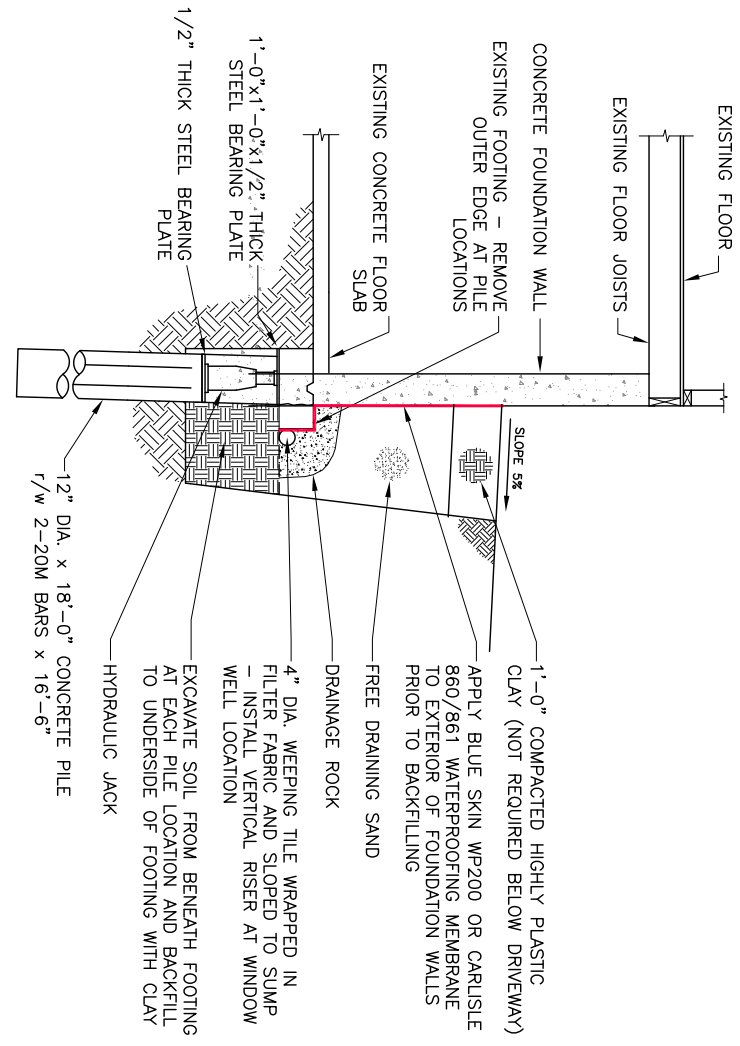


LEGEND:
 PROPOSED UNDERPINNING PILE LOCATION.
 ESTIMATED AMOUNT OF LIFTING REQUIRED AT PILE LOCATION. TO BE CONFIRMED AT TIME OF LIFT.
1 UNDERPINNING PLAN
 SCALE: N.T.S.



2 FOUNDATION WALL UNDERPINNING DETAIL
 SCALE: N.T.S.

NOTES:

GENERAL NOTES:

1. CONTRACTOR RESPONSIBLE TO COMPLETE ALL UTILITY LOCATES PRIOR TO EXCAVATION.
2. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED BY BUILDING CONTRACTOR.
3. INSPECTING CONSTRUCTION OF FOUNDATION SYSTEM TO BE PERFORMED BY THE FOUNDATION ENGINEER.
4. LOCATION OF PROPOSED PILES TO BE CONFIRMED BY FOUNDATION ENGINEER ON SITE (ONCE EXISTING PILES/FOOTINGS ARE EXPOSED).
5. IF FOUNDATION SYSTEM IS TO BE LIFTED, LIFT SLOWLY AND UNIFORMLY TO PREVENT DAMAGE TO FOUNDATION SYSTEM AND BUILDING STRUCTURE. CONTRACTOR TO MONITOR FOUNDATION WALLS AND GRADE BEAM CONTINUOUSLY DURING LIFT.
6. ANY DAMAGE WHICH OCCURS DURING LIFTING TO BE REPORTED TO THE FOUNDATION ENGINEER.
7. AFTER FOUNDATION WALLS HAVE BEEN RAISED TO DESIRED LEVEL, MONITOR PILES FOR A MINIMUM OF 24 HOURS FOLLOWING COMPLETION OF LIFTING PRIOR TO COMMENCEMENT OF BACKFILLING. ANY SETTLEMENT IS TO BE REPORTED TO THE FOUNDATION ENGINEER.
8. STEEL STRUTS TO BE INSTALLED BETWEEN TOP OF BORED CONCRETE PILE AND FOUNDATION WALL. HYDRAULIC JACK TO BE REMOVED AND VOID FILLED WITH CONCRETE. ALTERNATIVELY, HYDRAULIC JACK CAN BE LEFT IN PLACE AND VOID FILLED WITH CONCRETE.
9. FINAL GROUND SURFACE SHALL SLOPE AWAY FROM HOUSE (MINIMUM 5% GRADE) TO PROVIDE POSITIVE SURFACE DRAINAGE OF WATER.

CONCRETE

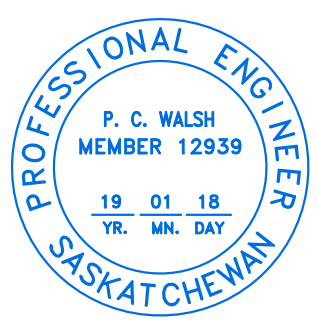
1. CONCRETE SHALL BE PRODUCED, TRANSPORTED AND PLACED ACCORDING TO CSA A23.1/1/2.
2. CONCRETE SHALL MEET REQUIREMENTS FOR EXPOSURE CLASS S-2 (CAN/CSA A23.1&2); HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32.0 MPa AT 56 DAYS AND BE MADE WITH HS OR HSB CEMENT.
3. MAXIMUM AGGREGATE SIZE: 20mm.
4. SLUMP: 80-120mm FOR ALL PILE CONCRETE, 50-100mm FOR ALL OTHER CONCRETE.
5. AIR CONTENT: 5 ± 1 PERCENT FOR ALL CONCRETE.
6. ALL CONCRETE SHALL BE VIBRATED TO PROVIDE CONSOLIDATION.

BORED CONCRETE PILES

1. BORED PILES TO BE CAST-IN-PLACE FRICTION PILES. LENGTHS SPECIFIED ARE MINIMUM.
2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 32.0 MPa AT 56 DAYS AND BE MADE WITH HS OR HSB CEMENT.
3. PILES SHALL BE SLEAVED AS REQUIRED TO PREVENT INGRESS OF SOIL AND/OR GROUNDWATER INTO THE BOTTOM OF THE PILE HOLE.
4. PILE TOPS TO BE FORMED TRUE AND NEAT WITH SONOTUBE FORMS.
5. PILE LAYOUT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
6. PLACE CONCRETE IN PILES WITHIN 2 HOURS AFTER COMPLETION OF EXCAVATION.
7. PILE HOLES HAVING WATER SEEPAGE RISING FASTER THAN 1 INCH PER MINUTE SHALL BE REPORTED TO THE SOILS ENGINEER IMMEDIATELY FOR APPROVAL AS TO THE PROPOSED METHOD USED IN DEMATERING AND POURING THE PILE. PILES NOT TO BE POURED WITH MORE THAN 8 INCHES OF WATER IN THE BOTTOM OF THE HOLE.

REINFORCING STEEL

1. STEEL REINFORCEMENT SHALL BE NEW BILLET INTERMEDIATE GRADE DEFORMED BARS MEETING C.S.A. STANDARD G30.12 GRADE 400 (fy=400 MPa).
2. CONCRETE COVER:
 - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO GROUND - 3 INCHES - CONCRETE EXPOSED TO WEATHER OR SOIL AFTER REMOVAL OF FRAMEWORK - 1.5M AND SMALLER - 1.5 INCHES AND LARGER - 2.0 INCHES - CONCRETE NOT EXPOSED TO WEATHER OR SOIL AFTER REMOVAL OF FRAMEWORK - SLABS, WALLS AND JOISTS (3.5M AND SMALLER), 3/4 INCHES - BEAMS, GIRDERS AND COLUMNS, 1.5 INCHES
 3. REINFORCING STEEL DETAILS SHALL BE IN ACCORDANCE A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (A.C.I. 315.74).



GROUND ENGINEERING CONSULTANTS LTD.

CIVIL & GEOENVIRONMENTAL ENGINEERS
 415-7th AVENUE
 REGINA, SASKATCHEWAN, CANADA

PROPOSED FOUNDATION UNDERPINNING
 2736 LACON STREET
 REGINA, SASKATCHEWAN

CLIENT:	APPROVED:	DATE:	DWG. No.:
MS. DEBBY KUNTZ	P. WALSH	JANUARY 18, 2019	GE-1-6118-1

A.P.E.G.S. CERTIFICATE OF AUTHORIZATION No.8