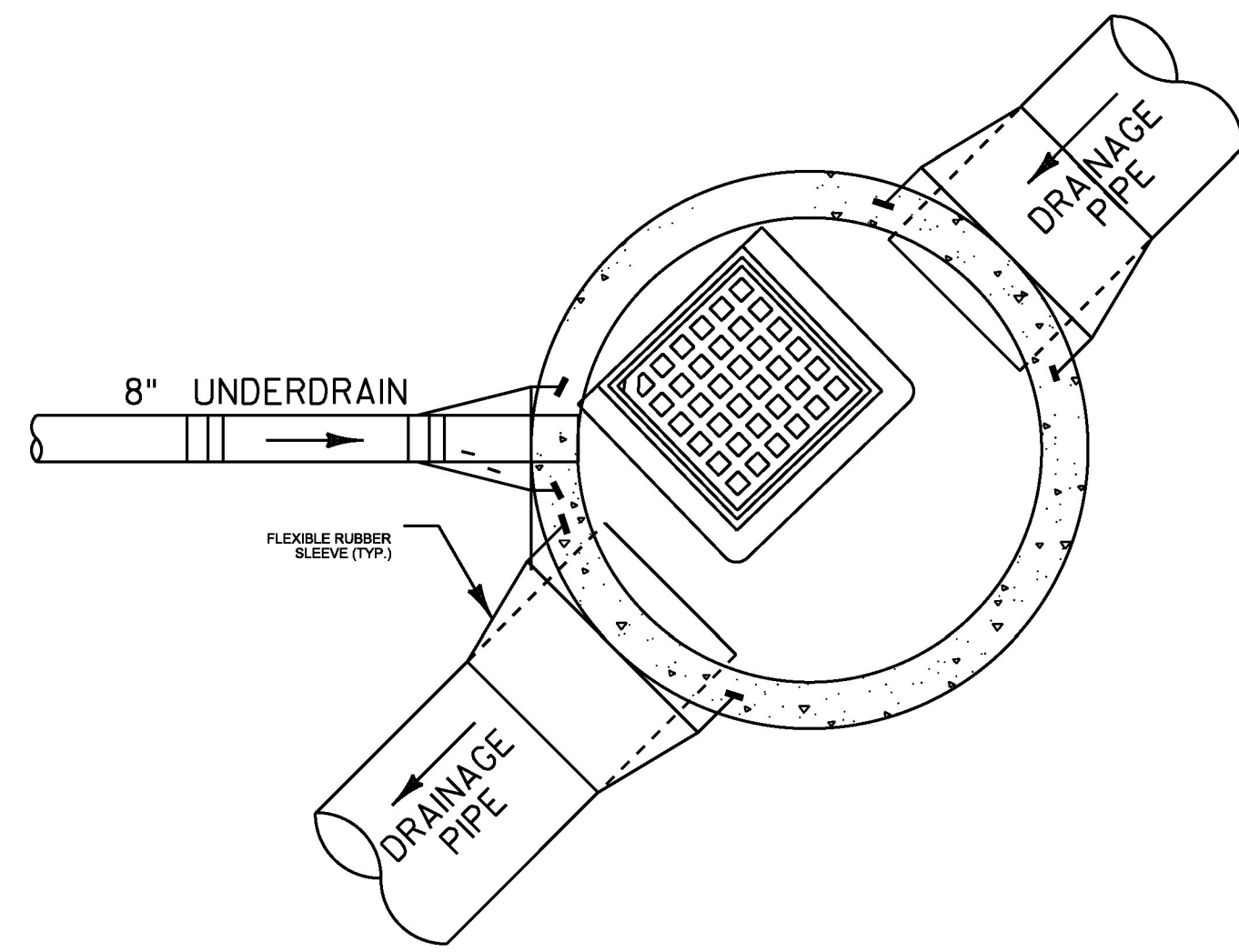
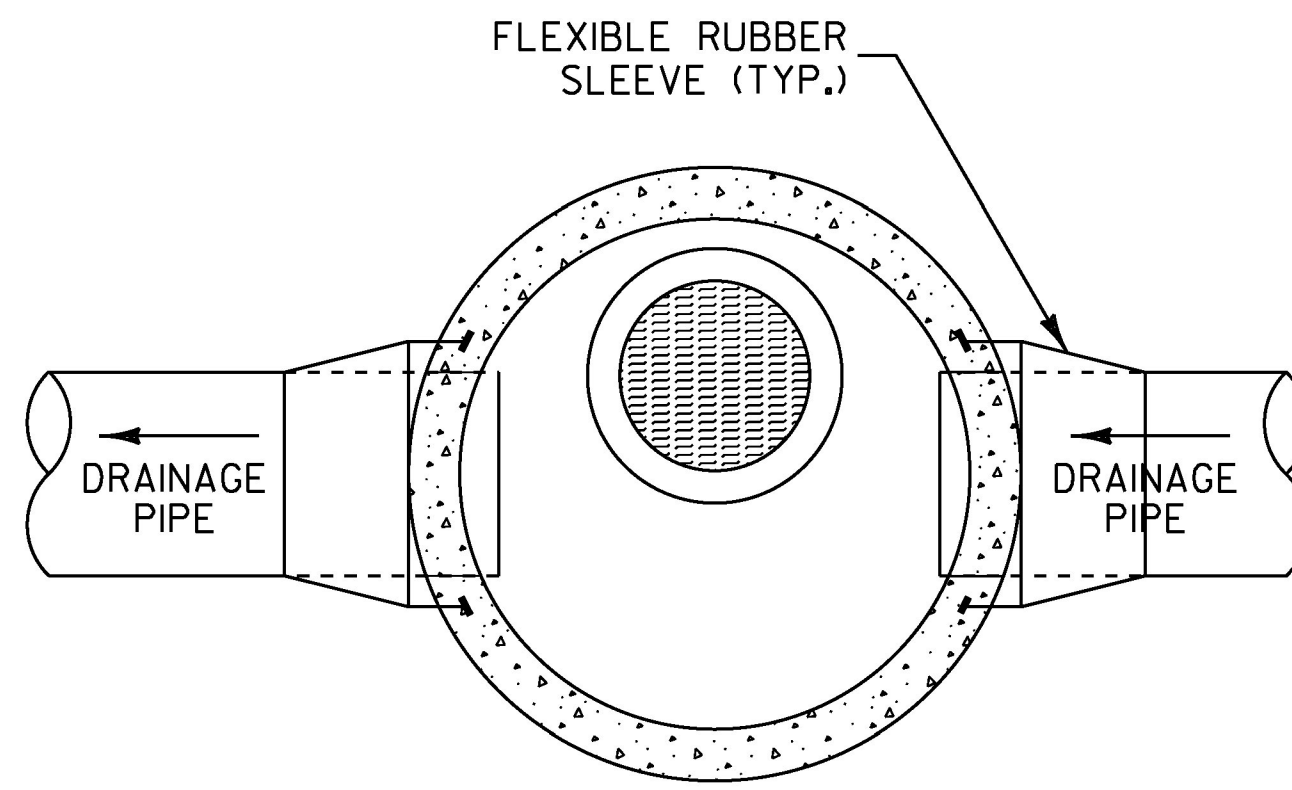


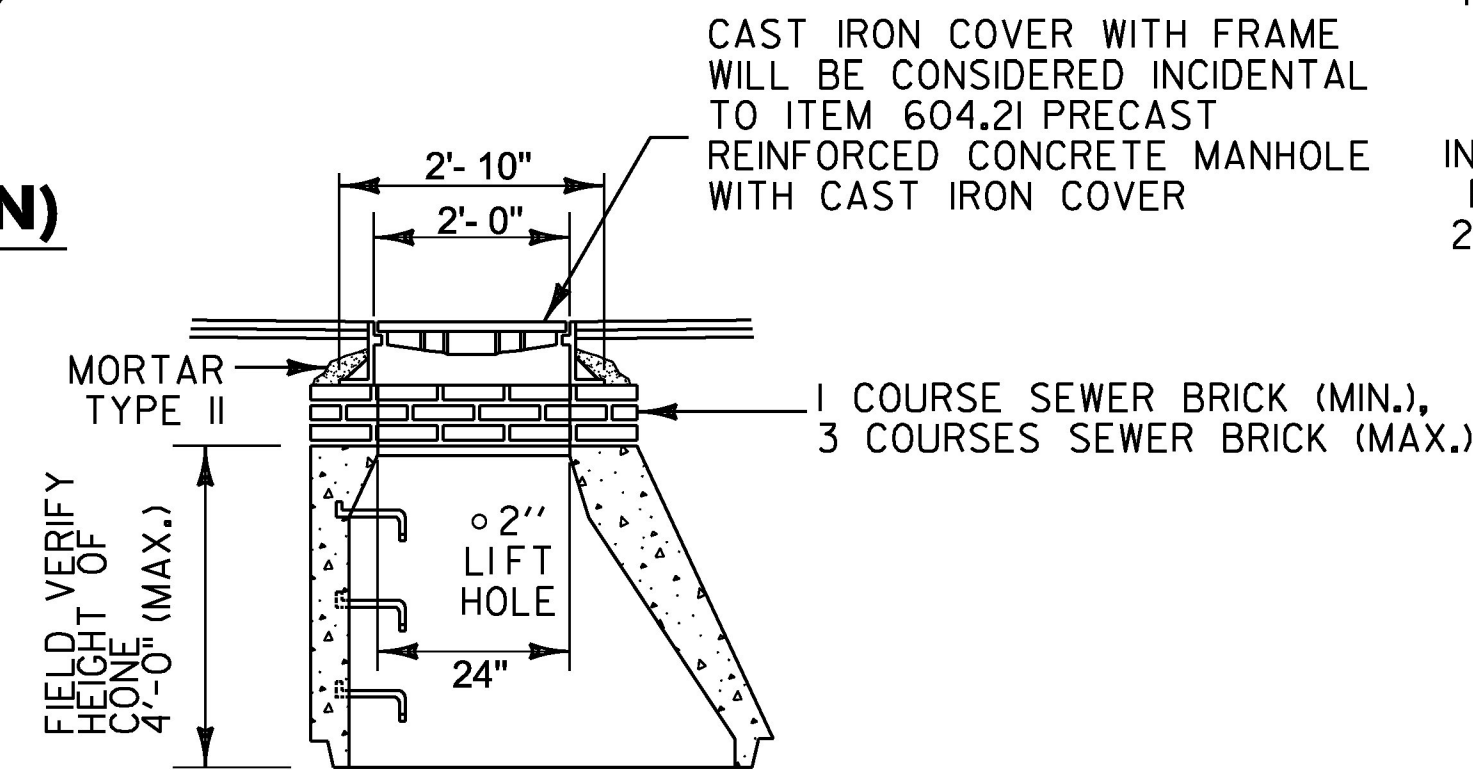
DRAINAGE DETAILS



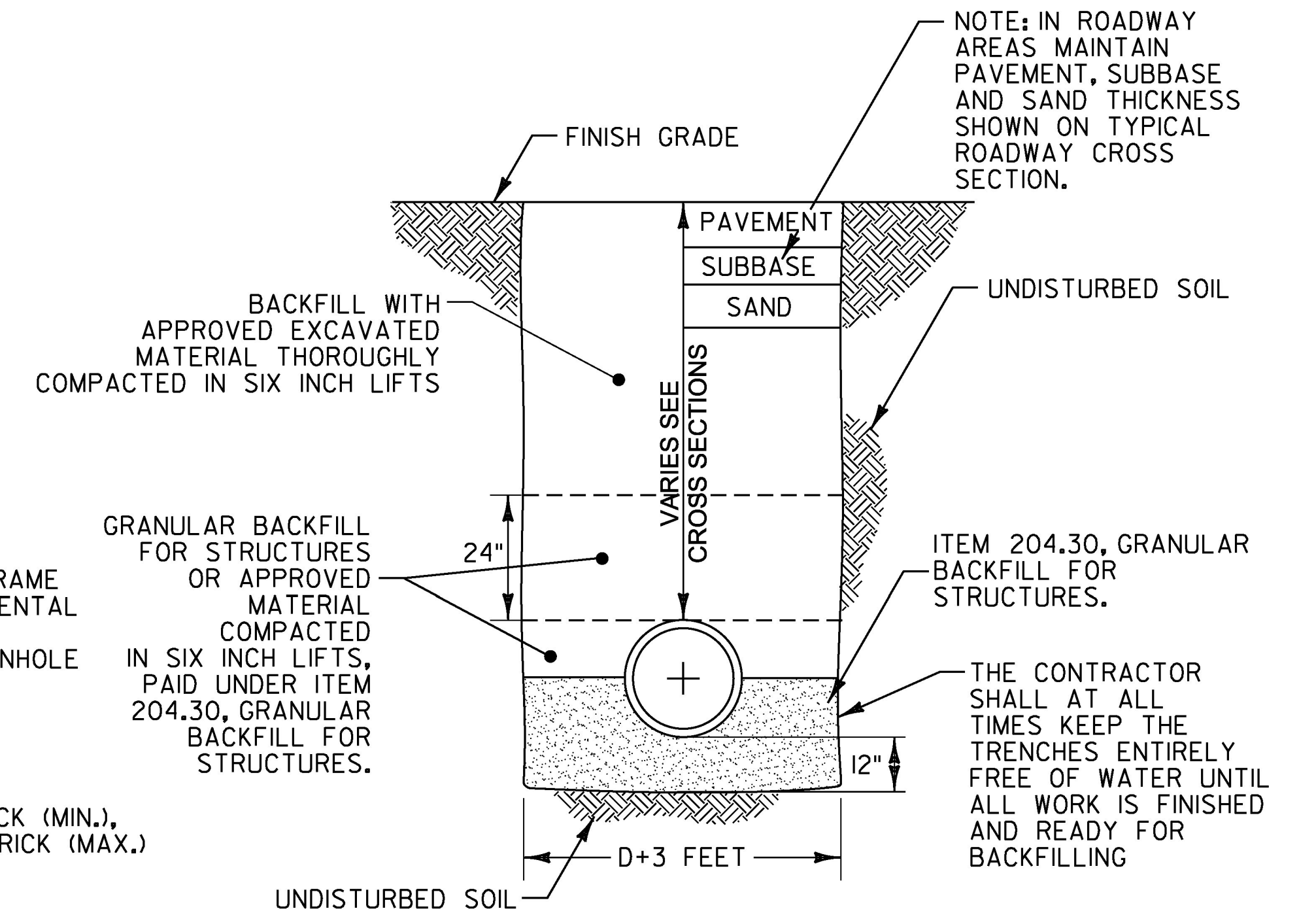
**CATCH BASIN (PLAN)
WITH UNDERDRAIN**
NOT TO SCALE



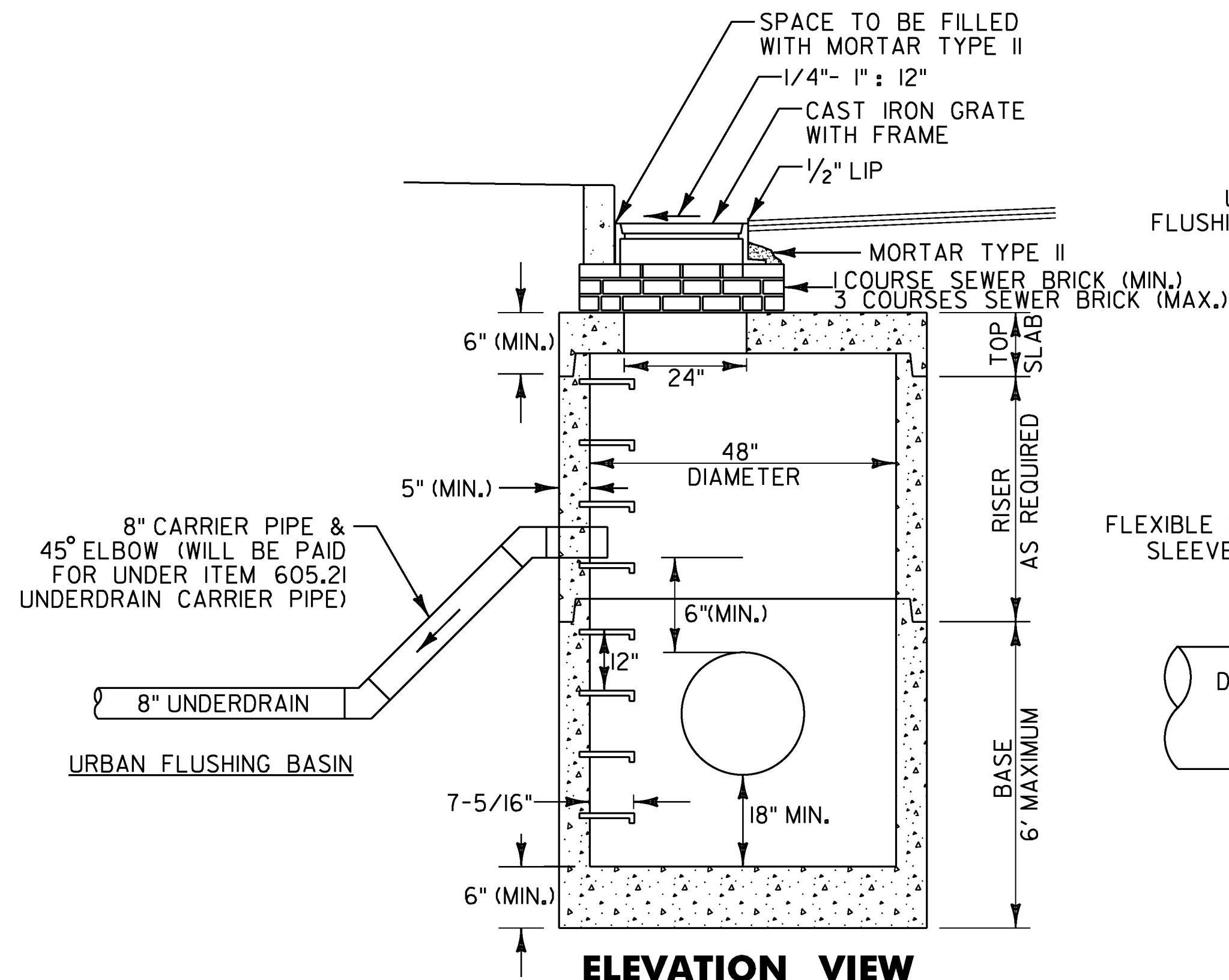
MANHOLE (PLAN)
NOT TO SCALE



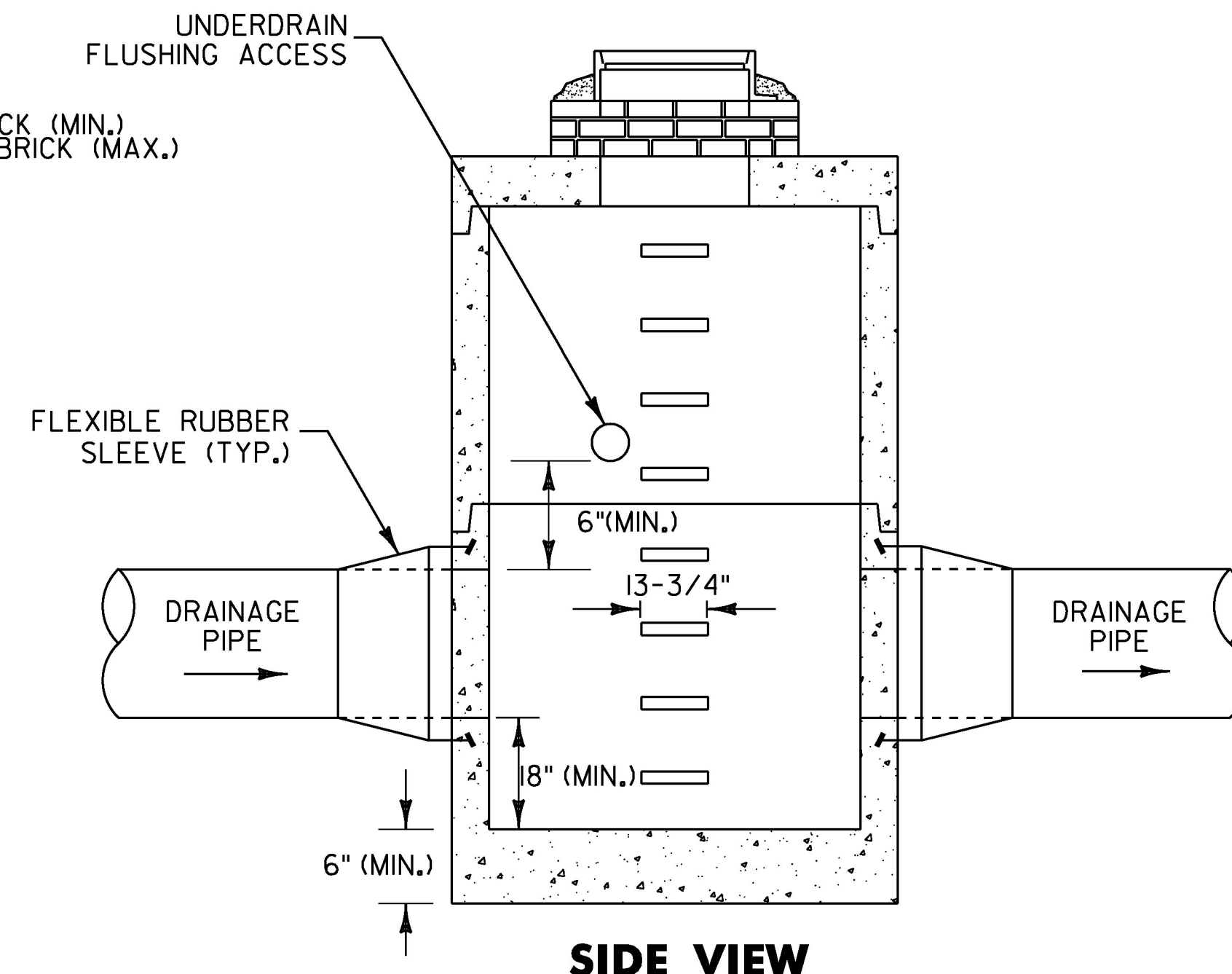
MANHOLE CONE SECTION
NOT TO SCALE



**TYPICAL STORM
DRAIN TRENCH**
NOT TO SCALE



**TYPICAL PRECAST CATCH BASIN OR MANHOLE
WITH UNDERDRAIN FLUSHING ACCESS**
NOT TO SCALE



PRECAST REINFORCED CONCRETE CATCH BASIN NOTES:

1. PRECAST CONCRETE SECTIONS SHALL CONFORM TO SUBSECTION 705.04 OF THE STANDARD SPECIFICATIONS.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH: 5,000 PSI AT 28-DAYS
3. STEEL REINFORCING SHALL CONFORM TO ASTM A185 OR A82 FOR HS-25 LOADING.
4. MANHOLE STEPS SHALL BE 7-5/16" DEEP STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC AND SHALL BE CAST INTO MANHOLE SECTIONS BY THE PRECAST CONCRETE MANUFACTURER.
5. FACE OF PIPE SHALL NOT PROJECT MORE THAN TWO INCHES OR LESS THAN ONE INCH FROM INSIDE WALL OF STRUCTURE.
6. ALL STRUCTURES WITH MULTIPLE PIPES SHALL HAVE A MINIMUM OF 12" OF OUTSIDE SURFACE BETWEEN HOLES, NO MORE THAN 75% OF A HORIZONTAL CROSS-SECTION SHALL BE HOLES, AND THERE SHALL BE NO HOLES CLOSER THAN THREE INCHES TO JOINTS.
7. FITTING FRAME TO FINAL GRADE MAY BE DONE WITH BRICK OR PRECAST CONCRETE GRADE RINGS OF APPROPRIATE THICKNESS (THREE COURSES MAX).
8. FLAT SLAB TOPS SHALL BE USED FOR ALL CATCH BASINS UNLESS OTHERWISE PERMITTED BY THE ENGINEER.
9. ALL PIPE INVERTS AND PENETRATION ANGLES SHALL BE FIELD VERIFIED PRIOR TO PRECASTING.
10. PRECAST SECTIONS SHALL HAVE A TONGUE AND GROOVE JOINT AND BE ASSEMBLED USING A BUTYL RUBBER OR APPROVED EQUAL SEALANT.
11. PROVIDE FLEXIBLE RUBBER SLEEVES CONFORMING TO ASTM C-923, RESILIENT, OF SIZE REQUIRED, FOR EACH PIPE CONNECTING TO STRUCTURE SLEEVES SHALL BE CAST INTO PRECAST STRUCTURE BY THE MANUFACTURER FOR ALL PIPE PENETRATIONS, AND CONSIDERED INCIDENTAL TO THE APPROPRIATE PRECAST CONCRETE ITEM.
12. PAYMENT FOR INSTALLATION OF THE CATCH BASINS WILL BE MADE UNDER THE PRECAST REINFORCED CONCRETE CATCH BASIN WITH CAST IRON GRATE ITEM (604.20).
13. PAYMENT FOR INSTALLATION OF THE MANHOLE WILL BE MADE UNDER THE PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER ITEM (604.21).
14. PAYMENT FOR INSTALLATION OF THE DROP INLET WILL BE MADE UNDER THE PRECAST REINFORCED CONCRETE MANHOLE WITH CAST IRON COVER ITEM (604.18).
15. DEPTH AS SHOWN ON THE DRAINAGE DETAIL SHEET AND DRAINAGE PROFILE SHEETS IS DEFINED AS THE VERTICAL DISTANCE BETWEEN RIM ELEVATION AND THE BOTTOM OF SUMP.
16. SEWER BRICKS AND MORTAR TYPE II USED TO RAISE GRATE ELEVATIONS IN FIELD WILL BE CONSIDERED INCIDENTAL TO THE APPROPRIATE PRECAST CONCRETE ITEM.

PROJECT NAME: CHARLOTTE	
PROJECT NUMBER: FEG C 019-4(20)	
FILE NAME: d78d062_typ.dgn	PLOT DATE: 15-MAR-2016
PROJECT LEADER: K. UPMAL	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY: C. LEACH
DRAINAGE DETAILS SHEET	SHEET 8 OF 499