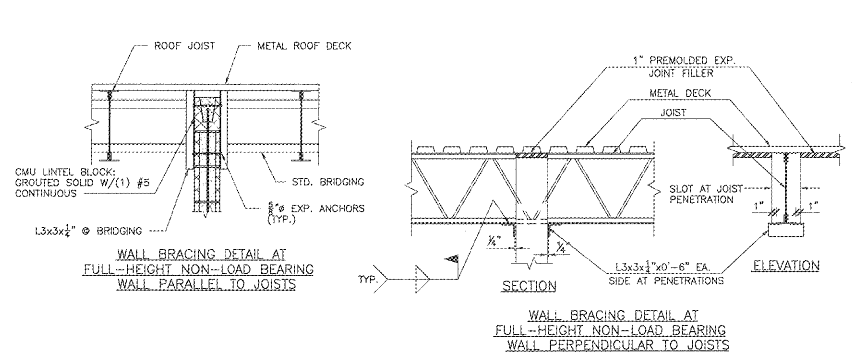
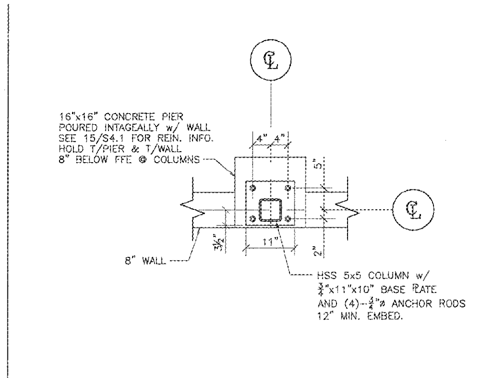
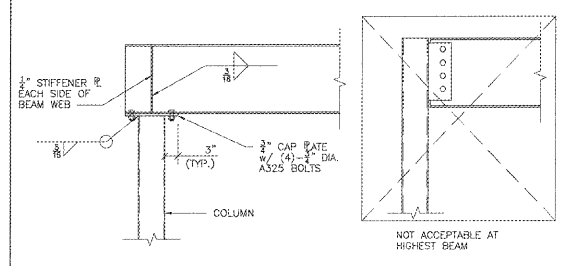


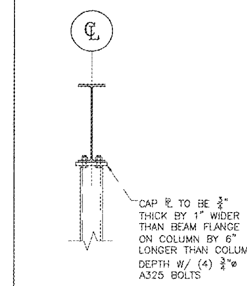
1 S4.3 TYP. CMU WALL BRACING DETAILS
SCALE: NONE



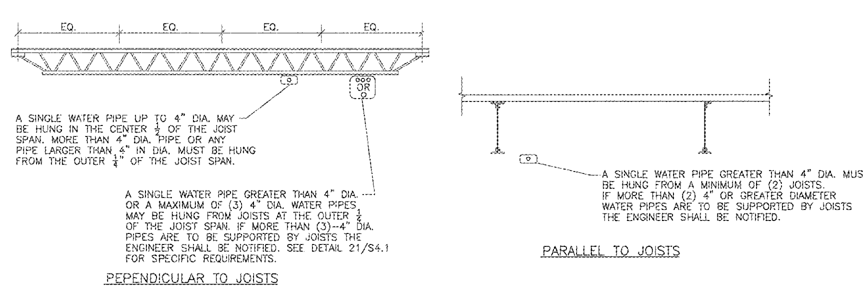
2 S4.3 COLUMN w/ INTEGRAL PIER DETAIL



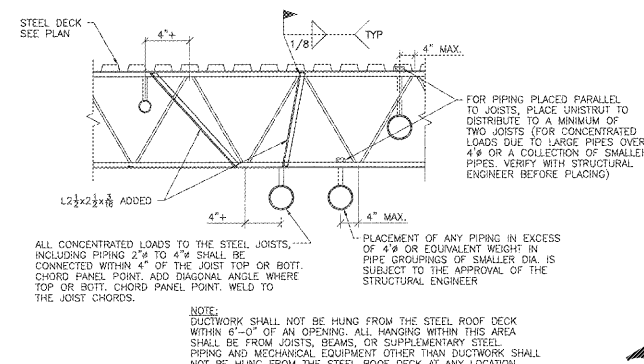
3 S4.3 TYPICAL BEAM BEARING DETAIL
SCALE: NONE



4 S4.3 TYP. COLUMN CAP PLATE
SCALE: NONE



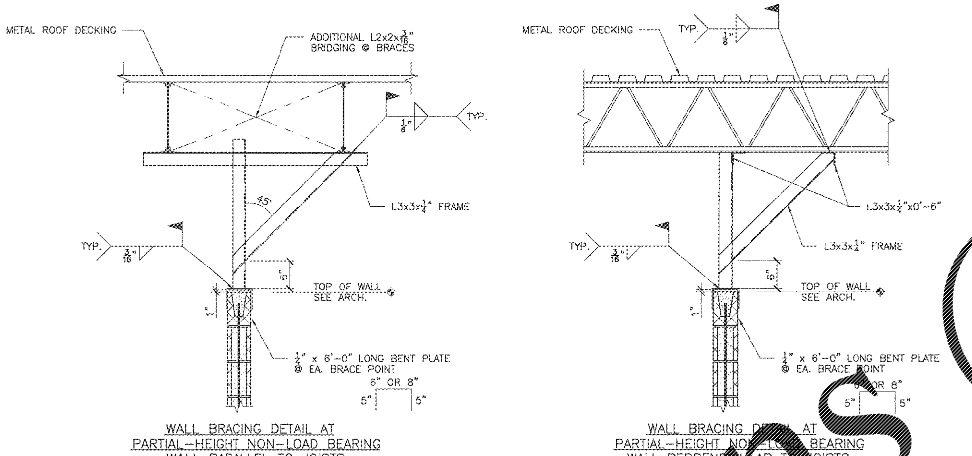
5 S4.3 TYPICAL PLACEMENT OF WATER PIPES SUPPORTED BY JOISTS
SCALE: NONE



6 S4.3 SPECIFIC HANGER REQUIREMENTS FOR STEEL JOISTS
SCALE: NONE

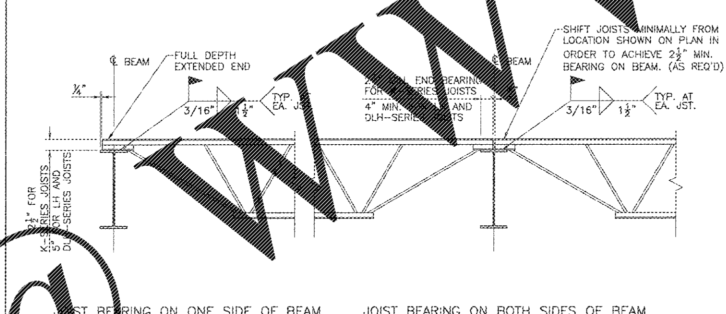
LOOSE ANGLE LINTEL SCHEDULE	
SPAN	ANGLE LINTEL
0' TO 4'	L 5 X 3 1/2" X 1/4" (L.L.V.)
4' TO 6'	L 5 X 3 1/2" X 5/16" (L.L.V.)
6' TO 8'	L 6 X 3 1/2" X 3/8" (L.L.V.)

NOTES:
1. 6" MIN. BEARING FOR ALL ANGLES, TYP.
2. 8'-0" MAXIMUM SPAN PER BRICK INSTITUTE OF AMERICA & THE STANDARD BUILDING CODE.

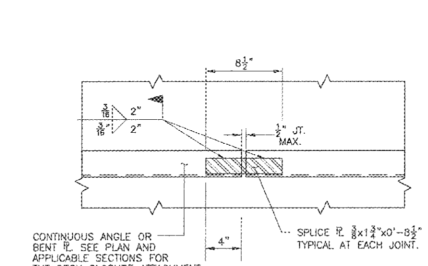


7 S4.3 TYP. CMU WALL BRACING DETAILS
SCALE: NONE

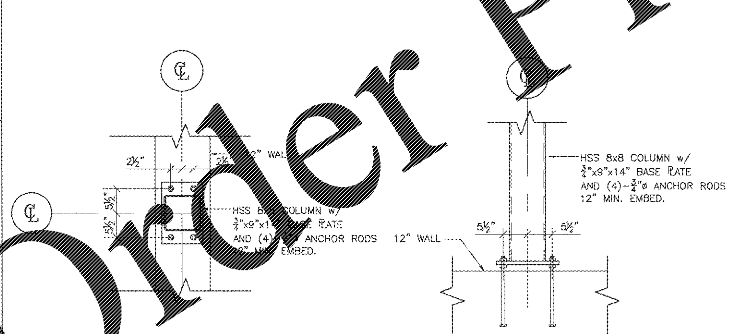
NOTE: PROVIDE TOP OF WALL BRACING @ 6'-0" O.C. MAX. AT WALLS NOT PERPENDICULAR TO JOISTS AT 12'-0" O.C. OR LESS



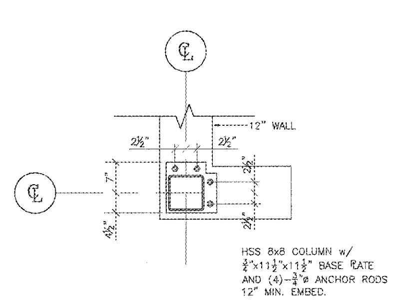
8 S4.3 TYPICAL JOIST BEARING ON INTERIOR BEAM
SCALE: NONE



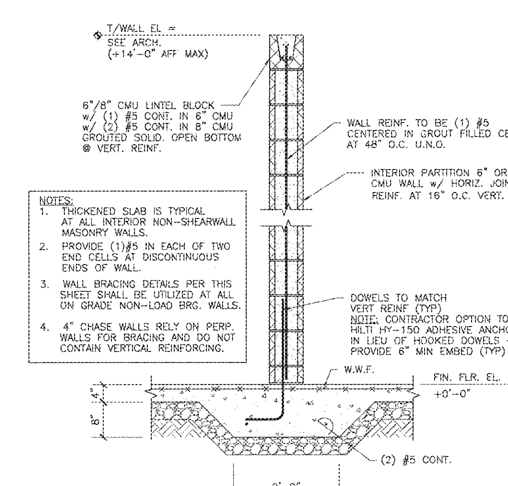
9 S4.3 TYP. CLOSURE ANGLE SPLICE
SCALE: NONE



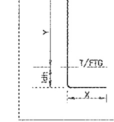
10 S4.3 COLUMN BASE DETAIL
SCALE: NONE



11 S4.3 COLUMN BASE DETAIL
SCALE: NONE



12 S4.3 TYPICAL INTERIOR WALL DETAIL
SCALE: NONE



HOOKED BAR SCHEDULE			
BAR SIZE	X	ldh	Y
#3	0'-6"	0'-6"	1'-10"
#4	0'-8"	0'-8"	2'-5"
#5	0'-10"	0'-10"	3'-0"
#6	1'-0"	1'-0"	3'-7"
#7	1'-2"	1'-2"	5'-3"
#8	1'-4"	1'-4"	6'-0"

LAP SPLICE SCHEDULE					
BAR SIZE	LAP SPLICE DIMENSION (IN)				COMPRESSION SPLICE
	f'c = 3000 psi		f'c = 4000 psi		
	OTHER	TOP BARS	OTHER	TOP BARS	
#3	22"	29"	19"	25"	12"
#4	29"	38"	25"	32"	15"
#5	36"	46"	31"	40"	19"
#6	43"	56"	38"	49"	23"
#7	63"	81"	55"	71"	27"
#8	72"	94"	63"	81"	30"
#9	81"	105"	70"	91"	34"

13 S4.3 CONCRETE LAP SPLICE SCHED.
SCALE: NONE

DESIGN:

BUILDING CODE: 2012 INTERNATIONAL BUILDING CODE WITH GEORGIA STATE AMENDMENTS.

GENERAL DESIGN DATA:
DEAD LOAD: SEE ROOF FRAMING PLAN
LIVE LOAD: SEE ROOF FRAMING PLAN
GROUND SNOW LOAD: Pg = 5 PSF

ULTIMATE WIND SPEED (3-SECOND GUST) = 120 M.P.H.
NOMINAL WIND SPEED (3-SECOND GUST) = 93 M.P.H.
WIND EXPOSURE: C
INTERNAL PRESSURE COEFFICIENT = +/- 0.18
COMPONENTS & CLADDING PRESSURE = 22.2 PSF

SEISMIC - SEISMIC OCCUPANCY CATEGORY = III
I_E = 1.25
S_{MS} = 0.185
S_{D1} = 0.139
S_s = 0.173
S_1 = 0.087
SITE CLASS = D
SEISMIC DESIGN CATEGORY = C

SEISMIC RESISTING SYSTEM:
BUILDING FRAME SYSTEM
INTERMEDIATE REINFORCED MASONRY SHEAR WALLS
R = 4.0 Cd = 4.0
ANALYSIS PROCEDURE - EQUIVALENT LATERAL FORCE

MISCELLANEOUS:

1. THESE GENERAL NOTES SUPPLEMENT THE PROJECT SPECIFICATIONS. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
2. STRUCTURAL DRAWINGS SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING PERTINENT ASPECTS OF ALL DISCIPLINES INTO THEIR SHOP DRAWINGS AND WORK AND SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS.
3. WHERE A SECTION/DETAIL IS CUT ON THE PLAN, IT IS UNDERSTOOD TO BE REPRESENTATIVE OF ALL LIKE OR SIMILAR CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK.
4. THE CONTRACTOR SHALL VERIFY ALL FLOOR AND ROOF MOUNTED MECHANICAL EQUIPMENT WEIGHTS, AND/OR OPENING SIZES AND LOCATIONS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
5. SEE ARCHITECTURAL DRAWINGS FOR FLOOR ELEVATIONS, SLOPE, AND LOCATION OF DEPRESSED FLOOR AREAS. THE CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH THE ARCHITECTURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATING OR INSTALLING STRUCTURAL MEMBERS.
6. GROUT STRENGTH TO COMPLY WITH ASTM C 476 AND ACI 530/ASCE 6/TMS 602. MINIMUM GROUT STRENGTH = F'm OF MASONRY PER SPECIFICATIONS BUT NOT LESS THAN 2000 PSI.
7. A MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY (f'm) OF 2000 PSI IS REQUIRED FOR ALL REINFORCED MASONRY CONSTRUCTION. STRENGTH SHALL BE VERIFIED BY THE UNIT STRENGTH METHOD ACI 530.1/ACSE 6/TMS 602.

SUBMITTALS:

1. REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE STRUCTURAL ENGINEER OF RECORD DOES NOT RELIEVE THE CONTRACTOR OF THE SOLE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER OF RECORD. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR ALSO SHALL BE RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION. SEE SPECIFIC PROVISIONS IN THE CONTRACT DOCUMENTS DEALING WITH THE APPROPRIATE DESIGN RESPONSIBILITIES OF CONTRACTORS, SUBCONTRACTORS AND CONTRACT SUPPLIERS.
2. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS BY ANY CONTRACTOR, SUBCONTRACTOR, 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, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON. ADDITIONALLY, THE CONTRACTOR MAY BE SUBJECT TO FINANCIAL CHARGES DUE THE CLIENT OR ORIGINATOR OF THE DOCUMENTS.

CONCRETE:

1. MINIMUM CONCRETE COVER UNLESS NOTED OTHERWISE:
   #11 BARS AND SMALLER: 3/4 INCHES

   UNFORMED SURFACE IN CONTACT WITH THE GROUND: 3 INCHES
   BASEMENT WALLS: 2 INCHES EXTERIOR
   3/4 INCHES INTERIOR

   FORMED SURFACES EXPOSED TO EARTH OR WEATHER.
   #6 BARS AND LARGER: 2 INCHES
   #5 BARS AND SMALLER: 1-1/2 INCHES
   SLABS, WALLS, AND JOISTS: 3/4 INCHES

   FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER.
   BEAMS, GIRDERS AND COLUMNS: 1-1/2 INCHES
2. WHERE DOWELS, BOLTS OR INSERTS ARE CALLED TO BE ANCHORED TO CAST IN PLACE OR PRECAST CONCRETE ELEMENTS USING EPOXY ADHESIVES, USE ANCHORAGE SYSTEM EQUAL TO "HILTI" HIT DOWELING (HY-150). FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS. ALTERNATE ANCHORAGE SYSTEMS MAY BE USED WITH ENGINEERS PRIOR APPROVAL.

FOUNDATIONS:

1. SPREAD FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SUSTAINING A NET ALLOWABLE BEARING PRESSURE OF 2.0 KSF FOR INDIVIDUAL COLUMN FOOTINGS AND 2.0 KSF FOR CONTINUOUS WALL FOOTINGS UNDER FULL SERVICE LIVE AND DEAD LOAD.
2. THE FOOTINGS HAVE BEEN POSITIONED AT THE ESTIMATED ELEVATION WHICH WILL PROVIDE SUITABLE BEARING. HOWEVER, IF ADEQUATE BEARING CAPACITY IS NON-EXISTENT AT THESE ESTIMATED ELEVATIONS, THE FOOTING SHALL BE LOWERED TO AN ELEVATION WHERE THE PRESCRIBED SAFE BEARING CAPACITY EXISTS.
3. FOOTINGS MAY BE CAST INTO AN EARTH-FORMED TRENCH IF SOIL CONDITIONS PERMIT.
4. EXCAVATION FOR FOOTING SHALL BE CUT TO ACCURATE SIZE AND DIMENSIONS AS SHOWN ON PLANS. ALL SOIL BELOW SLABS AND FOOTINGS SHALL BE PROPERLY COMPACTED AND SUBGRADE BROUGHT TO A REASONABLE TRUE AND LEVEL PLANE BEFORE PLACING CONCRETE.
5. FOOTING CONCRETE SHALL BE CAST ON THE SAME DAY THE EXCAVATION IS APPROVED. IF THE BEARING SURFACE IS ALLOWED TO BECOME DISTURBED IN ANY WAY, IT SHALL BE REWORKED TO THE SATISFACTION OF THE TESTING ENGINEER PRIOR TO CASTING OF THE CONCRETE.
6. ALL BEARING MATERIAL SHALL BE INSPECTED BY THE INDEPENDENT TESTING AGENCY PRIOR TO CONCRETE PLACEMENT. THE INDEPENDENT TESTING AGENCY SHALL BE THE SOLE JUDGE AS TO THE SUITABILITY OF THE BEARING MATERIAL. FOOTING ELEVATIONS SHALL BE ADJUSTED AS REQUIRED.
7. BOTTOM OF EXTERIOR FOOTINGS SHALL BEAR A MINIMUM OF 1'-0" BELOW FINAL GRADE FOR FROST PROTECTION.
9. NO EXCAVATION SHALL BE CLOSER THAN AT A SLOPE OF 2:1 (2 HORIZONTAL TO 1 VERTICAL) TO A FOOTING. PROVIDE NECESSARY SHORING AND PROTECTION FOR EXCAVATION BANKS AS NECESSARY TO PRESERVE SAFETY AND PREVENT CAVING.
10. ALL BEARING STRATA SHALL BE ADEQUATELY DRAINED BEFORE FOUNDATION CONCRETE IS PLACED.
11. BACKFILL AGAINST WALLS SHALL BE PLACED IN 8" LIFTS AND SHALL BE DEPOSITED EVENLY AGAINST EACH SIDE OF WALL UNTIL THE LOWER FINAL GRADE IS REACHED. BACKFILL SHALL NOT BE PLACED AGAINST WALLS DEPENDENT UPON TOP AND BOTTOM SLABS/FOUNDATION FOR SUPPORT UNTIL SUCH SLABS HAVE ATTAINED MINIMUM DESIGN COMPRESSIVE STRENGTH. WALLS WITH SLAB ON GROUND AT TOP OF WALL SHALL BE SAFELY SHORED AND BRACED DURING BACKFILLING.
12. COLUMN FOOTINGS AND WALL FOOTINGS SHALL BE POURED MONOLITHIC WITH TOPS OF ADJACENT FOOTINGS AT THE SAME ELEVATION.
13. THERE SHALL BE NO HORIZONTAL OR VERTICAL CONSTRUCTION JOINTS IN ANY FOOTING WITHOUT PRIOR WRITTEN APPROVAL FROM ENGINEER.

PRECAST CONCRETE:

1. PRECAST CONCRETE DESIGN, MANUFACTURE, AND ERECTION SHALL CONFORM TO ACI 318-05 AND PCI MANUAL 117. IN THE EVENT OF A CONFLICT BETWEEN THE PCI MANUAL AND THE GENERAL NOTES AND/OR THE SPECIFICATIONS, THE GENERAL NOTES AND SPECIFICATIONS GOVERN.
2. THE DESIGN OF ALL PRECAST ELEMENTS AND THEIR CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE PRECAST SUPPLIER AND IT'S SPECIALTY DESIGN ENGINEER LICENSED IN GEORGIA. SUBMIT CALCULATIONS OF PRECAST PANELS AND BEAMS AND THEIR CONNECTIONS SEALED BY A SPECIALTY ENGINEER LICENSED IN GEORGIA. REVIEW OF CALCULATIONS AND SHOP DRAWINGS SHALL BE FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS WITH REGARD TO DESIGN LOADS AND ATTACHMENT LOCATIONS TO THE STRUCTURE. SUCH REVIEW SHALL NOT RELIEVE THE PRECAST SUPPLIER AND IT'S LICENSED ENGINEER OF THE FULL RESPONSIBILITY FOR THE DESIGN OF THE PRECAST PANELS AND BEAMS AND PRECAST CONNECTIONS NOT SPECIFIED IN THE CONTRACT DOCUMENTS. THE STRUCTURAL ENGINEER OF RECORD SHALL REMAIN RESPONSIBLE FOR THOSE DETAILS SHOWN IN THE STRUCTURAL CONTRACT DOCUMENTS.
3. CONNECTION CONCEPTS, ONLY, ARE SHOWN IN SECTIONS AND DETAILS OF THE CONTRACT DOCUMENTS. THE DESIGN AND FREQUENCY OF CONNECTIONS SHALL BE THE RESPONSIBILITY OF THE PRECAST SUPPLIER AND IT'S LICENSED ENGINEER IN COORDINATION WITH THE PANEL AND BEAM DESIGN ITSELF. THE CONTRACTOR SHALL PROVIDE SHOP DRAWINGS TO THE STRUCTURAL ENGINEER OF RECORD FOR REVIEW PRIOR TO THE FABRICATION OF PANELS AND BEAMS. THESE SHOP DRAWINGS SHALL ADEQUATELY DEPICT THE ARCHITECTURAL PRECAST PANEL AND BEAM ATTACHMENTS LOCATION TO THE STRUCTURE. THE EXTENT OF THE REVIEW IS DEFINED UNDER ITEM #2 ABOVE.
4. EFFECTS TO BE CONSIDERED BY THE PRECAST SUPPLIER AND IT'S LICENSED ENGINEER IN THE DESIGN OF THE PRECAST ELEMENTS AND CONNECTIONS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

   DIFFERENTIAL TEMPERATURE BETWEEN PANEL FACES
   ECCENTRIC PANEL WEIGHT
   LATERAL EARTH PRESSURE
   MATERIALS SUPPORTED BY PANEL (ECCENTRIC AND CONCENTRIC)
   ERECTION LOADS
   WIND

   LOAD COMBINATIONS SHALL BE IN ACCORDANCE WITH ACI 318. TYPICAL MATERIAL WEIGHTS TO BE USED AS A MINIMUM ARE AS FOLLOWS:
   4" BRICK 40 PSF
   4" CMU 25 PSF
   6" CMU 32 PSF
   8" CMU 40 PSF
   12" CMU 58 PSF

\\server1\STRUCT\2018\2018-080 - HCS - Group 10\GRP10 SECTIONS.dwg

REVISIONS/ISSUANCES		
No.	DATE	DESCRIPTION

KEYPLAN

HAINES, GIPSON & ASSOCIATES
Consulting Engineers

Manley Spangler Smith Architects
A Professional Corporation

525 East Taylor St.
P.O. Box 880
Griffin, Georgia 30224

Office 770.227.5473
Fax 770.228.3442

PROJECT:
RENOVATIONS, MODIFICATIONS, & ADDITIONS TO HENRY COUNTY SCHOOLS-GROUP10
WOODLAND HIGH SCHOOL (ITEM C)
CLIENT:
HENRY COUNTY BOARD OF EDUCATION

SHEET TITLE:
DETAILS AND NOTES

PROJECT NUMBER:	201731C
DATE:	06.07.18
SCALE:	AS NOTED
DRAWN BY:	DAD
CHECKED BY:	RWG

SHEET NO.:
S4.3