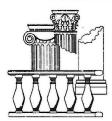
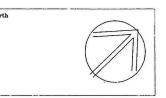


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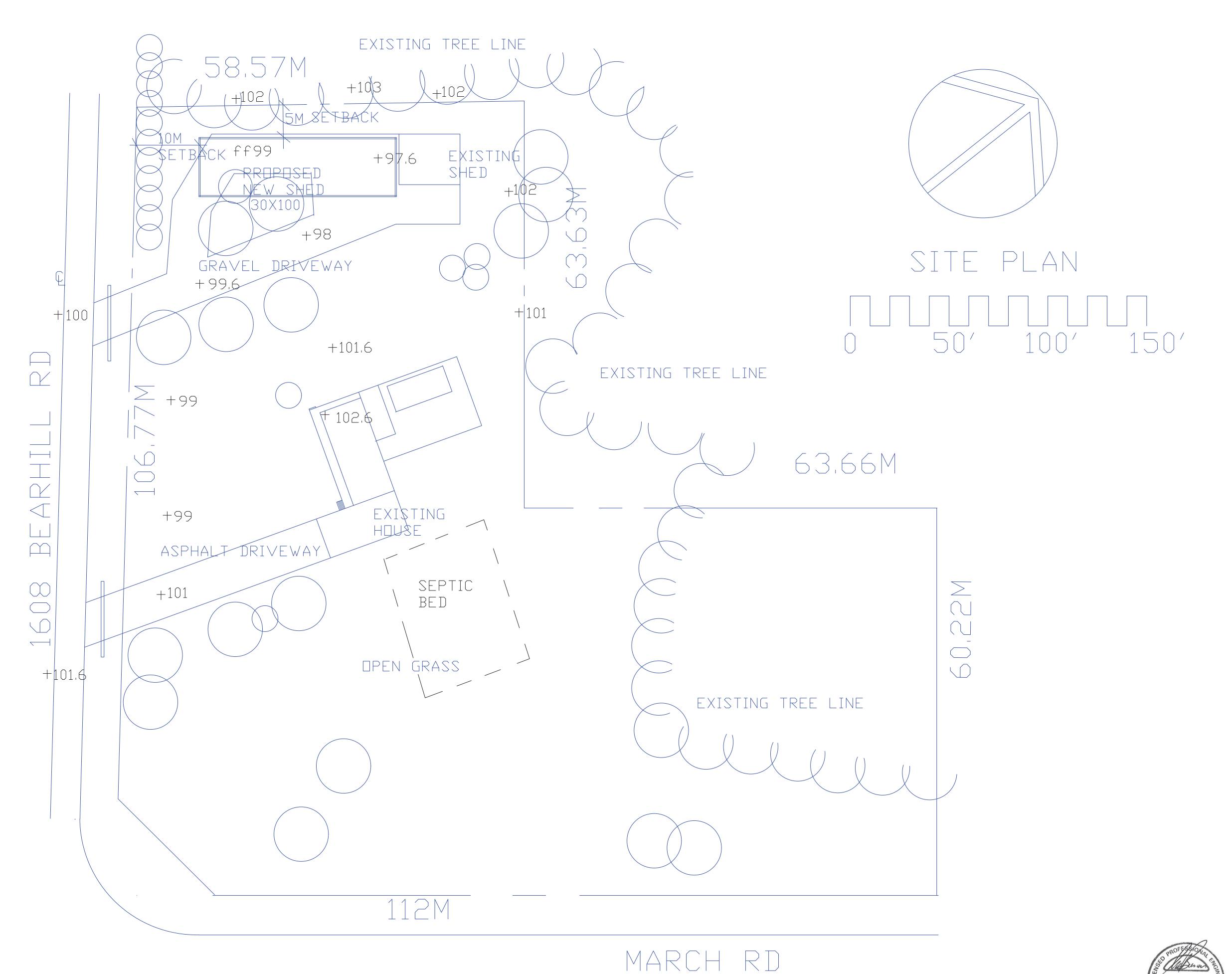


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PROPOSED NEW STORAGE SHED SITE PLAN

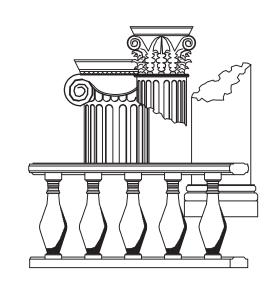
Not	for construction until signed by client.	
approved	date	
drawn by	ez.jr. b.arch.	dwg.no.
co ordina	tor	job no
designer	GB	
scale	1/4" = 1'0"	
date	DECEMBER 2018	



date description

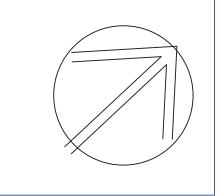
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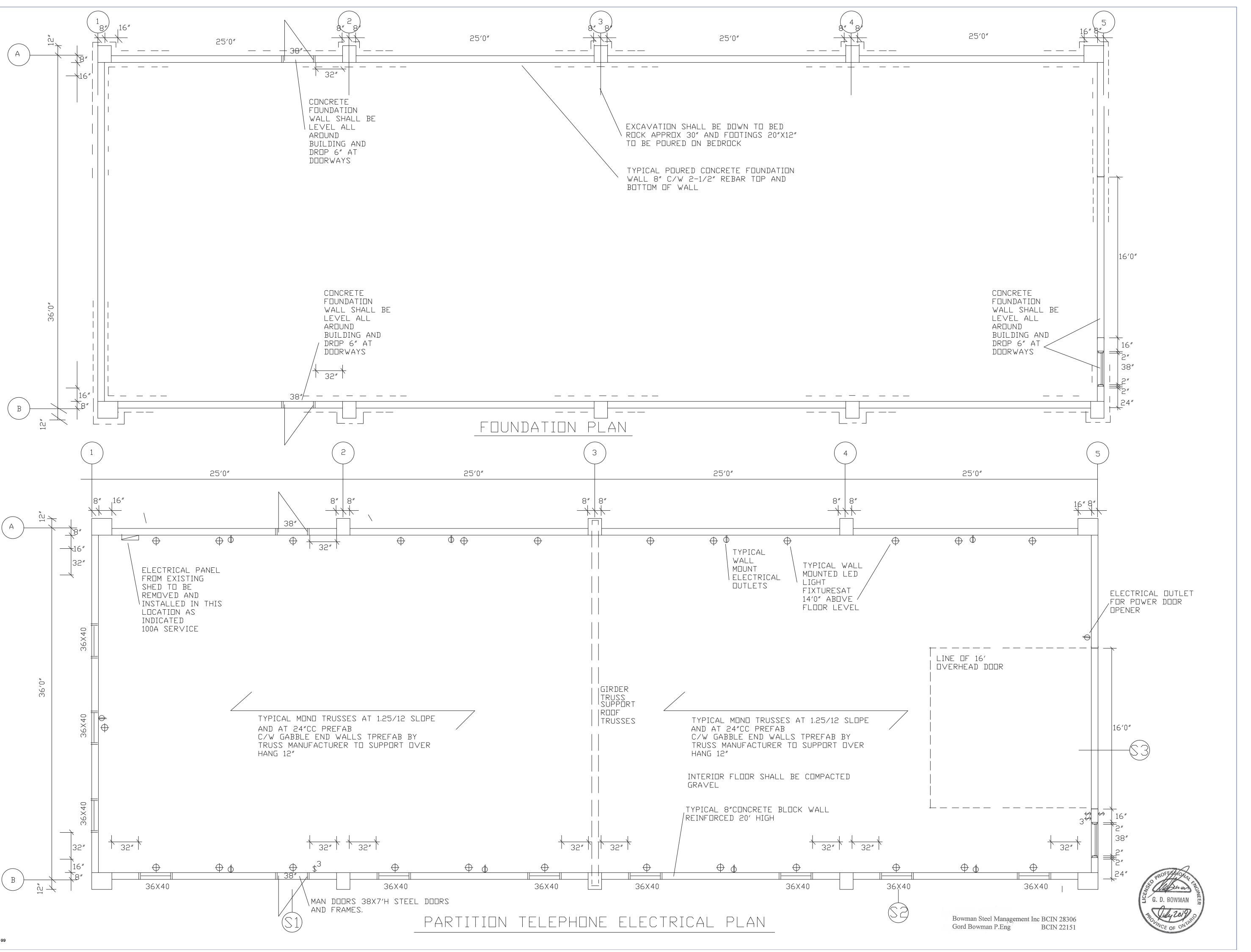
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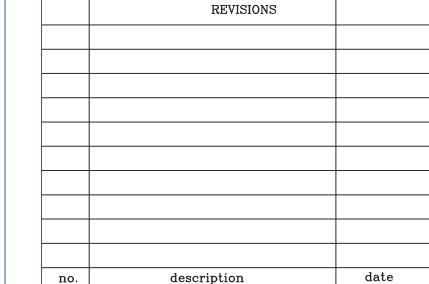
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PROPOSED NEW STORAGE SHED SITE PLAN

date		
date	DECEMBER 2018	
scale	1/4" = 1'0"	
designer	GB	
co ordinator	-	job no.
drawn by	ez.jr. b.arch.	dwg.no.
approved	date	
37 1 6	construction until	

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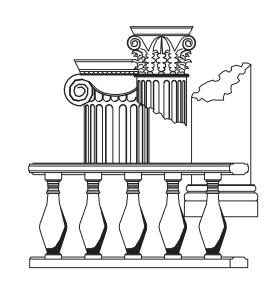




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to the designer before work
continues or the contractor will be
held responsible
Each contractor shall be responsible

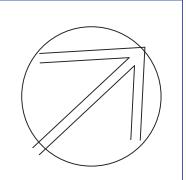
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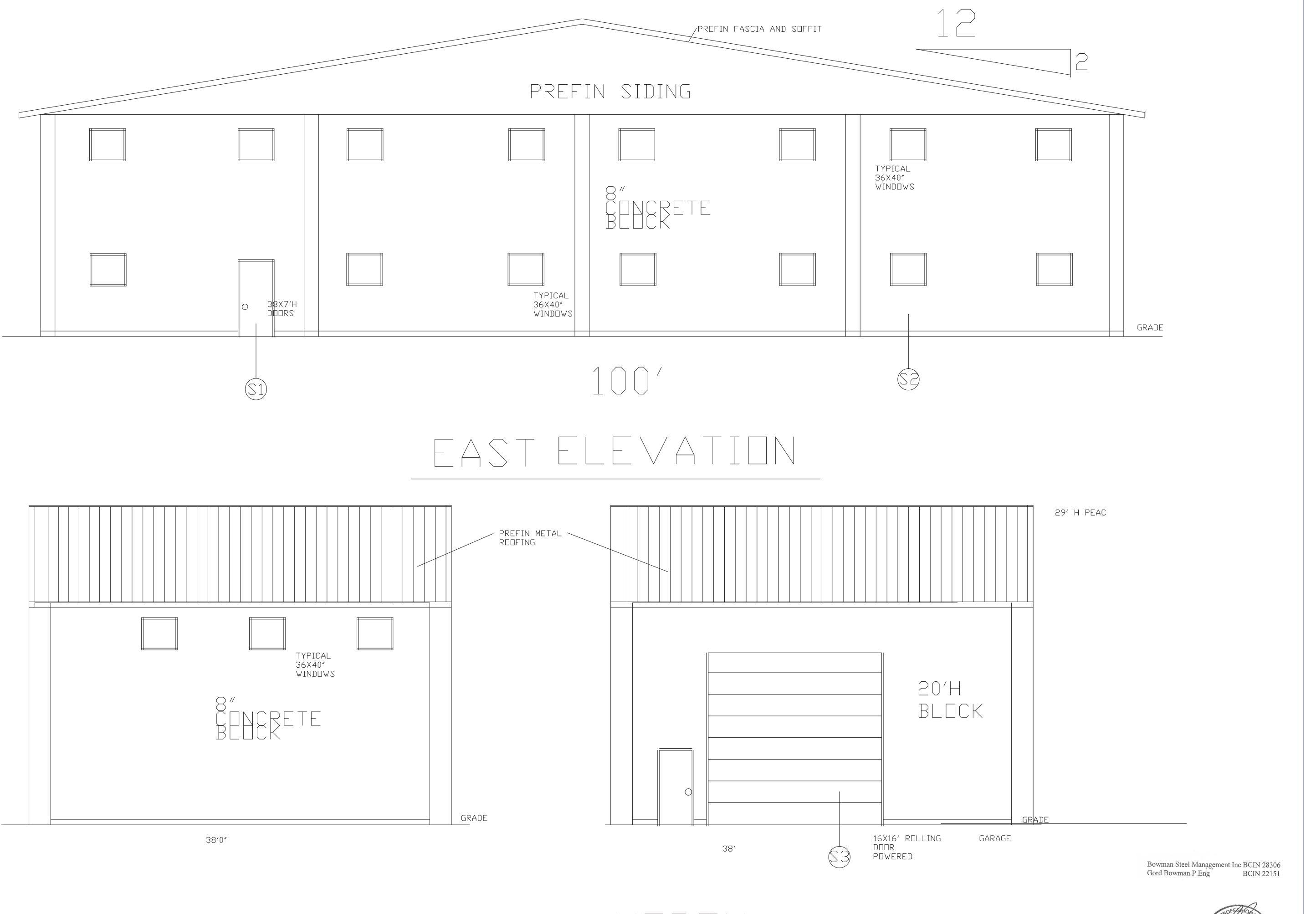
client

RAY RESIDENCE 1608 BEARHUILL RD DTTAWA

title RAY RESIDENCE 1608 BEARHUILL RD DTTAWA

PROPOSED NEW STORAGE SHED FOUNDATION PLAN PARTITION TELEPHONE ELECTROAL PLAN

date	DECEMBER 2018	
scale	1/4" = 1'0"	
designer	GB	
co ordinator	•	job no.
drawn by	ez.jr. b.arch.	dwg.no.
approved	date	
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	construction until gned by client.	

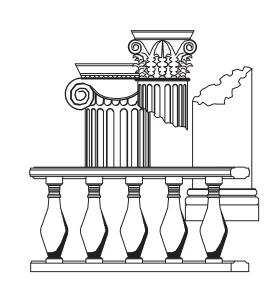


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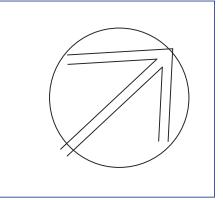
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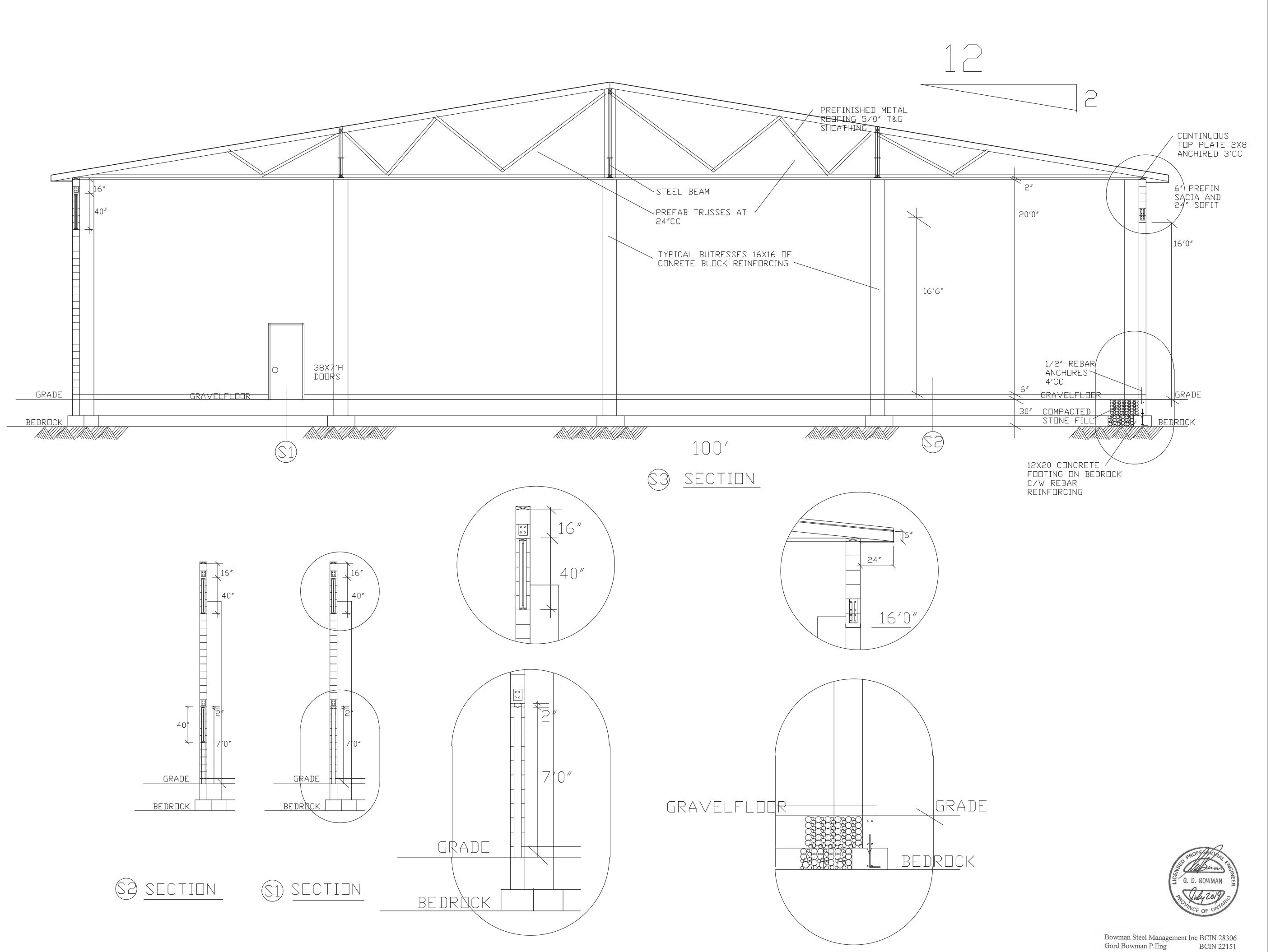


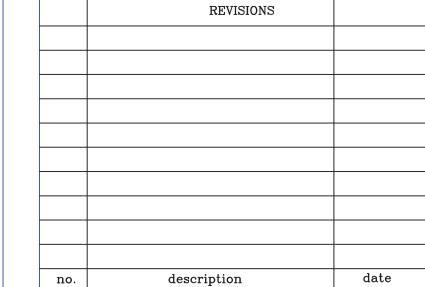
1608 BEARHUILL RD OTTAWA

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PROPOSED NEW STORAGE SHED ELEVATIONS

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designer	GB	
co ordinator		job no
drawn by	ez.jr. b.arch.	dwg.no
approved	date	
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	construction until	

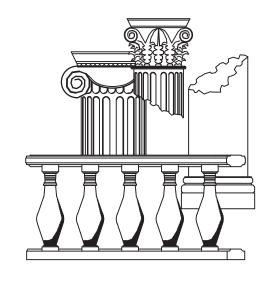




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PROPOSED NEW STORAGE SHED SECTIONS AND DETAILS

date	DECEMBER 2018	
scale	1/4" = 1'0"	
designer	GB	
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drawn by	ez.jr. b.arch.	dwg.no.
drawn by	ez.jr. b.arch.	dwg.no.

FOUNDATIONS

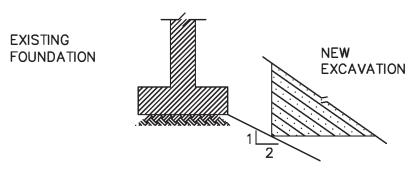
1.1 BEARING:

ALL FOOTINGS TO BEAR ON UNDISTURBED SOIL WITH A MINIMUM ALLOWABLE SOIL BEARING PRESSURE AT SERVICEABILITY LIMIT STATES (SLS=150 kPa) SOIL BEARING PRESSURE AT ULTIMATE LIMIT STATES (ULS=225 kPa) ASSUMED SITE CLASSIFICATION TYPE 'C'.

ALL BEARING SURFACES TO BE APPROVED BY GEOTECHNICAL ENGINEER BEFORE PLACING CONCRETE.

- 1.2 FROST COVER: (FINISHED GRADE TO U/S FOOTING) AS REQUIRED BY SOILS ENGINEER.
- 1.3 PROTECT LATERAL STABILITY OF BEARING STRATA:

DO NOT EXCAVATE BELOW A LINE EXTENDING DOWNWARD FROM ANY BEARING STRATA AT A SLOPE OF 1 VERTICAL TO 2 HORIZONTAL. ADJUST FOOTING AND TRENCH ELEVATIONS TO MEET THIS REQUIREMENT (SEE DIAGRAM).



CONCRETE

CONCRETE WORK SHALL COMPLY WITH CSA-A23.3 - 04

SUBMIT FOR REVIEW THE PROPOSED MIX DESIGN FOR EACH CLASS OF CONCRETE TO BE USED.

2.1	CONCRETE STRENGTHS: LOCATION	28 DAYS STRENGTH	SLUMP * MAX	CLASS C EXPOSURE
	SLABS ON GRADE	25 MPa	3"	N
	FOOTINGS, TYP. FOUNDATION WALLS	25 MPa	3"	N
	FOUNDATION WALL @ LOADING RAMP	25 MPa	3"	F-2
	RETAINING WALLS	32 MPa	3"	C-2
	PAVEMENTS & WALKS	32 MPa	2"	C-2
	MEZZANINE SLABS	25 MPa	3"	N

* OBTAIN THESE SLUMPS WITH AID OF SPECIFIED WATER REDUCING AGENT.

NOTE: ALL CONCRETE EXPOSED TO EXTERIOR CONDITIONS TO HAVE MINIMUM 6% AIR ENTRAINMENT.

2.2 CONCRETE COVER (CLEAR TO REINFORCING):

U/S FOOTINGS (AGAINST SOIL)	75mm
U/S FOOTINGS (NOT AGAINST SOIL)	50mm
FOOTINGS (SIDES & TOP)	50mm
WALLS	40mm
WALLS AGAINST SOIL	50mm
SLABS	25mm U/N
BEAMS	•
COLUMNS	40mm (TO TIES
PIFRS	50mm (TO TIES

2.3 REINFORCING STEEL:

DETAIL AND PLACE REINFORCING STEEL IN ACCORDANCE WITH "REINFORCING STEEL MANUAL OF STANDARD PRACTICE" AND CSA-A23.3-04.

PROVIDE DEFORMED BARS WITH YIELD STRENGTH OF 400 MPa AS SPECIFIED IN CSA G30.18M

PROVIDE WELDED WIRE FABRIC AS SPECIFIED IN CSA G30.5M - FLAT SHEETS ONLY.

SPLICES: TENSION DEVELOPMENT

BAR DESIGNATION:

10-15T 4500(H) MEANS 10 BARS, SIZE 15M, TOP OF SLAB 4500mm LONG (+ HOOK LENGTH)

FOR THREADED REBAR USED AS ANCHOR BOLTS AND BARS CONNECTING BRACE FRAME BASE PLATES, USE WELDABLE REBAR.

WOOD CONSTRUCTION

- 1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.
- 2. ROOF SHEATHINGS: UNLESS OTHERWISE NOTED, 16MM SOFTWOOD OR DOUGLAS FIR PLYWOOD SHEATHING. TO BE UNLOCKED DIAPHRAGM WITH 64MM COMMON NAILS AT 100MM O.C. PLACED AT PANEL EDGES TO BE H-CLIPPED AND 150MM O.C AT INTERMEDIATE SUPPORT.
- 3. ALL WOOD FRAMING TO BE SPF. NO.2 OR BETTER, SURFACE DRY AT 19% MOISTURE CONTENT UNLESS OTHERWISE NOTED
- WOOD TRUSSES, BRIDGING AND BRACING DESIGN SHALL CONFORM TO CA/CSA 086.1-M94 FOR ENGINEERING DESIGN IN WOOD-LIMIT STATES DESIGN. DESIGN AND DETAIL ANCHORAGE FOR WIND UPLIFT FORCES IN ACCORDANCE WITH ONTARIO BUILDING CODE REQUIREMENTS.
- MAXIMUM DEFLECTION UNDER TOTAL LOAD SHALL NOT EXCEED L/240 OF THE SPAN AND 13 SHALL NOT EXCEED L/360 OF THE SPAN UNDER LIVE LOAD FOR ALL ROOF AND FLOOR COMPONENTS.
- SAWN LUMBER SHALL CONFORM TO CAN/CSA 086.1-M94 AND SHALL IDENTIFY LUMBER BY OFFICIAL GRADE MARKS.
- TRUSS SHOP DRAWINGS SHALL BE SINGLE SOURCE AND SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN AND LICENCE TO PRACTICE IN ONTARIO.
- SUBMIT DESIGN BRIEFS AND SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OF TRUSSES.
- 9. HOIST TRUSSES INTO POSITION IN ACCORDANCE WITH DESIGN DRAWINGS
- PROVIDE TEMPORARY HORIZONTAL CROSS BRACINGS TO HOLD TRUSSES PLUMB AND IN A SAFE CONDITION UNTIL PERMANENT BRACING IS INSTALLED.
- 11. DO NOT CUT OR REMOVE ANY TRUSS MEMBERS
- 12. FASTENINGS SHALL CONFORM TO O.B.C. REG. 350/06 SECTION 9.23.3.
- 13. NAILS SHALL BE ZINC COATED CONFORMING TO CSA B11.
- 14. FRAMING ANCHORS SHALL BE 18 GAUGE ZINC COATED SHEET STEEL CONFORMING TO CSA STANDARDS.
- EACH TRUSS TO BE ANCHORED TO WOOD PLATES AND SHEATHINGS WITH TENSION ANCHORS BY SIMPSON OR EQUAL.
- 16. HARDIE SHINGLE TO BE ATTACHED USING STAINLESS STEEL SCREWS.

MASONRY

WALL THICKNESS

ALL MASONRY WORK SHALL COMPLY WITH CAN/CSA-A370-04 AND A371-04 UNLESS NOTED

MINIMUM CONCRETE BLOCK UNIT STRENGTH (NET AREA) 25.0 MPa MORTAR TYPE 'S' f'c = 12.4 MPaGROUT STRENGTH f'c = 20.0 MPa

MINIMUM MASONRY REINFORCEMENT (UNLESS OTHERWISE NOTED)

LOADBEARING

140mm	HORIZ. SMR @ 200 OR HDMR @ 400	SMR @ 400	
	VERT 1-15M @ 800	1-10M @ 1200	
190mm	HORIZ HDMR @ 300 (ALTERNATE 200 & 400) VERT 1-20M @ 1200	HDMR @ 600 1-15M @ 1200	USED FOR THIS PROJECT
240mm	HORIZ HDMR @ 200 VERT 2-15M @ 1200	HDMR @ 400 2-10M @ 1200	
290mm	HORIZ HDMR @ 200	HDMR @ 400	

NON-LOADBEARING

2-15M @ 1200

- · VERTICAL BARS SHALL BE CONTINUOUS, LAPPED ONLY AT FLOORS, DOWELLED INTO SUPPORTS AND GROUTED INTO CLEAR VERTICAL BLOCK CORES SEALED ALL AROUND WITH MORTAR, PROVIDE CLEANOUT PORT AT BOTTOM OF EACH GROUTED CORE. DO NOT CLOSE PORT OR PLACE GROUT UNTIL CORE AND STEEL HAVE BEEN INSPECTED.
- PROVIDE 2-10M (MIN.) GROUTED LOW-WEB BOND BEAM AT TOP OF REINFORCED

VERT 2-20M @ 1200

- WALLS. EXTEND VERTICAL BARS TO TOP OF BOND BEAM U/NOTED. · PROVIDE APPROVED LATERAL SUPPORT TOP AND BOTTOM OF MASONRY PANELS AT GROUTED CORE LOCATIONS OR AT 2000mm MAX. SPACING WHERE NO VERT. REINFORCEMENT IS REQUIRED: ALSO AT SIDES OF MASONRY PANELS AT 4 TIMES THE
- PROVIDE VERTICAL REINFORCING BARS IN GROUTED CORES AT SIDES OF ALL OPENINGS AND ENDS OF WALLS / CONSTRUCTION JOINTS.
- · DO NOT CLOSE PORT OR PLACE GROUT UNTIL CORE AND STEEL HAVE BEEN INSPECTED · SMR IS GALVANIZED STANDARD LADDER TYPE MASONRY REINFORCEMENT WITH 2-#9 Ga. (3.66mm) SIDE RODS (TOTAL AREA 21mm2). HDMR IS GALVANIZED LADDER TYPE HEAVY DUTY MASONRY REINFORCEMENT WITH 2-#6 Ga. (4.76mm) SIDE RODS (TOTAL AREA

STRUCTURAL STEEL

35.6mm2)

WALL THICKNESS.

STRUCTURAL STEEL SHALL COMPLY WITH CAN/CSA- S16-01 2005 FDITION

STRUCTURAL STELL STALL C	OWILL WITH CANY COA STO OF 2005 EDITION.
<u>ITEM</u>	APPLICABLE SPECIFICATION_
ROLLED SECTIONS HSS (TUBE) SECTIONS CONNECTION BOLTS	G40.21M - 350W (GRADE 50 K.S.I. FOR U.S. SECTIONS) G40.21-A500 GRADE C A325 USE BEARING TYPE CONNECTIONS
ANCHOR BOLTS	ANCHOR BOLTS TO BE G40.21- 50W

STEEL DECK:

STEEL DECK SHALL BE TO CAN/CSA-S136-01, GRADE A, GALVANIZED (LIGHT)

DECK DESIGNED BY DIAPHRAGM ACTION TO TRANSMIT HORIZONTAL FORCES TO BRACING/SHEARWALL SYSTEM.

REFER TO APPLICABLE DRAWINGS FOR DECK GAUGE. WELDING REQUIREMENTS. ETC.

STRUCTURAL STEEL CANOPY PAINTED WITH 1 COAT GREY PRIMER CGSB 1-75a

DESIGN LOADS (As Per OBC 2012)

DEAD LOADS AND LIVE LOADS

D.L. \Box f R \Box OF = 0.75 KP α	L.L.
D.L. Of WALLS = 4.8 Kpa	L.L. On SLAB = 6.0 Kpc
D.L. Of SLAB = 4.8 Kpa	

SPECIFIED SNOW LOADING

 $S_s = 2.50 \text{ kPa} \text{ (Main Roof)}$ $S_r = 0.40 \text{ kPa}$ $I_{S} = 1.0 - ULS, 0.9 - SLS$ Cs = 1.0, Cb = 0.8, Cw = 1.0, Ca = 1.0 $S = I_s[S_s(C_b C_w C_s C_a) + S_r] - SLS$ S.L.(ULS) = 2.4 KPa, S.L.(SLS) = 2.16 KPa

WIND LOAD

P = Iw*q*Ce*Cq*Cp where,

 $q(\frac{1}{10}) = 0.30 \text{ kPa}$ (REFERENCE VELOCITY PRESSURE 1/10 YEARS) $q(\frac{1}{50}) = 0.41 \text{ kPa}$ (REFERENCE VELOCITY PRESSURE 1/50 YEARS)

 $Ce = (h/10)^0.2 = (8m/10)0.2 = 0.96$ (EXPOSURE FACTOR - OPEN TERRAIN)

Cq = 2.0 (EXTERNAL GUST FACTOR)

Cp = -0.5 to 0.8 (EXTERNAL PRESSURE COEFFICIENT)

Cqi = 2.0 (INTERNAL GUST FACTOR)

Cpi = -0.45 to 0.3 (INTERNAL PRESSURE COEFFICIENT - CATEGORY 2)

PGA = 0.32

= 1.0 (ULS); 0.75 (SLS) (IMPORTANCE FACTOR)

SEISMIC FACTORS

SOILSITE CLASS = "C"

HT OF UPPERMOST ROOF < 15m

W = BUILDING WEIGHT (KN)

NEW BUILDING

 $F_{a} = 1.0$

IMPORTANCE FACTOR = 1.0 Rd = 1.5, Ro = 1.3	
SRFS: Conventional Construction (Sheer Ta IN (N-S, E-W) Roof = 0.21 Sec Ta IN (N-S, E-W) Walls = 0.12 Sec	
$M_{v} = 1.0$	$S_a(0.2) = 0.62$
$R_d = DUCTILITY FACTOR (1.5)$	$S_a(0.5) = 0.30$
$R_0 = OVERSTRENGTH FACTOR (1.3)$	$S_{a}(1.0) = 0.13$
I_E = IMPORTANCE FACTOR	$S_a(2.0) = 0.045$

S(0.20) = 0.62 $F_{v} = 1.0$ SITE CLASS = "C"

STRUCTUR: IRREGULARITIES — Table 4.1.8.6 (if required)

TYPE	IRREGULARITY TYPE	YES	NO
1	VERTICAL STIFFENESS IRREGULARITY		
2	MASS IRREGULARITY		
3	VERTICAL GEOM IRREGULARITY		
4.	INPLANE DISCONTINUITY IN VERT LATERAL FORCE RESISTING ELEMENT		
5	OUT OF PLANE OFFSET		
6	WEAK STOREY		
7	TORSIONAL SENSITIVITY B < 1.7 (Using RAM Software)		•
8	NON-ORTHOGONAL SYSTEMS		

EQUIVALENT STATIC FORCE

W = (DL + 0.25*SL)

Vmax (Shear Walls) =	$(2/3)*S(0.2)leW/(RdR\bullet) = 0.15W$	GOVERINS

Vmin (Shear Walls) = (1/2)*S(2.0)*Mv*le*W/(1.5*1.3) = 0.01W

V (Shear Walls) = S(Ta)*Mv*le*W/(1.5*1.3) = 0.22W

Vmax (Roof) = (2/3)*S(0.2)leW/(RdRo) = 0.15W GOVERNS

Vmin (Roof) = (1/2)*S(2.0)*Mv*le*W/(1.5*1.3) = 0.01W

V (Roof) = S(Ta)*Mv*le*W/(1.5*1.3) = 0.22W

	REVISIONS	
2	For Construction	2019-04-16
1	For Review	2019-03-25
no.	description	date

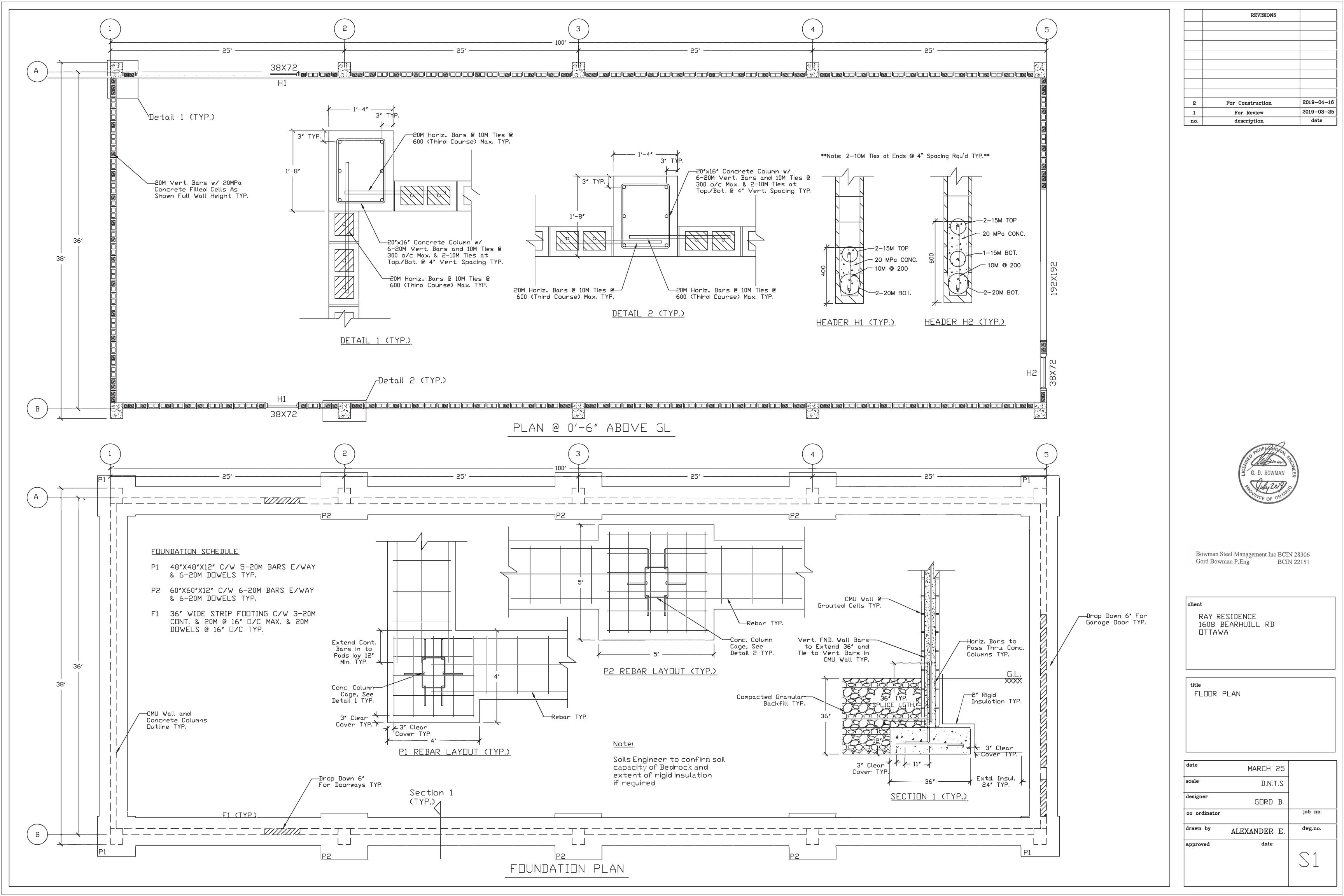


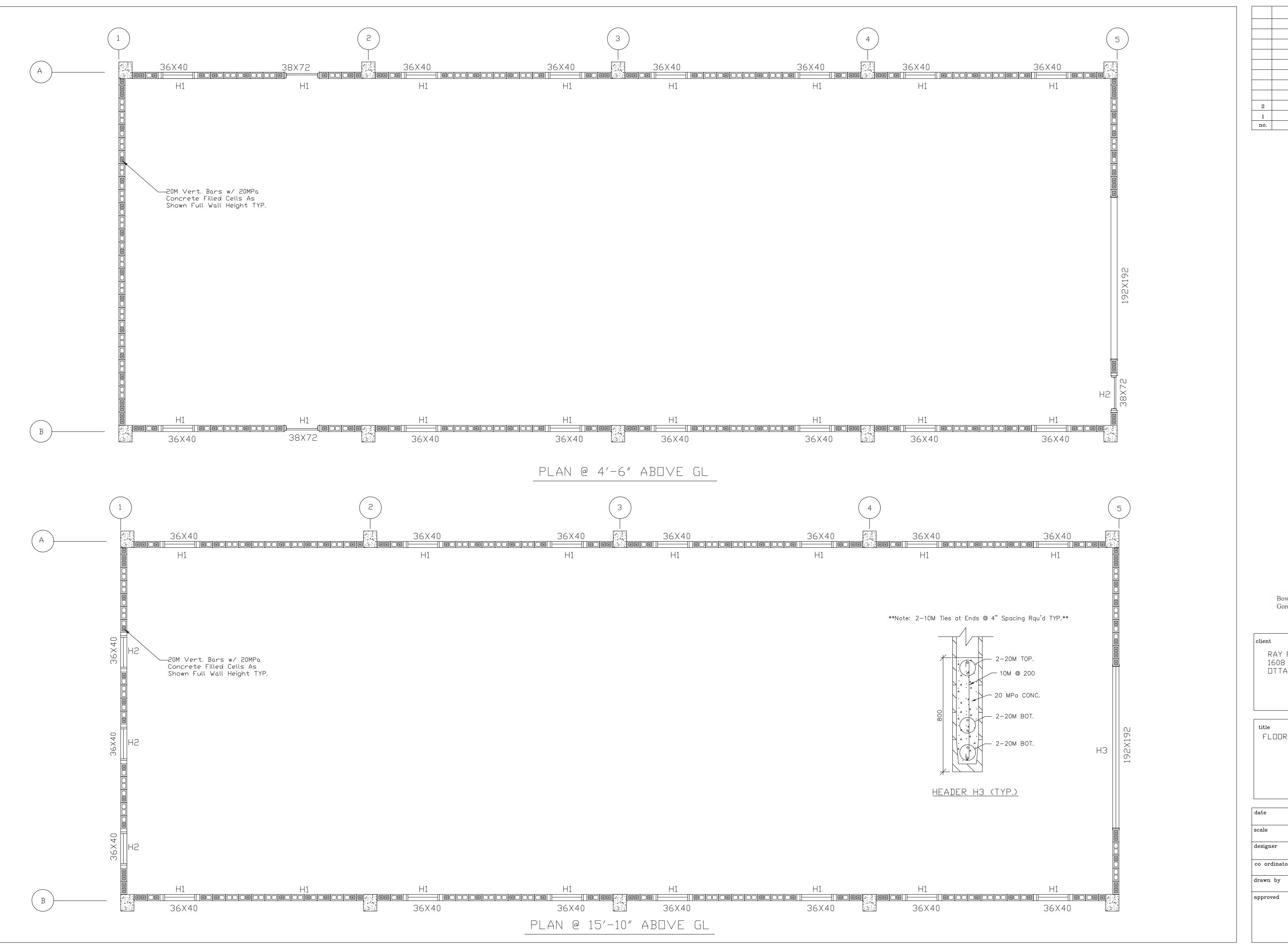
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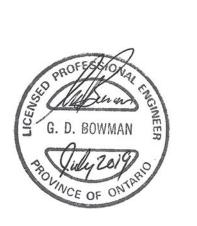
GENERAL NOTES

MARCH 25 scale D.N.T.S designer GORD B job no. co ordinator drawn by ALEXANDER E date approved





	REVISIONS	
2	For Construction	2019-04-16
1	For Review	2019-03-25
no.	description	date



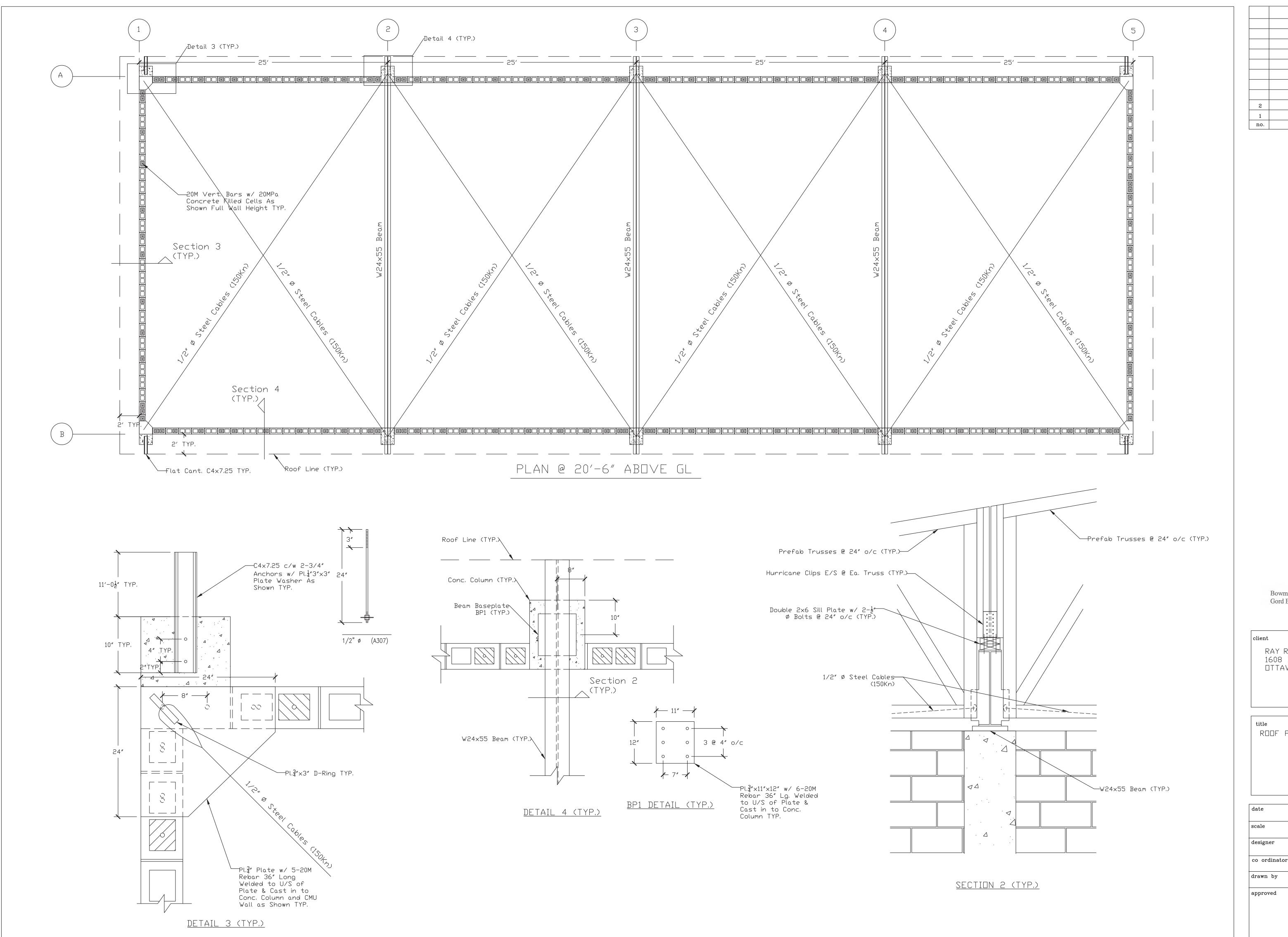
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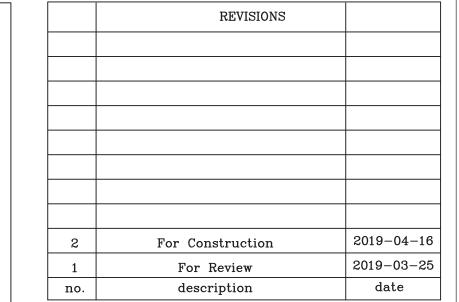
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title
FLOOR PLAN

date MARCH 25

date	MARCH 25	
scale	D.N.T.S	
designer	GORD B.	
co ordinator		job no.
drawn by	ALEXANDER E.	dwg.no.
approved	date	S2







Bowman Steel Management Inc BCIN 28306 Gord Bowman P.Eng BCIN 22151

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RAY RESIDENCE

1608 BEARHUILL RD

DTTAWA

title
ROOF PLAN

date	MARCH 25	
scale	D.N.T.S	
designer	GORD B.	
co ordinator		job no.
drawn by	ALEXANDER E.	dwg.no.
approved	date	23

