

**GENERAL**

- These notes are to be read in conjunction with the specifications.
- This building has been designed in accordance with the 2011 edition of the Manitoba Building Code.
- The contractor shall be responsible for the design and installation of all necessary shoring, bracing and formwork. Formwork for new construction shall be bridged over existing services. Procedure must be approved by the Contract Administrator.
- Errors in drawings and/or specifications and/or previously unknown existing conditions shall be brought to the attention of the engineer before proceeding with the work. During the tender stage, contractor shall request an interpretation of conflicts prior to tender. If no request is made, both provisions shall be presumed to be included in the tender and the engineer shall determine which provision governs, and the contractor shall perform the work at no additional cost to the owner.
- Any unsound structural conditions observed or created during construction are to be reported to Contract Administrator.
- Coordinate size and location of all openings in structural members with trades involved. All openings not indicated on structural drawings to be approved by Contract Administrator.
- Coordinate placement and location of items by subsequent trades. Relevant trades shall review prior to erection and/or installation.
- Confirm the location of all sub-grade services prior to commencing site work.
- Verify all dimensions and elevations with architectural drawings prior to construction. Any discrepancies to be reported to Contract Administrator immediately. Do not scale drawings.
- Drawings indicate general and typical details of construction. Where conditions are not specifically shown, similar details of construction shall be used, subject to approval by the Contract Administrator.
- Design loads as noted on plans are unfactored.

**FOUNDATION**

- Remove all organic material from the building area.
- Unless otherwise shown on plans, foundation elements are to be centered under walls, grade beams, and columns.
- Provide dowels from footings, grade beams, and pilecaps. Reinforcing to match all vertical reinforcing in walls and columns or as noted on drawings.
- Piles shall be no more than 2% out of plumb; and no more than 50mm out of alignment.
- Pile reinforcing shall extend a minimum of 600mm into pilecap or grade beam/wall.
- Slab sub-base to be built up of 'C-Base' granular fill compacted to 95% Standard Proctor Density in maximum 200mm lifts. Final lift to be 150mm 'A-Base' granular fill compacted to 98% Standard Proctor Density. All compaction densities to be confirmed by an independent testing agency prior to placement of any concrete.

**CONCRETE**

- Concrete work shall be in accordance with CAN/CSA A23.1-14 for "Concrete Materials and Methods of Concrete Construction" including cold weather requirements when the temperature falls below 5°C.
- Fabrication and erection shall be in accordance with CAN/CSA A23.3-14 for "Design of Concrete Structures".
- Provide one set of concrete test cylinders in accordance with CSA A23-14 for every 50 m<sup>3</sup> of concrete placed and a minimum of one set for each structural component.
- Performance specification as per A23.1-14 Table 5:

Exposure Class	Curing Type	Min. Comp. Strength (MPa)	Applications
F-2	1	25 @ 28d	Concrete base
S-2	2	32 @ 56d	Piles

Minimum strength as noted above unless specified higher on drawings or in performance specifications. Allowable curing regime specified for normal concrete, additional requirements are specified in A23.1-14 Table 2 for concrete containing supplemental cementitious materials (SCMs).

5. Allowable Curing Regimes as per A23.1-14 Table 20:

Curing Type	Description
1: Basic	3 d at >10°C or for time necessary to attain 40% of the specified strength
2: Additional	7 d at >10°C or for time necessary to attain 70% of the specified strength
3: Extended	A wet-curing period of 7 d.

Concrete is to be protected from environmental conditions such as excessive heat, freezing, precipitation and wind. Significant temperature differentials, premature drying and moisture loss must be prevented. Additional curing requirements may be necessary. The use of high early strength concrete to shorten the curing period must be approved by the Contract Administrator.

- The use of calcium chloride is not permitted.
- Coordinate the location of all items embedded in concrete work with Architectural, Mechanical & Electrical drawings.
- The Contract Administrator to be notified at least 48 hours in advance of all major pours.
- Refer to architectural drawings for concrete surfaces requiring architectural finishes.
- Where voidform is indicated on drawings use cardboard sheermal below structural slabs and low density polystyrene below walls and grade beams. 150mm Voidform to be provided below all concrete subgrade elements, including all walls, gradebeams, structural slabs, pilecaps, and pilasters unless noted otherwise.

**REINFORCING**

- All bars to conform to CSA G30.18-09: 15M bars and larger to be grade 400 10M bars and supporting rods to be grade 300 or better
- All steel to be detailed in accordance with the current ACI Detailing Manual.
- Minimum clear cover to reinforcing – as per CSA A23.1 & A23.2 table 17.

CLEAR CONCRETE COVER TO REINFORCEMENT			
EXPOSURE CONDITION	EXPOSURE CLASS		
	N	F-1, F-2 S-1, S-2, S-3	C-XL, C-1, C-2, C-3 A-1, A-2, A-3
Cast against and permanently exposed to earth.	–	75mm	75mm
Beams, girders, columns, and piles to ties/stirrups (except as noted below)	32mm	38mm	60mm
Slabs, walls, joists, shells, and folded plates (except as noted below)	19mm	38mm	60mm
Ratio of cover to nominal bar diameter	1.0	1.5	2.0
Ratio of cover to nominal maximum aggregate size	1.0	1.5	2.0

NOTE: THE LARGEST COVER REQUIRED FOR ANY ONE ELEMENT SHALL GOVERN.

- All reinforcing shall be held in place with proper accessories.
- Standard end hook lengths for reinforcement – refer to table below.

STANDARD END HOOKS								
BAR SIZE	10M	15M	20M	25M	30M	35M	45M	55M
90° HOOK LENGTH	175	250	300	400	500	650	800	1025
180° HOOK LENGTH	150	175	200	300	400	550	675	875

- In concrete beams, bend horizontal reinforcing 600mm around corners, or use extra corner bars 900mm x 900mm.
- All openings in grade beams to be confirmed by the Contract Administrator.
- Top steel in beams and concrete walls shall be lapped at centre span, bottom steel shall be lapped at support.
- All reinforcing steel shall be cleaned of all dirt, grease and other deleterious materials prior to placing.
- All reinforcing shall be new billet deformed bars.
- Except as noted otherwise, provide dowels matching vertical or horizontal reinforcing at adjacent concrete members and/or elements.

**SITE VISITS & CLOSING DOCUMENTS**

**STRUCTURAL SITE REVIEW & CLOSING DOCUMENT REQUIREMENTS**

SITE VISITS	
PILE INSTALLATION	REFER TO FOUNDATION NOTES AND FOR REVIEW REQUIREMENTS.
REBAR INSTALLATION	CONTRACT ADMINISTRATOR TO BE NOTIFIED 2 BUSINESS DAYS PRIOR TO ALL CONCRETE PLACEMENT. NO CONCRETE SHALL BE PLACED PRIOR TO CA APPROVAL.
FINAL REVIEW	ALL ITEMS ON DEFICIENCY LIST ARE TO BE ADDRESSED PRIOR TO FINAL REVIEW. PHOTOS ARE TO BE PROVIDED UPON COMPLETION OF DEFICIENT ITEMS FOR WEL'S REVIEW. CA WILL DETERMINE WHETHER AN ADDITIONAL SITE REVIEW IS REQUIRED.

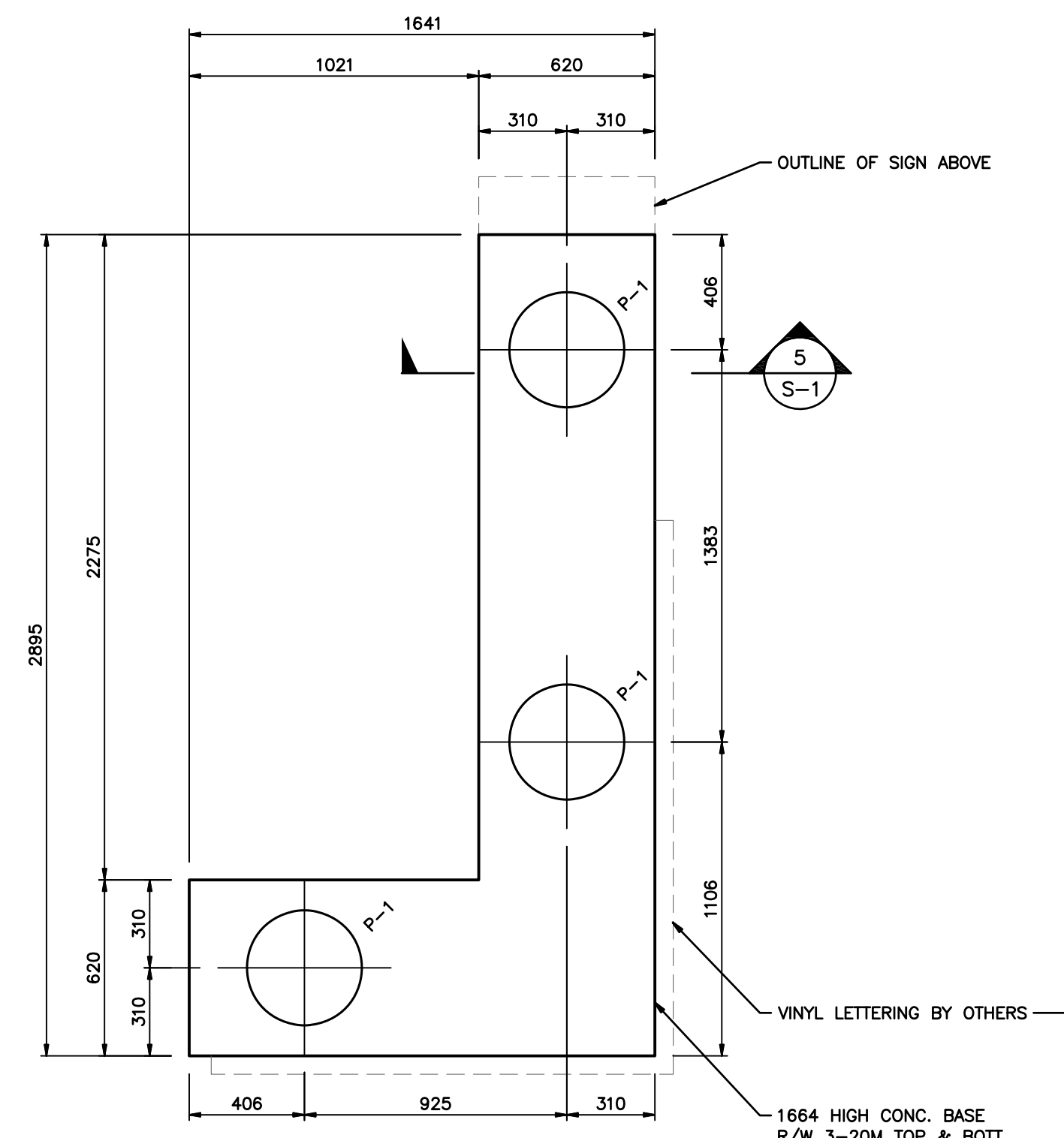
NOTE: FAILURE TO NOTIFY CA OF CONSTRUCTION PROGRESS IN TIME FOR SITE REVIEWS MAY RESULT IN DESTRUCTIVE TESTING, REMOVAL OF FINISHING MATERIALS AND/OR ADDITIONAL FEES FOR SITE REVIEWS, ADDITIONAL TESTING, REPAIRS AND ENGINEERING COSTS WILL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. CERTIFICATION OF THE PROJECT WILL BE WITHHELD UNTIL REVIEWS ARE COMPLETED TO CA'S SATISFACTION AND OUTSTANDING INVOICES ARE PAID.

CLOSING DOCUMENTS	
CONCRETE TESTING REPORTS	CA SHALL RECEIVE REPORTS DIRECTLY FROM THE INDEPENDENT TESTING AGENCY. CA IS TO BE ON THE DISTRIBUTION LIST FOR ALL REPORTS.
SUB-BASE COMPACTION REPORTS	

NOTE: ALL LETTERS/REPORTS SHALL BE SUBMITTED UPON COMPLETION OF THE SPECIFIED WORK.

**NOTES:**

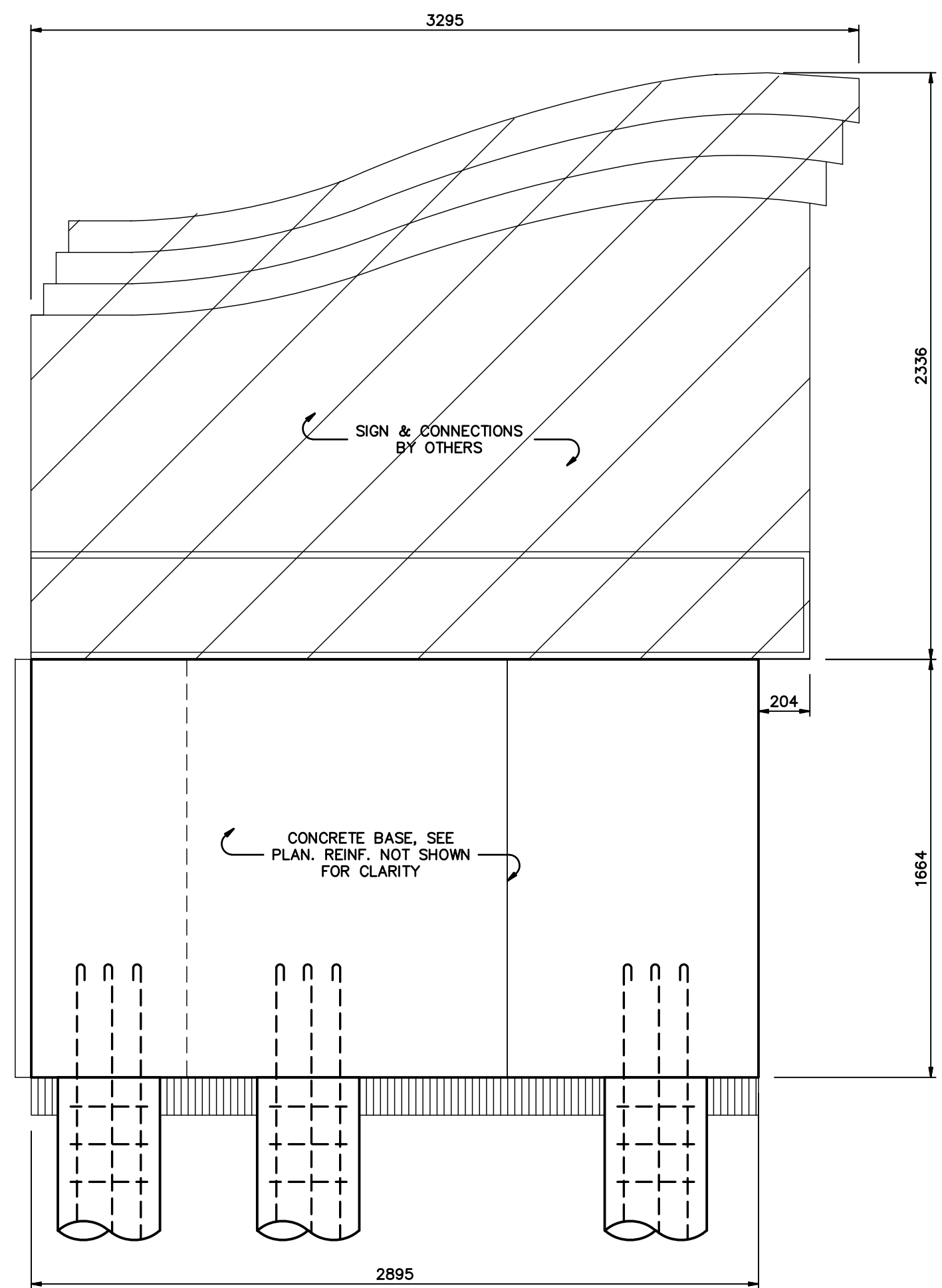
- DESIGN WIND = 30 PSF
- DESIGN IS IN ACCORDANCE WITH CSA S16-09
- BASED ON SOIL CONDITIONS CAPABLE OF WITHSTANDING 900 PSF/FT OF DEPTH LATERAL BEARING PRESSURE
- ANCHOR BOLTS TO BE H.S Fy = 60 ksi AND HOT DIPPED GALVANIZED



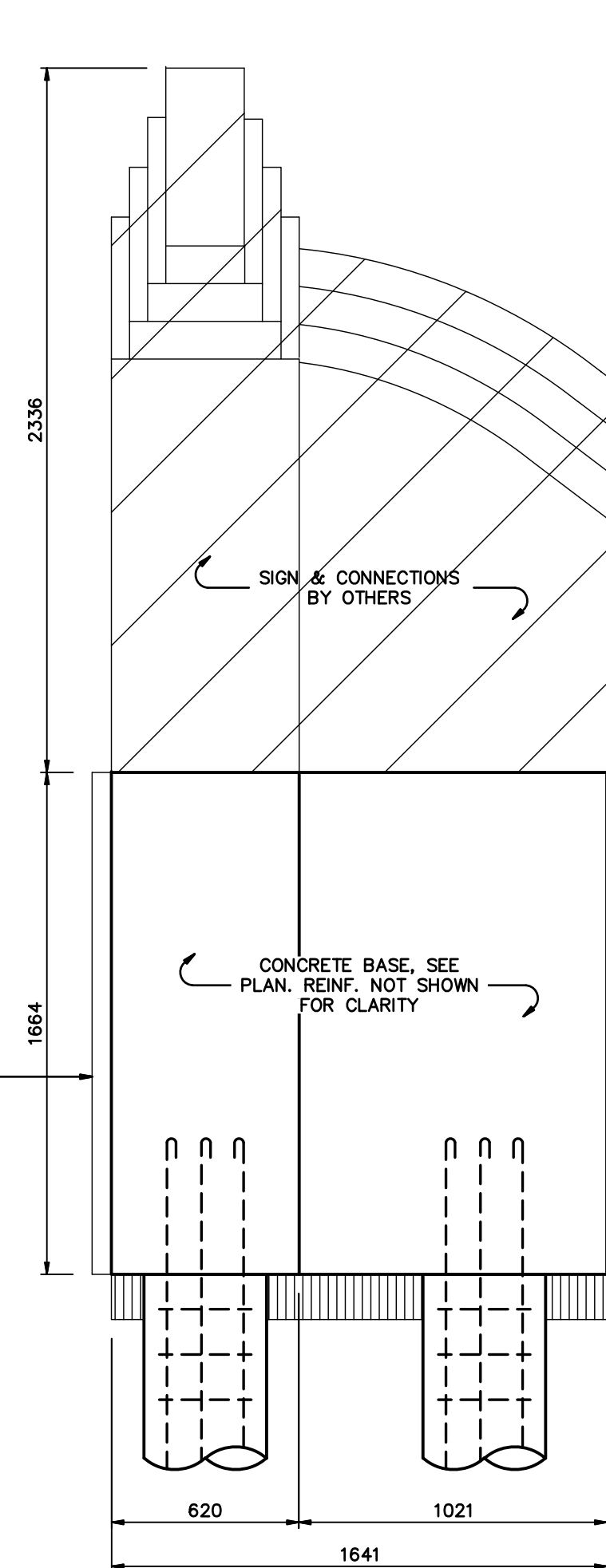
**SIGN BASE FOUNDATION PLAN**  
1 : 20

**C.I.P. CONCRETE PILE SCHEDULE**

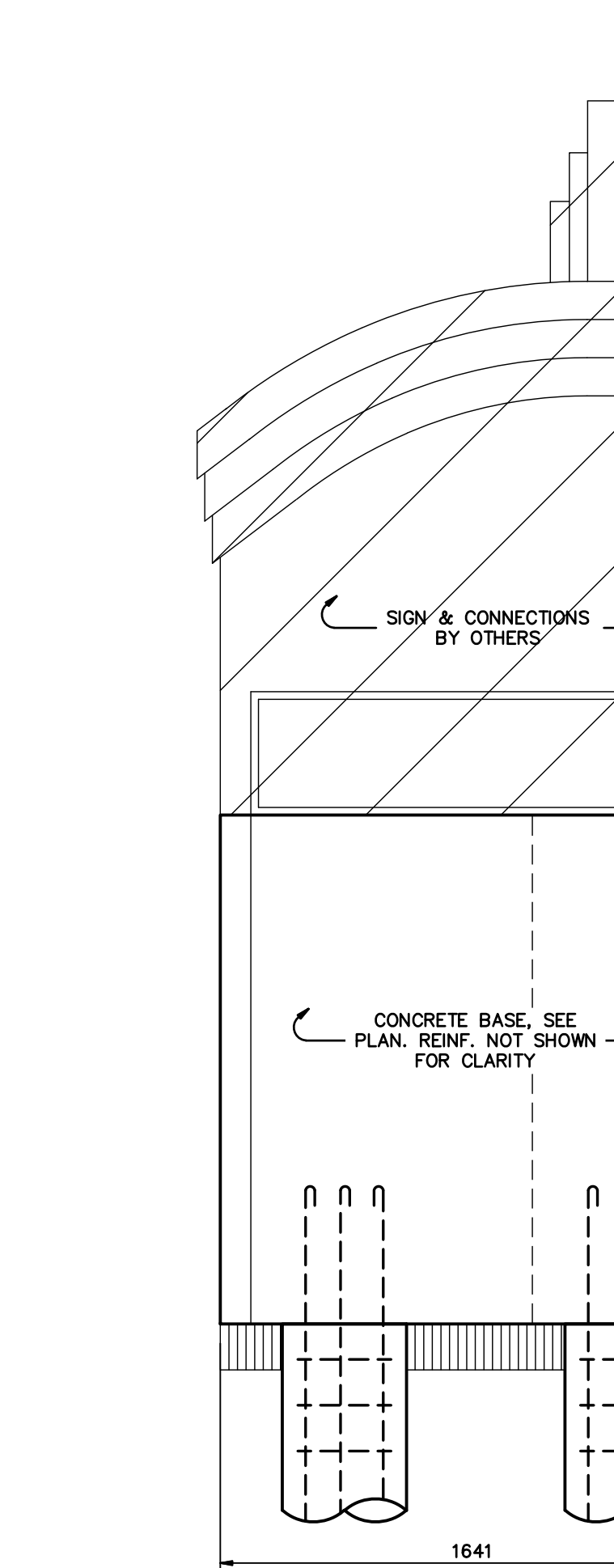
P-1: 406# x7.6m LG. CONC. PILE  
R/W 6-20M VERT.  
W/ 3-10M TIES @ 150 o/c TOP  
REMAINDER 10M TIES @ 600 o/c  
PROVIDE DOUBLE 10 ML POLY WRAPPED & GREASED SONOTUBE TOP 1.5m OF PILE



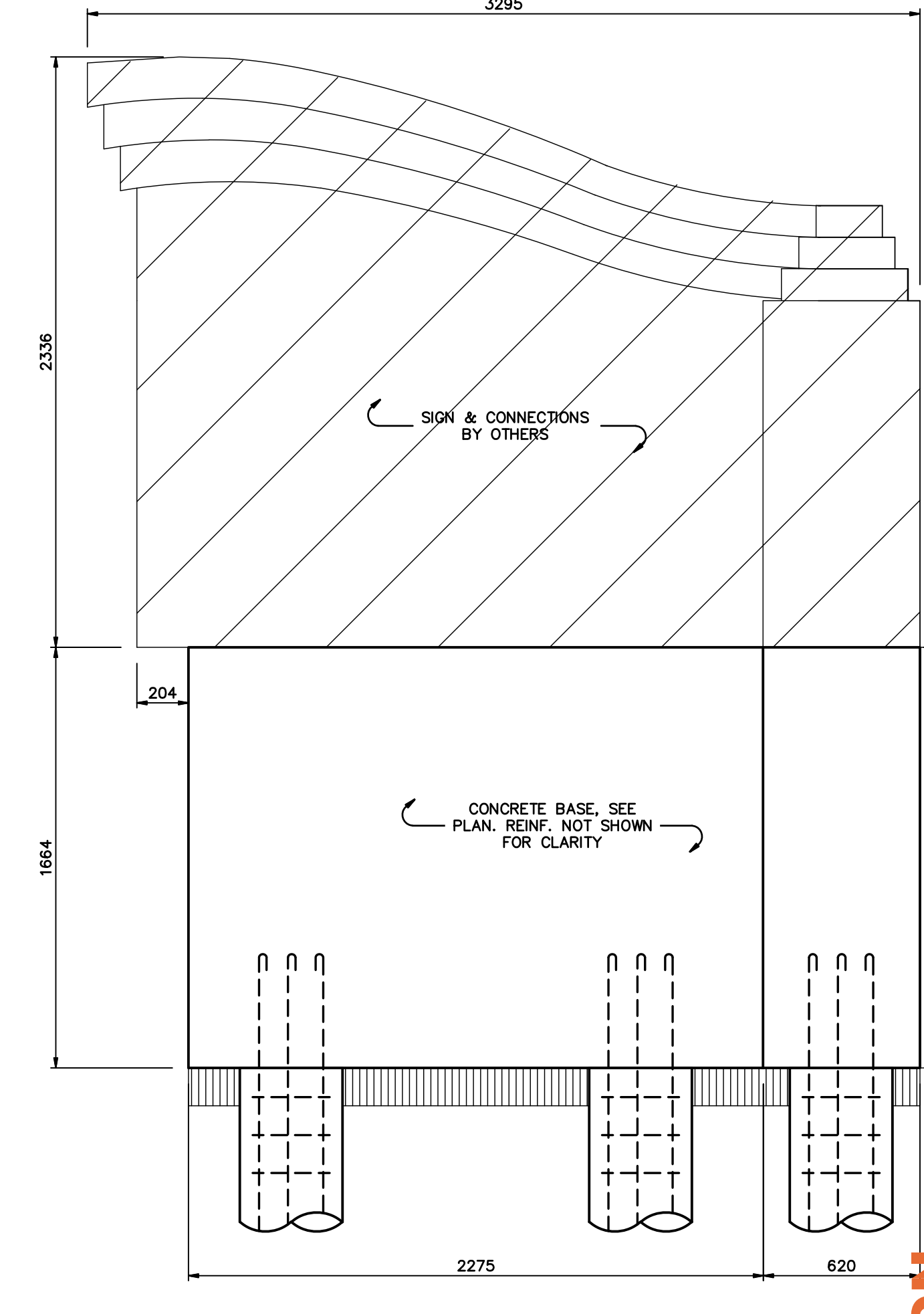
**3 EAST ELEVATION**  
S-1 1 : 20



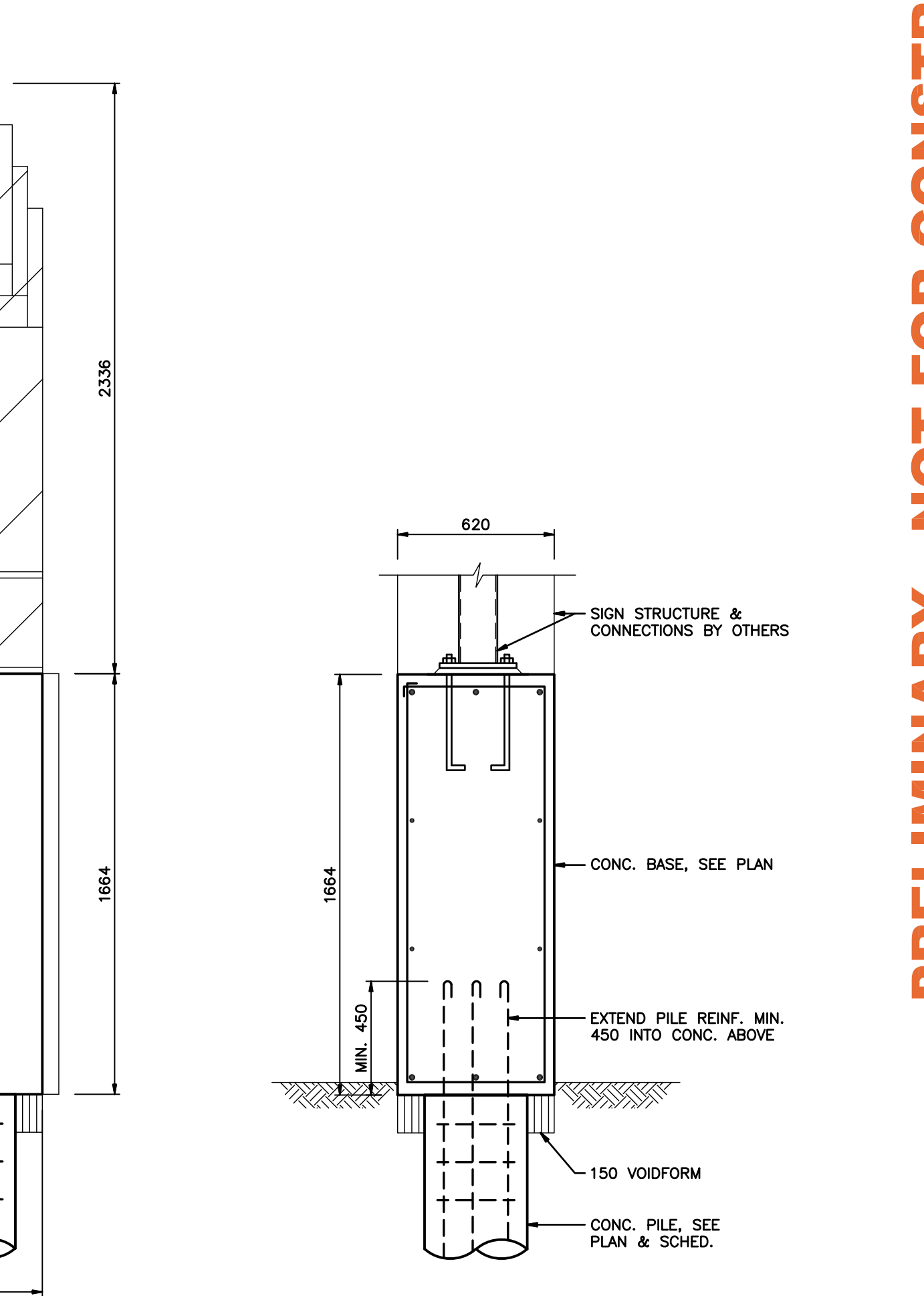
**1 NORTH ELEVATION**  
S-1 1 : 20



**4 SOUTH ELEVATION**  
S-1 1 : 20



**2 WEST ELEVATION**  
S-1 1 : 20



**5 SECTION**  
S-1 1 : 20

**NOTES**

**LEGEND**

**WOLFROM ENGINEERING LTD**  
WWW.WOLFROMENG.COM

ISSUED FOR TENDER	15 NOV 2019
ISSUED FOR 99% REVIEW	19 JULY 2019
ISSUE NOTES	DATE

THIS DRAWING MUST NOT BE SCALED.  
THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DATUMS AND LEVELS PRIOR TO COMMENCEMENT OF WORK. ALL ERRORS AND OMISSIONS TO BE REPORTED IMMEDIATELY TO THE LANDSCAPE ARCHITECT.  
VARIATIONS & MODIFICATIONS TO WORK SHOWN ON THESE DRAWINGS SHALL NOT BE CARRIED OUT WITHOUT WRITTEN PERMISSION FROM THE LANDSCAPE ARCHITECT.  
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**PROFESSIONAL SEALS**

**HTFC**  
PLANNING & DESIGN  
500-115 Bannatyne Avenue East Winnipeg, MB R3B 0R3  
PHONE 204 944 9507 WEB htfc.ca

PROJECT TITLE  
**ST. JAMES - ASSINIBOIA CENTENNIAL POOL WAYFINDING PHASE I**  
644 PARKDALE ST., WINNIPEG, MANITOBA

SHEET TITLE  
**GENERAL NOTES, SIGN FOUNDATION PLAN & ELEVATIONS**

DRAWN KAB	REVIEWED DRC	DRAWING NO. <b>S-1</b>
SCALE AS NOTED	PROJECT No. 18-069	REV
DATE PRINTED 7/18/2019 8:28 AM		CONSULTANT No. W19262

**PRELIMINARY - NOT FOR CONSTRUCTION**