

**GENERAL NOTES:**

(THESE SPECIFICATIONS ARE IN ADDITION TO AND DO NOT EXCLUDE ANY FOUND IN THE GENERAL SPECIFICATIONS FOR THE PROJECT)

1. THE CONTRACT STRUCTURAL DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THE CONTRACTOR IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION. PROVIDE ALL MEASURES REQUIRED TO PROTECT THE STRUCTURE, WORKMEN, AND OTHER PERSONS DURING CONSTRUCTION, INCLUDING BRACING, SHORING FOR CONSTRUCTION EQUIPMENT, SHORING FOR THE BUILDING, FORMS AND SCAFFOLDING, SHORING OF RETAINING WALLS AND OTHER TEMPORARY SUPPORTS REQUIRED. COMPLY WITH APPLICABLE REQUIREMENTS OF OSHA AND OTHER GOVERNING BODIES HAVING JURISDICTION AT THE SITE.

2. SHOP DRAWINGS FOR STRUCTURAL STEEL, DECKING, AND SUBMITTALS SHALL COMPLY WITH THE FOLLOWING:

A. CONTRACTOR SHALL FURNISH COMPLETE AND DETAILED SHOP DRAWINGS PREPARED UNDER SUPERVISION OF A REGISTERED STRUCTURAL ENGINEER. THESE DRAWINGS SHALL SHOW SIZES, LOCATION, TYPE AND EXTENT OF ALL MEMBERS, BOLTS AND WELDS.

B. INDICATE THE DATE OF THE STRUCTURAL DRAWINGS USED FOR SHOP DRAWING PREPARATION.

C. INDICATE WELDS BY STANDARD AWS SYMBOLS AND SHOW SIZE LENGTH AND TYPE OF EACH WELD.

D. PROVIDE SETTING DRAWINGS, TEMPLATES AND DIRECTIONS FOR INSTALLATION OF ANCHOR BOLTS AND OTHER ANCHORAGES TO BE INSTALLED BY OTHERS.

E. CONTRACTOR SHALL REVIEW AND STAMP ALL SHOP DRAWINGS PRIOR TO SUBMITTAL FOR ENGINEERING REVIEW.

F. CONTRACTOR SHALL HAVE AN APPROVED SET OF STRUCTURAL STEEL SHOP DRAWINGS AND PROOF OF WELDER CERTIFICATION AT THE JOBSITE AT ALL TIMES.

G. COORDINATE ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

H. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR BUILDING LOCATION AND ORIENTATION. COORDINATE ALL DIMENSIONS WITH ARCH. DRAWINGS. DO NOT SCALE DRAWING.

I. SECTIONS CUTS INDICATED ON THE DRAWINGS APPLY TO ALL LIKE AND SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE PLANS. COORDINATE SIMILAR CONDITIONS WITH ARCHITECTURAL, MECHANICAL, AND CIVIL DRAWINGS.

**3. DESIGN LOADS:**

THE BUILDING STRUCTURE DESCRIBED IN THESE PLANS SHALL BE CONSTRUCTED IN COMPLIANCE WITH THE 2018 GEORGIA STATE BUILDING CODE w/ ALL AMENDMENTS. USE ASCE 7-16 CHAPTER 2 FOR ALL LOAD COMBINATIONS AND LOADS NOT INDICATED HEREIN.

**A. GRAVITY LOADS**

DEAD LOADS  
ROOF: 20 PSF

LIVE LOADS  
ROOF: 20 PSF (REDUCED PER CODE)

**B. SNOW LOADS:**

GROUND SNOW LOAD (Pg): 5 PSF  
BALANCED ROOF SNOW LOAD (Pp/RAN): 9 PSF  
SNOW EXPOSURE FACTOR (Ce): 0.9  
SNOW IMPORTANCE FACTOR (Is): 1.0  
THERMAL FACTOR (Ct): 1.0

**C. WIND LOADS:**

BASIC WIND SPEED (3 SEC. GUST): V=115MPH  
Vadj=90MPH

WIND IMPORTANCE FACTOR (Iw): 1.0  
RISK CATEGORY: III  
EXPOSURE CATEGORY: B  
INTERNAL PRESSURE (GCp): +/- 0.18

REFER TO ASCE 7-16 FOR COMPONENT & CLADDING LOADS

**D. SEISMIC DESIGN CRITERIA:**

SEISMIC IMPORTANCE FACTOR (Ie): 1.00  
RISK CATEGORY: III  
MAPPED SPECTRAL RESPONSE ACCELERATIONS:  
Ss: 0.2942  
S1: 0.0560

SITE CLASS: D  
SDS1: 0.307g  
SD1: 0.154g  
SITE COEFFICIENT  
Fv = 1.56  
Fv = 2.40

**SEISMIC DESIGN CATEGORY: C**

BASIC SEISMIC FORCE RESISTING SYSTEM  
EXISTING MASONRY SHEAR WALLS  
SEISMIC RESPONSE COEFFICIENT (Ca): 0.1066  
RESPONSE MODIFICATION FACTORS (R): 3.5  
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

4. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE AND SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE DRAWINGS.

**SPECIAL INSPECTION NOTES:**

A. THE SPECIAL INSPECTOR SHALL BE ENGAGED BY THE OWNER. SPECIAL INSPECTOR SHALL BE FULLY QUALIFIED, APPROVED BY THE BUILDING OFFICIAL, REGISTERED BY APPLICABLE REGISTRATION BOARD IF REQUIRED BY THE LOCAL BUILDING OFFICIAL, AND SHALL BE ACCEPTABLE TO THE ARCHITECT.

B. THE SPECIAL INSPECTOR SHALL PROVIDE VERIFICATION OF CONSTRUCTION QUALITY CONTROL INSPECTIONS AND TESTING. THE SPECIAL INSPECTOR SHALL CERTIFY THAT ALL WORK REQUIRING INSPECTION IS PERFORMED IN COMPLIANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS, BUILDING CODE REQUIREMENTS AND LOCAL BUILDING DEPARTMENT REQUIREMENTS.

C. SPECIAL INSPECTIONS ARE REQUIRED FOR THE ITEMS NOTED IN THE STATEMENT OF SPECIAL INSPECTIONS AND THE 2018 IBC CHAPTER 17. THE CONTRACTOR SHALL OBTAIN A COPY OF THE STATEMENT OF SPECIAL INSPECTIONS AND NOTIFY THE SPECIAL INSPECTOR WHEN WORK IS READY TO BE INSPECTED.

D. FAILURE TO NOTIFY THE SPECIAL INSPECTOR PRIOR TO OBTAINING AN ITEM REQUIRING INSPECTION MAY RESULT IN THE CONTRACTOR REMOVING OTHER WORK TO ALLOW INSPECTION. THIS WORK WILL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. FAILURE TO HAVE REQUIRED ITEMS INSPECTED IS REASON FOR REJECTION OF THE WORK.

E. PREMATURE NOTIFICATION FOR INSPECTIONS WILL RESULT IN ADDITIONAL INSPECTION WITH ALL EXPENSES AND FEES PAID FOR BY THE CONTRACTOR.

F. SPECIAL INSPECTIONS REQUIRED FOR THIS PROJECT INCLUDE VISUAL OBSERVATION OF FIELD WELDING FOR JOIST ANGLE BRACING, ROOF OPENING FRAMES, AND MISCELLANEOUS FRAMING AT COOLING TOWER.

**STEEL NOTES:**

**1. STRUCTURAL STEEL:**

A. SHALL CONFORM TO THE LATEST STANDARDS OF ASTM:  
WIDE FLANGE BEAMS: A992  
OTHER STRUCTURAL STEEL SHAPES, PLATES AND BARS: A36  
HOLLOW STRUCTURAL STEEL SECTIONS (ROUND AND RECTANGULAR): A500 GRADE B  
STRUCTURAL STEEL PIPE: A53 GRADE B

B. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC 360-16) USING ALLOWABLE STRESS DESIGN.

C. PROVIDE 1" (MINIMUM) NON-SHRINK 5000 PSI GROUT UNDER ALL BASE PLATES.

D. SHOP OR FIELD SPLICES BETWEEN SUPPORTS THAT ARE NOT REQUIRED BY DESIGN WILL NOT BE ALLOWED. ANY MEMBERS CONTAINING SUCH SPLICES FOUND IN THE FIELD SHALL BE REMOVED AND REPLACED WITH UNSPLICED MEMBERS AT THE FABRICATOR'S EXPENSE.

**2. WELDS:**

A. PROVIDE MINIMUM SIZE OF FILLET WELDS AS SPECIFIED IN TABLE J2.4 OF THE AISC MANUAL. USE E60XX OR E70XX ELECTRODES.

B. ALL WELDS SHALL CONFORM TO THE LATEST "STRUCTURAL WELDING CODE" BY THE AMERICAN WELDING SOCIETY. ALL WORK SHALL BE PERFORMED BY CERTIFIED WELDERS EXPERIENCED IN THE TYPE OF CONSTRUCTION INVOLVED. PROOF OF WELDER CERTIFICATION SHALL BE AVAILABLE AT THE JOB SITE.

C. ALL WELDS ARE CONTINUOUS FOR THE FULL LENGTH OF THE CONNECTION UNLESS NOTED OTHERWISE ON DRAWINGS.

**3. COLD FORMED STEEL FRAMING:**

**A. COLD FORMED STEEL FRAMING STRENGTH CRITERIA:**

(1) 18 ML 43 ML - 33 KSI MIN. YIELD STRESS  
(2) 14 ML 47 ML - 30 KSI MIN. YIELD STRESS  
(3) RUNNER TRACK - 33 KSI MIN. YIELD STRESS (UND)

B. ATTACH METAL FRAMING TO PRIMARY STRUCTURE WITH A DEFLECTION TRACK OR A STEEL NETWORK INC. VERTICAL DEFLECTION CLIP CAPABLE OF ALLOWING 1" OF VERTICAL DEFLECTION IF WALL FRAMING IS SUPPORTED BY SLAB ON GRADE OR OTHER RIGID SUPPORT.

C. PLACE ALL COLD-FORMED STEEL STUD WALL BRIDGING HORIZONTALLY WITH A MAXIMUM VERTICAL SPACING OF 4 FEET UNLESS NOTED OTHERWISE. AS AN OPTION, CONTINUOUS COLD-FORMED CHANNELS MAY BE POSITIONED THROUGH THE STUD PUNCH OUTS AS BRIDGING PROVIDED THE CHANNEL IS PROPERLY FASTENED TO EACH STUD. PROVIDE MANUFACTURERS RECOMMENDED BRIDGING TO BOTH FLANGES OF MEMBER IF FLANGE IS NOT PERMANENTLY BRACED WITH GYPSUM OR PLYWOOD SHEATHING.

D. PLUMB, ALIGN, AND SECURELY ATTACH STUDS TO THE FLANGES OF BOTH UPPER AND LOWER RUNNERS. SPLICES IN STUDS ARE NOT PERMITTED.

E. PROVIDE HEADERS AND SUPPORTING STUDS FOR FRAMING OF WALL OPENINGS.

F. STABILITY BRIDGINGS SHALL BE INSTALLED AT A MAXIMUM 4'-0" O.C. FOR SUSPENDED SOFFITS UNLESS NOTED OTHERWISE.

**4. METAL STUD FASTENERS:**

A. SCREW CONNECTIONS  
USE #10-16 KWIK-FLEX SELF-DRILLING SCREWS OR APPROVED EQUAL UNLESS OTHERWISE NOTED. 2 SCREWS PER CONNECTION MIN. UNLESS NOTED OTHERWISE OR A PRE-ENGINEERED TRUSS.

**B. POWER DRIVEN FASTENERS:**

(1) FASTENING TO CONCRETE:  
USE 0.145" DIA. DOME HEAD NAIL TYPE "X-ZP" BY HLT1 OR APPROVED EQUAL UNLESS NOTED OTHERWISE.  
MIN EMBEDMENT = 1 1/4" MIN. EDGE DISTANCE = 2"  
MIN SPACING = 3" MAX SPACING = 12"

**(2) FASTENING TO STEEL:**

USE 0.145" DIA. DOME HEAD KNURLED SHANK FASTENER TYPE "X-EDNF" BY HLT1 OR APPROVED EQUAL UNLESS NOTED OTHERWISE.  
MIN EMBEDMENT = FULL PENETRATION  
MIN. EDGE DISTANCE = 1/2"

MIN SPACING = 1 1/2" MAX SPACING = 12"  
(3) NGS SHALL BE LOCATED 1/2" FROM OUTSTANDING LEG OF CLIP ANGLES WHERE ATTACHING TO STRUCTURAL STEEL ANGLES.

C. ROOF SHEATHING 1932' 32/16 RATED SHEATHING. ATTACH TO FRAMING WITH MIN. #8 SCREW 12" O.C.

**6. METAL DECKING:**

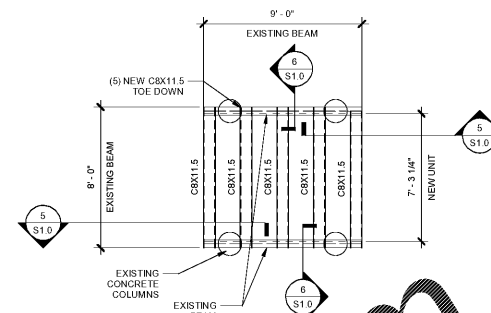
A. PROVIDE DESIGN, FABRICATION, AND ERECTION OF METAL DECK CONFORMING TO THE STEEL DECK INSTITUTE'S "CODE OF RECOMMENDED STANDARD PRACTICE AND BASIC DESIGN SPECIFICATIONS".

(1) ROOF DECK SHALL BE 1 1/2" TYPE B, WIDE RIB PAINTED WITH MINIMUM THICKNESS = 0.0296" (2 GA). ATTACH ROOF DECK TO SUPPORTS WITH #12 SELF-DRILLING SCREWS. (ROOF DECK SHALL HAVE A 3 SPAN CONDITION - TYPICAL). MAX SPAN OF 8'-0"

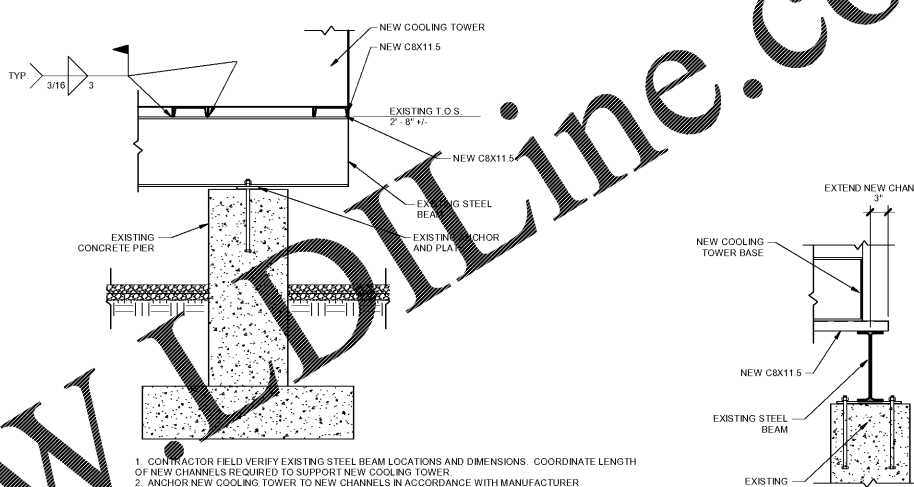
B. ALL DECK SHALL BE FABRICATED TO PROVIDE A THREE SPAN CONDITION UNLESS INDICATED OTHERWISE. PROVIDE 1 1/2" MINIMUM DECK BEARING.

C. ATTACHMENT AT PERIMETER OF DECK SHALL BE EQUAL TO ATTACHMENT AT DECK SHEET LAPS AND DECK SHEET ENDS. ANY PARTIAL OR SKEWED SHEETS SHALL BE ATTACHED AT EVERY FLUTE REGARDLESS OF ATTACHMENT PATTERN.

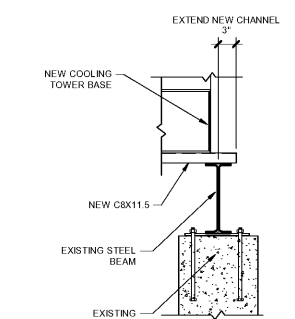
D. PROVIDE STEEL ROOF FRAMING AT ALL OPENINGS IN FLOOR AND ROOF DECK 12" OR GREATER. ROOFTOP UNIT CURBS AND OTHER UNITS CURBS SHALL BEAR DIRECTLY ON STEEL ANGLE FRAME. FASTEN CURBS TO FRAMES W/ #12 SCREWS @ 12" O.C. OR EQUIVALENT WELDS. ROOF DECK SHALL BE ATTACHED TO ALL FRAME ANGLES @ 12" O.C. OR EVERY FLUTE.



**3 S1.0 COOLING TOWER FRAMING PLAN**  
1/4" = 1'-0"



**5 S1.0 COOLING TOWER DETAIL**  
3/4" = 1'-0"



**6 S1.0 COOLING TOWER FRAMING SECTION**  
3/4" = 1'-0"

**COMPONENTS & CLADDING WIND LOAD SCHEDULES**

WIND TABLE NOTES:  
1. LOADS BASED ON ASCE 7-16 ULTIMATE LOADS

COMPONENT AND CLADDING (ROOF)				
ZONE	AREA (SF)	MAX (+) (PSF)	MAX (-) (PSF)	REMARKS
ZONE 1	10	+10.0	-23.8	
ZONE 2	10	+10.0	-23.8	
ZONE 3	10	+10.0	-25.8	
ZONE 4	10	+23.8	-25.8	
ZONE 5	10	+23.8	-31.9	

COMPONENT AND CLADDING (WALLS)				
ZONE	AREA (SF)	MAX (+) (PSF)	MAX (-) (PSF)	REMARKS
ZONE 4	10	+23.8	-25.8	
ZONE 5	10	+23.8	-31.9	

**2 S1.0 COMPONENTS & CLADDING WIND LOAD SCHEDULES**  
1/8" = 1'-0"

**ROBERTSON LOIA ROOF ARCHITECTS & ENGINEERS**  
3460 Preston Ridge Road, Suite 275, Alpharetta, GA, 30005  
770.674.2800 / www.rlrc.com



(Faculty No. 042-0199)  
**Blacks Mill Elementary School HVAC Replacement and Reroof**  
Dawsonville, Georgia 30534  
**Dawson County Schools**  
Overall Renovation Square Footage = 77,219 SF (Existing)  
F.T.E. = 750 (Existing)

**REVISIONS**

NO.	DATE	DESCRIPTION

**GENERAL NOTES**

DATE: 12-06-2019  
PROJECT NUMBER: 19-309  
SHEET NUMBER: S1.0