TO EACH SIDE OF CROSSING. SEE DWG. C-3.1.10 & C-3.2.2 FOR INSTALLATION.
6. LOWERING A WATER MAIN OR "ROPING" UNDER A SEWER LINE REQUIRES APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 1	1/21	<b>LOWERING WATER MAINS</b>	CARSON CITY
				DRAWING NO. C-3.1.8 (203,307)
				DATE JAN 2021
APPROVED BY:		1/21		



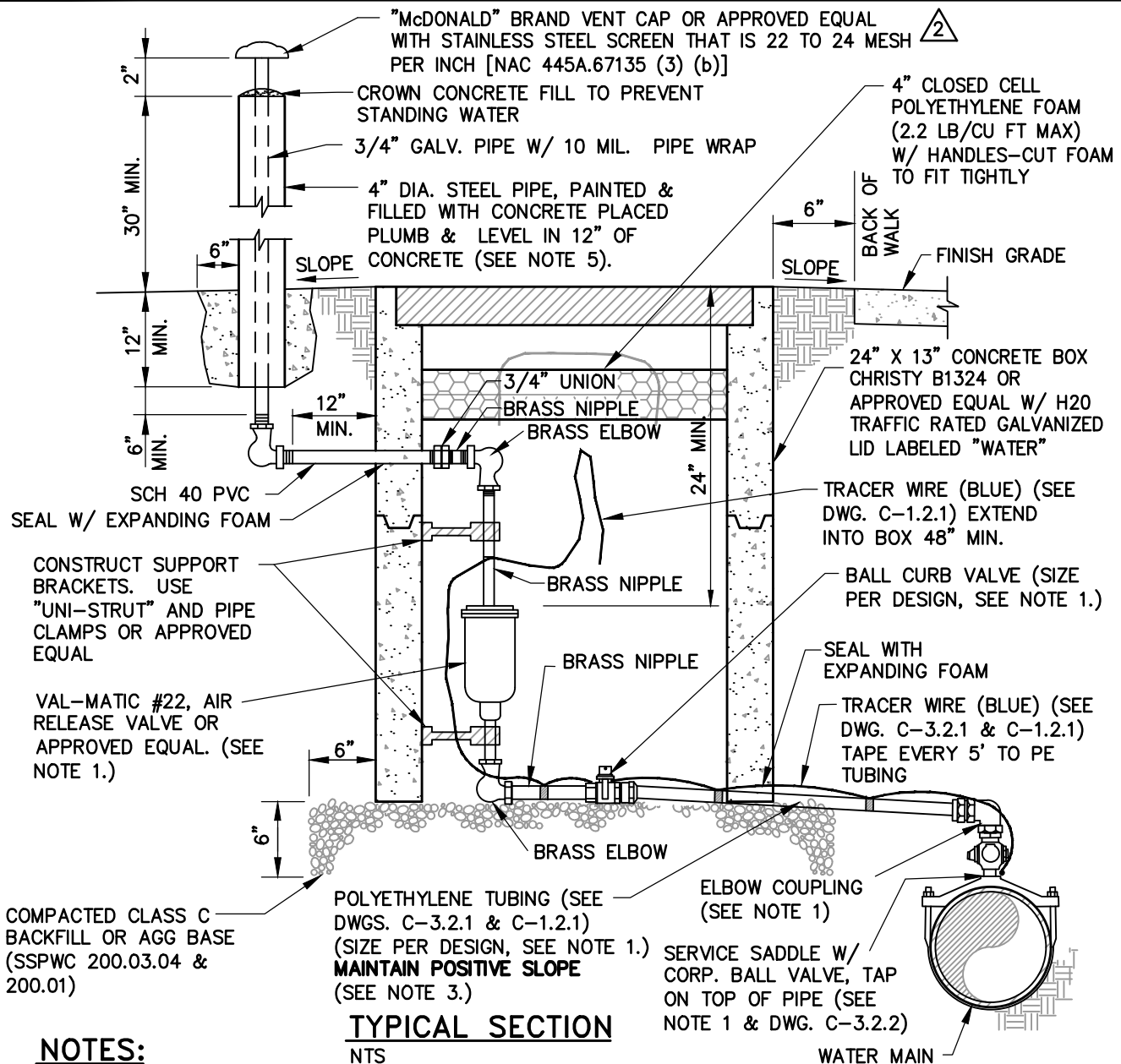
**TYPICAL CROSSING DETAIL**  
NTS

**NOTES:**

1. ALL POTABLE WATER CROSSINGS OF EXISTING OR PROPOSED UTILITIES, OR OTHER UNDERGROUND OBSTRUCTION SHALL BE DETAILED BY THE DESIGN ENGINEER, AND SHALL MEET THE CRITERIA OUTLINED BY NAC CHAPTER 445A. FOR PURPOSES OF SEPARATION AND PROTECTION OF THE WATER SUPPLY, RECLAIMED WATER SHALL BE CONSIDERED A SEWER LINE.
2. THE ENTIRE ASSEMBLY SHALL BE INSTALLED USING DUCTILE IRON RESTRAINED MECHANICAL JOINT FITTINGS.
3. UPON APPROVAL OF CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR, THE ABOVE ASSEMBLY MAY BE REPLACED WITH A WELDED STEEL "SPOOL" OF EQUIVALENT DIAMETER, PRIMED AND WRAPPED (10 MILS MIN.). CONNECT TO EXISTING LINES USING MECHANICAL JOINTS. STEEL SPOOL SHALL BE CONSTRUCTED BY A CERTIFIED WELDER AND PRESSURE CHECKED IN ACCORDANCE WITH SPECIFICATIONS.
4. CONCRETE AND REBAR FOR THRUST BLOCKS SHALL NOT INTERFERE WITH THE REMOVAL OF BOLTED ASSEMBLIES.
5. AN AIR-RELEASE WITH POSITIVE GRADE FROM MAIN TO RELEASE SHALL BE INSTALLED AT THE HIGH POINT OF THE MAIN (18 INCHES MINIMUM FROM ANY FITTING) UNLESS OTHERWISE NOTED ON THE APPROVED PLANS. SEE DWG. C-3.1.10 FOR INSTALLATION.
6. RAISING A WATER MAIN OVER A SEWER LINE REQUIRES APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
7. EVERY EFFORT IS TO BE MADE TO KEEP THE WATER MAIN OR WATER LATERAL 18 INCHES ABOVE THE SEWER MAIN AND THE WATER MAIN 12 INCHES ABOVE SEWER LATERAL.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 1	1/21	<b>RAISING WATER MAINS</b>	CARSON CITY
				DRAWING NO. C-3.1.9 (203,307)
				DATE JAN 2021
APPROVED BY: 		1/21		





**NOTES:**

1. SIZE AND PRESSURE CLASS AS INDICATED ON THE PLANS, SHALL BE DETERMINED BY THE DESIGN ENGINEER, MINIMUM SIZE 3/4 INCH. CORP BALL VALVE SHALL BE MUELLER B-20013 OR B-2969, OR FORD FB-500-x WITH MALE I.P. THREADS BOTH ENDS OR APPROVED EQUAL. ELBOW COUPLING SHALL BE MUELLER H-15533 FEMALE I.P. THREAD X CTS 110 COMP, OR FORD L14-xx-Q FEMALE IP THREAD X QUICK JOINT, W/ TUBING LINER OR APPROVED EQUAL. BALL CURB VALVE SHALL BE MUELLER B-25171N OR FORD B41-xxx-NL FEMALE I.P. X CTS 110 OR APPROVED EQUAL. VALVE SHALL BE EPOXY COATED PER ANSI/AWWA C550
2. AIR RELEASE VALVES SHALL BE INSTALLED OUTSIDE PAVEMENT SECTION. SLOPE GROUND AWAY FROM AIR RELEASE VALVE BOX OR CONSTRUCT MINIMUM HEIGHT CURBING TO PROTECT FROM FLOODING BY SURFACE WATERS.
3. ALL PIPES SHALL HAVE POSITIVE SLOPE FROM MAIN LINE TO AIR RELEASE VALVE.
4. 1 1/2 INCH TO 2 INCH AIR-RELEASE VALVES REQUIRE A CHRISTY FL36 BOX AND COVER OR APPROVED EQUAL.
5. STEEL PIPE PAINT SHALL BE RUST-OLEUM 7400 HIGH GLOSS SAFETY YELLOW ALKYD ENAMEL OR APPROVED EQUAL.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	EPOXY COATING	1/21	<b>POTABLE WATER AIR RELEASE</b>	CARSON CITY
2	STAINLESS	3/22		DRAWING NO. C-3.1.10 (203,307)
	SCREEN			DATE MAR 2022
APPROVED BY:		3/22		

INSTALL 36 X 48 BOX W/ TRAFFIC RATED LID MARKED "RCW" (CHRISTY B3048 & B30480-53JH OR APPROVED EQUAL)

4" CLOSED CELL POLYETHYLENE FOAM (2.2 LB/CU FT MAX) W/ HANDLES-CUT FOAM TO FIT TIGHTLY

12" MIN  
18" MAX  
SLOPE  
BACK OF WALK  
FINISH GRADE

INSTALL:  
PVC NPT THREADED NIPPLE  
(2) PVC 90 THDxSLP 6" PVC SPOOL

2" MIN. SEWAGE AIR RELEASE VALVE (APCO SERIES 440 AIR /VAC RELEASE OR APPROVED EQUAL)

1 INSTALL STAINLESS UNI-STRUT BRACE

INSTALL BRASS NIPPLE (NPT)

BRASS 90° ELBOW

BRASS UNION

PLACE MASONRY BLOCK

PLACE MASONRY BLOCK (4)

INSTALL CHRISTY 36 X 48 X 12 BOX RISERS (CHRISTY 1000320 OR APPROVED EQUAL)

BRASS NIPPLE (MAINTAIN POSITIVE SLOPE)

INSTALL BRASS ANGLE VALVE

4" CLASS "C" BACKFILL

1

6" CLASS C OR AGG BASE BACKFILL

PURPLE TRACER WIRE (SEE DWGS. C-3.2.1 & C-1.2.1)

ELBOW COUPLING (SEE NOTE 1)

CTS POLYETHYLENE TUBING MIN. TEST PRESSURE OF 200 PSI, OR CLASS RATING OF PIPE, WHICHEVER IS GREATER (SEE DWGS. C-3.2.1 & C-1.2.1, & NOTE 3.)

POSITIVE SLOPE (SEE NOTE 2)

SERVICE SADDLE W/ CORP. BALL VALVE, TAP ON TOP OF PIPE (SEE DWG. C-3.2.1) VALVES GREATER THAN 2" REQUIRE A TAPPING SLEEVE AND GATE VALVE AT TOP OF PIPE. (SEE DWG. C-3.1.3)


RECLAIMED WATER MAIN

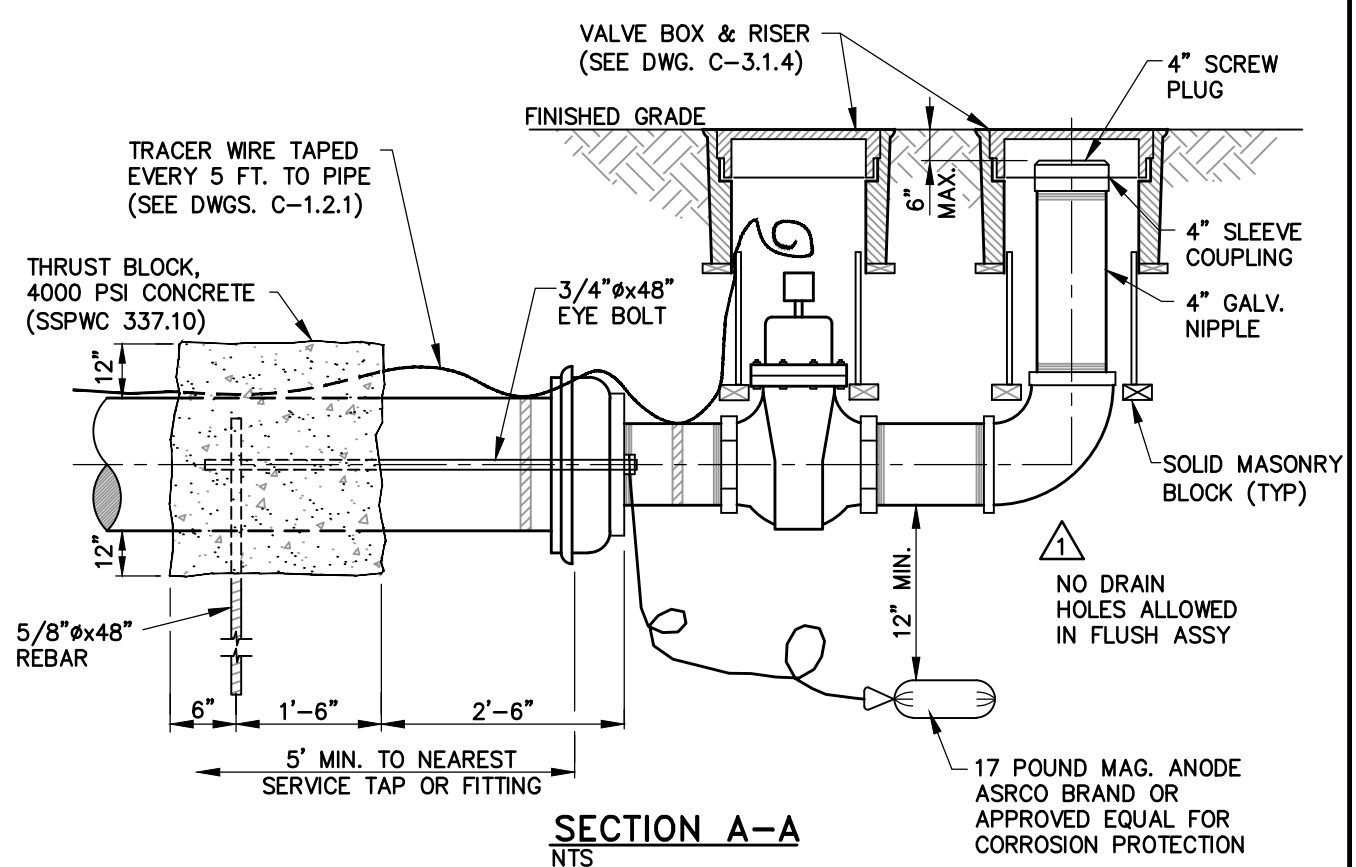
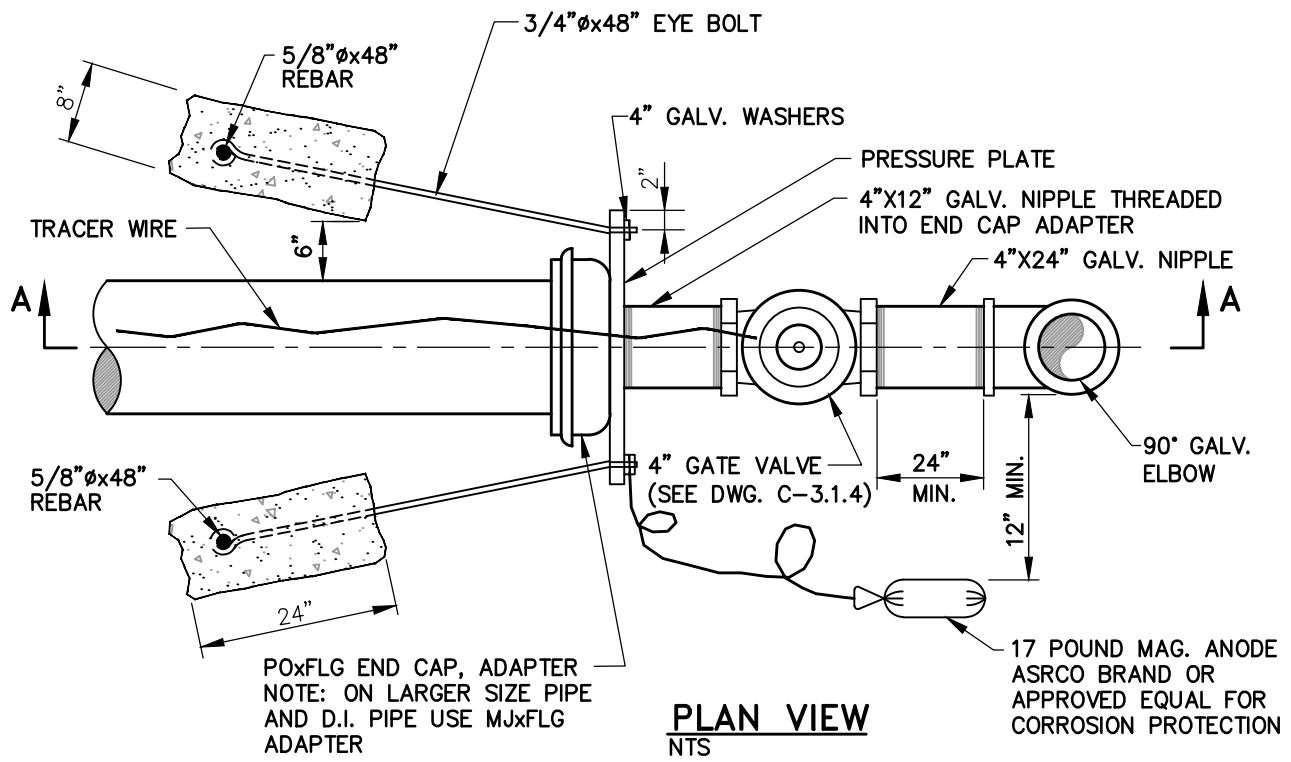
**TYPICAL SECTION**

NTS

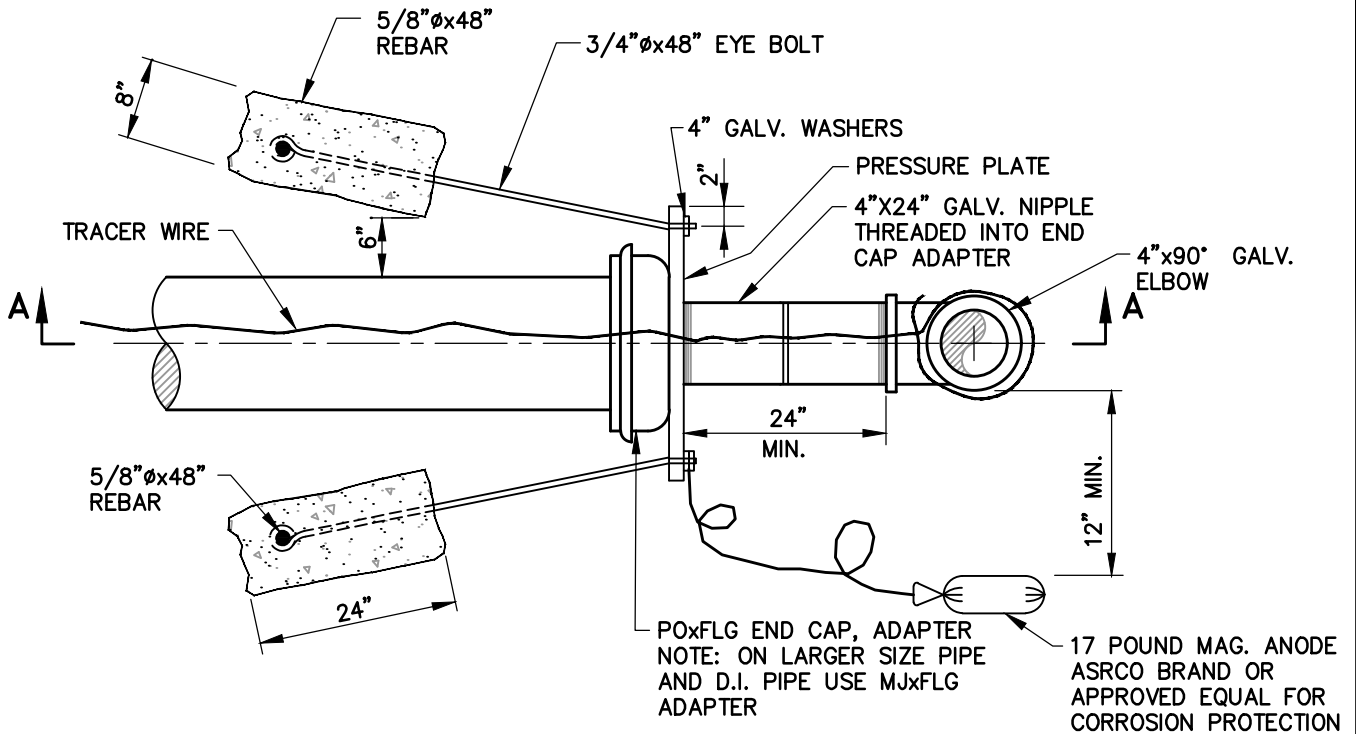
**NOTES:**

- AIR RELEASE/VACUUM VALVES SHALL BE INSTALLED OUTSIDE PAVEMENT SECTION. SLOPE GROUND AWAY FROM AIR RELEASE/VACUUM VALVE BOX OR CONSTRUCT MINIMUM HEIGHT CURBING TO PROTECT FROM FLOODING BY SURFACE WATERS.
- ALL PIPES SHALL HAVE POSITIVE SLOPE FROM MAIN LINE TO AIR/VACUUM VALVE.
- SIZE AND PRESSURE CLASS AS INDICATED ON THE PLANS (2 INCHES MINIMUM), SHALL BE DETERMINED BY THE DESIGN ENGINEER. CORP BALL VALVE SHALL BE MUELLER B-20013 OR B-2969, OR FORD FB-500-x WITH MALE I.P. THREADS BOTH ENDS OR APPROVED EQUAL. ELBOW COUPLING SHALL BE MUELLER H-15533 FEMALE I.P. THREAD X CTS 110 COMP, OR FORD L14-xx-Q FEMALE IP THREAD X QUICK JOINT, W/ TUBING LINER OR APPROVED EQUAL.

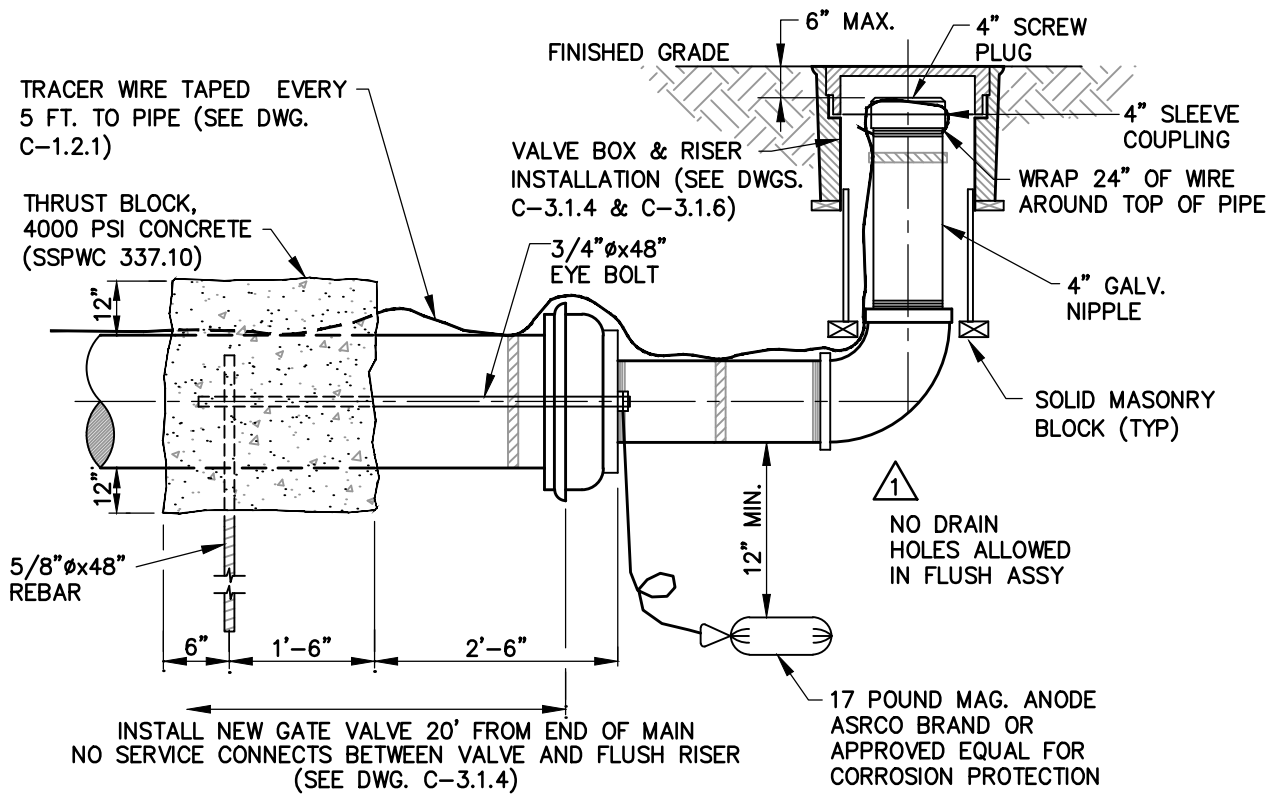
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	ARV	9/17	<b>RECLAIMED WATER AIR/VACUUM VALVE</b>	CARSON CITY
				DRAWING NO. C-3.1.11 (203,307)
				DATE SEP 2017
APPROVED BY: 				



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE DRAIN	3/22	<b>FLUSH ASSEMBLY PERMANENT</b>	CARSON CITY
				DRAWING NO. C-3.1.12 (203,307)
				DATE MAR 2022
APPROVED BY:		3/22		

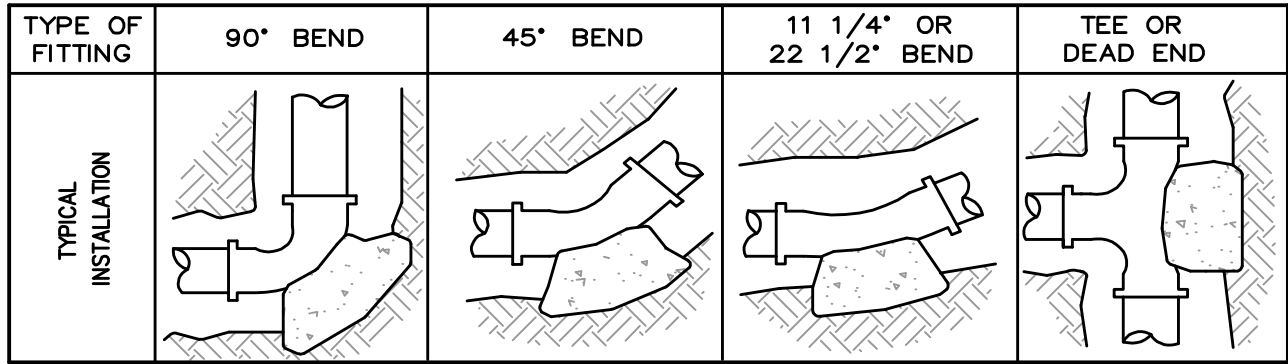


**PLAN VIEW**  
NTS



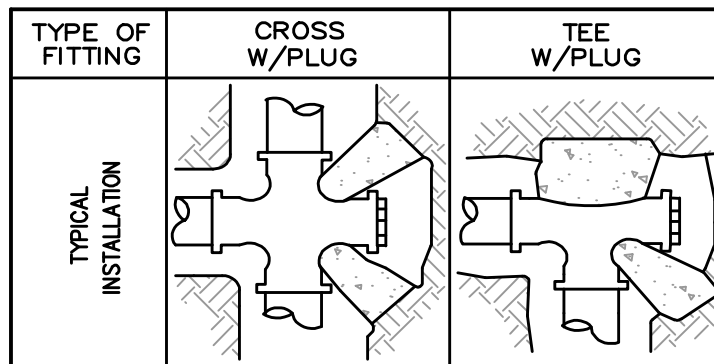
**SECTION A-A**  
NTS

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REMOVE DRAIN	3/22	<b>FLUSH ASSEMBLY TEMPORARY</b>	CARSON CITY
				DRAWING NO. C-3.1.13
				DATE MAR 2022
APPROVED BY:		3/22		



**THRUST BLOCK BEARING AREA (SQ. FT.)**

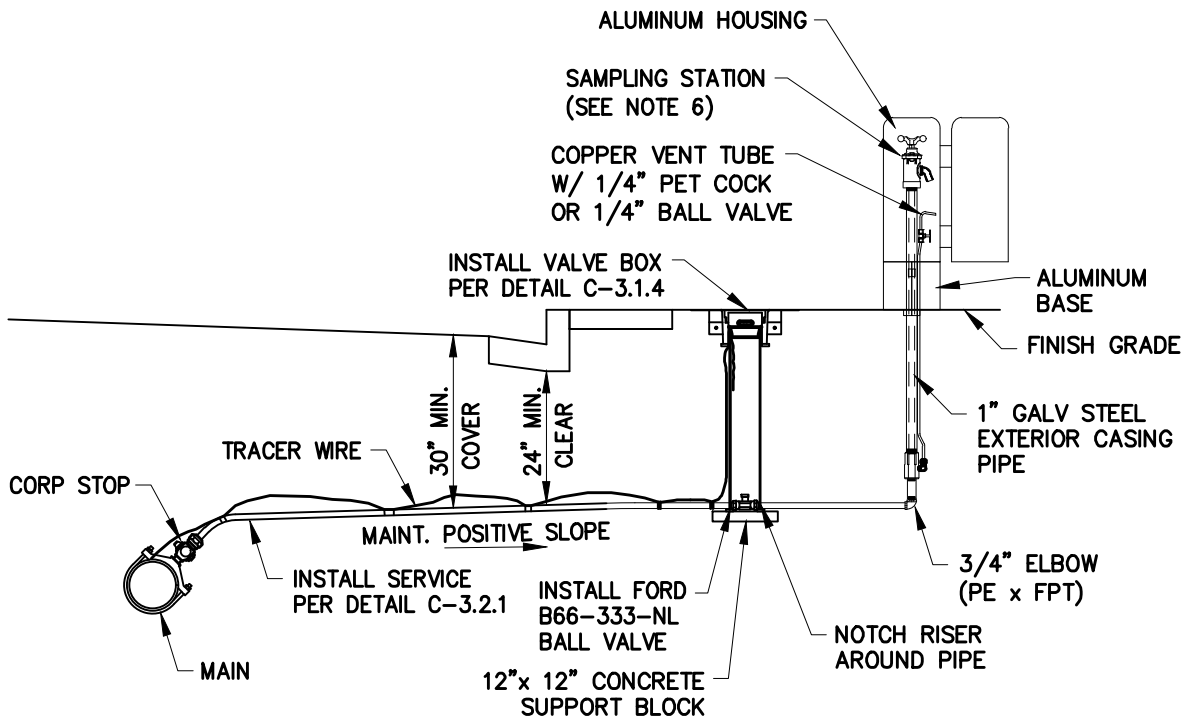
TYPE OF FITTING	90° BEND	45° BEND	11 1/4° OR 22 1/2° BEND	TEE OR DEAD END	TEE W/PLUG	CROSS W/PLUG
SIZE OF PIPE	4"	2	1	1	2	2
	6"	4	4	2	4	4
	8"	7	4	2	5	7
	10"	12	6	3	8	12
	12"	16	10	5	12	16
	14"	20	12	6	14	20
	16"	27	15	8	18	27
	18"	45	25	13	32	45
24"	65	35	18	46	65	65



**NOTES:**

- THRUST BLOCKS TO BE CONSTRUCTED OF CONCRETE CONFORMING TO 337.10 OF THE SSPWC AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI @ 28 DAYS.
- AREAS GIVEN ARE FOR TESTING PRESSURE OF 150 P.S.I., WITH 2000 P.S.F. BEARING CAPACITY. INSTALLATIONS USING DIFFERENT PIPE, TEST PRESSURES, AND/OR SOIL TYPES SHOULD HAVE AREAS ADJUSTED ACCORDINGLY, SUBJECT TO THE APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
- THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
- JOINTS, FLANGES, NUTS, BOLTS AND FACE OF PLUG SHALL BE KEPT CLEAR OF CONCRETE.

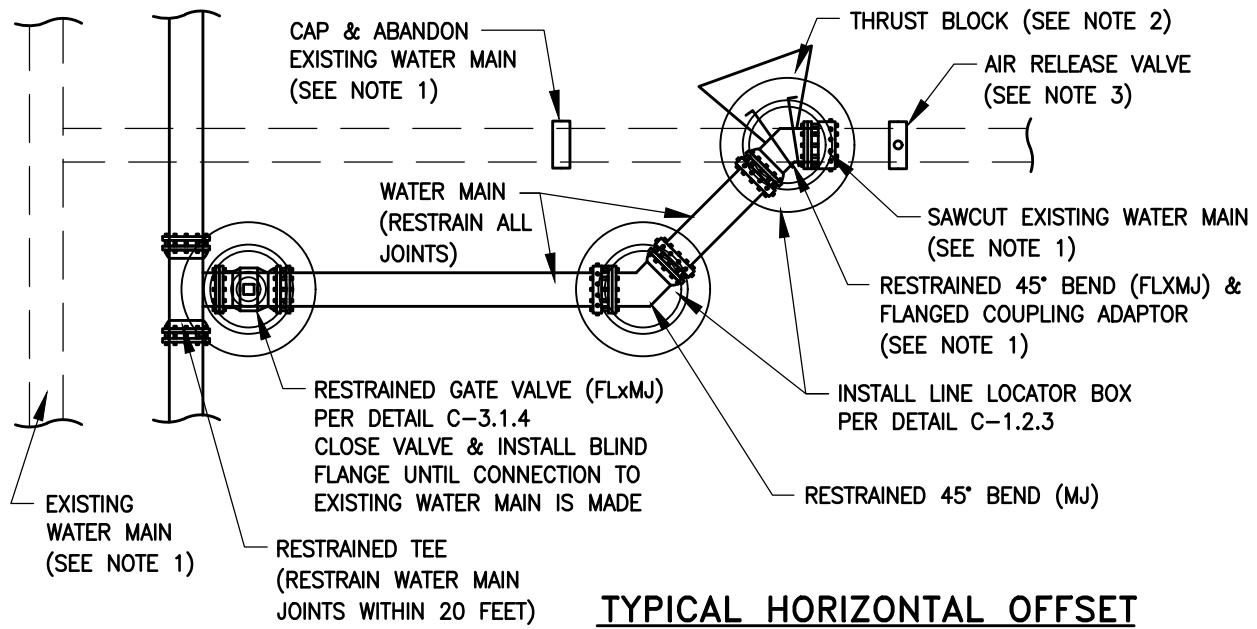
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 2	1/21	<b>THRUST BLOCKS</b>	CARSON CITY
				DRAWING NO. C-3.1.14
				DATE JAN 2021
APPROVED BY:		1/21		



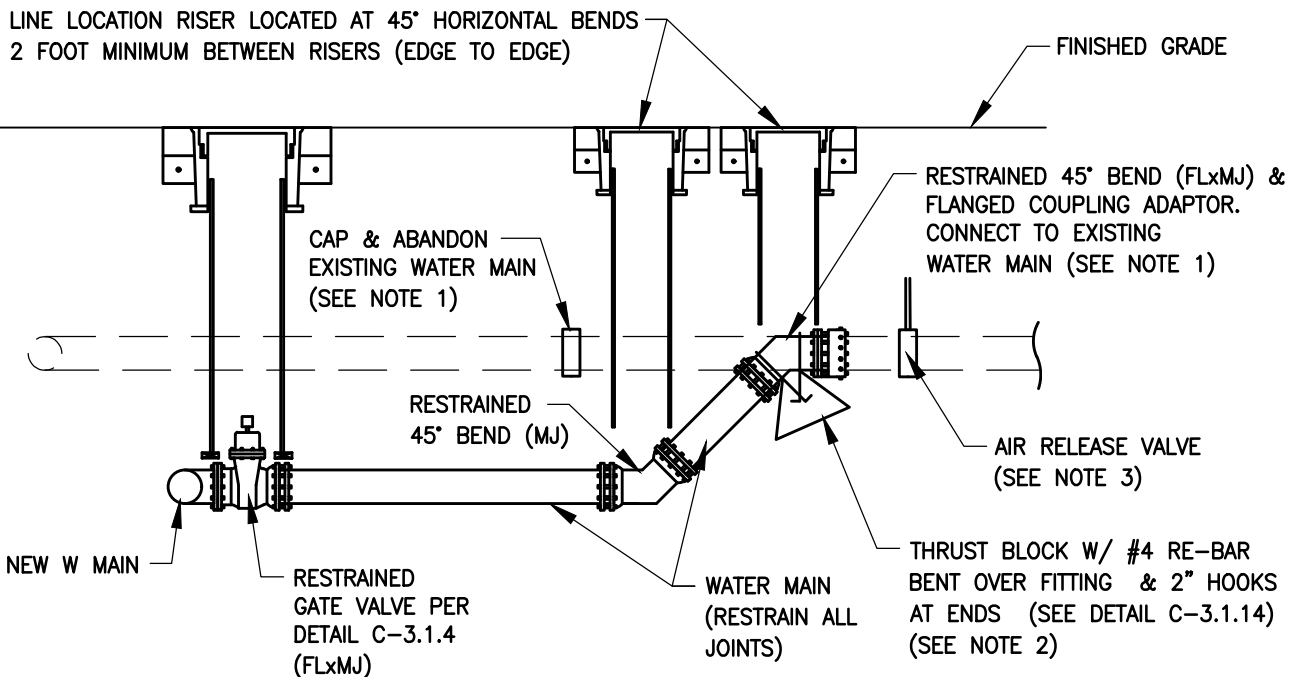
**NOTES:**

1. SAMPLING STATIONS SHALL HAVE A 3/4" FIP INLET AND UNTHREADED NOZZLE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM CAST HOUSING.
3. WHEN OPENED THE STATION SHALL NOT REQUIRE A KEY FOR OPERATION, AND WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. ALL WORKING PARTS SHALL BE BRASS AND REMOVABLE FROM ABOVE GROUND WITH NO DIGGING. EXTERIOR PIPING SHALL BE BRASS OR GALVANIZED STEEL.
5. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND MINIMIZE BACTERIA GROWTH.
6. SAMPLING STATIONS SHALL BE KUPFERLE FOUNDRY CO. ECLIPSE #88 OR APPROVED EQUAL.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>WATER SAMPLING STATION</b>	CARSON CITY
				DRAWING NO. C-3.1.15 (203)
				DATE
				JAN 2020
APPROVED BY: 		1/20		



**TYPICAL HORIZONTAL OFFSET**  
NTS



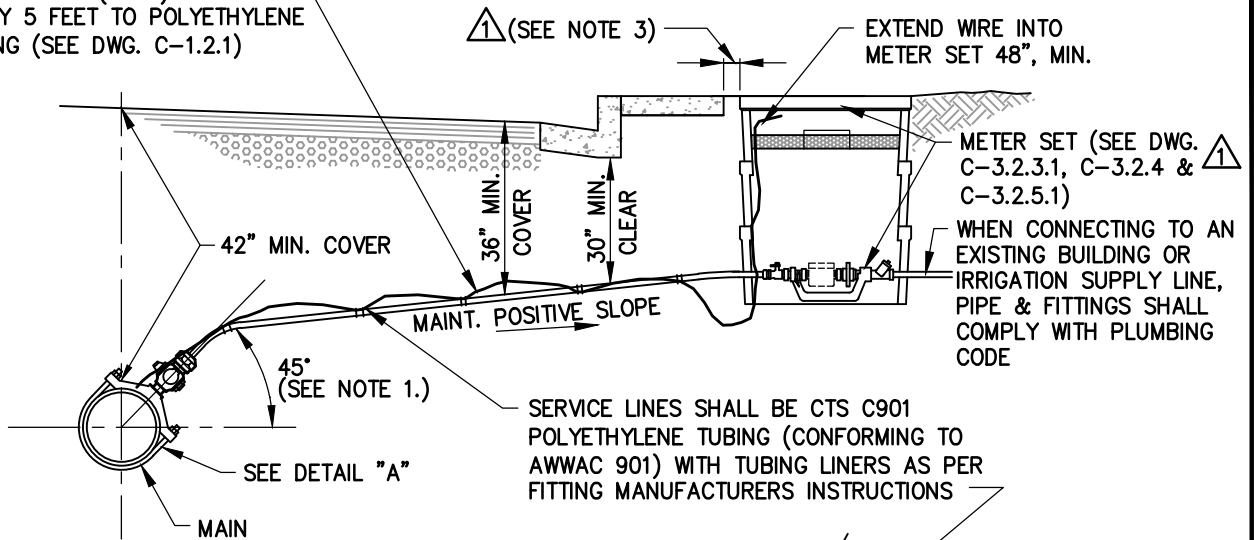
**TYPICAL VERTICAL OFFSET**  
NTS

**NOTES:**

1. CONNECTION TO EXISTING WATER MAIN SHALL BE MADE UPON COMPLETION OF PRESSURE AND BACTERIA TESTING OF NEW WATER MAIN. NEW PIPE AND FITTINGS MUST BE SWABBED WITH CHLORINE PRIOR TO INSTALLATION. EXISTING WATER MAINS SHALL BE CAPPED, SLURRY FILLED AND ABANDONED UPON NEW WATER MAIN CONNECTION.
2. THRUST BLOCKS SHALL BE INSTALLED PER DETAIL C-3.1.14 AND MAY BE FORGONE IN LIEU OF PIPE RESTRAINTS UPON CITY'S APPROVAL OF RESTRAINT CALCULATIONS USING [HTTPS://RLC.EBAA.COM/CALCULATOR.PHP](https://rlc.ebaa.com/calculator.php)
3. AIR RELEASE VALVE SHALL BE INSTALLED PER DETAIL C-3.1.10 AT ANY HIGH POINT CREATED BY OFFSET CONNECTION.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>TYPICAL OFFSET WATER MAIN CONNECTION</b>	CARSON CITY
				DRAWING NO. C-3.1.16
				DATE MAR 2022
APPROVED BY: 		3/22		

TRACER WIRE (BLUE) TAPED EVERY 5 FEET TO POLYETHYLENE TUBING (SEE DWG. C-1.2.1)

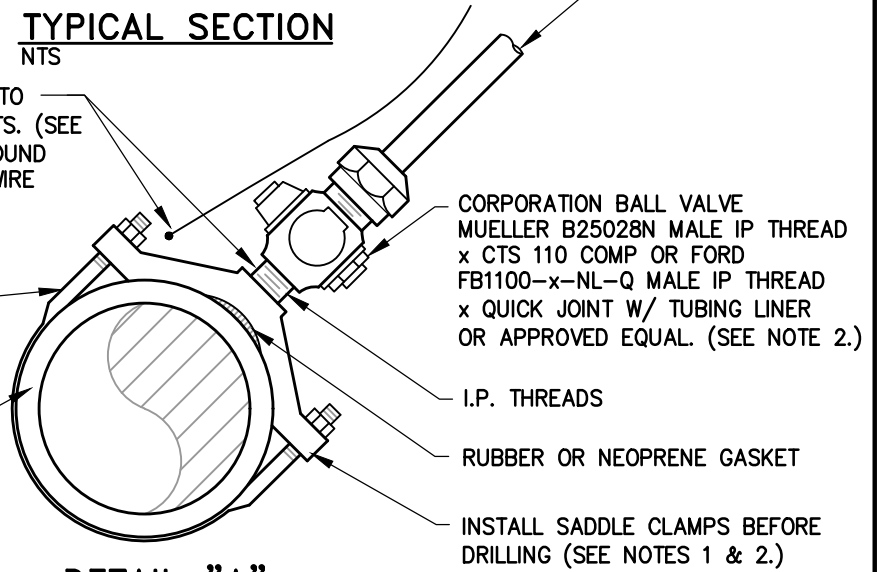


**TYPICAL SECTION**  
NTS

CONNECT BLUE TRACER WIRE TO MAIN WIRE IF MAIN WIRE EXISTS. (SEE DWG. C-1.2.1) LOOP WIRE AROUND CORP. THREADS IF NO MAIN WIRE EXISTS

FACTORY COATED SADDLE WITH STAINLESS STEEL STRAP (SEE NOTES 1, 2 & DWG. C-3.2.2)

CITY MAIN



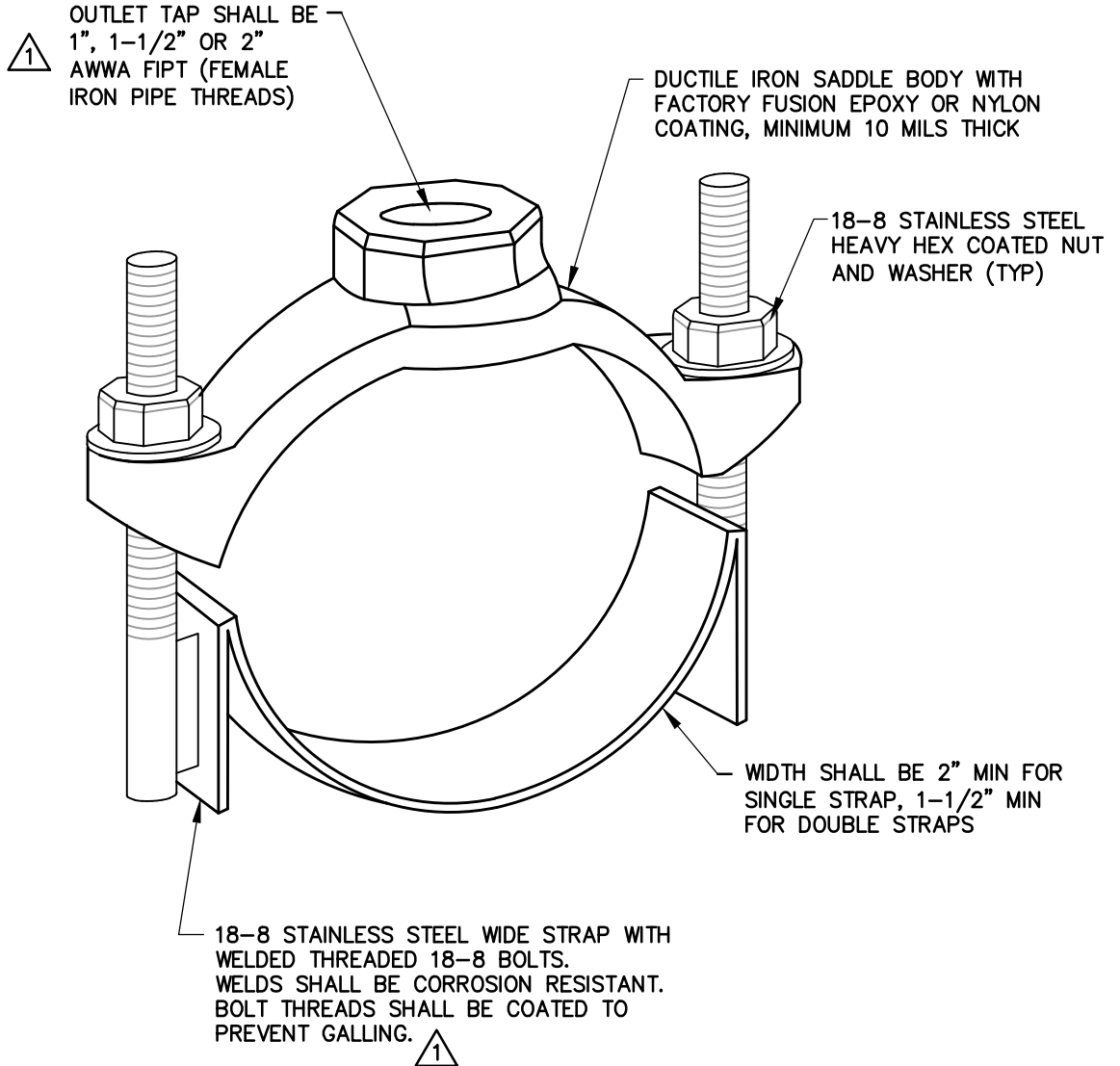
**DETAIL "A"**  
NTS

**NOTES:**

1. MINIMUM DISTANCE BETWEEN TAPS AND MAINLINE FITTINGS, INCLUDING BELLS MUST BE 18 INCHES. TAPPING SADDLE MUST BE AT 45 DEGREE ANGLE, EXCEPTIONS MUST BE APPROVED BY CARSON CITY WATER UTILITY.
2. CORPORATION VALVES AND SERVICE SADDLES MUST CONFORM TO AWWA C800, NSF61, NSF 372 AND BE NO LESS THAN THE SERVICE LINE SIZE. WHEN REPLACING AN EXISTING SERVICE LINE AND A SIZE LARGER THAN SHOWN IS ENCOUNTERED, THE LARGER SIZE LINE, FITTINGS AND SADDLE SHALL BE INSTALLED UNLESS APPROVED BY CARSON CITY WATER UTILITY.
3. METER SET BOX SHALL BE PLACED 24 INCHES FROM BACK OF SIDEWALK, OR AS DIRECTED BY CARSON CITY WATER UTILITY. IN AREAS WHERE NO CURB OR SIDEWALK IS PRESENT, METER SET SHALL BE PLACED WITHIN THE RIGHT-OF-WAY AS SHOWN ON THE APPROVED PLANS. PROVIDE 24 INCHES CLEAR IN ALL DIRECTIONS TO ANY OTHER HARDSCAPE INCLUDING CONCRETE, ASPHALT, LANDSCAPING OR UTILITY BOXES.
4. DISCONTINUANCE OF USE OF A SERVICE REQUIRES ABANDONMENT OF THE SERVICE. NOTIFY CARSON CITY PUBLIC WORKS FOR METER REMOVAL PRIOR TO PROCEEDING WITH ABANDONMENT. REMOVE EXISTING METER BOX AND EXPOSE CORP STOP. TURN-OFF AND CAP EXISTING CORP STOP AT MAIN. ALL PIPING OR TUBING SHALL BE DISCONNECTED FROM CORP STOP AND PLUGGED AT BOTH ENDS. CARSON CITY PUBLIC WORKS SHALL BE NOTIFIED FOR INSPECTION OF CORP STOP ASSEMBLY PRIOR TO BACKFILLING.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	METER SET	7/21	<b>1" TO 2" WATER SERVICE</b>	CARSON CITY
2	NOTES 3 & 4	3/22		DRAWING NO. C-3.2.1 (203)
				DATE MAR 2022
APPROVED BY:		3/22		





**SERVICE SADDLE DETAIL**  
NTS

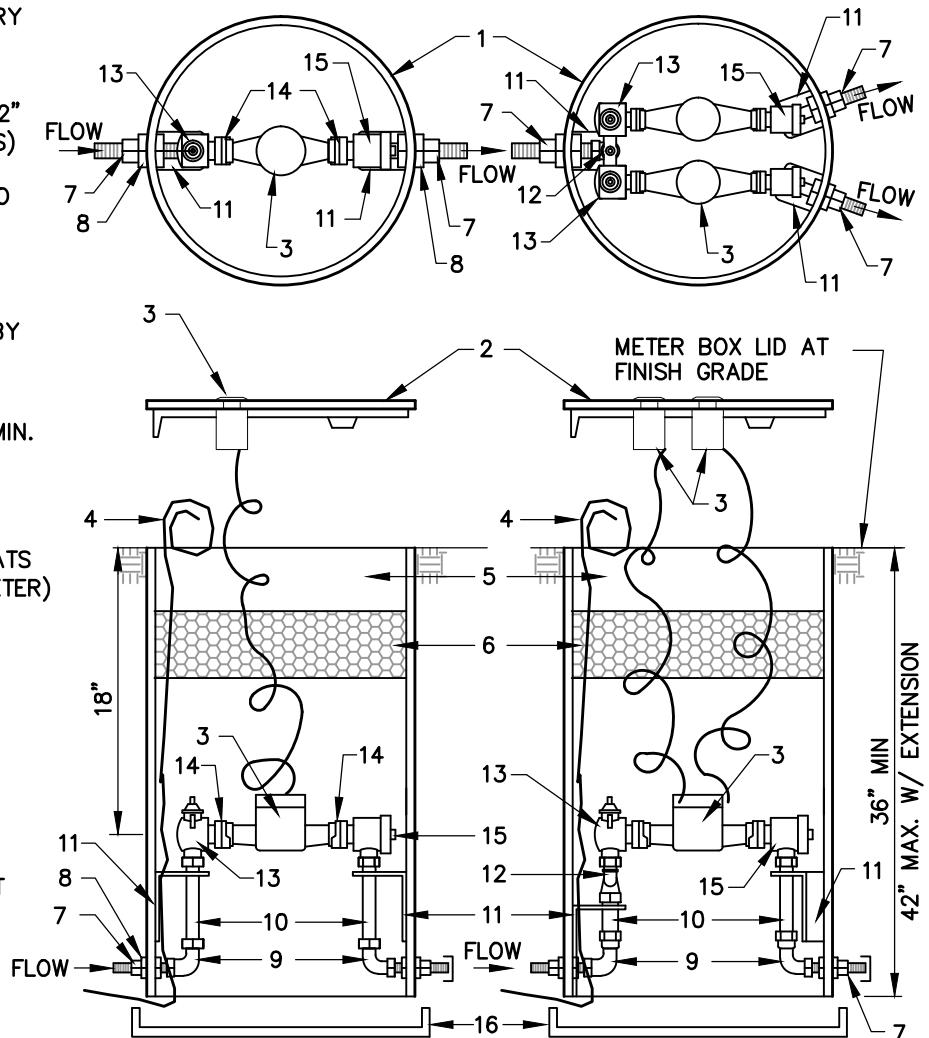
**NOTES:**

1. 1 SERVICE SADDLES FOR 1 INCH, 1-1/2 INCH & 2 INCH TAPS SHALL CONFORM TO AWWA C800 WITH A MINIMUM WORKING PRESSURE OF 150 PSI, UNLESS A HIGHER PRESSURE IS SPECIFIED, AND BE MANUFACTURED BY FORD, MUELLER, ROMAC, SMITH-BLAIR OR APPROVED EQUAL. (SEE DWG. C-3.2.1 FOR ADDITIONAL NOTES AND DETAILS.) POTABLE SERVICE SADDLES SHALL BE LOW LEAD CONTENT AND IN COMPLIANCE WITH NSF61 AND NSF 372.
2. SERVICE SADDLES SHALL BE FACTORY COATED DUCTILE IRON (ASTM A395 OR A536) WITH TYPE 18-8 STAINLESS STEEL (304 OR 304L) STRAP(S), BOLTS, NUTS, & WASHERS. ALL STAINLESS STEEL SHALL BE FULLY PASSIVATED.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
<span style="border: 1px solid black; padding: 2px;">1</span>	NOTE 1	9/17	<b>1" TO 2" SERVICE SADDLE</b>	CARSON CITY
				DRAWING NO. C-3.2.2 (203, 307)
				DATE SEP 2017
APPROVED BY:		9/17		




## MATERIALS LIST:

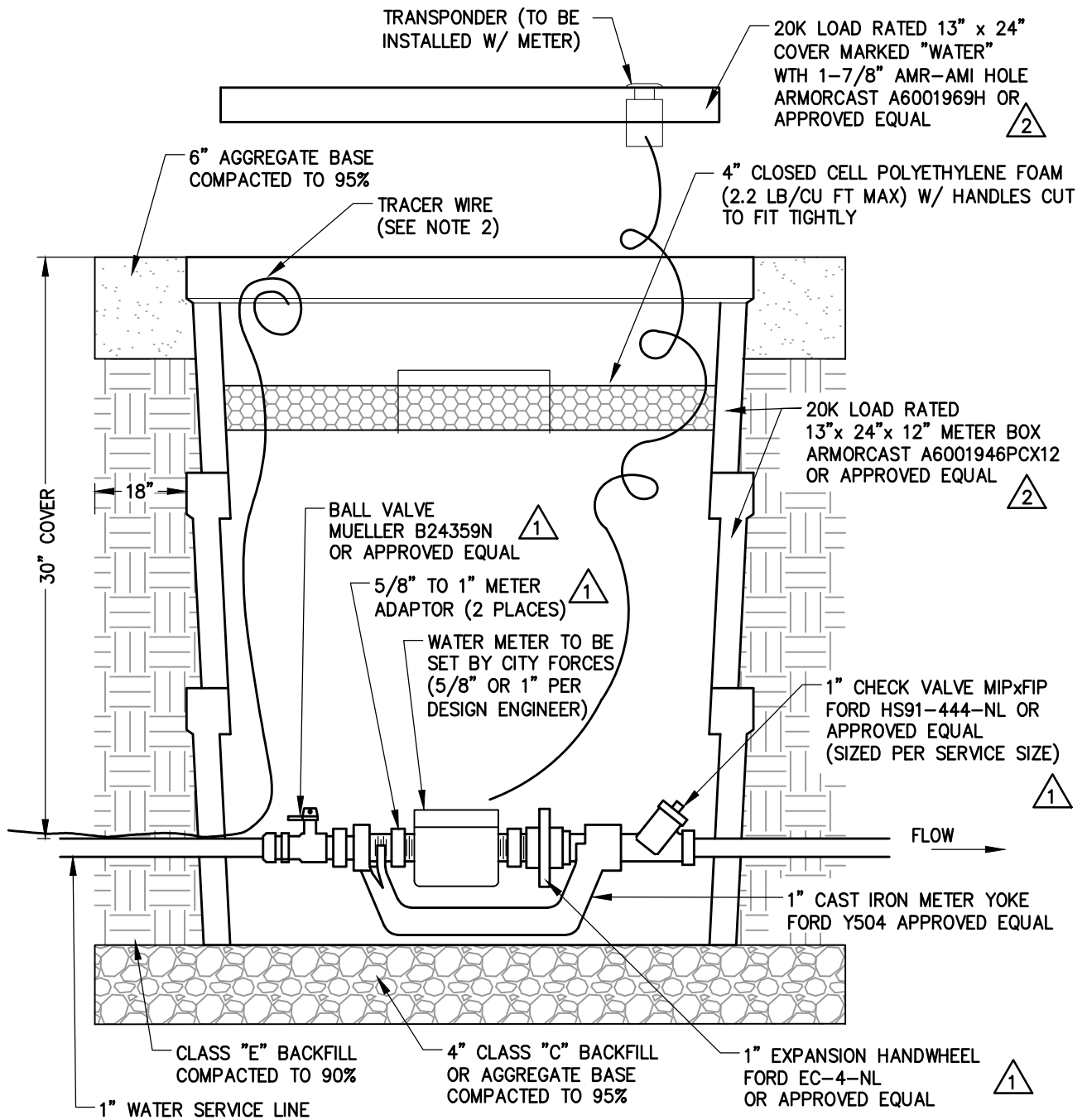
1. PVC BOX MIN. WALL THICKNESS 0.300", MUELLER 18" DIAMETER RIGID METER PIT BOX FACTORY EQUIPPED AS LISTED, CONFORMING TO AWWA C800
2. CAST IRON LOCKING LID W/ 2" DIA TRANSPONDER OPENING(S) MUELLER METER BOX SETTER LIDS (1" SINGLE: MUELLER NO 780113) (3/4" DOUBLE: MUELLER NO 780111,)
3. WATER METER(S) & TRANSPONDER(S) SUPPLIED BY CARSON CITY WATER UTILITY
4. BLUE TRACER WIRE EXTEND INTO METER PITSETTER 48" MIN.
5. AIR SPACE
6. INSULATION PAD (4" THICK)
7. BRASS NIPPLE WITH HEX-FLATS (1" I.P. MINIMUM INLET DIAMETER)
8. BRASS HEX NUT
9. BRASS THREADED ELBOW
10. BRASS PIPE RISER
11. METAL SUPPORT BRACKET
12. BRASS 1" INLET X 3/4" OUTLET U-BRANCH
13. BRASS LOCKABLE FULL-PORT BALL VALVE MUELLER PART NO. 215B24265N
14. BRASS METER ADAPTOR TO SET 5/8" X 3/4" METER. FORD PART NO. A24-NL
15. BRASS DUAL CHECK VALVE CONFORMING TO ASSE
16. ALUMINUM BOTTOM



## NOTES:

1. ALL BRANDS AND PART NUMBERS ARE FOR REFERENCE ONLY AND MAY BE SUBSTITUTED WITH A CARSON CITY APPROVED EQUAL.
2. A SINGLE PIT SETTER EXTENSION (6" TOTAL MAX.) MAY BE USED UPON APPROVAL BY CARSON CITY WATER UTILITY.
2. SINGLE 5/8" X 3/4" METERS SHALL BE SET IN SINGLE 1" METER PITS WITH AN ADAPTOR (FORD PART NO. A24-NL).


NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	RIGID SET	7/19	<b>1" SINGLE AND 3/4" DOUBLE PIT SETTER </b>	CARSON CITY
				DRAWING NO. C-3.2.3 (203, 307)
APPROVED BY: 		7/19		DATE JUL 2019



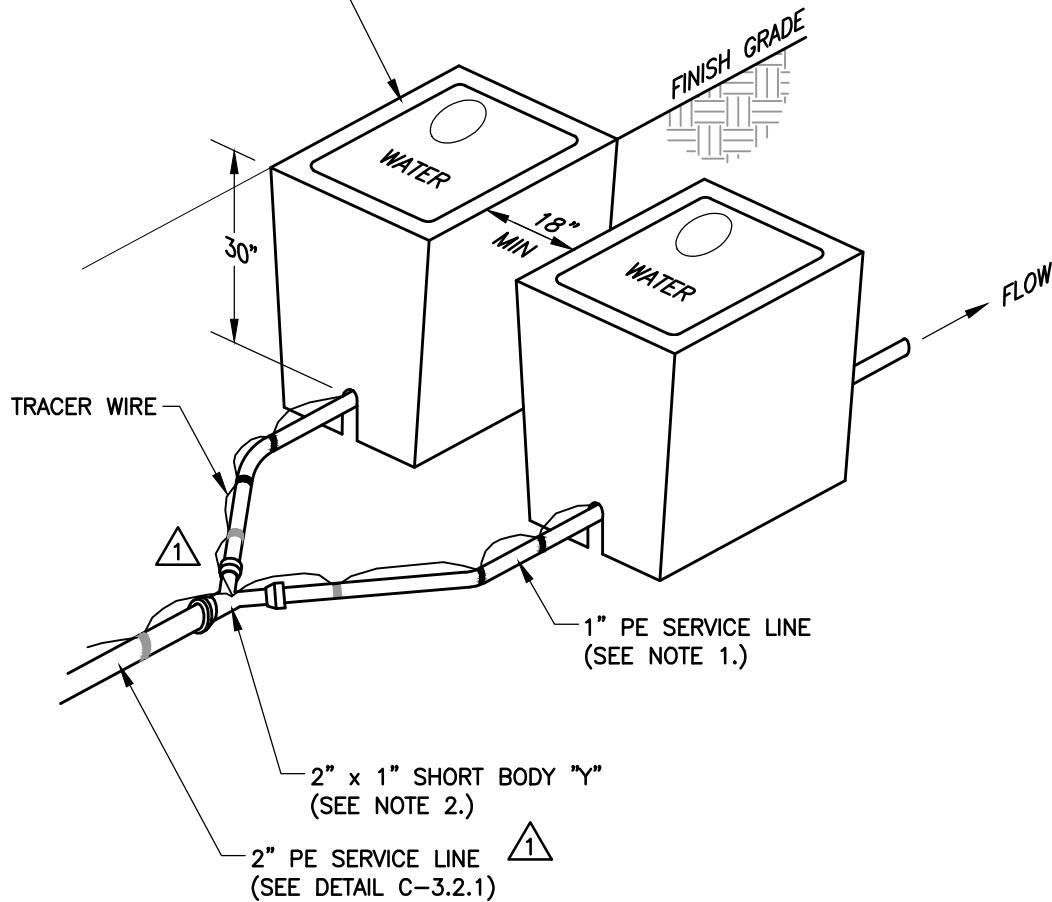
**TYPICAL SECTION**  
NTS

**NOTES:**

1. ALL FITTINGS SHALL BE LOW LEAD CONTENT AND COMPLY WITH NSF 61 & NSF 372.
2. EXTEND TRACER WIRE AT LEAST 48" INTO METER BOX.
- 1 3. FORD A24-NL METER ADAPTOR SHALL BE USED TO SET 5/8" X 3/4" METER.
- 2 4. METER BOXES SHALL BE LOCATED OUTSIDE OF VEHICLE TRAFFIC AREAS AND PARKING SHALL NOT BE ALLOWED OVER A METER BOX.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	MISC	9/17	<b>1" SINGLE METER SET</b>	CARSON CITY
2	BOX SIZE	6/19		DRAWING NO. C-3.2.3.1 (203, 307)
				DATE JUNE 2019
APPROVED BY: 		6/19		

1" SINGLE 20,000 POUND RATED  
METER SET (SEE C-3.2.3.1)



**ISOMETRIC VIEW**

NTS

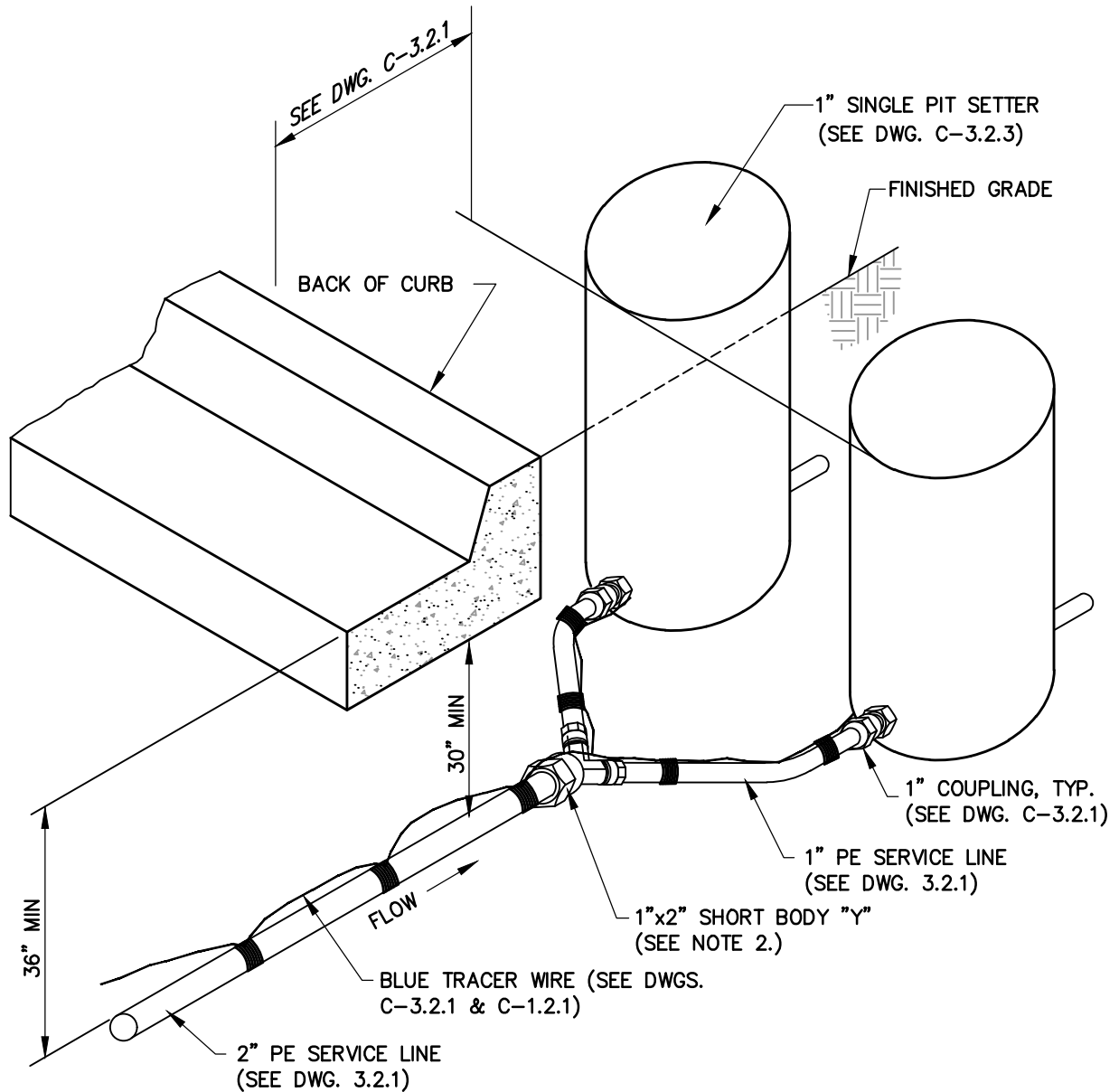
**NOTES:**

1. SERVICE LINES SHALL BE CTS C901 POLYETHYLENE TUBING (CONFORMING TO SSPWC 203.16.02) WITH TUBING LINERS AS PER FITTING MANUFACTURER'S INSTRUCTIONS.



2. SHORT BODY "Y" SHALL BE MUELLER CTS 110 COMP H-15343N, FORD QUICK JOINT Y44-274-Q-NL OR APPROVED EQUAL. CONNECT TO PE TUBING WITH TUBING LINER PER DWG. C-3.2.1.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	"Y" & 1" MTR	9/17	<b>1" DUAL METER SET</b>	CARSON CITY
2	TRAF RATING	6/19		DRAWING NO. C-3.2.3.2 (203, 307)
				DATE
				JUNE 2019
APPROVED BY:				

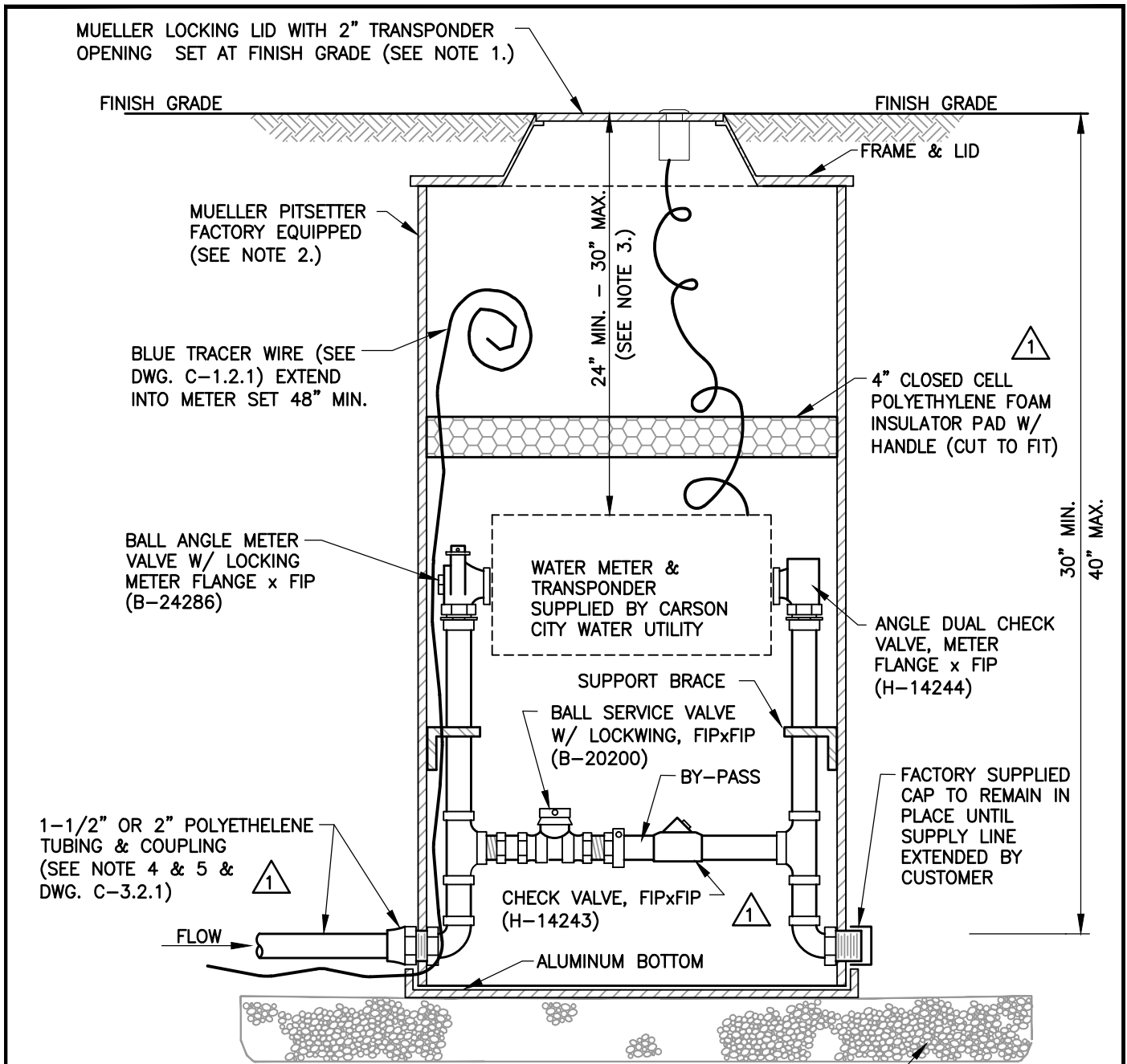


**ISOMETRIC VIEW**  
NTS

**NOTES:**

1. SERVICE LINES SHALL BE CTS POLYETHYLENE TUBING (CONFORMING TO SSPWC 203.16.02) WITH TUBING LINERS AS PER FITTING MANUFACTURER'S INSTRUCTIONS.
2. SHORT BODY "Y" SHALL BE MUELLER CTS 110 COMP H-15343N, FORD QUICK JOINT Y44-274-Q-NL OR APPROVED EQUAL. CONNECT TO PE TUBING WITH TUBING LINER PER DWG. C-3.2.1.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	DETAIL NAME	3/22		CARSON CITY
			<b>1" DUAL PIT SETTERS</b> 1	DRAWING NO.
				C-3.2.4 (203,307)
APPROVED BY:		3/22		DATE
				MAR 2022



6" CLASS "C" BACKFILL OR AGGREGATE BASE (SSPWC 200.03.04 & 200.01) COMPACTED TO 95%

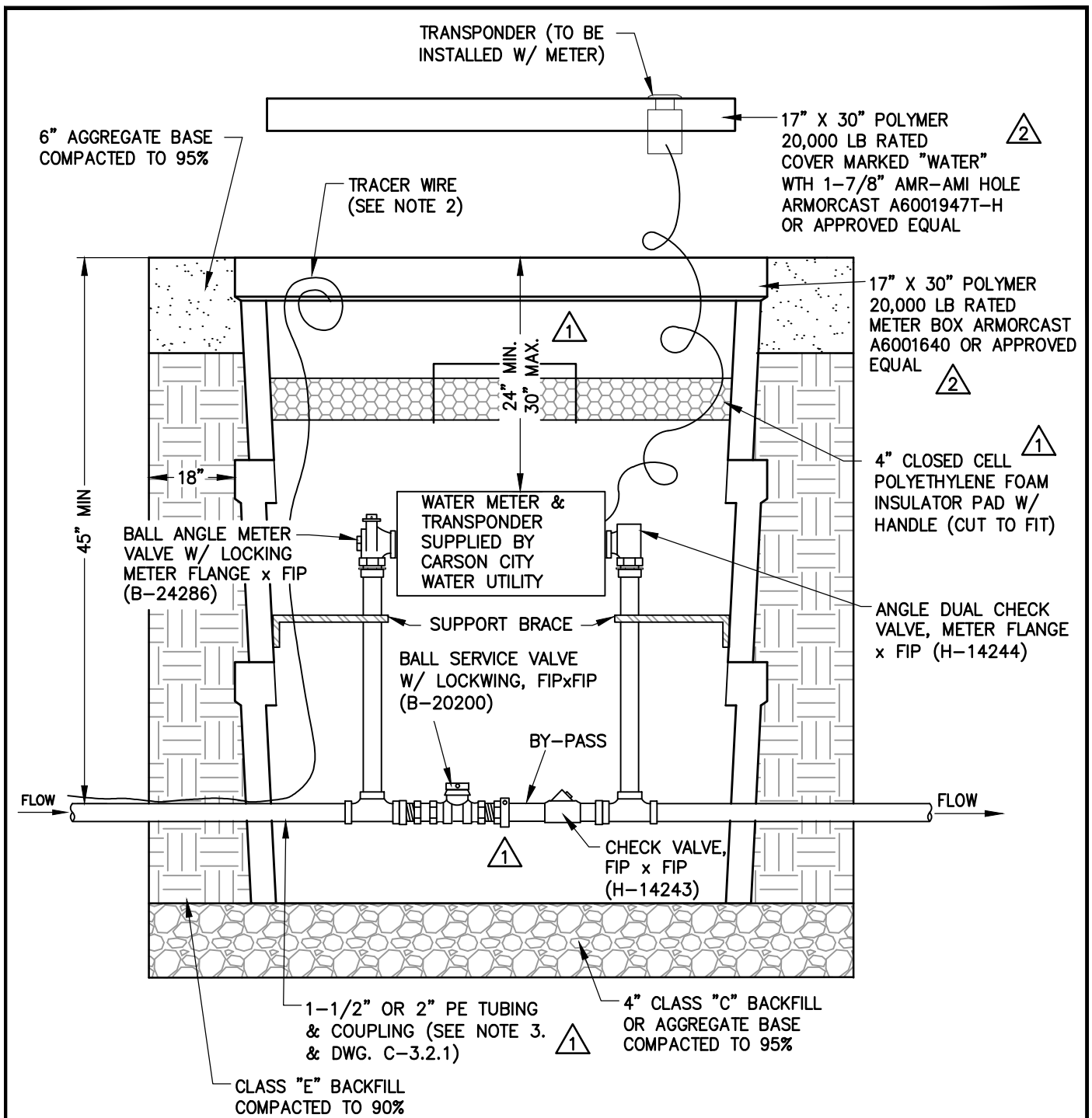
**TYPICAL SECTION**  
NTS

**NOTES:**

1. MUELLER 18 INCH LOCKING LID (PART No. TRPL-780113) AND 27 INCH x 18 INCH FRAME.
2. MUELLER EZ-Vault METER SETTER-RIGID PVC, FACTORY EQUIPPED AS SHOWN, CONFORMING TO AWWA C800.
3. WATER METER SHALL BE NO MORE THAN 30 INCHES FROM TOP OF LID AND NOT LESS THAN 24 INCHES FROM TOP OF LID.
4. A 2 INCH METER SET REQUIRES A 2 INCH MINIMUM SERVICE LINE.
5. PIT SETTER EXTENSION, 6" TOTAL MAX. SHALL ONLY BE USED UPON APPROVAL BY CARSON CITY WATER UTILITY



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 5		<b>1 1/2" - 2"</b> <b>PIT SETTER</b>	CARSON CITY
	INSUL PAD	9/17		DRAWING NO. C-3.2.5 (203,307)
				DATE
				SEP 2017
APPROVED BY:		9/17		

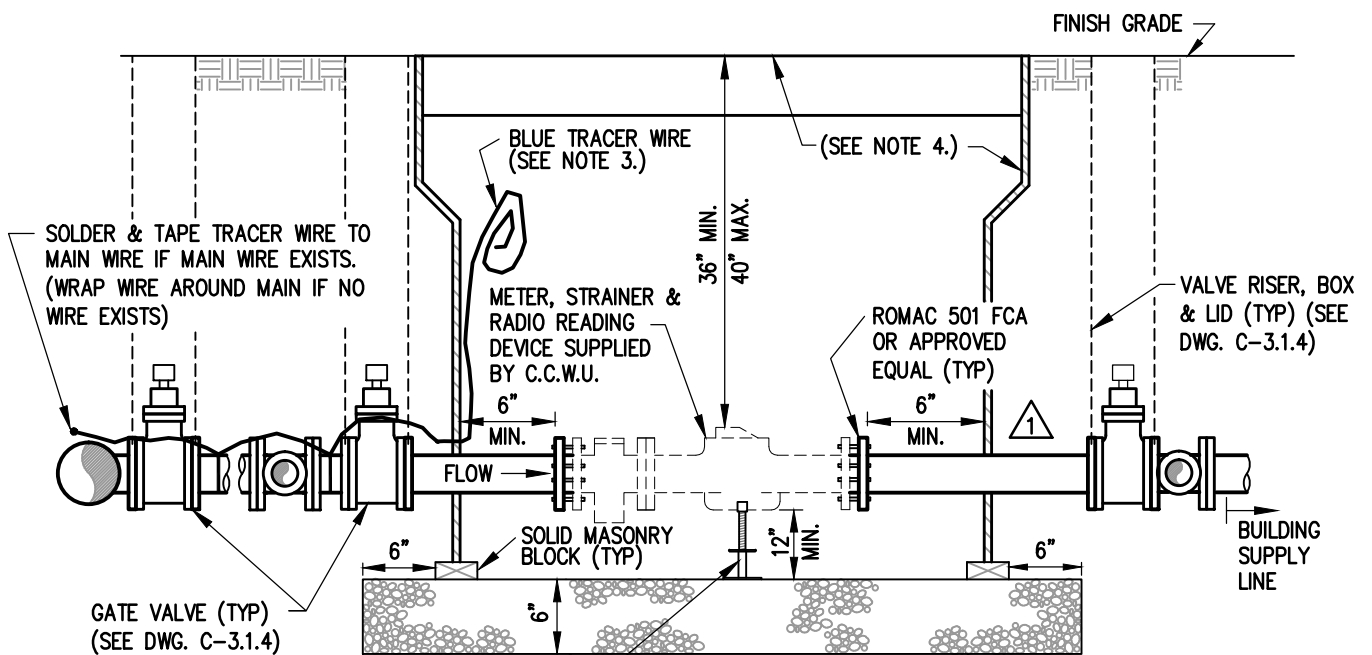
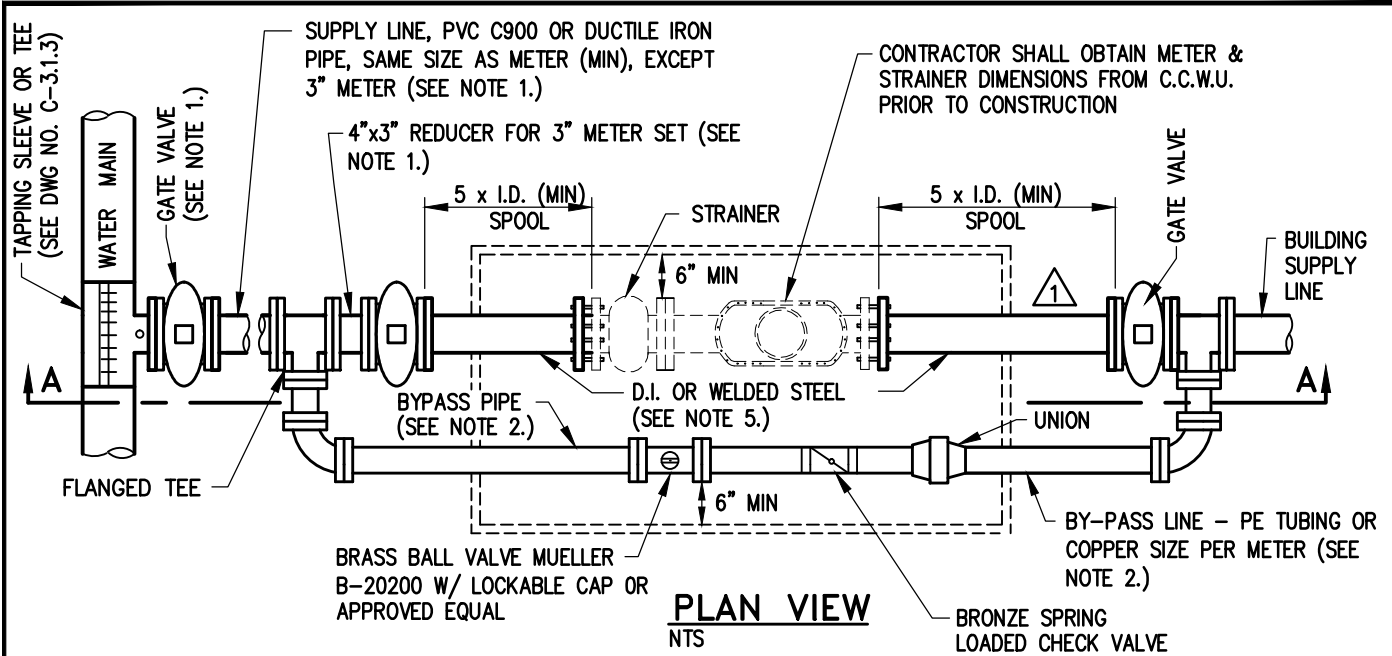


**TYPICAL SECTION**  
NTS

**NOTES:**

1. ALL FITTINGS SHALL COMPLY WITH ANSI/NSF 372 REGARDING LOW LEAD CONTENT.
2. EXTEND TRACER WIRE AT LEAST 48" INTO METER BOX.
3. A 2 INCH METER SET REQUIRES A 2 INCH MINIMUM SERVICE LINE.
4. METER BOXES SHALL BE LOCATED OUTSIDE OF VEHICLE TRAFFIC AREAS AND PARKING SHALL NOT BE ALLOWED OVER A METER BOX.

NO.   REVISION   DATE			STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION		SECTION	
1	NOTE 3	9/17	<b>1 1/2" - 2" METER SET</b>		CARSON CITY	
2	TRAF RATING	6/19			DRAWING NO. C-3.2.5.1 (203, 307)	
					DATE JUN 2019	
APPROVED BY:		6/19				

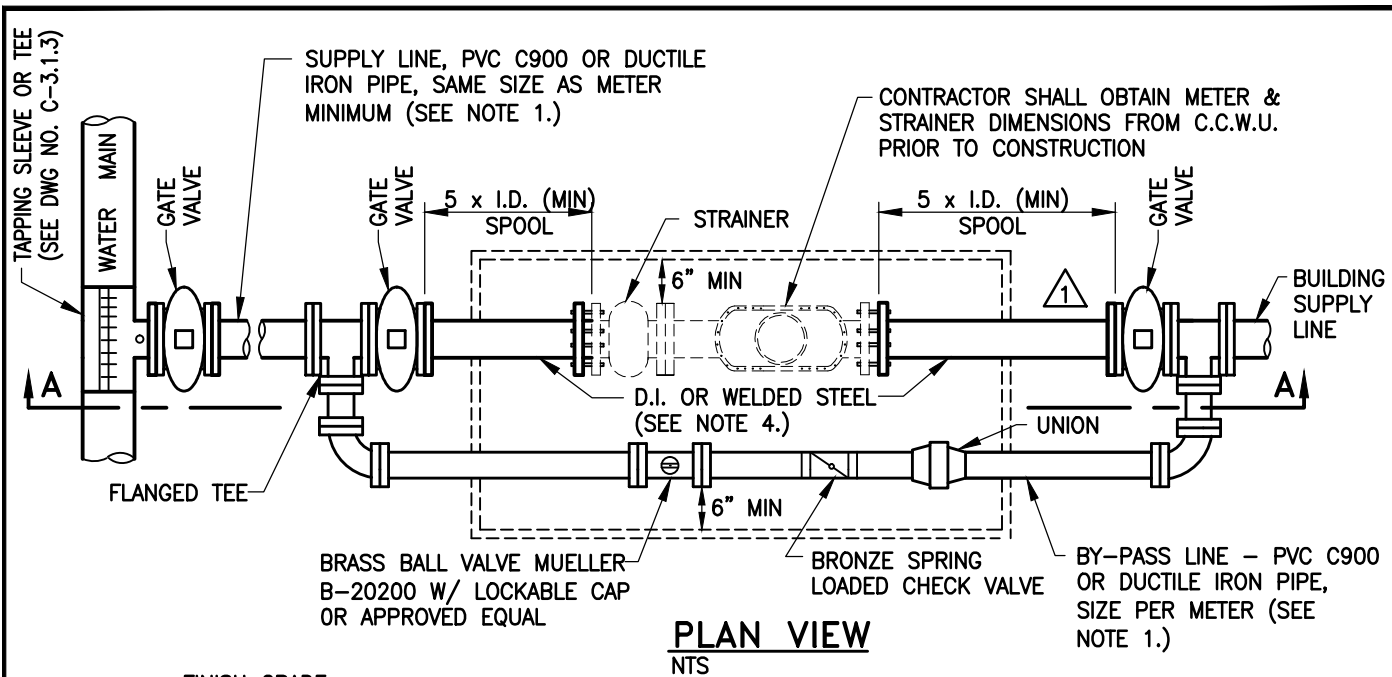


**NOTES:**

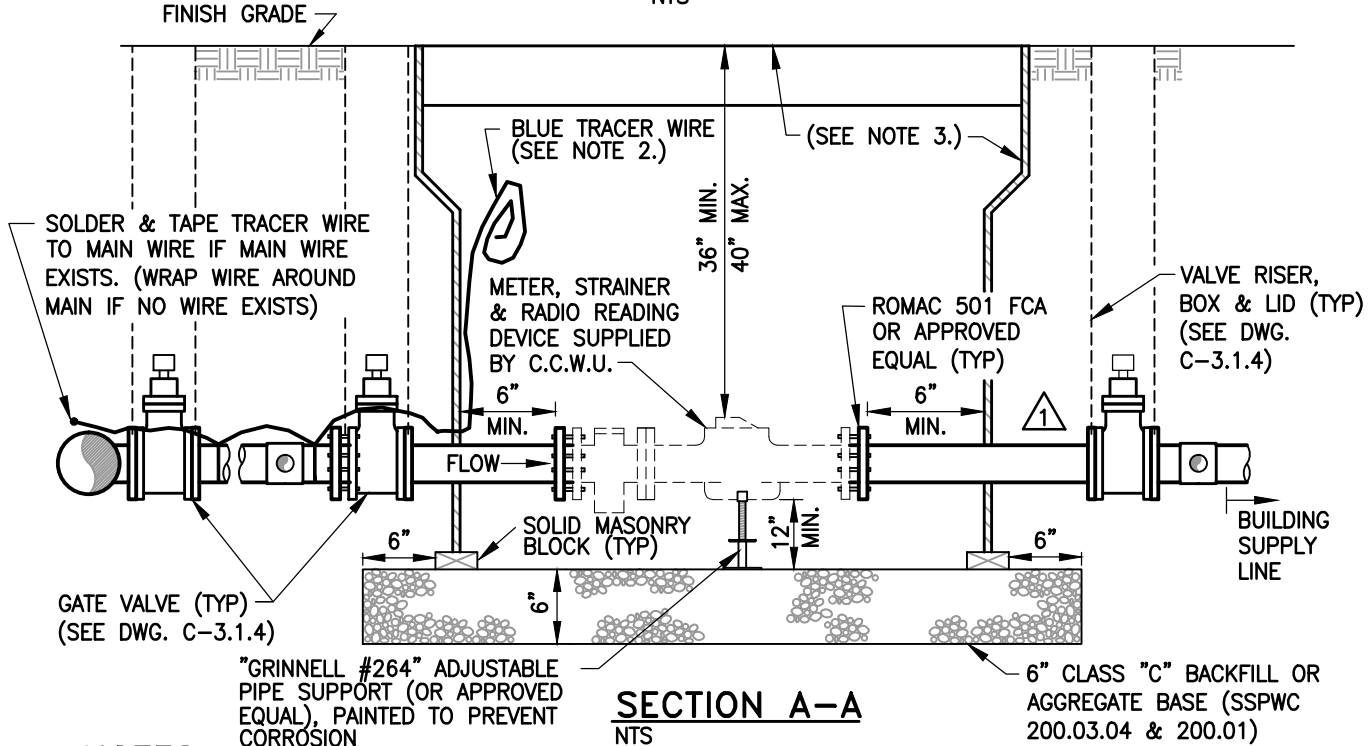
1. A 3 INCH METER SET REQUIRES A 4 INCH MINIMUM GATE VALVE AT THE MAIN AND A 4 INCH MINIMUM SUPPLY LINE.
2. 3 INCH METER SETS USE 1-1/2 INCH BY-PASS. 4 INCH METER SETS USE 2 INCH BY-PASS.
3. BLUE TRACER WIRE (SEE DWG. C-1.2.1) SHALL BE TAPED EVERY 5 FEET TO PIPE; EXTEND FROM MAIN TO A MINIMUM OF 48 INCHES INTO BOX.
4. PROVIDE CHRISTY B52 BOX WITH M3 LID. WHEN A LOCATION OUTSIDE OF PAVEMENT IS NOT POSSIBLE PROVIDE AN H20 TRAFFIC RATED BOX WITH AN H20 TRAFFIC RATED READING LID.
5. STEEL PIPE SHALL BE PRIMED AND WRAPPED, MIN 10 MILS (CONFORMING TO SSPWC SECTION 203.07.04)
6. STRAINER, SWING CHECK VALVE AND ALL GATE VALVES (EXCEPT GATE VALVE AT MAIN) SHALL BE FLGxFLG, F.C.A's SHALL BE RESTRAINING TYPE, ROMAC OR APPROVED EQUAL. ALL NUTS, BOLTS & WASHERS SHALL BE TYPE 18-8 STAINLESS STEEL (304 OR 304L).

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REM CHK VLV	9/17	<b>3" AND 4" SERVICE &amp; METER SET</b>	CARSON CITY
				DRAWING NO. C-3.2.6 (203, 307)
				DATE SEP 2017
APPROVED BY:		9/17		





**PLAN VIEW**  
NTS

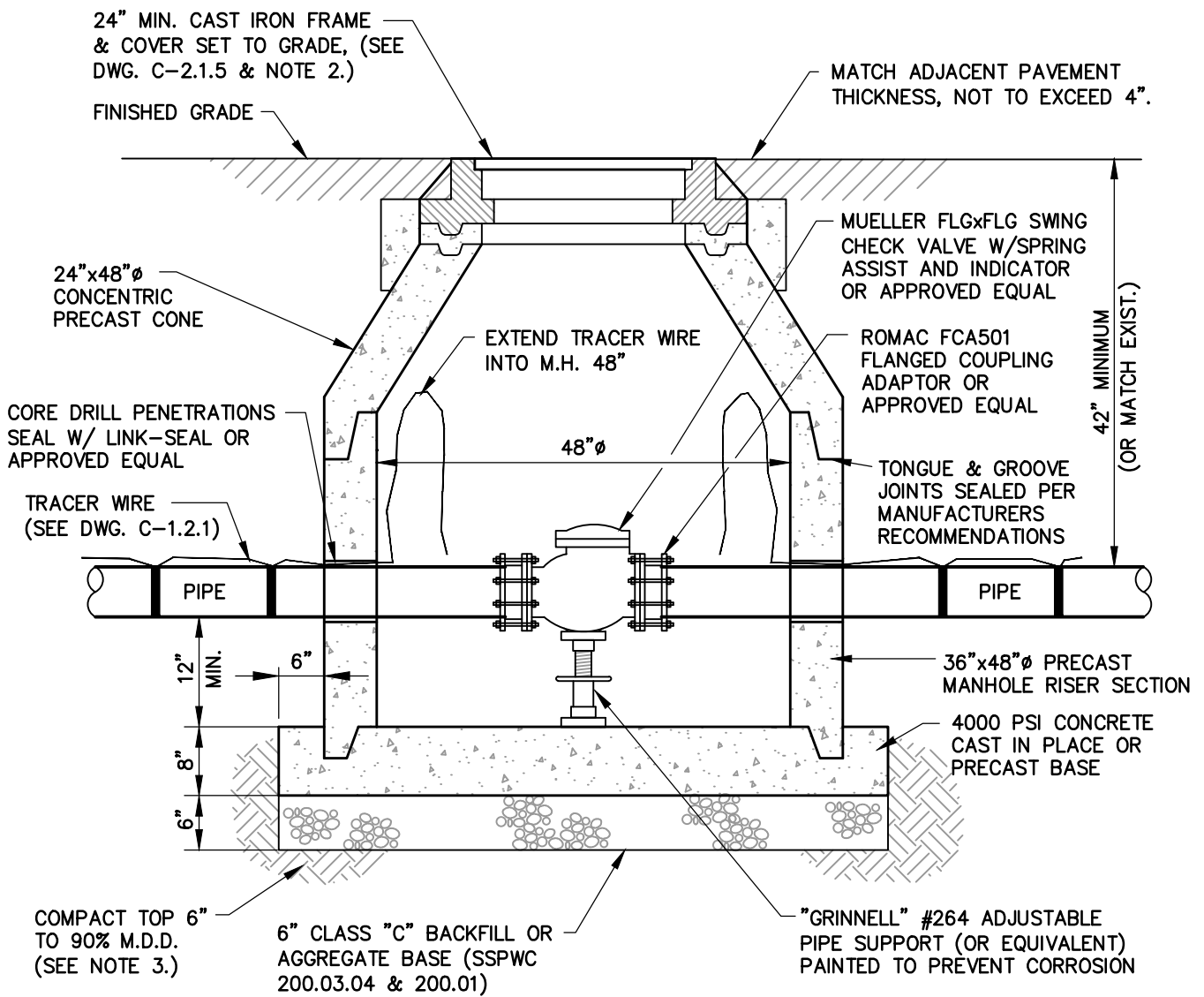


**SECTION A-A**  
NTS

**NOTES:**

1. 6 INCH METER SETS; USE 4 INCH BY-PASS. 8 INCH METER SETS; USE 6 INCH BY-PASS.
2. BLUE TRACER WIRE (SEE DWG. C-1.2.1) SHALL BE TAPED EVERY 5 FEET TO PIPE; EXTEND FROM MAIN TO A MINIMUM OF 48 INCHES INTO BOX.
3. PLANS SHALL SPECIFY WATERPROOF VAULT FOR 6 INCH AND 8 INCH METERS. WHEN A LOCATION OUTSIDE OF PAVEMENT IS NOT POSSIBLE PROVIDE AN H2O TRAFFIC RATED BOX WITH H2O TRAFFIC RATED READING LID.
4. STEEL PIPE SHALL BE PRIMED AND WRAPPED, MIN 10 MILS (CONFORMING TO SSPWC SECTION 203.07.04)
5. STRAINER, SWING CHECK VALVE AND ALL GATE VALVES (EXCEPT GATE VALVE AT MAIN) SHALL BE FLGxFLG, ALL NUTS, BOLTS & WASHERS SHALL BE TYPE 18-8 STAINLESS STEEL (304 OR 304L). F.C.A.'s SHALL BE RESTRAINING TYPE, ROMAC OR APPROVED EQUAL

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REM CHK VLV	9/17	<b>6" AND 8" SERVICE &amp; METER SET</b>	CARSON CITY
				DRAWING NO. C-3.2.7 (203, 307)
				DATE SEP 2017
APPROVED BY:		9/17		



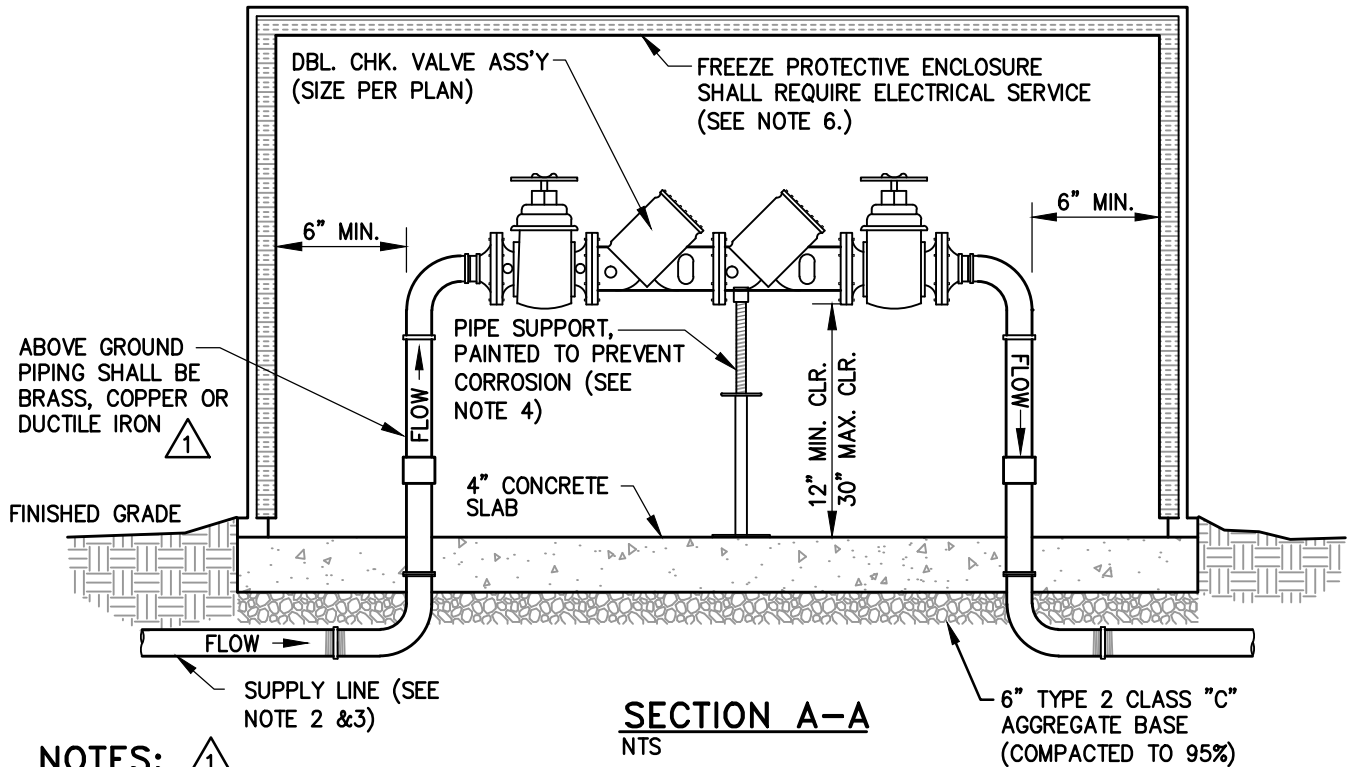
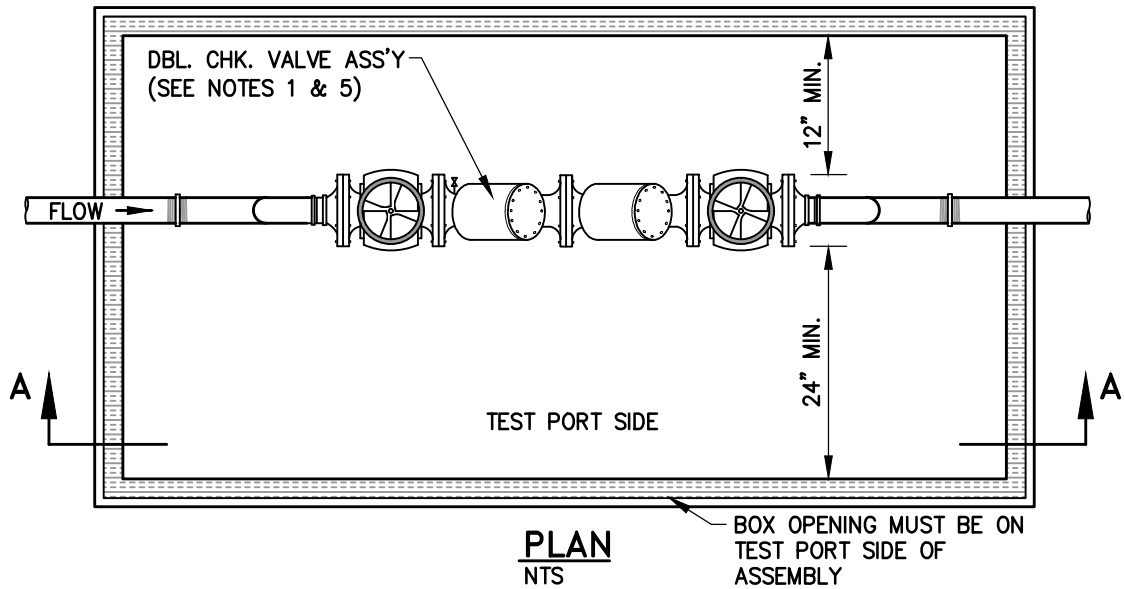
**TYPICAL SECTION**  
NTS

**NOTES:**

1. CENTER CHECK VALVE IN VAULT.
2. MANHOLE FRAME AND COVER TO BE SOUTH BAY FOUNDRY "SBF 1900 CPH" (CLOSED PICK HOLE) OR EQUAL AND MUST BE MARKED "WATER".
3. MANHOLES MUST BE WATER-TIGHT.
4. COMPACT TOP 6 INCHES SUBGRADE TO 90% M.D.D. PRIOR TO PLACING BACKFILL.
5. CHECK VALVES 12 INCHES OR LARGER REQUIRE SPECIAL DESIGN AND APPROVAL BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
6. CHECK VALVES INSTALLED ON PRIVATE FIRE HYDRANT LINES ARE OWNED, OPERATED AND MAINTAINED BY THE PROPERTY OWNER
7. CHECK VALVES SHALL BE LOCATED OUTSIDE THE RIGHT-OF-WAY AND AS CLOSE AS POSSIBLE TO THE PROPERTY LINE.
8. SINGLE CHECK VALVES INSTALLED ON PUBLIC WATER MAINS FOR ZONE SEPARATION SHALL BE LOCATED IN THE RIGHT OF WAY AS DIRECTED BY THE CITY ENGINEER, HAVE A VALVED BYPASS LINE SIZED BY THE DESIGN ENGINEER AND MAY REQUIRE UPSTREAM AND/OR DOWNSTREAM ISOLATION VALVES TO ALLOW FOR MAINTENANCE AND REPAIR.



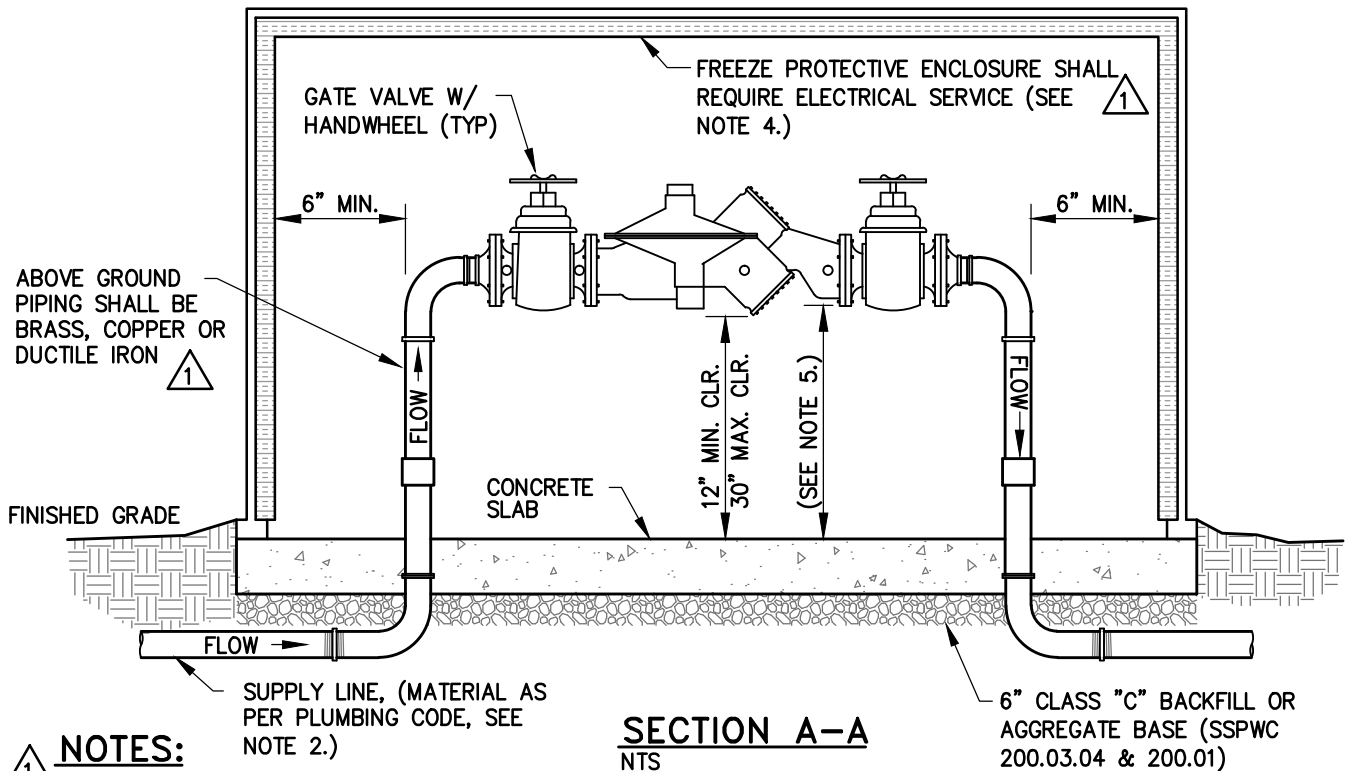
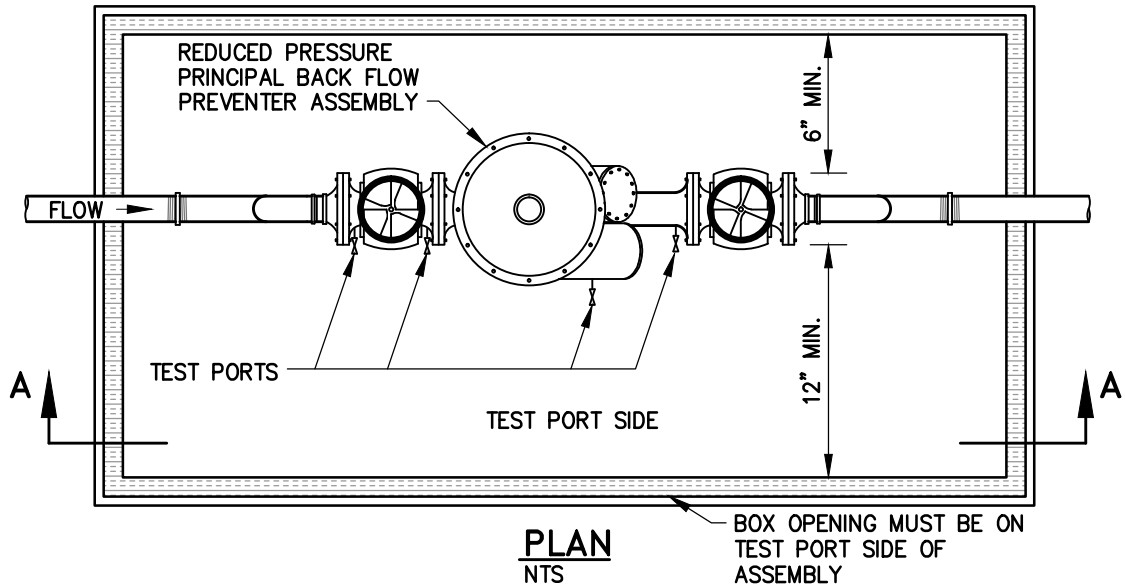
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 7 & 8	3/22		CARSON CITY
			<b>SINGLE CHECK VALVE</b>	DRAWING NO.
				C-3.3.1 (203,307)
APPROVED BY:		3/22		DATE
				MAR 2022



**NOTES:**

1. DOUBLE CHECK VALVE BACKFLOW ASSEMBLY SHALL COMPLY WITH AWWA C510, BE USC APPROVED AND TESTED BY AN APPROVED CERTIFIED BACKFLOW ASSEMBLY TESTER PRIOR TO APPROVAL OF ANY CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION.
2. ASSEMBLIES AND PIPING ON FIRE LINES SHALL BE FM/UL APPROVED AND CONFORM TO THE APPLICABLE NFPA REQUIREMENTS.
3. NO OUTLET TEE, TAP OR CONNECTION SHALL BE INSTALLED BETWEEN SERVICE CONNECTION AND BACKFLOW PREVENTION ASSEMBLY.
4. SUPPORTS REQUIRED FOR ASSEMBLIES 2-1/2 INCHES AND LARGER.
5. THE BACKFLOW PREVENTION ASSEMBLY IS OWNED AND MAINTAINED BY THE CUSTOMER AND SHALL BE LOCATED AS CLOSE TO THE PROPERTY LINE AS POSSIBLE.
6. INSTALL ADEQUATE DRAINAGE TO MAINTAIN AIRGAP BELOW ASSEMBLY.
7. ASSEMBLIES AND PIPING ON FIRE LINES SHALL BE FM/UL AND CONFORM TO THE APPLICABLE NFPA. THRUST BLOCKING AND/OR MECHANICAL RESTRAINTS SHALL BE PROVIDED AS NECESSARY.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	NOTE 1& 5	9/17	<b>BACKFLOW PREVENTER ASSEMBLY (DOUBLE CHECK TYPE)</b>	CARSON CITY
				DRAWING NO. C-3.3.2 (203,307,UPC)
				DATE SEP 2017
APPROVED BY:		9/17		

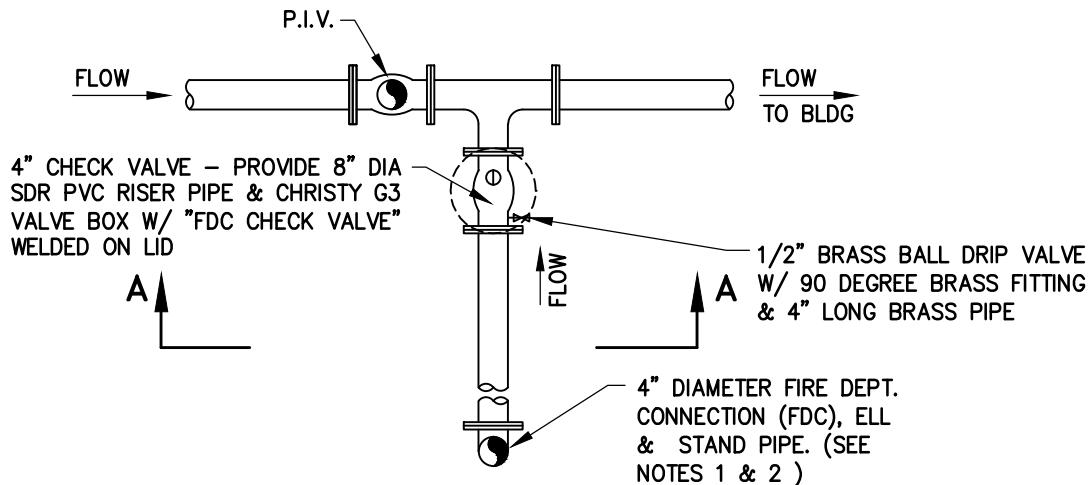


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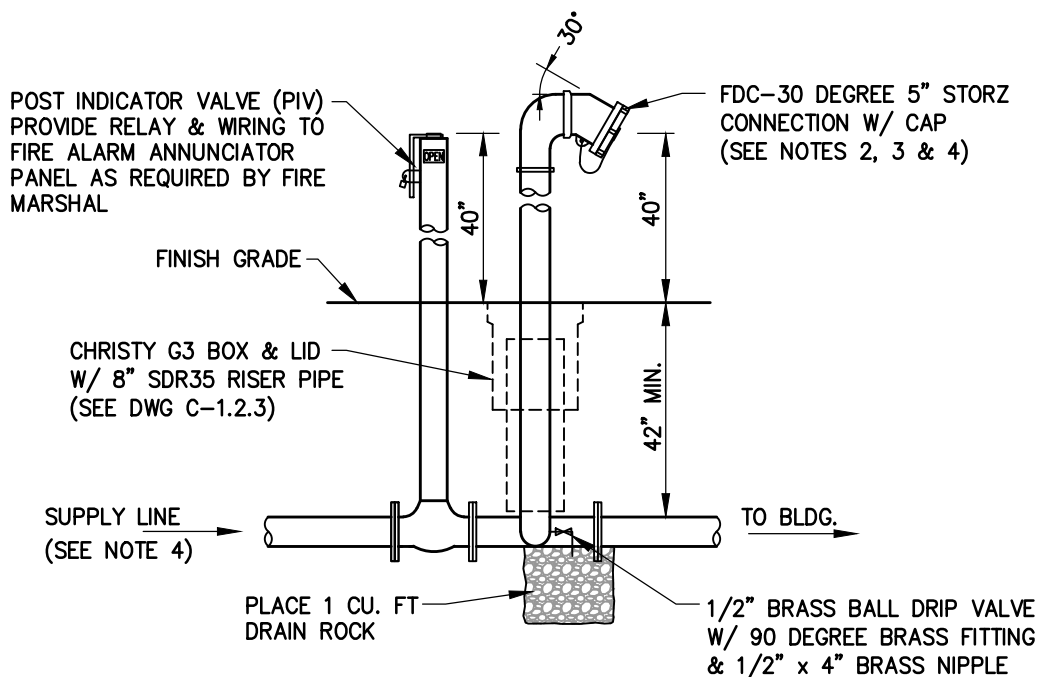
**NOTES:**

1. REDUCED PRESSURE PRINCIPLE BACKFLOW ASSEMBLY SHALL COMPLY WITH AWWA C511, BE USC APPROVED AND APPROVED BY CARSON CITY PUBLIC WORKS AND TESTED BY AN APPROVED CERTIFIED BACKFLOW ASSEMBLY TESTER PRIOR TO APPROVAL OF ANY CERTIFICATE OF OCCUPANCY OR FINAL INSPECTION.
2. ASSEMBLIES AND PIPING ON FIRE LINES SHALL BE FM/UL APPROVED AND CONFORM TO THE APPLICABLE NFPA REQUIREMENTS.
3. NO OUTLET TEE, TAP OR CONNECTION BETWEEN SERVICE CONNECTION AND BACKFLOW PREVENTION ASSEMBLY. LOCATE DIRECTLY BEHIND WATER METER, ALL OTHER LOCATIONS REQUIRE PRIOR APPROVAL BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
4. INSTALL ADEQUATE DRAINAGE TO MAINTAIN AIRGAP, REFER TO RELIEF VALVE DISCHARGE RATE FOR SIZING.
5. SUPPORTS REQUIRED FOR ASSEMBLIES 2-1/2 INCHES AND LARGER.
6. THE BACKFLOW PREVENTION ASSEMBLY IS OWNED AND MAINTAINED BY THE CUSTOMER AND SHALL BE LOCATED AS CLOSE TO THE PROPERTY LINE AS POSSIBLE.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTES 1 & 6	9/17	<b>BACKFLOW PREVENTER ASSEMBLY (REDUCED PRESSURE TYPE)</b>	CARSON CITY
				DRAWING NO. C-3.3.3
				DATE SEP 2017
APPROVED BY:		9/17		




**PLAN VIEW**  
NTS





**SECTION A-A**  
NTS

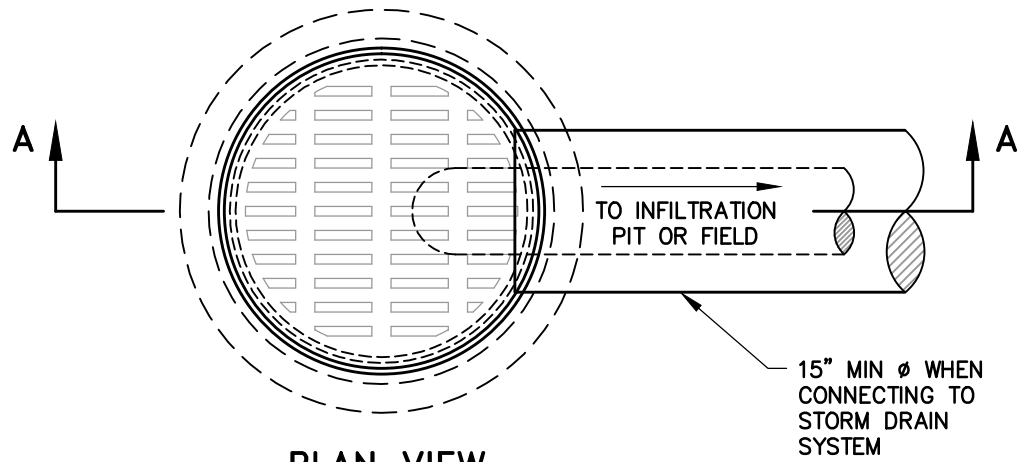
**NOTES:**

1. CARSON CITY FIRE MARSHAL SHALL SPECIFY LOCATION OF FIRE DEPARTMENT CONNECTION (FDC). CLEARANCE AROUND FDC SHALL BE 3 FEET RIGHT, LEFT, REAR, AND 20 FEET IN FRONT.
2. A METAL SIGN WITH RAISED LETTERS AT LEAST 1 INCH IN SIZE SHALL BE MOUNTED ON ALL FIRE DEPARTMENT CONNECTIONS SERVICING AUTO SPRINKLERS, STANDPIPES OR FIRE PUMPS. SUCH SIGNS SHALL READ "AUTO SPRINKLER", "STANDPIPE", OR "TEST CONNECTION" AS APPLICABLE. WHERE THE FDC DOES NOT SERVE THE ENTIRE BUILDING A SIGN SHALL BE PROVIDED INDICATING THE PORTIONS OF THE BUILDING TO BE SERVED.
3. FIRE PROTECTION FACILITIES ARE OWNED AND MAINTAINED BY THE CUSTOMER.
4. ASSEMBLIES AND PIPING ON FIRE LINES SHALL BE FM/UL AND CONFORM TO THE APPLICABLE NFPA. THRUST BLOCKING AND/OR MECHANICAL RESTRAINTS SHALL BE PROVIDED AS NECESSARY.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>POST INDICATOR VALVE AND FIRE DEPT. CONNECTION</b>	CARSON CITY
				DRAWING NO. C-3.3.4 (203, 207)
				DATE
APPROVED BY: 	9/17			SEP 2017

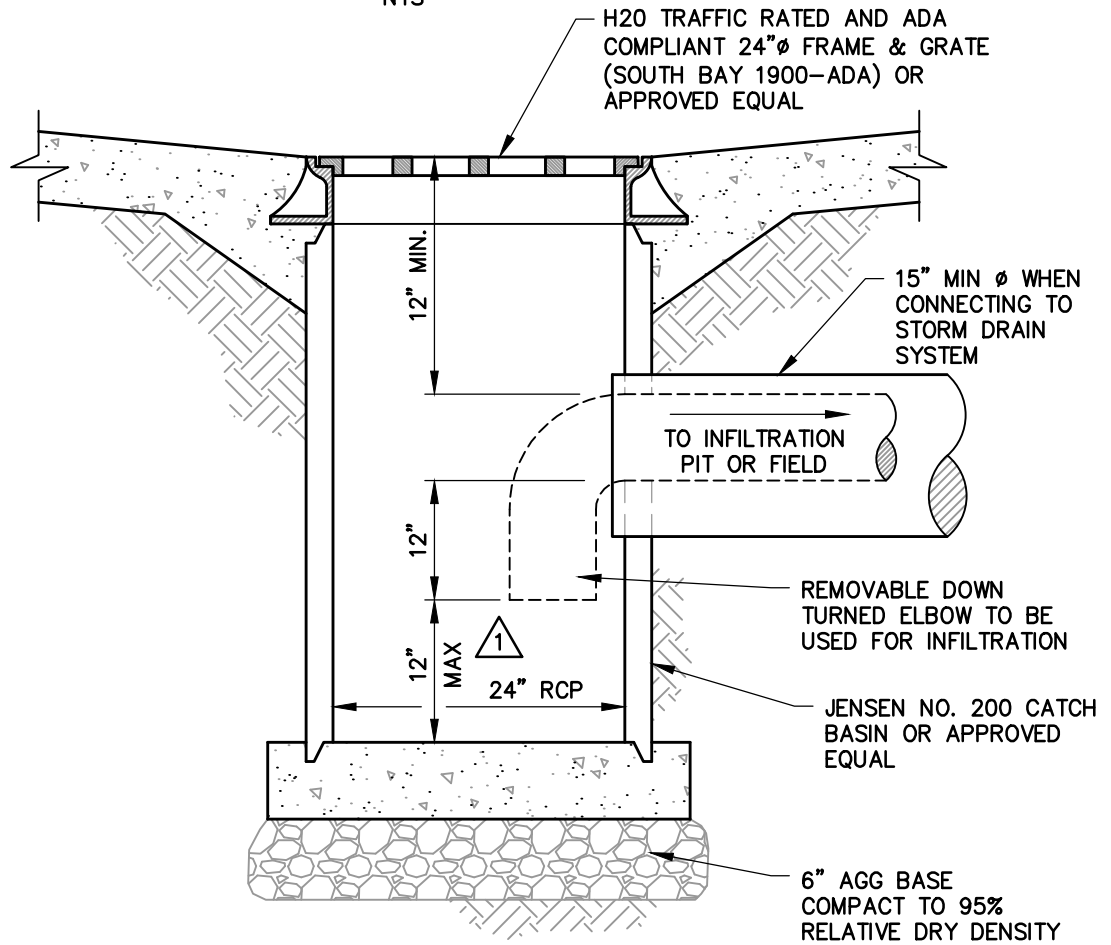
1. MANHOLE AND CATCH BASIN MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF SECTION 204 "MANHOLES AND CATCH BASINS" OF THE SSPWC.
2. MARKING TAPE SHALL BE INSTALLED 12 INCHES ABOVE ALL STORM DRAIN PIPE. TAPE WIDTH SHALL BE 3 INCHES; THICKNESS SHALL BE FOUR (4) MIL OR GREATER AND SHALL BE GREEN AND BEAR LARGE PRINTING DENOTING "CAUTION BURIED STORM DRAIN LINE BELOW" OR EQUIVALENT WORDING.
3. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH @ 28 DAYS, (CURB AND GUTTER TRANSITION ONLY, ALL UNEXPOSED CONCRETE MAY BE 3000 PSI) MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202.
4. REINFORCING STEEL SHALL BE GRADE 40 AND HAVE 1.5 INCHES MINIMUM CLEAR COVER.
5. EACH CATCH BASIN SHALL HAVE A 4 INCH ALUMINUM BLUE DISK WITH FISH IMAGE AND THE WORDS "NO DUMPING! DRAINS TO RIVER" (ALMETEK SD-4 OR APPROVED EQUAL) INSTALLED ON THE TOP OF THE CURB BOX.
6. FRAMES AND GRATES SHALL BE MATCHED TO ACHIEVE A CLOSE TOLERANCE FIT, WITH MINIMAL GAPS, AS APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
7. STORM DRAINAGE IMPROVEMENTS SHALL INCORPORATE WATER QUALITY AND EROSION CONTROLS IN ACCORDANCE WITH CARSON CITY DEVELOPMENT STANDARDS-DIVISION 13, "EROSION & SEDIMENT CONTROL".
8. PRECAST MANHOLES SECTIONS, OTHER THAN GRADE RINGS, SHALL BE JOINED WITH FLEXIBLE PLASTIC GASKET MATERIAL SUCH AS RAM-NEK OR APPROVED EQUAL PER MANUFACTURERS RECOMMENDATIONS.
9. TRACER WIRE SHALL BE ATTACHED TO ANY STORM DRAIN LATERAL WHICH IS NOT PERPENDICULAR TO THE STORM DRAIN MAIN.
10. MANHOLES LOCATED OUTSIDE PAVED AREAS SHALL REQUIRE ALL WEATHER ACCESS ROADWAY CONSISTING OF 6 INCHES TYPE 2, CLASS B AGGREGATE BASE (CONFORMING TO THE SSPWC SECTION 200.01.02) AND STORM DRAIN MANHOLE MARKERS BE INSTALLED. STORM DRAIN MANHOLE MARKERS SHALL BE GREEN CARSONITE UTILITY MARKER (CUM 375), 5 FEET-2 INCHES (5'-2") WITH DECAL READING "STORM DRAIN MANHOLE". PLACE MARKERS ON EASEMENT LINE NEAREST TO MANHOLE OR AS DIRECTED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
11. MANHOLE CONCRETE COLLARS SHALL BE LEFT 2 1/2 INCHES TO 3 INCHES BELOW FINISHED ASPHALT SURFACE. APPLY AN APPROVED TACK COAT (CONFORMING TO THE SSPWC SECTION 316) AND FILL VOID BETWEEN ADJACENT PAVEMENT AND FRAME WITH TYPE 3 AC 20 PAVING (CONFORMING TO THE SSPWC SECTION 320). APPLY FOG SEAL (CONFORMING TO SSPWC SECTION 317) TO THE ASPHALT SURFACE. ALL CUTS IN PAVING SHALL BE STRAIGHT AND EVEN. EXCEPTION: WHEN STRUCTURE NOT LOCATED IN ASPHALT PAVEMENT OR LOCATED IN AN UNPAVED AREA, EXTEND CONCRETE TO FINISH GRADE.
12. GRATES SHALL BE PLACED OUTSIDE OF THE PEDESTRIAN TRAVELED WAY. GRATE OPENINGS SHALL NOT EXCEED 0.5 INCHES IN WIDTH OR 4 INCHES IN LENGTH. GRATES SHALL BE TRAFFIC RATED AND ADA COMPLIANT.
13.  THE MATERIAL AND SHAPE OF THE STORM DRAIN SHALL BE IN ACCORDANCE WITH THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION". USE ROUND, ELLIPTICAL, SQUARE, OR RECTANGULAR REINFORCED CONCRETE PIPE (RCP) IN ACCORDANCE WITH ASTM C-789 OR C-850 UNDER ROADWAYS, DRIVEWAYS, AND OTHER TRAFFIC AREAS. RCP SHALL BE CLASS III (OR GREATER WHEN DESIGN DICTATES). OTHER PIPE MATERIALS MAY BE PERMITTED, AS APPROVED BY THE CITY FOR STORM DRAIN USE, EXCEPT FOR CORRUGATED METAL PIPE (CMP) WHICH ARE ONLY PERMITTED FOR RESIDENTIAL DRIVEWAY CULVERTS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	NOTE 13	3/22	<b>STORM DRAIN GENERAL NOTES</b>	CARSON CITY
				DRAWING NO. C-4.1.1
				DATE MAR 2022
APPROVED BY:		3/22		



**PLAN VIEW**

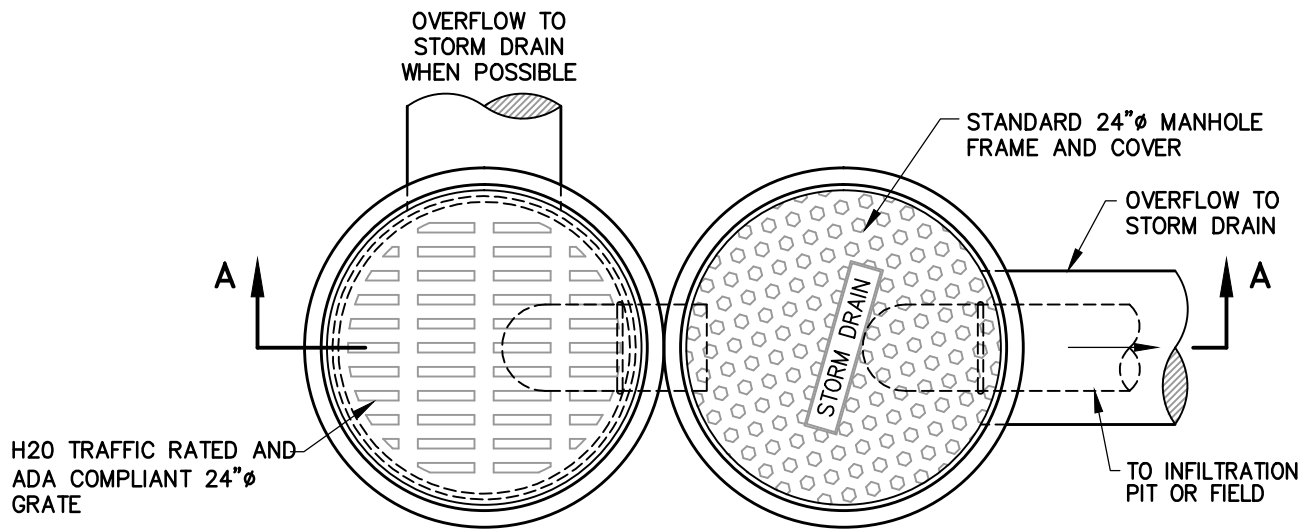
NTS



**SECTION A-A**

NTS

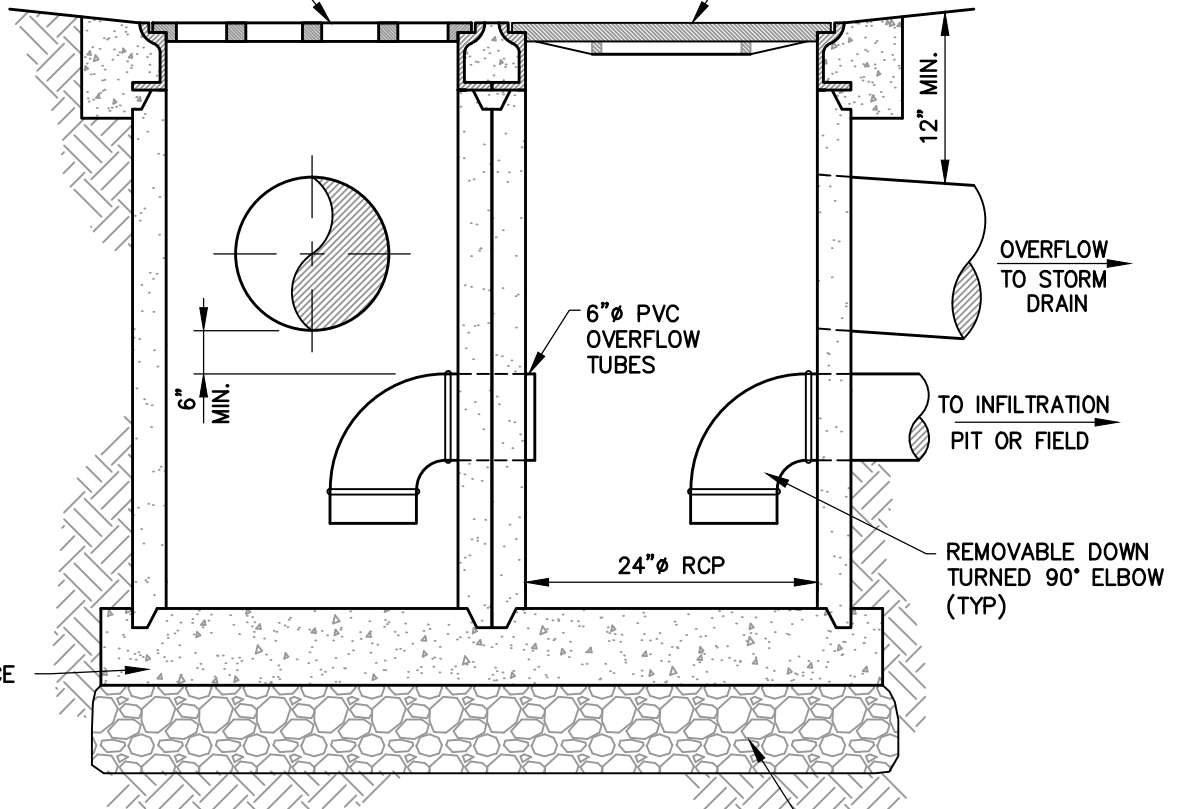
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	SUMP DEPTH	9/17	<b>CATCH BASIN TYPE 3</b>	CARSON CITY
				DRAWING NO. C-4.1.2
				DATE SEP 2017
APPROVED BY:		9/17		



**PLAN VIEW**  
NTS

H2O TRAFFIC RATED AND ADA COMPLIANT 24"Ø FRAME & GRATE (SOUTH BAY 1900-ADA) OR APPROVED EQUAL

STANDARD 24"Ø MANHOLE FRAME AND COVER

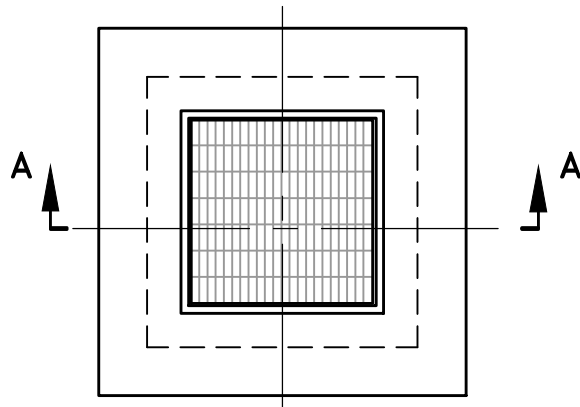


**SECTION A-A**  
NTS

6" AGG BASE COMPACT TO 95% RELATIVE DRY DENSITY

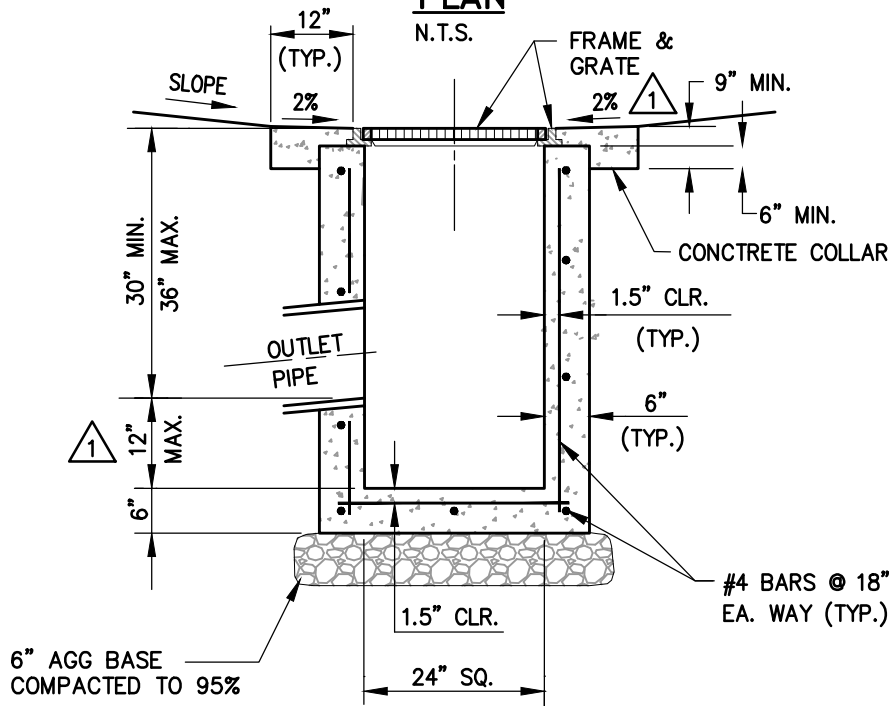
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>CATCH BASIN MODIFIED TYPE 3</b>	CARSON CITY
				DRAWING NO. C-4.1.3
				DATE
				SEP 2017
APPROVED BY: 		9/17		





**PLAN**

N.T.S.




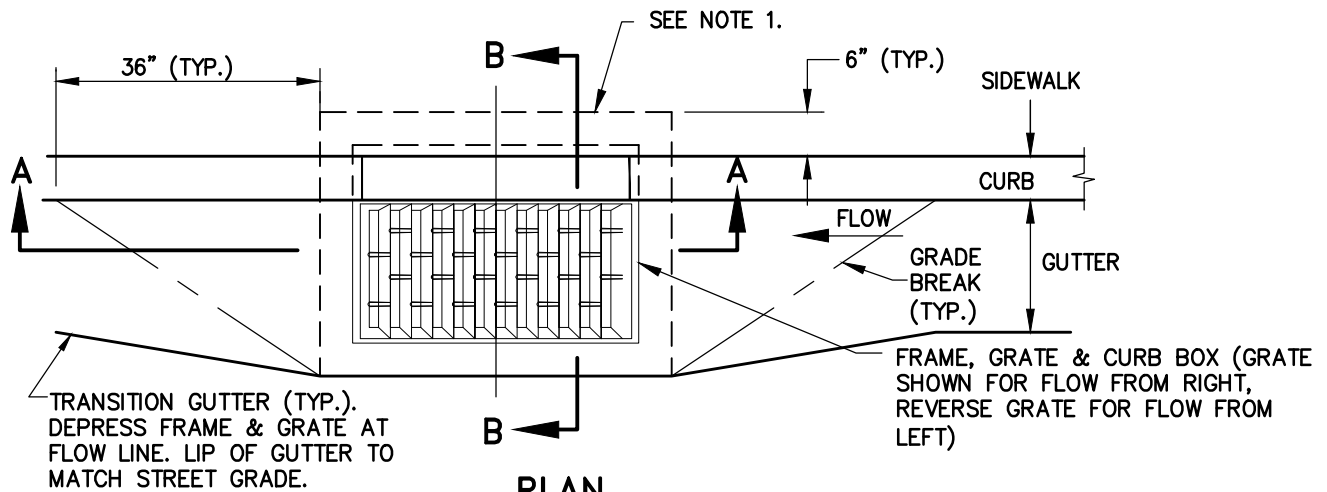
**SECTION A-A**

N.T.S.

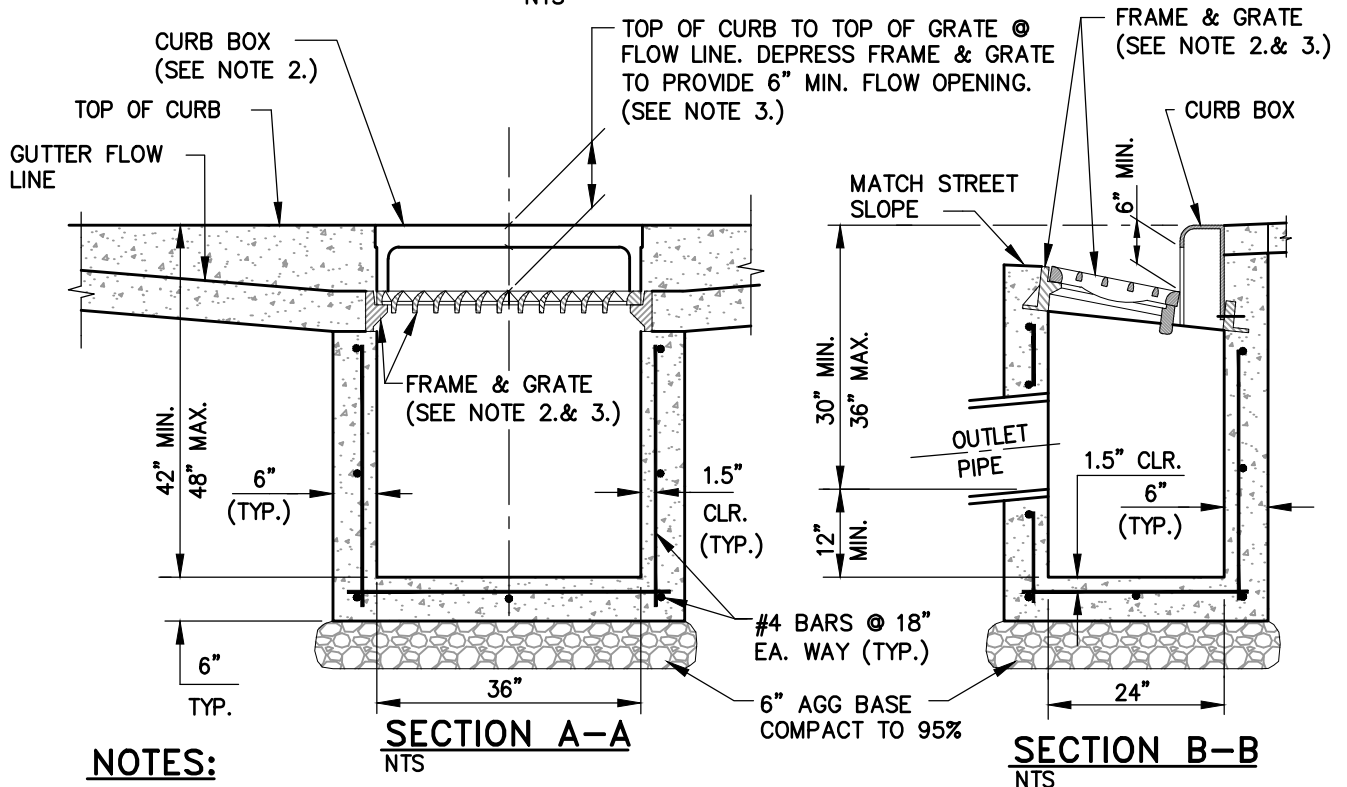
**NOTES:**

1. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH @ 28 DAYS, (FOR COLLAR ONLY, ALL UNEXPOSED CONCRETE MAY BE 3000 PSI) MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202.
- △ 2. REINFORCING STEEL SHALL BE GRADE 40 AND HAVE A MINIMUM OF 1.5 INCHES CLEAR COVER.
3. CONCRETE STRUCTURE MAY BE A PRE-CAST CONCRETE UNIT. BASE OF PRE-CAST CONCRETE UNIT SHALL BE PLACED ON 6 INCHES OF COMPACTED DRAIN ROCK.
4. FRAME & GRATE SHALL BE JENSEN ADA COMPLIANT FG2424H (SIZE VARIES) OR APPROVED EQUAL.
5. CATCH BASIN SHALL BE H20 TRAFFIC-RATED AND USED ONLY AT LOW POINTS IN ALLEYS OR PARKING AREAS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
△ 1	OUTLET HEIGHT		<b>CATCH BASIN TYPE 3-R</b>	CARSON CITY
	NOTE 2	9/17		DRAWING NO. C-4.1.4
				DATE
				SEP 2017
APPROVED BY: 		9/17		



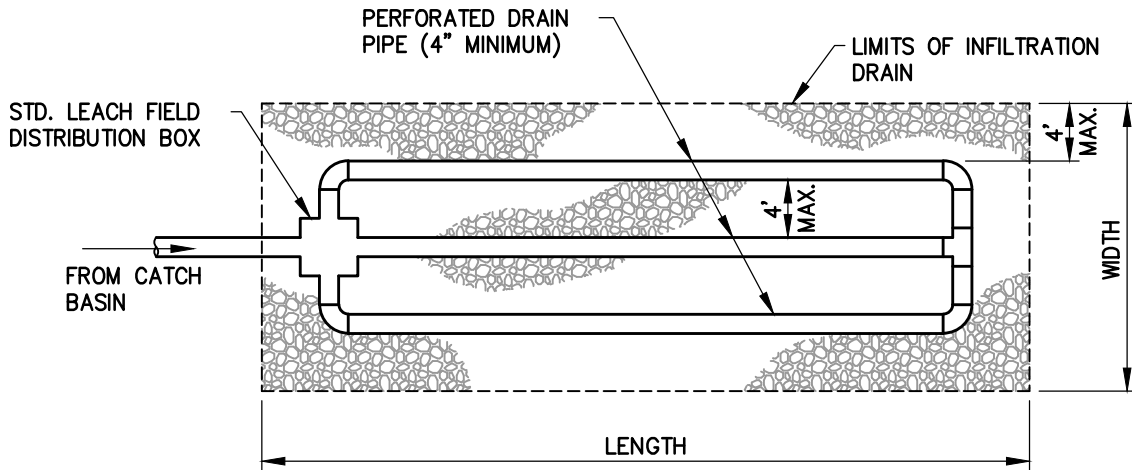
**PLAN**  
NTS



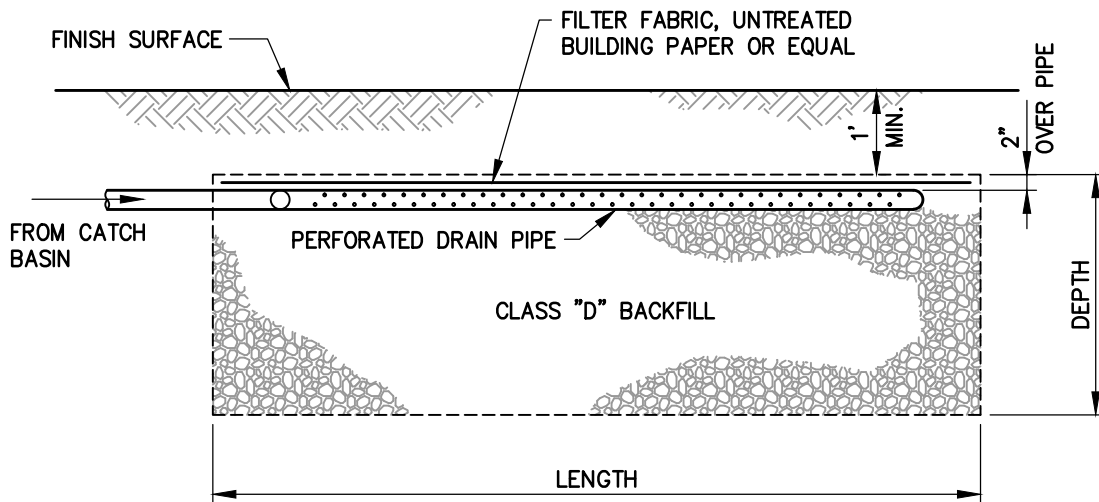
**NOTES:**

1. IF NO SIDEWALK IS PRESENT, POUR 6 INCH CONCRETE CURB STRUCTURE BEHIND GRATE AND TIE BEAM INTO BOX.
2. FRAME SHALL BE NEENAH R-3295 OR R-3067 SINGLE CURB UNIT WITH COMPLIANT TYPE L "VANE GRATE" AND CURB BOX, SOUTH BAY FOUNDRY VANE GRATE SOUTH BAY FOUNDRY 1947 OR APPROVED EQUAL, INSTALLED WITH PROPER FLOW DIRECTION.
3. TILT FRAME & GRATE AS REQUIRED TO ATTAIN 6 INCH MIN. FLOW OPENING & INSTALL DURABLE SHIMS BETWEEN THE CURB BOX & FRAME AS REQUIRED TO MATCH CURB BOX TO TOP OF CURB AND FACE OF CURB (SEE SECTION B-B).
4. CATCH BASIN TO BE INSTALLED OUTSIDE OF WALKING PATH. IF IT IS NOT POSSIBLE TO LOCATE CATCH BASIN OUTSIDE OF WALKING PATH THEN AN ADA COMPLIANT NEENAH MODEL DR/DL GRATE, SOUTH BAY FOUNDRY 1947-ADA OR APPROVED EQUAL SHALL BE USED UPON APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>CATCH BASIN TYPE 4-R</b>	CARSON CITY
				DRAWING NO. C-4.1.5
				DATE SEP 2017
APPROVED BY:		9/17		






**PLAN VIEW**  
NTS

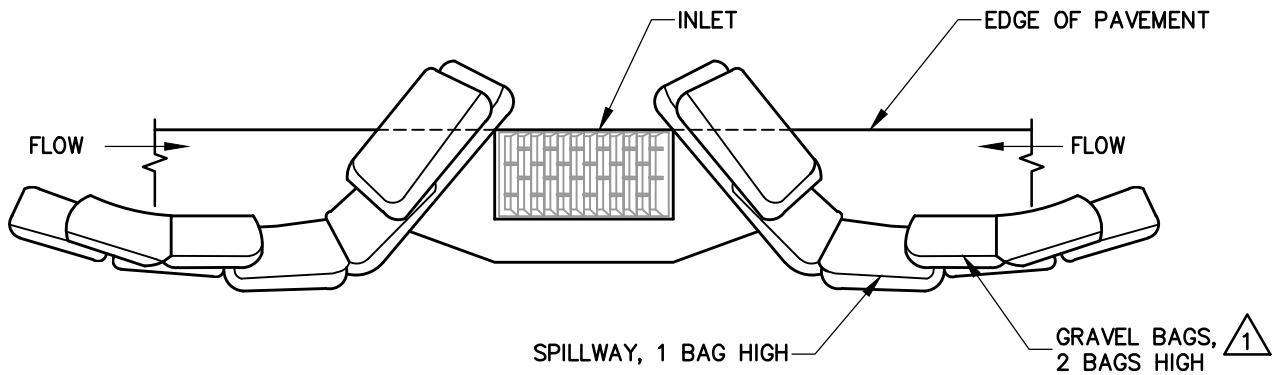


**PROFILE**  
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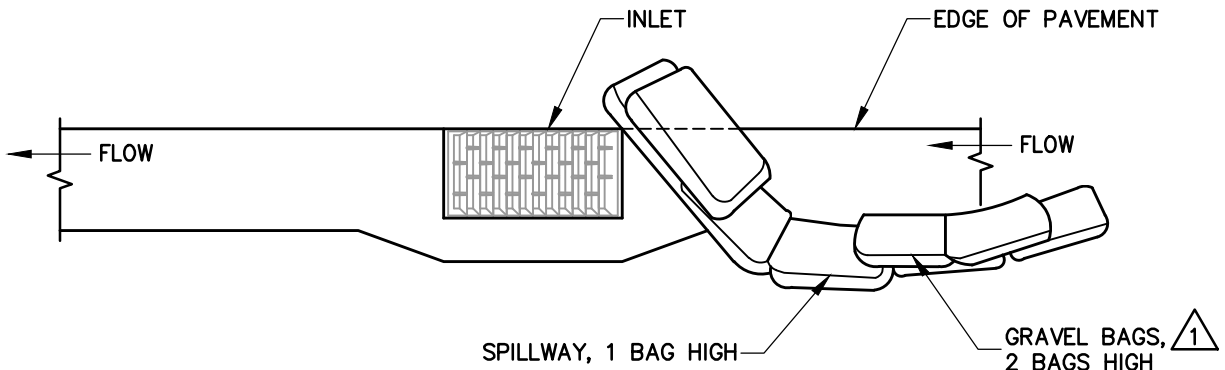
**NOTES**

1. DESIGN SIZE TO BE BASED ON PERCOLATION TESTS.
2. DESIGN STORM SHALL BE THE 5-YEAR, 10 MINUTE DURATION (MINIMUM).
3. VOLUME OF VOIDS SHALL BE CONSIDERED TO BE 35% MAXIMUM.
4.  CATCH BASIN WILL PROVIDE SILTING PROTECTION TO THE INFILTRATION FIELD AND WILL HAVE AN OIL TRAP. SEE CARSON CITY SPECIAL SECTION FOR STANDARD INFILTRATION PIT CATCH BASIN OR OVERFLOW PROTECTION CATCH BASIN.
5. NOT TO BE LOCATED IN RIGHT-OF-WAY.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
 1	OIL TRAP	9/17	<b>INFILTRATION DRAIN</b>	CARSON CITY
				DRAWING NO. C-4.1.6
				DATE SEP 2017
APPROVED BY: 		9/17		



**TYPICAL PROTECTION FOR INLET ON SUMP**  
NTS



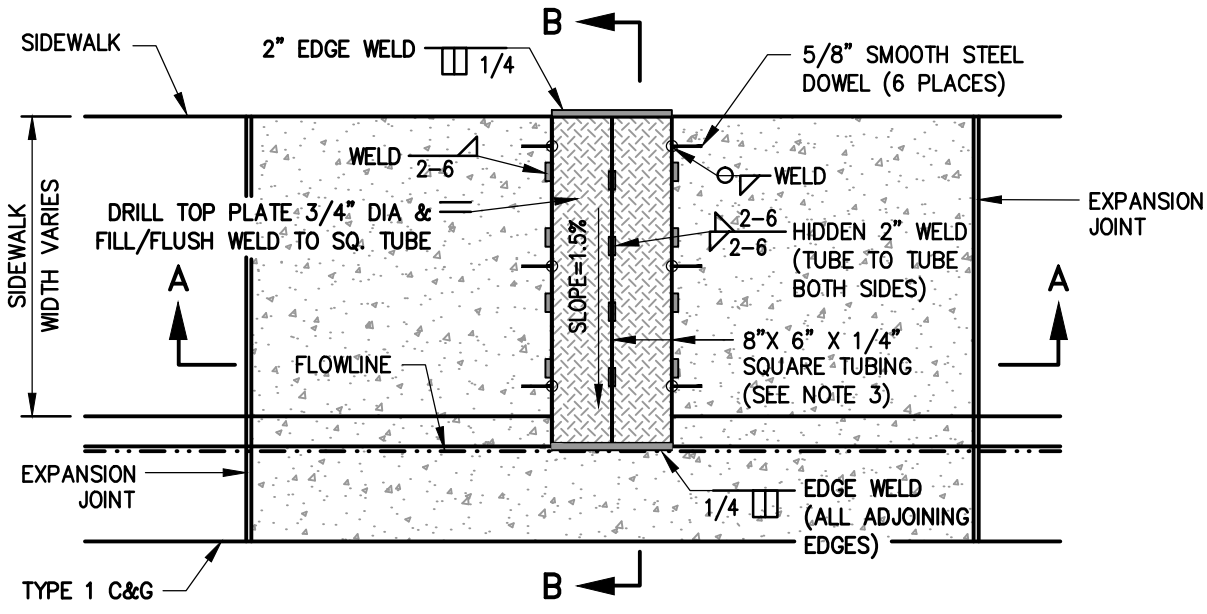
**TYPICAL PROTECTION FOR INLET ON GRADE**  
NTS

**NOTES:**

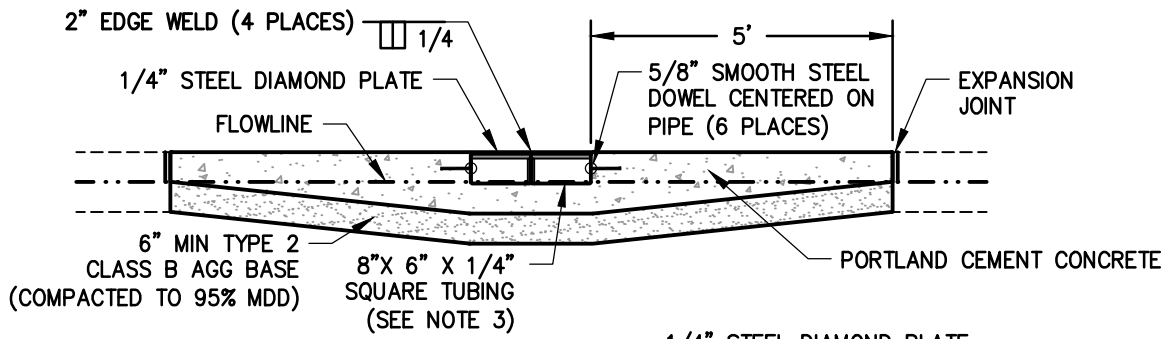
1. INTENDED FOR TEMPORARY SHORT-TERM USE.
2. USE TO MANAGE CURB WATER FLOW.
3. SEDIMENT CAPTURED BEHIND GRAVEL BAGS SHALL BE REMOVED WEEKLY DURING CONSTRUCTION.
4. INLET PROTECTION MUST BE PROPERLY MAINTAINED WHILE IN PLACE AND REMOVED WHEN REQUIREMENTS OF NDEP PERMIT HAVE BEEN MET.
5. GRAVEL BAGS SHALL BE FILLED WITH 3/8" - 3/4" WASHED ROCK.

2

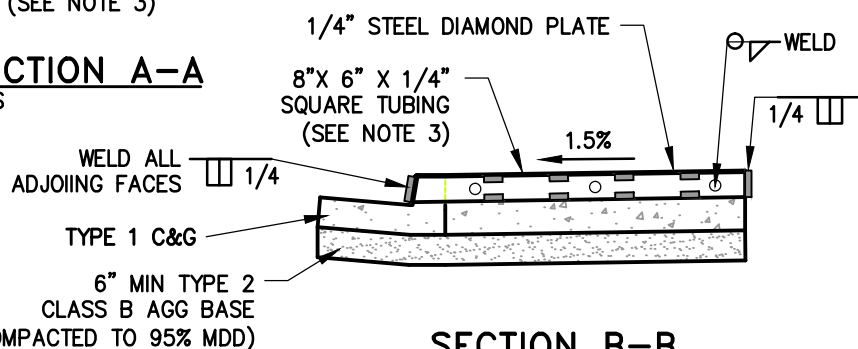
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	GRAVEL BAG	05/14	<b>STORM DRAIN INLET PROTECTION</b>	CARSON CITY
2	ROCK SIZE	9/17		DRAWING NO. C-4.1.7
APPROVED BY:		9/17		DATE SEP 2017



**PLAN VIEW**  
NTS



**SECTION A-A**  
NTS

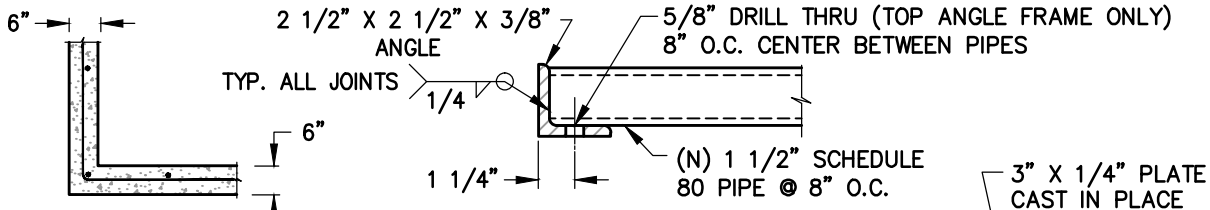


**SECTION B-B**  
NTS

**NOTES:**

1. SHARP EDGES SHALL BE GROUND OFF.
2. FIBER-REINFORCED PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH @ 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202. POLYPROPYLENE FIBERS SHALL BE ADDED TO THE P.C.C. PER THE MANUFACTURER'S RECOMMENDATIONS.
3. ROLLED CURB SHALL USE 7" X 5" X 1/4" TUBE. CONSTRUCT 5' TRANSITIONS FROM ROLLED CURB TO TYPE 1 CURB AT INLET. MAINTAIN ROLLED CURB FLOWLINE PROFILE THROUGHOUT TRANSITION.

NO.	REVISION	DATE	<b>SIDEWALK CROSS-DRAIN</b>	SECTION
1	REDESIGN	9/17		CARSON CITY
				DRAWING NO. C-4.1.8
				DATE SEP 2017
APPROVED BY:		9/17		

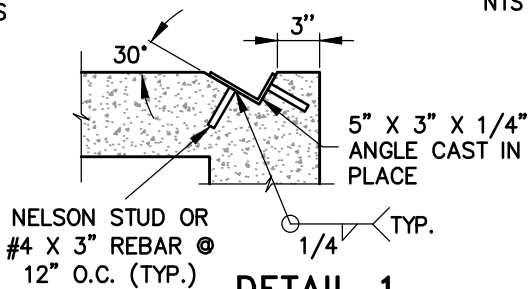


**SECTION B-B**

NTS

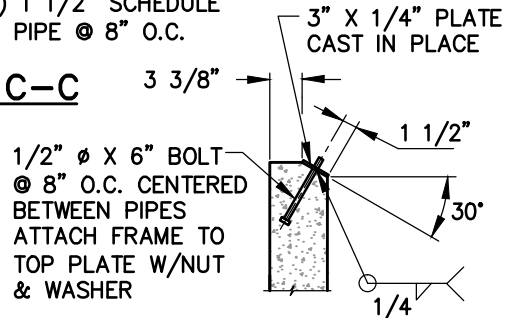
**SECTION C-C**

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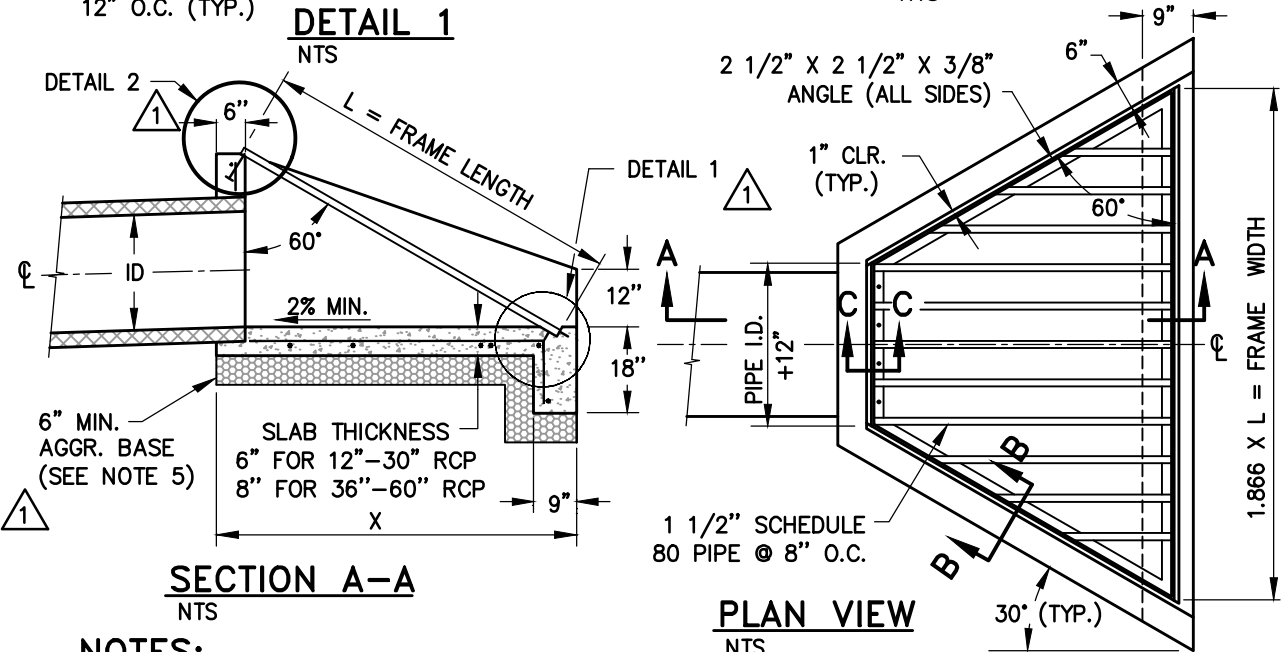
**DETAIL 1**

NTS



**DETAIL 2**

NTS



**SECTION A-A**

NTS

**PLAN VIEW**

NTS

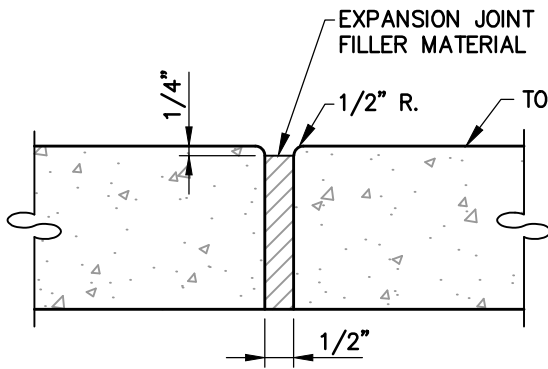
**NOTES:**

1. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202.
2. REINFORCING STEEL SHALL BE NO. 5 @ 12 INCHES BOTH WAYS, SET 2 INCHES CLEAR OF CONCRETE BOTTOM SURFACE.
3. ALL METAL PARTS SHALL BE GALVANIZED AFTER WELDING.
4. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4 INCH.
5. PLACE A MIN. OF 6 INCHES OF TYPE 2, CLASS B AGGREGATE BASE COMPACTED TO A MIN. OF 95% UNDER ALL CONCRETE. 6 INCHES OF DRAIN ROCK MAY BE USED FOR BASE MATERIAL.

**TABLE**

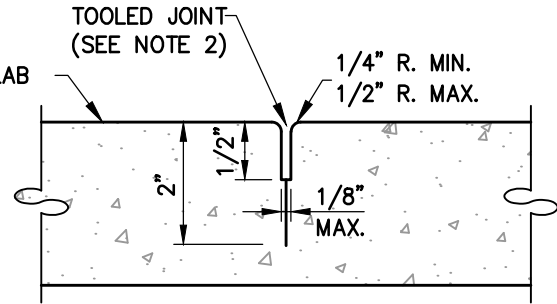
SIZE DIA	X	L	N (EA.)
18"	5'-3"	5'-3"	9
24"	6'-1.5"	6'-3"	11
30"	7'-0"	7'-3"	15
36"	7'-10.5"	8'-3"	17
42"	8'-9"	9'-3"	19
48"	9'-7"	10'-3"	21
54"	10'-5.5"	11'-3"	23
60"	11'-4"	12'-3"	25

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	MISC	05/14	<b>TRASH RACK FOR 18" TO 60" RCP</b>	CARSON CITY
2	MISC	9/17		DRAWING NO. C-4.1.9
APPROVED BY:		9/17		DATE SEP 2017



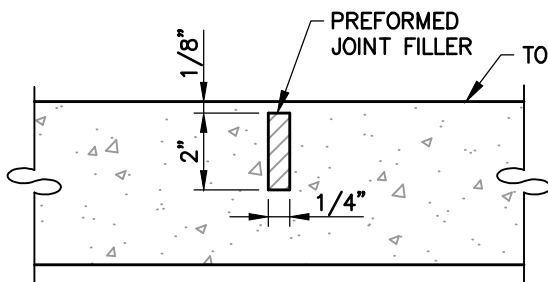
**EXPANSION/ISOLATION JOINT**

NTS



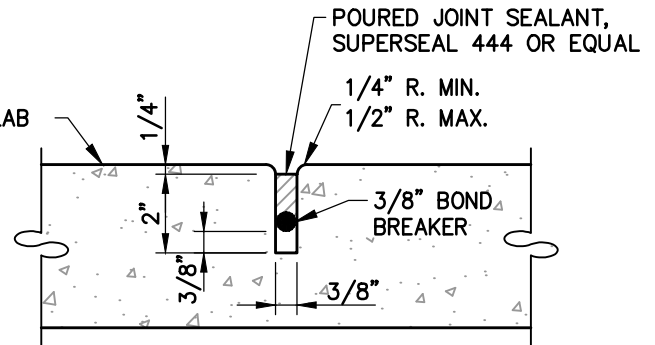
**WEAKENED PLANE JOINT  
SIDEWALK, CURB & GUTTER**

NTS



**WEAKENED PLANE JOINT  
P.C.C. PAVEMENT**

NTS



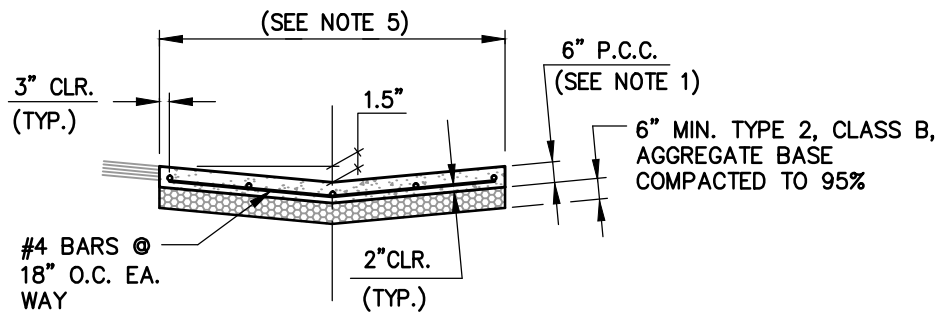
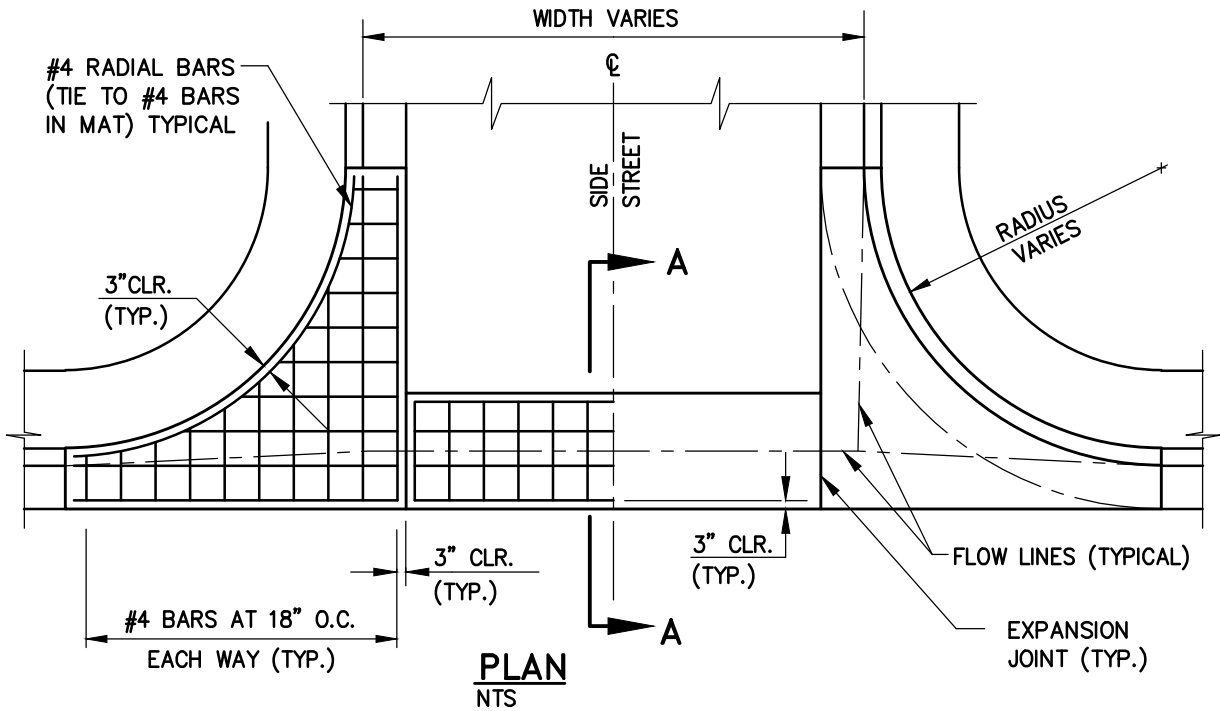
**SAWED OR PREFORMED  
STRIP JOINT**

NTS

**NOTES:**

1. ALL CONCRETE EDGING AND JOINTING SHALL CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
2. AFTER PRELIMINARY TROWELING, THE CONCRETE SHALL BE PARTED TO A DEPTH OF 2 INCHES WITH A STRAIGHTEDGE ON THE FRONT TOP AND BACK. THE CONCRETE SHALL THEN BE REFLOATED TO FILL THE PARTED JOINT WITH MORTAR. FINAL JOINT FINISHING SHALL BE ACCOMPLISHED WITH A JOINTER TOOL AS SHOWN.
- ⚠ 3. FULL DEPTH EXPANSION JOINTS MUST BE PLACED IN SIDEWALKS AT TANGENT POINTS, GRADE BREAKS  $\geq 1\%$ , EACH SIDE OF CURB RAMPS AND AT A MAXIMUM OF 30 FOOT INTERVALS. WEAKENED PLANE JOINTS MUST BE PLACED IN SIDEWALK AT A MAXIMUM OF 5 FOOT INTERVALS.
- ⚠ 4. EXPANSION JOINTS MUST BE PLACED IN CURB/CURB AND GUTTER AT TANGENT POINTS, GRADE BREAKS AND EACH SIDE OF CURB RAMPS.

NO.	REVISION	DATE	<b>P.C.C. JOINTING DETAILS</b>	SECTION
1	NOTES 3 & 4	3/22		CARSON CITY
				DRAWING NO. C-5.1.1 (312)
				DATE MAR 2022
APPROVED BY:		3/22		



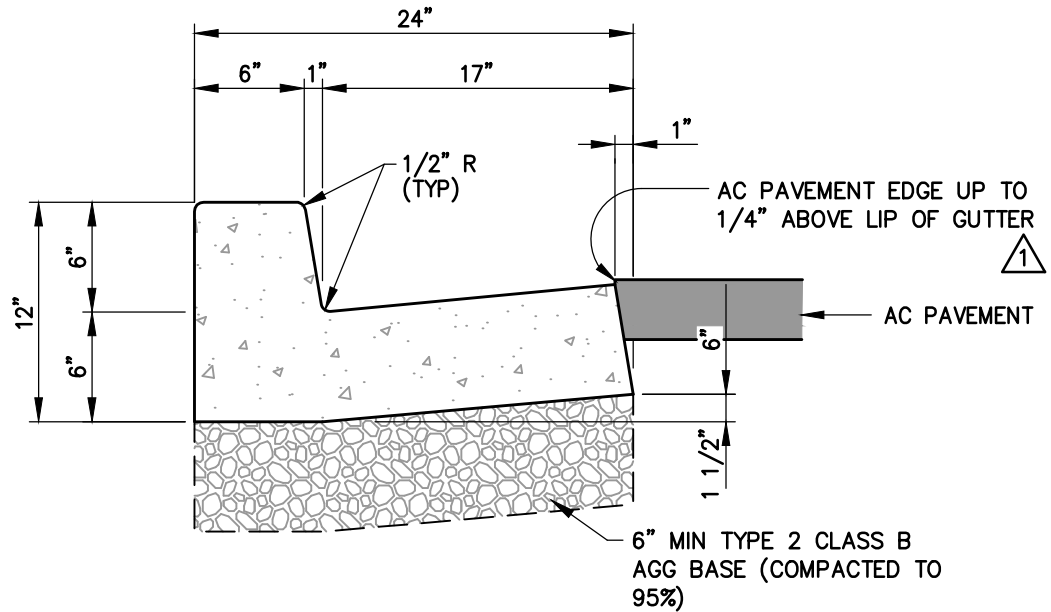
**NOTES:**

1. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN. COMPRESSIVE STRENGTH @ 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202. POLYPROPYLENE FIBERS SHALL BE ADDED TO THE P.C.C. PER THE MANUFACTURER'S RECOMMENDATIONS.
2. FOR INDUSTRIAL AREAS, AN ENGINEERED DESIGN IS REQUIRED.
3. AGGREGATE BASE SHALL BE ENGINEERED TYPE 2, CLASS B WITH 95% COMPACTION.
4. VALLEY GUTTER SHALL HAVE WEAKENED PLANE JOINTS EVERY 5 FEET. MAINTAIN SQUARE PANELS IF POSSIBLE.
5. LOCAL AND COLLECTOR STREETS, WIDTH = 6 FEET. ARTERIAL STREETS (DRIVEWAYS ONLY), WIDTH = 10 FEET.
6. VALLEY GUTTER SECTIONS (SPANDRELS) ALONG CURB & GUTTER SHALL BE A MONOLITHIC POUR AS SHOWN.
7. ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL C-5.1.1 AND CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 4 & 7	9/17	<b>P.C.C. VALLEY GUTTER</b>	CARSON CITY
				DRAWING NO. C-5.1.2
				DATE SEP 2017
APPROVED BY:		9/17		



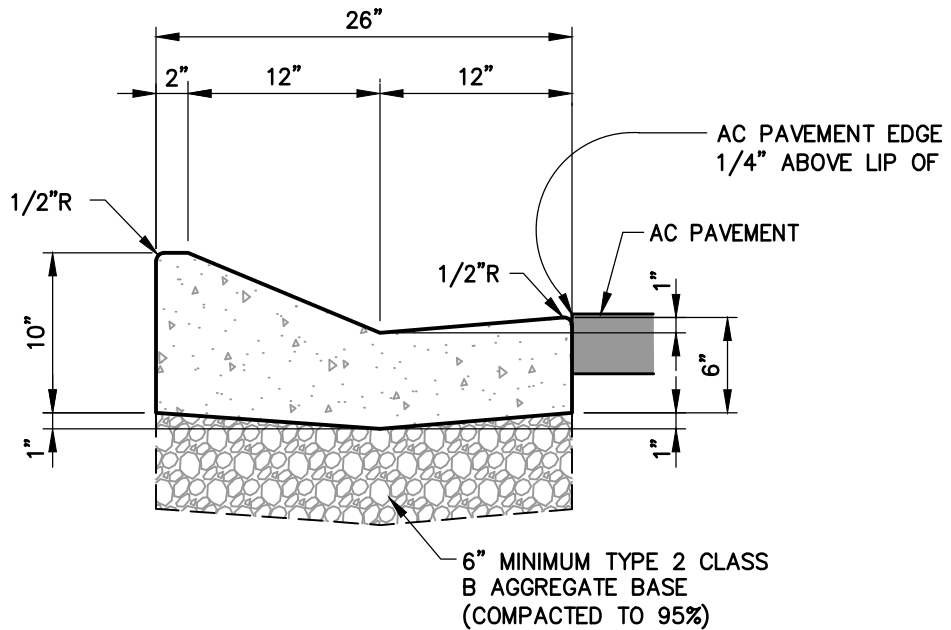


**TYPICAL SECTION**  
NTS

**NOTES:**

1. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- 1 2. ALL CONCRETE CURB & GUTTER SHALL HAVE 1/2 INCH EXPANSION JOINTS AT ALL CURB RETURNS AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 10 FEET. CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.1.3 AND CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
3. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND CONFORM TO SECTION 200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION, IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- 1 4. CURB & GUTTER SHALL BE POURED SEPARATELY/NON-MONOLITHCALLY FROM SIDEWALK.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTES 2 & 4	9/17	<b>PCC CURB &amp; GUTTER TYPE 1</b>	CARSON CITY
				DRAWING NO. C-5.1.3
				DATE SEP 2017
APPROVED BY:		9/17		

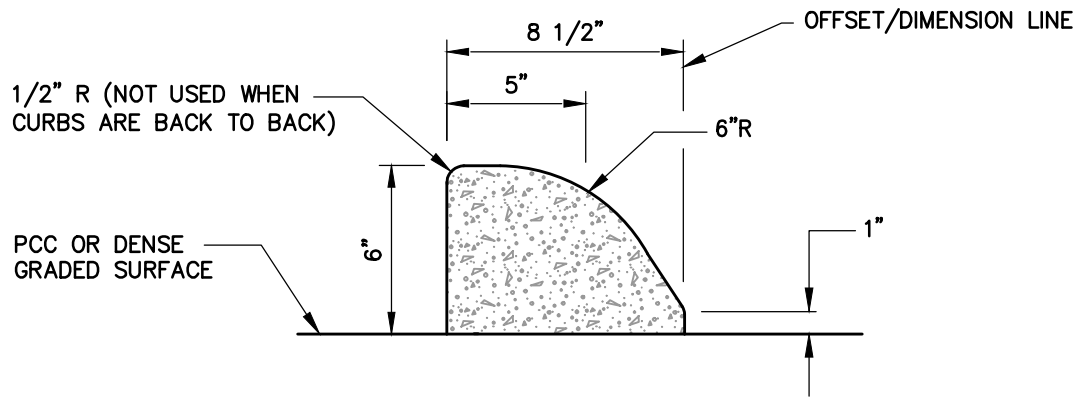


**TYPICAL SECTION**  
NTS

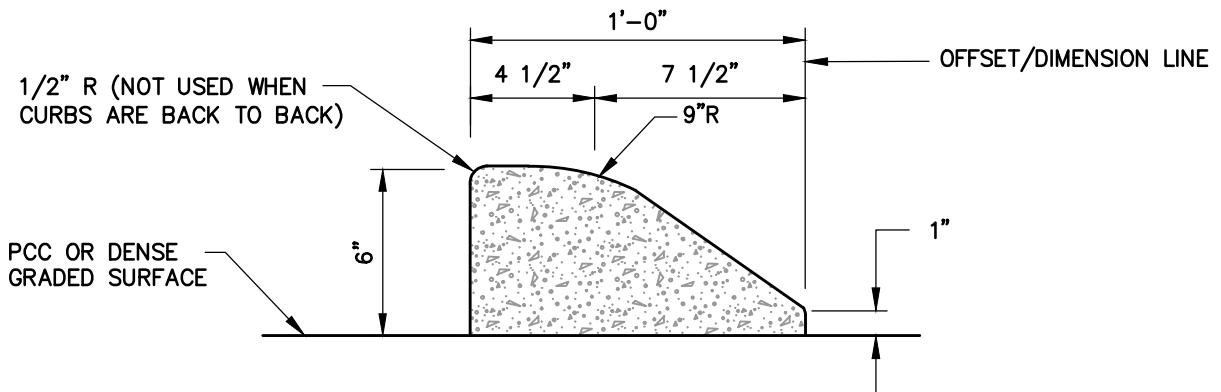
**NOTES:**

1. TYPE 2 CURB AND GUTTER, IN PUBLIC RIGHT-OF-WAY, REQUIRES SPECIFIC APPROVAL BY THE CITY ENGINEER OR THE PUBLIC WORKS DIRECTOR. ROLLED CURB IS PERMISSIBLE ON PRIVATELY OWNED STREETS MAINTAINED BY A HOMEOWNERS ASSOCIATION OR SIMILAR INSTRUMENT.
2. PORTLAND CEMENT CONCRETE (PCC) SHALL HAVE THE FOLLOWING CHARACTERISTICS; SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM 6 SACKS OF CEMENT PER CUBIC YARD, W/MAXIMUM WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6%±1.5%, SLUMP 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC) FOR CONCRETE EXPOSED TO FREEZE-THAW ENVIRONMENTS.
3. ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL C-5.1.1 AND CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
4. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND CONFORM TO SECTION 200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, AND SHALL BE MECHANICALLY COMPACTED TO 95% COMPACTION, IN CONFORMANCE WITH SECTION 308.05 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
5. CURB & GUTTER SHALL BE Poured SEPARATELY/NON-MONOLITHICALLY FROM SIDEWALK.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 1	8/23	<b>PCC CURB &amp; GUTTER TYPE 2</b>	CARSON CITY
				DRAWING NO. C-5.1.4
				DATE AUG 2023
APPROVED BY:		8/23		



**TYPE A CURB – SECTION**  
 NTS (0.0108 cu. yds. per ft.)



**TYPE B CURB – SECTION**  
 NTS (0.0185 cu. yds. per ft.)

**NOTES:**

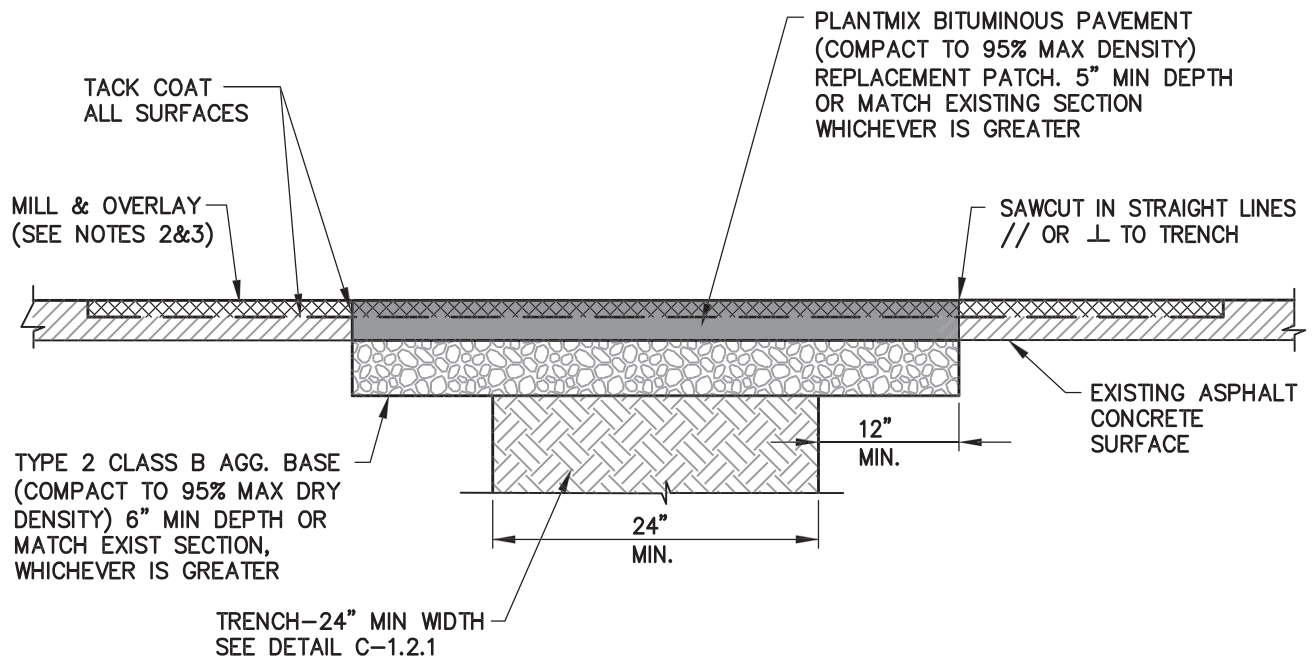
1. GLUE DOWN CURB TO BE USED ONLY UPON SPECIFIC APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
2. FIBER-REINFORCED PORTLAND CEMENT CONCRETE (PCC) SHALL HAVE THE FOLLOWING CHARACTERISTICS; SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 psi MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, MINIMUM 6 SACKS OF CEMENT PER CUBIC YARD, W/MAXIMUM WATER-CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6%±1.5%, SLUMP 1 TO 4 INCHES. ALL MATERIALS SHALL CONFORM TO SECTION 202 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC)
3. ALL CONCRETE CURB SHALL HAVE 1/2 INCH EXPANSION JOINTS EVERY 200 FEET (UNLESS APPROVED OTHERWISE BY THE ENGINEER) AND SHALL HAVE WEAKENED PLANE JOINTS EVERY 10 FEET. CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAILS C-5.1.1 AND CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
4. SECURE CURB WITH EPOXY CEMENT TO FINISHED PLANTMIX SURFACE. EPOXY CEMENT MAY BE OMITTED WHEN INSTALLATION IS TEMPORARY.
5. ALL NOSES ON MEDIAN CURB SHALL BE POURED SOLID FOR THE FULL WIDTH OF THE MEDIAN.



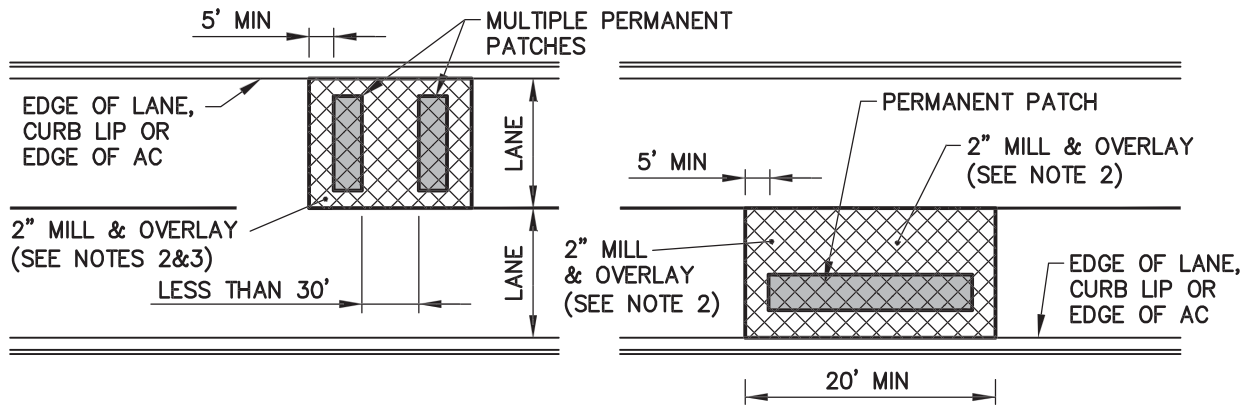
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 3	9/17	<b>GLUE DOWN CURB</b>	CARSON CITY
				DRAWING NO.
				C-5.1.5
				DATE
APPROVED BY:		9/17		SEP 2017

1. IF SAWCUT IS WITHIN 24 INCHES OF EDGE OF A.C. PAVEMENT, AN EXISTING SAWCUT EDGE OR PAVEMENT PATCH, REMOVE EXISTING PAVEMENT TO THAT EDGE AND REPLACE ENTIRE SECTION.
2. BITUMINOUS MATERIAL SHALL MEET THE REQUIREMENTS OF SECTIONS 201 AND 320 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. MIXING, SPREADING, AND COMPACTING OF BITUMINOUS PAVEMENT SHALL BE DONE ONLY WHEN THE SURFACE ON WHICH THE MATERIALS ARE TO BE PLACED IS DRY AND WHEN THE ATMOSPHERIC TEMPERATURE IS ABOVE 50 DEGREES FAHRENHEIT AND HAS NOT BEEN BELOW 40 DEGREES FAHRENHEIT DURING THE PRECEDING 24 HOURS.
4. FINISHED SURFACE VARIATIONS SHALL BE 0 TO 0.25 INCHES ABOVE EXISTING SURFACE. ALL HUMPS EXCEEDING THIS TOLERANCE SHALL BE CORRECTED BY REMOVAL OF MATERIAL AND REPLACING IT WITH NEW MATERIAL. FINISHED SURFACE OF PATCH SHALL NOT BE BELOW EXISTING ADJACENT SURFACE.
5. TRENCH PLANTMIX BITUMINOUS PAVEMENT SURFACE AND SUB SURFACE COURSES SHALL BE PG64-22 TYPE 3 WITH LIME 50 BLOW AND 15% RAP MAX. UNLESS OTHERWISE NOTED. MILL AND FILL PLANTMIX BITUMINOUS PAVEMENT SURFACE AND SUB SURFACE COURSES SHALL BE PG64-28NV TYPE 3 WITH LIME 50 BLOW AND 15% RAP MAX. UNLESS OTHERWISE NOTED.
6. PLANTMIX BITUMINOUS PAVEMENT PATCHES SHALL MATCH EXISTING SECTION OR HAVE A MINIMUM THICKNESS OF 5 INCHES, WHICHEVER IS GREATER.
7. PLANS SHALL SPECIFY PAVEMENT PATCH AND AGGREGATE BASE DEPTHS AS SPECIFIED BY THE DESIGN ENGINEER.
8. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OF LOOP DETECTORS, ADJUSTMENT OF UTILITIES AND SURVEY MONUMENTS TO GRADE AND INSTALLATION OF PERMANENT PAVEMENT MARKINGS.
9. LONGITUDINAL PATCHES ALONG PCC CURBS AND GUTTERS SHALL BE A MINIMUM OF 24 INCHES IN WIDTH.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	NEW DETAIL	3/23	<b>PAVEMENT PATCH GENERAL NOTES</b>	CARSON CITY
				DRAWING NO. C-5.1.6
				DATE MAR 2023
APPROVED BY:		3/23		



**TYPICAL SECTION**  
NTS



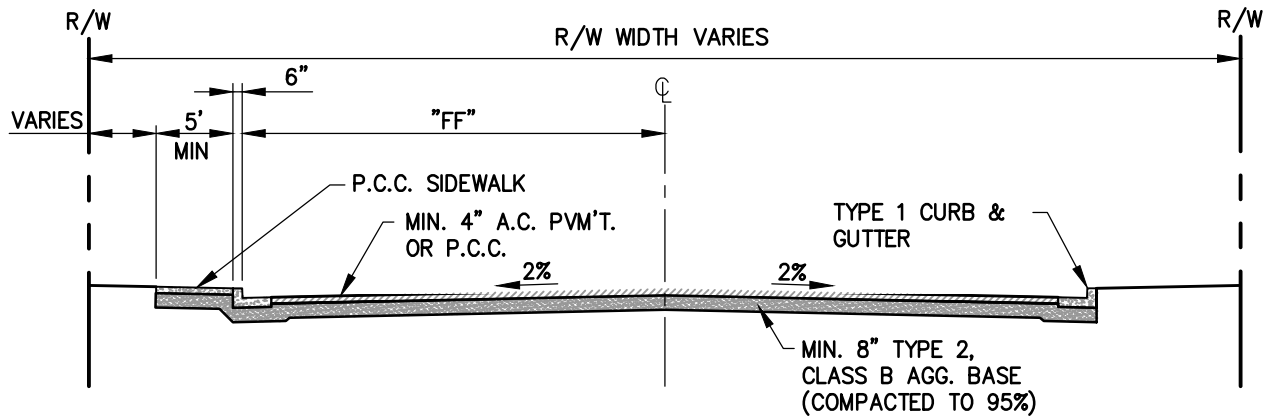
**TRANSVERSE PATCHING:**  
NTS

**LONGITUDINAL PATCHING:**  
NTS

**NOTES:**

- SEE DETAIL C-5.1.6 FOR PAVEMENT PATCH GENERAL NOTES
- MILL AND OVERLAY FOR STREETS WITH PAVEMENT CONDITION INDEX (PCI) GREATER THAN 71 ONLY:  
[WWW.CARSON.ORG/GOVERNMENT/DEPARTMENTS-G-Z/PUBLIC-WORKS/DIVISIONS/STREET-MAINTENANCE](http://WWW.CARSON.ORG/GOVERNMENT/DEPARTMENTS-G-Z/PUBLIC-WORKS/DIVISIONS/STREET-MAINTENANCE)  
 A. TRANSVERSE PATCHES SHALL INCLUDE A 2" MILL AND OVERLAY WHEREVER THERE ARE MULTIPLE PATCHES WITHIN 30 FEET OF EACH OTHER.  
 B. LONGITUDINAL PATCHES SHALL INCLUDE 2" MILL AND OVERLAY TO THE EDGE OF AC OR LANE LINES (BIKE, PARKING, OR TRAVEL).
- MILL AND OVERLAY AREAS OF EXISTING AC PAVEMENT WITH SECTIONS OF LESS THAN 4 INCHES SHALL BE REMOVED AND RECONSTRUCTED.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	NEW DETAIL	3/23	<b>PAVEMENT PATCH</b>	CARSON CITY
				DRAWING NO.
				C-5.1.6.1
				DATE
APPROVED BY:		3/23		MAR 2023



**TYPICAL SECTION**  
NTS

FUNCTIONAL CLASSIFICATION <b>INDUSTRIAL</b>	NUMBER OF LANES	WITHOUT BIKE LANES	
		NO PARKING	SIDEWALK
		MINIMUM "FF"	MINIMUM
COLLECTOR	3	20'	5'
	3	20'	5'
LOCAL	2	N/A	5'

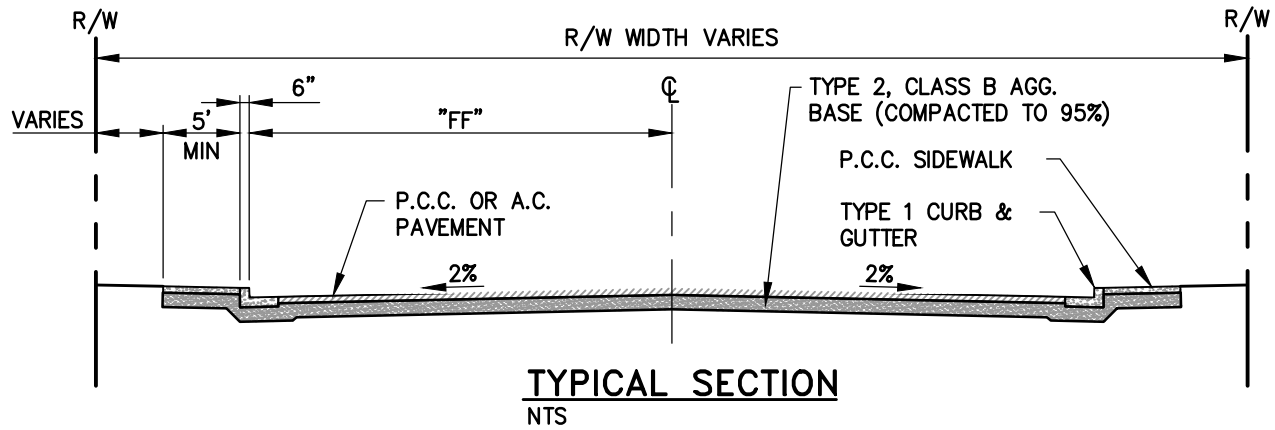
FUNCTIONAL CLASSIFICATION <b>INDUSTRIAL</b>	NUMBER OF LANES	WITH BIKE LANES	
		NO PARKING	SIDEWALK
		MINIMUM "FF"	MINIMUM
COLLECTOR	3	24.5'	5'
	3	24.5'	5'
LOCAL	2	20'	5'

**NOTES:**

- DISTANCE "FF" IS MEASURED TO FRONT FACE OF CURB.
- STRUCTURAL SECTION BY ENGINEERING DESIGN, BUT NOT LESS THAN THE MINIMUM SHOWN.
- ASPHALT MIX SHALL BE PG 64-28 NV WITH LIME TREATED TYPE 2 AGGREGATE, MAXIMUM 15% RECLAIMED ASPHALT PAVEMENT, 50 BLOW. ALL A.C. SURFACES SHALL BE COMPACTED TO 96% (MINIMUM) MARSHALL MAXIMUM DENSITY. NON-POLYMER OIL SURFACES SHALL RECEIVE A NON-POLYMER FOG SEAL.
- COLLECTOR STREETS SHALL INCLUDE CENTER STRIPING.
- COLLECTOR STREETS WITH BIKE LANES SHALL INCLUDE BICYCLE PAVEMENT MARKINGS AND SIGNS PER M.U.T.C.D.
- BITUMINOUS PAVING MACHINES SHALL BE SELF CONTAINED, POWER-PROPELLED UNITS, WITH AN ACTIVATED SCREED OR STRIKE-OFF ASSEMBLY, HEATED IF NECESSARY, MINIMUM HOPPER CAPACITY OF 10 TONS AND CAPABLE OF SPREADING AND FINISHING COURSES OF BITUMINOUS MIXTURE IN LANE AND SHOULDER WIDTHS APPLICABLE TO THE SPECIFIED TYPICAL SECTION AND THICKNESS SHOWN ON PLANS.



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	DWG#, NOTE 3	9/17	<b>ROADWAY SECTION INDUSTRIAL STREETS</b>	CARSON CITY
2	NOTE 3-RAP	2/18		DRAWING NO. C-5.1.7
				DATE FEB 2018
APPROVED BY:				



MINIMUM STRUCTURAL SECTION
ARTERIAL (MIN. 6" A.C. W/ MIN. 12" AGG. BASE)
COLLECTOR (MIN. 4" A.C. W/ 8" AGG. BASE)
LOCAL (MIN. 3" A.C. W/6" AGG. BASE)

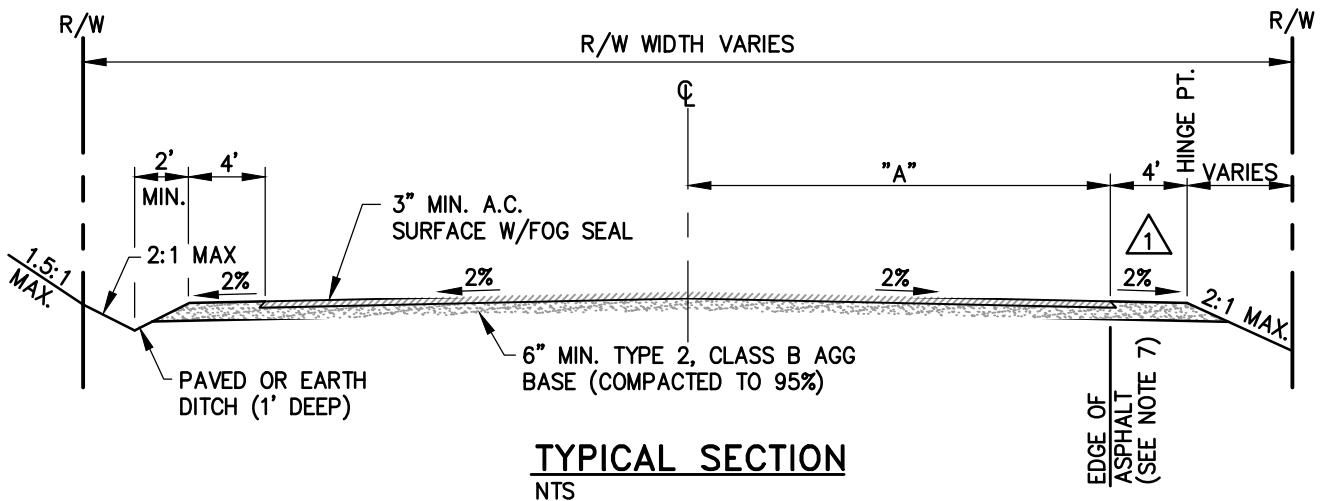
FUNCTIONAL CLASSIFICATION URBAN	NUMBER OF LANES	WITHOUT BIKE LANES			
		NO PARKING	PARKING ONE SIDE	PARKING BOTH SIDES	SIDEWALK
		MINIMUM "FF"	MINIMUM "FF"	MINIMUM "FF"	MINIMUM
ARTERIAL	5	32'	N/A	N/A	5'
	4	27.5'			5'
COLLECTOR	3	18.5'	23'	30.5'	5'
	2	15.5'	19.5'	23.5'	5'
LOCAL	2	15.5'	19.5'	23.5'	5'
FUNCTIONAL CLASSIFICATION URBAN	NUMBER OF LANES	WITH BIKE LANES			
		NO PARKING	PARKING ONE SIDE	PARKING BOTH SIDES	SIDEWALK
		MINIMUM "FF"	MINIMUM "FF"	MINIMUM "FF"	MINIMUM
ARTERIAL	5	36'	N/A	N/A	5'
	4	29'			5'
COLLECTOR	3	23'	27.5'	32'	5'
	2	17'	21.5'	25'	5'
LOCAL	2	17'	N/A	N/A	5'

**NOTES:**



- DISTANCE "FF" IS MEASURED TO FRONT FACE OF CURB.
- STRUCTURAL SECTION BY ENGINEERING DESIGN, BUT NOT LESS THAN THE MINIMUM SHOWN.
- ASPHALT MIX SHALL BE PG 64-28 NV WITH LIME TREATED TYPE 2 AGGREGATE, MAXIMUM 15% RECLAIMED ASPHALT PAVEMENT, 50 BLOW. ALL A.C. SURFACES SHALL BE COMPACTED TO 96% (MINIMUM) MARSHALL MAXIMUM DENSITY. NON-POLYMER OIL SURFACES SHALL RECEIVE A NON-POLYMER FOG SEAL.
- COLLECTOR STREETS SHALL INCLUDE CENTER STRIPING.
- COLLECTOR STREETS WITH BIKE LANES SHALL INCLUDE BICYCLE PAVEMENT MARKINGS AND SIGNS PER M.U.T.C.D.
- BITUMINOUS PAVING MACHINES SHALL BE SELF CONTAINED, POWER-PROPELLED UNITS, WITH AN ACTIVATED SCREED OR STRIKE-OFF ASSEMBLY, HEATED IF NECESSARY, MINIMUM HOPPER CAPACITY OF 10 TONS AND CAPABLE OF SPREADING AND FINISHING COURSES OF BITUMINOUS MIXTURE IN LANE AND SHOULDER WIDTHS APPLICABLE TO THE SPECIFIED TYPICAL SECTION AND THICKNESS SHOWN ON PLANS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	DWG#, NOTE 3	9/17	<b>ROADWAY SECTION URBAN STREETS</b>	CARSON CITY
2	NOTE 3-RAP	2/18		DRAWING NO. C-5.1.8 <span style="float: right;">1</span>
APPROVED BY:		2/18		DATE FEB 2018



FUNCTIONAL CLASSIFICATION	NUMBER OF LANES	WITHOUT BIKE LANES			
		NO PARKING	PARKING ONE SIDE	PARKING BOTH SIDES	SIDEWALK
		MIN. DESIRABLE "A"	MIN. DESIRABLE "A"	MIN. DESIRABLE "A"	MIN. DESIRABLE "A"
RURAL					
COLLECTOR	2	15'	N/A	N/A	N/A
LOCAL	2	14'	N/A	N/A	N/A
FUNCTIONAL CLASSIFICATION	NUMBER OF LANES	WITH BIKE LANES			
		NO PARKING	PARKING ONE SIDE	PARKING BOTH SIDES	SIDEWALK
		MIN. DESIRABLE "A"	MIN. DESIRABLE "A"	MIN. DESIRABLE "A"	MIN. DESIRABLE "A"
RURAL					
COLLECTOR	2	18'	N/A	N/A	N/A
LOCAL	2	17'	N/A	N/A	N/A

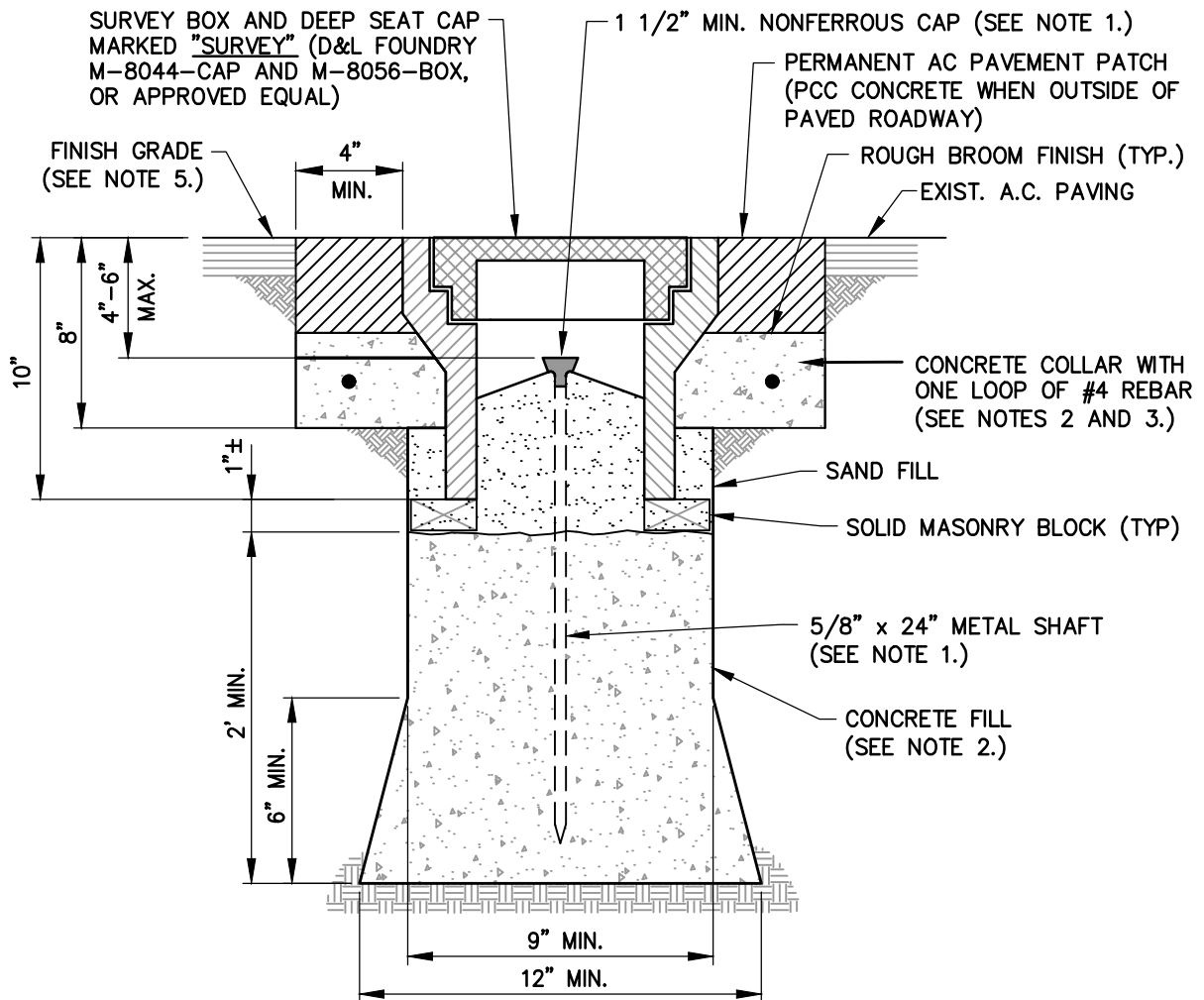
**NOTES:**

1. DISTANCE "A" IS MEASURED TO OUTSIDE EDGE OF ASPHALT.
2. STRUCTURAL SECTION BY ENGINEERING DESIGN, BUT NOT LESS THAN THE MINIMUM SHOWN.
3. ASPHALT MIX SHALL BE PG 64-28 NV WITH LIME TREATED TYPE 2 AGGREGATE, MAXIMUM 15% RECLAIMED ASPHALT PAVEMENT, 50 BLOW. ALL A.C. SURFACES SHALL BE COMPACTED TO 96% (MINIMUM) MARSHALL MAXIMUM DENSITY. NON-POLYMER OIL SURFACES SHALL RECEIVE A NON-POLYMER FOG SEAL.
4. COLLECTOR ROADWAYS SHALL INCLUDE CENTER STRIPING AND FOG LINES
5. COLLECTOR ROADWAYS WITH BIKE LANES SHALL INCLUDE BICYCLE MARKINGS AND SIGNS PER M.U.T.C.D. LANES SHALL BE 4 FEET AS MEASURED FROM THE EDGE OF PAVEMENT.
6. BITUMINOUS PAVING MACHINES SHALL BE SELF CONTAINED, POWER-PROPELLED UNITS, WITH AN ACTIVATED SCREED OR STRIKE-OFF ASSEMBLY, HEATED IF NECESSARY, MINIMUM HOPPER CAPACITY OF 10 TONS AND CAPABLE OF SPREADING AND FINISHING COURSES OF BITUMINOUS MIXTURE IN LANE AND SHOULDER WIDTHS APPLICABLE TO THE SPECIFIED TYPICAL SECTION AND THICKNESS SHOWN ON PLANS.
7. EDGE OF ASPHALT SHALL BE SLOPED AT 1:1.



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	DWG#, NOTE 3	9/17	<b>ROADWAY SECTION RURAL ROADS</b>	CARSON CITY
2	NOTE 3-RAP	2/18		DRAWING NO. C-5.1.9
				DATE FEB 2018
APPROVED BY:		2/18		











**TYPICAL SECTION**  
NTS

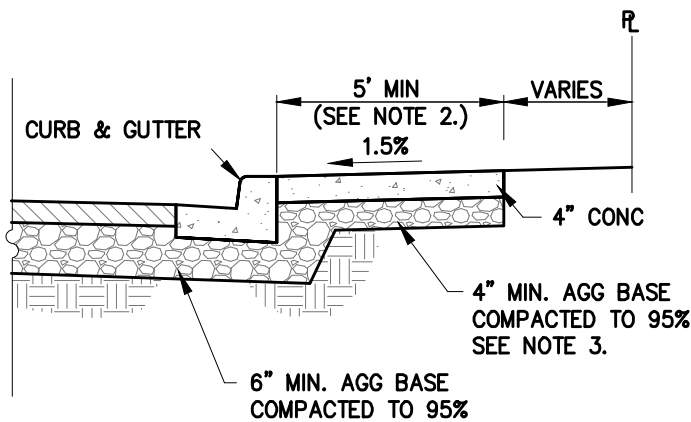
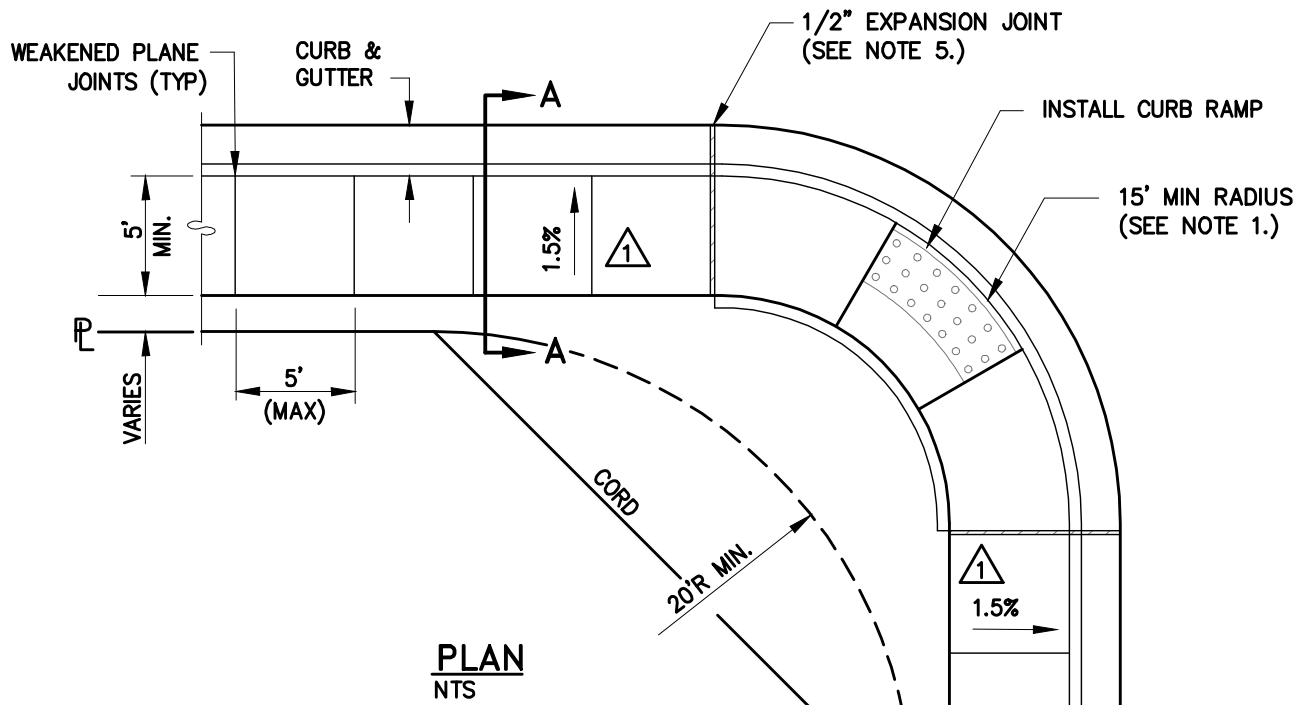
**NOTES:**

1. 1 1/2 INCH MIN. NONFERROUS CAP WITH PROFESSIONAL LAND SURVEYOR NO. PERMANENTLY ATTACHED PRIOR TO PLACEMENT ON 5/8 INCH METALLIC SHAFT (SMOOTH SHAFTS TO BE DEFORMED). PRE-PUNCHED CAPS ARE NOT PERMITTED.
2. CONCRETE SHALL CONFORM TO THE SSPWC SECTIONS 202 AND 337.10. PORTLAND CEMENT CONCRETE (P.C.C.) AND SHALL HAVE THE FOLLOWING CHARACTERISTICS: 4000 PSI MIN. COMPRESSIVE STRENGTH AT 28 DAYS, MIN. 6 SACKS OF CEMENT PER CUBIC YARD WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES.
3. REBAR SHALL ONLY BE USED WHEN THE VALVE BOX IS LOCATED OUTSIDE PAVED AREAS.
4. THE CONCRETE COLLAR SHALL BE LEFT 2 1/2 INCHES – 3 INCHES BELOW FINISHED ASPHALT SURFACE. APPLY AN APPROVED TACK COAT (CONFORMING TO THE SSPWC SECTION 316) AND FILL VOID BETWEEN ADJACENT PAVEMENT AND FRAME WITH TYPE 3 PG 64-22 PAVING (CONFORMING TO THE SSPWC SECTION 320). APPLY FOG SEAL (CONFORMING TO THE SSPWC SECTION 317) TO THE ASPHALT SURFACE. ALL CUTS IN PAVING SHALL BE STRAIGHT AND EVEN. EXCEPTION: WHEN STRUCTURE NOT LOCATED IN ASPHALT PAVEMENT OR IN AN UNPAVED AREA, EXTEND CONCRETE TO FINISH GRADE.
5. LIDS SHALL BE SET FLUSH WITH FINISH GRADE UNLESS OTHERWISE NOTED.
6. WHEN LOCATED IN NDOT RIGHT-OF-WAY, CONCRETE COLLAR SHALL CONFORM TO NDOT STANDARD PLAN SHT R-4.3.3 AND STANDARD SPECIFICATION 609.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	DET NUMBER	3/22	<b>CLASS "A"</b> <b>SURVEY MONUMENT</b>	CARSON CITY
				DRAWING NO. C-5.1.10
				DATE
				MAR 2022
APPROVED BY:				

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED AND APPROVED BY CARSON CITY PUBLIC WORKS.
2. PORTLAND CEMENT CONCRETE (P.C.C.) MUST HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARDS WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS MUST CONFORM TO SSPWC SECTION 202. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. CONCRETE EDGING AND JOINTING MUST BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL C-5.1.1 AND CONFORM TO SECTION 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
4. IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY PUBLIC WORKS. A MINIMUM SURFACE OF 4 FEET X 4 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE AND A MINIMUM SURFACE OF 4 FEET CLEAR IS REQUIRED WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE, UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
5. CONCRETE MUST BE REMOVED TO A NEAT SAWCUT LINE AT THE NEAREST CONTROL JOINT.
6. AGGREGATE BASE MUST BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
7. NEW CONCRETE MUST HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.
8. AC PAVEMENT EDGE MUST BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER.
-  9. NEW CONCRETE MUST BE TREATED WITH POLYCURE, 25% SOLIDS SOLVENT BASED CURE & SEAL (OR APPROVED EQUAL) PROVIDED AND APPLIED PER MANUFACTURER'S RECOMMENDATIONS FOR USE AS A WATER RETENTION CURING COMPOUND. THE CURING COMPOUND MUST BE A SOLVENT BASED, COLORLESS, NON-YELLOWING COMPOUND, MEETING ASTM C 309, TYPE 1, CLASS B.
-  10. NEW CONCRETE MUST BE TREATED WITH BARACADE SILANE 100 C PENETRATING TREATMENT (OR APPROVED EQUAL) PROVIDED AND APPLIED PER MANUFACTURER'S RECOMMENDATIONS FOR USE AS A SALT INHIBITOR. TIMING OF THE TREATMENT MUST BE CONSISTENT WITH RECOMMENDATIONS FOR BOTH THE WATER CURING COMPOUND AND THE MANUFACTURER OF THE PENETRATING TREATMENT. CONTRACTOR TO CONTACT CITY'S INSPECTOR 24 HOURS PRIOR TO FIRST APPLICATION. INSPECTOR MUST BE PRESENT DURING FIRST APPLICATION TO VERIFY APPLICATION RATE AND COVERAGE IS ACCEPTABLE.
-  11. SIDEWALK PATCHES MUST BE THE FULL WIDTH OF THE SIDEWALK TO THE NEAREST EXISTING CONTROL JOINT.
-  12. EXISTING UTILITY BOXES AND VALVE COVERS LOCATED IN NEWLY CONSTRUCTED OR RE-CONSTRUCTED SIDEWALK AND DRIVEWAYS ARE TO BE REPLACED AND INSTALLED PER THE CARSON CITY STANDARD DETAILS. TRAFFIC SIGNAL AND FIBER OPTIC PULL BOXES THAT CANNOT MEET THE REQUIREMENTS OF DETAIL C-5.6.1 SHALL BE RELOCATED OUTSIDE OF DRIVEWAY. IN ALL CASES THE DRIVEWAY MUST BE CONSTRUCTED SO THAT PULL BOXES ARE OFFSET FROM THE FLOWLINE A MINIMUM OF 2'.

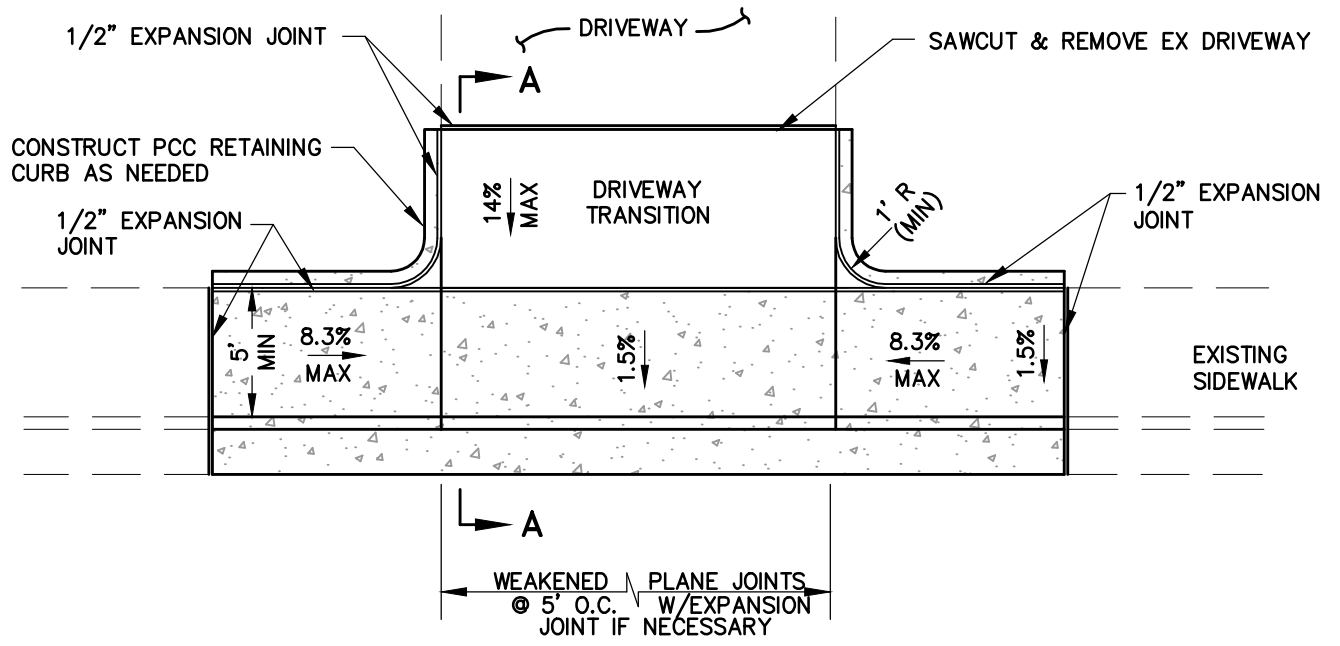
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
	NOTE 9,10,11,12	3/22	<b>SIDEWALK AND DRIVEWAY GENERAL NOTES</b>	CARSON CITY
				DRAWING NO. C-5.2.1
				DATE MAR 2022
APPROVED BY:		3/22		



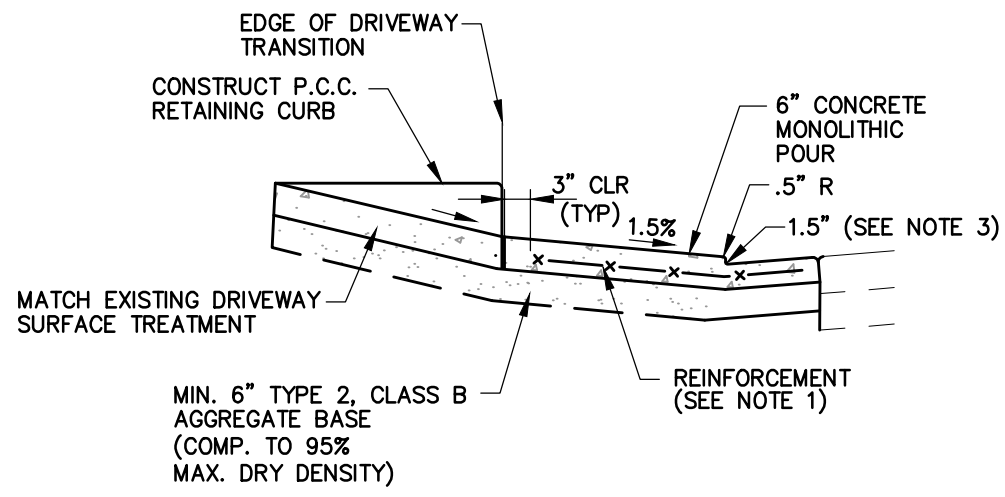
**NOTES:**

1. MINIMUM CURB RETURN RADIUS SHALL BE 15 FEET UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
2. SOME STREETS MAY REQUIRE WIDER SIDEWALKS.
- 1 3. SIDEWALK ADJACENT TO TYPE 2 OR ROLLED CURB AND GUTTER SHALL BE CONSTRUCTED 5 INCHES THICK OF CONCRETE ON 6 INCHES OF AGGREGATE BASE COMPACTED TO 95%
- 1 4. SIDEWALK SHALL BE POURED NON-MONOLITHICALLY FROM CURB AND GUTTER.
- 2 5. TRANSVERSE EXPANSION JOINTS SHALL BE PLACED PER DETAIL C-5.1.1 AT GRADE BREAKS, TANGENT POINTS, ANGLE POINTS AND AT REGULAR INTERVALS NOT EXCEEDING 30 FEET.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 3 & 4	9/17	<b>TYPE "A" SIDEWALK</b>	CARSON CITY
2	NOTE 5	1/21		DRAWING NO. C-5.2.2
				DATE JAN 2021
APPROVED BY:		1/21		



**PLAN**  
NTS

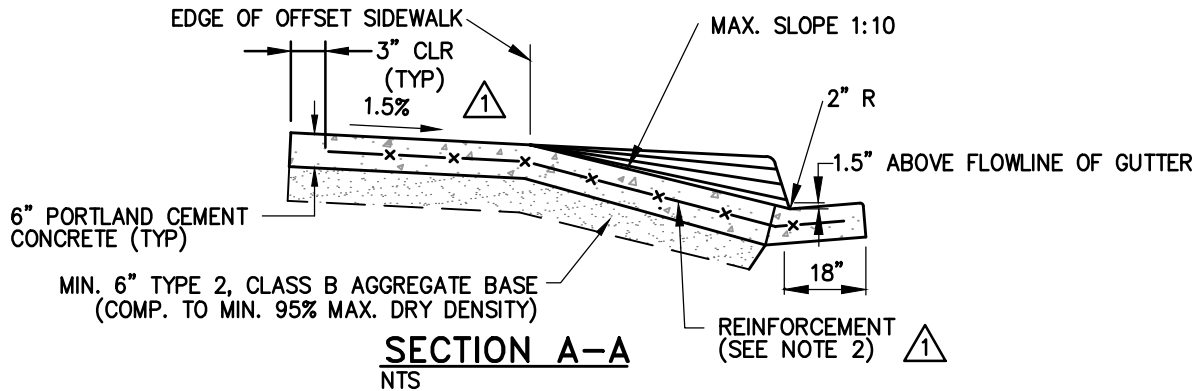
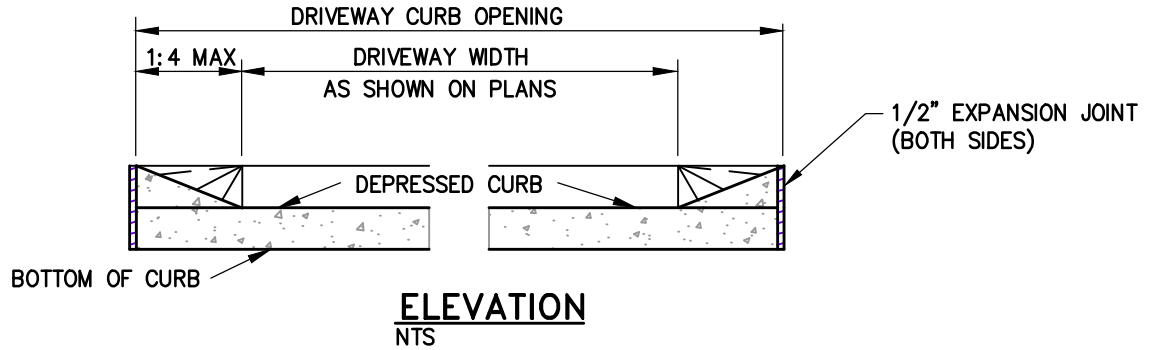
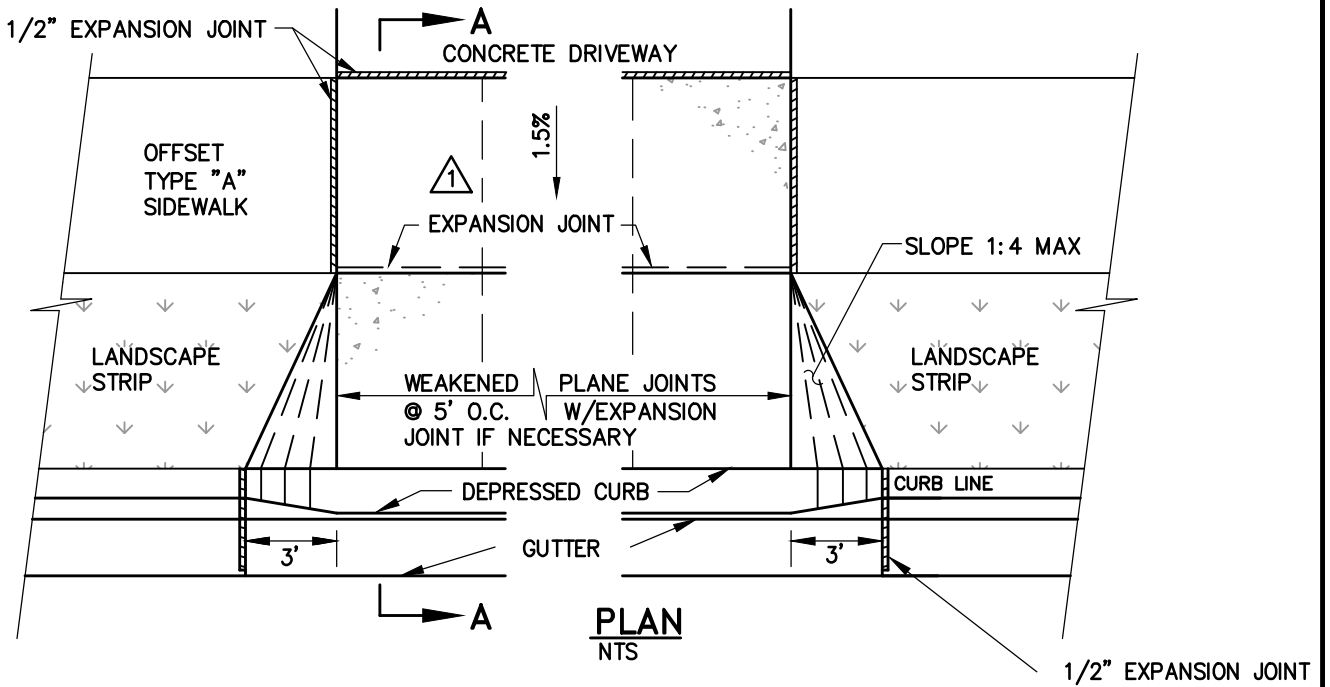


**SECTION A-A**  
NTS

**NOTES:**

1. COMMERCIAL DRIVEWAYS TO HAVE #4 REBAR AT 18 INCHES ON CENTER, EACH WAY EXTENDED INTO GUTTER PAN UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
2. DRIVEWAY LANDING, SIDEWALK, CURB & GUTTER TO BE MONOLITHIC POUR TO A.C. LINE.
3. CURB HEIGHT AT LANDING SHALL BE 1 INCH MINIMUM AND 2 INCH MAXIMUM (3 INCH MAX UPON CARSON CITY PUBLIC WORKS APPROVAL) 2 INCH RADIUS TO BE USED WHEN CURB HEIGHT AT LANDING IS GREATER THAN 2 INCHES.
4. DRIVEWAY APRONS SHALL BE CONSTRUCTED IN COMPLIANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.2.1.

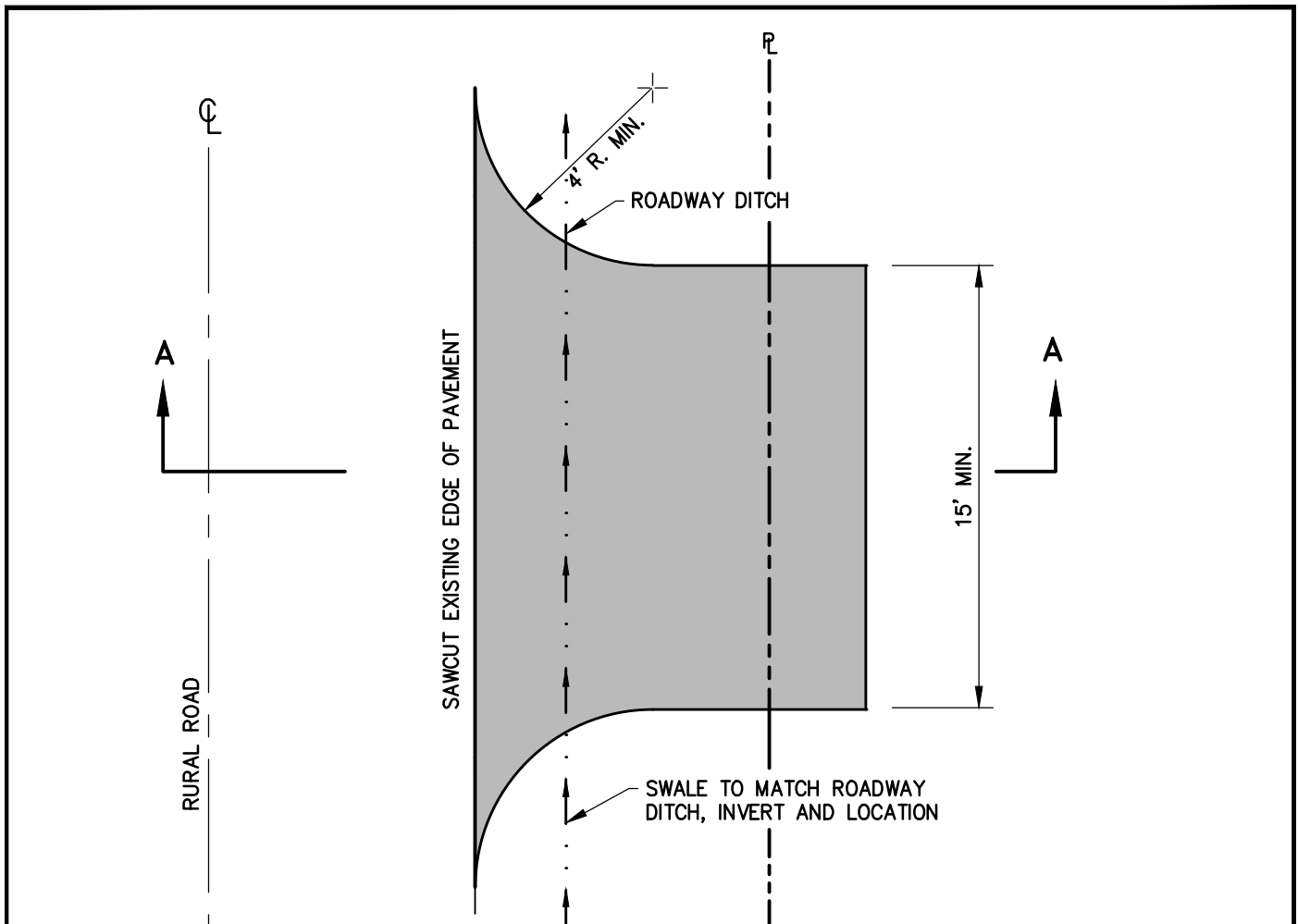
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	REBAR	9/17	<b>P.C.C. DRIVEWAY APRON TYPE 1</b>	CARSON CITY
				DRAWING NO. C-5.2.3
				DATE SEP 2017
APPROVED BY:		9/17		



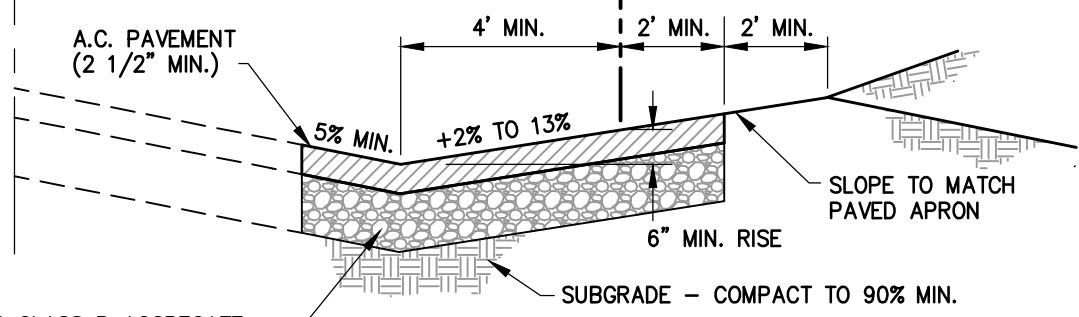
**NOTES:**

1. TYPE 2 DRIVEWAY APRON TO BE USED WITH OFFSET SIDEWALK UNLESS 5 FOOT SURFACE WITH 1.5% MAXIMUM BYPASS IS PROVIDED. (SEE DRIVEWAY APRON BYPASS DETAIL C-5.2.6).
2. COMMERCIAL DRIVEWAYS TO HAVE #4 REBAR AT 18 INCHES ON CENTER EACH WAY EXTENDED INTO GUTTER PAN UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
3. IF EXPANSION JOINTS EXIST WITHIN 4 FEET OF DRIVEWAY, REMOVE SIDEWALK, CURB AND GUTTER TO THAT JOINT.
4. DRIVEWAY APRONS SHALL BE CONSTRUCTED IN COMPLIANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.2.1.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	EXPANSION JT	9/17	<b>P.C.C. DRIVEWAY APRON TYPE 2</b>	CARSON CITY
				DRAWING NO. C-5.2.4
				DATE SEP 2017
APPROVED BY:		9/17		



**PLAN**  
NTS



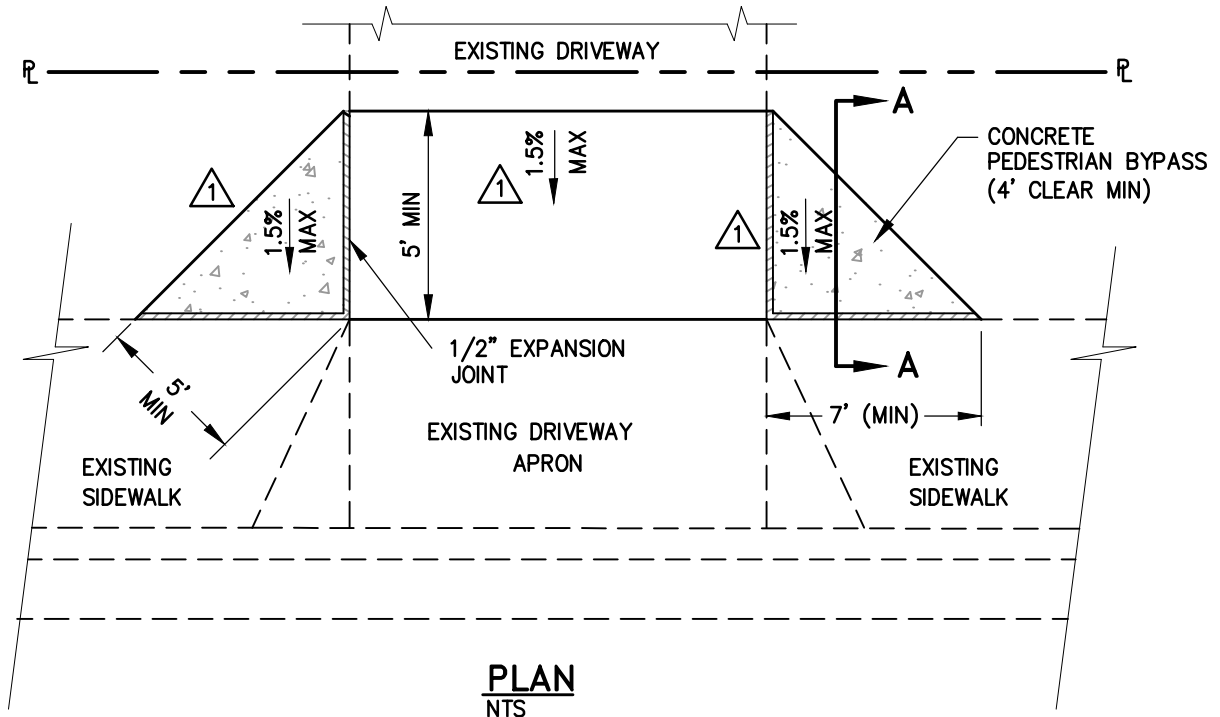
**SECTION A-A**  
NTS

6" TYPE 2 CLASS B AGGREGATE  
BASE (COMP. TO 95% MIN.)

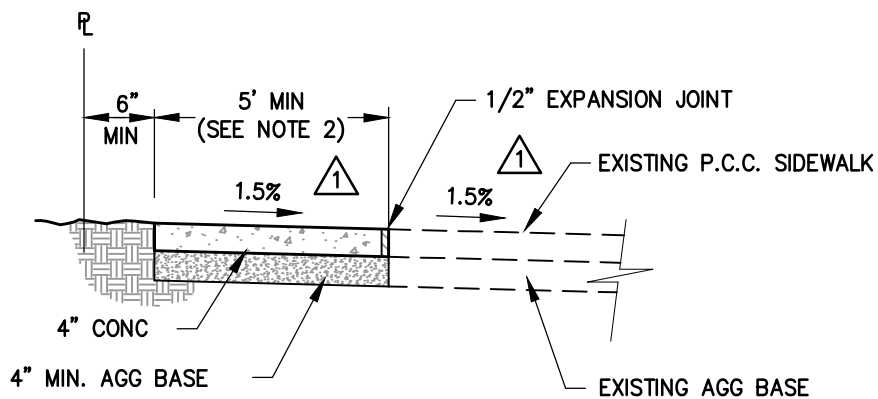
**NOTES:**

1. IN LIEU OF A.C. SURFACING A 6 INCH THICK P.C.C. SLAB WITH 6 INCH x 6 INCH WWF AND 6 INCHES OF SELECT GRANULAR BASE (COMP. TO 95% MIN.) MAY BE USED.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>A.C. DRIVEWAY APRON RURAL ROADS</b>	CARSON CITY
				DRAWING NO. C-5.2.5
				DATE SEP 2017
APPROVED BY: 		9/17		



**PLAN**  
NTS



**SECTION A-A**  
NTS

**NOTES:**

1. BYPASS TO BE USED FOR RETROFIT OF EXISTING DRIVEWAY APRONS WITH 2% MAXIMUM SLOPE BEHIND DRIVEWAY APRON AS SHOWN. ALL OTHER CASES TO USE PCC DRIVEWAY APRON – TYPE 1 (SEE DETAIL C-5.2.3.)
2. IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY PUBLIC WORKS.
3. BYPASS FINISH GRADE SHALL BE 1/4" OR LESS ABOVE EXISTING ADJACENT SURFACES.
4. DRIVEWAY APRON BYPASSES SHALL BE CONSTRUCTED IN COMPLIANCE WITH STANDARD DETAILS C-5.1.1 AND C-5.2.1.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	CROSS SLOPE	9/17	<b>P.C.C. DRIVEWAY APRON BYPASS</b>	CARSON CITY
				DRAWING NO. C-5.2.6
				DATE SEP 2017
APPROVED BY: 		9/17		

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED BY CARSON CITY ENGINEERING DIVISION.
2. PORTLAND CEMENT CONCRETE (P.C.C.) SHALL HAVE THE FOLLOWING CHARACTERISTICS: SYNTHETIC FIBER-REINFORCEMENT (AT A MINIMUM OF 1 POUND PER CUBIC YARD), 4000 PSI MIN COMPRESSIVE STRENGTH @ 28 DAYS, MIN 6 SACKS OF CEMENT PER CUBIC YARDS WITH A MAX. WATER/CEMENT RATIO OF 0.45, AIR ENTRAINMENT 6% ±1.5%, SLUMP AT 1 TO 4 INCHES ALL MATERIALS SHALL CONFORM TO SSPWC SECTION 202. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. DETAIL C-5.1.1 AND CONFORM TO SEC. 312 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
4. IF OBSTRUCTIONS SUCH AS INLETS, UTILITY POLES, FIRE HYDRANTS, ETC. ARE ENCOUNTERED, THE LOCATION AND DIMENSIONS MAY BE ADJUSTED UPON APPROVAL BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR. A MINIMUM LANDING OF 5 FEET X 5 FEET CLEAR IS REQUIRED WHEN DIRECTION OF TRAVEL MAY CHANGE. A MINIMUM OF 4 FEET CLEAR MAY BE USED UPON APPROVAL OF THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR WHERE DIRECTION OF TRAVEL IS NOT EXPECTED TO CHANGE.
5. WHEN A CROSSWALK IS SERVICED BY RAMP, LANDINGS SHALL BE CONTAINED WITHIN THE CROSSWALK AREA.
6. EXISTING CONCRETE SHALL BE REMOVED TO A NEAT SAWCUT LINE OR NEAREST EXPANSION JOINT.
7. PLANTMIX BITUMINOUS SURFACE SHALL BE FLUSH WITH THE EDGE OF THE GUTTER PAN IN THE AREA OF THE CURB RAMP. GUTTER SHALL MAINTAIN POSITIVE DRAINAGE TO PREVENT PONDING.
8. ALL AGGREGATE BASE SHALL BE TYPE 2, CLASS B AND SHALL CONFORM TO SEC.200.01. OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).
9. NEW CONCRETE SHALL HAVE A HEAVY BROOM FINISH PERPENDICULAR TO SIDEWALK.



10. DETECTABLE WARNINGS SHALL BE:

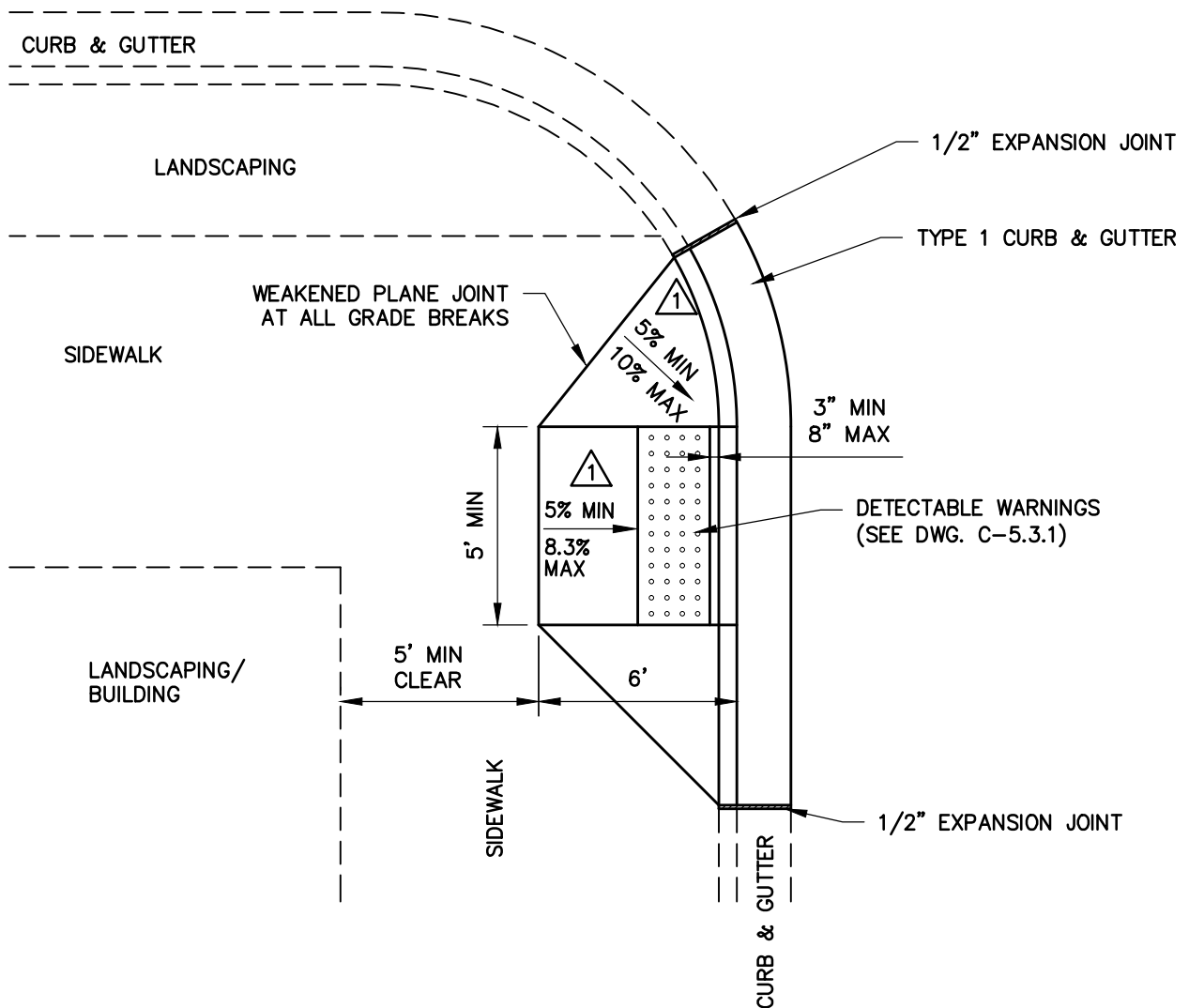
EAST JORDAN IRON WORKS 7005/7006 SERIES CAST IRON DETECTABLE WARNING PLATES,  
TUFTILE ADA DETECTABLE WARNING PRODUCTS CAST IRON TILES  
OR APPROVED EQUAL.

INSTALLED PER MANUFACTURERS INSTALLATION GUIDELINES AND CONFORM TO ADAAG (4.29) "DETECTABLE WARNINGS". COLOR: ASPHALT DIPPED UNLESS OTHERWISE APPROVED BY CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR. RADIAL DETECTABLE WARNINGS SHALL BE USED WHEN REQUIRED TO MAINTAIN MINIMUM CLEARANCE OF 3 INCHES AND MAXIMUM CLEARANCE OF 8 INCHES FROM DETECTABLE WARNINGS TO BACK FACE OF CURB. RADIAL DETECTABLE WARNINGS SHALL HAVE A RADIUS WITHIN 5 FEET OF BACK FACE OF CURB RADIUS. TUFTILE DETECTABLE WARNINGS SHALL HAVE A 1/8" GAP AROUND THE PERIMETER OF THE ENTIRE ASSEMBLY OF TILES CREATED WITH AN EDGING TROWEL DURING THE FINISHING OF THE CONCRETE TO ALLOW FOR TILE EXPANSION.

11. AC PAVEMENT EDGE SHALL BE FLUSH TO 1/4 INCH ABOVE THE LIP OF GUTTER.
12. CURBS AND CURB AND GUTTER SHALL BE Poured NON-MONOLITHICALLY FROM RAMPS AND LANDINGS.
13. LANDING CROSS SLOPES SHALL BE 1.5% MAXIMUM UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	NOTE 10	1/21	<h1>CURB RAMP GENERAL NOTES</h1>	CARSON CITY
				DRAWING NO. C-5.3.1
				DATE JAN 2021
APPROVED BY:		1/21		






**PLAN**  
NTS

**NOTES:**

1. SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION			SECTION
NO.	REVISION	DATE	CARSON CITY
1	SLOPES	9/17	DRAWING NO. C-5.3.2
APPROVED BY: 			DATE
			SEP 2017

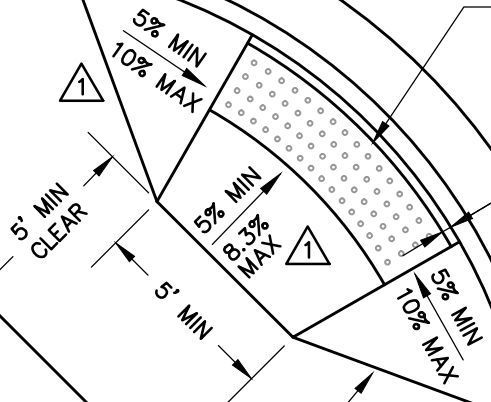
**PERPENDICULAR CURB RAMP  
DIRECTIONAL**

1/2" EXPANSION JOINT

CURB & GUTTER

RADIAL DETECTABLE WARNINGS  
(SEE DWG C-5.3.1)

3" TO 8"



WEAKENED PLANE JOINT  
AT ALL GRADE BREAKS

TYPE 1 CURB  
& GUTTER

1/2" EXPANSION JOINT

SIDEWALK

CURB & GUTTER

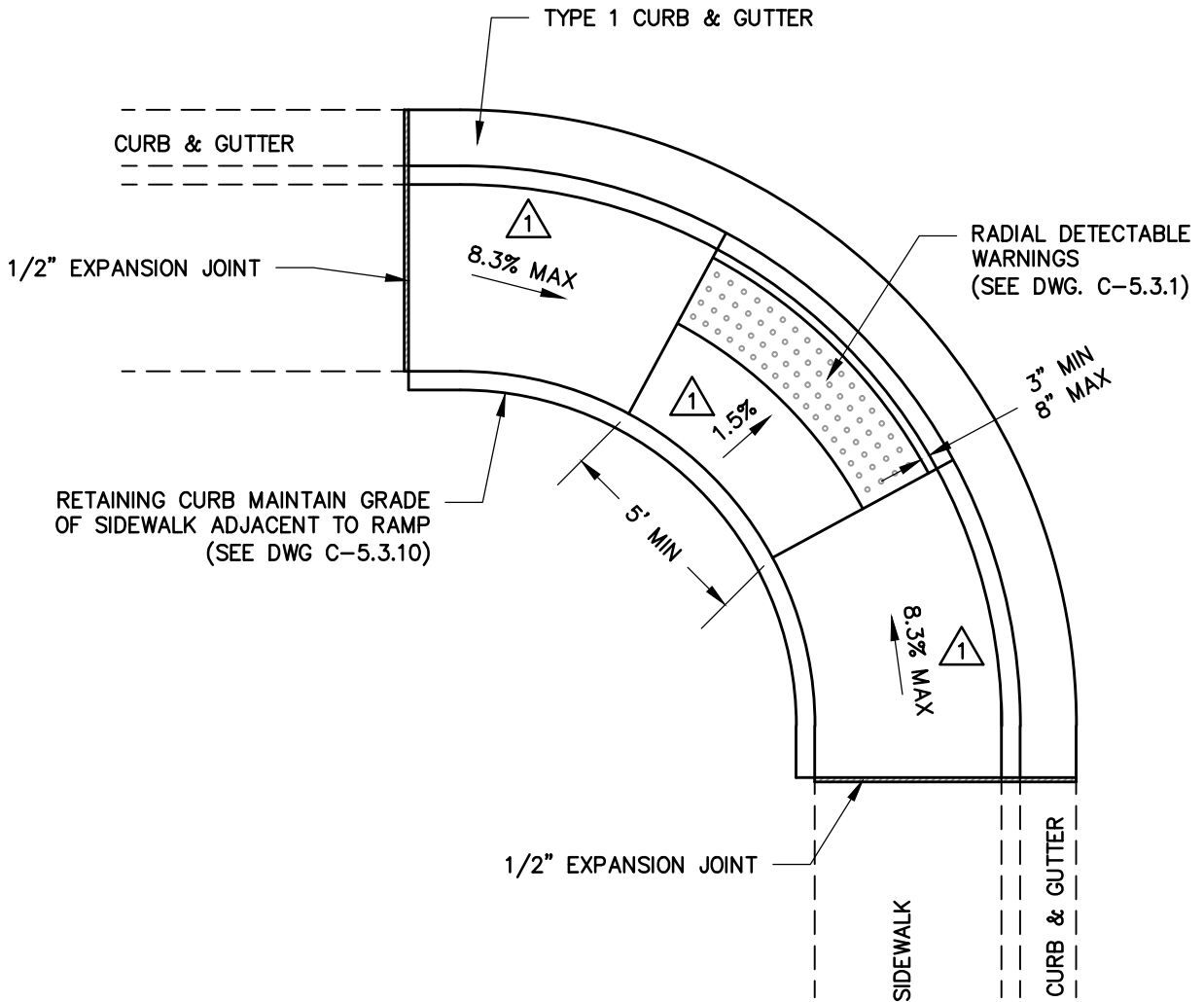
**PLAN**  
NTS

**NOTES:**

1. SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

NO.			REVISION			DATE			STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION			SECTION		
1			SLOPES			9/17			<b>PERPENDICULAR CURB RAMP APEX</b>			CARSON CITY		
												DRAWING NO. C-5.3.3		
												DATE SEP 2017		
APPROVED BY:						9/17								




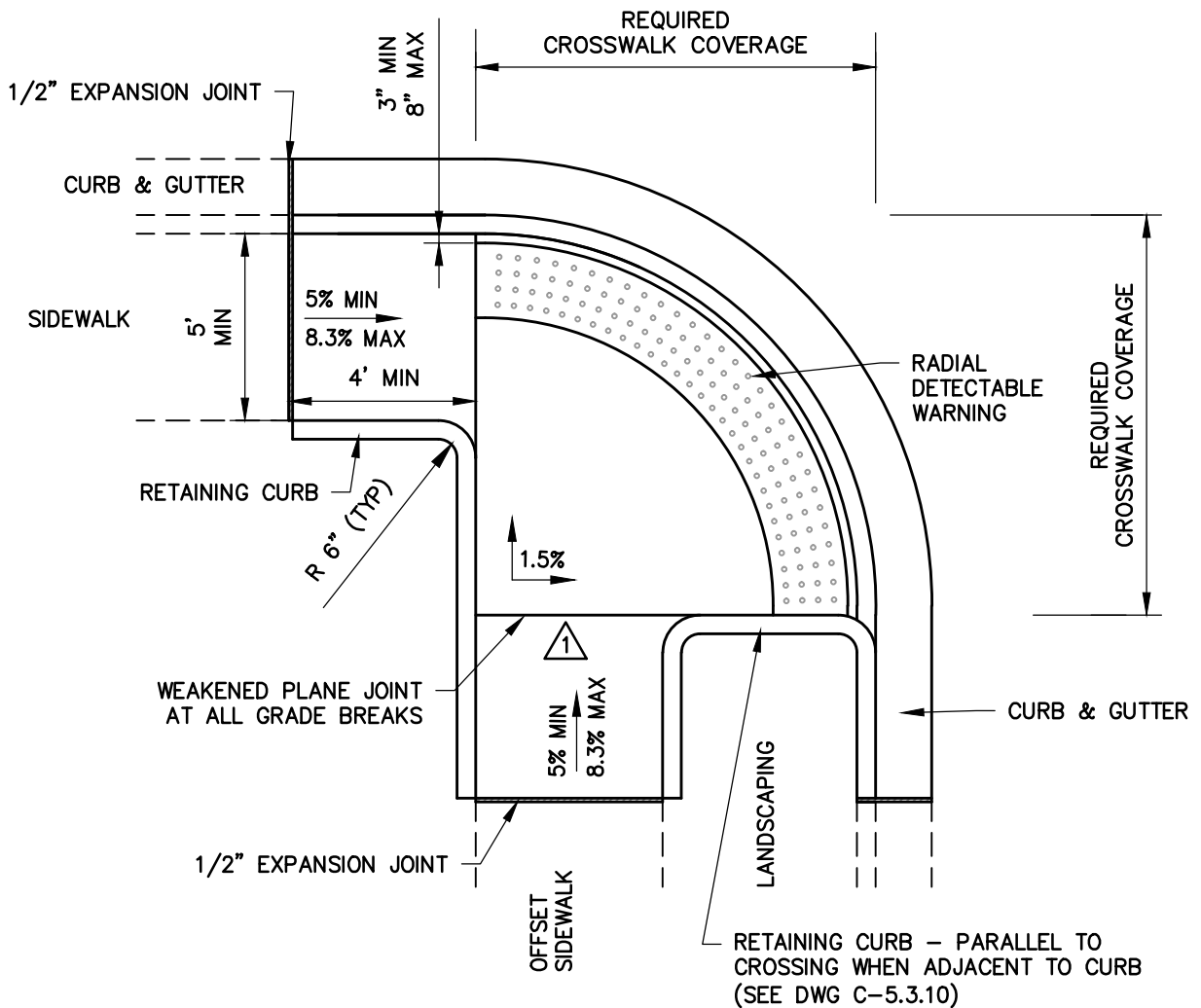


**PLAN**  
NTS

**NOTES:**

1. NOT FOR USE WITH OFFSET SIDEWALKS.
2. RETAINING CURBS ARE TO BE USED IN ALL CASES AND FINISH GRADE AT BACK OF SIDEWALK IS TO BE RAISED TO TOP OF RETAINING CURB ELEVATION.
3. SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.


NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	SLOPE	9/17	<b>PARALLEL CURB RAMP APEX</b>	CARSON CITY
				DRAWING NO. C-5.3.5
				DATE SEP 2017
APPROVED BY: 		9/17		



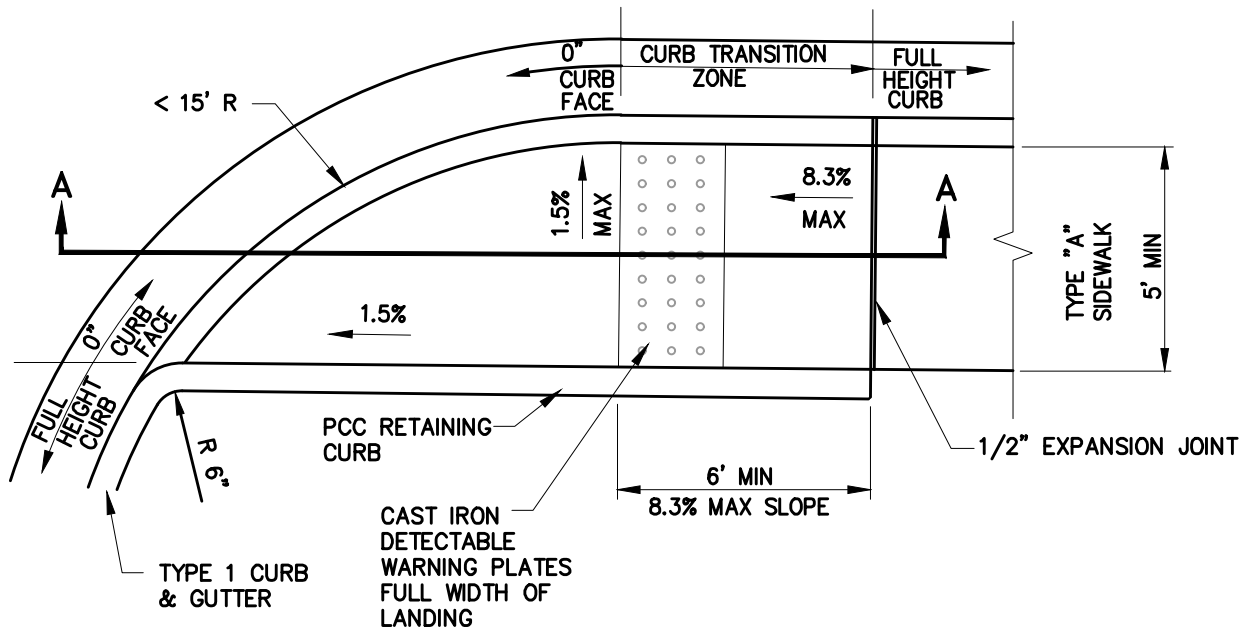
**PLAN**  
NTS

**NOTES:**

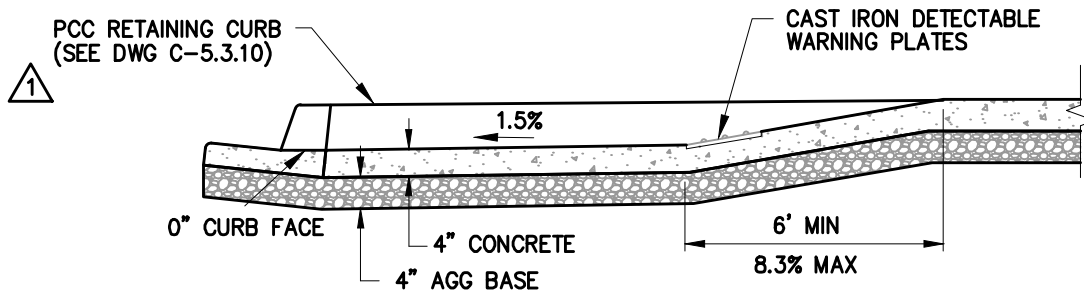
1. RETAINING CURBS ARE TO BE USED IN ALL CASES AND FINISH GRADE AT BACK OF SIDEWALK IS TO BE RAISED TO TOP OF RETAINING CURB ELEVATION.
2. SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	SLOPES	9/17	<b>RADIAL CURB RAMP</b>	CARSON CITY
				DRAWING NO. C-5.3.6
				DATE
				SEP 2017
APPROVED BY: 		9/17		





**PLAN**  
NTS

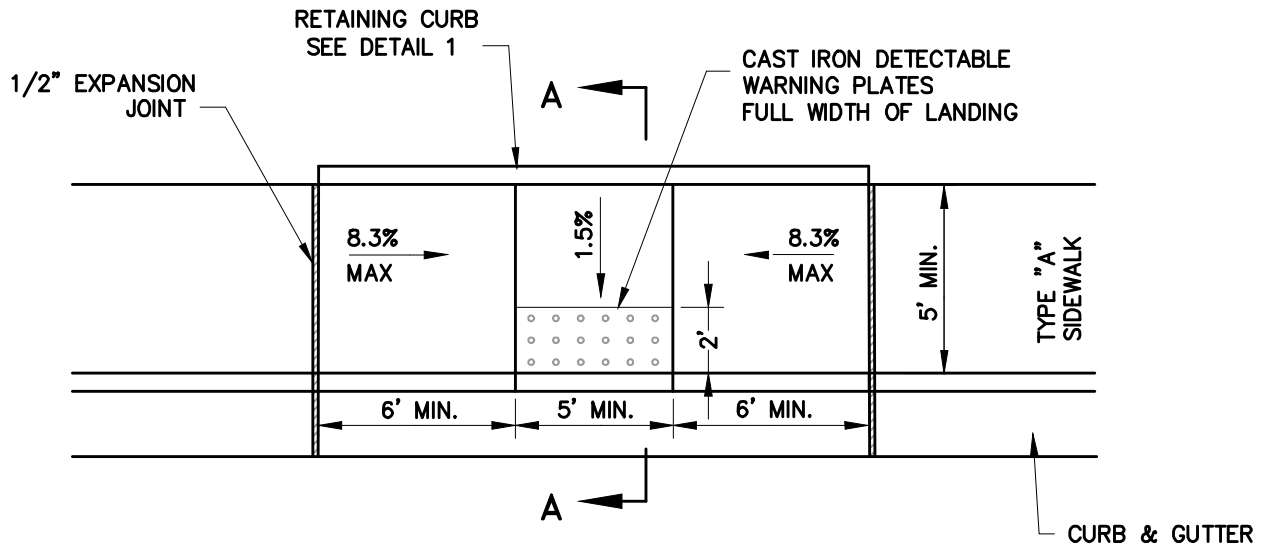


**SECTION A-A**  
NTS

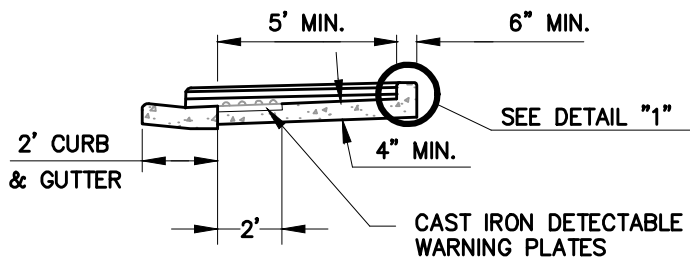
**NOTES:**

1. LINEAR SINGLE TRANSITION CURB RAMP TO BE USED ONLY AT RETURNS HAVING LESS THAN A 15 FOOT RADIUS.
2. NOT FOR USE WITH OFFSET SIDEWALKS.
3. RETAINING CURBS ARE TO BE USED IN ALL CASES AND EXISTING GRADE AT BACK OF SIDEWALK IS TO BE RAISED TO TOP OF RETAINING CURB ELEVATION.
4. SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

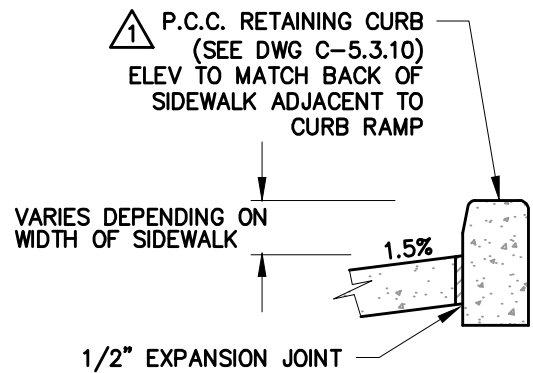
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	RET CURB DTL	1/20	<b>LINEAR CURB RAMP SINGLE ADJACENT</b>	CARSON CITY
				DRAWING NO. C-5.3.8
				DATE JAN 2020
APPROVED BY:		1/20		



**PLAN**  
NTS



**SECTION A-A**  
NTS



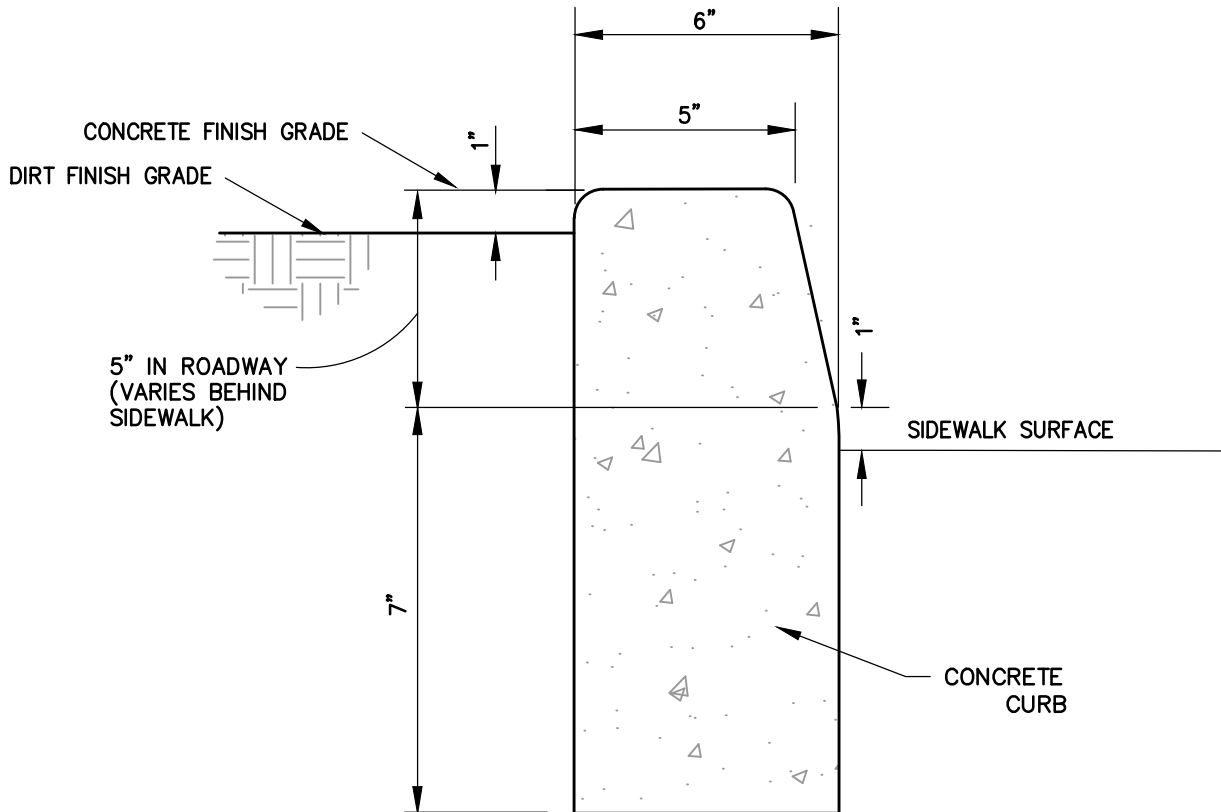
**DETAIL 1**  
NTS

**NOTES:**

1. RETAINING CURB TO BE USED IN ALL CASES. MAINTAIN SLOPE OF SIDEWALK OUTSIDE OF CURB RAMP.
2. SEE "CURB RAMP GENERAL NOTES" DWG C-5.3.1 FOR FURTHER REQUIREMENTS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	RET CURB DTL	1/20	<b>MID BLOCK CURB RAMP</b>	CARSON CITY
				DRAWING NO. C-5.3.9
				DATE JAN 2020
APPROVED BY:		1/20		



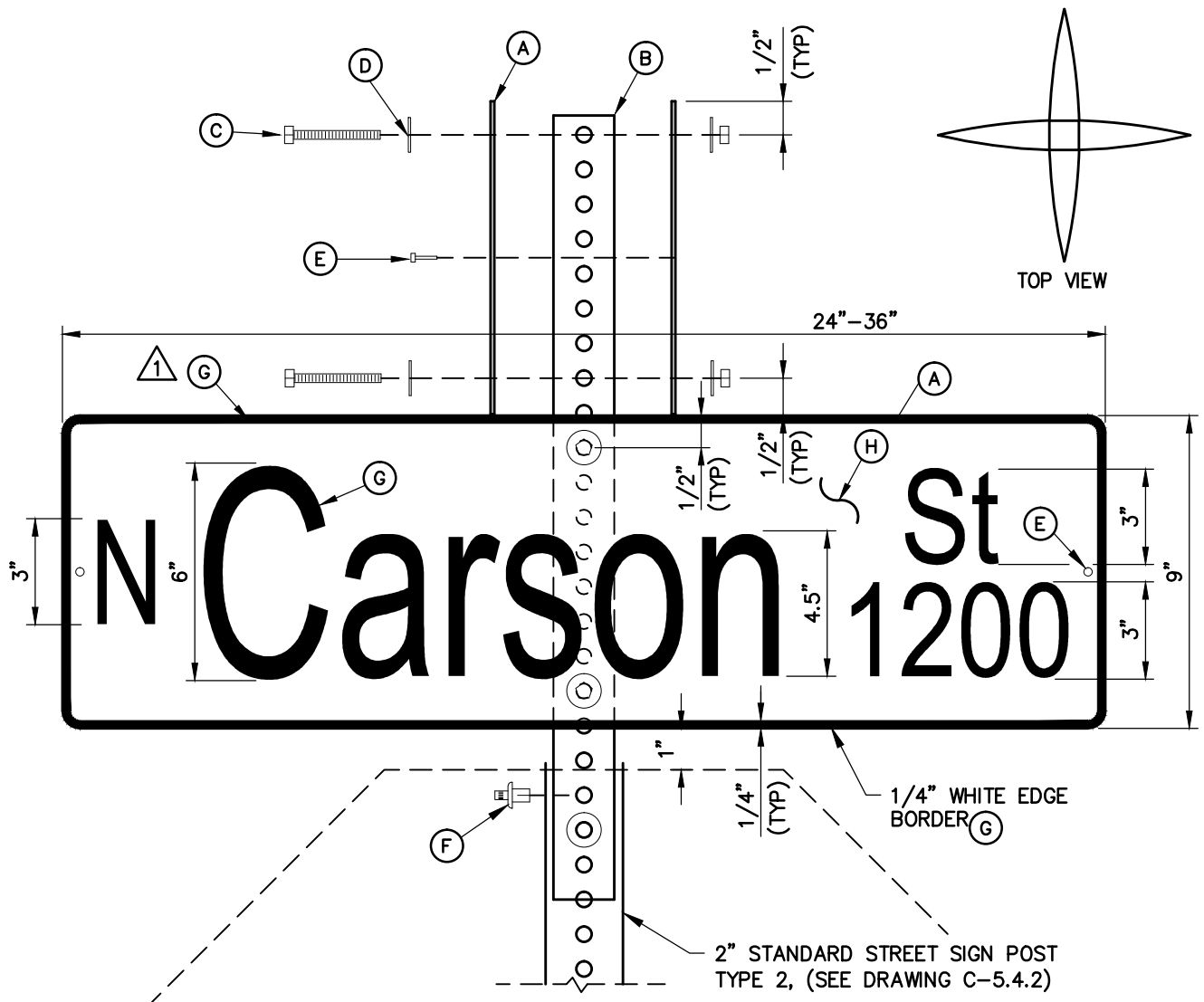


**TYPICAL SECTION**  
NTS

**NOTES:**

1. NO CONCRETE SHALL BE PLACED UNTIL FORMS AND SUBGRADE ARE INSPECTED BY CARSON CITY PUBLIC WORKS
- △ 2. ALL CONCRETE EDGING AND JOINTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAILS C-5.1.1, AND, C-5.3.1 AND CONFORM TO SEC. 312.09 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SSPWC).

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
△ 1	NOTE 2	9/17	<b>P.C.C. RETAINING CURB</b>	CARSON CITY
				DRAWING NO.
				C-5.3.10
APPROVED BY: 				DATE
9/17				SEP 2017

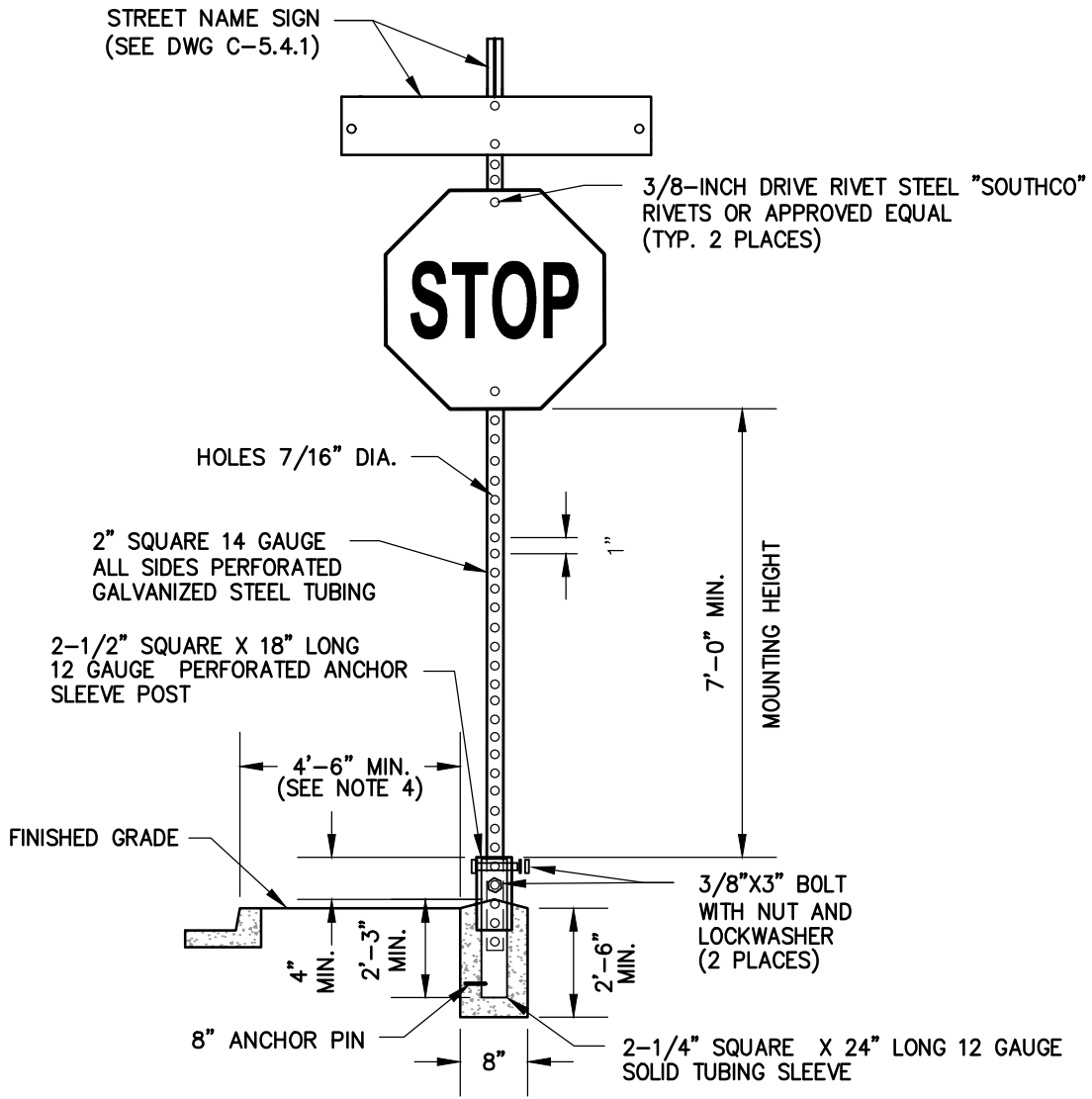


**TYPICAL LAYOUT**  
NTS

**NOTES:**

1. STREET NAME SIGN SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE M.U.T.C.D.
2. LETTERING FONT SHALL BE "HIGHWAY EM".
3. SUBMITTAL REQUIRED TO CITY FOR LONGER NAMES OR DROP LETTERS.
4. MATERIALS SHALL CONSIST OF:
  - A. (4) FLAT PLATE ALUMINUM NO. 6061-T6, .080 GAUGE.
  - B. (1) 2-FOOT LONG 1 3/4-INCH "TELESPAR" OR EQUIVALENT
  - C. (4) 2 1/2-INCH LONG, 5/16-INCH SAE GRADE 5 BOLT & NUT
  - D. (8) FLAT WASHERS
  - E. (4) 1/8-INCH DIAMETER, STEEL POP RIVET (MEDIUM LENGTH) WITH 1/8-INCH WASHER (ALUMINUM OR STEEL)
  - F. (1) 3/8-INCH DRIVE RIVET STEEL "SOUTHCO"
  - G. WHITE SHEETING - RETROREFLECTIVE ASTM IX DIAMOND GRADE VIP "3M" OR EQUIVALENT
  - H. GREEN SHEETING - TRANSPARENCY ELETRO CUT FILM 1177C "3M" OR EQUIVALENT

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>STREET NAME SIGN AND MOUNTING</b>	CARSON CITY
				DRAWING NO. C-5.4.1
				DATE
				SEP 2017
APPROVED BY: 		9/17		

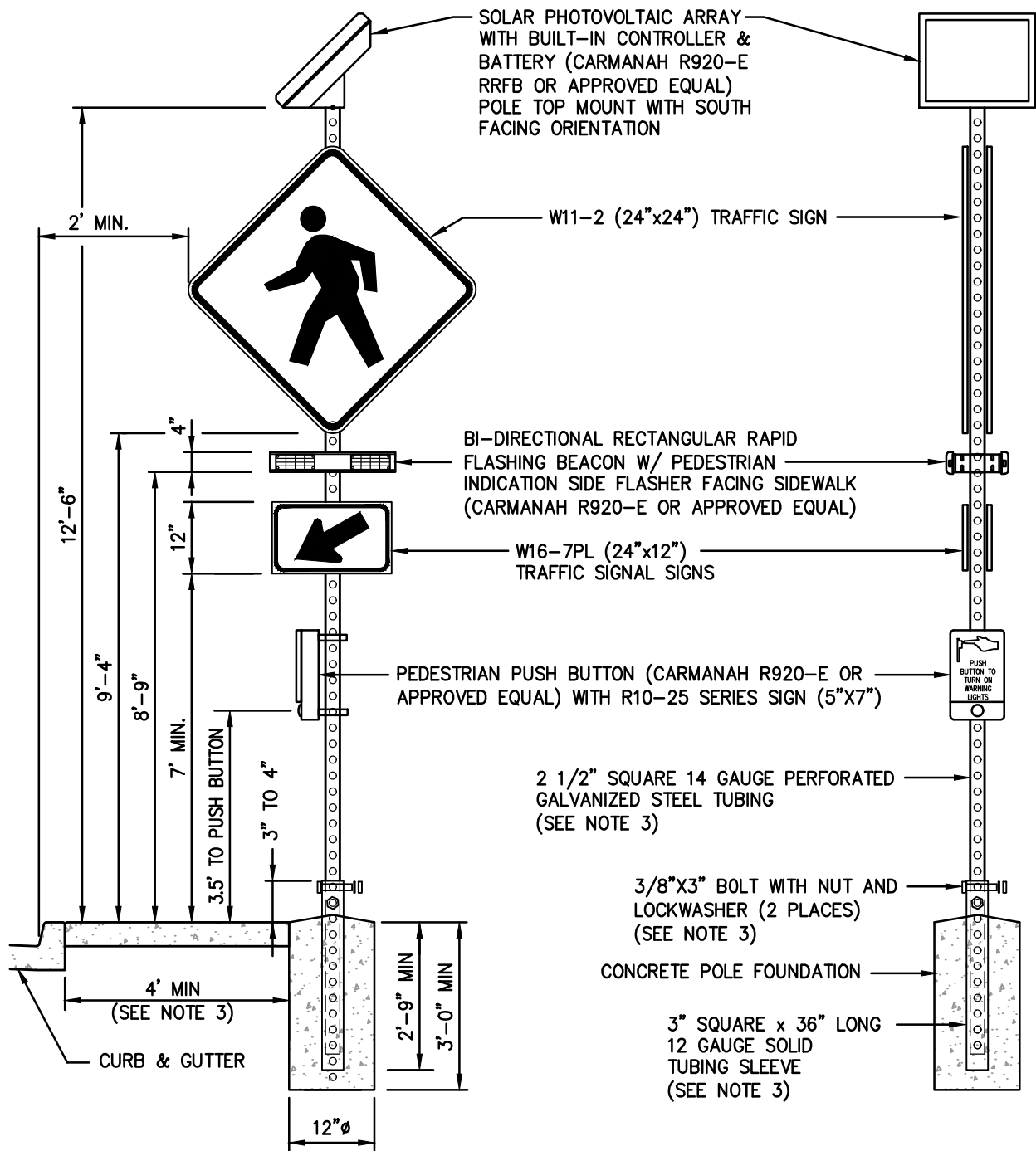


**TYPICAL SECTION**  
NTS

**NOTES:**

1. SIGN MATERIALS, CONSTRUCTION AND PLACEMENT MUST BE IN CONFORMANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
2. STREET NAME SIGN MUST BE AS SPECIFIED IN STANDARD DETAIL DRAWING NO. C-5.4.1
3. ON STREETS WHERE CURBING DOES NOT EXIST, SET SIGN 6 FEET MINIMUM FROM PAVEMENT EDGE.
4. CONCRETE BASE MUST BE LOCATED AT BACK OF SIDEWALK, UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
5. ALL REGULATORY SIGNS MUST USE ASTM TYPE 3 OR 4 INTENSITY SHEETING.
6. ALL WARNING SIGNS MUST HAVE BLACK LETTERING ON YELLOW BACKGROUND UNLESS REQUIRED AND APPROVED FOR USE IN SCHOOL ZONE AREAS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	RENUMBER	3/22	<b>TRAFFIC SIGN INSTALLATION</b>	CARSON CITY
				DRAWING NO. C-5.4.1.1
				DATE MAR 2022
APPROVED BY: 		3/22		



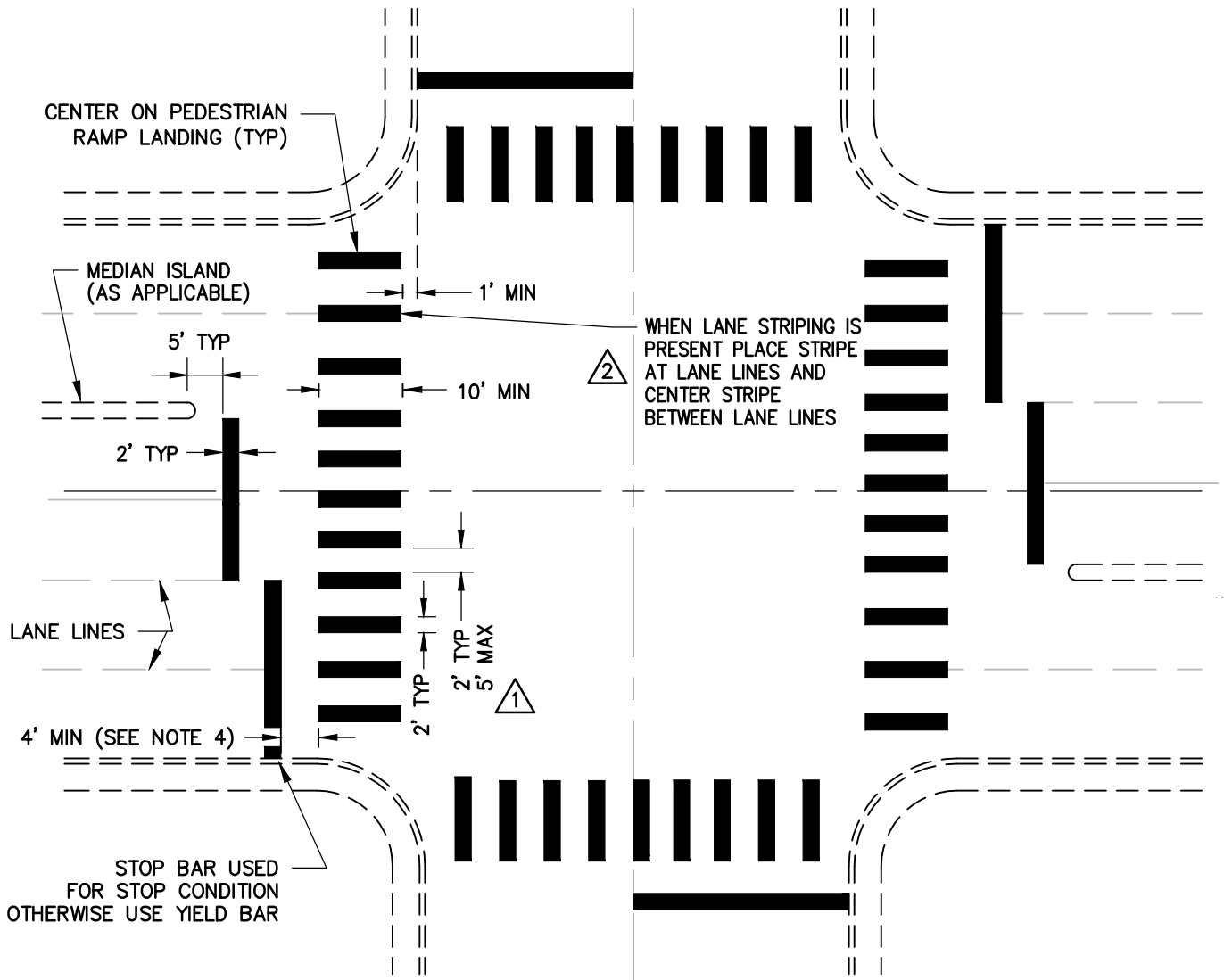
**NOTES:**

1. INSTALL PUSH BUTTON ON SIDE OF POLE FACING PEDESTRIAN RAMP.
2. CONCRETE BASE SHALL BE LOCATED AT THE BACK OF SIDEWALK, UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
3. ON STREETS WHERE CURBING DOES NOT EXIST A 4" DIAMETER, 80 GAUGE POLE WITH A SLIP/BREAKAWAY BASE CONFORMING TO THE CURRENT NDOT STANDARD SHALL BE SET 6 FEET MINIMUM FROM PAVEMENT EDGE.
4. WARNING SIGNS SHALL HAVE BLACK LETTERING ON YELLOW BACKGROUND. FLUORESCENT YELLOW SHALL BE APPROVED FOR US ONLY IN SCHOOL ZONE AREAS.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>RECTANGULAR RAPID FLASHING BEACON</b>	CARSON CITY
				DRAWING NO. C-5.4.1.2
				DATE MAR 2022
APPROVED BY: 		3/22		

1. PAVEMENT MARKINGS MUST CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICE (MUTCD) FOR STREETS AND HIGHWAYS, CURRENT EDITION. STRIPING MATERIALS AND APPLICATION MUST CONFORM TO CARSON CITY TECHNICAL SPECIFICATIONS AS WELL AS THE "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION."
2. PAVEMENT MARKINGS MUST BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE TRAFFIC REPORT, OR AS REQUIRED BY THE APPROVED IMPROVEMENT PLANS.
3. PAVEMENT MARKINGS MUST BE INCLUDED IN THE IMPROVEMENT PLANS.
4. BEFORE ANY NEW PUBLIC OR PRIVATE ROAD, PAVED DETOUR, OR TEMPORARY ROUTE IS OPENED TO PUBLIC TRAVEL, ALL NECESSARY MARKINGS MUST BE IN PLACE.
5. INLAY TAPE STRIPING AND/OR PAVEMENT LEGENDS MUST BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
6. TEMPORARY STRIPING OR REFLECTIVE FLEXIBLE ROAD TABS MUST BE USED TO DELINEATE STRIPING BETWEEN THE TIME OF PLACEMENT OF PAVEMENT/SLURRY TO THE FIRST APPLICATION OF PAINT. STRIPING MUST BE SCHEDULED AT A REASONABLE TIME (I.E. ACCOUNTS FOR WEATHER, CONSTRUCTION TRAFFIC ON NEW PAINT, LONG TERM PERFORMANCE, ETC.) AND AT THE APPROVAL OF THE ENGINEER. STRIPING MUST BE IN LIKE NEW CONDITION WITH ACCEPTABLE DELINEATION AND REFLECTIVITY AT THE COMPLETION OF THE PROJECT.
7. RAPID DRY WATERBORNE TRAFFIC PAINT MUST BE USED. THE APPLICATION OF THE PAINT IS AS FOLLOWS:
  - A. APPLY PAINT TO AN APPROVED CLEAN AND DRY SURFACE.
  - B. NEW STRIPE—PAINT IS TO BE APPLIED IN TWO APPLICATIONS WITH THE FIRST BEING A SEAL COAT APPLIED AT A MINIMUM OF 48 HOURS AFTER PAVING/SLURRY AND THE SECOND COAT BETWEEN 10–30 DAYS AFTER APPLICATION OF THE FIRST COAT PER MANUFACTURERS SPECIFICATIONS.
  - C. EXISTING STRIPE—PAINT IS TO BE APPLIED IN ONE APPLICATION PER MANUFACTURERS SPECIFICATIONS.
8. A MINIMUM OF ONE (1) INSPECTION IS REQUIRED UPON COMPLETION OF THE FINAL FINISHED SURFACE. INSPECT TO ENSURE THAT PAVEMENT STRIPING AND MARKINGS ARE IN CONFORMANCE WITH PROJECT PLANS AND SPECIFICATIONS FOR MARKING MATERIAL, LAYOUT AND ALIGNMENT.
9. DIMENSIONS AND THE PLACEMENT OF ARROWS, SYMBOLS, AND TEXT ARE TYPICAL AND SHALL APPLY UNLESS OTHER INDICATED IN THE CONTRACT DOCUMENTS.
10. ANY STREET STRIPING DIFFERENT FROM CARSON CITY STANDARD DETAILS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.
11. LONG LINE STRIPING MEASUREMENTS:
  - DOUBLE SOLID YELLOW: TWO 4 INCH STRIPES SEPARATED BY A 4 INCH GAP.
  - BROKEN YELLOW/WHITE:  
WHEN THE POSTED SPEED LIMIT IS LESS THAN OR EQUAL TO 40 MPH, STRIPE SHALL BE 4 INCHES WIDE WITH A LENGTH OF 7 FEET SEPARATED BY A 21 FOOT GAP.  
WHEN THE POSTED SPEED LIMIT IS GREATER THAN 40 MPH, STRIPE SHALL BE 6 INCHES WIDE WITH A LENGTH OF 10 FEET SEPARATED BY A 30 FOOT GAP.  
ALTERNATE LAYOUTS SHALL HAVE SIMILAR 1:3 RATIO AS APPROVED BY THE CITY ENGINEER.
  - BROKEN/SOLID YELLOW TWO-WAY LEFT TURN LANE: 4 INCH SOLID STRIPE WITH 4 INCH GAP BETWEEN 4 INCH BROKEN STRIPE – SPACING TO MATCH THE BROKEN YELLOW DIMENSIONS
  - SOLID WHITE EDGE:  
4 INCHES IF NO BIKE LANES OR WHEN THE POSTED SPEED LIMIT IS LESS THAN OR EQUAL TO 40 MPH  
6 INCHES FOR ALL BIKE LANES OR FOR ROADS WHEN THE POSTED SPEED LIMIT IS GREATER THAN 40 MPH
  - SOLID WHITE TURN POCKETS:  
8 INCHES WIDE WHEN THE POSTED SPEED LIMIT IS LESS THAN OR EQUAL TO 40 MPH  
10 INCHES WIDE WHEN THE POSTED SPEED LIMIT IS GREATER THAN 40 MPH
  - DOTTED WHITE STRIPES:  
LANE DROP (TRAP) MARKINGS – 3 FOOT STRIPE WITH 9 FOOT GAP – 6 INCH WIDTH  
MERGE OR TAPER LANES – 2 FOOT STRIPE WITH 4 FOOT GAP – MATCH ADJACENT STRIPE WIDTH  
INTERSECTION EXTENSIONS – 2 FOOT STRIPE WITH 6 FOOT GAP – MATCH EXTENDED STRIPE WIDTH  
BIKE LANES AT INTERSECTIONS – 2 FOOT STRIPE WITH 3 FOOT GAP – 6 INCH WIDTH

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION CARSON CITY
			<h1>STRIPING GENERAL NOTES</h1>	DRAWING NO. C-5.4.2 (324)
				DATE AUG 2022
APPROVED BY:		8/22		

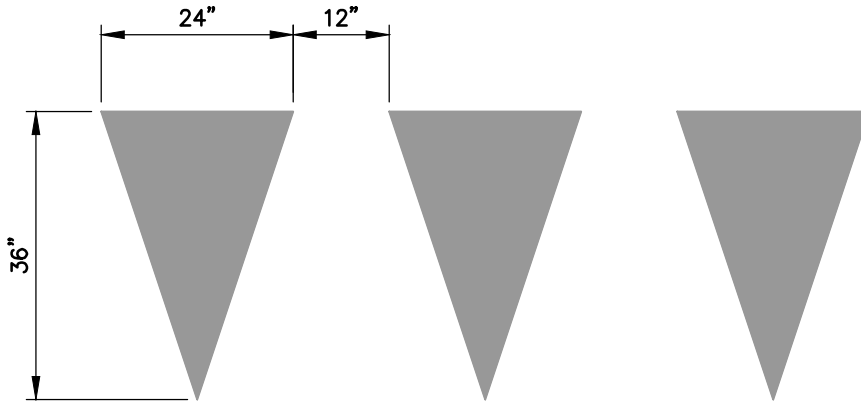


**PLAN**  
NTS

**NOTES:**

1. ALL STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, CURRENT EDITION.
2. INLAY TAPE STRIPING AND/OR PAVEMENT LEGENDS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
3. CROSSWALK MARKINGS SHALL BE INSTALLED AT ALL TRAFFIC SIGNAL LOCATIONS AND AT OTHER LOCATIONS AS DIRECTED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
- △ 4. STOP BARS OR YIELD LINES LOCATED AT A CROSSWALK THAT CROSSES AN UNCONTROLLED MULTI-LANE APPROACH OR AT A MID-BLOCK CROSSING SHALL BE PLACED 40 FEET IN ADVANCE OF THE NEAREST CROSSWALK LINE. PARKING SHALL BE PROHIBITED BETWEEN THE STOP BAR AND THE CROSSWALK.

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
△1	RENUMBER		<b>CROSSWALK LEGEND</b>	CARSON CITY
	CENTER STRIPE	3/22		DRAWING NO.
				C-5.4.2.1
				DATE
APPROVED BY:		3/22		MAR 2022




NOTE:  
 TRIANGLE HEIGHT IS EQUAL TO 1.5 TIMES THE  
 BASE DIMENSION.

  
 DIRECTION OF  
 TRAVEL

**NOTES:**

1. ALL STRIPING SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS, CURRENT EDITION.
2. ALL PAINTED STRIPING AND PAVEMENT LEGENDS SHALL CONFORM TO CARSON CITY PUBLIC WORKS SPECIFICATIONS.
3. ALL INLAY TAPE STRIPING AND/OR PAVEMENT LEGENDS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
4. YIELD LINE TO BE INSTALLED FROM EDGE OF LANE TO EDGE OF PAVEMENT OR LIP OF CURB.
5. SEE STANDARD DETAIL C-5.4.2.1 FOR YIELD LINE PLACEMENT.



NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
1	RENUMBER		<h1>YIELD LINE LAYOUT</h1>	CARSON CITY
	NOTE 5	3/22		DRAWING NO.
				C-5.4.2.2
				DATE
APPROVED BY: 			3/22	MAR 2022

## TYPICAL PAVEMENT SECTION

1. PARKING LOTS WILL BE CONSTRUCTED WITH A MINIMUM OF 2.5 INCHES OF A.C. SURFACE ON 6 INCHES OF TYPE 2 CLASS B AGGREGATE BASE (BOTH COMPACTED TO 95% MIN.)

## WHEEL STOPS


1. WHEEL STOPS WILL BE 2 FEET CLEAR (MIN.) FROM PROPERTY LINES, BUILDINGS, FENCES, OR APPURTENANCES.
2. WHEEL STOP WILL BE SECURED WITH 0.5 INCH REBAR DRIVEN 12 INCHES (MIN.) INTO SURFACE OR WITH AN APPROVED EPOXY HAVING A SETTING TIME OF 4-HOUR (MAX.) AT 77 DEGREES FAHRENHEIT.
3. WHEEL STOPS WILL BE WHITE OR SAFETY YELLOW WITH 0.25 CANDLE POWER REFLECTIVITY.
4. WHEEL STOP DIMENSIONS WILL BE 4 INCHES TO 7 INCHES HIGH X 4 FEET (MIN.) LONG X 6 INCHES (MIN.) WIDE. WHEEL STOP LOCATION SHALL SECURE VEHICLE TIRES.
5. MINIMUM WALL THICKNESS FOR METAL STOPS WILL BE 0.25 INCHES, FOR POLYETHYLENE OR FIBERGLASS WHEEL STOPS – 0.75 INCHES.
6. WOOD WHEEL STOPS WILL BE REDWOOD #2 OR BETTER.
7. CONCRETE WHEEL STOPS WILL HAVE A MINIMUM TENSILE STRENGTH OF 2000 P.S.I. (ASTM D-746).
8. IMPACT BRITTLE TEMPERATURE SHALL BE -75 DEGREES CELSIUS. (ASTM D-746).
9. ELONGATION SHALL BE LIMITED TO 35 PERCENT AT 73 DEGREES FAHRENHEIT (ASTM D638).

## STRIPING

1. PARKING LOT STRIPING SHALL BE WHITE WITH A MINIMUM WIDTH OF 4 INCHES. PAINT SHALL BE SPECIFIED "TRAFFIC STRIPING PAINT" OR HAVE MANUFACTURER'S CERTIFICATION OF SUITABLE APPLICATION ON ASPHALTIC OR CONCRETE SURFACES.

## LIGHTING


1. APPLICATION LEVEL WILL BE 1.0 FOOT CANDLES (MIN.) WITH A UNIFORMITY RATIO (AVERAGE ILLUMINATION) NOT EXCEEDING 6:1 AND AS APPROVED BY THE PUBLIC WORKS DEPARTMENT DEPENDING ON PEDESTRIAN VOLUMES.
2. LIGHT FIXTURES SHALL BE FULL CUT-OFF FIXTURES AS DEFINED BY THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
3. LIGHT POLES SHALL BE LOCATED TO ELIMINATE INTERFERENCE WITH VEHICULAR OR PEDESTRIAN TRAFFIC (AT THE END OF PARKING ROWS WHEN PRACTICAL) AND AS APPROVED BY THE PUBLIC WORKS DEPARTMENT. POLES SHALL NOT BE LOCATED NEXT TO TREES.
4. MOUNTING POLES WILL COMPLY WITH THE SAME SPECIFICATIONS PRESCRIBED FOR URBAN COLLECTOR STREET USE.

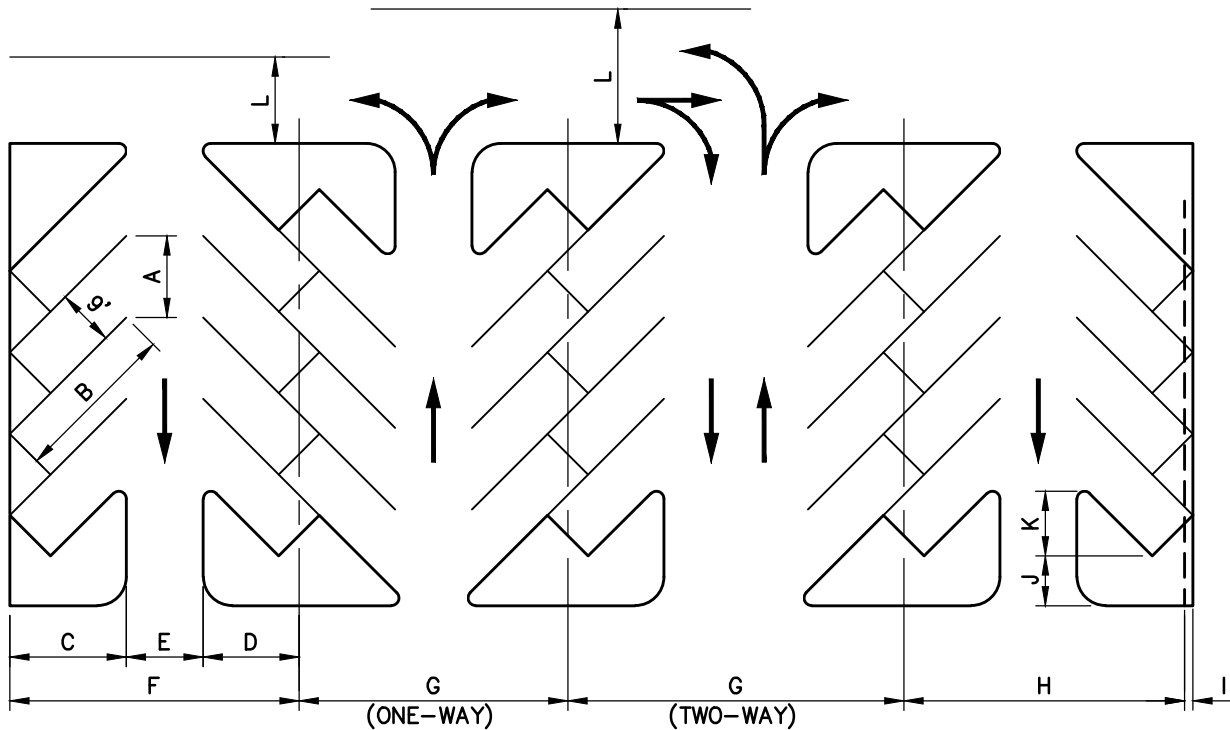
NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>PARKING LOT GENERAL NOTES</b>	CARSON CITY
				DRAWING NO. C-5.5.1
				DATE JAN 2021
APPROVED BY:		1/21		



## ACCESSIBLE PARKING SPACES

1. ACCESSIBLE PARKING SPACES ARE REQUIRED FOR EACH PARKING FACILITY ON A SITE, SUCH AS LOTS AND GARAGES. REQUIREMENTS APPLY EQUALLY TO PUBLIC AND EMPLOYEE OR RESTRICTED PARKING.
2. ACCESSIBLE SPACES ARE REQUIRED WHERE PARKING FACILITIES ARE ALTERED OR ADDED. THE TERM "ALTERATIONS" INCLUDES RESURFACING OF VEHICULAR WAYS. RESURFACING OR RESEALING AND PROJECTS THAT ADD NEW PARKING SPACES CONSTITUTE ALTERATIONS AND MUST INCLUDE ACCESSIBLE SPACES. NORMAL MAINTENANCE, SUCH AS POTHOLE REPAIR, SURFACE PATCHING, OR REPAINTING IN PLACE EXISTING STRIPING, IS NOT CONSIDERED AN ALTERATION.
3. WHERE PARKING SERVES MULTIPLE ENTRANCES TO A FACILITY, ACCESSIBLE SPACES MUST BE DISPERSED AMONG ACCESSIBLE ENTRANCES. ACCESSIBLE PARKING SPACES MUST BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE TO AN ACCESSIBLE ENTRANCE, RELATIVE TO OTHER SPACES IN THE SAME PARKING FACILITY.
4. STANDARD ACCESSIBLE PARKING SPACES SHALL HAVE A MINIMUM WIDTH OF 96 INCHES WITH AN ACCESS AISLE LOCATED ADJACENT THERETO. BOUNDARIES SHALL BE MEASURED FROM CENTER OF STRIPE. PARKING SPACES AND ACCESS AISLES SHALL MEET THE REQUIREMENTS FOR ACCESSIBLE ROUTES IN THE A.D.A. STANDARDS FOR ACCESSIBLE DESIGN (2010 EDITION).
5. ACCESS ISLES SHALL HAVE A 60 INCH MINIMUM WIDTH AND RUN THE FULL LENGTH OF THE ADJACENT ACCESSIBLE PARKING SPACE. ACCESS ISLES SHALL HAVE A SLOPE OF LESS THAN 1:48. AND MUST CONNECT DIRECTLY TO ACCESSIBLE ROUTES. NO ELEMENTS, INCLUDING CURB RAMPS, BOLLARDS, COLUMNS, OR POLES, CAN ENCROACH INTO THE DEFINED AREA OF ACCESS AISLES.
6. AT LEAST ONE SPACE FOR EVERY 6 ACCESSIBLE SPACES SHALL BE VAN ACCESSIBLE. VAN SPACES PROVIDE AN ADDITIONAL 3 FEET OF WIDTH TO ACCOMMODATE VEHICLES EQUIPPED WITH RAMPS OR LIFTS. THIS EXTRA SPACE CAN BE ADDED TO EITHER THE PARKING SPACE OR TO THE ACCESS AISLE. TWO PERPENDICULAR PARKING SPACES CAN SHARE ONE ACCESS AISLE.
7. ACCESSIBLE SPACES MUST BE IDENTIFIED BY SIGNS (12 INCH BY 18 INCH GREEN ON WHITE) WITH THE BLUE INTERNATIONAL SYMBOL OF ACCESSIBILITY. ADDITIONAL SIGNS IDENTIFYING VAN SPACES (12 INCH BY 6 INCH—GREEN ON WHITE) MUST INCLUDE THE TERM "VAN ACCESSIBLE". THIS DESIGNATION IS INFORMATIVE AND DOES NOT RESTRICT USE OF SUCH SPACES TO VAN USERS ONLY. SIGNS MUST BE AT LEAST 60 INCHES HIGH MEASURED TO THE BOTTOM EDGE SO THAT THEY ARE VISIBLE WHILE VEHICLES ARE PARKED IN A SPACE. SIGNS CAN BE ON POSTS, OR WHERE FEASIBLE, ON WALLS OR SUSPENDED FROM CEILINGS (80 INCHES MINIMUM HEADROOM CLEARANCE IS REQUIRED AT SIGNS SUSPENDED ABOVE CIRCULATION PATHS). ISA DESIGNATIONS ON THE PARKING SURFACE, CANNOT SUBSTITUTE FOR ABOVE-GROUND SIGNS THAT REMAIN VISIBLE AT ALL TIMES. IF A TOTAL OF 4 OR FEWER PARKING SPACES (INACCESSIBLE AND ACCESSIBLE) IS PROVIDED ON A SITE, THE REQUIRED ACCESSIBLE SPACE DOES NOT HAVE TO BE IDENTIFIED BY A SIGN. AT RESIDENTIAL FACILITIES, IDENTIFICATION OF ACCESSIBLE SPACES IS NOT REQUIRED WHERE SPACES ARE ASSIGNED TO SPECIFIC DWELLING UNITS

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
			<b>PARKING LOT GENERAL NOTES</b>	CARSON CITY
				DRAWING NO. C-5.5.1.1
				DATE JAN 2021
APPROVED BY:		1/21		

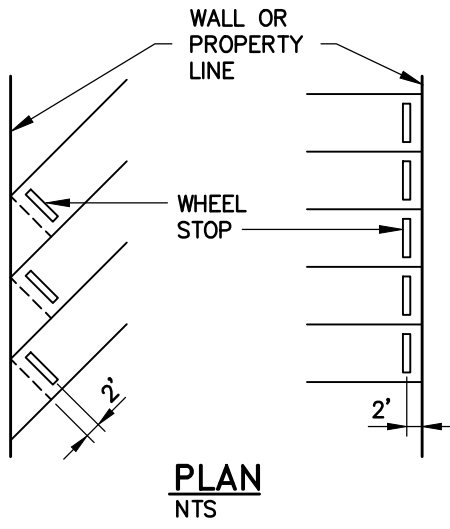


DIMENSION ITEM	SYMBOL	PARKING ANGLE			
		45°	60°	75°	90°
STALL WIDTH, PARALLEL	A	12.7	10.4	9.3	9.0
STALL LENGTH, OF LINE	B	25.0	22.0	20.0	18.5
STALL DEPTH TO WALL	C	17.5	19.0	19.5	18.5
STALL DEPTH TO INTERLOCK	D	15.3	17.5	18.8	18.5
<b>ONE-WAY TRAFFIC</b>					
AISLE WIDTH BETWEEN STALLS	E	12.0	16.0	23.0	26.0
MODULE, WALL TO INTERLOCK	F	44.8	52.5	61.3	63.0
MODULE, INTERLOCKING	G	42.6	51.0	61.0	63.0
MODULE, CURB TO INTERLOCK	H	42.8	50.2	58.8	60.5
<b>TWO-WAY TRAFFIC</b>					
AISLE WIDTH BETWEEN STALLS	E	20.0	20.0	23.0	26.0
MODULE, WALL TO INTERLOCK	F	52.8	56.5	61.3	63.0
MODULE, INTERLOCKING	G	50.6	55.0	61.0	63.0
MODULE, CURB TO INTERLOCK	H	50.8	54.2	58.8	60.5
BUMPER OVERHANG (TYPICAL)	I	2.0	2.3	2.5	2.5
OFFSET	J	6.3*	2.7	0.5	0.0
SETBACK	K	11.0	8.3	5.0	0.0
CROSS-AISLE, ONE WAY	L	14.0*	14.0	14.0	14.0
CROSS AISLE, TWO WAY	L	24.0*	24.0	24.0	24.0

### NOTES

1. PARKING LOTS OF MORE THAN 20 SPACES MAY DESIGNATE UP TO 15% OF THE TOTAL REQUIRED OFF-STREET PARKING AS COMPACT CAR SPACES, EACH HAVING A MINIMUM LENGTH OF 16 FEET AND MINIMUM WIDTH OF 8 FEET AND CLEARLY MARKED "COMPACT PARKING ONLY".
  2. PARALLEL PARKING STALLS SHALL BE 9 FEET WIDE x 22 FEET LONG (MINIMUM).
- \* MINIMUM - ANY PARKING CONFIGURATION (0-45 DEGREES).

NO.	REVISION	DATE	STANDARD DETAIL FOR PUBLIC WORKS CONSTRUCTION	SECTION
①	RENUMBER	3/22	<b>PARKING LOT REQUIREMENTS</b>	CARSON CITY
				DRAWING NO.
				C-5.5.1.2
				DATE
APPROVED BY:		3/22		MAR 2022



**TYPICAL PAVEMENT SECTION**

1. PARKING LOTS WILL BE CONSTRUCTED WITH A MINIMUM OF 2.5 INCHES OF A.C. SURFACE ON 6 INCHES OF TYPE 2 CLASS B AGGREGATE BASE (BOTH COMPACTED TO 95% MIN.)

**WHEEL STOPS**

1. WHEEL STOPS WILL BE 2 FEET (MIN.) FROM PROPERTY LINE OR APPURTENANCES.
2. WHEEL STOP WILL BE SECURED WITH 0.5 INCH REBAR DRIVEN 12 INCHES (MIN.) INTO SURFACE OR WITH AN APPROVED EPOXY HAVING A SETTING TIME OF 4-HOUR (MAX.) AT 77 DEGREES FAHRENHEIT.
3. WHEEL STOPS WILL BE WHITE OR SAFETY YELLOW WITH 0.25 CANDLE POWER REFLECTIVITY.
4. WHEEL STOP DIMENSIONS WILL BE 4 INCHES TO 7 INCHES HIGH X 4 FEET (MIN.) LONG X 6 INCHES (MIN.) WIDE. WHEEL STOP LOCATION SHALL SECURE VEHICLE TIRES.
5. MINIMUM WALL THICKNESS FOR METAL STOPS WILL BE 0.25 INCHES, FOR POLYETHYLENE OR FIBERGLASS WHEEL STOPS - 0.75 INCHES.
6. WOOD WHEEL STOPS WILL BE REDWOOD #2 OR BETTER.
7. CONCRETE WHEEL STOPS WILL HAVE A MINIMUM TENSILE STRENGTH OF 2000 P.S.I. (ASTM D-746).
8. IMPACT BRITTLE TEMPERATURE SHALL BE -75 DEGREES CELSIUS. (ASTM D-746).
9. ELONGATION SHALL BE LIMITED TO 35 PERCENT AT 73 DEGREES FAHRENHEIT (ASTM D638).

**STRIPING**

1. PARKING LOT STRIPING SHALL BE WHITE WITH A MINIMUM WIDTH OF 4 INCHES. PAINT SHALL BE SPECIFIED "TRAFFIC STRIPING PAINT" OR HAVE MANUFACTURER'S CERTIFICATION OF SUITABLE APPLICATION ON ASPHALTIC OR CONCRETE SURFACES.

**LIGHTING**

1. APPLICATION LEVEL WILL BE 1.0 FOOT CANDLES (MIN.) WITH A UNIFORMITY RATIO (AVERAGE ILLUMINATION) NOT EXCEEDING 6:1 AND AS APPROVED BY THE PUBLIC WORKS DEPARTMENT DEPENDING ON PEDESTRIAN VOLUMES.
2. LIGHT FIXTURES SHALL BE FULL CUT-OFF FIXTURES AS DEFINED BY THE ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) UNLESS OTHERWISE APPROVED BY THE CARSON CITY ENGINEER OR PUBLIC WORKS DIRECTOR.
3. LIGHT POLES SHALL BE LOCATED TO ELIMINATE INTERFERENCE WITH VEHICULAR OR PEDESTRIAN TRAFFIC (AT THE END OF PARKING ROWS WHEN PRACTICAL) AND AS APPROVED BY THE PUBLIC WORKS DEPARTMENT. POLES SHALL NOT BE LOCATED NEXT TO TREES.
4. MOUNTING POLES WILL COMPLY WITH THE SAME SPECIFICATIONS PRESCRIBED FOR URBAN COLLECTOR STREET USE.

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1	RENUMBER	3/22	<h1>PARKING LOT REQUIREMENTS</h1>	CARSON CITY
				DRAWING NO.
				C-5.5.1.3
				DATE
APPROVED BY:				MAR 2022

