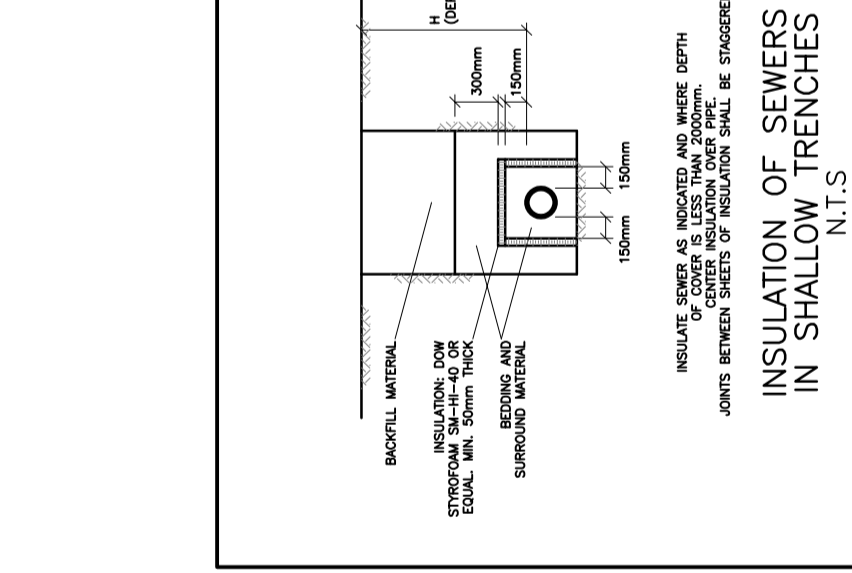
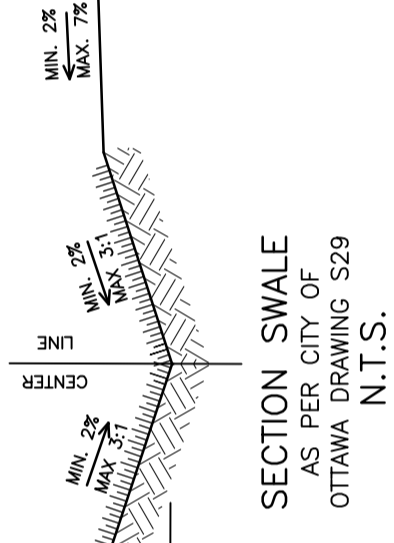


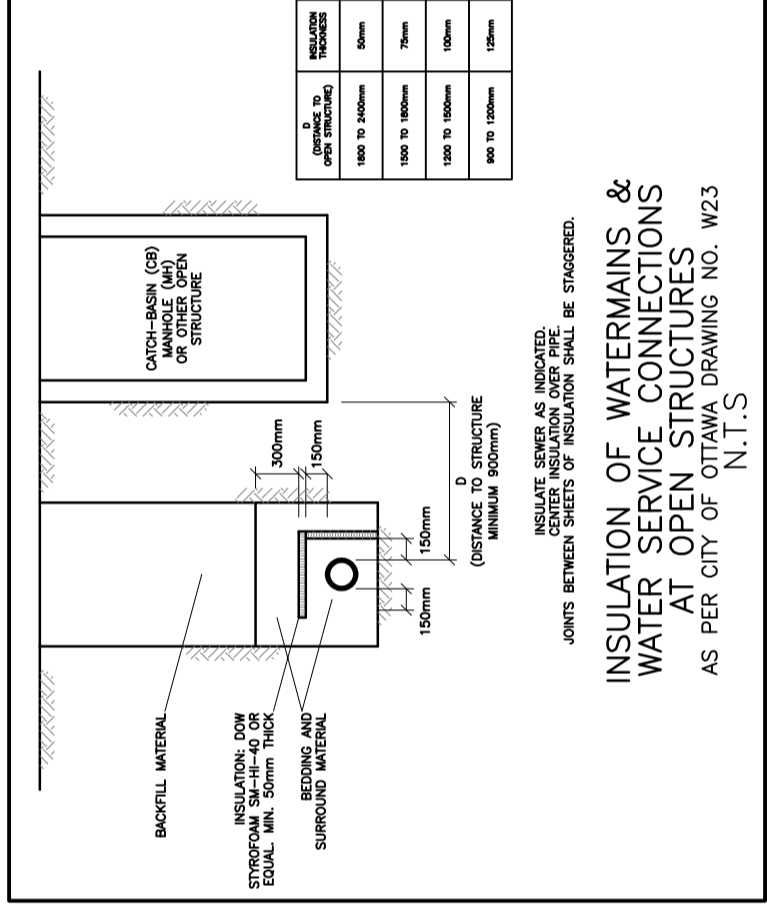
OWNER:
NIVO DEVELOPMENTS INC.
255 MICHAEL COMPLAND DRIVE
OTTAWA, ONTARIO, K2M 0M5
613-224-6200

SECTION SWALE
 AS PER CITY OF
 OTTAWA DRAWING S29
 N.T.S.



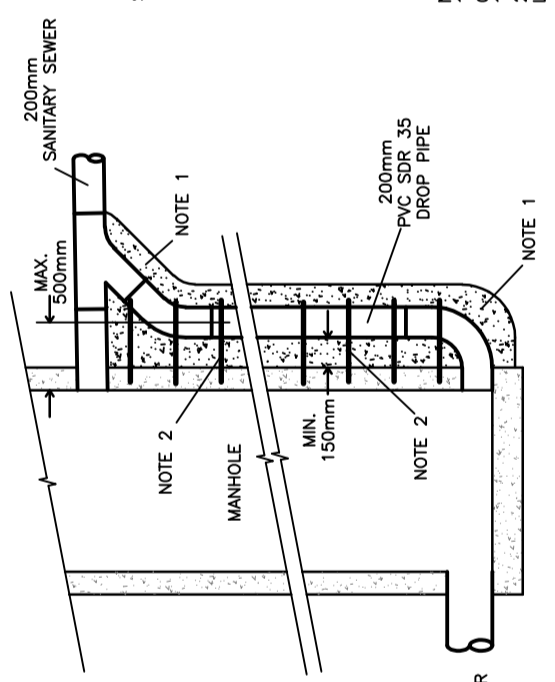
**INSULATION OF SEWERS
 IN SHALLOW TRENCHES**
 N.T.S.

INSULATE CHANNY SECTIONS
 WITH 150mm MINIMUM THICKNESS
 OF INSULATION MATERIAL.
 JOINTS BETWEEN SHEETS OF INSULATION SHALL BE STAGGERED.



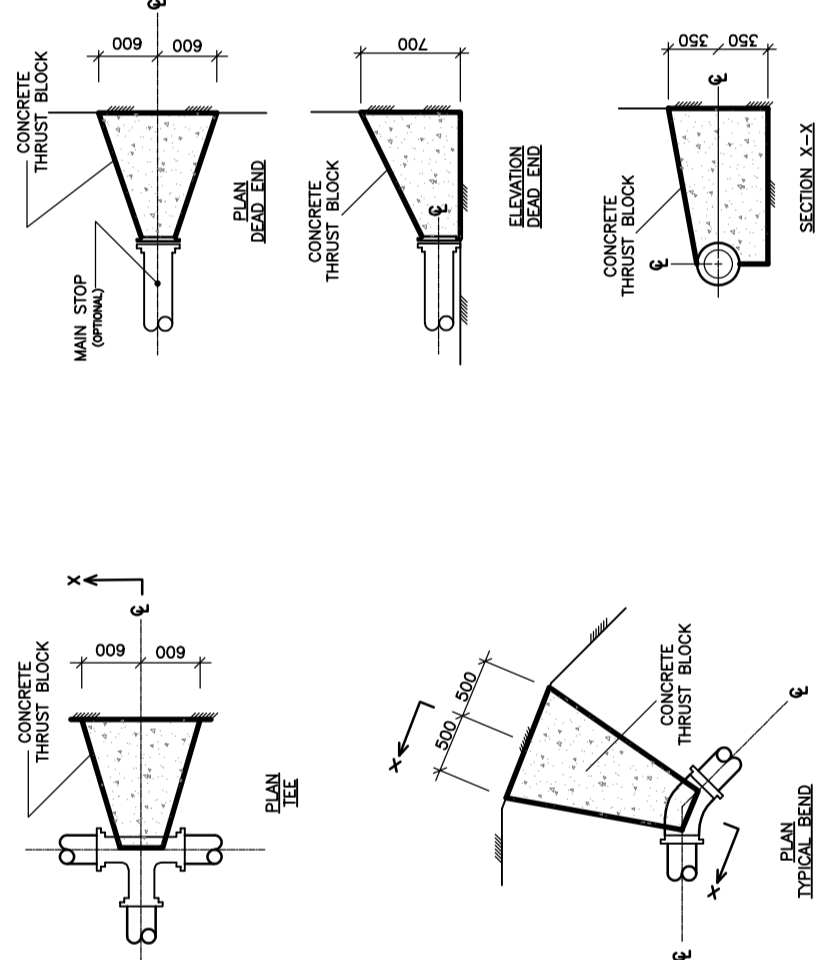
**INSULATION OF WATERMAINS &
 WATER SERVICE CONNECTIONS
 AT OPEN STRUCTURES**
 AS PER CITY OF OTTAWA DRAWING NO. W23
 N.T.S.

INSULATE CHANNY SECTIONS
 WITH 150mm MINIMUM THICKNESS
 OF INSULATION MATERIAL.
 JOINTS BETWEEN SHEETS OF INSULATION SHALL BE STAGGERED.



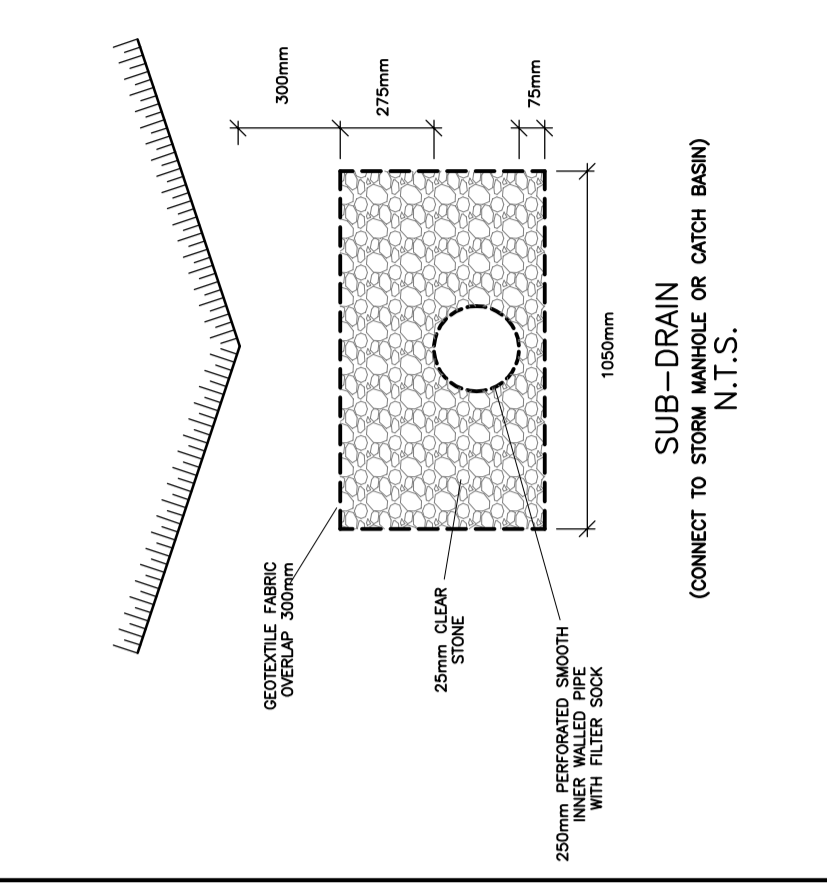
**DROP PIPE STRUCTURE
 AT MANHOLE MH-SA.6**
 N.T.S.

CONCRETE DROP PIPE
 SHALL BE PLACED TO UNDISTURBED GROUND AND
 OUTSIDE FACE OF MANHOLE BUT THERE SHALL BE A MINIMUM OF
 150mm OF CONCRETE SURROUNDING THE DROP PIPE. THE
 CONCRETE SHALL BE SECURED TO THE MANHOLE WITH 450mm
 LONG ANCHORS PLACED AT 150mm SPACINGS ALONG THE
 LENGTH OF THE DROP PIPE AT 300mm CENTERS.

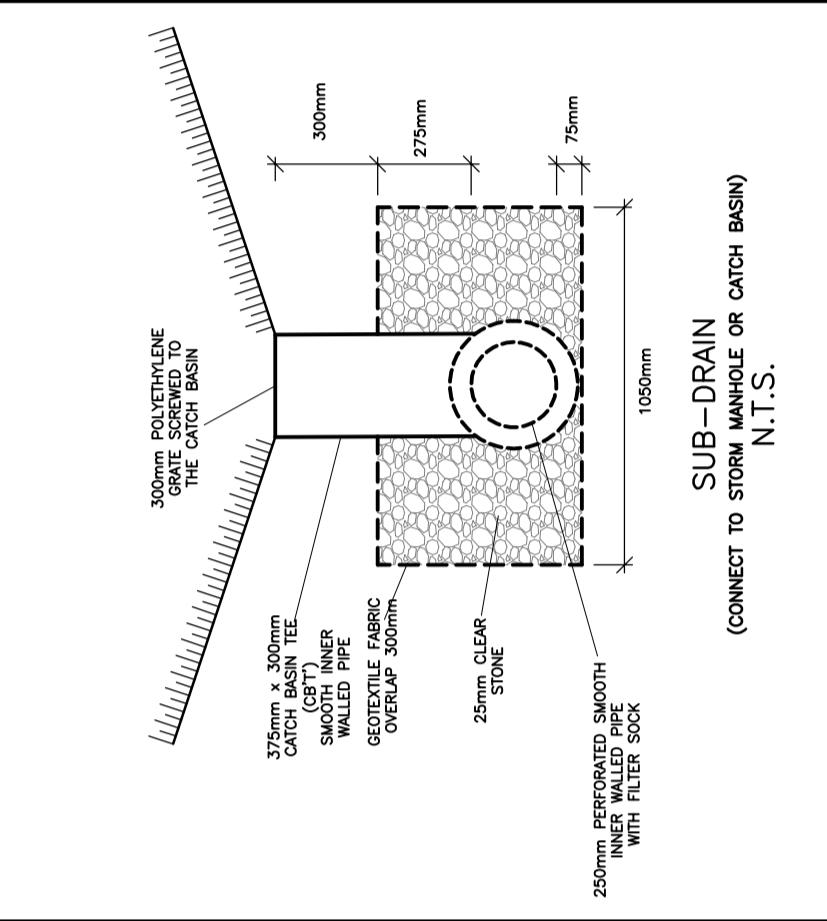


- NOTES:**
1. CONCRETE SHALL BE PLACED TO WITHIN 50mm OF FACE OF THE BELL.
 2. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN.
 3. THROST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE
 OUTSIDE FACE OF THE MANHOLE AND ALSO PARALLEL TO THE THROST BLOCK
 OF THE BELL ON THE INSIDE.
 4. THROST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE
 OUTSIDE FACE OF THE MANHOLE AND ALSO PARALLEL TO THE THROST BLOCK
 OF THE BELL ON THE INSIDE.
 5. THROST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE
 OUTSIDE FACE OF THE MANHOLE AND ALSO PARALLEL TO THE THROST BLOCK
 OF THE BELL ON THE INSIDE.
 6. THROST BLOCKS SHALL BE PLACED AGAINST UNDISTURBED SOIL AT THE
 OUTSIDE FACE OF THE MANHOLE AND ALSO PARALLEL TO THE THROST BLOCK
 OF THE BELL ON THE INSIDE.

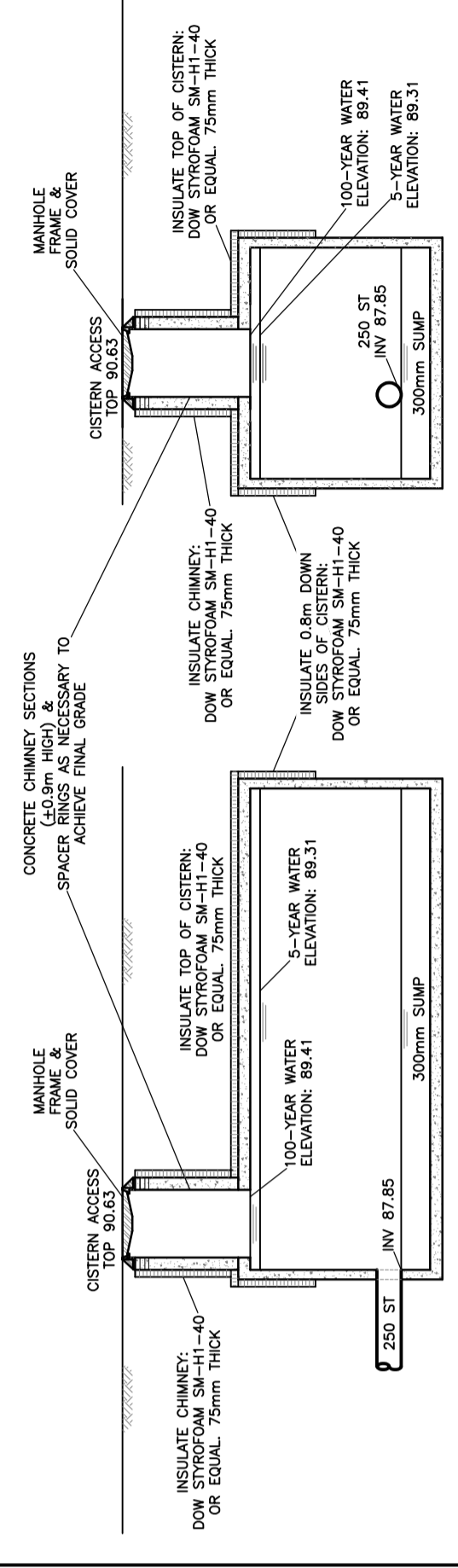
CONCRETE THROST BLOCKS
 MODIFIED CITY OF OTTAWA DRAWING W95.3 FOR 200mm
 WATERMAIN AND SOILS HAVING A BEARING CAPACITY OF 90kPa



SUB-DRAIN
 (CONNECT TO STORM MANHOLE OR CATCH BASIN)
 N.T.S.

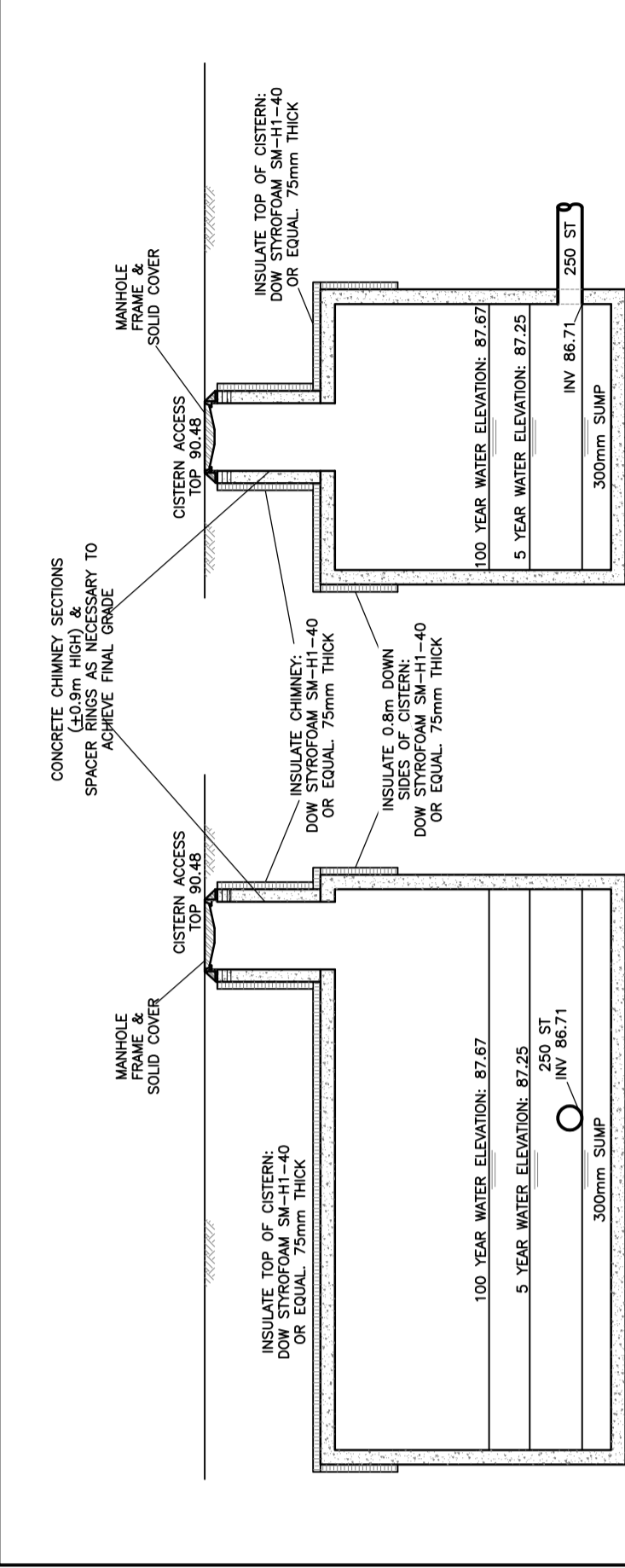


SUB-DRAIN
 (CONNECT TO STORM MANHOLE OR CATCH BASIN)
 N.T.S.



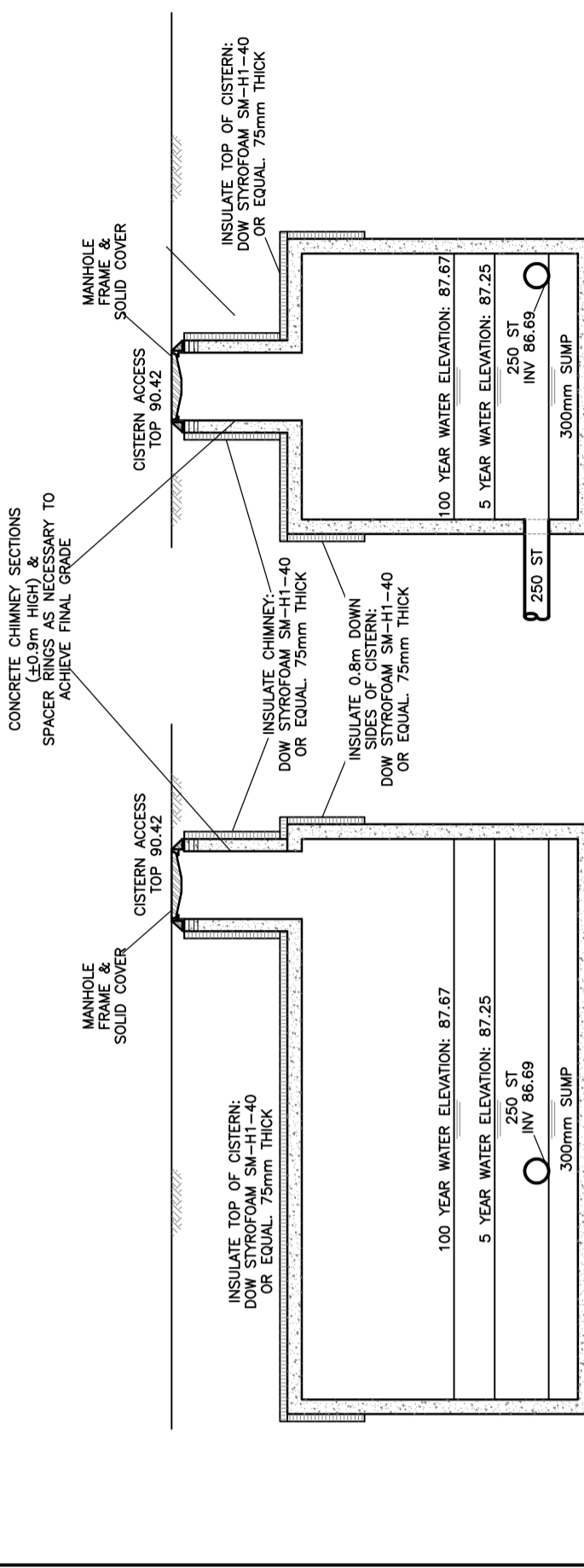
STORMWATER CISTERM 1 SECTION
MACGREGOR 18,600 LITRE (4,100 GALLON)
CONCRETE TANK
INTERIOR DIMENSIONS: 4.975m (L) x 2.390m (W) x 1.860m (D)
 N.T.S.

SIMPS SHALL BE CLEANED PERIODICALLY
 AT LEAST ONCE PER YEAR IN THE SPRING



STORMWATER CISTERM 2 SECTION
MACGREGOR 41,300 LITRE (9,000 GALLON)
CONCRETE TANK
INTERIOR DIMENSIONS: 5.795m (L) x 2.750m (W) x 2.855m (D)
 N.T.S.

SIMPS SHALL BE CLEANED PERIODICALLY
 AT LEAST ONCE PER YEAR IN THE SPRING



STORMWATER CISTERM 3 SECTION
MACGREGOR 41,300 LITRE (9,000 GALLON)
CONCRETE TANK
INTERIOR DIMENSIONS: 5.795m (L) x 2.750m (W) x 2.855m (D)
 N.T.S.

SIMPS SHALL BE CLEANED PERIODICALLY
 AT LEAST ONCE PER YEAR IN THE SPRING

KEY PLAN



No.	DATE	REVISION
7	MAR 15-21	RE-ISSUED FOR APPROVAL
6	NOV 16-20	RE-ISSUED FOR APPROVAL
5	JUN 18-20	RE-ISSUED FOR APPROVAL
4	MAY 5-20	ISSUED FOR COORDINATION
3	SEP 27-19	RE-ISSUED FOR APPROVAL
2	AUG 9-19	ISSUED FOR APPROVAL
1	JUN 14-19	PRELIMINARY

D. B. GRAY ENGINEERING INC.
 Structural Management - Civil/Structural/Drainage - Storm & Sanitary Sewers - Foundation
 700 Long Point Circle
 Ottawa, Ontario
 4gray@dbgrayengineering.com
 613-425-8044

**PROPOSED
 RESIDENTIAL DEVELOPMENT**
1164-1166 HIGHCROFT DR.
 MANOTICK, ONTARIO

DETAILS
 Drawing Title

Engineer's Seal
 D.B. GRAY
 70016502
 DATE 19-20
 REG. NO. OF
 PROFESSIONAL ENGINEER
 ONTARIO
 DRAWING No. **C-8**
 of 14
 NOT VALID UNLESS
 SIGNED & DATED