#### GENERAL CONSTRUCTION NOTES:

- Reference Standards: Unless otherwise noted, all standards shall be current edition, with latest addenda if applicable.
- Contractor shall verify all existing dimensions, member sizes and field conditions prior to any demolition, fabrication, construction or installation and notify engineer if conditions, materials, sizes and dimensions are different from those shown.
- 3. The contract structural drawings and specifications represent the finished structure. Unless otherwise indicated, they do not indicate the means or method of construction. The contractor is solely responsible for the protection of the structure during all phases of construction and installation.
- 4. Cross reference all dimensions and details with metal building drawings before commencing any fabrication and/or construction.
- Details and conditions not specifically shown shall be constructed in
- accordance with details shown for similar conditions and materials. Shop drawings prepared by suppliers, sub-contractors, etc. shall be reviewed, coordinated and signed/stamped by general contractor prior to submitting to the engineer. The engineer's review of shop drawings, product data, design calculations, etc., does not relieve the contractor from complying with the
- contract documents Verify location of all box outs and openings. Opening sizes and locations shown for pipes, ducts, mechanical units, etc. are for general information only and shall be verified with all trades before commencing the work.
- 8. No structural repairs, corrections, or alterations of work affecting a structural member shall be made without approval of the engineer. Engineer design and/or approval may be an additional service.
- Do not scale the drawings.

#### DESIGN CRITERIA LOADS AND STRESSES: CODES:

- 1. 2017 Wisconsin Administravtive Code
- International Building Code (2009)
- Minimum Design Loads for Buildings and Other Structures (ASCE 7-05). DESIGN LOADS:

# Seismic Design Criteria:

ITEM DESCRIPTION:	
Risk Category	I
Seismic Importance Factor, I e	1,00
Mapped Spectral Response Acceleration Parameters, S5 & S1	9 <sub>9</sub> = 0.053g 5 <sub>1</sub> = 0.036g
Site Class	"D" (Assumed)
Design Spectral Response Acceleration Parameters, Sps 4 Sp1	S <sub>DS</sub> = 0.056g S <sub>D1</sub> = 0.057g
Seismic Design Category	"A"
Basic Seismic Force Resisting System	Steel Ordinary Concentrically Bracing Frame
Design Base Shear	V = 0.017 °W
Seismic Response Coefficients	C5 = 0.017
Response Modification Coefficients	R=3.25
Analysis Procedure Used	Equivalent Lateral Force Procedure

Wind Design Criteria:		
TEM DESCRIPTION:		
ltimate Design Wind Speed 3-sec gust), Vult	115 MPH	
lominal Design Wind Speed 3 sect gust), Vasd	90 MPH	
Risk Category	I	
Nind Exposure	·c·	
nternal Pressure Coefficients	GCpp +/- 0.18	
3 sect gust), Vasd Risk Category Nind Exposure	ı.C.	

Roof Snow Lo	ad Data*
ITEM DESCRIPTION:	
Ground Snow Load, Pg	40 PSF
Snow Exposure Factor, Ce	1.0
Snow Load Importance Factor, I	1.0
Thermal Factor, C t	Unheated Ct = 1.2
Flat Roof Snow Load (+ drifting), P.	Heated, Ps = 28 PSF + drifting

<sup>\*</sup> See Plan for Unbalanced Snow Loads

### CONCRETE: (f'c) at 28 Days

3500 PSI Slab on grade (max w/c=0.48, fly ash not permitted, no entrained air) 3000 PSI Footings 4000 PSI Piers, exterior platforms and sidewalks (5%-7% air content)

7000 PSI Non-shrink grout below base plates All exterior concrete work shall have 5% to 7% air entrainment.

#### STEEL: (Fy) 60,000 PSI ASTM A615 grade 60 reinforcing

# 36,000 PSI ASTM F1554 threaded anchor rods

FOUNDATION LOADS: Assumed 1500 PSF soil bearing, General Contractor and/or Owner shall verify that the site has adequate soil bearing pressure prior to construction.

### GENERAL FOUNDATION NOTES:

- 1. All foundation excavations, backfill and compaction shall be inspected and certified by a qualified soils testing firm prior to the construction of any footings. All reports are to be submitted to structural engineer in a timely manner.
- Cross reference all metal building, mechanical, electrical and structural drawings to assure proper dimensions and placement of all anchor bolts, inserts, etc.
- 3. All footing elevations shown are to top of footings, unless noted otherwise.
- All footings are centered under walls or columns above, unless noted otherwise.
- 5. Cast dowels in footings for columns, piers and walls above. Dowels to be same number and size, as the vertical reinforcing, unless noted otherwise. See General Concrete Notes or General Masonry Notes for required lap length. Provide 90 degree bend in all footing dowels.

#### GENERAL CONCRETE NOTES:

- Concrete construction shall comply with all the provisions of the "Building Code" Requirements for Structural Concrete," ACI 318-11.
- 2. The "ACI Detailing Manual" by the ACI shall govern detailing and fabrication of all reinforcing steel, unless noted otherwise.
- 3. Reinforcing steel supplier to provide all accessories, chairs, spacing bars and supports necessary to secure steel in accordance with "Manual of Standard Practice" by the Concrete Reinforcing Steel Institute. Clay brick is not allowed.
- 4. Provide minimum concrete protection for all reinforcement as follows: Cast against and permanently exposed to earth = 3"
  - Exposed to earth or weather: #5 bars and smaller = 1-1/2" #6 bars and larger = 2"

or spirals = 1-1/2"

- Not exposed to weather or in contact with ground: Slabs, walls 4 joists (#3 to #11 bars) = 3/4" Beams, girders & columns, main reinforcement, ties, stirrups
- Provide corner bars at all corners and intersections of walls, grade beams and edge beams. Corner bar to be the same size and spacing as all horizontal bars.
- At openings in structural slabs or walls, provide a minimum of two #6 bars each side of opening. Bars are to extend a minimum of 3'-0" beyond corners of openings, unless noted otherwise. Provide (1)-#5 x 4'-0" long diagonal bar at each corner of opening in each face of wall or slab.
- No aluminum of any type shall be allowed in the concrete work, unless coated to prevent aluminum concrete reaction.
- 8. Maximum outside diameter of embedded conduit shall be no larger than 1/3 of the slab thickness. This restriction applies to the total height at conduit crossings. The conduit shall be placed such that it does not significantly impair the strength of construction.
- Post-installed anchors in concrete shall be ICC approved for use in cracked concrete. Approved anchors shall be Hilti Kwik Bolt TZ Expansion Anchors (ESR-1917) or a Hilti HIT-HY 200 Adhesive Anchoring System (ESR-3187), unless noted otherwise. Install anchors in strict conformance with anchor manufacturer's instructions. Anchor substitutions shall not be made without written permission from
- 10. No pipe or conduit of any type shall be placed in structural concrete members without written approval from the structural engineer of record.
- 11. Do not weld rebar, unless Weldable Rebar is provided and its use is approved by the Structural Engineer.
- Lap splice lengths in continuous reinforcing shall be tension lap splices and are shown below, unless noted otherwise on drawings or details:

# Class B Tension Lap Splice Length

	Тор	Bars	Othe	r Bars
Bar Size	Case 1	Case 2	Case 1	Case 2
#3	28"	42"	22"	32"
84	37"	56"	29"	43"
#5	47'	70"	36"	54"
#6	56"	84"	43"	64"
87	81"	122"	63"	94"
#8	93"	199"	72"	101"
#q	105"	157"	81"	121"
#10	118"	177*	91"	136"
#11	131"	196"	101"	151"

#11	131"	196"	
No 4000!			
F'c = 4000 psi			

Class B Tension Lap Splice Length				
	Top Bars		Other Bars	
Bar Size	Case 1	Case 2	Case 1	Case 2
#3	24"	36"	19"	28"
#4	32"	48"	25"	37
#5	40"	60"	31"	4T
#6	48"	72'	37'	56"
#7	10"	106"	54"	81"
#8	80"	121"	62"	43"
#4	91"	136"	10"	105"
#10	102"	153"	79"	118"
#11	113"	170"	87'	131"

- 1. Tables are for normal weight concrete with Grade 60 uncoated reinforcing bars. For lightweight aggregate multiply the values in the table by 1.53.
- 2. Top bars are horizontal bars with more than 12 inches of concrete cast below the bars. Compression lap splices (only where indicated on drawings) for Grade 60 uncoated reinforcing bars shall be 30 times the bar diameter.
- Cases 1 and 2 are defined as follows: Beams and columns:
- Case 1: Concrete cover at least 1.0 times the bar diameter and center-to-center spacing of at least 2.0 times the bar diameter. Case 2: Concrete cover less than 1.0 times or center-to-center spacing less
- than 2.0 times the bar diameter. All other members:
- Case1: Concrete cover at least 1.0 times the bar diameter and center-to-center spacing at least 3.0 times the bar diameter. Case 2: Concrete cover less than 1.0 times the bar diameter or center-to-center spacing less than 3.0 times the bar diameter.

### CONCRETE SLAB AND JOINT NOTE AND DETAILS:

- Control Joints (C.J.) Locate saw cut control joints at column centerlines and at the following maximum spacing to create approximately square panels:
  - a. Concrete slabs-on-grade
  - 4"-5" thick slab 12 feet
- ii. 6"-8" thick slab 15 feet iii. 9"-12" thick slab - 20 feet
- b. Coordinate control joint layout with floor finish requirements.
- c. Control joint depth to be 1 inch using an early entry saw. d. Cut control joints with an early entry saw as soon as possible
- without damage to the slab surface.
- Place slab reinforcing between 1/4 and 1/3 of slab thickness down from top of slab.
- Coordinate all floor finishes, slopes, recesses, floor drains, gutter, etc. with all disciplines (arch., mech., etc.)

#### MASONRY

### STATEMENT OF SPECIAL INSPECTION:

Special Inspections and Testing requirements per Chapter 17 of the IBC in addition to Section 110 of the IBC (Inspection preformed by the Building Official). See Specs. for additional information.

Structural Testing & Special Inspection Program Summary Schedule			ion Program
BC Section	Material	Type of Inspector	Report Frequency
1704.2.5	Shop Fabrication	51-5	Upon Completion
1705.2	Steel	51-5	Meekly
1705.3	Concrete	51-5	Meekly
1705.6	Solls/Earthwork	SI-T	Upon Completion

SI-S = Special Inspector-Structural SI-T = Special Inspector-Technical

#### 1703.1 - APPROVALS

- 1. Agency must be approved by the Building Official or AHJ.
- Agency must be independent of the contractor responsible for work and disclose possible conflicts

#### 1704.2.4 - SPECIAL INSPECTOR RESPONSIBILITIES:

- Submit inspection reports to the Building Official, Architect, Engineer of Record (EOR), and Contractor, stating the work was or was not in conformance with construction documents.
- Discrepancies shall be brought to the immediate attention of the contractor for correction.
- 3. If discrepancy is not corrected, it shall be brought to the attention of the building official and EOR in a timely manner to provide remediation or acceptance prior to the completion of work.
- Submit a final report documenting required special inspections and correction of any discrepancies

#### 1704.2.5 - FABRICATION:

Where fabrication of structural members and assemblies are being fabricated on the premises of a fabricator's shop, special inspection is required of the fabricated item.

Note: Where Special Inspection and Testing of Shop Fabricated Components is required, it shall conform to the Special Inspection and Testing required in the field for the material specific section the component is fabricated from.

Exception: Special Inspection of the Fabricator's shop is not required if approved per Section 1704.2.5.2.

Ve	rification and Inspection Task	Continuous During Task Listed	Periodically During Task Listed
1.	Verify materials below footings are adequate to achieve the design bearing capacity.		×
2.	Verify excavations are extended to proper depth and have reached proper material.		×
3.	Perform classification and testing of controlled fill materials.	***	×
4.	Verify use of proper materials, densities and lift thicknesses during placement and compaction of controlled fill.	×	
5.	Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.		×

# STRUCTURAL SHEET INDEX

51.0 STRUCTURAL GENERAL NOTES

52.0 FOUNDATION PLAN

53.0 SECTIONS

## DRAWING SYMBOL LEGEND:

SECTION NUMBER

SHEET NUMBER

X REVISION X COLUMN NUMBER

X MASONRY PIER

LX LINE LOAD



CCC, TGL

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STRUCTURAL

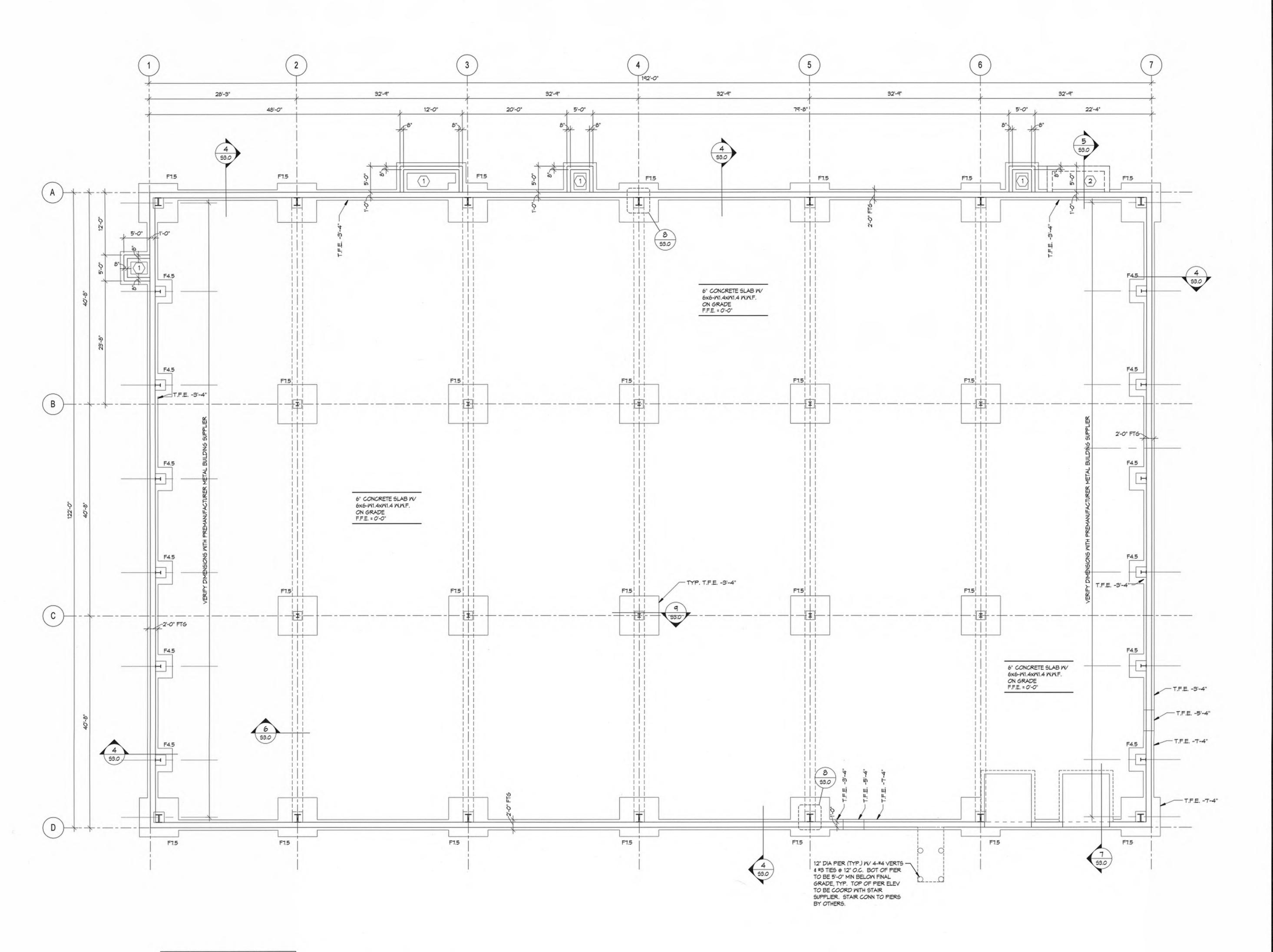
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FOUNDATIONS SHOWN ARE FOR BIDDING PURPOSES ONLY, SIZES MUST BE CONFIRMED BY STRUCTURAL ENGINEER OF RECORD AFTER METAL BUILDING COLUMN REACTIONS HAVE BEEN SUBMITTED BY METAL BUILDING SUPPLIER.

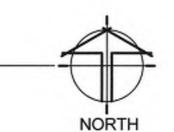
STRUCTURAL FOOTING SCHEDULE			IEDULE
MARK	SIZE	REINFORCING	COMMENTS
F4.5	4'-6"x4'-6"x12"	5-#5 E.M.	
F7.5	7'-6"×7'-6"×15"	6-#6 E.M.	

# FOUNDATION PLAN

1/8" = 1'-0"

# GENERAL PLAN NOTES:

- 1.) VERIFY ALL DIMENSIONS AND ELEVATIONS W/ ARCH. DRAWINGS.
- TYPICAL EXTERIOR T.F.E. = -3'-4", UN.O.
   TYPICAL INTERIOR T.F.E. = -3-4", UN.O.
- 3.) TYPICAL STEPPED FOOTING, SEE SECTION 1/53.0.
- CONTRACTOR VERIFY UNDERGROUND UTILITIES LOCATIONS AND INVERT ELEVATIONS. DROP TOP OF FTG ELEV. AS REQ'D. TO ALLOW MECH PIPE TO PASS OVER FTG.
- PROVIDE PIPE SLEEVES AT ALL LOCATIONS WHERE MECH. PIPES PENETRATE WALL. VERIFY LOCATIONS W/ MECH. DWGS. SEE 2/53.0.



# FOUNDATION PLAN NOTES:

- 5" MIN, STRUCT, CONC. STOOP SLAB OVER 1.0C-20 GA STL. FORM DECK W/ #4 @ 12" O.C. EA. WAY BOT. & #4 @ 16" O.C. TOP DWLS, PROVIDE MIN. 6" VOID BELOW SLAB, TOP OF SLAB EL, VARIES., SEE ARCH. SEE SECTIONS 3/53.0.
- igg(2igg) CONC APRON, SEE ARCH FOR EXTENT AND LOCATION.

ALL CONT. WALL FTG. SIZES NOT DIM. ON PLAN SHALL BE AS FOLLOWS (SEE FDN. NOTES FOR DEPTH & REINF.) UNLESS NOTED OR DETAILED OTHERWISE.

ALL WIDTH	FOOTING WIDTH
8"	2-0"
1'-0"	2-0"



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**FOUNDATION PLAN** 

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TIMOTHY G.
La RISSONIERE
E-27621

MINNEAPOLIS

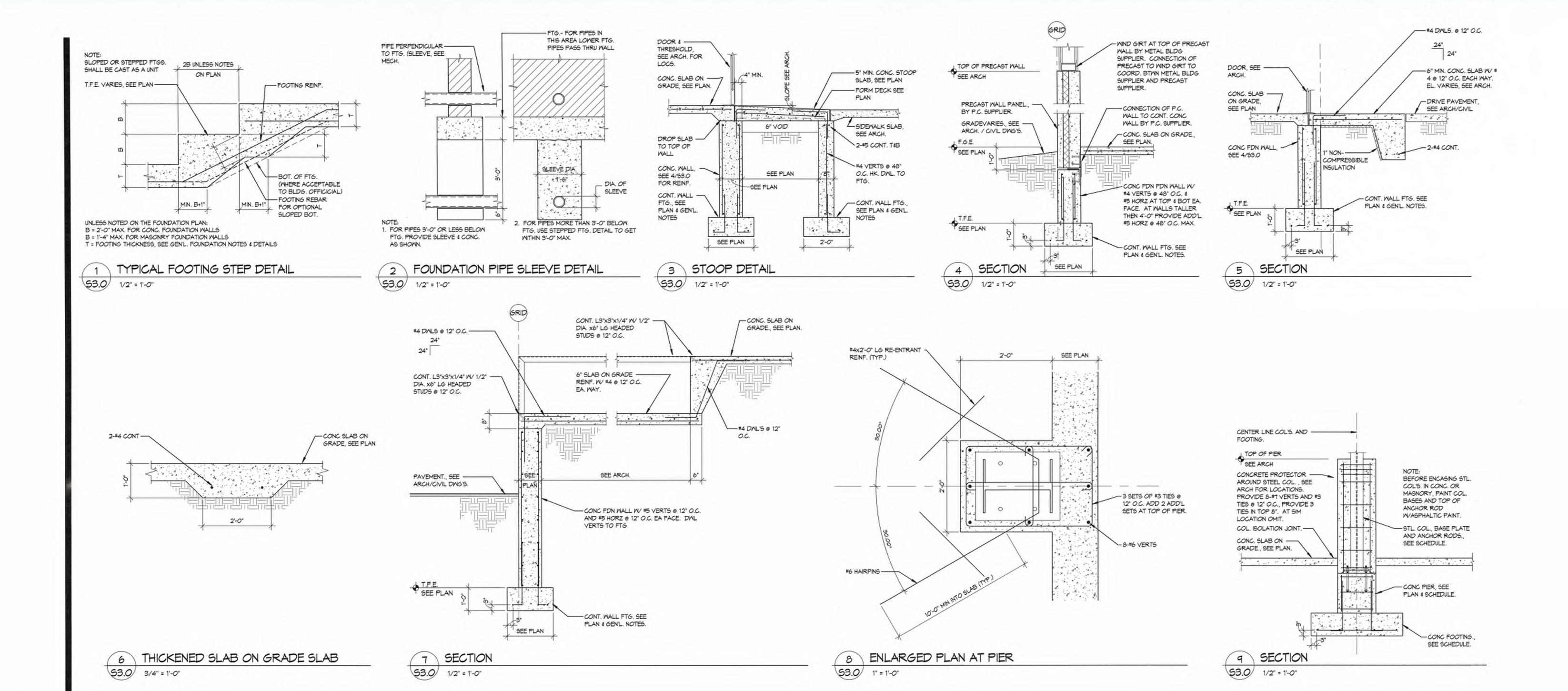
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