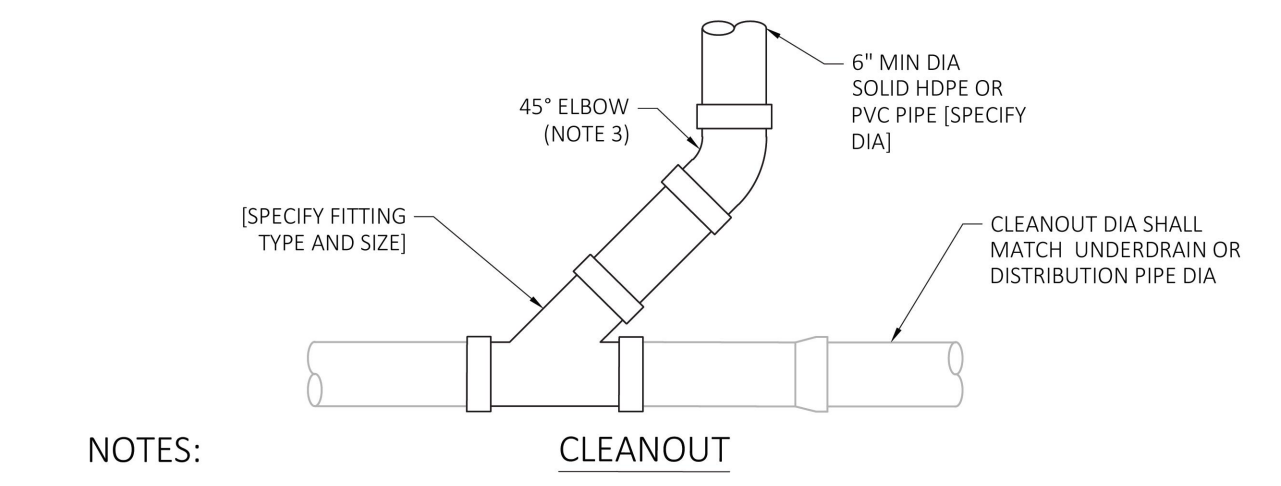
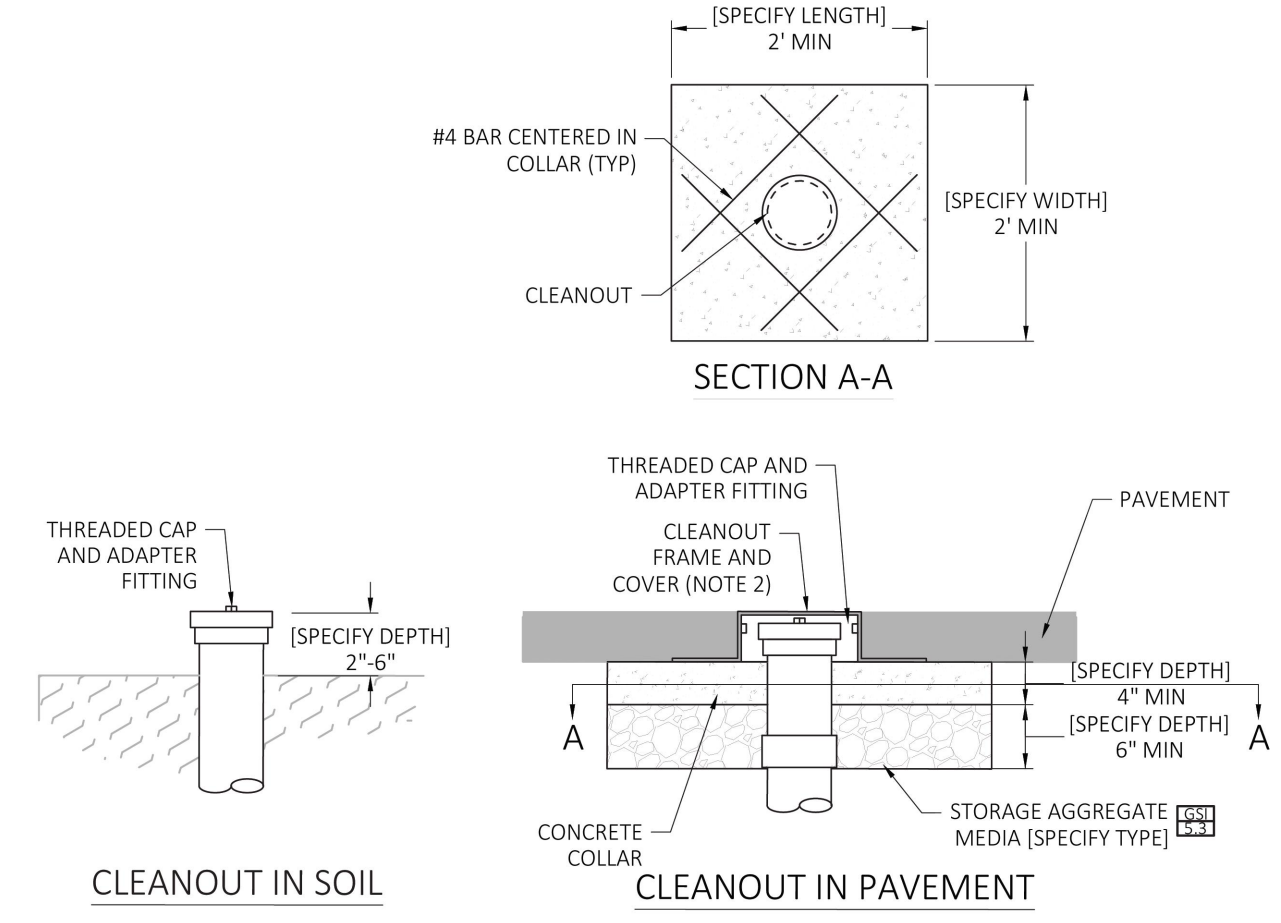
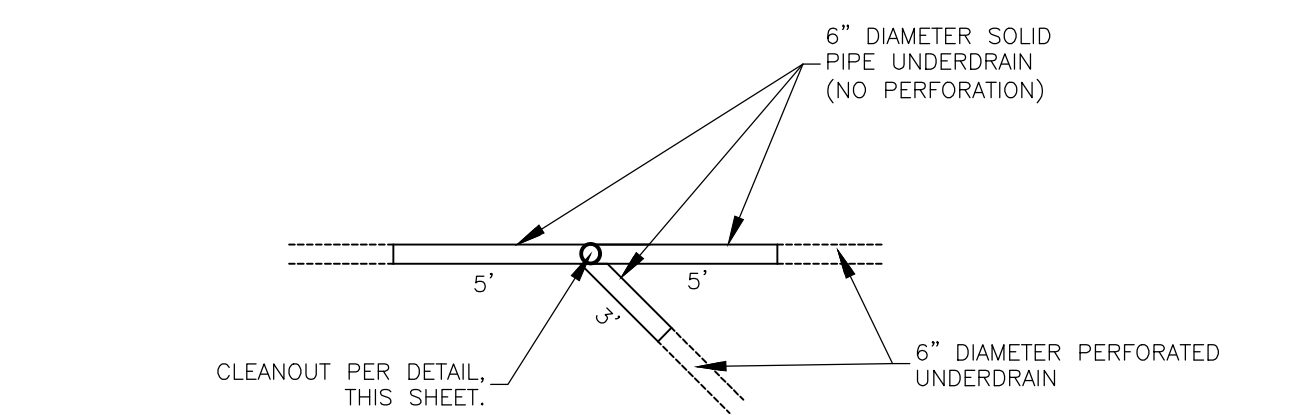
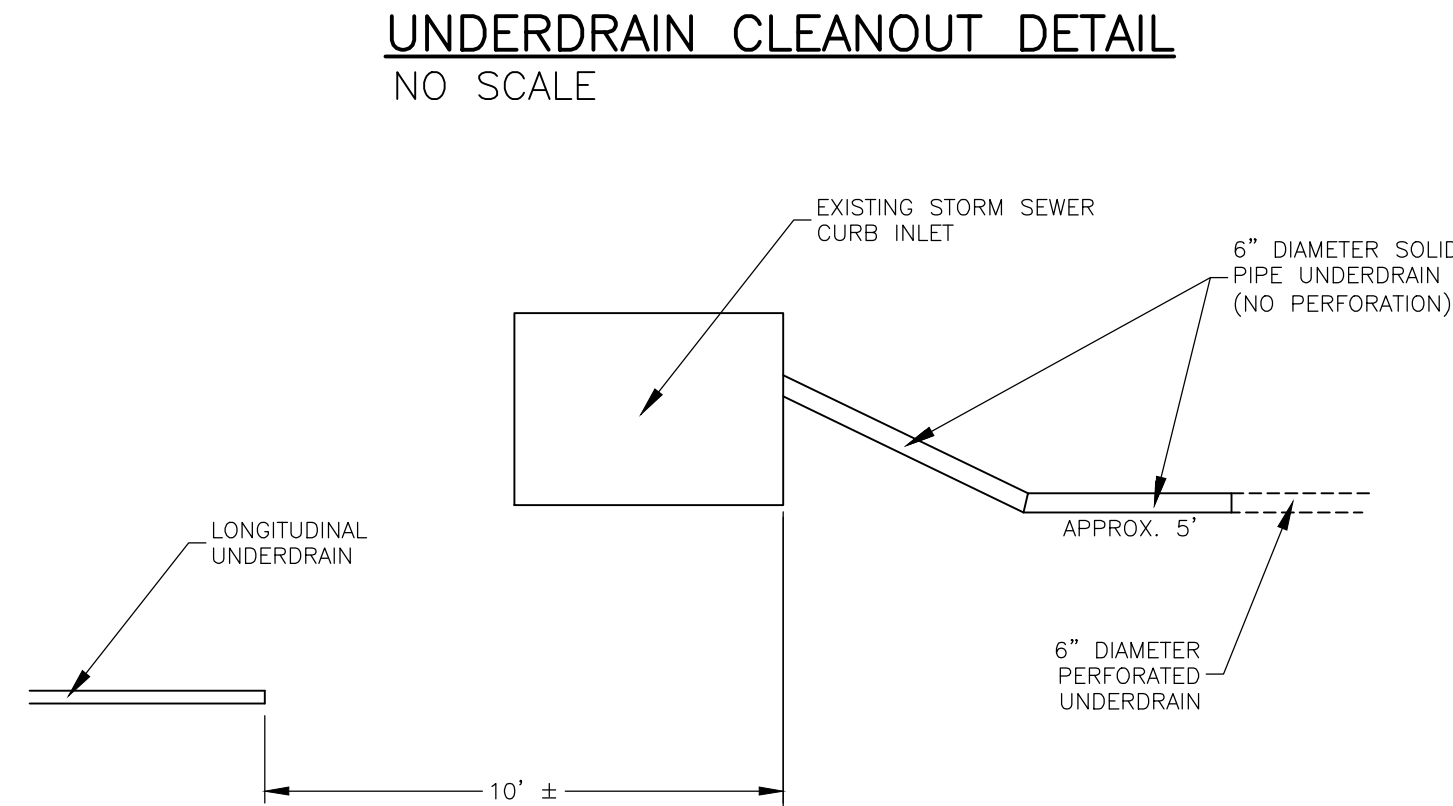


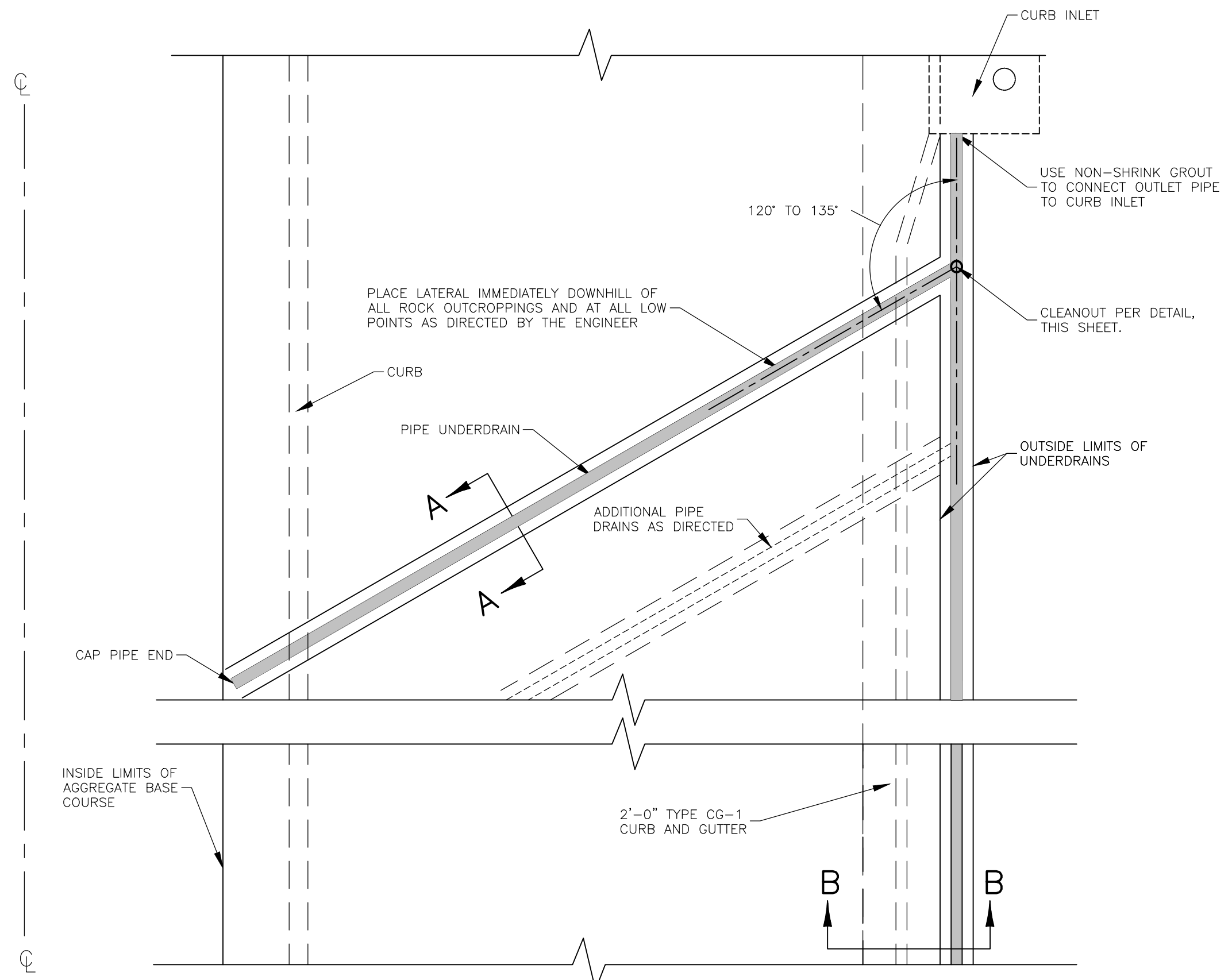
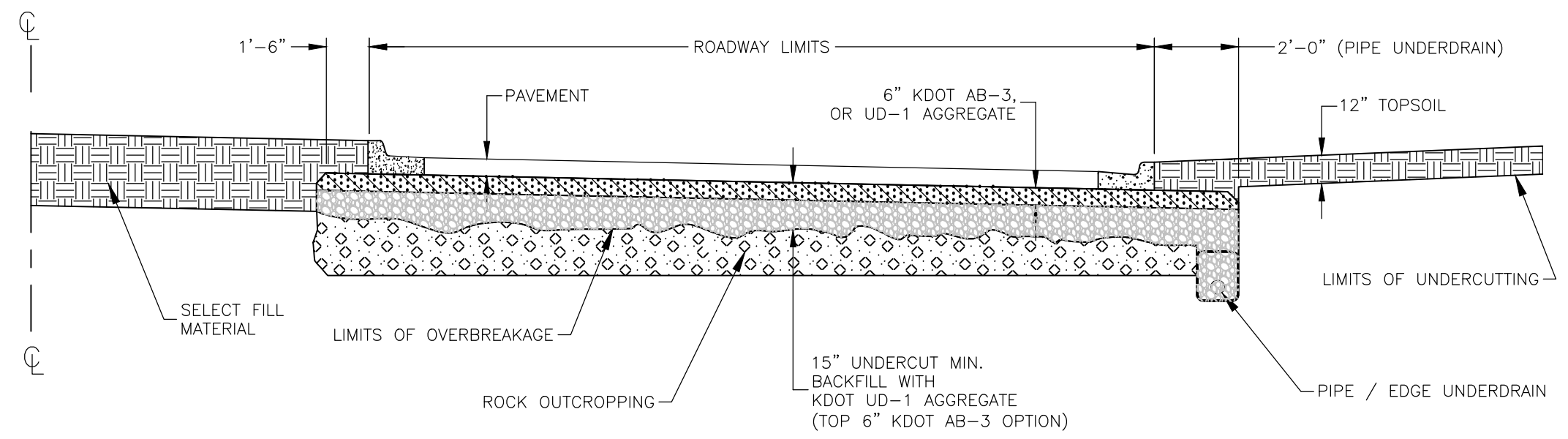
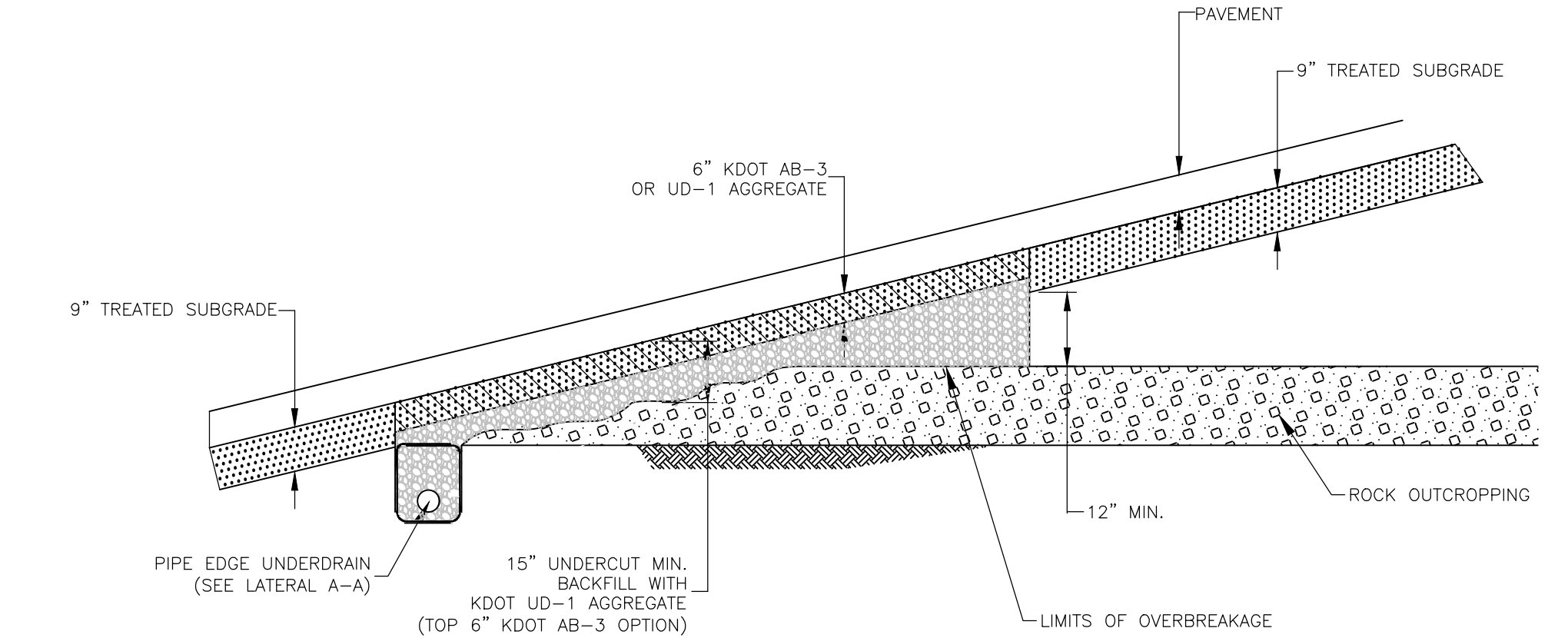
UNDERDRAIN DETAILS




- NOTES:
- CLEANOUT SHALL BE PER 02954.
 - CLEANOUT FRAME AND COVER SHALL BE NEENAH R-1976 OR APPROVED EQUAL FOR PAVEMENT APPLICATIONS. COVER SHALL BE CLEARLY MARKED WITH A UNIQUE IDENTIFIER PROVIDED BY OWNER. FRAME SHALL BE SECURED IN CONCRETE COLLAR IF NOT SECURED IN PAVEMENT SURFACE. COVERS IN PAVEMENT SHALL BE FLUSH WITH FINISHED GRADE.
 - FITTINGS OF 45° ELBOWS CAN BE REPLACED WITH 90° ELBOW OR TEE FITTING WHEN CONSTRAINED BY DEPTH.
 - A WOODEN 2 INCH X 2 INCH DEMARCATION STAKE IS REQUIRED AT ALL STRUCTURE LOCATIONS. THE STAKE SHALL BE PAINTED WHITE AND A MINIMUM OF 4 FEET LONG WITH THE BOTTOM 1/2 DRIVEN INTO THE GROUND.



- UNDERDRAIN NOTES:
- ALL ROADWAY EXCAVATIONS IN ROCK WILL BE UNDERCUT NO LESS THAN 15" BELOW BOTTOM OF PAVEMENT FOR THE FULL WIDTH OF THE ROADWAY AS SHOWN. UNDERCUT AND OVERBREAKAGE IN LIMESTONE AND DURABLE SHALE SHALL BE BACKFILLED WITH MATERIAL MEETING THE REQUIREMENTS OF AGGREGATE BASE COURSE (UD-1) SPECIFICATIONS. LAYERS OF EARTH OR SHALE SHALL NOT BE PERMITTED FOR BACKFILL UP TO THE BOTTOM OF THE AGGREGATE BASE COURSE.
 - A MINIMUM OF 12" OF SELECT SOIL (TOPSOIL) SHALL BE PLACED ON EXPOSED ROCK CUT OR FILL SLOPES, OUTSIDE THE LIMITS OF THE ROADWAY. ALL ROCK AND SHALE SLOPES SHALL BE BENCHED AT A MAXIMUM OF 2' VERTICAL INTERVALS, PRIOR TO PLACEMENT OF SELECT SOIL.
 - PROPOSED UNDERDRAIN PIPE LAYOUT, FLOWLINE ELEVATIONS, INLET CONNECTION POINTS, AND DETAILS SHALL BE APPROVED PRIOR TO CONSTRUCTION BY THE ENGINEER.
 - WHERE PIPE UNDERDRAINS ARE USED, ALL UNDERDRAIN OUTLET PIPES SHALL HAVE WATERTIGHT JOINTS. ALL OUTLET PIPES SHALL BE TIED INTO THE NEAREST STORM SEWER INLET AS APPROVED. WHERE EDGE UNDERDRAINS ARE USED, ALL UNDERDRAIN OUTLET PIPES SHALL HAVE MANUFACTURER JOINTS APPROVED BY THE ENGINEER. ALL CONNECTIONS BETWEEN UNDERDRAIN PIPES AND EDGE CONNECTORS OR CURB INLETS, SHALL BE MADE WITH 2' LENGTH OF OUTLET PIPE.
 - ALL UNDERDRAIN PIPES SHALL BE INSTALLED AT A MINIMUM SLOPE OF 1%. PIPE SHALL BE INSTALLED WITH THE PERFORATIONS PLACED DOWN.
 - GEOTEXTILE SEAMS SHALL BE OVERLAPPED AT A MINIMUM OF 12".
 - PIPE SHALL BE CONTECH A-2000, ADS N-12, OR APPROVED EQUAL.
 - THE CONTRACTOR SHALL NOT MIX UNDERDRAIN TYPES OF MATERIALS WITHIN ANY UNDERDRAIN SYSTEM.
 - STORAGE AGGREGATE MEDIA D50 GRADATION SHOULD BE LARGER THAN THE PIPE PERFORATION DIAMETER SPECIFIED.
 - MINIMUM UNDERDRAIN PIPE DIAMETER IS 6".



2025 EDITION			SHEET _____ OF _____	
DATE	BY	REVISION		
04-01-25	LJM	REPLACES ALL PREVIOUS VERSIONS OF UNDERDRAIN DETAILS		
04-01-24	LJM	REPLACES ALL PREVIOUS VERSIONS OF UNDERDRAIN DETAILS		
				
STANDARD DETAILS FOR UNDERDRAINS				
DAVID P. CRONIN CITY ENGINEER			CRAIG S. OWENS CITY MANAGER	