

GENERAL STRUCTURAL NOTES:

DESIGN LOADS AND CRITERIA:

2012 INTERNATIONAL BUILDING CODE
RISK CATEGORY II (NORMAL)

LOCATION	DEAD LOAD	LIVE LOAD
FLOOR	---	100 TO 200 PSF
ROOF	20 PSF	26 PSF

NOTE: ROOF LIVE LOAD INCLUDES 6 PSF ALLOWANCE FOR SOLAR ARRAY

SNOW DESIGN

Pg = 10 psf, Ce = 1.0, Cf = 1.0, Is = 1.00, Pf = 7, Cs = 1.0, Ps = 7, Pm = 10
DRIFT LOADS PER ASCE 7

WIND DESIGN

V = 120 MPH, EXPOSURE B, GCpi = 0.18
ASD NET UPLIFT ON ROOF JOISTS = 7 PSF
C&C PRESSURES ARE TABULATED BELOW. ALL PRESSURES ARE PSF.
OH = OVERHANG, AeH = MIN. EFFECTIVE WIND AREA (SQ.FT.)
EDGE/CORNER WIDTH, a = 7 FT.

COMPONENT AND CLADDING (C&C) PRESSURES:

Aeff	4.5+	4-	5-	WIND ZONES
0-10	14.2	-15.4	-19.0	1 ROOF INTERIOR
50	12.8	-14.6	-13.9	2 ROOF EDGE
100	12.1	-14.2	-13.3	3 ROOF CORNER
200	11.5	-14.2	-12.7	4 WALL INTERIOR
500	10.7	-14.2	-11.9	5 WALL CORNER

ROOF C&C PRESSURES

Aeff	1	2.3+	1-	2.3-	OH 1/2.3-
0-10	10.0	14.2	-15.5	-26.1	-22.4
25	10.0	13.4	-15.0	-22.4	-21.9
50	10.0	12.8	-14.6	-19.6	-21.5
100	10.0	12.1	-14.2	-16.9	-21.1
500	10.0	10.7	-14.2	-16.9	-14.5

SEISMIC DESIGN

ANALYSIS PER THE EQUIVALENT LATERAL FORCE PROCEDURE
STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
R = 3.00, Ωo = 3.00, Cd = 3.00, Ie = 1.00, SITE CLASS D, Ss = 0.090, S1 = 0.047, Sds = 0.150, Sd1 = 0.110
SEISMIC DESIGN CATEGORY B, V = 0.050 W

GEOTECHNICAL

REPORT NUMBER 04.10583 BY ECS MID ATLANTIC, LLC DATED NOVEMBER 14, 2014.
ALLOWABLE BEARING PRESSURE = 2000 PSF

GENERAL:

- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL SHOP DRAWINGS AND SPECIFICATIONS.
- GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS.
- FABRICATOR SHALL HIGHLIGHT CHANGES MADE IN SHOP DRAWINGS WHICH DO NOT COMPLY WITH THE DESIGN DRAWINGS.
- ALL 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 PART OF WORK.
- A RECORD SET OF SHOP DRAWINGS SHALL BE KEPT IN THE FIELD BY THE GENERAL CONTRACTOR.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTS PLANS BEFORE STARTING WORK.
- 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.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY BRACING, SHORING, GUINING, 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.
- SECTIONS AND DETAILS ON DRAWINGS ARE TYPICAL FOR ALL SIMILAR CONDITIONS.
- UNLESS EXPLICITLY NOTED OTHERWISE, ELEVATIONS ARE REFERENCED FROM +0'-0" DATUM AT THE FINISHED FLOOR ELEVATION 12.33'

FOUNDATIONS AND SOILS:

- ALL SITE WORK SHALL BE UNDER THE DIRECTION OF A QUALIFIED GEOTECHNICAL ENGINEER OR SOILS TECHNICIAN.
- PREPARATION OF THE SITE, INCLUDING INITIAL UNDERCUTTING, FILL AND BACKFILL MATERIAL AND PLACEMENT, SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT REFERENCED IN THE DESIGN LOADS AND CRITERIA SECTION OF THESE NOTES. COMPACTION OF STRUCTURAL FILL MATERIALS SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, BUT NOT LESS THAN 95 PERCENT MODIFIED PROCTOR METHOD.
- ALL 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.
- FOOTINGS, OR PORTIONS THEREOF, MAY BE EARTH FORMED BY NEAT EXCAVATIONS IF SOIL CONDITIONS ALLOW.
- FOOTINGS SHALL BE CENTERED ON COLUMNS UNLESS NOTED OTHERWISE.
- FOOTINGS ARE DESIGNED FOR THE ALLOWABLE SOIL PRESSURE SPECIFIED IN THE DESIGN LOADS AND CRITERIA SECTION OF THESE NOTES.
- 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:

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

CONCRETE LOCATION/USE	MIN. Fc	MAX. W/C	MAX. SLUMP	AIR CONTENT
FOOTINGS	3000 PSI	0.55	5" ± 1"	-
FOUNDATION WALLS	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%

- SEE SPECIFICATION FOR ADDITIONAL CONCRETE REQUIREMENTS.
- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE CURRENT ACI MANUAL OF CONCRETE PLACEMENT.
- PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE I OR II.
- ALL AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.
- ALL REINFORCING SHALL MEET ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC (WWF) SHALL MEET ASTM A185 AND BE PROVIDED IN FLAT SHEETS ONLY.
- CLEAR COVER TO REINFORCING SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.

LOCATION	REINFORCING 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"

- ALL REINFORCING 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 REINFORCING 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.
- PROVIDE 2-#5, 4-0" LONGER THAN OPENING DIMENSION ON ALL SIDES OF OPENING IN SLAB.
- ALUMINIUM SHALL NOT BE EMBEDDED IN ANY CONCRETE.
- NO HOLES OR OPENINGS THROUGH FOUNDATION WALL AND/OR FOOTINGS WITHOUT ENGINEERS APPROVAL.

MASONRY:

- 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 (Fm = 1500 PSI).
- ALL MORTAR FOR USE IN MASONRY SHALL CONFORM TO ASTM C270, TYPE S. ALL GROUT FOR USE IN MASONRY SHALL CONFORM TO ASTM C476, MIN. 2000 PSI AND NOT LESS THAN A 6-1/2" SACK MKX.
- REINFORCING BARS SHALL MEET ASTM A615, GRADE 60.
- PROVIDE AT LEAST 2 VERTICAL BARS AT EACH END, CORNERS, AND INTERSECTIONS OF ALL WALLS. SEE WALL SECTIONS FOR TYPICAL VERTICAL REINFORCING.
- VERTICAL AND HORIZONTAL REINFORCING SHALL BE CONTINUOUS AND LAPPED PER ACI 530.
- HOLD VERTICAL BARS STRAIGHT, TRUE, AND ACCURATE IN ALL WALLS AS DETAILED. INSTALL REBAR POSITIONERS @ 4'-0" O.C. MAXIMUM THAT ARE DESIGNED TO HOLD REBAR IN PROPER LOCATION WITHIN THE CELL PRIOR TO GROUTING.
- PROVIDE A MINIMUM OF 1/2" GROUT BETWEEN MAIN REINFORCING AND MASONRY UNITS.
- PROVIDE STANDARD GAGE TRUSS TYPE (OR LADDER-TYPE) JOINT REINFORCEMENT AS INDICATED FOR TYPICAL HORIZONTAL REINFORCING, UNLESS NOTED OTHERWISE.
- ALL REINFORCED MASONRY COLUMN AND WALL SECTIONS REQUIRE DOWELS FROM FOOTING, SIZE AND QUANTITY AS VERTICAL REINFORCEMENT IN COLUMN OR WALL UNLESS NOTED OTHERWISE.
- GROUT FILL ALL CELLS. ALL WALLS BELOW GRADE, SLUSH JOINT BETWEEN WYTHES BELOW GRADE.
- ALL CMU SHALL BE LAID IN RUNNING BOND PATTERN.
- GROUT PLACEMENT SHALL CONFORM TO ACI 530.1/ASCE 6/TMS 602-1/27. 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.
- THE TOP OF EACH GROUT POUR SHALL BE 1" BELOW THE BED JOINT.
- REINFORCEMENT, REBAR POSITIONERS, AND TIES SHALL BE PLACED PRIOR TO GROUTING.
- 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. AFTER CLEANING, CLOSE CLEANOUTS WITH CLOSURES BRACED TO RESIST GROUT PRESSURE. ALL CLEANOUTS SHALL BE LOCATED ON WALL FACE NOT EXPOSED TO VIEW.

STEEL:

- STRUCTURAL STEEL SHALL MEET THE LATEST AISC "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", ALLOWABLE STRESS DESIGN.
- ALL WIDE FLANGE SHAPES SHALL MEET ASTM A992, Fy = 50 KSI.
- ALL PLATES, CHANNELS, AND ANGLES SHALL MEET ASTM A36, Fy = 36 KSI.
- ALL PIPES SHALL MEET ASTM A33, GRADE B, Fy = 35 KSI.
- ALL TUBE STEEL SHALL MEET ASTM A500, GRADE B, Fy = 46 KSI.
- ANCHOR RODS SHALL MEET ASTM F1554, GRADE 36.
- ALL BOLTS SHALL MEET ASTM A325 HIGH STRENGTH, WITH WASHERS AS REQUIRED.
- WELDING SHALL CONFORM TO THE STANDARDS SET FORTH IN AWS PUBLICATION "WELDING IN BUILDING CONSTRUCTION".
- THE FABRICATOR IS RESPONSIBLE FOR THE DESIGN AND DETAILING OF CONNECTIONS IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL, EXCEPT WHERE SPECIFICALLY NOTED. CONNECTIONS ARE SIMPLE SHEAR CONNECTIONS, U.N.O. BOLTED CONNECTIONS SHALL HAVE 2 OR MORE BOLTS AND THE DISTANCE FROM SUPPORTING MEMBER TO CENTERLINE OF BOLTS SHALL NOT EXCEED 3 INCHES. DEPTH OF BEAM CONNECTIONS SHALL BE AT LEAST HALF OF THE BEAM DEPTH. MINIMUM ASD CONNECTION STRENGTH SHALL BE PER THE FOLLOWING TABLE, U.N.O.

MEMBER	STRENGTH	MEMBER	STRENGTH	MEMBER	STRENGTH
W8, W10	16 KIPS	W16	42 KIPS	W21	63 KIPS
W12, W14	25 KIPS	W18	53 KIPS	W24	74 KIPS

- ALL FIELD AND SHOP CONNECTIONS TO HAVE 1/4" FILLET WELDS MINIMUM UNLESS NOTED AS BOLTED CONNECTIONS.
- ALL FIELD WELDS TO BE WITH E70XX ELECTRODES.
- ALL ERECTION DRAWINGS SHALL SHOW ALL FIELD WELDS REQUIRED.
- ELEVATIONS FOR TOP OF STEEL NOTED ON DRAWINGS. BEAMS FRAME FLUSH AT TOP UNLESS NOTED (+/-).
- STEEL FRAMES ARE NOT "SELF-SUPPORTING." ADEQUATE TEMPORARY SUPPORT SHALL BE PROVIDED BY THE CONTRACTOR UNTIL REQUIRED ELEMENTS OR CONNECTIONS ARE IN PLACE.

JOISTS

- STEEL JOISTS AS SHOWN ON THE PLAN ARE TO BE FABRICATED AND ERECTED PER S.J.I. RECOMMENDATIONS, INCLUDING BRIDGING. SEE PLANS AND DETAILS FOR SPECIAL BRIDGING AND BRACING REQUIREMENTS.
- JOISTS AT OR NEAREST TO CENTERLINES OF COLUMNS SHALL HAVE BOLTED CONNECTIONS.
- SUSPENSION OF ANY MISCELLANEOUS ITEMS FROM JOISTS SHALL BE ONLY AT PANEL POINTS.
- ALL JOISTS SHALL BE CAMBERED IN ACCORDANCE WITH S.J.I. CRITERIA.
- ALL ROOF TOP OPENINGS TO BE FRAMED WITH 13X33X16 ON ALL FOUR SIDES TO SUPPORT OPENINGS GREATER THAN 12" SQUARE.
- JOISTS SHALL BE DESIGNED FOR THE NET UPLIFT LOAD AS DETERMINED BY DESIGN LOADS NOTED IN THESE DRAWINGS.

STEEL ROOF DECK:

- ALL STEEL ROOF DECK TO BE 1 1/2" WIDE RIB PAINTED 22 GAGE DECK. ERECT PER MANUFACTURER'S SPECIFICATIONS, U.N.O.
- STEEL DECK SHALL BE ATTACHED TO ALL MEMBERS ON WHICH IT BEARS IN ACCORDANCE WITH TYPICAL ROOF DECK FASTENING SYSTEM.

COLD FORMED METAL FRAMING:

- PROVIDE STUDS AND COMPONENTS IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE (AISI) "SPECIFICATION FOR DESIGN OF COLD-FORMED STRUCTURAL MEMBERS" AND THE STEEL STUD MANUFACTURER'S ASSOCIATION (SSMA) PRODUCT TECHNICAL INFORMATION (ESR 3064P).
- COLD-FORMED MEMBERS OF 18 GAGE AND LIGHTER SHALL HAVE A MINIMUM YIELD POINT OF 33 KSI, A653-SS GRADE 50, CLASS 1 OR 3.
- FRAMING COMPONENTS MAY BE REINFORCED INTO ASSEMBLY PRIOR TO ERECTION. FABRICATE PANELS PLUMB, SQUARE, TRUE TO LINE, AND BRACED AGAINST RACKING WITH MOMENTS WELDED. PERFORM LIFTING OF UNITS TO PREVENT DAMAGE OR DISTORTION.
- FABRICATE UNITS IN JIG TEMPLATES TO HOLD MEMBERS TRUE TO ALIGNMENT FOR CONSISTENT PLACEMENT.
- FABRICATE UNITS TO MINIMUM ALLOWABLE TOLERANCE PER SECTION FROM PLUMB, LEVEL, AND TRUE TO LINE OF 1/8 IN. IN 10 FEET.
- CUT FRAMING MEMBERS TO ALLOW FOR SHEARING. DO NOT TORCH CUT.
- PROVIDE TEMPORARY BRACING AND LEAVE IN PLACE UNTIL FRAMING IS PERMANENTLY STABILIZED.

SPECIAL INSPECTIONS:

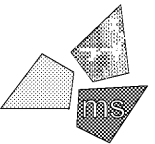
INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT AGENCY, PAID FOR BY THE OWNER. FIELD INSPECTIONS REQUIRED ARE:

- PERIODIC INSPECTION OF STEEL FABRICATOR'S SHOP FOR QUALITY CONTROL AND FABRICATION PROCESSES THAT COMPLY WITH AISC CODE OF STANDARD PRACTICE.
- VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION PER AISC 360-10 SECTION N.
- VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION PER BUILDING CODE TABLE 1705.3.
- 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.
- INSPECTION OF SITE SOILS, FILL PLACEMENT, AND BEARING CAPACITIES BY A LICENSED GEOTECHNICAL ENGINEER AS FOLLOWS:
 - OBSERVATION OF PROOF-ROLLING FOR THE SITE PRIOR TO FILL PLACEMENT. COMPACTION TESTING OF STRUCTURAL FILL PLACEMENT. LIFTS SHALL NOT BE LESS THAN 8"
 - PROVIDE BEARING TESTS AT EACH FOOTING LOCATION TO CONFIRM BEARING CAPACITY.
 - REQUIRED VERIFICATION AND INSPECTION OF SOILS PER BUILDING CODE TABLE 1705.6
- INTERIOR SLAB FLATNESS AND LEVELNESS TESTS MUST BE PERFORMED BY THIRD PARTY INSPECTOR. THE TEST SHALL BE PERFORMED PER ASTM E1156 WITH THE EXCEPTION THAT THE TESTING SHALL BEGIN WITHIN 24 HOURS AFTER COMPLETION OF THE FINISHING PROCESS. PRELIMINARY FINDINGS MUST BE COMMUNICATED TO THE ALDI CONSTRUCTION REPRESENTATIVE UPON COMPLETION OF THE TESTING. THE OFFICIAL REPORT MUST BE PROVIDED TO THE ALDI CONSTRUCTION REPRESENTATIVE WITHIN 5 WORKING DAYS OF THE SALES FLOOR PLACEMENT. SEE SPECIFICATION SECTION 033000 FOR REQUIREMENTS.

Issued:	Date:
A Client Review Set	04/07/17
B Permit Set	04/07/17
C Bid Set	09/05/17
D	
Revisions:	Date:
1	
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DO NOT SCALE PLANS

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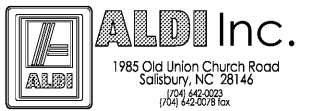
DRAWN BY: C.J.H

REVIEWED BY: CEM

Seal

Professional Engineer Seal

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EXP. DATE: 03/31/2019



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Project Name & Location:

General Structural Notes (GSN)

Drawing Name:	Project No.
Prototype Rls. 02/08/17	40320-40
Type: RHSD-V7	

S-001

Scale: As Noted Drawing No.

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	CAP	CAPACITY	GSN	GENERAL STRUCTURAL NOTES	MFR	MANUFACTURER	PVC	POLYVINYLCHLORIDE	TBR	TO BE REMOVED
ADDL	ADDITIONAL	CAT	CATALOG	GWB	GYPHUM WALL BOARD	MIN	MINIMUM	QTY	QUANTITY	TCX	TOP CHORD EXTENSION
ADDN	ADDITION	CFS	COLD-FORMED STEEL (LIGHT GAUGE)	HGT	HEIGHT	MISC	MISCELLANEOUS	R	RADIUS	TF	TOP FLANGE
AE	ARMOR EDGE SYSTEM (BY PNA CONSTRUCTION TECH)	CHMTR	CHAMFER	HORIZ	HORIZONTAL	MO	MASONRY OPENING	R	BEAM OR COLUMN REACTION	TFE	TOP OF FOOTING ELEVATION
AFF	ABOVE FINISHED FLOOR	CONJ	CONTROL JOINT	ID	INSIDE DIAMETER	MTL	METAL	RD	ROOF DRAIN	THD	THREAD/THREADED
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	EQ	EQUAL	IN	INCHES	NO	NUMBER	REINF	REINFORCE/REINFORCED/REINFORCING	THK	THICK/THICKNESS
ASI	AMERICAN IRON AND STEEL INSTITUTE	EQ SPA	EQUAL SPACING/EQUALLY SPACED	INSUL	INSULATION	NOM	NOMINAL	REQD	REQUIRED	TO	TOP OF
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	EW	EACH WAY	INT	INTERIOR	NS	NON-SHRINK/NEAR SIDE	REQT	REQUIREMENT	TOB	TOP OF BEAM
APPROX	APPROXIMATE/APPROXIMATELY	EXIST	EXISTING	INV	INVERT	NT	NOT TO SCALE	REV	REVISION	TOS	TOP OF STEEL
AR	ANCHOR ROD	EXP	EXPANSION	IS	INSIDE	OC	ON CENTER	RM	ROUGH OPENING	TOW	TOP OF WALL
ARCH	ARCHITECT/ARCHITECTURAL	EXT	EXTERIOR/EXTERNAL	ISF	INSIDE FACE	OCEW	ON CENTER EACH WAY	RO	ROUGH OPENING	TRANS	TRANSVERSE
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	FB	FLAT BAR	JB	JOIST BEARING/JOIST BEARING ELEVATION	OCEW & B	ON CENTER EACH WAY TOP AND BOTTOM	SCHED	SCHEDULE/SCHEDULED	TYP	TYPICAL
ASTM	ASTM INTERNATIONAL	FD	FLOOR DRAIN	JST	JOIST	OD	OUTSIDE DIAMETER	SDI	STEEL DECK INSTITUTE	UNO	UNLESS NOTED OTHERWISE
AWS	AMERICAN WELDING SOCIETY	FDN	FOUNDATION	JT	JOINT	OP(S)	OPENING/OPENINGS	SECT	SECTION	V	VERT
BCX	BOTTOM CHORD EXTENSION	FF	FINISHED FLOOR	K, KIP	KILOPOUNDS (1 KIP = 1000 POUNDS)	OPP	OPPOSITE, OPPOSITE HAND	SHT	SHEET	VF	VERTICAL
BD	BOARD	FFE	FINISHED FLOOR ELEVATION	LB	POUNDS	ORIG	ORIGINAL	SMB	SHIMBAR	VFH	VERIFY IN FIELD
BF	BOTTOM FLANGE	FG	FINISHED GRADE	LF	LINEAR/LINEAL FOOT	OS	OUTSIDE	SJT	STEEL JOIST INSTITUTE	W/	WITH
BLDG	BUILDING	FL	FLATHEAD	LLH	LONG LEG HORIZONTAL	OSF	OUTSIDE FACE	SPCG	SPACING	W/O	WITHOUT
BLK	BLOCK	FIN	FINISH/FINISHED	LLV	LONG LEG VERTICAL	OZ	OUNCE	SPEC	SPECIFICATION/SPECIFICATIONS/SPECIFIED	WD	WOOD
BLKG	BLOCKING	FLG	FLOOR/FLOORING	LONG	LONGITUDINAL	PAF	POWDER ACTUATED FASTENER	SQ	SQUARE	WP	WORK POINT
BM	BEAM	FLN	FLANGE	LP	LONG POINT	PL	STEEL PLATE, BAR, STRIP OR SHEET	SS	STAINLESS STEEL	WT	WEIGHT
BO	BOTTOM OF	FS	FAR SIDE	M	BENDING MOMENT	PLUMB	PLUMBING	SSMA	STEEL STUD MANUFACTURER'S ASSOCIATION	WWF	WELDED WIRE FABRIC
BOT	BOTTOM	FT	FOOT/FEET	MACH	MACHINE	PLYWD	PLYWOOD	STD	STANDARD		
BP	BEARING	FTG	FOOTING	MAS	MASONRY	FR	FRAMING	STL	STEEL		
BRG	BRACING	GA	GAUGE	MATL	MATERIAL	PSF	POUNDS PER SQUARE FOOT	STRUC	STRUCTURE		
BS	BOTH SIDES	GALV	GALVANIZED	MAX	MAXIMUM	PSI	POUNDS PER SQUARE INCH	T	TENSION		
BTWN	BETWEEN	GC	GENERAL CONTRACTOR	MECH	MECHANICAL	PT	PRESSURE TREATED	T&G	TONGUE AND GROOVE		
C	COMPRESSION	GR	GRADE	MEZZ	MEZZANINE	PTD	PAINTED	TBD	TO BE DETERMINED		