GARDEN CREEK APARTMENTS

110 BLUEBONNET CIRCLE BOERNE, TEXAS 78006

		DRAWING INDEX				
SEQ NO	DRAWING NUMBER SHEET NAME					
3EQ 110	DIVINIO NOMBER	SHEET TWINE	SSUE	PERMIT		
1	S0-1	COVER SHEET				
2	S0-2A	STRUCTURAL SPECIFICATIONS		•		
3	S0-2B	STRUCTURAL SPECIFICATIONS		•		
4	SO-3A	REINFORCED CONCRETE STANDARDS				
5	S0-3B	POST TENSIONED CONCRETE STANDARDS				
6	S0-3C	POST TENSIONED CONCRETE STANDARDS		•		
7	SO-4A	WOOD SCHEDULE STANDARDS				
8	S0-4B	WOOD FRAMING STANDARDS		•		
9	S1-1.1A	FOUNDATION AND SHEARWALL PLAN ~ BLDG #1 WEST				
10	S1-1.1B	FOUNDATION AND SHEARWALL PLAN ~ BLDG #1 EAST				
11	S1-1.12	FOUNDATION AND SHEARWALL PLAN ~ BLDG #2				
12	S1-1.2	FOUNDATION AND SHEARWALL PLAN ~ BLDG #3				
	31 1.0	TOONDATION AND STIDMANCE TEN SEEDO TO				
13	PS1-1.0	COMPOSITE PT FOUNDATION PLANS		•		
14	PS1-1.1A	POST TENSION LAYOUT PLAN ~ BLDG #1 WEST				
15	PS1-1.1B	POST TENSION LAYOUT PLAN ~ BLDG #1 EAST				
16	PS1-1.2	POST TENSION LAYOUT PLAN ~ BLDG #2				
17	PS1-1.3	POST TENSION LAYOUT PLAN ~ BLDG #3		L		
18	S1-2.1A	2ND FLOOR FRAMING AND SHEARWALL PLAN ~ BLDG #1 WEST				
19	S1-2.1B	2ND FLOOR FRAMING AND SHEARWALL PLAN ~ BLDG #1 EAST				
20	S1-2.2	2ND FLOOR FRAMING PLAN ~ BLDG #2				
21	S1-2.3	2ND FLOOR FRAMING PLAN ~ BLDG #3				
		2.12 (2001) (1001)		ř		
22	S1-3.1A	ROOF FRAMING AND SHEARWALL PLAN ~ BLDG #1 WEST				
23	S1-3.1B	ROOF FRAMING AND SHEARWALL PLAN ~ BLDG #1 EAST				
24	S1-3.2	ROOF FRAMING PLAN ~ BLDG #2				
25	S1-3.3	ROOF FRAMING PLAN ~ BLDG #3				
26	S2-1	UNIT FRAMING PLANS AND NOTES				
27	S2-1	UNIT FRAMING PLANS AND NOTES				
28	S2-3	UNIT FRAMING PLANS AND NOTES				
29	S2-4	UNIT FRAMING WALL SECTION AND SCHEDULES		•		
30	S3-1	CONCRETE FOUNDATION SECTIONS				
31	S4-1	WOOD FLOOR FRAMING SECTIONS		L		
32	S4-2	WOOD FLOOR FRAMING SECTIONS		_		
33	S5-1	WOOD ROOF FRAMING SECTIONS				
34	S5-2	WOOD ROOF FRAMING SECTIONS				
35	S6-1	WOOD BEARING WALL ELEVATIONS AND DETAILS		_		
36	S7 – 1	WOOD SHEARWALL ELEVATIONS AND DETAILS			Ш	

CONTRACTOR SHALL VERIFY ALL HORIZONTAL AND VERTICAL DIMENSIONS, ELEVATIONS, SLAB DROPS, DEPRESSIONS, BLOCKOUTS, STEPS, STEM WALLS AND LEDGES FOR ALL LEVELS OF BUILDINGS WITH ARCHITÉCTURAL AND CIVIL DRAWINGS.

ENGINEER OF RECORD - THOMAS A. BELLACE, P.E. SENIOR DESIGN ENGINEER - CHAITANYA DATE, P.E. ENGINEER IN TRAINING - BHAUMIK UPADHYAY CAD TECHNICIAN - JAMES WILLIAMS

COORDINATION NOTE

annia ann	ADDITIONAL		
ADD'L, ADD	ADDITIONAL	LLV	LONG LEG VERTICAL
AB, ABOLT	ANCHOR BOLT	LOC, N	LOCATION
ARCH	ARCHITECTURAL	M	MOMENT
@	AT	MFG, MFG'R	MANUFACTURER
BM	BEAM	MECH	MECHANICAL
BRG	BEARING	MPH	MILES PER HOUR
BLK	BLOCK	MAT'L	MATERIAL
BOT, B	BOTTOM, BOTTOM BAR	MAX	MAXIMUM
BLDG	BUILDING	MFR	MANUFACTURER
CL	CENTER LINE	MTL	METAL
CLR	CLEAR	MIN	MINIMUM
COL	COLUMN	MISC	MISCELLANEOUS
CONC	CONCRETE	NIC	NOT IN CONTRACT
CONN	CONNECTION	NO	NUMBER
CMU	CONCRETE MASONRY UNIT	NTS	NOT TO SCALE
CONST	CONSTRUCTION	0.C	ON CENTER
CONT	CONTINUOUS	OPING	OPENING
CONTR	CONTRACTOR	O.H	OPPOSITE HAND
D	DEEP	P	PAN
DSN	DESING	PAF	POWDER ACTUATED
		FAF	
FTG	FOOTING	- 4-	FASTENER
DET. DTL	DETAIL	P/C PL	PRECAST
DIA, Ø	DIAMETER	PL	PLATE
DIAG	DIAGRAM	PT	POST TENSIONED
DIM	DIMENSION	PTS	POINTS
		DUCE	
DWG	DRAWING	PHSE	PENTHOUSE
<u>D</u> WL	DOWEL	PSF	POUNDS PER SQ. FOOT
EE	EACH END	PSI	POUNDS PER SQ. INCH
EF	EACH FACE	REF	REFERENCE
EW	EACH WAY	REV	REVISION
ELEV, EL	ELEVATION	REINF	REINFORCING
ETF	ELEVATION TOP OF FOOTING	REQ'D	REQUIRED
ETC	ETCETERA	REBAR	REINFORCING BAR
	EQUAL	SCHD, SCHED	SCHEDULE
EQ			
EXIST, EXT'G	EXISTING	SECT	SECTION SHOPT I FO HORIZONTAL
EXP	EXPANSION	SLH	SHORT LEG HORIZONTAL
EXP JT, EJ	EXPANSION JOINT	SLV	SHORT LEG VERTICAL
EXT	EXTERIOR	SL0	SHORT LEG OUT
F/	FACE OF	SIM	SIMILAR
FÍN FL, FFE	FINISHED FLOOR	SOG SPECS	SLAB ON GRADE
FFE	FINISHED FLOOR ELEVATION	SPECS	SPECIFICATIONS
FL, FLR	FLOOR	SQ	SQUARE
FRT	FIRE RETARDANT	STD	STANDARD
11/1	TREATED WOOD		
		STIRR	STIRRUPS
FTG	FOOTING	STL,ST'L	STEEL
FT	FEET, FOOT.	STRUCT	STRUCTURAL
FLG	FLANGE	T	TOP
GA, ga	GAUGE	THK	THICK
GAĹV	GALVANIZED	THRD	THREADED
H	HEAD	THRU	THROUGH
HK	HOOK	T/S, T/STL	TOP OF STEEL
HR	HOUR	T/B, T/BM	TOP OF BEAM
HORIZ	HORIZONTAL	T/CONC	TOP OF CONCRETE
		T/CLAD	
INFO	INFORMATION	<u>T/SLAB</u>	TOP OF SLAB
INT	INTERIOR	<u>T/FTG</u>	TOP OF FOOTING
J <u>S</u> T	JOIST	TYP	TYPICAL
JT <u></u>	JOINT	UNO	UNLESS NOTED OTHERWISE
K-FT	KIP-FEET	VERT	VERTICAL
K/FT	KIPS PER FOOT	W	WIDE
K	KIPS	W/	WITH
L	ANGLE	WP	WORKING POINT
2L	DOUBLE ANGLE	WT	WEIGHT
LG	LONG	WWF	WELDED WIRE FABRIC
		** ***	METATA MINT I VOIVIO
LLH	LONG LEG HORIZONTAL		
LLO	LONG LEG OUT		

SURFACE DRAINAGE REQUIREMENTS

A DRAINAGE PLAN BY THE CONTRACTOR IS TO BE APPROVED BY THE ENGINEER

CONSTRUCTION AND AT ALL TIMES AFTER THE STRUCTURE HAS BEEN COMPLETED

REQUIREMENTS ARE CRITICAL TO MAINTAIN FUTURE PERFORMANCE OF FOUNDATION.

THE FINISHED GRADE SURROUNDING THE EXTERIOR OF THE SLAB SHOULD BE

SLOPED TO DRAIN AWAY FROM THE STRUCTURE IN ALL DIRECTIONS FOR A

MINIMUM DISTANCE OF FIVE (5) FEET AND A MINIMUM OF SIX (6) INCHES

OF VERTICAL FALL. FOR FLAT GRADE CONDITIONS THAT CANNOT MEET THIS

REQUIREMENT, UNDERGROUND DRAINAGE SYSTEM USING SOLID PVC DRAIN

ROOF DOWNSPOUTS AND DRAINS SHOULD DISCHARGE WELL AWAY FROM THE

WHERE LANDSCAPING IS TO BE INSTALLED NEXT TO PERIMETER GRADE BEAMS,

LIMITS OF THE FOUNDATIONS OR EDGE OF PERIMETER GRADE BEAMS WITH

A MOISTURE BARRIER OR OTHER SUITABLE MEANS IS RECOMMENDED TO

CONTRACTOR SHALL ENGAGE SOILS ENGINEER TO CONFIRM UNIFORMITY OF

EXISTING SOIL CONDITIONS PRIOR TO CONSTRUCTION OF FOUNDATION. ADDITIONAL

THE INTEGRITY OF THE POST TENSION WAFFLE SLAB FOUNDATION RELIES ON

COMPLIANT CONSTRUCTION AND OWNER'S MAINTENANCE OF THE OVERALL SITE

DRAINAGE AND CARE OF MOISTURE CONDITION AT THE SLAB PERIMETER. TREES SHALL NOT BE PLANTED ANY CLOSER THAN ONE-HALF THE CANOPY WIDTH. THE

SITE DRAINAGE SHALL BE DESIGNED TO INSURE THE ROOF DRAINS ARE TIED TO

LANDSCAPE AND DRAINAGE NOTE

THE PREMANUFACTURED WOOD TRUSS AND COMPONENTS SHOWN ON THESE

THESE DRAWINGS SHALL BE PREPARED BY THE MANUFACTURER AND WILL BE

REVIEWED BY VERTIKA STRUCTURAL ENGINEERS, LLC FOR COMPLIANCE WITH THE DESIGN LOADS. THE DRAWINGS WILL BE PROVIDED AT A LATER DATE AS

2. THE PREMANUFACTURED STEEL STAIRS SHOWN ON THESE DRAWINGS SHALL BE PREPARED BY THE MANUFACTURER AND WILL BE REVIEWED BY VERTIKA

STRUCTURAL ENGINEERS, LLC FOR COMPLIANCE WITH THE DESIGN LOADS.

3. THE STRUCTURAL STEEL TRANSFER FRAMING CONNECTIONS WILL BE DESIGNED

BY OTHERS. SHOP DRAWINGS WILL BE PROVIDED AS A DEFERRED SUBMITTAL

ERECTION PLANS FOR ALL FLOOR AND ROOF TRUSSES. PERMIT OFFICIAL MAY

REQUIRE OTHER SEALED DRAWINGS FROM TRUSS SUPPLIER AS REQUIRED.

4. APPROVED SHOP DRAWINGS WILL BE MADE AVAILABLE TO CITY PERSONNEL

5. TRUSS MANUFACTURER SHALL PROVIDE SEALED TRUSS PROFILES AND

PERMIT OFFICIAL NOTES FOR

DEFERRED SUBMITTALS

SUBMITTAL AND WILL BE REVIEWED BY ENGINEER.

FROM THE PROJECT OWNER AT THE JOBSITE.

TRUNK LINES AND AND POSITIVELY MOVES WATER INCLUDING SPRINKLER

PONDING SLOPING AWAY AT MINIMUM OF 2% FROM SLAB EDGE.

TO PREVENT MOISTURE FROM ENTERING UNDERLYING CLAY SOIL.

LINES SHALL BE PROVIDED WITH DISCHARGE OF DRAIN LINES TO THE

WITH A FINAL INSPECTION ALSO PROVIDED TO ASSURE GOOD DRAINAGE

THE FOLLOW DRAINAGE REQUIREMENTS SHOULD BE OBSERVED DURING

CONTRACTOR SHALL ALSO ADVISE OWNER OF THESE PRECATION. THESE

PROVISIONS HAVE BEEN INSTALLED.

STREET DRAIN SYSTEM.

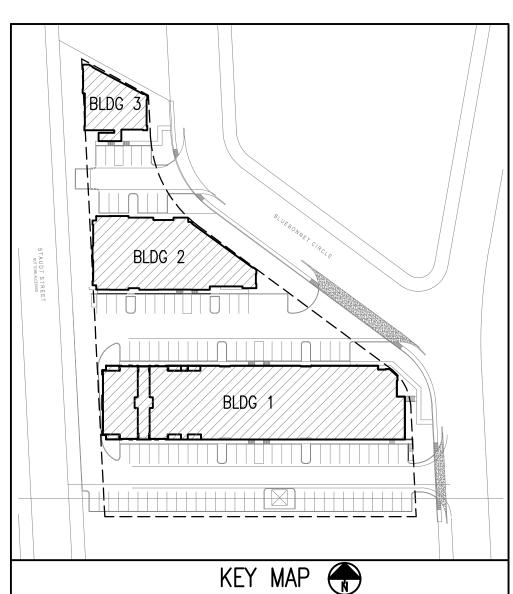
SOIL TESTS MAY BE REQUIRED.

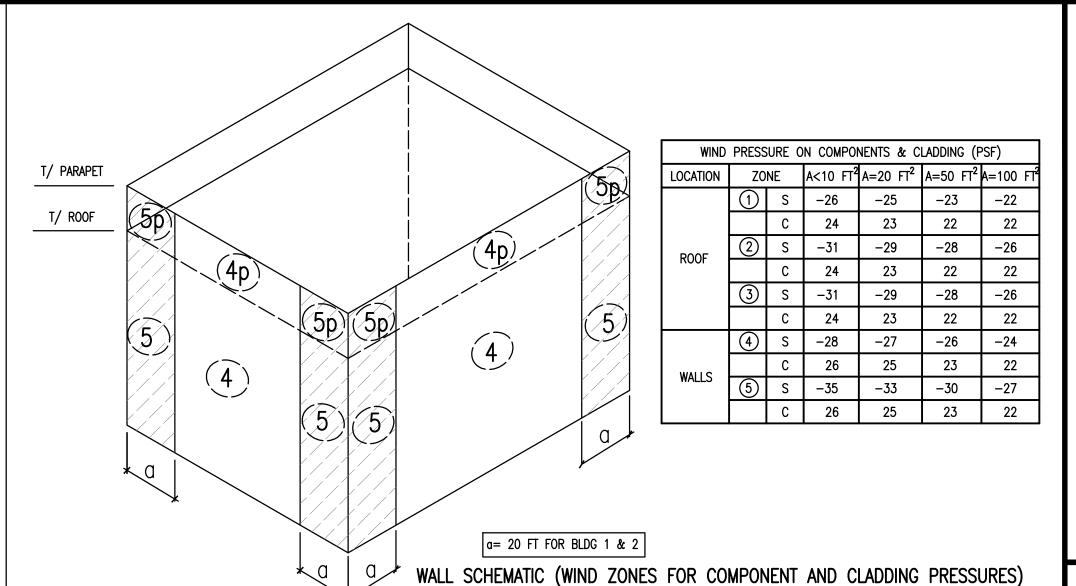
AN UNDERGROUND DRAIN SYSTEM PROVIDED.

STRUCTURAL ABBREVIATIONS

BRIC	BUILDING AREA BUILDING PLAN FLOOR LEVEL BUILDING NUMBER						
STAUDT STREET NOTWIE-MARKEN	BLDG 2 BLDG 1						
	KEY MAP						

GENERAL SYMBOLS	
SYMBOLS	DESCRIPTION
PLAN SCALE: 3/32*=1'-0*	DRAWING TITLE DESIGNATION
SECTION SCALE: 3/4"="-0"	DRAWING SUBTITLE DESIGNATION
	PROJECT NORTH ARROW
	CENTER AND COLUMN LINES
	HIDDEN LINES
	BREAK LINE
23	COLUMN CENTERLINE AND GRID TAG
3 S-401 3/S-401	PLAN DETAIL KEY (INDICATING DETAIL NUMBER OVER SHEET NUMBER)
1/53-1	SECTION (INDICATING DETAIL NUMBER OVER SHEET NUMBER
T.O. SLAB EL. 21'-8"	FINISH FLOOR ELEVATION DESIGNATION
-	NOTE LEADER AND TERMINATOR
\triangle	REVISION NUMBER
S1-1.1C-	BUILDING AREA BUILDING PLAN FLOOR LEVEL BUILDING NUMBER





REFER TO ASCE 7 FOR SLOPED ROOF SCHEMATICS

WIND LOAD SHEAR SCHEDULE									
LEVEL	PRESSURE	TRIBUTARY LOAD							
/E-ROOF	14.54 psf	$P_R = 55 \text{ plf}$							
RD-EAVE	13.99 psf	$P_E = 124 \text{ plf}$							
ND-3RD	13.07 psf	$P_3 = 135 \text{ plf}$							
ST-2ND	12.48 psf	$P_0 = 128 \text{ plf}$							

PH = TYP PLATE HEIGHT = 9'-1 1/8" FD = TYP FLOOR DEPTH = 1'-6 3/4"ASCE 7-10 METHOD I 90mph EXPOSURE B

TYPICAL NOTES ON WIND PRESSURES 'INDICATES SUCTION ON THE SURFACE AREA; "+" INDICATES COMPRESSION ON THE SURFACE AREA. 2. "S"-SUCTION PRESSURE EXPANSION "C"-COMPRESSION PRESSURE 3. INTERPOLATION BETWEEN EFFECTIVE WIND AREA IS PERMITTED. 4. A WIND DIRECTIONAL FACTOR OF Kd=0.85 HAS BEEN INCLUDED. 5. THE WIND PRESSURE SHALL BE USED IN ACCORDANCE WITH ASCE-7 02, SECTION 2.3 AND 2.4

> MAIN FRAME = FORCE RESISTING SYSTEM NET UPLIFT = 8psf (SLOPE ROOF) NET UPLIFT = 12psf (FLAT ROOF)

	LATERAL LOAD	DESIGN	CRITE	RIA ~	IBC	2019	_
1. 2. 3. 4. 5. 6.	WIND LOADING WIND SPEED (3-SEC OF COMMON OF CO	w = 1 = = B = +	Iw = 1.0 = II = B = +/- 0.18			CODE REFERENCE ASCE 7 FIGURE 6-1 ASCE 7 TABLE 6-1 OBC TABLE 1604.5 OBC ARTICLE 1609.4 ASCE 7 FIGURE 6-5 PER CODE REQUIREME BASED ON ABOVE	
	SHEAR BLDG. E-W N-S		#2	#3			
8.	ANALYSIS METHOD	=	: SIMPLIFI	ED METHO)D		

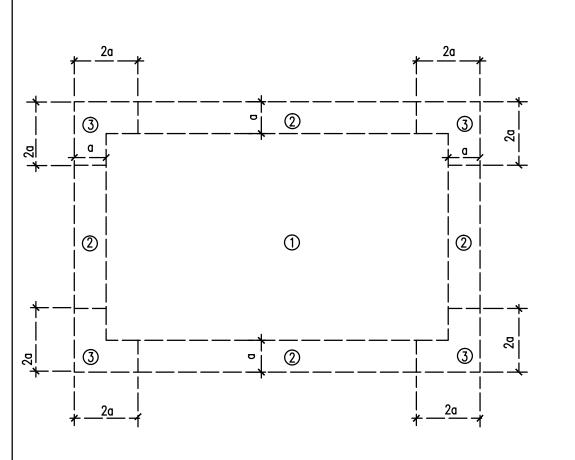
CODE REFERENCE ROOF SNOW LOAD 1. SNOW EXPOSURE FACTOR ASCE 7 TABLE 7-2 ASCE 7 TABLE 7-4 I = 1.0Pg = 5 PSF3. GROUND SNOW LOAD 4. THERMAL FACTOR Cs = 1.05. ROOF SLOPE FACTOR ASCE 7 FIGURE 7-2 6. FLAT ROOF SNOW LOAD Pf = 5 PSF7. SLOPED ROOF SNOW LOAD ASCE 7 EQ. 7-2 CODE REFERENCE SEISMIC LOADING ASCE 7 TABLE 1-1 1. SEISMIC USE GROUP 2. SEISMIC DESIGN CATEGORY ASCE 7 TABLE 11.6 = A 3. SEISMIC IMPORTANCE FACTOR ASCE 7 TABLE 11.5-1 = 1.0 4. SPECTRAL RESPONSE COEFF.,Sds = X.XXXg ASCE 7 EQ. 11.4-3 (SHORT PERIOD) ASCE 7 EQ. 11.4-4 SPECTRAL RESPONSE COEFF.,Sd1 = X.XXXg 5. (1-SECOND PERIOD)

RATED FOR SHEAR RESISTANCE ASCE 7 TABLE 12.2-1 8. RESPONSE MODIFICATION FACTOR = 7DEFLECTION AMPLIFICATION FACTOR Cd = 4.5ASCE 7 TABLE 12.2-1 10. DESIGN BASE SHEAR V = XXX KIPS (E-W) AND (N-S)= EQUIV. STATIC 11. ANALYSIS PROCEDURE FORCE METHOD SHEAR BLDG. #1 #2

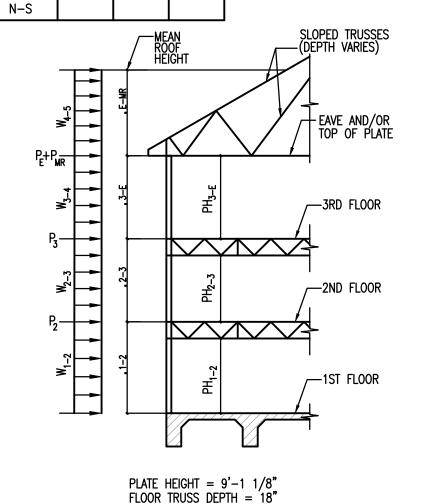
= LIGHT FRAMED WALLS

SHEATHED W/ WOOD

STRUCTURAL PANELS



ROOF PLAN SCHEMATIC - BUILDINGS 1 THRU 4 (WIND ZONES FOR COMPONENTS AND CLADDING PRESSURES)



FLOOR DECK THK. = 3/4"

REFER TO ASCE 7 FOR SLOPED ROOF SCHEMATICS

PER GEOTECHNICAL ASCE 7 TABLE 12.2-1 J.W. Drawing Scale: Project No. AS NOTED 140102-00 SSUED FOR: SD 30% ☐ CD 60% ☐ CD 95% ☐ CD 100% <u>9/16/2019</u> ARCH REVIEW ☐ PRICING Permit

STRUCTUI

APARTMENTS T CIRCLE

CREEI

Construction

DRAWING INDEX

BUILDING LEGEND AND KEY PLAN

WIND LOADS

6. SITE CLASS

7. SEISMIC FORCE RESISTING SYSTEM

E-W

1.01 — BUILDING CODE

- 1. THE STRUCTURE IS DESIGNED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
- 2. THE STRUCTURE HAS BEEN DESIGNED TO WITHSTAND THE WIND PRESSURES FOR 110 MPH WIND EXPOSER B AND AS SPECIFIED IN THE ABOVE REFERENCED CODE. WIND VELOCITY IS NOTED AS A SERVICE CONDITION. (3 SECOND GUST)
- 3. THE DESIGN DEAD LOADS ARE AS REQUIRED AND THE CODE RECOMMENDED LIVE LOADS ARE AS FOLLOWS:
- a. <u>FLOOR LIVE LOADS</u> RESIDENTIAL UNITS CORRIDORS OR BREEZEWAYS 60 psf PUBLIC AREAS 100 psf BALCONIES
- b. <u>ROOF LIVE LOADS</u> R00F
- 4. LIVE LOAD REDUCTIONS FOR THE STRUCTURE ARE IN STRICT ACCORDANCE WITH THE AFOREMENTIONED CODE.

1.02 - GENERAL CONDITIONS

- 1. METHODS, PROCEDURES AND SEQUENCES OF CONSTRUCTION ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE AT ALL STAGES OF CONSTRUCTION.
- 2. REFER TO THE ARCHITECTURAL, MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS FOR SLEEVES, CURBS, INSERTS, ETC. NOT SHOWN ON STRUCTURAL DRAWINGS.
- 3. THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, ERECTOR FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, DUE TO ANY ERRORS THAT MAY OCCUR HEREON.
- 4. ALL MATERIALS AND WORKMANSHIP CONFORM TO THE DRAWINGS AND SPECIFICATIONS AND TO THE LATEST EDITION OF THE BUILDING CODE.
- 5. ALL ERECTION PROCEDURES SHALL CONFORM TO OSHA STANDARDS, ANY DEVIATION MUST BE APPROVED BY OSHA PRIOR TO ERECTION.
- 6. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND BE RESOLVED BEFORE PROCEEDING WITH ANY WORK.
- 8. ANY REFERENCE TO CODES OR SPECIFICATIONS SHALL BE WITH RESPECT TO CURRENT EDITIONS OF THE SAME.
- 9. THE STRUCTURAL INTEGRITY OF ANY BUILDING RELIES ON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISIONS MADE FOR CONDITIONS AND/OR SEQUENCES OF CONSTRUCTION AND THE STRUCTURAL DESIGN IS BASED ON THIS PREMISE. THEREFORE, THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING OF SUPERSTRUCTURE DURING CONSTRUCTION
- 10. INTERIOR OR EXTERIOR BEARING AND SHEAR WALLS, IF LOADED BEFORE SHEATHING, SHALL HAVE CONTINUOUS, TEMPORARY BRACING AT MID HEIGHT OF STUDS PRIOR TO APPLYING ANY
- 11. FRAMING LAYOUTS ARE PROVIDED TO REPRESENT DESIGN CONCEPTS AND SYSTEMS CONSTRUCTION. CONTRACTOR AND HIS SUBCONTRACTORS ARE RESPONSIBLE FOR MATERIAL QUANTITIES AND ANY AND ALL UNSPECIFIED COMPONENTS REQUIRED FOR CONSTRUCTION.
- 12. CONTRACTOR SHALL BE RESPONSIBLE FOR RIGID BRACING OF ALL WALLS, FORMWORK, SHORING AND FALSE WORK DURING CONSTRUCTION.
- 13. BEARING WALL STUDS DERIVE THEIR LOAD CARRYING CAPACITY WHEN SHEATHED AND NAILED ON AT LEAST ONE SIDE. FLOOR FRAMING SUPPORTED BY STUD WALLS SHALL NOT BE LOADED BY BUILDING MATERIALS OR ANY OTHER DEAD LOADS UNLESS APPROVED BY THE ENGINEER.
- 14. CONTRACTOR SHALL VERIFY ALL DROPS, OFFSETS, BLOCKOUTS, BRICK LEDGES, AND DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO PROJECT LAYOUT.
- 15. THE PERFORMANCE OF THE FOUNDATION AS DESIGNED DEPENDS ON PROPER CONSTRUCTION OF THE DRAINAGE SYSTEMS AND MAINTENANCE OF DRAINAGE SYSTEMS AFTER CONSTRUCTION IS COMPLETE. ALL ROOF DRAINAGE SHOULD BE COLLECTED AND REMOVED INTO UNDERGROUND STORM DRAIN SYSTEM. LANDSCAPE IRRIGATION AND DRAINAGE AROUND THE FOUNDATION MUST BE CONSTRUCTED WITH POSITIVE DRAINAGE WELL AWAY FROM THE BUILDING PERIMETER ON ALL SIDES. UNDERGROUND STORM DRAINS SHOULD NOT BE PLACED BENEATH BUILDINGS AND AIR CONDITONING CONDENSATE DRAINS SHOULD NOT BE DRAINED ADJACENT TO THE FOUNDATION.
- 16. THE CONTRACTOR IS RESPONSIBLE FOR THE FABRICATION, ERECTION AND JOB SAFETY. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REQUIREMENTS AND SAFETY ORDINANCES FROM PUBLIC AGENCIES. THE CONTRACTOR SHALL INSTRUCT ALL PERSONNEL AND SUB CONTRACTORS REGARDING SAFETY PROCEDURES THAT ARE BEING USED FOR THE DURATION OF THE PROJECT CONSTRUCTION.
- 17. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED.
- 18. PRINCIPAL OPENINGS THROUGH THE FRAMING ARE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRATOR SHALL EXAMINE THE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR THE REQUIRED OPENINGS AS HE SHALL PROVIDE FOR ALL OPENINGS WHETHER SHOWN ON THE DRAWINGS OR NOT AND SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH THE MECHANICAL CONTRACTOR ANY DEVIATION FROM THE OPENINGS SHALL BE BROUGHT TO THE ENGINEER'S
- 19. ALL BEAMS AND GIRDERS SHALL BE CAMBERED IF INDICATED ON STRUCTUAL DRAWINGS.
- 20. ANY TEMPORARY SHORING OR BRACING DURING THE CONSTRUCTION PHASE BEFORE COMPLETION OF CONNECTION AND POURING OF FLOOR TOPPING IS THE RESPONSIBILITY OF THE CONTRACTOR
- 21. THE STEEL FABRICATOR SHALL BE CERTIFIED BY THE AISC QUALITY CERTIFICATION PROGRAM.

22. SEE ARCHITECTURAL PLANS FOR WHEEL STOPS AND LOCATIONS

1.03 - DOCUMENT COORDINATION

- 1. VERTIKA ENGINEERS HAS COORDINATED THE BACKGROUNDS WITH ARCHITECT TO THE BEST OF THEIR ABILITIES DURING THE DESIGN PHASE. HOWEVER, CERTAIN DISCREPANCIES ARE POSSIBLE.
- 2. CONTRACTOR TOGETHER WITH HIS SUB*CONTRACTORS, MATERIAL PROVIDERS, MANUFATURER'S AND OTHER CONSTRUCTION SUPPORT PERSONNELL SHALL REVIEW OTHER DISCIPLINE DRAWINGS TO CONFIRM. BACKGROUNDS, DIMENSIONS, BLOCKOUTS, OPENINGS, DEPRESSIONS, EMBEDS, MATERIALS AND PENETRATIONS AND REPORT DISCREPANCIES TO ENGINEER PRIOR TO PREPERATION OF SHOP DRAWINGS, CONSTRUCTION OR INSTALLATION. FAILURE TO DO SO WILL BE AT SOLE RESPONIBILITY OF THE CONTRACTOR FOR ALL ASSOCIATED COST.
- 3. SLAB FORMING DIMENSIONS ALONG WITH HORIZONTAL AND VERTICAL CONTROL SHALL BE VERIFIED AND CONFIRMED BY ARCHITECT.
- 4. ALL RFI'S SHALL BE SENT TO ARCHITECT AND NOT ENGINEER.
- 5. FIELD QUESTIONS FROM CONTRACTOR BY PHONE, FAX, ETC. SHALL BE AS DIRECTED BY ARCHITECT.
- 6. NON COMPLIANT FIELD CONSTRUCTION ISSUES WILL NOT BE REVIEWED, EVALUATED OR PROCESSED AS AN RFI BY ENGINEER. CONTRACTOR WILL IDENTIFY THESE ISSUES AND PROVIDE A CONSTRUCTION COMPLIANCE REVIEW REQUEST TO ARCHITECT IN WRITING AND NOTIFY OWNER OF THE SAME.

1.04 - QUALITY ASSURANCE FOR SLABS ON GRADE

- 1. THE OWNER EXPECTS A DURABLE SLAB.
- 2. CONTRACTOR SHALL DEVELOP A QUALITY ASSURANCE PROGRAM TO ENSURE THAT WATER/CEMENT RATIOS AND AIR ENTRAINMENT PERCENTAGE ARE MONITORED CLOSELY DURING CONCRETE PLACEMENT.
- 3. CONTRACTOR SHALL SUBMIT QUALITY ASSURANCE PROGRAM TO E.O.R. FOR REVIEW.

TO ENSURE THAT FREE WATER DOES NOT BLEED TO THE SURFACE.

- 4. IN ORDER TO ENSURE DURABILITY OF THE SLAB. CONTRACTOR WILL PLACE AND FINISH CONCRETE
- 5. ALL CRACKS GREATER THAN 20 MILS IN WIDTH SHALL BE EPOXIED USING SIKADUR 35 OR 52 EPOXY ADHESIVE AS PER MANUFACTURER INSTRUCTIONS AT CONTRACTOR'S EXPENSE.

2.01 - FOUNDATION DESIGN CRITERIA

- 1. THE SUBSURFACE INFORMATION AND FOUNDATION DESIGN ARE BASED ON A REPORT PREPARED BY PARADIGM CONSULTANTS, INC. DATED AUGUST 10, 2018. PROJECT NUMBER 18-1038 WITH ADDENDUMS.
- 2. THE RESIDENTIAL FOUNDATION SYSTEMS FOR THIS PROJECT HAVE BEEN DESIGNED FOR THE FOLLOWING ALLOWABLE SOIL BEARING PRESSURES AT DEPTH OF 24" MIN. BELOW FINISHED GRADE: TOTAL LOADS 1000 psf
- 3. POST TENSIONED SLAB ON GRADE FOUNDATIONS REQUIRE 1 TO 4 FEET OF SELECT FILL REPLACEMENT. THE PTI DESIGN CRITERIA WHICH IS BASED ON THE THIRD EDITION ARE AS FOLLOW:

DIFFERENTIAL SWELL 1.0 INCHES (EDGE LIFT) 1.2 INCHES (CENTER LIFT) DIFFERENTIAL SWELL DISTANCE 4.8 FEET (EDGÉ LIFT) EDGE MOISTURE VARIATION EDGE MOISTURE VARIATION DISTANCE 7.2 FEET (CENTER LÍFT) THORNWAITE INDEX CONSTANT SOIL SUCTION 4.5 pF(DRY), 3.4 pF(CONSTANT) SUCTION DEPTH

2.02 - FOUNDATION AND BUILDING PAD

- 1. THE CONTRACTOR SHALL PERFORM EXCAVATIONS, FOOT CONSTRUCTION AND PREPARATION OF THE COMPACTED FILL UNDER THE SLAB*ON*GRADE IN ACCORDANCE WITH RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT.
- 2. EXCAVATIONS FOR FOUNDATIONS SHALL BE CLEANED AND HAND TAMPED TO A UNIFORM SURFACE. FOOTING EXCAVATIONS SHALL HAVE THE SIDES AND BOTTOMS PERMANENTLY LINED WITH VAPOR BARRIER.
- FOUNDATION CONDITIONS NOTED DURING CONSTRUCTION, WHICH DIFFER FROM THOSE DESCRIBED IN THE GEOTECHNICAL REPORT SHALL BE REPORTED TO THE STRUCTURAL ENGINEER AND/OR THE GEOTECHNICAL ENGINEER BEFORE FURTHER CONSTRUCTION IS ATTEMPTED.
- 4. GENERAL CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEER 48 HOURS PRIOR TO PLACEMENT OF CONCRETE IN THE FOUNDATIONS.
- 5. ALL BACKFILL SHALL BE PLACED AND COMPACTED IN 8" LIFTS OR AS SPECIFIED IN THE GEOTECHNICAL REPORT.
- 6. FILL SHALL BE CLEAN INACTIVE CLAY NOT SILT.
- STRUCTURAL FILL UNDER FLOOR SLAB, SHALL HAVE A PLASTICITY INDEX AS SPECIFIED IN THE SOILS REPORT. FILL SHALL BE COMPACTED IN ACCORDANCE WITH RECOMMENDATIONS CONTAINED IN THE SOILS REPORT.
- 8. SUBGRADE SOILS SHALL BE SCARIFIED TO MINIMUM SIX INCHES DEPTH, PROOF ROLLED AND COMPACTED TO BETWEEN 95% TO 100% OF STANDARD PROCTOR DENSITY (ASTM D-698). ALL UNSUITABLE MATERIAL AND SOFT SPOTS SHALL BE REMOVED AND BACKFILLED WITH SELECT FILL PLACED IN MAXIMUM 8" LOOSE LIFTS AND COMPACTED TO 100% STANDARD PROCTOR DENSITY. MOISTURE CONTENT OF SUBGRADE SHALL BE \pm 2% OF OPTIMUM.
- 9. ALL GRADE ADJUSTMENTS FOR SLAB*ON*GRADE CONSTRUCTION SHALL BE ACCOMPLISHED WITH SELECT FILL AS SPECIFIED IN THESE GENERAL NOTES.
- 10. NO SLAB ON GRADE CONCRETE SHALL BE POURED AGAINST A FINAL PREPARED SUBGRADE CONTAINING FREE WATER, ICE, FROST, MUD OR OTHER UNSUITABLE MATERIAL.
- 11. TRENCHES FOR BURIED PLUMBING SHALL NOT RUN ALONG OR UNDER BEAMS THEY MAY CROSS AT RIGHT ANGLES. TRENCH BACKFILLS SHALL BE THOROUGHLY COMPACTED.
- 12. BEAM TRENCHES SHALL BE CLEAN OF LOOSE SOIL, CLODS AND TRASH. DEBRIS SHALL BE REMOVED PRIOR TO PLACING CONCRETE AND ALL VOIDS SHALL BE REPLACED WITH SAND.
- 13. BEAMS EXCAVATED MORE THAN THE SCHEDULED DEPTH, SHALL BE BROUGHT TO THE ENGINEER'S
- ATTENTION BEFORE CONCRETE PLACEMENT. 14. BUILDING PAD PREPARATION SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
- 15. SITE EXCAVATED SOIL MAY BE USED FOR SLAB ON GRADE FILL MATERIAL PROVIDED THAT ALL VEGETATION AND ROOTS ARE REMOVED PRIOR TO THEIR USE AND IF THE PLASTICITY INDEX IS LESS THAN REQUIRED. VERIFY USE WITH SOILS ENGINEER.
- 16. ALL FOOTINGS ARE TO BE PLACED ON FIRM AND SUITABLE SOIL. THE SOIL BEARING SHOULD BE VERIFIED BY AN ACCEPTED TESTING COMPANY.

2.03 - SLAB ON GRADE

- 1. ALL PIPE SLEEVES IN CONCRETE SLAB FOUNDATIONS SHALL BE SCHEDULE 40, GALVANIZED STEEL OR PVC PIPE UNLESS SHOWN OTHERWISE ON THE STRUCTURAL DRAWINGS. LOCATION OF SLEEVES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER. ADDITIONAL REINFORCING MAY BE REQUIRED.
- 2. NO CONDUIT OR PIPING LARGER THAN 1"I.D. SHALL BE RUN IN STRUCTURAL CONCRETE MEMBERS UNLESS SHOWN ON STRUCTURAL DRAWINGS. 3. TOP OF ALL FLOOR DRAINS SHALL BE AT ELEVATION (-1/2" FROM FINISHED FLOOR) OR AS
- OTHERWISE NOTED ON PLAN. SLOPE SURFACE FOR AREAS AROUND THESE DRAINS OR AS INDICATED ON THE ARCHITECTURAL FLOOR PLANS. 4. SLAB DEPRESSIONS ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL EXAMINE THE

ARCHITECTURAL DRAWINGS FOR REQUIRED SLAB RECESSES AS HE SHALL PROVIDE WHETHER

SHOWN ON DRAWINGS OR NOT, ALL RECESS REVISIONS REQUIRED BY ALTERNATE SUBMITTALS

- SHALL BE COORDINATED BY THE CONTRACTOR. 5. VAPOR BARRIER SHALL BE 10 MIL THICKNESS AND ALL JOINTS SHALL BE LAPPED 12" AND
- 6. PROVIDE TYPE D 2-No.4 REINFORCEMENT BARS x 6'-0" AT REENTRANT CORNERS AND AROUND RECTANGULAR HOLES IN SLABS UNLESS NOTED OTHERWISE. PLACE BAR DIAGONAL TO CORNER WITH 1" CLEARANCE FROM THE TOP AND THE SIDE OF THE SLAB AT THE CORNER.
- PIPING MAY PASS VERTICALLY THROUGH THE FOOTINGS WITHOUT SLEEVES. PIPING PASSING THROUGH THE FOOTINGS HORIZONTALLY REQUIRE PVC SLEEVES. IN NO INSTANCE IS THE PIPING TO BE CAST LONGITUDINALLY WITHIN THE FOOTINGS.
- 8. REMOVE ALL VEGETATION, TREE ROOTS, ORGANIC TOP SOIL AND ANY UNDESIRABLE MATERIALS FROM THE CONSTRUCTION AREA. AVERAGE STRIPPING DEPTH IS SIX INCHES. REFER TO SOIL REPORT FOR ADDITIONAL INFORMATION.
- 9. ALL UNDERGROUND UTILITY AND PLUMBING INSTALLATION ADJACENT TO BUILDINGS SHALL BE COMPLETED IN ADVANCE OF FOUNDATION CONSTRUCTION AND TRENCHES AT THE PERIMETER OF THE FOUNDATIONS SHALL BE PLUGGED WITH BENTONITE. (VERIFY WITH THE GEO-TECHNICAL ENGINEER).

3.01 - CONCRETE PLACEMENT

- 1. CONCRETE IS TO BE PLACED AT THE STRENGTH AND SLUMP AS SHOWN IN THE STRUCTURAL SPECIFICATIONS AND SHALL BE PLACED IN ONE CONTINUOUS OPERATION (MONOLITHIC) UNLESS OTHERWISE SPECIFIED ON PLANS.
- 2. IT IS THE RESPONSIBILITY OF THE CONCRETE CONTRACTOR TO EXERCISE CARE IN ORDER TO PREVENT DISPLACEMENT OF THE REINFORCING OR TENDONS DURING
- 3. CONCRETE SHALL BE UNIFORMLY PLACED, VIBRATED, AND CONSOLIDATED AROUND ANCHORAGES AND AT CORNERS, ETC. SO AS TO ELIMINATE POCKETS OR VOIDS. MECHANICAL VIBRATORS SHALL NOT CONTACT THE TENDONS OR ANCHORS.

3.02 - REINFORCED CONCRETE

 CONCRETE FOR SLAB*ON*GRADE, GRADE BEAMS, AND, FOOTINGS SHALL HAVE NATURAL SAND. FINE AGGREGATE AND NORMAL WEIGHT (UNLESS NOTED OTHERWISE)COARSE AGGREGATES CONFORMING TO ASTM C33, TYPE I PORTLAND CEMENT CONFORMING TO ASTM C150, AND SHALL HAVE A COMPRESSIVE STRENGTH (FC') AT 28 DAYS AS FOLLOWS:

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WAFFLE SLABS	3000	PSI	NW
ADE BEAMS & PLINTHS	3000	PSI	NW
AB ON GRADE	3000	PSI	NW
RIP FOOTINGS	3000	PSI	NW

2. CONCRETE FOR BREEZEWAY AND BALCONIES SHALL HAVE SAND FINE AGGREGATES, LIGHTWEIGHT COARSE AGGREGATES CONFORMING TO ASTM C330, TYPE 1 PORTLAND CEMENT CONFORMING TO ASTM C150, AND SHALL HAVE A MAXIMUM DRY DENSITY OF 120 POUNDS PER CUBIC FOOT. THI CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH (FC') OF 2500 psi AT 28 DAYS. CONCRETE SHALL BE REINFORCED WITH FIBER MESH AT A RATE OF 1.5 POUNDS PER CUBIC YARD.

CONCRETE (CONT'D)

- FLY ASH MAY BE USED AS A POZZOLAN TO REPLACE A PORTION OF THE PORTLAND CEMENT A CONCRETE MIX, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER. FLY ASH, WHEN USED, SHALL CONFORM TO ASTM C618. CONCRETE MIXES USING FLY ASH SHALL BE PROPORTIONED TO ACCOUNT FOR THE PROPERTIES OF THE SPECIFIC FLY ASH USED AND TO ACCOUNT FOR THE SPECIFIC PROPERTIES OF THE FLY ASH CONCRETE THUS RESULTING. THE RATIO OF THE AMOUNT OF THE FLY ASH TO THE TOTAL AMOUNT OF FLY ASH AND CEMENT IN THE MIX SHALL NOT EXCEED 20 PERCENT.
- 4. DETAILING OF CONCRETE REINFORCEMENT BARS AND ACCESSORIES SHALL CONFORM TO THE RECOMMENDATIONS OF THE ACI DETAILING MANUAL ACI 315.
- 5. MIXING, TRANSPORTING, AND PLACING OF CONCRETE SHALL CONFORM TO ACI 301.
- 6. CONCRETE COVER PROTECTION FOR REINFORCING SHALL CONFORM TO ACI 318 AND SHALL BE AS FOLLOWS:
 - COVER, IN. (a) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH (b) CONCRETE EXPOSED TO EARTH OR WEATHER NO. 5 BAR, W31 OR D31 WIRE AND SMALLER 1 1/2 (c) CONCRETE NOT EXPOSED TO WEATHER NOR IN CONTACT WITH GROUND NO. 11 BAR AND SMALLER
- 7. CONCRETE REINFORCEMENT BARS SHALL CONFORM TO ASTM A615, GRADE 60, WITH SUPPLEMENTARY REQUIREMENTS (S1). NO. 3 BARS MAY CONFORM TO ASTM A615 GRADE 40, WITH SUPPLEMENTARY REQUIREMENTS (S1) UNLESS NOTED OTHERWISE. THE "N" DESIGNATION SHALL BE ACCEPTED IN LIEU OF THE "S" DESIGNATION REQUIREMENT, HOWEVER OTHER REQUIREMENTS OF SUPPLEMENT S1 SHALL BE MET. REINFORCEMENT BARS SHALL NOT BE TACK WELDED, WELDED, HEATED OR CUT UNLESS INDICATED ON THE CONTRACT DOCUMENTS OR APPROVED BY THE STRUCTURAL ENGINEER.
- 8. WELDING OF REINFORCEMENT BARS, WHEN APPROVED BY THE STRUCTURAL ENGINEER, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD D1.479. ELECTRODES FOR SHOP AND FIELD WELDING OF REINFORCEMENT BARS SHALL CONFORM TO ASTM A233, CLASS E90XX.
- COMPLETE REINFORCING PLACEMENT DRAWINGS PREPARED IN ACCORDANCE WITH ACI 315 SHALL BE REVIEWED BY THE ENGINEER & AVAILABLE ON THE JOB SITE PRIOR TO THE PLACING OF CONCRETE.
- 10. MAXIMUM SLUMP IN CONCRETE SHALL NOT EXCEED 5" IN FLATWORK AND 8" WHEN PUMPED.
- 11. ALL CONCRETE MIX SHALL BE DESIGNED BY A QUALIFIED REGISTERED ENGINEER & LAB CONCRETE MIX DESIGN DATA RESULTS SHALL BE SUBMITTED TO STRUCTURAL ENGINEER FOR REVIEW.
- 12. WATER FOR CONCRETE SHALL BE CLEAN, FRESH AND DRINKABLE
- 13. CONCRETE MIX DESIGNS MUST BE SUBMITTED A MINIMUM OF 15 DAYS PRIOR TO THE START OF THE WORK FOR ENGINEER AND OWNER'S TESTING LABORATORY APPROVAL PRIOR TO PLACEMENT OF CONCRETE IN THE PLANT OR FIELD. ANY ADJUSTMENTS IN APPROVED MIX DESIGNS INCLUDING CHANGES IN ADMIXTURES MUST BE SUBMITTED IN WRITING TO THE ENGINEER AND OWNER'S TESTING LABORATORY FOR APPROVAL PRIOR TO USE IN THE FIELD.
- 14. ALL REINFORCING STEEL SHALL BE SUPPORTED USING PLASTIC CHAIRS SPACED AT 48" ON CENTER EACH WAY.
- 15. AFTER COMPLETING THE SURFACE FINISH ON A CONCRETE POUR, THE POUR SHALL BE COVERED WITH PLASTIC AND KEPT DAMP FOR THE NEXT 72 HOURS.
- 16. CURING COMPOUND MAY BE USED IN LIEU OF WET CURING. SUBMIT CURING COMPOUND TO ARCHITECT AND ENGINEER FOR REVIEW. CURING COMPOUNDS THAT MAY HAVE CONFLICT WITH
- 17. AFTER COMPLETING THE SURFACE FINISH ON A CONCRETE POUR, THE POUR SHALL BE COVERED WITH PLASTIC AND KEPT DAMP FOR THE NEXT 72 HOURS.
- 18. CURING COMPOUND MAY BE USED IN LIEU OF WET CURING. SUBMIT CURING COMPOUND TO ARCHITECT AND ENGINEER FOR REVIEW. CURING COMPOUNDS THAT MAY HAVE CONFLICT WITH THE FINISH SHALL NOT BE USED.
- 19. CONTRACTOR SHALL SUBMIT A PLACING AND CURING PROCEDURE FOR EXPOSED CONCRETE IN AMENITIES AREA FOR ENGINEER, ARCHITECT AND OWNER'S REVIEW AND ACCEPTANCE.

3.03 - REINFORCING STEEL SPLICING

- 1. REQUIRED SPLICE TYPE AND LAP LENGTHS AS INDICATED ON THE DRAWINGS. LENGTHS FOR UNSCHEDULED BARS NOT SHOWN OTHERWISE ON THE DRAWINGS SHALL BE 36 BAF
- DIAMETERS MINIMUM. 2. ALL REINFORCING STEEL BARS SHOWN ON THE DRAWINGS CROSSING CONCRETE CONSTRUCTION JOINT SURFACES WITH INSERTS CAST FLUSH AGAINST THE FORM AND HAVING DOWELS CONNECTED TO THE INSERT IN A SUBSEQUENT CONCRETE POUR SHALL CONFORM TO THE FOLLOWING:
- a. SPLICE CONNECTION AT INSERT SHALL DEVELOP THE FULL TENSILE CAPACITY OF THE
- REINFORCING STEEL. b. INSERTS SHALL BE ONE OF THE FOLLOWING:
- 1. "LENTON FORM SAVER" TAPERED THREAD DOWEL AND INSERT, AS MANUFACTURED BY ERICO PRODUCT, INC.
- 2. "DOWEL BAR SPLICER" DOWEL BAR SUBSTITUTION AND REBAR SPLICE SYSTEM (DB-SAE SPLICER) AS MANUFACTURED BY RICHMOND SCREW ANCHOR CO., INC OTHER SPLICE ASSEMBLIES MAY BE USED ONLY IF APPROVED BY THE ENGINEER
- WELDING REINFORCING STEEL SCHEDULED OR DETAILED REINFORCING STEEL SHALL NOT BE TACK WELDED FOR ANY REASON. WELDED REINFORCING STEEL SPLICES ARE NOT PERMITTED WITHOUT ENGINEER APPROVAL. WHERE WELDING IS APPROVED. IT SHALL CONFORM TO AWS D1.4, STRUCTURAL WELDING CODE-REINFORCING STEEL.
- 4. WELDING OF REINFORCEMENT BARS, WHEN APPROVED BY THE STRUCTURAL ENGINEER, SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD D1.479. ELECTRODES FOR SHOP AND FIELD WELDING OF REINFORCEMENT BARS SHALL CONFORM TO ASTM A233 CLASS E90XX.

3.04 - POST TENSION CONCRETE

- 1. DESIGN AND CONSTRUCTION OF POST TENSIONED SLABS ON GRADE SHALL BE IN ACCORDANCE WITH POST - TENSIONING INSTITUTE.
- 2. ALL POST TENSIONING TENDONS SHALL BE LO-LAX AND ANCHORAGES SHALL CONFORM TO REPORT NO. ACI 423-34-83. TENDONS SHALL BE FABRICATED FROM 1/2" 270 ksi STRAND MEETING ASTM A-416.
- 3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,000 psi AT TIME OF FULL STRESSING, AND 3,000 psi AT 28 DAYS. WATER CONTENT SHALL BE CONTROLLED AND MINIMIZED; OTHERWISE, CRACKING DUE TO SHRINKAGE WILL BE EXCESSIVE.
- 4. THE LOCATION OF CONSTRUCTION JOINTS AS DETAILED ON THE CONTRACT DOCUMENTS MAY NOT BE CHANGED WITHOUT APPROVAL FROM ENGINEER.
- 5. TENDONS AND REINFORCING BARS SHALL BE TIED AT ALL INTERSECTIONS. TENDONS SHALL BE SUPPORTED ON CHAIRS AT NO MORE THAN 4 FEET O.C. REBAR SHALL BE ADEQUATELY SUPPORTED. CARE SHALL BE USED DURING PLACEMENT OF CONCRETE SO THAT POSITIONING OF TENDONS AND SUPPORTS
- 6. AT DEAD ENDS, TENDON SHEATHING MAY BE CUT BACK AS MUCH AS 12" FROM THE ANCHORAGE. AT STRESSING ENDS, SHEATHING MAY BE CUT BACK A MAXIMUM OF 2". FOR PATCHING OR REPLACEMENT OF SHEATHING, TAPING is sufficient.
- 7. CONCRETE SHALL BE WELL CONSOLIDATED IN THE VICINITY OF END ANCHORAGE.
- 8. TENDON FORCE VARIATIONS INDICATED BY GAGE PRESSURE AND ELONGATION IN EXCESS OF 7 PERCENT SHALL BE REPORTED TO THE STRUCTURAL ENGINEER.
- 9. STRESSING OF TENDONS SHALL BE CONDUCTED AS FOLLOWS: a. TENDONS LESS THAN 100 FEET IN LENGTH SHALL BE FULLY WITHIN 3 DAYS AFTER CONCRETE PLACEMENT AND MINIMUM CONCRETE
 - COMPRESSIVE STRENGTH IS 2,000 psi. b. TENDONS GREATER THAN 100 FEET IN LENGTH SHALL BE PARTIALLY STRESSED TO 25% OF FULL STRESS WITHIN 24 HOURS OF CONCRETE PLACEMENT. FULL STRESSING OF THESE TENDONS SHALL OCCUR WITHIN 3 AND 4 DAYS AND MINIMUM COMPRESSIVE STRENGTH IS
- 10. THE JACKING FORCE IN THE 1/2" DIAMETER LO RELAXATION PRESTRESSING STRANDS SHALL BE AS FOLLOWS: a. INITIAL JACKING FORCE(0.80 Fpu) b. FINAL JACKING FORCE (0.75 Fpu)

THE POST - TENSIONED SLAB - ON - GRADE DESIGN IS BASED ON

EXCLUDING SEATING AND FRICTIONAL LOSSES.

PRESTRESSING LOSSES NOT EXCEEDING 20% OR 4.59 kips PER TENDON

CONCRETE (CONT'D)

11. TENDONS 1/2" Ø 270K SHALL BE ANCHORED AT 31.0 kips. THESE TENDONS MAY BE TEMPORARILY STRESSED TO 33.0 kips IN ORDER TO OVERCOME FRICTION AND COMPENSATE FOR SEATING LOSSES.

PLANS USING SMOOTH PARABOLIC DRAPES.

- 12. ELONGATIONS SHALL BE APPROXIMATELY 0.079" PER FOOT OF STRESSED TENDON LENGTH U.N.O. ON PLAN. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 13. STRESSING POCKETS SHALL BE PATCHED WITH A STIFF GROUT MIX.
- 14. CONTRACTOR SHALL SUBMIT COMPLETE PLACING PLANS INCLUDING DETAILS OF TENDON AND BAR PLACEMENT.
- 15. POST TENSIONING TENDONS IN BEAMS SHALL BE DRAPED AS SHOWN IN
- 16. CONTRACTOR SHALL PROVIDE ALL BAR AND TENDON SUPPORTS AND ADDITIONAL
- REINFORCING REQUIRED TO MAINTAIN SPECIFIED COVERAGES AND DRAPES. 17. AFTER TENDONS ARE STRESSED AND EXCESS CUT OFF, ANY EXPOSED
- HARDWARE SHALL BE SPRAYED WITH RUST INHIBITIVE PAINT AND OPENINGS SHALL BE GROUTED FLUSH WITH SLAB EDGE.
- 18. TENDONS SHALL HAVE THE PRESTRESSING STRAND PERMANENTLY PROTECTED AGAINST CORROSION BY A CHEMICALLY STABLE, PROPERLY APPLIED CONTINUOUS COATING OVER THE ENTIRE TENDON LENGTH. SHEATHING FOR UNBONDED TENDONS SHALL HAVE SUFFICIENT TENSILE STRENGTH AND WATER RESISTANCE RESIST_DAMAGE AND DETERIORATION AND SHALL BE CONTINUOUS OVER THE 19. ANCHORAGES OF UNBONDED TENDONS SHALL DEVELOP AT LEAST 95 PERCENT

OF THE MINIMUM SPECIFIED ULTIMATE STRENGTH OF THE PRESTRESSING

- STEEL WITHOUT EXCEEDING ANTICIPATED SET. SPECIAL REINFORCEMENT, REQUIRED FOR THE PERFORMANCE OF THE ANCHORAGE, SHALL BE SPECIFIED THE TENDON SUPPLIER.
- 20. POST TENSIONING CONTRACTOR SHALL SUBMIT TO ENGINEER FOR REVIEW THE FOLLOWING:
- a. LAB TEST AND RESULTS ON ANCHORAGE SYSTEM. b. CURRENT CALIBRATION DATE FOR STRESSING EQUIPMENT TO BE USED. . COEFFICIENT OF FRICTION FOR STRANDS. d. MILL TESTS FOR STRANDS.
- 21. POST TENSIONING SLAB TENDONS SHALL BE PLACED IN A STRAIGHT LINE FROM PULL END TO DEAD END AS SHOWN ON PLANS. DEVIATION AT ANY PLACE FROM THE LAYOUT SHOWN ON PLANS SHALL NOT EXCEED 10° IN A
- GRADUAL PARABOLIC SWEEP. 22. TENDONS SHALL NOT BE PLACED WITHIN 6" OF A SLAB PENETRATION, OPENING, OR EXTERIOR EDGE.
- 23. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION ALL POST TENSIONING TENDONS WHEN USING EXPANSION BOLTS, ADHESIVE ANCHORS, OR POWDER ACTUATED FASTENERS. THE CONTRACTOR SHALL LOCATE TENDONS WITH SPECIALIZED EQUIPMENT SUCH AS BAR METERS AND / OR PACHOMETERS FOR THIS PURPOSE.
- 24. ALL ANCHORS SHALL BE ENCAPSULATED.

3.05 - POST TENSION FIELD OPERATIONS

- 1. THE STRESSING OPERATIONS MUST BE PERFORMED BY AND UNDER IMMEDIATE SUPERVISION OF PERSONS EXPERIENCED AND QUALIFIED IN POST—TENSIONING OPERATIONS.
- 2. AT STRESSING ENDS, PLACE POCKET FORMER INTO 1" DIAMETER DRILLED HOLE IN FORM AND NAIL ANCHORS TIGHT TO FORM. AT DEAD ENDS, PLACE ANCHORS APPROXIMATELY 1 1/2 INCHES BACK FROM FACE OF FORM. DEAD END AND LIVE END MAY BE REVERSED PER FIELD CONDITIONS AT CONTRACTOR'S OPTION. NAIL OR OTHERWISE SUPPORT THE CENTERLINE OF ALL ANCHORAGES TO BE APPROXIMATELY 5 INCHES BELOW THE TOP OF THE SLAB (UNLESS OTHERWISE NOTED). WHERE DEPRESSIONS ARE LOCATED, LOWER THE CENTERLINE OF THE ANCHOR FOR PROPER CONCRETE COVERAGE.
- TENDON SHEATH IS TO BE CONTINUOUS BETWEEN ANCHORS BUT NOT PROTRUDING INTO ANCHOR. CUT SHEATHING AT LIVE END AS CLOSE AS PRACTICAL TO THE BACK FACE OF ANCHOR, DO NOT REMOVE THE GREASE, SLIDE TAIL OF TENDON THROUGH THE HOLD IN ANCHOR AND THROUGH FORM, LENGTH OF EXPOSED TENDON AT DEAD END IS NOT TO EXCEED 12 INCHES.
- 5. CHECK TENDONS FOR BREAKS IN SHEATHING AND REPAIR ANY TEARS IN SHEATHING LARGER THAN 3 INCHES IN LENGTH PRIOR TO CONCRETE PLACEMENT.
- 6. AN AREA OF 3 FEET BEHIND EACH TENDON TAIL SHALL BE SUFFICIENTLY CLEAR TO ALLOW THE STRESSING RAM TO FULLY EXTEND AND REMAIN AXIALLY ALIGNED TO THE ANCHOR WITHOUT
- REMOVE THE POCKET FORMER TO EXPOSE THE JACKING CAVITY AND ENSURE THAT THE TENDON AND EXPOSED PORTION OF THE ANCHOR IS FREE OF DIRT AND DEBRIS.
- 8. INSERT A PAIR OF GRIPPERS (WEDGES) SIDE BY SIDE INTO EACH ANCHORAGE. DOUBLE ENDED TENDONS REQUIRE THAT A JAW BE INSERTED FIRMLY AT THE OPPOSITE END PRIOR TO STRESSING.
- 10. THE TENDON END SHALL BE MARKED WITH PAINT AT A CONSTANT DIMENSION FROM THE EDGE OF THE SLAB TO MEASURE THE STRAND ELONGATION.
- 11. ALL POST TENSIONING TENDONS SHALL BE STRESSED WITH HYDRAULIC JACKS EQUIPPED WITH ACCURATE READING AND CALIBRATED PRESSURE GAUGES. 12. THE CONCRETE CONTRACTOR OR OTHER PERSON DESIGNATED BY OWNER SHALLRECORD ALL JACKING JACKING FORCES AND ELONGATIONS. IF INCONSISTENCIES BETWEEN THE CALCULATED ELONGATION, THI
- MEASURED ELONGATION, AND THE PRESSURE GAUGE READINGS OCCUR, THE USE OF AN ALTERNATE JACK UNIT SHALL BE USED TO CHECK FORCES. 13. DEAD ENDED TENDONS ARE TO BE STRESSED FROM ONE END ONLY. DOUBLE NS, WHEN SHOWN ON PLANS, SHALL BE STRESSED FROM BOTH ENDS, BUT NOT BE STRESSED FROM BOTH ENDS DOUBLE ENDED TENDONS MAY HAVE MORE ELONGATION AT ONE END THAN AT THE ELONGATION SHOWN ON THE SCHEDULE.

3.06 – POST TENSION COMPLETION

9. TENDON TAILS SHALL BE THOROUGHLY CLEANED PRIOR TO STRESSING.

- STRESSING TAILS SHOULD NOT BE REMOVED UNTIL THE STRUCTURAL ENGINEER HAS APPROVED
 - THE TENDON STRESSING AND ELONGATION REPORTS.

2. CUT OFF STRESSING TAIL 1 INCH FROM ANCHOR USING A SAW OR SHEAR.

- 3. AFTER TAIL HAS BEEN REMOVED. CONTRACTOR SHALL COAT THE EXPOSED ANCHOR, FITTINGS, AND TENDON WITH RUST - INHIBITING PRIMER PRIOR TO GROUTING JACKING CAVITY. THE PLASTIC GROMMET FORMS A HOLE 2 INCHES IN DIAMETER WHICH IS TO BE FILLED AND SEALED WATERTIGHT. AFTER TENDON TAILS HAVE BEEN REMOVED AND ANCHOR, FITTINGS, AND TENDON HAVE BEEN COATED, THE THE CONCRETE CONTRACTOR SHALL DRYPACK FORMED HOLES USING A STIFF NON — SHRINK GROUT MIX.
- 5. POST TENSION SUB CONTRACTOR SHALL SUBMIT ELONGATION CALCULATIONS FOR EACH SLAB PUR AREA FOR ENGINEER'S REVIEW 6. ELONGATION TABLES SHALL BE INCLUDED ON EACH SLAB POUR AREA PT SHOP DRAWING LAYOUT.
- 7. ELONGATION CALCULATIONS SHALL BE BASED ON STRUCTURAL SPECIFICATIONS OF THE MANUFACTURER'S SPECIFICATION FOR THE GRADE AND TYPE OF PT WIRE/STRANDS SUPPLIED.

MASONRY

IN THE LAPPED DISTANCE.

4.01 - REINFORCED MASONRY

TOP OF SECTION EXTENDING ABOVE HIGHEST LEVEL.

- 1. REINFORCE ALL 8" C.M.U. WALLS WITH #5 @ 48" VERTICAL AND GROUT VERTICLE CELLS SOLID.
- PROVIDE #5 DOWELS x 4'-0" LONG AND EXTEND INTO SLAB ON GRADE. 2. STANDARD WEIGHT 9 GAGE TRUSS TYPE "DURO-WALL", OR EQUAL, SHALL BE PLACED
- HORIZONTALLY AT 16" O.C. AT ALL WALLS. 3. PROVIDE ONE COURSE HIGH BOND BEAMS AT THE FLOOR LINE AT EACH LEVEL AND AT
- 4. HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, LIGHT WEIGHT, TYPE N1, WITH A MINIMUM COMPRESSIVE STRENGTH OF 1500 PSI ON THE NET AREA OF THE BLOCK.
- 5. MORTAR SHALL CONFORM TO ASTM C 270, TYPE M WITH A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI.

6. CONCRETE FILL SHALL CONFORM TO ACI 318 WITH A MAXIMUM AGGREGATE SIZE OF 3/8",

- AND A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS (UNLESS NOTED OTHERWISE). 7. ALL CELLS CONTAINING VERTICAL REINFORCING STEEL, LINTEL BEAMS AND BOND BEAMS ARE TO BE FILLED SOLID WITH CONCRETE AS DESCRIBED ABOVE.
- 8. THE FIRST TWO VERTICAL CELLS AT WALL OPENINGS AND WALL ENDS ARE TO BE CONCRETE FILLED AND REINFORCED WITH 1-#6 VERTICAL EACH CELL. 9. REINFORCING STEEL SHALL BE LAPPED 30 BAR DIAMETERS MINIMUM WHERE SPLICED AND SHALL
- BE WIRED TOGETHER. 10. WIRE REINFORCEMENT, "DURO-WALL" OR EQUAL, SHALL BE LAPPED AT LEAST 6 INCHES AT SPLICES AND SHALL CONTAIN AT LEAST ONE CROSS WIRE OF EACH PIECE OF REINFORCEMENT

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MASONRY (CONT'D

4.01 - REINFORCED MASONRY

- 11. VERTICAL BARS SHALL BE HELD IN POSITION AT TOP AND BOTTOM AND AT INTERVALS NOT EXCEEDING 8'-0" WITH A MINIMUM CLEARANCE OF 1/2 INCH FROM THE MASONRY, AND NOT LESS THAN ONE BAR DIAMETER BETWEEN BARS.
- 12. VERTICAL REINFORCING BARS MAY BE SPLICED IN 6' TO 8' LENGTHS PROVIDED THE SPLICES IN ADJACENT BARS ARE STAGGERED AND ARRANGED SO THAT NOT MORE THAN 1/3 OF THE TOTAL NUMBER OF BARS ARE SPLICED AT ANY LOCATION AND NOT MORE THAN 1/2 OF THE TOTAL NUMBER OF BARS ARE SPLICED AT MID-HEIGHT OF THE WALL. ALL BARS SHALL BE TIED
- 13. HORIZONTAL REINFORCING BARS IN BOND BEAMS AND/OR LINTEL BLOCK UNITS ARE TO BE CONTINUOUS AND SOLIDLY GROUTED INTO PLACE, AT LINTEL BEAMS, BARS ARE TO EXTEND NOT LESS THAN 20 BAR DIAMETERS OR 16 INCHES (WHICHEVER IS GREATER) PAST THE OPENING FACE.
- 14. BOND BEAMS ARE TO BE DISCONTINUOUS AT CONTROL JOINTS.
- 15. CONCRETE AND REINFORCEMENT FOR FILLED VERTICAL CELL ARE TO BE CONTINUOUS FROM LEVEL TO LEVEL. REINFORCING BARS ARE TO LAP AND TIE TO FOUNDATION DOWELS.
- 16. UNLESS OTHERWISE NOTED, INSTALL 22 ga x 1" CORRUGATED BRICK TIES 3" INTO MASONRY AT SPACING NO GREATER THAN 16" HORIZONTAL AND VERTICAL.

5.01 - MISCELLANEOUS STEEL

- 1. MISCELLANEOUS STEEL ROLLED SHAPES, EMBED PLATES AND ANGLES SHALL CONFORM TO ASTM A36.
- 2. STRUCTURAL STEEL EMBID PLATES SHALL CONFORM TO ASTM A36
- 3. STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500, GRADE B.
- 4. ANCHOR BOLTS AND COLUMN CAP PLATE BOLTS SHALL CONFORM TO ASTM A307, A36 AND RESPECTIVELY UNLESS NOTED OTHERWISE.
- 5. WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY STANDARD D1. LATEST EDITION. ELECTRODES FOR SHOP AND FIELD WELDS SHALL CONFORM TO ASTM A233, CLASS E70XX.
- 6. ANY AND ALL MISFABRICATION OF STRUCTURAL STEEL SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER BEFORE ERECTION OF SAME.

5.03 - EMBEDDED AND HVA ANCHORS

. HEADED STUDS SHALL DEVELOP A WORKING DESIGN VALUE OF 11.5 KIPS PER CONNECTOR FOR NORMAL WEIGHT CONCRETE SLABS WITH A MINIMUM SAFETY FACTOR OF OF 1.67.

5.04 - STEEL HANDRAILS

1. HANDRAILS AND GUARDRAILS SHALL BE DESIGNED IN COMPLIANCE WITH IBC1607.7.1, TO RESIST A 50 PLF LIVE LOAD ALONG ITS TOP EDGE, AND A NON-CONCURRANT 200# CONCENTRATED LOAD, APPLIED IN ANY DIRECTION. DEFERRED SUBMITTAL SHALL BE SUPPLIED FOR PRE-FABRICATED METAL STAIRS AND STEEL CANOPIES.

5.05 – STEEL STAIRS

- 1. ALL STAIRS ARE TO BE STEEL STAIRS PER THE ARCHITECTURAL DRAWINGS EXCEPT WHERE CONCRETE STAIRS ARE SPECIFICALLY SHOWN ON THE DRAWINGS.
- 2. STRUCTURAL CALCULATIONS AND DRAWINGS SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE ARE TO BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- DRAWINGS AND BIDS ARE TO INCLUDE CONNECTIONS TO THE STRUCTURE.
- 4. ENGINEER WILL APPROVE THE DRAWINGS AS TO THEIR COMPLIANCE WITH THE INTENT OF THE
- STRUCTURAL DRAWINGS AND SPECIFICATIONS.
- 5. ALL STAIRS MUST BE DESIGNED FOR LIVE AND DEAD LOADS PER CODE.
- 6. STAIR SUPPORTS MAY BE HUNG FROM FLOOR FRAMING OR SELF-SUPPORTED 7. STAIR FABRICATOR SHALL COORDINATE CONSTRUCTION OF STAIRS WITH GENERAL CONTRACTOR
- 8. THE STAIR FRAMING AND CONNECTIONS DETAILING, INCLUDING TREADS, STRINGERS, LANDINGS AND HANDRAILS SHALL BE SUBMITTED TO ENGINEER FOR HIS REVIEW. THE STAIR SHOP DRAWING WITH SUPPORTING DESIGN SHALL BE SEALED BY A REGISTERED ENGINEER.

STRUCTURAL WOOL

6.01 — CONVENTIONAL 2x LUMBER

- LUMBER AND ITS FASTENINGS, SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS OF STRESS-GRADE LUMBER AND ITS FASTENINGS, LATEST EDITION, AS RECOMMENDED BY THE NATIONAL FOREST PRODUCTS ASSOCIATION.
- 2. STUD MATERIALS FOR EXTERIOR WALLS, INTERIOR BEARING WALLS AND SHEARWALLS SHALL BE NO.2 GRADE DOUGLAS FIR LARCH (MC19).
- 3. LUMBER FOR HEADERS, BEAMS, AND OTHER FRAMING MEMBERS SHALL BE #2 DOUGLAS-FIR (MC19).
- 4. LOAD BEARING WALLS, INCLUDING SHEARWALLS, CONSTRUCTED FROM FINGER JOINTED STUDS SHALL BE SHEATHED ON AT LEAST ONE FACE OR BRACED WITH 1x4 HORIZONTAL (CONT) AT MID-HEIGHT OF WALL PRIOR TO LOADING THEM WITH CONSTRUCTION MATERIALS.
- 5. FINGER JOINTED STUDS SHALL EXCEED THE MATERIAL PROPERTIES AND ALLOWABLE STRESSES FOR SOLID LUMBER AS SPECIFIED FOR STUD GRADE CONSTRUCTION.
- 6. TOP & BOTTOM PLATES SHALL BE DOUGLAS-FIR LARCH, CONSTRUCTION GRADE OR #3 (MC19), UNO.
- 7. ALL OTHER WALL CONSTRUCTION SHALL BE EITHER CONSTRUCTION GRADE OR UTILITY HEADER AND OTHER MISCELLANEOUS FLEXURAL MEMBERS SHALL BE NO. 2 SYP (MC19 OR BETTER U.N.O.)
- 8. ALL OTHER NON-STRUCTURAL WALL CONSTRUCTION SHALL BE EITHER CONSTRUCTION GRADE OR UTILITY SOUTHERN YELLOW PINE (MC19) OR DOUGLAS FIR LARCH (MC19).
- 9. MATERIALS MUST BE GRADE MARKED.

THE BOLTS TO BE INSTALLED.

- 10. FOR OVERLAY FRAMING AT ROOFS OR OTHER CONVENTIONAL ROOF FRAMING, CONTRACTOR SHALL PROVIDE 2x FRAMING IN ACCORDANCE WITH ROOF RAFTER APPLICABLE BUILDING CODE.
- 11. BOLT HOLES THROUGH WOOD SHALL BE DRILLED 1/16" MAXIMUM LARGER THAN THE DIAMETER OF
- 12. BOLTS THROUGH WOOD SHALL BE FITTED WITH STANDARD WASHERS AT HEAD AND NUT ENDS.
- FLITCH BEAMS WHEN SHOWN ON PLANS SHALL BE BOLTED TOGETHER WITH ONE 1/2" DIA. BOLT, TOP AND BOTTOM OVER THE SUPPORTS AND/OR AT THE ENDS OF THE BEAM AND 24" ON CENTER, STAGGERED FULL LENGTH OF THE BEAM.
- 14. A HOLE GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH MAY NOT BE BORED IN ANY WOOD STUD. BORED HOLES IN DIAMETER EQUAL TO 60 PERCENT OF THE WIDTH OF THE STUD ARE PERMITTED IN NON-LOAD BEARING PARTITIONS OR WALLS WHERE EACH BORED STUD IS DOUBLED, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLE STUDS OCCUR.
- 15. EDGE OF A BORED HOLE SHALL NOT BE WITHIN 5/8 INCH OF THE STUD EDGE. BORED HOLES SHALL NOT BE LOCATED AT A CUT OR NOTCH IN THE STUD.
- 16. TREATED WOOD SHALL BE MANUFACTURED AS FOLLOWS: WOOD IN CONTACT WITH SLAB ON GRADE 0.40 ACQ OR MCQ

6.02 - DECKING AND SHEATHING

- 1. DECKING FOR SLOPED ROOFS SHALL BE 19/32" THICK PLYWOOD OR OSB STANDARD C-D INTERIOR GRADE WITH EXTERIOR GLUE WITH PANEL SPAN RATING OF 32/16.
- 2. DECKING FOR FLAT ROOFS SHALL BE 23/32" THICK PLYWOOD OR OSB STANDARD C-D INTERIOR GRADE WITH EXTERIOR GLUE WITH PANEL SPAN RATING OF 32/16.
- 3. DECKING FOR FLOORS SHALL BE 23/32" THICK T&G APA RATED PLYWOOD STANDARD C-D INTERIOR WITH EXTERIOR GLUE OR ORIENTED STRAND BOARD (OSB) (STURDY FLOOR) WITH PANEL SPAN RATING OF 48/24. INSTALL DECKING WITH FACE GRAIN ACROSS SUPPORT.
- WOOD SHEATHING AT INTERIOR AND EXTERIOR SHEARWALLS SHALL BE APA RATED PLYWOOD STANDARD C-D INTERIOR WITH EXTERIOR GLUE OR OSB GRADE WITH THICKNESS AS SHOWN IN
- 5. SHEATHING FOR ROOF APPURTENANCES AND OTHER MISCELLANEOUS USES SHALL BE 19/32" THICK, PLYWOOD OR OSB EXTERIOR GRADE.
- 6. GYPSUM WALLBOARD FOR SHEARWALLS (IF SCHEDULED) SHALL BE 5/8" THICK AND FREE FROM IMPERFECTIONS AND CONFORM TO ASTM C79 SPECIFICATIONS AND AS SHOWN ON ARCHITECTURAL DRAWINGS.

6.03 - FASTENERS AND HARDWARE

- 1. EXPANSION ANCHORS SHALL BE HILTI "KWIK BOLTS" OR AN APPROVED EQUAL
- 2. ADHESIVE ANCHORS SHALL BE HILTI "HVA ANCHORS" OR AN APPROVED EQUAL 3. POWDER ACTUATED FASTENERS SHALL BE HILTI "DS SERIES FASTENERS" OR AN APPROVED EQUAL.
- 4. ALL WOOD FASTENERS AND HARDWARE SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE, ALTERNATES SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.
- 5. HOLDOWNS, STRAPS AND HURRICANE CLIPS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. 6. NAILING INSTALLATION AND MATERIALS ARE TO BE IN COMPLIANCE WITH A.I.T.C., NDS AND APPLICABLE
- 7. GUN NAILS MAY BE USED IN LIEU OF HAND NAILING. GUN NAIL SIZES SHALL BE AS FOLLOWS:

GUN NAIL DIAMETER

- 8. NAILS SHALL HAVE A MINIMUM PENETRATION OF 6 TIMES THE WIRE DIAMETER UNLESS OTHERWISE NOTED ON PLANS.
- 9. EDGE DISTANCE FOR ALL NAILS SHALL BE A MINIMUM OF 2 TIMES THE WIRE DIAMETER UNLESS OTHERWISE NOTED ON PLANS.
- 10. ALL NAILS SHOWN IN NAILING SCHEDULE SHALL BE COMMON.

6.04 - ENGINEERED LUMBER

BUILDING CODE REQUIREMENTS.

- 1. PARALLEL STRAND LUMBER (PSL) SHALL BE FABRICATED FROM LONG, THIN STRANDS OF EITHER EASTERN OR WESTERN SPECIES WOOD BONDED TOGETHER WITH A MICROWAVE PROCESS.
- 2. EASTERN "PS" LUMBER (ES) MAY INCLUDE SOUTHERN PINE OR YELLOW POPLAR. WESTERN "PS"
- LUMBER (WS) MAY INCLUDE DOUGLAS FIR, LODGEPOLE PINE, WESTERN HEMLOCK OR WHITE FIR. 3. "PS" LUMBER SHALL BE FABRICATED IN PARALLEL STRANDS(PSL) IN CONFORMANCE WITH NER 292.
- 4. GLULAM LUMBER (GL) SHALL BE FABRICATED FROM LAMINATED 2x LUMBER ACCORDING TO STANDARDS SET FORTH IN NDS AND OTHER APPLICABLE CODES.
- THE MEMBERS CHALL HAVE THE FOLLOWING MINIMUM DESIGN STRESS

THE MEMBERS SHALL HAVE THE FOLLOWING MINIMUM DESIGN STRI	ESSES:				
	<u>"PS"</u>		<u>"GL"</u>		
a. SHEAR MODULUS OF ELASTICITY (G)	125,000		125,000	psi	
b. MODULUS OF ELASTICITY (E)	2.0x10 ⁶	psi	2.0x10 ⁶	psi	
FLEXURAL STRESS (fb)	2,900	psi	2,400	psi	
c. COMPRESSION PERPENDICULAR TO GRAIN AND PARALLEL					
TO WIDE FACE OF STRANDS (fc)	750	psi	740	psi	
d. COMPRESSION PERPENDICULAR TO GRAIN AND PERPENDICULAR					
TO WIDE FACE OF STRANDS (fc)	525		525		
e. COMPRESSION PARALLEL TO GRAIN (fc)	2,900	psi	2,400	psi	
f. HORIZONTAL SHEAR PERPENDICULAR TO WIDE		_			
FACE OF STRANDS (fv)	290	psi	290	psi	
g. HORIZONTAL SHEAR PARALLEL TO WIDE		_		_	
FACE OF STRANDS (fv)	210	psi	210	psi	

- 6. HEAL CUTS ON BEAMS MUST NOT OVERHANG INSIDE FACE OF SUPPORT MEMBER
- 7. "PS" MEMBERS ARE FABRICATED WITHOUT CAMBER. GLULAM MEMBERS MAY BE CAMBERED TO REMOVE DEAD LOAD DEFLECTION, IF SPECIFIED.
- 8. THE "PS" AND "GL" MEMBERS SHALL BE PROTECTED FROM THE WEATHER WHILE IN STORAGE. CARE SHALL BE EXERCISED DURING HANDLING TO PREVENT DAMAGE TO THE SAME.

6.05 - PREMANUFACTURED WOOD TRUSSES

- 1. TRUSSES ARE DESIGNED FOR IN SERVICE CONDITIONS ONLY. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROPERLY BRACE TRUSSES DURING LIFTING AND ERECTION.
- 2. TRUSS MANUFACTURER SHALL DESIGN ALL FLOOR AND ROOF TRUSS FOR ALL GRAVITY, SHEAR AND
- 3. TRUSS LENGTHS AND PROFILES SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS PRIOR TO FABRICATION. CONFIGURATION AND SIZE OF WEB AND CHORD MEMBERS SHALL BE DETERMINED
- 4. CONTRACTOR SHALL KEEP TRUSSES LATERALLY BRACED DURING ERECTION, UNTIL ALL DIAPHRAGMS ARE INSTALLED.
- 5. DESIGN AND FABRICATION CRITERIA OF ALL WOOD TRUSSES SHALL MEET WITH "NATIONAL DESIGN SPECIFICATIONS FOR STRESS-GRADE LUMBER AND ITS FASTENINGS" BY NATIONAL FOREST PRODUCTS ASSOCIATION (LATEST REVISION). "TIMBER CONSTRUCTION STANDARDS", BY AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (LATEST REVISION), AND "DESIGN SPECIFICATIONS FOR LIGHT METAL CONNECTED WOOD TRUSSES", BY TRUSS PLATE INSTITUTE.
- 6. THE FOLLOWING DESIGN DATA SHALL BE INCLUDED ON THE SHOP DRAWINGS:
 - a. METAL CONNECTORS' SIZE
 - b. LUMBER GRADES

TIME OF FABRICATION.

- c. DESIGN LOADINGS AND ALLOWABLE UNIT STRESS INCREASES. d. DEFLECTIONS.
- 7. THE MOISTURE CONTENT OF LUMBER SHALL NOT EXCEED 19% NOR BE LESS THAN 7% AT THE
- 8. CHORD AND WEB MEMBERS SHALL BE EITHER SOUTHERN YELLOW PINE OR DOUGLAS FIR.
- 9. ALL TRUSS CONNECTOR PLATES SHALL BE MANUFACTURED FROM STRUCTURAL QUALITY GALVANIZED
- SHEET METAL NOT LESS THAN 20 GAUGE THICKNESS, WITH A MINIMUM YIELD OF 33,000 psi AND A MINIMUM ULTIMATE TENSILE STRENGTH OF 45,000 psi. THE CORROSION RESISTANT COATING SHALL MEET OR EXCEED ASTM A446, STANDARD SPECIFICATION FOR SHEET METAL.
- 10. OPEN JOINTS WHICH DEPEND ON THE STIFFNESS OF THE METAL CONNECTOR PLATE TO TRANSMIT STRESSES AND IMPROPER FITTING JOINTS WILL NOT BE PERMITTED.
- 11. DEAD KNOTS AND WANES ON LUMBER SHALL NOT BE USED UNDER THE CONNECTOR PLATES.
- 12. DESIGN AND DETAILING OF PRE-MANUFACTURED PRODUCTS. CONNECTIONS AND ACCESSORIES SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE A.I.T.C. "TIMBER CONSTRUCTION MANUAL" AND THE N.F.P.A. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION".
- 13. TRUSSES SHALL BE DESIGNED AND FABRICATED BY TRUSS MANUFACTURER. THE DESIGN SHALL BE PREPARED BY A REGISTERED ENGINEER BEARING A LICENSE IN THE STATE THE PROJECT IS
- 14. TRUSSES SHALL BE DESIGNED FOR THE LOADING CRITERIA NOTED ON PLANS.
- 15. MAXIMUM LIVE LOAD DEFLECTION SHALL BE SPAN/360 FOR ROOF TRUSSES AND SPAN/480 FOR FLOOR, BALCONY AND BREEZEWAY/CORRIDOR TRUSSES.

6.06 - PREMANUFACTURED WOOD COMPONENTS

- 1. CONSTRUCTION OF PREMANUFACTURED WOOD COMPONENTS(PWC) i.e. CONTINUOUS BEARING MEMBERS, SHEAR PANELS, HEADER TRUSSES, ETC. SHALL BE IN ACCORDANCE WITH ALL
- 2. MATERIAL USED FOR COMPONENT SHALL BE IN ACCORDANCE WITH LUMBER QUALITY STANDARDS ESTABLISHED IN "WOOD TRUSSES" SECTION OF THIS SHEET.
- 3. ALL PREMANUFACTURED WOOD COMPONENTS SHALL BE DESIGNED AND FABRICATED BY TRUSS MANUFACTURER. THE DESIGN SHALL BE PREPARED BY A REGISTERED ENGINEER AND SHALL BEAR A LICENSE IN THE STATE THE PROJECT IS LOCATED.
- 4. SHEAR PANELS SHALL BE LOCATED WITHIN THE SHEARWALL LENGTH AND DESIGNED FOR FORCE SHOWN IN NAILING SCHEDULE.
- 5. CONTINUOUS BEARING (CB) MEMBERS SHALL BE DESIGNED TO RESIST ALL ROOF AND FLOOR GRAVITY LOADS. PARTS OF CB LOCATED WITHIN THE SHEARWALLS SHALL BE DESIGNED TO RESIST THE SCHEDULED FLOOR SHEAR.

6.07 - WOOD FRAME SHRINKAGE

- 1. THE CONSTRUCTION OF A 3-STORY, TYPE FIVE WOOD FRAME REQUIRES AN UNDERSTANDING OF FRAMING TOLERANCES, SHRINKAGE, INTERACTION WITH DISSIMILAR MATERIALS, AND CONTRACTOR SHOULD DEVELOP A PROACTIVE QUALITY CONTROL PROCEDURE AND REVIEW WITH ARCHITECT AND
- 2. THE APPROXIMATE SHRINKAGE IN THE CONVENTIONAL 2x WOOD FRAME IS AS FOLLOWS: THREE STORY......1/2" TO 3/4"
- 3. ROUGH OPENINGS IN EXTERIOR WALLS SHALL BE UPSIZED APPROXIMATELY 1/2" TO ACCOMODATE SHRINKAGE PRIMARILY AT TOP FLOORS.

6.07 - WOOD FRAME SHRINKAGE (CONT'D)

AT EACH LEVEL IN EXTERIOR WALL FRAMING.

- 4. PROVIDE 1/8" WIDE JOINT IN WOOD PANEL SHEATHING AT TOP AND BOTTOM OF THE FLOOR CAVITY
- 5. REFER TO SPECIAL BORED HOLE REQUIREMENT FOR PLUMBING PASSING THROUGH BEARING WALL STUDS.

STRUCTURAL TOPPING

7.01 - SELF-LEVELING UNDERLAYMENT

- 1. SELF LEVELING TOPPING SHALL BE 3/4" THICK AND MINIMUM APPLIED AT ALL INTERIOR
- FLOOR AREAS IN THE RESIDENTIAL UNITS. 2. THE TOPPING SHALL BE CEMENTITIOUS OR CEMENT GYPSUM, PUMPED—IN—PLACE, AND USED AS A
- SELF-LEVELING FLOOR UNDERLAYMENT AS NON-STRUCTURAL APPLICATION.
- 3. THE TOPPING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 psi AT 28 DAYS AND THE DRY DENSITY SHOULD NOT EXCEED 120 POUNDS PER CUBIC FOOT.
- 4. CONTRACTOR SHALL VERIFY THE TOPPING PRODUCT PREFERRED BY THE OWNER PRIOR TO
- 5. WOOD COMPONENT ARE ANY MANUFACTURED COMPONENT OTHER THAN OPEN-WEB, ROOF AND
- 6. WOOD COMPONENTS MAY BE WALL ASSEMBLIES AT LOAD BEARING OR EXTERIOR WALLS FOR DOORS AND OR WINDOWS.
- 7. WOOD COMPONENTS MAY INCLUDE OTHER FLOOR OR WALL MEMBERS AS WELL AS PREMANUFACTORED WALL PANELS.

THERMAL AND MOISTURE PROTECTION

8.01 - SEALANTS AND COATINGS

- CONCRETE FOR GARAGE SLABS SHALL BE TREATED WITH A SEALER AND A HARDENER. THIS TREATMENT SHALL BE MANUFACTURED BY GIFFORD-HILL. THE HARDENER SHALL BE (TUFFPLATE) AND THE SEALANT SHALL BE (SEALCO 309). APPLICATION OF THIS TREATMENT SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- 2. JOINT SEALING COMPOUND SHALL BE EPO 405 EPOXY SEALER AS MANUFACTURED BY BRADCO PLASTICS, INC., HOUSTON OR APPROVED EQUAL.
- 3. LIQUID CURING COMPOUND SHALL BE "KURE-N-SEAL" BY SONNEBORN. APPLY COMPOUND ACCORDING TO MANUFACTURE'S RECOMMENDATIONS.
- 4. RELEASE AGENT SHALL BE NON-STAINING MINERAL OIL COMPATIBLE WITH REQUIRED FINISH TO
- 5. MANUFACTURER SHALL VERIFY THE USE OF PRODUCTS INDICATED ARE COMPATIBLE WITH COLORED AND/ OR STAMPED CONCRETE.

9.01 - CONCRETE FINISHES

- REPAIR CONCRETE EXHIBITING HONEYCOMBS, ROCK POCKETS, RUNS, SPALLS, OR OTHERWISE DAMAGED SURFACES WITH DRY PACK OF CEMENT GROUT AND FINISHED FLUSH WITH ADJOINING CONCRETE SURFACES.
- 2. EXPOSED CORNERS SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE SHOWN.
- 3. ALL CONCRETE SLABS ON GRADE SHALL HAVE A TROWELED FINISH, UNLESS OTHERWISE NOTED BY OWNER.
- 4. CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PROTECT FINISHED SURFACES FROM STAINS OR ABRASION. FRESH CONCRETE SHALL BE THOROUGHLY PROTECTED FROM HEAVY RAIN, FLOWING WATER AND MECHANICAL INJURY.
- 5. SIDEWALKS AND OTHER FLATWORK SHALL HAVE A MEDIUM BROOM FINISH UNLESS OTHERWISE NOTED BY OWNER.
- 6. VFRIFY ALL CONCRETE FINISHES WITH ARCHITECT AND OWNER PRIOR TO POURING
- 7. CONTRACTOR SHALL TAKE NECESSARY MEASURES TO PROTECT FINISHED SURFACES FROM CONSTRUCTION DAMAGE.

9.02 - STRUCTURAL STEEL FINISHES

- 1. ALL EXPOSED MEMBERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A523, G90.
- 2. TOUCH UP WELDS, ABRASION, AND BREAKS IN FIELD WITH COLD GALVANIZED PAINT SUCH AS ZRC OR APPROVED EQUAL.
- 3. ALL INTERIOR STEEL MEMBERS SHALL BE SHOP PRIMED.

TESTING AND INSPECTION

10.01 - GEOTECHNICAL TESTING

- 1. THE GEOTECHNICAL CONSULTANT SHOULD EXAMINE EACH FOOTING EXCAVATION AND FILL TO DETERMINE THAT THE PROPER DESIGN REQUIREMENTS HAVE BEEN REACHED. THIS INSPECTION SHOULD BE PERFORMED PRIOR TO THE PLACEMENT OF THE SLAB REINFORCEMENT IN THE EXCAVATION. INSPECTION OF THE FOUNDATION REINFORCEMENT FOR THE SLAB POUR
- SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER PRIOR TO PLACING OF CONCRETE IN EACH POUR. 2. THE GEOTECHNICAL CONSULTANT SHOULD MONITOR THE DEGREE OF COMPACTION OF THE FILL FOR THE SUBGRADE BENEATH
- THE SLAB-ON-GRADE. ANY AREAS OF WEAKNESS SHOULD BE REWORKED ACCORDING TO CONSULTANTS RECOMMENDATIONS. 3. ATTERBERG LIMITS TESTS OF ALL MATERIAL TO BE USED AS COMPACTED FILL UNDER THE SLABS-ON-GRADE

5. CONCRETE CYLINDER TESTS AND SLUMP TESTS FOR FOOTINGS, GRADE BEAMS, SLABS-ON-GRADE, 2 CYLINDERS

- SHALL BE PERFORMED. 4. COMPACTION TESTS OF EACH LIFT OF COMPACTED SOILS SUPPORTING ALL SLABS-ON-GRADE SHALL BE PERFORMED.
- PER 50 CUBIC YARDS. 6. THE STRUCTURAL ENGINEER SHOULD EXAMINE THE REBAR IN THE SLAB POURS PRIOR TO THE PLACING OF THE CONCRETE.
- 7. THE STRUCTURAL ENGINEER SHOULD EXAMINE THE ERECTION OF THE STEEL FRAME PRIOR TO PLACING CONCRETE DECKS
- 8. THE STRUCTURAL ENGINEER SHOULD EXAMINE THE ERECTION OF THE WOOD FRAME INCLUDING WALL FRAMING, SHEAR WALLS, TRUSSES, DECKING, SHEATHING, HOLDOWNS AND STRAPS.

10.02 REINFORCED (POST TENSIONED) CONCRETE

- . CHECK SHIPMENT-MILL INSPECTION/DAMAGE/EXCESSIVE RUST SIZE/GRADE/BENDING
- SUPPORT/TIE/DEGREE OF SUPPORT AND STABILITY DURING POUR COVER APPROVED SHOP DRAWINGS • CLEAN BEFORE POUR • LENGTH & SPLICES/LAPS/HOOKED BARS

4. RECORD ANY DEVIATIONS FROM DRAWINGS SUCH AS ADDITIONAL STEEL OR LARGER DIAMETER BARS 10.03 STRUCTURAL STEEL

CONNECTION LOCATIONS.

- 1. ERECTION PROCEDURES (SEQUENCE) MARKS/VERIFICATION OF SITE PROVIDED AND SPECIFIED
- . APPROVED SHOP DRAWINGS MILL TEST REPORTS Weld Tests-Inspection/ Touching up field welds with Paint/Certification of Welder.
- THEIR NAME AND CERTIFICATE NUMBER/VERIFICATION OF ELECTRODES USED AS ALLOWED 4. BOLTING/SIZE/NUMBER/TYPE/TORQUE/EDGE/DISTANCE/WASHERS/LOCKNUT/TURN-OF-NUT TIGHTENING
- 5. SURFACE FINISH/SHOP CONSTRUCTION—GALVANIZED, PAINTED OR BARE/APPARENT MANUFACTURING DEFECT. 6. EXPANSION JOINTS ◆ ALIGNMENT/PLUMBNESS 7. SLIDING JOINTS/STIFFENERS/COMPLIANCE OF JOINT CONDITIONS TO THE DESIGN

10.04 TIMBER AND LIGHT GAUGE STEEL

- 1. VERIFY SIZE AND LOCATION OF ANCHOR BOLTS, HOLDDOWNS, STRAPS AND OTHER AT ALL BEARING AND SHEARWALL
- 2. VERIFY INSTALLATION OF STUDS FOR BEARING WALLS, STUD PACKS, COLUMNS AT BEAMS AND HEADERS. 3. VERIFY INSTALLATION OF BEAMS, HANGERS, FLOOR TRUSSES, ROOF TRUSSES FOR SIZE, LOCATION,
- AND CONNECTION AT EVERY UNIT AND CORRIDOR. 4. VERIFY TEMPORARY LATERAL BRACING IS INSTALLED PRIOR TO INSTALLING ALL SHEARWALL SHEATING. 5. VERIFY SHEARWALL STRAPPING, SHEARWALL SHEATING TYPE, AND NAILING PATTERN AT ALL LOCATIONS.
- VERIFY INSTALLATION OF SHEAR PANELS AT SHEARWALL FLOOR FOR CAVITY LOCATIONS. 7. VERIFY INSTALLATION OF FLOOR/ROOF DECKING PER SCHEDULE, FOR CORRECT FASTENER SIZE AND SPACING.

8. VERIFY INSTALLATION OF ALL BRACING FOR FLOOR AND ROOF TRUSSES AT ALL UNITS AND CORRIDOR.

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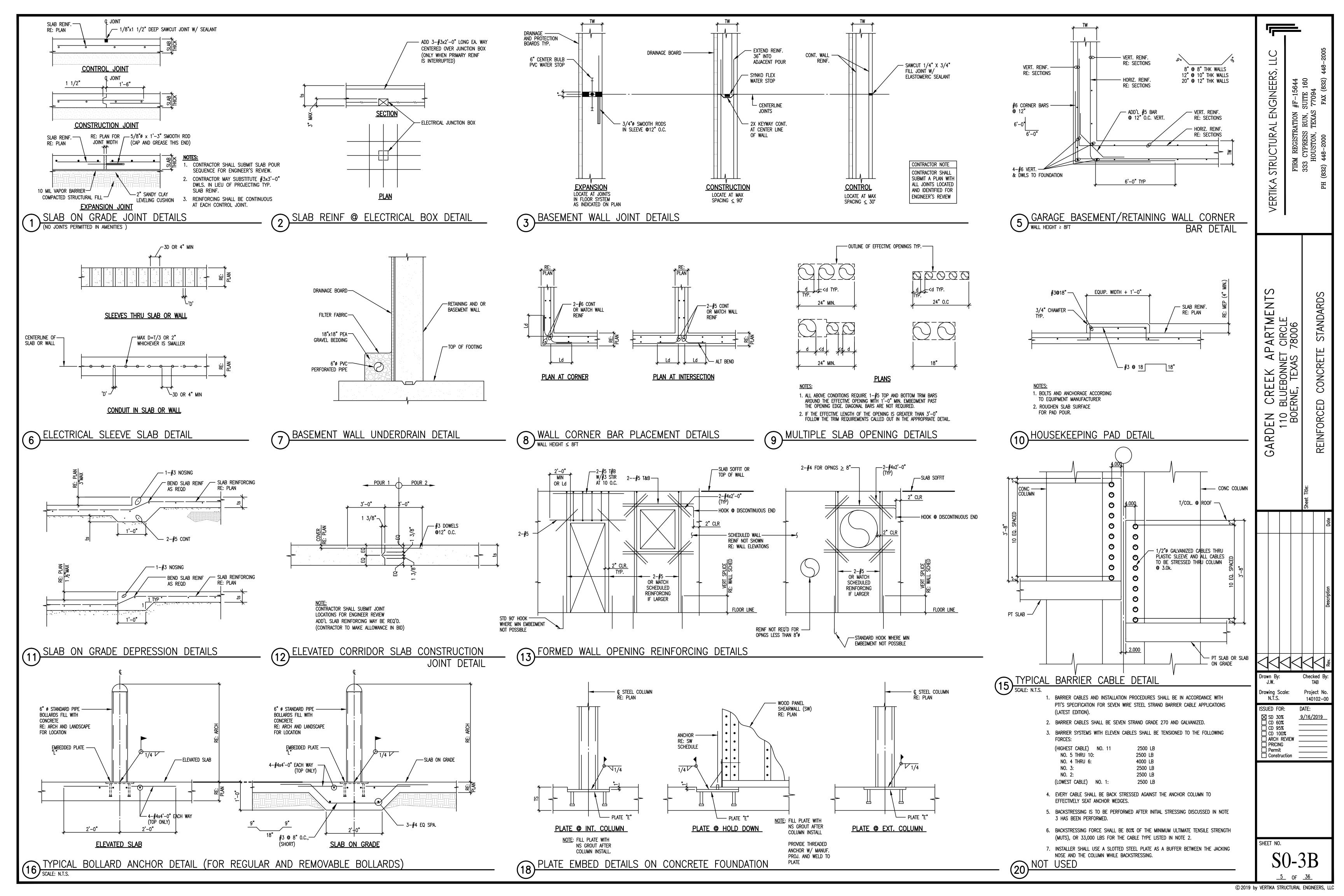
Checked B Drawing Scale: Project No 140102-00 ISSUED FOR: DATE: <u>9/16/2019</u> ☐ CD 60% ☐ CD 95% ☐ CD 100% ARCH REVIEW

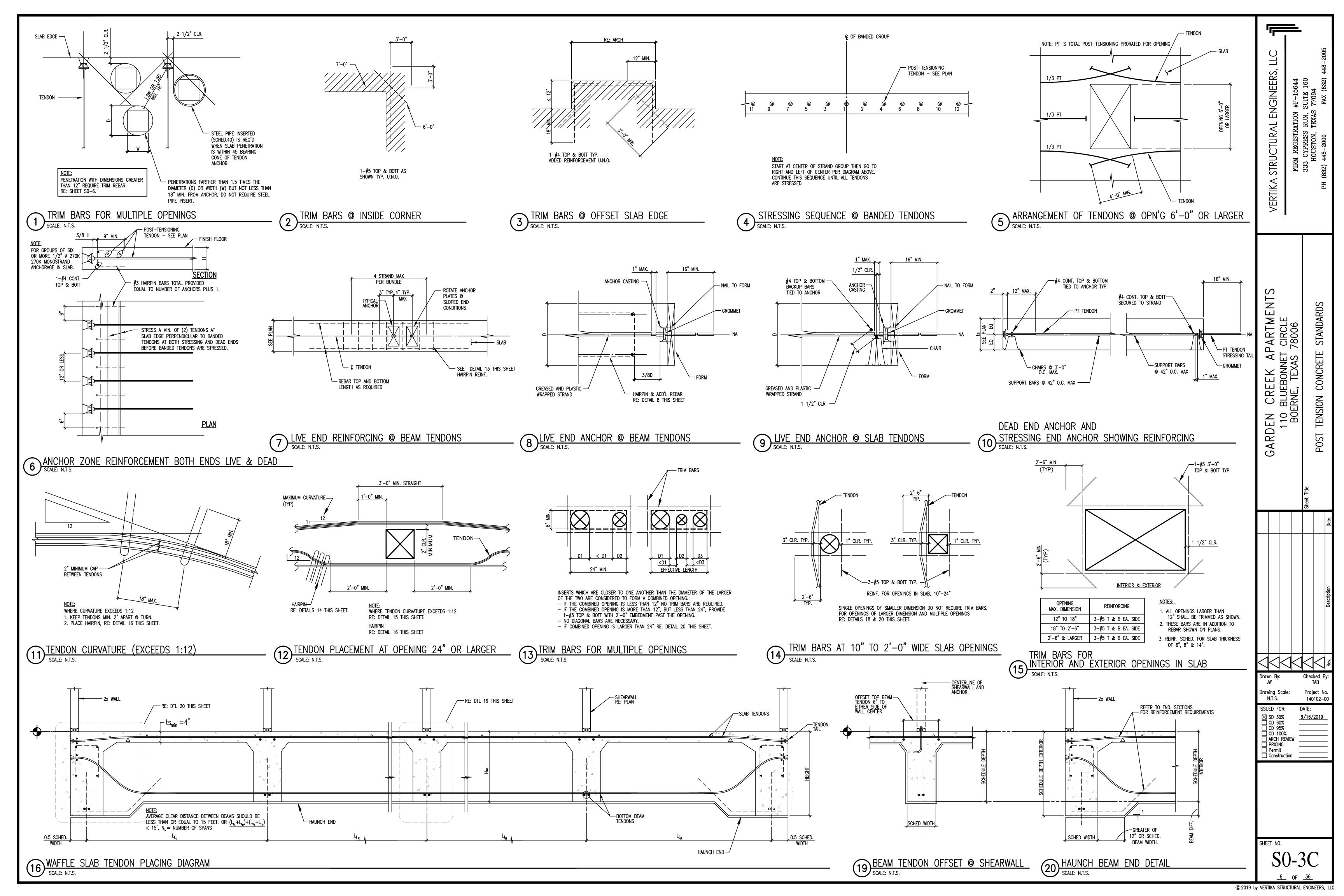
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CLASS A + B LAPS FOR BOTTOM BARS (GRADE 60 BARS - NORMAL WEIGHT CONCRETE) BAR SIZE F'c=3000 psi	"Idh" STANDARD END HOOKS (GRADE 60 BARS - NORMAL WEIGHT CONCRETE) "Idh" 2" MIN 2" MIN COVER ON EXPOSED SURFACES IGH DIMENSION IF NECESSARY STANDARD 90" HOOK BAR SIZE 1'c=3000 psi 1'c=4000 psi 1'c=5000 psi 1'dh" 1'	COMPRESSION DEVELOPMENT LENGTH	90' HOOK 180' HOOK 180' HOOK 180' HOOK 16 NOTE: FOR 'D' ETC. SEE CRSI HANDBOOK GOVERNING EDITION. PRINCIPAL REINFORCING BAR MIN. DIA D #3 1 1/2" #4 2" SEISMIC STIRRUP/TIE NOTES: 1. ALL BENDS SHALL BE MADE COLD. 2. #14 AND #18 BARS SHALL BE BEND—TESTED AND APPROVED PRIOR TO BENDING.	VERTIKA STRUCTURAL ENGINEERS, LLC FIRM REGISTRATION #F-15644 333 CYPRESS RUN, SUITE 160 HOUSTON, TEXAS 77094 PH (832) 448-2000 FAX (832) 448-2005
TYP REINE RE: SECTIONS TYP REINE RE: SECTIONS TYP DELINE TYP DELINE TYP DELINE TYP DELINE TYP DELINE TYP DELINE TYP STIRRUPS TYP U.M.D. TYP STIRRUPS TYP U.M.D. TYP STIRRUPS SPACING TYP U.M.D. TYP STIRRUPS SPACING TYP U.M.D.	ADD'L #3 CLOSED STIRRUPS FOR SLEEVES GREATER THAN 10" IN DIAMETER MAX. PIPE DIA. SHALL NOT EXCEED 0.5 x WALL DEPTH. SLEEVE SHALE BE LOCATED IN CENTER THIRD OF GRADE WALL BEAM/FOOTING PENETRATION DETAILS 3/4"=1'-0" U.N.O.	ADDT'L. #3 CLOSED STIRRUPS (TYP.) 48db TYP. MATCH GRADE WALL REINF (TYP) MATCH GRADE WALL REINF (TYP)	**SEE SECTIONS FOR REINF **NOTES:* 1. CONTRACTOR SHALL SUBMIT JOINT LAYOUT FOR ENGINEER'S REVIEW AND APPROVAL 2. PROVIDE ADD'L REINFORCING AS SHOWN AT CONSTRUCTION JOINT LOCATIONS. **GRADE BEAM/FOOTING CONSTRUCTION JOINT DETAIL**	GARDEN CREEK APARTMENTS 110 BLUEBONNET CIRCLE BOERNE, TEXAS 78006 REINFORCED CONCRETE STANDARDS
PRECAST CONCRETE PAN REACE W/METAL CLOSURES PAN REACE PREFABRICATED STAIR ASSEMBLY PREFABRICATED STAIR STAIR ASSEMBLY PREFABRICATED STAIR ASSEMBLY PREF	PROVIDE EXTRA REINF. SAME SIZE AS CUT BARS BEING REPLACED © EACH MAT. 4-#4 DIAG BARS FOR © MAT OF REINF (TOTAL LENGTH = OPENING + 5"-0") FORMED OPNG OR PIPE 1. REINF SHOWN APPLIES TO OPNGS 12" SQ OR 12" AND LARGER 2. SPREAD AND/OR CUT REINF AT OPNGS. SPREAD NO MORE THAN HALF OF TYP BAR SPAN. ADD ADDL REINF AS SHOWN SLAB OPENING REINFORCING DETAILS	INSIDE 2-#4x4'-0" 2" FROM TOP OF SLAB UNLESS NOTED ON PLANS OUTSIDE	TYPICAL REINF TYPICAL REINF W/2-#5 VERT. CORNER BARS TOP & BOT MATCH SIZE IN FDN SECTIONS PLAN © CORNERS GRADE BEAM CORNER BAR PLACEMENT DETAILS	Sheet Title: Description Date
	TOP OF CONCRETE AT TYP. SUBSUR WATERPING MEMBERS ELEVATO VERT. & TYP. KEYWAY W/WATER STOP 6" VERIFY W/ 6" G' O.C. EA. WAY W/ STD. 90' HOOK	FACE ROOFING ANCE TYP. © R WALLS HORIZ. E.F. ELEV PIT WALL O" ELEV PIT WALL O' FOR WATERSTOP TABLE O' TABLE O'	#4 © 12" O.C. EACH WAY STAIR RUN: SEE ARCH. DWGS. SIDEWALK & RE: CIVIL NOTE: MAYBE SOLID IF ADJACENT TO WALL OR SLAB DEPRESSION VAPOR BARRIER TYP.	Drawn By: Checked By:
<u></u>	18 ELEVATOR SUMP PIT DETAIL	19 ELEVATOR WALL DETAIL AND SILL	CONCRETE STAIR ON GRADE DETAIL	SHEET NO. SO-3A 4 OF 36 by Vertika Structural Engineers, Li





	LEI	LENGTH OF SHEARWALL/NUMBER OF SHEAR PANELS											
	WALL TYPE	≤8'	10'	12'	14'	16'	18'	20'	22'	24'	26'	28'	30'
	АВ	2	2	2	3	3	3	4	4	4	5	5	5
	A C	2	2	3	3	3	4	4	5	5	5	6	6
	- B	2	2	2	2	2	2	2	3	3	3	3	3
	- c	2	2	2	2	2	3	3	3	3	4	4	4
	ВВ	2	2	3	3	4	4	4	5	5	5	6	6
	СС	2	3	3	4	4	5	5	6	6	7	7	8
THIS PROJECT	- D	2	3	3	4	4	5	5	6	6	7	7	8

- 1. SHEAR PANELS AND / OR SHEAR BRACES ARE PREFABRICATED COMPONENTS INSTALLED IN THE FLOOR CAVITY WHEN FRAMING IS PERPENDICULAR TO SHEARWALL.
- 2. SHEAR PANELS TRANSMIT THE DIAPHRAGM SHEARS FROM THE DIAPHRAGM ABOVE TO THE WALL BELOW. 3. SCHEDULE SHALL BE USED WHEN PANEL OR BRACE QUANTITIES ARE NOT SHOWN ON BRACING PLANS.
- 4. PANELS SHALL BE DESIGNED FOR A LATERAL FORCE OF 1200 LBS.
- 5. USE THIS TABLE WHEN QUANTITY NOT SHOWN ON PLANS.
- 6. SHEAR PANELS ARE ONLY REQUIRED IF STRUCTURAL WOOD PANEL SHEARWALLS ARE DISCONTINUED AT TOP BEARING PLATE.
- SHEAR PANEL AND BRACE SCHEDULE

	COLUMN SCHEDULE									
	FOR HEADERS AND DROP BEAMS									
MARK	COLUMN	BEAM	VERTICAL	FR		HORS				
	SIZE	SIZE	NAILING	ROOF	FL00R	FOUNDATION				
S2	2-2x STUDS	<u>≤</u> 2−2x10	16d @ 16"	H2.5	NA	NA				
S3	3-2x STUDS	<u>≤</u> 2−2x12	16d @ 16"	H2.5	NA	NA				
S3	3-2x STUDS	3 1/2"x9 1/4" PSL	16d @ 16"	Н6	RSP4	NA				
S4	4-2x STUDS	3 1/2"x11" PSL	16d @ 16"	2-H6	CS18x42	2-RSP4				

	COLUMN SCHEDULE FOR											
	FLUSH BEAMS											
MARK	COLUMN	BEAM	VERTICAL			HORS						
	SIZE	SIZE	NAILING	ROOF	FLOOR	FOUNDATION						
S2	2-2x STUDS	<u>≤</u> 2−2x8	16d @ 16"	H2.5	NA	NA						
S3	3-2x STUDS	<u>≤</u> 2−2x12	16d @ 16"	2-H2.5	RSP4	RSP4						
S4	4-2x STUDS	3 1/2"x9 1/4" PSL	16d @ 16"	Н6	CS18x42	2-RSP4						
S5	3 1/2"x3 1/2" POST	3 1/2"x11" PSL	NA	2-H6	CS16x48	BC40						

- 1. STUD PACK SIZES SHALL MATCH WALL FRAMING STUD SIZES. 2. COLUMN AND BEAM SIZES LARGER THAN SHOWN IN SCHEDULE SHALL BE AS NOTED ON PLANS
- AND CONNECTED AS SHOWN IN FLOOR SECTIONS.
- 3. BOX COLUMNS SHALL BE CONNECTED AT EACH LEVEL AS PER BEAM SIZE NOTED IN SCHEDULE. 4. STUD PACKS INCLUDE KING AND TRIMMER STUDS @ OPENINGS.
- PLANS AND SECTIONS

BEAM SIZE	TRIBUTARY FLOOR AREA				
(INCHES X INCHES)	<50FT ²	<100FT ²	<150FT ²		
2-2x10	HUS210-2	NA	NA		
2-2x12	HUS212-2	NA	NA		
3-2x10	HUS210-3	NA	NA		
3-2x12	HUS212-3	NA	NA		
3 1/2 X 9 1/4 PSL	HHUS48	HGUS48	NA		
3 1/2 X 11 1/4 PSL	HHUS48	HGUS48	NA		
3 1/2 X 14 PSL	HHUS410	HGUS410	HGUS412		
5 1/2 X 14 PSL	NA	HGUS5.5/10	HGUS5.5/12		
5 1/2 X 16 PSL	NA	HGUS5.5/10	HGUS5.5/14		
5 1/2 X 18 PSL	NA	HGUS5.5/12	HGUS5.5/14		

- 1. BEAM SIZE SHOWN IS MEMBER TO BE CONNECTED.
- 2. TRUSS TO BEAM HANGERS SHALL BE DESIGNED BY TRUSS MANUFACTURER.

FRAMING LEGEND							
	FLOOR	ROOF					
MARK	DESCRIPTION	MARK	DESCRIPTION				
FT	FLOOR TRUSS	RT	ROOF TRUSS				
BT	BALCONY TRUSS	DT	DRAG TRUSS				
CT	CORRIDOR TRUSS	CB	CHORD BRACE				
PSL	PARALLEL STRAND LUMBER	GRT	GIRDER TRUSS				
228	2-2x8	GT	GABLE TRUSS				
Н	HEADER	HT	HIP TRUSS				
FB	FLUSH BEAM	VT	VALLEY TRUSS				
DB	DROP BEAM	JT	JACK TRUSS				
BR	BRIDGING	RB	RIDGE BRACE				
ST	STEPPED TRUSS	6S	6-2xSTUDS				

	LENGTH OF SHEARWALL/DRAG LOADS												
	WALL	≤	8'	1:	2'	1	6'	2	0'	2	4'	28'	to 30
	TYPE	٧	N	٧	N	٧	N	٧	N	٧	N	٧	N
	A B	1.6	2	2.3	4	3.0	5	3.8	6	4.6	7	5.3	8
	A C	1.8	3	2.6	4	3.5	6	4.4	7	5.3	9	6.2	10
	- B	0.9	2	1.4	3	1.8	3	2.3	4	2.8	5	3.2	5
	- c	1.2	2	1.7	3	2.3	4	2.9	5	3.5	6	4.1	7
	СС	2.3	4	3.5	6	4.6	8	5.8	9	7.0	11	8.1	13
THIS PROJECT	- D	2.8	5	4.2	7	5.6	9	7.0	11	8.4	14	9.8	16
,	D C	3.8	6	5.9	9	7.9	12	9.9	16	9.9	16	9.9	16
NOTES:													

- 1. DRAG TRUSS PARALLEL TO SHEARWALL SHALL BE CONNECTED WITH LTP4 OR A35F FRAMING
- ANCHORS WITH QUANTITY (N) AS SCHEDULED TO LENGTH OF SHEARWALL SHOWN ON PLAN. 2. DIAPHRAGM BRACES PERPENDICULAR TO SHEAR WALL SHALL BE CONNECTED WITH A35 FRAMING ANCHORS WITH QUANTITY (N) AS SCHEDULED TO LENGTH OF SHEARWALL SHOWN ON
- 3. "V" IS UNREDUCED COLLECTED WIND SHEAR IN KIPS FOR THE DESIGN OF THE DRAG TRUSS.

ROOF DRAG TRUSS LOAD SCHEDULE TRUSS CONNECTION SCHEDULE

1 – 20 F

21 - 30 FT

FLOOR TRUSS STRONGBACKS

NUMBER OF

ROWS REQUIRED

LESS THAN STATED IN THE TABLE ABOVE.

NAILS TO EACH TRUSS.

PROPERLY SECURED.

BOTTOM CHORDS W/ A MIN. 2- 16d NAILS AT EACH END.

PARALLEL" ON FLOOR FRAMING SECTIONS AND DETAILS SHEET.

TRUSS BRIDGING SCHEDULE

SIZE

H2.5A

2-H2.5A

H10

2-H6

NAILING

20-8d

8-8d

16-8d

32 - 8d

25-8d

UNLESS TRUSS MANUFACTURER'S REACTIONS ARE HIGHER THAN SCHEDULED TENSION.

ROOF TRUSS TOP CHORD BRACING

SPACING

8' O.C.

7' O.C.

ROOF TRUSS BOTTOM CHORD BRACING

LATERAL BRACE

SPACING

15' O.C.

15' O.C.

LATERAL BRACE DIAGONAL BRACE

SPACING

30' O.C.

20' O.C.

DIAGONAL BRACE

SPACING

35' O.C.

20' O.C.

2. TYPICAL ROOF GIRDER TRUSSES SHALL HAVE 1-H6 CONNECTOR AT EACH END UNLESS

TRUSS MANUFACTURER'S REACTIONS ARE HIGHER THAN SCHEDULED TENSION.

3. SCHEDULED TENSION VALUES INCLUDE THE CAPACITY OF 2-16d ERECTION NAILS

INSTALLED BY TOENAILING TRUSS BOTTOM CHORD TO BEARING PLATE.

20 - 40 FT

0 - 32 FT

STRONGBACKS SHALL BE A MIN. 2X6 AND SHALL BE ATTACHED W/ A MIN. 3— 16d NAILS TO A 2X4 VERTICAL MEMBER AND SHALL BE IN CONTACT W/ THE BOTTOM CHORD. IN THE

ABSENCE OF A VERTICAL WEB, A 2X4 VERTICAL SCAB SHALL BE SECURED AT TOP AND

3. ALL TRUSS BRACING LUMBER SHALL BE GRADE STAMPED, CONSTRUCTION GRADE OR BETTER,

4. BRACE ENDS OF STRONGBACKS ACCORDING TO DETAIL LABELED "EXTERIOR WALL — TRUSS

5. ROOF TRUSS CHORD BRACES SHALL BE A MIN. 2X4 AND SHALL BE ATTACHED W/ 2-16d

6. TOP CHORD LATERAL BRACES MAY BE REMOVED ONCE THE PLYWOOD ROOF DECK IS

AND SHOULD BE AT LEAST 10' LONG. SPLICES SHALL LAP AT LEAST 2 TRUSSES.

STRONGBACKS SHALL BE PLACED AS STIPULATED IN THE TRUSS DRAWING, IN A QUANTITY NOT

-PROVIDE H2-5 FRAMING ANCHOR

1x4 FACE MOUNTED ||LET-IN BRACES IN

IN EACH DIRECTION.

1. TYPICAL ROOF TRUSS SHALL HAVE 1-H2.5A CONNECTOR AT EACH END

TENSION

480 LBS

960 LBS

455 LBS

990 LBS

950 LBS

1900 LBS

1350 LBS

	ST	RAPS]				
IARK	SIZE	NAILING	TENSION					
1	CS22x38	14-18d	845 LBS					
2	CS20x38	18-8d	1030 LBS					
(3)	CS18x42	22-8d	1370 LBS			FRAMI	NG ANCHORS	
<u>~</u>	CS16x48	28-8d	1705 LBS		MARK	SIZE	NAILING	TENSION
<u>5</u>	MSTI36	14-10d	1525 LBS		(1)	LTP5	12-8d	555 LBS
(6)	MSTI48	26-10d	2830 LBS		2	LTP4	12-8d	670 LBS
) 7	MSTI60	38-10d	4135 LBS		3	A35	12-8d	450 LBS
<u>(8)</u>	MST48	32-16d	3635 LBS		4	RSP4	8-8d	315 LBS
<u>~</u> (9)	MST60	46-16d	4830 LBS		5	Н6	16-8d	950 LBS

9 MST60 46-16d 4830 LBS

1. TENSION VALUES INCLUDES INCREASE FOR WIND.

(10) MST72 56-16d 6945 LBS

2. ALL NAILS SHALL PENETRATE 1-1/2" INTO FRAMING.

	BALLOON FRAMING						
STUD HEIGHT	EXTERIOR	INTERIOR					
<u><</u> 10'	2x4 @ 12" O.C.	2x4 @ 16" O.C.					
10' TO 14'	2x6 @ 8" O.C.	2x6 @ 12" O.C.					
15' TO 20'	2x6 @ 8" O.C.	2x6 @ 12" O.C.					
21' TO 30'	2x6 @ 8" O.C.	2x6 @ 12" O.C.					

- 1. REFER TO "WOOD FRAMING NOTES" SECTION OF STRUCTURAL SPECIFICATIONS FOR MATERIAL
- 2. FINGER JOINTED STUDS SHALL NOT BE USED.
- 3. STUD HEIGHT CAN BE MEASURED FROM FOUNDATION TO EITHER ROOF PLATE OR INTERMEDIATE SUPPORT FROM EITHER STAIR LANDING OR OTHER MEMBER THAT IS MECHANICAL TIED TO FLOOR DIAPHRAGM.

	REMOVE BRACE AS SHEATHING OF WALLS PROGRESSES FROM UNIT TO UNIT AND FLOOR TO FLOOR.
BEARING WALL STUD SCHEDULES FOR	TEMPORARY CONSTRUCTION BRACE ELEVA
BALLOON FRAMING	

CONNECTION	TYPE	NAILING
JOIST TO SILL OR GIRDER	TOENAIL	3-8d
ROOF TRUSS TO PLATE	TOENAIL	2-16d
BRIDGING TO JOIST	TOENAIL EACH END	2-8d
SOLE PLATE TO JOIST OR BLOCKING	FACE NAIL	16d @16" O.C.
TOP PLATE TO STUD	END NAIL	2-16d
STUD TO SOLE PLATE	TOENAIL OR END NAIL	4-8 OR 2-16d
DOUBLE STUDS	FACE NAIL	16d @ 16" O.C.
DOUBLED TOP PLATE	FACE NAIL	16d @ 16" O.C.
TOP PLATES, LAPS AND INTERSECTIONS	FACE NAIL	2-16d
CONTINUOUS HEADER, TWO PIECES	ALONG EACH EDGE	16d @16" O.C.
CEILING JOISTS TO PLATE	TOENAIL	3-8d
CONTINUOUS HEADER TO STUD	TOENAIL	4-16d
CEILING JOISTS, LAPS OVER PARTITIONS	FACE NAIL	3-16d
FLOOR TRUSS TO PLATE	TOENAIL	2-16d
BUILT-UP CORNER STUDS	ALONG FACE	16d @ 24" O.C
BUILT-UP GIRDER AND BEAMS	T&B STAGGER	16d @ 16" O.C.
	ENDS AND SPLICES	4-16d

FACE NAIL

12-10d T&B

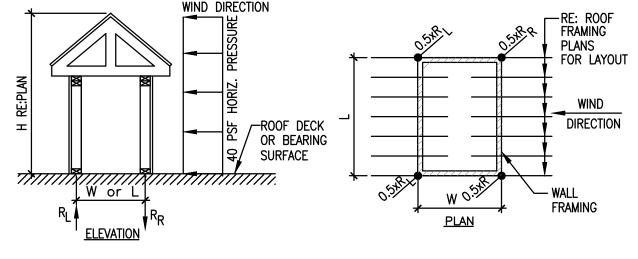
ATTACHMENT		LOCATION AND SPACING			
ANCHOR TYPE	EMBEDMENT	EXTERIOR WALLS	INTERIOR WALLS		
1/2"ø ANCHOR BOLTS	7 "	48" O.C.	72" O.C.		
1/2"ø EXPANSION ANCHORS	2 1/4"	N.A.	72" O.C.		
0.177"Ø POWDER- ACTUATED FASTENERS	1 1/2"	N.A.	24" O.C.		
0.099"Ø POWDER- ACTUATED FORM NAILS	1"	N.A.	12" O.C.		
MAS	4"	48"	N.A.		

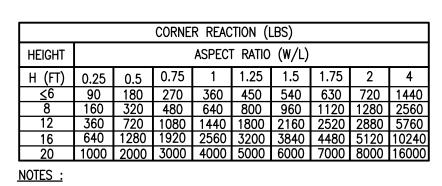
- 2x10 END BLOCK NAIL W/3-12d EA END

MATCH WALL HEIGHT

- 1. EXPANSION ANCHORS SHALL NOT BE ALLOWED WITHIN 10 INCHES OF SLAB EDGE.
- 2. REFER TO SHEARWALL SCHEDULE FOR ANCHORAGE REQUIREMENTS.

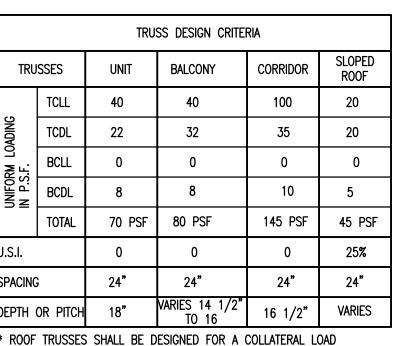
PIPE	LOAD	SCHEDULE	FOR	F





- REACTIONS ARE UNREDUCED AND GRAVITY LOADS ARE NOT INCLUDED. STRAP SIZES AND CAPACITY ARE SHOWN IN STRAP SCHEDULE
- 3. PROVIDE EQUAL NUMBER OF NAILS ABOVE AND BELOW BEARING SURFACE.

ROOF APPURTENANCE SCHEDULE



- * ROOF TRUSSES SHALL BE DESIGNED FOR A COLLATERAL LOAD FROM EQUIPMENT OF 15 PSF IN ADDITION TO SCHEDULED LOADS AT ALL MECHANICAL AREAS.
- 1. TC = TOP CHORD, BC = BOTTOM CHORD
- 2. LL = LIVE LOAD, DL = DEAD LOAD
- 3. ROOF LIVE LOADS MAY BE REDUCED ACCORDING TO APPLICABLE CODE REQUIREMENTS FOR RISE AND TRIBUTARY CONSIDERATIONS.
- 4. BC LOADS INCLUDE DISTRIBUTED WEIGHT OF SPRINKLER SYSTEM AT 2PSF.
- 5. DEAD LOAD INCLUDES SELF WEIGHT (ESTIMATE 5PSF) OF TRUSSES. 6. ROOF LOADS SHOWN ARE BASED ON HORIZONTAL PROJECTION.
- 7. REFER TO ROOF DRAG TRUSS SCHEDULE.

SPECIAL LOADS					
TRUSSES	FLOOR	DESCRIPTION			
TCLL	70LBS	TUBS W/O WATER			
TCDL	300LBS	WATER HEATERS W/ WATER			
	300LBS	HVAC UNITS			
	60PLF	PARTITION WALLS			
	20PSF	EXTERIOR WALLS W/ STUCCO			

- 1. REFER TO PLANS FOR OTHER LOADS NOT SCHEDULED.
- 2. REFER TO ROOF APPURTENANCE SCHEDULE FOR REACTIONS FROM VERTICAL COMPONENTS.
- 3. VERIFY ALL MECHANICAL EQUIPMENT WEIGHTS WITH MEP AND EQUIPMENT PURCHASED BY OWNER 4. SPECIAL LOADING HAS BEEN INCLUDED IN UNIFORM LOADS NOTED ABOVE.

(14) TRUSS LOADING SCHEDULE

_				
	F	PIPE LOAD	SCHEDI	JLE
	PL	.UMBING	ELECT	RICAL
	SIZE	WEIGHT	SIZE	WEIGHT
	10 " ø	75 plf	4"ø	5 plf
	6"ø	32 plf	2 " ø	3 plf
	5 " ø	24 plf	1 " ø	1 plf
	4"ø	18 plf	1	-
	3"ø	11 plf	_	_
	2 " ø	6 plf	-	_

NOTE: PIPE WEIGHT INCLUDES WATER

2X4 DIAGONAL BRACING-ROOF TRUSSES @ 1:1 SLOPE (TYPICAL) TOP FLOOR-1. BRACES SHALL BE STUD GRADE LUMBER. 2. NAIL DECKING TO TOP CHORD BLOCKING W/8d @ 6" O.C. 3. NAIL BRACE TO INTERMEDIATE TRUSSES W/2-16d

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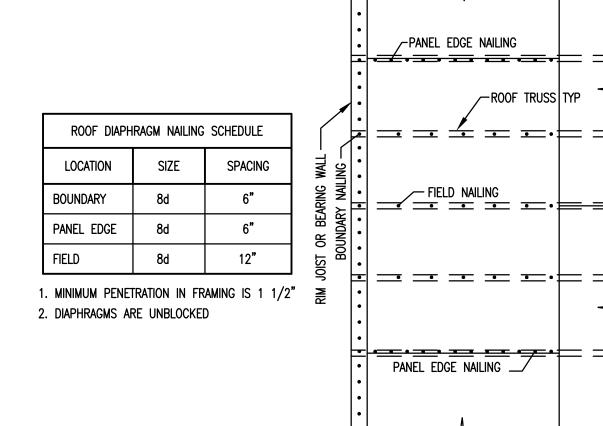
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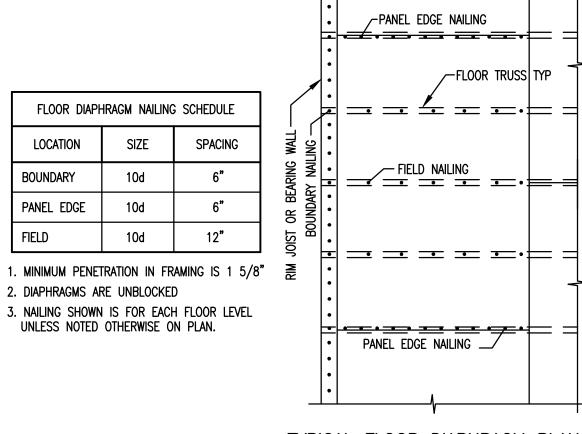
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ROOF TRUSS BRACING @ EXTERIOR, CORRIDOR AND PARTY BEARING WALLS

4. MANUFACTURED PANELS MAYBE USED AS AN ALTERNATE.



TYPICAL ROOF DIAPHRAGM PLAN



TYPICAL FLOOR DIAPHRAGM PLAN

DIAPHRAGM NAILING SCHEDULES

	ROOF	TO TOP OF P	LATE	WIND SPEED (3 SEC. GUST)	TOP PLT.	TO STUD	FLOOR TO FLOOR		STUD TO BOT. PLT.	
	MODEL NO.	UPLIFT (LBS)		M.P.H.		SPACING		SPACING		SPACING
THIS	H2.5	< 415	1, 3, & 5	110	H2.5	48" O.C.	CS16v36	49" O C	H2.5	48" O.C.
OJECT	(2)-H2.5	415-830	3 & 5	110	112.5	40 0.0.	C3 10x30	40 U.C.	112.5	40 0.0.
	H2.5A	< 600	3 & 6	115	H2.5	24" O.C.	CS16v36	48" O C	H2.5	24" O.C.
	(2)-H2.5A	600-1200	3 & 6	113	пг.о	24 0.0.	0310830	40 U.C.	пг.5	24 0.0.
	H6	< 915	2, 3, & 7	120	H2.5	24" O.C.	CC16v36	40" O C	H2.5	24" O.C.
	(2)-H6	915-1830	3 & 7	120	п2.5	2 4 0.6.	CSTOXO	40 U.C.	п2.5	24 0.6.
	ALL CONNECTIONS ARE SIMPSON STRONG—TIE CONNECTIONS — — —									

- AT EACH END UNLESS TRUSS MANUFACTURER'S BÉARING REACTIONS AS NOTED ON SHOP DRAWINGS ARE HIGHER THAN SPECIFIED UPLIFT.
- 2. TYPICAL ROOF GIRDER TRUSSES SHALL HAVE (2) H6 CONNECTOR AT EACH END UNLESS TRUSS MANUFACTURER'S REACTIONS AS NOTED ON SHOP DRAWINGS ARE HIGHER THAN SPECIFIED UPLIFT.
- 3. SCHEDULED UPLIFT VALUES INCLUDE THE CAPACITY OF (2) 16d ERECTION INSTALLED BY TOENAILING TRUSS BOTTOM CHORD TO BEARING PLATE.
- 4. UPLIFT VALUES ARE IN ACCORDANCE WITH LOAD DURATION FACTORS SET FORTH BY
- NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, CURRENT EDITION.
- 5. USE (5) 8d NAILS TO TRUSS CHORDS AND TO PLATES FOR EACH CONNECTOR SCHEDULED.
- 6. USE (4) 8d NAILS TO TRUSS CHORDS AND TO PLATES FOR EACH CONNECTOR SCHEDULED.
- 7. USE (4) 8d NAILS TO TRUSS CHORDS, (2) 8d TO PLATES, AND (8) 8d TO STUDS FOR EACH CONNECTOR SCHEDULED.

(20) CONTINUOUS LOAD PATH

SHEET NO.

Drawing Scale:

N.Ť.S.

ISSUED FOR:

SD 30%
☐ CD 60%
☐ CD 95%
☐ CD 100%
☐ ARCH REVIEW

PRICING Permit ☐ Construction Project No

9/16/2019

DATE:

140102-00

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FRAMING NAILING SCHEDULE

SHEAR PANELS TO BEARING PLATES

18) BEARING WALL ANCHOR SCHEDULE

TRUSSES AND OTHER MEMBERS

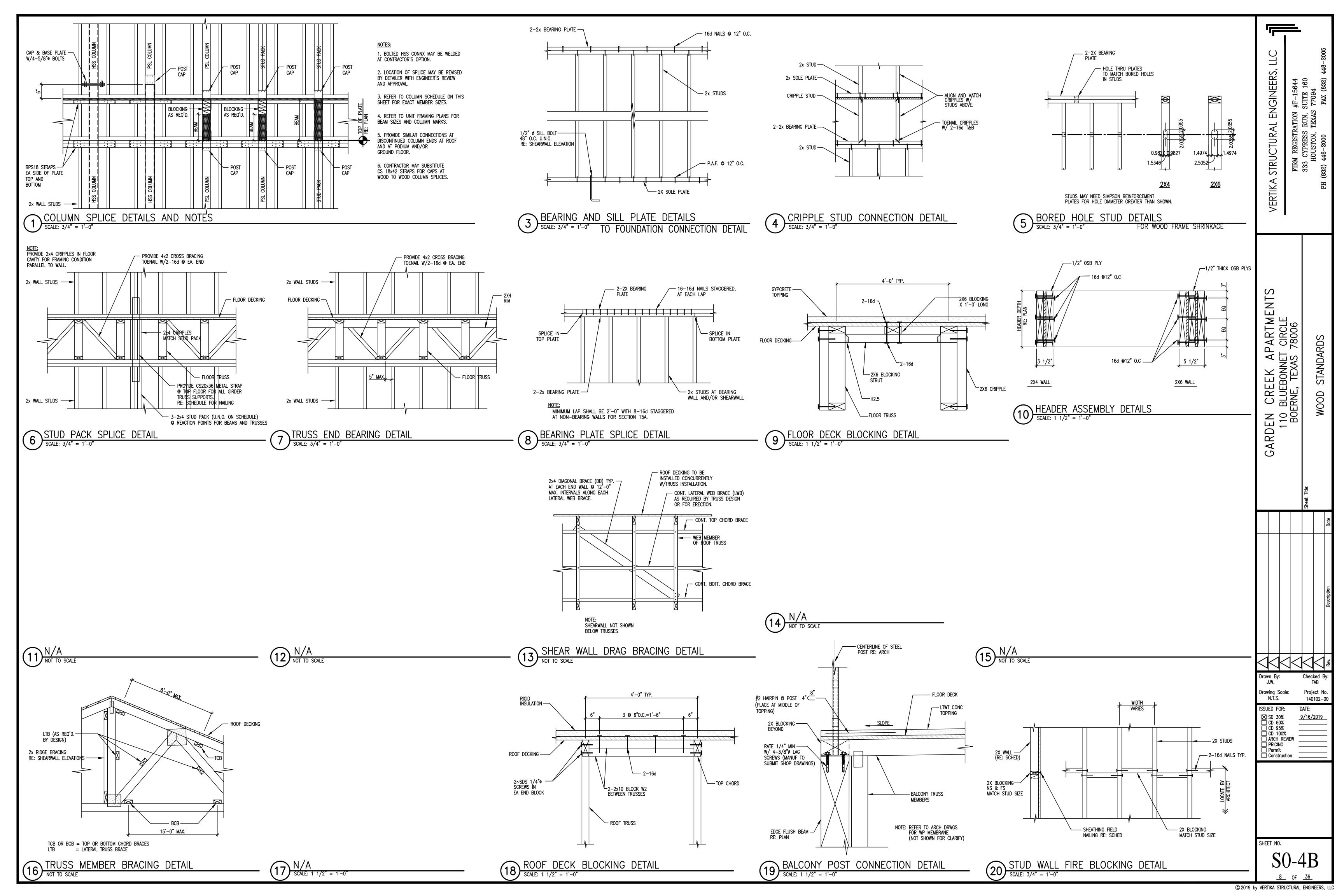
STRAPPING CAN BE

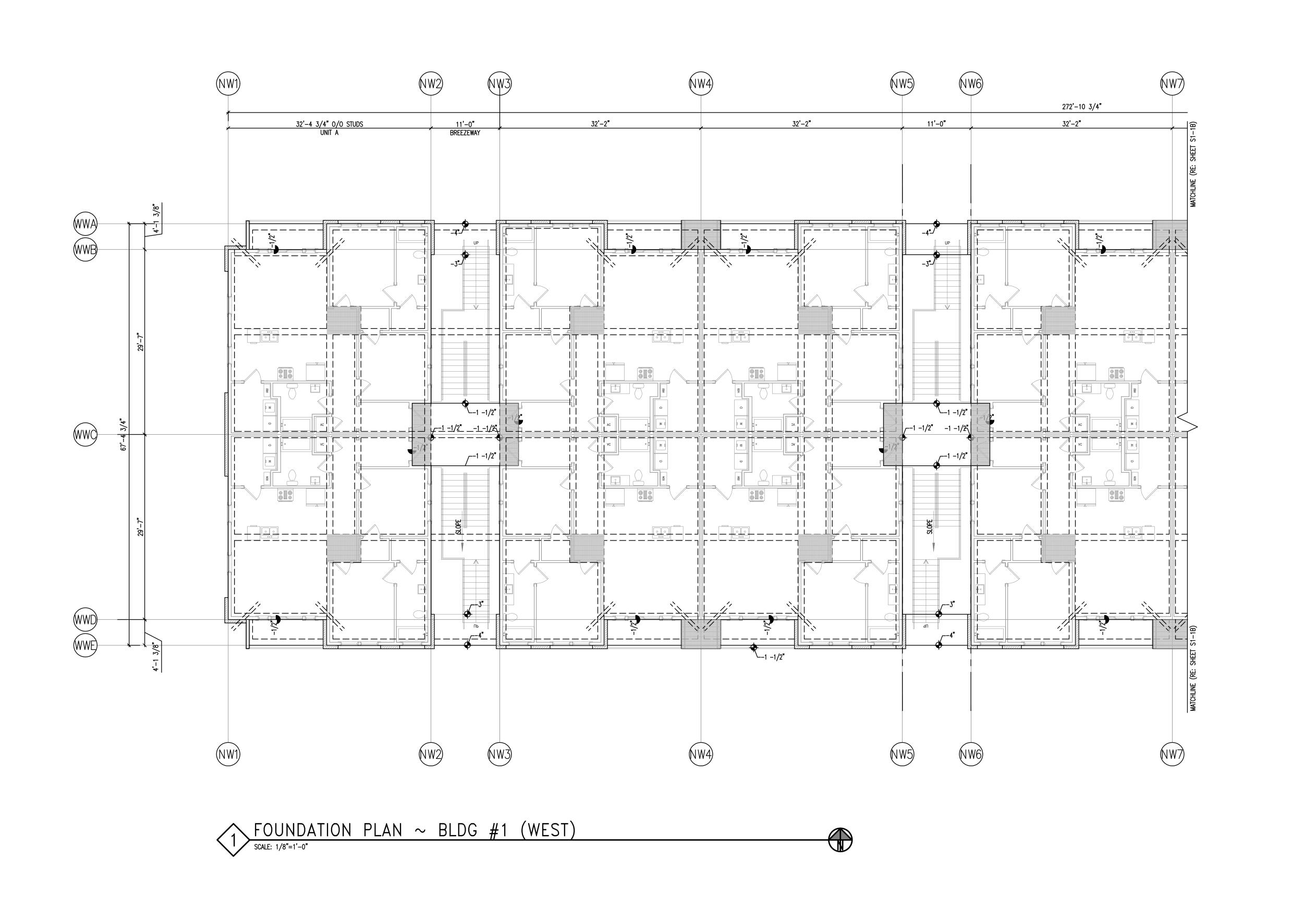
OMITTED BY OVERLAPPING THE

SHEATHING AT

EXTERIOR

LEAST 18".



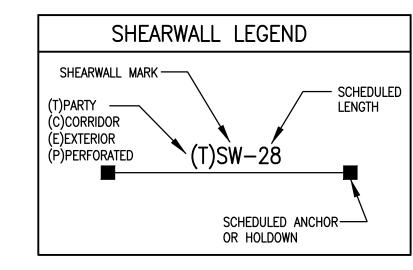


FOUNDATION PLAN NOTES

- . FOUNDATION SLAB SHOWN THUS INDICATES SLOPED, AND DEPRESSED AREA I.E. PATIOS AND ENTRY STOOPS.
- SLAB THICKNESS AND REINFORCING ARE SHOWN ON POST TENSION PLAN.
- SEE ARCH DRAWINGS FOR STAIR DIMENSIONS. THE SLAB FORMING DIMENSION ARE ALSO SHOWN ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL
- REPORT DISCREPANCIES. CONTRACTOR SHALL VERIFY OPENINGS AND SLAB EDGE DETAILS WITH ARCHITECTURAL DRAWING. REPORT DISCREPANCIES TO EACH DESIGN CONSULTANT AS NECESSARY.
- BLOCKOUTS FOR PLUMBING CHASES, STAIR OPENINGS AND FLOOR LEAVEOUTS ARE SHOWN ON PLAN. SPECIAL REINFORCEMENT AT SLAB EDGE IS REQUIRED.
- TYPICAL REINFORCING DETAILS AT OPENINGS, JOINTS AND CORNERS OF CONCRETE SLAB AND WALLS ARE
- SHOWN ON CONCRETE STANDARD DETAILS. REFER TO MECHANICAL AND ELECTRICAL PLANS FOR EMBEDS, SLEEVES, AND OTHER BLOCKOUTS NOT

SLAB FORMING DIMENSIONS

REFER TO ARCHITECTURAL DRAWINGS FOR ALL FINAL FORMING DIMENSIONS AND OVERALL DIMENSIONAL CONTROL OF CONCRETE WAFFLE SLAB ON GRADE.



PT SLAB ON GRADE NOTE

4" THICK POST TENSIONED CONCRETE WAFFLE SLAB ON 10 MIL VAPOR BARRIER ON 3' THICK MAX SELECT STRUCTURAL FILL (ALL DARK BROWN CLAY REMOVED) AND A COMPACTED AND MOISTURE CONDITIONED SUBGRADE.

FIN. FLR BLDG 1 = EL: 1441.50 FIN. FLR BLDG 2 = EL: 1440.25 FIN. FLR BLDG 3 = EL: 1440.00

REF: 0'-0"

C	RAD	E B	EAM SO	CHEDULE	
	BEAM		HORIZO	NTAL REINF.	VERTICAL REINF.
MARK	WIDTH	DEPTH	TOP	BOTTOM	
PB-EL	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"O.C.
PB-ET	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"O.C.
PB-IL	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"0.C.
PB-IT	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"0.C.
RB-E	12	28	2#5 CONT.	2#5 CONT.	#3 STIR 🕽 @18"0.C.
RB-I	12	28	2#5 CONT.	2#5 CONT.	#3 STIR 🕽 @18"0.C.

- 1. TOP REINF. IN PT BEAMS ARE SLAB TENDONS SHOWN ON PLAN.
- 2. PB = POST TENSION BEAM RB = MILD REINF. BEAM
- 3. E = EXTERIOR, I = INTERIOR4. L = LONG, T = SHORT
- 5. PT STAKES ARE TO BE FABRICATED FROM FIBERGLASS. CONTRACTOR MAY SUBSTRATE #4 REINFORCING BARS AT 24"O.C.
- 6. PT VERTICAL STAKES SHALL BE 30" LONG.
- 7. PT BEAMS MAY HAVE ADD'L MILD REINFORCING AS SHOWN ON SHEET S3-1.

ENGINEERS, STRUCTURAL 'ERTIK,

APARTMENTS VET CIRCLE AS 78006

CREEK BLUEBONI ERNE, TEX

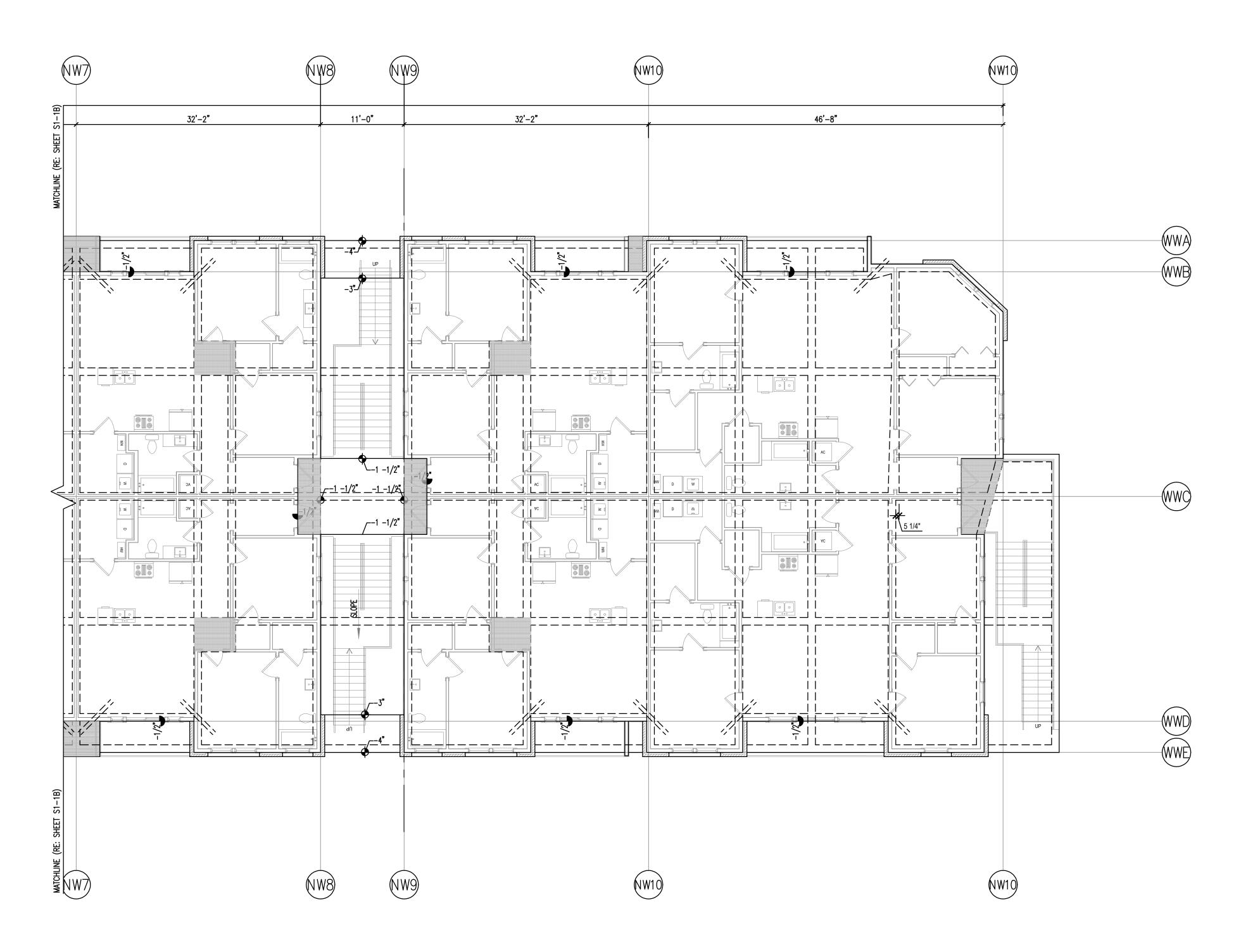
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FOUNDATION PLAN ~ BLDG #1 (EAST)

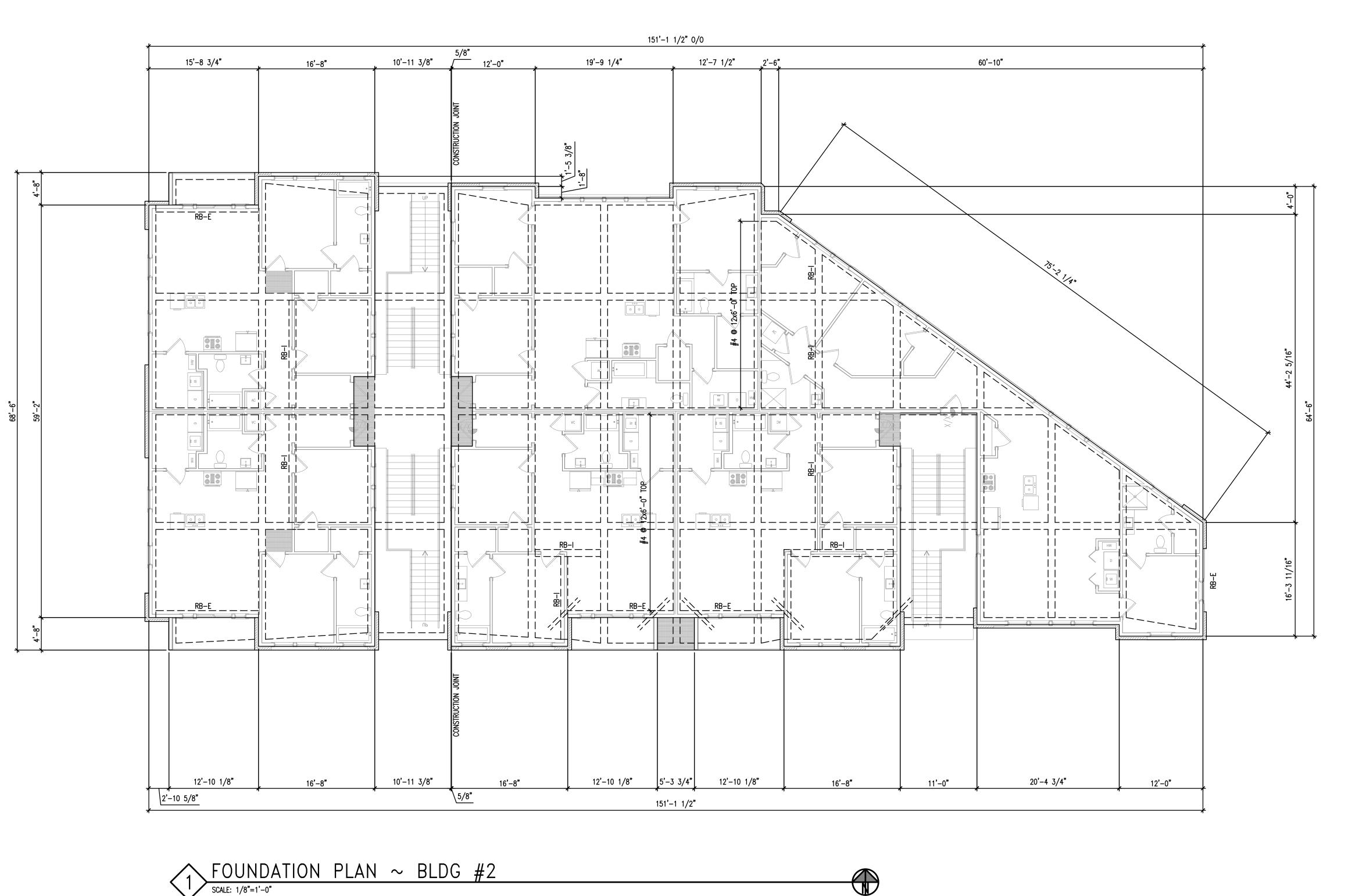
SCALE: 1/8"=1'-0"

APARTMENTS NET CIRCLE AS 78006 GARDEN CREEK 110 BLUEBONN BOERNE, TEXA ISSUED FOR:

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SHEET NO. **S1-1.1B**



FOUNDATION PLAN NOTES

FOUNDATION SLAB SHOWN THUS INDICATES SLOPED, AND DEPRESSED AREA I.E. PATIOS AND ENTRY STOOPS.

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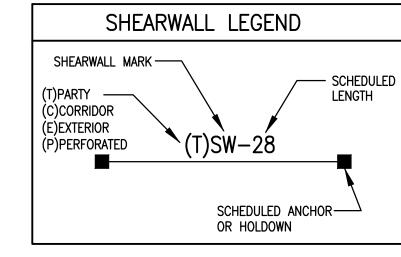
- SLAB THICKNESS AND REINFORCING ARE SHOWN ON POST TENSION PLAN.
- . SEE ARCH DRAWINGS FOR STAIR DIMENSIONS.
- THE SLAB FORMING DIMENSION ARE ALSO SHOWN ON THE ARCHITECTURAL DRAWINGS. CONTRACTOR SHALL REPORT DISCREPANCIES.
- CONTRACTOR SHALL VERIFY OPENINGS AND SLAB EDGE DETAILS WITH ARCHITECTURAL DRAWING. REPORT DISCREPANCIES TO EACH DESIGN CONSULTANT AS NECESSARY.
- BLOCKOUTS FOR PLUMBING CHASES, STAIR OPENINGS AND FLOOR LEAVEOUTS ARE SHOWN ON PLAN. SPECIAL REINFORCEMENT AT SLAB EDGE IS REQUIRED.

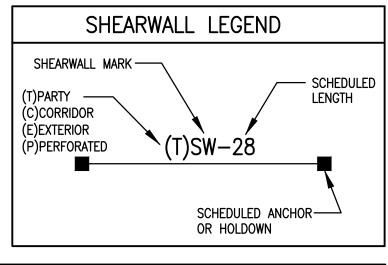
REFER TO MECHANICAL AND ELECTRICAL PLANS FOR EMBEDS, SLEEVES, AND OTHER BLOCKOUTS NOT

TYPICAL REINFORCING DETAILS AT OPENINGS, JOINTS AND CORNERS OF CONCRETE SLAB AND WALLS ARE SHOWN ON CONCRETE STANDARD DETAILS.

SLAB FORMING DIMENSIONS

REFER TO ARCHITECTURAL DRAWINGS FOR ALL FINAL FORMING DIMENSIONS AND OVERALL DIMENSIONAL CONTROL OF CONCRETE WAFFLE SLAB ON GRADE.





(GRADE BEAM SCHEDULE												
	BEAM	SIZE	HORIZO	NTAL REINF.	VEDTICAL DEINE								
MARK	WIDTH	DEPTH	TOP	BOTTOM	VERTICAL REINF.								
PB-EL	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"0.C.								
PB-ET	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"0.C.								
PB-IL	12	28	NOTE 1	1-1/2"ø TENDON	5/8 " ø x 24"0.C.								
PB-IT	12	28	NOTE 1	1-1/2"ø TENDON	5/8"ø x 24"0.C.								
RB-E	12	28	2#5 CONT.	2#5 CONT.	#3 STIR J @18"0.C.								
RB-I	12	28	2#5 CONT.	2#5 CONT.	#3 STIR 🕽 @18"0.C.								

SCHEDULE NOTES: 1. TOP REINF. IN PT BEAMS ARE SLAB TENDONS SHOWN ON PLAN.

2. PB = POST TENSION BEAM RB = MILD REINF. BEAM

3. E = EXTERIOR, I = INTERIOR4. L = LONG, T = SHORT

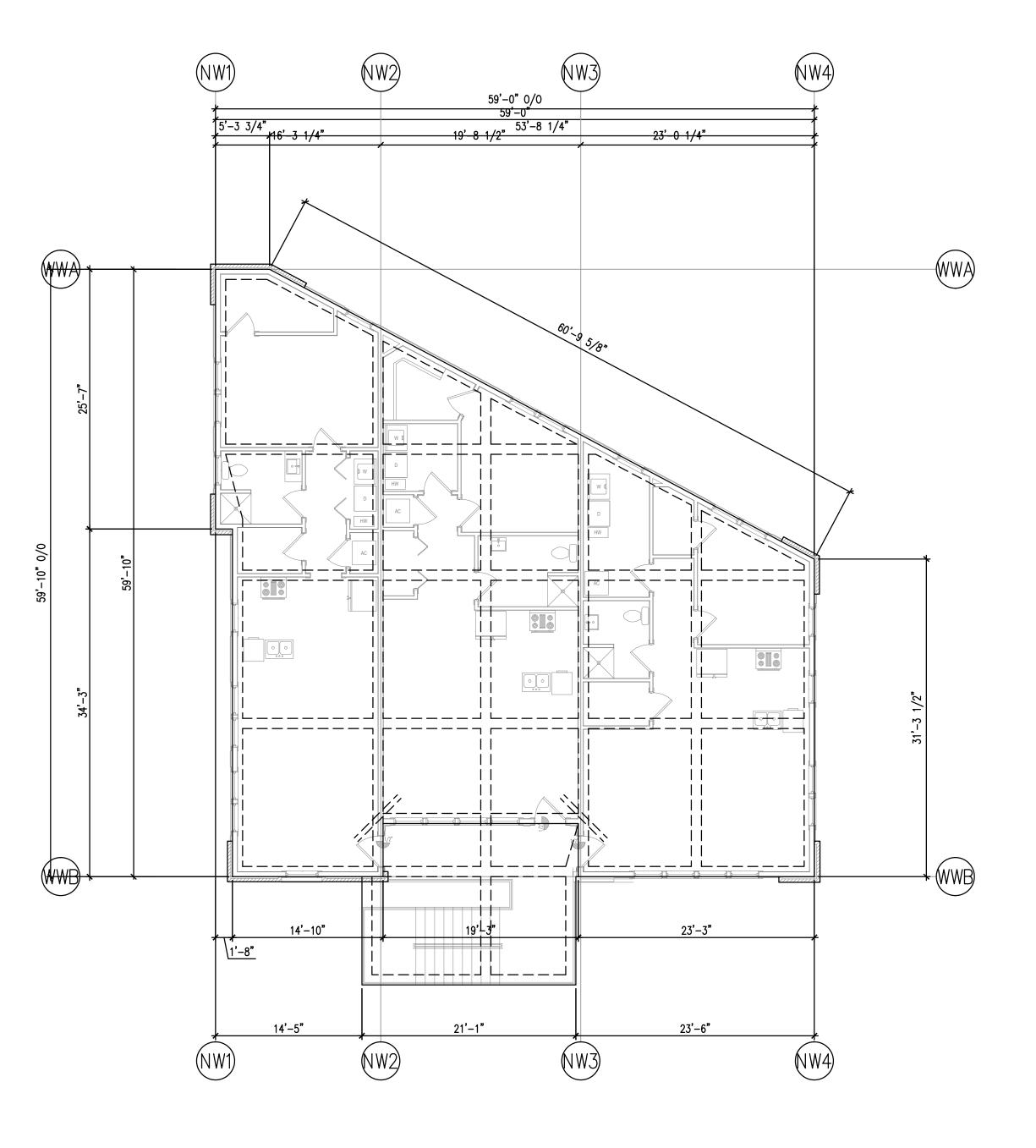
5. PT STAKES ARE TO BE FABRICATED FROM FIBERGLASS. CONTRACTOR MAY SUBSTRATE #4 REINFORCING BARS AT 24"O.C. 6. PT VERTICAL STAKES SHALL BE 30" LONG. 7. PT BEAMS MAY HAVE ADD'L MILD REINFORCING AS SHOWN ON SHEET S3-1.

Project No.

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FOUNDATION PLAN ~ BLDG #3

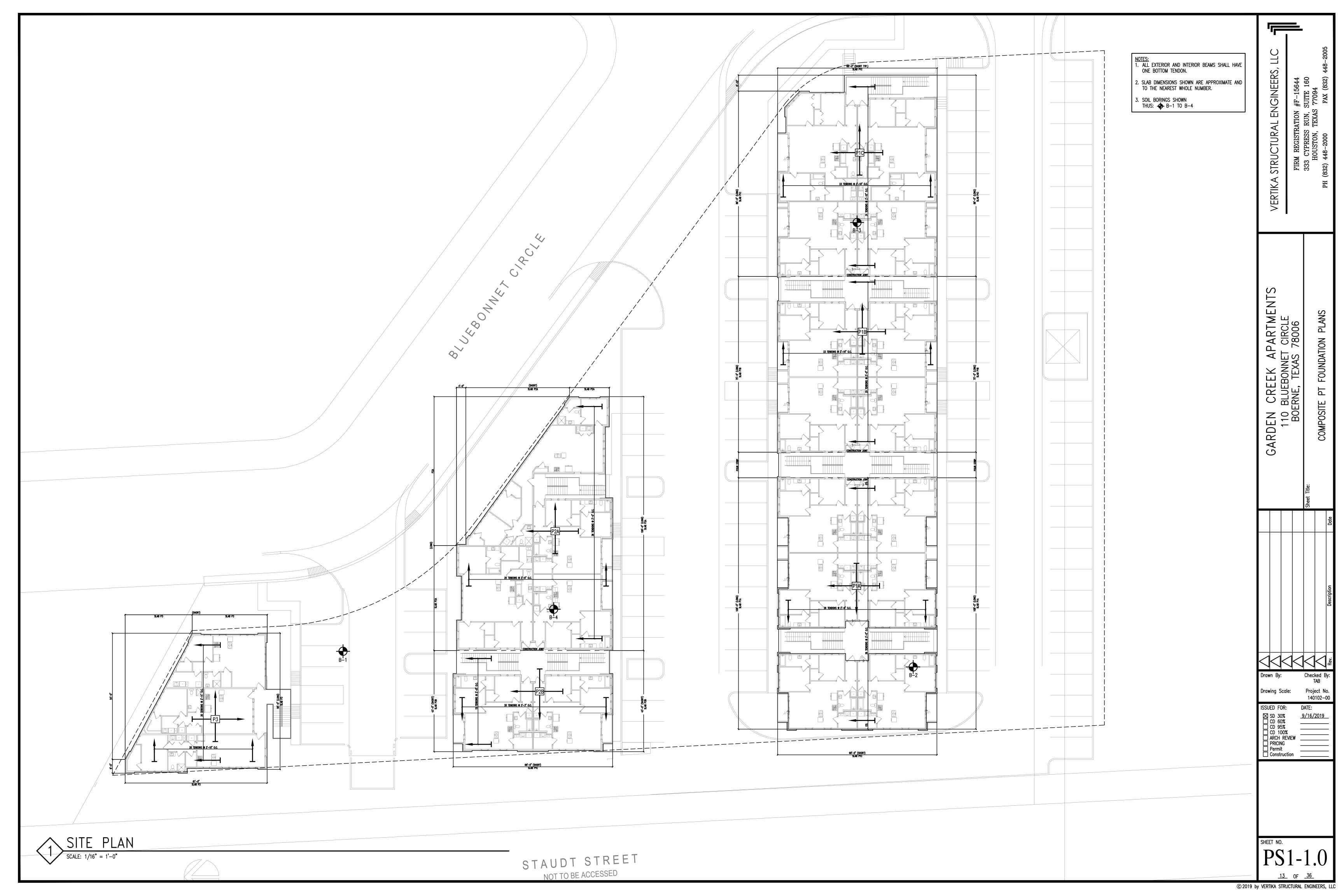
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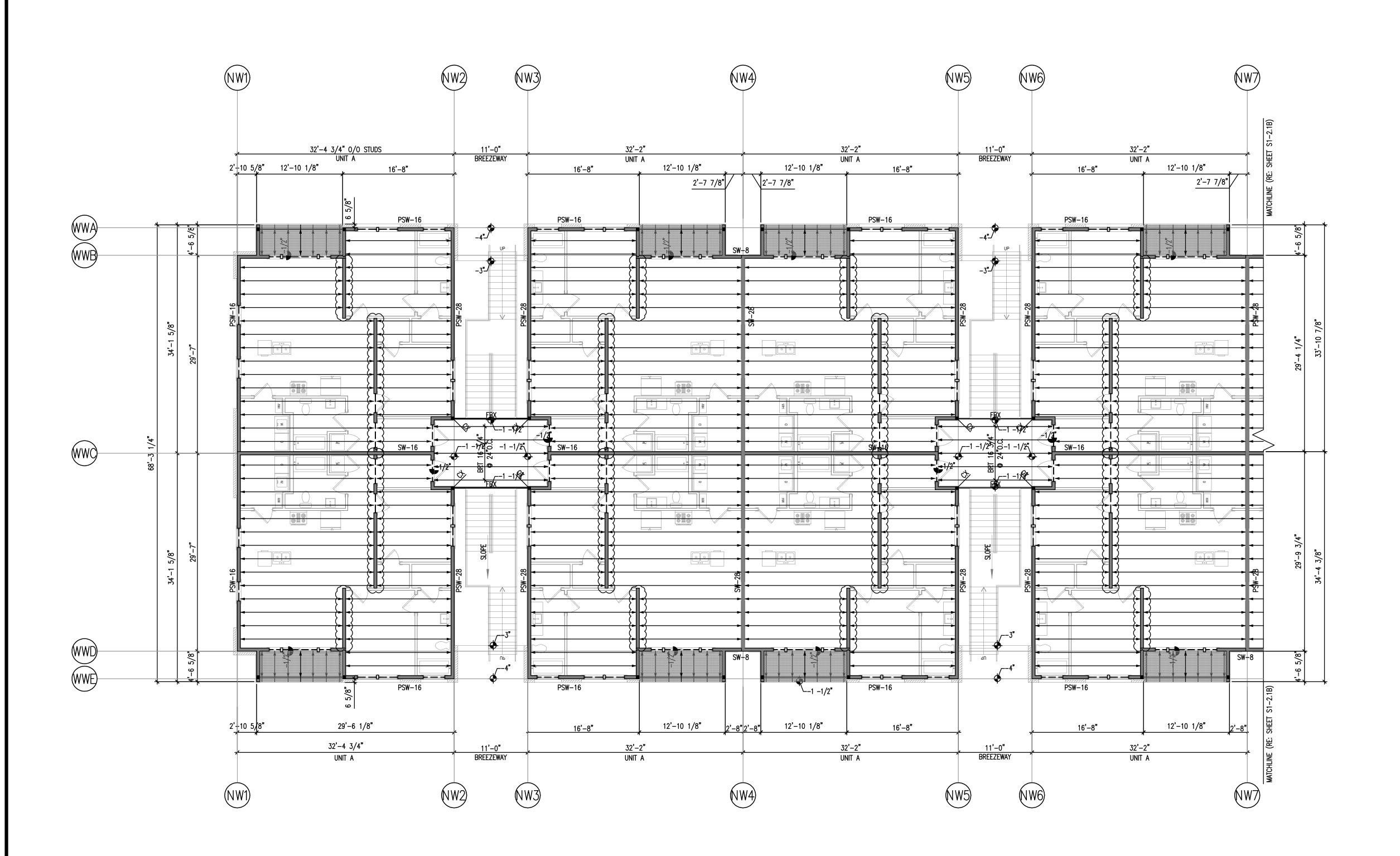
EEK APARTMENTS EBONNET CIRCLE ; TEXAS 78006 FOUNDATION PLAN GARDEN CREEK 110 BLUEBONN BOERNE, TEXA Drawing Scale: AS NOTED Project No. 140102-00 | ISSUED FOR: DATE:
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S1-1.3





PARTIAL 2ND FLOOR FRAMING PLAN ∼ BLDG #1 WEST

(THIRD FLOOR SIMILIAR)

FLOOR FRAMING NOTES

- DECKING THICKNESS AND MATERIAL NOTES ARE SHOWN IN STRUCTURAL SPECIFICATIONS AND SHALL BE NAILED TO SUPPORT FRAMING IN ACCORDANCE WITH DIAPHRAGM
- BEARING WALLS FOR SUPPORT OF NON UNIT FRAMING ARE SHOWN THUS:
- INSTALLATION OF TRUSSES SHALL BE IN STRICT ACCORDANCE WITH ERECTION PLANS PROVIDED BY MANUFACTURER
- THE STABILITY OF THE FLOOR IS NOT ACHIEVED UNTIL THE DECK IS INSTALLED ACCORDING TO CRITERIA SPECIFIED IN THE STRUCTURAL DRAWINGS.
- . BRIDGING SIZE AND NUMBER OF ROWS SPECIFIED ON SCHEDULE SHEET SHALL BE INSTALLED CONCURRENTLY WITH TRUSS ERECTION.
- . VERTICAL SUPPORT FRAMING OF HEADERS, DROP, AND / OR FLUSH BEAMS ARE SHOWN IN COLUMN SCHEDULE.
- . FLOOR TRUSSES ARE 18" DEEP AND SHALL BE SPACED 24" ON CENTER (U.N.O.).
- B. TYPICAL CONSTRUCTION DETAILS ARE SHOWN ON THE
- FLOOR FRAMING SECTIONS.

 SHEARWALLS ARE TO BE CONSTRUCTED FROM THE
- FLOOR AS NOTED ON PLAN TO THE TOP OF PLATE AT THE LEVEL ABOVE.

 10. CORRIDOR TRUSSES SHALL BE CONFIGURED TO
- 10. CORRIDOR TRUSSES SHALL BE CONFIGURED TO ACCOMMODATE ALL REQUIRED MECHANICAL EQUIPMENT IN HALLWAYS.
- 11. TRUSS MANUFACTURER MAY REVISE SPACING ON LONG SPAN UNIT FLOOR TRUSSES TO REDUCE DEFLECTION AND NUMBER OF CHORD MEMBERS.
- 12. BACKGROUNDS SHOW ARE BEARING WALLS FOR UNITS BELOW.

UNIT DECK NOTE

3/4" GYPCRETE TOPPING WITH SOUND MAT OVER 23/32" OSB DECKING SUPPORTED BY 18" DEEP OPEN WEB TRUSSES @ 24"O.C.

BALCONY DECK NOTE

1 1/2" THICK LT WT CONC TOPPING (ON MEMBRANE WATERPROOFING) SUPPORTED BY 23/32" T&G OSB DECKING OVER (16" TO 14 1/2") OPEN WEB TRUSSES @ 24'O.C.

BREEZEWAY DECK NOTE

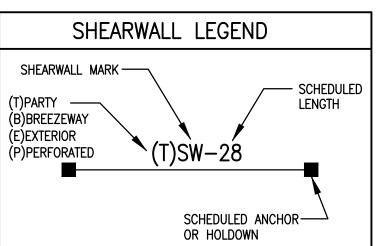
1 1/2" THICK LT WT CONC TOPPING (ON MEMBRANE WATERPROOFING)
OVER 23/32" OSB DECKING SUPPORTED BY 16 3/4" DEEP OPEN WEB
WOOD TRUSSES AT 24" O.C.

BEARING AND SHEARWALL NOTES

REFER TO SHEET S6-1 FOR BEARING WALL STUD SIZES AND SHEET S7-1 FOR SHEARWALL LENGTHS, SCHEDULES AND DETAILS FOR LEVELS 2 THROUGH ROOF.

BREEZEWAY TOPPING CONTROL JOINT NOTES

- PROVIDE SAWCUT CONTROL JOINTS 1/2"Wx3/4" DEEP AT MAXIMUM SPACING OF 16"O.C.
- 2. PROVIDE CONTROL JOINTS ON EACH SIDE OF INSET DOORWAY.
- . PROVIDE CONTROL JOINTS ON EACH SIDE OF CORRIDOR INTERSECTIONS.
- CONTRACTOR SHALL SUBMIT A PLAN OF CONTROL JOINTS WITH SPACING AND LOCATION FOR ARCHITECT, ENGINEER AND OWNER REVIEW AND APPROVAL.



GARDEN CREEK APARTMENTS
110 BLUEBONNET CIRCLE
BOERNE, TEXAS 78006

Sheet Title:
PARTIAL 2ND FLOOR FRAMING PLAN ~ BLDG

ENGINEER

CHEDULED ANCHOR—
R HOLDOWN

Drawn By:
J.W.

Drawing Scale:
AS NOTED

 Drawing Scale:
 Project No.

 AS NOTED
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 9/16/2019

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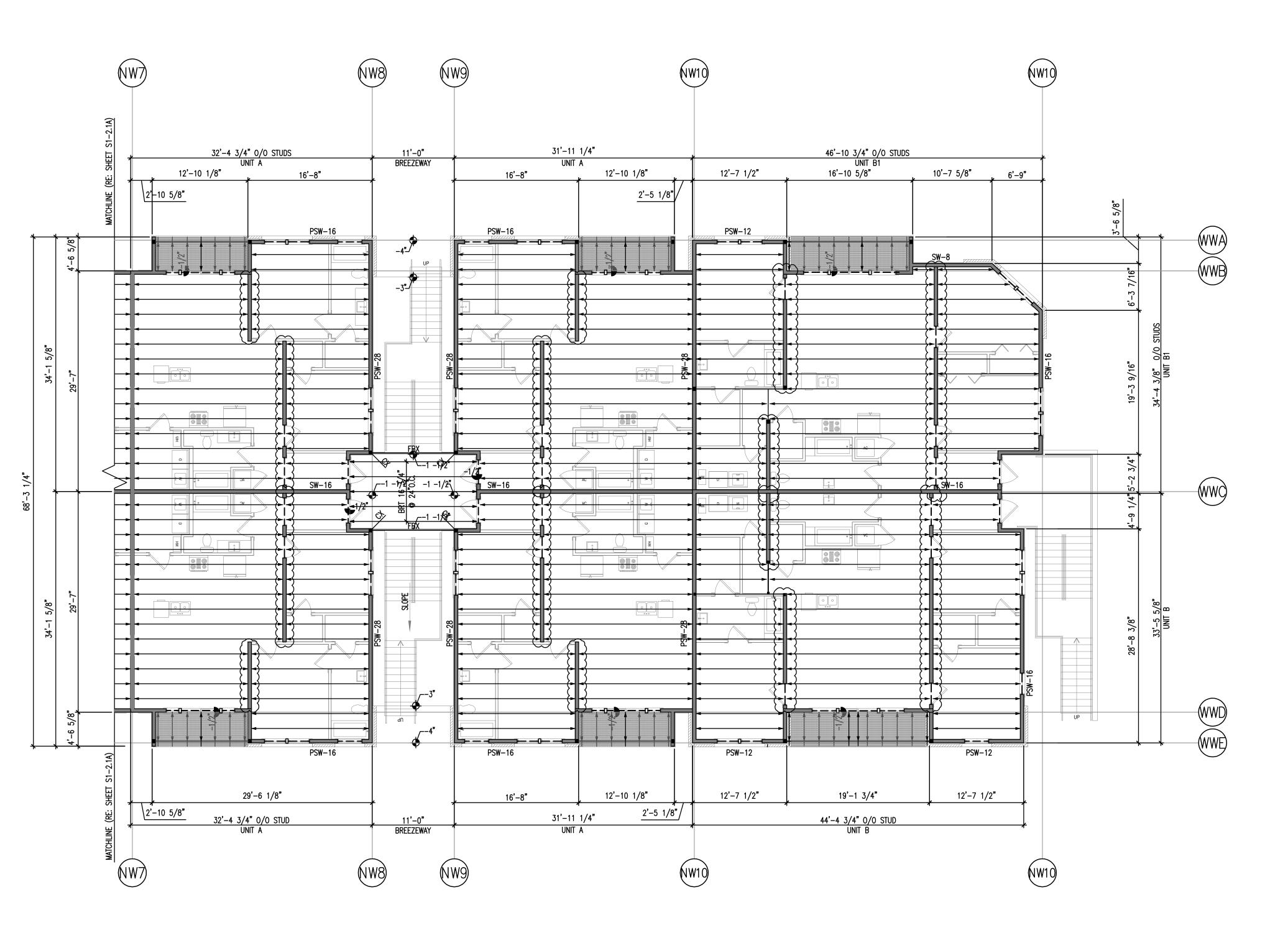
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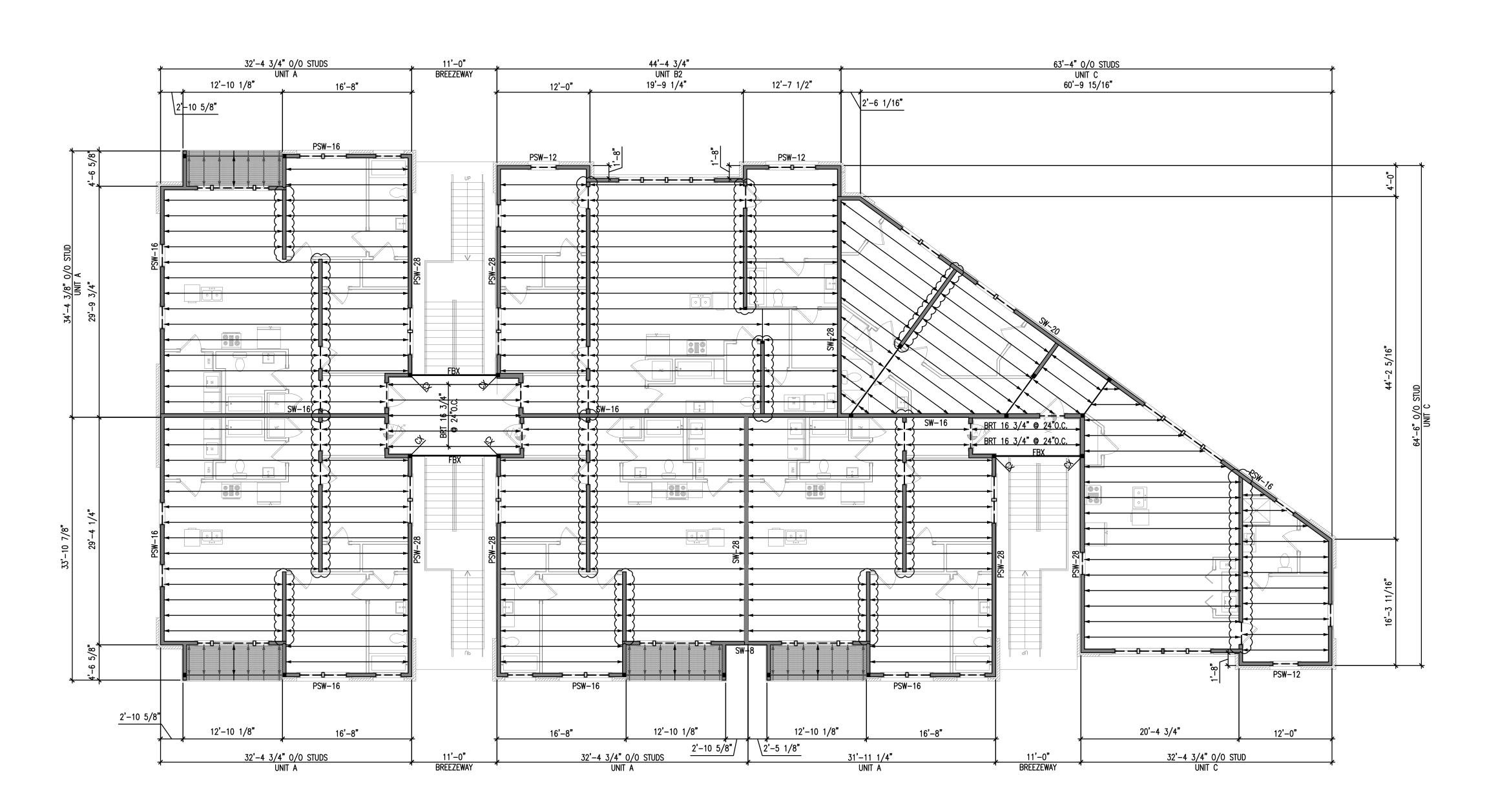
SHEET NO.
S1-2.1



PARTIAL 2ND FLOOR FRAMING PLAN ~ BLDG #1 EAST

| SCALE: 1/8"=1'-0" (THIRD FLOOR SIMILIAR)

VERTIKA STRUCTURAL EEK APARTMENTS BONNET CIRCLE TEXAS 78006 GARDEN CREEK 110 BLUEBONN BOERNE, TEXA Drawing Scale: AS NOTED Project No. 140102-00 9/16/2019 S1-2.1B



∠BUILDING FRAMING PLAN ~ BLDG #2



FLOOR FRAMING NOTES

- DECKING THICKNESS AND MATERIAL NOTES ARE SHOWN IN STRUCTURAL SPECIFICATIONS AND SHALL BE NAILED TO SUPPORT FRAMING IN ACCORDANCE WITH DIAPHRAGM
- BEARING WALLS FOR SUPPORT OF NON UNIT FRAMING ARE SHOWN THUS:
- INSTALLATION OF TRUSSES SHALL BE IN STRICT ACCORDANCE WITH ERECTION PLANS PROVIDED BY MANUFACTURER.
- THE STABILITY OF THE FLOOR IS NOT ACHIEVED UNTIL THE DECK IS INSTALLED ACCORDING TO CRITERIA SPECIFIED IN THE STRUCTURAL DRAWINGS.
- BRIDGING SIZE AND NUMBER OF ROWS SPECIFIED ON SCHEDULE SHEET SHALL BE INSTALLED CONCURRENTLY WITH TRUSS ERECTION.
- . VERTICAL SUPPORT FRAMING OF HEADERS, DROP, AND / OR FLUSH BEAMS ARE SHOWN IN COLUMN SCHEDULE.
- FLOOR TRUSSES ARE 18" DEEP AND SHALL BE SPACED 24" ON CENTER (U.N.O.).
- TYPICAL CONSTRUCTION DETAILS ARE SHOWN ON THE FLOOR FRAMING SECTIONS.
- SHEARWALLS ARE TO BE CONSTRUCTED FROM THE FLOOR AS NOTED ON PLAN TO THE TOP OF PLATE AT THE LEVEL ABOVE.
- 10. CORRIDOR TRUSSES SHALL BE CONFIGURED TO ACCOMMODATE ALL REQUIRED MECHANICAL EQUIPMENT
- 1. TRUSS MANUFACTURER MAY REVISE SPACING ON LONG SPAN UNIT FLOOR TRUSSES TO REDUCE DEFLECTION AND NUMBER OF CHORD MEMBERS.
- 2. BACKGROUNDS SHOW ARE BEARING WALLS FOR UNITS BELOW.

UNIT DECK NOTE

3/4" GYPCRETE TOPPING WITH SOUND MAT OVER 23/32" OSB DECKING SUPPORTED BY 18" DEEP OPEN WEB TRUSSES @ 24"O.C.

BALCONY DECK NOTE

1 1/2" THICK LT WT CONC TOPPING (ON MEMBRANE WATERPROOFING) SUPPORTED BY 23/32" T&G OSB DECKING OVER (16" TO 14 1/2") OPEN WEB TRUSSES @ 24'O.C.

BREEZEWAY DECK NOTE

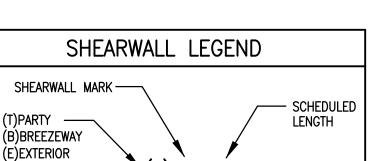
1 1/2" THICK LT WT CONC TOPPING (ON MEMBRANE WATERPROOFING) OVER 23/32" OSB DECKING SUPPORTED BY 16 3/4" DEEP OPEN WEB WOOD TRUSSES AT 24" O.C.

BEARING AND SHEARWALL NOTES

REFER TO SHEET S6-1 FOR BEARING WALL STUD SIZES AND SHEET S7-1 FOR SHEARWALL LENGTHS, SCHEDULES AND DETAILS FOR LEVELS 2 THROUGH ROOF.

BREEZEWAY TOPPING CONTROL JOINT NOTES

- PROVIDE SAWCUT CONTROL JOINTS 1/2"Wx3/4" DEEP AT MAXIMUM SPACING OF 16"O.C.
- 2. PROVIDE CONTROL JOINTS ON EACH SIDE OF INSET DOORWAY.
- 3. PROVIDE CONTROL JOINTS ON EACH SIDE OF CORRIDOR INTERSECTIONS. CONTRACTOR SHALL SUBMIT A PLAN OF CONTROL JOINTS WITH SPACING AND LOCATION FOR ARCHITECT, ENGINEER AND OWNER REVIEW AND



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(P)PERFORATED

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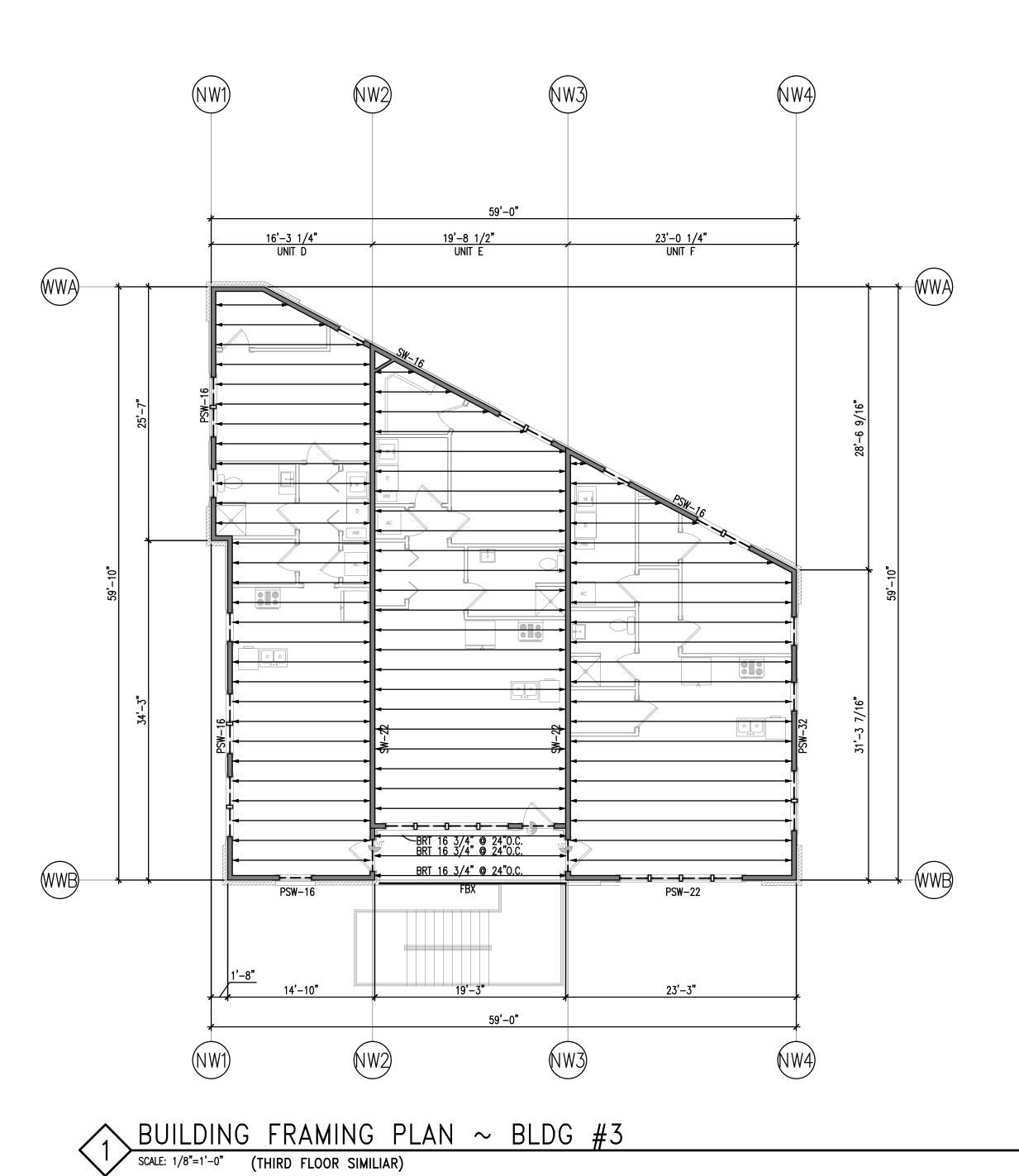
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APARTMENTS NET CIRCLE AS 78006 В CREEK BLUEBONI ERNE, TEX FRAMING ARDEN 110 BOI .00R 2ND

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☐ ARCH REVIEW 9/16/2019



FLOOR FRAMING NOTES

- . DECKING THICKNESS AND MATERIAL NOTES ARE SHOWN IN STRUCTURAL SPECIFICATIONS AND SHALL BE NAILED TO SUPPORT FRAMING IN ACCORDANCE WITH DIAPHRAGM
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BREEZEWAY DECK NOTE

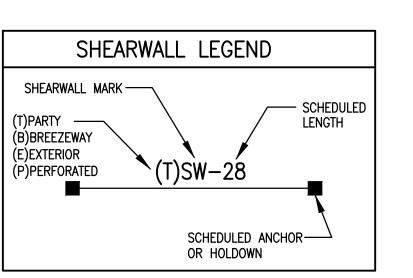
1 1/2" THICK LT WT CONC TOPPING (ON MEMBRANE WATERPROOFING) OVER 23/32" OSB DECKING SUPPORTED BY 16 3/4" DEEP OPEN WEB WOOD TRUSSES AT 24" O.C.

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BREEZEWAY TOPPING CONTROL JOINT NOTES

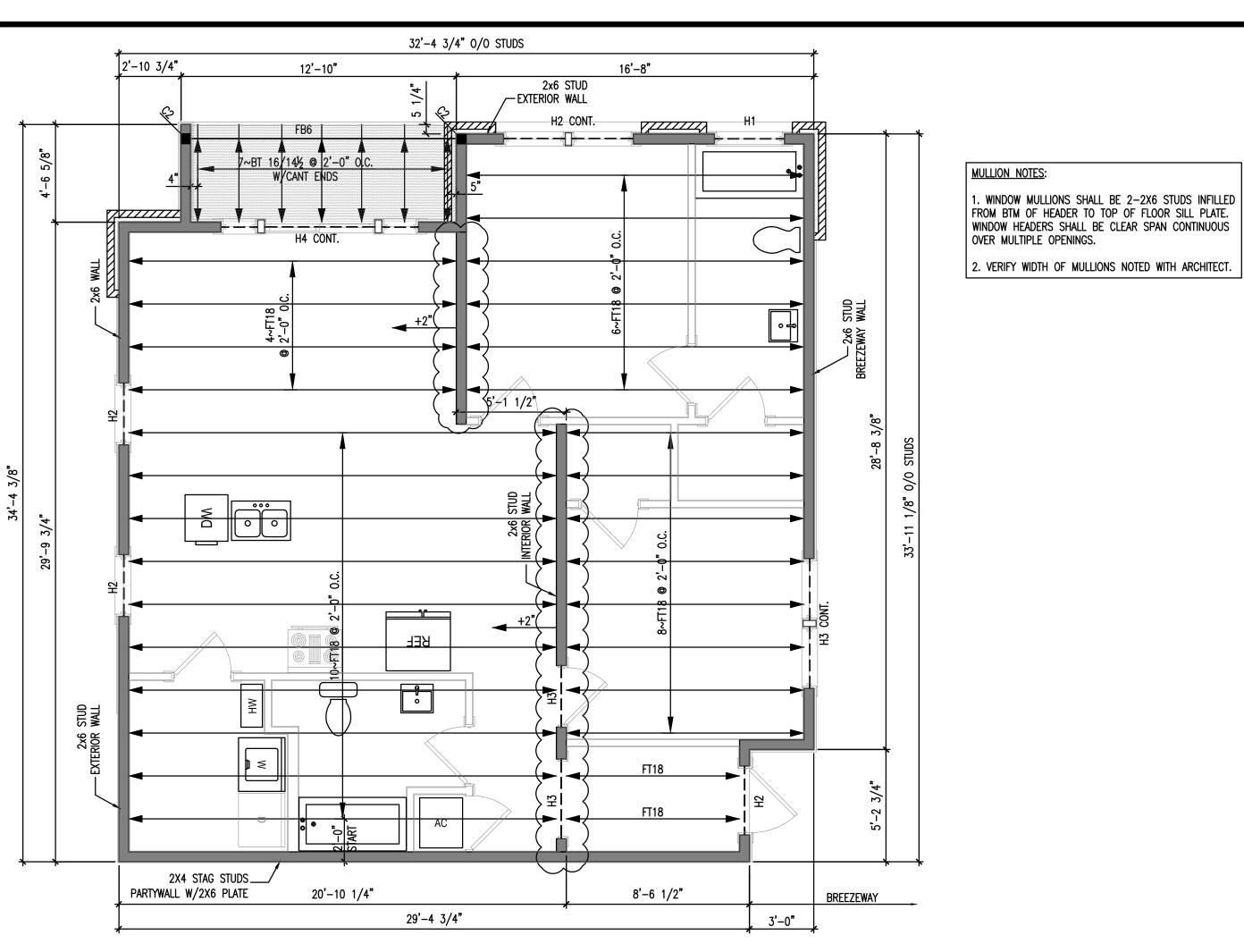
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- PROVIDE CONTROL JOINTS ON EACH SIDE OF CORRIDOR INTERSECTIONS.
- CONTRACTOR SHALL SUBMIT A PLAN OF CONTROL JOINTS WITH SPACING AND LOCATION FOR ARCHITECT, ENGINEER AND OWNER REVIEW AND



ENGINEERS, STRUCTURAL **ERTIKA**

APARTMENTS VET CIRCLE AS 78006 B CREEK BLUEBONN ERNE, TEX FRAMING ARDEN 110 BOI FLOOR 2ND

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UNIT B OVER B FRAMING PLAN AT BUILDING #1

2x6 STUD

EXTERIOR WALL

44'-4 3/4" 0/0 STUDS

REF

19'-1 3/4"

9'-7 1/2"

12'-7 1/2"

3'-0**"**

BREEZEWAY

2x6 30R

21'-4 3/4"

2X4 STAG STUDS

PARTYWALL W/2X6 PLATE—

10'-4 1/2"

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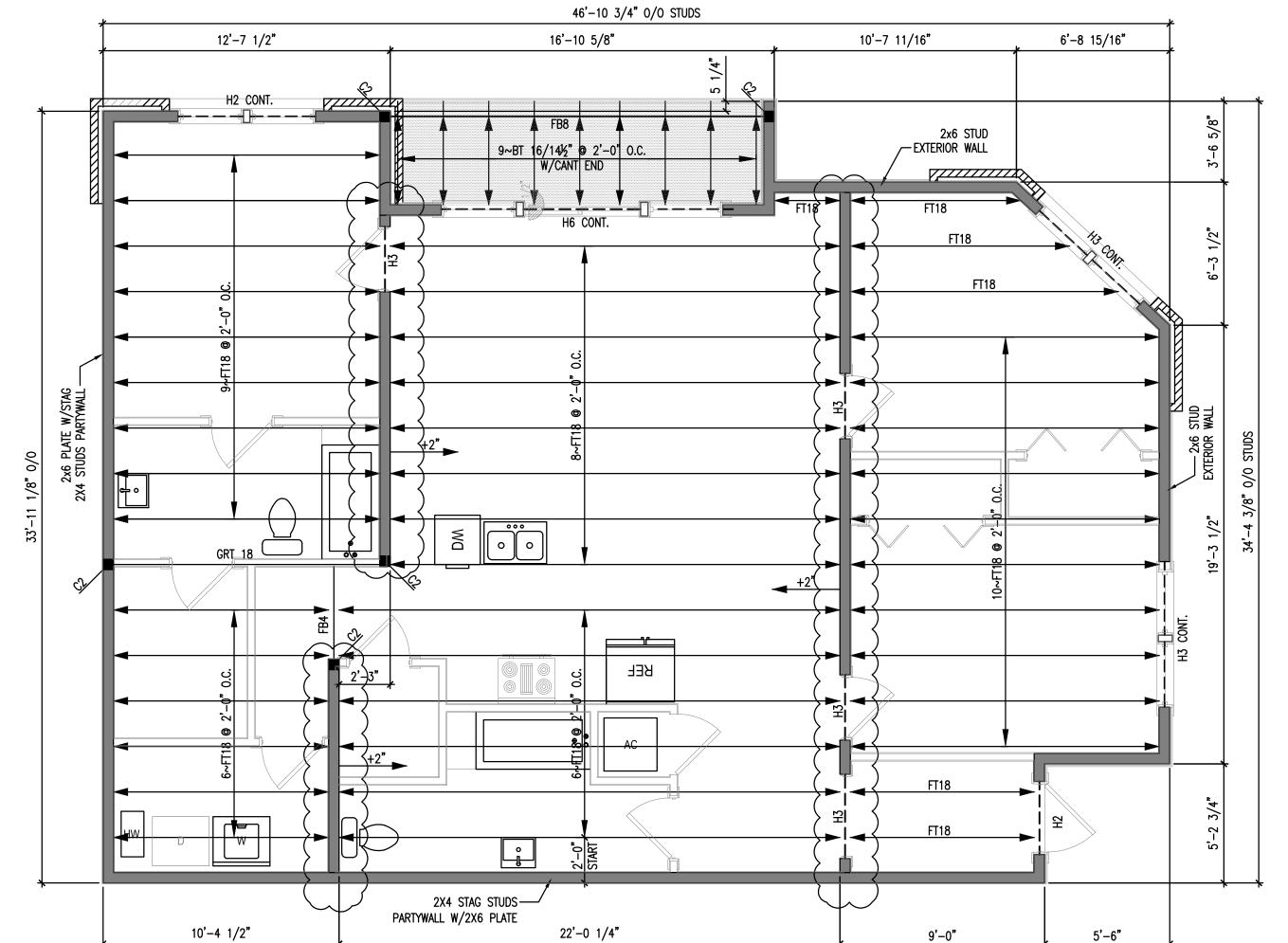
H2 CONT.

12'-7 1/2"

UNIT A OVER A FRAMING PLAN AT BUILDINGS #1 AND# 2

UNIT B1 OVER B1 FRAMING PLAN AT BUILDING #1

SCALE: 1/4"=1'-0"



VERIFICATION OF UNIT TYPES, STACKING BETWEEN LEVELS AND LOCATIONS AND/OR PLAN ORIENTATION. REFER TO BEARING WALL STUD SCHEDULES FOR SPACING, GRADE AND SPECIES OF STUDS. 6. REFER TO COLUMNS AND STUD PACK SCHEDULES FOR NUMBER OF PLIES, SIZES, GRADE AND SPECIES FOR 2X LUMBER AND ENGINEERED WOOD MEMBERS. TRUSS SPACING MAY BE ADJUSTED BY TRUSS MANUF. TO MEET ALL LOADING AND DEFLECTION REQUIREMENTS. BRIDGING SIZES AND SPACING SHALL BE AS NOTED IN WOOD STANDARDS OR AS INDICATED BY TRUSS MANUF. PLUMBING FIXTURES AND PIPING SHALL BE COORDINATED WITH TRUSS SPACING IN ORDER TO AVOID FIELD CONFLICTS WITH THE SAME. 10. DEFLECTION TRACKS SHOULD BE PROVIDED AT TOP OF NON BEARING WALL PARTITIONS WHEN WALLS ARE RELATIVELY CONTINUOUS (PARALLEL TO TRUSSES) OR CROSS TRUSSES AT MID-SPAN (TRUSS PERPENDICULAR). THIS IS REQUIRED TO PREVENT LOAD TRANSFER BETWEEN BOTTOM TRUSS CHORD WITH OFFSET PANEL POINTS AND 1. TRANSFER FRAMING NOT ONLY INCLUDEDS MEMBER SIZE BUT ALSO INDICATES BEARING WALLS ABOVE NOTED (UWA) "UNDER WALL ABOVE". 12. ALL DIMENSIONS SHOWN ARE FOR INFORMATION PURPOSES ONLY AND SHALL NOT BE USED FOR CONSTRUCTION OR FABRICATION UNLESS VERIFIED WITH ARCHITECTURAL 13. CONTRACTOR SHALL EXAMINE MEP UNIT DRAINGS TO CONFIRM THAT DUCTWORK IN FLOOR CAVITY DOES NOT CONFLICT WITH BEAM FRAMING. 14. CONTRACTOR AND TRUSS MANUFACTURER SHALL VERIFY FINAL UNIT WALL CONFIGURATIONS AND ANY OTHER LAYOUT CONDITIONS WITH ARCHITECT PRIOR TO PREPARING SHOP 15. ALL DIMENSION AND LAYOUT CONFLICTS WITH ARCHITECTURAL DRAWINGS SHALL BE RESOLVED WITH ARCHITECT FIRST AND PRIOR TO CONFIRMING THE SAME WITH THE ENGINEER.

> 16. CONTRACTOR SHALL UNDERSTAND THAT WOOD FRAMING SHRINKS VERTICALLY. THIS MAY CREATE CERTAIN PROBLEMS WITH OTHER PORTIONS OF WALL AND FLOOR ASSEMBLIES.

UNIT PLAN NOTES

BEARING WALLS ARE SHOWN THUS

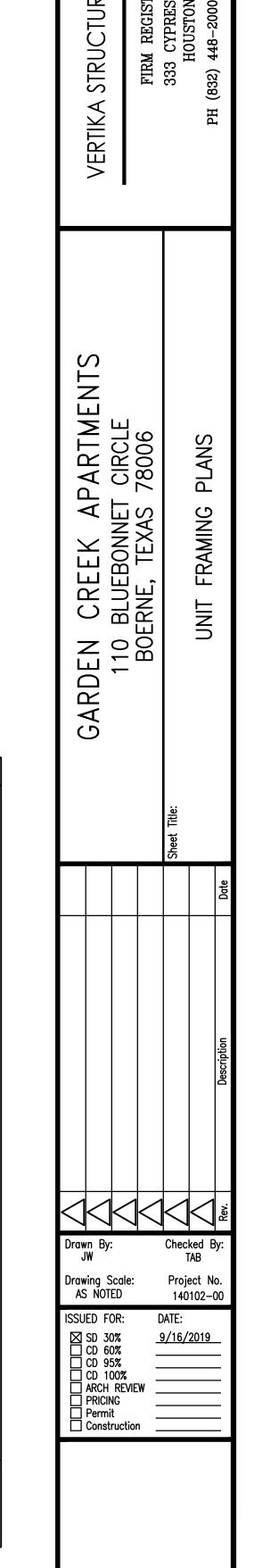
INDICATES A NON-STACKING UNIT CONDITION.

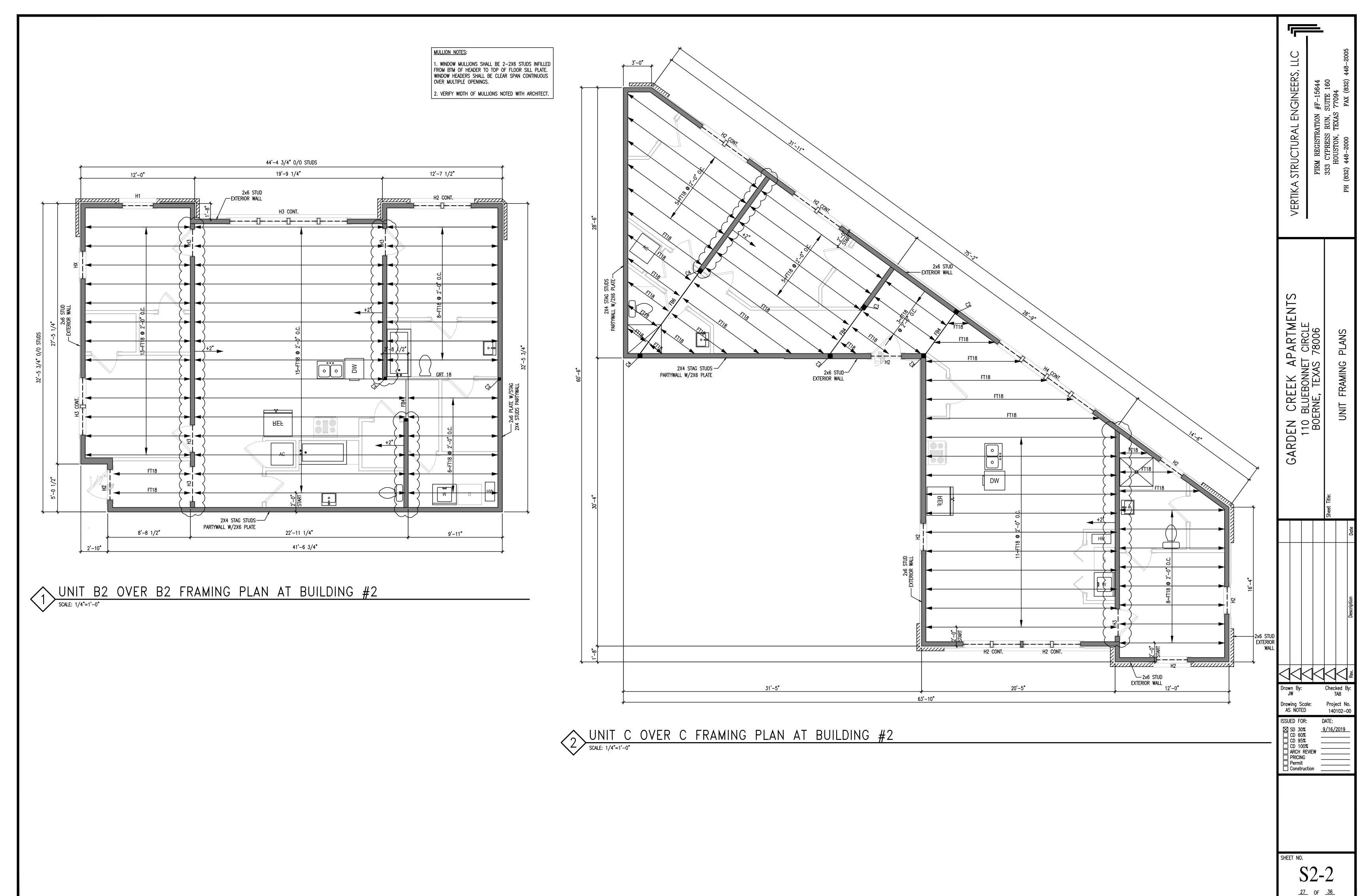
REFER TO ARCHITECTURAL BUILDING PLANS FOR

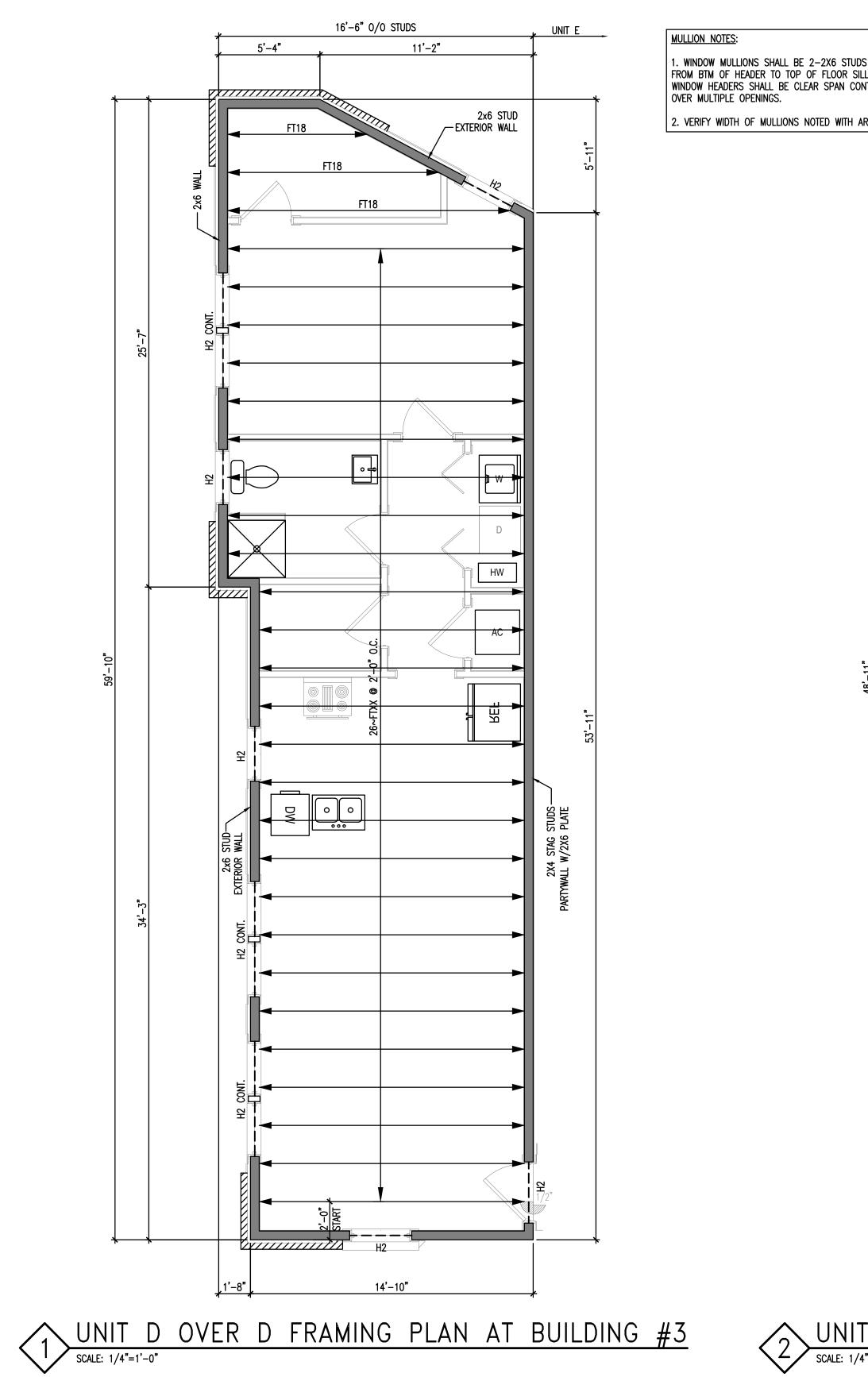
UNIT CONDITION.

UNIT NAME OVER SAME UNIT NAME INDICATES A STACKING

UNIT TITLE OF UNIT NAME OVER DIFFERENT UNIT NAME







1. WINDOW MULLIONS SHALL BE 2-2X6 STUDS INFILLED FROM BTM OF HEADER TO TOP OF FLOOR SILL PLATE. WINDOW HEADERS SHALL BE CLEAR SPAN CONTINUOUS OVER MULTIPLE OPENINGS. 2. VERIFY WIDTH OF MULLIONS NOTED WITH ARCHITECT.

REF

2x6 STUD EXTERIOR WALL

UNIT E OVER E FRAMING PLAN AT BUILDING #3

SCALE: 1/4"=1'-0"

H3 CONT.

2x6 STUD EXTERIOR WALL

*	23'-3"	
2X4 STAG STUDS—— PARTYWALL W/2X6 PLATE	FT18 EXTERIOR WALL FT18 FT1	2x6 SIUD—— EXTERIOR WALL 31'-3" 12'-4"
2H 1/2"	HZ CONT.	EXI

FRAMING LEGEND FLOOR AND/OR ROOF										
FT	FLOOR TRUSS	RT	ROOF TRUSS							
BT	BALCONY TRUSS	DT	DRAG TRUSS							
СТ	CORRIDOR TRUSS	СВ	CHORD BRACE							
PSL	PARALLEL STRAND LUMBER	GRT	GIRDER TRUSS							
228	2-2x8	GT	GABLE TRUSS							
Н	HEADER	HT	HIP TRUSS							
FB	FLUSH BEAM	۷T	VALLEY TRUSS							
DB	DROP BEAM	JT	JACK TRUSS							
BR	BRIDGING	RB	RIDGE BRACE							
ST	STEPPED TRUSS	6 S	6-2xSTUDS							
GRT	GIRDER TRUSS	С	COLUMN							

		HEA	DER AND BEA	M SCHEDULE		
	MARK		BEAM SIZE 2x4 WALL	BEAM SIZE 2x6 WALL		
DB1	FB1	H1	2-2x6	3–2x6		
DB2	FB2	H2	2-2x8	3–2x8		
DB3	FB3	Н3	2-2x10	3-2x10		
DB4	FB4	H4	2-2x12	3-2x12		
DB5	FB5	H5	3 1/2 x 9 1/4 PSL	5 1/4 x 9 1/4 PSL		
DB6	FB6	H6	3 1/2 x 11 1/4 PSL	5 1/4 x 11 1/4 PSL		
DB7	FB7	H7	3 1/2 x 14 PSL	5 1/4 x 14 PSL		
DB8	FB8	Н8	3 1/2 x 16 PSL	5 1/4 x 16 PSL		
DB9	FB9	Н9	3 1/2 x 18 PSL	5 1/4 x 18 PSL		
DB10	FB10	H10	5 1/4 >	18 PSL		
DB11	FB11	H11	7 x 1	8 PSL		

WOOD	COLUMN SCHEDULE
MARK	SIZE
C1	2-2x6
C2	3-2x6
C3	4-2x6
C4	PSL 5 1/4x5 1/4
C5	PSL 5 1/4x7 1/4

1. LUMBER MATERIAL SHALL BE DF-L NO.2

NAILS 2xPLYS TOGETHER WITH 10d @ 8" STAGGERED AND APPLY GLUE, AS WELL.

UNIT PLAN NOTES
AND SCHEDULES

Project No. 140102-00 | ISSUED FOR: DATE: |
| SD 30% 9/16/2019 |
| CD 60% |
| CD 95% |
| CD 100% |
| ARCH REVIEW |
| PRICING |
| Permit |
| Construction |

9/16/2019

ENGINEERS,

STRUCTURAL

VERTIKA

APARTMENTS NET CIRCLE AS 78006

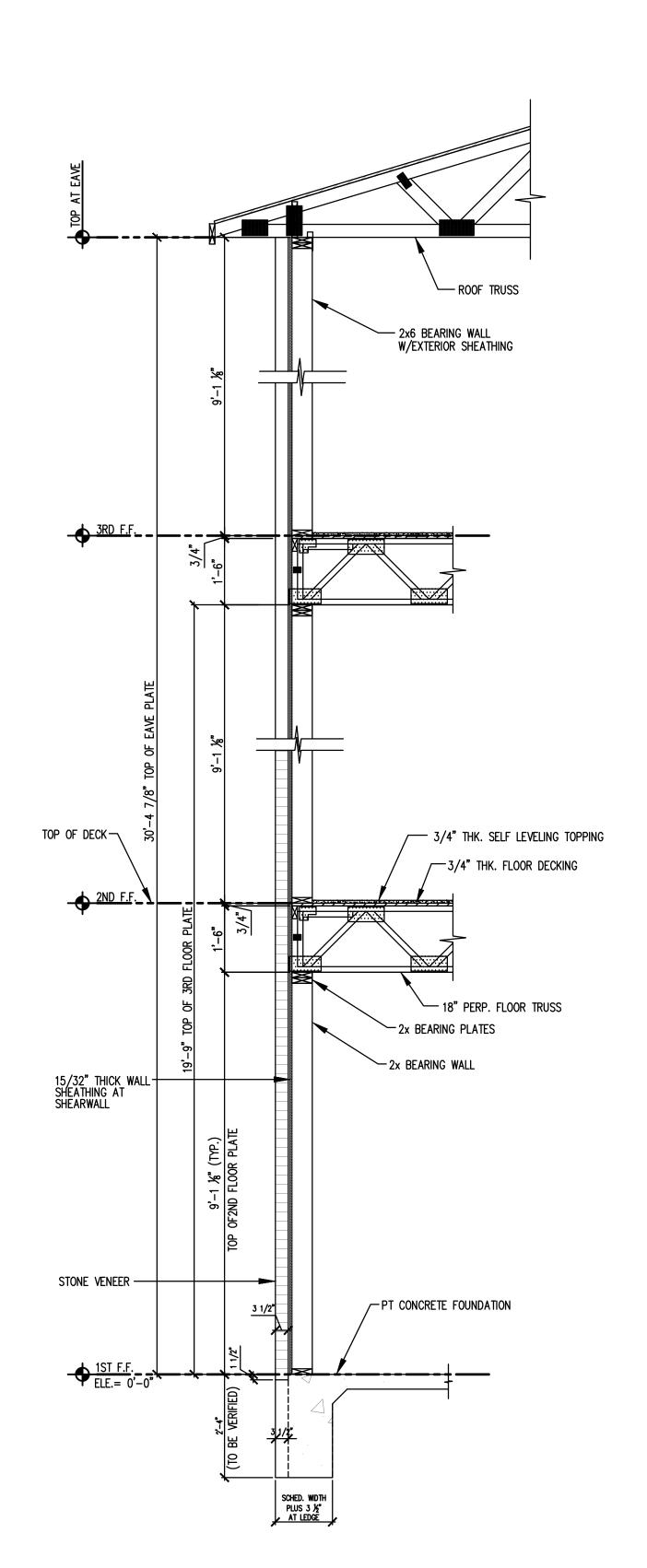
GARDEN CREEK 110 BLUEBONN BOERNE, TEXA

UNIT FRAMING

UNIT F OVER F FRAMING PLAN AT BUILDING #3

SCALE: 1/4"=1'-0"

23'-3"



STUD SCHEDULE ~ BUILDING #1 ~ 9'-1 1/8" PLATE ~ DFL. NO.2												
TYPE EXTERIOR BALCONY PARTY INTERIOR UNIT BREEZEWAY WALLS WALLS WALLS												
3 - ROOF	2X6@16	2X6@16	2X4 STAGE @ 8	2X6@16	2X6@16							
2 - 3	2X6@16	2X6@16	2X4 STAGE @ 8	2X6@16	2X6 @ 16							
1 – 2	2X6@16	2X6@16	2X4 STAGE @ 8	2X6@16	2X6 @ 16							

~			~ BUILI TE ~ DFI		
TYPE	EXTERIOR WALL	BALCONY WALL	PARTY WALL	INTERIOR UNIT WALL	BREEZEWAY WALL
3 - ROOF	2X6@16	2X6@16	2X4 STAGE @ 8	2X6@16	2X6@16
2 - 3	2X6@16	2X6@16	2X4 STAGE @ 8	2X6@16	2X6@16
1 - 2	2X6@16	2X6@16	2X4 STAGE @ 8	2X6@16	2X6@16

~	STUD SCHEDULE ~ BUILDING #3 ~ 9'-1 1/8" PLATE ~ DFL. NO.2												
TYPE EXTERIOR BALCONY PARTY INTERIOR UNIT BREEZEWAY WALL WALL WALL WALL WALL													
3 - ROOF	2X6@16	NA	2X4 STAGE @ 8	NA	2X6@16								
2 - 3	2X6@16	NA	2X4 STAGE @ 8	NA	2X6@16								
1 - 2	2X6@16	NA	2X4 STAGE @ 8	NA	2X6 @ 16								

UNIT DECK NOTE

3/4" THICK GYPCRETE ON 23/32" THICK OSB DECKING SUPPORTED BY 18" DEEP OPEN WEB WOOD TRUSSES AT 24" O.C. (U.N.O.)

BALCONY DECK NOTE

1 1/2" THICK LT WT CONC TOPPING (ON MEMBRANE WATERPROOFING)
OVER 23/32" THICK OSB DECKING SUPPORTED BY 16"/14½"
DEEP OPEN WEB TRUSSES AT 24"O.C.

BREEZEWAY DECK NOTE

1 1/2" THICK LIGHTWEIGHT CONCRETE TOPPING ON 23/32" THICK OSB DECKING SUPPORTED BY 16 3/4" DEEP OPEN WEB TRUSSES AT 24"O.C.

PT SLAB ON GRADE NOTE

4" THICK POST TENSIONED CONCRETE WAFFLE SLAB ON 10 MIL VAPOR BARRIER ON 3' THICK MAX SELECT STRUCTURAL FILL (ALL DARK BROWN CLAY REMOVED) AND A COMPACTED AND MOISTURE CONDITIONED SUBGRADE.

FIN. FLR BLDG 1 = EL: 1441.50 FIN. FLR BLDG 2 = EL: 1440.25 FIN. FLR BLDG 3 = EL: 1440.00

REF: 0'-0"

ROOF DECK NOTE

COMPOSITION SHINGLES OVER 30LB FELT OVER 19/32" THICK OSB DECKING SUPPORTED BY OPEN WEB WOOD TRUSSES. (DEPTH VARIES) AT 24" O.C.

SHEARWA	LEVEL LEVEL		1-2			2-3			3–E		
TYPE	DESCRIPTION	SHEATH B.N.		F.N.	SHEATH TYPE	B.N.	F.N.	SHEATH B.N.	B.N.	F.N.	
Р	SW-16	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Р	SW-22	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Р	SW-28	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	SW-8	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
E	SW-16	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	SW-20	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	PSW-16	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	PSW-16A	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	PSW-16B	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	PSW-12	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	PSW-22	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
E	PSW-28	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
E	PSW-28A	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	
Е	PSW-32	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 12"	15/32" OSB	10d @ 4	10d @ 1	

ADDITIONAL SHEATHING INFORMATION OF WOOD PANEL SHEARWALLS

- AVERAGE PANEL SHEAR AT LEVEL 1-2 IS ±350plf.
 AVERAGE PANEL SHEAR AT LEVEL 2-3 IS ±250plf.
- 3. AVERAGE PANEL SHEAR AT LEVEL 3-R IS ± 125 plf.

		T		BUILI	DING TYPE 1	THRU BULDI	NG TYPE 4				1		
SHEARWA	LEVEL LL		1ST FLOOR			2ND FLOOR			3RD FLOOR			ROOF EAVE	
TYPE	DESCRIPTION	CONN'X TYPE	BOLTS/ NAILS	ANCHORS	CONN'X TYPE	BOLTS/ NAILS	ANCHORS	CONN'X TYPE	BOLTS/ NAILS	ANCHORS	CONN'X TYPE	BOLTS/ NAILS	ANCHORS
Р	SW-16	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE	>>	CS22X48	10-10d EE	\times	A35 @ 24"	9-8d EE	>>
Р	SW-22	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE	>>	CS22X48	10-10d EE	\times	A35 @ 24"	9-8d EE	>>
Р	SW-28	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE	><	CS22X48	10-10d EE	\times	A35 @ 24"	9-8d EE	>>
E	SW-8	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE	> <	CS22X48	10-10d EE	>>	A35 @ 24"	9-8d EE	>
E	SW-16	HTT5	26-10d	5/8 " ø	CS22X48	10-10d EE	>	CS22X48	10-10d EE	>>	A35 @ 24"	9-8d EE	>
E	SW-20	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE	> <	CS22X48	10-10d EE	>>	A35 @ 24"	9-8d EE	>>
E	PSW-12	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE		CS22X48	10-10d EE	\supset	A35 @ 24"	9-8d EE	>
E	PSW-16	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE		CS22X48	10-10d EE	>>	A35 @ 24"	9-8d EE	>
E	PSW-16A	HTT5	26-10d	5/8 " ø	CS16X48	20-10d EE		CS20X48	12-10d EE	\times	A35 @ 24"	9-8d EE	>>
E	PSW-16B	HD7B	3-3/4"ø	7/8 " ø	CS14X48	26-10d EE	><	CS20X48	12-10d EE	\times	A35 @ 24"	9-8d EE	>>
E	PSW-22	HD7B	3-3/4"ø	7/8 " ø	CS16X48	20-10d EE		CS20X48	12-10d EE	\times	A35 @ 24"	9-8d EE	>>
E	PSW-28	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE		CS22X48	10-10d EE	$\supset \subset$	A35 @ 24"	9-8d EE	\geq
E	PSW-28A	HTT4	18-10d	5/8 " ø	CS18X48	16-10d EE		CS18X48	16-10d EE	> <	A35 @ 24"	9-8d EE	\supset
E	PSW-32	LTT19	8-10d	5/8 " ø	CS22X48	10-10d EE		CS22X48	10-10d EE	$\supset \subset$	A35 @ 24"	9-8d EE	>>

- 1. USE 5/8" A307 ANCHOR BOLTS AT 16"O.C. AT ALL EXTERIOR SHEARWALLS INCLUDING THE BALCONY SC WALLS.
- 2. USE 0.177" POWDER ACTUATED FASTENERS (PAF) AT 2@12"O.C. AT ALL PARTY SHEARWALLS. 3. USE 0.177" POWDER ACTUATED FASTENERS (PAF) AT 208"O.C. AT ALL CORRIDORS SHEARWALLS.

STRUCTURAL ENGINEERS APARTMENTS VET CIRCLE GARDEN Drawing Scale: Project No. 140102-00 ISSUED FOR:

