

Date	Description
07.08.2019	Footing/Foundation Permit
08.21.2019	Permit

STRUCTURAL NOTES

CANNERY TRAIL RESIDENCES - 1750 N OXFORD AVE. - EAU CLAIRE, WI

S000

10/7/2019 10:22:19 PM

DESIGN DATA

APPLICABLE CODES/STANDARDS:
....INTERNATIONAL BUILDING CODE - 2018
....ASCE 7-16 MIN DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE/SEI

STRUCTURAL DESIGN STANDARDS (DESIGN SHALL CONFORM TO THE CURRENT EDITION UNDER THE APPLICABLE CODE):
....ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY
....ACI 530/531 BLDG CODE REQUIREMENTS AND SPECS FOR MASONRY STRUCTURES (AND RELATED COMMENTARIES)
....ANSI/AISC 360-16 SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS
....AWS D1.1/D1.1M STRUCTURAL WELDING CODE-STEEL

DEFLECTION LIMITS			
MEMBERS	LIVE	SNOW or WIND	DEAD + LIVE or SNOW
ROOF MEMBERS			
SUPPORTING GYPSUM BOARD CEILINGS	L/360	L/360	L/240
SUPPORTING FLEXIBLE CEILINGS	L/360	L/360	L/240
NOT SUPPORTING CEILING	L/240	L/240	L/180
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600
FLOOR MEMBERS			
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600
SUPPORTING GYPSUM BOARD CEILINGS	L/540	N/A	L/360
SUPPORTING FLEXIBLE MATERIALS	L/540	N/A	L/260
WOOD TRUSSES	L/480	L/360	L/240
LINTEL/HEADER/BEAM MEMBERS			
SUPPORTING RIGID MATERIALS (BRICK, MASONRY, ETC.)	L/600	L/600	L/600
SUPPORTING FLEXIBLE MATERIALS (EIFS, SIDING, ETC.)	L/360	L/360	L/240
EXTERIOR WALLS			
WITH RIGID FINISHES (BRICK, MASONRY, ETC.)	N/A	L/600	N/A
WITH FLEXIBLE FINISHES (EIFS, SIDING, ETC.)	N/A	L/360	N/A

BUILDING DESIGN LOADS/CRITERIA

DESIGN LIVE LOADS:
....FLOOR FRAMING (RETAIL, OFFICE, RESTAURANT, RECREATIONAL) 100 psf

....FLOOR FRAMING (RESIDENTIAL AREAS) 40 psf

....STAIRWAYS, EXITS 100 psf

....BALCONIES 75 psf

....PRIVATE GARAGES (PASSENGER VEHICLES ONLY) 40 psf

....INTERIOR PARTITION WALLS (UNIFORMLY DISTRIBUTED WEIGHT) 15 psf

....CORRIDORS FIRST FLOOR 100 psf

....CORRIDORS 2nd & 3rd FLOORS 40 psf

....CORNICES 60 psf

....SLOPED ROOF FACTOR (Cs) 1.0

SNOW LOADS & DESIGN DATA:
....DESIGN SNOW LOAD 42 psf (BALANCED SNOW LOAD)

....FLAT ROOF SNOW LOAD (Pf) = (0.7Ce'Cl'sPg) 42 psf

....SNOW EXPOSURE FACTOR (Ce) 1.0

....SNOW LOAD IMPORTANCE FACTOR (Is) 1.0

....ROOF THERMAL FACTOR (Ci) 1.0

....GROUND SNOW (Pg) 60 psf

....SLOPED ROOF FACTOR (Cs) 1.0

WIND DESIGN DATA:
....WIND IMPORTANCE FACTOR (Iw) 1.0

....RISK CATEGORY II

....BASIC WIND SPEED (5-SECOND GUST, ULTIMATE) 115 MPH

....BASIC WIND SPEED (5-SECOND GUST, NOMINAL) 90 MPH

....MEAN ROOF HEIGHT 33 FT

....WIND EXPOSURE CATEGORY B

....WIND EXPOSURE CLASSIFICATION ENCLOSED

....VELOCITY EXPOSURE COEFFICIENT Kz 0.720

....TOPOGRAPHIC FACTOR (Kt) 1.0

....DESIGN PROCEDURE METHOD 1 (SIMPLIFIED PROCEDURE)

NET PRESSURE COEFFICIENTS C_{net}		
AREA	C_{net} INTERNAL PRESSURE	C_{net} INTERNAL PRESSURE
WINDWARD WALL	0.43	0.73
LEEWARD WALL	-0.51	-0.21
SIDEWALL	-0.66	-0.35
PARAPET WINDWARD WALL	1.28	
PARAPET LEEWARD WALL	-0.85	
FLAT ROOF	-1.09	-0.79

DESIGN WIND PRESSURES P_{net}		
AREA	P_{net} INTERNAL PRESSURE	P_{net} INTERNAL PRESSURE
WINDWARD WALL	10.5 psf	17.8 psf
LEEWARD WALL	-12.4 psf	-5.1 psf
SIDEWALL	-16.1 psf	-8.5 psf
PARAPET WINDWARD WALL	31.2 psf	
PARAPET LEEWARD WALL	-20.7 psf	
FLAT ROOF	-26.6 psf	-19.3 psf

EARTHQUAKE DESIGN DATA:
....OCCUPANCY CATEGORY II
....SEISMIC IMPORTANCE FACTOR (Ie) 1
....MAPPED SPECTRAL ACCELERATIONS AT SHORT PERIODS (Ss) 0.045 g
....MAPPED SPECTRAL ACCELERATIONS AT (1) SECOND PERIODS (S1) 0.038 g
....SITE CLASSIFICATION B
....SOIL COEFFICIENT (Ps) 1.0
....SITE COEFFICIENT (Fv) 1.0
....DESIGN SPECTRAL RESPONSE COEFFICIENT AT SHORT PERIODS (Sds) 0.030 g
....DESIGN SPECTRAL RESPONSE COEFFICIENT AT (1) SECOND PERIODS (Sd1) 0.025 g
....SEISMIC DESIGN CATEGORY A
....BASIC SEISMIC-FORCE-RESISTING SYSTEM LIGHT FRAME WOOD WALLS WITH STRUCTURAL WOOD SHEAR PANELS EQUIVALENT LATERAL FORCE ANALYSIS
....ANALYSIS PROCEDURE FOR SEISMIC DESIGN

SOIL DESIGN VALUES:
....SOIL UNIT WEIGHT 125 PCF (ASSUMED)
....LATERAL EARTH PRESSURE
....AT-REST (BASEMENT WALLS) 62.5 PSF/FT OF DEPTH (ASSUMED)
....PASSIVE 340 PSF (ASSUMED)
....COEFFICIENT OF SLIDING FRICTION 0.30 (ASSUMED)
....SUBGRADE MODULUS 260 PCI (ASSUMED)
....ALLOWABLE SOIL BEARING PRESSURE 3000 PSF

REFER TO SOILS REPORT NO. 17002 DATED 2/10/2017 PREPARED BY ITCO ALLIED ENGINEERING CO. FOR DESCRIPTION OF SOIL CONDITIONS, GEOTECHNICAL RECOMMENDATIONS, AND DESIGN VALUES

FOUNDATION AND EARTHWORK

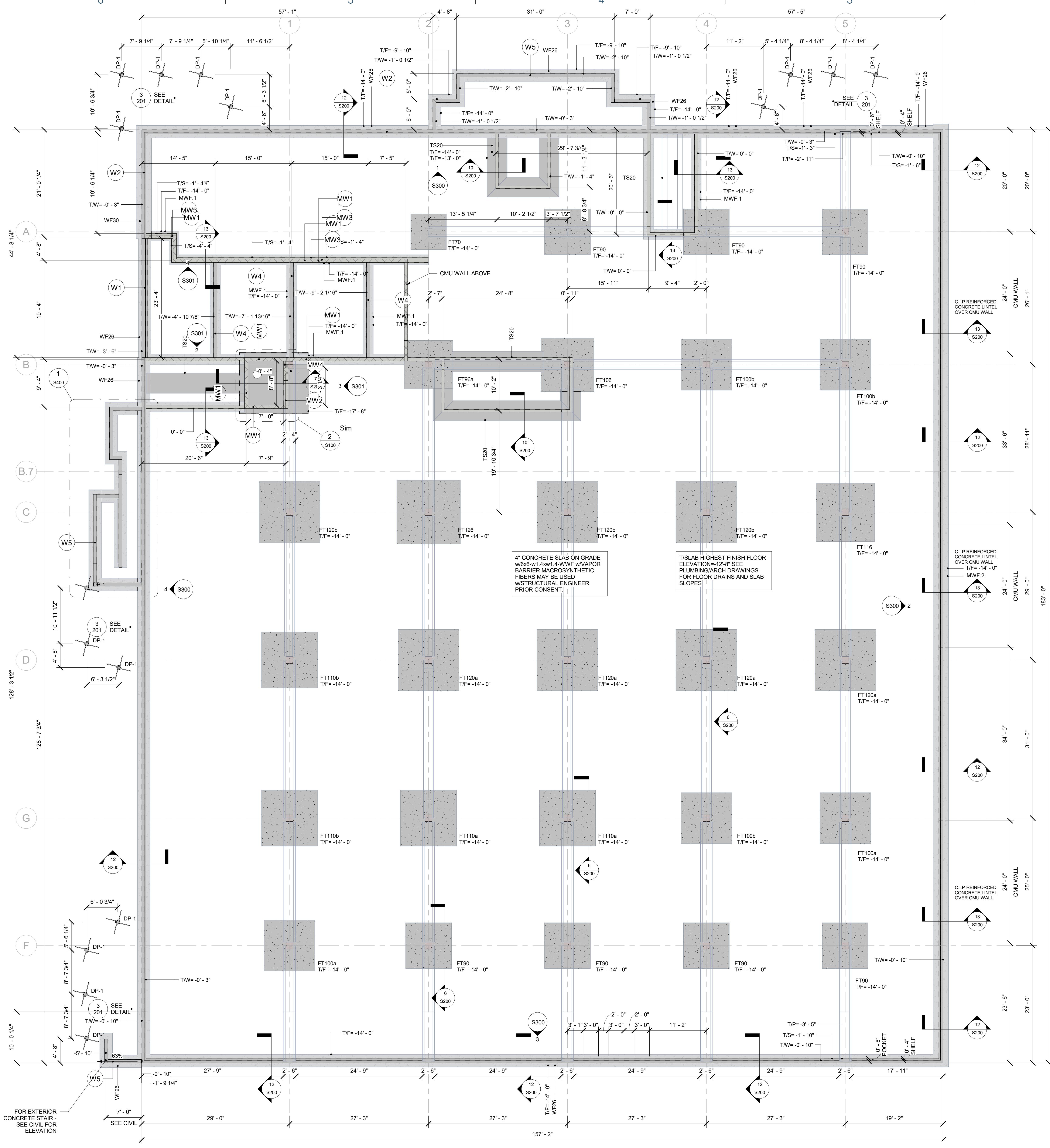
1. ALL EXTERIOR FOOTINGS MUST BEAR BELOW LOCAL FROST LINE RELATIVE TO ADJACENT FINISH EXTERIOR GRADE.
2. DO NOT PLACE ANY FOOTINGS ON FROZEN SUBGRADE.
3. BACK FILLING SHALL BE DONE SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS.
4. DO NOT PLACE BACK FILL AGAINST BASEMENT WALLS UNTIL THE TOP AND BOTTOM OF THE WALL ARE ADEQUATELY BRACED BY THE SLAB ON GRADE AND THE FLOOR FRAMING AT THE TOP OF THE WALL.
5. REMOVE ANY EXISTING CONCRETE 2'-0" BELOW NEW CONCRETE FOOTINGS AND SLABS ON GRADE, UNLESS NOTED OTHERWISE.
6. SHORING/OR UNDERPINNING SHALL BE DESIGNED TO LIMIT HORIZONTAL AND VERTICAL MOVEMENT OF EXISTING CONSTRUCTION TO 1/4" MAXIMUM IN ANY DIRECTION.
7. CENTER PIER AND COLUMN FOOTINGS ON COLUMN CENTERLINES AND WALL FOOTINGS ON WALL CENTERLINES UNLESS SPECIFICALLY NOTED OTHERWISE.
8. ALL BACK FILL WITHIN 3'-0" OF RETAINING WALLS AND BASEMENT WALLS SHALL BE FREE DRAINING GRANULAR MATERIAL APPROVED BY A SOILS ENGINEER AND COMPAKTED TO 90% STANDARD PROCTOR.
9. TOP OF FOOTING ELEVATIONS SHOWN ON THESE CONSTRUCTION DOCUMENTS REPRESENT MINIMUM FOOTING DEPTHS FOR FROST PROTECTION AND BEST JUDGMENT OF A SUITABLE BEARING STRATUM. ACTUAL GRADE CONDITIONS AND SUITABLE BEARING STRATUM MUST BE VERIFIED BY THE CONTRACTOR AND A SOILS ENGINEER AT THE TIME OF EXCAVATION.
10. FOOTING EXCAVATIONS MUST EXTEND TO COMPETENT BEARING MATERIAL. CONTRACTOR SHALL HIRE A SOILS ENGINEER TO FIELD VERIFY NET ALLOWABLE SOIL BEARING CAPACITY STATED ON THESE CONSTRUCTION DOCUMENTS AND IN GEOTECHNICAL REPORT FOR THIS PROJECT. THE SUITABLE BEARING STRATUM MAY NOT EXIST AT FOOTING ELEVATION STATED ON CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL BE EXTENDED ANOTHER FOOTING DEPTH IF REQUIRED. PLACE CONCRETE FOOTINGS OR EXTEND FOOTINGS DOWN TO SUITABLE BEARING STRATUM. ENGINEERED FILL BELOW SLABS ON GRADE AND FOOTINGS SHALL BE FREE DRAINING GRANULAR MATERIAL COMPAKTED TO 95% MODIFIED PROCTOR AND PLACED PER THE SOIL ENGINEERS RECOMMENDATIONS. ALL FIELD CONDITIONS THAT WILL AFFECT DESIGN AS PRESENTED MUST BE COORDINATED WITH STRUCTURAL ENGINEER.

11. REFER TO DESIGN DATA FOR DESCRIPTION OF SOIL CONDITIONS, GEOTECHNICAL RECOMMENDATIONS, AND DESIGN VALUES.

CONTINUITY:

ALL REINFORCING SHALL BE CONTINUOUS UNLESS NOTED OTHERWISE. CONTINUITY AT CORNERS AND INTERSECTIONS SHALL BE ACHIEVED USING CORNER BARS AND CONTACT LAP SPLICES. SEE TYPICAL DETAIL. CONTINUITY AT OTHER LOCATIONS MAY BE ACHIEVED USING CONTACT LAP SPLICES SHOWN ON APPROVED SHOP DRAWINGS. LOCATION OF LAP SPLICES SHALL BE SHOWN ON THE SHOP DRAWINGS. UNLESS NOTED OTHERWISE, THE FOLLOWING LAP SPLICES SHALL BE USED: (ALL LAP SPLICES ARE CLASS B 3 SPLICES)

LOCATION:	#3	#4	#5	#6	#7	#8	#9	#10	#11
3,000 & 3,500 PSI CONCRETE:									
- TOP BARS (*)	21"	19"	35"	46"	71"	93"	118"	149"	184"
- OTHER BARS:	16"	22"	27"	35"	55"	71"	91"	115"	142"
4,000 & 4,500 PSI CONCRETE:									
- TOP BARS (*)	16"	19"	25"	36"	61"	80"	102"	129"	159"
- OTHER BARS:	16"	16"	19"	28"	47"	62"	78"		



MASONRY WALL REINFORCING SCHEDULE			
MARK	WALL THICKNESS	VERTICAL REINFORCEMENT & SPACING	REINFORCEMENT LOCATION IN CELL
MW.1	8"	#5 AT 48" o/c MAX	CENTER
MW.2	8"	#6 AT 16" o/c MAX	INSIDE FACE

MASONRY WALL REINFORCING SCHEDULE NOTES:
1. GROUT CONCRETE MASONRY UNITS SOLID FULL HEIGHT OF BUILDING AT REINFORCEMENT LOCATIONS.
2. UNLESS NOTED, PROVIDE #6 REINFORCEMENT.
3. PROVIDE CONCRETE MASONRY UNIT WALL REINFORCING ABOVE AND BELOW ALL MASONRY OPENINGS: EXTEND THE LENGTH OF THE REBARS BY 23" OR 40 BAR DIAMETERS PAST THE EDGE OF THE OPENING.
4. REINFORCING TO BE HOT-DIPPED GALVANIZED.
5. PROVIDE STANDARD (W1) HORIZONTAL JOINT REINFORCING AT 10' ON CENTER VERTICALLY (8' ON CENTER IN PARAPET WALLS) UNO.
6. MASONRY FIREWALL CONSTRUCTION ASSUMES MASONRY BLOCKS COMPRISED OF LIMESTONE.

MASONRY WALL FOOTING SCHEDULE			
MARK	WIDTH	THICKNESS	LONGITUDINAL
MWF.1	2'-0"	1'-0"	(2) #5
MWF.2	3'-0"	1'-2"	(3) #5

MASONRY WALL FOOTING SCHEDULE NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR LAP'S IN STEEL REINFORCEMENT.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

THICKENED SLAB SCHEDULE			
MARK	DIMENSIONS	REINFORCEMENT	REMARKS
TS20	2'-0" x 2'-0"	1'-0"	(2) #5

THICKENED SLAB SCHEDULE NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR LAP'S IN STEEL REINFORCEMENT.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

WALL FOOTING SCHEDULE			
MARK	DIMENSIONS	REINFORCEMENT	
WF26	2'-6" x 1'-2"	(3) #5	#5's AT 12" BOTTOM FACE
WF20	3'-0" x 1'-2"	(3) #5	#5's AT 12" BOTTOM FACE

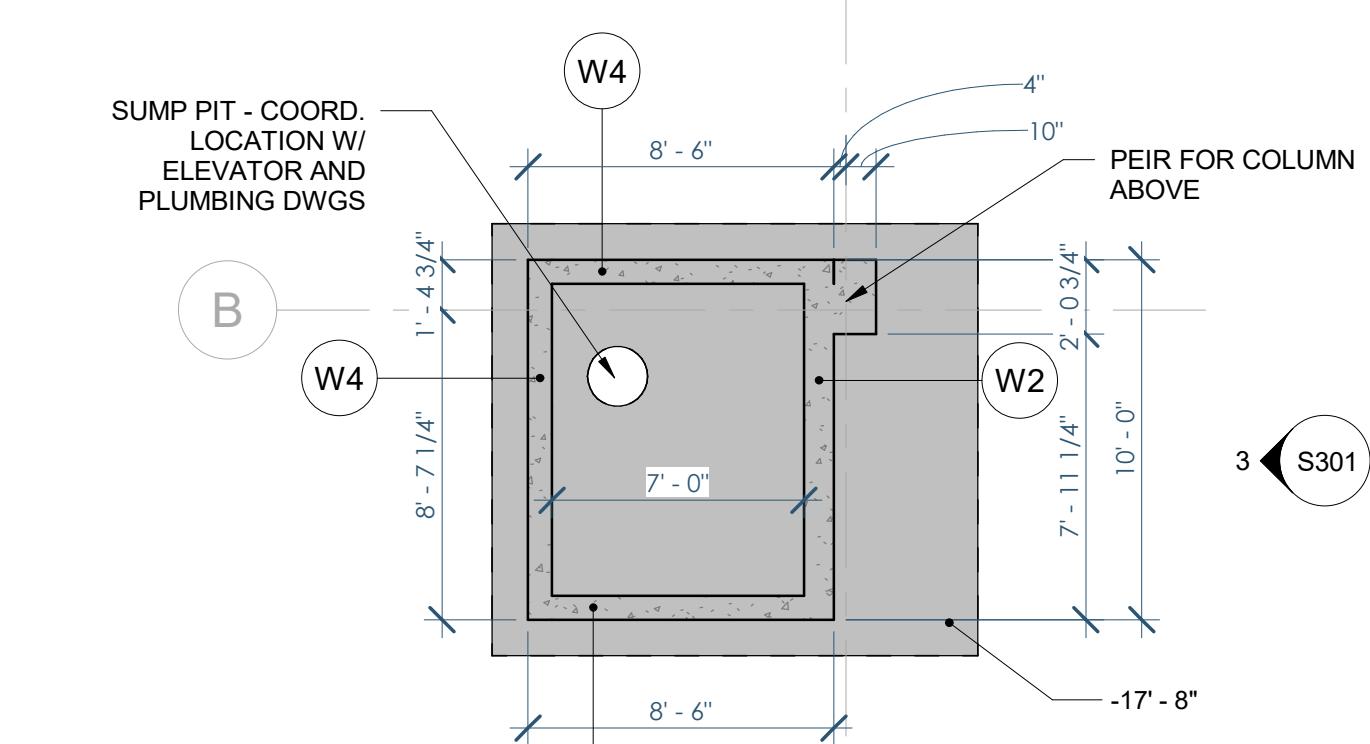
COLUMN FOOTING SCHEDULE NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR MINIMUM COVER REQUIREMENTS.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
4. ALL LAP'S IN STEEL REINFORCING SHALL BE CLASS "B" LAP SPLICES UNLESS NOTED OTHERWISE.

COLUMN FOOTING SCHEDULE							
Type Mark	Type	No.	EI @ Top	Dimensions	Bottom Reinforcing	Type	Comments
FT70	FT70 - 7x7x0x1-8	1	1'-4" x 0"	7'-0" x 7'-0" x 1'-8"	81.67 CF (10) #7 (10) #7		
FT90	FT90 - 9x9x0x2x1	7	1'-4" x 0"	9'-0" x 9'-0" x 2'-1"	168.75 CF (10) #8 (10) #8		
FT96a	FT96a - 9x9x6x2-6	1	1'-4" x 0"	9'-6" x 9'-6" x 2'-6"	225.63 CF (10) #7 (10) #7		
FT100a	FT100a - 10x10x0x2-2	2	1'-4" x 0"	10'-0" x 10'-0" x 2'-2"	208.33 CF (11) #8 (11) #8		
FT100b	FT100b - 10x10x0x2-3	3	1'-4" x 0"	10'-0" x 10'-0" x 2'-3"	225.00 CF (11) #8 (11) #8		
FT106	FT106 - 10x6x10x6x6	10	1'-4" x 0"	10'-6" x 6'-0" x 6'-0" x 6'-0"	275.63 CF (11) #8 (11) #8		
FT110a	FT110a - 11x11x0x2-3	2	1'-4" x 0"	11'-0" x 11'-0" x 2'-3"	272.25 CF (12) #8 (12) #8		
FT110b	FT110b - 11x11x0x2-4	2	1'-4" x 0"	11'-1" x 11'-1" x 2'-4"	302.50 CF (12) #8 (12) #8		
FT116	FT116 - 11x6x11x6x6	1	1'-4" x 0"	11'-6" x 11'-6" x 6'-0"	330.63 CF (12) #8 (12) #8		
FT120a	FT120a - 12x12x12x0x3	4	1'-4" x 0"	12'-0" x 12'-0" x 3'-0"	432.00 CF (13) #8 (13) #8		
FT120b	FT120b - 12x12x12x0x3	3	1'-4" x 0"	12'-0" x 12'-0" x 3'-6"	504.00 CF (13) #8 (13) #8		
FT126	FT126 - 12x12x12x0x6	1	1'-4" x 0"	12'-6" x 12'-6" x 6'-0"	546.88 CF (13) #8 (13) #8		

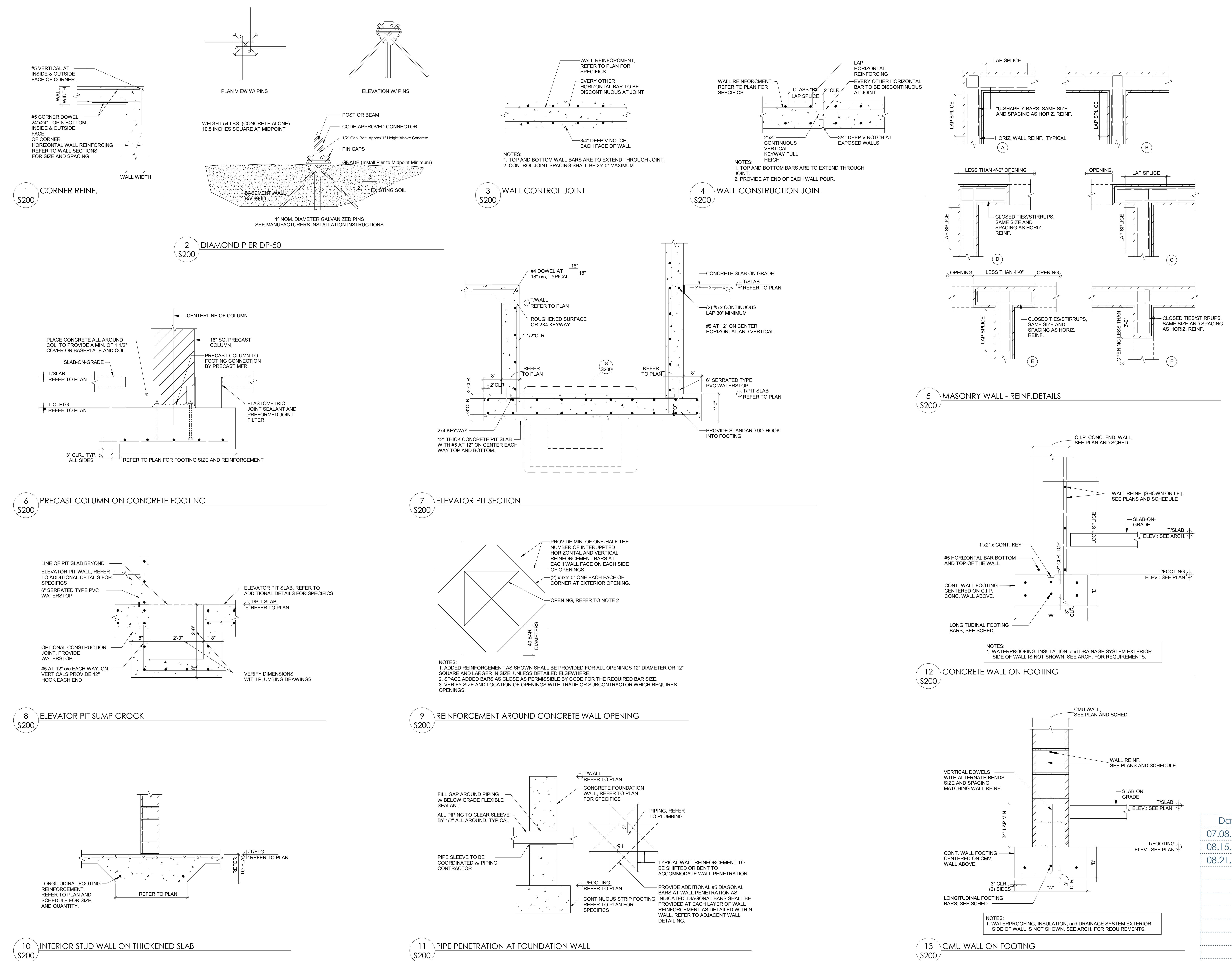
COLUMN FOOTING SCHEDULE NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR LAP'S IN STEEL REINFORCEMENT.
2. REFER TO FOUNDATION PLAN FOR TOP OF FOOTING ELEVATIONS.
3. ALL FOOTING EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.

CONCRETE WALL REINFORCING SCHEDULE					
MARK	TYPE	THICKNESS	REINFORCEMENT	REMARKS	
			VERTICAL	HORIZONTAL	
W1	CONCRETE	14"	5#'s AT 18" o.c.	5#'s AT 12" o.c.	Inside face
W2	CONCRETE	10"	5#'s AT 12" o.c.	5#'s AT 12" o.c.	Inside face
W3	CONCRETE	10"	6#'s AT 12" o.c.	6#'s AT 12" o.c.	Inside face
W4	CONCRETE	8"	4#'s AT 12" o.c.	3#'s AT 12" o.c.	centered in wall thickness
W5	CONCRETE	8"	4#'s AT 12" o.c.	3#'s AT 12" o.c.	Inside face

CONCRETE WALL REINFORCING SCHEDULE NOTES:
1. REFER TO STRUCTURAL NOTES SHEET FOR LAP'S IN STEEL REINFORCEMENT.
2. COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND EXIST. CONDITIONS



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09.25.2019	<Progress>



STRUCTURAL DETAILS

CANNERY TRAIL RESIDENCES - 1750 N OXFORD AVE. - EAU CLAIRE, WI

CAPITAL GROUP
Developer: W Capital Group
tyler@wcapitalgroupre.com | 608.345.9848

OpeningDesign
Architect: OpeningDesign
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ryan@openingdesign.com | 773.425.6457

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Cedar Corporation
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XC
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khsley@innovation-built.com

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Mechanical Engineer: HOVLAND'S HVAC
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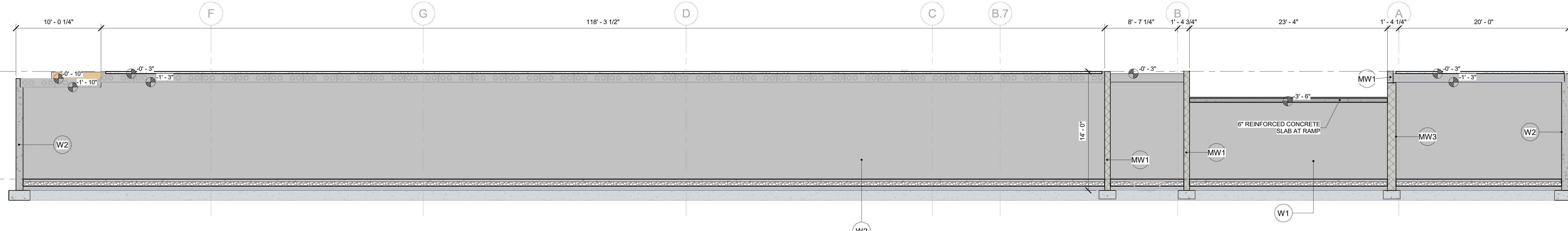
PRISM DESIGN CONSULTANTS INC.
Electrical Engineer: PRISM DESIGN ELECTRICAL CONSULTANTS INC
E8403 State Rd 85 | Mondovi, WI 54755
bhalgren@prismdesign-electrical.com | 715.797.0602

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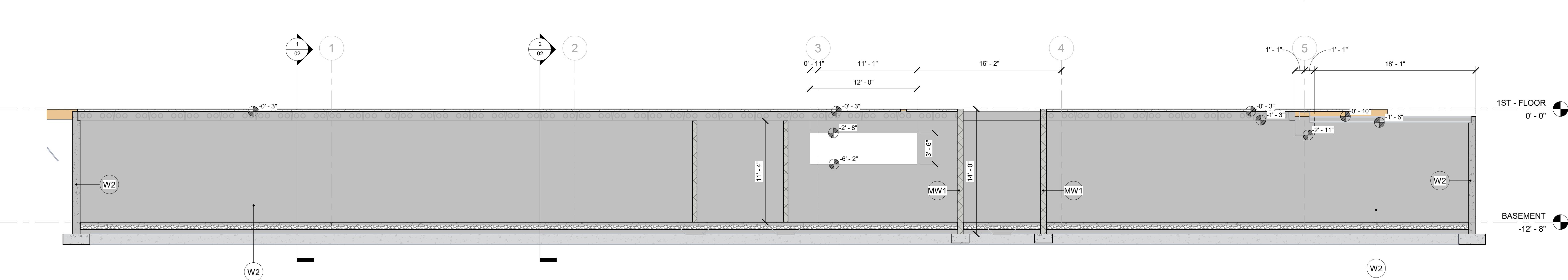
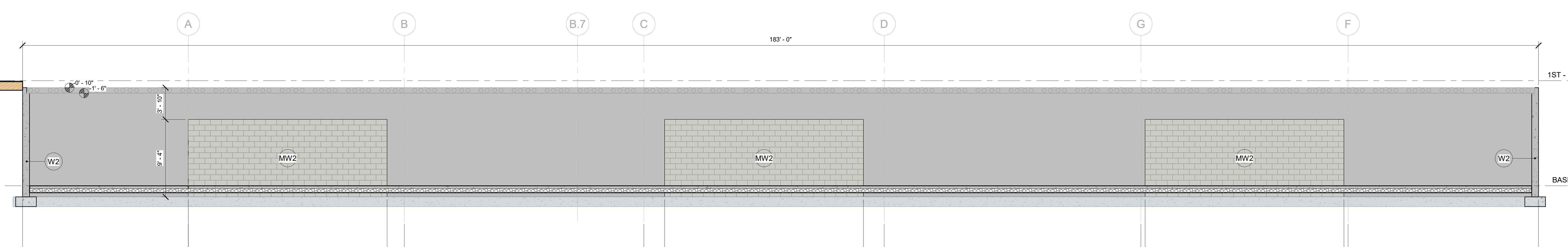
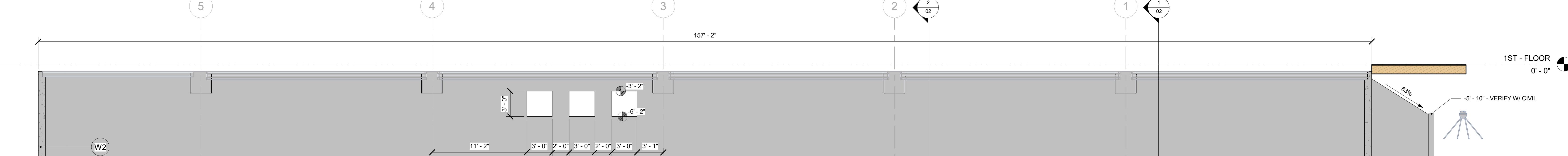
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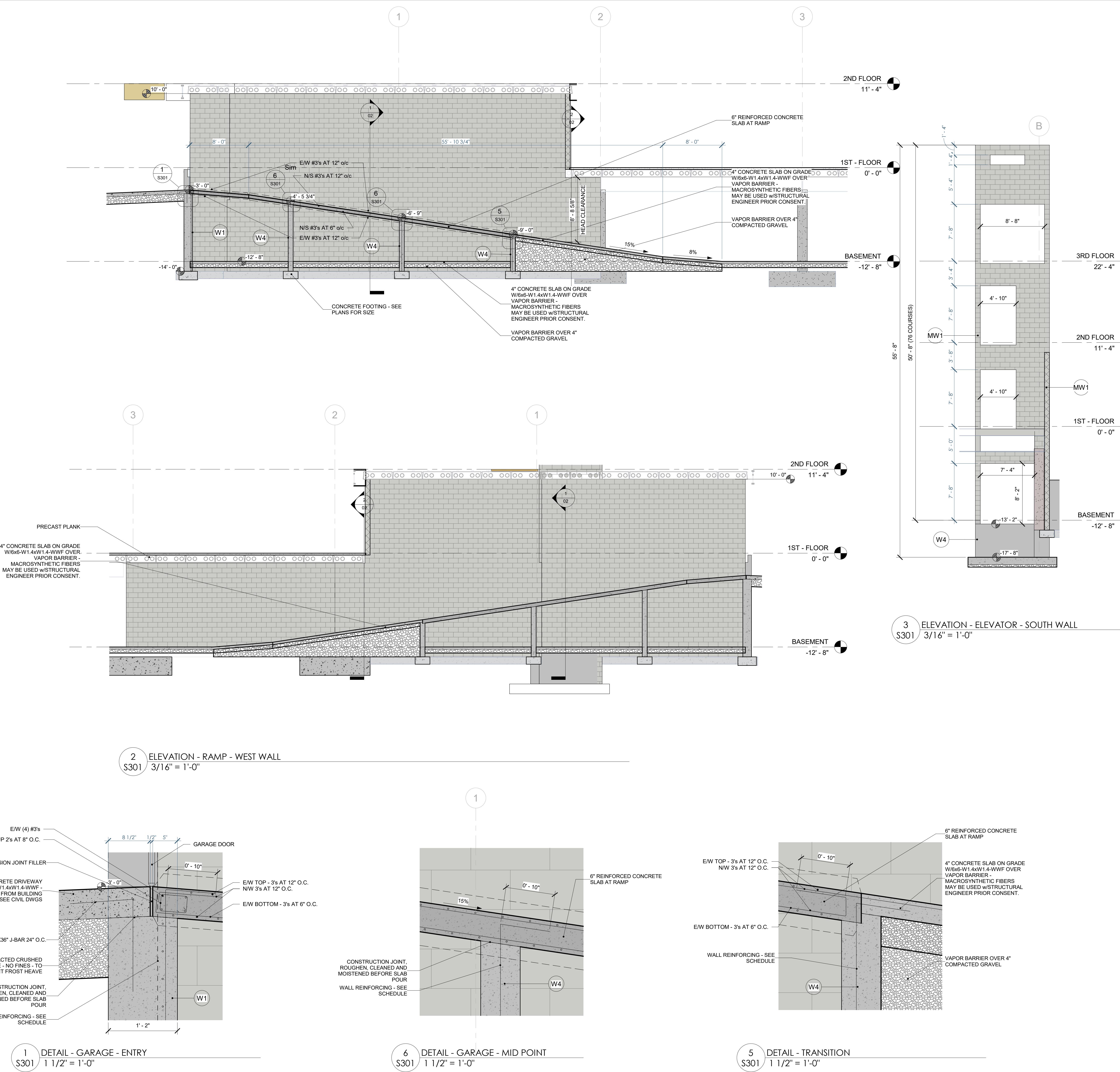
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4 ELEVATION - NORTH FOUNDATION WALL

1 ELEVATION - EAST FOUNDATION WALL
S300 3/16" = 1'-0"2 ELEVATION - SOUTH FOUNDATION WALL
S300 3/16" = 1'-0"3 ELEVATION - WEST FOUNDATION WALL
S300 3/16" = 1'-0"

ELEVATIONS - FOUNDATION
CANNERY TRAIL RESIDENCES - 1750 N OXFORD AVE. - EAU CLAIRE, WI



CANNERY TRAIL RESIDENCES - 1750 N OXFORD AVE. - EAU CLAIRE, WI

ELEVATIONS - FOUNDATION

