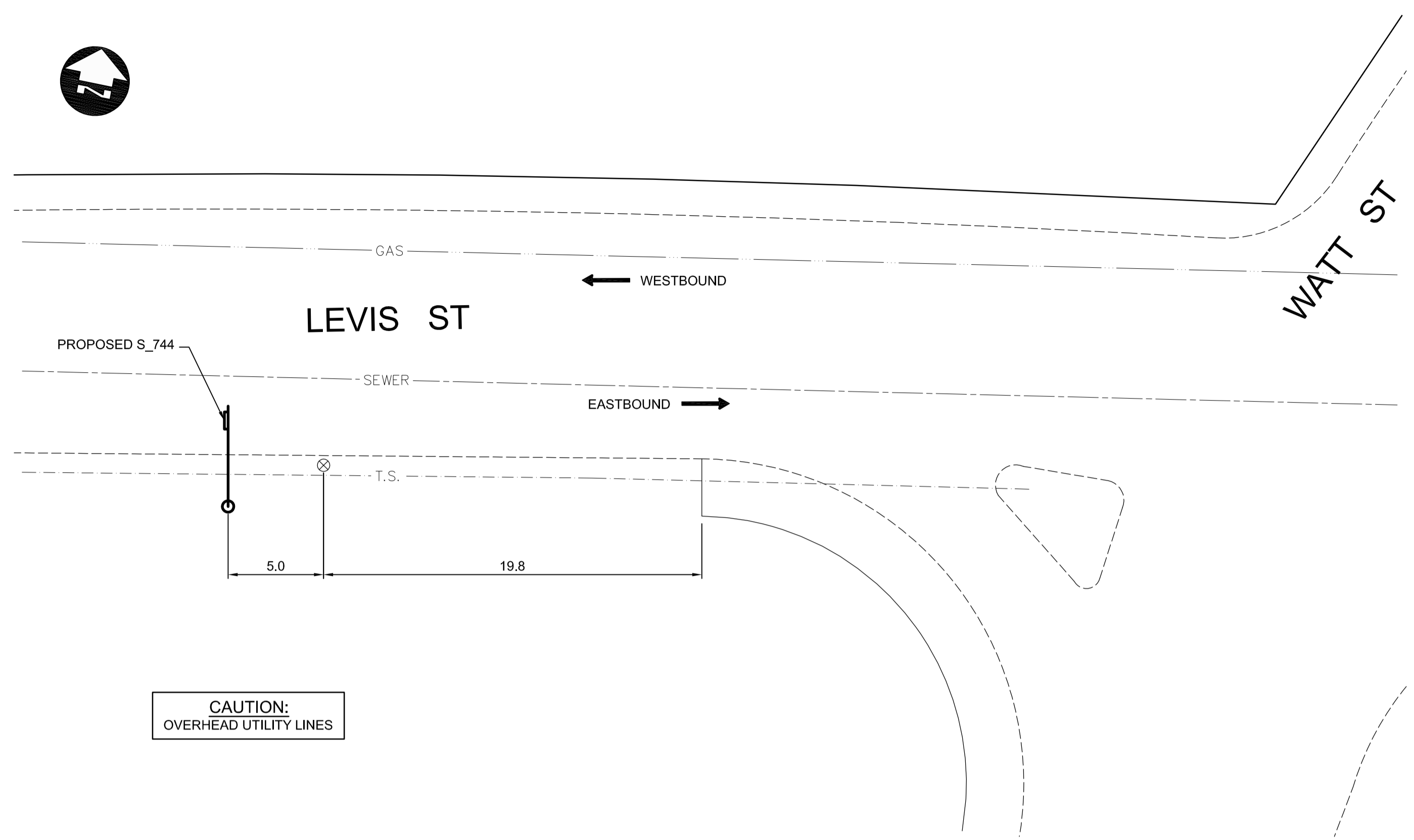
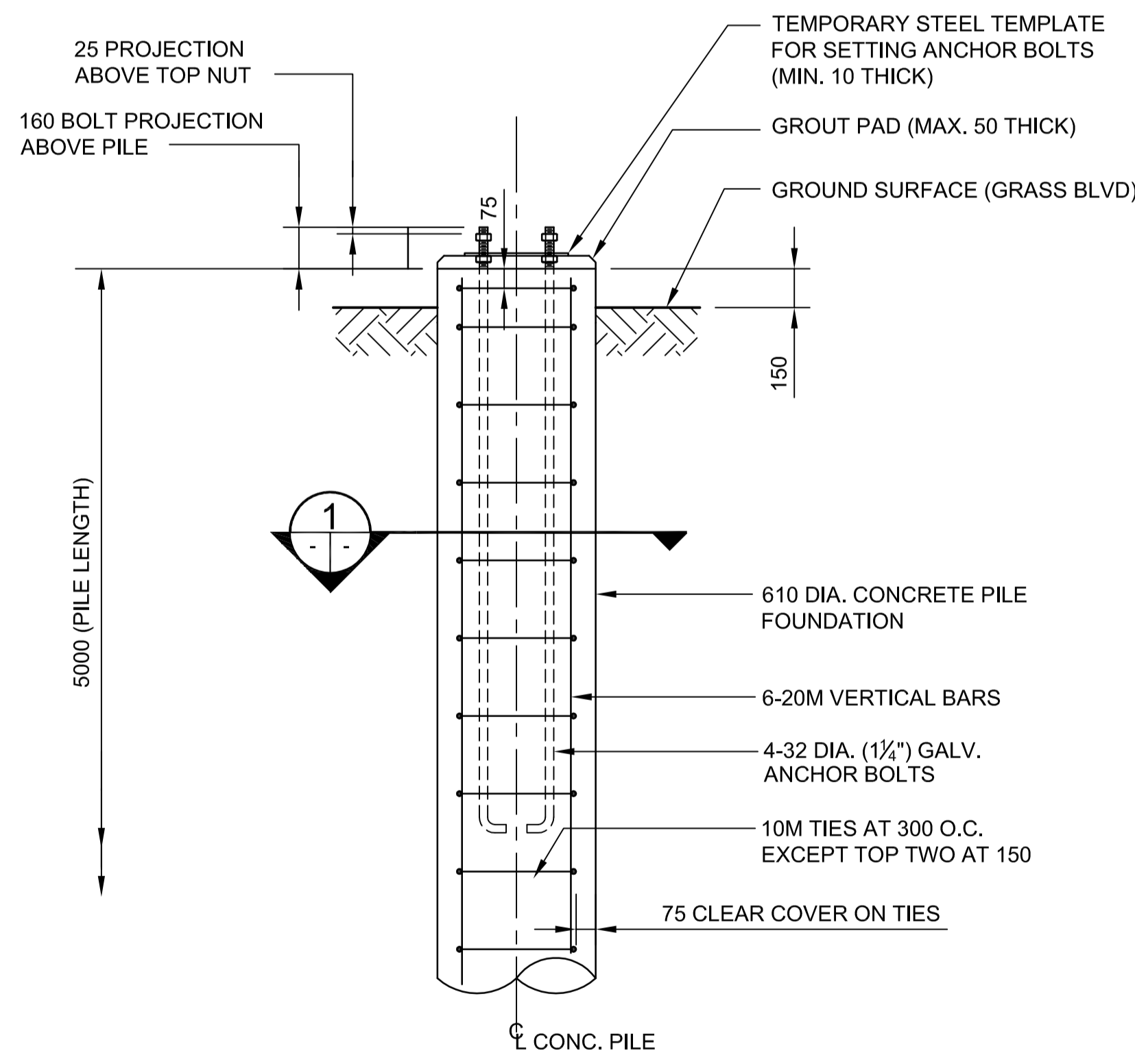


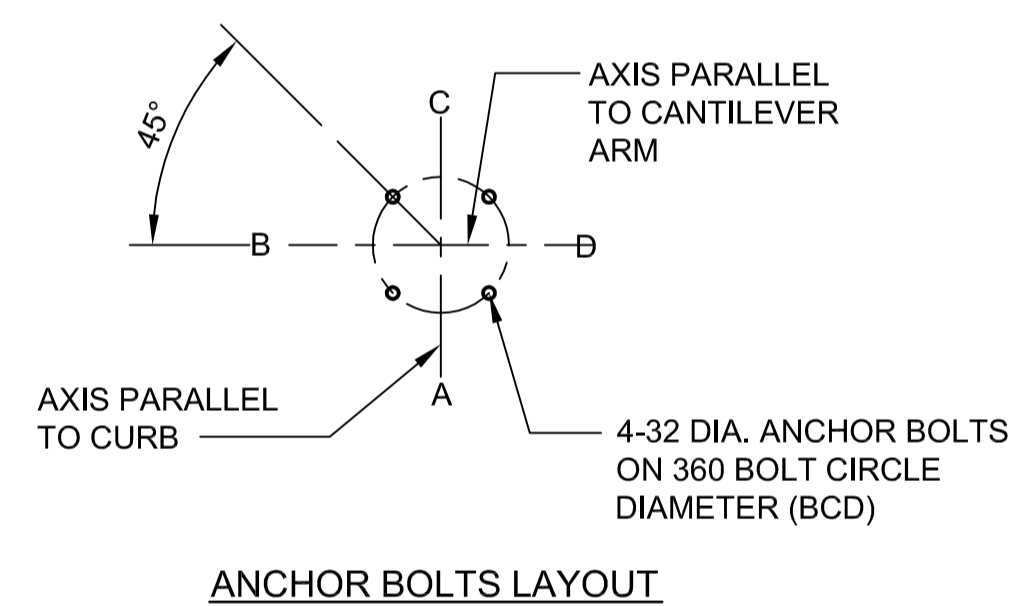
SITE ELEVATION - LOOKING EAST
1:50 OVERHEAD SIGN STRUCTURE NO. S_744



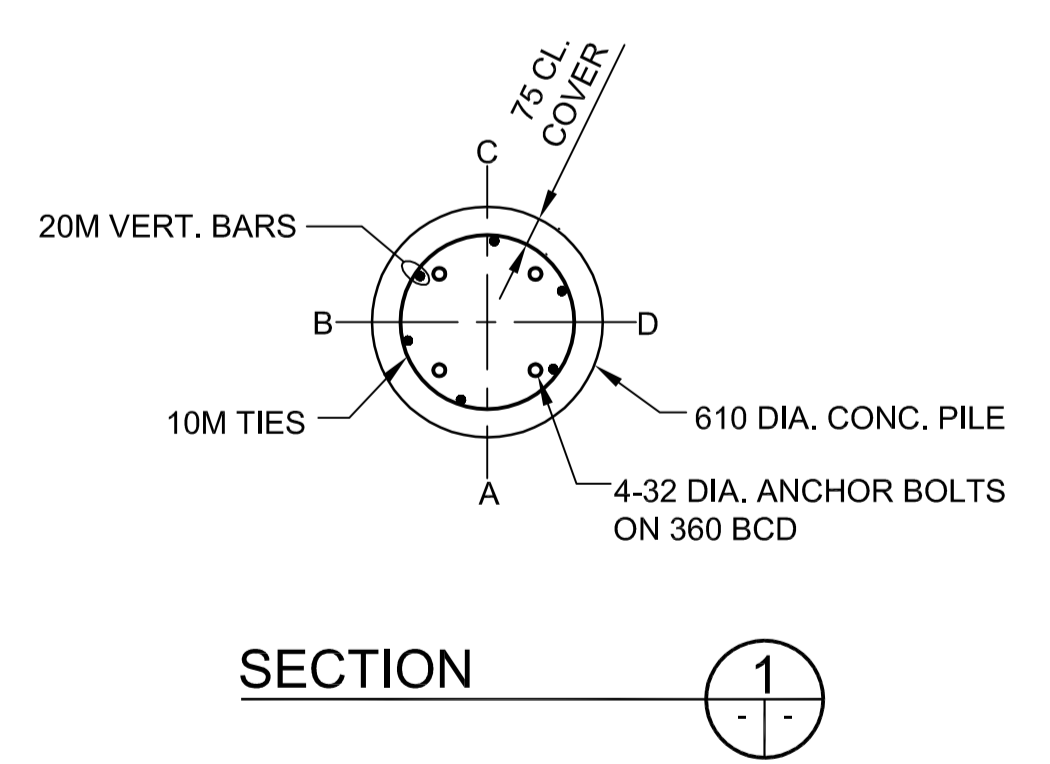
S_744
SCALE - 1:200



ELEVATION
CONCRETE PILE FOUNDATION DETAIL
1:20



ANCHOR BOLTS LAYOUT



SECTION

PILE CONSTRUCTION NOTES

- REINFORCING STEEL**
 - CSA G30.12 GR. 400
 - VERTICAL BARS FULL LENGTH OF PILE
 - HOT DIP GALVANIZED
- ANCHOR BOLTS**
 - CSA G40.21 GR. 300W
 - 4-32 (1/4") DIA. x 1500 LONG + 150 HOOK
 - EACH BOLT C/W 2 NUTS & 2 WASHERS
 - TOP 300 THREADED
 - HOT DIP GALVANIZED FULL LENGTH
 - BCD = 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.
- TOP OF PILE SHALL BE FORMED WITH A TUBULAR FORM (SONOTUBE) AS FOLLOWS:
 - BORED PILES - MIN. 1000 mm BELOW FINAL GRADE
 - "HYDRO-JET EXCAVATED" PILES - MIN. 1500 mm BELOW FINAL GRADE
- CONTRACTOR SHALL REMOVE THE BASE TEMPLATE, NUTS AND FORM, FOLLOWING A MINIMUM 24 HOUR CONCRETE CURING PERIOD.
- CONCRETE MIX DESIGN**

CONCRETE MATERIAL SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES IN ACCORDANCE WITH CSA A23.1-04:

 - CLASS OF EXPOSURE: S-1
 - COMPRESSIVE STRENGTH @ 56 DAYS = 35 MPa
 - WATER/CEMENTING MATERIALS RATIO = 0.4
 - AIR CONTENT: CATEGORY 2 PER TABLE 4 OF CSA A23.1-04 (4-7%)
 - CEMENT - TYPE HS OR Hsb, HIGH SULPHATE RESISTANT.

G:\CAD\091545\Contract\OHSS\STRUCTURAL\DETAILS-3.dwg

150 WM	WATERMAIN	150 WM	HYDRO	HYDRO	HYDRO	150 mm W.M.	WATERMAIN	150 mm W.M.
⊕	HYDRANT	⊕	MTS	MTS	+	+	HYDRANT	+
⊗	VALVE	⊗			+	+	VALVE	+
300 LDS	LAND DRAINAGE SEWER	300 LDS			300 mm L.D.S.	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.	250 mm W.W.S.	WASTE WATER SEWER	250 mm W.W.S.
○	MANHOLE	●					MANHOLE	
□	CATCH BASIN	■					CATCH BASIN	
▽	CURB INLET	▽					CURB INLET	
+	JUNCTIONS	+					JUNCTIONS	
—	CULVERT	—					CULVERT	
100 GAS	GAS	100 GAS					GAS	
EXISTING	LEGEND—PLAN	PROPOSED	EXISTING	LEGEND—PLAN	PROPOSED	EXISTING	LEGEND—PROFILE	PROPOSED

UNDERGROUND STRUCTURES	B.M. ELEV.	DESIGNED BY	SSR
SUPV. U/G STRUCTURES COMMITTEE	DATE	DRAWN BY	TJH
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.		CHECKED BY	NBU
		APPROVED BY	
		HOR. SCALE	AS NOTED
		VERTICAL	
		RELEASED FOR CONSTRUCTION	
		CONSULTANT PROJECT NUMBER	09-1545
		DATE	
		NO. REVISIONS	
		DATE	
		BY	

DATE	BY	REVISIONS
06/19/09	TJH	2 ISSUED FOR TENDER
06/04/09	TJH	1 ISSUED FOR REVIEW

DILLON CONSULTING

ENGINEER'S SEAL
PROVINCE OF MANITOBA
ORIGINAL STAMPED BY
S.S. RIHAL
06/19/09
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG TRANSIT DEPARTMENT

ON STREET TRANSIT PRIORITY IMPROVEMENTS - PHASE 3

OHSS NO. S_744 (1 OF 2) LEVIS ST. EASTBOUND, WEST OF WATT ST.

CITY DRAWING NUMBER: S744-09-01
SHEET 22 OF 23
CONSULTANT DRAWING NUMBER