GENERAL STRUCTURAL NOTES:

DESIGN LOADS AND CRITERIA

2018 NORTH CAROLINA STATE BUILDING CODE
MINIMUM DESIGN LOADS PER ASCE 7-10
RISK CATEGORY II (NORMAL)

LOCATION	DEAD LOAD	LIVE LOAD
FLOOR	---	200 PSF UNIFORM; 2200 LBS CONCENTRATED
ROOF	28 PSF	20 PSF (REDUCIBLE)

NOTE: ROOF DEAD LOAD INCLUDES 6 PSF ALLOWANCE FOR FUTURE SOLAR ARRAY

SNOW DESIGN
Pg = 10 PSF, Ce = 1.0, Ct = 1.0, Is = 1.00, Pf = 7 PSF, Cs = 1.0, Ps = 7 PSF, Pm = 10 PSF
DRIFT LOADS PER ASCE 7

WIND DESIGN
V = 115 MPH, EXPOSURE C, GCpi = 0.18
ASD NET UPLIFT ON ROOF JOISTS = 10 PSF
COMPONENT AND CLADDING (C&C) PRESSURES ARE TABULATED BELOW. ALL PRESSURES ARE PSF.
OH = OVERHANG, Aeff = MIN EFFECTIVE WIND AREA (SQ.FT.)
EDGE/CORNER WIDTH, a = 6.5 FT.

WALL C&C PRESSURES (LRFD/ULT LEVEL. MULTIPLY BY 0.6 FOR ASD/SERVICE LEVEL)

Aeff	4.5+	4-	5-	WIND ZONES
0 - 10	26.9	-29.1	-35.8	1 ROOF INTERIOR
50	24.1	-26.3	-30.3	2 ROOF EDGE
100	22.9	-25.1	-27.9	3 ROOF CORNER
200	21.7	-24.0	-25.5	4 WALL INTERIOR
500	20.1	-22.4	-22.4	5 WALL CORNER

ROOF C&C PRESSURES (LRFD/ULT LEVEL. MULTIPLY BY 0.6 FOR ASD/SERVICE LEVEL)

Aeff	1,2,3+	1-	2-	3-	OH 1,2-	OH 3-
0 - 10	16.00	-29.3	-49.2	-49.2	-42.28	-42.28
25	16.00	-28.4	-42.3	-42.3	-41.29	-41.29
50	16.00	-27.6	-37.1	-37.1	-40.54	-40.54
100	16.00	-26.9	-31.8	-31.8	-39.80	-39.80
500	16.00	-26.9	-31.8	-31.8	-27.36	-27.36

SEISMIC DESIGN
ANALYSIS PER THE EQUIVALENT LATERAL FORCE PROCEDURE
SITE CLASS D, Ie = 1.00, Ss = 0.22, S1 = 0.097, Sds = 0.234, Sd1 = 0.156, SEISMIC DESIGN CATEGORY C
STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
R = 3.00, Ωo = 2.5, Cd = 3.00, V = 0.078 W

GEOTECHNICAL
REPORT BY ECS SOUTHEAST, LLP
REPORT NUMBER 08:12439, DATED OCTOBER 21, 2017
ALLOWABLE BEARING PRESSURE FOR FOUNDATION DESIGN = 3000 PSF

GENERAL

1. DO NOT SCALE DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR DIMENSIONS NOT INDICATED.
2. UNLESS EXPLICITLY NOTED OTHERWISE, ELEVATIONS ARE REFERENCED FROM +0'-0" DATUM AT THE FINISHED FLOOR ELEVATION 813.75'
3. SECTIONS AND DETAILS ON DRAWINGS ARE TYPICAL FOR ALL SIMILAR CONDITIONS.
4. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, SHOP DRAWINGS AND SPECIFICATIONS.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS BEFORE STARTING WORK.
6. VERIFY ALL MECHANICAL EQUIPMENT WEIGHTS, LOCATIONS AND ASSOCIATED OPENINGS WITH MECHANICAL CONTRACTOR. NOTIFY ENGINEER IF ACTUAL WEIGHT EXCEEDS THE DESIGN WEIGHT SHOWN ON THE DRAWINGS.
7. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR CLARIFICATION BEFORE PROCEEDING WITH THE AFFECTED WORK.
8. GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL.
9. FABRICATOR SHALL HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS WHICH DO NOT COMPLY WITH THE DESIGN DRAWINGS.
10. A RECORD SET OF SHOP DRAWINGS SHALL BE KEPT IN THE FIELD BY THE GENERAL CONTRACTOR.
11. CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY BRACING, SHORING, GUYING, ETC AND OTHER METHODS TO PREVENT EXCESSIVE STRESSES DURING CONSTRUCTION. THESE PROVISIONS ARE TO REMAIN IN PLACE UNTIL SUFFICIENT PERMANENT MEMBERS ARE CONSTRUCTED TO INSURE THE SAFETY OF THE STRUCTURE.

FOUNDATIONS AND SOILS

1. SITE WORK SHALL BE UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER OR SOILS TECHNICIAN.
2. PREPARATION OF THE SITE, INCLUDING INITIAL UNDERCUTTING, FILL AND BACKFILL MATERIAL AND PLACEMENT, SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT. COMPACTION OF STRUCTURAL FILL MATERIALS SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, BUT NOT LESS THAN 95 PERCENT MODIFIED PROCTOR METHOD.
3. FOUNDATIONS SHALL BE LOCATED AT ELEVATIONS SHOWN ON PLANS AND DETAILS. FOUNDATIONS AND SLABS-ON-GRADE SHALL BEAR ON SUB-BASE MATERIAL APPROVED BY THE GEOTECHNICAL CONSULTANT.
4. FOOTINGS, OR PORTIONS THEREOF, MAY BE EARTH FORMED BY NEAT EXCAVATIONS IF SOIL CONDITIONS ALLOW.
5. FOOTINGS SHALL BE CENTERED UNDER COLUMNS UNLESS NOTED OTHERWISE.
6. FOOTINGS ARE DESIGNED FOR THE ALLOWABLE SOIL BEARING PRESSURE SPECIFIED IN THE DESIGN LOADS AND CRITERIA SECTION OF THESE NOTES. IF ACTUAL CONDITIONS DO NOT MEET OR EXCEED THIS VALUE, REMEDIATE THE SOIL TO THE APPROVAL OF THE GEOTECHNICAL ENGINEER OR CONTACT THE ENGINEER FOR A REANALYSIS/REDESIGN OF THE FOOTINGS.
7. PROXIMITY OF UTILITY TRENCHES TO THE BUILDING FOUNDATION SYSTEM SHALL BE AS APPROVED BY THE ARCHITECT AND/OR SOILS ENGINEER TO INSURE THE INTEGRITY OF THE BEARING SOILS. THE RESULTING TOTAL LOAD SOIL PRESSURES FOR IN-SITU SOILS MAY NOT EXCEED THE ALLOWABLE BEARING PRESSURE. (SEE DESIGN LOADS AND CRITERIA, GEOTECHNICAL SECTION OF THESE NOTES.)

CONCRETE

1. CONCRETE SHALL CONFORM TO THE FOLLOWING: WHERE MIN f'c IS THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS, AND MAX W/C IS THE MAXIMUM WATER-CEMENTITIOUS MATERIALS RATIO.

CONCRETE LOCATION/USE	MIN f'c	MAX W/C	MAX SLUMP	AIR CONTENT
FOOTINGS	3000 PSI	0.55	5" ± 1"	-
FOUNDATION WALLS & PIERS	4000 PSI	0.50	5" ± 1"	6% ± 1.5%
INTERIOR SLABS-ON-GRADE	3000 PSI	0.50	5" ± 1"	3% OR LESS AT TROWELED FINISH
EXTERIOR CONCRETE	4000 PSI	0.45	5" ± 1"	6% ± 1.5%

2. SEE SPECIFICATION FOR ADDITIONAL CONCRETE REQUIREMENTS.
3. CONCRETE CONSTRUCTION SHALL CONFORM TO THE CURRENT "ACI MANUAL OF CONCRETE PLACEMENT".
4. PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR II.
5. AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.
6. REINFORCEMENT SHALL BE DEFORMED BARS THAT MEET ASTM A615, GRADE 60.
7. WELDED WIRE FABRIC (WWF) SHALL MEET ASTM A185 AND BE PROVIDED IN FLAT SHEETS ONLY.
8. CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.

LOCATION	REINFORCEMENT SIZE	MIN COVER
CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	ALL	3"
EXPOSED TO EARTH OR WEATHER	#6 THROUGH #18	2"
EXPOSED TO EARTH OR WEATHER	#5 AND SMALLER	1 1/2"

9. REINFORCEMENT SHALL BE DETAILED, FABRICATED AND PLACED PER CRSI AND ACI STANDARDS, INCLUDING CONCRETE COVER AND BAR SUPPORTS. (DESIRED METHOD OF SUPPORTING TOP BARS IN THICK MATS SHALL BE VERIFIED WITH ENGINEER.) PROVIDE CORNER BARS AT ALL FOOTINGS AND WALL INTERSECTIONS TO MATCH HORIZONTAL REINFORCEMENT IN SIZE AND SPACING. AT INTERSECTIONS OF CONTINUOUS SPREAD FOOTINGS, EXTEND ALL BARS TO FAR SIDE OF INTERSECTING FOOTING. LAP BARS AT ALL SPLICES, INCLUDING CORNER BARS AND DOWELS, IN ACCORDANCE WITH SPLICE SCHEDULE OR IN LIEU THEREOF 40 BAR DIAMETERS. LAP WWF 6" OR ONE FULL MESH, WHICHEVER IS GREATER.
10. PROVIDE 2-#5, 4'-0" LONGER THAN OPENING DIMENSION ON ALL SIDES OF OPENING IN SLAB.
11. ALUMINUM SHALL NOT BE EMBEDDED IN ANY CONCRETE.
12. NO HOLES OR OPENINGS THROUGH FOUNDATION WALL AND/OR FOOTINGS WITHOUT ENGINEER'S APPROVAL.

MASONRY

1. HOLLOW CONCRETE BLOCK (MASONRY) UNITS SHALL CONFORM TO ASTM C90, NORMALWEIGHT, TYPE N-1 WITH A MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON THE NET AREA (f'm = 1500 PSI).
2. MORTAR FOR USE IN MASONRY SHALL MEET ASTM C270, TYPE S.
3. GROUT FOR USE IN MASONRY SHALL MEET ASTM C476, MIN 2000 PSI AND NOT LESS THAN A 6-1/2 SACK MIX.
4. REINFORCING BARS SHALL MEET ASTM A615, GRADE 60.
5. PROVIDE AT LEAST 2 VERTICAL BARS AT EACH END, CORNERS, AND INTERSECTIONS OF ALL WALLS. SEE WALL SECTIONS FOR TYPICAL VERTICAL REINFORCEMENT.
6. VERTICAL AND HORIZONTAL REINFORCEMENT SHALL BE CONTINUOUS AND LAPPED PER ACI 530.
7. HOLD VERTICAL BARS STRAIGHT, TRUE, AND ACCURATE IN ALL WALLS AS DETAILED. INSTALL REBAR POSITIONERS @ 4'-0" OC MAXIMUM THAT ARE DESIGNED TO HOLD REBAR IN PROPER LOCATION WITHIN THE CELL PRIOR TO GROUTING.
8. GROUT ALL REINFORCED CELLS. PROVIDE A MINIMUM OF 1/2" GROUT BETWEEN REINFORCEMENT AND MASONRY UNITS.
9. PROVIDE STANDARD GAGE TRUSS TYPE (OR LADDER-TYPE) JOINT REINFORCEMENT AS INDICATED FOR TYPICAL HORIZONTAL REINFORCEMENT, UNLESS NOTED OTHERWISE.
10. REINFORCED MASONRY COLUMN AND WALL SECTIONS REQUIRE DOWELS FROM FOOTING, SAME SIZE AND QUANTITY AS VERTICAL REINFORCEMENT IN COLUMN OR WALL UNLESS NOTED OTHERWISE.
11. GROUT FILL ALL CELLS, ALL WALLS BELOW GRADE. SLUSH JOINT BETWEEN WYTHES BELOW GRADE.
12. CMU SHALL BE LAID IN RUNNING BOND PATTERN.
13. GROUT PLACEMENT SHALL CONFORM TO ACI 530.1/ASCE 6/TMS 602: HOWEVER, THE MAXIMUM GROUT POUR HEIGHT SHALL NOT EXCEED 8 FEET AND THE MAXIMUM HEIGHT WHICH GROUT IS PLACED IN ONE CONTINUOUS OPERATION (GROUT LIFT) SHALL NOT EXCEED 4 FEET. THERE SHALL BE A MINIMUM OF 1 HOUR SETTING TIME BETWEEN EACH GROUT LIFT.
14. TOP OF EACH GROUT POUR SHALL BE 1" BELOW THE BED JOINT.
15. REINFORCEMENT, REBAR POSITIONERS, AND TIES SHALL BE PLACED PRIOR TO GROUTING.
16. CLEANOUTS SHALL BE CONSTRUCTED ADJACENT TO EACH VERTICAL BAR IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR HEIGHT THAT EXCEEDS 5 FEET. CONSTRUCT CLEANOUT WITH AN OPENING OF SUFFICIENT SIZE TO PERMIT REMOVAL OF DEBRIS, BUT NO LESS THAN 3" DIMENSION, FOR CLEANING. CLOSE CLEANOUTS WITH CLOSURES BRACED TO RESIST GROUT PRESSURES. CLEANOUTS SHALL BE LOCATED ON WALL FACE NOT EXPOSED TO VIEW.

STEEL

1. STRUCTURAL STEEL SHALL MEET THE LATEST AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
2. W SHAPES SHALL MEET ASTM A992, Fy = 50 KSI.
3. L, C, MC, M, AND S SHAPES, PLATES AND BARS SHALL MEET ASTM A36, Fy = 36 KSI.
4. HSS SHAPES SHALL MEET ASTM A500, GRADE B, Fy = 46 KSI RECT, Fy = 42 KSI ROUND; OR ASTM A1085, Fy = 50 KSI.
5. PIPES SHALL MEET ASTM A53, GRADE B, Fy = 35 KSI.
6. HP SHAPES SHALL MEET ASTM A572 GRADE 50, Fy = 50 KSI
7. ANCHOR RODS SHALL MEET ASTM F1554, GRADE 36.
8. BOLTS SHALL MEET ASTM A325 HIGH STRENGTH, WITH ASTM F436 WASHERS AND ASTM A563 NUTS AS REQUIRED, OR ASTM F1852 FOR TWIST-OFF-TYPE TENSION-CONTROLLED BOLTS. BOLTS FOR WOOD CONNECTIONS SHALL MEET ASTM A307 GRADE A. THREADED ROD SHALL MEET ASTM A36.
9. STEEL HEADED STUD ANCHORS SHALL MEET ASTM A108.
10. WELDING SHALL CONFORM TO THE STANDARDS SET FORTH IN AWS PUBLICATION "WELDING IN BUILDING CONSTRUCTION".
11. FABRICATOR IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF CONNECTIONS IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL USING SIMPLE SHEAR CONNECTIONS EXCEPT WHERE SPECIFICALLY NOTED. BOLTED CONNECTIONS SHALL HAVE 2 OR MORE BOLTS AND THE DISTANCE FROM SUPPORTING MEMBER TO CENTERLINE OF BOLTS SHALL NOT EXCEED 3 INCHES. ACTUAL DEPTH OF CONNECTION SHALL BE AT LEAST HALF OF THE BEAM DEPTH. MINIMUM CHANNEL AND WIDE FLANGE ASD CONNECTION STRENGTHS SHALL BE PER THE FOLLOWING TABLE, UNO. USE THE NEXT LARGER DEPTH FOR DEPTHS NOT LISTED.

NOM DEPTH	STRENGTH	NOM DEPTH	STRENGTH	NOM DEPTH	STRENGTH	NOM DEPTH	STRENGTH
10"	16 KIPS	16"	42 KIPS	21"	63 KIPS	27"	84 KIPS
14"	25 KIPS	18"	53 KIPS	24"	74 KIPS	30"	95 KIPS

12. FIELD AND SHOP WELDED CONNECTIONS TO USE 1/4" FILLET WELDS MINIMUM UNO.
13. FIELD WELDS TO BE WITH E70XX ELECTRODES.
14. ERECTION DRAWINGS SHALL SHOW ALL FIELD WELDS REQUIRED.
15. BEAMS FRAME FLUSH AT TOP UNLESS NOTED (+/-).
16. STEEL FRAMES ARE NOT "SELF-SUPPORTING." ADEQUATE TEMPORARY SUPPORT SHALL BE PROVIDED BY THE CONTRACTOR UNTIL REQUIRED ELEMENTS AND CONNECTIONS ARE IN PLACE.

JOISTS

1. FABRICATE AND ERECT STEEL JOISTS & JOIST GIRDERS, AND PROVIDE BRIDGING PER SJI RECOMMENDATIONS.
2. JOISTS AT OR NEAREST TO CENTERLINES OF COLUMNS SHALL HAVE BOLTED CONNECTIONS FOR ERECTION.
3. SUSPENSION OF ANY MISCELLANEOUS ITEMS FROM JOISTS SHALL BE ONLY AT PANEL POINTS.
4. JOISTS SHALL BE CAMBERED IN ACCORDANCE WITH SJI CRITERIA.
5. JOISTS SHALL BE DESIGNED FOR THE NET UPLIFT LOAD NOTED IN THE DESIGN LOADS AND CRITERIA-WIND DESIGN SECTION THESE NOTES.

STEEL ROOF DECK

1. SEE ROOF FRAMING PLAN FOR DECK PROFILE AND GAGE REQUIREMENTS. ERECT PER MANUFACTURER'S SPECIFICATIONS.
2. STEEL DECK SHALL BE ATTACHED TO ALL MEMBERS ON WHICH IT BEARS IN ACCORDANCE WITH "TYPICAL ROOF DECK FASTENING SYSTEM" DETAIL.
3. ROOF TOP OPENINGS SHALL BE FRAMED WITH L3X3X5/16 ON ALL FOUR SIDES TO SUPPORT OPENINGS GREATER THAN 12" SQUARE.

COLD-FORMED METAL FRAMING

1. STUDS AND COMPONENTS SHALL BE IN ACCORDANCE WITH THE AISI "SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" AND THE SSMA PRODUCT TECHNICAL GUIDE" (ESR 3064P).
2. COLD-FORMED MEMBERS SHALL HAVE MIN G60 COATING AND MEET ASTM A653 SS GRADE 50, CLASS 1 OR 3 (Fy = 50 KSI), EXCEPT MEMBERS OF HOLLOW SECTION AND LIGHT GAGE TRUSS MEET A653 SS GRADE 33 (Fy = 33 KSI) UNLESS SPECIFIED OTHERWISE.
3. FRAMING COMPONENTS MAY BE PREFABRICATED INTO ASSEMBLIES BEFORE ERECTION. FABRICATE PANELS PLUMB, SQUARE, TRUE TO LINE, AND BRACED AGAINST RACKING WITH JOINTS WELDED. PERFORM LIFTING OF UNITS TO PREVENT DAMAGE OR DISTORTION.
4. FABRICATE UNITS IN JIGS OR PLATE TO HOLD MEMBERS IN PROPER ALIGNMENT FOR CONSISTENT PLACEMENT.
5. FABRICATE UNITS TO MAXIMUM ALLOWABLE TOLERANCE VARIATION FROM PLUMB, LEVEL, AND TRUE TO LINE OF 1/8" IN 10 FEET.
6. CUT FRAMING MEMBERS BY SAW OR SHEARING, DO NOT TORCH CUT.
7. PROVIDED TEMPORARY BRACING AND LEAVE IN PLACE UNTIL FRAMING IS PERMANENTLY STABILIZED.

SPECIAL INSPECTIONS

INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT AGENCY, PAID FOR BY THE OWNER. THE FOLLOWING FIELD INSPECTIONS ARE REQUIRED:

1. VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION PER AISC 360-10 CHAPTER N.
2. VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION PER BUILDING CODE TABLE 1705.3.
3. SPECIAL INSPECTION OF MASONRY CONSTRUCTION PER TMS 402-11 TABLE 1.19.2. EXCEPTION: MASONRY VENEER ONLY REQUIRES VERIFICATION OF COMPLIANCE WITH THE APPROVED SUBMITTALS PER TABLE 1.19.1.
4. INSPECTION OF SITE SOILS, FILL PLACEMENT, AND BEARING CAPACITIES BY A LICENSED GEOTECHNICAL ENGINEER AS FOLLOWS:
   a. OBSERVATION OF PROOF ROLLING FOR THE SITE PRIOR TO FILL PLACEMENT. COMPACTION TESTING OF STRUCTURAL FILL PLACEMENT. LIFTS SHALL NOT BE MORE THAN 8".
   b. PROVIDE BEARING TESTS AT EACH FOOTING LOCATION TO CONFIRM BEARING CAPACITY.
   c. REQUIRED VERIFICATION AND INSPECTION OF SOILS PER BUILDING CODE TABLE 1705.6.

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	C	COMPRESSION	EA	EACH	GALV	GALVANIZED	MATL	MATERIAL	PT	PRESSURE TREATED	T&G	TONGUE AND GROOVE
ADDL	ADDITIONAL	CAP	CAPACITY	EF	EACH FACE	GC	GENERAL CONTRACTOR	MAX	MAXIMUM	PTD	PAINTED	TBD	TO BE DETERMINED
ADDN	ADDITION	CAT	CATALOG	EJ	EXPANSION JOINT	GR	GRADE	MECH	MECHANICAL	PVC	POLYVINYLCHLORIDE	TBR	TO BE REMOVED
AE	ARMOR EDGE SYSTEM (BY PNA CONSTRUCTION TECH)	CFS	COLD-FORMED STEEL (LIGHT GAUGE)	EL, ELEV	ELEVATION	GSN	GENERAL STRUCTURAL NOTES	MEZZ	MEZZANINE	QTY	QUANTITY	TCX	TOP CHORD EXTENSION
AFF	ABOVE FINISHED FLOOR	CHAM	CHAMFER	EMBED	EMBEDDED/EMBEDMENT	GWB	GYPSUM WALL BOARD	MFR	MANUFACTURER	R	RADIUS	TF	TOP FLANGE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	CJ	CONTROL JOINT	ENG	ENGINEER	HGT	HEIGHT	MIN	MINIMUM	R	BEAM OR COLUMN REACTION	TFE	TOP OF FOOTING ELEVATION
AISI	AMERICAN IRON AND STEEL INSTITUTE	CLG	CEILING	EOS	EDGE OF SLAB	HORIZ	HORIZONTAL	MISC	MISCELLANEOUS	RD	ROOF DRAIN	THD	THREAD/THREADED
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	CLR	CLEAR	EPS	EXTRUDED POLYSTYRENE	ID	INSIDE DIAMETER	MO	MASONRY OPENING	REINF	REINFORCE/REINFORCED/REINFORCEMENT	THK	THICK/THICKNESS
APPROX	APPROXIMATE/APPROXIMATELY	CMU	CONCRETE MASONRY UNIT	EQ	EQUAL	IN	INCHES	MTL	METAL	REQD	REQUIRED	TO	TOP OF
AR	ANCHOR ROD	CO	CLEANOUT	EQ SPA	EQUAL SPACING/EQUALLY SPACED	INSUL	INSULATION	NO	NUMBER	REQT	REQUIREMENT	TOB	TOP OF BEAM
ARCH	ARCHITECT/ARCHITECTURAL	COL	COLUMN	EW	EACH WAY	INT	INTERIOR	NOM	NOMINAL	REV	REVISION	TOS	TOP OF STEEL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	CONC	CONCRETE	EXIST	EXISTING	INV	INVERT	NS	NON-SHRINK/NEAR SIDE	RM	ROOM	TOW	TOP OF WALL
ASTM	ASTM INTERNATIONAL	CONN	CONNECTION	EXP	EXPANSION	IS	INSIDE	NTS	NOT TO SCALE	RO	ROUGH OPENING	TRANS	TRANSVERSE
AWS	AMERICAN WELDING SOCIETY	CONST	CONSTRUCTION	EXT	EXTERIOR/EXTERNAL	ISF	INSIDE FACE	OC	ON CENTER	SCHED	SCHEDULE/SCHEDULED	TYP	TYPICAL
BCX	BOTTOM CHORD EXTENSION	CONT	CONTINUOUS	FB	FLAT BAR	JB	JOIST BEARING/JOIST BEARING ELEVATION	OD	OUTSIDE DIAMETER	SDI	STEEL DECK INSTITUTE	UNO	UNLESS NOTED OTHERWISE
BD	BOARD	COORD	COORDINATE	FD	FLOOR DRAIN	JST	JOIST	OPG(S)	OPENING/OPENINGS	SECT	SECTION	V	SHEAR FORCE
BF	BOTTOM FLANGE	CS	COUNTERSUNK	FDN	FOUNDATION	JT	JOINT	OPP	OPPOSITE, OPPOSITE HAND	SHT	SHEET	VERT	VERTICAL
BLDG	BUILDING	CTR	CENTER	FF	FINISHED FLOOR	K, KIP	KIPS, KILOPOUNDS (1 KIP = 1000 POUNDS)	ORIG	ORIGINAL	SIM	SIMILAR	VIF	VERIFY IN FIELD
BLK	BLOCK	CX	CEILING EXTENSION	FFE	FINISHED FLOOR ELEVATION	KSF	KIPS PER SQUARE FOOT	OS	OUTSIDE	SJI	STEEL JOIST INSTITUTE	W/	WITH
BLKG	BLOCKING	DBL	DOUBLE	FG	FINISHED GRADE	LB	POUNDS	OSF	OUTSIDE FACE	SPEC	SPECIFICATION/SPECIFICATIONS/SPECIFIED	W/O	WITHOUT
BM	BEAM	DEMO	DEMOLISH/DEMOLITION	FH	FLATHEAD	LF	LINEAR/LINEAL FOOT	OZ	OUNCE	SQ	SQUARE	WD	WOOD
BO	BOTTOM OF	DET	DETAIL	FIN	FINISH/FINISHED	LLH	LONG LEG HORIZONTAL	PAF	POWDER ACTUATED FASTENER	SS	STAINLESS STEEL	WP	WORK POINT
BOS	BOTTOM OF STEEL	DIA	DIAMETER	FL	FLOOR/FLOORING	LLV	LONG LEG VERTICAL	PL	STEEL PLATE, BAR, STRIP OR SHEET	SSMA	STEEL STUD MANUFACTURER'S ASSOCIATION	WT	WEIGHT
BOT	BOTTOM	DIM	DIMENSION	FLG	FLANGE	LONG	LONGITUDINAL	PLUMB	PLUMBING	STD	STANDARD	WWF	WELDED WIRE FABRIC
BP	BASE PLATE	DIR	DIRECTION	FS	FAR SIDE	LP	LONG POINT	PLYWD	PLYWOOD	STL	STEEL		
BRG	BEARING	DN	DOWN	FT	FOOT/FEET	M	BENDING MOMENT	PR	PAIR	STRUC	STRUCTURE		
BS	BOTH SIDES	DO	DITTO (SAME AS ADJACENT)	FTG	FOOTING	MACH	MACHINE	PSF	POUNDS PER SQUARE FOOT	T	TENSION		
BTWN	BETWEEN	DWG	DRAWING	GA	GAUGE	MAS	MASONRY	PSI	POUNDS PER SQUARE INCH	T&B	TOP AND BOTTOM		

PLOTTED: 2/10/2020 9:08 AM

Issued:		Date:
A	Client Review Set	05/07/19
B	Permit Set	06/12/19
C	Client Review Set	02/07/20
D	Bid Set	02/10/20
Revisions:		Date:

DO NOT SCALE PLANS

ms consultants, inc.
engineers, architects, planners
5444 Wade Park Blvd.
Suite 160
Raleigh, NC 27607-4299
phone 919.772.5565
fax 919.779.2308

DRAWN BY: CLS

REVIEWED BY: DMS/CJH

Seal

PROFESSIONAL OF RECORD:
CRAIG E. METZGER PE No. 044723
EXP. DATE: 12/31/19

ALDI Inc.
1985 Old Union Church Road
Salisbury, NC 28146
(704) 640-2020
(704) 640-2078 fax

ALDI Inc. Store #: 154
Cornelius, NC
20101 West Catawba Avenue
Cornelius, NC 28031
Mecklenburg County
Project Name & Location:

General Structural Notes (GSN)
Drawing Name:

Prototype Rls. 12/10/18	Project No. 40452-07
Type:LHSD-V8ER	
Scale: As Noted	Drawing No. S-001