DESIGN SPECIFICATION (IBC 2012)
BUILDING CODE:

BUILDING CODE:

- THE CONSTRUCTION DOCUMENTS ARE BASED ON THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE 2012 (IBC 2012) WITH CITY OF HOUSTON AMENDMENTS TO THE 2012 INTERNATIONAL BUILDING CODE.
- ALL DESIGN, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE REFERENCED CODE ABOVE.
- ALL CONSTRUCTION SHALL COMPLY WITH THE PROVISIONS OF THE FOLLOWING CODES, SPECIFICATIONS AND STANDARDS. ALL REFERENCES TO STANDARDS SHALL BE THE LATEST ACCEPTED STANDARDS REFERRED TO BY CODE NOTED ABOVE:

ACI-AMERICAN CONCRETE INSTITUTE:

- **216.1-07:** STANDARD METHOD FOR DETERMINING FIRE RESISTANCE OF CONCRETE AND MASONRY CONSTRUCTION ASSEMBLIES
- **318-11:** BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- **530-11**: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- **530.1-11:** SPECIFICATIONS FOR MASONRY STRUCTURES

AF&PA - AMERICAN FOREST & PAPER ASSOCIATION:

- **WCD NO. 4-2003:** WOOD CONSTRUCTION DATA—PLANK AND BEAM FRAMING FOR RESIDENTIAL BUILDINGS
- **WFCM—01:** WOOD FRAME CONSTRUCTION MANUAL FOR ONE- AND TWO-FAMILY DWELLINGS
- **ANSI/AF&PA WFCM-2012:** WOOD FRAME CONSTRUCTION MANUAL FOR ONE- AND TWO-FAMILY DWELLINGS
- **NDS-12:** NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION WITH 2012 SUPPLEMENT.
- **AF&PA-93:** SPAN TABLES FOR JOISTS AND RAFTERS
- **ANSI/AF&PA PWF-2007:** PERMANENT WOOD FOUNDATION DESIGN SPECIFICATION
- **ANSI/AF&PA SDPWS—2008:** AF&PA SUPPLEMENT SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC

AISC – AMERICAN INSTITUTE OF STEEL CONSTRUCTION:

- **341-10:** SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS
- **360-05:** SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS

AISI – AMERICAN IRON AND STEEL INSTITUTE:

- **AISI SL00-07/SI-10:** NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, WITH SUPPLEMENT 1, DATED 2010
- **AISI SLL0-07:** STANDARD FOR SEISMIC DESIGN OF COLD-FORMED STEEL STRUCTURAL SYSTEMS-SPECIAL BOLTED MOMENT FRAMES, WITH SUPPLEMENT 1, DATED 2009
- **S200-07:** STANDARD FOR COLD-FORMED STEEL FRAMING—GENERAL PROVISIONS
- **S210-07:** STANDARD FOR COLD-FORMED STEEL FRAMING—FLOOR AND ROOF SYSTEM DESIGN
- **S211-07:** STANDARD FOR COLD-FORMED STEEL FRAMING— WALL STUD DESIGN
- **S212-07:** STANDARD FOR COLD-FORMED STEEL FRAMING—HEADER DESIGN
- **AISI S213-07/ SI-10**: NORTH AMERICAN STANDARD FOR COLD-FORMED STEEL FRAMING—LATERAL DESIGN, WITH SUPPLEMENT L, DATED 2010
- **S214-07:** STANDARD FOR COLD-FORMED STEEL FRAMING—TRUSS DESIGN , WITH SUPPLEMENT 2, DATED 2008.
- **S230-07:** STANDARD FOR COLD-FORMED STEEL FRAMING—PRESCRIPTIVE METHOD FOR ONE-AND TWO-FAMILY DWELLINGS, WITH SUPPLEMENT 2, DATED 2008

AITC – AMERICAN INSTITUTE OF TIMBER CONSTRUCTION:

- **AITC TECHNICAL NOTE 7-96:** CALCULATION OF FIRE RESISTANCE OF GLUED LAMINATED TIMBERS
- **AITC 104-03:** TYPICAL CONSTRUCTION DETAILS
- **AITC 110-01**: STANDARD APPEARANCE GRADES FOR STRUCTURAL GLUED LAMINATED TIMBER
- **AITC 113-10:** STANDARD FOR DIMENSIONS OF STRUCTURAL GLUED LAMINATED TIMBER
- **AITC 117-10:** STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF SOFTWOOD SPECIES
- **AITC 119-96:** STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED TIMBER OF HARDWOOD SPECIES
- **ANSI/AITC A 190.1-07:** STRUCTURAL GLUED LAMINATED TIMBER
- **AITC 20G-09:** MANUFACTURING QUALITY CONTROL SYSTEMS MANUAL FOR STRUCTURAL GLUED LAMINATED TIMBER

APA - ENGINEERED WOOD ASSOCIATION:

- **ANSI/APA PRP 210-8:** STANDARD FOR PERFORMANCE-RATED ENGINEERED WOOD SIDING
- **APA PDS-04: P**ANEL DESIGN SPECIFICATION
- **APA PDS SUPPLEMENT 1-90:** DESIGN AND FABRICATION OF PLYWOOD CURVED PANELS (REVISED 1995)
- **APA PDS SUPPLEMENT 2-92:** DESIGN AND FABRICATION OF PLYWOOD-LUMBER BEAMS (REVISED 1998)
- **APA PDS SUPPLEMENT 3-90:** DESIGN AND FABRICATION OF PLYWOOD STRESSED-SKIN PANELS (REVISED 1996)
- **APA PDS SUPPLEMENT 4-90:** DESIGN AND FABRICATION OF PLYWOOD SANDWICH PANELS (REVISED 1993)
- **APA PDS SUPPLEMENT 5-08:** DESIGN AND FABRICATION OF ALL-PLYWOOD BEAMS (REVISED 1995)
- **EWS R540-02:** BUILDERS TIPS: PROPER STORAGE AND HANDLING OF GLULAM BEAMS
- **EWS S475-01:** GLUED LAMINATED BEAM DESIGN TABLES
- **EWS S560-03:** FIELD NOTCHING AND DRILLING OF GLUED LAMINATED TIMBER BEAMS
- **EWS T300-05:** GLULAM CONNECTION DETAILS
- **EWS X440-03:** PRODUCT GUIDE—GLULAM
- **EWS X450-01**: GLULAM IN RESIDENTIAL CONSTRUCTION —WESTERN EDITION

ASCE/SEI – AMERICAN SOCIETY OF CIVIL ENGINEERS:

- **5-11:** BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- **6-11:** SPECIFICATIONS FOR MASONRY STRUCTURES
- **7-10:** MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES INCLUDING SUPPLEMENT NO. 1 AND EXCLUDING CHAPTER 14 AND APPENDIX 11A
- **8-02:** STANDARD SPECIFICATION FOR THE DESIGN OF COLD-FORMED STAINLESS STEEL STRUCTURAL MEMBERS
- **19-09**: STRUCTURAL APPLICATIONS OF STEEL CABLES FOR BUILDINGS
- **24-05:** FLOOD RESISTANT DESIGN AND CONSTRUCTION
- **29-05:** STANDARD CALCULATION METHODS FOR STRUCTURAL FIRE PROTECTION
- **32-01:** DESIGN AND CONSTRUCTION OF FROST PROTECTED SHALLOW FOUNDATIONS

AWPA – AMERICAN WOOD-PRESERVERS ASSOCIATION:

- **C1-03:** ALL TIMBER PRODUCTS—PRESERVATIVE TREATMENT BY PRESSURE PROCESSES
- **M4-08:** STANDARD FOR THE CARE OF PRESERVATIVE-TREATED WOOD PRODUCTS
- **U1-07:** USE CATEGORY SYSTEM: USER SPECIFICATION FOR TREATED WOOD EXCEPT SECTION 6, COMMODITY SPECIFICATION H

AWS - AMERICAN WELDING SOCIETY:

- **D1.3-98:** STRUCTURAL WELDING CODE—SHEET STEEL
- **D1.4-98:** STRUCTURAL WELDING CODE—REINFORCING STEEL

PCI – PRECAST PRESTRESSED CONCRETE INSTITUTE:

- **MNL 124-89:** DESIGN FOR FIRE RESISTANCE OF PRECAST PRESTRESSED CONCRETE
- **MNL 128-01:** RECOMMENDED PRACTICE FOR GLASS FIBER REINFORCED CONCRETE PANELS

PTI – POST-TENSIONING INSTITUTE:

- **PTI-2007:** STANDARD REQUIREMENTS FOR ANALYSIS OF SHALLOW CONCRETE FOUNDATIONS ON EXPANSIVE SOILS, THIRD EDITION
- **PTI-2007**: STANDARD REQUIREMENTS FOR DESIGN OF SHALLOW POST-TENSIONED CONCRETE FOUNDATION ON EXPANSIVE SOILS, SECOND EDITION

SDI - STEEL DECK INSTITUTE:

- **ANSI/NC1.0-10:** STANDARD FOR NON-COMPOSITE STEEL FLOOR DECK
- **ANSI/RD1.0-10:** STANDARD FOR STEEL ROOF DECK

SJI STEEL JOIST INSTITUTE:

- **CJ-10: STANDARD SPECIFICATION FOR COMPOSITE STEEL JOISTS, CJ-SERIES**
- **JG-10:** STANDARD SPECIFICATION FOR JOIST GIRDERS
- **K-10:** STANDARD SPECIFICATION FOR OPEN WEB STEEL JOISTS, K-SERIES
- **LH/DLH-10:** STANDARD SPECIFICATION FOR LONG SPAN STEEL JOISTS, LH SERIES AND DEEP LONG SPAN STEEL JOISTS, DLH SERIES

DESIGN SPECIFICATION (IBC 2012)
BUILDING CODE cont.:

DESIGN CRITERIA:

DEAD LOADS:

- THE DEAD LOADS ARE THOSE LOADS DEFINED AS FOLLOWS:
- THE WEIGHT OF MATERIALS OF CONSTRUCTION INCORPORATED INTO THE BUILDING, INCLUDING BUT NOT LIMITED TO WALLS, FLOORS, ROOFS, CEILINGS, STAIRWAYS, BUILT-IN PARTITIONS, FINISHES, CLADDING AND OTHER SIMILARLY INCORPORATED ARCHITECTURAL AND STRUCTURAL ITEMS, AND THE WEIGHT OF FIXED SERVICE EQUIPMENT, SUCH AS CRANES, PLUMBING STACKS AND RISERS, ELECTRICAL FEEDERS, HEATING, VENTILATING AND AIR-CONDITIONING SYSTEMS AND FIRE SPRINKLER SYSTEMS.
- FOR PURPOSES OF DESIGN, THE ACTUAL WEIGHTS OF MATERIALS OF CONSTRUCTION AND FIXED SERVICE EQUIPMENT SHALL BE USED. IN THE ABSENCE OF DEFINITE INFORMATION, VALUES USED SHALL BE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL.
- DEAD LOADS SHALL BE CONSIDERED PERMANENT LOADS.

DEAD LOADS:

FLOOR DEAD LOADS: SELF -WEIGHT + 10 PSF COLLATERAL

• DECK SELF WEIGHT	65 PSF
• FRAMING SELF WEIGHT	8 PSF
• MEP	4 PSF
• CEILING	3 PSF
• MISCELLANEOUS	1 PSF
• COCRETE PONDING	12 PSF
• COLLATERA	10 PSF
•	

TOTAL: 110 PSF

ROOF DEAD LOADS CONCRETE ROOF: SELF -WEIGHT + 5 PSF COLLATERAL

• DECK SELF WEIGHT	2.5 PSF
• ROOFING	21 PSF
• FRAMING SELF WEIGHT	6 PSF
• MEP	4 PSF
• CEILING	2 PSF
• MISCELLANEOUS	1 PSF
• INCELLANEOUS	4.5 PSF
• TOPPING	84 PSF
• COCRETE PONDING	10 PSF
• COLLATERAL	5 PSF

TOTAL: 140 PSF

ROOF DEAD LOADS: SELF -WEIGHT + 5 PSF COLLATERAL

• DECK SELF WEIGHT	2.5 PSF
• ROOFING	2.5 PSF
• FRAMING SELF WEIGHT	5 PSF
• MEP	4 PSF
• CEILING	2 PSF
• MISCELLANEOUS	1 PSF
• INSULATIONS	3 PSF
• COLLATERAL	5 PSF

TOTAL: 25 PSF

LIVE LOADS:

- THOSE LOADS PRODUCED BY THE USE AND OCCUPANCY OF THE BUILDING OR OTHER STRUCTURE AND DO NOT INCLUDE CONSTRUCTION OR ENVIRONMENTAL LOADS SUCH AS WIND LOAD, SNOW LOAD, RAIN LOAD, EARTHQUAKE LOAD, FLOOD LOAD OR DEAD LOAD.
- LIVE LOADS (ROOF). THOSE LOADS PRODUCED (1) DURING MAINTENANCE BY WORKERS, EQUIPMENT AND MATERIALS; AND (2) DURING THE LIFE OF THE STRUCTURE BY MOVABLE OBJECTS SUCH AS PLANTERS AND BY PEOPLE.

THE DESIGN LIVE LOADS ARE AS FOLLOWS:

FLOOR LIVE LOAD:

• FLOOR	100 PSF (UNREDUCIBLE)
• CORRIDORS	100 PSF
• PUBLIC AREAS	100 PSF
• BALCONIES	100 PSF
• GARAGE	40 PSF
• TRAFFIC BARRIER	6.0 KIPS- 1.5' AFF or2.25" AFF
• MECHANICAL AREAS, STAIRS, ELEVATOR LOBBIES	100 PSF
• LEASE SPACES ON GROUND FLOOR	100 PSF

ROOF LIVE LOADS:

• ROOF	20 PSF
• MECHANICAL ROOF TOP EQUIPMENT	15 PSF (COLLATERAL)
• ATTICS (IF REQUIRED)	10 PSF

LIVE LOAD REDUCTION:

- LIVE LOAD REDUCTIONS FOR THE STRUCTURE ARE IN STRICT ACCORDANCE WITH THE AFOREMENTIONED CODE.

ROOF SNOW LOAD:

• GROUND SNOW LOAD	Pg= 0.0 PSF
• SNOW EXPOSURE FACTOR	Ce = 1.0
• SNOW IMPORTANCE FACTOR	I = 1.0
• THERMAL FACTOR	Ct = 1.0
• ROOF SLOPE FACTOR	Cs = 1.0
• FLAT ROOF SNOW LOAD	Pf =0 PSF
• SLOPED ROOF SNOW LOAD	Ps =0 PSF

WIND LOADING:

• WIND SPEED (3-SEC GUST)	Vu = 145 MPH (3 SECOND) ULTIMATE
• WIND IMPORTANCE FACTOR	Iw = 1.0
• OCCUPANCY CATEGORY	= III
• WIND LOAD EXPOSURE CATEGORY	= B
• INTERNAL PRESSURE COEFFICIENT	= +/- 0.18
• COMPONENT AND CLADDING INFORMATION	PER CODE REQUIREMENT ABOVE REFER S0.60 FOR MORE
• ANALYSIS METHOD	METHOD 1 – SIMPLIFIED METHOD

SEISMIC LOADING:

• SEISMIC IMPORTANCE FACTOR	Ie= 1.0	
• OCCUPANCY CATEGORY	= III	
• SPECTRAL RESPONSE ACCELERATIONS	Ss=0.072	S1=0.039
• SITE CLASS	= D	
• VALUES OF SITE COEFFICIENT	Fa=1.6	Fv=2.4
• SPECTRAL RESPONSE ACCELERATION	SMS=0.115	SM1=0.093
• SPECTRAL RESPONSE COEFFICIENTS	Sds=0.077	Sd1=0.062
• SEISMIC DESIGN CATEGORY	= A	
• SEISMIC FORCE RESISTING SYSTEM	STEEL ORDINARY MOMENT FRAMES	
• SEISMIC RESPONSE COEFFICIENT	Cs=0.01	
• DESIGN BASE SHEAR VS = Cs x W	Vs=0.01 X W	
• RESPONSE MODIFICATION FACTOR	R=3 ½	
• OVERSTRENGTH FACTOR	OMEGA= 3	
• DEFLECTION AMPLIFICATION FACTOR	Cd=3	
• ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE	

STEEL STAIRS:

- ALL STAIRS AND RAILINGS TO BE DESIGNED PER THE REQUIREMENT OF INTERNATIONAL BUILDING CODE (IBC) – 2012, TABLES 1607.1 AND SECTIONS 1607.8.1, 1607.8.1.1, 1607.8.1.2, AND 1607.8.2 BUT NOT LESS THAN THE FOLLOWING:
- HANDRAILS AND GUARDS ARE DESIGNED TO RESIST A LINEAR LOAD OF 50 LB/FT IN ACCORDING TO SECTION 4.5.1 OF ASCE7-10. ALL HANDRAIL AND GUARDRAIL SYSTEMS ARE DESIGNED TO RESIST A LOAD OF 50 LB/FT (POUND-FORCE PER LINEAR FOOT) APPLIED IN ANY DIRECTION ALONG THE HANDRAIL OR TOP RAIL. THIS LOAD IS NOT ASSUMED TO ACT CONCURRENTLY WITH THE CONCENTRATED LOAD OF 200 POUNDS.

DESIGN SPECIFICATION (IBC 2012)
BUILDING CODE cont.:

- HANDRAILS AND GUARDS ARE DESIGNED TO RESIST THE CONCENTRATED LOAD OF 200 POUNDS IN ACCORDING TO SECTION 4.5.1 OF ASCE7-10. ALL HANDRAIL AND GUARDRAIL SYSTEMS NEED TO BE DESIGNED TO RESIST A SINGLE CONCENTRATED LOAD OF 200 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ON THE HANDRAIL OR TOP RAIL AND TO TRANSFER THIS LOAD THROUGH THE SUPPORTS TO THE STRUCTURE TO PRODUCE THE MAXIMUM LOAD EFFECT ON THE ELEMENT BEING CONSIDERED.
- INTERMEDIATE RAILS. INTERMEDIATE RAILS (ALL THOSE EXCEPT THE HANDRAILS), BALUSTERS AND PANEL FILLERS ARE DESIGNED TO RESIST A CONCENTRATED LOAD OF 50 POUNDS IN ACCORDING TO SECTION 4.5.1 OF ASCE7-10. INTERMEDIATE RAILS (ALL THOSE EXCEPT THE HANDRAIL), AND PANEL FILLERS ARE DESIGNED TO WITHSTAND A HORIZONTALLY APPLIED NORMAL LOAD OF 50 POUNDS ON AN AREA NOT TO EXCEED 12 IN. BY 12 IN. INCLUDING OPENINGS AND SPACE BETWEEN RAILS AND LOCATED SO AS TO PRODUCE THE MAXIMUM LOAD EFFECTS. REACTIONS DUE TO THIS LOADING ARE NOT REQUIRED TO BE SUPERIMPOSED WITH THE LOADS SPECIFIED IN EITHER PRECEDING PARAGRAPH.
- GRAB BAR. GRAB BAR SYSTEMS ARE DESIGNED TO RESIST A SINGLE CONCENTRATED LOAD OF 250 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ON THE GRAB BAR TO PRODUCE THE MAXIMUM LOAD EFFECT.
- FABRICATOR SHALL SUBMIT SIGNED AND SEALED SHOP DRAWINGS BY PROFESSIONAL ENGINEER LICENSED IN STATE WHERE THE PROJECT IS LOCATED FOR ENGINEER OF RECORD REVIEW.

GENERAL CONDITION

- THE STANDARD OF CARE FOR ALL PROFESSIONAL ENGINEERING, AND RELATED SERVICES PERFORMED OR FURNISHED BY DLD ENGINEERING WILL BE THE CARE AND SKILL ORDINARILY USED BY MEMBERS OF THE SUBJECT PROFESSION PRACTICING UNDER SIMILAR CIRCUMSTANCES AT THE SAME TIME AND IN THE SAME LOCALITY. DLD ENGINEERING MAKES NO WARRANTIES, EXPRESS OR IMPLIED, OR OTHERWISE, IN CONNECTION WITH DLD ENGINEERING SERVICES. DLD ENGINEERING AND ITS CONSULTANTS MAY USE OR RELY UPON THE DESIGN SERVICES OF OTHERS, INCLUDING, BUT NOT LIMITED TO, ENGINEERS, ARCHITECTS, DESIGNERS, CONTRACTORS, MANUFACTURERS, AND SUPPLIERS.
- ALL DESIGN DOCUMENTS PREPARED OR FURNISHED BY DLD ENGINEERING ARE INSTRUMENTS OF SERVICE, AND DLD ENGINEERING RETAINS OWNERSHIP AND PROPERTY INTEREST (INCLUDING THE COPYRIGHT) IN SUCH DOCUMENTS, WHETHER OR NOT THE PROJECT IS COMPLETED. CLIENT SHALL NOT REUSE THE DOCUMENTS WITHOUT WRITTEN PERMISSION FROM DLD ENGINEERING.
- THE CONTRACTOR, NOT DLD ENGINEERING, IS RESPONSIBLE FOR THE CONSTRUCTION OF THE PROJECT, AND DLD ENGINEERING IS NOT RESPONSIBLE FOR THE ACTS OR OMISSIONS OF ANY CONTRACTOR, SUBCONTRACTOR OR MATERIAL SUPPLIER, FOR SAFETY PRECAUTIONS, PROGRAMS OR ENFORCEMENT, OR FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES EMPLOYED BY THE CONTRACTOR. DLD ENGINEERING SHALL NOT AT ANY TIME SUPERVISE, DIRECT, OR HAVE CONTROL OVER ANY CONTRACTORS WORK.
- DLD ENGINEERING NEITHER GUARANTEES THE PERFORMANCE OF ANY CONTRACTOR NOR ASSUMES RESPONSIBILITY FOR ANY CONTRACTOR'S FAILURE TO FURNISH AND PERFORM ITS WORK IN ACCORDANCE WITH THE CONTRACT BETWEEN CLIENT AND SUCH CONTRACTOR.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURE.
- THE BUILDING STRUCTURE SHALL NOT BE CONSIDERED LATERALLY STABLE OR ABLE TO RESIST WIND OR SEISMIC FORCES UNTIL THE ENTIRE BUILDING IS COMPLETE OR WRITTEN DOCUMENTATION IS PROVIDED BY THE ENGINEER OF RECORD.
- THE GENERAL SUBCONTRACTOR SHALL AT ALL TIMES MAINTAIN AT THE JOBSITE, A CURRENT APPROVED SET OF PROJECT DRAWINGS, SPECIFICATIONS, AND SHOP DRAWINGS.
- SUBCONTRACTOR SHALL BE RESPONSIBLE FOR UPDATING HIS CONSTRUCTION DOCUMENTS WITH ANY REVISED DRAWINGS AND SPECIFICATIONS, FIELD ORDERS, CHANGE ORDERS AND CLARIFICATION SKETCHES ISSUED DURING THE COURSE OF CONSTRUCTION.
- THE STRUCTURAL CONSTRUCTION DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES, SEQUENCES FOR PROCEDURE OF CONSTRUCTION, OR THE SAFETY PRECAUTIONS AND THE PROGRAMS INCIDENT THERE TO (NOR SHALL OBSERVATION VISITS TO THE SITE INCLUDE INSPECTION OF THESE ITEMS).
- CONTRACTOR SHALL DETERMINE THE SCOPE OF WORK FROM THE CONTRACT DOCUMENTS TAKEN AS A WHOLE INCLUDING ARCHITECTURE, AND MECHANICAL DRAWINGS. THE STRUCTURAL DRAWINGS SHALL NOT BE CONSIDERED SEPARATELY FOR THE PURPOSES OF BIDDING THE STRUCTURAL WORK. CONTRACTOR SHALL REVIEW THE ENTIRE DRAWING PACKAGE IN ORDER TO DETERMINE THE SCOPE OF STRUCTURAL WORK INCLUDING NECESSARY COORDINATION SHOWN IN OTHER CONSULTANT DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING OF ALL STRUCTURAL WORK AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONDITION WHICH, IN HIS OR HER OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS IN THE STRUCTURE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING DURING CONSTRUCTION AND SHALL PROVIDE ADEQUATE SHORING AND BRACING DURING CONSTRUCTION. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.
- THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKMEN AND OTHER PERSONS DURING CONSTRUCTION.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED CONSTRUCTION. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT.
- CONTRACTOR SHALL INSURE THAT CONSTRUCTION MATERIALS WHOSE WEIGHT EXCEEDS THE DESIGN LIVE LOADS INDICATED ON THE STRUCTURAL DRAWINGS ARE NOT STORED ON STRUCTURALLY SUPPORTED FLOOR OR ROOF FRAMING.
- LOADINGS FOR MECHANICAL EQUIPMENT ARE BASED ON THE UNIT(S) SHOWN ON THE STRUCTURAL DRAWINGS. ANY CHANGES IN TYPE, SIZE, WEIGHT OR NUMBER OF UNIT(S) SHALL BE REPORTED TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS OR MECHANICAL EQUIPMENT.
- WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDA.
- ESTABLISH AND VERIFY ALL OPENINGS, SLEEVES, CURBS, INSERTS, DEPRESSIONS, DROPS, OFFSETS AND BLOCK-OUTS FOR ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL WITH APPROPRIATE TRADES, DRAWINGS, AND SUBCONTRACTORS PRIOR TO PROJECT LAYOUT AND CONSTRUCTION.
- SLEEVE ALL PIPES THROUGH CONCRETE SLABS INDIVIDUALLY UNLESS APPROVED BY THE STRUCTURAL ENGINEER. WHERE PIPES OR DUCTS PENETRATE SLABS, A MAXIMUM OF TWO REINFORCING BARS EACH WAY MAY BE CUT PROVIDED THAT AN EQUIVALENT AREA OF STEEL IS REPLACED.
- EMBEDMENT OF PIPES AND CONDUITS IN CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF CHAPTER SIX (6), SECTION 6.3 OF ACI 318 - LATEST EDITION.
- VERIFY ALL EXISTING CONDITIONS AT THE JOB SITE, PROTECT AND MAINTAIN ALL EXISTING STRUCTURES, UTILITIES, FACILITIES, AND THEIR CONTENTS.
- REFER TO ARCHITECTURAL AND OTHER DRAWINGS FOR ANY DEMOLITION AND ADJUSTMENT/REMOVAL OF EXISTING STRUCTURES OR UNDERGROUND/OVERHEAD UTILITIES.
- IT IS THE GENERAL CONTACTORS RESPONSIBILITY TO COORDINATE WITH THE SUBCONTRACTORS AND EQUIPMENT SUPPLIERS. EQUIPMENT BEING SUPPORTED BY OR SUSPENDED FORM THE STRUCTURE SHALL BE COORDINATED WITH THE MANUFACTURER OF ANY PRE-ENGINEER FRAMING OR COMPONENTS.
- STRUCTURAL MEMBERS AND PRINCIPAL OPENINGS HAVE BEEN SHOWN ON STRUCTURAL DRAWINGS TO ACCOMMODATE REQUIREMENTS OF OTHER DISCIPLINES. ADDITIONAL OPENINGS THAT ARE REQUIRED BY SUBCONTRACTORS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. ADDITIONAL STRUCTURAL MEMBERS OR REINFORCEMENT MAY BE NECESSARY.
- NO STRUCTURAL MEMBERS SHALL BE CUT, NOTCHED OR OTHERWISE PENETRATED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER IN ADVANCE OR AS SHOWN ON THESE DRAWINGS.
- ALL PRODUCT SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. CONTRACTOR TO SUBMIT DOCUMENTATION TO DEMONSTRATE THAT THE PROPOSED SUBSTITUTION IS EQUAL TO THE SPECIFIED PRODUCT. PRODUCT SUBSTITUTIONS MAY BE USED PROVIDED THEY ARE APPROVED BY THE ENGINEER OF RECORD IN WRITING.
- OPTIONS ARE FOR CONTRACTOR'S CONVENIENCE. IF HE CHOOSES AN OPTION, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES AND SHALL COORDINATE ALL DETAILS.
- THE CONTRACTOR SHALL COORDINATE THE WORK OF ALL TRADES.
- ALL WORK SHALL COMPLY WITH THE GENERAL NOTES, DRAWINGS, APPLICABLE BUILDING CODES, AND ALL LOCAL ORDINANCES, LAWS, REGULATIONS, AND PROTECTIVE COVENANTS GOVERNING THE SITE OF WORK.
- WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.
- TYPICAL DETAILS SHALL APPLY UNLESS SHOWN OTHERWISE IN THE DRAWINGS.
- TYPICAL DETAILS MAY NOT NECESSARILY BE CUT ON PLANS BUT APPLY UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND CONDITIONS WITH THE ARCHITECTURAL AND FINISHED GRADE WITH CIVIL DRAWINGS PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL INFORM THE ARCHITECT OR CIVIL ENGINEER OF ANY DISCREPANCIES OR OMISSIONS NOTED ON THE DRAWINGS. ANY SUCH DISCREPANCIES, OMISSIONS, OR VARIATION NOT REPORTED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- NOTED DIMENSIONS TAKE PRECEDENT OVER SCALED.
- ALL DIMENSIONS SHOWN (INCLUDING ELEVATIONS) ON STRUCTURAL DRAWINGS ARE TO ASSIST CONTRACTOR IN VERIFICATION. SCALING DIMENSIONS FROM DRAWINGS IS NOT PERMITTED. LOCATION OF ALL ITEMS SHALL BE DETERMINED BY DIMENSIONS OR NOTES ONLY; DO NOT USE GRAPHIC APPEARANCE TO ASSUME SPECIFIC LOCATIONS.
- THE STRUCTURAL DRAWINGS SHALL NOT BE SCALED FOR DETERMINATION OF QUANTITY, LENGTH OR FIT OF MATERIALS.
- CONTRACTOR SHALL COMPARE STRUCTURAL AND ARCHITECTURAL DRAWINGS AND REPORT ANY DISCREPANCY TO THE ARCHITECT PRIOR TO FABRICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
- ENTIRE CONTRACT DOCUMENTS SHALL BE USED TO BUILD BUILDING. SOME CRITICAL ITEMS REQUIRED BY OTHER DISCIPLINES MAY NOT BE SHOWN ON STRUCTURAL DRAWING (i.e., WALL, FLOOR AND ROOF OPENING, ARCHITECTURAL, MECHANICAL AND PLUMBING LOADS, SUPPORT PLATES, ETC.)
- ITEMS SHOWN BY OTHER DISCIPLINES WITH REFERENCE TO STRUCTURAL DRAWING BUT NOT SHOWN ON THIS STRUCTURAL DOCUMENT SHALL BE CONSIDERED DESIGN BUILD ITEMS. CONTRACTOR SHALL SUBMIT DESIGN BY OTHERS FOR REVIEW.
- "BY OTHERS" WHERE SHOWN IN THE STRUCTURAL DRAWINGS DENOTES LABOR AND MATERIALS BY OTHERS. HOWEVER, THE SUBCONTRACTOR SHALL PROVIDE COORDINATION AND FREE ACCESS FOR THE WORK.
- ANY ENGINEERING DESIGN, PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW, SHALL BEAR THE SEAL OF AN PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS BUILD.
- N.I.C." WHERE SHOWN IN THE STRUCTURAL DRAWINGS DENOTES NOT IN CONTRACT, THE OWNER SHALL BE RESPONSIBLE FOR COORDINATING A TIME SCHEDULE OF THE BASE CONTRACT WITH THE "N.I.C." TRADES.
- SUPPLIER OF ENGINEERED STRUCTURAL COMPONENTS (i.e., STEEL JOISTS, STAIRS, PRECAST ITEMS) SHALL BE RESPONSIBLE FOR COMPLETE DESIGN AND SHALL USE ENTIRE CONTRACT DOCUMENTS TO INCLUDE ALL LOADS AND DETAIL REQUIREMENTS FROM ALL DISCIPLINES. SUPPLIER SHALL PROVIDE ADDITIONAL MATERIAL REQUIRED TO MEET ALL THEIR REQUIREMENTS FOR INSTALLATION (i.e., WIDER BEARING PLATES, SHIMS, ERECTION BOLTS ETC.).
- STRUCTURAL STEEL SUPPLIER SHALL FURNISH BOLTS FOR OSHA CONNECTIONS (SEE DRAWINGS FOR DETAILS).
- THE STEEL FABRICATOR SHALL BE CERTIFIED BY THE AISC QUALITY CERTIFICATION PROGRAM.
- ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE BEFORE CONCRETE IS POURED.
- REPRODUCTION OF THE STRUCTURAL DRAWINGS, EITHER IN PART OR WHOLE, FOR SUBMITTALS OR SHOP DRAWINGS, SIGNIFIES ACCEPTANCE OF INFORMATION SHOWN AS CORRECT AND OBLIGES THE USER TO ANY EXPENSE, REAL OR IMPLIED, ARISING FROM THEIR USE.
- 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.
- WALL SHORING SHALL BE INSTALLED PRIOR TO BACKFILLING BEHIND ALL BUILDING RETAINING WALLS UNLESS ALL RESTRAINING SLABS ARE INSTALLED. USE HAND TAPPING ONLY WHEN WITHIN 8'-0", OR WITHIN HALF THE WALL HEIGHT OF BACKFILLED WALL.
- CONTINUOUS FOUNDATION DRAIN PIPES (FRENCH DRAINS) OR WEEP HOLES SHALL BE PROVIDED BEHIND ALL RETAINING WALLS.
- BASEMENT WALLS AND ALL EXTERIOR RETAINING WALLS THAT RETAIN MORE THAN 3'-0" OF SOIL WEEP HOLES WHERE USED SHALL BE 2" IN DIAMETER AT 6'-0 O.C. MAXIMUM.
- THE PERFORMANCE OF THE FOUNDATION AS DESIGNED DEPENDS ON PROPER CONSTRUCTION OF THE DRAINAGE SYSTEMS AND MAINTENANCE OF THE DRAINAGE SYSTEMS AFTER CONSTRUCTION IS COMPLETE. ALL ROOF DRAINAGE SHOULD BE COLLECTED AND REMOVED INTO AN 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 CONDITIONING CONDENSATE SHOULD NOT BE DRAINED EITHER ADJACENT TO OR BENEATH THE FOUNDATION.
- SEE ARCHITECTURAL PLANS FOR WHEEL STOP LOCATIONS.

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07/22/2019

TEXAS REGISTERED ENGINEERING FIRM F-17306

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PROJECT: 002-1029.19.00
DRAWN BY: PM
CHECKED BY: SS
DRAWING SCALE: AS NOTED

REVISION

NO.	DESCRIPTION	DATE

DATE
07.22.2019

ISSUE
PERMIT SET

BUILDING TITLE
GH SCHOOL
4724 N MAIN STREET

SHEET TITLE
GENERAL - GENERAL STRUCTURAL NOTES

SHEET NO.
S0.02

PLOT DATE: 8/18/2019 8:20:56 PM TEMPLATE VERSION: