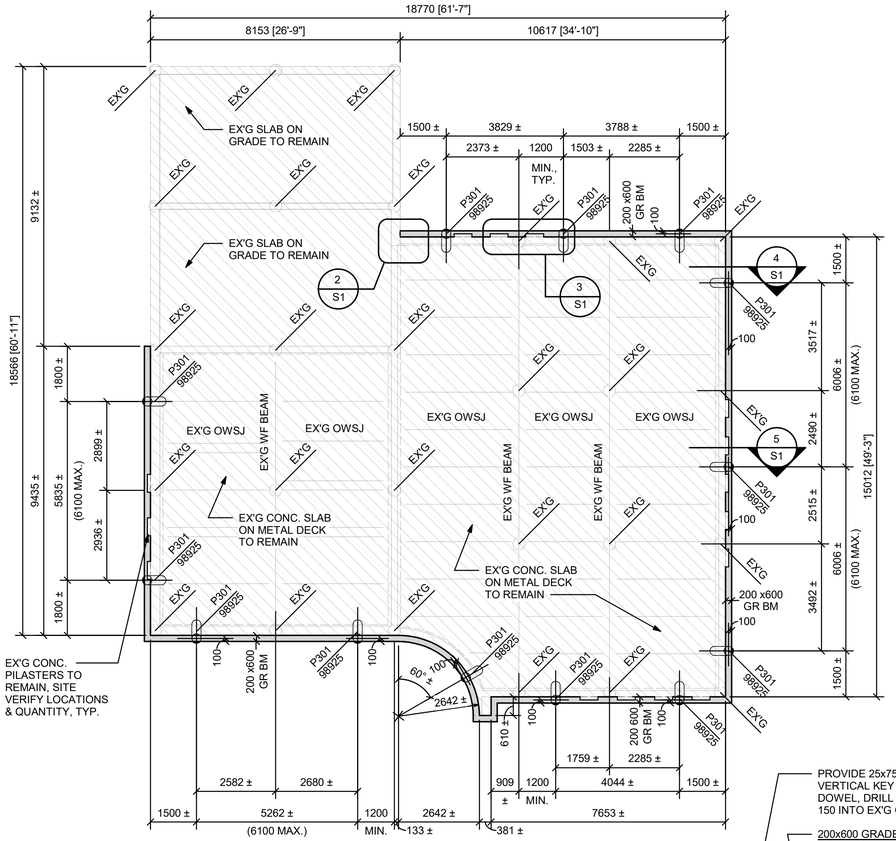


MAIN FLOOR PLAN

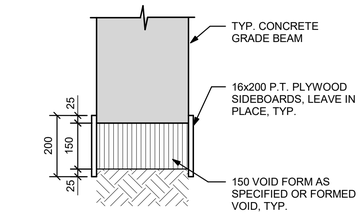
1 / S1 — 1 : 100

NORTH

PILE MARK NO.
PILE CUTOFF ELEV.

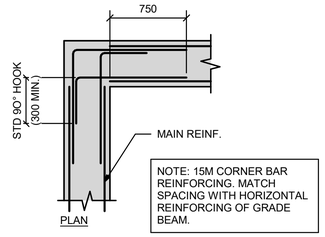
NOTES:

1. PILES DENOTED ON PLAN THUS:
   - P301 DENOTES 300Ø x3600LG BATTERED PILE c/w 2-20Mx1100LG DOWELS TO GRADE BEAM, TYP.
2. T/O EXISTING MAIN FLOOR @ ELEVATION 100000.



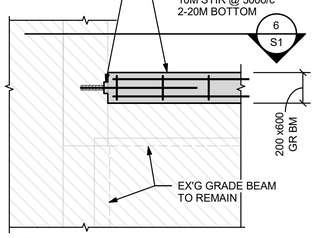
TYP. VOID FORM DETAIL

A / S1 — NTS



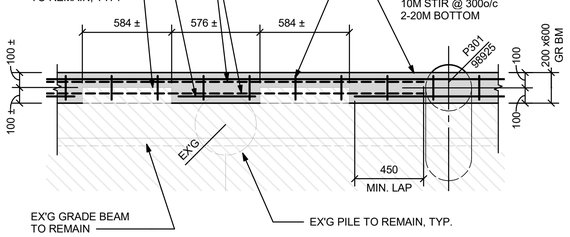
TYP. GRADE BEAM INTERSECTION

B / S1 — NTS



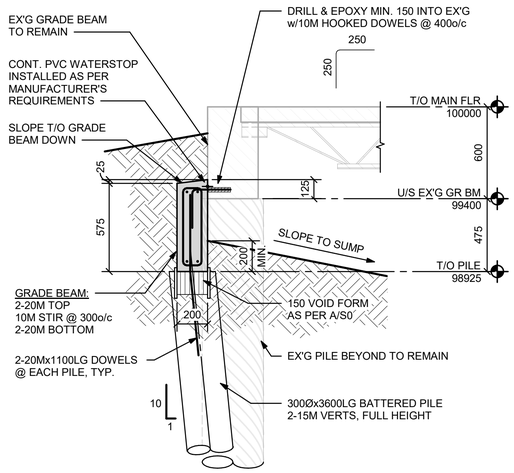
PLAN DETAIL @ KEY

2 / S1 — 1 : 20



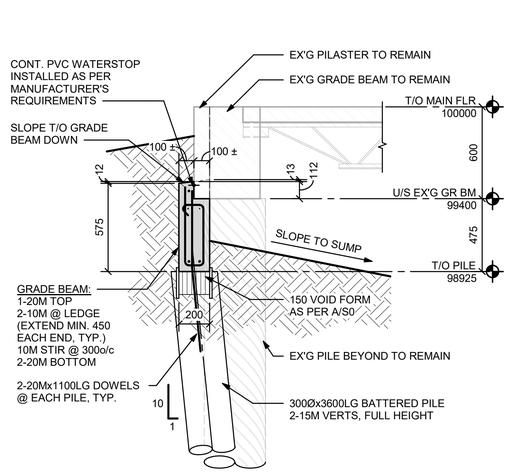
PLAN DETAIL @ PILASTERS

3 / S1 — 1 : 20



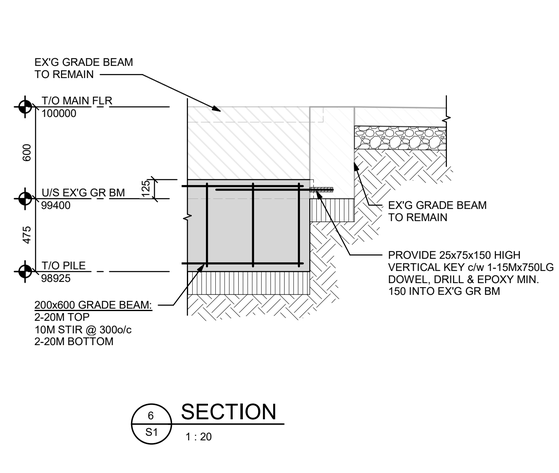
SECTION

4 / S1 — 1 : 20



SECTION

5 / S1 — 1 : 20



SECTION

6 / S1 — 1 : 20

DRAWING SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

1.1 General Notes
1. General Specifications - National Building Code of Canada 2015. Contractor shall read Structural drawings in conjunction with Architectural drawings. Unless noted otherwise, typical details apply throughout. All dimensions in millimetres.

1.2 Discrepancies
1. Report any discrepancies to the Consultant before proceeding with the work.

1.3 Existing Construction
1. All information concerning existing construction has been taken from original drawings and site measurements. Contractor to confirm on site all existing dimensions, elevations and details prior to commencing work. Should information differ significantly from those shown, consult the Consultant prior to proceeding. All existing construction altered or damaged during course of work to be made good to match.

1.4 Shop Drawings
1. Contractor to submit paper or pdf copies of premanufactured structural materials to the Consultant for review prior to fabrication.

1.5 Temporary Works
1. Contractor is responsible for the design, construction and maintenance of all temporary works as may be required during the course of construction. Temporary works include, but are not limited to, shoring, scaffolding and bracing required to stabilize the structure until permanent structure is in place. Contractor to engage professional design services where required to comply with applicable Code requirements.

DIVISION 2 - SITEWORK

2.1 Bored Piles
1. Excavate pile shaft to minimum dimensions indicated. Provide casing if required due to water, sloughing or caving. Hang reinforcement centrally in hole and place concrete within 12 hours of excavating pile. Vibrate concrete as placing proceeds.

DIVISION 3 - CONCRETE

3.1 Concrete Reinforcement
1. All reinforcing steel, unless noted otherwise, shall be deformed bars of high strength new billet steel conforming to CSA G30.18-09 (R2014), Grade 400.
2. Minimum lap splice for 10M bars to be 450mm. Minimum lap splice for 15M bars and larger to be 36 bar diameters or 675mm, whichever is greater.
3. All reinforcing bars to be continuous, unless noted otherwise.
4. Lap reinforcing where noted on drawings. Otherwise, lap top bars at midspan; bottom bars at supports as required for length.
5. Pile ties and beam stirrups shall conform to CSA G30.18-09 (R2014), Grade 300.
6. Perform concrete reinforcing in accordance with CSA-A23.1/A23.2-14.

3.2 Cast-in-Place Concrete
1. Perform cast-in-place concrete work in accordance with CSA A23.1/A23.2-14, "Concrete Materials and Methods of Concrete Construction".
2. Cement to CSA A3000-13, "Portland Cements", and aggregates to CSA-A23.1/A23.2-14, "Concrete Materials and Methods of Concrete Construction".
3. Submit concrete mix designs to Consultant for review.
4. Proportion normal density concrete in accordance with CSA A23.1/A23.2-14 Alternative 1, to give the properties in accordance with the following table:

Type	Location	Exposure Class	Strength f'c(MPa)	Aggregate max(mm)	Slump mm	Total Air %
.1	Piling	S-2	32 @ 56d	40	80±30	3 to 6
.2	Grade Beams	S-2	32 @ 56d	20	80±30	4 to 7

3.3 Concrete Testing
1. Contractor to arrange and pay for concrete tests. Take 1 set of tests for each 50 cubic metres of concrete cast or each days casting. Tests to include:
   a. 3 test cylinders plus 1 additional cylinder for cold weather concreting. Additional cylinder to be cured under job conditions.
   b. 1 slump test.
   c. 1 air content test.
2. Submit test results to Consultant.
3. Tests to be performed by CSA approved agency.
4. Concrete testing to CSA A23.1/A23.2-14.

3.4 Concrete Formwork
1. To conform to applicable requirements of CSA-A23.1/A23.2-14 Concrete Materials and Methods of Construction, CSA S296.1-16 Falsework and Formwork and CSA S269.3-M92 (R2013) Concrete Formwork Welding Requirements.

3.5 Concrete Accessories
1. Concrete Anchors : Sizes as detailed on drawings, Standard embedment and installation as per Manufacturers Specifications.
   1. Light & Medium Duty Expansion Anchors
      a. Uncracked Concrete (in compression) - to be Hilti Kwik Bolt 3 or approved alternate.
      b. Cracked Concrete (in tension) – to be Hilti Kwik Bolt TZ or approved alternate.
   2. Heavy Duty Sleeve Anchors to be Hilti HSL-3 series or approved alternate.
   3. Screw Type Anchors to be Hilti Kwik-HUS-EZ or approved alternate.
   4. Drop-In Anchors to be Hilti HDI Anchors or approved alternate.
   5. Heavy Duty Undercut Anchors to be Hilti HDA series or approved alternate.
   6. Injection Adhesive Anchors for hollow or grout filled masonry to be Hilti HIT-HY 70 or approved alternate c/w specified rod, washer and nut.
   7. Injection Adhesive Anchors for concrete to be;
      a. Fast Set - Hilti HIT-HY 200-A Safe Set or approved alternate.
      b. Medium Set – Hilti HIT-HY 200-R Safe Set or approved alternate.
      c. Slow Set or deep cored holes – Hilti RE 500V3 or approved alternate.
      d. Cold Weather - Hilti HIT ICE (cold weather below -10C) or approved alternate.
      e. All systems complete with specified rods (HAS-E, HAS Super, SS304/316), washer and nut.
2. Concrete Patching Material:
   - Pre-packaged, polymer modified, cementitious product containing graded natural aggregate. Planitop X - Rapid Setting Mortar as manufactured by Mapei Inc. or approved equal.
3. Cement Grout Capsules:
   - Reinforcing steel detailed to be installed in pre-placed concrete to be anchored using Lafarge Fondu Cement Grout Capsules M3RR or approved equal.

3.6 Void Form: to comply with either of the following.
1. Biodegradable Void Form
   - 150mm deep, structurally sufficient to support weight of wet concrete and other superimposed loads without collapsing until concrete has gained sufficient strength to support these loads after which time the form must promptly degrade. Do not wrap void form. UNDER NO CIRCUMSTANCES may void form be installed over poly ground sheet, substitute with Compressible Void Form. The onus is entirely on the Contractor and Supplier to ensure that the void form is installed to perform as intended.
2. Compressible Void Form
   - GeoVoid (below slabs) or GeoSpan (below walls & grade beams) compressible void form by Plasti-Fab designed by supplier for 150mm soil heave, installed to suppliers specifications.

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BBK STRUCTURAL ENGINEERS
BROWNLEE BEATON KREKE

PROFESSIONAL ENGINEER
S.G. KREKE
MEMBER 12170
18/05/31
SASKATCHEWAN

Association of Professional Engineers & Geoscientists of Saskatchewan
CERTIFICATE OF AUTHORIZATION
BROWNLEE BEATON KREKE (REGINA) LTD.
NUMBER 525
PERMISSION TO CONSULT HELD BY:
DISCIPLINE | SASK. REG No. | SIGNATURE
STRUCTURAL | 12171 | SGK

DO NOT SCALE DRAWINGS

0	ISSUED FOR TENDER	2018-05-31
Revision/ Revision	Description/Description	Date/Date

Client/client

Project title/Titre du projet

POLICE BUILDING CRAWLSPACE REMEDIATION FILLMORE, SK

Approved by/Approuve par

Designed by/Concept par
SK

Drawn by/Dessine par
ST

RCMP Project Manager/Administrateur de Projets GRC
CS

RCMP, Architectural and Engineering Resources Manager/ Ressources Architectural et de Directeur d'Ingénierie, GRC

Client/client

Drawing title/Titre du dessin

PLAN, DETAILS & SPECIFICATIONS

Project No./No. du projet	Sheet/Feuille	Revision no./ La Révision no.
49/2017	**S1** OF **XX**	**0**

BBK PROJECT No. 107920

PWGSC - A1 - 841X594

0 10 20 30 40 50 60 70 80 90 100mm

x-49-17 Titleblock