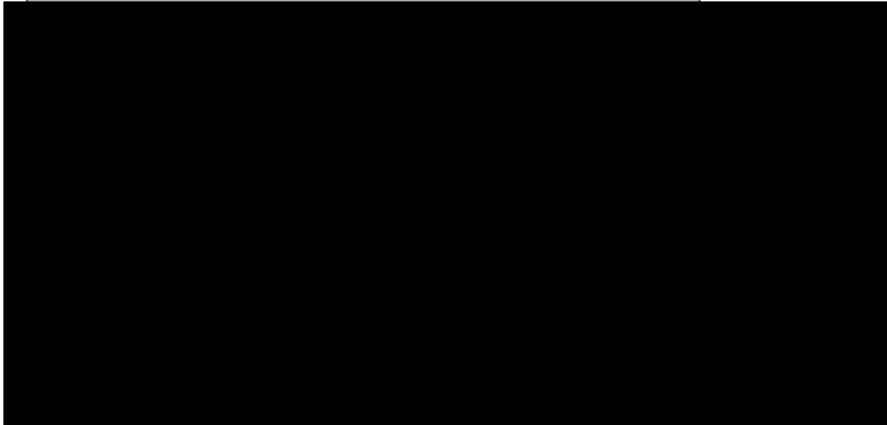


MARICANN GREENHOUSE
138 8th CONCESSION RD.
LANGTON, ONT.
NOE 1G0



LEAD ENGINEERING CONTACT (S):
ALBERT SCHEPERS, P.ENG.
DAN AGOSTINIS, CAD TECH.



FRANK STRAATHOF, PROJECT MANAGER
ADNAN TUNOVIC, DIRECTOR



Building Site
SCALE:

GENERAL REQUIREMENTS:

- A. The Ontario Building Code # National Farm Building Code 1995, is the basis for the design and construction of the structure.
- B. Written dimensions on these drawings take precedence over scale dimensions.
- C. Contractors shall verify and be responsible for all dimensions and conditions on the Job and the Consultant must be notified in writing of any variations from the dimensions and conditions shown on the drawings.
- D. Contractor shall promptly notify the Consultant in writing of the existence of any observed variations between the Contract Documents and any applicable codes or ordinances of regulatory agencies.
- E. Consultant will not be held responsible for any omissions to, errors pertaining to, or deviations from this set of drawings during the construction process.
- F. Specific notes and specific details shall take precedence over general notes and typical details.
- G. The contractor shall arrange for all necessary permits and arrange inspections as required by governing laws.
- H. The contractor shall contact the consultant a minimum of 24 hours prior to any necessary inspections and components requiring inspection shall not be covered unless approved by the consultant. Required inspections shall be as follows:
 - i. start of excavation and foundation work.
 - ii. progress inspection of foundation work (dependant on project size).
 - iii. progress inspection of steel superstructure (dependant on project size).
 - iv. final inspection of steel superstructure.
 - v. progress inspection of roof structure and glazing.
 - vi. final inspection of roof glazing.
 - vii. final inspection of building for letter of conformance.
- I. No building shall be built adjacent or in proximity to the greenhouse structure so as to adversely alter wind or snow loading conditions.
- J. Snow accumulation around the greenhouse perimeter must not be allowed to exceed 24 inches.
- K. Greenhouse must be continuously heated to provide uniform heat to the glazing and the roof drainage system maintained (NFBBC 2.2.2.4) to melt snow and prevent accumulation.

- A. CSA S16-14 is the basis of the design of all structural steel.
- B. Structural steel minimum $F_y=275$ MPa.
- C. All field bolted connections shall use ASTM Standard A325 high tensile bolts.
- D. All welding to conform to CSA W59 and shall develop the full strength of members where loads are not shown. Welding shall be done by welding companies certified as Division 1 or 2 to CSA W47.1.
- E. All structural steel shall be hot dipped galvanized.
- F. Verify all dimensions and field conditions before fabrication. Should field condition vary from design drawings, the Consultant shall be notified.
- G. Erector to provide all necessary temporary bracing as required for alignment, wind load, and erection stresses.
- H. Roof system, glass, polycarbonate and the attachment thereof are by others (Boal). See Boal drawings for plans and details.
- I. Structural steel components that are damaged either during building erection or the life of the building must be reported immediately to the building supplier.

A. Prior to start of construction the Contractor shall verify all dimensions. Should conditions vary from design drawings, the Consultant shall be notified.

B. Concrete ultimate compressive strength at 28 days shall be as follows:

Footings and Piers	20MPa
Floor	30MPa
Exterior Walls and Slab	30MPa with 7% air entrainment

C. Concrete cover to steel reinforcement shall be as follows:

Footings Cast Against Earth	3"
Piers	2"
Slab on Grade	1" from Top

D. Concrete footings shall be carried down to natural undisturbed soil capable of sustaining a minimum allowable pressure of 3,000 psf.

E. All exterior footings shall be carried down to a depth of 4'-0" below existing grade. Footings exposed to frost action during construction shall be protected by 4'-0" of earth or its equivalent.

F. Compact fill under concrete slab to 100% standard proctor density.

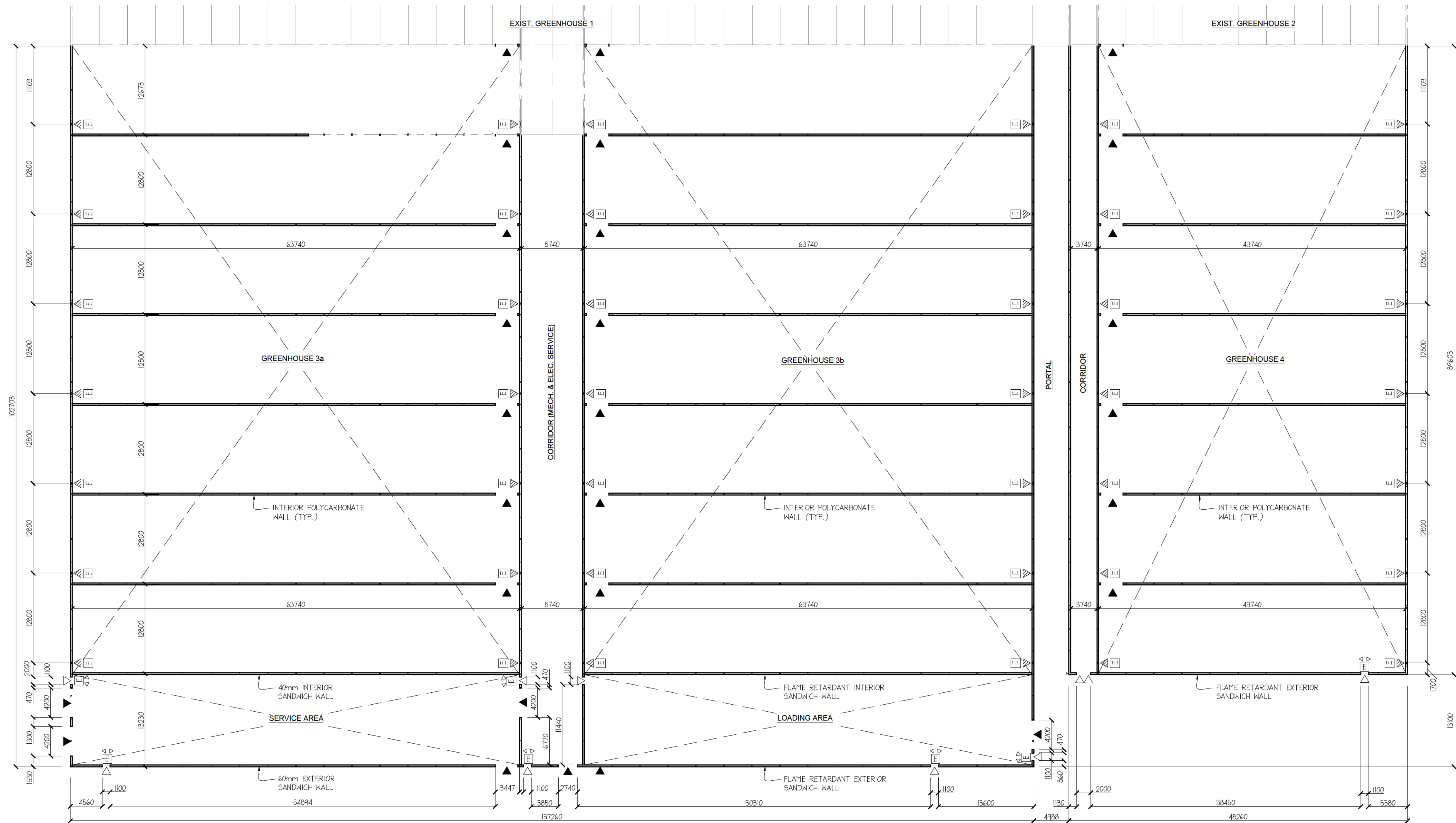
G. Reinforcing steel shall be new billet steel grade 60 in accordance with latest CSA Standard G30.12. Welded wire fabric shall be in accordance with latest CSA Standard G30.5 ($F_y=65$ ksi).

H. Lap reinforcing bars a minimum of 36 bar diameters or minimum of 12", whichever is greater, governs and/or as stipulated in CSA A23.3 unless otherwise noted.

I. Footings should be placed on soil free from standing water.

J. Footing design based on geotechnical report by 'Englobe' report No. 163-P-0012488-0-01-100-GE-R-0001-00; Dated March 15, 2017.

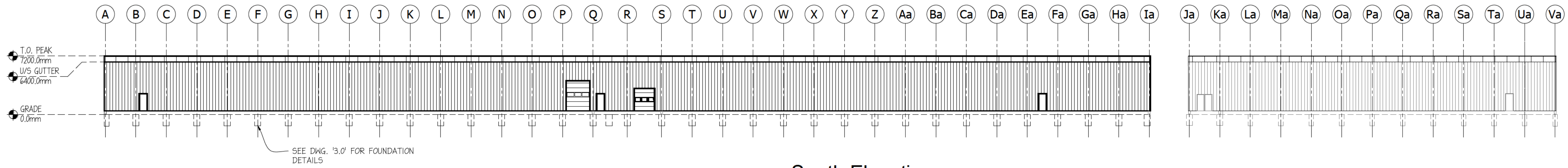
	Havecon North America Inc. Niagara-on-the-Lake, Ontario Certificate of Design and Manufacturing Conformance																									
Jurisdiction Building Site: Langford, Ontario Building Code: Ontario Building Code Importance Cat: Low																										
Design and Manufacturing Standards CSA S16-14 CSA W59 CSA S136 CSA S157																										
Site Climate Data <table border="0" style="width: 100%;"> <tr> <td style="width: 25%;">Snow & Rain:</td> <td style="width: 15%;">S_s 1.30</td> <td style="width: 15%;">S_r 0.48</td> <td style="width: 15%;">(L_{P_s})</td> <td style="width: 30%;"></td> </tr> <tr> <td>Wind 1/50</td> <td>q₁₀ 0.35</td> <td>q₅₀ 0.44</td> <td>(h_{P_s})</td> <td></td> </tr> <tr> <td>Solaric</td> <td>S_a(0.2) 0.170</td> <td>S_a(0.5) 0.100</td> <td>S_a(1.0) 0.068</td> <td>S_a(2.0) 0.018</td> </tr> <tr> <td></td> <td>S_a(3.0)</td> <td>S_a(10)</td> <td>PGA 0.091</td> <td>PGV</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>Site Class D</td> </tr> </table>		Snow & Rain:	S _s 1.30	S _r 0.48	(L _{P_s})		Wind 1/50	q ₁₀ 0.35	q ₅₀ 0.44	(h _{P_s})		Solaric	S _a (0.2) 0.170	S _a (0.5) 0.100	S _a (1.0) 0.068	S _a (2.0) 0.018		S _a (3.0)	S _a (10)	PGA 0.091	PGV					Site Class D
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Other Loads <table border="0" style="width: 100%;"> <tr> <td style="width: 35%;">Roof Load:</td> <td style="width: 15%;">3.00 lbs</td> <td style="width: 50%;">(D) Glass Roof</td> </tr> <tr> <td>Screen:</td> <td>2.00 lbs</td> <td>(D) Energy or Shade Screen</td> </tr> <tr> <td>Heating Pipes:</td> <td>0.00 lbs</td> <td>(D) Heating Pipes</td> </tr> <tr> <td>Crop:</td> <td>0.00 lbs</td> <td>(L) Hanging Crop</td> </tr> <tr> <td>Other:</td> <td>1.0 psf</td> <td>(L) Other load (crane, service equipment, etc.)</td> </tr> </table>		Roof Load:	3.00 lbs	(D) Glass Roof	Screen:	2.00 lbs	(D) Energy or Shade Screen	Heating Pipes:	0.00 lbs	(D) Heating Pipes	Crop:	0.00 lbs	(L) Hanging Crop	Other:	1.0 psf	(L) Other load (crane, service equipment, etc.)										
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Climate Data Application Snow & Rain: $S = I_s [S_s (C_b \cdot C_w \cdot C_s \cdot C_a) + S_r]$ Wind External: $W_e = I_w \cdot q \cdot C_e \cdot C_p C_g$ Wind Internal: $W_i = I_w \cdot q \cdot C_e \cdot C_{pi} C_g$ $W = W_i - W_e$ Seismic: $E = I_e \cdot F_a \cdot S_a(0.2)$ <i>For all coefficients and reductions refer to applicable code. I_s, I_w, and I_e are functions of the Importance Category typically 0.8 for low hazard.</i>																										
Load Combinations 1 1.4•D 2 (1.25•D or 0.9•D)+1.5•L+(1.0•S or 0.4•W) 3 (1.25•D or 0.9•D)+1.5•S+(1.0•L or 0.4•W) 4 (1.25•D or 0.9•D)+1.4•W+(0.5•L or 0.5•S) 5 1.0•D+1.0•E+0.5•L+0.25•S																										
<i>A separate certificate to be provided for the installation after completion and inspection.</i>																										



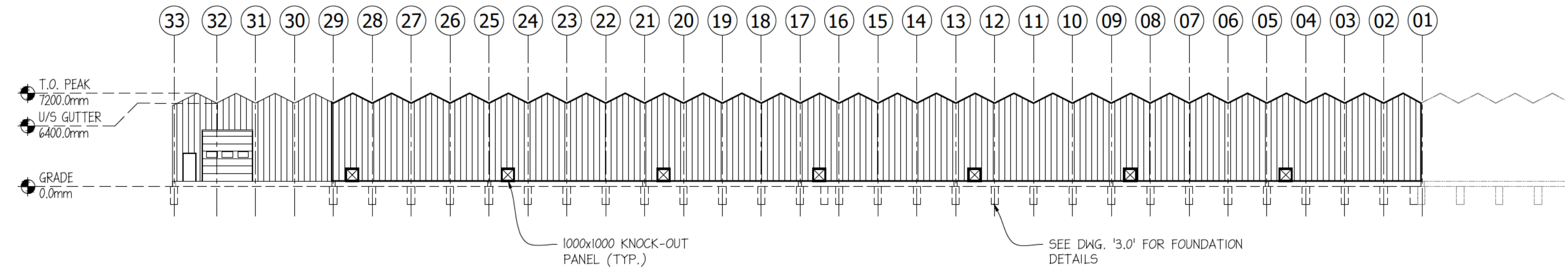
Floor & Exit Plan

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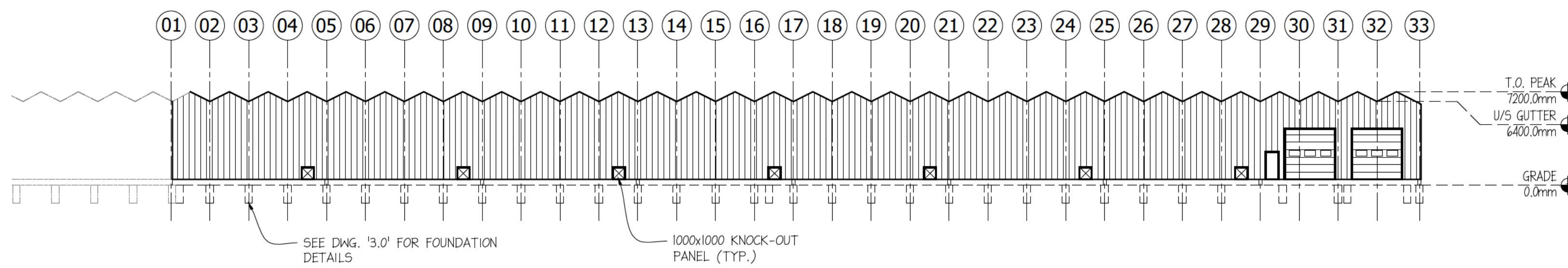
- EMERGENCY EXIT SIGN w/ LIGHTS
- EMERGENCY EXIT SIGN
- MANDOOR
- OVERHEAD DOOR
- 1000x1000 ESCAPE DOOR



South Elevation
SCALE: 1:300

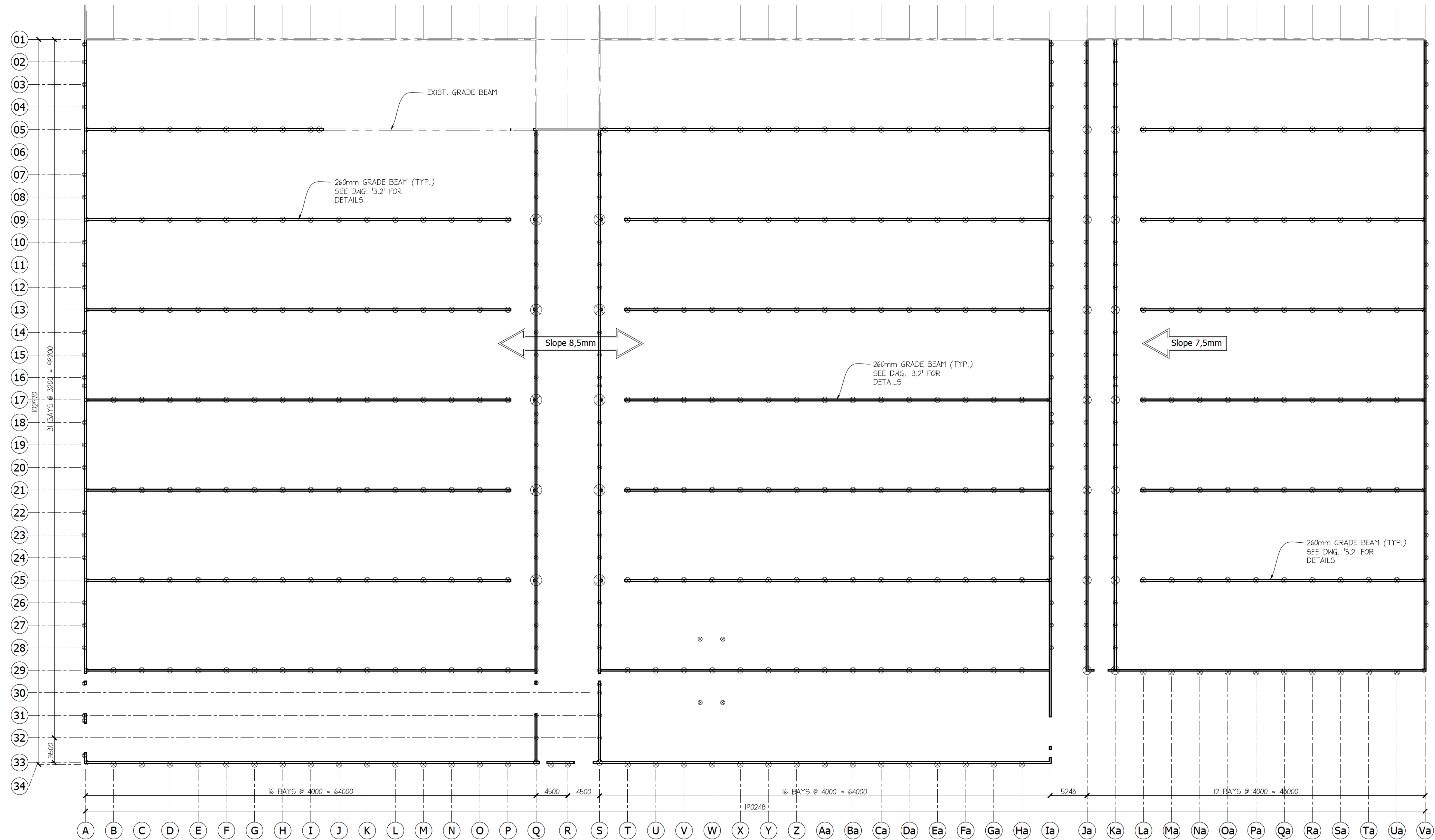


West Elevation
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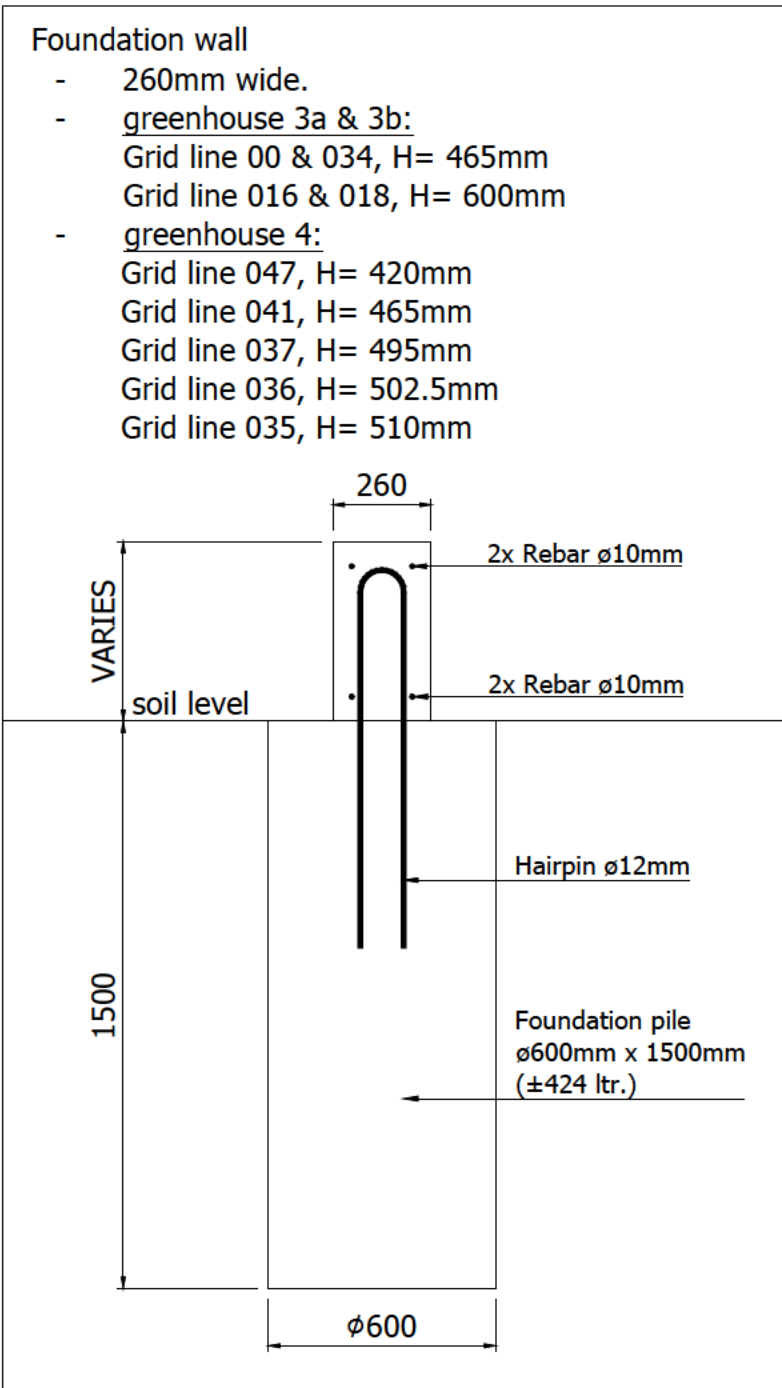
East Elevation
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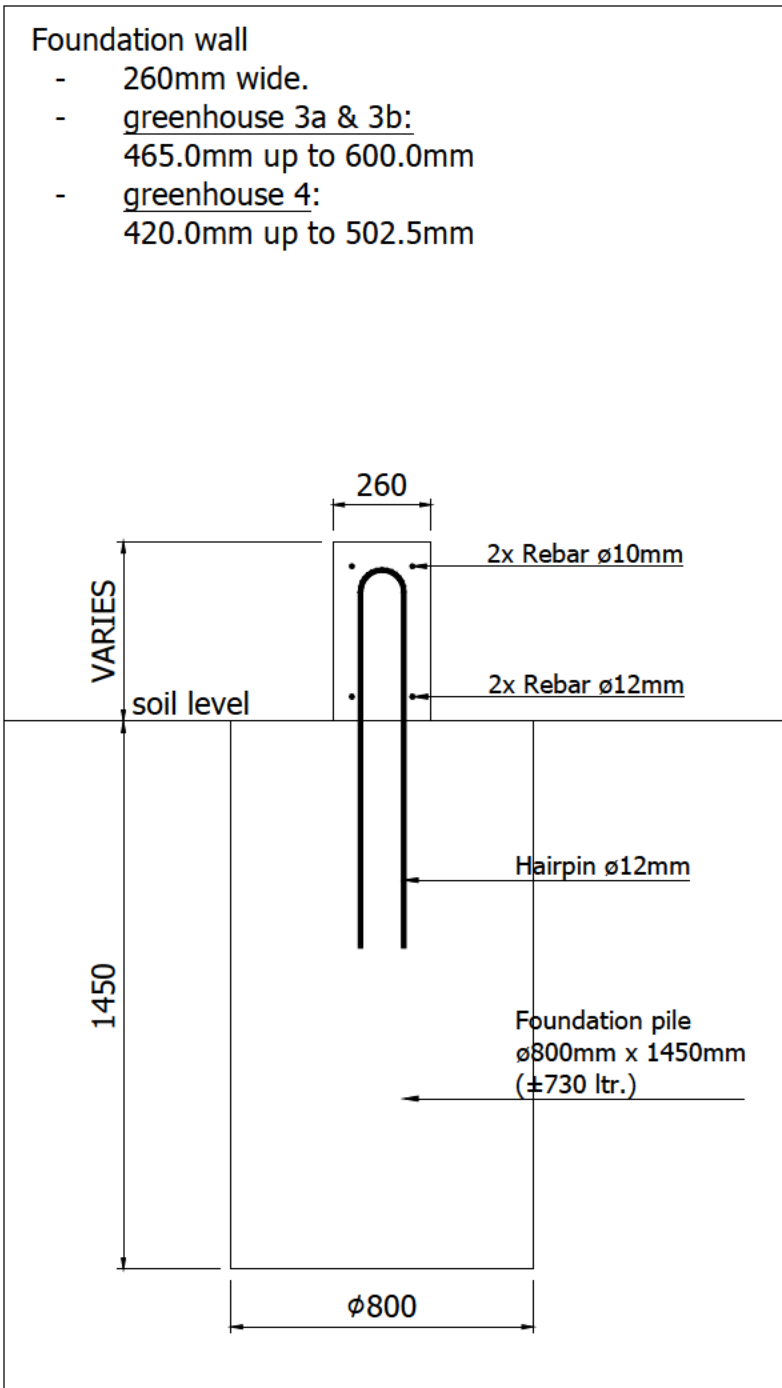


Grade Beam Plan
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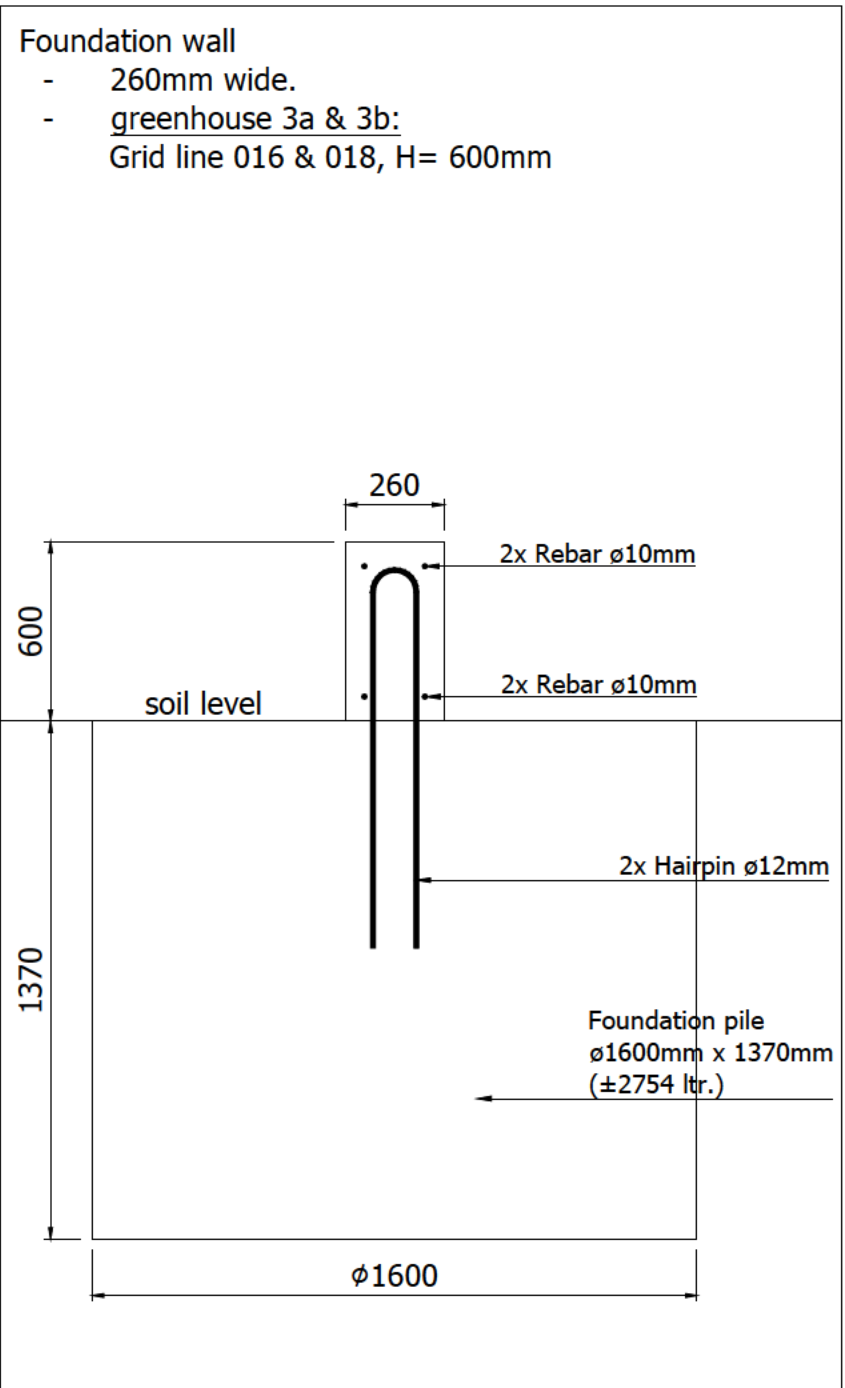
18/02/11 CLIENT REVIEW



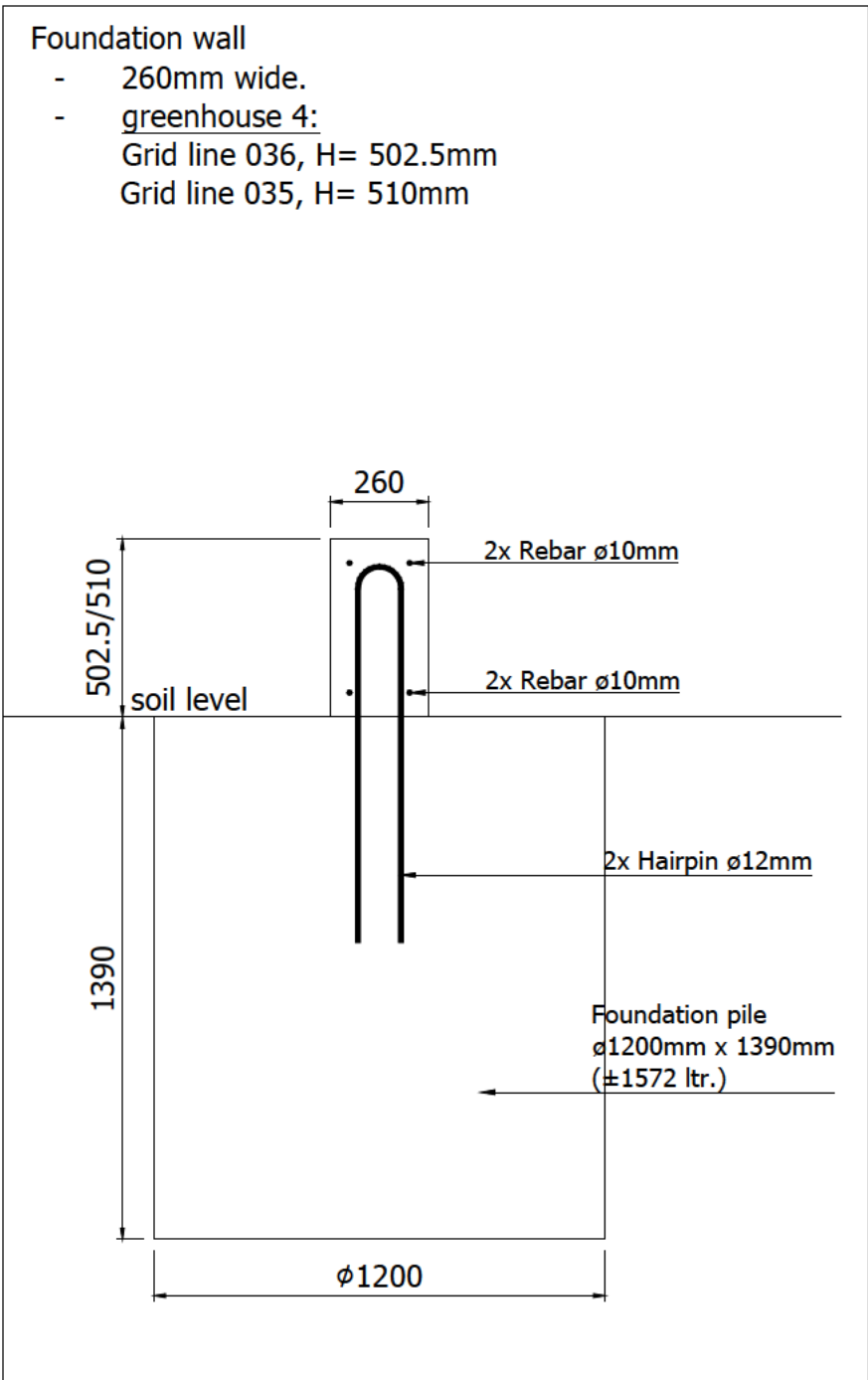
F1 Caisson w/ Grade Beam
SCALE: 1:20



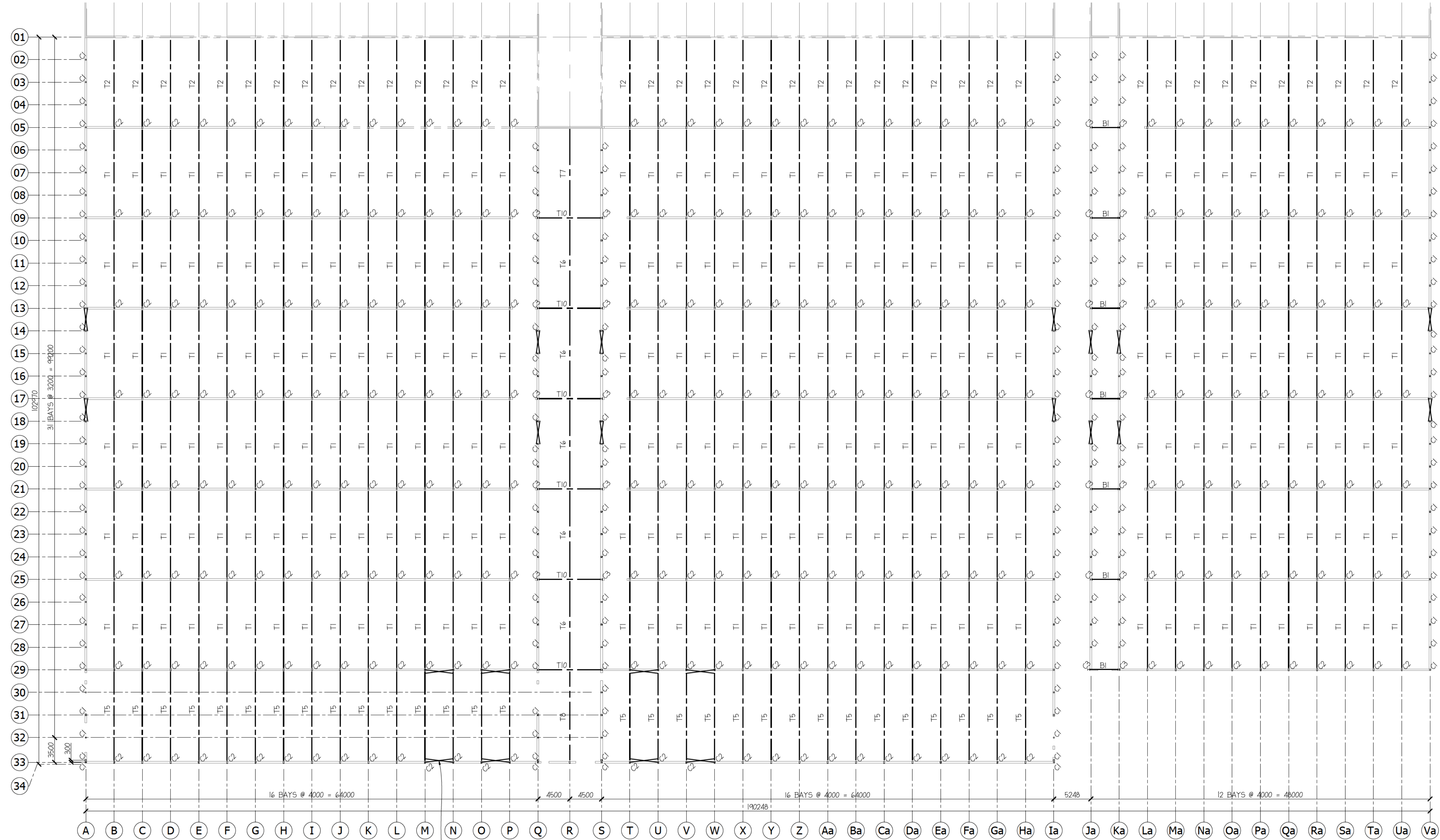
F2 Caisson w/ Grade Beam
SCALE: 1:20



F3 Caisson w/ Grade Beam
SCALE: 1:20



F4 Caisson w/ Grade Beam
SCALE: 1:20



COLUMN SCHEDULE

C1 - HSS 160x160x4
C2 - HSS 180x60x4
C3 - W250

TRUSS SCHEDULE

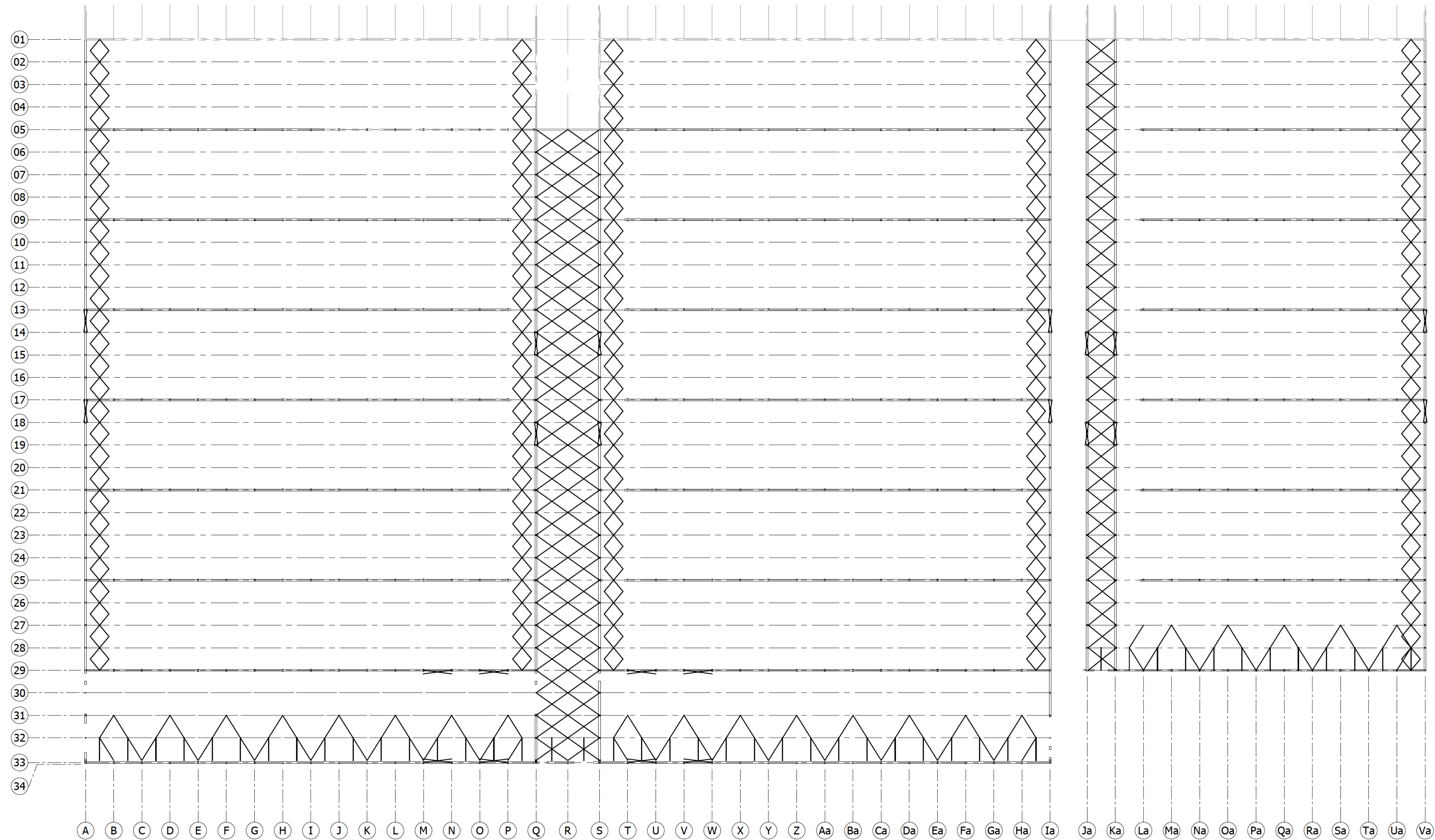
T1 - T12.8m
T2 - T12.8m
T5 - T13.1m
T6 - T12.8m
T7 - T12.8m
T8 - T13.1m
T10 - T9.0m

BEAM SCHEDULE

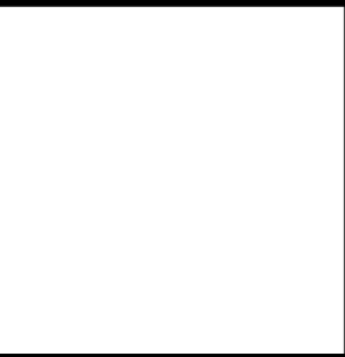
B1 - W250



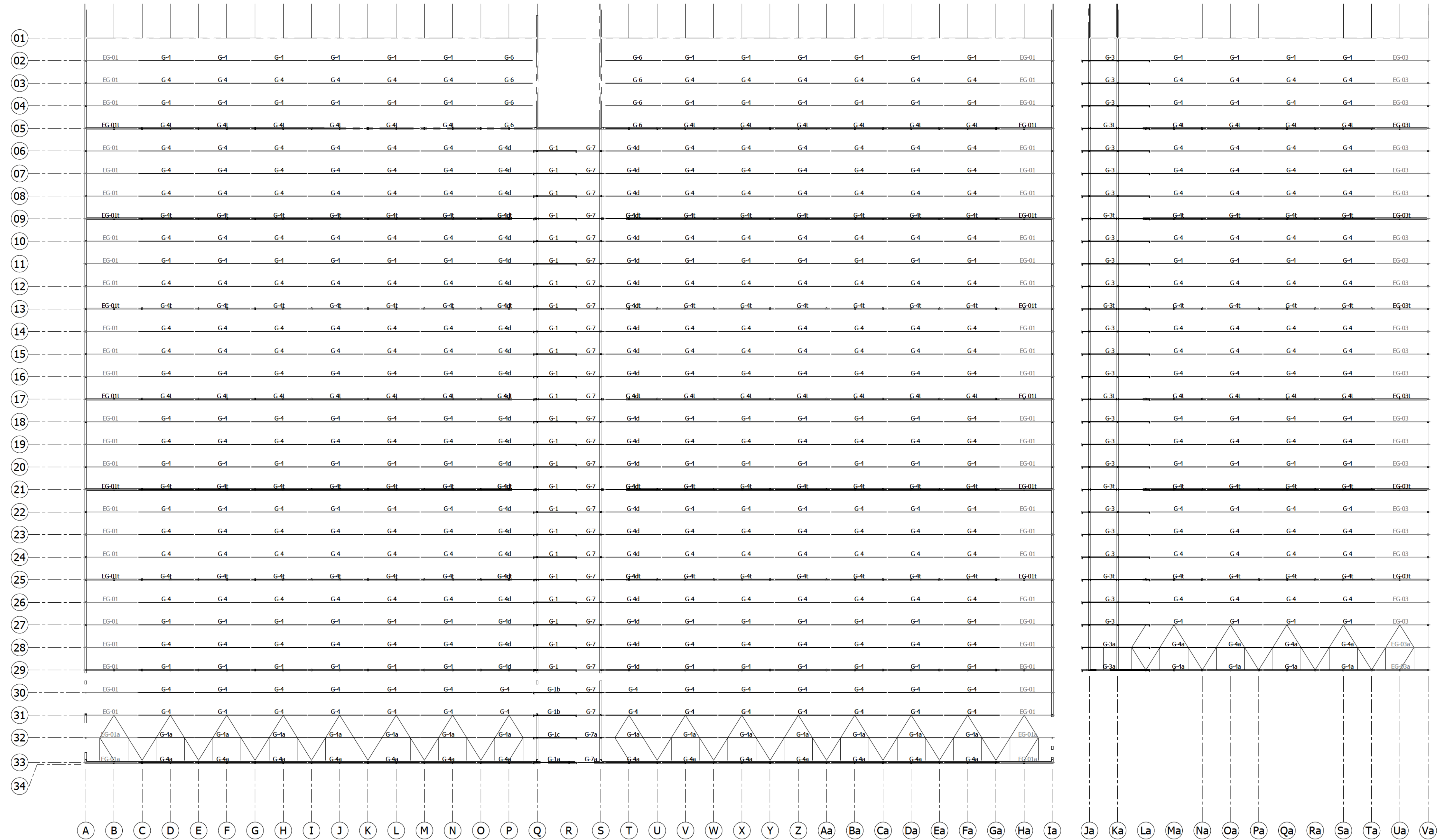
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PROJECT: [REDACTED]
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DWG: [REDACTED]

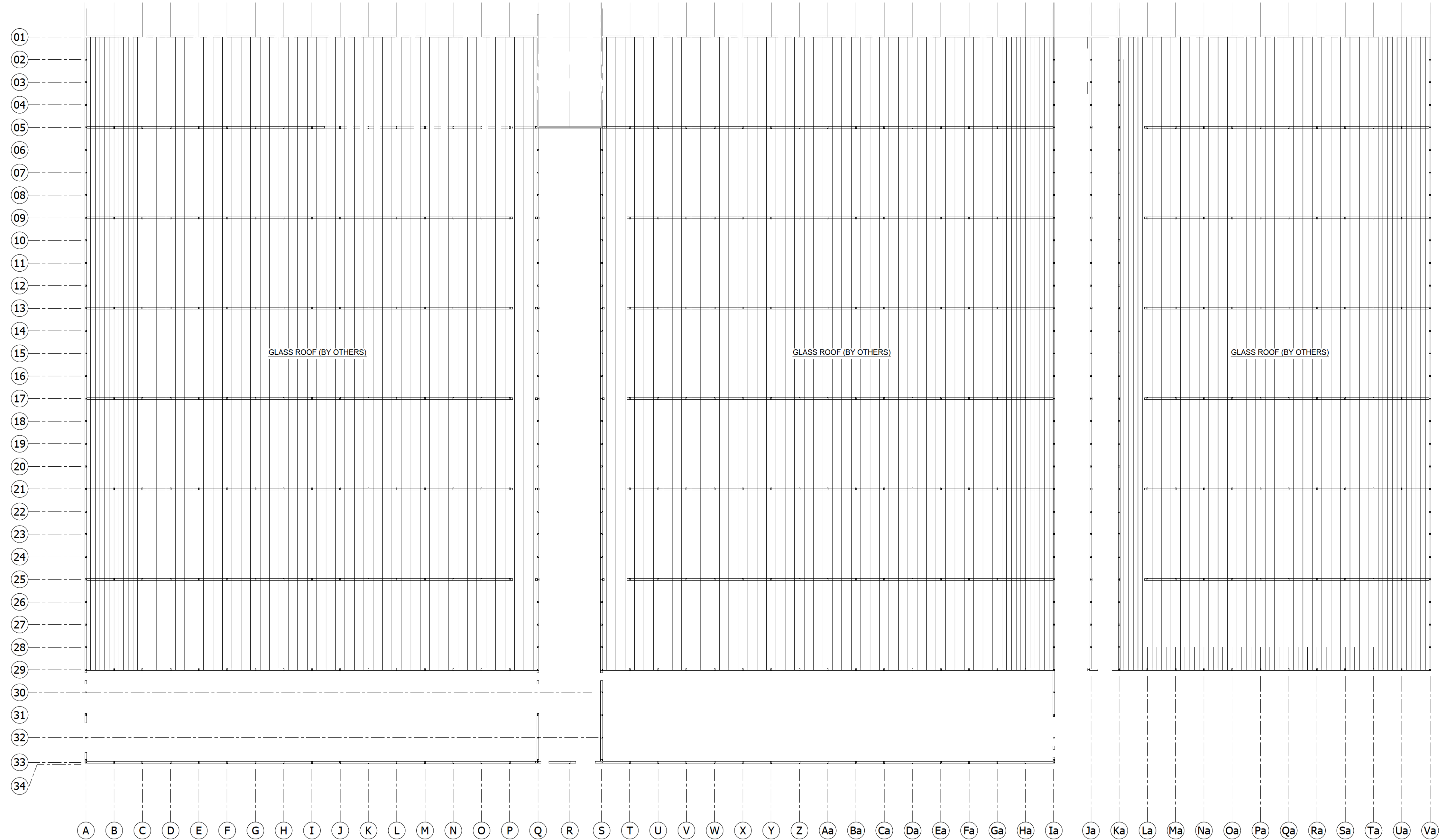


 **Bracing Plan**
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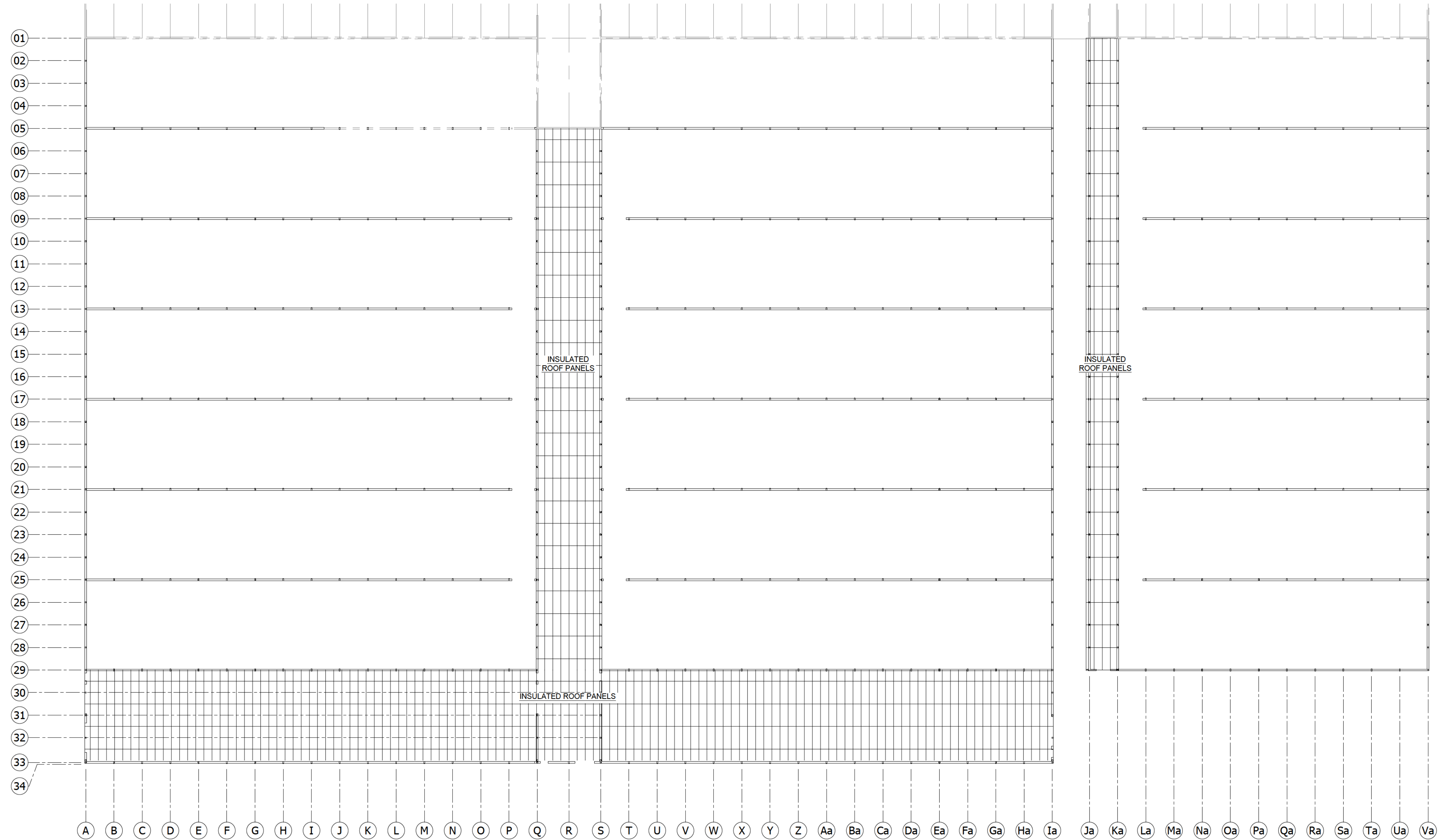
CONFIDENTIAL





 **Glazing Framing Plan**
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PROJECT: [REDACTED]
TITLE: [REDACTED]
DWG: [REDACTED]



 **Roof Panel Plan**
SCALE: 1:300