NOTES:

- A CONCRETE COLLAR IS REQUIRED WHENEVER D1 IS UNEQUAL TO D2 OR THE PERMITTED DEFLECTION AT A PIPE JOINT IS EXCEEDED; THAT IS, WHEN ANGLE "A" IS GREATER THAN THE PERMITTED DEFLECTION ANGLE. (SEE TABLE).
- CONCRETE COLLARS SHALL NOT BE CONSTRUCTED ON MAIN LINE STORM DRAINS UNLESS SHOWN ON THE PLANS OR DIRECTED BY THE CITY ENGINEER.
- REINFORCING SHALL BE USED WHERE THE PIPE DIAMETER IS GREATER THAN 21 INCHES AND ON ALL PIPES WHERE THE PULL BETWEEN THE EXTREMITIES (SEE DETAIL A) IS 2 ½" OR LARGER.

4. CIRCULAR TIES:

PIPE DIAMETER	SPACE BETWEEN PIPE EXTREMITIES	NO. OF CIRCULAR TIES
21" OR LESS	2-1/2"	3
24" TO 30"	2-1/2" OR LESS	3
33" TO 57"	2-1/2" OR LESS	4
60" TO 66"	2-1/2" OR LESS	5

WHERE THE SPACE BETWEEN THE PIPE EXTREMITIES EXCEEDS 2 ½", THE NUMBER OF CIRCULAR TIES SHALL BE INCREASED TO MAINTAIN A MAXIMUM SPACING OF 6 INCHES CENTER TO CENTER. CIRCULAR TIES SHALL HAVE A DIAMETER OF 5 INCHES GREATER THAN THE OUTSIDE DIAMETER OF THE LARGER PIPE.

- FOR PIPES LARGER THAN 66 INCHES IN DIAMETER, A SPECIAL COLLAR DETAIL SHALL BE DELINEATED ON THE PROJECT PLANS.
- 6. WHERE THE PIPE IS 21 INCHES OR LESS IN DIAMETER, AN INTERIOR FORM OF UNSEALED SONO-TUBE, OR EQUAL (SEE DETAIL B), SHALL BE USED TO PROVIDE A SMOOTH INTERIOR JOINT. THE PAPER FORM MAY BE LEFT IN PLACE. WHEN THE PIPE IS 24 INCHES OR LARGER, A REMOVABLE INTERIOR FORM SHALL BE USED OR THE INTERIOR JOINT SHALL BE COMPLETELY FILLED WITH MORTAR AND NEATLY POINTED.
- 7. WHERE PIPES OF DIFFERENT DIAMETERS ARE JOINED WITH A CONCRETE COLLAR, 'L' SHALL BE THAT OF THE LARGER PIPE AND THE EXTERNAL DIAMETER OF THE COLLAR SHALL BE EQUAL TO THE OUTSIDE DIAMETER OF LARGER PIPE, PLUS '2T' FOR THE LARGER PIPE. A CONCRETE COLLAR SHALL NOT BE CONSTRUCTED CONNECTING A LARGER DIAMETER PIPE UPSTREAM TO A SMALLER DIAMETER PIPE DOWNSTREAM UNLESS SHOWN ON THE IMPROVEMENT PLANS OR DIRECTED BY THE CITY ENGINEER.
- THE VALUE FOR ANGLE "A" SHALL BE SHOWN ON THE IMPROVEMENT PLANS.

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- WHERE THE SLOPE OF THE UPSTREAM PIPE IS GREATER THAN THE SLOPE OF THE DOWNSTREAM PIPE, JOIN SOFFITS. WHERE THE SLOPE OF THE UPSTREAM PIPE IS LESS THAN THE SLOPE OF THE DOWNSTREAM PIPE, JOIN INVERTS.
- 10. BEVELED PIPE MAY BE USED IN LIEU OF A CONCRETE COLLAR IF APPROVED BY THE CITY ENGINEER.
- 11. FOR PIPE SIZE NOT LISTED IN THE TABLE, USE VALUES OF 'L', 'T', & "A" FOR THE NEXT LARGER SIZE LISTED.

APPROVED:

P.W. DIRECTOR / CITY INGII

REVISED DATE: 5/15/08

City of Westminster

DEPARTMENT OF PUBLIC WORKS

REINFORCED CONCRETE COLLAR STANDARD NUMBER

307B