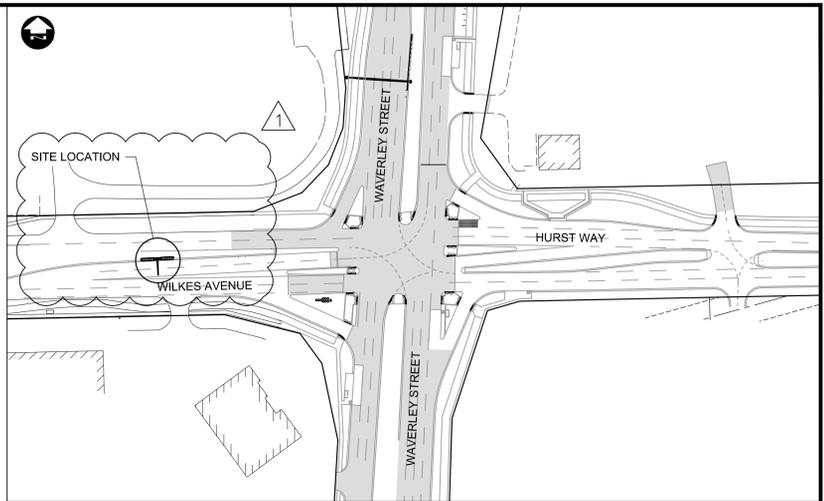
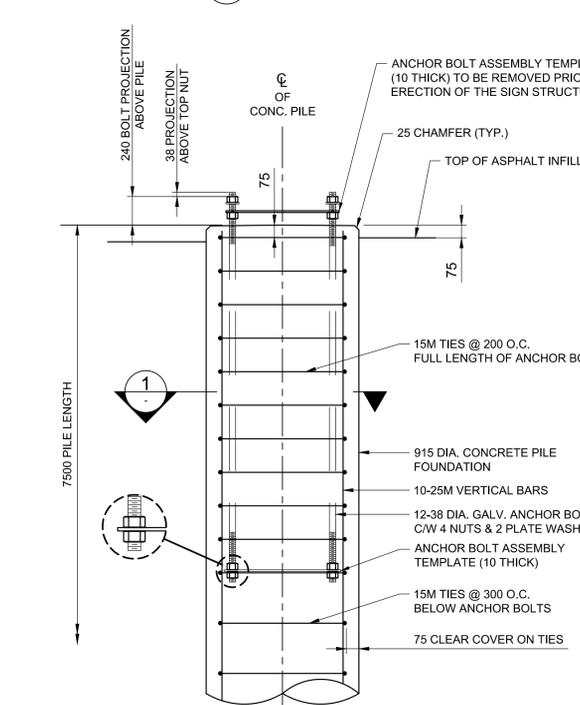
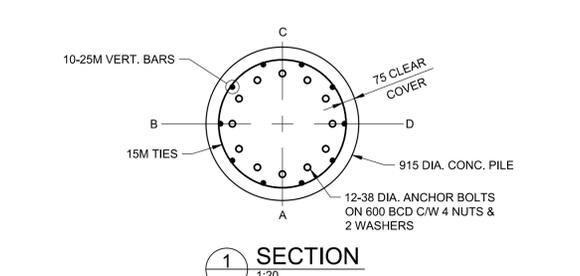
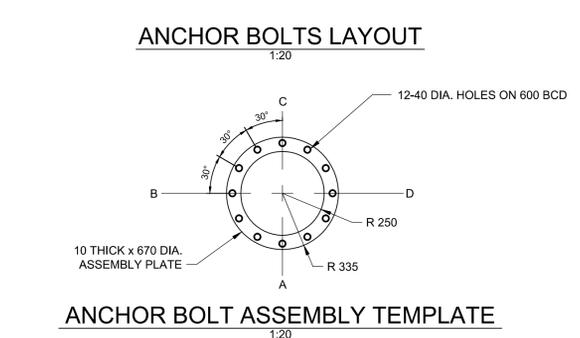
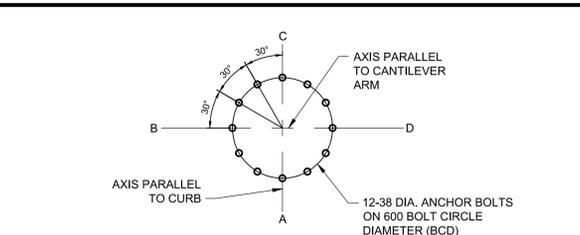


CENTRE OF PILE LAYOUT TABLE

STRUCTURE	STATION	O/S	NORTHING	EASTING
S783	1+091.584	8.74	5523198.353	630785.411



- PILE CONSTRUCTION NOTES**
- REINFORCING STEEL**
 - CSA G30.18 GR. 400W
 - VERTICAL BARS FULL LENGTH OF PILE
 - HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A767
 - ANCHOR BOLTS**
 - ASTM F1554 GR.55 (380 MPa)
 - 8-38 DIA. ANCHOR BOLTS 2.0m LONG
 - EACH BOLT C/W 4 NUTS & 2 PLATE WASHERS (SEE PLATE WASHER DETAIL FOR MK. 14)
 - TOP 300 THREADED UNC CLASS 2A
 - BOTTOM 100 THREADED UNC CLASS 2A
 - HOT DIP GALVANIZED FULL LENGTH, IN ACCORDANCE WITH ASTM A153 CLASS C
 - B.C.D. = BOLT CIRCLE DIAMETER TO CENTRE OF BOLT GROUP
 - ANCHOR BOLTS SHALL BE ALIGNED WITH TEMPORARY STEEL TEMPLATES. PLACEMENT OF ANCHOR BOLTS AND CONCRETE WITHOUT THE TEMPLATES WILL NOT BE PERMITTED.
 - CONTRACTOR SHALL REMOVE THE TOP ANCHOR BOLT SETTING TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.
 - FOLLOWING INSTALLATION OF THE STEEL STRUCTURE, TIGHTEN THE LOWER LEVELING NUTS AND UPPER ANCHOR NUTS TO A SNUG-TIGHT CONDITION, FOLLOWED BY 1/3 NUT ROTATION (+20°/0°) OF THE UPPER ANCHOR NUTS.
 - ANCHOR BOLTS SHALL BE TIGHTENED USING A STAR PATTERN TIGHTENING SEQUENCE.
 - FORM TOP OF PILE WITH A TUBULAR FORM (SONOTUBE):**
 - 1m FOR DRILLED SHAFTS
 - 1.5m FOR HYDRO-EXCAVATED SHAFTS
 - CONCRETE MIX DESIGN**

PROPORTIONING OF FINE AGGREGATE, COARSE AGGREGATE, CEMENT, WATER, AND AIR ENTRAINING AGENT SHALL BE SUCH AS YIELD CONCRETE HAVING THE REQUIRED STRENGTH AND WORKABILITY AS FOLLOWS:

 - CLASS OF EXPOSURE: S-1
 - MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS = 35 MPa
 - MAXIMUM WATER/CEMENT RATIO = 0.40
 - AIR CONTENT: CATEGORY 2 PER TABLE 4 OF CSA A23.1-14 (4-7%)
 - CEMENT IN ACCORDANCE WITH CSA A23.1-14

- METRIC**
WHOLE NUMBERS INDICATE MILLIMETRES
DECIMALIZED NUMBERS INDICATE METRES
- WARNING**
IF POWER EQUIPMENT OR EXPLOSIVES ARE TO BE USED FOR EXCAVATION ON THIS PROJECT THE CONTRACTOR MUST:
- NOTIFY THE GAS COMPANY OF THE PROPOSED LOCATION OF EXCAVATION.
 - TAKE PRECAUTION TO AVOID DAMAGE TO GAS COMPANY INSTALLATIONS SEE PROVINCIAL REGULATION 210/72 FOR DETAILS.
 - OBTAIN EXCAVATION PERMITS PRIOR TO CONSTRUCTION.

DESIGNED BY: DRA	CHECKED BY: SSR	WAVERLEY STREET UNDERPASS AT CN MILE 3.89 RIVERS SUB CONTRACT 2: UNDERPASS STRUCTURE, RAILWORKS, ROADWORKS, LAND DRAINAGE SEWER, PUMPING STATION AND LANDSCAPING WORKS		CITY DRAWING NUMBER U-239-2016-C2-CS-074	
DRAWN BY: MDG	APPROVED BY: DBW	HOR. SCALE: AS SHOWN VERTICAL: AS SHOWN		SHEET OF 074 085	
1 ADDENDUM # 17/03/13 DA 0 ISSUED FOR TENDER 17/01/09 DA		RELEASED FOR CONSTRUCTION		CONSULTANT DRAWING NUMBER C2-CS-074	
NO. REVISIONS DATE BY DATE		CONSULTANT PROJECT NUMBER 16-3353		CONSULTANT DRAWING NUMBER C2-CS-074	

APEGM
Certificate of Authorization
Dillon Consulting Limited (MB)
No. 1789 Date: 2017/01/09