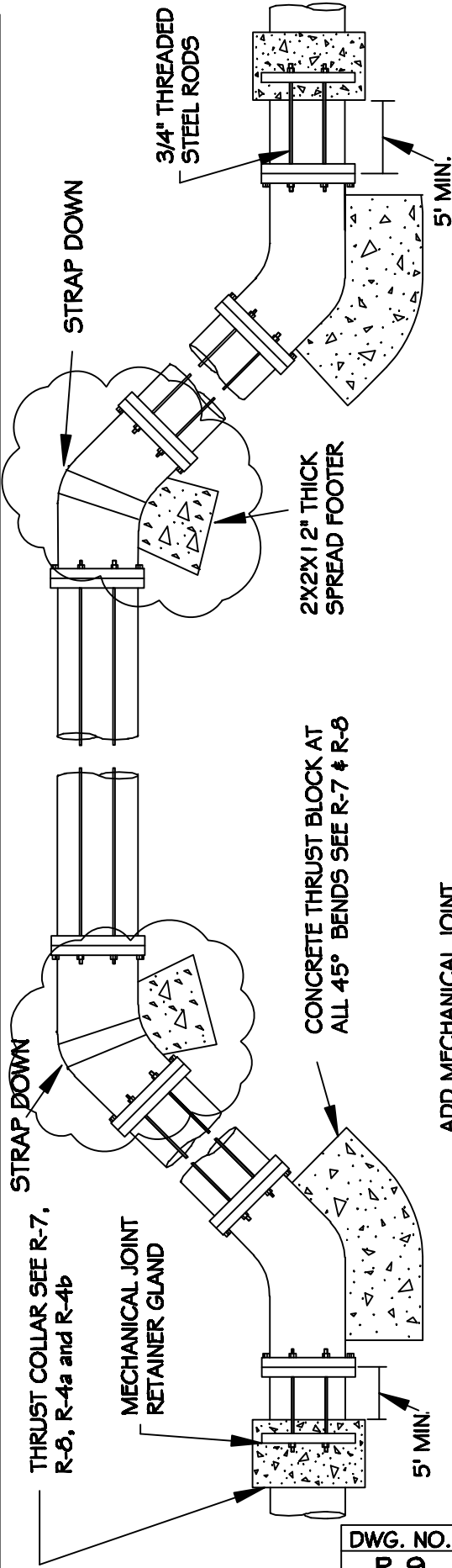


TOP OF GROUND



**ROD REQUIREMENTS**

SIZE OF 45° BEND	STATIC THRUST IN POUNDS	NO. OF RODS REQUIRED
6"	4,328	2
8"	7,694	4
12"	17,312	4
16"	30,779	8
24"	69,252	8

**\*\* Revised position of thrust blocks**

GENERAL NOTES:

1. STEEL RODS AND BOLTS SHALL BE 3/4" HOT DIPPED GALVANIZED.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.
3. RESTRAINED MECHANICAL GLANDS TO BE USED AT ALL FITTINGS.
4. MUST USE DUCTILE IRON EYE BOLTS WHERE NECESSARY.
5. ALL PIPING IN VERTICAL BENDS MUST BE DUCTILE IRON.
6. PIPE SHALL BE DUCTILE IRON A MINIMUM OF ONE JOINT IN EACH DIRECTION.

ADD MECHANICAL JOINT RETAINER GLANDS THROUGHOUT ASSEMBLY.

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
<b>STANDARD VERTICAL BEND</b>				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
R-9	ABB	4-6-04	J.P.S.	10-1-10
	D.H.L.	6-18-08		