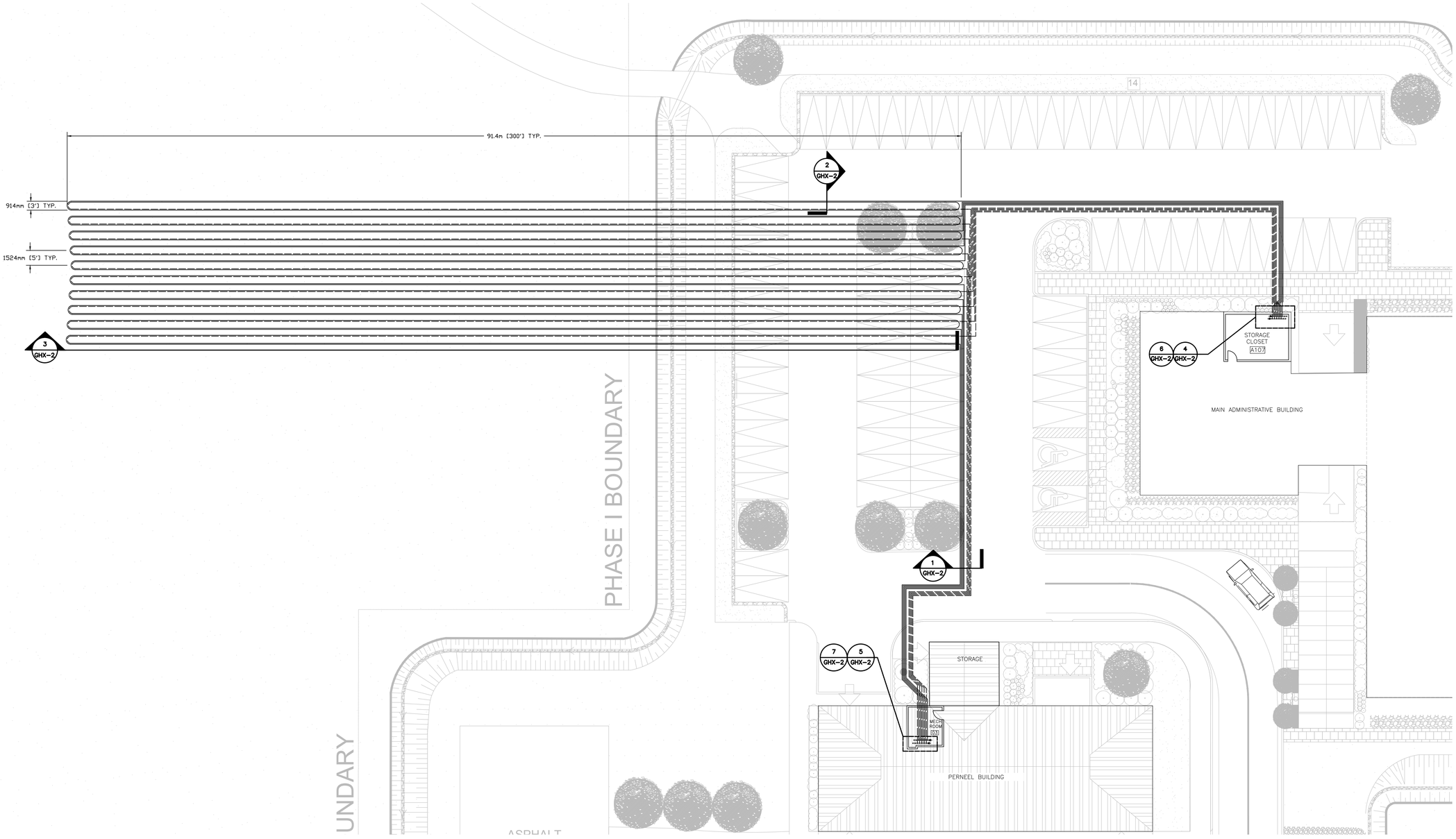
GENERAL NOTES:

1. THE GROUND HEAT EXCHANGER (GHX) CONSISTS OF 10 HORIZONTAL CIRCUITS. EACH CIRCUIT TO BE 365.8m [1,200'] IN LENGTH AND TO HAVE FOUR PASSES, WITH 32mm [1.25"] HDPE SDR11 PE4710 PIPE FOR A TOTAL OF 3,658m [12,000'] OF PIPING.
2. A MINIMUM FLOW RATE OF 0.63 L/S [10 USGPM] AT 137 KPA [46 FT. OF HEAD] AT 10°C [50°F] OF WATER FOR EACH 32mm [1.25"] ø CIRCUIT IS REQUIRED FOR FLUSHING AND PURGING OF THE GHX BEFORE COMMISSIONING.
3. HEAT TRANSFER FLUID TO BE USED IS 25% BY VOLUME PROPYLENE GLYCOL, PREMIXED WITH SUITABLE CORROSION INHIBITORS BY MANUFACTURER. MIXTURE TO HAVE A FREEZE PROTECTION TO -10°C [14°F].
4. AVOID SHARP BENDS IN PIPING. MINIMUM BEND RADIUS IS 25 TIMES THE OUTER DIAMETER FOR ANY PIPE CURVATURE. USE ELBOWS FOR ALL SMALLER RADII.
5. ALL TRENCHES AND PIPING TO BE A MINIMUM OF 1.5m [5'] FROM PROPERTY LINES AND BUILDING STRUCTURES.
8. NO PETROLEUM BASED PRODUCTS ARE TO BE IN CONTACT WITH HDPE PIPE.
9. ALL PIPES AND FITTINGS ARE TO BE HDPE PE4710 RESIN.
10. SOCKET FUSION (NOT GREATER THAN 50mm [2"ø]), BUTT FUSION, SIDEWALL SADDLE FUSION OR ELECTROFUSION, AS PER MANUFACTURERS INSTRUCTIONS, ARE THE ONLY ACCEPTABLE METHODS OF JOINING HDPE PIPE.
11. FUSIONS ARE TO BE PERFORMED BY ACCREDITED FUSION INSTALLERS.
12. ALL INDIVIDUAL CIRCUITS TO BE CAPPED AND PRESSURIZED TO 104 kPa [15 PSIG] USING FUSION WELDED END CAPS ONCE INSTALLED. PIPING MUST MAINTAIN PRESSURE BEFORE BACKFILL OR TYING INTO RUNOUT HEADER. IF CIRCUIT PIPING PRESSURE IS NOT MAINTAINED THROUGHOUT THE ENTIRELY OF THE CONSTRUCTION, CONSULTANT HAS THE RIGHT TO REQUIRE A FLOW TEST FOR ALL CIRCUIT PIPING ON-SITE.
13. AFTER TIE IN, ALL PIPING MUST BE PRESSURE TESTED TO 690 kPa [100 psig] (2 TIMES THE WORKING PRESSURE) FOR 48 HOURS. PRESSURE TESTING START AND FINISH PRESSURES AND TIMES TO BE WITNESSED BY CONSULTANT OR DESIGNATED REPRESENTATIVE.
14. PRIOR TO BACKFILL CONTRACTOR SHALL SUBMIT VISUAL EVIDENCE OF SATISFACTORY WORK TO CONSULTANT FOR APPROVAL. INADEQUATE INFORMATION MAY REQUIRE RE-EXCAVATION OF TRENCHES.
15. A METALLIC TRACER WIRE, CAPABLE OF BEING FOUND BY CONVENTIONAL TRACING EQUIPMENT MUST BE INSTALLED WITH RUNOUT PIPING, AND HEADERS. WARNING TAPE TO BE BURIED 457mm [1.5'] ABOVE ALL TRENCHED PIPE.
16. ALL TRENCHES TO BE BACKFILLED USING EXCAVATED SPOILS OR OTHER NATIVE SOIL IF SUITABLE FOR BACKFILL.
17. GHX CONTRACTOR RESPONSIBLE FOR ON-SITE CLEANLINESS, AND DISPOSING OF ANY EXCESS OR UNSUITABLE SOILS.



1 GHX LAYOUT
Scale: 1:200

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERROS AND/OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

tHIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

DO NOT SCALE DRAWINGS
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1	ISSUED FOR REVIEW	06.10.2017
#	ISSUED FOR:	DD.MM.YY

REVISIONS:

STAMP / SEAL:

NORTH ARNOW:

CLIENT:

CONSULTANT

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PROJECT TITLE:

McNAB / BRAESIDE TOWN CENTRE

ARNPRIOR ONTARIO

SHEET TILE:

GROUND HEAT EXCHANGER LAYOUT

DRAWN:	CHECKED:
AT	GFR
SCALE: 1:200	SHEET No: GHX-1
PROJECT No: 21688	

PAPER SIZE: ARCH D (24in X 36in)

PLOT SCALE: 1:1

FILE LOCATION:

PLOT DATE: