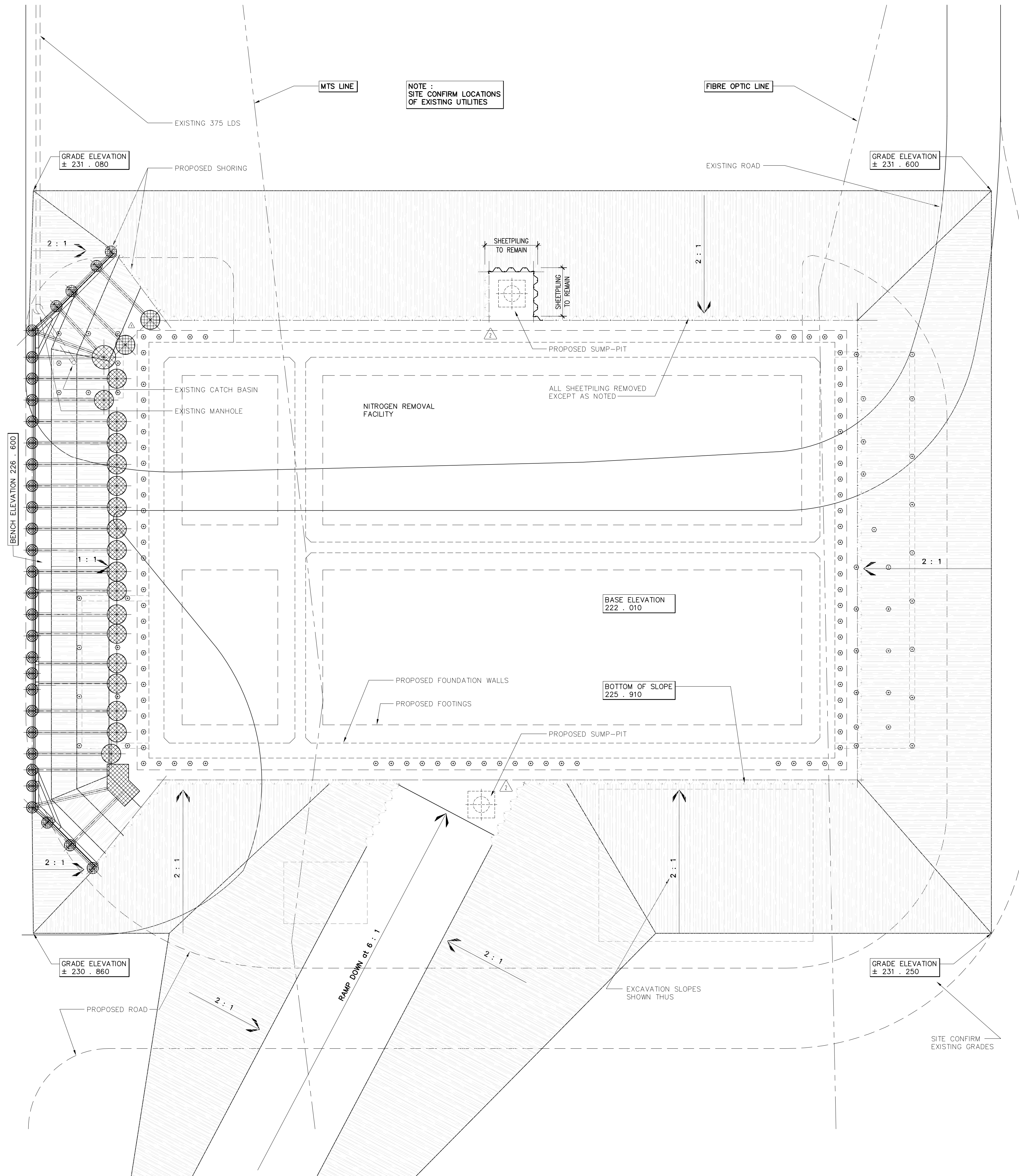
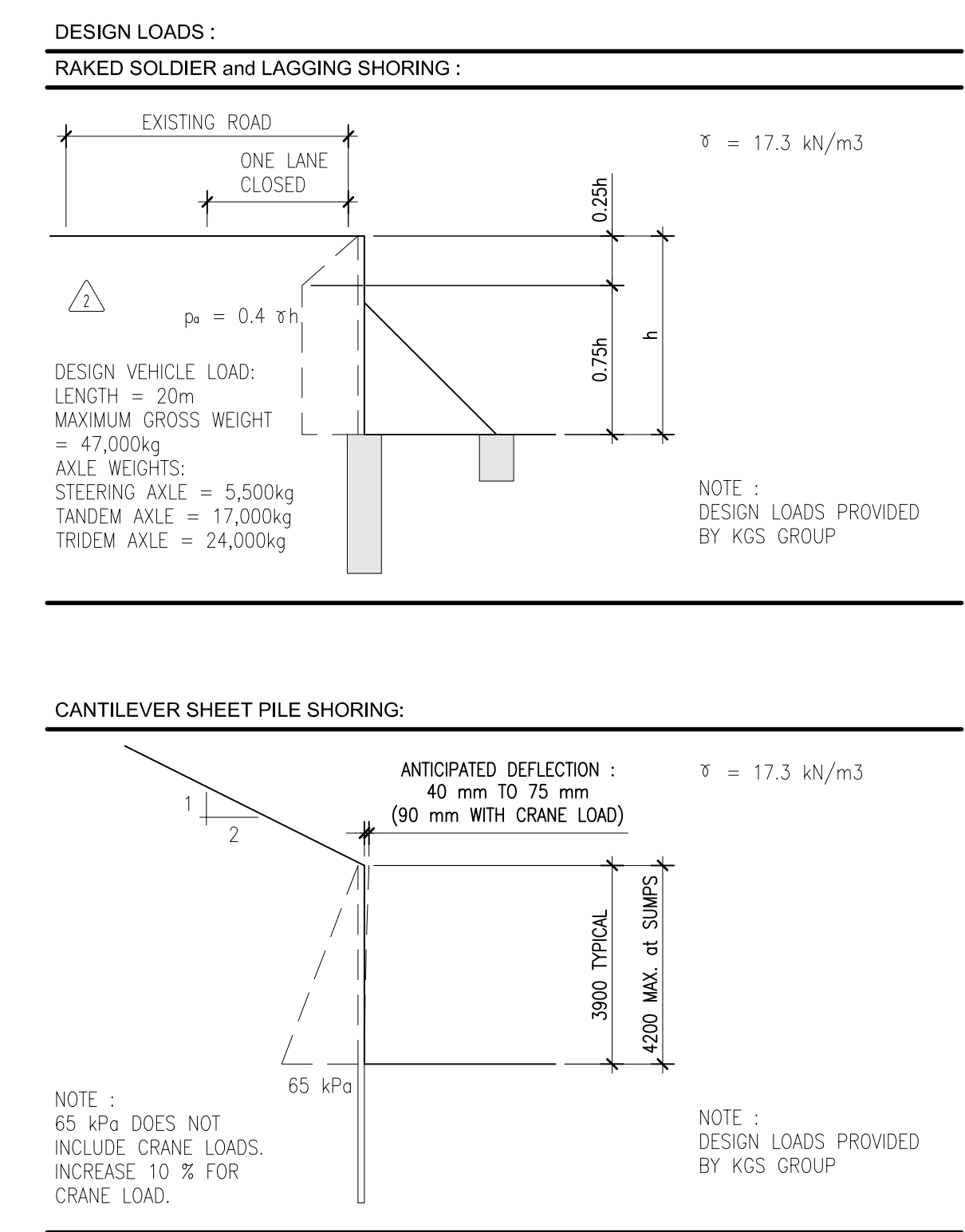


Path of File: I:\Acad-dwg\Drawings\2006\2006-31-Winnipeg-Nitrogen-Removal-Facility-Shoring\TRANSFER\07-10-9-close-out\
 Name of File: SH-1-SHORING-SITE.dwg
 Date of Plot: 10/09/07 Time of Plot: 09:02:57



- SHORING DRAWING LIST:**
- SH-1 SHORING SITE PLAN GENERAL NOTES
 - SH-2 SHORING PLAN
 - SH-3 SHORING SECTIONS
 - SH-4 SHORING DETAILS
- GENERAL NOTES:**
1. SHEET PILING SECTIONS: PZC 18, A572-50 STEEL
 $I_x = 349.0 \times 10^6 \text{ mm}^4/\text{m}$ (255.5 in⁴/L.F.)
 $S_x = 1800.0 \times 10^3 \text{ mm}^3/\text{m}$ (33.5 in³/L.F.)
 2. ALL OTHER STEEL TO BE CSA G40.21 (A) GRADE S50W OR BETTER.
 3. ALL WELDING TO BE DONE BY QUALIFIED WELDERS, IN ACCORDANCE WITH CSA W47.1 AND W59.
 4. DEFLECTION GREATER THAN 25mm SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
 5. ALL CONCRETE FOR PLUGS SHALL BE 20 MPa.
 6. NOTIFY THE DESIGN ENGINEER OF ANY VARIATION AND/OR SITE CONDITIONS THAT VARY FROM THOSE SHOWN.
- SHORING PROCEDURES:**
- A. ALL SERVICES SHALL BE LOCATED AND MARKED ON SITE BEFORE THE INSTALLATION OF SHORING PLUGS & SOLDIERS IS STARTED. CONFLICTS WITH EXISTING AND/OR FUTURE SITE SERVICES SHALL BE BROUGHT TO THE ATTENTION OF THE SHORING DESIGN ENGINEER BEFORE WORK PROCEEDS.
 - B. DRILL HOLES FOR SOLDIER PILES AND PLUGS FROM EXISTING GRADE LEVEL. INSTALL STEEL SOLDIER PILE INTO CONCRETE PLUG. REFER TO PLAN & DETAILS FOR SOLDIER PILE SIZE, PLUG DIAMETER AND LENGTH. ALLOW CONCRETE PLUG TO REACH 18 MPa. NOTIFY THE SHORING DESIGN ENGINEER IF SITE CONDITIONS VARY FROM THOSE SHOWN.
 - C. GENERAL EXCAVATION TO ELEVATION 225.910.
 1. PROVIDE STAGE 1 BENCH AT BRACED SHORING.
 2. INSTALL LAGGING AS EXCAVATION PROCEEDS. BACKFILL BEHIND LAGGING WITH FINE DRY SAND.
 3. INSTALL WALERS AS INDICATED.
 4. INSTALL SHEET PILES. SHEET TIP ELEVATION = 214.318. TOP OF SHEET ELEVATION = 226.510.
 - D. EXCAVATE TO BASE ELEVATION 222.010 (221.710 at SUMP LOCATIONS) and STAGE 2 EXCAVATION AT NORTH END.
 1. INSTALL RAKERS AND RAKER FOOTINGS.
 2. INSTALL LAGGING AS EXCAVATION PROCEEDS. BACKFILL BEHIND LAGGING WITH FINE DRY SAND.
 3. BACKFILL STAGE 3 BENCH AT NORTH END.
 - E. CONSTRUCT NITROGEN REMOVAL FACILITY TO ELEVATION 233.810.
 - F. BACKFILL TO ELEVATION ±228.000. REMOVE SHEET PILING. CUT-DOWN SOLDIERS TO ELEVATION 229.800.
- MONITORING:**
1. REVIEW MONITORING SURVEY PROCEDURES WITH CONSTRUCTION MANAGER PRIOR TO EXCAVATION INSIDE SHORING.
 2. SURVEY SOLDIERS IMMEDIATELY AFTER INSTALLATION PRIOR TO EXCAVATION AND AFTER INSTALLATION OF WALERS AND RAKERS.
 3. RECORD TOP OF SOLDIER ELEVATION AND LATERAL POSITION. SURVEY ON A DAILY BASIS. SUBMIT WEEKLY REPORTS TO CONSULTANTS. RECORD TO INCLUDE INCREMENTAL AND ACCUMULATED MOVEMENTS.
 4. DEFLECTION GREATER THAN 25mm SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.



AS-BUILT

no.	description	by	date
1	AS-BUILT	RUL	APR - 2009
2	REVISED SHORING at EXTERIOR SUMP-PITS	GF	NOV. 29 2006
3	REVISED BENCH / RAKERS R9 - NORTH/EAST CORNER	GF	NOV. 16 2006
4	RELEASED FOR APPROVAL	GF	NOV. 2 2006

Subterranean (Manitoba) Ltd.

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ORIGINAL SIGNED BY
 T. J. COLLYER
 2006/11/16

project
**The City of Winnipeg
 NEWPCC Centrate Nutrient Treatment
 Nitrogen Removal Facility**

title
SHORING SITE PLAN

C. W. ENGINEERING LTD.

designed by : TJC file : 2006-31
 reviewed by : TJC date : Apr. 23, 09
 drawn by : Ge.F.
Subterranean (Manitoba) Ltd.
 reviewed by : P.M. file :
 date :
 sheet : revision :

1-0101C-S0025-001

SH-1

A SHORING SITE PLAN
 scale : 1 : 200