

# OUTLINE SPECIFICATIONS

## 1 GENERAL

- 1.01 FORM OF AGREEMENT:** AIA DOCUMENT A101-2007, "STANDARD FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR WHERE THE BASIS OF PAYMENT IS A STIPULATED SUM," WITH AIA DOCUMENT A201-2007 "GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION". ADMINISTRATION OF THE CONTRACT WILL BE BY THE OWNER.
- 1.02 CONTRACT DOCUMENT AND FIELD CONDITION REVIEW:** THE GENERAL CONTRACTOR SHALL COMPILE THE CONTRACT DOCUMENTS WITH EACH OTHER AND THE FIELD CONDITIONS, AND REPORT ANY INCONSISTENCIES, ERRORS, OR OMISSIONS TO THE ARCHITECT BEFORE BEGINNING THE WORK. VERIFY DIMENSIONS AND FIELD CONDITIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE BEGINNING THE WORK. WHERE DETAILED INFORMATION IS LACKING, REQUEST INSTRUCTIONS FROM THE ARCHITECT.

## 1.03 DEFINITIONS:

- FURNISH: UNLESS OTHERWISE DEFINED IN GREATER DETAIL, SUPPLY AND DELIVER AN ITEM TO THE PROJECT SITE, READY FOR INSTALLATION.
- INSTALL: UNLESS OTHERWISE DEFINED IN GREATER DETAIL, PLACE AN ITEM IN THE PROJECT SO THAT IT IS READY FOR SERVICE OR USE.
- PROVIDE: UNLESS OTHERWISE DEFINED IN GREATER DETAIL, FURNISH AND INSTALL AN ITEM, COMPLETE AND READY FOR INTENDED USE.

- 1.04 SUBMITTALS:** THE CONTRACTOR SHALL REVIEW EACH SUBMITTAL FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS AND COORDINATION WITH THE WORK, AND APPLY THE CONTRACTORS OWNED REVIEW STAMP TO THE SUBMITTAL CERTIFYING COMPLIANCE WITH THE CONTRACT DOCUMENTS. SUBMITTALS WITHOUT THE CONTRACTORS REVIEW STAMP WILL BE RETURNED WITHOUT REVIEW. TRANSMIT ALL SUBMITTALS TO THE ARCHITECT. REVISE AND RESUBMIT SUBMITTALS AS REQUIRED. SCHEDULE SUBMITTALS TO AVOID DELAY IN THE PROGRESS OF THE WORK, ALLOWING 10 WORKING DAYS FROM ARCHITECTS REQUEST FOR INITIAL REVIEW, AND 5 WORKING DAYS FOR SUBSEQUENT RESUBMITTALS. SUBMIT RELATED ITEMS AS A SINGLE PACKAGE.
- PRODUCT DATA: SUBMIT PDFs MARKED TO CLEARLY INDICATE APPLICABLE PRODUCTS, MODELS, OPTIONS, AND ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS.
- SHOP DRAWINGS: SUBMIT PDFs UNLESS OTHERWISE INDICATED OR REQUIRED. PROVIDE DIMENSIONED DRAWINGS AND DETAILS, INCLUDING ADJACENT CONSTRUCTION AND RELATED WORK, AND CLEARLY INDICATE ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS. WHEN INDICATED, SUBMIT SHOP DRAWINGS AND ENGINEERING CALCULATIONS SEALED BY A DESIGN PROFESSIONAL REGISTERED TO PRACTICE IN THE JURISDICTION WHERE THE PROJECT IS LOCATED. CLOUD AND IDENTIFY ALL REVISIONS ON EACH RESUBMITTAL.

- SAMPLES: SUBMIT 2 SAMPLES PLUS THE NUMBER REQUIRED BY THE CONTRACTOR, UNLESS OTHERWISE INDICATED. SUBMIT ADDITIONAL SAMPLES AS NECESSARY TO INDICATE THE RANGE OF COLOR, FINISH AND TEXTURE TO BE PROVIDED.
- 1.05 CUTTING AND PATCHING:** CONTRACTOR IS RESPONSIBLE FOR CUTTING, FITTING, AND PATCHING REQUIRED TO COMPLETE THE WORK OR TO MAKE ITS PARTS FIT TOGETHER PROPERLY. DO NOT CUT AND PATCH STRUCTURAL ELEMENTS IN A MANNER THAT WILL REDUCE THEIR LOAD CARRYING CAPACITY. PROTECT EXISTING CONSTRUCTION AND PATCHING TO PROTECT EXISTING DAMAGE. PATCH WITH DURABLE SEAMS THAT ARE AS INVISIBLE AS POSSIBLE. RESTORE EXPOSED EDGES OF PATCHED AREAS AND EXTEND FINISH RESTORATION INTO ADJACENT CONSTRUCTION IN A MANNER THAT WILL ELIMINATE EVIDENCE OF PATCHING.

- 1.06 PRODUCTS:** PRODUCTS ARE ITEMS PURCHASED BY THE CONTRACTOR FOR INCORPORATION INTO THE WORK. SELECT PRODUCTS THAT COMPLY WITH THE CONTRACT DOCUMENTS AND GOVERNING REGULATIONS ACCORDING TO THE FOLLOWING:
- SEMI-PROPRIETARY SPECIFICATION: WHERE PRODUCTS OR MANUFACTURERS ARE NAMED FOLLOWED BY THE TERM "OR APPROVED SUBSTITUTE", THE CONTRACTOR MAY SUBMIT UNNAMED PRODUCTS TO THE ARCHITECT FOR APPROVAL.
  - COMPLIANCE SPECIFICATION: WHERE ONLY COMPLIANCE WITH A CODE, STANDARD, OR REGULATION IS INDICATED, PROVIDE A PRODUCT THAT COMPLES.
  - DESCRIPTION SPECIFICATION: WHERE EXACT CHARACTERISTICS ARE INDICATED, PROVIDE A PRODUCT THAT COMPLIES.
- DELIVER, STORE, AND HANDLE PRODUCTS IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS. INSTALL PRODUCTS IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. WHERE MANUFACTURERS INSTRUCTIONS CONFLICT WITH THE CONTRACT DOCUMENTS, REQUEST DIRECTION FROM THE ARCHITECT.

- 1.07 QUALITY CONTROL:** THE OWNER WILL PROVIDE AN INDEPENDENT AGENCY TO PERFORM TESTING AND INSPECTIONS INDICATED, OR AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR IS RESPONSIBLE FOR THE COSTS OF TESTING, WHERE THE RESULTS OF TESTS AND INSPECTIONS PERFORMED INDICATE NON-COMPLIANCE WITH REQUIREMENTS. COOPERATE WITH TESTING AND INSPECTION AGENCIES, INCLUDING SCHEDULING TESTS AND INSPECTIONS, PROVIDING ACCESS TO THE WORK, FURNISHING INCIDENTAL LABOR, AND PROVIDING SECURITY AND PROTECTION OF SAMPLES. PROTECT CONSTRUCTION EXPOSED BY OR FOR TESTING AND INSPECTION, AND REPAIR CONSTRUCTION DAMAGED BY TESTING OR INSPECTION.

- 2 SITEWORK**
- 2.01 EARTHWORK**
- GENERAL: SEE CIVIL DRAWINGS, STRUCTURAL DRAWINGS, AND GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS THAT APPLY TO THIS SECTION.
- GEOTECHNICAL ENGINEERING: PERFORM SITE PREPARATION, HILL, BACKFILL, COMPACTION AND GRADING OPERATIONS UNDER A QUALITY CONTROL PROGRAM MONITORED BY THE OWNERS GEOTECHNICAL ENGINEER.

- 2.02 TERMITE TREATMENT:** ENGAGE A LICENSED PROFESSIONAL PEST CONTROL OPERATOR TO APPLY A SOIL TREATMENT HERMISTIC-BEARING FIBERGLASS REGISTRATION NUMBER OF THE EPA AND REGISTERED WITH THE LOCAL AUTHORITIES HAVING JURISDICTION. APPLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. TEST IN UNDER ALL BUILDING SLABS, ALONG BOTH SIDES OF FOUNDATION WALLS, AT ALL PENETRATIONS, AND IN ALL HOLLOW VOIDS OF FOUNDATION CONSTRUCTION. REAPPLY TREATMENT TO AREAS DESTROYED BY SUBSEQUENT CONSTRUCTION OR LANDSCAPING. PROVIDE FIVE YEAR WRITTEN WARRANTY AGAINST TERMITE INFESTATION, AGREEING TO RETREAT AND REPAIR DAMAGE.

## 2 SITEWORK

- 2.01 EARTHWORK**
- GENERAL: SEE CIVIL DRAWINGS, STRUCTURAL DRAWINGS, AND GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS THAT APPLY TO THIS SECTION.
- GEOTECHNICAL ENGINEERING: PERFORM SITE PREPARATION, HILL, BACKFILL, COMPACTION AND GRADING OPERATIONS UNDER A QUALITY CONTROL PROGRAM MONITORED BY THE OWNERS GEOTECHNICAL ENGINEER.

- 2.02 TERMITE TREATMENT:** ENGAGE A LICENSED PROFESSIONAL PEST CONTROL OPERATOR TO APPLY A SOIL TREATMENT HERMISTIC-BEARING FIBERGLASS REGISTRATION NUMBER OF THE EPA AND REGISTERED WITH THE LOCAL AUTHORITIES HAVING JURISDICTION. APPLY IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. TEST IN UNDER ALL BUILDING SLABS, ALONG BOTH SIDES OF FOUNDATION WALLS, AT ALL PENETRATIONS, AND IN ALL HOLLOW VOIDS OF FOUNDATION CONSTRUCTION. REAPPLY TREATMENT TO AREAS DESTROYED BY SUBSEQUENT CONSTRUCTION OR LANDSCAPING. PROVIDE FIVE YEAR WRITTEN WARRANTY AGAINST TERMITE INFESTATION, AGREEING TO RETREAT AND REPAIR DAMAGE.

## 3 CONCRETE

- 3.01 CAST-IN-PLACE CONCRETE:**
- GENERAL: SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT APPLY TO THIS SECTION.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- TOLERANCES: PLACE CONCRETE AT INDICATED LOCATIONS AND ELEVATIONS, TRUE TO LINE, PLUMB, AND LEVEL (1/8" IN 10', 1/4" IN TOTAL).
- VAPOR RETARDER: MINIMUM 10 MIL PLASTIC SHEET COMPLYING WITH ASTM CLASS A. INSTALL IN ACCORDANCE WITH ASTM E1645. LAP JOINTS MINIMUM 4" AND SEAL JOINTS, PERIMETER AND PENETRATIONS WITH MANUFACTURERS RECOMMENDED MASTIC OR TAPE.
- WATERSTOPS: FLEXIBLE COMPOUND OF BUTYL RUBBER OR SODIUM BENTONITE CLAY, "CCW MASTOP" BY CARLISE COATINGS & WATERPROOFING, INC., OR APPROVED SUBSTITUTE.
- EXPANSION JOINT FILLER: LIT SATURATED POLYURETHANE STRIPS (ASTM D1751).
- FINISHING:
- INTERIOR SLABS: FLOOR FINISH, STAIR AND ADA COMPLIANT FLOOR FINISH TO PRODUCT UNIFORMITY.
- EXTERIOR SLABS: EXTERIOR SLABS AND APPLY NON-SLIP BROOM FINISH PERPENDICULAR TO THE CURE DIRECTION.
- EXTERIOR FINISHES: PREPARE FINISH MATERIALS TO PROVIDE A SMOOTH, UNIFORM FINISH. FILL HOLES AND REPAIR DEFECTS TO MATCH FORMED CONCRETE SURFACES AND TEXTURE.
- CURING: COMPLY WITH ACI 308. PROTECT CONCRETE FROM PREMATURE DRYING AND EXCESSIVE HOT AND COLD TEMPERATURES IN ACCORDANCE WITH ACI 308 AND ACI 306. BEGGIN CURING AS SOON AS FREE WATER HAS DISAPPEARED FROM CONCRETE SURFACES AFTER FINISHING.
- CONCRETE CURING COMPOUND: ASTM C909 TYPE I-D, DISPENSATING FORMER BASED LIQUID MEMBRANE FORMING CONCRETE CURING COMPOUND WITH FUGITIVE DYE, "1150-CL-5" BY W.R. MEADOWS, INC., OR APPROVED SUBSTITUTE. PREPARE SURFACES AND SPRAY APPLY TO NEW CONCRETE IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
- INTERIOR CONCRETE SLAB CONTROL AND CONSTRUCTION JOINT FILLER: TWO-COMPONENT, SEMI-RIGID EPOXY JOINT FILLER, 100% SOLIDS, MINIMUM 90 SHORE A HARDNESS (ASTM D 2240), MINIMUM 1300 PSI TENSILE STRENGTH (ASTM D 688), MINIMUM .45% ELONGATION (ASTM D 688), CUSTOM COLOR, "MMA 804" BY METZGER/MCGUIRE, OR APPROVED SUBSTITUTE. ALLOW CONCRETE SLABS TO CURE MINIMUM 90 DAYS AND STABILIZE INTERIOR TEMPERATURE AT FINAL OCCUPANCY LEVEL BEFORE INSTALLATION. PREPARE SUBSTRATES AND INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS AT INTERIOR CONCRETE SLAB CONTROL AND CONSTRUCTION JOINTS. PRIME SUBSTRATES AS RECOMMENDED. INSTALL FULL DEPTH AT CONTROL JOINTS AND MINIMUM 2" DEPTH AT CONSTRUCTION JOINTS, AND TRIM FLUSH WITH CONCRETE SLAB SURFACE.

## 4 MASONRY

- 4.01 MASONRY:**
- GENERAL: SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT APPLY TO THIS SECTION. COMPLY WITH RECOMMENDATIONS OF FBA AND NCMMA.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- PROJECT CONDITIONS: DO NOT INSTALL WHEN TEMPERATURES ARE BELOW 40 DEGREES F. DO NOT USE FROZEN MATERIALS, OR BUILD ON FROZEN SUBSTRATES. PROTECT COMPLETED WORK FROM FREEZING FOR MINIMUM 48 HOURS BY APPLYING PROTECTIVE BLANKETS OR BY PROVIDING ENCLOSURE AND HEAT. COMPLY WITH ACI 530.1 COVER TOPS OF WALLS AND PROJECTIONS WITH WATERPROOF SHEETING AT END OF EACH DAY.
- CONCRETE MASONRY UNITS (CMU): ASTM C90, HOLLOW LOAD BEARING BLOCK UNLESS OTHERWISE INDICATED. NOMINAL FACE DIMENSIONS OF 8" HIGH x 16" LONG (7.58"x15.58" ACTUAL); THICKNESS INDICATED. PROVIDE SPECIAL SHAPES WHERE SHAPES ARE INVERTED, BOND BEAMS, CORNERS, JAMBS, SASH CONTROL JOINTS, AND OTHER SPECIAL CONDITIONS.
- SMOOTH FACE CMU: MANUFACTURERS STANDARD TEXTURE AND COLOR.
- GROUND FACE CMU: GROUND FACE TEXTURE ON SIDES EXPOSED TO VIEW. INTEGRAL WATER REPELLENT, MANUFACTURER AND COLOR AS SCHEDULED.
- SLOPED SILL CMU: 100% SOLID BLOCK, INTEGRAL WATER REPELLENT, SPECIAL SHAPE AS INDICATED. GROUND FACE TEXTURE ON SIDES EXPOSED TO VIEW. MANUFACTURER AND COLOR AS SCHEDULED.
- MORTAR FOR ABOVE GRADE NON-LOAD BEARING MASONRY VENEERS: ASTM C270, TYPE N, COLOR AS SCHEDULED.
- JOINT FILLING CEMENT: ASTM C91.
- AGGREGATE: ASTM C194.
- WATER: POTABLE.
- CLAY BRICK: COLOR: NOT PERMITTED.
- HORIZONTAL JOINT REINFORCEMENT: ASTM A951. LADDER TYPE WELDED WIRE UNITS FABRICATED WITH DEFORMED CONTINUOUS 5 GAUGE SIDE RODS AND PLAIN 9 GAUGE CROSS RODS SPACED @ 16" O.C., WIDTH TO PROVIDE MINIMUM MORTAR COVERAGE OF 5/8" ON EXTERIOR FACE AND 1/2" ON INTERIOR FACE. HOT DIP GALVANIZED (ASTM A153, CLASS B-2), PROVIDE PREFABRICATED "T" SECTIONS AT CORNERS, AND "T" SECTIONS AT INTERSECTIONS. INSTALL JOINT REINFORCEMENT AT 16" O.C. VERTICALLY UNLESS OTHERWISE INDICATE, WITH ENDS LAPPED MINIMUM 12". DO NOT EXTEND JOINT REINFORCEMENT THROUGH CONTROL JOINTS.
- MASONRY TIES AND ANCHORS: HOT-DIP GALVANIZED (ASTM A153) UNLESS OTHERWISE NOTED, MINIMUM 1/4" DIA. AND TOPS OF MASONRY WALL PANELS TO STRUCTURE AT MAXIMUM 24" O.C.
- VENNER ANCHORS: 2" PCE ADJUSTABLE VENER ANCHORS FABRICATED FROM 5/16" LONG 1/4 GAUGE ANCHOR PLATE WITH 3/16" DIAMETER WIRE TRIANGULAR TIE. HOT-DIP GALVANIZED AFTER FABRICATION (ASTM A153 CLASS B). "TW-1085" BY HOHMANN & BARNARD, INC., OR APPROVED SUBSTITUTE. PROVIDE MANUFACTURERS RECOMMENDED SCREW FASTENERS FOR METAL STUD, CMU, OR CONCRETE. PROVIDE ANCHORS FOR ALL EXTERIOR WALLS. PROVIDE ANCHORS FOR HORIZONTAL AND 1/4" O.C. VERTICAL, UNLESS OTHERWISE INDICATED. AT OPENINGS, PLACE ADJACENT TIES WITHIN 12" OF THE OPENING AND SPACED MAXIMUM 16" O.C.

- INSULATING SHEATHING: PROVIDE ANCHOR PLATES WITH PRONGED LEGS TO ADHET SUBSTRATE. "X" SEAL: BY HOHMANN & BARNARD, INC., OR APPROVED SUBSTITUTE.
- CONCEALED FLASHING: 40 MIL COMPOSITE MEMBRANE WITH ADHESIVE. "TERMO-BLAST" BY BRUNNEN, OR APPROVED SUBSTITUTE. PROVIDE INSULATING SHEATHING WITH CONCEALED FLASHING AT LINTELS, SILLS, AND AT BASE OF ALL WALLS TO DIVERT WATER TO THE EXTERIOR. EXTEND FLASHING FROM THE EXTERIOR FACE OF MASONRY THROUGH UP TO MINIMUM 6", AND MECHANICALLY FASTEN TOP EDGE TO SUBSTRATE WITH TERMINATION BAR. LAP JOINTS IN FLASHING MINIMUM 6" AND SEAL.
- WEEP HOLES: PROVIDE 1/4" DIAMETER COTTON ROD WEEP HOLES IN HEAD JOINTS ABOVE FLASHING AT MAXIMUM 24" O.C., EXTENDED FROM 1/2" BEYOND EXTERIOR FACE OF MASONRY TO CAVITY, AND LAID HORIZONTALLY ON TOP OF FLASHING MINIMUM 24".

- LAYING MASONRY: BUILD WALLS TRUE TO LINE, PLUMB AND LEVEL (1/4" IN 10', 1/2" IN TOTAL). BUILD IN ACCORDANCE WITH GOVERNING REGULATIONS AND OTHER WORK AS REQUIRED. CUT MASONRY UNITS WITH MOTOR DRIVEN SAWS TO FIT ADJOINING WORK, AND MAINTAIN PATTERNS, WITH STRAIGHT UN-CHIPPED EDGES. DO NOT PATCH OR REPAIR FOR PROTECT PROTECT PRODUCTS FROM EXPOSURE TO WEATHER AND CONTACT WITH WET SURFACES.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- GYPSUM SHEATHING: ASTM C1177, WATER RESISTANT GYPSUM CORE PANELS WITH FIBERGLASS MAT FACINGS, MAXIMUM FLAME SPREAD INDEX OF 0 AND MAXIMUM SMOKE DEVELOPED INDEX OF 0 (ASTM E84), THICKNESS AND TYPE AS INDICATED; "SPECTRAC" BY UNITED STATES GYPSUM COMPANY, "TENSOLAS-GOOD" BY GREGGIA PACIFIC BUILDING PRODUCTS, OR APPROVED SUBSTITUTE.
- INSULATION: INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ATTACH TO METAL FRAMING WITH MANUFACTURERS RECOMMENDED CORROSION RESISTANT SCREWS AND WASHERS COMPLYING WITH ASTM C1102 or ASTM C954.
- GYPSUM SHEATHING: ASTM C1177, WATER RESISTANT GYPSUM CORE PANELS WITH FIBERGLASS MAT FACINGS, MAXIMUM FLAME SPREAD INDEX OF 0 AND MAXIMUM SMOKE DEVELOPED INDEX OF 0 (ASTM E84), THICKNESS AND TYPE AS INDICATED; "SPECTRAC" BY UNITED STATES GYPSUM COMPANY, "TENSOLAS-GOOD" BY GREGGIA PACIFIC BUILDING PRODUCTS, OR APPROVED SUBSTITUTE.
- PROVIDE SHEATHING PRODUCT ACCEPTABLE TO SINGLE-PLY ROOFING MANUFACTURER AT PARAPET SURFACES INDICATED TO RECEIVE SINGLE-PLY FLASHING, "DENSDECK" BY GREGGIA PACIFIC GYPSUM LLC, OR APPROVED SUBSTITUTE.
- INSTALLATION: INSTALL IN ACCORDANCE WITH ASTM C1177, C1178, AND C1179. PROVIDE MANUFACTURERS INSTRUCTIONS. ATTACH TO METAL FRAMING WITH MANUFACTURERS RECOMMENDED CORROSION RESISTANT SCREWS AND WASHERS WITH ASTM C1102 OR ASTM C954.

## 5 METALS

- 5.05 METAL FABRICATIONS**
- GENERAL: SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT APPLY TO THIS SECTION.
- SUBMITTALS: SUBMIT SHOP DRAWINGS FOR INDICATED PRODUCTS SEALED BY A PROFESSIONAL ENGINEER REGISTERED TO PRACTICE IN THE JURISDICTION WHERE THE PROJECT IS LOCATED, SHOWING COMPLIANCE WITH THE INDICATED STRUCTURAL REQUIREMENTS WITHOUT EXCEEDING ALLOWABLE WORKING STRESS OF MATERIALS, INCLUDING ANCHORS AND CONNECTIONS.
- QUALITY ASSURANCE: FIELD VERIFY DIMENSIONS PRIOR TO SHOP FABRICATION. QUALIFY WELDING PROCESSES AND OPERATORS IN ACCORDANCE WITH AWS D1.1 AND D1.3. COMPLY WITH THE RECOMMENDATIONS OF NAIMM AMP 510-92 METAL STAIRS MANUAL AND NAIMM AMP 521 RAILING MANUAL.
- METALS:
- STEEL: WELD FLANGE SHAPES: ASTM A992.
  - STEEL CHANNELS, ANGLES, AND PLATES: ASTM A36.
  - STEEL PIPE: ASTM A53, GRADE B.
  - HOLLOW STEEL SECTIONS (HSS): ASTM A500, GRADE B.
  - STEEL FLOOR PLATE: ASTM A786, TYPE 1, MILL PATTERN.
  - STEEL SHEET: ASTM A660, TYPE 1, MILL PATTERN.
  - ALUMINUM DIAMOND PLATE: ASTM A229, TYPE III ALLOY.
- FABRICATION: FABRICATE AND PATCH WITH THE DIMENSIONS AND DETAILS. ASSEMBLE WORK TRUE TO LINE, PLUMB, AND LEVEL (1/8" IN 10', 1/4" IN TOTAL). EXPOSED EDGES AND CORNERS SHALL BE FINISHED SMOOTH. PROVIDE COMPONENTS READY FOR INSTALLATION.
- FLOOR GRATING: BAR TO STEEL GRATING DESIGN IN ACCORDANCE WITH NAAMM 510-92. SUPPORT ON 100 PSF LIVE LOAD WITH MAXIMUM DEFLECTION OF 1/40".
- STEEL STAIRS AND RAILS: FABRICATE TO INDICATED SIZES, DIMENSIONS AND DETAILS. SUBMIT SHOP DRAWINGS INDICATING COMPLIANCE WITH THE INDICATED STRUCTURAL REQUIREMENTS WITHOUT EXCEEDING ALLOWABLE WORKING STRESS OF MATERIALS, INCLUDING ANCHORS AND CONNECTIONS.
- STEEL LADDERS AND PLATFORMS: UNIFORM LOAD OF 100 PSF, AND CONCENTRATED LOAD OF 300 LB APPLIED TO AREA OF 4 SQ IN.
- FRAMING: RESULTING LOADS, INCLUDING RAILING SYSTEM:
- HANDRAIL OR TOP RAIL OF GUARDRAIL: CONCENTRATED LOAD OF 200 LB APPLIED IN ANY DIRECTION, AND UNIFORM LOAD OF 50 PLF APPLIED IN ANY DIRECTION.
  - INTERMEDIATE GUARDRAIL COMPONENTS: HORIZONTAL LOAD OF 50 LB APPLIED TO AN AREA OF 1 SQ FT.
  - MAXIMUM DEFLECTION: L/240.
- FINISH: INTERIOR FABRICATIONS WITH SHOP PRIMER. HOT-DIP GALVANIZE EXTERIOR STAIRS AND RAILING FABRICATIONS TO COMPLY WITH ASTM A123 GRADE 85.
- STEEL LADDERS: FIXED-RAIL TYPE WITH KNURED STEEL RUNGS SHOULDERED AND HEADED INTO AND WELDED TO RAILS. SUBMIT SHOP DRAWINGS INDICATING COMPLIANCE WITH CONCENTRATED LOAD OF 250 POUNDS AT ANY POINT WITHOUT EXCEEDING ALLOWABLE WORKING STRESS OF MATERIALS, INCLUDING ANCHORS AND CONNECTIONS. FINISH: INTERIOR FABRICATIONS WITH SHOP PRIMER.
- STEEL BOLLARDS: FABRICATE FROM SCHEDULE 40 STEEL PIPE. PROVIDE CUTOUTS FOR FIXTURES AND HOLES FOR WIRING. FINISH WITH SHOP PRIMER.
- FINISH: REMOVE SCALE, RUST AND OTHER DELETERIOUS MATERIALS FROM CONCRETE SURFACES AND FILL Voids TO PROVIDE CONTINUOUS FULL-DEPTH LAYER OF UNLESS INDICATED TO BE GALVANIZED OR POWDER COATED, SHOP PRIME FERRIC METAL WITH FABRICATORS STANDARD RUST-INHIBITIVE PAINT, APPLIED IN ACCORDANCE WITH SHOP DRAWINGS INSTRUCTIONS TO PROVIDE A MINIMUM DRY FILM THICKNESS OF 2.5 MILS.
- UNLESS OTHERWISE INDICATED, HOT-DIP GALVANIZE EXPOSED EXTERIOR ITEMS NOT INDICATED TO BE POWDER COATED, AND ITEMS EMBEDDED IN CONCRETE. COMPLY WITH ASTM A153 FOR FERRIC METAL HARDWARE, AND ASTM A123 GRADE 85 FOR FERRIC METAL SHAPES, PLATES AND BARS.
- INSTALLATION: INSTALL WORK TRUE TO LINE, PLUMB AND LEVEL, ACCURATELY FITTED AND FREE OF DISTORTION AND DEFECTS. ANCHOR FABRICATIONS SECURELY IN PLACE WITH COMPATIBLE FASTENERS. TOP SURFACE WITH SAME MATERIAL USED FOR SHOP PAINTING IMMEDIATELY AFTER ERECTION. REPAIR GALVANIZING TO COMPLY WITH ASTM A780.

- 7 THERMAL AND MOISTURE PROTECTION**
- 7.01 BENTONITE WATERPROOFING**
- GENERAL: SUBMIT PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR REVIEW.
- BENTONITE WATERPROOFING: SODIUM BENTONITE CLAY BETWEEN TWO LAYERS OF MIDDLE-PUNCHED WOVEN AND NONWOVEN POLYESTER FABRIC, "CCW MIRACLAY" BY CARLISE COATINGS & WATERPROOFING, INC. OR APPROVED SUBSTITUTE. PROVIDE MANUFACTURERS RECOMMENDED FASTENERS AND ACCESSORIES.
- INSTALLATION: INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. PROTECT PANELS FROM HYDRATING BEFORE BEING COVERED WITH OVERLAP. FOR UNDERSLAB APPLICATION, PLACE OVER LEVEL AND COMPACTED GRADING WITH NON-WOVEN SIDE 1/2" OVERLAP EDGES. MINIMUM AND STAPLE JOINTS, EXTEND MINIMUM 12" UP OR BEYOND PERIMETER FORMS. PROVIDE RECOMMENDED TREATMENT AT ALL PENE TRATIONS.

- 7.02 INSULATION**
- GENERAL: PROTECT INSULATION PRODUCTS FROM EXPOSURE TO WEATHER AND CONTACT WITH WET SURFACES.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- BATT INSULATION: ASTM C665, TYPE I, UNFACED GLASS FIBER THERMAL BATT INSULATION, MAXIMUM FLAME SPREAD INDEX OF 25 AND MAXIMUM SMOKE DEVELOPED INDEX OF 50 (ASTM E84).
- INSTALLATION: INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. PROVIDE THICKNESS OF INSULATION INDICATED OR REQUIRED TO ACHIEVE R-VALUE INDICATED. SET VAPOR RETARDER MEMBRANE TO CONDITIONED SIDE OF CONSTRUCTION. CUT AND FIT TIGHTLY AROUND GROUND PENETRATIONS, CORNERS, AND PENETRATIONS THROUGH ALL LAYER OF INSULATION. SEAL ALL PENETRATIONS THROUGH EXTERIOR WALLS AND UPPERMOST CEILING/ROOF WITH SEALANT.
- FOR EXTERIOR APPLICATIONS AND WHERE BUILT INTO EXTERIOR WALLS, USE GALVANIZED FASTENERS WITH GALVANIZED FERROUS METAL, USE STAINLESS STEEL FASTENERS WITH STAINLESS STEEL AND ALUMINUM MATERIALS, AND USE CADMIUM PLATED FASTENERS WITH OTHER MATERIALS.

## 6 WOOD

- 6.01 ROUGH CARPENTRY:**
- GENERAL: SEE WOOD PRODUCTS OFF-GROUND TO PREVENT TWISTING OR WARPING. WITH PROTECTION FROM WEATHER, REPLACE DAMAGED OR DETERIORATED MATERIALS.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- LUMBER: BLOCKING: SOUTHERN YELLOW PINE, SPIB NO. 2, S4S AND GRADE STAMPED, 10% MAXIMUM MOISTURE CONTENT.
- PLYWOOD: COMPLY WITH PS-1, PROVIDE A RATED SHEATHING, EXPOSURE 1, GRADE C-D OR BETTER. THICKNESS AS INDICATED.
- PRESERVATIVE PRESSURE TREATMENT (P-T): PRESERVATIVE PRESSURE TREAT INTERIOR WOOD FRAMING INDICATED AS "P-T" WITH ZINC BORATE TO COMPLY WITH AFWA STANDARD U1 FOR USE CATEGORY 2, AND KILN DRIED AFTER TREATMENT TO MAXIMUM 19% MOISTURE CONTENT.
- FIRE RETARDANT TREATMENT (FRT): PRESSURE TREAT WOOD INDICATED AS "FRT" TO COMPLY WITH AFWA STANDARD P49 TO PROVIDE WOOD WITH A FLAME SPREAD AND SMOKE DEVELOPED INDEX OF LESS THAN 25 WHEN TESTED IN ACCORDANCE WITH ASTM E84 FOR MINIMUM 30 MINUTE DURATION. PROVIDE TREATMENT TYPE RECOMMENDED BY TREATMENT MANUFACTURER FOR INTENDED USE. TREATMENT TO PROVIDE PROTECTION AGAINST TERMITES AND FUNGAL DECAY, AND BE REGISTERED WITH EPA FOR USE AS A WOOD PRESERVATIVE. TREATED WOOD IN CONTACT WITH CARBON STEEL AND ALUMINUM TO HAVE CORROSION RATES OF LESS THAN 1 MIL PER YEAR WHEN TESTED IN ACCORDANCE WITH FED SPEC MIL-1-914B, PARAGRAPH 4.6.5.2. KILN DRY AFTER TREATMENT TO MAXIMUM MOISTURE CONTENT OF 19% FOR LUMBER AND 15% FOR PLYWOOD, AND STAMP EACH FACE WITH LABEL CLASSIFICATION.
- FASTENERS: PROVIDE FASTENERS AS REQUIRED, CORROSION RESISTANT WHERE EXPOSED TO THE EXTERIOR OR IN CONTACT WITH PRESERVATIVE PRESSURE TREATED OR FIRE RETARDANT TREATED WOOD.
- INSTALLATION: DISCARD MATERIAL THAT IS TOO SHORT FOR OPTIMUM JOINT ARRANGEMENT, SPLIT, WARPED, BOWED, TWISTED, OR OTHERWISE DEFECTIVE. SET CARPENTRY WORK TO REQUIRED LEVELS AND ELEVATIONS, WITH MEMBERS PLUMB, DIRT SQUARE, AND STRAIGHT TO FIT MEMBERS TO FIT TIGHTLY, AND SECURELY ATTACH TO SUBSTRATES AND SUPPORTING MEMBERS WITH FASTENERS THAT WILL NOT PENETRATE MEMBER WHERE OPPOSITE SIDE OF MEMBER IS REQUIRED FOR ATTACHMENT OF OTHER WORK.

- 6.02 INSULATING SHEATHING:**
- GENERAL: PROTECT PRODUCTS FROM EXPOSURE TO WEATHER AND CONTACT WITH WET SURFACES.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- MINERAL WOOL BOARD INSULATION: ASTM C612 TYPE IVB, THICKNESS INDICATED, MINIMUM R VALUE OF 4.0 PER INCH AT 75 DEG F (ASTM C518), MAXIMUM FLAME SPREAD INDEX OF 0 AND MAXIMUM SMOKE DEVELOPED INDEX OF 0 (ASTM E84), MINIMUM DENSITY OF 1.1 PCF (ASTM C308), "COMFORTBOARD 110" BY ROCKWOOL, INC., OR APPROVED SUBSTITUTE.
- INSTALLATION: INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ATTACH TO METAL FRAMING WITH MANUFACTURERS RECOMMENDED CORROSION RESISTANT SCREWS AND WASHERS COMPLYING WITH ASTM C1102 or ASTM C954.
- INSULATION: INSTALL IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ATTACH TO METAL FRAMING WITH MANUFACTURERS RECOMMENDED CORROSION RESISTANT SCREWS AND WASHERS COMPLYING WITH ASTM C1102 or ASTM C954.

- 6.03 GYPSUM SHEATHING**
- GENERAL: PROTECT PRODUCTS FROM EXPOSURE TO WEATHER AND CONTACT WITH WET SURFACES.
- SUBMITTALS: SUBMIT PRODUCT DATA FOR REVIEW.
- GYPSUM SHEATHING: ASTM C1177, WATER RESISTANT GYPSUM CORE PANELS WITH FIBERGLASS MAT FACINGS, MAXIMUM FLAME SPREAD INDEX OF 0 AND MAXIMUM SMOKE DEVELOPED INDEX OF 0 (ASTM E84), THICKNESS AND TYPE AS INDICATED; "SPECTRAC" BY UNITED STATES GYPSUM COMPANY, "TENSOLAS-GOOD" BY GREGGIA PACIFIC BUILDING PRODUCTS, OR APPROVED SUBSTITUTE.
- PROVIDE SHEATHING PRODUCT ACCEPTABLE TO SINGLE-PLY ROOFING MANUFACTURER AT PARAPET SURFACES INDICATED TO RECEIVE SINGLE-PLY FLASHING, "DENSDECK" BY GREGGIA PACIFIC GYPSUM LLC, OR APPROVED SUBSTITUTE.
- INSTALLATION: INSTALL IN ACCORDANCE WITH ASTM C1177, C1178, AND C1179. PROVIDE MANUFACTURERS INSTRUCTIONS. ATTACH TO METAL FRAMING WITH MANUFACTURERS RECOMMENDED CORROSION RESISTANT SCREWS AND WASHERS WITH ASTM C1102 OR ASTM C954.
- PRESERVATIVE SPACING: MINIMUM 1.5" FROM 4" BULB HEAD SCREW TO 4" O.C. MAXIMUM INTO FRAMING SPACING: 24" O.C. MINIMUM EXCEPT AT 16" O.C. MAXIMUM INTO FRAMING SPACING: 24" O.C. MAXIMUM WITHIN 16" O.C. CORNERS.

- 6.04 ARCHITECTURAL WOODWORK**
- GENERAL: COMPLY WITH AIA Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20, Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29, Q30, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41, Q42, Q43, Q44, Q45, Q46, Q47, Q48, Q49, Q50, Q51, Q52, Q53, Q54, Q55, Q56, Q57, Q58, Q59, Q60, Q61, Q62, Q63, Q64, Q65, Q66, Q67, Q68, Q69, Q70, Q71, Q72, Q73, Q74, Q75, Q76, Q77, Q78, Q79, Q80, Q81, Q82, Q83, Q84, Q85, Q86, Q87, Q88, Q89, Q90, Q91, Q92, Q93, Q94, Q95, Q96, Q97, Q98, Q99, Q100, Q101, Q102, Q103, Q104, Q105, Q106, Q107, Q108, Q109, Q110, Q111, Q112, Q113, Q114, Q115, Q116, Q117, Q118, Q119, Q120, Q121, Q122, Q123, Q124, Q125, Q126, Q127, Q128, Q129, Q130, Q131, Q132, Q133, Q134, Q135, Q136, Q137, Q138, Q139, Q140, Q141, Q142, Q143, Q144, Q145, Q146, Q147, Q148, Q149, Q150, Q151, Q152, Q153, Q154, Q155, Q156, Q157, Q158, Q159, Q160, Q161, Q162, Q163, Q164, Q165, Q166, Q167, Q168, Q169, Q170, Q171, Q172, Q173, Q174, Q175, Q176, Q177, Q178, Q179, Q180, Q181, Q182, Q183, Q184, Q185, Q186, Q187, Q188, Q189, Q190, Q191, Q192, Q193, Q194, Q195, Q196, Q197, Q198, Q199, Q200, Q201, Q202, Q203, Q204, Q205, Q206, Q207, Q208, Q209, Q210, Q211, Q212, Q213, Q214, Q215, Q216, Q217, Q218, Q219, Q220, Q221, Q222, Q223, Q224, Q225, Q226, Q227, Q228, Q229, Q230, Q231, Q232, Q233, Q234, Q235, Q236, Q237, Q238, Q239, Q240, Q241, Q242, Q243, Q244, Q245, Q246, Q247, Q248, Q249, Q250, Q251, Q252, Q253, Q254, Q255, Q256, Q257, Q258, Q259, Q260, Q261, Q262, Q263, Q264, Q265, Q266, Q267, Q268, Q269, Q270, Q271, Q272, Q273, Q274, Q275, Q276, Q277, Q278, Q279, Q280, Q281, Q282, Q283, Q284, Q285, Q286, Q287, Q288, Q289, Q290, Q291, Q292, Q293, Q294, Q295, Q296, Q297, Q298, Q299, Q300, Q301, Q302, Q303, Q304, Q305, Q306, Q307, Q308, Q309, Q310, Q311, Q312, Q313, Q314, Q315, Q316, Q317, Q318, Q319, Q320, Q321, Q322, Q323, Q324, Q325, Q326, Q327, Q328, Q329, Q330, Q331, Q332, Q333, Q334, Q335, Q336, Q337, Q338, Q339, Q340, Q341, Q342, Q343, Q344, Q345, Q346, Q347, Q348, Q349, Q350, Q351, Q352, Q353, Q354, Q355, Q356, Q357, Q358, Q359, Q360, Q361, Q362, Q363, Q364, Q365, Q366, Q367, Q368, Q369, Q370, Q371, Q372, Q373, Q374, Q375, Q376, Q377, Q378, Q379, Q380, Q381, Q382, Q383, Q384, Q385, Q386, Q387, Q388, Q389, Q390, Q391, Q392, Q393, Q394, Q395, Q396, Q397, Q398, Q399, Q400, Q401, Q402, Q403, Q404, Q405, Q406, Q407, Q408, Q409, Q410, Q411, Q412, Q413, Q414, Q415, Q416, Q417, Q418, Q419, Q420, Q421, Q422, Q423, Q424, Q425, Q426, Q427, Q428, Q429, Q430, Q431, Q432, Q433, Q434, Q435, Q436, Q437, Q438, Q439, Q440, Q441, Q442, Q443, Q444, Q445, Q446, Q447, Q448, Q449, Q450, Q451, Q452, Q453, Q454, Q455, Q456, Q457, Q458, Q459, Q460, Q461, Q462, Q463, Q464, Q465, Q466, Q467, Q468, Q469, Q470, Q471, Q472, Q473, Q474, Q475, Q476, Q477, Q478, Q479, Q480, Q481, Q482, Q483, Q484, Q485, Q486, Q487, Q488, Q489, Q490, Q491, Q492, Q493, Q494, Q495, Q496, Q497, Q498, Q499, Q500, Q501, Q502, Q503, Q504, Q505, Q506, Q507, Q508, Q509, Q510, Q511, Q512, Q513, Q514, Q515, Q516, Q517, Q518, Q519, Q520, Q521, Q522, Q523, Q524, Q525, Q526, Q527, Q528, Q529, Q530, Q531, Q532, Q533, Q534, Q535, Q536, Q537, Q538, Q539, Q540, Q541, Q542, Q543, Q544, Q545, Q546, Q547, Q548, Q549, Q550, Q551, Q552, Q553, Q554, Q555, Q556, Q557, Q558, Q559, Q560, Q561, Q562, Q563, Q564, Q565, Q566, Q567, Q568, Q569, Q570, Q571, Q572, Q573, Q574, Q575, Q576, Q577, Q578, Q579, Q580, Q581, Q582, Q583, Q584, Q585, Q586, Q587, Q588, Q589, Q590, Q591, Q592, Q593, Q594, Q595, Q596, Q597, Q598, Q599, Q600, Q601, Q602, Q603, Q604, Q605, Q606, Q607, Q608, Q609, Q610, Q611, Q612, Q613, Q614, Q615, Q616, Q617, Q618, Q619, Q620, Q621, Q622, Q623, Q624, Q625, Q626, Q627, Q628, Q629, Q630, Q631, Q632, Q633, Q634, Q635, Q636, Q637, Q638, Q639, Q640, Q641, Q642, Q643, Q644, Q645, Q646, Q647, Q648, Q649, Q650, Q651, Q652, Q653, Q654, Q655, Q656, Q657, Q658, Q659, Q660, Q661, Q662, Q663, Q664, Q665, Q666, Q667, Q668, Q669, Q670, Q671, Q672, Q673, Q674, Q675, Q676, Q677, Q678, Q679, Q680, Q681, Q682, Q683, Q684, Q685, Q686, Q687, Q688, Q689, Q690, Q691, Q692, Q693, Q694, Q695, Q696, Q697, Q698, Q6