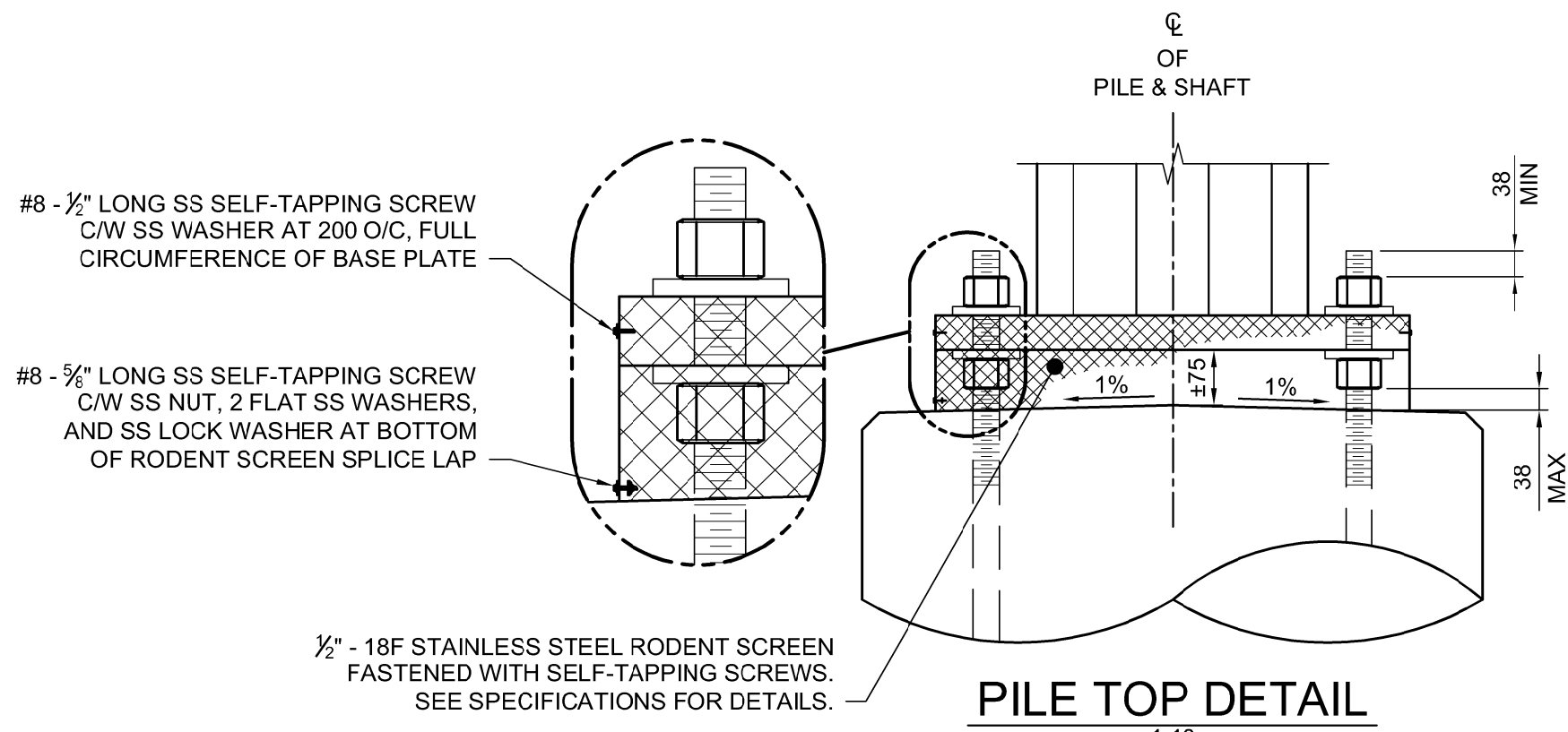
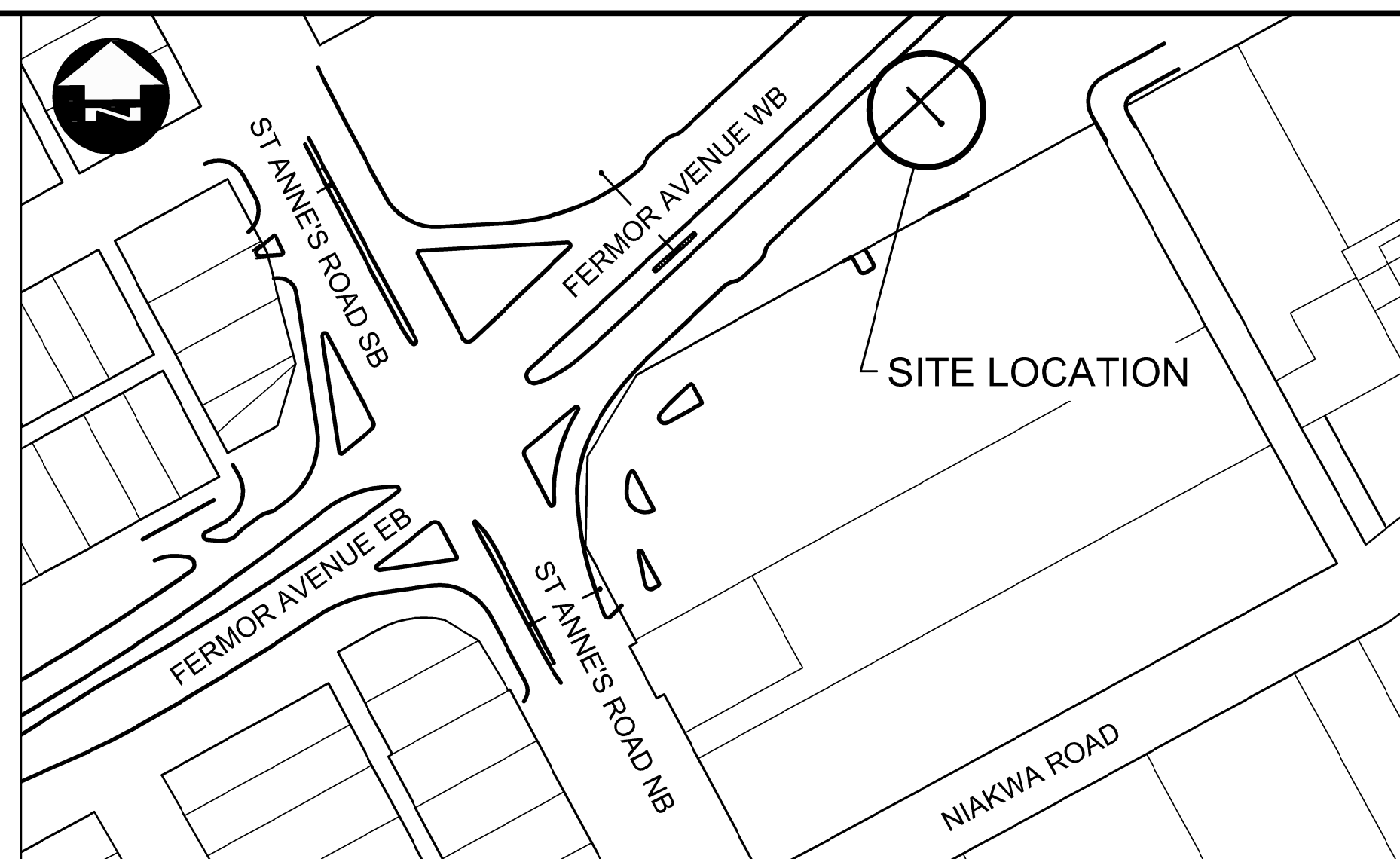


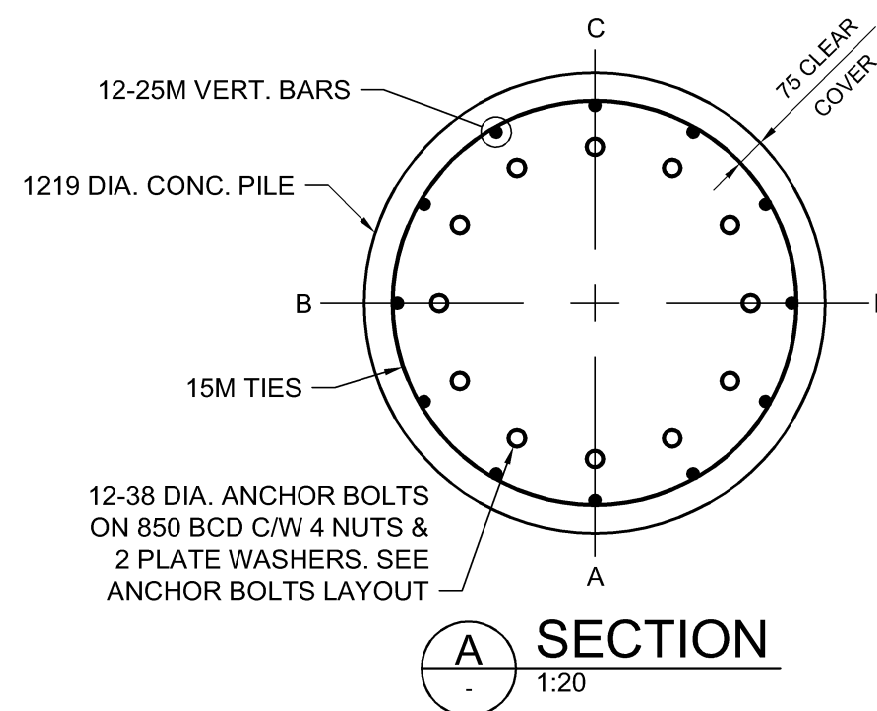
SITE PLAN
SCALE 1:250



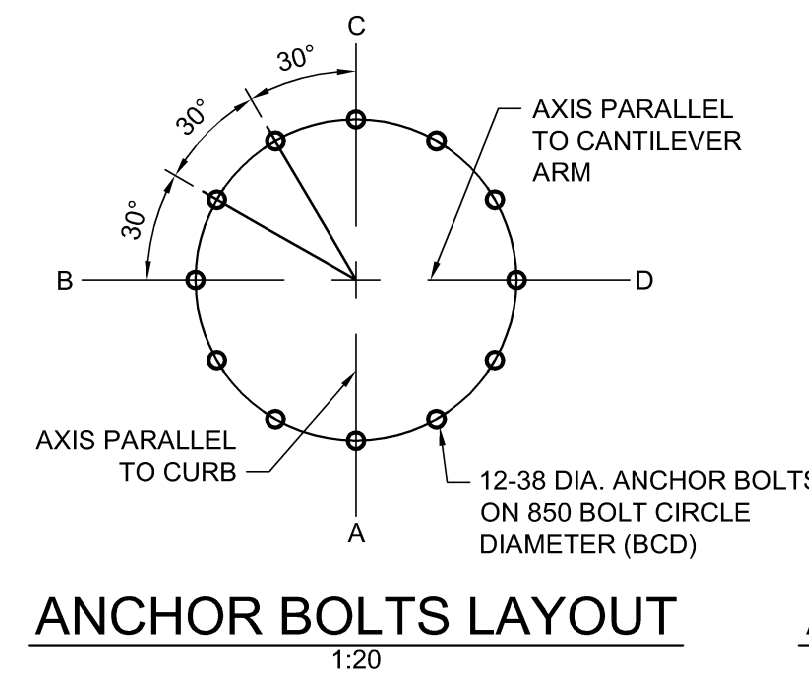
PILE TOP DETAIL
1:10



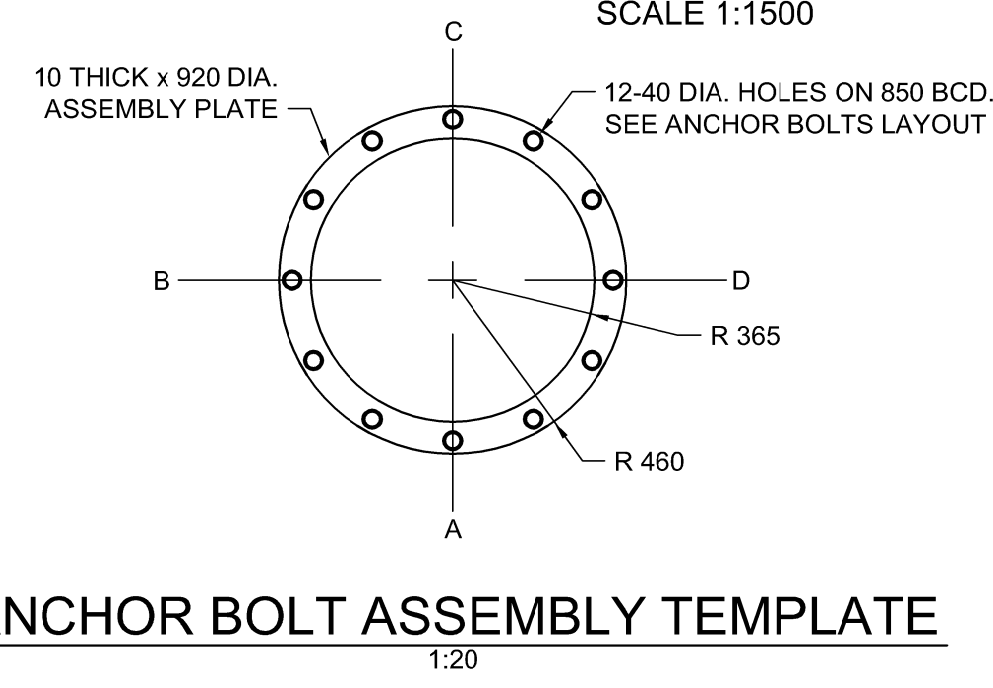
KEY PLAN
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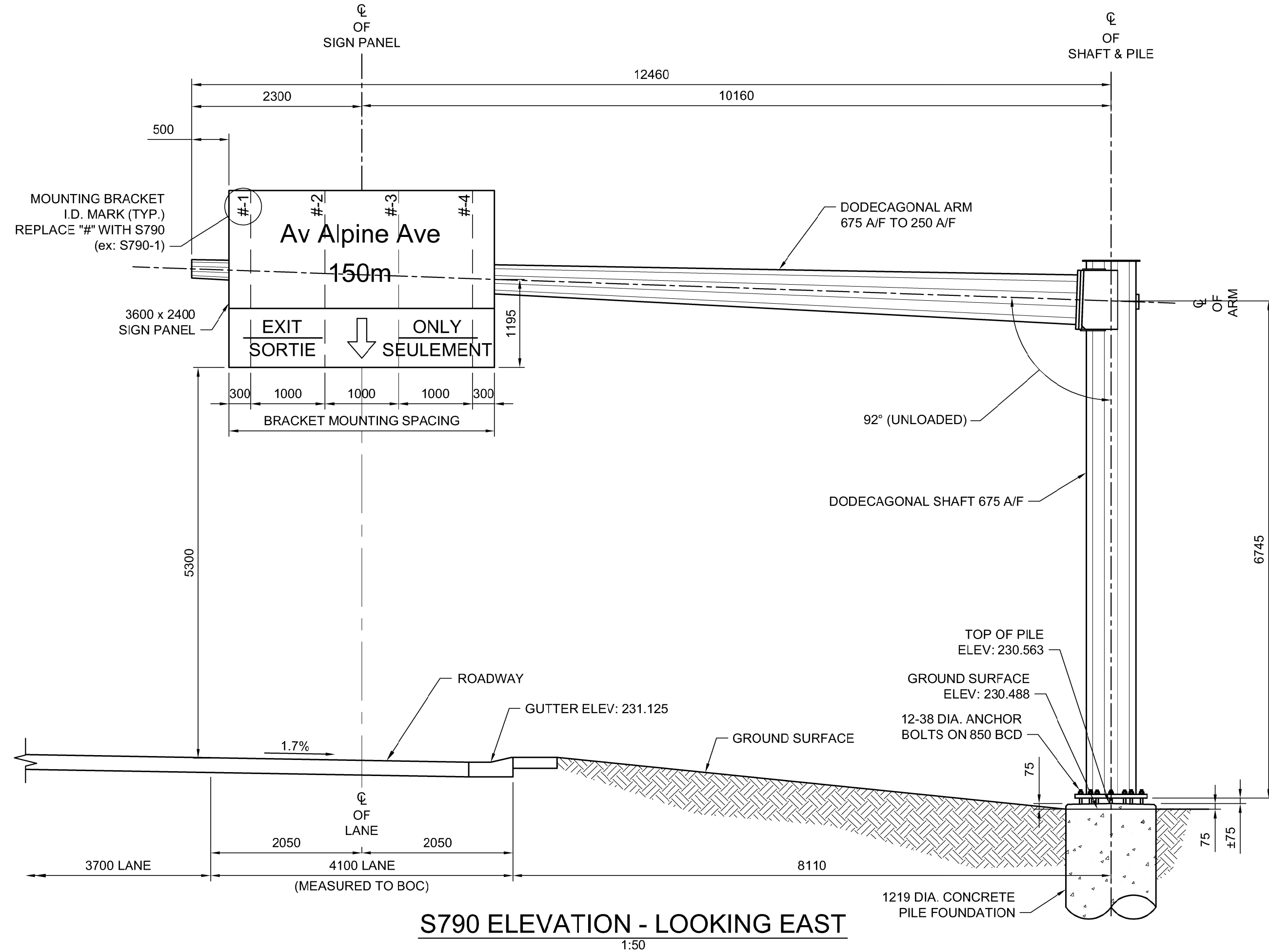
SECTION A
1:20



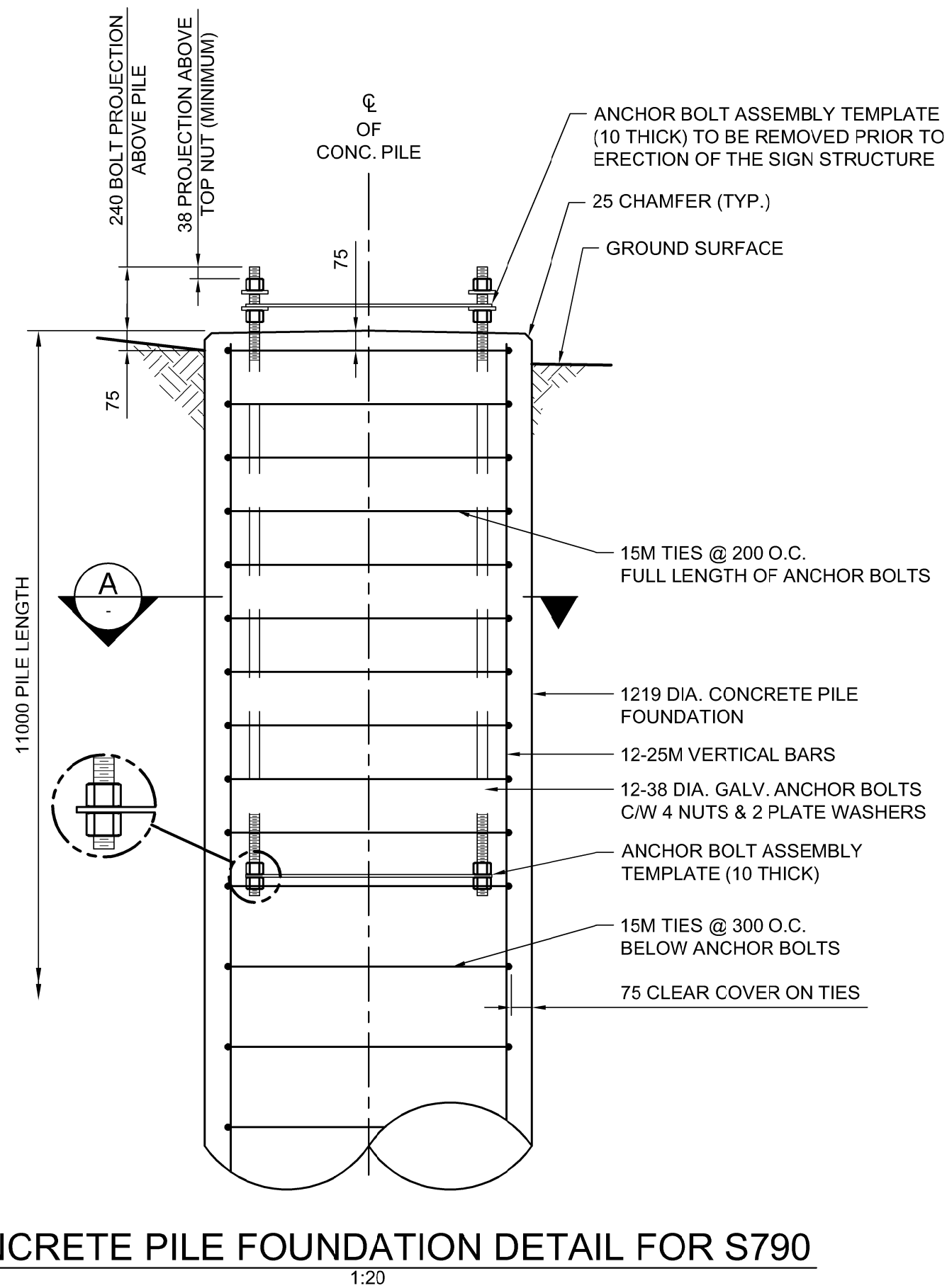
ANCHOR BOLTS LAYOUT
1:20



ANCHOR BOLT ASSEMBLY TEMPLATE
1:20



S790 ELEVATION - LOOKING EAST
1:50



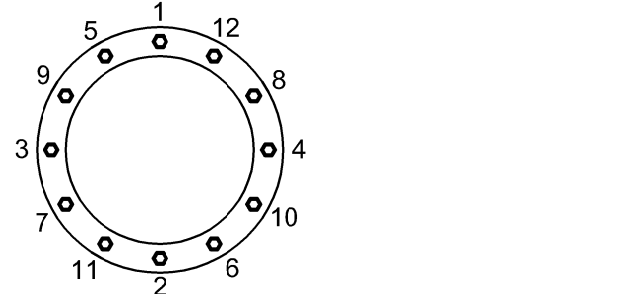
CONCRETE PILE FOUNDATION DETAIL FOR S790
1:20

PILE CONSTRUCTION NOTES

- REINFORCING STEEL**
 - CSA G30.18 GR. 400W
 - VERTICAL BARS FULL LENGTH OF PILE
 - HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A777
- ANCHOR BOLTS**
 - ASTM F1554 GR.55 (380 MPa)
 - 12-38 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.

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CENTRE OF PILE LAYOUT TABLE

STRUCTURE	STATION	O/S	NORTHING	EASTING
S790	4+435.585	19.61m SOUTH	5524346.089	636420.166

(EASTBOUND FERMOR AVENUE CONTROL LINE) (UTM COORDINATES)

NOTE:
ELEVATIONS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL VERIFY ALL ELEVATIONS PRIOR TO INSTALLATION OF CONCRETE PILE FOUNDATION.



DESIGNED BY: DRA		CHECKED BY: SSR	
DRAWN BY: MDG		APPROVED BY: MBL	
HOR. SCALE: AS SHOWN		RELEASED FOR CONSTRUCTION	
VERTICAL: AS SHOWN		DATE: 2018/02/09	
NO.	REVISIONS	DATE	BY
0	ISSUED FOR TENDER	18/02/09	DRA



THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT

FERMOR AVENUE BRIDGE OVER SEINE RIVER
BRIDGE RE-HABILITATION, PEDESTRIAN-CYCLIST UNDERPASS STRUCTURE AND ROADWORKS FROM ST. ANNE'S ROAD TO ARCHIBALD STREET

CITY DRAWING NUMBER: P-3489-2017-CS-098
SHEET 098 OF 100
CONSULTANT DRAWING NUMBER: CS-098

17-5932