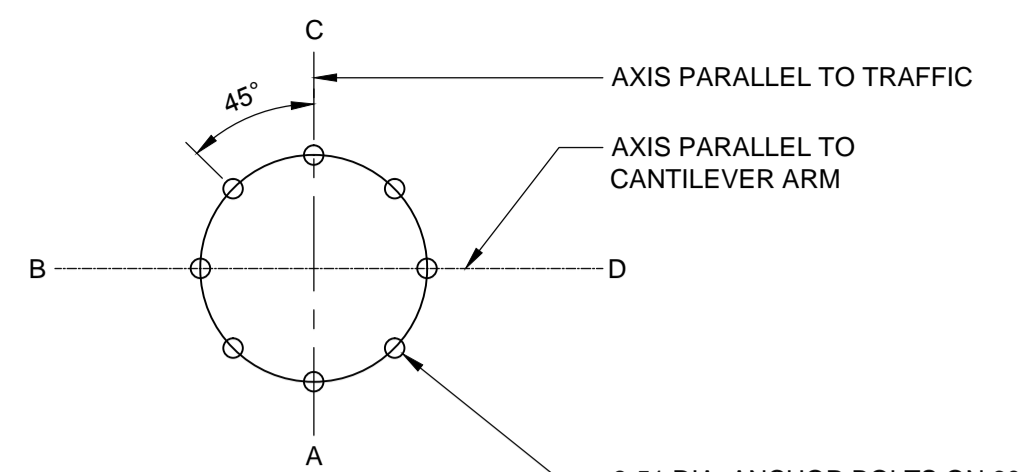
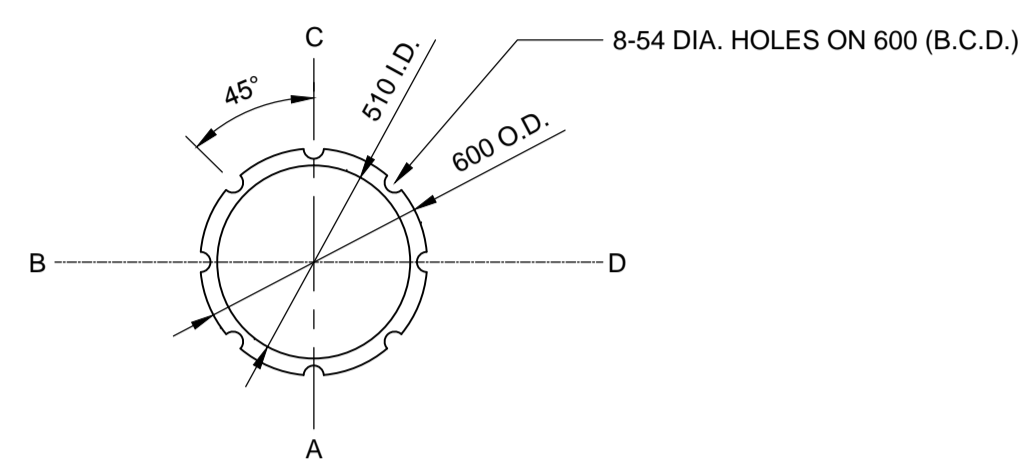


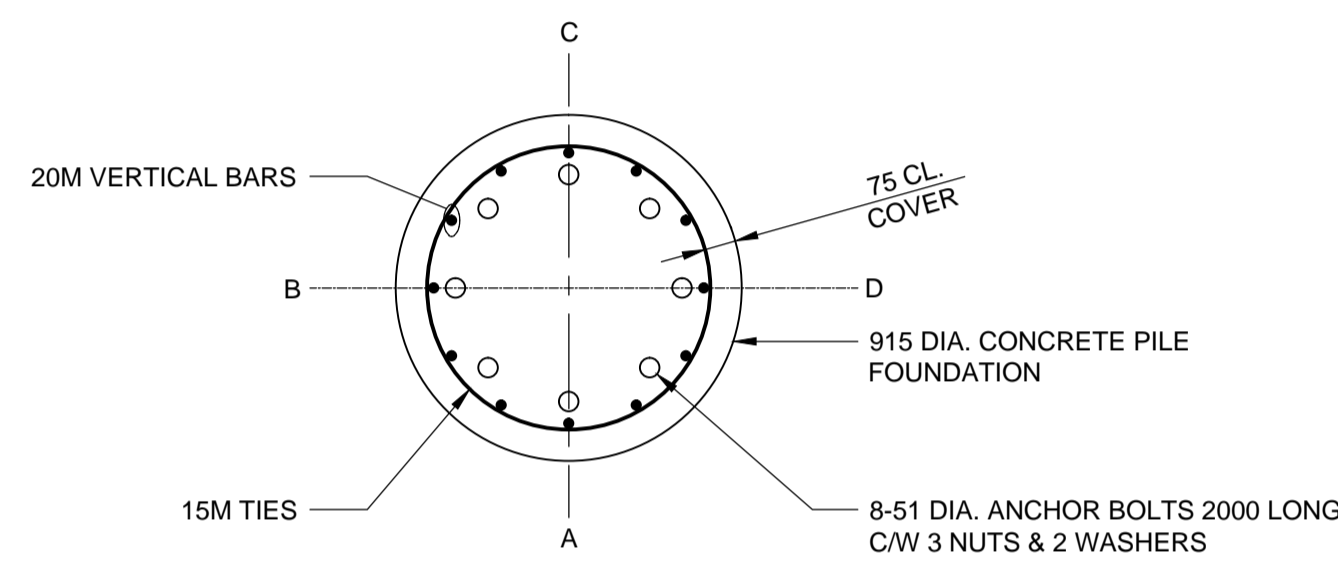
**SITE PLAN**  
1:250



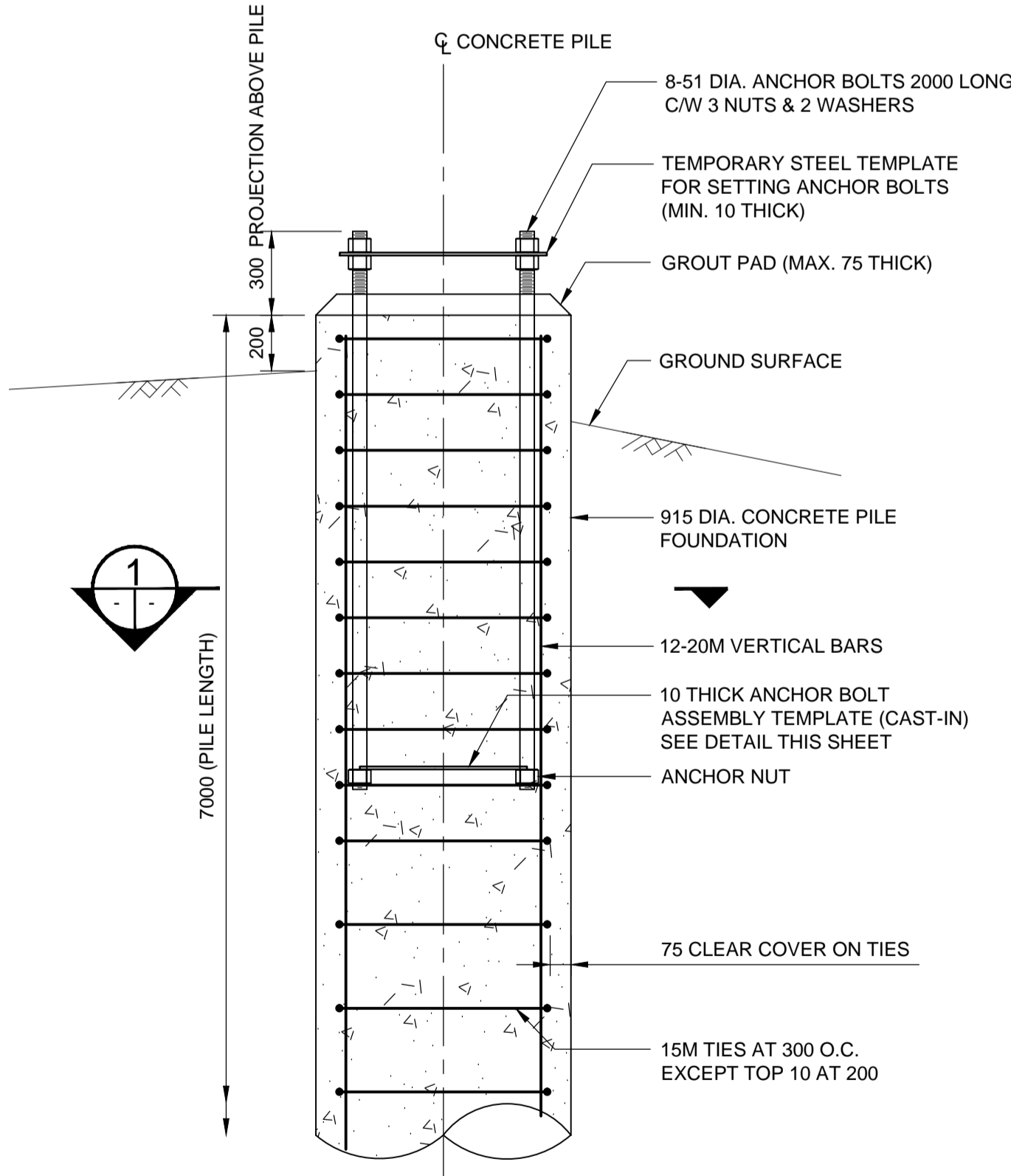
**ANCHOR BOLTS LAYOUT**  
1:20



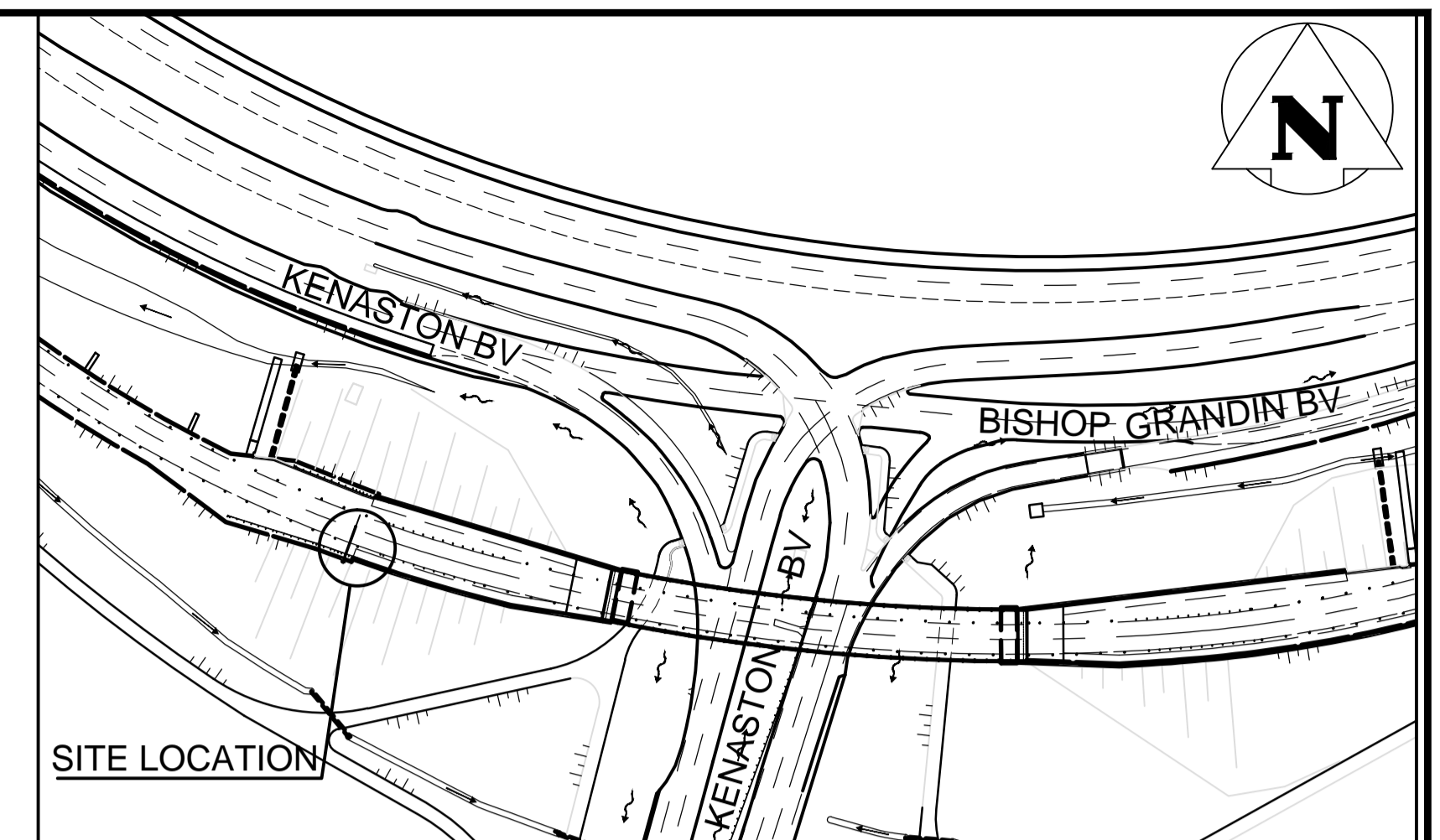
**LOWER ANCHOR BOLT ASSEMBLY TEMPLATE**  
1:20



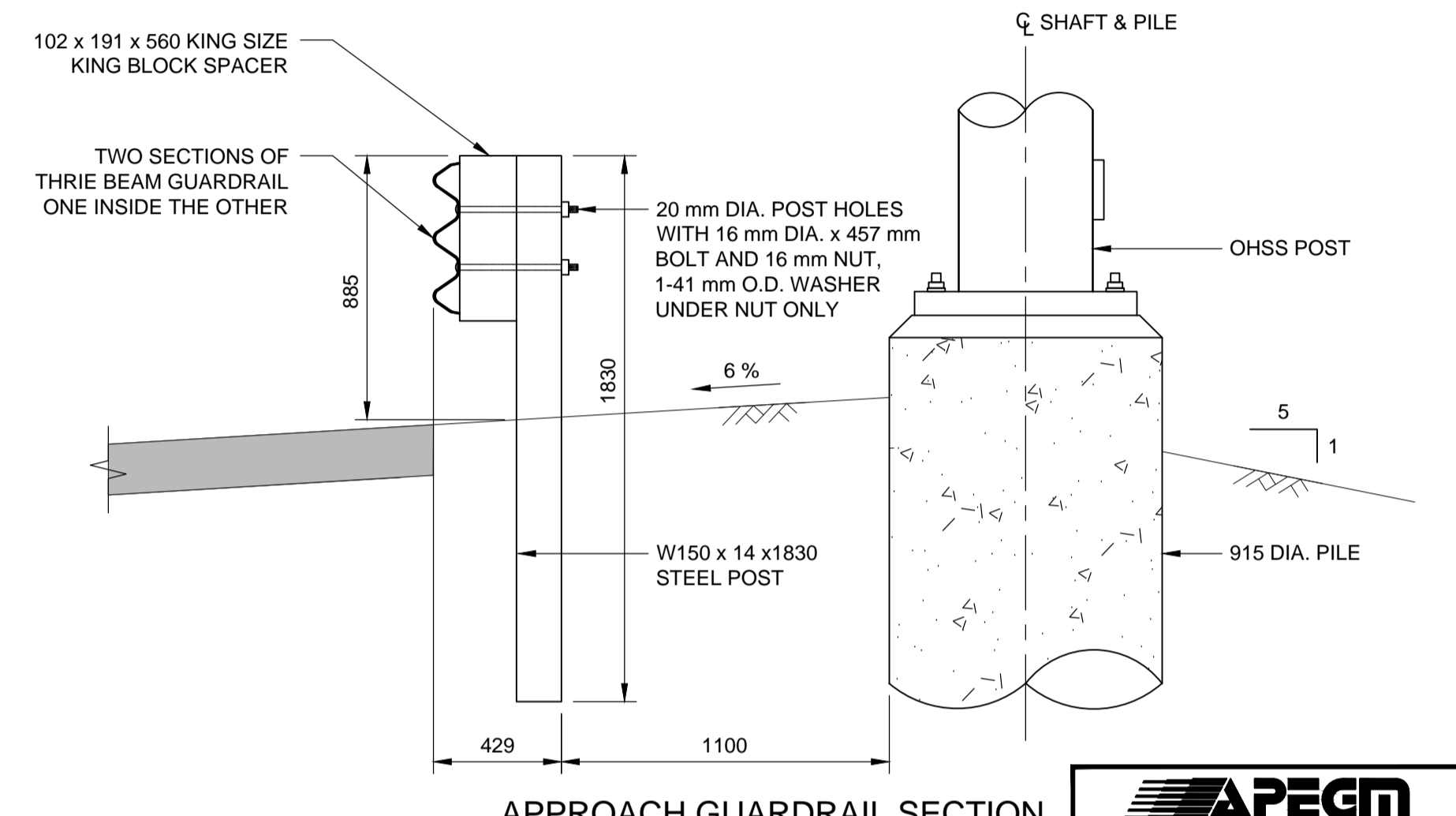
**SECTION 1**  
1:20



**CONCRETE PILE FOUNDATION DETAIL FOR S773**  
1:20



**KEY PLAN**



**APPROACH GUARDRAIL SECTION**  
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 A767
- ANCHOR BOLTS**
  - ASTM F1554 GR.55 (380 MPa)
  - 8-51 DIA. ANCHOR BOLTS 2000 LONG
  - EACH BOLT C/W 3 NUTS & 2 WASHERS
  - TOP 300 THREADED 4.5 UNC CLASS 2A
  - BOTTOM 100 THREADED 4.5 UNC CLASS 2A
  - HOT DIP GALVANIZED FULL LENGTH
  - B.C.D. = BOLT CIRCLE DIAMETER TO CENTRE OF BOLT GROUP
  - ANCHOR BOLTS SHALL BE ALIGNED WITH A TEMPORARY STEEL TEMPLATE. PLACEMENT OF ANCHOR BOLTS AND CONCRETE WITHOUT THE TEMPLATE WILL NOT BE PERMITTED.
  - FOLLOWING INSTALLATION OF THE STEEL STRUCTURE, TIGHTEN THE LOWER LEVELING NUTS AND UPPER ANCHOR NUTS TO A SNUG-TIGHT CONDITION, FOLLOWED BY 1/6 NUT ROTATION (+20/-0°) OF THE UPPER ANCHOR NUTS.
- FORM TOP OF PILE WITH A TUBULAR FORM (SONOTUBE):**
  - 1m FOR DRILLED SHAFTS
  - 1.5m FOR HYDRO-EXCAVATED SHAFTS
- CONTRACTOR SHALL REMOVE THE ANCHOR BOLT SETTING TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.**
- 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:

  - i) CLASS OF EXPOSURE: S-1
  - ii) MINIMUM COMPRESSIVE STRENGTH AT 56 DAYS = 35 MPa
  - iii) MAXIMUM WATER/CEMENT RATIO = 0.40
  - iv) AIR CONTENT: CATEGORY 2 PER TABLE 4 OF CSA A23.1-09 (4-7%)
  - v) CEMENT IN ACCORDANCE WITH CSA A23.1-09

**APEGM**  
Certificate of Authorization  
Dillon Consulting Limited (MB)  
No. 1789 Date: 2013/08/08

**METRIC**

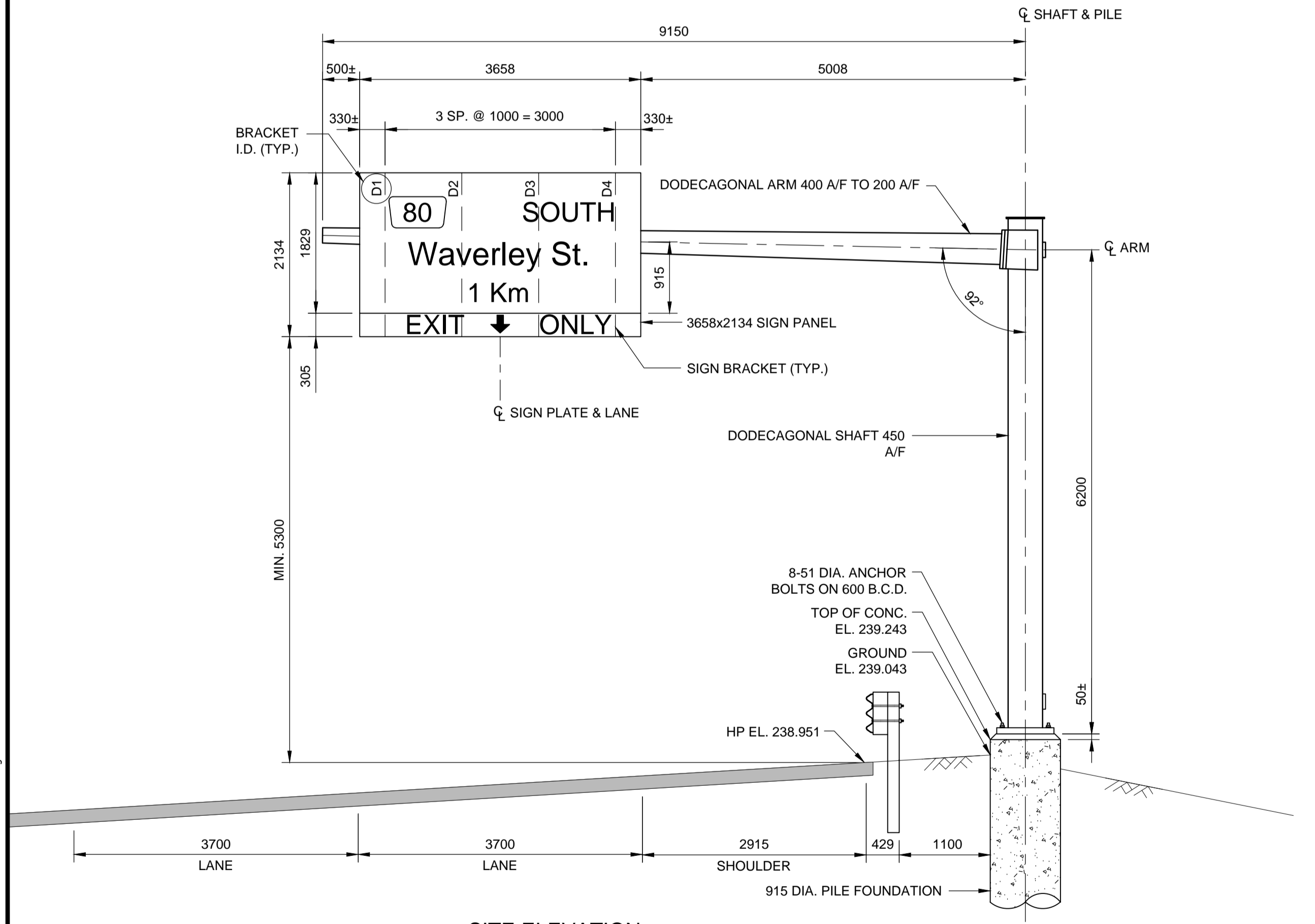
WHOLE NUMBERS INDICATE MILLIMETRES  
DECIMALIZED NUMBERS INDICATE METRES

**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.
  - A MINIMUM VERTICAL SEPARATION OF 300 mm FROM GAS MAINS AND 100 mm FROM GAS SERVICE MUST BE MAINTAINED BETWEEN ANY MANITOBA HYDRO FACILITY AND ANY NEW INSTALLATIONS.
  - A MINIMUM 900 mm OF COVER SHALL BE MAINTAINED IN ALL AREAS WHERE EQUIPMENT WILL BE CROSSING, TRAVELING OR COMPACTING OVER THE HIGH PRESSURE GAS MAINS.
  - IF EQUIPMENT MUST CROSS, TRAVEL, OR COMPACT OVER THE GAS MAIN WITH LESS THAN THE MINIMUM DEPTH COVER, EARTH BRIDGING OR STEEL PLATES SHALL BE PLACED OVER THE MAIN AND EXTEND A MINIMUM OF 1.0 METRE ON EITHER SIDE AT EACH CROSSING LOCATION.

**CENTER OF PILE LAYOUT TABLE**

STRUCTURE	STATION	O/S	NORTH	EAST
S773	1+698.123	12.301	5519021.600	630160.585



**SITE ELEVATION**  
1:50 OVERHEAD SIGN SUPPORT STRUCTURE NO. S773

150 WM	WATERMAIN	150 WM	MTS	M.T.S.	150 mm W.M.	WATERMAIN	150 mm W.M.
+	HYDRANT VALVE	+		CONCRETE ASPHALT PLANING SIDEWALK PAVING STONES PROPERTY LINE SURVEY BAR CURB RAMP DITCH SWALE	+	HYDRANT VALVE	+
300 LDS	LAND DRAINAGE SEWER	300 LDS			300 mm L.D.S.	LAND DRAINAGE SEWER	300 mm L.D.S.
250 WWS	WASTE WATER SEWER	250 WWS			250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.
○	MANHOLE	○				Q PROFILE	
○	CATCH BASIN	○				NORTH/WEST GUTTER	
○	TEST HOLES	○				SOUTH/EAST GUTTER	
+	JUNCTIONS	+				NORTH/WEST T/LANE	
+	CULVERT	+				SOUTH/EAST T/LANE	
100 GAS	GAS	100 GAS					
EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PLAN	PROPOSED	EXISTING	LEGEND-PROFILE

**UNDERGROUND STRUCTURES**

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:  
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

B.M.	654008	N: 5515764.610	E: 633359.697	654210	N: 5514436.957	E: 630550.534
ELEV.	232.463	m				
DESIGNED BY	CDW					
DRAWN BY	LFY					
CHECKED BY	SSR					
APPROVED BY	DPK					
HOR. SCALE	AS NOTED					
VERTICAL	AS NOTED					
0	ISSUED FOR TENDER	13/08/08	MRD			
NO.	REVISIONS	DATE	BY	DATE		

**DILLON CONSULTING**

ENGINEER'S SEAL  
PROVINCE OF MANITOBA  
C.D. WARD  
Member  
24456  
REGISTERED PROFESSIONAL ENGINEER

**THE CITY OF WINNIPEG**  
PUBLIC WORKS DEPARTMENT

Waverley West Arterial Roads Project (WWARP) Part 3 - Contract 2  
Route 90 to Route 165 Overpass (Kenaston Blvd.) and Associated Works

CITY DRAWING NUMBER: B242-13-120  
SHEET OF: 120 OF 128  
CONSULTANT DRAWING NUMBER: S773-2013-01

CONSULTANT PROJECT NUMBER: 12-6606  
S773 - KENASTON BV SB  
AT STA: 1+698

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