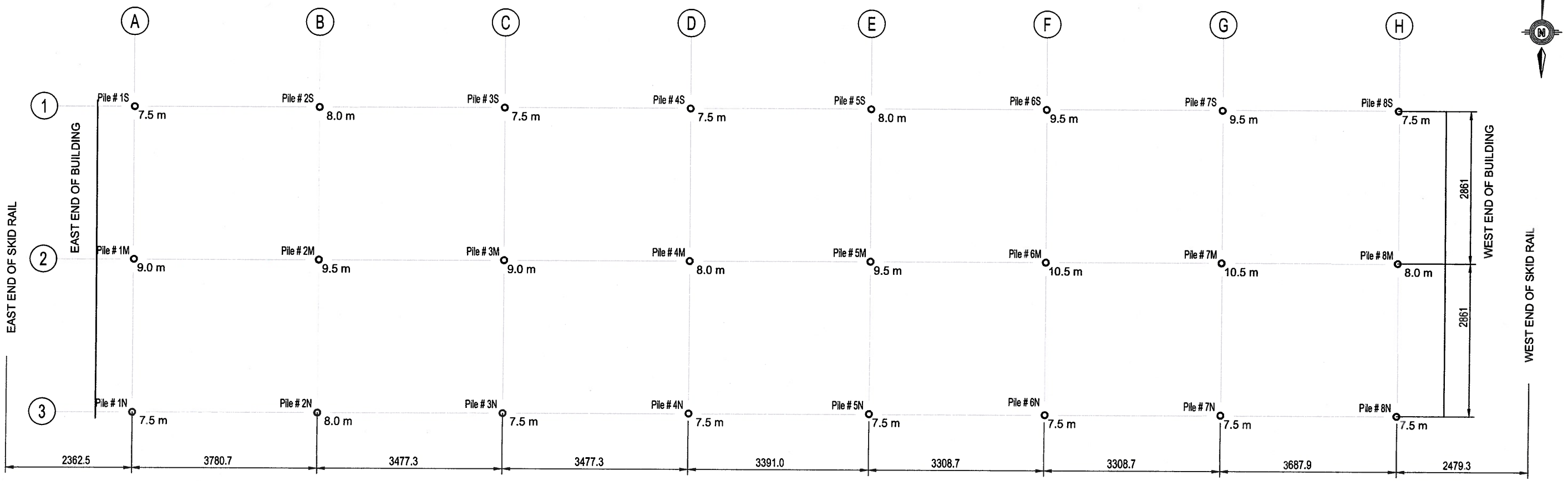


PILE LOAD SUMMARY

Load (kN)	Grid Line A	B	C	D	E	F	G	H	Grid Line
Total Vertical	90	100	90	80	100	120	120	80	1
Service Load	30	32	30	26	36	46	45	26	
Snow Load	13	13	13	13	13	13	13	13	
Lateral Wind	5	4	4	4	4	4	4	5	
Total Vertical	110	120	110	100	120	140	140	100	2
Service Load	33	38	33	28	38	46	47	27	
Snow Load	21	21	21	21	21	21	21	21	
Lateral Wind	5	4	4	4	4	4	4	5	
Total Vertical	70	100	90	80	70	70	80	70	3
Service Load	21	34	31	26	22	22	26	21	
Snow Load	13	13	13	13	13	13	13	13	
Lateral Wind	5	4	4	4	4	4	4	5	

REGISTERED PROFESSIONAL ENGINEER
Oct 30/12
T. E. HOEVE
N.W.T.

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
PERMIT NUMBER
P 018
EBA ENGINEERING CONSULTANTS LTD.

Legend

8.0 m — Denotes minimum embedment below grade for 141 mm diameter adfreeze pile

Note

If bedrock is encountered before indicated depth is reached, end-bearing may be included. Pile embedment may be reduced to 7.5 m or 1.0 m into rock, whichever is deeper.

Estimated Adfreeze Pile Design Parameters

Active Layer	2 m
Porewater Salinity	1 ppt
Mean Annual Ground Temperature	-4.3 °C
Allowable Creep Settlement	30 mm in 30 years
Factor of Safety	2.0
EBA Reference File:	Y14101354

Pile layout and loads derived from

Drawing 2351-ST-301 Rev 02
Baker Lake - Nunavut Potable Water Supply System

by BI Pure Water (Canada) Inc.,
Issued for Approval, March 24, 2012.

Allowable Adfreeze Bonds (kPa)	Pile Diameter 141 mm
Long Term Loads - Dead Load & Sustained Live Load	30
Combined Long Term & Short Term Loads - Including Environmental Loads	55

CLIENT

BI Pure WATER

eba A TETRA TECH COMPANY

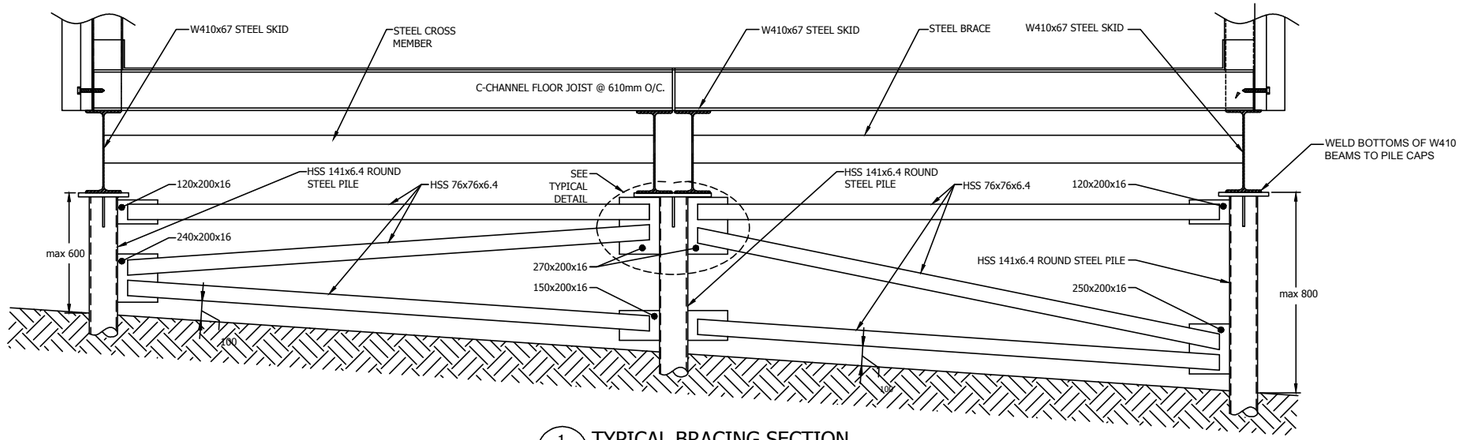
PILE DESIGN
FOR WATER TRUCKFILL PLANT
BAKER LAKE, NT

PILE DESIGN AND CONSTRUCTION PARAMETERS

PROJECT NO.	DWN	CKD	REV
Y14101499	MM	TEH	1

OFFICE: EDM
DATE: October 2012

Figure 1



1 TYPICAL BRACING SECTION
1:15

GENERAL

1. All WORK SHALL BE PERFORMED IN ACCORDANCE WITH NATIONAL BUILDING CODE OF CANADA 2010, THE GNWT SAFETY ACT AND ENVIRONMENTAL REGULATIONS.
2. ALL DIMENSIONS AND ELEVATIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE. VERIFY ALL DIMENSIONS AND ELEVATIONS IN THE FIELD AND REPORT ANY DISCREPANCIES.

LOADING

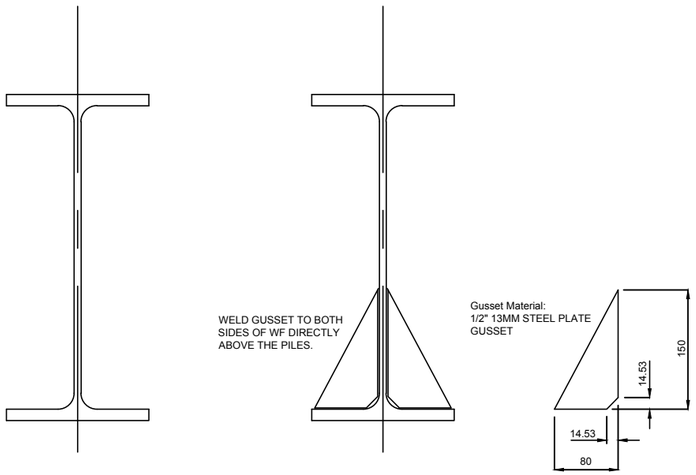
1. ALL LOADS AND FORCES SHOWN ARE SERVICE (UNFACTORED) LOADS IN KILOPASCALS (kPa) AND KILONEWTONS (kN) UNLESS NOTED OTHERWISE.
2. MAXIMUM SERVICE LOADS FOR THE PILES WAS OBTAINED FROM FIGURE 1, "PILE DESIGN FOR WATER TRUCK FILL PLANT, BAKER LAKE, NT. EBA CONSULTANTS, MAY 7, 2012.
3. ENVIRONMENTAL LOADS NBC 2010 BAKER LAKE, NU.

GROUND SNOW LOAD	Ss = 2.9 KPA
RAIN LOAD	Sr = 0.2 KPA
ONE DAY RAIN	55 MM
UNIFORM SNOW	S = 0.8(2.9)+0.2 = 2.52 KPA
WIND - BUILDING CATEGORY II	
Q(1/50) HOURLY PRESSURE	0.54 KPA
Q(1/10) HOURLY PRESSURE	0.42 KPA

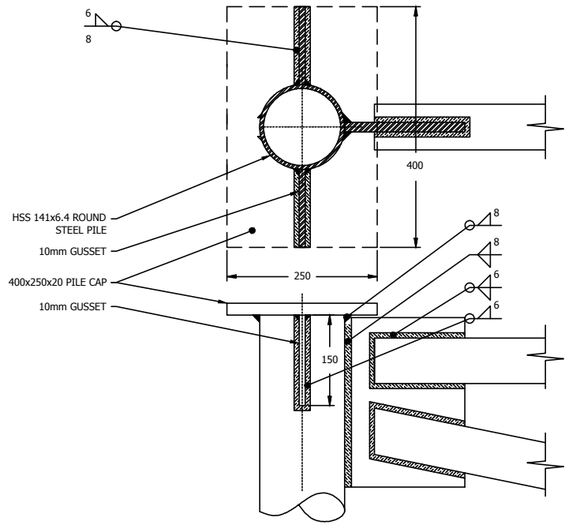
4. SEISMIC
   Sa(0.2) = 0.095, Sa(0.5) = 0.057, Sa(1.0) = 0.027, Sa(2.0) = 0.008, PGA = 0.036
   FOUNDATION CLASS B, Fa=(0.8)
   NBC 4.4.8.4.(6) IF S(0.2)=Fa*Sa(0.2) <= 0.12 THEN SEISMIC CAN BE NEGLECTED
   S(0.2)=0.076 < 0.12 THEREFORE SEISMIC NEED NOT BE CONSIDERED
5. MAXIMUM SERVICE LOADS FOR THE PILES WAS OBTAINED FROM FIGURE 1, "PILE DESIGN FOR WATER TRUCK FILL PLANT, BAKER LAKE, NT. EBA CONSULTANTS, MAY 7, 2012.
6. THE FOUNDATION DESIGN IS BASED ON DRILLED ADFREEZE PILES WITH AN ALLOWABLE BOND CAPACITY OF 50 KPA INSTALLED A MINIMUM OF 1 M INTO BEDROCK WITH THE DETAIL PROVIDED.

MATERIALS

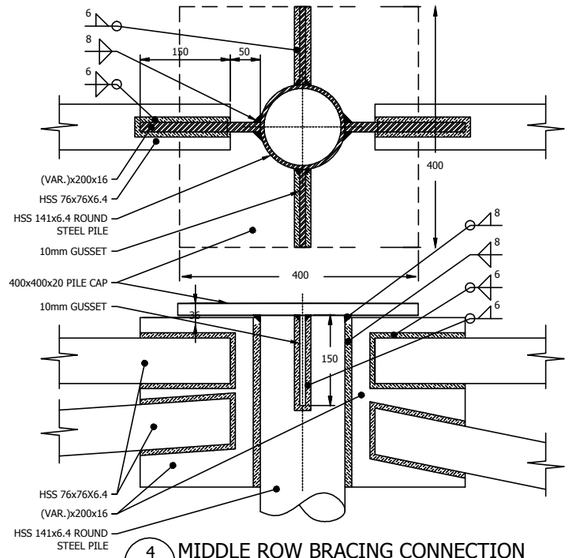
1. ALL PILES WILL BE HSS 141 O.D. X 6.35 WT GRADE 350W CLASS C
2. PLATES AND MISC STEEL WILL BE 300W



2 TYPICAL STIFFENER DETAIL
N.T.S.



3 OUTER ROWS BRACING CONNECTION
1:5



4 MIDDLE ROW BRACING CONNECTION
1:5

THE ASSOCIATION OF PROFESSIONAL ENGINEERS, GEOLOGISTS and GEOPHYSICISTS OF THE NORTHWEST TERRITORIES
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APR 3/12

REGISTERED PROFESSIONAL ENGINEER
3 Oct 2012
S. SEBASTIAN
N.W.T.

CLIENT
BI Pure WATER

PILE DESIGN FOR WATER TRUCKFILL PLANT BAKER LAKE, NT

PILE CAP AND CROSS-BRACING DETAILS

eba A TETRA TECH COMPANY

PROJECT NO.	DWN	CKD	REV
Y14101499	EL	TEH	0
OFFICE: EDM	DATE: September 2012		

Figure 3