

Cuhaci & Peterson
Architects
Engineers
Planners
Interior Designers

1925 Prospect Avenue, Orlando, FL 32814
Tel: 407.251.1111

CLIENT NAME
WAWA
280 WEST BALTIMORE PIKE
WAWA, PENNSYLVANIA 19083

PROJECT TITLE
DESIGN CRITERIA

GENERAL

1. THESE GENERAL NOTES ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO GENERAL NOTES.
2. NOT ALL EXISTING CONDITIONS, PROPOSED CONDITIONS, OR UTILITIES ARE SHOWN ON THE STRUCTURAL DRAWINGS. COORDINATE STRUCTURAL WORK WITH THE WORK OF OTHER TRADES IN CASE OF CONFLICT, NOTIFY THE ENGINEER OF RECORD.
3. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETE STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED AND SO INCLUDED IN THE DESIGN OF BRACING, FORMWORK, FORMWORK AND STRUCTURE DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE. TEMPORARY BRACING FOR THE STRUCTURE MUST BE PROVIDED IN ALL DIRECTIONS.
4. ONLY USE DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS.

5. ELEVATIONS INDICATED ON THE STRUCTURAL DRAWINGS ARE BASED ON A PROJECT DATUM INDICATED ON THE ARCHITECTURAL DRAWINGS.
6. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS AT THE SITE AND SHALL NOTIFY THE ARCHITECT/ENGINEER OF DISCREPANCIES BETWEEN THE ACTUAL CONDITIONS AND INFORMATION SHOWN ON THE DRAWINGS BEFORE PROCEEDING WITH WORK.
7. THE CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR THE COMPLETE DESIGN OF THE STRUCTURE. THEY DO NOT INDICATE THE MEANS AND METHODS OF CONSTRUCTION UNLESS SO STATED OR NOTED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE WORKERS, OR THEIR PERSONS DURING CONSTRUCTION.

8. OBSERVATION VISITS TO THE SITE BY ENGINEER OF RECORD OR REPRESENTATIVES OF THE ENGINEER OF RECORD MAY BE MADE DURING CONSTRUCTION. ANY SUPPORT SERVICES PERFORMED HEREIN SHALL BE DISTINGUISHED FROM INSPECTION AND/OR TESTING SERVICES PERFORMED BY OTHERS, AND ARE NOT TO BE CONFUSED AS SUPERVISION AND/OR MANAGEMENT OF CONSTRUCTION.
9. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING OF ALL STRUCTURAL MEMBERS AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY CONDITION WHICH, IN HIS OPINION, MIGHT ENDANGER THE STABILITY OF THE STRUCTURE OR CAUSE DISTRESS WITHIN THE STRUCTURE.

10. CONSTRUCTION MATERIALS SHALL NOT BE STACKED ON FLOORS OR ROOFS IN EXCESS OF THE DESIGN LOADS UNLESS AS INDICATED IN THE GENERAL NOTES. IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE SUBCONTRACTORS ARE INFORMED AND DO NOT VIOLATE THIS IMPORTANT REQUIREMENT. IMPACT SHALL BE AVOIDED WHEN PILING MATERIALS ON FLOORS OR ROOFS.
11. DIMENSIONS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO THE DETAILS RESEMBLED, SIMILAR DETAILS SHALL BE USED SUBJECT TO THE REVIEW OF ENGINEER OF RECORD.
12. SUBMIT WRITTEN REQUEST TO THE ARCHITECT FOR APPROVAL OF ANY PROPOSED CHANGE TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. SKETCHING, CUTTING, NOTING OR OTHER ALTERATIONS TO STRUCTURAL DRAWINGS ARE NOT PERMITTED WITHOUT WRITTEN AUTHORIZATION OF THE ARCHITECT. ANY UNAUTHORIZED DEVIATION FROM THE CONTRACT DOCUMENTS AND CORRECTION THEREOF IS THE RESPONSIBILITY OF THE CONTRACTOR. SUBMITTAL DOCUMENTATION REQUESTS TO BUILDING ENGINEER OF RECORD FROM GENERAL CONTRACTOR SHALL INCLUDE EVALUATION OF DEVIATIONS BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.

13. NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, 2017 (AIS188-17)
14. NSI-15, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION
15. SERVICEABILITY AND DEFLECTION CRITERIA FOR GOVERNING COMPONENT DESIGN STANDARD

DESIGN CRITERIA

A. FLORIDA BUILDING CODE 6TH EDITION 2017 AND IBC PROVISIONS, AS ADOPTED AND SUPPLEMENTED BY LOCAL REGULATIONS

B. ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

C. ACI 318-14 STRUCTURAL CONCRETE BUILDING CODE

D. AISI 188-17 STEEL CONSTRUCTION, 14TH EDITION

E. NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, 2017 (AIS188-17)

F. NSI-15, NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION

G. SERVICEABILITY AND DEFLECTION CRITERIA FOR GOVERNING COMPONENT DESIGN STANDARD

- DESIGN LOADS**
- A. ROOF LIVE LOADS: 20 PSF
- B. ROOF DEAD LOADS: 20 PSF
- C. RAIN LOADS: 20 PSF
- D. WIND LOADING:
1. ULTIMATE DESIGN WIND SPEED: VULT: 175 MPH
2. NOMINAL WIND SPEED, VASD: 132 MPH
3. 3 MIN SITE SPECIFIC WIND SPEED: VSSS: 175 MPH
4. RISK CATEGORY (TABLE 1-1.5 - ASCE 7): C
5. WIND EXPOSURE: C
6. ENCLASURE CLASSIFICATION: ENCLOSED (4 - 518)
7. COMPONENT AND CLADDING: SEE THIS SHEET FOR C&C WIND PRESSURES.
8. NET UPLIFT LOADS (ASD - STEEL JOISTS): SEE THIS SHEET FOR C&C WIND PRESSURES. USE 100% MAXIMUM DEAD LOAD FOR UPLIFT CALCULATIONS.
- E. FLOOD DESIGN DATA: NOT APPLICABLE
- F. DESIGN LOAD-BEARING VALUES OF SOIL: 2000 PSF

- 0100 SUBMITTALS**
- A. SHOP DRAWINGS / DATA TO BE SUBMITTED FOR APPROVAL
1. STRUCTURAL STEEL SHOP DRAWINGS (INCLUDING STEEL JOISTS AND GRIDERS)
a. ERECTION DRAWINGS
b. CONNECTION DRAWINGS
c. METAL DECK DRAWINGS
d. PREP PROCEDURE AND PRIMING MATERIAL
e. CURRENT WELDERS CERTIFICATIONS
2. CONCRETE
a. MAX DESIGN
b. MATERIAL SPECIFICATIONS
c. HISTORICAL TESTING BACKGROUND
3. MASONRY
a. MATERIAL CERTIFICATION
b. ASTM TEST DOCUMENTATION
4. CONCRETE REINFORCING SHOP DRAWINGS
a. PLACEMENT DRAWINGS
b. FABRICATION AND BENDING DETAILS
c. COLD-FORMED STEEL FRAMING
d. MANUFACTURERS CUT SHEET FOR STUDS AND TRACK
e. THE FOLLOWING SUBMITTALS SHALL BE SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT
f. COLD-FORMED STEEL TRUSS SYSTEM
g. RTU TIE DOWNS

- B. SEE SECTION 0100 IN THE PROJECT MANUAL AND SPECIFICATIONS FOR THE LIST OF REQUIRED STRUCTURAL SUBMITTALS / SHOP DRAWINGS
- C. SEE SECTION 0102-14 "SHOP DRAWINGS SUBMITTAL" IN THE PROJECT MANUAL AND SPECIFICATIONS FOR SUBMITTAL RESPONSIBILITIES AND REQUIREMENTS
- D. SHOP DRAWING REVIEWS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT. CORRECTIONS OR COMMENTS MADE ON THIS REVIEW DO NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS, AND FROM COMPLIANCE WITH THE TYPICAL SPECIFICATIONS. CORRECTIONS OR COMMENTS DO NOT AUTHORIZE AN INCREASE IN THE CONSTRUCTION BUDGET.
- E. APPROVAL OF SHOP DRAWINGS DOES NOT INDICATE ACCEPTANCE OF DESIGN FROM CONTRACT DOCUMENTS OR PREVIOUS SHOP DRAWING REVIEWS. APPROVAL SHALL BE CALLED BY ENGINEER OF RECORD.
- F. ANY CHANGES TO THE DESIGN CONCEPT SHALL BE IN CONTRACT DOCUMENTS. SUBMITTALS IN WRITING AND APPROVED BY ARCHITECT AND ENGINEER OF RECORD. SUBMITTAL SHOP DRAWINGS ALL SUCH CHANGES SHALL BE SUBMITTED ON THE SHOP DRAWINGS AND REFERENCED TO THE PROJECT MANUAL AND SPECIFICATIONS.
- G. SUBMITTALS SHALL CONFORM TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS (SEE ITEM F ABOVE FOR EXCEPTION). NON-COMFORMING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
- H. PROVIDE COPIES OF MANUFACTURERS LITERATURE FOR ALL MATERIALS AND PRODUCTS USED IN CONSTRUCTION ON THE PROJECT.

0200 EARTHWORK / FOUNDATION

- A. FOUNDATION DESIGN IS BASED UPON THE FOLLOWING SOILS REPORT
1. COMPANY NAME: UNIVERSAL ENGINEERING SERVICES
2. DATE: FEBRUARY 27, 2018
3. PROJECT NO: 2136.160612, REPORT NO: 1541282
THE DESIGN ALLOWABLE SOIL BEARING PRESSURE IS LISTED IN THE DESIGN LOADING CRITERIA
- B. SEE SECTION 0200-64 IN THE PROJECT MANUAL AND SPECIFICATIONS FOR EARTHWORKS TO INCLUDE BUT NOT LIMITED TO:
1. PREPARING AND GRADING SURFACES FOR SLABS ON GRADE
2. EXCAVATING AND BACKFILLING FOR BUILDINGS AND STRUCTURES
3. DRAINAGE AND MOISTURE CONTROL, FILL COARSE FOR SLABS ON GRADE
4. EXCAVATING AND BACKFILLING TRENCHES WITHIN BUILDING LINES
5. MATERIAL INSPECTION AND TESTING REQUIREMENTS

- C. ANY FILL REQUIRED TO BACKFILL EXCAVATED AREA OR ACHIEVE FINISHED GRADE IN STRUCTURAL AREA SHALL BE AS INDICATED BY GEOTECHNICAL ENGINEER. THE FILL SHALL BE PLACED IN LEVEL LIFTS NOT EXCEED 12" LOOSE, THICKNESS AND COMPACTED TO A MINIMUM OF 95% OF THE SOILS MODIFIED PROCTOR MAXIMUM DRY DENSITY AS DETERMINED BY ASTM SPECIFICATION D1557.
- D. IN PLACE DENSITY TESTS SHALL BE PERFORMED BY AN EXPERIENCED ENGINEERING TECHNICIAN. TESTS SHALL BE PERFORMED FOR EACH 2,000 SQUARE FEET. IN EVERY COLUMN FOOTING LOCATION AND EACH 20' OF ALONG WALL FOOTINGS. COPIES OF THE TEST REPORTS SHALL BE FURNISHED TO THE STRUCTURAL ENGINEER.
- E. REMOVE FREE WATER FROM EXCAVATIONS BEFORE PLACING CONCRETE. WATER TABLE ASSUMED BELOW 48" OF PRELIMINARY OPERATING CONDITIONS ON FOOTINGS.

- CALCULATED SHOULDER TO BE USED WHEN OPERATING VIBRATORY COMPACTING EQUIPMENT NEAR THE EXISTING STRUCTURE TO AVOID THE RISK OF DAMAGE TO THE STRUCTURE.
- G. REFER TO ARCHITECTURE DRAWINGS FOR ANY NECESSARY WATERPROOFING REQUIREMENTS.
- 0300 CAST-IN-PLACE CONCRETE**
- A. SEE SECTION 0300 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. GENERAL REQUIREMENTS
a. SUBMITTALS
b. QUALITY ASSURANCE - REFERENCE SPECIFICATION REQUIREMENTS
c. PRODUCT / MATERIAL REQUIREMENTS
d. EXECUTION OF WORK REQUIREMENTS
i. SHAKES
ii. JAVOR RETARDER
iii. CONCRETE PLACEMENT / FINISHING
iv. CURING
e. QUALITY CONTROL - TESTING REQUIREMENTS

- B. SUMMARY OF PROJECT MANUAL AND SPECIFICATIONS SECTION 0300-02 PRODUCTS:
1. CONCRETE STRENGTH: 4000 PSI
2. STEEL REINFORCEMENT: 60 KSI (ASTM A615)
3. PLAN: FRESH WATER: 48 KSI (ASTM A36) FLAT SHEETS
- C. LAP SPICE REINFORCEMENT LENGTH
- | LAP SPICES (INCHES) | |
|---------------------|----------------------------|
| REF. SIZE | 4000 PSI CONCRETE STRENGTH |
| #3 | 16 |
| #4 | 20 |
| #5 | 24 |
| #6 | 30 |
| #7 | 48 |
| #8 | 60 |

REF. SIZE CLAS. B, F140 KSI, UNCOMPACTED SARL, NORMAL WEIGHT CONC.

D. CONCRETE COVER FOR REINFORCEMENT:
1. CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE GROUND: 2"
2. EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: 1 1/2"
3. NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND: 1 1/2"

E. THERE SHALL BE NO HORIZONTAL JOINTS IN ANY CONCRETE POUR UNLESS SHOWN ON THE STRUCTURAL DRAWINGS. THE ENGINEER OF RECORD SHALL APPROVE ALL DEVIATIONS OR ADDITIONAL JOINTS IN WRITING.

- F. SAW CUT JOINTS SHALL BE LOCATED AT 12" OR 24" MAXIMUM UNLESS OTHERWISE NOTED WITH LENGTH TO WITHIN TOLERANCE TO EXCEED 1.5" INDICATED ON PLANS. JOINTS IN TERRAZZO FINISH FLOOR MUST ALIGN WITH CONCRETE JOINTS.
- G. LIQUID MEMBRANE FORMING CURING COMPOUND ARE PROHIBITED FROM USE ON THE BUILDING SLAB ON GRADE AS THEY MAY ADVERSELY AFFECT THE PERFORMANCE OF THE CONCRETE TERRAZZO TOPPING. PROVIDE FOR CURING OF THE SLAB BY ALTERNATE OR TRADITIONAL METHODS. REFER TO 309.1 FOR ADDITIONAL INFORMATION.
- H. ALL EPOXY ANCHORS USED AT REINFORCED CONCRETE SHALL BE HL THIT HY 150 OR HIT HY 200 UNLESS OTHERWISE NOTED.

- 0400 UNIT MASONRY**
- A. SEE SECTION 0400 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. GENERAL REQUIREMENTS
a. SUBMITTALS
b. MATERIAL REQUIREMENTS
c. HOT-WEATHER AND COLD-WEATHER REQUIREMENTS
2. PERFORMANCE REQUIREMENTS
a. MASONRY COMPRESSIVE STRENGTH (psi): 1,500-PSI
3. PRODUCTS
4. EXECUTION
a. FIELD QUALITY CONTROL
- B. SUMMARY OF PROJECT MANUAL AND SPECIFICATIONS SECTION 0400-03 PRODUCTS:
1. CONCRETE MASONRY UNITS: ASTM C 90 - NORMAL WEIGHT, TYPE II MORTAR
2. MORTAR: ASTM C 270, 4000 PSI
3. GROUT: ASTM C 1091, MINIMUM 4000 PSI
4. STEEL REINFORCING BARS: ASTM A618, GRADE 60 (40 KSI) BARS FOR BARS PER CELL
5. MASONRY JOINT REINFORCEMENT: ASTM A618, GRADE 60 (40 KSI) BARS PER CELL

- C. LAP SPICE REINFORCEMENT IN CONCRETE SHALL BE: (1) BAR, 48" BARS PER CELL (2) BARS, 36" BARS PER CELL (3) BARS, 36" BARS PER CELL (4) BARS, 36" BARS PER CELL
- D. ALL MASONRY LOCATED BELOW GRADE SHALL BE GROUTED SOLID.
- E. GROUT FOR FILLED CELLS SHALL CONFORM TO ASTM C 957, AND SHALL HAVE A SLUMP OF BETWEEN 8" AND 10". ALL GROUT COMPRESSIVE STRENGTH SHALL BE 3000 PSI AT 28 DAYS, ALL GROUTING SHALL BE 100% COMPLETE WITHIN 48 HOURS OF PLACEMENT.
- F. PLACE ALL MASONRY JOINTS ON A FULL MORTAR BED. PROVIDE COMPLETE JOINTS ON ALL SIDES. GROUTED CELLS AND CELLS ADJACENT TO GROUTED CELLS SHALL BE FULL MORTAR. GROUTED CELLS AND CELLS ADJACENT TO GROUTED CELLS SHALL BE FULL MORTAR.

- G. ALL REINFORCING BARS USED IN MASONRY SHALL OCCUR AT GROUTED, REINFORCED CELLS. ALL REINFORCING UNLESS OTHERWISE NOTED IN PLANS: ALL OPENINGS IN CMU SHALL BE REINFORCED WITH AT LEAST (1) #5 BAR AT THE TOP, BOTTOM AND BOTH SIDES OF THE OPENING. REINFORCING BARS SHALL BE DOUBLE COURSE NO. 40 BARS EACH COURSE, AND BOND BEAM AT PARAPET LEVEL SHALL BE SINGLE COURSE NO. 7 LANTER BLOCK WITH (2) #5 GROUND BARS FOR EACH COURSE NO. 7 LANTER BLOCK WITH (2) #5 GROUND BARS PER CELL. HORIZONTAL WALL REINFORCING SHALL BE #5 GAUGE GALVANIZED LADDER TYPE AT 18" OC VERTICAL.
- H. ALL REINFORCING HOOKS AND BENDS SHALL BE STANDARD AC TYPE.
- I. ALL WALL DOWNS SHALL MATCH REINFORCING SIZE AND CITY.
- J. POWDER ACTUATED FASTENERS (PAFS) NOT PERMITTED AT MASONRY.

0500 STRUCTURAL STEEL

- A. SEE SECTION 0500 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. GENERAL REQUIREMENTS
a. FABRICATION REQUIREMENTS
b. SUBMITTALS
c. QUALITY ASSURANCE - REFERENCE SPECIFICATION REQUIREMENTS
2. PRODUCT / MATERIAL REQUIREMENTS
3. PAINTING REQUIREMENTS
4. EXECUTION OF WORK REQUIREMENTS
a. FABRICATION
b. ERECTION
c. QUALITY ASSURANCE REQUIREMENTS (INSPECTIONS & TESTING)

- B. SUMMARY OF PROJECT MANUAL AND SPECIFICATIONS 0500 PRODUCTS:
1. MATERIALS:
a. W SHAPES: ASTM A992 (50 KSI)
b. TUBE SHAPES: ASTM A500 GR C (50KSI)
c. PIPE SHAPES: ASTM A500 GR C (50KSI)
d. CHANNELS AND ANGLES: ASTM A36 (58 KSI)
e. PLATES: ASTM A588 (58 KSI)
f. BOLTS: ASTM F 1554, GRADE 55 (51)
g. ANCHOR BOLTS / RODS: ANCHOR BOLT: HEAVY HEX HEAD ASH (51) ANCHOR BOLT W/SHIMS: ASTM F436 ELECTRODES FOR WELDING: AWS E7018 EPOXY
2. INSTALLATION
3. GALVANIZE STEEL MEMBERS INDICATED ON PLANS

- C. GALVANIZE STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES AFTER FABRICATION BY THE HOT DIP PROCESS IN ACCORDANCE WITH ASTM A 153
1. CONFORM TO PARAGRAPH B.1 OF ASTM A 153, TABLE 2 OF ASTM A 797 AS APPROPRIATE
2. SURFACE FINISH: CONTINUOUS, ADHERENT, AS SMOOTH AND EVENLY DISTRIBUTED AS POSSIBLE AND FREE FROM ANY DEFECT OF FORMALITY. TO THE END USE OF THE COATED ARTICLE.
3. CONNECTIONS: WITHSTAND NORMAL HANDLING CONSISTENT WITH THE NATURE AND THICKNESS OF THE COATING AND NORMAL USE OF THE ARTICLE.
4. REPAIR OF DAMAGED COATING: REPAIR DAMAGED AREAS BY WELDING, FLAME CUTTING OR COATING. GALVANIZING, TRANSPORT OR ERECTION BY ONE OF THE APPROVED METHODS IN ACCORDANCE WITH ASTM A 797 UNLESS OTHERWISE NOTED. ANGLE AND EXTENDED PLATE CONNECTIONS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED AS ABOVE.
- D. CONNECTIONS, UNLESS OTHERWISE NOTED:
1. TIGHTEN BOLTS BY THE "SNUG-TIGHT" METHOD.
2. LUG CONNECTIONS SHALL BE MADE WITH AN MINIMUM HIGH-STRENGTH BEARING TYPE BOLTS (A325) WITH THREADS ASSUMED TO BE INCLUDED IN SHEAR PLANS.
3. ALL BEAM TO BEAM AND BEAM TO COLUMN CONNECTIONS SHALL INCORPORATE THE MINIMUM PERMISSIBLE 1/8" MINIMUM GAPS. IN A SINGLE ROW BASED ON AVAILABLE WEB DEPTH CONNECTIONS SHALL BE SINGLE PLATE TYPE, UNLESS OTHERWISE NOTED. ANGLE AND EXTENDED PLATE CONNECTIONS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY DETAILED AS ABOVE.

- E. GROUT UNDER BEARING PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 5000 PSI WHEN BEARING ON 3000 PSI CONCRETE AND 8000 PSI WHEN BEARING ON 4000 PSI CONCRETE.
- G. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED OR OTHERWISE PROTECTED.
- H. ALL STEEL EXPOSED TO SOIL SHALL BE ENCASED IN CONCRETE OR COATED PER ASPHALTIC BASED CORROSION NOTE.

- 0510 STEEL JOISTS**
- A. SEE SECTION 0510 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. GENERAL REQUIREMENTS - STEEL JOISTS
a. SUBMITTALS
b. QUALITY ASSURANCE - REFERENCE SPECIFICATION REQUIREMENTS
c. DELIVERY, STORAGE, AND HANDLING REQUIREMENTS
2. PRODUCT / MATERIAL REQUIREMENTS
a. JOISTS, BRIDGING, AND ACCESSORIES
b. PAINTING
3. EXECUTION OF WORK REQUIREMENTS
a. INSTALLATION
4. QUALITY ASSURANCE REQUIREMENTS (INSPECTIONS & TESTING)

- B. ALL JOISTS SPACED IN THE PLANS ARE MINIMUM SIZES. DEPTH CANNOT BE INCREASED OR DECREASED WITHOUT WRITTEN APPROVAL FROM ENGINEER OF RECORD.
- C. STEEL JOIST GRIDERS SHALL BE DESIGNED PER THE LOADING SHOWN ON THE ROOF PLAN.
- D. DIAGONAL BRIDGING / BRACING SHALL BE BETWEEN ADJACENT JOISTS WHENEVER BOTTOM CHORD HORIZONTAL BRIDGING IS DISCONTINUOUS.
- E. ALL JOISTS AND GRIDERS SHOWN IN THE PLANS ARE MINIMUM SIZES. DEPTH CANNOT BE INCREASED OR DECREASED WITHOUT WRITTEN APPROVAL BY ARCHITECT/ENGINEER OF RECORD.

- F. PROVIDE BRIDGING AND X-BRACING AS PER THE REQUIREMENTS OF SUBMITTALS. ALL JOIST GRIDERS SHALL BE FULLY BRACED AS PER THE REQUIREMENTS OF SUBMITTALS. ALL JOIST GRIDERS SHALL BE FULLY BRACED AS PER THE REQUIREMENTS OF SUBMITTALS. ALL JOIST GRIDERS SHALL BE FULLY BRACED AS PER THE REQUIREMENTS OF SUBMITTALS.
- G. PROVIDE SEATS, HEADER CHORD EXTENSIONS, OR OTHER ELEMENTS AND FEATURES AS SHOWN IN THE CONTRACT DOCUMENTS AND THE SPECIFICATIONS REQUIRED FOR PROPER ERECTION AND PERFORMANCE OF STEEL JOISTS.
- H. STEEL JOISTS, JOIST GRIDERS, BRIDGING, AND BRACING SHALL BE DESIGNED FOR NET UPLIFT, NET UPLIFT, NOT PRESENT IN PLANS. CHECK THE WEIGHT OF THE COMPONENTS AND CLADDING WIND LOADS INDICATED IN THE PLANS FOR APPLICABLE ZONE AND TYPICAL AREA. LOAD COMBINATIONS SHALL CONFORM TO CODES SPECIFIED IN THE PROJECT DOCUMENTS.

- I. SEE PLANS FOR CONCENTRIC LOADS AND OFF-CENTRIC LOAD PATTERNS.
- J. AT A MINIMUM PROVIDE BOTTOM CHORD BRACING AND OTHER JOIST AT JOIST GRIDERS AND SUPPORT IN BEAMS. PROVIDE ACHORD BRACING AS SPECIFIED HEREIN AS TYPICAL AND AS NOTED IN PLANS.
- K. WIND WELLS, UNLESS OTHERWISE NOTED:
1. WIND WELLS SHALL BE 1/4" DIA. DRILLING, 2" LONG EACH SIDE.
2. WIND WELLS SHALL BE 1/4" DIA. DRILLING, 2" LONG EACH SIDE.
3. WIND WELLS SHALL BE 1/4" DIA. DRILLING, 2" LONG EACH SIDE.

- L. PROVIDE PLAN FOR METAL DECK SIZE AND ATTACHMENT INFORMATION.
- M. SEE SECTION 0510 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. GENERAL REQUIREMENTS
a. SUBMITTALS
b. QUALITY ASSURANCE - REFERENCE SPECIFICATION REQUIREMENTS
2. PRODUCT / MATERIAL REQUIREMENTS
3. EXECUTION OF WORK REQUIREMENTS
a. INSTALLATION
b. ACCESSORIES
c. GALVANIZING REPAIR
4. QUALITY ASSURANCE REQUIREMENTS (INSPECTIONS & TESTING)

- D. WELD METAL SHALL PENETRATE ALL LAYERS OF DECK MATERIAL AND LAP AND SIDE JOINTS SHALL BE COMPLETELY FILLED TO THE SURROUNDING METAL. USE PROPER SIZE WELDING ELECTRODE AND WELDING MACHINE CONDITION, SO THAT WELDS ARE ADEQUATE, PENETRATION AND FREE FROM "BURN THROUGH".
- E. METAL DECK SHALL BE ERECTED CONTINUOUSLY FOR A MINIMUM OF 3 SPANS AND SHALL LAP AT THE CENTERLINE OF SUPPORTS A MINIMUM OF 2". PROVIDE A MINIMUM END BEARING OF 2" OVER SUPPORTS.
- F. PROVIDE SUPPORTS FOR METAL DECK AS REQUIRED WHERE METAL DECK IS CUT OUT. WELD DECK TO SUPPORTS SAME AS JOIST CONDITION.
- G. DO NOT HANG OR ATTACH OUTWORK, COATING, PIPING, EQUIPMENT, CEILING, ETC FROM METAL DECKING.
- H. PROVIDE STL, SHIMS AND EMBEDS AS REQUIRED TO SUPPORT DECK ON TYPICAL "BAY SPACING".

0600 COLD-FORMED METAL FRAMING

- A. SEE SECTION 0600 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. GENERAL REQUIREMENTS
a. STRUCTURAL PERFORMANCE
b. SUBMITTALS
c. QUALITY ASSURANCE - REFERENCE SPECIFICATION REQUIREMENTS
2. PRODUCT / MATERIAL REQUIREMENTS
a. STEEL REQUIREMENTS
b. FASTENERS AND ACCESSORIES
c. JOIST FRAMING
d. FABRICATION
e. REPAIR PAINTING
3. EXECUTION OF WORK REQUIREMENTS
a. FABRICATION
b. REPAIR PAINTING

- B. SUMMARY OF PROJECT MANUAL AND SPECIFICATIONS 0600 PRODUCTS:
1. GENERAL
2. TOE BRACES
3. LOAD-BEARING WALL
4. CURTAIN WALL
5. JOIST INSTALLATION
6. REPAIRS
- C. PRE-ENGINEERED ROOF TRUSSES SHALL BE DESIGNED PER THE LOADING SHOWN IN DESIGN LOADING - 1 SHEET.
- D. PRE-ENGINEERED ROOF TRUSSES SHALL BE DELIVERED, HANDLED, BRANDED, AND INSTALLED PER AISI S214-27.
- E. ALL CLIPS AND FASTENING HARDWARE SHALL BE TESTED AND RATED FOR THE LOAD RESISTED.

- F. COLD-FORMED STEEL FRAMING SYSTEMS INCLUDING TRUSS SYSTEMS SHALL INCLUDE ALL NECESSARY PARTS AND ACCESSORIES. TEMPORARY AND PERMANENT AS REQUIRED TO FORM A COMPLETE SYSTEM INCLUDING ANCHORAGE TO SUPPORT STRUCTURE.
- G. STUDS AND TRACKS FOR HEADERS AND JAMBS SHOULD BE ONE PIECE LENGTH MEMBERS. SPLICING OR STUD AND TRACK MEMBERS IS NOT ALLOWED.
- H. MATERIALS UNLESS OTHERWISE NOTED:
1. 54.88 AND 97 MIL STUDS 50 KSI
2. 27.32 AND 43 MIL STUDS 33 KSI
3. RUNNERS AND ACCESSORIES, 33 KSI
- I. ROOF CLIP ANGLES SHALL BE COLD-FORMED TO SHAPE FROM SHEET STEEL IN COMPLIANCE WITH THE REQUIREMENTS OF ASTM A954 ASGAM WITH STRUCTURAL STEEL 50% GRADE 50 CLAS 3 FORM MEMBERS WITH A DESIGN THICKNESS OF 0.0889 (1/60) OR GREATER.

- J. ALL PARTS AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A G-60 GALVANIZED COATING MEETING THE REQUIREMENTS OF ASTM A954 ASGAM.
1. ALL PARTS HAVING ANY EDGE OR SURFACE EXPOSED LONG TERM WEATHER SHALL BE CLASSIFIED EXTERIOR.
2. PANEL PERFORMANCE CATEGORY AND GROUP NUMBER OF PARTS MUST BE AT LEAST EQUAL TO THAT SHOWN ON DRAWINGS. APPLICATIONS ARE IN ACCORDANCE WITH APPROPRIATE PANEL PERFORMANCE CATEGORY AND EDGES.
3. ZONES 1, 2 AND 4 ARE TO BE USED FOR PANELS AT 0° OC EDGES AND WELDED JOINTS.
4. ZONES 3 AND 5 ARE TO BE USED FOR PANELS AT 45° OC EDGES AND WELDED JOINTS.
5. ALL PANEL EDGES SHALL BE REPORTED TO THE ARCHITECT FOR BRACING OR SOLD BOLT BRACING.
6. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- L. WELDING OF COLD-FORMED STEEL MEMBERS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.3 STRUCTURAL WELDING CODE. SHEET STEEL WELDERS AND WELDING PROCEDURES SHALL BE QUALIFIED AS SPECIFIED IN AWS D1.3. ALL WELDS SHALL BE TOUCHED UP UNLESS OTHERWISE NOTED. WELDING ELECTRODES SHALL BE E80X UNLESS OTHERWISE NOTED. DO NOT BURN THROUGH MEMBERS. MEMBERS WITH DAMAGE RELATED TO WELDING SHALL BE REPAIR AND NOT RE-USED UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD.
- M. ALL STEEL SHEATHED TO BOTH SIDES SHALL HAVE METAL BRACING AT 45° OC VERTICAL. MAXIMUM SEE 858. ALL STEEL SHEATHING ON ONE SIDE OR BESS SHALL HAVE FULL DEPTH BRACING AT 45° OC.

- N. SPLICING OF STUDS, TRACKS AND METAL STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT AN APPROVED SHOP DRAWING AND DETAIL.
O. CORING, CUTTING OR REPAIRING OF PLATES, EDGES, STIFFENERS IS NOT PERMITTED FOR STRUCTURAL MEMBERS WITHOUT AN APPROVED SHOP DRAWING AND DETAIL.
P. TRUSS BRACING, HANDLING BRACING AND INSTALLATION SHALL BE AS DETAILED.
Q. TRUSS SYSTEM:
1. WIND CHORDS SHALL BE 15 PSF
2. WIND CHORD SHALL BE 5 PSF

- R. ALL STEEL AND STEEL COMPONENTS (I.E. BASE PLATES AND ANCHOR BOLTS) EXPOSED TO SOIL SHALL BE COATED FROM THE FOUNDATION (LOWEST LEVEL) UP TO 2" ABOVE THE SLAB OR FINAL GRADE - WHICHEVER IS GREATER.

STRUCTURAL INSPECTION

- A. THE CONTRACTOR OR OWNER SHALL EMPLOY A QUALIFIED INDEPENDENT INSPECTION AGENCY THAT SHALL BE COATED FROM THE FOUNDATION (LOWEST LEVEL) UP TO 2" ABOVE THE SLAB OR FINAL GRADE - WHICHEVER IS GREATER.
- B. DURATION AND FREQUENCY OF JOB VISITS SHALL BE SUFFICIENT FOR THE INSPECTOR TO STATE AT THE COMPLETION OF THE PROJECT THAT THE STRUCTURAL WORK IS ACCOMPLISHED AND ITS RELATED ELEMENTS HAVE BEEN ERECTED IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. SPECIFIC SYSTEMS TO BE INSPECTED INCLUDE:
1. FOUNDATION
2. CONCRETE (GENERAL SLAB ON GRADE)
3. STRUCTURAL STEEL (INCLUDING JOISTS & JOIST GRIDERS)
4. METAL DECK
5. LIGHT GAUGE FRAMING (INCLUDING TRUSS SYSTEMS)

- C. THE FOREGOING LIST IS NOT INTENDED TO BE ALL INCLUSIVE. THE INSPECTOR SHALL USE HIS PROFESSIONAL JUDGMENT AND HIS KNOWLEDGE OF THE JOB SITE CONDITIONS AND THE OFFICIAL CONTRACT DOCUMENTS. THE INSPECTOR WILL NOT REPLACE THE QUALITY CONTROL PERSONNEL OF THE CONTRACTOR.
- D. THE INSPECTOR DOES NOT RELIEVE THE CONTRACTORS CONTRACTUAL OR STATUTORY OBLIGATIONS. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY FOR ANY DEVIATIONS FROM THE OFFICIAL CONTRACT DOCUMENTS. THE INSPECTOR WILL NOT REPLACE THE QUALITY CONTROL PERSONNEL OF THE CONTRACTOR.
- E. ALL INSPECTION REPORTS SHALL BE FORWARDED BY THE INSPECTOR TO THE ENGINEER AND ARCHITECT OF RECORD.

0610 ROUGH CARPENTRY / SHEATHING

- A. SEE SECTION 0600 IN THE PROJECT MANUAL AND SPECIFICATIONS TO INCLUDE BUT NOT LIMITED TO:
1. PRODUCT / MATERIAL REQUIREMENTS
a. LUMBER, GENERAL
b. WOOD PRESERVATIVE-TREATED MATERIALS
c. DIMENSIONAL LUMBER, APPROVED GRADES AND SPECIES
d. WOOD-BASED STRUCTURAL USE PANELS
e. FASTENERS AND ACCESSORIES
2. EXECUTION OF WORK REQUIREMENTS
a. INSTALLATION
b. CONNECTIONS
c. CONNECTION REQUIREMENTS
i. RECOMMENDED NAILING SCHEDULE APPROX FOR WOOD CONSTRUCTION
ii. INTERNATIONAL BUILDING CODE TABLE 2304.8.1
3. FASTENER CONNECTION REQUIREMENTS
4. REQUIRED PRACTICE STANDARDS REFERENCES
a. AMERICAN WOOD PRESERVATION ASSOCIATION (AWPA) PRESERVATIVE TREATMENT STANDARD FOR WOOD PRESERVATION (P5)
b. AMERICAN WOOD PRESERVATION ASSOCIATION (AWPA) PRESERVATIVE TREATMENT STANDARD FOR WOOD PRESERVATION (P5)

- B. WALL AND PARAPET SHEATHING: APA RATED SHEATHING SPECIFICATION 1 GRADE
1. NOMINAL THICKNESS: 5/8"
2. SPAN RATING: 24S5
3. SHEATHING: SHOULD BE PLACED PERPENDICULAR TO SUPPORTS
- C. ROOF SHEATHING: APA RATED SHEATHING, EXTERIOR GRADE
1. NOMINAL THICKNESS: 5/8"
2. SPAN RATING: 24S5
3. SHEATHING: SHOULD BE PLACED PERPENDICULAR TO SUPPORTS

- D. FASTENERS:
1. GENERAL: PROVIDE FASTENERS OF SIZE AND TYPE INDICATED THAT COMPLY WITH REQUIREMENTS SPECIFIED IN THIS ARTICLE FOR MATERIAL AND MANUFACTURE.
2. SCREWS FOR FASTENING WOOD STRUCTURAL PANELS TO COLD-FORMED METAL FRAMING: ASTM C 444, EXCEPT WITH WATER HEADS AND REAMER WINDS. LENGTH AS RECOMMENDED BY SHEATH MANUFACTURER FOR MATERIAL BEING FASTENED.
E. COORDINATE WALL, PARAPET, AND ROOF SHEATHING INSTALLATION WITH FLASHING AND JOINT-SEALANT INSTALLATION. SO THE WELLS AND ARE INSTALLED IN SEQUENCE AND MANNER THAT PREVENT EXTERIOR MOISTURE FROM PASSING THROUGH COMPLETED ASSEMBLY.

- F. COORDINATE SHEATHING INSTALLATION WITH INSTALLATION OF MATERIALS INSTALLED OVER SHEATHING. SO SHEATHING IS NOT EXPOSED TO PRECIPITATION OR LEFT EXPOSED AT END OF THE WORKDAY WHEN RAIN IS FORECAST.
- G. ALL PANELS (GENERAL):
1. IDENTIFICATION REQUIREMENTS: EACH PANEL SHALL BE IDENTIFIED WITH THE REQUIREMENTS OF ASTM A954 ASGAM WITH STRUCTURAL STEEL 50% GRADE 50 CLASS 3 FORM MEMBERS WITH A DESIGN THICKNESS OF 0.0889 (1/60) OR GREATER.
2. ALL PANELS HAVING ANY EDGE OR SURFACE EXPOSED LONG TERM WEATHER SHALL BE CLASSIFIED EXTERIOR.
3. PANEL PERFORMANCE CATEGORY AND GROUP NUMBER OF PARTS MUST BE AT LEAST EQUAL TO THAT SHOWN ON DRAWINGS. APPLICATIONS ARE IN ACCORDANCE WITH APPROPRIATE PANEL PERFORMANCE CATEGORY AND EDGES.
4. WIND SPACING REQUIREMENTS: ALL PANELS SHALL BE FULLY BRACED.
5. ZONES 1, 2 AND 4 ARE TO BE USED FOR PANELS AT 0° OC EDGES AND WELDED JOINTS.
6. ZONES 3 AND 5 ARE TO BE USED FOR PANELS AT 45° OC EDGES AND WELDED JOINTS.
7. ALL PANEL EDGES SHALL BE REPORTED TO THE ARCHITECT FOR BRACING OR SOLD BOLT BRACING.
8. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- H. IDENTIFICATION REQUIREMENTS: EACH PANEL SHALL BE IDENTIFIED WITH THE REQUIREMENTS OF ASTM A954 ASGAM WITH STRUCTURAL STEEL 50% GRADE 50 CLASS 3 FORM MEMBERS WITH A DESIGN THICKNESS OF 0.0889 (1/60) OR GREATER.
I. ALL PANELS HAVING ANY EDGE OR SURFACE EXPOSED LONG TERM WEATHER SHALL BE CLASSIFIED EXTERIOR.
J. PANEL PERFORMANCE CATEGORY AND GROUP NUMBER OF PARTS MUST BE AT LEAST EQUAL TO THAT SHOWN ON DRAWINGS. APPLICATIONS ARE IN ACCORDANCE WITH APPROPRIATE PANEL PERFORMANCE CATEGORY AND EDGES.
K. ZONES 1, 2 AND 4 ARE TO BE USED FOR PANELS AT 0° OC EDGES AND WELDED JOINTS.
L. ZONES 3 AND 5 ARE TO BE USED FOR PANELS AT 45° OC EDGES AND WELDED JOINTS.
M. ALL PANEL EDGES SHALL BE REPORTED TO THE ARCHITECT FOR BRACING OR SOLD BOLT BRACING.
N. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- O. WIND WELLS SHALL BE 1/4" DIA. DRILLING, 2" LONG EACH SIDE. WIND WELLS SHALL BE 1/4" DIA. DRILLING, 2" LONG EACH SIDE. WIND WELLS SHALL BE 1/4" DIA. DRILLING, 2" LONG EACH SIDE.

- P. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- Q. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- R. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- S. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- T. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- U. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- V. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

- W. ALL PANELS SHALL BE ANCHORED TO SUPPORT STRUCTURE.

LIST OF STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT	MAFL	MATERIAL
ADD	ADDITIONAL	MCM	MOMENT CONNECTION
AFF	ABOVE FINISHED FLOOR	MECH	MECHANICAL
AHR	ANCHOR	MEZZ	MEZZANINE
ALT	ALTERNATE	MFR	MANUFACTURER
APPROX	APPROXIMATE	MFR REC	MANUFACTURER'S RECOMMENDATION
ARCH	ARCHITECT	MR	MISCELLANEOUS
ASFR	ASSEMBLY	MTL	METAL
BC	BOTTOM CHORD	NC	NOT IN CONTRACT
BLDG	BUILDING	NOM	NOMINAL
BOL	BOTTOM	NTS	NOT TO SCALE
BRS	BROWSING	OC	ON CENTER
BRG PL	BRASS BRACING PLATE	OPNG	OPENING
BRG	BRACING	PCC	OPPOSITE
BTWN	BETWEEN	PREFAB	PREFABRICATED
CANTIL	CANTILEVER	PLFM	PRELIMINARY
CHD	CHORD	PS	