

CONSTRUCTION SPECIFICATIONS:

SECTION 02 4116 DEMOLITION

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. DEMOLITION OF DESIGNATED STRUCTURES.
2. DEMOLITION OF FOUNDATIONS AND SLABS ON GRADE AS REQUIRED.
3. DISCONNECTION AND CAPPING OR REMOVAL OF UTILITIES.
4. DEMOLITION OF WALKS, PAVING, CURBS, GUTTERS, AND SITE IMPROVEMENTS.
5. REMOVAL OF MATERIALS FROM SITE.

PART 2 PRODUCTS
NOT APPLICABLE

PART 3 EXECUTION
3.1 PREPARATION
A. PRIOR TO BEGINNING DEMOLITION, VERIFY THAT:
1. STRUCTURES ARE UNOCCUPIED AND REMOVED FROM SERVICE.
2. TEMPORARY CONTROLS AND DEVICES ARE IN PLACE AND OPERATIONAL.
3. UTILITIES ARE TEMPORARILY OR PERMANENTLY DISCONNECTED OR RELOCATED AS REQUIRED.

3.2 DEMOLITION
A. DEMOLISH STRUCTURES IN ACCORDANCE WITH DEMOLITION PROCEDURES APPROVED BY ARCHITECT.
B. SPRINKLE DEBRIS, AND USE TEMPORARY CLOSURES AS NECESSARY TO LIMIT DUST TO LOWEST PRACTICAL LEVEL.
C. DO NOT USE WATER TO EXTENT CAUSING FLOODING, CONTAMINATED RUNOFF, OR ICING.
D. BEGIN DEMOLITION AT TOP OF BUILDING AND PROCEED TO LOWEST LEVEL, NOT USING EXPLOSIVES.
E. DEMOLISH STRUCTURE ABOVE EACH FLOOR LEVEL BEFORE DAMAGING SUPPORTING MEMBERS ON LOWER LEVELS.
F. REMOVE SLABS AND FOUNDATIONS TO DEPTH INDICATED.

3.3 MATERIAL DISPOSAL
A. SALVAGE: REMOVE, PROTECT, AND RELOCATE MATERIALS DESIGNATED TO REMAIN PROPERTY OF OWNER.
B. DISPOSAL:
1. MATERIALS, EQUIPMENT, AND DEBRIS RESULTING FROM DEMOLITION OPERATIONS BECOMES PROPERTY OF CONTRACTOR. REMOVE DEBRIS AS SOON AS PRACTICAL.
2. COVER DEBRIS IN TRUCKS TO PREVENT SPILLAGE DURING TRANSPORTATION.
3. DO NOT STORE OR BURN MATERIALS ON SITE.
4. TRANSPORT DEBRIS TO OFF-SITE DISPOSAL AREA AND LEGALLY DISPOSE OF.

SECTION 03 3000 CAST-IN-PLACE CONCRETE

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. CAST-IN-PLACE CONCRETE FOR FOUNDATIONS AND SLABS ON GRADE.
2. EQUIPMENT PADS.
3. BASES FOR LIGHTING FIXTURES.

PART 2 PRODUCTS
2.1 MATERIALS
A. PORTLAND CEMENT: ASTM C150, TYPE I OR III, GRAY COLOR.
B. AGGREGATES:
1. FINE: ASTM C33, CLEAN, HARD, DURABLE, UNCOATED NATURAL SAND, FREE FROM SILT, LOAM, AND CLAY.
2. COARSE: ASTM C33, CLEAN, HARD, DURABLE, UNCOATED CRUSHED STONE, MAXIMUM SIZE 3/4 INCH.
C. FLY ASH: ASTM C618, MAXIMUM 2 PERCENT LOSS ON IGNITION.

2.2 ACCESSORIES
A. WATER: CLEAN AND POTABLE.
B. ADMIXTURES:
1. WATER REDUCING OR WATER REDUCING/SET RETARDING: ASTM C494, TYPE A OR D.
2. AIR ENTRAINING: ASTM C260.
3. EXPANSION JOINT FILLER: ASTM D1752, NON-ASPHALTIC TYPE.
D. BONDING AGENT: TWO COMPONENT MODIFIED EPOXY RESIN.

2.4 MIXES
A. PROPORTIONS: IN ACCORDANCE WITH ACI 301.
B. DESIGN CONCRETE TO YIELD CHARACTERISTICS INDICATED ON DRAWINGS.
C. AIR ENTRAINED CONCRETE: PROVIDE AIR ENTRAINING ADMIXTURE TO PRODUCE 4 TO 6 PERCENT AIR BY VOLUME.
D. USE ACCELERATING ADMIXTURE IN COLD WEATHER ONLY WHEN APPROVED BY ARCHITECT. USE OF ADMIXTURES WILL NOT REDUCE COLD WEATHER PLACEMENT REQUIREMENTS.
E. FLY ASH CONTENT: MINIMUM PERCENT BY WEIGHT OF CEMENTITIOUS MATERIAL IN MIX AS SHOWN ON DRAWINGS.
F. THE MATERIAL(S) IN THE PRODUCT(S) SUPPLIED SHOULD HAVE A RECYCLED CONTENT SUCH THAT THE SUM OF THE POST-CONSUMER RECYCLED CONTENT PLUS ONE-HALF OF THE PRE-CONSUMER CONTENT CONSTITUTES AT LEAST 20% OF THE TOTAL VALUE OF THE MATERIAL IN THE PRODUCT.

PART 3 EXECUTION
3.1 PREPARATION
A. NOTIFY TESTING LABORATORY MINIMUM 24 HOURS PRIOR TO PLACING CONCRETE.
B. ACCURATELY POSITION ANCHOR BOLTS, SLEEVES, CONDUIT, INSERTS, AND ACCESSORIES. DO NOT CUT REINFORCING STEEL TO FACILITATE INSTALLATION OF INSERTS OR ACCESSORIES.
C. REMOVE WATER AND DEBRIS FROM FORMS AND EXCAVATIONS.
D. CLOSE OPENINGS LEFT IN FORMS FOR CLEANING AND INSPECTION.

3.2 PLACEMENT OF CONCRETE
A. PLACE CONCRETE IN ACCORDANCE WITH ACI 301 AND ACI 318.
B. ENSURE REINFORCEMENT, INSERTS, AND EMBEDDED PARTS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.
C. DEPOSIT CONCRETE AS NEARLY AS POSSIBLE IN ITS FINAL POSITION TO MINIMIZE HANDLING AND FLOWING.
D. PLACE CONCRETE CONTINUOUSLY BETWEEN PREDETERMINED EXPANSION, CONTROL, AND CONSTRUCTION JOINTS.
E. DO NOT PLACE PARTIALLY HARDENED, CONTAMINATED, OR RE-TEMPERED CONCRETE. DO NOT ALLOW CONCRETE TO FREE FALL OVER 8 FEET, PROVIDE TREMIES, CHUTES, OR OTHER MEANS OF CONVEYANCE.
F. CONSOLIDATE CONCRETE WITH MECHANICAL VIBRATING EQUIPMENT. HAND COMPACT IN CORNERS AND ANGLES OF FORMS.
H. CONTROL SLUMP LEVEL, TO PLATNESS TOLERANCE OF 1/8 INCH IN 10 FEET.

3.3 PLACEMENT OF GROUT
A. REMOVE LOOSE AND FOREIGN MATTER FROM CONCRETE; LIGHTLY ROUGHEN BONDING SURFACE.
B. JUST PRIOR TO GROUTING, THOROUGHLY WET CONCRETE SURFACES; REMOVE EXCESS WATER.
C. MIX GROUT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. DO NOT RE-TEMPER.
D. PLACE GROUT CONTINUOUSLY, BY MOST PRACTICAL MEANS; AVOID ENTRAPPED AIR. DO NOT VIBRATE GROUT.

3.4 PROTECTION
A. IMMEDIATELY AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY.
B. MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
C. PROVIDE ARTIFICIAL HEAT TO MAINTAIN TEMPERATURE OF CONCRETE ABOVE MINIMUM SPECIFIED TEMPERATURE FOR DURATION OF CURING PERIOD.
D. KEEP FORMS SUFFICIENTLY WET TO PREVENT CRACKING OF CONCRETE OR LOOSENING OF FORM JOINTS.

3.5 CURING
A. CURE CONCRETE IN ACCORDANCE WITH ACI 308:
1. HORIZONTAL SURFACES:
a. SURFACES TO RECEIVE ADDITIONAL TOPPING OR SETTING BEDS: USE CURING PAPER METHOD.
b. OTHER SURFACES: USE EITHER CURING PAPER OR CURING COMPOUND METHOD.
2. VERTICAL SURFACES: USE EITHER WET CURING OR CURING COMPOUND METHOD.
B. CURING COMPOUND METHOD:
1. SPRAY COMPOUND ON SURFACES IN TWO COATS, APPLYING SECOND AT RIGHT ANGLE TO FIRST, AT MINIMUM RATE RECOMMENDED BY MANUFACTURER.
2. RESTRICT TRAFFIC ON SURFACES DURING CURING.
C. CURING PAPER METHOD:
1. SPREAD CURING PAPER OVER SURFACES, LAPPING ENDS AND SIDES MINIMUM 4 INCHES; MAINTAIN IN PLACE BY USE OF WEIGHTS.
D. WET CURING METHOD: SPRAY WATER OVER SURFACES AND MAINTAIN WET FOR 7 DAYS.

3.6 CLEANING
A. REMOVE EFFLORESCENCE, STAINS, OIL, GREASE, AND FOREIGN MATERIALS FROM EXPOSED SURFACES.
3.7 FIELD QUALITY CONTROL
A. TESTING AND INSPECTION SERVICES:
1. CERTIFY EACH DELIVERY TICKET.
2. RECORD TIME AT WHICH CONCRETE WAS DISCHARGED FROM TRUCK.
3. MONITOR AND RECORD AMOUNT OF WATER AND WATER REDUCING ADMIXTURE ADDED TO CONCRETE AT PROJECT SITE.
4. DETERMINE AMBIENT TEMPERATURE AND TEMPERATURE OF CONCRETE SAMPLE FOR EACH SET OF TEST CYLINDERS.
5. TEST CYLINDERS:
a. MAKE TEST CYLINDERS IN ACCORDANCE WITH ASTM C172, ONE SET OF 3 CYLINDERS FOR EACH 100 CUBIC YARDS OR FRACTION THEREOF PLACED IN ANY ONE DAY, FOR

EACH DIFFERENT CLASS OF CONCRETE.
b. MOLD AND CURE CYLINDERS IN ACCORDANCE WITH ASTM C31; TEST CYLINDERS IN ACCORDANCE WITH ASTM C39, ONE AT 7 DAYS AND TWO AT 28 DAYS.
6. SLUMP TESTS: MAKE SLUMP TESTS AT BEGINNING OF EACH DAY'S PLACEMENT AND FOR EACH SET OF TEST CYLINDERS IN ACCORDANCE WITH ASTM C143.
7. AIR CONTENT: DETERMINE TOTAL AIR CONTENT OF AIR ENTRAINED CONCRETE FOR EACH STRENGTH TEST IN ACCORDANCE WITH ASTM C231.

SECTION 05 1200 STRUCTURAL STEEL FRAMING

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. STRUCTURAL STEEL FRAMING MEMBERS.
2. GROUTING BASE PLATES.

1.3 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.
2. RECYCLED CONTENT:
I. INDICATE RECYCLED CONTENT, INDICATE PERCENTAGE OF PRE-CONSUMER AND POST-CONSUMER RECYCLED CONTENT PER UNIT OF PRODUCT.
II. INDICATE RELATIVE DOLLAR VALUE OF RECYCLED CONTENT PRODUCT TO TOTAL DOLLAR VALUE OF PRODUCT INCLUDED IN PRODUCT.
III. IF RECYCLED CONTENT PRODUCT IS PART OF AN ASSEMBLY, INDICATE THE PERCENTAGE OF RECYCLED CONTENT PRODUCT IN THE ASSEMBLY BY WEIGHT.
IV. IF RECYCLED CONTENT PRODUCT IS PART OF AN ASSEMBLY, INDICATE RELATIVE DOLLAR VALUE OF RECYCLED CONTENT PRODUCT TO TOTAL DOLLAR VALUE OF ASSEMBLY.

PART 1 PRODUCTS
1.1 MATERIALS
A. STEEL:
1. SHAPES, BARS, AND PLATES: ASTM A36/A36M, GRADE 50.
2. PIPE: ASTM A53/A53M, GRADE B.
3. RECYCLED CONTENT: MINIMUM [25] PERCENT, WITH MINIMUM [20] PERCENT CLASSIFIED AS POST CONSUMER AND MINIMUM [5] PERCENT CLASSIFIED AS PRE-CONSUMER.

1.2 FABRICATION
A. FABRICATE STRUCTURAL STEEL IN ACCORDANCE WITH AISC MANUAL.
PART 2 EXECUTION
2.1 ERECTION OF STEEL FRAMING
A. ERECT STRUCTURAL STEEL IN ACCORDANCE WITH AISC SPECIFICATIONS.
B. ACCURATELY ASSEMBLE TO LINES AND ELEVATIONS INDICATED, WITHIN SPECIFIED ERECTION TOLERANCES.
C. ALIGN BEARING PLATES WITH LEVELING PLATES.
D. CLEAN BEARING SURFACES AND SURFACES THAT WILL BE IN PERMANENT CONTACT BEFORE MEMBERS ARE ASSEMBLED.
E. LOCATE SPLICES ONLY WHERE INDICATED.
1. MAXIMUM VARIATION FROM LEVEL: 1/4 INCH IN 10 FEET, NONCUMULATIVE.
2. MAXIMUM OFFSET FROM ALIGNMENT OF ADJACENT MEMBERS: 1/4 INCH.

SECTION 05 5000 METAL FABRICATIONS

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. LADDERS.
2. BOLLARDS.
1.3 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.
2. RECYCLED CONTENT
3. PRODUCT DATA FOR CREDIT: INDICATING PERCENTAGES BY WEIGHT OF POST-CONSUMER AND PRE CONSUMER RECYCLED CONTENT FOR PRODUCTS HAVING RECYCLED CONTENT.

PART 1 PRODUCTS
1.1 MATERIALS - STEEL
A. SHAPES: ASTM A36/A36M.
B. PIPE BOLLARDS: ASTM A53.
1.4" DIAMETER THICKNESS: .432 WEIGHT PER FOOT, 28.57 LBS., A.S.A. SCHEDULE 80.
C. BARS: ASTM A108.
D. RECYCLED CONTENT: POST-CONSUMER RECYCLED CONTENT PLUS ONE-HALF OF PRE CONSUMER RECYCLED CONTENT NOT LESS THAN [20] PERCENT.

1.1 FABRICATION
A. GRIND EXPOSED JOINTS FLUSH AND SMOOTH WITH ADJACENT FINISH SURFACE. MAKE EXPOSED JOINTS BUTT TIGHT, FLUSH, AND HAIRLINE. EASE EXPOSED EDGES TO SMALL UNIFORM RADIUS.
B. SUPPLY COMPONENTS REQUIRED FOR ANCHORAGE OF FABRICATIONS, FABRICATE ANCHORS AND RELATED COMPONENTS OF SAME MATERIAL AND FINISH AS FABRICATION, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
C. CONCEAL FASTENINGS WHERE POSSIBLE.
1.2 FINISHES
A. EXTERIOR FERROUS METAL: GALVANIZED; ASTM A123/A123M, TO 1.3 OUNCES PER SQUARE FOOT.
PART 2 EXECUTION
2.1 INSTALLATION
A. INSTALL COMPONENTS PLUMB, LEVEL, AND RIGID.
2.2 SCHEDULE
A. LADDERS:
I. SIDE RAILS: CONTINUOUS STEEL FLAT BARS, 1/2 X 2-1/2 INCHES, EASED EDGES, SPACED 18 INCHES APART.
II. RUNGS: ROUND STEEL BARS, 3/4 INCH DIAMETER, SPACED 12 INCHES ON CENTER, FIT RUNGS IN CENTERLINE OF SIDE RAILS AND PLUG WELD ON OUTER RAIL FACE.
III. SUPPORT LADDERS AT TOP, BOTTOM, AND AT INTERMEDIATE POINTS SPACED MAXIMUM 6' ON CENTER WITH STEEL BRACKETS, BOLTED TO SUPPORTS.
B. BOLLARDS:
I. FABRICATE FROM STEEL PIPE OF SIZES INDICATED.
II. SET INTO CONCRETE FOOTING.
III. FILL PIPE WITH CONCRETE; ROD TO CONSOLIDATE. DOME TOP TO SHED WATER.
IV. PIPE TO BE FILLED WITH CONCRETE TO A 1.5 INCH DOME TOP GROUND SMOOTH. CONCRETE TO PROVIDE A MINIMUM OF 3000 P.S.I. COMPRESSIVE STRENGTH.
V. PIPE TO BE PRIMED WITH ONE COAT OF METAL PRIMER FROM OLAD GALVANIZED AND PROVIDED WITH A PLASTIC SLEEVE - SEE NATIONAL ACCOUNTS.
VI. ALL PIPE BOLLARDS SHOULD BE PLACED A MINIMUM OF 18" BELOW FINISH GRADE, HAVE A MINIMUM HEIGHT OF 36" INCHES ABOVE FINISHED GRADE AND SPACED AS SHOWN ON SITE DRAWINGS.

SECTION 06 1100 FRAMING AND SHEATHING

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. ROOF AND WALL FRAMING.
2. ROOF AND WALL SHEATHING.
3. WOOD BLOCKING AND FURRING.
1.3 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. MATERIALS REUSE.
2. RECYCLED CONTENT.
3. REGIONAL MATERIALS.
4. RAPIDLY RENEWABLE MATERIALS.
5. LOW-EMITTING MATERIALS.
6. CERTIFIED WOOD.
1.4 QUALITY ASSURANCE
A. LUMBER GRADING AGENCY: CERTIFIED TO NIST PS 20.
B. IDENTIFY LUMBER AND SHEET PRODUCTS BY OFFICIAL GRADE MARK.
1.5 DELIVERY, STORAGE AND HANDLING
A. STORE MATERIALS AND MINIMUM 6 INCHES ABOVE GROUND ON FRAMEWORK OR BLOCKING AND COVER WITH PROTECTIVE WATERPROOF COVERING PROVIDING FOR ADEQUATE AIR CIRCULATION.
B. DO NOT STORE SEASONED OR TREATED MATERIALS IN DAMP LOCATION.
C. PROTECT EDGES AND CORNERS OF SHEET MATERIALS FROM DAMAGE.

PART 2 PRODUCTS
2.1 MATERIALS
A. DIMENSION LUMBER:
1. GRADING RULES: NELMA, SPIB OR WPPA.
2. GRADE: #2 OR SELECT STRUCTURAL.
3. SURFACING: SURFACED FOUR SIDES (S4S).
4. MAXIMUM MOISTURE CONTENT: 19 PERCENT.
5. FINGER JOINTED, MANUFACTURED USING LOW-EMITTING, UREA FORMALDEHYDE-FREE BINDERS.

6. CERTIFIED TO FSC STD-04-004.
B. LAMINATED VENEER LUMBER:
1. FABRICATED BY LAMINATING WOOD VENEERS UNDER PRESSURE USING EXTERIOR TYPE ADHESIVE WITH GRAIN OF VENEERS PARALLEL WITH LENGTH.
2. VENEER: DOUGLAS FIR OR SOUTHERN PINE.
3. MANUFACTURED USING LOW-EMITTING, UREA FORMALDEHYDE-FREE BINDERS.
4. CERTIFIED TO FSC STD-04-004.
C. SHEET PRODUCTS:
1. TYPE: APA PLYWOOD OR ORIENTED STRAND BOARD.
2. PANEL GRADE:
a. WALL AND ROOF SHEATHING: APA RATED SHEATHING.
3. EXPOSURE:
a. EXTERIOR APPLICATIONS: EXPOSURE 1.
b. INTERIOR APPLICATIONS: INTERIOR.
4. RAPIDLY RENEWABLE PRODUCT MADE FROM CHOPPED STRAW, MANUFACTURED USING LOW-EMITTING, UREA FORMALDEHYDE-FREE BINDERS.
5. CERTIFIED TO FSC STD-04-004.

PART 3 EXECUTION
3.1 INSTALLATION
A. SET MEMBERS LEVEL, PLUMB, AND RIGID.
B. MAKE PROVISIONS FOR ERECTION LOADS, AND FOR TEMPORARY BRACING TO MAINTAIN STRUCTURE SAFE, PLUMB, AND IN TRUE ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRACING.
C. PLACE BEAMS, JOISTS, AND RAFTERS WITH CROWN EDGE UP.
D. CONSTRUCT LOAD BEARING FRAMING MEMBERS FULL LENGTH WITHOUT SPLICES.
E. STUD FRAMING:
1. PROVIDE SINGLE BOTTOM PLATE AND DOUBLE TOP PLATES FOR LOAD BEARING PARTITIONS.
2. PROVIDE SINGLE BOTTOM AND TOP PLATES FOR NON-LOAD BEARING PARTITIONS.
3. ANCHOR BOTTOM PLATES TO CONCRETE STRUCTURE WITH ANCHOR BOLTS.
4. TRIPLE STUDS AT CORNERS AND PARTITION INTERSECTIONS.
5. FRAME OPENINGS WITH DOUBLE STUDS AND HEADERS, SPACE SHORT STUDS OVER AND UNDER OPENING TO STUD SPACING.
F. PROVIDE BLOCKING, NAILERS, GROUNDS, FURRING, AND OTHER SIMILAR ITEMS REQUIRED TO RECEIVE AND SUPPORT WORK.
G. PROVIDE ADEQUATE BLOCKING FOR ALL WALL-MOUNTED UNITS IN ACCORDANCE WITH PLANS.
3.2 TOLERANCES
A. FRAMING MEMBERS: 1/4 INCH FROM TRUE POSITION, MAXIMUM.

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. SPECIAL FABRICATED CABINET UNITS.
2. PLASTIC LAMINATE COUNTERTOPS.
1.3 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. MATERIALS REUSE.
2. RECYCLED CONTENT.
3. REGIONAL MATERIALS.
4. RAPIDLY RENEWABLE MATERIALS.
5. LOW-EMITTING MATERIALS.
6. CERTIFIED WOOD.

PART 2 PRODUCTS
2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - PLASTIC LAMINATE:
1. FORMICA CORP. (WWW.FORMICA.COM)
2. WILSONART INTERNATIONAL, INC. (WWW.WILSONART.COM)
B. SUBSTITUTIONS: NOT PERMITTED.
2.2 MATERIALS
A. LUMBER:
1. GRADED IN ACCORDANCE WITH AIA/WAMAC/WI ARCHITECTURAL WOODWORK STANDARDS, SECTION 3 REQUIREMENTS FOR QUALITY GRADE SPECIFIED, AVERAGE MOISTURE CONTENT OF 6 PERCENT.
2. PROPOSED AND SEMI-EXPOSED LOCATIONS: CLOSED GRAIN HARDWOOD, OF QUALITY SUITABLE FOR OPAQUE FINISH.
B. PLASTIC LAMINATE: NEMA LD-3.
1. HIGH PRESSURE DECORATIVE LAMINATE:
a. HORIZONTAL SURFACES:
1) BACKING SHEET: 3/4 INCH INT-APA A-0 PLYWOOD.
2) VERTICAL SURFACES:
1) BACKING SHEET: 25/32 INCH EXTERIOR GRADE PLYWOOD.
2. COLORS
a. FORMICA #459-58 "BRIGHT WHITE" MATTE FINISH
b. FORMICA #909-58 "BLACK" MATTE FINISH
c. WILSONART #750K-18 "STUDIO TEAK" LINEARITY FINISH
2.3 ACCESSORIES
A. FASTENERS: TYPE AND SIZE AS REQUIRED BY CONDITIONS OF USE.
B. ADHESIVES:
1. WATERPROOF, WATER BASED TYPE, COMPATIBLE WITH BACKING AND LAMINATE MATERIALS.
2. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: 70 GRAMS PER LITER.
C. FINISH HARDWARE: AS SCHEDULED AT END OF SECTION.

2.4 FABRICATION
A. PLASTIC LAMINATE COUNTERTOPS:
1. QUALITY, AIA/WAMAC/WI ARCHITECTURAL WOODWORK STANDARDS, SECTION 11, PREMIUM GRADE.
2. FABRICATE FROM SHEET PRODUCT WITH LUMBER FRONTS.
3. PROVIDE HOLES AND CUTOUTS FOR MOUNTING OF ACCESSORIES.
B. SHOP ASSEMBLE FOR DELIVERY TO PROJECT SITE IN UNITS EASILY HANDLED.
C. PROVIDE TRIM FOR SCRIBING AND SITE CONDITIONS.
D. APPLY PLASTIC LAMINATE IN FULL UNINTERRUPTED SHEETS, FIT CORNERS AND JOINTS TO HAIRLINE, SLIGHTLY BEVEL EDGES. APPLY LAMINATE BACKING SHEET TO REVERSE SIDE OF LAMINATE FACE SURFACES.
E. WHERE FIELD FITTING IS REQUIRED, PROVIDE AMPLE ALLOWANCE FOR CUTTING. PROVIDE TRIM FOR SCRIBING AND SITE CONDITIONS.
F. PROVIDE CUTOUTS AND REINFORCEMENT FOR PLUMBING, ELECTRICAL, APPLIANCES, AND ACCESSORIES: PRIME PAINT SURFACES OF CUT EDGES.

PART 3 EXECUTION
3.1 INSTALLATION
A. INSTALL IN ACCORDANCE WITH AIA/WAMAC/WI ARCHITECTURAL WOODWORK STANDARDS.
B. SET PLUMB, RIGID AND LEVEL.
C. SCRIBE TO ADJACENT CONSTRUCTION WITH MAXIMUM 1/8 INCH GAPS.
D. FILL JOINTS BETWEEN TOPS AND ADJACENT CONSTRUCTION WITH JOINT SEALER AS SPECIFIED IN SECTION 07 9200, FINISH FLUSH.
3.2 FINISH HARDWARE SCHEDULE
A. SHELVES SHALL BE INSTALLED ON HEAVY DUTY, ADJUSTABLE KNIFE BRACKETS, KNAPE & VOGT NO. 180-12, AND KNAPE & VOGT NO. 80 STANDARDS, AS NOTED ON DRAWINGS. STANDARDS AND BRACKETS TO BE STEEL WITH ANCHROME FINISH. ISOLATED, INDIVIDUAL SHELVES SHALL BE MOUNTED DIRECTLY TO THE WALL WITH KNAPE & VOGT NO. 204 STEEL BRACKETS, ANCHROME FINISH, AND LENGTH AS SHOWN ON THE DRAWINGS.

SECTION 06 4000 WOOD TRIM

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. INTERIOR WOOD TRIM.
1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. MATERIALS REUSE.
2. REGIONAL MATERIALS.
3. LOW-EMITTING MATERIALS.
4. CERTIFIED WOOD.
1.3 DELIVERY, STORAGE AND HANDLING
A. DO NOT DELIVER MATERIALS UNTIL PROPER PROTECTION CAN BE PROVIDED, AND UNTIL NEEDED FOR INSTALLATION.
1.4 PROJECT CONDITIONS
A. ENVIRONMENTAL REQUIREMENTS: MAINTAIN FOLLOWING CONDITIONS IN BUILDING FOR MINIMUM 7 DAYS PRIOR TO, DURING, AND AFTER INSTALLATION OF INTERIOR TRIM:
1. TEMPERATURE: 60 TO 80 DEGREES F.
2. HUMIDITY: 43 TO 70 PERCENT.

PART 2 PRODUCTS
2.1 MATERIALS
A. INTERIOR TRIM:
1. GRADED IN ACCORDANCE WITH AIA/WAMAC/WI ARCHITECTURAL WOODWORK STANDARDS, SECTION 3 REQUIREMENTS FOR QUALITY GRADE SPECIFIED, AVERAGE MOISTURE CONTENT OF 6 PERCENT.
2. PROPOSED AND SEMI-EXPOSED LOCATIONS: CLOSED GRAIN HARDWOOD, OF QUALITY SUITABLE FOR OPAQUE FINISH.
B. PLASTIC LAMINATE: NEMA LD-3.
1. HIGH PRESSURE DECORATIVE LAMINATE:
a. HORIZONTAL SURFACES:
1) BACKING SHEET: 3/4 INCH INT-APA A-0 PLYWOOD.
2) VERTICAL SURFACES:
1) BACKING SHEET: 25/32 INCH EXTERIOR GRADE PLYWOOD.
2. COLORS
a. FORMICA #459-58 "BRIGHT WHITE" MATTE FINISH
b. FORMICA #909-58 "BLACK" MATTE FINISH
c. WILSONART #750K-18 "STUDIO TEAK" LINEARITY FINISH
2.3 ACCESSORIES
A. FASTENERS: TYPE AND SIZE AS REQUIRED BY CONDITIONS OF USE.
B. ADHESIVES:
1. WATERPROOF, WATER BASED TYPE, COMPATIBLE WITH BACKING AND LAMINATE MATERIALS.
2. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: 70 GRAMS PER LITER.
C. FINISH HARDWARE: AS SCHEDULED AT END OF SECTION.

2.4 FABRICATION
A. PLASTIC LAMINATE COUNTERTOPS:
1. QUALITY, AIA/WAMAC/WI ARCHITECTURAL WOODWORK STANDARDS, SECTION 11, PREMIUM GRADE.
2. FABRICATE FROM SHEET PRODUCT WITH LUMBER FRONTS.
3. PROVIDE HOLES AND CUTOUTS FOR MOUNTING OF ACCESSORIES.
B. SHOP ASSEMBLE FOR DELIVERY TO PROJECT SITE IN UNITS EASILY HANDLED.
C. PROVIDE TRIM FOR SCRIBING AND SITE CONDITIONS.
D. APPLY PLASTIC LAMINATE IN FULL UNINTERRUPTED SHEETS, FIT CORNERS AND JOINTS TO HAIRLINE, SLIGHTLY BEVEL EDGES. APPLY LAMINATE BACKING SHEET TO REVERSE SIDE OF LAMINATE FACE SURFACES.
E. WHERE FIELD FITTING IS REQUIRED, PROVIDE AMPLE ALLOWANCE FOR CUTTING. PROVIDE TRIM FOR SCRIBING AND SITE CONDITIONS.
F. PROVIDE CUTOUTS AND REINFORCEMENT FOR PLUMBING, ELECTRICAL, APPLIANCES, AND ACCESSORIES: PRIME PAINT SURFACES OF CUT EDGES.

PART 3 EXECUTION
3.1 INSTALLATION
A. INSTALL IN ACCORDANCE WITH AIA/WAMAC/WI ARCHITECTURAL WOODWORK STANDARDS.
B. SET PLUMB, RIGID AND LEVEL.
C. SCRIBE TO ADJACENT CONSTRUCTION WITH MAXIMUM 1/8 INCH GAPS.
D. FILL JOINTS BETWEEN TOPS AND ADJACENT CONSTRUCTION WITH JOINT SEALER AS SPECIFIED IN SECTION 07 9200, FINISH FLUSH.
3.2 FINISH HARDWARE SCHEDULE
A. SHELVES SHALL BE INSTALLED ON HEAVY DUTY, ADJUSTABLE KNIFE BRACKETS, KNAPE & VOGT NO. 180-12, AND KNAPE & VOGT NO. 80 STANDARDS, AS NOTED ON DRAWINGS. STANDARDS AND BRACKETS TO BE STEEL WITH ANCHROME FINISH. ISOLATED, INDIVIDUAL SHELVES SHALL BE MOUNTED DIRECTLY TO THE WALL WITH KNAPE & VOGT NO. 204 STEEL BRACKETS, ANCHROME FINISH, AND LENGTH AS SHOWN ON THE DRAWINGS.

SECTION 07 2113 THERMAL INSULATION

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. CONTINUOUS INSULATION FOR WALLS:
1.1 THERMASHEATH-SI.
1.2 THERMASHEATH-3.
1.3 THERMASHEATH-XP.
1.4 R-MATTE PLUS-3.
PRODUCT DATA SHEET 1 - FLASHINGS AND TAPES.
PRODUCT DATA SHEET 2 - INSULATION CLIPS.
PRODUCT DATA SHEET 3 - NAILBOARD FASTENERS.
PRODUCT DATA SHEET 4 - RAINSCREEN METAL PANEL SYSTEM.
SCHEDULE 1 - SUBMITTALS
PRODUCT DATA SHEET 0 - SUBMIT UNDER PROVISIONS OF SECTION 01 3000 - ADMINISTRATIVE REQUIREMENTS.
PRODUCT DATA SHEET 1 - PRODUCT DATA: MANUFACTURER'S DATA SHEETS ON EACH PRODUCT TO BE USED, INCLUDING:
1.1 PREPARATION INSTRUCTIONS AND RECOMMENDATIONS.
1.2 STORAGE AND HANDLING REQUIREMENTS AND RECOMMENDATIONS.
1.3 INSTALLATION METHODS.
PRODUCT DATA SHEET 2 - SHOP DRAWINGS: SHOW FABRICATION AND INSTALLATION LAYOUTS OF METAL WALL PANELS; DETAILS OF EDGE CONDITIONS; JOINTS, PANEL PROFILES, CORNERS, ANCHORAGES, ATTACHMENT SYSTEM, TRIM, FLASHINGS, CLOSURES, AND ACCESSORIES; AND SPECIAL DETAILS.
1.4 ACCESSORIES: INCLUDE DETAILS OF ALL INTEGRAL PANEL COMPONENTS AND THEIR INTERFERENCE WITH ADJACENT MATERIALS.
1.5 FOR INSTALLED PRODUCTS INDICATED TO COMPLY WITH DESIGN LOADS, INCLUDE STRUCTURAL ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.
PRODUCT DATA SHEET 3 - VERIFICATION SAMPLES: FOR EACH FINISH PRODUCT SPECIFIED, TWO SAMPLES, MINIMUM SIZE 4 INCHES BY 6 INCHES (102MM X 150 MM).
SCHEDULE 2 - RAINSCREEN METAL PANEL PERFORMANCE REQUIREMENTS
PRODUCT DATA SHEET 0 - ASSEMBLIES: PROVIDE METAL WALL PANEL ASSEMBLIES THAT COMPLY WITH PERFORMANCE REQUIREMENTS SPECIFIED WITHIN THIS SECTION. MANUFACTURER'S STANDARD ASSEMBLIES INDICATED FOR THIS PROJECT SHALL HAVE BEEN TESTED BY A CERTIFIED 3RD PARTY TESTING AND INSPECTING AGENCY.
PRODUCT DATA SHEET 1 - STRUCTURAL PERFORMANCE: PROVIDE METAL WALL PANEL ASSEMBLIES AND CONTINUOUS INSULATION SHEATHINGS CAPABLE OF WITHSTANDING THE EFFECTS OF GRAVITY LOADS AND THE FOLLOWING LOADS AND STRESSES WITHIN LIMITS AND UNDER CONDITIONS INDICATED, BASED ON TESTING, ACCORDING TO ASTM E 530.
1.1 WIND LOADS: DETERMINE LOADS BASED ON THE FOLLOWING MINIMUM DESIGN WIND PRESSURES: UNIFORM PRESSURE OF 25 PSF, INWARD OR OUTWARD; MAXIMUM DESIGN PRESSURE OF 120 PSF INWARD OR OUTWARD.
1.2 DEFLECTION LIMITS: METAL WALL PANEL ASSEMBLIES SHALL BE SHOWN TO WITHSTAND TEST PRESSURES WITH DEFLECTION NO GREATER THAN 1/80 PERIMETER AND 1/60 OF THE SPAN AND NO EVIDENCE OF MATERIAL FAILURE, STRUCTURAL DISTRESS, OR PERMANENT DEFORMATION EXCEEDING 0.4 PERCENT OF THE CLEAR SPAN.
PRODUCT DATA SHEET 2 - RAIN SCREEN: SPECIFIED PANEL SYSTEM SHALL BE A PRESSURE EQUALIZED RAIN SCREEN SYSTEM TESTED AND PASSED TO AAMA 508. ALSO, SYSTEM SHALL HAVE BEEN TESTED AND COMPLIANT WITH AAMA 509 REQUIREMENTS WITH A WATER RATING OF 40 FL OZ/FT² AND AN AIR RATING OF 0.57 CFM/FT².
PRODUCT DATA SHEET 3 - PRODUCT TEST REPORTS: FLORIDA PRODUCT APPROVAL # 16406.
PRODUCT DATA SHEET 4 - LARGE MISSILE IMPACT: PROVIDE METAL PANEL SYSTEM WHICH HAS BEEN SUCCESSFULLY TESTED TO AND IS COMPLIANT WITH THE REQUIREMENTS OF (TESTING APPLICATION STANDARD FOR THE STATE OF FLORIDA) TAS 201, 202 AND 203.
PANEL SYSTEM SHALL HAVE ACHIEVED "PASS" STATUS WITHOUT THE USE OF SUPPLEMENTAL MATERIALS SUCH AS PLYWOOD OR PANEL STIFFENERS.
PRODUCT DATA SHEET 5 - INSULATION: POLYISOCYANURATE INSULATION SHALL MEET ANSI/IBCA FS 100-2012 STANDARD REQUIREMENTS FOR WIND PRESSURE RESISTANCE OF FOAM PLASTIC INSULATING SHEATHING USED IN EXTERIOR WALL COVERING.
PRODUCT DATA SHEET 6 - SURFACE-BURNING CHARACTERISTICS:
1.1 PROVIDE METAL WALL PANELS WITH THE FOLLOWING SURFACE-BURNING CHARACTERISTICS AS DETERMINED BY TESTING IDENTICAL PRODUCTS PER ASTM E 84 UNDER A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.
A. ECOMAX®: FLAME-SPREAD INDEX, LESS THAN 25; SMOKE-DEVELOPED INDEX, LESS THAN 450.
B. FR CORE: FLAME-SPREAD INDEX, LESS THAN 25; SMOKE-DEVELOPED INDEX, LESS THAN 450.
1.2 PROVIDE CLASS A RIGID FOIL-FACED POLYISOCYANURATE CONTINUOUS INSULATION WITH THE FOLLOWING SURFACE-BURNING CHARACTERISTICS AS DETERMINED BY TESTING PER ASTM E 84 UNDER A TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION:
A. ECOMAX®: FLAME-SPREAD INDEX, LESS THAN 25; SMOKE-DEVELOPED INDEX, LESS THAN 450.
SCHEDULE 3 - QUALITY ASSURANCE
PRODUCT DATA SHEET 0 - MANUFACTURER QUALIFICATIONS: ALL PRIMARY PRODUCTS SPECIFIED IN THIS SECTION WILL BE SUPPLIED BY A SINGLE MANUFACTURER WITH A MINIMUM OF TEN YEARS EXPERIENCE.
PRODUCT DATA SHEET 1 - INSTALLER QUALIFICATIONS: ALL PRODUCTS LISTED IN THIS SECTION ARE TO BE INSTALLED BY A SINGLE INSTALLER WITH A MINIMUM OF FIVE (5) YEARS DEMONSTRATED EXPERIENCE IN INSTALLING PRODUCTS OF THE SAME TYPE AND SCOPE AS SPECIFIED.
PRODUCT DATA SHEET 2 - MOCK-UP: PROVIDE A MOCK-UP FOR EVALUATION OF SURFACE PREPARATION TECHNIQUES AND APPLICATION WORKMANSHIP.
1.1 FINISH AREAS DESIGNATED BY ARCHITECT.
1.2 DO NOT PROCEED WITH REMAINING WORK UNTIL WORKMANSHIP, COLOR, AND SHEEN ARE APPROVED BY ARCHITECT.
1.3 REMODEL MOCK-UP AREA AS REQUIRED TO PRODUCE ACCEPTABLE WORK.
PRODUCT DATA SHEET 3 - PRE-INSTALLATION MEETING: CONDUCT PRE-INSTALLATION MEETING TO VERIFY PROJECT REQUIREMENTS, FOUNDATION/STRUCTURAL SYSTEMS/SUBSTRATE CONDITIONS, AND INSULATION MANUFACTURER'S INSTALLATION INSTRUCTIONS.
SCHEDULE 4 - DELIVERY, STORAGE, AND HANDLING
PRODUCT DATA SHEET 0 - STORE AND HANDLE PRODUCTS PER MANUFACTURER'S INSTRUCTIONS UNTIL READY FOR INSTALLATION.
SCHEDULE 5 - SEQUENCING
PRODUCT DATA SHEET 0 - ENSURE THAT LOCATING TEMPLATES AND OTHER INFORMATION REQUIRED FOR INSTALLATION OF PRODUCTS OF THIS SECTION ARE FURNISHED TO AFFECTED TRADES IN TIME TO PREVENT INTERRUPTION OF CONSTRUCTION PROGRESS.

PRODUCT DATA SHEET 1 - ENSURE THAT PRODUCTS OF THIS SECTION ARE SUPPLIED TO AFFECTED TRADES IN TIME TO PREVENT INTERRUPTION OF CONSTRUCTION PROGRESS.
SCHEDULE 6 - PROJECT CONDITIONS
PRODUCT DATA SHEET 0 - MAINTAIN ENVIRONMENTAL CONDITIONS (TEMPERATURE, HUMIDITY, AND VENTILATION) WITHIN LIMITS RECOMMENDED BY MANUFACTURER FOR OPTIMUM RESULTS. DO NOT INSTALL PRODUCTS UNDER ENVIRONMENTAL CONDITIONS OUTSIDE MANUFACTURER'S RECOMMENDED LIMITS.
SCHEDULE 7 - WARRANTY
PRODUCT DATA SHEET 0 - INSULATION WARRANTY: AT PROJECT CLOSEOUT, PROVIDE TO OWNER AN EXECUTED COPY OF THE MANUFACTURER'S STANDARD LIMITED WARRANTY AGAINST MANUFACTURING DEFECT, OUTLINING ITS TERMS, CONDITIONS, AND EXCLUSIONS FROM COVERAGE.
PRODUCT DATA SHEET 1 - RAINSCREEN METAL PANEL WARRANTY: AT PROJECT CLOSEOUT, PROVIDE TO OWNER AN EXECUTED COPY OF THE MANUFACTURER'S STANDARD LIMITED WARRANTY AGAINST MANUFACTURING DEFECT, OUTLINING ITS TERMS, CONDITIONS, AND EXCLUSIONS FROM COVERAGE SPECIAL WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE COMPONENTS OF METAL WALL PANEL ASSEMBLIES THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.
1.1 FAILURES INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING: STRUCTURAL FAILURES, INCLUDING RUPURING, CRACKING, OR PUNCTURING; DETERIORATION OF METALS, METAL FINISHES, AND OTHER MATERIALS BEYOND NORMAL WEATHERING.
1.2 WARRANTY PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
PRODUCT DATA SHEET 2 - RAINSCREEN METAL PANEL FINISH WARRANTY: MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR FINISH OR REPLACE METAL WALL PANELS THAT SHOW EVIDENCE OF DETERIORATION OF FACTORY-APPLIED FINISHES WITHIN SPECIFIED WARRANTY PERIOD.
1.1 FINISH FINISH: FINISH DETERIORATION SHALL BE DEFINED AS: COLOR FADING MORE THAN 5 HUNTER UNITS WHEN TESTED ACCORDING TO ASTM D 2244. CHALKING IN EXCESS OF A NO. 8 RATING WHEN TESTED ACCORDING TO ASTM D 4214. CRACKING, CHECKING, PEELING, OR FAILURE OF PAINT TO ADHERE TO BARE METAL.
1.2 FINISH WARRANTY PERIOD: TWENTY YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
PART 2 - PRODUCTS
SCHEDULE 0 - MANUFACTURERS
PRODUCT DATA SHEET 0 - ACCEPTABLE MANUFACTURER: RMAX OPERATING, LLC, WHICH IS LOCATED AT: 13524 WELCH RD., DALLAS, TX 75244-5227; TOLL FREE TEL: 800-527-0890; TEL: 972-387-4500; FAX: 972-387-4673; EMAIL: REQUEST INFO (RMAX@RMAX.COM); WEB: WWW.RMAX.COM
2.1 RMAX OPERATING, LLC, 13524 WELCH RD., DALLAS, TX 75244. TOLL FREE TEL: 800-527-0890. TEL: 972-387-4500. FAX: 972-387-4673. EMAIL: SPECS@RMAX.COM. WEB: WWW.RMAX.COM
2.2 RMAX OPERATING, LLC, 210 LYON DR., FERNLEIGH, NV 89408. TOLL FREE TEL: 800-762-9462. TEL: 775-575-4849. FAX: 775-575-5035. EMAIL: SPECS@RMAX.COM. WEB: WWW.RMAX.COM
2.3 RMAX OPERATING, LLC, 1649 S. BATESVILLE RD., GREER, SC 29650. TOLL FREE TEL: 800-645-4455. TEL: 864-297-1382. FAX: 864-234-7548. EMAIL: SPECS@RMAX.COM. WEB: WWW.RMAX.COM
PRODUCT DATA SHEET 1 - SUBSTITUTIONS: NOT PERMITTED.
PRODUCT DATA SHEET 2 - REQUESTS FOR SUBSTITUTIONS WILL BE CONSIDERED IN ACCORDANCE WITH PROVISIONS OF SECTION 01 60 00 - PRODUCT REQUIREMENTS.
SCHEDULE 1 - CONTINUOUS INSULATION FOR WALLS
PRODUCT DATA SHEET 0 - THERMASHEATH-SI WALL SOLUTION: EXTERIOR CONTINUOUS INSULATION SOLUTION FOR RESIDENTIAL WALLS INCLUDING STRUCTURAL INSULATION BOARD, TAPE, AND FLASHING TO PROVIDE CONTINUOUS THERMAL AND MOISTURE PROTECTION OF THE VERTICAL BUILDING EXTERIOR.
2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1 POLYISO
B. INTERNATIONAL RESIDENTIAL CODE (IRC)
C. INTERNATIONAL BUILDING CODE (IBC) TYPE V CONSTRUCTION
D. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
E. ASHRAE 90.1
F. DRJ TER 1207-01
G. CALIFORNIA CODE OF REGULATIONS, TITLE 24
H. TESTED PER NFPA 286 TO COMPLY WITH ICC-ES AC12 APPENDIX B
I. WATER RESISTIVE BARRIER (WRB) PER AC71 (ASTM E331, AATCC TEST METHOD 127)
J. AIR BARRIER MATERIAL PER ASTM E2178
K. 1, 2, 3 OR 4 HOUR FIRE RATED ASSEMBLIES AS SHOWN IN THE UL FIRE RESISTANCE DIRECTORY, DESIGN NO.: U026, U326, U330, U354, U424, U460, U902, U904, U905, U906, U907, V454, V499
2.2 STRUCTURAL PERFORMANCE IN ACCORDANCE WITH ASTM E72.
2.3 STRUCTURAL PERFORMANCE IN ACCORDANCE WITH ASTM E226.
2.4 STRUCTURAL PERFORMANCE IN ACCORDANCE WITH ASTM E516.
2.5 STRUCTURAL PERFORMANCE IN ACCORDANCE WITH SBCCI SINGLE ELEMENT LATERAL LOAD TESTING.
2.6 INSULATION: THERMASHEATH-SI - THICKNESS/R VALUE: 0.5 INCHES (13MM)/R-3.2
2.7 INSULATION: THERMASHEATH-SI - THICKNESS/R VALUE: 0.75 INCHES (19MM)/R-5.0
2.8 INSULATION: THERMASHEATH-SI - THICKNESS/R VALUE: 1.0 INCHES (25MM)/R-6.0
2.9 FLASHING TAPE: R-SEAL CONSTRUCTION TAPE.
2.10 FLASHING TAPE: R-SEAL 3000.
2.11 FLASHING TAPE: R-SEAL 6000
PRODUCT DATA SHEET 1 - THERMASHEATH-SI COMPOSITE PRODUCT MADE UP OF AN INSULATION AND STRUCTURAL COMPONENT. THE INSULATION COMPONENT IS A CLOSED-CELL POLYISOCYANURATE INSULATION WITH REINFORCED FOIL FACER ON EACH SIDE. PERFORMANCE DATA FOR POLYISO INSULATION ONLY.
2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1 POLYISO.
B. INTERNATIONAL RESIDENTIAL CODE (IRC).
C. INTERNATIONAL BUILDING CODE (IBC) TYPE V CONSTRUCTION.
D. INTERNATIONAL ENERGY CONSERVATION CODE (IECC).
E. ASHRAE 90.1.
F. DRJ TER 1207-01.
G. STRUCTURAL:
1. ASTM E72, ASTM E564, ASTM 2126 AND SBCCI SINGLE ELEMENT LATERAL LOAD TESTING.
H. TESTED PER NFPA 286 TO COMPLY WITH ICC-ES AC12 APPENDIX B.
I. WATER RESISTIVE BARRIER (WRB) PER AC71 (ASTM E331, AATCC TEST METHOD 127)
J. AIR BARRIER MATERIAL PER ASTM E2178
K. 1, 2, 3 OR 4 HOUR FIRE RATED ASSEMBLIES AS SHOWN IN THE UL FIRE RESISTANCE DIRECTORY:
1. DESIGN NO: U026, U326, U330, U354, U424, U460, U902, U904, U905, U906, U907, V454, V499
2.2 DENSITY (NOMINAL) IN ACCORDANCE WITH ASTM D1622: 2.0 PCF.
2.3 COMPRESSIVE STRENGTH IN ACCORDANCE WITH ASTM D1621: 20 PSI.
2.4 FLAME SPREAD IN ACCORDANCE WITH ASTM E84: 75 OR LESS.
2.5 SMOKE DEVELOPED IN ACCORDANCE WITH ASTM E84: 450 OR LESS.
2.6 WATER VAPOR TRANSMISSION IN ACCORDANCE WITH ASTM E96: LESS THAN 0.03 PERMS.
2.7 WATER ABSORPTION IN ACCORDANCE WITH ASTM C209: LESS THAN 2.0 PERCENT BY VOLUME CHANGE.
2.

CONSTRUCTION SPECIFICATIONS:

- 2.6 WATER VAPOR TRANSMISSION IN ACCORDANCE WITH ASTM E96: LESS THAN 0.03 PERMS.
2.7 WATER ABSORPTION IN ACCORDANCE WITH ASTM C209: LESS THAN 0.2 PERCENT BY VOLUME.
2.8 DIMENSIONAL STABILITY IN ACCORDANCE WITH ASTM D2126: LESS THAN 2 PERCENT LINEAR CHANGE.

PRODUCT DATA SHEET 2 - THERMASHEATH-3. CLOSED-CELL POLYISOCYANURATE INSULATION WITH REINFORCED FOIL FACER ON EACH SIDE.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 2 - THERMASHEATH-XP. CLOSED-CELL POLYISOCYANURATE (POLYISO) FOAM WHICH IS BONDED ON BOTH SIDES WITH HIGHLY DURABLE, EMBOSSED ALUMINUM FACERS.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. INTERNATIONAL RESIDENTIAL CODE (IRC)
C. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 4 - R-MATTE PLUS-3. CLOSED-CELL POLYISOCYANURATE INSULATION WITH REINFORCED FOIL FACER ON EACH SIDE; REFLECTIVE ON ONE SIDE AND NON-GLARE MATTE ON THE OTHER SIDE.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 4 - R-MATTE PLUS-3. CLOSED-CELL POLYISOCYANURATE INSULATION WITH REINFORCED FOIL FACER ON EACH SIDE; REFLECTIVE ON ONE SIDE AND NON-GLARE MATTE ON THE OTHER SIDE.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 6 - WALL PANEL ACCESSORIES: PROVIDE COMPONENTS REQUIRED FOR A COMPLETE METAL WALL PANEL ASSEMBLY INCLUDING TRIM, COPINGS, FASCIAE, SPINDLES, CORNER UNITS, CLIPS, FLASHINGS, SEALANTS, GASKETS, FILLERS, CLOSURE STRIPS, AND SIMILAR ITEMS. MATCH MATERIAL AND FINISH OF METAL WALL PANELS, UNLESS OTHERWISE INDICATED.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 7 - FABRICATION: FABRICATE AND FINISH METAL WALL PANELS AND ACCESSORIES AT THE FACTORY TO GREATEST EXTENT POSSIBLE, BY MANUFACTURER'S STANDARD PROCEDURES AND PROCESSES, AS NECESSARY TO FULFILL INDICATED PERFORMANCE REQUIREMENTS DEMONSTRATED BY LABORATORY TESTING. COMPLY WITH INDICATED PROFILES AND WITH DIMENSIONAL AND STRUCTURAL REQUIREMENTS.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 7 - FABRICATION: FABRICATE AND FINISH METAL WALL PANELS AND ACCESSORIES AT THE FACTORY TO GREATEST EXTENT POSSIBLE, BY MANUFACTURER'S STANDARD PROCEDURES AND PROCESSES, AS NECESSARY TO FULFILL INDICATED PERFORMANCE REQUIREMENTS DEMONSTRATED BY LABORATORY TESTING. COMPLY WITH INDICATED PROFILES AND WITH DIMENSIONAL AND STRUCTURAL REQUIREMENTS.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

PRODUCT DATA SHEET 7 - FABRICATION: FABRICATE AND FINISH METAL WALL PANELS AND ACCESSORIES AT THE FACTORY TO GREATEST EXTENT POSSIBLE, BY MANUFACTURER'S STANDARD PROCEDURES AND PROCESSES, AS NECESSARY TO FULFILL INDICATED PERFORMANCE REQUIREMENTS DEMONSTRATED BY LABORATORY TESTING. COMPLY WITH INDICATED PROFILES AND WITH DIMENSIONAL AND STRUCTURAL REQUIREMENTS.

- 2.1 COMPLIANCE:
A. ASTM C1289 TYPE I, CLASS 1
B. ASHRAE 90.1
C. INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
D. INTERNATIONAL BUILDING CODE (IBC) SECTION 2603, FOAM PLASTIC.

MOVEMENTS WITHIN PANEL ASSEMBLY.

- 2.5 FABRICATE PANELS, AS REQUIRED TO COMPLY WITH DEFLECTION LIMITS, WITHOUT THE USE OF BACKINGS OR SUPPORTS. PROVIDE MANUFACTURER TEST REPORTS INDICATING PRODUCT COMPLIANCE WITH INDICATED REQUIREMENTS.

FABRICATE PANELS WITH SHARPLY CUT EDGES, WITH NO DISPLACEMENT OF FACE SHEETS OR EXTERNAL EXPOSURE OF CORE MATERIAL.

- 2.7 DIMENSIONAL TOLERANCES:
A. LENGTH: PLUS 0.375 INCH (9.5 MM)
B. WIDTH: PLUS 0.188 INCH (4.8 MM)
C. THICKNESS: PLUS OR MINUS 0.010 INCH (0.2 MM)
D. PANEL BOW: 0.8 PERCENT MAXIMUM OR PANEL LENGTH OR WIDTH.

SECTION 07 2115 BATT INSULATION

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B. MOCK-UP

- 1. INSTALL MOCK-UP USING APPROVED WEATHER BARRIER ASSEMBLY INCLUDING FASTENERS, FLASHING, TAPE AND RELATED ACCESSORIES PER MANUFACTURER'S CURRENT PRINTED INSTRUCTIONS AND RECOMMENDATIONS.

MOCK-UP SIZE: (10 FEET BY 10 FEET) [INSERT SIZE]

MOCK-UP SUBSTRATE: MATCH WALL ASSEMBLY CONSTRUCTION, INCLUDING WINDOW OPENING.

CONTACT MANUFACTURER'S DESIGNATED REPRESENTATIVE PRIOR TO WEATHER BARRIER ASSEMBLY INSTALLATION. TO PERFORM REQUIRED MOCK-UP VISUAL INSPECTION AND ANALYSIS AS REQUIRED FOR WARRANTY.

PRE-INSTALLATION MEETING

- 1. REFER TO SECTION [01 31 00 PROJECT MEETINGS] [INSERT SECTION NUMBER AND TITLE].
2. HOLD A PRE-INSTALLATION CONFERENCE, TWO WEEKS PRIOR TO START OF WEATHER BARRIER INSTALLATION. ATTENDEES SHALL INCLUDE CONTRACTOR, ARCHITECT, INSTALLER, OWNER'S REPRESENTATIVE, AND WEATHER BARRIER MANUFACTURER'S DESIGNATED REPRESENTATIVE.

REVIEW ALL RELATED PROJECT REQUIREMENTS AND SUBMITTALS, STATUS OF SUBSTRATE WORK AND PREPARATION, AREAS OF POTENTIAL CONFLICT AND INTERFACE, AVAILABILITY OF WEATHER BARRIER ASSEMBLY MATERIALS AND COMPONENTS, INSTALLER'S TRAINING REQUIREMENTS, EQUIPMENT, FACILITIES AND SCAFFOLDING, AND COORDINATE METHODS, PROCEDURES AND SEQUENCING REQUIREMENTS FOR FULL AND PROPER INSTALLATION, INTEGRATION AND PROTECTION.

DELIVERY, STORAGE AND HANDLING

- A. REFER TO SECTION [01 00 00 PRODUCT REQUIREMENTS] [INSERT SECTION NUMBER AND TITLE].
B. DELIVER WEATHER BARRIER MATERIALS AND COMPONENTS IN MANUFACTURER'S ORIGINAL, UNOPENED, UNDAMAGED CONTAINERS WITH IDENTIFICATION LABELS INTACT.
C. STORE WEATHER BARRIER MATERIALS AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER.

SCHEDULING

- A. REVIEW REQUIREMENTS FOR SEQUENCING OF INSTALLATION OF WEATHER BARRIER ASSEMBLY WITH INSTALLATION OF WINDOWS, DOORS, LOUVERS AND FLASHINGS TO PROVIDE A WEATHER TIGHT WEATHER BARRIER ASSEMBLY.
B. SCHEDULE INSTALLATION OF WEATHER BARRIER MATERIALS AND EXTERIOR CLADDING WITHIN FOUR MONTHS OF WEATHER BARRIER ASSEMBLY INSTALLATION.

WARRANTY

- A. REFER TO SECTION [01 78 36 WARRANTIES] [INSERT SECTION NUMBER AND TITLE].
B. SPECIAL MANUFACTURER'S WARRANTY
1. WEATHER BARRIER MANUFACTURER'S WARRANTY FOR WEATHER BARRIER FOR A PERIOD OF TEN YEARS FROM DATE OF WEATHER BARRIER PURCHASE.
2. PRE-INSTALLATION MEETINGS AND JOBSITE OBSERVATIONS BY WEATHER BARRIER MANUFACTURER FOR WARRANTY ARE REQUIRED PRIOR TO SPECIFY INSTALLATION.
3. MANUFACTURER'S WARRANTY AREAS: [DESCRIBE SPECIFIC AREAS OF WORK PROTECTED AND AREAS OF WORK EXCLUDED AS REQUIRED BY PROJECT CONDITIONS].
4. FOR WARRANTY DETAILS REVIEW MANUFACTURER'S PUBLISHED WARRANTY. THE FOREGOING IS MERELY A BRIEF SUMMARY OF THE WARRANTY AND MANUFACTURER'S OBLIGATIONS ARE LIMITED TO THOSE SET OUT IN THE WARRANTY DOCUMENT.

PRODUCTS

MANUFACTURER

- A. DUPONT; 4417 LANCASTER PIKE, CHESTNUT RUN PLAZA 728, WILMINGTON, DE 19805; 1-800-44-TYVEK (8-9835); [HTTP://WWW.CONSTRUCTION.TYVEK.COM](http://www.construction.tyvek.com)

MATERIALS

- A. BASIS OF DESIGN: SPUNBONDED POLYOLEFIN, NON-WOVEN, NON-PERFORATED, WEATHER BARRIER IS BASED UPON DUPONT™ TYVEK® THERMAWRAP™ AND RELATED ASSEMBLY COMPONENTS.
B. PERFORMANCE CHARACTERISTICS (VALUES LISTED ARE NOMINAL VALUES MEASURED BY AN ACCREDITED THIRD PARTY LAB.):
1. EFFECTIVE R-VALUE: R-2 (INCLUDING 3/4" MINIMUM AIRSPACE), AS DESIGNATED ON ASHRAE TABLES, ASTM HANDBOOK OF FUNDAMENTALS, CHAPTER 25- TABLE 3.
2. AIR PENETRATION: 0.002 CFM/F2 AT 1.57 PSF, WHEN TESTED IN ACCORDANCE WITH ASTM E 2178.
3. WATER VAPOR TRANSMISSION: 68 PERMS, WHEN TESTED IN ACCORDANCE WITH ASTM E 96, METHOD B.
4. WATER PENETRATION RESISTANCE: 210 CM WHEN TESTED IN ACCORDANCE WITH AATCC TEST METHOD 127.
5. BASIS WEIGHT: 2.5 OZ/YD2, WHEN TESTED IN ACCORDANCE WITH TAPPI TEST METHOD T-410.
6. AIR RESISTANCE: AIR INFILTRATION AT >1000 SECONDS, WHEN TESTED IN ACCORDANCE WITH ASTM TEST METHOD T-460.
7. TENSILE STRENGTH: 29/27 LBS/IN, WHEN TESTED IN ACCORDANCE WITH ASTM D 882, METHOD A.
8. TEAR RESISTANCE: 127 LBS., WHEN TESTED IN ACCORDANCE WITH ASTM D 1117.
9. SURFACE BURNING CHARACTERISTICS: CLASS A, WHEN TESTED IN ACCORDANCE WITH ASTM E-84. FLAME SPREAD: 10, SMOKE DEVELOPED: 40.

ACCESSORIES

- SEAM TAPE: DUPONT™ TYVEK® METALLIZED TAPE OR DUPONT™ TYVEK® TAPE AS DISTRIBUTED BY DUPONT.
A. FASTENERS:
1. TYVEK® WRAP CAP SCREWS, AS DISTRIBUTED BY DUPONT: 1-5/8 INCH RUST RESISTANT SCREW WITH 2-INCH DIAMETER PLASTIC CAP FASTENERS.
2. TYVEK® WRAP CAPS, AS DISTRIBUTED BY DUPONT: #4 NAILS WITH LARGE 1-INCH PLASTIC CAP FASTENERS OR 1-INCH CAP STAPLES.
AND/OR
3. MASONRY TAP-CON FASTENERS WITH TYVEK® WRAP CAPS AS DISTRIBUTED BY DUPONT: 2-INCH DIAMETER PLASTIC CAP FASTENERS.
B. SEALANTS
1. REFER TO SECTION [07 92 00 JOINT SEALANTS] [INSERT SECTION NUMBER AND TITLE].
OR
2. PROVIDE SEALANTS THAT COMPLY WITH ASTM C 920, ELASTOMERIC POLYMER SEALANT TO MAINTAIN WATER TIGHT CONDITIONS.
3. PRODUCTS:
a. DUPONT™ RESIDENTIAL SEALANT
b. DUPONT™ COMMERCIAL SEALANT
c. SEALANTS RECOMMENDED BY THE WEATHER BARRIER MANUFACTURER.
C. ADHESIVES:
1. PROVIDE ADHESIVE RECOMMENDED BY WEATHER BARRIER MANUFACTURER.
2. PRODUCTS:
a. LIQUID NAILS® LN-109
b. DENSO BUTYL LIQUID
c. 3M HIGH STRENGTH 90
d. SIA 655
e. ADHESIVES RECOMMEND BY THE WEATHER BARRIER MANUFACTURER.
D. PRIMERS:
1. PROVIDE FLASHING MANUFACTURER RECOMMENDED PRIMER TO ASSIST IN ADHESION BETWEEN SUBSTRATE AND FLASHING.
2. PRODUCTS:
a. 3M HIGH STRENGTH 90
b. DENSO BUTYL SPRAY
c. SIA 655
d. PERMAGRIP 105
e. PRIMERS RECOMMENDED BY THE FLASHING MANUFACTURER
E. FLASHING
1. DUPONT™ FLEXWRAP™, AS DISTRIBUTED BY DUPONT: FLEXIBLE MEMBRANE FLASHING MATERIALS FOR WINDOW OPENINGS AND PENETRATIONS.
AND/OR
2. DUPONT™ FLEXWRAP™ NF, AS DISTRIBUTED BY DUPONT: FLEXIBLE MEMBRANE FLASHING MATERIALS FOR WINDOW OPENINGS AND PENETRATIONS.
AND/OR
3. DUPONT™ STRAIGHTFLASH™, AS DISTRIBUTED BY DUPONT: STRAIGHT FLASHING MEMBRANE MATERIALS FOR FLASHING WINDOWS AND DOORS AND SEALING PENETRATIONS SUCH AS MASONRY TIES, ETC.
AND/OR
4. DUPONT™ STRAIGHTFLASH™ VF, AS DISTRIBUTED BY DUPONT: DUAL-SIDED STRAIGHT FLASHING MEMBRANE MATERIALS FOR BRICK MOLD AND NON-FLANGED WINDOWS AND DOORS.
AND/OR
5. DUPONT™ THRU-WALL SURFACE ADHERED MEMBRANE WITH INTEGRATED DRIP EDGE: THRU-WALL FLASHING MEMBRANE MATERIALS FOR FLASHING AT CHANGES IN DIRECTION OR ELEVATION (SHELF ANGLES, FOUNDATIONS, ETC.) AND AT TRANSITIONS BETWEEN DIFFERENT ASSEMBLY MATERIALS.
AND/OR
6. PRE-INSTALLED WEATHER BARRIER AND END DAMS AS DISTRIBUTED BY DUPONT: PREFORMED THREE-DIMENSIONAL SHAPES TO COMPLETE THE FLASHING SYSTEM USED IN CONJUNCTION WITH DUPONT™ THRU-WALL FLASHING.

EXECUTION

EXAMINATION

- A. VERIFY SUBSTRATE AND SURFACE CONDITIONS ARE IN ACCORDANCE WITH WEATHER BARRIER MANUFACTURER RECOMMENDED TOLERANCES PRIOR TO INSTALLATION OF WEATHER BARRIER AND ACCESSORIES.

INSTALLATION - WEATHER BARRIER

- B. INSTALL WEATHER BARRIER OVER EXTERIOR FACE OF EXTERIOR WALL SUBSTRATE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS
C. START WEATHER BARRIER INSTALLATION AT A BUILDING CORNER, LEAVING 6-12 INCHES OF WEATHER BARRIER EXTENDED BEYOND CORNER TO OVERLAP.
D. INSTALL WEATHER BARRIER SILVER SIDE FACING AIR SPACE STARTING AT THE LOWER PORTION OF THE WALL SURFACE WITH SUBSEQUENT LAYERS INSTALLED IN A SHINGLING MANNER TO OVERLAP LOWER LAYERS. MAINTAIN WEATHER BARRIER PLUMB AND LEVEL.
F. SILL PLATE INTERFACE: EXTEND LOWER EDGE OF WEATHER BARRIER OVER SILL PLATE INTERFACE.
3/8 INCHES. SECURE TO FOUNDATION WITH ELASTOMERIC SEALANT AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER.
G. WINDOW AND DOOR OPENINGS: EXTEND WEATHER BARRIER COMPLETELY OVER OPENINGS.
H. OVERLAP WEATHER BARRIER
1. EXTERIOR CORNERS: MINIMUM 12 INCHES.
2. SEAMS: MINIMUM 6 INCHES.
I. WEATHER BARRIER ATTACHMENT:
1. ATTACH WEATHER BARRIER TO STUDS THROUGH EXTERIOR SHEATHING. SECURE USING WEATHER BARRIER MANUFACTURER RECOMMEND FASTENERS, SPACE 6-18 INCHES VERTICALLY ON CENTER ALONG STUD LINE, AND 24 INCH ON CENTER, MAXIMUM HORIZONTALLY.
AND/OR
2. ATTACH WEATHER BARRIER TO MASONRY. SECURE USING WEATHER BARRIER MANUFACTURER RECOMMEND FASTENERS, SPACE 6-18 INCHES VERTICALLY ON CENTER AND 24 INCHES MAXIMUM HORIZONTALLY. WEATHER BARRIER MAY BE TEMPORARILY ATTACHED TO MASONRY USING RECOMMENDED ADHESIVE, PLACED IN VERTICAL STRIPS SPACED 24 INCHES ON CENTER, WHEN COORDINATED ON THE PROJECT SITE.
J. APPLY 4 INCH BY 7 INCH PIECE OF DUPONT™ STRAIGHTFLASH™ OR WEATHER BARRIER MANUFACTURER APPROVED ALTERNATE TO WEATHER BARRIER MEMBRANE PRIOR TO THE INSTALLATION CLADDING ANCHORS.
3.3 SEAMING
A. SEAL SEAMS OF WEATHER BARRIER WITH SEAM TAPE AT ALL VERTICAL AND HORIZONTAL OVERLAPPING SEAMS.
B. SEAL ANY TEARS OR CUTS AS RECOMMENDED BY WEATHER BARRIER MANUFACTURER.
3.4 OPENING PREPARATION
A. CUT WEATHER BARRIER IN AN "CUT" PATTERN. A MODIFIED "CUT" IS ALSO ACCEPTABLE.
1. CUT WEATHER BARRIER HORIZONTALLY ALONG THE BOTTOM AND TOP OF WINDOW OPENING.
2. FROM TOP CENTER OF THE WINDOW OPENING, CUT WEATHER BARRIER VERTICALLY DOWN TO SILL.
3. FOLD SIDE AND BOTTOM WEATHER BARRIER FLAPS INTO WINDOW OPENING AND FASTEN.
B. CUT A HEAD FLAP AT 45-DEGREE ANGLE IN THE WEATHER BARRIER AT WINDOW HEAD TO EXPOSE 8 INCHES OF SHEATHING. TEMPORARILY SECURE WEATHER BARRIER FLAP AWAY FROM SHEATHING WITH TAPE.
3.5 FLASHING
A. CUT [7/16 INCH] [8 INCH] WIDE DUPONT™ FLEXWRAP™ NF OR DUPONT™ FLEXWRAP™ NF A MINIMUM OF 12 INCHES LONGER THAN WIDTH OF SILL ROUGH OPENING.
B. COVER HORIZONTAL SILL BY ALIGNING DUPONT™ FLEXWRAP™ OR DUPONT™ FLEXWRAP™ NF EDGE WITH INSIDE EDGE OF SILL. ADHERE TO ROUGH OPENING ACROSS SILL AND UP JAMBS A MINIMUM OF 6 INCHES. SECURE FLASHING TIGHTLY TO CORNERS BY WORKING IN ALONG THE SILL BEFORE ADHERING UP THE JAMBS.
C. FAN DUPONT™ FLEXWRAP™ OR DUPONT™ FLEXWRAP™ NF AT BOTTOM CORNERS ONTO FACE OF WALL, FIRMLY PRESS IN PLACE. MECHANICALLY FASTEN FANNED EDGES. MECHANICAL FASTENING OF DUPONT™ FLEXWRAP™ NF IS NOT REQUIRED.
D. ON EXTERIOR, APPLY CONTINUOUS BEAD OF SEALANT TO WALL OR BACKSIDE OF WINDOW MOUNTING FLANGE ACROSS JAMBS AND HEAD. DO NOT APPLY SEALANT ACROSS SILL.
E. INSTALL WINDOW ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
F. APPLY 4 INCH WIDE STRIPS OF DUPONT™ STRAIGHTFLASH™ AT JAMBS OVERLAPPING ENTIRE MOUNTING FLANGE. EXTEND JAMB FLASHING 1 INCH ABOVE TOP OF ROUGH OPENING AND BELOW BOTTOM EDGE OF SILL FLASHING.
G. APPLY 4 INCH WIDE STRIP OF DUPONT™ STRAIGHTFLASH™ AS HEAD FLASHING OVERLAPPING THE MOUNTING FLANGE. HEAD FLASHING SHOULD EXTEND BEYOND OUTSIDE EDGES OF BOTH JAMB FLASHINGS.
H. POSITION WEATHER BARRIER HEAD FLAP ACROSS HEAD FLASHING. ADHERE USING 4 INCH WIDE DUPONT™ STRAIGHTFLASH™ OVER THE 45-DEGREE SEAMS.
I. TAPE HEAD FLAP IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS
J. ON INTERIOR, INSTALL BACKER ROD IN JOINT BETWEEN FRAME OF WINDOW AND FLASHED ROUGH FRAMING. APPLY SEALANT AROUND ENTIRE WINDOW TO CREATE AIR SEAL. APPLY SEALANT IN ACCORDANCE WITH SEALANT MANUFACTURER'S INSTRUCTIONS AND ASTM C 1193.
3.6 FIELD QUALITY CONTROL
A. NOTIFY MANUFACTURER'S DESIGNATED REPRESENTATIVE TO OBTAIN [REQUIRED] PERIODIC OBSERVATIONS OF WEATHER BARRIER ASSEMBLY INSTALLATION.
3.7 PROTECTION
A. PROTECT INSTALLED WEATHER BARRIER FROM DAMAGE.

COMPOSITE WALL PANELS

COMPOSITE WALL PANELS

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CONSTRUCTION SPECIFICATIONS:

PANELS (SIPS), CONCRETE MASONRY UNITS (CMU'S) AND CONCRETE BLOCK STRUCTURES (CBS'S) WITH FURRING STRIPS, AND PRE-ENGINEERED METAL CONSTRUCTION. INSULATED CONCRETE FORMS (ICFs) ARE NOT AN APPROVED SUBSTRATE UNDER ANY CONDITION.

2. ALLOWABLE STUD SPACING: 16" O.C. MAXIMUM.
3. A WEATHER RESISTIVE BARRIER IS REQUIRED WHEN INSTALLING FIBER CEMENT PANELS. USE AN APPROVED WEATHER RESISTIVE BARRIER (WRB) AS DEFINED BY THE 2015 IBC OR IRC. REFER TO LOCAL BUILDING CODES.
4. APPROPRIATE METAL FLASHING SHOULD BE USED TO PREVENT MOISTURE PENETRATION AROUND ALL DOORS, WINDOWS, WALL BOTTOMS, MATERIAL TRANSITIONS AND PENETRATIONS. REFER TO LOCAL BUILDING CODES FOR BEST PRACTICES.

B. EXAMINE SITE TO ENSURE SUBSTRATE CONDITIONS ARE WITHIN ALIGNMENT TOLERANCES FOR PROPER INSTALLATION.
C. DO NOT BEGIN INSTALLATION UNTIL UNACCEPTABLE CONDITIONS HAVE BEEN CORRECTED.
D. DO NOT INSTALL PANELS OR COMPONENTS THAT APPEAR TO BE DAMAGED OR DEFECTIVE. DO NOT INSTALL WET PANELS.
3.2 TOLERANCE
A. WALL SURFACE PLANE MUST BE PLUMB AND LEVEL WITHIN +/- 1/4 INCH IN 20 FEET IN ANY DIRECTION.
1. ONE LAYER OF NICHHA 5MM (~3/16") SPACER MAY BE USED AS SHIM.
3.3 INSTALLATION
A. GENERAL: INSTALL PRODUCTS IN ACCORDANCE WITH THE LATEST INSTALLATION GUIDELINES OF THE MANUFACTURER AND ALL APPLICABLE BUILDING CODES AND OTHER LAWS, RULES, REGULATIONS AND ORDINANCES. REVIEW ALL MANUFACTURER INSTALLATION, MAINTENANCE INSTRUCTIONS, AND OTHER APPLICABLE DOCUMENTS BEFORE INSTALLATION.

1. CONSULT WITH YOUR LOCAL DEALER OR NICHHA TECHNICAL DEPARTMENT BEFORE INSTALLING ANY NICHHA FIBER CEMENT PRODUCT ON A BUILDING HIGHER THAN 45 FEET OR THREE STORIES OR FOR CONDITIONS NOT MATCHING PRESCRIBED STANDARD INSTALLATION GUIDE REQUIREMENTS AND METHODS. SPECIAL INSTALLATION CONDITIONS MAY BE REQUIRED VIA A TECHNICAL REVIEW AND SPECIAL APPLICATIONS FORM (SAF) PROCESS.
2. VERTICAL CONTROL/EXPANSION JOINTS ARE REQUIRED WITHIN 2-10 FEET OF OUTSIDE CORNERS FINISHED WITH METAL TRIM AND APPROXIMATELY EVERY 30 FEET THEREAFTER.
3. HORIZONTAL/COMPRESSION JOINTS ARE REQUIRED FOR MULTI-STORY INSTALLATIONS OF AWP. LOCATE JOINTS AT FLOOR LINES. JOINTS ARE FLASHED MINIMUM 1/2" BREAKS. DO NOT CAULK. REFER TO INSTALLATION GUIDE(S).
A. WOOD FRAMED BUILDINGS OF THREE OR MORE FLOORS REQUIRE A COMPRESSION JOINT AT EACH FLOOR.
B. STEEL FRAMED BUILDINGS (INCLUDING REINFORCED CONCRETE CORE WITH LCGF EXTERIOR WALLS) OF MORE THAN THREE FLOORS (OR 45 FEET) REQUIRE A COMPRESSION JOINT EVERY 25 FEET AT A FLOOR LINE.

B. PANEL CUTTING
1. ALWAYS CUT FIBER CEMENT PANELS OUTSIDE OR IN A WELL VENTILATED AREA. DO NOT CUT THE PRODUCTS IN AN ENCLOSED AREA.
2. ALWAYS WEAR SAFETY GLASSES AND NIOSH/OSHA APPROVED RESPIRATOR WHENEVER CUTTING, DRILLING, SAWING, SANDING OR ABRADING THE PRODUCTS. REFER TO MANUFACTURER SDS FOR MORE INFORMATION.
3. USE A DUST-REDUCING CIRCULAR SAW WITH A DIAMOND-TIPPED OR CARBIDE-TIPPED BLADE.
A. RECOMMENDED CIRCULAR SAW: MAKITA 7-1/4" CIRCULAR SAW WITH DUST COLLECTOR (#5057KB).
B. RECOMMENDED BLADE: TENRYU BOARD-PRO PLUS PCD BLADE (#BP-18505).
C. SHEARS (ELECTRIC OR PNEUMATIC) OR JIG SAW CAN BE USED FOR COMPLICATED CUTTINGS, SUCH AS SERVICE OPENINGS, CURVES, RADI AND SCROLLWORK.
4. SILICA DUST WARNING: FIBER CEMENT PRODUCTS MAY CONTAIN SOME AMOUNTS OF CRYSTALLINE SILICA, A NATURALLY OCCURRING, POTENTIALLY HAZARDOUS MINERAL WHEN AIRBORNE IN DUST FORM. CONSULT PRODUCT SDS OR VISIT https://www.osha.gov/dsg/topics/silica/crystalline/.

3.4 CLEANING AND MAINTENANCE
A. REVIEW MANUFACTURER GUIDELINES FOR DETAILED CARE INSTRUCTIONS.
SECTION 07 466
MINERAL-FIBER CEMENT SIDING

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. MINERAL-FIBER CEMENT SIDING AND TRIM.
2. TRIM, ANCHORAGE, AND ACCESSORIES.
1.2 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. PRODUCT DATA: INDICATE PROFILES, SIZES, FASTENING METHODS, SURFACE TEXTURE, AND FINISH.
2. WARRANTY: SAMPLE WARRANTY FORM.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.

1.3 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: MINIMUM 3 YEARS DOCUMENTED EXPERIENCE IN WORK OF THIS SECTION.
1.4 WARRANTIES
A. FURNISH MANUFACTURER'S WARRANTY, MADE OUT IN OWNER'S NAME WITH COPY TO OWNER, PROVIDING COVERAGE AGAINST CRACKING, ROTTING, OR DELAMINATION OF SIDING.

PART 2 PRODUCTS
2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. JAMES HARDIE BUILDING PRODUCTS INC. www.jameshardie.com
2. APPROVED EQUAL - TO BE CONSIDERED AND APPROVED BY ARCHITECT.
2.2 MATERIALS
A. MINERAL-FIBER CEMENT SIDING:
1. ASTM C1186, GRADE II, TYPE A: FORMULATED FROM PORTLAND CEMENT, GROUND SAND, CELLULOSE FIBERS, ADDITIVES, AND WATER; FORMED UNDER PRESSURE TO REQUIRED PROFILE.
2. FINISH: FACTORY PRIME PAINTED.
3. FIRE HAZARD CLASSIFICATION: CLASS A, TESTED TO ASTM E84.
4. LAP SIDING:
a. SIZE: 7 1/2" X 1/4" HIGH (8 INCH EXPOSURE) X 12 FEET LONG (SEE DRAWINGS).
b. THICKNESS: 5/16 INCH.
c. SURFACE TEXTURE: SMOOTH.
5. TRIM:
a. SIZE: 3 INCHES WIDE X MAXIMUM PRACTICAL LENGTH.
b. THICKNESS: 7/16 INCH.
c. SURFACE TEXTURE: SMOOTH.

2.3 ACCESSORIES
A. FASTENERS: TYPE RECOMMENDED BY SIDING MANUFACTURER.
B. SHEET METAL FLASHINGS AND TRIM: SPECIFIED IN SECTION 07 6200.
C. JOINT SEALERS: SPECIFIED IN SECTION 07 9200.
PART 3 EXECUTION
3.1 INSTALLATION - LAP SIDING
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS
B. INSTALL SIDING WITH 10 INCH EXPOSURE (SEE DRAWINGS)
C. LAP SIDING FOR NATURAL WATER SHED.
D. BUTT JOINTS TIGHT.
E. SET PLUMB AND LEVEL.
F. CUT SIDING TO FIT AT PERIMETER AND AROUND PENETRATIONS WITH MAXIMUM 1/4 INCH GAPS. SMOOTH CUT EDGES.
G. POSITION CUT ENDS OVER BEARING SURFACES.
H. INSTALL CORNER STRIPS, CLOSURES, AND TRIM AS SHOWN ON DRAWINGS.
I. FASTEN AT MAXIMUM 12 INCHES ON CENTER. BLIND NAIL EXCEPT TRIM.
J. INSTALL METAL FLASHINGS AT SILLS AND HEADS OF WALL OPENINGS. FASTEN AT 12 INCHES ON CENTER MAXIMUM.
K. APPLY JOINT SEALER BETWEEN SIDING AND TRIM AND ADJACENT SURFACES AS SPECIFIED IN SECTION 07 9200. ENSURE WATERTIGHT CONDITION.

3.2 INSTALLATION - TRIM
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. BUTT JOINTS TIGHT.
C. SET PLUMB AND LEVEL.
D. CUT TO FIT AT PERIMETER AND AROUND PENETRATIONS WITH MAXIMUM 1/4 INCH GAPS. SMOOTH CUT EDGES.
E. FASTEN AT MAXIMUM 16 INCHES ON CENTER.

SECTION 07 5400 THERMOPLASTIC MEMBRANE ROOFING

PART 1 GENERAL
1.1 ROOF SYSTEM SUMMARY
1. MEMBRANE: THERMOPLASTIC MEMBRANE MECHANICALLY FASTENED TO ROOF DECK OR INDUCTION WELDED TO WELDING PLATES.
2. ROOF INSULATION: POLYISOCYANURATE INSULATION MECHANICALLY ATTACHED TO ROOF DECK.
3. STRUCTURAL DECK: STEEL OR WOOD.
1.2 DESIGN CRITERIA
A. GENERAL: INSTALLED ROOFING MEMBRANE SYSTEMS SHALL REMAIN WATERTIGHT; AND RESIST SPECIFIED WIND UPLIFT PRESSURES, THERMALLY INDUCED MOVEMENT, AND EXPOSURE TO WEATHER WITHOUT FAILURE.
B. METAL COMPONENTS: METALS SHALL BE COMPATIBLE WITH ONE ANOTHER UNDER CONDITIONS OF SERVICE AND APPLICATION REQUIRED, AS DEMONSTRATED BY ROOFING SYSTEM MANUFACTURER BASED ON TESTING AND FIELD EXPERIENCE.
C. WIND UPLIFT PERFORMANCE: ROOFING SYSTEM SHALL BE IDENTICAL TO SYSTEMS THAT HAVE BEEN SUCCESSFULLY TESTED BY A QUALIFIED TESTING AND INSPECTING AGENCY TO RESIST WIND UPLIFT PRESSURE CALCULATED IN ACCORDANCE WITH ASCE 7.

1.3 SUBMITTALS
A. PRODUCT DATA: MANUFACTURER'S PRODUCT DATA SHEETS FOR EACH PRODUCT TO BE PROVIDED.
B. DETAIL DRAWINGS: PROVIDE ROOFING SYSTEM PLANS, ELEVATIONS, SECTIONS, DETAILS, AND DETAILS OF ATTACHMENT TO OTHER WORK, INCLUDING:
1. BASE FLASHINGS AND MEMBRANE TERMINATIONS.
2. TAPERED INSULATION, INCLUDING SLOPES.
3. CRICKETS, SADDLES, AND TAPERED EDGE STRIPS, INCLUDING SLOPES.
4. INSULATION FASTENING PATTERNS.
C. VERIFICATION SAMPLING: PROVIDE FOR EACH PRODUCT SPECIFIED.
D. INSTALLER CERTIFICATES: SIGNED BY ROOFING SYSTEM MANUFACTURER CERTIFYING THAT INSTALLER IS APPROVED, AUTHORIZED, OR LICENSED BY MANUFACTURER TO INSTALL ROOFING SYSTEM.
E. MAINTENANCE DATA: REFER TO JOHNS MANVILLE'S LATEST PUBLISHED DOCUMENTS ON WWW.JM.COM.
GUARANTEES: PROVIDE MANUFACTURER'S CURRENT GUARANTEE SPECIMEN.
F. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT
2. SOLAR REFLECTANCE INDEX.
3. REGIONAL MATERIALS.
4. LOW EMITTING MATERIALS.

1.4 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: QUALIFIED FIRM THAT IS APPROVED, AUTHORIZED, OR LICENSED BY ROOFING SYSTEM MANUFACTURER TO INSTALL MANUFACTURER'S PRODUCT AND IS ELIGIBLE TO RECEIVE THE SPECIFIED MANUFACTURER'S GUARANTEE.
B. MANUFACTURER QUALIFICATIONS: QUALIFIED MANUFACTURER THAT HAS UL LISTING FOR ROOFING SYSTEM IDENTICAL TO THAT USED FOR THIS PROJECT.
C. TESTING AGENCY QUALIFICATIONS: INDEPENDENT TESTING AGENCY WITH THE EXPERIENCE AND CAPABILITY TO CONDUCT THE TESTING INDICATED, AS DOCUMENTED IN ACCORDANCE WITH ASTM E329.
D. TEST REPORTS:
1. CORE CUT (IF REQUESTED).
2. ROOF DECK FASTENER PULLOUT TEST.
E. SOURCE LIMITATIONS: OBTAIN ALL COMPONENTS FROM THE SINGLE SOURCE ROOFING SYSTEM MANUFACTURER GUARANTEEING THE ROOFING SYSTEM. ALL PRODUCTS USED IN THE SYSTEM SHALL BE LABELED BY THE SINGLE SOURCE ROOFING SYSTEM MANUFACTURER ISSUING THE GUARANTEE.
F. FIRE-TEST-RESPONSE CHARACTERISTICS: ROOFING MATERIALS SHALL COMPLY WITH THE FIRE-TEST-RESPONSE CHARACTERISTICS INDICATED AS DETERMINED BY TESTING IDENTICAL PRODUCTS PER TEST METHOD BELOW BY UL, OR ANOTHER TESTING AND INSPECTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. MATERIALS SHALL BE IDENTIFIED WITH APPROPRIATE MARKINGS OF APPLICABLE TESTING AND INSPECTING AGENCY.
1. EXTERIOR FIRE-TEST EXPOSURE: CLASS: TO MEET APPLICABLE CODE; ASTM E 108, FOR APPLICATION AND ROOF SLOPES INDICATED.

1.5 DELIVERY, STORAGE, AND HANDLING
A. DELIVER ROOFING MATERIALS IN ORIGINAL CONTAINERS WITH SEALS UNBROKEN AND LABELED WITH MANUFACTURER'S NAME, PRODUCT BRAND NAME AND TYPE, DATE OF MANUFACTURE, AND DIRECTIONS FOR STORAGE.
B. STORE LIQUID MATERIALS IN THEIR ORIGINAL UNDAMAGED CONTAINERS IN A CLEAN, DRY, PROTECTED LOCATION AND WITHIN THE TEMPERATURE RANGE REQUIRED BY ROOFING SYSTEM MANUFACTURER.
C. PROTECT ROOF INSULATION MATERIALS FROM PHYSICAL DAMAGE AND FROM DETRIORATION BY SUNLIGHT, MOISTURE, SOILING, AND OTHER SOURCES. COMPLY WITH INSULATION MANUFACTURER'S WRITTEN INSTRUCTIONS FOR HANDLING, STORING, AND PROTECTING DURING INSTALLATION.
D. HANDLE AND STORE ROOFING MATERIALS AND PLACE EQUIPMENT IN A MANNER TO AVOID PERMANENT DEFLECTION OF DECK.

1.6 PROJECT CONDITIONS
A. WEATHER LIMITATIONS: PROCEED WITH INSTALLATION ONLY WHEN CURRENT AND FORECASTED WEATHER CONDITIONS PERMIT ROOFING SYSTEM TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND GUARANTEE REQUIREMENTS.
1.7 GUARANTEES
A. PROVIDE MANUFACTURER'S SYSTEM GUARANTEE EQUAL TO JOHNS MANVILLE'S PEAK ADVANTAGE NO DOLLAR LIMIT ROOFING SYSTEM GUARANTEE.
1. SINGLE-SOURCE SPECIAL GUARANTEE INCLUDES ROOFING MEMBRANE, BASE FLASHINGS, ROOFING MEMBRANE ACCESSORIES, ROOF INSULATION, FASTENERS, WALKWAY PRODUCTS, AND OTHER SINGLE-SOURCE COMPONENTS OF ROOFING SYSTEM MARKETED BY THE MANUFACTURER.
2. GUARANTEE PERIOD: FIFTEEN YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
B. INSTALLER'S GUARANTEE: SUBMIT ROOFING INSTALLER'S GUARANTEE SIGNED BY INSTALLER, COVERING WORK OF THIS SECTION, INCLUDING ALL COMPONENTS OF ROOFING SYSTEM, FOR THE FOLLOWING GUARANTEE PERIOD:
1. GUARANTEE PERIOD: TWO YEARS FROM DATE OF SUBSTANTIAL COMPLETION.
C. EXISTING GUARANTEES: GUARANTEES ON EXISTING BUILDING ELEMENTS SHOULD NOT BE AFFECTED BY SCOPE OF WORK.
1. INSTALLER IS RESPONSIBLE FOR COORDINATING WITH BUILDING OWNER'S REPRESENTATIVE TO VERIFY COMPLIANCE.

PART 2 PRODUCTS
2.1 THERMOPLASTIC ROOFING MEMBRANE MANUFACTURERS
A. PVC SHEET: ASTM D 4434, TYPE III, FABRIC REINFORCED.
1. BASIS OF DESIGN PRODUCT:
a. JOHNS MANVILLE PVC SD PLUS OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:
b. DURLAST.
2. THICKNESS: 50 MILS. NOMINAL.
3. EXPOSED FACE COLOR: WHITE
B. ALTERNATE APPROVED MEMBRANE - TPO SHEET: ASTM D 6878, FABRIC REINFORCED.
1. BASIS OF DESIGN PRODUCT:

a. JOHNS MANVILLE TPO OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:
b. FIRESTONE.
2. THICKNESS: 60 MILS. NOMINAL.
3. EXPOSED FACE COLOR: WHITE.
2.2 AUXILIARY ROOFING MATERIALS - SINGLE PLY
A. GENERAL: AUXILIARY MATERIALS RECOMMENDED BY ROOFING SYSTEM MANUFACTURER FOR INTENDED USE AND COMPATIBLE WITH MEMBRANE ROOFING.
1. LIQUID-TYPE AUXILIARY MATERIALS SHALL MEET VOC LIMITS OF AUTHORITIES HAVING JURISDICTION.
B. SHEET FLASHING: MANUFACTURER'S INTERNALLY REINFORCED OR SCRIM REINFORCED, SMOOTH BACKED MEMBRANE WITH SAME THICKNESS AND COLOR AS SHEET MEMBRANE.
C. BONDING ADHESIVE: MANUFACTURER'S STANDARD SOLVENT-BASED BONDING ADHESIVE FOR MEMBRANE, AND SOLVENT-BASED BONDING ADHESIVE FOR BASE FLASHINGS.
D. SLIP SHEET: MINIMUM 8.0 OZ/YD, NEEDLE PUNCHED, UV-RESISTANT POLYESTER FABRIC SLIP SHEET, AS REQUIRED FOR APPLICATION.
E. METAL TERMINATION BARS: MANUFACTURER'S STANDARD PREDRILLED STAINLESS-STEEL OR ALUMINUM BARS, WITH ANCHORS.
F. FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES MEETING CORROSION-RESISTANCE PROVISIONS IN FMG 4470, DESIGNED FOR FASTENING MEMBRANE TO SUBSTRATE, AND ACCEPTABLE TO MEMBRANE ROOFING SYSTEM MANUFACTURER.
G. MANIFOLD ACCESSORIES: PROVIDE POURABLE SEALERS, PREFORMED CONE AND VENT SHEET FLASHINGS, PREFORMED INSIDE AND OUTSIDE CORNER SHEET FLASHINGS, T-JOINT COVERS, COVER STRIPS, SEALANTS, AND OTHER ACCESSORIES.
H. METAL FLASHING SHEET: METAL FLASHING SHEET IS SPECIFIED IN DIVISION 07 SECTION "SHEET METAL FLASHING AND TRIM."

2.3 WALKWAYS AND SAFETY STRIPS
A. FLEXIBLE WALKWAYS: FACTORY-FORMED, NONPOROUS, HEAVY-DUTY, SLIP-RESISTING, SURFACE-TEXTURED WALKWAY PADS SOURCED FROM MEMBRANE ROOFING SYSTEM MANUFACTURER.
2.4 ROOF INSULATION
A. GENERAL: PREFORMED ROOF INSULATION BOARDS THAT COMPLY WITH REQUIREMENTS AND REFERENCED STANDARDS, SELECTED FROM MANUFACTURER'S STANDARD SIZES AND OF THICKNESSES INDICATED.
B. POLYISOCYANURATE BOARD INSULATION: ASTM C 1289, TYPE II, CLASS 1 OR 2, GRADE 2 (20 PSI).
1. PROVIDE INSULATION PACKAGE WITH MINIMUM R VALUE: 20 OR MINIMUM REQUIRED BY APPLICABLE CODE.
2. PROVIDE INSULATION PACKAGE IN MULTIPLE LAYERS.
3. PROVIDE FIRE RESISTANT INSULATION AS REQUIRED TO MEET APPLICABLE CODE.
4. MINIMUM LONG-TERM THERMAL RESISTANCE (LTR): 5.7 PER INCH.
a. DETERMINED IN ACCORDANCE WITH CANULC S770 AT 75°F (24°C)
2.5 TAPERED INSULATION
A. TAPERED INSULATION: ASTM C 1289, TYPE II, CLASS 1, GRADE 2 (20 PSI), PROVIDE FACTORY-TAPERED INSULATION BOARDS FABRICATED TO SLOPE OF 1/4 INCH PER 12 INCHES (1:48), UNLESS OTHERWISE INDICATED.
2.6 INSULATION ACCESSORIES
A. GENERAL: ROOF INSULATION ACCESSORIES RECOMMENDED BY INSULATION MANUFACTURER FOR INTENDED USE AND COMPATIBLE WITH MEMBRANE ROOFING.
B. PROVIDE FACTORY PREFORMED SADDLES, CRICKETS, TAPERED EDGE STRIPS, AND OTHER INSULATION SHAPES WHERE INDICATED FOR SLOPING TO DRAIN. FABRICATE TO SLOPES INDICATED.
C. FASTENERS: FACTORY-COATED STEEL FASTENERS AND METAL OR PLASTIC PLATES MEETING CORROSION-RESISTANCE PROVISIONS IN FMG 4470, DESIGNED FOR FASTENING ROOF INSULATION TO SUBSTRATE, AND FURNISHED BY ROOFING SYSTEM MANUFACTURER.
D. WOOD NAILER STRIPS: COMPLY WITH REQUIREMENTS IN DIVISION 06 SECTION "MISCELLANEOUS ROUGH CARPENTRY."
E. ADHESIVES: MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT OF 250 GRAMS PER LITER.

PART 3 EXECUTION
3.1 EXAMINATION
A. EXAMINE SUBSTRATES, AREAS, AND CONDITIONS FOR COMPLIANCE WITH THE REQUIREMENTS AFFECTING PERFORMANCE OF ROOFING SYSTEM.
1. GENERAL:
a. VERIFY THAT ROOF OPENINGS AND PENETRATIONS ARE IN PLACE AND SET AND BRACED AND THAT ROOF DRAINS ARE SECURELY CLAMPED IN PLACE.
b. VERIFY THAT WOOD CANTS, BLOCKING, CURBS, AND NAILERS ARE SECURELY ANCHORED TO ROOF DECK AT PENETRATIONS AND TERMINATIONS AND THAT NAILERS MATCH THICKNESSES OF INSULATION.
2. STEEL DECKS:
a. VERIFY THAT SURFACE PLANE FLATNESS AND FASTENING OF STEEL ROOF DECK COMPLIES WITH REQUIREMENTS IN DIVISION 05 SECTION "STEEL DECKING."
b. ENSURE GENERAL RIGIDITY AND PROPER SLOPE FOR DRAINAGE.
4. VERIFY THAT DECK IS SECURELY FASTENED WITH NO PROJECTING FASTENERS AND WITH NO ADJACENT UNITS IN EXCESS OF 1/16 INCH (1.6 MM) OUT OF PLANE RELATIVE TO ADJOINING DECK.
B. UNACCEPTABLE PANELS SHOULD BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR AND PROJECT OWNER'S REPRESENTATIVE AND MUST BE CORRECTED PRIOR TO INSTALLATION OF ROOFING SYSTEM.
C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.2 PREPARATION
A. CLEAN AND REMOVE FROM SUBSTRATE SHARP PROJECTIONS, DUST, DEBRIS, MOISTURE, AND OTHER SUBSTANCES DETRIMENTAL TO ROOFING INSTALLATION IN ACCORDANCE WITH ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. PREVENT MATERIALS FROM ENTERING AND CLOGGING ROOF DRAINS AND CONDUCTORS AND FROM SPILLING OR MIGRATING ONTO SURFACES OF OTHER CONSTRUCTION.
C. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.3 RE-ROOF PREPARATION - AS APPLICABLE
A. REMOVE ALL ROOFING MEMBRANE, SURFACING, COVERBOARDS, INSULATION, FASTENERS, ASPHALT, PITCH, ADHESIVES, ETC.
1. REMOVE AN AREA NO LARGER THAN CAN BE RE-ROOFED IN ONE DAY.
B. TEAR OUT ALL BASE FLASHINGS, COUNTERFLASHINGS, PITCH PANS, PIPE FLASHINGS, VENTS AND LIKE COMPONENTS NECESSARY FOR APPLICATION OF NEW MEMBRANE.
C. REMOVE ABANDONED EQUIPMENT CURBS, SKYLIGHTS, SMOKE HATCHES, AND PENETRATIONS.
1. INSTALL DECKING TO MATCH EXISTING AS DIRECTED BY OWNER'S REPRESENTATIVE.
2. RAISE (DISCONNECT) BY LICENSED CRAFTSMEN, IF NECESSARY) ALL HVAC UNITS AND OTHER EQUIPMENT SUPPORTED BY CURBS TO CONFORM WITH THE FOLLOWING:
1. MODIFY CURBS AS REQUIRED TO PROVIDE A MINIMUM 8" BASE FLASHING HEIGHT MEASURED FROM THE SURFACE OF THE NEW MEMBRANE TO THE TOP OF THE FLASHING MEMBRANE.
2. SECURE TOP OF FLASHING AND INSTALL NEW METAL COUNTERFLASHING PRIOR TO RE-INSTALLATION OF UNIT.
3. PERIMETER NAILERS MUST BE ELEVATED TO MATCH ELEVATION OF NEW ROOF INSULATION.
E. IMMEDIATELY REMOVE ALL DEBRIS FROM ROOF SURFACE. DEMOLISHED ROOF SYSTEM MAY NOT BE STORED ON THE ROOF SURFACE.
F. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.4 INSULATION INSTALLATION
A. COORDINATE INSTALLATION OF ROOF SYSTEM COMPONENTS SO INSULATION AND COVER BOARD IS NOT EXPOSED TO PRECIPITATION OR LEFT EXPOSED AT THE END OF THE WORKDAY.
B. COMPLY WITH ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION OF ROOF INSULATION AND COVER BOARD.
C. INSTALL TAPERED INSULATION UNDER AREA OF ROOFING TO CONFORM TO SLOPES INDICATED.
D. INSTALL INSULATION BOARDS WITH LONG JOINTS IN A CONTINUOUS STRAIGHT LINE WITH END JOINTS STAGGERED BETWEEN ROWS. ABUTTING EDGES AND ENDS BETWEEN BOARDS, FILL GAPS EXCEEDING 1/4 INCH (6 MM) WITH LIKE MATERIAL.
E. INSTALL 2 OR MORE LAYERS WITH JOINTS OF EACH SUCCEEDING LAYER STAGGERED FROM JOINTS OF PREVIOUS LAYER A MINIMUM OF 6 INCHES (150 MM) IN EACH DIRECTION.
F. TRIM SURFACE OF INSULATION BOARDS WHERE NECESSARY AT ROOF DRAINS SO COMPLETED SURFACE IS FLUSH AND DOES NOT RESTRICT FLOW OF WATER.
G. INSTALL TAPERED EDGE STRIPS AT PERIMETER EDGES OF ROOF THAT DO NOT TERMINATE AT VERTICAL SURFACES.
H. LOOSE LAY INSULATION WITH TOP INSULATION LAYER MECHANICALLY FASTENED:
1. LOOSE LAY INSULATION WITH STAGGERED JOINTS AND SECURE TOP LAYER OF INSULATION TO DECK USING MECHANICAL FASTENERS SPECIFICALLY DESIGNED AND SIZED FOR FASTENING SPECIFIED BOARD-TYPE TO DECK TYPE.
1. FASTEN TOP LAYER TO RESIST UPLIFT PRESSURE AT CORNERS, PERIMETER, AND FIELD OF ROOF.
I. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.5 ROOFING MEMBRANE INSTALLATION, GENERAL
A. INSTALL ROOFING MEMBRANE IN ACCORDANCE WITH ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. APPLICABLE RECOMMENDATIONS OF THE ROOFING MANUFACTURER AND REQUIREMENTS IN THIS SECTION.
B. START INSTALLATION OF ROOFING MEMBRANE IN PRESENCE OF ROOFING SYSTEM MANUFACTURER'S TECHNICAL PERSONNEL.
C. COOPERATE WITH TESTING AND INSPECTING AGENCIES ENGAGED OR REQUIRED TO PERFORM SERVICES FOR INSTALLING ROOFING SYSTEM.
D. COORDINATE INSTALLING ROOFING SYSTEM SO INSULATION AND OTHER COMPONENTS OF THE ROOFING MEMBRANE SYSTEM NOT PERMANENTLY EXPOSED ARE NOT SUBJECTED TO PRECIPITATION OR LEFT UNCOVERED AT THE END OF THE WORKDAY OR WHEN RAIN IS IMMINENT.
1. PROVIDE TIE-OFFS AT END OF EACH DAY'S WORK TO COVER EXPOSED ROOFING MEMBRANE SHEETS AND INSULATION WITH JOINTS AND EDGES SEALED.
2. COMPLETE TERMINATIONS AND BASE FLASHINGS AND PROVIDE TEMPORARY SEALS TO PREVENT WATER FROM ENTERING COMPLETED SECTIONS OF ROOFING SYSTEM.
3. REMOVE AND DISCARD TEMPORARY SEALS BEFORE BEGINNING WORK ON ADJOINING ROOFING.
E. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.6 MECHANICALLY FASTENED ROOFING MEMBRANE INSTALLATION
A. INSTALL ROOFING MEMBRANE OVER AREA TO RECEIVE ROOFING IN ACCORDANCE WITH ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
1. UNROLL ROOFING MEMBRANE AND ALLOW TO RELAX BEFORE INSTALLING.
2. INSTALL SHEET IN ACCORDANCE WITH ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. ACCURATELY ALIGN ROOFING MEMBRANES AND MAINTAIN UNIFORM SIDE AND END LAPS OF MINIMUM DIMENSIONS REQUIRED BY MANUFACTURER, STAGGER END LAPS.
C. MECHANICALLY FASTEN ROOFING MEMBRANE SECURELY AT TERMINATIONS, PENETRATIONS, AND PERIMETER OF ROOFING.
D. ALWAYS INSTALL MEMBRANE LAPS PERPENDICULAR TO THE STEEL DECK FLUTES. "PICTURE FRAME" INSTALLATION METHOD IS NOT PERMITTED.
E. APPLY ROOFING MEMBRANE WITH SIDE LAPS SHINGLED WITH SLOPE OF ROOF DECK WHERE POSSIBLE.
F. SEAMS: CLEAN SEAM AREAS, OVERLAP ROOFING MEMBRANE, AND HOT-AIR WELD SIDE AND END LAPS OF ROOFING MEMBRANE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE A WATERTIGHT SEAM INSTALLATION.
1. TEST LAP EDGES WITH PROBE TO VERIFY SEAM WELD CONTINUITY.
2. VERIFY FIELD STRENGTH OF SEAMS A MINIMUM OF TWICE DAILY AND REPAIR SEAM SAMPLE AREAS.
a. REMOVE AND REPAIR ANY UNSATISFACTORY SECTIONS BEFORE PROCEEDING WITH WORK.
3. REPAIR TEARS, VOIDS, AND LAPPED SEAMS IN ROOFING MEMBRANE THAT DO NOT MEET REQUIREMENTS.
G. SPREAD SEALANT OR MASTIC BED OVER DECK DRAIN FLANGE AT DECK DRAINS AND SECURELY SEAL ROOFING MEMBRANE IN PLACE WITH CLAMPING RING.
H. IN-SPlice ATTACHMENT: SECURE ONE EDGE OF ROOFING MEMBRANE USING FASTENING PLATES OR METAL BATTENS CENTERED WITHIN MEMBRANE SPlice AND MECHANICALLY FASTEN ROOFING MEMBRANE TO ROOF DECK. FIELD-SPlice SEAM.
I. INSTALL ROOFING MEMBRANE AND AUXILIARY MATERIALS TO TIE IN TO EXISTING ROOFING.
J. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.7 ALTERNATE APPROVED INSTALLATION METHOD - INDUCTION WELDED ROOFING MEMBRANE INSTALLATION
A. INSTALL ROOFING MEMBRANE OVER AREA TO RECEIVE ROOFING ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS. UNROLL ROOFING MEMBRANE AND ALLOW TO RELAX BEFORE INSTALLING.
B. ACCURATELY ALIGN ROOFING MEMBRANES AND MAINTAIN UNIFORM SIDE AND END LAPS OF MINIMUM DIMENSIONS REQUIRED BY MANUFACTURER. STAGGER END LAPS.
C. APPLY ROOFING MEMBRANE WITH SIDE LAPS SHINGLED WITH SLOPE OF ROOF DECK WHERE POSSIBLE.
D. SEAMS: CLEAN SEAM AREAS, OVERLAP ROOFING MEMBRANE, AND HOT-AIR WELD SIDE AND END LAPS OF ROOFING MEMBRANE ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS TO ENSURE A WATERTIGHT SEAM INSTALLATION.
1. TEST LAP EDGES WITH PROBE TO VERIFY SEAM WELD CONTINUITY. APPLY LAP SEALANT TO SEAL CUT EDGES OF ROOFING MEMBRANE.
2. VERIFY FIELD STRENGTH OF SEAMS A MINIMUM OF TWICE DAILY AND REPAIR SEAM SAMPLE AREAS.
a. REMOVE AND REPAIR ANY UNSATISFACTORY SECTIONS BEFORE PROCEEDING WITH WORK.
3. REPAIR TEARS, VOIDS, AND LAPPED SEAMS IN ROOFING MEMBRANE THAT DO NOT MEET REQUIREMENTS.
E. SPREAD SEALANT OR MASTIC BED OVER DECK DRAIN FLANGE AT DECK DRAINS AND SECURELY SEAL ROOFING MEMBRANE IN PLACE WITH CLAMPING RING.
F. INDUCTION WELDING INSTALLATION:
1. PERFORM CALIBRATION AND SET-UP AS DETAILED BY THE INDUCTION WELDER OWNER'S MANUAL.
2. CENTER THE INDUCTION WELDER OVER THE FIRST PLATE IN PATTERN AND ACTIVATE THE WELD.
a. INDUCTION WELDER MUST BE CENTERED OVER THE PLATE TO CREATE A 100% BOND.
b. IF AN ERROR OCCURS DURING ACTIVATION, REFER TO THE INDUCTION WELDER OWNER'S MANUAL FOR CORRECTIVE ACTION.
3. PRIOR TO EVERY USE, CLEAN FACE OF HEAT SINK MAGNET.
4. PLACE HEAT SINK MAGNET OVER THE WELDED PLATE.
a. KEEP HEAT SINK MAGNET IN PLACE AT LEAST 45 SECONDS WHILE THE ASSEMBLY COOLS.
5. REPEAT PROCESS FOR EACH PLATE.
G. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.8 BASE FLASHING INSTALLATION
A. INSTALL SHEET FLASHINGS AND PREFORMED FLASHING ACCESSORIES AND ADHERE TO SUBSTRATES IN ACCORDANCE WITH MEMBRANE ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. APPLY SOLVENT-BASED BONDING ADHESIVE AT REQUIRED RATE AND ALLOW TO PARTIALLY DRY. DO NOT APPLY BONDING ADHESIVE TO SEAM AREA OF FLASHING.
C. FLASH PENETRATIONS AND FIELD-FORMED INSIDE AND OUTSIDE CORNERS PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
D. CLEAN SEAM AREAS AND OVERLAP A FIRMLY ROLL SHEET FLASHINGS INTO THE ADHESIVE. WELD SIDE AND END LAPS TO ENSURE A WATERTIGHT SEAM INSTALLATION.
E. TERMINATE AND SEAL TOP OF SHEET FLASHINGS AND MECHANICALLY ANCHOR TO SUBSTRATE THROUGH TERMINATION BARS.
F. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.

3.9 WALKWAY INSTALLATION
A. FLEXIBLE WALKWAYS: INSTALL WALKWAY PRODUCTS IN LOCATIONS INDICATED. HEAT-WELD WALKWAY PRODUCTS TO SUBSTRATE ACCORDING TO ROOFING SYSTEM MANUFACTURER'S WRITTEN INSTRUCTIONS.
B. PROCEED WITH INSTALLATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED.
3.10 FIELD QUALITY CONTROL
A. FINAL ROOF INSPECTION: ARRANGE FOR ROOFING SYSTEM MANUFACTURER'S REGISTERED ROOF OBSERVER (RRO) TO INSPECT ROOFING INSTALLATION ON COMPLETION AND SUBMIT REPORT TO ARCHITECT.
1. NOTIFY ARCHITECT OR OWNER 48 HOURS IN ADVANCE OF DATE AND TIME OF INSPECTION.
B. REPAIR OR REMOVE AND REPLACE COMPONENTS OF ROOFING SYSTEM WHERE TEST RESULTS OR INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.
C. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.
3.11 PROTECTION AND CLEANING
A. PROTECT ROOFING SYSTEM FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD.
B. CORRECT DEFICIENCIES IN OR REMOVE ROOFING SYSTEM THAT DOES NOT COMPLY WITH REQUIREMENTS, REPAIR SUBSTRATES, AND REPAIR OR REINSTALL ROOFING SYSTEM TO A CONDITION FREE OF DAMAGE AND DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION AND ACCORDING TO WARRANTY REQUIREMENTS.
C. CLEAN OVERSPRAY AND SPILLAGE FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

SECTION 07 6200 SHEET METAL FLASHING AND TRIM
PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. COPINGS.
2. EDGE FLASHINGS.
3. SCUPPERS, CONDUCTOR HEADS AND DOWNSPOUTS.
4. COUNTERFLASHINGS OVER MEMBRANE ROOF BASE FLASHINGS.
5. COUNTERFLASHINGS AT ROOF MOUNTED EQUIPMENT AND UTILITY PENETRATIONS.
1.3 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. SHOP DRAWINGS: SHOW LOCATIONS, TYPES AND THICKNESSES OF METAL, PROFILES, DIMENSIONS, FASTENING METHODS, PROVISIONS FOR EXPANSION AND CONTRACTION, AND JOINT DETAILS.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.
1.4 QUALITY ASSURANCE
A. DESIGN, FABRICATE, AND INSTALL METAL COPINGS IN ACCORDANCE WITH ANSISPR1 ES-1.

PART 2 PRODUCTS
2.1 MATERIALS
A. ALUMINUM SHEET:
1. ASTM B209, ALLOY 3003, TEMPER H14, 0.032 INCH THICK.
2. FINISH: NATURAL.
2.2 FABRICATION
A. FABRICATE COMPONENTS IN ACCORDANCE WITH [SMACNA MANUAL.] [CDA HANDBOOK.]
B. FABRICATE CORNERS IN SINGLE UNITS WITH MINIMUM 18 INCH LONG LEGS.
C. FABRICATE VERTICAL FACES WITH BOTTOM EDGE FORMED OUTWARD 1/4 INCH AND HEMMED TO FORM DRIP.
D. FORM SECTIONS ACCURATE TO SIZE AND SHAPE, SQUARE AND FREE FROM DISTORTION AND DEFECTS.
E. PROVIDE FOR THERMAL EXPANSION AND CONTRACTION IN SHEET METAL:
1. OTHER SHEET METAL:
a. PROVIDE EXPANSION JOINTS IN SHEET METAL EXCEEDING 15 FEET IN RUNNING LENGTH.
b. PLACE EXPANSION JOINTS AT 10 FEET ON CENTER MAXIMUM AND MAXIMUM 2 FEET FROM CORNERS AND INTERSECTIONS.
2. JOINT WIDTH: CONSISTENT WITH TYPES AND SIZES OF MATERIALS, MINIMUM WIDTH 1/4 INCH.
F. FABRICATE EXPANSION JOINTS IN METAL COPINGS WITH BACKING AND COVER PLATES FORMED TO FLASHING PROFILE, MINIMUM 8 INCHES LONG.
G. UNLESS OTHERWISE INDICATED, PROVIDE MINIMUM 3/4 INCH WIDE FLAT LOCK SEAMS, LAP IN DIRECTION OF WATER FLOW.
H. FABRICATE CLEATS AND STARTER STRIPS OF SAME MATERIAL AS SHEET METAL.

PART 3 EXECUTION
3.1 INSTALLATION
A. INSTALL CLEATS AND STARTER STRIPS BEFORE STARTING INSTALLATION OF SHEET METAL. FASTEN AT 6 INCHES ON CENTER MAXIMUM.
B. EXPANSION JOINTS IN METAL COPINGS:
1. CENTER BACKING PLATE BETWEEN FLASHING PIECES AT END JOINTS.
2. APPLY TWO CONTINUOUS BEADS OF JOINT SEALER BETWEEN BACKING PLATE AND FLASHING SECTIONS AT EACH END.
3. INSTALL FLASHING PIECES WITH 1/2 INCH EXPANSION SPACE AT ABUTTING ENDS; APPLY SEALER TO EXPANSION SPACE.
4. APPLY TWO CONTINUOUS BEADS OF JOINT SEALER BETWEEN COVER PLATE AND FLASHING SECTIONS AT EACH END.
C. SECURE FLASHINGS WITH CONCEALED FASTENERS WHERE POSSIBLE.
D. APPLY PLASTIC CEMENT BETWEEN METAL AND BITUMINOUS FLASHINGS.
E. FIT FLASHINGS TIGHT, WITH SQUARE CORNERS AND SURFACES TRUE AND STRAIGHT.
F. SEAM AND SEAL FIELD JOINTS.
G. SEPARATE DISSIMILAR METALS WITH BITUMINOUS COATING OR NON-ABSORPTIVE GASKETS.
H. DOWNSPOUTS:
1. SECURE WITH STRAPS SPACED MAXIMUM 8 FEET ON CENTER AND WITHIN 2 FEET OF ENDS AND ELBOWS.
2. FLASH DOWNSPOUTS INTO CONDUCTOR HEADS AND FASTEN.
3. FLASH UPPER SECTIONS INTO LOWER SECTIONS MINIMUM 2 INCHES AT JOINTS; FASTEN SECTIONS TOGETHER.
I. APPLY JOINT SEALERS AS SPECIFIED IN SECTION 07 9200.
3.2 CLEANING
A. CLEAN SHEET METAL; REMOVE SLAG, FLUX, STAINS, SPOTS, AND MINOR ABRASIONS WITHOUT ETCHING SURFACES.

SECTION 07 9200 JOINT SEALERS
PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. JOINT BACKUP MATERIALS.
2. JOINT SEALERS.
1.3 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. PRODUCT DATA: INDICATE SEALERS, PRIMERS, BACKUP MATERIALS, BOND BREAKERS, AND ACCESSORIES PROPOSED FOR USE.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.
2. LOW-EMITTING MATERIALS.
1.4 QUALITY ASSURANCE
A. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: INTERIOR SEALERS AND ACCESSORIES:
1. SEALANTS: 250 GRAMS PER LITER.
2. PRIMERS FOR NON-POROUS SUBSTRATES: 250 GRAMS PER LITER.
3. PRIMERS FOR POROUS SUBSTRATES: 775 GRAMS PER LITER.
1.5 PROJECT CONDITIONS
A. DO NOT APPLY SEALERS AT TEMPERATURES BELOW 40 DEGREES F UNLESS APPROVED BY SEALER MANUFACTURER.

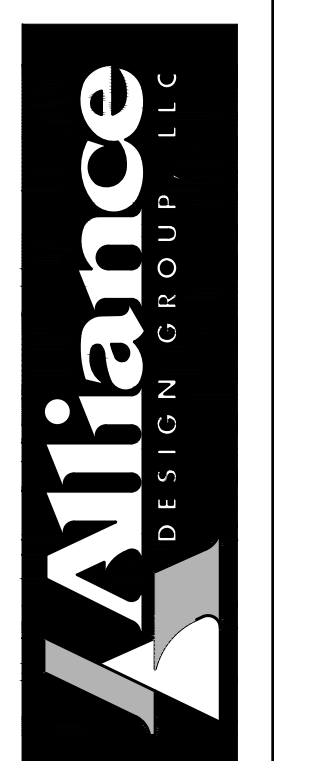
3.10 FIELD QUALITY CONTROL
A. FINAL ROOF INSPECTION: ARRANGE FOR ROOFING SYSTEM MANUFACTURER'S REGISTERED ROOF OBSERVER (RRO) TO INSPECT ROOFING INSTALLATION ON COMPLETION AND SUBMIT REPORT TO ARCHITECT.
1. NOTIFY ARCHITECT OR OWNER 48 HOURS IN ADVANCE OF DATE AND TIME OF INSPECTION.
B. REPAIR OR REMOVE AND REPLACE COMPONENTS OF ROOFING SYSTEM WHERE TEST RESULTS OR INSPECTIONS INDICATE THAT THEY DO NOT COMPLY WITH SPECIFIED REQUIREMENTS.
C. ADDITIONAL TESTING AND INSPECTING, AT CONTRACTOR'S EXPENSE, WILL BE PERFORMED TO DETERMINE COMPLIANCE OF REPLACED OR ADDITIONAL WORK WITH SPECIFIED REQUIREMENTS.
3.11 PROTECTION AND CLEANING
A. PROTECT ROOFING SYSTEM FROM DAMAGE AND WEAR DURING REMAINDER OF CONSTRUCTION PERIOD.
B. CORRECT DEFICIENCIES IN OR REMOVE ROOFING SYSTEM THAT DOES NOT COMPLY WITH REQUIREMENTS, REPAIR SUBSTRATES, AND REPAIR OR REINSTALL ROOFING SYSTEM TO A CONDITION FREE OF DAMAGE AND DETERIORATION AT TIME OF SUBSTANTIAL COMPLETION AND ACCORDING TO WARRANTY REQUIREMENTS.
C. CLEAN OVERSPRAY AND SPILLAGE FROM ADJACENT CONSTRUCTION USING CLEANING AGENTS AND PROCEDURES RECOMMENDED BY MANUFACTURER OF AFFECTED CONSTRUCTION.

SECTION 07 6200 SHEET METAL FLASHING AND TRIM
PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. COPINGS.
2. EDGE FLASHINGS.
3. SCUPPERS, CONDUCTOR HEADS AND DOWNSPOUTS.
4. COUNTERFLASHINGS OVER MEMBRANE ROOF BASE FLASHINGS.
5. COUNTERFLASHINGS AT ROOF MOUNTED EQUIPMENT AND UTILITY PENETRATIONS.
1.3 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. SHOP DRAWINGS: SHOW LOCATIONS, TYPES AND THICKNESSES OF METAL, PROFILES, DIMENSIONS, FASTENING METHODS, PROVISIONS FOR EXPANSION AND CONTRACTION, AND JOINT DETAILS.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.
1.4 QUALITY ASSURANCE
A. DESIGN, FABRICATE, AND INSTALL METAL COPINGS IN ACCORDANCE WITH ANSISPR1 ES-1.

PART 2 PRODUCTS
2.1 MATERIALS
A. ALUMINUM SHEET:
1. ASTM B209, ALLOY 3003, TEMPER H14, 0.032 INCH THICK.
2. FINISH: NATURAL.
2.2 FABRICATION
A. FABRICATE COMPONENTS IN ACCORDANCE WITH [SMACNA MANUAL.] [CDA HANDBOOK.]
B. FABRICATE CORNERS IN SINGLE UNITS WITH MINIMUM 18 INCH LONG LEGS.
C. FABRICATE VERTICAL FACES WITH BOTTOM EDGE FORMED OUTWARD 1/4 INCH AND HEMMED TO FORM DRIP.
D. FORM SECTIONS ACCURATE TO SIZE AND SHAPE, SQUARE AND FREE FROM DISTORTION AND DEFECTS.
E. PROVIDE FOR THERMAL EXPANSION AND CONTRACTION IN SHEET METAL:
1. OTHER SHEET METAL:
a. PROVIDE EXPANSION JOINTS IN SHEET METAL EXCEEDING 15 FEET IN RUNNING LENGTH.
b. PLACE EXPANSION JOINTS AT 10 FEET ON CENTER MAXIMUM AND MAXIMUM 2 FEET FROM CORNERS AND INTERSECTIONS.
2. JOINT WIDTH: CONSISTENT WITH TYPES AND SIZES OF MATERIALS, MINIMUM WIDTH 1/4 INCH.
F. FABRICATE EXPANSION JOINTS IN METAL COPINGS WITH BACKING AND COVER PLATES FORMED TO FLASHING PROFILE, MINIMUM 8 INCHES LONG.
G. UNLESS OTHERWISE INDICATED, PROVIDE MINIMUM 3/4 INCH WIDE FLAT LOCK SEAMS, LAP IN DIRECTION OF WATER FLOW.
H. FABRICATE CLEATS AND STARTER STRIPS OF SAME MATERIAL AS SHEET METAL.

PART 3 EXECUTION
3.1 INSTALLATION
A. INSTALL CLEATS AND STARTER STRIPS BEFORE STARTING INSTALLATION OF SHEET METAL. FASTEN AT 6 INCHES ON CENTER MAXIMUM.
B. EXPANSION JOINTS IN METAL COPINGS:
1. CENTER BACKING PLATE BETWEEN FLASHING PIECES AT END JOINTS.
2. APPLY TWO CONTINUOUS BEADS OF JOINT SEALER BETWEEN BACKING PLATE AND FLASHING SECTIONS AT EACH END.
3. INSTALL FLASHING PIECES WITH 1/2 INCH EXPANSION SPACE AT ABUTTING ENDS; APPLY SEALER TO EXPANSION SPACE.
4. APPLY TWO CONTINUOUS BEADS OF JOINT SEALER BETWEEN COVER PLATE AND FLASHING SECTIONS AT EACH END.
C. SECURE FLASHINGS WITH CONCEALED FASTENERS WHERE POSSIBLE.
D. APPLY PLASTIC CEMENT BETWEEN METAL AND BITUMINOUS FLASHINGS.
E. FIT FLASHINGS TIGHT, WITH SQUARE CORNERS AND SURFACES TRUE AND STRAIGHT.
F. SEAM AND SEAL FIELD JOINTS.
G. SEPARATE DISSIMILAR METALS WITH BITUMINOUS COATING OR NON-ABSORPTIVE GASKETS.
H. DOWNSPOUTS:
1. SECURE WITH STRAPS SPACED MAXIMUM 8 FEET ON CENTER AND WITHIN 2 FEET OF ENDS AND ELBOWS.
2. FLASH DOWNSPOUTS INTO CONDUCTOR HEADS AND FASTEN.
3. FLASH UPPER SECTIONS INTO LOWER SECTIONS MINIMUM 2 INCHES AT JOINTS; FASTEN SECTIONS TOGETHER.
I. APPLY JOINT SEALERS AS SPECIFIED IN SECTION 07 9200.
3.2 CLEANING
A. CLEAN SHEET METAL; REMOVE SLAG, FLUX, STAINS, SPOTS, AND MINOR ABRASIONS WITHOUT ETCHING SURFACES.

SECTION 07 9200 JOINT SEALERS
PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. JOINT BACKUP MATERIALS.
2. JOINT SEALERS.
1.3 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. PRODUCT DATA: INDICATE SEALERS, PRIMERS, BACKUP MATERIALS, BOND BREAKERS, AND ACCESSORIES PROPOSED FOR USE.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.
2. LOW-EMITTING MATERIALS.
1.4 QUALITY ASSURANCE
A. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: INTERIOR SEALERS AND ACCESSORIES:
1. SEALANTS: 250 GRAMS PER LITER.
2. PRIMERS FOR NON-POROUS SUBSTRATES: 250 GRAMS PER LITER.
3. PRIMERS FOR POROUS SUBSTRATES: 775 GRAMS PER LITER.
1.5 PROJECT CONDITIONS
A. DO NOT APPLY SEALERS AT TEMPERATURES BELOW 40 DEGREES F UNLESS APPROVED BY SEALER MANUFACTURER.



CONSTRUCTION SPECIFICATIONS:

PART 2 PRODUCTS
2.1 MATERIALS
A. JOINT SEALER TYPE 1:
1. ASTM C920, GRADE NS, SINGLE COMPONENT BUTYL RUBBER TYPE, NON SAG, MILDEW RESISTANT.
2. MOVEMENT CAPABILITY: PLUS OR MINUS 12-1/2 PERCENT.
3. COLOR: TO BE SELECTED FROM MANUFACTURER'S FULL COLOR RANGE, MATCH ADJACENT FINISH.

3.1 PREPARATION
A. REMOVE LOOSE AND FOREIGN MATTER THAT COULD IMPAIR ADHESION. IF SURFACE HAS BEEN SUBJECT TO CHEMICAL CONTAMINATION, CONTACT SEALER MANUFACTURER FOR RECOMMENDATION.

3.2 APPLICATION
A. APPLY PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL SEALERS AND ACCESSORIES AS ACCORDANCE WITH ASTM C1193.

3.3 CLEANING
A. CLEAN ADJACENT SURFACES.

SECTION 08 1113
HOLLOW METAL DOORS AND FRAMES

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. HOLLOW STEEL DOORS AND FRAMES.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. STEELCRAFT. (WWW.STEELCRAFT.COM)

2.2 MATERIALS
A. STEEL SHEET:
1. ASTM A1008/1008M, COLD ROLLED.

2.3 FABRICATION
A. FABRICATE DOORS AND FRAMES IN ACCORDANCE WITH ANSISDI A250.8.

2.4 FINISHES
A. DRESS TOOL MARKS AND SURFACE IMPERFECTIONS TO SMOOTH SURFACES.
B. CLEAN AND CHEMICALLY TREAT STEEL SURFACES.

2.5 ACCESSORIES
A. PRIMERS, BONDBREAKERS, AND SOLVENTS: AS RECOMMENDED BY SEALER MANUFACTURER.

2.6 FINISHES
A. ALUMINUM:
1. EXTRUSIONS: ASTM B221, 6063-T5 ALLOY AND TEMPER.

2.7 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.8 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

SECTION 08 1416
FLUSH WOOD DOORS

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. WOOD VENEER FACED FLUSH DOORS.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

1.3 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

B. DO NOT DELIVER DOORS UNTIL BUILDING IS SUBSTANTIALLY WATER AND WEATHER TIGHT.
C. STORE DOORS FLAT AND LEVEL, WITH SPACERS BETWEEN DOORS TO ALLOW FOR AIR CIRCULATION, IN PROTECTED, DRY AREA.

2.1 MATERIALS
A. FLUSH WOOD DOORS:
1. WDMA I.S.1A.

2.2 FABRICATION
A. FABRICATE DOORS IN ACCORDANCE WITH WDMA I.S.1A.
1. PERFORMANCE DUTY LEVEL: HEAVY DUTY.

3.1 PREPARATION
A. CONDITION DOORS TO AVERAGE HUMIDITY THAT WILL BE ENCOUNTERED AFTER INSTALLATION.

3.2 APPLICATION
A. INSTALL DOORS IN ACCORDANCE WITH WDMA I.S.1A.

3.3 CLEANING
A. CLEAN ADJACENT SURFACES.

SECTION 08 2113
PLASTIC FACED SOLID CORE METAL CLAD DOOR

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. HOLLOW STEEL DOORS AND FRAMES.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. ELORSON CORPORATION, KALAMAZOO, MI

2.2 MATERIALS
A. DEER BODY
1. .063" THICK TEMPERED ALUMINUM ALLOY WITH DELTA FORMED VERTICAL EDGES.

3.1 INSTALLATION
A. INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

SECTION 08 4113
ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. ALUMINUM ENTRANCE DOORS AND FRAMES.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. UNITED STATES ALUMINUM

2.2 MATERIALS
A. ALUMINUM:
1. EXTRUSIONS: ASTM B221, 6063-T5 ALLOY AND TEMPER.

2.3 COMPONENTS
A. ENTRANCES DOORS: NARROW STYLE CONFIGURATION WITH NOMINAL 2 1/2 INCH VERTICAL STILES

2.4 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.6 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.7 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.8 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

B. JOINT SEALERS: SPECIFIED IN SECTION 07 9200.
C. GLASS AND GLAZING ACCESSORIES: SPECIFIED IN SECTION 08 8000.

2.1 MATERIALS
A. FLUSH WOOD DOORS:
1. WDMA I.S.1A.

2.2 FABRICATION
A. FABRICATE DOORS IN ACCORDANCE WITH WDMA I.S.1A.
1. PERFORMANCE DUTY LEVEL: HEAVY DUTY.

3.1 PREPARATION
A. CONDITION DOORS TO AVERAGE HUMIDITY THAT WILL BE ENCOUNTERED AFTER INSTALLATION.

3.2 APPLICATION
A. INSTALL DOORS IN ACCORDANCE WITH WDMA I.S.1A.

3.3 CLEANING
A. CLEAN ADJACENT SURFACES.

SECTION 08 5619
DRIVE-THRU WINDOW

PART 1 GENERAL
1.1 WORK INCLUDED
A. TEST AND ADJUST HARDWARE FOR QUIET, SMOOTH OPERATION, FREE FROM BINDING AND RATTLING.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. ELORSON CORPORATION, KALAMAZOO, MI

2.2 MATERIALS
A. DEER BODY
1. .063" THICK TEMPERED ALUMINUM ALLOY WITH DELTA FORMED VERTICAL EDGES.

3.1 INSTALLATION
A. INSTALL DOORS AND FRAMES IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.

SECTION 08 7100
DOOR HARDWARE

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. ALUMINUM ENTRANCE DOORS AND FRAMES.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. UNITED STATES ALUMINUM

2.2 MATERIALS
A. ALUMINUM:
1. EXTRUSIONS: ASTM B221, 6063-T5 ALLOY AND TEMPER.

2.3 COMPONENTS
A. ENTRANCES DOORS: NARROW STYLE CONFIGURATION WITH NOMINAL 2 1/2 INCH VERTICAL STILES

2.4 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.6 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.7 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.8 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

a. TYPE: ANSIBHMA A156.5, CYLINDRICAL TYPE WITH 1 INCH BOLT THROW.
b. FUNCTIONS: AS SPECIFIED.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - GLASS:
1. PPG INDUSTRIES, INC. (WWW.PPGGLAZING.COM)

2.2 MATERIALS
A. CLEAR GLASS: ASTM C1036, TYPE 1 TRANSPARENT FLAT, CLASS 1 CLEAR, QUALITY Q3 GLAZING SELECT.

2.3 ACCESSORIES
A. SETTING BLOCKS: ASTM C864, NEOPRENE OR EPDM, OR ASTM C1115, SILICONE; 80 TO 90 SHORE A DURETOMETER HARDNESS.

2.4 FABRICATION
A. TEMPERED GLASS:
1. COMPLY WITH ASTM E2190.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

SECTION 09 2900
GYPSUM BOARD

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. GYPSUM BOARD.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - GYPSUM PANELS:
1. CERTANTEED GYPSUM, INC. (WWW.CERTANTEED.COM)

2.2 MATERIALS
A. REGULAR GYPSUM BOARD: ASTM C1396; 48 INCHES WIDE X THICKNESS INDICATED, MAXIMUM PRACTICAL LENGTH, TAPERED EDGE.

2.3 ACCESSORIES
A. FASTENERS: ASTM C1002, TYPE W SCREWS, MINIMUM 5/8 INCH PENETRATION INTO FRAMING.

2.4 FABRICATION
A. TEMPERED GLASS:
1. COMPLY WITH ASTM E2190.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

SECTION 08 8000
GLAZING

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. GLASS FOR OTHER SECTIONS REFERENCING THIS SECTION.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - GLASS:
1. PPG INDUSTRIES, INC. (WWW.PPGGLAZING.COM)

2.2 MATERIALS
A. CLEAR GLASS: ASTM C1036, TYPE 1 TRANSPARENT FLAT, CLASS 1 CLEAR, QUALITY Q3 GLAZING SELECT.

2.3 ACCESSORIES
A. SETTING BLOCKS: ASTM C864, NEOPRENE OR EPDM, OR ASTM C1115, SILICONE; 80 TO 90 SHORE A DURETOMETER HARDNESS.

2.4 FABRICATION
A. TEMPERED GLASS:
1. COMPLY WITH ASTM C1048.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.6 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.7 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2. LAMINATE GLASS WITH LAMINATING FILM BY MANUFACTURER'S STANDARD HEAT AND PRESSURE PROCESS.
3. CUT GLASS TO REQUIRED SIZE AT FACTORY.

3.1 PREPARATION
A. CLEAN GLAZING RABBETS; REMOVE LOOSE AND FOREIGN MATTER.

3.2 INSTALLATION - GENERAL
A. INSTALL GLASS IN ACCORDANCE WITH GLASS MANUFACTURER'S INSTRUCTIONS.

3.3 PROTECTION
A. AFTER INSTALLATION, MARK GLASS WITH AN 'X' USING REMOVABLE PLASTIC TAPE.

3.4 SCHEDULE
A. ALL SALES AREA PRIMARY GLASS - 1 IN. INSULATING GLASS, 1/2 IN. AIR SPACE WITH 1/4 IN. CLEAR POLISHED PLATE FOR OUTDOOR AND INDOOR GLASS.

3.5 PROTECTION
A. AFTER INSTALLATION, MARK GLASS WITH AN 'X' USING REMOVABLE PLASTIC TAPE.

SECTION 09 2900
GYPSUM BOARD

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. GYPSUM BOARD.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - GYPSUM PANELS:
1. CERTANTEED GYPSUM, INC. (WWW.CERTANTEED.COM)

2.2 MATERIALS
A. REGULAR GYPSUM BOARD: ASTM C1396; 48 INCHES WIDE X THICKNESS INDICATED, MAXIMUM PRACTICAL LENGTH, TAPERED EDGE.

2.3 ACCESSORIES
A. FASTENERS: ASTM C1002, TYPE W SCREWS, MINIMUM 5/8 INCH PENETRATION INTO FRAMING.

2.4 FABRICATION
A. TEMPERED GLASS:
1. COMPLY WITH ASTM E2190.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

SECTION 09 2900
GYPSUM BOARD

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. GYPSUM BOARD.

1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - GYPSUM PANELS:
1. CERTANTEED GYPSUM, INC. (WWW.CERTANTEED.COM)

2.2 MATERIALS
A. REGULAR GYPSUM BOARD: ASTM C1396; 48 INCHES WIDE X THICKNESS INDICATED, MAXIMUM PRACTICAL LENGTH, TAPERED EDGE.

2.3 ACCESSORIES
A. FASTENERS: ASTM C1002, TYPE W SCREWS, MINIMUM 5/8 INCH PENETRATION INTO FRAMING.

2.4 FABRICATION
A. TEMPERED GLASS:
1. COMPLY WITH ASTM E2190.

2.5 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.6 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

2.7 ACCESSORIES
A. FASTENERS:
1. SERIES 300 STAINLESS STEEL FOR WET LOCATIONS AND EXPOSED FASTENERS.

Vertical banner for Alliance Design Group, LLC. Includes contact information: 1439 Centre Ct., Ste. 401 Alexandria, LA 71301. Phone: 318.445.3151. Fax: 318.445.3988. Email: adg@adgllc.net. Also features logos for Dunkin' Donuts and Baskin-Robbins.

Project information: PROJECT NO: 26010, DRAWN: DJH, CHECKED: WAT, DATE: APRIL 2026. Large text 'G1.04' and '1111 MacArthur Drive, Alexandria, Louisiana 71301'.

CONSTRUCTION SPECIFICATIONS:

LENGTH OF CORNER DOES NOT EXCEED STANDARD LENGTH.
A. INSTALL CASINGS WHERE INDICATED AND WHERE GYPSUM BOARD ABUTS DISSIMILAR MATERIALS OR STOPS WITH EDGE EXPOSED.
B. INSTALL CONTROL JOINTS AT WALLS AND PARTITIONS:
1. AT CHANGES IN BACKUP MATERIAL.
2. AT MAXIMUM 30 FEET ON CENTER.
3. ABOVE ONE JAMB OF OPENINGS IN PARTITIONS.
3.4 JOINT TREATMENT
A. TREAT JOINTS AND FASTENERS IN GYPSUM BOARD IN ACCORDANCE WITH GA-214.
B. LEVELS OF FINISH:
1. SURFACES IN SERVICE AREAS: LEVEL 1 FINISH.
2. SURFACES TO RECEIVE TILE: LEVEL 2 FINISH.
3. SURFACES TO RECEIVE WALL COVERINGS: LEVEL 4 FINISH.
4. SURFACES TO RECEIVE SEMI-GLOSS OR GLOSS PAINTS: LEVEL 5 FINISH.

SECTION 09 3000 TILING

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. CERAMIC, PORCELAIN AND QUARRY TILE FLOOR AND WALL FINISHES.
1.2 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: MINIMUM 10 YEARS' EXPERIENCE IN WORK OF THIS SECTION.
B. TILE AND TRIM UNITS: MEET ANSI A137.1, STANDARD GRADE.
C. STATIC COEFFICIENT OF FRICTION FOR FLOOR TILE: MINIMUM 0.60, TESTED TO ASTM C1028 IN DRY CONDITION.

1.3 DELIVERY, STORAGE AND HANDLING
A. DELIVER MORTAR, ADHESIVE, AND GROUT CONTAINERS BEARING HALLMARK CERTIFYING COMPLIANCE WITH REFERENCE STANDARDS.
B. PROTECT ADHESIVE CONTAINERS FROM FREEZING AND OVERHEATING ACCORDING TO MANUFACTURER'S INSTRUCTIONS.
1.4 PROJECT CONDITIONS
A. ENVIRONMENTAL REQUIREMENTS: MAINTAIN MINIMUM AMBIENT TEMPERATURE OF 50 DEGREES F DURING AND AFTER INSTALLATION.
1.5 MAINTENANCE
A. EXTRA MATERIALS: 2 PERCENT OF EACH TILE.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - TILE:
1. DAL-TILE CORP. (WWW.DAL-TILEPRODUCTS.COM)
2. CREATIVE MATERIALS CORP. (HTTPS://WWW.CREATIVEMATERIALSCORP.COM)
B. ACCEPTABLE MANUFACTURERS - SETTING AND GROUTING MATERIALS:
1. MAPEI (HTTP://WWW.MAPEI.COM/US-EN-TILE-&STONE-INSTALLATION-SYSTEMS/CEMENT-GROUTS/KERACOL-OR-S)
C. SUBSTITUTIONS: NOT PERMITTED.
2.2 MATERIALS
A. TILE:
1. SIZE: AS INDICATED ON DRAWINGS.
2. COLOR: AS INDICATED ON DRAWINGS.
3. TRIM UNITS: BEADS, COVES, AND BULLNOSES, COLOR TO MATCH TILE.

2.3 ACCESSORIES
A. LATEX-PORTLAND CEMENT MORTAR: ANSI A118.4, POLYMER MODIFIED DRY SET TYPE.
B. DRY SET PORTLAND CEMENT MORTAR: ANSI A118.1, POLYMER MODIFIED DRY SET TYPE.
C. EPOXY ADHESIVE:
1. ANSI A118.3, THIN SET BOND TYPE.
2. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: 65 GRAMS PER LITER.
3. PORTLAND CEMENT: ASTM C150, TYPE 1, WHITE COLOR.
4. SAND: ASTM C144, CLEAN, FREE OF ORGANIC MATTER.
5. LIME: ASTM C207, TYPE S, HYDRATED.
6. WATER: CLEAN, POTABLE.
H. GROUT:
1. A118.3, EPOXY TYPE.
2. COLOR: AS INDICATED ON DRAWINGS.
I. JOINT SEALERS: SPECIFIED IN SECTION 07 9200.
J. JOINT TAPE: WATERPROOF, PERFORATED BEDDING TAPE.

PART 3 EXECUTION

3.1 PREPARATION
A. CLEAN SURFACES TO REMOVE LOOSE AND FOREIGN MATTER THAT COULD IMPAIR ADHESION.
B. REMOVE RIDGES AND PROJECTIONS. FILL VOIDS AND DEPRESSIONS WITH PATCHING COMPOUND COMPATIBLE WITH SETTING MATERIALS.
C. ALLOWABLE SUBSTRATE TOLERANCES:
1. THIN SET METHOD:
a. MAXIMUM VARIATION IN SUBSTRATE SURFACE: 1/8 INCH IN 8 FEET.
b. MAXIMUM HEIGHT OF ABRUPT IRREGULARITIES: 1/32 INCH.
2. THICK SET METHOD: MAXIMUM 1/4 INCH IN 10 FEET VARIATION IN SUBSTRATE SURFACE.
D. TEST CONCRETE SUBSTRATE TO ASTM D4283. DO NOT INSTALL TILE UNTIL SURFACES ARE SUFFICIENTLY DRY.
3.2 INSTALLATION
A. INSTALL CRACK SUPPRESSION MEMBRANE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. METHODS:
1. WALLS: ANSI A108.6, THIN SET WITH EPOXY ADHESIVE.
2. FLOORS: ANSI A108.5, THIN SET WITH LATEX-PORTLAND CEMENT MORTAR.
C. MINIMIZE PIECES LESS THAN ONE HALF SIZE. LOCATE CUTS TO BE INCONSPICUOUS.
D. LAY TILE TO PATTERN SHOWN ON DRAWINGS. DO NOT INTERRUPT TILE PATTERN THROUGH OPENINGS.
E. JOINT WIDTHS:
1. CERAMIC TILE: 1/8 INCH, PLUS OR MINUS 1/16 INCH.
2. PORCELAIN AND QUARRY TILE: 1/4 INCH, PLUS OR MINUS 1/8 INCH.
F. MAKE JOINTS WATERTIGHT, WITHOUT VOIDS, CRACKS, EXCESS MORTAR, OR EXCESS GROUT. ALIGN JOINTS IN WALL AND FLOOR OF SAME-SIZED TILE.
G. FIT TILE AROUND PROJECTIONS AND AT PERIMETER. SMOOTH AND CLEAN CUT EDGES. ENSURE THAT TRIM WILL COMPLETELY COVER CUT EDGES.
H. INSTALL TRIM:
1. INSIDE CORNERS: COVE UNITS.
2. OUTSIDE CORNERS: BEAD UNITS.
3. BASE: BASE UNITS.
4. EXPOSED TILE ENDS: BULLNOSE UNITS.
I. ALLOW TILE TO SET FOR A MINIMUM OF 48 HOURS BEFORE GROUTING.
J. GROUT TILE JOINTS IN ACCORDANCE WITH ANSI A108.10 WITHOUT EXCESS GROUT.
K. CONTROL JOINTS:
1. PROVIDE CONTROL JOINTS AT:
a. CHANGES IN BACKUP MATERIAL.
b. CHANGES IN PLANE.
c. OVER JOINTS IN SUBSTRATE.
d. MAXIMUM 24 FEET ON CENTER AT INTERIOR LOCATIONS EXCEPT MAXIMUM 8 FEET AT SURFACES EXPOSED TO DIRECT SUNLIGHT.
2. FORM JOINTS PER TCNA METHOD EJ-171.
3. INSTALL JOINT BACKING AND JOINT SEALER AS SPECIFIED IN SECTION 07 9200.

3.3 ADJUSTING
A. REMOVE AND REPLACE PIECES THAT HAVE BEEN DAMAGED DURING INSTALLATION.
3.4 PROTECTION
A. PROVIDE PROTECTION FOR COMPLETED WORK USING NON-STAINING SHEET COVERINGS.
B. PROHIBIT TRAFFIC ON TILE FLOORS FOR MINIMUM 3 DAYS AFTER INSTALLATION.

SECTION 09 5100 ACOUSTICAL CEILINGS

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:

1. SUSPENDED METAL CEILING GRID SYSTEM.
2. ACOUSTICAL PANELS.
1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.
1.3 PROJECT CONDITIONS
A. ENVIRONMENTAL REQUIREMENTS: INSTALL IN APPROXIMATELY SAME CONDITIONS OF TEMPERATURE AND HUMIDITY AS WILL PREVAIL AFTER INSTALLATION.
1.4 MAINTENANCE
A. EXTRA MATERIALS: ONE UNOPENED CARTON OF EACH ACOUSTICAL PANEL.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS - SUSPENSION SYSTEM:
1. ARMSTRONG WORLD INDUSTRIES. (WWW.ARMSTRONG.COM)
B. ACCEPTABLE MANUFACTURERS - ACOUSTICAL UNITS:
1. ARMSTRONG WORLD INDUSTRIES. (WWW.ARMSTRONG.COM)
C. SUBSTITUTIONS: NOT PERMITTED.
2.2 MATERIALS
A. SUSPENSION GRID SYSTEM:
1. GRID TYPE: EXPOSED T.
2. MATERIAL: GALVANIZED STEEL.
3. RUNNERS: 1-1/2 INCHES HIGH, 15/16 INCH EXPOSED WIDTH, FLUSH SLOTTED PROFILE.
4. PERIMETER MOLDING: ANGLE SHAPE.
5. FINISH: FACTORY APPLIED ENAMEL PAINT, SPRAYED AND BAKED, WHITE.
6. ACCESSORIES: STABILIZER BARS, CLIPS AND SPLICES.

B. ACOUSTICAL PANELS (PUBLIC AREAS):
1. SIZE: 24 X 24 INCHES X 3/4 INCH THICK.
2. EDGE CONFIGURATION: BEVELED.
3. PERFORMANCE REQUIREMENTS: TESTED IN ACCORDANCE WITH ASTM E1264.
a. NRC: 0.55.
b. CAC: 35.
c. LIGHT REFLECTANCE: LR-0.85.

C. ACOUSTICAL PANELS (KITCHEN, SERVICE LINE AND FOOD AREAS):
1. SIZE: 24 X 48 INCHES X 5/8 INCH THICK.
2. EDGE CONFIGURATION: SQUARE.
3. PERFORMANCE REQUIREMENTS: TESTED IN ACCORDANCE WITH ASTM E1264.
a. NRC: N/A.
D. RECYCLED CONTENT:
1. CEILING TILES CONTAIN 23% - 55% RECYCLED CONTENT.
2. SUSPENSION SYSTEMS CONTAIN 30% RECYCLED CONTENT - 23% PRE-CONSUMER, 7% POST-CONSUMER.

2.3 ACCESSORIES
A. SUPPORT CHANNELS: GALVANIZED STEEL. SIZE AND TYPE TO SUIT APPLICATION.
B. HANGER WIRE:
1. ASTM A641, MINIMUM 12 GAGE GALVANIZED STEEL.
C. TOUCH-UP PAINT: COLOR TO MATCH ACOUSTICAL PANELS AND SUSPENSION GRID.

PART 3 EXECUTION

3.1 INSTALLATION
A. INSTALL CEILINGS IN ACCORDANCE WITH ASTM C636 AND CISCA HANDBOOK.
B. MINIMIZE PANELS LESS THAN ONE HALF SIZE.
C. INSTALL MOLDING AROUND PERIMETERS AND ABUTTING SURFACES. MITER MOLDING AT EXTERIOR CORNERS; CUT FLANGES AND BEND WEB TO FORM INTERIOR CORNERS.
D. SPACE HANGER WIRES MAXIMUM 48 INCHES ON CENTER. INSTALL ADDITIONAL HANGERS WHERE REQUIRED TO SUPPORT LIGHT FIXTURES AND CEILING SUPPORTED EQUIPMENT.
E. DO NOT SUSPEND HANGERS DIRECTLY FROM METAL DECK. ATTACH STEEL CHANNEL HORIZONTALLY TO ADJACENT FRAMING MEMBERS; PLACE HANGER AT REGULAR SPACING.
F. HANG SUSPENSION SYSTEM INDEPENDENT OF WALLS, COLUMNS, DUCTS, PIPES, AND CONDUIT.
G. WHERE DUCTS OR OTHER EQUIPMENT PREVENT REGULAR SPACING OF HANGERS:
1. REINFORCE NEAREST RELATED HANGERS TO SPAN EXTRA DISTANCE, OR:
2. SUSPEND STEEL CHANNEL HORIZONTALLY BENEATH DUCT OR EQUIPMENT; PLACE HANGER AT REGULAR SPACING.
H. INSTALL MAIN TEES AT MAXIMUM 48 INCHES ON CENTER.
I. INSTALL CROSS TEES TO FORM 24 X 48 INCH MODULES. LOCK CROSS TEES TO MAIN TEES.
J. SUPPORT ENDS OF TEES ON FLANGE OF PERIMETER MOLDING.
K. PLACE ACOUSTICAL PANELS WITH EDGES RESTING FLAT ON SUSPENSION GRID.
L. CUTTING ACOUSTIC UNITS:
1. CUT TO FIT IRREGULAR GRID AND PERIMETER EDGE TRIM AND AROUND PENETRATIONS.
2. LOCATE CUTS TO BE CONCEALED.
3. CUT AND FIELD PAINT EXPOSED EDGES OF REVEAL EDGE UNITS TO MATCH FACTORY EDGE.
M. INSTALLATION TOLERANCES: CEILINGS LEVEL TO 1/8 INCH IN 12 FEET MEASURED IN ANY DIRECTION.
3.2 ADJUSTING
A. TOUCH UP MINOR SCRATCHES AND ABRASIONS TO MATCH FACTORY FINISH.

SECTION 09 7200 WALL COVERINGS

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. VINYL WALL COVERINGS.
1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.
3. LOW-EMITTING MATERIALS.
1.3 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: MINIMUM 5 YEARS' EXPERIENCE IN WORK OF THIS SECTION.
1.4 DELIVERY, STORAGE AND HANDLING
A. STORE MATERIALS IN CLEAN, DRY STORAGE AREA AT MINIMUM 40 DEGREES F AND NORMAL HUMIDITY.
B. DO NOT STORE ROLLS IN UPRIGHT POSITION.
1.5 PROJECT CONDITIONS
A. MAINTAIN MINIMUM TEMPERATURE OF 50 DEGREES F IN AREAS TO RECEIVE WALL COVERING FOR THREE DAYS PRIOR TO, DURING, AND AFTER INSTALLATION.
1.6 MAINTENANCE
A. EXTRA MATERIALS: 5 PERCENT OF EACH COLOR AND PATTERN.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. DL COUCH (HTTP://WWW.DLCOUCH.COM)
2. WOLF GORDON (HTTP://WWW.WOLFGORDON.COM/WALLCOVERING.HTML)
B. SUBSTITUTIONS: NOT PERMITTED.
2.2 MATERIALS
A. VINYL WALL COVERING:
1. MANUFACTURER: SEE SECTION 2.1.
2. PATTERN AND COLOR: SEE NATIONAL ACCOUNTS SOURCE INFORMATION.
2.3 ACCESSORIES
A. SEALER: TYPE RECOMMENDED BY WALL COVERING MANUFACTURER.
B. ADHESIVE:
1. TYPE RECOMMENDED BY WALL COVERING MANUFACTURER; WATER BASED, MILDEW RESISTANT.
2. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: 50 GRAMS PER LITER.
PATCHING COMPOUND: WHITE LATEX TYPE.

PART 3 EXECUTION

3.1 PREPARATION
A. PREPARE SUBSTRATE TO RECEIVE WALL COVERING:
1. REMOVE HIGH SPOTS.
2. FILL HOLES, CRACKS, AND DEPRESSIONS WITH PATCHING COMPOUND; SAND SMOOTH AND FLUSH.
3. REMOVE LOOSE AND FOREIGN MATTER THAT COULD IMPAIR ADHESION.
4. APPLY SEALER AS RECOMMENDED BY WALL COVERING MANUFACTURER.
B. REMOVE WALL COVERING FROM PACKAGING, PLACE IN INSTALLATION AREA, AND ALLOW TO ACCLIMATE FOR MINIMUM 24 HOURS PRIOR TO INSTALLATION.
3.2 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL PANELS VERTICALLY.
C. DO NOT LOCATE JOINTS WITHIN 6 INCHES OF CORNERS, HORIZONTAL JOINTS NOT PERMITTED.
D. SMOOTH WALL COVERING TO ELIMINATE BUBBLES AND ENSURE ADHESION. REMOVE EXCESS ADHESIVE FROM SEAMS IMMEDIATELY.
E. USE PANELS IN EXACT ORDER THEY ARE CUT FROM ROLL. REVERSE EVERY OTHER PANEL OF NON-MATCHING PATTERNS.
1. GYPSUM BOARD AND PLASTER: 12 PERCENT.
2. WOOD: 15 PERCENT, MEASURED TO ASTM D4442.
G. INSTALL WALL COVERING FREE FROM BUBBLES, WRINKLES, OPEN OR LOOSE SEAMS, AND OTHER VISIBLE DEFECTS.

SECTION 09 7733 SANITARY WALL PANELS

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. PREFINISHED SANITARY WALL PANELS.
2. TRIM.
1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.
2. LOW-EMITTING MATERIALS.
1.3 QUALITY ASSURANCE
A. INSTALLER QUALIFICATIONS: MINIMUM 5 YEARS' EXPERIENCE IN WORK OF THIS SECTION.
1.4 PROJECT CONDITIONS
A. DO NOT INSTALL PRODUCTS IF TEMPERATURE, HUMIDITY, AND VENTILATION REQUIREMENTS ARE OUTSIDE LIMITS RECOMMENDED BY MANUFACTURER.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. CRANE COMPOSITES. (WWW.CRANE-COMPOSITES.COM)
2. MARLITE. (WWW.MARLITE.COM)
B. SUBSTITUTIONS: NOT PERMITTED.
2.2 MATERIALS
A. SANITARY WALL PANELS:
1. TYPE: GLASS FIBER REINFORCED PLASTIC, USDA APPROVED FOR INCIDENTAL FOOD CONTACT.
2. SIZE: 3/32 INCH THICK X 48 INCHES WIDE X MAXIMUM PRACTICAL LENGTH.
3. COLOR: AS INDICATED ON DRAWINGS.
4. SURFACE TEXTURE: LOW GLOSS, PEBBLED.
2.3 ACCESSORIES
A. TRIM:
1. ONE PIECE EXTRUDED PVC, MANUFACTURER'S STANDARD PROFILE.
2. INSIDE AND OUTSIDE CORNERS, DIVISION BAR, AND J-MOLDING.
3. COLOR: TO MATCH PANELS.
B. ADHESIVE:
1. COMPATIBLE WITH PANELS AND SUBSTRATE; RECOMMENDED BY PANEL MANUFACTURER.
2. MAXIMUM VOLATILE ORGANIC COMPOUND (VOC) CONTENT: 70 GRAMS PER LITER.
3. JOINT SEALER: SPECIFIED IN SECTION 07 9200.
D. PATCHING COMPOUND: WHITE LATEX TYPE.

PART 3 EXECUTION

3.1 PREPARATION
A. PREPARE SUBSTRATE TO RECEIVE PANELS:
1. REMOVE HIGH SPOTS.
2. FILL LOW SPOTS WITH PATCHING COMPOUND; SAND SMOOTH.
3. REMOVE LOOSE AND FOREIGN MATTER THAT COULD IMPAIR ADHESION.
3.2 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. INSTALL TRIM:
1. PANEL-TO-PANEL JOINTS: DIVISION BAR.
2. INTERNAL AND EXTERNAL CORNERS.
3. EXPOSED EDGES: J MOLDING.
4. SECURE TO SUBSTRATE.
C. CUT PANELS TO FIT AT PERIMETER AND AROUND PENETRATIONS. ENSURE THAT TRIM WILL COMPLETELY COVER CUT EDGES.
D. MAINTAIN 1/8 TO 3/16 INCH EXPANSION SPACE AT PERIMETER AND AROUND PENETRATIONS.
E. ADHERE PANELS TO SUBSTRATE WITH FULL BED OF ADHESIVE.
F. INSTALL CONTINUOUS BEAD OF JOINT SEALER BETWEEN PANELS AND TRIM AND BETWEEN TRIM AND ADJACENT CONSTRUCTION.

SECTION 09 9100 PAINTING

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. TEXTURING OF GYPSUM BOARD.
2. SURFACE PREPARATION AND FIELD APPLICATION OF PAINTS.
1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONAL MATERIALS.
2. LOW-EMITTING MATERIALS.
1.3 DELIVERY, STORAGE AND HANDLING
A. PAINT MATERIALS: STORE AT AMBIENT TEMPERATURE FROM 45 TO 90 DEGREES F IN VENTILATED AREA, OR AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS.
1.4 PROJECT CONDITIONS
A. DO NOT APPLY MATERIALS WHEN SURFACE AND AMBIENT TEMPERATURES OR RELATIVE HUMIDITY ARE OUTSIDE RANGES REQUIRED BY PAINT MANUFACTURER.
B. MAINTAIN AMBIENT AND SUBSTRATE TEMPERATURES ABOVE MANUFACTURER'S MINIMUM REQUIREMENTS FOR 24 HOURS BEFORE, DURING AND AFTER PAINT APPLICATION.
C. DO NOT APPLY MATERIALS WHEN RELATIVE HUMIDITY IS ABOVE 85 PERCENT OR WHEN DEW POINT IS LESS THAN 5 DEGREES F DIFFERENT THAN AMBIENT OR SURFACE TEMPERATURE.
D. PROVIDE LIGHTING LEVEL OF 30 FOOT-CANDELES AT SUBSTRATE SURFACE.
1.5 MAINTENANCE
A. EXTRA MATERIALS: 1 GALLON OF EACH COLOR AND SHEEN.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. SHERWIN WILLIAMS. (WWW.SHERWIN-WILLIAMS.COM)
B. SUBSTITUTIONS: NOT PERMITTED.
2.2 MATERIALS
A. PAINTS:
1. AS SCHEDULED AT END OF SECTION, OR APPROVED SUBSTITUTE.
2. FREE FROM ALL FORMS OF LEAD AND MERCURY.
3. ALL PAINTS USED IN EITHER FOOD PREPARATION, SALES OR STORAGE AREAS MUST BE NON-TOXIC TO OUTDOORS.

2.3 ACCESSORIES
A. ACCESSORY MATERIALS: PAINT THINNERS AND OTHER MATERIALS REQUIRED TO ACHIEVE SPECIFIED FINISHES; COMMERCIAL QUALITY.
B. PATCHING MATERIALS: LATEX FILLER.
C. FASTENER HEAD COVER MATERIALS: LATEX FILLER.
2.3 MIXES
A. DELIVER PAINTS PRE-MIXED AND PRE-TINTED.
B. UNIFORMLY MIX TO THOROUGHLY DISPERSE PIGMENTS.
C. DO NOT THIN IN EXCESS OF MANUFACTURER'S RECOMMENDATIONS.
D. RE-MIX PAINT DURING APPLICATION, ENSURE COMPLETE DISPERSION OF SETTLED PIGMENT AND UNIFORMITY OF COLOR AND GLOSS.

PART 2 EXECUTION

3.1 EXAMINATION
A. TEST SHOP APPLIED PRIMER FOR COMPATIBILITY WITH SUBSEQUENT COATINGS.
B. MEASURE MOISTURE CONTENT OF SURFACES USING ELECTRONIC MOISTURE METER. DO NOT APPLY COATINGS UNLESS MOISTURE CONTENT OF SURFACES ARE BELOW FOLLOWING MAXIMUMS:
1. GYPSUM BOARD AND PLASTER: 12 PERCENT.
2. WOOD: 15 PERCENT, MEASURED TO ASTM D4442.
3.2 PREPARATION
A. GENERAL:
1. PROTECT ADJACENT AND UNDERLYING SURFACES.
2. REMOVE OR MASK ELECTRICAL PLATES, HARDWARE, LIGHT FIXTURE TRIM, ESCUTCHEONS, AND FITTINGS PRIOR TO PREPARING SURFACES OR FINISHING.
3. CORRECT DEFECTS AND CLEAN SURFACES CAPABLE OF AFFECTING WORK OF THIS SECTION.
4. SEW MARKS THAT MAY BLEED THROUGH SURFACE FINISHES WITH SHEL-LAC.
B. IMPERVIOUS SURFACES: REMOVE MILDEW BY SCRUBBING WITH SOLUTION OF TRISODIUM PHOSPHATE AND BLEACH. RINSE WITH CLEAN WATER AND ALLOW TO DRY.
C. GYPSUM BOARD:
1. FILL MINOR DEFECTS WITH FILLER COMPOUND. SPOT PRIME DEFECTS AFTER REPAIR.
D. PLASTER:
1. FILL HAIRLINE CRACKS, SMALL HOLES, AND IMPERFECTIONS WITH LATEX PATCHING PLASTER. FINISH SMOOTH AND FLUSH WITH ADJACENT SURFACES.
2. WASH AND NEUTRALIZE HIGH ALKALI SURFACES.
E. ALUMINUM: SSPC METHOD SP1 - SOLVENT CLEANING.
F. UNCOATED FERROUS METALS: SSPC METHOD SP2 - HAND TOOL CLEANING OR METHOD SP3 - POWER TOOL CLEANING.
G. SHOP PRIMED FERROUS METALS:
1. SSPC METHOD SP2 - HAND TOOL CLEANING OR METHOD SP3 - POWER TOOL CLEANING.
2. FEATHER EDGES TO MAKE PATCHES INCONSPICUOUS.
3. PRIME BARE STEEL SURFACES.
H. INTERIOR WOOD:
1. WIPE OFF DUST AND GRIT.
2. SEAL KNOTS, PITCH STREAKS, AND SAPPY SECTIONS WITH SEALER.
3. FILL NAIL HOLES AND CRACKS AFTER PRIMER HAS DRIED; SAND BETWEEN COATS.
I. EXISTING SURFACES:
1. REMOVE LOOSE, FLAKING, POWDERY, AND PEELING PAINTS.
2. LIGHTLY SAND GLOSSY PAINTED SURFACES.
3. FILL HOLES, CRACKS, DEPRESSIONS AND OTHER IMPERFECTIONS WITH PATCHING COMPOUND; SAND FLUSH WITH SURFACE.
4. REMOVE OIL, GREASE, AND WAX BY SCRAPPING; SOLVENT WASH AND THOROUGHLY RINSE.
5. REMOVE RUST BY WIRE BRUSHING TO EXPOSE BASE METAL.
3.3 APPLICATION
A. APPLY PAINTS IN ACCORDANCE WITH MPI PAINTING MANUAL, PREMIUM GRADE FINISH REQUIREMENTS.
B. APPLY PRIMER OR FIRST COAT CLOSELY FOLLOWING SURFACE PREPARATION TO PREVENT RECONTAMINATION.
C. DO NOT APPLY FINISHES TO SURFACES THAT ARE NOT DRY.
D. APPLY COATINGS TO MINIMUM DRY FILM THICKNESS RECOMMENDED BY MANUFACTURER.
E. APPLY EACH COAT OF PAINT SLIGHTLY DARKER THAN PRECEDING COAT UNLESS SPECIFIED OTHERWISE.
F. APPLY COATINGS TO UNIFORM APPEARANCE WITHOUT LAPS, SAGS, CURTAINS, HOLIDAYS, AND BRUSH MARKS.
G. ALLOW APPLIED COATS TO DRY BEFORE NEXT COAT IS APPLIED.
H. WHEN REQUIRED ON DEEP AND BRIGHT COLORS APPLY AN ADDITIONAL FINISH COAT TO ENSURE COLOR CONSISTENCY.
I. CONTINUE PAINT FINISHES BEHIND WALL-MOUNTED ACCESSORIES.
J. SAND BETWEEN COATS ON INTERIOR WOOD AND METAL SURFACES.
K. MATCH FINAL COAT TO APPROVED COLOR SAMPLES.
L. WHERE CLEAR FINISHES ARE SPECIFIED, TINT FILLERS TO MATCH WOOD. WORK FILLERS INTO GRAIN BEFORE SET. WIPE EXCESS FROM SURFACE.
M. PRIME CONCEALED SURFACES OF EXTERIOR WOOD AND INTERIOR WOOD IN CONTACT WITH MASONRY (OR CEMENTITIOUS MATERIALS) WITH ONE COAT PRIMER PAINT.
N. MECHANICAL AND ELECTRICAL COMPONENTS:
1. PAINT FACTORY PRIMED EQUIPMENT.
2. REMOVE UNFINISHED AND PRIMED LOUVERS, GRILLES, COVERS, AND ACCESS PANELS; PAINT SEPARATELY.
3. PAINT EXPOSED AND INSULATED PIPES, CONDUIT, BOXES, DUCTS, HANGERS, BRACKETS, COLLARS, AND SUPPORTS UNLESS FACTORY FINISHED.
4. DO NOT PAINT NAME TAGS OR IDENTIFYING MARKINGS.
5. PAINT EXPOSED CONDUIT AND ELECTRICAL EQUIPMENT IN FINISHED AREAS.
6. PAINT DUCT WORK BEHIND LOUVERS, GRILLES, AND DIFFUSERS FLAT BLACK TO MINIMUM OF 18 INCHES OR BEYOND SIGHT LINE.
O. DO NOT PAINT:
1. SURFACES INDICATED ON DRAWINGS OR SPECIFIED TO BE UNPAINTED OR UNFINISHED.
2. SURFACES WITH FACTORY APPLIED FINISH COAT OR INTEGRAL FINISH.
3. ARCHITECTURAL METALS, INCLUDING BRASS, BRONZE, STAINLESS STEEL, AND CHROME PLATING.

3.4 ADJUSTING
A. TOUCH UP OR REFINISH DISFIGURED SURFACES.
3.5 CLEANING
A. REMOVE PAINT FROM ADJACENT SURFACES.
3.6 NEW BUILDING - EXTERIOR FINISH SCHEDULE
A. DOORS AND TRIM
1. BACK DOOR
GALVANIZED IRON, NEW
PRIMER: PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66-310 SERIES, <100 G/L VOC
1ST COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
2ND COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
2. ALUMINUM TRIM
PRIME COAT: S-W DTM WASH PRIMER, B71Y1 (3.4 MILS. WET, 0.7 MILS. DRY)
1ST COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
2ND COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
3.7 NEW BUILDING - INTERIOR FINISH SCHEDULE
A. DOORS AND TRIM
GALVANIZED IRON, NEW
SEMIGLOSS FINISH
PRIMER: PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66-310 SERIES, <100 G/L VOC
1ST COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
2ND COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
WOOD, NEW
USE THREE SEALANT COATS OF SHERWIN WILLIAMS #A68 SERIES WATERBORNE POLYURETHANE SEMI-GLOSS OR GLOSS
OVER SHERWIN WILLIAMS #5WBW 'BRIGHTON WALNUT' CUSTOM DD STAIN MIX.
B. WALLS IN SALES AREA (WHERE WALL COVERING IS NOT USED)
EG-SHEL FINISH - LOW ODOR ZERO VOC SYSTEM
PRIMER: PROMAR 200 ZERO VOC INTERIOR LATEX PRIMER, B28W2600 0 G/L VOC
1ST COAT: PROMAR 200 ZERO VOC EG-SHEL B26-2600 SERIES, 0 G/L VOC
2ND COAT: PROMAR 200 ZERO VOC EG-SHEL B26-2600 SERIES, 0 G/L VOC
EG-SHEL FINISH - LOW ODOR ZERO VOC SYSTEM
PRIMER: PROMAR 200 ZERO VOC INTERIOR LATEX PRIMER, B28W2600 0 G/L VOC

1ST COAT: PROMAR 200 ZERO VOC EG-SHEL B26-2600 SERIES, 0 G/L VOC
2ND COAT: PROMAR 200 ZERO VOC EG-SHEL B26-2600 SERIES, 0 G/L VOC
3.8 REMODELING SPECIFICATIONS - EXTERIOR FINISH SCHEDULE (PAINTING OVER METAL)
A. EXTERIOR METAL PANELS (ATAS)
ALUMINUM REPAIR: REFER TO SHERWIN WILLIAMS APPLICATION BULLETIN 1.23 AND 1.27 FOR DETAILED INFORMATION.
SPOT PRIME: SW PRO-CRYL UNIVERSAL PRIMER AT AREAS WHICH HAVE SIGNS OF RUST
1ST COAT: S-W BOND-PLEX ACRYLIC COATING
2ND COAT: S-W BOND-PLEX ACRYLIC COATING
B. BACK DOOR (NEW, REPAINTED OR WEATHERED)
PRIMER: PRO INDUSTRIAL PRO-CRYL UNIVERSAL PRIMER, B66-310 SERIES, <100 G/L VOC
1ST COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
2ND COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
C. EXTERIOR WALLS
CMU (STANDARD)
1ST COAT: S-W PREPRITE BLOCK FILLER, B25W25 (75-125 SQ FT/GAL)
2ND COAT: S-W A-100 EXTERIOR LATEX GLOSS, A8 SERIES
3RD COAT: S-W A-100 EXTERIOR LATEX GLOSS, A8 SERIES (4 MILS WET, 1.4 MILS DRY PER COAT)
3.9 REMODELING SPECIFICATIONS - INTERIOR FINISH SCHEDULE (REFER TO SECTION 3.6 FOR ALL WALLS, SOFFITS, CEILINGS, DOORS AND TRIMS NOT LISTED BELOW)
A. DOORS AND TRIMS
WOOD, REPAINT
PRIMER: HARMONY ZERO VOC WALL PRIMER, B11W1500, 0 G/L VOC
1ST COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC
2ND COAT: PRO INDUSTRIAL ZERO VOC ACRYLIC SEMI-GLOSS, B66-650 SERIES, 0 G/L VOC

SECTION 10 2813 TOILET AND KITCHEN ACCESSORIES

PART 1 GENERAL
1.1 SUMMARY
A. SECTION INCLUDES:
1. TOILET ACCESSORIES.
2. KITCHEN ACCESSORIES.
1.2 SUBMITTALS
A. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.
1.3 QUALITY ASSURANCE
A. CONFORM TO APPLICABLE ACCESSIBILITY CODE FOR LOCATING ACCESSORIES.
1.4 WARRANTIES

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. AMERICAN SPECIALTIES, INC. (WWW.AMERICANSPECIALTIES.COM)
2. BOBRICK WASHROOM EQUIPMENT, INC. (WWW.BOBRICK.COM)
3. KIMBERLY-CLARK PROFESSIONAL (WWW.KCPROFESSIONAL.COM)
4. KAY CHEMICAL COMPANY (WWW.ECOLAB.COM)
5. EXCEL DRYER INC. (WWW.EXCELDRYER.COM)
6. PROCTOR AND GAMBLE (WWW.PG.COM)
B. SUBSTITUTIONS: NOT PERMITTED.
2.2 ACCESSORIES
A. FASTENERS: STAINLESS STEEL WHERE EXPOSED, HOT DIP GALVANIZED WHERE CONCEALED; TYPE BEST SUITED TO SUBSTRATE CONDITIONS.
2.3 FABRICATION
A. PROVIDE HANGERS, ADAPTERS, ANCHOR PLATES, AND ACCESSORIES REQUIRED FOR INSTALLATION.

PART 3 EXECUTION

3.1 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. SET PLUMB, LEVEL, SQUARE, AND RIGID.
C. INSTALL WIRING BETWEEN POWER SUPPLY AND ACCESSORIES.
3.2 SCHEDULE
A. BATHROOM HARDWARE (SEE NATIONAL ACCOUNT SOURCE INFO FOR PACKAGE ORDERING INFORMATION)
REFER TO RESTROOM EQUIPMENTS SCHEDULE ON SHEET.
B. KITCHEN AND STORAGE HARDWARE
REFER TO KITCHEN EQUIPMENTS SCHEDULE ON SHEET.

SECTION 12 2413 ROLLER WINDOW SHADES

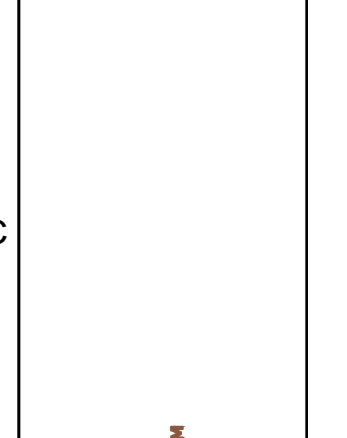
PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. MANUALLY OPERATED WINDOW SHADES.
1.2 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. PRODUCT DATA: INDICATE COMPONENTS, MATERIALS, FINISHES, ATTACHMENT, AND OPERATION.
2. SAMPLES:
a. 12 X 12 INCH SHADE CLOTH SAMPLES IN EACH COLOR.
b. SUBMIT WORKING HAND SAMPLE OR MOCK UP SHADE AS REQUIRED.
3. WARRANTY: SAMPLE WARRANTY FORM.
1.3 PROJECT CONDITIONS
A. VERIFY DIMENSIONS AT SITE PRIOR TO FABRICATION OF SHADES.
B. DO NOT INSTALL SHADES UNTIL PAINTING AND FINISHING WORK IS COMPLETE AND AMBIENT TEMPERATURE AND HUMIDITY CONDITIONS ARE MAINTAINED AT OCCUPANCY LEVELS.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. PHIFER, INC. (WWW.PHIFER.COM)
2. ROLL-A-SHADE (WWW.ROLLASHADE.COM)
B. SUBSTITUTIONS: NOT PERMITTED.
2.2 MANUFACTURED UNITS
A. PRODUCT: MYLAR SHADES
B. SOLAR SHADE FABRIC: SELECT FROM NFPA 701-1999 FR AND ASTM-G21 AND G22 BACTERIA AND FUNGAL RESISTANCE APPROVED
COLOR: BRONZE / BRONZE
NO SEAMS FOR SHADES LESS THAN 72" IN ONE DIRECTION
% SOLAR TRANSMITTANCE 27
% SOLAR REFLECTANCE 19
% SOLAR ABSORBANCE 54
% VISIBLE LIGHT TRANSMITTANCE 15
SHADING COEFFICIENT 0.48
THICKNESS 4+ MM
C. ROLLER TUBES: SHALL BE 1 1/2" HARDENED ALUMINUM ROLLER WITH INTERNAL DRIVE KEY. LARGER DIAMETER ROLLERS SHOULD BE SUPPLIED FOR HEAVY SHADES
D. CLUTCH SYSTEMS: SHALL BE ROLL EASE MULTI DIRECTIONAL 8 POUND LIFT - COLOR TO BE BLACK. LARGER CLUTCHES SHOULD BE SUPPLIED FOR HEAVY SHADES
E. BRACKETS - SAFETY LOCKING POSITIVE DRIVE SPEER - LOCKING IDLER SIDE.
F. CHAIN - STAINLESS STEEL QUALIFIED WITH STOPS
G. BOTTOM HEM BAR WILL BE DÉCOR BAR BLACK 1/2" X 1" PUNCH PRESS TAPERED CUT FOR CLEAN (NO BUR) EDGE.
H. END CAPS - COLOR TO BE BLACK. BONDED TO THE BOTTOM BAR.
CHAIN HOOK DOWN - CLEAR DOG BONE WITH SCREW THAT LOOKS CHAIN INTO PLACE.

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PROJECT NO: 26010
DRAWN: DJH
CHECKED: WAT
DATE: APRIL 2026
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CONSTRUCTION SPECIFICATIONS:

PART 3 EXECUTION

- 3.1 INSTALLATION
A. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
B. PROVIDE ADEQUATE CLEARANCES TO ALLOW FOR PROPER OPERATION.
C. PLACE UNITS TO LOCATE SHADE CLOTH MINIMUM 2 INCHES FROM INTERIOR FACE OF GLASS.
3.2 ADJUSTING
A. ADJUST SHADES FOR SMOOTH, QUIET OPERATION.

SECTION 12 4813
ENTRANCE FLOOR MATS

PART 1 GENERAL

- 1.1 SUMMARY
A. SECTION INCLUDES:
1. ALUMINUM GRID FLOOR MATS.
2. RECESSED FRAME.
1.3 SYSTEM DESCRIPTION
a. PERFORMANCE REQUIREMENTS: PROVIDE RECESSED ALUMINUM ENTRANCE FLOOR MAT SYSTEM, WHICH HAS BEEN MANUFACTURED AND INSTALLED TO MAINTAIN PERFORMANCE CRITERIA STATED BY MANUFACTURER WITHOUT DEFECTS, DAMAGE OR FAILURE.
1.4 SUBMITTALS
a. PRODUCT DATA: SUBMIT PRODUCT DATA, INCLUDING MANUFACTURER'S SPECIFICATION SHEET AND INSTALLATION INSTRUCTIONS FOR SPECIFIED PRODUCTS. INCLUDE METHODS OF INSTALLATION AND SUBSTRATE PREPARATION FOR EACH TYPE OF SUBSTRATE.
b. SHOP DRAWINGS: SUBMIT SHOP DRAWINGS SHOWING LAYOUT, PROFILES AND PRODUCT COMPONENTS, INCLUDING ANCHORAGE, ACCESSORIES, FINISH COLORS, PATTERNS AND TEXTURES.
c. SAMPLES: SUBMIT SAMPLES FOR EACH TYPE AND COLOR OF EXPOSED ENTRANCE MAT, FRAMES AND ACCESSORIES REQUIRED. PROVIDE SAMPLES OF MAT MATERIALS.
d. QUALITY ASSURANCE SUBMITTALS: (1) CERTIFIED TEST REPORTS SHOWING COMPLIANCE WITH SPECIFIED PERFORMANCE CHARACTERISTICS AND PHYSICAL PROPERTIES, AND (2) MANUFACTURER'S INSTALLATION INSTRUCTIONS.
e. CLOSEOUT SUBMITTALS: (1) CLEANING & MAINTENANCE DATA (INCLUDE METHODS FOR MAINTAINING INSTALLED PRODUCTS AND PRECAUTIONS AGAINST CLEANING MATERIALS AND METHODS DETRIMENTAL TO FINISHES AND PERFORMANCE), AND (2) WARRANTY.
1.5 QUALITY ASSURANCE
a. INSTALLER: INSTALLER SHOULD BE HIGHLY EXPERIENCED IN PERFORMING WORK OF THIS SECTION, HAVING PREVIOUSLY DONE WORK SIMILAR TO THAT REQUIRED FOR THIS PROJECT.
1.6 SEQUENCING/SCHEDULING
a. ORDERING: COMPLY WITH MANUFACTURER'S ORDERING INSTRUCTIONS AND LEAD-TIME REQUIREMENTS TO AVOID CONSTRUCTION DELAYS.
b. DELIVERY: DELIVER MATERIALS IN MANUFACTURER'S ORIGINAL, UNOPENED, UNDAMAGED PACKAGING.
c. STORAGE: STORE MATERIALS AT TEMPERATURE AND IN HUMIDITY CONDITIONS RECOMMENDED BY MANUFACTURER AND PROTECT FROM EXPOSURE TO HARMFUL WEATHER CONDITIONS.
d. INSTALLATION: EXCEPT AS OTHERWISE INDICATED HEREIN, SEQUENCING OR SCHEDULING FOR PERFORMANCE OF WORK OF THIS SECTION IN RELATION WITH OTHER WORK IS CONTRACTOR'S OPTION. DELAY INSTALLATION OF MATS UNTIL NEAR TIME OF SUBSTANTIAL COMPLETION FOR THE PROJECT.
1.7 PROJECT CONDITIONS
a. TEMPERATURE: MAINTAIN TEMPERATURE WHERE PRODUCTS WILL BE INSTALLED BEFORE, DURING AND AFTER INSTALLATION AS RECOMMENDED BY MANUFACTURER.
b. FIELD MEASUREMENTS: WHERE POSSIBLE, VERIFY ACTUAL MEASUREMENTS BY FIELD MEASURING BEFORE FABRICATION AND INCLUDE MEASUREMENTS IN SHOP DRAWINGS. TO AVOID CONSTRUCTION DELAYS, COORDINATE FIELD MEASUREMENTS AND FABRICATION SCHEDULE BASED UPON CONSTRUCTION PROGRESS.

PART 2 PRODUCTS

- 2.1 ACCEPTABLE MANUFACTURER
A. PROVIDE DUAL TRACK FOOT GRILLE BY MATS INC., 37 SHUMAN AVENUE, STOUGHTON, MA 02072; TELEPHONE 800-628-7462 OR 781-344-1536; FAX 781-344-1537; WWW.MATSINC.COM.
2.2 MATERIALS
A. PRODUCT: DUAL TRACK.
1) CONSTRUCTION: BOLT-THRU DESIGN WITH INDIVIDUAL ALUMINUM SPACERS, SWEDGE, WELDED AND KEY LOCK FASTENING OF RAILS IS NOT ALLOWED.
2) MATERIAL: ALUMINUM ALLOY TYPE 6061-T6. SOFT ALUMINUM ALLOY (SUCH AS 6063-T52) IS NOT ALLOWED.
3) DRYING INSERT: DRYING INSERTS TO BE NYLON MATERIAL WITH 5% POST-CONSUMER RECYCLED CONTENT.
4) RECYCLED CONTENT: ALUMINUM TO BE 43.97% PRE-CONSUMER AND 14.12% POST-CONSUMER RECYCLED CONTENT.
5) BLADES: T-SHAPED BLADES, 1-5/16 X 1/8 X 1-1/2 INCH SIZE, COMBINED WITH T SHAPED BLADES 11/16 X 1/8" WITH ANTI-SLIP POLYMER G9065 INSERT. SPACING BETWEEN BLADES NOT TO EXCEED 3/16 INCH.
6) DIMENSION: GRILLE DEPTH TO BE 1-1/2"; WITH FRAME 1-5/8"
7) PANELS: FOOT GRILLE TO BE SUPPLIED IN PANELS NOT TO EXCEED 48" X 42". ONE PIECE DESIGN NOT ALLOWED. ALL GRILLE PANELS TO BE SUPPLIED WITH INDIVIDUAL PREFABRICATED, FACTORY-ASSEMBLED FRAMES
8) LOAD CAPACITY: 3.831 LBS PER 2 FOOT SPAN
B. FRAMING ACCESSORIES FOR RECESSED ALUMINUM FOOT GRILLE: FRAMING WILL HAVE THE FOLLOWING CHARACTERISTICS:
1. RECESSED FRAME INTEGRAL WITH CONCRETE SUBSTRATE: THE PERIMETER FRAMES SHALL BE AN INVERTED "T" SHAPE SUCH AS MODEL "VV" BY MATS INC. IN ORDER TO ANCHOR THE STRUCTURE INTO THE CONCRETE. ALL ALUMINUM FRAMES SHALL BE PRE-ASSEMBLED AT FACTORY INCORPORATING WELDED CONSTRUCTION FOR ALL JOINTS. EACH GRILLE SECTION SHALL INCORPORATE AN INVISIBLE SECTION DIVIDER INTEGRATED AND WELDED WITHIN THE FRAME. FRAMES AND GRILLES SHALL BE SHIPPED FULLY ASSEMBLED IN PROTECTIVE WOODEN CRATING TO EACH JOBSITE. FOR SECTIONS LARGER THAN 6' 0" BY 6' 0" A MECHANICAL JOINT IS TO BE PROVIDED, (IF SPECIFIED).
2. THE PERIMETER FRAMES SHALL BE "Z" SHAPE SUCH AS MODEL "TT" BY MATS INC. FOR INSTALLATION OVER FINISHED FLOOR SURFACES. ALL ALUMINUM FRAMES SHALL BE PRE-ASSEMBLED AT FACTORY INCORPORATING WELDED CONSTRUCTION FOR ALL JOINTS. EACH GRILLE SECTION SHALL INCORPORATE AN INVISIBLE SECTION DIVIDER INTEGRATED AND WELDED WITHIN THE FRAME. FRAMES AND GRILLES SHALL BE SHIPPED FULLY ASSEMBLED IN PROTECTIVE WOODEN CRATING TO EACH JOBSITE. FOR SECTIONS LARGER THAN 6' 0" BY 6' 0" A MECHANICAL JOINT IS TO BE PROVIDED (IF SPECIFIED). A SILICONE JOINT IS TO BE APPLIED BETWEEN THE FRAME AND THE FINISHED FLOOR TO PREVENT ANY WATER INFILTRATION (BY OTHERS).
3. RECESSED FRAME FOR EITHER CONCRETE SUBSTRATE OR FINISHED SURFACE: THE PERIMETER FRAMES SHALL BE AN ANGLE AD FRAME, EITHER "LEVEL" OR "EMBEDDED" DEPENDING ON THE INSTALLATION. FOR INSTALLATION WITH EITHER NEW CONSTRUCTION OR RETROFITS, ALL ALUMINUM FRAMES SHALL BE PRE-ASSEMBLED AT FACTORY INCORPORATING WELDED CONSTRUCTION FOR ALL JOINTS. EACH GRILLE SECTION SHALL INCORPORATE AN INVISIBLE SECTION DIVIDER INTEGRATED AND WELDED WITHIN THE FRAME. FRAMES AND GRILLES SHALL BE SHIPPED FULLY ASSEMBLED IN PROTECTIVE WOODEN CRATING TO EACH JOBSITE. FOR SECTIONS LARGER THAN 6' 0" BY 8' 0" A MECHANICAL JOINT IS TO BE PROVIDED, (IF SPECIFIED).
C. OPTIONAL ACCESSORIES FOR RECESSED ALUMINUM FOOT GRILLE
1. RECESSED PAN: 20 GAUGE ALUMINUM (OPTIONAL)
2. ACCESSORIES: STAINLESS STEEL HINGES
D. PRODUCT TESTING FOR RECESSED FOOT GRILLE
1. ASTM C1028 STATIC COEFFICIENT OF FRICTION: 1.21
2. ASTM B117 PRODUCT CORROSION TO SALT: PRODUCT WITHSTANDS 1000 HOURS OF SALT FOG WITHOUT ANY NOTICEABLE CHANGES.
2.3 PRODUCT SUBSTITUTIONS
A. SUBSTITUTIONS: NO SUBSTITUTIONS PERMITTED.

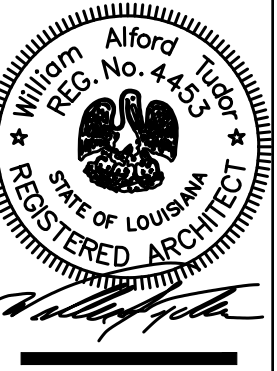
PART 3 EXECUTION

- 3.1 SUBSTRATE PREPARATION
A. EXAMINE SUBSTRATES AND CONDITIONS WHERE FLOOR MATS WILL BE INSTALLED. DO NOT PROCEED WITH INSTALLATION UNTIL UNSATISFACTORY CONDITIONS ARE CORRECTED. SUB FLOOR SHALL BE CLEAN AND DRY, AND WITHIN ACCEPTABLE TOLERANCES.
3.2 INSTALLATION
A. SIZES: SHOP-FABRICATE UNITS OF FLOOR MAT TO GREATEST EXTENT POSSIBLE IN SIZES AS INDICATED. WHERE NOT INDICATED OTHERWISE, PROVIDE SINGLE UNIT FOR EACH MAT INSTALLATION, BUT DO NOT EXCEED MANUFACTURER'S MAXIMUM SIZE RECOMMENDATION FOR UNITS INTENDED FOR REMOVAL AND CLEANING. WHERE JOINTS

IN MATS ARE NECESSARY, SPACE SYMMETRICALLY AND AWAY FROM NORMAL TRAFFIC LANES. MITER CORNER JOINTS IN FRAMING ELEMENTS WITH HAIRLINE JOINTS OR PROVIDE PREFABRICATED CORNER UNITS WITHOUT JOINTS. WHERE POSSIBLE, VERIFY SIZES BY FIELD MEASUREMENT BEFORE SHOP FABRICATION.
B. ACCESSORIES: WHERE INDICATED FOR RECESSED OR WALL-TO-WALL APPLICATIONS, PROVIDE ALUMINUM FRAMEWORK AS RECOMMENDED BY MANUFACTURER.
C. GENERAL: STRICTLY COMPLY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. COORDINATE INSTALLATION WITH ADJACENT WORK TO ENSURE PROPER CLEARANCES AND TO PREVENT TRIPPING HAZARDS.
3.3 CLEANING AND PROTECTION
A. GENERAL CLEANING: REFER TO MANUFACTURER'S CLEANING AND MAINTENANCE INSTRUCTIONS.
B. OWNER'S PERSONNEL: INSTRUCT OWNER'S PERSONNEL IN PROPER MAINTENANCE PROCEDURES.
C. PROTECTION: PROTECT INSTALLED PRODUCT AND FINISH SURFACES FROM DAMAGE DURING CONSTRUCTION AND UNTIL ACCEPTANCE.



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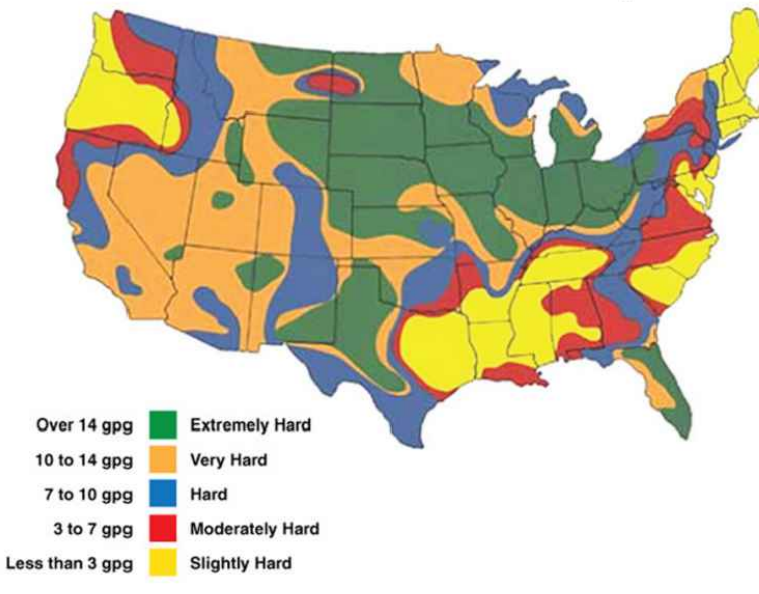
CONSTRUCTION SPECIFICATIONS:

DIVISION 22 - PLUMBING SECTION 22 1000 PLUMBING

PART 1 GENERAL
1.1 WORK INCLUDED
A. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE COMPLETE INSTALLATION OF THE SANITARY SEWER SYSTEM (INCLUDING SOIL AND VENT PIPING), WATER SERVICE, WATER METER, TAP VALVES, HOT AND COLD AND HOT WATER SUPPLY SYSTEM INCLUDING ALL REQUIRED 140 DEGREE PIPING, ALL REQUIRED GAS PIPING, HOT WATER HEATER, PLUMBING FITTINGS AND FIXTURES, AND ALL RELATED FITTINGS AND CONTROLS; CONNECTING OF ALL KITCHEN AND SERVICE AREA EQUIPMENT PROVIDED BY LESSEE OR FRANCHISE OWNER AND ALL OTHER WORK REQUIRED FOR A COMPLETE SYSTEM AS DETAILED ON THE DRAWINGS OR SPECIFIED IN THIS SECTION.
B. IN AREAS WHERE NATURAL GAS IS NOT AVAILABLE, FURNISH AND INSTALL L.P. GAS PIPING AND TANKS.
1.2 PERMITS AND INSPECTIONS
A. ALL WORK SHALL BE INSTALLED IN STRICT ACCORDANCE WITH STATE, COUNTY AND MUNICIPAL ORDINANCES AND REGULATIONS.
B. ALL PERMITS AND FEES SHALL BE APPLIED AND PAID FOR UNDER THIS SECTION, INCLUDING ALL REQUIRED INSPECTIONS FOR WATER, GAS AND SANITARY DRAINAGE SYSTEMS, REQUIRED WATER METER AND ALL TAPS TO WATER MAINS AND CONNECTIONS TO SEWERS.
1.3 LESSEE'S OR FRANCHISE OWNER'S EQUIPMENT
A. MAKE FINAL CONNECTIONS TO ALL LESSEE'S OR FRANCHISE OWNER'S EQUIPMENT AND FURNISH AND INSTALL ANY FITTINGS AND MATERIALS THAT MAY BE NECESSARY BY JOB CONDITIONS OR THAT MAY BE REQUIRED BY LOCAL BUILDING OR HEALTH CODES FOR COMPLETING FINAL CONNECTIONS AND MAKING EQUIPMENT READY FOR OPERATION.
1.4 UNDER-SLAB UTILITIES
A. DIMENSIONS FOR ALL UNDER-SLAB UTILITIES ARE CRITICAL FOR LATER EQUIPMENT INSTALLATION. CROSS-REFERENCE ALL DRAWINGS WITH THIS WORK, INCLUDING ALL ELEVATIONS, SHOWING DIMENSIONAL LOCATION OF THIS WORK.

PART 2 PRODUCTS
2.1 MATERIAL
A. DOMESTIC WATER PIPING SHALL BE COPPER OR PEX PIPING ACCORDING TO THE LOCAL CODE MINIMUM REQUIREMENTS.
B. COPPER WATER PIPING SHALL BE TYPE "M" HARD DRAWN COPPER TUBING, WITH WROUGHT COPPER FITTINGS. PIPING BELOW GRADE SHALL BE TYPE "K" SOFT COPPER TUBING, WITH FLARED FITTINGS. SIZES ARE SHOWN ON PLUMBING DRAWINGS. PIPING SHALL BE MADE UP WITH SWEAT FITTINGS. SOLDER SHALL BE 95-50 TYPE. THE ENTIRE LENGTH OF ALL TYPE "K" PIPING UNDER THE SLAB PENETRATING THROUGH THE SLAB WILL BE INSTALLED IN THE 1/2 IN. THICK ARMAFLEX INSULATION.
C. PEX PIPING AND FITTING SHALL BE SUITABLE FOR DOMESTIC USE. INSTALL PIPING SYSTEM IN COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS. PEX PIPING OR FITTING SHALL NOT BE INSTALLED IN AREAS WITH FLOOR OR EXPOSED TO UV LIGHT FOR AN EXTENDED PERIOD. PEX PIPING SHALL BE SUPPORTED AS REQUIRED BY THE MANUFACTURER AND LOCAL CODE REQUIREMENTS. UNDERGROUND / UNDER-BUILDING SLAB, DOMESTIC WATER PIPING SHALL BE 1/2 INCH THROUGH 3 INCH PEX PIPING SUITABLE FOR DOMESTIC USE WITH ENGINEERED POLYMER OR LEAD-FREE BRASS FITTINGS USING THE FEWEST POSSIBLE JOINTS AS POSSIBLE AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. INSULATE THE PIPING AS REQUIRED. ABOVEGROUND DOMESTIC WATER PIPING (3 INCHES AND BELOW SHALL BE THE FOLLOWING: PEX PIPING SUITABLE FOR DOMESTIC USE WITH ENGINEERED POLYMER (EP) OR LEAD-FREE BRASS FITTINGS.
D. BUILDING SEWER AND ALL UNDERGROUND DRAINAGE AND VENT LINES SHALL BE SIZED AS SHOWN ON DRAWINGS, OR AS REQUIRED BY LOCAL CODES. THEY SHALL BE STANDARD WEIGHT HUB AND SPIGOT CAST IRON PIPE AND NEOPRENE GASKET FITTINGS, UNLESS OTHERWISE SHOWN OR NOTED. SERVICE WEIGHT CAST IRON PIPE AND FITTINGS MAY BE USED, IF ALLOWED BY LOCAL CODES. FROM 10 FT. OUTSIDE THE BUILDINGS, SEWER MAY BE VERIFIED CLAY SEWER PIPE WITH AMVIT JOINTS OR TRANSITE PIPE. MINIMUM SIZE OF PIPES TO BE 4 IN.
E. VENTS ABOVE GRADE SHALL BE AS SHOWN ON DRAWINGS AND SHALL BE HUBLESS CAST IRON PIPE FITTINGS AND CONNECTORS, IF PERMITTED BY LOCAL CODES, TYPE DWV COPPER MAY BE USED WITH DWV FITTINGS.
F. ADJUST, IF NECESSARY, SIZES OF GAS PIPING WITH LOCAL GAS COMPANY CHARACTERISTICS TO DELIVER THE SPECIFIED BTUS AT THE FIXTURE. PIPING SHALL BE BLACK STEEL, SCHEDULE 40, WITH SCREWED MALLEABLE IRON FITTINGS.
G. FURNISH AND INSTALL A MECHANICAL GAS VALVE (SIZED TO PIPE) FOR INSTALLATION IN THE GAS LINE TO THE FRYERS (AND OVENS) AS PER SECTION 04.04 GAS PIPING, PARAGRAPH 1. CONDENSATE W/ DRIP TRAP AND VENT. FLOOR DRAIN WITH OPEN FUNNEL TYPE, OR FLOOR SINK WITH INTEGRAL TRAP, AS SHOWN ON DRAWINGS OR AS REQUIRED BY CODE, AS MANUFACTURED BY THE JOSAM COMPANY OR JAY R. SMITH, INC. ALL CONDENSATE DRAIN LINES FROM EQUIPMENT TO DRAIN SHALL BE PVC.
H. KITCHEN FLOOR SINKS SHALL BE AS REQUIRED SHALL BE JOSAM MANUFACTURING COMPANY, SERIES NO. 49000 WITH HALF-GRATE, NICKALLOY TOP AND SEDIMENT BUCKET. ALL OTHER FLOOR DRAINS "FD" TO BE JOSAM NO. 3000A-04. ALL EXPOSED PARTS TO BE OF NICKEL BRONZE FINISH.
2.2 FIXTURES
A. WATER CLOSE
REFER TO RESTROOM EQUIPMENT SCHEDULE.
B. LAVATORY
REFER TO RESTROOM EQUIPMENT SCHEDULE.
C. MOP SINK
1. FURNISH ONE MOLDED CONSTRUCTION ONE PIECE MOP SERVICE BASIN AS MANUFACTURED BY E.L. MUSTEE & SONS, MODEL NO. 63M, COMPLETE WITH DRAIN BODY, FRAMER AND LINT DRAIN. FITTINGS SHALL BE MOEX COMMERCIAL NO. 6230 (CHROME). PROVIDE CLICK AND CLEAN DISPENSING SYSTEM BY KAY CHEMICAL COMPANY AT MOP SINK. REFER TO NATIONAL ACCOUNT SOURCE INFORMATION FOR COMPLETE DETAILS.
D. DISHWASHER
REFER TO KITCHEN EQUIPMENT SCHEDULE.
E. OPTIONAL URINAL TO BE AMERICAN STANDARD TRIMBROOK NO. 6561.017 COMPLETE WITH WALL SUPPORTS AND SLOAN ROYAL FLUSH VALVE.
F. BACK BAR FITTINGS AND EXPOSED PIPE TO BE CHROME PLATED. STOP VALVES BY AMERICAN STANDARD.
G. IN KITCHEN, FURNISH AND INSTALL THREE COMPARTMENT POT SINK UNIT AND DRAIN BOARDS AS REQUIRED BY LOCAL CODES, NSF STANDARDS AND AS SPECIFIED:
1. COMPARTMENT SIZE, DRAIN BOARD SIZE AND TOTAL DIMENSIONS AS SHOWN ON DRAWINGS. REFER TO EQUIPMENT REQUIREMENTS FOR SINK FABRICATION. EACH COMPARTMENT TO HAVE KOHLER #8901 BRASS WASTE OUTLET, CHROME PLATED, SATIN FINISH, WITH A 3-1/2 IN. DIAMETER STAINLESS STEEL, PERFORATED, FLUSH STRAINER PLATE, THREADED FOR CONNECTION TO A 2 IN. DRAIN LINE.
2. FITTINGS SHALL BE T & S B-103 PRE-RINSE SPRAY WITH B-107C SPRAY HEAD, B-109 WALL BRACKET, B-156 ADD-A-FAUCET WITH 1/2 IN. NOZZLE AND SPECIAL 4 IN. CHROME, BELL-NIPPLE B-231 SINK MIXING FAUCET FOR THREE COMPARTMENT SINK.
3. DRAIN SHALL INCLUDE ROYALTY WASTE VALVE SIMILAR TO T & S MODEL B3901 WITH EXTENDED HANDLE AND SNAP-IN STAINLESS STEEL STRAINERS. FITS DRAIN OPENING OF 3 1/2 INCHES TO 4 1/2 INCHES.
4. NOTE: SMALLER THREE COMPARTMENT SINKS MAY BE ALLOWED PROVIDED THE SINK COMPARTMENT CAN ACCOMMODATE THE LARGEST EQUIPMENT ITEM THAT WILL REQUIRE WASHING, RINSING AND SANITIZING. SINKS SHALL ALSO UTILIZE A QUICK ACCESS STAINLESS STEEL AND FINISH SHALL BE THE SAME AS LARGER THREE-COMPARTMENT SINK LISTED BELOW.
5. PROVIDE CLICK AND CLEAN DISPENSING SYSTEM BY KAY CHEMICAL COMPANY AT THREE-COMPARTMENT POT SINK. REFER TO NATIONAL ACCOUNT SOURCE INFORMATION FOR COMPLETE DETAILS.
H. ON 1/2 IN. DOMESTIC COLD WATER CONNECTION TO PROOFER(S), PROVIDE AN INLET FILTRATION SYSTEM. SEE PLAN FOR SPECIFIC REQUIREMENTS.
FURNISH AND INSTALL AS REQUIRED BY LOCAL OR STATE HEALTH AND PLUMBING CODES, THE FOLLOWING ITEMS OR EQUIPMENT:
1. INSTALL IMMERSION HEATER AND DIP BASKET FOR POT SINK.
2. GREASE TRAPS "GT" SHALL BE JOSAM 60100 ON-FLOOR MODEL OR 60130 RECESSED TYPE GREASE INTERCEPTOR, WITH FLOW CONTROL VALVE (WITH FLUSH FLOOR COVER, REMOVABLE BUCKET AND TWIST LOCK HANDLE), WASTE FROM FOOD DISPOSAL SHALL NOT RUN THROUGH GREASE TRAP. TOP COVER TO BE FLUSH WITH QUARRY TILE FLOOR. IN ADDITION TO "JOSAM SERIES 60100" GREASE TRAP THAT IS USED WHEN ROUGH-IN CENTER IS MORE THAN 6" FROM DRAIN, JOSEPH'S IS AN ALTERNATE. THIS GREASE TRAP MODEL ALLOWS ROUGHING TO 17" BELOW SLAB. REFER TO LOCAL OR STATE HEALTH AND PLUMBING CODES FOR GREASE TRAP SIZE RESTRICTIONS. NOTE: PROVIDE EXTERIOR GREASE TRAP OUTSIDE OF BUILDING WHERE POSSIBLE.
3. PRODUCT: ENDURA GREASE INTERCEPTOR BY IPEX. THE UNIT SHALL BE COMPRISED OF ENGINEERED THERMOPLASTICS TO WITHSTAND OPERATIONAL TEMPERATURES UP TO 220 DEGREE F (104 DEGREE C) COMPRISING A PEDESTAL RATED COVER CAPABLE OF SUPPORTING 440 LB (200 KG) AND INCORPORATING AN OPERATIONALLY YIELDING SEAL. THE COVER SHALL ALSO UTILIZE A QUICK ACCESS LATCHING SYSTEM TO FUNCTIONALLY SECURE AND RETAIN THE COVER TO THE TANK, BUT ALLOW CONSISTENT REMOVAL AND REPLACEMENT OF THE COVER WITHOUT OPERATIONAL COMPROMISE. FUNCTIONAL ELEMENTS SUCH AS Baffles WILL BE MADE OF MATERIAL THAT PREVENTS CORROSION OR DETRIORATION AND SHALL BE EASILY REMOVABLE FOR THE PURPOSES OF MAINTENANCE, PROVIDING UNRESTRICTED UPSTREAM AND DOWNSTREAM DRAIN ACCESS. THE GREASE INTERCEPTOR SHALL BE CERTIFIED TO THE CURRENT VERSION OF THE PDI-G101, ASME A112.14.3 OR CSA B481.1 AND WHERE LOCALLY APPLICABLE HAVE UPC LISTING.
4. MODEL 3925AL T03 - ENDURA 25GPM/50LB
a. FLOW RATE: 25 US GALLONS PER MINUTE (1.6 L PER SECOND).
b. MINIMUM GREASE CAPACITY: 50 LB (22.68 KG).
c. GREASE CAPACITY ACTUAL: 56.25 LB (25.51 KG).
d. AVERAGE EFFICIENCY (%): ASME 112.14.3; 98%.
e. UNIT WEIGHT (EMPTY): 45 LB (10.85 KG).
f. LIQUID CAPACITY: 39.4 GAL (149.1 L).
g. CONNECTION SIZE (MECHANICAL): 3 INCHES (76 MM).
h. BASKET: SOLIDS BASKET ACCESSORY MODEL 3911A-1.
i. MODULAR RISER EXTENSIONS: MODEL 3920AX6 (RISER EXTENSION), FOR USE WITH IN-FLOOR INSTALLATIONS; SIZED DURING INSTALLATION TO PROJECT K. RISER-EXTENSIONS, 18 INCHES (457 MM) MAXIMUM HEIGHT ADJUSTMENT. ALL INSTALLATION COMPONENTS TO BE SUPPLIED BY THE MANUFACTURER.
1. RISER EXTENSIONS REQUIRED: ONE.
2. RISER EXTENSIONS REQUIRED: TWO.
3. RISER EXTENSIONS REQUIRED: THREE.
J. EYE WASH STATION
1. G.C. TO PROVIDE WALL-MOUNTED ROUND EYE/FACE WASH BOWL MANUFACTURED BY SPEAKMAN; PRODUCT# SE490-STW
2.3 ROOF FLASHING
J. CAP FLASHING FOR ROOF VENTS SHALL BE GALVANIZED METAL SLEEVE, OVERLAPPING 6" ON EXTERIOR AND TURNED 2" INTO STACK AND CLOSELY FITTED INTO INTERIOR SURFACE OF STACK TO AVOID REDUCING OPENING SIZE UNNECESSARILY. A 16 OZ. COPPER FLASHING SHALL BE PROVIDED AROUND THE PIPE AND FLASHED INTO THE SINGLE PLY ROOFING. COORDINATE CAP FLASHING WITH SECTION 07531 EPOXY ELASTOMERIC MEMBRANE ROOFING.
2.4 HOT WATER HEATER
NOTE: SPECIFICATIONS PROVIDE GENERAL GUIDANCE FOR HOT WATER HEATERS. THE CONTRACTOR SHALL CONSULT DRAWINGS, LOCAL HEALTH DEPARTMENT REVIEW OF DRAWINGS BEFORE ORDERING WATER HEATER. IF A VARIATION EXISTS BETWEEN THE SPECIFICATIONS AND ANY OF THE OTHER REFERENCES MENTIONED, CONTACT THE ARCHITECT BEFORE PLACING ORDERS FOR EQUIPMENT.
A. TANKLESS HOT WATER HEATER SYSTEM TO BE MANUFACTURED BY RINNAI - MODELS TO BE USED AS APPLICABLE: R919R AND R919R2. BOTH UNITS CONTAIN BUILT IN RECIRCULATION FLOW RETURN; INPUT: 15,200 TO 199,000 BTU/H CAPACITY, DIRECT ELECTRONIC IGNITION, FLOW RATE: 0.4 - 9.8 GPM (DEPENDENT ON TEMPERATURE RISE), THERMAL EFFICIENCY: 97%; CONDENSING TECHNOLOGY; CABINET DIMENSIONS: 18.3" W X 11.2" H X 10.1" D; GAS TYPE: NATURAL GAS OR PROPANE; USE APPLICABLE RINNAI VENTING; CONDENSING CONCENTRIC VENT COMPONENTS, 3" OR 4" SCHEDULE 40 PVC DWV SOLID CORE PIPE (OR APPROVED EQUAL). PROVIDE DIRECT VENT FOR INTERIOR MOUNTING - NO VENT REQUIRED FOR EXTERIOR MOUNT. PROVIDE RINNAI CONDENSATE NEUTRALIZER AS NEEDED, CONDENSATE TO BE NEUTRALIZED AND DRAINED ACCORDING TO LOCAL CODE GUIDELINES. COORDINATE EXACT MODEL #, FLOW AND # OF REQUIRED UNITS W/ MANUFACTURER BASED ON STORE TYPE, STORE SIZE, STORE LOCATION AND ALL LOCAL CODE REQUIREMENTS FOR HOT WATER SYSTEMS, RINNAI COMMERCIAL CUSTOMER SUPPORT: 866-383-0707; RINNAI TECHNICAL SUPPORT: 888-RINNAIS (1-888-746-6247)
B.

U.S. Water Hardness Map



RECOMMEND BI-ANNUAL FLUSHING OF TANKLESS HEAT EXCHANGER IN AREAS WHERE THE HARD WATER IS GREATER THAN 10GPG. REFERENCE RINNAI WATER HEATER INSTALLATION AND OPERATION MANUAL FOR INSTRUCTIONS.
C. AS AN ALTERNATE, FURNISH AND INSTALL A HOT WATER HEATER AS NOTED ON THE PLUMBING DRAWINGS TO BE EQUAL TO OR EXCEED THE FOLLOWING REQUIREMENTS:
1. FOR FULL PRODUCTION SHOPS, PROVIDE A HOT WATER HEATER UNIT THAT WILL PROVIDE 75-GALLON STORAGE WITH AN INPUT RATING OF 11.0 W/ 1.0 GPH RECOVERY AT 70-DEGREE TEMPERATURE RISE AND AN APPROVED MANUFACTURER FOR GAS FUELED:
- STATE: SBN81 154NE
- A.O. SMITH: BT-80
- RHEEM: G75-75
ELECTRIC:
- STATE: CSB-82-18-1FE
- A.O. SMITH: DVE-80
- RHEEM: ELD-40
2. IN AREAS WHERE WATER HAS A HIGH LIMB CONCENTRATION, BE SURE TO USE A UNIT THAT IS SPECIALLY DESIGNED TO REDUCE LIMB DEPOSITS.
3. FOR SATELLITE SHOPS OR SHOPS WITH NO PRODUCTION FACILITIES USE A UNIT THAT WILL PROVIDE A MINIMUM 50-GALLON STORAGE WITH AN INPUT RATING OF 60,000 B.T.U/HOUR WITH AN 80 G.P.H. AT 70 DEGREE TEMPERATURE RISE:
- A.O. SMITH: BT 65
ELECTRIC:
- STATE: CSB-82-12-1FE
- A.O. SMITH: DVE-52
- RHEEM: ELD-30
D. FURNISH AND INSTALL A SEPARATE 6 GALLON ELECTRIC HOT WATER HEATER FOR THE RESTROOMS IF NOTED ON THE PLUMBING DRAWINGS TO BE EQUAL TO OR EXCEED THE FOLLOWING PRODUCTS:
- A.O. SMITH: DEL-6
- STATE: PCE-6-10MSA
2.5 FLUE
A. FURNISH AND INSTALL, UNDERWRITERS' LABORATORIES APPROVED, 5 IN. DIAMETER, METALBESTOS TYPE B, FLUE FOR WATER HEATER, EXTEND FLUE TO 6 FT. ABOVE ROOF / AS PER LOCAL CODE REQUIREMENTS. PROVIDE TALL CONE ROOF FLASHING, STORM COLLAR AND METALBESTOS TOP. THE DOUBLE WALL METAL VENT FLUE SHALL HAVE AN OUTER CASING OF GALVANIZED STEEL WITH A MINIMUM OF 0.028 GAUGE OR 0.018 IN. THICKNESS, AND AN INNER CASING OF ALUMINUM. THE VENT SHALL BE LABORATORY-TESTED AND LISTED BY THE UNDERWRITERS' LABORATORY.
2.6 AUTOMATIC FIRE EXTINGUISHING SYSTEM
A. THE INSTALLER WILL HOOK-UP THE MECHANICAL GAS SHUT-OFF VALVE, FURNISHED AND INSTALLED BY THE PLUMBER BEFORE THE FRYER(S) AND/OR OVEN(S), TO THE AUTOMATIC FIRE EXTINGUISHING SYSTEM. SEE SECTION 15500 AUTOMATIC FIRE EXTINGUISHING SYSTEM.
PART 3 EXECUTION
3.1 INSTALLATION
A. ALL PIPING AND EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE DRAWINGS AND SHALL COMPLY WITH ALL APPLICABLE CODES, PARTICULARLY HEALTH AND PLUMBING, AND STANDARDS OF GOOD PRACTICE.
B. INVERTS OF SEWER AND DRAINAGE CONNECTIONS BEFORE INSTALLING SEWER LINES.
3.2 WATER SUPPLY LINES
A. WATER SERVICE, LOCATED AS SHOWN ON SITE DRAWING, SHALL BE INSTALLED AND TESTED AS REQUIRED BY THE LOCAL UTILITY COMPANY. SERVICE TO BE 1 1/2 IN. MINIMUM, TYPE "K" COPPER, OR AS INDICATED ON DRAWINGS.
B. PIPING SHALL BE OF MINIMUM SIZES SHOWN ON DRAWINGS.
C. PROVIDE VALVES ON ALL LINES AS SHOWN ON DRAWINGS AND ON UP-STREAM AND DOWN-STREAM SIDE OF WATER METER. EACH FIXTURE SHALL HAVE SEPARATE STOP AND WASTE VALVES AND ALL PIPING SHALL BE CONCEALED EXCEPT AS OTHERWISE INDICATED ON DRAWINGS. WHERE WATER PIPES AND VALVES ARE EXPOSED IN FINISHED SALES AND TOILET AREAS, PIPING SHALL BE THREADED CHROME AND SHALL HAVE CHROME PLATED ESCUTCHEONS AND VALVE AS REQUIRED. KITCHEN AND WORK AREAS MAY BE COPPER.
D. NOSE BIBBS SHALL BE INSTALLED AS INDICATED ON THE DRAWINGS AND SHALL HAVE FROST-PROOF TYPE WITH REMOVABLE KEY HANDLE. FASTEN SECURELY TO WALL, INSTALL 18 IN. ABOVE FINISH SLAB.
E. STANDARD AIR CHAMBERS, 20 DIAMETERS OF PIPE HIGH, AND ONE SIZE LARGER SHALL BE PROVIDED ABOVE EACH FIXTURE OUTLET AND AS REQUIRED ELSEWHERE. IF LINE PRESSURE IS GREATER THAN 60 POUNDS AT WATER METER OUTLET, A PRESSURE REDUCING VALVE SHALL BE PROVIDED AND INSTALLED, SET AT 60 POUNDS PRESSURE FOR THE COMPLETE SYSTEM ON THE COLD WATER SUPPLY LINE. PROVIDE A FACTORY APPLIED UL 181 CLASS 1 LABEL, STATIC PRESSURE. PRESSURE GAUGE TABS SHALL BE PROVIDED, COMPLETE SYSTEM SHALL BE TESTED AS REQUIRED BY APPLICABLE CODES.
F. MINIMUM TESTING OF WATER PIPING - MAINTAINS 75 PSI OF AIR PRESSURE WITHIN THE ENTIRE SYSTEM FOR A PERIOD OF 15 MINUTES. PROVIDE A THERMOSTATICALLY OPERATED VALVE ON HOT WATER SERVICE TO TOILET LAVATORIES, BRADLEY #TMA OR LEONARD #210.
G. INSULATE ALL PIPING IN SPACES SUBJECT TO FREEZING WITH 1-1/2 IN. PIPE INSULATION AS SPECIFIED ABOVE. ALL PIPING SHALL BE PROPERLY SUPPORTED WITH HANGERS OF COMPATIBLE MATERIAL AND SHALL BE PROTECTED FROM MECHANICAL DAMAGE. SHALL BE WRAPPED WITH AN APPROVED PLASTIC TAPE TO PREVENT CHEMICAL ACTIONS.
H. FINAL WATER CONNECTIONS TO PROOFERS SHALL BE AS SHOWN ON EQUIPMENT SPECIFICATIONS.
3.3 SANITARY SEWER SYSTEM
A. SEWER SYSTEM SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH ALL APPLICABLE

CODES AND AS INDICATED ON THE DRAWINGS AND SPECIFICATIONS.
B. WHEN HOUSE TRAP AND FRESH AIR INLET IS REQUIRED BY CODE, TRAP SHALL HAVE BRASS CLEAN-OUT PLUGS FLUSH WITH FLOOR.
C. VENTS SHALL BE SIZED AS SHOWN, OR AS REQUIRED OR PERMITTED BY LOCAL CODES, AND SHALL PROJECT ABOVE ROOF A MINIMUM OF 1 FOOT. ALL VENTS SHALL BE 3 IN. MINIMUM DIAMETER THROUGH ROOF, (USE INCREASER IF NECESSARY) UNLESS CODES REQUIRE GREATER DIMENSION.
D. SEWER PIPING SHALL BE PROPERLY SLOPED AND ALL REQUIRED FITTINGS, VENTS, TRAPS AND CLEANOUTS SHALL BE PROVIDED.
E. VERIFY INVERTS AT SEWER TAP AND BUILDING BEFORE STARTING INSTALLATION.
F. MINIMUM TESTING OF WASTE PIPING - PLUG OPENINGS AND FILL THE ENTIRE SYSTEM TO THE TOP OF THE VENTS WITH WATER AND ALLOW TO REMAIN AT LEAST 30 MINUTES.
3.4 GAS PIPING
A. CONNECT TO ALL EQUIPMENT REQUIRING GAS SERVICE WITH A SHUT-OFF COCK AND DRIP AT EACH FIXTURE LOCATION.
B. CONNECTIONS INCLUDE, BUT ARE NOT LIMITED TO, HEATING AND AIR CONDITIONING UNIT, HOT WATER HEATER, FRYERS AND OVEN.
C. PITCH PIPING FOR DRAINAGE AND INSTALL DRIP AND DIRT LEGS AT ALL LOW POINTS.
D. MAKE FINAL CONNECTIONS TO EACH FRYER AND OVEN WITH HEAVY DUTY, COMMERCIAL TYPE, FLEXIBLE METAL CONNECTOR COMPLETE WITH QUICK CONNECT-DISCONNECT GAS MATE COUPLING, CONSISTING OF BRASS SOCKET AND BRASS PLUG, FLEXIBLE CONNECTOR AND COUPLING SHALL BE AS MANUFACTURED BY HANSEN MANUFACTURING COMPANY.
E. CONNECTOR SHALL BE A FACTORY ASSEMBLED INTEGRAL UNIT, CONSISTING OF AN INNER LINER OF CONVULATED 85/15 RED BRASS TUBING, WITH AN OUTER FLEXIBLE CASING OF INTERLOCKED STRIP WOUND GALVANIZED STEEL.
F. MINIMUM LENGTH OF CONNECTOR SHALL BE 24 IN.
G. UNCOUPLING SHALL CAUSE INSTANT AUTOMATIC SHUT-OFF OF GAS SUPPLY.
H. CONNECTOR AND COUPLING SHALL BE SIZED, TO DELIVER THE REQUIRED BTU RATING TO THE RESPECTIVE EQUIPMENT.
I. FURNISH AND INSTALL A MECHANICAL GAS SHUT-OFF VALVE (SIZED TO PIPE). THE VALVE WILL BE INSTALLED IN THE GAS LINE BEFORE THE FRYER(S) AND/OR OVEN(S) AS INDICATED ON THE DRAWINGS. THE OPERATING HOOD-UP OF THE VALVE WILL BE DONE BY THE INSTALLER OF THE AUTOMATIC FIRE EXTINGUISHING SYSTEM.
3.5 FINAL CONNECTIONS
A. COMPLETE THE FINAL CONNECTIONS OF EQUIPMENT SUPPLIED BY THE LESSEE OR FRANCHISE OWNER IMMEDIATELY UPON DELIVERY IN PLACE.
B. FROM CHROME SHUT-OFF VALVES ON BACK BAR WALL: PROVIDE COPPER PIPING TO BACK BAR EQUIPMENT. SOME EQUIPMENT REQUIRES FLARE FITTINGS - COORDINATE WITH EQUIPMENT SPECIFICATIONS.
C. LOCAL CODES MAY REQUIRE ALTERNATIVE HOOD REQUIREMENTS.
D. KITCHEN EXHAUST FAN
1. AS SPECIFIED ON THE DRAWINGS AND SHALL BE CAPABLE OF MEETING ALL PERFORMANCE REQUIREMENTS AS SO STATED ON THE DRAWINGS.
E. TOILET EXHAUST FAN
1. AS SPECIFIED ON THE DRAWINGS AND SHALL BE CAPABLE OF MEETING ALL PERFORMANCE REQUIREMENTS AS SO STATED ON THE DRAWINGS.
D. FILTERS AND EXTRACTORS
1. GREASE FILTERS SHALL BE 2 IN. THICK PANEL EXTRACTOR TYPE, EXTRACTOR U.L. CLASSIFIED.
E. BLOTTED OVEN VENT
1. FURNISH AND INSTALL UNDERWRITERS' LABORATORIES APPROVED 6 IN. DIAMETER METALBESTOS FINISHED WALL TYPE B GAS VENT FOR BLOTTED OVEN FROM FINISHED CEILING TO ABOVE FINISHED ROOF. FURNISH AND INSTALL 6 IN. DIAMETER STAINLESS STEEL GAS VENT FROM FINISHED CEILING TO DRAFT HOOD OF OVEN. EXHAUST FAN FOR OVEN TO BE PENN FUMEX MODEL NO. FX08B.
F. BAGEL TOASTER VENT
1. EXHAUST FAN OVER BAGEL TOASTER SHALL BE AS SPECIFIED ON THE DRAWINGS AND SHALL BE CAPABLE OF MEETING ALL PERFORMANCE REQUIREMENTS AS SO STATED ON THE DRAWINGS.
G. CONTROLS
1. SYSTEM CONCEPT: PROVIDE AN HVAC SYSTEM CONTROL PANEL TO INTERLOCK HEATING AND COOLING ROOF TOP UNITS TO EXHAUST SYSTEM. THIS PANEL SHALL MAINTAIN PROPER BUILDING PRESSURIZATION BY BRINGING ENOUGH OUTSIDE AIR INTO THE BUILDING TO REPLACE THE AIR EXHAUSTED FROM THE KITCHEN AND TOILET EXHAUST.
2. FIRE CABINET CONTROL PANEL:
- INTERLOCKS KITCHEN EXHAUST FAN TO MAKE UP AIR OR HVAC ROOF TOP UNITS.
- INDICATOR LIGHT ON SURFACE OF PANEL TO INDICATE WHEN EXHAUST FAN IS ON.
- ALL ELECTRICAL WIRING AND FITTINGS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. FIRE CABINET CONTROL PANEL SHALL BE FURNISHED BY KITCHEN HOOD MANUFACTURER.
H. THE OPTIMAL CEILING HEATER UNIT OVER THE REAR DOOR SHALL BE AS SPECIFIED ON THE DRAWINGS.
I. OPTIONAL AIR CURTAIN IS AVAILABLE WITH THE DRIVE-THRU WINDOW. COORDINATE THIS ITEM WITH THE NATIONAL ACCOUNT SOURCE INFORMATION AND SECTION 09411.
2.3 ROOF TOP UNIT
A. CONTRACTOR SHALL FURNISH AND INSTALL SELF-CONTAINED ROOF TOP COOLING AND NATURAL GAS HEATING UNIT, AS MANUFACTURED BY TRANE OR CARRIER OR EQUAL AS SPECIFIED IN THIS SECTION.
B. ROOF TOP UNIT SHALL BE DESIGNED AND BUILT FOR OUTDOOR SERVICE AND BE FACTORY ASSEMBLED AND INCLUDE COMPRESSOR, AIR COOLED CONDENSER COIL WITH FANS AND INTERCONNECTING REFRIGERANT PIPING, NATURAL GAS HEATING SECTION PRE-WIRED CONTROLS MOUNTED IN A CORROSION RESISTANT ALL WEATHER CABINET.
C. UNIT SHALL BE SELF-CONTAINED WITH REFRIGERANT AND OIL, REQUIRING ONLY ELECTRICAL, NATURAL GAS, AND DUCT CONNECTIONS FOR OPERATIONS.
D. THE CABINET IS TO BE HOT DIPPED GALVANIZED STEEL FINISHED WITH BAKED ENAMEL OVER PRIMER MOUNTED ON A CHANNEL BASE WITH RIGGING BRACKETS ON THE BASE RAIL.
E. COMPRESSOR IS TO BE EQUIPPED WITH EXTERNAL AND INTERNAL OVERLOAD AND OVERHEAT PROTECTION. CONTRACTOR SHALL PROPERLY FILL OUT ALL WARRANTY CARDS FOR HEATING-AIR CONDITIONING UNIT AND DELIVER TO THE FRANCHISEE FOR PROCESSING.
C. MATERIAL AND EQUIPMENT PACKAGE PURCHASED FROM CAPTIVE-AIRE SYSTEMS, INC. WILL CONTAIN A ONE (1) YEAR LIMITED EQUIPMENT WARRANTY. MOTOR COMPRESSORS HAVE AN ADDITIONAL FOUR (4) YEAR LIMITED MATERIAL WARRANTY BACKED BY THE MANUFACTURER. GAS HEAT EXCHANGERS HAVE AN ADDITIONAL NINE (9) YEAR LIMITED MATERIAL WARRANTY BACKED BY THE MANUFACTURER.
PART 2 PRODUCTS
2.1 MATERIALS AND EQUIPMENT
DUNKIN' DONUTS HAS NATIONAL ACCOUNTED TWO HVAC MANUFACTURERS TO SUPPLY ROOFTOP EQUIPMENT FOR THE BRAND. CONTACT INFORMATION IS AS NOTED FOR EACH OF THE MANUFACTURERS BELOW.
CARRIER CORPORATION
ACCOUNT REPRESENTATIVE:
BOB ECKWEILER
315-424-9446
M: 973-222-6742
F: 860-998-2679
BOB.ECKWEILER@CARRIER.UTC.COM
TRANE, INC.
ACCOUNT REPRESENTATIVE:
JONATHAN RALYS
P: 978-737-3814 OR 1-800-392-8956
F: 781-938-9038
E: JONATHAN.RALYS@TRANE.COM
WEB: WWW.TRANE.COM
A. FURNISH AND INSTALL FACTORY ASSEMBLED ROOFTOP HEATING AND AIR CONDITIONING UNIT (IN THE POSITION(S) LOCATED ON THE DRAWINGS AND AS FURTHER SPECIFIED IN THIS SECTION.
B. FURNISH AND INSTALL A KITCHEN EXHAUST SYSTEM CONSISTING OF A HOOD, FILTERS, AND ROOF MOUNTED EXHAUST FAN IN THE POSITION SHOWN ON THE DRAWINGS AND AS FURTHER SPECIFIED IN THIS SECTION.
C. CLEARLY VISIBLE RED SIGNAL LIGHT SHALL BE INSTALLED IN THE FIRE CABINET TO INDICATE WHEN THE KITCHEN EXHAUST FANS ARE OPERATING.
D. FURNISH AND INSTALL A ROOF MOUNTED EXHAUST FANS AND CURBS WITH ASSOCIATED DUCTWORK AND EXHAUST GRILLES FOR TWO (2) TOILET ROOMS AND BAGEL TOASTER AS SHOWN ON DRAWINGS AND AS FURTHER SPECIFIED IN THIS SECTION.
2.1 DUCTWORK
A. BLACK IRON
1. FURNISH AND INSTALL 16-GAUGE STEEL EXHAUST DUCT FOR HOOD EXHAUST SYSTEM. ALL SEAMS AND JOINTS SHALL HAVE A LIQUID-TIGHT CONTINUOUS EXTERNAL WELD.
2. EXHAUST DUCTWORK SHALL BE WITHIN FIRE ENCLOSURE. FIRE ENCLOSURE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
3. ALL DUCTWORK FOR KITCHEN EXHAUST SYSTEM SHALL CONFORM TO SMACNA STANDARDS AND TO N.F.P.A. 96 STANDARDS FOR FIRE PROTECTION.
B. FLEXIBLE ROUND FIBERGLASS DUCT
1. FLEXIBLE DUCTWORK BETWEEN HVAC UNITS OR DIFFUSER DROPS, PLENUMS, MIXING BOXES, ETC. SHALL BE ATCO SERIES 900 FLEXIBLE DUCT OR PERFORMANCE EQUIVALENT.
2. EACH SECTION SHALL BEAR A FACTORY APPLIED UL 181 CLASS 1 LABEL, STATIC PRESSURE 12 IN. W.C. POSITIVE AND 1 IN. W.C. NEGATIVE AND SHALL HAVE A THERMAL CONDUCTANCE OF C = 0.26.
3. PROVIDE SUPPORT AT OR NEAR EVERY JOINT AND AT THE MIDSECTION WHEN UNDUE SAGGINGS OCCURS.
4. ALL JOINTS MUST BE SEALED FOR CONNECTIONS TO SHEET METAL SUCH AS THEE WYES, BOOTING BOXES. PULL INSULATION AND INSTALL DRAW BANDS, SCREW TIGHT. SEAL WITH A 2 IN. WIDE APPROVED DUCT TAPE.
C. DIFFUSERS AND REGISTERS
1. FURNISH AND INSTALL ALL SUPPLY REGISTERS, CEILING DIFFUSERS AND RETURN AIR GRILLES SCHEDULED ON DRAWINGS.

SECTION 22 8000 WATER FILTER SYSTEM

PART 1 GENERAL
1.1 WORK INCLUDED
A. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A STORE-WIDE FILTRATION SYSTEM. TO BE INSTALLED AFTER THE METER AND BACKFLOW PREVENTOR; SITE SPECIFIC CONDITIONS MAY REQUIRE THAT A REVERSE OSMOSIS SYSTEM BE INSTALLED. REFER TO DUNKIN DESIGN GUIDANCE DOCUMENTS AVAILABLE ON THE EXTRANET FOR DIAGRAMMATIC DESCRIPTIONS OF BOTH: (REFER TO DRAWINGS FOR TYPE & LOCATION)
PART 2 PRODUCTS
2.1 FILTER INSTALLATION
A. FILTER SYSTEM TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.
B. FILTRATION SYSTEM TO BE AS MANUFACTURED BY 3M OR EVERPURE - REFER TO NATIONAL ACCOUNT SOURCE INFORMATION.
2.2 SERVICE
A. IT IS THE RESPONSIBILITY OF THE FRANCHISEE TO PROVIDE A CONTINUOUS SERVICE CONTRACT FOR THE ONGOING MAINTENANCE OF THE WATER CONDITIONING SYSTEM. FILTER TO BE REPLACED AS PER MANUFACTURER'S RECOMMENDATION OR WHEN THE GAUGE INDICATES LOW WATER PRESSURE.

DIVISION 23 - HEATING, VENTILATING AND AIR CONDITIONING

SECTION 23 2000 HEATING, VENTILATING AND AIR CONDITIONING

PART 1 GENERAL
1.1 WORK INCLUDED
A. DESCRIPTION OF THE GENERAL CONDITIONS, WHERE APPLICABLE, ARE HEREBY MADE PART OF THIS SECTION.
B. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE, AUTOMATIC, GAS FIRED, MECHANICAL WARM AIR HEATING & AIR CONDITIONING SYSTEM, FRYER EXHAUST AND MAKE-UP AIR SYSTEM AS SHOWN ON THE DRAWINGS, AND AS SPECIFIED IN THIS SECTION.
C. CONTRACTOR TO COMPLY WITH STATE AND MUNICIPAL CODES, AND ORDINANCES, INCLUDING HEALTH AND MECHANICAL, AND APPLICABLE CODES OF THE NATIONAL FIRE PROTECTION ASSOCIATION. PAY FOR ALL PERMITS AND FEES AS REQUIRED.
1.2 WARRANTY
THIS CONTRACTOR SHALL PROVIDE A WRITTEN GUARANTEE AGAINST DEFECTS IN WORKMANSHIP OR MATERIAL FOR ONE (1) YEAR FROM DATE OF SUBSTANTIAL COMPLETION OF BUILDING. ADDITIONAL FOUR (4) YEARS FACTORY WARRANTY ON MOTOR-COMPRESSOR ASSEMBLY SHALL BE PROVIDED IN WRITING.
B. PROTECTION SHALL PROPERLY FILL OUT ALL WARRANTY CARDS FOR HEATING-AIR CONDITIONING UNIT AND DELIVER TO THE FRANCHISEE FOR PROCESSING.
C. MATERIAL AND EQUIPMENT PACKAGE PURCHASED FROM CAPTIVE-AIRE SYSTEMS, INC. WILL CONTAIN A ONE (1) YEAR LIMITED EQUIPMENT WARRANTY. MOTOR COMPRESSORS HAVE AN ADDITIONAL FOUR (4) YEAR LIMITED MATERIAL WARRANTY BACKED BY THE MANUFACTURER. GAS HEAT EXCHANGERS HAVE AN ADDITIONAL NINE (9) YEAR LIMITED MATERIAL WARRANTY BACKED BY THE MANUFACTURER.
PART 2 PRODUCTS
2.1 MATERIALS AND EQUIPMENT
DUNKIN' DONUTS HAS NATIONAL ACCOUNTED TWO HVAC MANUFACTURERS TO SUPPLY ROOFTOP EQUIPMENT FOR THE BRAND. CONTACT INFORMATION IS AS NOTED FOR EACH OF THE MANUFACTURERS BELOW.
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BOB ECKWEILER
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ACCOUNT REPRESENTATIVE:
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P: 978-737-3814 OR 1-800-392-8956
F: 781-938-9038
E: JONATHAN.RALYS@TRANE.COM
WEB: WWW.TRANE.COM
A. FURNISH AND INSTALL FACTORY ASSEMBLED ROOFTOP HEATING AND AIR CONDITIONING UNIT (IN THE POSITION(S) LOCATED ON THE DRAWINGS AND AS FURTHER SPECIFIED IN THIS SECTION.
B. FURNISH AND INSTALL A KITCHEN EXHAUST SYSTEM CONSISTING OF A HOOD, FILTERS, AND ROOF MOUNTED EXHAUST FAN IN THE POSITION SHOWN ON THE DRAWINGS AND AS FURTHER SPECIFIED IN THIS SECTION.
C. CLEARLY VISIBLE RED SIGNAL LIGHT SHALL BE INSTALLED IN THE FIRE CABINET TO INDICATE WHEN THE KITCHEN EXHAUST FANS ARE OPERATING.
D. FURNISH AND INSTALL A ROOF MOUNTED EXHAUST FANS AND CURBS WITH ASSOCIATED DUCTWORK AND EXHAUST GRILLES FOR TWO (2) TOILET ROOMS AND BAGEL TOASTER AS SHOWN ON DRAWINGS AND AS FURTHER SPECIFIED IN THIS SECTION.
2.1 DUCTWORK
A. BLACK IRON
1. FURNISH AND INSTALL 16-GAUGE STEEL EXHAUST DUCT FOR HOOD EXHAUST SYSTEM. ALL SEAMS AND JOINTS SHALL HAVE A LIQUID-TIGHT CONTINUOUS EXTERNAL WELD.
2. EXHAUST DUCTWORK SHALL BE WITHIN FIRE ENCLOSURE. FIRE ENCLOSURE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
3. ALL DUCTWORK FOR KITCHEN EXHAUST SYSTEM SHALL CONFORM TO SMACNA STANDARDS AND TO N.F.P.A. 96 STANDARDS FOR FIRE PROTECTION.
B. FLEXIBLE ROUND FIBERGLASS DUCT
1. FLEXIBLE DUCTWORK BETWEEN HVAC UNITS OR DIFFUSER DROPS, PLENUMS, MIXING BOXES, ETC. SHALL BE ATCO SERIES 900 FLEXIBLE DUCT OR PERFORMANCE EQUIVALENT.
2. EACH SECTION SHALL BEAR A FACTORY APPLIED UL 181 CLASS 1 LABEL, STATIC PRESSURE 12 IN. W.C. POSITIVE AND 1 IN. W.C. NEGATIVE AND SHALL HAVE A THERMAL CONDUCTANCE OF C = 0.26.
3. PROVIDE SUPPORT AT OR NEAR EVERY JOINT AND AT THE MIDSECTION WHEN UNDUE SAGGINGS OCCURS.
4. ALL JOINTS MUST BE SEALED FOR CONNECTIONS TO SHEET METAL SUCH AS THEE WYES, BOOTING BOXES. PULL INSULATION AND INSTALL DRAW BANDS, SCREW TIGHT. SEAL WITH A 2 IN. WIDE APPROVED DUCT TAPE.
C. DIFFUSERS AND REGISTERS
1. FURNISH AND INSTALL ALL SUPPLY REGISTERS, CEILING DIFFUSERS AND RETURN AIR GRILLES SCHEDULED ON DRAWINGS.

SECTION 23 5000 AUTOMATIC FIRE EXTINGUISHING SYSTEM

PART 1 GENERAL
1.1 WORK INCLUDED
A. FURNISH ALL LABOR AND MATERIAL NECESSARY FOR THE COMPLETE INSTALLATION OF AN AUTOMATIC FIRE EXTINGUISHING SYSTEM AS INDICATED ON THE DRAWINGS, AS SPECIFIED IN THIS SECTION AND AS REQUIRED BY ALL LOCAL GOVERNING AUTHORITIES AND CODES.
PART 2 PRODUCTS
2.1 AUTOMATIC FIRE EXTINGUISHING SYSTEM
A. FURNISH AND INSTALL IN THE HOOD AND EXHAUST DUCT SYSTEM A RANGE GUARD OR ANSUL METAL SHIELDING DEVICE THAT MEETS OR EXCEEDS THE REQUIREMENTS OF UNDERWRITERS' LABORATORY 300 FIRE TEST. INSTALLATION WILL BE MADE BY A MANUFACTURER'S TRAINED INSTALLER. ALL WORK MUST MEET THE APPROVAL OF N.F.P.A., LOCAL INSURANCE RATING BUREAU, LOCAL AND STATE FIRE MARSHALS.
B. THE SYSTEM WILL CONSIST OF AT LEAST ONE 2.5 GALLON CHEMICAL STORAGE CYLINDER, TWO DUCT NOZZLES, ONE PLENUM NOZZLE, TWO PLENUM APPLIANCE NOZZLES, ONE APPLIANCE DETECTOR, ONE 1.5 IN. MECHANICAL GAS VALVE AND ONE MECHANICAL REMOTE. ALL EXPOSED PIPING AND TRIM ACCESSORIES SHALL BE STAINLESS STEEL.
SECTION 26 1000
PART 1 GENERAL
1.1 WORK INCLUDED
A. FURNISH ALL LABOR AND MATERIAL NECESSARY FOR THE COMPLETE INSTALLATION OF AN AUTOMATIC FIRE EXTINGUISHING SYSTEM AS INDICATED ON THE DRAWINGS, AS SPECIFIED IN THIS SECTION AND AS REQUIRED BY ALL LOCAL GOVERNING AUTHORITIES AND CODES.
PART 2 PRODUCTS
2.1 AUTOMATIC FIRE EXTINGUISHING SYSTEM
A. FURNISH AND INSTALL IN THE HOOD AND EXHAUST DUCT SYSTEM A RANGE GUARD OR ANSUL METAL SHIELDING DEVICE THAT MEETS OR EXCEEDS THE REQUIREMENTS OF UNDERWRITERS' LABORATORY 300 FIRE TEST. INSTALLATION WILL BE MADE BY A MANUFACTURER'S TRAINED INSTALLER. ALL WORK MUST MEET THE APPROVAL OF N.F.P.A., LOCAL INSURANCE RATING BUREAU, LOCAL AND STATE FIRE MARSHALS.
B. THE SYSTEM WILL CONSIST OF AT LEAST ONE 2.5 GALLON CHEMICAL STORAGE CYLINDER, TWO DUCT NOZZLES, ONE PLENUM NOZZLE, TWO PLENUM APPLIANCE NOZZLES, ONE APPLIANCE DETECTOR, ONE 1.5 IN. MECHANICAL GAS VALVE AND ONE MECHANICAL REMOTE. ALL EXPOSED PIPING AND TRIM ACCESSORIES SHALL BE STAINLESS STEEL.

SECTION 26 1000 AUTOMATIC FIRE EXTINGUISHING SYSTEM

D. SHEET METAL

1. FURNISH AND INSTALL ALL GALVANIZED STEEL DUCTWORK AND HOUSINGS AS SHOWN ON DRAWINGS. ALL DUCTS SHALL BE IN CONFORMANCE WITH CURRENT SMACNA STANDARDS RELATIVE TO GAUGE, BRACING, JOINTS, ETC. REINFORCE ALL HOUSINGS AND ALL DUCTS OVER 30" WITH 1-1/4" ANGLES NOT LESS THAN 5'-6" ON CENTER, AND CLOSER IF REQUIRED FOR SUFFICIENT RIGIDITY TO PREVENT VIBRATION. PROVIDE AIRTIGHT JOINTS AND BLADE ELBOWS.
2. PROVIDE BALANCING DAMPERS WHERE SHOWN ON DRAWINGS AND WHEREVER NECESSARY FOR COMPLETE CONTROL OF AIR FLOW. SEAL ALL JOINTS IN DUCTWORK AS RECOMMENDED BY SMACNA.
E. INSULATION
1. PROVIDE DUCT LINER ON ALL SUPPLY AND RETURN DUCTWORK. LINER SHALL BE 1/2" THICK, THREE POUND DENSITY FIBERGLASS, CERTAINTED CORP. #300 "ULTRALITE", OVENS-CORNING "AEROFLEX DUCT LINER" OR PERFORMANCE EQUIVALENT. INSTALL WITH MASTIC AND MECHANICAL FASTENERS TO THE SURFACE OF AIR STREAMER. FOLLOW ACCORDING TO MANUFACTURER'S INSTRUCTIONS. DUCT SIZES SHOWN ON DRAWINGS ARE INSIDE CLEAR AIR SIZE. SHEET METAL MUST BE INCREASED BY LINER THICKNESS IN BOTH DIRECTIONS WHERE LINER IS INSTALLED.
2. ROUND DUCT AND OUTSIDE AIR DUCTS SHALL BE COVERED WITH 1-1/2" THICK DUCT WRAP, CERTAINTED TYPE IV-4, OVENS-CORNING OR PERFORMANCE EQUIVALENT, 3/4 POUND DENSITY, WITH HEAVY-DUTY FOIL-SCRIM-KRAFT FACING, AND WITH ALL JOINTS TAPED WITH 3" WIDE FOIL TAPE.
3. ALL INSULATING MATERIALS, ADHESIVES, COATINGS, ETC. SHALL HAVE A FLAME SPREAD OF 25 OR LESS AND SMOKE DEVELOPED RATING NOT HIGHER THAN 50. ALL CONTAINERS FOR MASTICS AND ADHESIVES SHALL HAVE UL LABEL.
2.2 EXHAUST SYSTEMS
A. OVEN HOOD
1. HOOD SHALL BE CONSTRUCTED OF 18-GAUGE STAINLESS STEEL, LIQUID TIGHT SEAM WELDED THROUGHOUT. FINISHED TO N.F.P.A. 96 CONSTRUCTION, N.S.F. (NO. 1362), AND CARRY THE FOLLOWING LABELS: BOCA (REPORT NO. 66-48), SBCCI (REPORT NO. 8469), U.L. CLASSIFIED (REPORT NO. 916E).
2. FILTER HOLDING RACKS SHALL BE OF LOW AIR BYPASS LEAKAGE DESIGN ALLOWING FOR EASY REMOVAL AND REPLACEMENT OF FILTERS.
3. FURNISH AND INSTALL A ONE (1) PINT CAPACITY GREASE COLLECTING CUP AT LOW POINT OF GREASE OUTLET.
4. LOCAL CODES MAY REQUIRE ALTERNATIVE HOOD REQUIREMENTS.
B. KITCHEN EXHAUST FAN
1. AS SPECIFIED ON THE DRAWINGS AND SHALL BE CAPABLE OF MEETING ALL PERFORMANCE REQUIREMENTS AS SO STATED ON THE DRAWINGS.
C. TOILET EXHAUST FAN
1. AS SPECIFIED ON THE DRAWINGS AND SHALL BE CAPABLE OF MEETING ALL PERFORMANCE REQUIREMENTS AS SO STATED ON THE DRAWINGS.
D. FILTERS AND EXTRACTORS
1. GREASE FILTERS SHALL BE 2 IN. THICK PANEL EXTRACTOR TYPE, EXTRACTOR U.L. CLASSIFIED.
E. BLOTTED OVEN VENT
1. FURNISH AND INSTALL UNDERWRITERS' LABORATORIES APPROVED 6 IN. DIAMETER METALBESTOS FINISHED WALL TYPE B GAS VENT FOR BLOTTED OVEN FROM FINISHED CEILING TO ABOVE FINISHED ROOF. FURNISH AND INSTALL 6 IN. DIAMETER STAINLESS STEEL GAS VENT FROM FINISHED CEILING TO DRAFT HOOD OF OVEN. EXHAUST FAN FOR OVEN TO BE PENN FUMEX MODEL NO. FX08B.
F. BAGEL TOASTER VENT
1. EXHAUST FAN OVER BAGEL TOASTER SHALL BE AS SPECIFIED ON THE DRAWINGS AND SHALL BE CAPABLE OF MEETING ALL PERFORMANCE REQUIREMENTS AS SO STATED ON THE DRAWINGS.
G. CONTROLS
1. SYSTEM CONCEPT: PROVIDE AN HVAC SYSTEM CONTROL PANEL TO INTERLOCK HEATING AND COOLING ROOF TOP UNITS TO EXHAUST SYSTEM. THIS PANEL SHALL MAINTAIN PROPER BUILDING PRESSURIZATION BY BRINGING ENOUGH OUTSIDE AIR INTO THE BUILDING TO REPLACE THE AIR EXHAUSTED FROM THE KITCHEN AND TOILET EXHAUST.
2. FIRE CABINET CONTROL PANEL:
- INTERLOCKS KITCHEN EXHAUST FAN TO MAKE UP AIR OR HVAC ROOF TOP UNITS.
- INDICATOR LIGHT ON SURFACE OF PANEL TO INDICATE WHEN EXHAUST FAN IS ON.
- ALL ELECTRICAL WIRING AND FITTINGS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. FIRE CABINET CONTROL PANEL SHALL BE FURNISHED BY KITCHEN HOOD MANUFACTURER.
H. THE OPTIMAL CEILING HEATER UNIT OVER THE REAR DOOR SHALL BE AS SPECIFIED ON THE DRAWINGS.
I. OPTIONAL AIR CURTAIN IS AVAILABLE WITH THE DRIVE-THRU WINDOW. COORDINATE THIS ITEM WITH THE NATIONAL ACCOUNT SOURCE INFORMATION AND SECTION 09411.

SECTION 22 8000 WATER FILTER SYSTEM

PART 1 GENERAL
1.1 WORK INCLUDED
A. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A STORE-WIDE FILTRATION SYSTEM. TO BE INSTALLED AFTER THE METER AND BACKFLOW PREVENTOR; SITE SPECIFIC CONDITIONS MAY REQUIRE THAT A REVERSE OSMOSIS SYSTEM BE INSTALLED. REFER TO DUNKIN DESIGN GUIDANCE DOCUMENTS AVAILABLE ON THE EXTRANET FOR DIAGRAMMATIC DESCRIPTIONS OF BOTH: (REFER TO DRAWINGS FOR TYPE & LOCATION)
PART 2 PRODUCTS
2.1 FILTER INSTALLATION
A. FILTER SYSTEM TO BE INSTALLED AS PER MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS.
B. FILTRATION SYSTEM TO BE AS MANUFACTURED BY 3M OR EVERPURE - REFER TO NATIONAL ACCOUNT SOURCE INFORMATION.
2.2 SERVICE
A. IT IS THE RESPONSIBILITY OF THE FRANCHISEE TO PROVIDE A CONTINUOUS SERVICE CONTRACT FOR THE ONGOING MAINTENANCE OF THE WATER CONDITIONING SYSTEM. FILTER TO BE REPLACED AS PER MANUFACTURER'S RECOMMENDATION OR WHEN THE GAUGE INDICATES LOW WATER PRESSURE.

DIVISION 23 - HEATING, VENTILATING AND AIR CONDITIONING

SECTION 23 2000 HEATING, VENTILATING AND AIR CONDITIONING

PART 1 GENERAL
1.1 WORK INCLUDED
A. DESCRIPTION OF THE GENERAL CONDITIONS, WHERE APPLICABLE, ARE HEREBY MADE PART OF THIS SECTION.
B. FURNISH ALL LABOR, MATERIAL AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE, AUTOMATIC, GAS FIRED, MECHANICAL WARM AIR HEATING & AIR CONDITIONING SYSTEM, FRYER EXHAUST AND MAKE-UP AIR SYSTEM AS SHOWN ON THE DRAWINGS, AND AS SPECIFIED IN THIS SECTION.
C. CONTRACTOR TO COMPLY WITH STATE AND MUNICIPAL CODES, AND ORDINANCES, INCLUDING HEALTH AND MECHANICAL, AND APPLICABLE CODES OF THE NATIONAL FIRE PROTECTION

CONSTRUCTION SPECIFICATIONS:

SECTION 26 1000 ELECTRICAL (CONTINUED)

- 6. REFER TO DRAWINGS FOR CEILING LAYOUT AND CONSTRUCTION.
7. ALL SALES AREA LIGHTING TO HAVE WARM WHITE LAMPS, FURNISH AND INSTALL IN EACH TOILET ONE (1) ELECTRICAL HAND DRYER AS MANUFACTURED BY EXCEL DRYER, INC. (AS PROVIDED BY NEWTON DISTRIBUTION- SEE NATIONAL ACCOUNTS), XL MODEL, WHITE METAL COVER WITH BRAND APPROVED MESSAGING, 110-120V, 12.5 AMPS, 60 HZ.

2.7 PANELBOARDS

DUNKIN' HAS A NATIONAL ACCOUNT PROGRAM FOR PANELBOARDS WITH VILLA LIGHTING. PLEASE CALL VILLA LIGHTING AT 1-800-325-0963 AND/OR EMAIL DEANNA.MCCLANAHAN@VILLALIGHTING.COM.

A. ALL PANELBOARDS SHALL BE DEAD-FRONT, SAFETY-TYPE EQUIPPED WITH SINGLE OR MULTI-POLE CIRCUIT BREAKERS. SPECIFIED IN THIS SECTION AND AS SCHEDULED ON THE DRAWINGS. ALL PANELBOARDS SHALL BE RECESSED WALL MOUNTED WITH A MINIMUM CAPACITY OF 42 CIRCUITS.

B. PANELBOARDS SHALL BE SUITABLE FOR 120-208 VOLTS, THREED PHASE, FOUR WIRE OPERATIONS AS SCHEDULED ON THE DRAWINGS.

C. ALL PANELBOARDS SHALL HAVE A CIRCUIT DIRECTORY CARD MOUNTED IN A FRAME WITH PLASTIC COVER INSTALLED ON THE INSIDE OF THE DOOR. ALL DIRECTORY CARDS SHALL BE PROPERLY FILLED IN "TYPE WRITTEN" AND INDICATING AREAS AND DEVICES SERVED BY EACH CIRCUIT.

D. ALL CIRCUIT BREAKERS SHALL BE BOLTED-TYPE, QUICK-MADE AND QUICK-BREAK TYPE OF MANUAL OPERATION, TRIP FREE, AND WITH INVERSE TIME CHARACTERISTICS SECURED THROUGH THE USE OF BIMETALLIC THERMAL-MAGNETIC TRIPPING ELEMENTS. ALL MULTI-POLE BREAKERS SHALL HAVE A SIMULTANEOUS TRIP.

E. SINGLE POLE, DOUBLE AND THREE-POLE CIRCUIT BREAKERS FOR LIGHTING AND POWER PANEL BOARDS SHALL BE 240 VOLTS TYPE TH08 FROM 15 AMPS THROUGH 100 AMPS, HAVING NEMA INTERRUPTING CAPACITY NOT LESS THAN 10,000 AMPERES A.C. AT 240 VOLTS OR LESS.

F. PANELBOARDS SHALL BE TYPE AQ PANEL BOARDS AS MANUFACTURED BY GENERAL ELECTRIC OR EQUAL, SQUARE "D" COMPANY, I.T.E., WESTINGHOUSE OR PETERSON.

G. CIRCUIT BREAKERS IN LIGHTING PANEL SHALL BE APPROVED "SWITCHING TYPE" CIRCUIT BREAKERS.

2.8 SAFETY SWITCHES AND FUSES

DUNKIN' HAS A NATIONAL ACCOUNT PROGRAM FOR SWITCHES & FUSES WITH VILLA LIGHTING. PLEASE CALL VILLA LIGHTING AT 1-800-325-0963 AND/OR EMAIL DEANNA.MCCLANAHAN@VILLALIGHTING.COM.

A. SAFETY SWITCHES SHALL BE OF THE FUSIBLE TYPE EQUIPPED WITH AN EXTERNAL LEVER OR HANDLE FOR MANUAL OPERATION AND WITH INVERSE TIME CHARACTERISTICS SECURED THROUGH THE USE OF BIMETALLIC THERMAL-MAGNETIC TRIPPING ELEMENTS. ALL MULTI-POLE BREAKERS SHALL HAVE A SIMULTANEOUS TRIP.

B. NEUTRAL CONDUCTORS SHALL BE SOLID THROUGHOUT. SAFETY SWITCHES SHALL BE TYPE TH AS MANUFACTURED BY GENERAL ELECTRIC OR EQUAL, SQUARE "D" COMPANY, I.T.E. AND WESTINGHOUSE.

C. ALL FUSES INSTALLED IN SAFETY SWITCHES THROUGHOUT THE CONTRACT SHALL BE NON-RENEWABLE DUAL ELEMENT TYPE. FUSES SHALL BE AS MANUFACTURED BY GOULD SHAWMUT.

PART 3 EXECUTION

3.1 SERVICE INSTALLATION
A. SERVICE SHALL BE BROUGHT OVERHEAD TO REAR OF BUILDING WITHOUT CROSSING ROOF OF SHOP. PROVIDE GALVANIZED PIPE AND WEATHER HEAD IN SIZE AS SHOWN ON DRAWINGS, BOLTED TO WALL WITH THROUGH BOLTS AND PLATE WASHERS INSIDE (UNLESS OTHERWISE SHOWN ON DRAWINGS). PIPE TO EXTEND 8 FT. MINIMUM ABOVE ROOF AND 6 FT. ON WALL. PROVIDE ADDITIONAL SUPPORT TO ROOF, IF REQUIRED, TO PREVENT BENDING. PIPE TO OFFSET IF NECESSARY FOR CLEARANCE OF STRUCTURE.

B. SEE SITE PLAN FOR UNDERGROUND SERVICE TO REAR OF BUILDING. INCLUDE ANY CHANGES REQUIRED IN THE ELECTRICAL PANELS, SWITCHES, MOTORS, WIRING, BREAKER SIZES, AND EQUIPMENT NEEDED TO ADAPT TO THE SERVICE AVAILABLE. THE REQUIREMENTS OF THE UTILITY COMPANY, LOCAL CODES OR THE SIZE OF HEATING, VENTILATING & AIR CONDITIONING EQUIPMENT SPECIFIED.

3.2 TELEPHONE INSTALLATION
A. INSTALL CONCEALED TELEPHONE CONDUIT INCLUDING NECESSARY PULL BOXES AND FISH WIRE IN ACCORDANCE WITH LOCAL TELEPHONE COMPANY REQUIREMENTS TO LOCATIONS INDICATED ON THE DRAWINGS. WHEN CALLED FOR IN THE DRAWINGS, ALSO PROVIDE NECESSARY CONDUIT TO OUTSIDE TELEPHONE BOOTH.

3.3 INSTALLATION - GENERAL
A. COOPERATE WITH OTHER SECTIONS FOR THE PROPER EXECUTION OF THIS WORK. SUPPLY AND COOPERATE IN THE PROPER PLACEMENT OF INSERTS, SLEEVES AND OTHER EQUIPMENT TO BE INSTALLED IN MASONRY. CAREFULLY CUT NECESSARY HOLES FOR THE INSTALLATION OF EQUIPMENT AND PATCH IN SUCH A MANNER AS TO MATCH THE ORIGINAL WORK.

B. MAKE GROUND CONNECTION BETWEEN ALL APPARATUS, SIGNS AND CONDUIT AND THE WATER PIPING AS REQUIRED BY THE NATIONAL ELECTRICAL CODE AND ACCORDING TO THE REQUIREMENTS OF LOCAL AUTHORITIES.

3.4 MUSIC SYSTEM - SPEAKERS
A. SEE SECTION 16770.

3.5 CASH REGISTERS
A. PROVIDE CAT 5E CABLE AND RJ45 TERMINATION POINTS AS INDICATED ON DRAWINGS. PULL WIRE TO EACH TERMINAL, USING EQUAL LENGTHS OF CABLE FROM MIDDLE OF FRONT COUNTER NETWORK HUB IS LOCATED AT FRONT LINE (SEE DRAWINGS).

B. PROVIDE ISOLATED SECOND GROUND FOR EACH CASH REGISTER.

3.6 TESTS
A. AFTER COMPLETE CONNECTIONS AND INSTALLATION OF ALL THE LESSEE'S OR FRANCHISE OWNER'S EQUIPMENT, TEST ALL WORK AND EQUIPMENT AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. FURNISH ALL EQUIPMENT NECESSARY, PERSONNEL, AND ELECTRICAL POWER. TEST THE ENTIRE INSTALLATION FOR SHORTS, GROUNDS AND OPEN CIRCUITS, AND CORRECT ALL DEFECTS BEFORE ACCEPTANCE OF THE WORK. ALL WORK SHALL BE DEMONSTRATED TO BE IN PROPER OPERATING CONDITION TO THE COMPLETE SATISFACTION OF THE FRANCHISE OWNER. INSTRUCT THE OWNER'S REPRESENTATIVES IN THE CARE AND OPERATION OF ALL APPARATUS AND EQUIPMENT FORMING THE INSTALLATION.

3.7 EMERGENCY LIGHTING
A. FURNISH AND INSTALL THE EMERGENCY LIGHTING UNIT AND REMOTE HEADS AS SHOWN. SEE DRAWINGS FOR LOCATIONS AND TYPE OF EMERGENCY UNITS.

3.8 EXTERIOR AREA LIGHTING
A. FURNISH AND INSTALL THE EXTERIOR LIGHTING AS INDICATED BY SYMBOLS ON SITE DRAWING. POLE AND WEDGE SERIES POLE LIGHTS SHALL BE MANUFACTURED BY VILLA LIGHTING OR SECURITY LIGHTING SYSTEMS, INC. (SPECIFY VOLTAGE WHEN ORDERING). SEE ELECTRICAL PLANS FOR BUILDING LIGHTS.

B. FEATURES
1. POLE - SQUARE STEEL POLE FINISHED WITH WEATHERPROOF RUST PREVENTATIVE PAINT, FOUR (4) GALVANIZED ANCHOR BOLTS WITH GALVANIZED NUTS AND WASHERS, METAL TEMPLATE, HAND HOLE, AND DECORATIVE ANCHOR BOLT COVER. VERIFY DIMENSIONS CONFORM TO ALL LOCAL CODE REQUIREMENTS AND RESTRICTIONS BEFORE PLACING ORDER.

2. FIXTURE - 400-WATT HIGH-PRESSURE SODIUM OR METAL HALIDE, DARK BRONZE OR BLACK FINISH. A COMPLETE MILL FINISHED ALUMINUM HOUSING WITH ACCESS TO LAMP AND BALLAST THROUGH HINGED DOOR ASSEMBLY. ONE-PIECE TEMPERED GLASS LENS AND OPTICAL SYSTEM FABRICATED OF POLISHED ALZAK ALUMINUM. ALSO INCLUDES ADJUSTABLE TENON ADAPTER AND INTEGRAL/ADJUSTABLE LIGHT CUP OF SHIELD.

SECTION 26 7600 DRIVE-THRU WIRELESS COMMUNICATION SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDED
A. FURNISH ALL LABOR AND MATERIAL NECESSARY FOR THE COMPLETE INSTALLATION OF THE WIRELESS DRIVE-THRU COMMUNICATION SYSTEM SHOWN ON THE DRAWINGS, AS SPECIFIED IN THIS SECTION AND IN THE NATIONAL ACCOUNT SOURCE INFORMATION.

PART 2 PRODUCTS

2.1 MATERIAL/EQUIPMENT
A. REFER TO THE NATIONAL ACCOUNT SOURCE INFORMATION FOR ORDERING INFORMATION, PRICES, DETAILED ITEM DESCRIPTIONS AND MODEL NUMBERS.

PART 3 EXECUTION

3.1 INSTALLATION
A. ALL INSTALLATION IS TO BE PERFORMED BY AN AUTHORIZED INSTALLER.

SECTION 26 7700 INTERIOR MUSIC SYSTEM

PART 1 GENERAL

1.1 WORK INCLUDED
A. FURNISH ALL LABOR AND MATERIAL NECESSARY FOR THE COMPLETE INSTALLATION OF THE INTERIOR MUSIC SYSTEM AS INDICATED ON THE DRAWINGS AND AS SPECIFIED IN THIS SECTION.

PART 2 PRODUCTS

2.1 CEILING SPEAKERS AND HARDWARE
A. CEILING SPEAKERS AND ALL HARDWARE SHALL BE PROVIDED AND INSTALLED BY AN APPROVED MUSIC VENDOR. MODEL NUMBERS AS INDICATED ON NATIONAL ACCOUNT SOURCE INFORMATION. INSTALL HARDWARE IN THE OFFICE. COORDINATE EXACT LOCATION WITH FIELD REPRESENTATIVE.

B. ALL INTERIOR SPEAKERS TO BE FLUSH MOUNTED, AND WHITE IN COLOR. ALL EXTERIOR SPEAKERS ARE TO BE BLACK IN COLOR.

C. FURNISH VOLUME CONTROL DEVICE IN AN AREA DESIGNATED BY THE OWNER, WITH SEPARATE VOLUME CONTROLS FOR THE SALES AREA SPEAKERS, RESTROOM SPEAKERS AND EXTERIOR SPEAKERS.

PART 3 EXECUTION

3.1 INSTALLATION
A. SPEAKERS AND GRILLES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND AS SHOWN IN THE ARCHITECTURAL DRAWINGS. SPEAKERS ARE TO BE LOCATED IN EACH RESTROOM, MINIMUM OF TWO IN THE SEATING AREA, AT ENTRY TO STORE, AND AT EXTERIOR SEATING AREAS WHERE APPLICABLE. PROVIDE ONE EXTERIOR SPEAKER ADJACENT TO THE REAR SERVICE DOOR. DO NOT PROVIDE SPEAKERS IN SERVICE AREAS.

SECTION 31 1100 CLEARING AND GRUBBING

PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. REMOVAL OF SURFACE DEBRIS, PAVING AND CURBS.
2. REMOVAL OF PLANT LIFE AND GRASS.
3. GRUBBING ROOTS.
4. TOPSOIL EXCAVATION.

B. RELATED SECTIONS:

1. SECTION 31 2200 - GRADING.

PART 2 PRODUCTS

NOT APPLICABLE.

PART 3 EXECUTION

3.1 SITE CLEARING
A. REMOVE VEGETATION, DEBRIS, AND OBSTRUCTIONS FROM AREAS OF STRUCTURES, WALKS, PAVING AND PLANTING BEDS.
B. APPLY HERBICIDE TO REMAINING STUMPS AND PLANT LIFE TO INHIBIT GROWTH.
C. STRIP EXISTING TOPSOIL FROM AREAS OF STRUCTURES, WALKS, AND PAVING. STOCKPILE ON SITE FOR REUSE AS SPECIFIED IN SECTION 31 2200.

D. GRUB OUT ROOTS AND UNDERGROUND OBSTRUCTIONS TO MINIMUM DEPTH OF 12 INCHES.
E. REMOVE WASTE MATERIAL FROM SITE AS IT ACCUMULATES. COMPLY WITH APPLICABLE CODES AND ORDINANCES REGARDING WASTE TRANSPORTATION AND DISPOSAL.

SECTION 31 2200 GRADING

PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. CUTTING AND GRADING OF SITE.
2. TOPSOIL PLACEMENT.

1.2 SUBMITTALS

A. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONALLY EXTRACTED MATERIALS.

SECTION 32 1216 ASPHALT PAVING

PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. STOCKPILED ON SITE MATERIAL, SPECIFIED IN SECTION 31 1100, SUPPLEMENTED BY OFF-SITE MATERIAL IF REQUIRED.
2. OFF-SITE MATERIALS: NATURAL FRIABLE LOAM OF REGION, FREE OF CLAY, TOXIC SUBSTANCES, LARGE OR MATTED ROOTS, DEBRIS, EXCESS WEEDS, AND ROCKS OVER 1 INCH IN ANY DIMENSION, WITH ACIDITY RANGE OF 5.5 TO 7.5.

1.2 SUBMITTALS

A. SUSTAINABLE DESIGN SUBMITTALS:
1. REGIONALLY EXTRACTED MATERIALS.

PART 2 PRODUCTS

2.1 MATERIALS
A. TOPSOIL:
1. STOCKPILED ON SITE MATERIAL, SPECIFIED IN SECTION 31 1100, SUPPLEMENTED BY OFF-SITE MATERIAL IF REQUIRED.
2. OFF-SITE MATERIALS: NATURAL FRIABLE LOAM OF REGION, FREE OF CLAY, TOXIC SUBSTANCES, LARGE OR MATTED ROOTS, DEBRIS, EXCESS WEEDS, AND ROCKS OVER 1 INCH IN ANY DIMENSION, WITH ACIDITY RANGE OF 5.5 TO 7.5.

PART 3 EXECUTION

3.1 CUTTING AND GRADING
A. EXCAVATE EXPANSIVE SUBSOILS FROM AREAS UNDER AND TO A POINT 5 FEET OUTSIDE OF STRUCTURES TO A MINIMUM DEPTH AS INDICATED ON THE DRAWINGS.
B. EXCAVATE SUBSOIL TO PERMIT PLACEMENT OF STRUCTURES, PAVING, AND SITE IMPROVEMENTS, AND FROM AREAS TO BE REGRADED.
C. UNIFORMLY GRADE AREAS TO SMOOTH SURFACE AT REQUIRED GRADES AND ELEVATIONS. ADJUST CONTOURS TO ELIMINATE WATER PONDING AND PROVIDE POSITIVE DRAINAGE. MAKE GRADE CHANGES GRADUALLY. BLEND SLOPES INTO LEVEL AREAS.

D. LEAVE AREAS TO RECEIVE TOPSOIL 4 INCHES BELOW FINAL REQUIRED GRADE.
E. LEAVE AREAS TO RECEIVE PLANTING BEDS 3 INCHES BELOW FINAL REQUIRED GRADE.
F. TOLERANCES: WITHIN PLUS OR MINUS 1 INCH OF REQUIRED SUBGRADE ELEVATION.

3.2 TOPSOIL PLACEMENT
A. PLACE TOPSOIL TO 4 INCH DEPTH OVER AREAS MODIFIED BY WORK OF THIS CONTRACT THAT ARE NOT COVERED BY PLANTING BEDS, STRUCTURES OR PAVING.
B. UNIFORMLY DISTRIBUTE TO REQUIRED GRADES. FEATHER BACK TO WHERE GRADES REMAIN UNCHANGED.
C. UNIFORMLY GRADE AREAS TO SMOOTH SURFACE AT REQUIRED GRADES AND ELEVATIONS. ADJUST CONTOURS TO ELIMINATE WATER PONDING AND PROVIDE POSITIVE DRAINAGE. MAKE GRADE CHANGES GRADUALLY. BLEND SLOPES INTO LEVEL AREAS.

D. REMOVE RUBBISH, DEBRIS, VEGETATION, AND CONCENTRATIONS OF ROCKS. RAKE AREAS SMOOTH. NETWORK HUB IS LOCATED AT FRONT LINE (SEE DRAWINGS).

3.3 CLEANING
A. REMOVE SURPLUS MATERIALS AND THOSE NOT SUITABLE FOR REUSE FROM SITE.
3.4 PROTECTION
A. PROTECT GRADED AREAS FROM TRAFFIC AND EROSION; KEEP FREE OF TRASH AND DEBRIS.
B. REPAIR SETTLED, ERODED, OR RUTTED AREAS.

PART 2 PRODUCTS

2.1 MATERIALS
A. ASPHALT CEMENT:
1. ASTM D946.
2. RECYCLED CONTENT: MINIMUM PERCENT AS INDICATED ON DRAWINGS.
B. AGGREGATE: CRUSHED STONE AND SAND, GRADED IN ACCORDANCE WITH AI MS-2.
C. PRIMER: AI MS-19, HOMOGENOUS, MEDIUM CURING, CUT BACK LIQUID ASPHALT.
D. TACK COAT: AI MS-19, HOMOGENOUS, RAPID CURING, CUT BACK LIQUID ASPHALT.
2.2 MIXES
A. ASPHALTIC CONCRETE:
1. UNIFORM MIXTURE OF COARSE AND FINE AGGREGATE, MINERAL FILLER, AND ASPHALT CEMENT, ACCURATELY PROPORTIONED BY WEIGHT IN ACCORDANCE WITH AI MS-2.
2. BINDER COURSE: COARSE GRADED AGGREGATE, 4.5 TO 6.0 PERCENT ASPHALT CEMENT BY WEIGHT.
3. SURFACE COURSE: FINE GRADED AGGREGATE, 5.0 TO 7.0 PERCENT ASPHALT CEMENT BY WEIGHT.

PART 3 EXECUTION

3.1 CONSTRUCTION
A. AGGREGATE BASE COURSE:
1. PLACE TO 6 INCH DEPTH AFTER COMPACTION.
2. ROLLER COMPACT TO MINIMUM 95 PERCENT. ADD SMALL QUANTITIES OF FINE AGGREGATE IF NECESSARY TO AID COMPACTION.
3. UNIFORMLY GRADE AREAS TO SMOOTH SURFACE AT REQUIRED GRADES AND ELEVATIONS. MAKE GRADE CHANGES GRADUALLY. BLEND SLOPES INTO LEVEL GRADES.
4. TOLERANCES: WITHIN PLUS OR MINUS 1 INCH OF REQUIRED ELEVATION.

B. PRIMER: APPLY TO BASE COURSE AND CONTACT SURFACES OF CURBS AND ABUTMENTS AT MINIMUM RATE OF 1/2 GALLON PER SQUARE YARD.
C. ASPHALTIC CONCRETE:
1. PLACE WITHIN 24 HOURS AFTER APPLYING PRIMER.
2. MINIMUM COMPACTED THICKNESSES:
a. BINDER COURSE: 2 INCHES.
b. SURFACE COURSE: 1 INCH.
3. APPLY TACK COAT TO BINDER COURSE AT MINIMUM RATE OF 1/2 GALLON PER SQUARE YARD.
4. COMPACT WITH PNEUMATIC ROLLER, THEN WITH STEEL ROLLER. DO NOT DISPLACE OR EXTRUDE ASPHALTIC CONCRETE FROM POSITION. HAND COMPACT IN AREAS INACCESSIBLE TO ROLLING EQUIPMENT.
5. ROLL WITH CONSECUTIVE PASSES TO ACHIEVE UNIFORM, SMOOTH SURFACE, FREE FROM ROLL MARKS.
6. CONSTRUCTION JOINTS:
a. PLACE MIXTURE AS NEARLY CONTINUOUS AS POSSIBLE. ROLL UNPROTECTED EDGE OF FRESHLY LAID MIXTURE ONLY WHEN LAYING IS DISCONTINUED FOR SUCH LENGTH OF TIME AS WILL ALLOW COOLING OF MIXTURE.
b. WHEN RESUMING WORK, CUT BACK PREVIOUSLY LAID MATERIAL TO PRODUCE SLIGHTLY BEVELED EDGE FOR FULL DEPTH OF COURSE; PLACE FRESH MIXTURE AGAINST FRESH CUT.
c. HOT SMOOTHING IRONS MAY BE USED FOR SEALING JOINTS; USE CARE TO AVOID BURNING SURFACE.
d. CONSTRUCT JOINTS EITHER PARALLEL TO OR AT RIGHT ANGLES TO LONGITUDINAL AXIS OF WORK.

D. INSTALLATION TOLERANCES:
1. MAXIMUM SURFACE DEVIATION: PLUS OR MINUS 1/4 INCH IN 10 FEET, MEASURED PARALLEL TO LINE OF DRAINAGE.
2. MAXIMUM DEVIATION FROM SPECIFIED THICKNESS: PLUS OR MINUS 1/4 INCH.

SECTION 32 3113 CHAIN LINK FENCES AND GATES

PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. FENCE FRAMEWORK, FABRIC, AND ACCESSORIES.
2. EXCAVATION FOR POSTS.
3. CONCRETE POST FOUNDATIONS.
4. GATES AND HARDWARE.

1.2 SYSTEM DESCRIPTION

A. FENCE HEIGHT: 6 FEET.
1.3 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. SHOP DRAWINGS: INCLUDE LAYOUT, SPACING OF COMPONENTS, POST FOUNDATION DIMENSIONS, HARDWARE, AND SCHEDULE OF COMPONENTS.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. MATERIALS REUSE.
2. RECYCLED CONTENT.
3. REGIONAL MATERIALS.

1.4 QUALITY ASSURANCE

A. RECYCLED CONTENT: MINIMUM PERCENT RECYCLED STEEL, WITH MINIMUM PERCENT CLASSIFIED AS POST-CONSUMER AS INDICATED ON DRAWINGS.

PART 2 PRODUCTS

2.1 MANUFACTURERS
A. ACCEPTABLE MANUFACTURERS:
1. ZINC-COATED STEEL, INC. (WWW.FENCEONLINE.COM)
2. MERCHANTS METALS (WWW.MERCHANTSMETALS.COM)
3. PERFECTION FENCE CORP. (WWW.PERFECTIONFENCE.COM)
4. SOUTHWESTERN WIRE, INC. (WWW.SOUTHWESTERNWIRE.COM)

2.2 MATERIALS

A. MATERIALS AND COMPONENTS: CONFORM TO CLFMI PRODUCT MANUAL.
B. CHAIN LINK FABRIC:
1. ZINC-COATED STEEL FABRIC: ASTM A392. HOT DIPPED GALVANIZED BEFORE OR AFTER WEAVING. CLASS 1 - 1.2 OUNCES PER SQUARE FOOT.
2. FABRIC GRADE:
a. MESH SIZE 2 INCHES OR MORE:
1) 72 INCHES HIGH AND OVER: KNUCKLE FINISH ONE END, TWIST FINISH OPPOSITE END.
2) FABRIC LESS THAN 72 INCHES HIGH: KNUCKLE FINISH TOP AND BOTTOM.
3. WIRE GAGE: 6.
4. MESH SIZE: 2 INCHES.

C. FRAMEWORK:

1. ROUND STEEL PIPE AND RAIL, ASTM F1043, GROUP IA - HEAVY INDUSTRIAL FENCE FRAMEWORK, SCHEDULE 40 GALVANIZED PIPE PER ASTM F1083.
2. GRADE: INTERMEDIATE STRENGTH.
3. FINISH: EXTERIOR ZINC COATING TYPE A, INTERIOR ZINC COATING TYPE A.
4. SIZES:
a. LINE POSTS: 3 INCH OD.
b. END, CORNER, PULL POSTS: 3 INCH OD.
c. TOP, BRACE, BOTTOM, AND INTERMEDIATE RAILS, 1.660 INCHES OD.

D. TENSION WIRE: METALLIC COATED STEEL MARCELLED TENSION WIRE: 7 GAGE, ASTM A824, TYPE 1 - ALUMINUM-COATED (ALUMINIZED) 0.40 OUNCES PER SQUARE FOOT.
E. FITTINGS:
1. TENSION AND BRACE BARS: PRESSED GALVANIZED STEEL, ASTM F626, MINIMUM 12 GAGE, MINIMUM 3/4 INCH WIDTH, MINIMUM ZINC COATING OF 1.20 OUNCES PER SQUARE FOOT, WITH 5/16 3/8 INCH GALVANIZED STEEL CARRIAGE BOLTS.
2. TERMINAL POST CAPS, LINE POST LOOP TOPS, RAIL AND BRACE ENDS, BOULEVARD CLAMPS, AND RAIL SLEEVES: ASTM F626, PRESSED STEEL GALVANIZED AFTER FABRICATION, A MINIMUM ZINC COATING OF 1.20 OUNCES PER SQUARE FOOT.
3. TRUSS ROD ASSEMBLY: ASTM F626, 3/8 INCH DIAMETER STEEL TRUSS ROD WITH PRESSED STEEL TIGHTENER, MINIMUM ZINC COATING OF 1.2 OUNCES PER SQUARE FOOT, CAPABLE OF WITHSTANDING 2000 POUND TENSION.
4. TENSION BARS: ASTM F626, GALVANIZED STEEL, SINGLE PIECE LENGTH 2 INCHES LESS THAN FABRIC HINGE, MINIMUM ZINC COATING THICKNESS OF 1.2 OUNCES PER SQUARE FOOT.
a. BARS FOR 2 AND 1-3/4 INCH MESH: MINIMUM CROSS SECTION OF 3/16 X 3/4 INCH.

F. SWING GATES:

1. ASTM F900, GALVANIZED STEEL, WELDED FABRICATION, 1.900 INCH OD FRAME MEMBERS, [ASTM F1043, GROUP IA, ASTM F1083 SCHEDULE 40 PIPE] [ASTM F1043 GROUP IC PIPE], SPACED MAXIMUM 8 FEET APART VERTICALLY AND HORIZONTALLY.
2. WELDED JOINTS PROTECTED WITH ZINC-RICH PAINT IN ACCORDANCE WITH ASTM A780.
3. POSITIVE LOCKING GATE LATCH FABRICATED FROM 5/16 INCH THICK X 1-3/4 INCH PRESSED STEEL GALVANIZED AFTER FABRICATION.
4. GALVANIZED MALLEABLE IRON OR HEAVY GAGE PRESSED STEEL POST AND FRAME HINGES.
5. FABRIC TO MATCH FENCING.
6. GATE POSTS: ASTM F1043, GROUP IA, ASTM F1083 SCHEDULE 40 PIPE, 3 INCH OD, POLYMER COATED TYPE AND COLOR TO MATCH FABRIC.

G. CONCRETE: SPECIFIED IN SECTION 03 3000.

PART 3 EXECUTION

3.1 INSTALLATION
A. FRAMEWORK:
1. DRILL POST HOLES INTO UNDISTURBED OR COMPACTED SOIL.
2. SET POSTS IN CONCRETE FOOTINGS IN ACCORDANCE WITH ASTM F567.
3. MINIMUM FOOTING DEPTH: 36 INCHES PLUS AN ADDITIONAL 3 INCHES FOR EACH 1 FOOT INCREASE IN FENCE HEIGHT OVER 4 FEET.
4. MINIMUM FOOTING DIAMETER: FOUR TIMES LARGEST CROSS SECTION OF POST UP TO 4.000 INCHES AND THREE TIMES LARGEST CROSS SECTION OF POSTS GREATER THAN 4.000 INCHES.
5. GATE POST FOOTINGS: COMPLY WITH MINIMUM REQUIREMENTS LISTED IN ASTM F567.
6. PLACE CONCRETE AROUND POSTS IN CONTINUOUS POUR, TAMP AND DOME TOP AWAY FROM POST. CHECK FOR VERTICAL AND TOP ALIGNMENT; BRACE POSTS UNTIL CONCRETE HAS SET.
7. LOCATE TOP OF FOOTING AT GRADE.
8. INSTALL LINE POSTS AT MAXIMUM 10 FEET ON CENTER.
9. BRACE AND TRUSS END, CORNER, PULL AND GATE POSTS FOR FENCE 6 FEET AND HIGHER AND FENCES 6 FEET AND HIGHER WITHOUT TOP RAIL IN ACCORDANCE WITH ASTM F567.

10. TENSION WIRE:
a. INSTALL TENSION WIRE 4 INCHES UP FROM BOTTOM OF FABRIC [AND 4 INCHES DOWN FROM TOP EDGE OF FABRIC FOR FENCES WITHOUT TOP RAIL].
b. STRETCH WIRE TAUT, INDEPENDENTLY AND PRIOR TO FABRIC, BETWEEN TERMINAL POSTS AND SECURE TO TERMINAL POST USING BRACE BAND.
c. SECURE WIRE TO CHAIN LINK FABRIC WITH 9 GAGE HOG RINGS SPACED MAXIMUM 18 INCHES ON CENTER AND TO EACH LINE POST WITH THE WIRE.
d. INSTALL TOP TENSION WIRE THROUGH BARBED WIRE ARM LOOP FOR FENCES HAVING BARBED WIRE AND NO TOP RAIL.

B. FABRIC:
1. INSTALL FABRIC TO INSIDE OF FRAMEWORK.
2. ATTACH FABRIC TO TERMINAL POST BY THREADING TENSION BAR THROUGH FABRIC; TIGHTEN FABRIC TO TERMINAL POST WITH TENSION BANDS AND 5/16 INCH CARRIAGE BOLTS SPACED MAXIMUM 12 INCHES ON CENTER.
3. FOR SMALL MESH FABRIC LESS THAN 1 INCH, ATTACH TO TERMINAL POST BY SANDWICHING MESH BETWEEN POST AND VERTICAL 2 INCH WIDE X 3/16 INCH STEEL BAR USING CARRIAGE BOLTS THROUGH BAR, MESH AND POST. SPACED MAXIMUM 15 INCHES ON CENTER.
4. STRETCH FABRIC TAUT, WITHOUT SAG. SECURE FABRIC TO LINE POSTS WITH THE WIRES SPACED MAXIMUM 12 INCHES ON CENTER AND TO RAILS AT MAXIMUM 18 INCHES ON CENTER.
5. SECURE FABRIC TO TENSION WIRE WITH HOG RINGS SPACED MAXIMUM 18 INCHES ON CENTER.
6. WRAP TIE WIRE AROUND POST OR RAIL AND ATTACHED TO FABRIC WIRE PICKET ON EACH SIDE BY TWISTING TIE WIRE AROUND FABRIC WIRE PICKET TWO FULL TURNS, CUT OFF EXCESS WIRE AND BEND OVER.
7. ROLL MARKS.

C. SWING GATES:
1. INSTALL IN ACCORDANCE WITH ASTM F567, WITH GATES PLUMB IN CLOSED POSITION AND HAVING 3 INCH BOTTOM CLEARANCE, GRADE PERMITTING.
2. MAXIMUM HINGE AND LATCH OFFSET OPENING SPACE FROM GATE FRAME TO POST: 3 INCHES IN CLOSED POSITION.
3. SET DOUBLE LEAF GATE DROP BAR RECEIVERS IN CONCRETE FOOTING MINIMUM 6 INCH DIAMETER X 24 INCHES DEEP.
4. INSTALL GATE LEAF HOLDBACKS FOR DOUBLE LEAF GATES.

3.2 INSTALLATION TOLERANCES
A. MAXIMUM VARIATION FROM PLUMB: 1/4 INCH IN 10 FEET.
B. MAXIMUM OFFSET FROM TRUE POSITION: 1 INCH.

SECTION 32 8400 PLANTING IRRIGATION

PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. PIPE AND FITTINGS, VALVES, SPRINKLER HEADS, ACCESSORIES, AND CONTROLS.
1.3 SYSTEM DESCRIPTION
A. ELECTRIC SOLENOID CONTROLLED UNDERGROUND IRRIGATION SYSTEM, WITH LOW POINT SELF DRAIN.
1.4 SUBMITTALS
A. SUBMITTALS FOR REVIEW:
1. SHOP DRAWINGS: INDICATE PIPING LAYOUT TO WATER SOURCE, LOCATION OF SLEEVES UNDER PAVEMENT, LOCATION AND COVERAGE OF SPRINKLER HEADS, CONTROLLER, PLANT AND LANDSCAPING FEATURES, SITE STRUCTURES, SCHEDULE OF FITTINGS TO BE USED.
2. PRODUCT DATA: PROVIDE COMPONENT AND CONTROL SYSTEM AND WIRING DIAGRAMS.
B. SUSTAINABLE DESIGN SUBMITTALS:
1. RECYCLED CONTENT.
2. REGIONAL MATERIALS.

1.5 MAINTENANCE

A. PROVIDE MAINTENANCE SERVICES ON SYSTEM FOR 12 MONTHS AFTER SUBSTANTIAL COMPLETION.
B. PROVIDE TWO EACH OF FOLLOWING EXTRA COMPONENTS:
1. SPRINKLER KEYS: EACH TYPE AND SIZE.
2. VALVE KEYS FOR MANUAL VALVES.

- 3. VALVE BOX KEYS.
4. KEYS FOR VALVE MARKERS.
5. WRENCHES FOR EACH TYPE HEAD CORE AND FOR REMOVING AND INSTALLING EACH TYPE HEAD.

PART 2 PRODUCTS

2.1 MATERIALS
REFER TO SCHEMATIC LANDSCAPE PLAN SHEET.

PART 3 EXECUTION

3.1 INSTALLATION
REFER TO SCHEMATIC LANDSCAPE PLAN
3.2 ADJUSTING
A. ADJUST CONTROL SYSTEM TO ACHIEVE TIME CYCLES REQUIRED.
3.3 TESTING
A. PRIOR TO BACKFILLING, TEST SYSTEM FOR LEAKAGE TO MAINTAIN 100 PSI PRESSURE FOR ONE HOUR.
B. IF LEAKAGE OR LOSS OF PRESSURE OCCURS DURING TEST PERIOD, REPAIR SYSTEM AND RETEST UNTIL ACCEPTABLE RESULTS ARE OBTAINED.

SECTION 32 9223 SODDING

PART 1 GENERAL

1.1 SUMMARY
A. SECTION INCLUDES:
1. SOD INSTALLATION.
2. MAINTENANCE.
3. FERTILIZING.

1.3 QUALITY ASSURANCE
A. SOD: MINIMUM AGE OF 18 MONTHS, WITH ROOT DEVELOPMENT THAT WILL SUPPORT ITS OWN WEIGHT WITHOUT TEARING, WHEN SUSPENDED VERTICALLY BY HOLDING UPPER TWO CORNERS.
1.4 DELIVERY, STORAGE AND HANDLING
A. DELIVER SOD ON PALLETS. PROTECT EXPOSED ROOTS FROM DEHYDRATION.
C. DO NOT DELIVER MORE SOD THAN CAN BE INSTALLED WITHIN 24 HOURS.
B. REMOVE FERTILIZER IN WATERPROOF BAGS SHOWING WEIGHT, CHEMICAL ANALYSIS, AND NAME OF MANUFACTURER.

PART 2 PRODUCTS
2.1 MATERIALS
A. SOD:
1. ASPA APPROVED, FIELD GROWN GRADE: CULTIVATED GRASS SOD, STRONG FIBROUS ROOT SYSTEM, FREE OF STONES, BURNED OR BARE SPOTS, CONTAINING NO MORE THAN 10 WEEDS PER 1000 SQUARE FEET.
2.2 ACCESSORIES
A. FERTILIZER: TYPE RECOMMENDED FOR GRASS.
B. WATER: CLEAN, FRESH AND FREE OF SUBSTANCES OR MATTER WHICH COULD INHIBIT VIGOROUS GROWTH OF GRASS.

2.3 HARVESTING SOD
A. MACHINE CUT SOD AND LOAD ON PALLETS IN ACCORDANCE WITH ASPA GUIDELINES.
B. CUT SOD IN AREA NOT EXCEEDING 1 SQUARE YARD, WITH MINIMUM 1/2 INCH AND MAXIMUM 1 INCH TOPSOIL BASE.

PART 3 EXECUTION

3.1 PREPARATION
A. PREPARE SUBSOIL: ELIMINATE UNEVEN AREAS AND LOW SPOTS.
B. REMOVE FOREIGN MATERIALS AND UNDESIRABLE PLANTS AND THEIR ROOTS. DO NOT BURY FOREIGN MATERIAL, BENEFICIAL AREAS TO BE SODDED.
C. REMOVE CONTAMINATED TOPSOIL.
3.2 LAYING SOD
A. MOISTEN PREPARED SURFACE IMMEDIATELY PRIOR TO LAYING SOD.
B. LAY SOD WITHIN 24 HOURS AFTER HARVESTING TO PREVENT DETERIORATION.
C. LAY SOD TIGHT WITHOUT OPEN JOINTS AND WITHOUT OVERLAPPING; STAGGER END JOINTS 12 INCHES MINIMUM. DO NOT STRETCH SOD PIECES.
D. LAY SMOOTH.

E. TO ACHIEVE ELEVATION OF SOD 1/2 INCH BELOW ADJOINING CURBS.
F. ON SLOPES 1:2 AND STEEPER, LAY SOD PERPENDICULAR TO SLOPE AND SECURE EVERY ROW WITH WOODEN PEGS AT MAXIMUM 2 FEET ON CENTER. DRIVE PEGS FLUSH WITH SOIL PORTION OF SOD.
G. IMMEDIATELY AFTER INSTALLATION, ROLL SOD; REMOVE AIR POCKETS, VOIDS, AND MINOR DEFLECTIONS AND IRREGULARITIES.
H. FILL VOIDS BETWEEN SOD PIECES WITH TOPSOIL. RAKE EXCESS TOPSOIL INTO SOD BUT DO NOT SMOOTH GRASS WITH TOPSOIL.

3.3 WATERING
A. WATER SODDED AREAS WITHIN 2 HOURS AFTER INSTALLATION, TO SATURATION.
B. CONTINUE WATERING DAILY USING LESS WATER; ENSURE MOISTURE TO 4 INCH DEPTH BUT AVOID STANDING WATER.
C. WHEN ROOT GROWTH IS OBSERVED BY LIFTING CORNERS OF SOD, REDUCE WATERING TO ALTERNATING DAYS.
D. AFTER 14 DAYS, IF ROOT GROWTH PREVENTS SOD CORNERS FROM BEING LIFTED, ALLOW SOD TO DRY TO PERMIT MOWING.

3.4 MAINTENANCE
A. MAINTAIN LAWN AREAS BY WATERING, MOWING,