



PILE CONSTRUCTION NOTES

- EXCAVATION**
 - CONTRACTOR SHALL EXCAVATE USING HYDRO JET.
- REINFORCING STEEL**
 - CSA G30.18 GR. 400W
 - VERTICAL BARS FULL LENGTH OF PILE
 - HOT DIP GALVANIZED
- ANCHOR BOLTS**
 - CSA G40.21 GR. 300W
 - 8-38 (1-1/2") DIA. x 2000 LONG
 - THREADED BOTH ENDS (560 TOP & 100 BOTT.)
 - EACH BOLT C/W 5 NUTS (1-BOTT. END 4-TOP END).
 - ANCHOR BOLTS CAGE ASSEMBLY HOT DIP GALVANIZED FULL LENGTH AFTER FABRICATION.
 - B.C.D. = BOLT CIRCLE DIAMETER TO CENTER 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 1.5 m OF PILE SHALL BE FORMED WITH A TABULAR FORM (SONOTUBE).
- CONTRACTOR SHALL REMOVE THE A/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:

 - 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 A23.1-04 (4-7%)
 - CEMENT - TYPE HS OR Hsb, HIGH SULPHATE RESISTANT

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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| 150 WM | 150 WM | HYDRO | HYDRO | HYDRO | 150 mm W.M. | 150 mm W.M. | 150 mm W.M. |
|------------|---------------------|------------|----------------------|---------------|---------------------|---------------|----------------|
| WATERMAIN | HYDRANT VALVE | MTS | CONCRETE | MTS | WATERMAIN | HYDRANT VALVE | MTS |
| 300 LDS | LAND DRAINAGE SEWER | 300 LDS | ASPHALT | 300 mm L.D.S. | LAND DRAINAGE SEWER | 300 mm L.D.S. | 300 mm L.D.S. |
| 250 WWS | WASTE WATER SEWER | 250 WWS | PLANING | 250 mm W.W.S. | WASTE WATER SEWER | 250 mm W.W.S. | 250 mm W.W.S. |
| MANHOLE | CATCH BASIN | MANHOLE | SIDEWALK | MANHOLE | MANHOLE | MANHOLE | MANHOLE |
| CURB INLET | CURB INLET | CURB INLET | PAVING STONES | CURB INLET | CURB INLET | CURB INLET | CURB INLET |
| JUNCTIONS | JUNCTIONS | JUNCTIONS | PARTIAL DEPTH REPAIR | JUNCTIONS | JUNCTIONS | JUNCTIONS | JUNCTIONS |
| CULVERT | CULVERT | CULVERT | PROPERTY LINE | CULVERT | CULVERT | CULVERT | CULVERT |
| 100 GAS | GAS | 100 GAS | SURVEY BAR | 100 GAS | GAS | 100 GAS | 100 GAS |
| EXISTING | LEGEND-PLAN | PROPOSED | EXISTING | LEGEND-PLAN | PROPOSED | EXISTING | LEGEND-PROFILE |
| | | | | | | | |

UNDERGROUND STRUCTURES

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. | 654271 N 5517192.470 E 632610.651 | DESIGNED BY | CDW |
| ELEV. | 233.084 | DRAWN BY | APH |
| | | CHECKED BY | SSR |
| | | APPROVED BY | DPK |
| | | HOR. SCALE | AS NOTED |
| | | VERTICAL | |
| | | RELEASED FOR CONSTRUCTION | ORIGINAL SIGNED BY B. KIBBINS |
| | | DATE | 11/06/23 |

| | | | |
|-----|------------------------|----------|------------|
| NO. | REVISIONS | DATE | BY |
| 2 | ISSUED FOR ADDENDUM #1 | 11/07/04 | JNC |
| 1 | ISSUED FOR TENDER | 11/06/23 | JNC |
| | | DATE | 2011/06/23 |

DILLON CONSULTING

ENGINEER'S SEAL
PROVINCE OF MANITOBA
ORIGINAL STAMPED BY
S.S. RIHAL
2011/06/22
REGISTERED PROFESSIONAL ENGINEER

THE CITY OF WINNIPEG PUBLIC WORKS DEPARTMENT

BISON DRIVE & PEMBINA HIGHWAY INTERSECTION IMPROVEMENTS

SIGN STRUCTURE - S753 PEMBINA HWY S.B. NORTH OF BISON DR.

CITY DRAWING NUMBER: P-3327-21
SHEET 21 OF 24
CONSULTANT DRAWING NUMBER

CONSULTANT PROJECT NUMBER: 11-4587