D. CLOSEOUT PROCEDURES

- GENERAL OPERATING/MAINTENANCE INSTRUCTIONS: ARRANGE FOR EACH INSTALLER OF WORK REQUIRING CONTINUING MAINTENANCE OR OPERATION, TO MEET WITH PERSONNEL AT THE PROJECT SITE TO PROVIDE INSTRUCTIONS NEEDED FOR PROPER OPERATION AND MAINTENANCE OF ALL EQUIPMENT OR COMPONENTS.
- a. INCLUDE INSTRUCTIONS BY MANUFACTURER'S REPRESENTATIVES WHERE INSTALLERS ARE NOT EXPERT IN THE REQUIRED PROCEDURES.
- b. REVIEW MAINTENANCE MANUALS, RECORD DOCUMENTATION, TOOLS, SPARE PARTS AND MATERIALS. LUBRICANTS, FUELS, IDENTIFICATION SYSTEM, CONTROL SEQUENCES, HAZARDS, CLEANING AND SIMILAR PROCEDURES AND FACILITIES.
- c. FOR OPERATIONAL EQUIPMENT, DEMONSTRATE START-UP, SHUT-DOWN, EMERGENCY OPERATIONS, NOISE AND VIBRATION ADJUSTMENTS, SAFETY, ECONOMY/EFFICIENCY ADJUSTMENTS, AND SIMILAR OPERATIONS.
- d. REVIEW MAINTENANCE AND OPERATIONS IN RELATION WITH APPLICABLE GUARANTEES, WARRANTIES, AGREEMENTS TO MAINTAIN, BONDS, AND SIMILAR CONTINUING COMMITMENTS.

E. FINAL CLEANING:

- GENERAL: PROVIDE CLEANING FOR SPECIFIC UNITS OF WORK AS SPECIFIED WITHIN EACH SPECIFICATION SECTION. PROVIDE FINAL CLEANING OF THE WORK, AT THE TIME INDICATED, CONSISTING OF CLEANING EACH SURFACE OR UNIT OF WORK TO THE NORMAL "CLEAN" CONDITION EXPECTED FOR A FIRST-CLASS BUILDING CLEANING AND MAINTENANCE PROGRAM. COMPLY WITH MANUFACTURERS' INSTRUCTIONS FOR CLEANING OPERATIONS.
- 2. <u>CLEANING REQUIREMENTS</u>: THE FOLLOWING ARE EXAMPLES, BUT NOT BY WAY OF LIMITATION, OF THE CLEANING LEVELS REQUIRED.
- a. REMOVE MANUFACTURER'S OR CONTRACTOR'S LABELS WHICH ARE NOT REQUIRED AS PERMANENT. REMOVE PROTECTIVE COVERINGS AND TAGS, EXCEPT FOR THOSE REQUIRED TO DEMONSTRATE COMPLIANCE WITH BUILDING CODES, FIRE-RATINGS AND TESTING. ALSO REMOVE ALL RESIDUE AND GLUE REMAINING ON THE SURFACE.
- b. CLEAN EXPOSED EXTERIOR AND INTERIOR HARD-SURFACE FINISHES, INCLUDING METALS, MASONRY, CONCRETE, PAINTED SURFACES, SPECIAL COATINGS, AND SIMILAR SURFACES, TO DIRT-FREE CONDITION, FREE OF DUST, STAINS, FILMS AND SIMILAR NOTICEABLE DISTRACTING SUBSTANCES. EXCEPT AS OTHERWISE INDICATED; AVOID THE DISTURBANCE OF NATURAL WEATHERING OF EXTERIOR SURFACES. RESTORE REFLECTIVE SURFACES TO ORIGINAL REFLECTIVE CONDITION.
- c. WIPE SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT CLEAN, AND REMOVE EXCESS LUBRICATION AND OTHER SUBSTANCES. CHANGE FILTERS WITHIN HVAC EQUIPMENT.
- d. REMOVE DEBRIS AND SURFACE DUST FROM LIMITED-ACCESS SPACES INCLUDING ROOFS, PLENUMS, SHAFTS, TRENCHES, EQUIPMENT VAULTS, MANHOLES, ATTICS AND SIMILAR SPACES.
- e. CLEAN CONCRETE FLOORS IN NON-OCCUPIED SPACES BROOM CLEAN.
- f. VACUUM CLEAN SOFT MATERIAL SURFACES, SUCH AS CARPETED AND SIMILAR SURFACES.
- g. CLEAN PLUMBING FIXTURES TO A SANITARY CONDITION, FREE OF STAINS INCLUDING THOSE RESULTING FROM WATER EXPOSURE
- h. DAMP WIPE AND CLEAN ALL FIXTURES, INCLUDING LIGHT FIXTURES AND LAMPS SO AS TO FUNCTION WITH FULL EFFICIENCY. REPLACE BURNED-OUT OR BROKEN LAMPS.
- WASH, CLEAN AND POLISH ALL CERAMIC TILE SURFACES.
- REMOVE AND DISPOSE OF ALL TRASH, SCRAPS, PACKING, AND ALL OTHER CONSTRUCTION DEBRIS.
- k. CLEAN PROJECT SITE (YARD AND GROUNDS), INCLUDING LANDSCAPE, DEVELOPMENT AREAS, OF LITTER AND FOREIGN SUBSTANCES. SWEEP PAVED AREAS TO A BROOM-CLEAN CONDITION; REMOVE STAINS, PETRO-CHEMICAL SPILLS AND OTHER FOREIGN DEPOSITS. RAKE GROUNDS WHICH ARE NEITHER PLANTED NOR PAVED, TO A SMOOTH, EVEN-TEXTURED SURFACE.
- 3. DAMAGES: ANY DAMAGE CAUSED BY CONTRACTORS WITH CLEANING EQUIPMENT SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR RESPONSIBLE FOR THE DAMAGE.
- 4. <u>TIME OF FINAL CLEANING</u>: FOLLOWING CERTIFICATION OF "SUBSTANTIAL COMPLETION".
- F. <u>PEST_CONTROL</u>: ENGAGE AN EXPERIENCED EXTERMINATOR TO MAKE A FINAL INSPECTION OF THE PROJECT, AND TO ELIMINATE THE PROJECT OF RODENTS, INSECTS, AND OTHER PESTS. COMPLY WITH GOVERNING REGULATIONS AND APPLICABLE HEALTH AND SAFETY STANDARDS.
- G. <u>REMOVAL OF PROTECTION</u>: EXCEPT AS OTHERWISE INDICATED OR REQUESTED, REMOVE TEMPORARY PROTECTION DEVICES AND FACILITIES WHICH WERE INSTALLED DURING THE COURSE OF THE WORK TO PROTECT PREVIOUSLY COMPLETED WORK DURING THE REMAINDER OF THE CONSTRUCTION PERIOD.
- H. <u>COMPLIANCES</u>: COMPLY WITH SAFETY STANDARDS AND GOVERNING REGULATIONS FOR CLEANING OPERATIONS. DO NOT BURN WASTE MATERIALS AT THE SITE, OR BURY DEBRIS OR EXCESS MATERIALS ON THE OWNER'S PROPERTY. OR DISCHARGE VOLATILE OR OTHER HARMFUL OR DANGEROUS MATERIALS INTO DRAINAGE SYSTEMS; REMOVE WASTE MATERIALS FROM THE SITE AND DISPOSE OF IN LAWFUL MANNER. AT NO TIME DURING OR AT COMPLETION OF CONSTRUCTION, PLACE ANY EXCESS MATERIAL, INTO OWNER'S COMPACTOR OR CONTAINER.

END OF SECTION

SECTION 02 41 19 - SELECTIVE DEMOLITION

- INCLUDED: PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, APPARATUS, TOOLS, TRANSPORTATION, PROTECTION, AND SERVICES NECESSARY FOR SELECTIVE DEMOLITION WORK AS INDICATED ON THE DRAWINGS. WORK SHALL INCLUDE, BUT NOT NECESSARILY BE LIMITED TO ANY DEMOLITION REQUIRED TO PREPARE THE BUILDING FOR NEW CONSTRUCTION, INCLUDING DEMOLITION OF EXISTING ELEVATOR PENTHOUSE.
- 1. <u>GENERAL CONTRACTOR</u>: ASSUME FULL RESPONSIBILITY FOR DEMOLITION WORK INDICATED ON THE DRAWINGS OR REQUIRED BY FIELD CONDITIONS FOR NEW CONSTRUCTION.
- 2. <u>DEMOLITION WORK LIST</u>: GENERAL CONTRACTOR SHALL PREPARE A DEMOLITION WORK LIST OF TEMS NOTED OR REQUIRED TO BE REMOVED, AND SUBMIT THE LIST TO THE ARCHITECT AND OWNER FOR REVIEW PRIOR TO EXECUTION OF THE WORK.
- B. MANDATORY REQUIREMENTS:
- SITE EXAMINATION: PRIOR TO SUBMITTING PROPOSAL, VISIT THE PREMISES AND COMPARE EXISTING CONDITIONS WITH WORK INDICATED ON THE DRAWINGS AND SPECIFICATIONS. NO ALLOWANCE WILL BE MADE FOR FAILURE TO PERFORM AN EXAMINATION, OR FOR ANY ERROR DUE TO INADEQUATE INVESTIGATION.
- C. JOB CONDITIONS
- 1. <u>OCCUPANCY</u>: TENANTS AND/OR OWNER WILL OCCUPY THE BUILDING TENANT SPACES IMMEDIATELY ADJACENT TO THE AREAS OF DEMOLITION. CONDUCT DEMOLITION WORK IN A MANNER TO MINIMIZE DISRUPTION OF NORMAL OPERATIONS OF THE TENANTS AND/OR OWNER. PROVIDE A MINIMUM OF 72 HOURS ADVANCED NOTICE TO THE TENANTS AND THE OWNER, OF DEMOLITION ACTIVITIES THAT WILL AFFECT OPERATIONS. COORDINATE EFFORTS WITH BUILDING MANAGERS AND THE OWNER.
- D. <u>RESPONSIBILITY</u>
- 1. QUALIFICATIONS OF SUBCONTRACTORS: GENERAL CONTRACTOR SHALL ENGAGE SUBCONTRACTORS WHO CAN DEMONSTRATE NOT LESS THAN FIVE (5) YEARS SUCCESSFUL EXPERIENCE IN WORK OF SIMILAR CHARACTER.
- 2. <u>DEMOLITION</u> <u>WORK</u>: GENERAL CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL DEMOLITION WORK AND SHALL ASSIGN THE VARIOUS PHASES OF DEMOLITION WORK TO THE APPROPRIATE SKILLED TRADES, AND SHALL BE RESPONSIBLE FOR THE FOLLOWING:
- a. ADEQUATE COORDINATION AND SUPERVISION.
- b. SCHEDULE DEMOLITION WORK TO COORDINATE ACTIVITIES WITH THE PROPOSED NEW WORK.
- c. PROVIDE WORK SITE PROTECTION, INCLUDING TEMPORARY BUILDING ENCLOSURES AS REQUIRED, PER ALL GOVERNING CODE REQUIREMENTS.
- d. REMOVE RUBBLE, DEBRIS, AND UNSALVAGEABLE MATERIALS FROM THE SITE AND LEGALLY DISPOSE.
- E. QUALITY ASSURANCE

1. PERFORMANCE CRITERIA

- a. OPERATIONAL AND SAFETY LIMITATIONS: DO NOT CUT-AND-PATCH IN A MANNER RESULTING IN A REDUCTION OF CAPACITIES TO PERFORM IN THE MANNER INTENDED, DECREASED OPERATIONAL LIFE, INCREASED MAINTENANCE, OR DECREASED SAFETY.
- b. <u>VISUAL REQUIREMENTS</u>: DO NOT CUT-AND-PATCH EXPOSED WORK IN A MANNER RESULTING IN REDUCTION OF VISUAL QUALITY, AS JUDGED BY THE ARCHITECT. REMOVE AND REPLACE WORK JUDGED BY THE ARCHITECT TO BE VISUALLY UNSATISFACTORY, AT NO ADDITIONAL COST TO THE OWNER.
- c. LOADING: DO NOT SUPERIMPOSE LOADS AT ANY POINT UPON EXISTING STRUCTURE BEYOND DESIGN CAPACITY, INCLUDING LOADS ATTRIBUTED TO MATERIALS, CONSTRUCTION EQUIPMENT, DEMOLITION OPERATIONS, SHORING AND BRACING.
- d. <u>VIBRATION</u>: DO NOT USE MEANS, METHODS, TECHNIQUES OR PROCEDURES WHICH WOULD INDUCE VIBRATION INTO ANY ELEMENT OF THE STRUCTURE.
- e. FIRE: DO NOT USE MEANS, METHODS, TECHNIQUES OR PROCEDURES WHICH WOULD PRODUCE FIRE HAZARD.
- f. WATER: DO NOT USE MEANS, METHODS, TECHNIQUES OR PROCEDURES WHICH WOULD PERMIT UNCONTROLLED WATER OR HUMIDITY.
- g. AIR POLLUTION: DO NOT USE MEANS, METHODS, TECHNIQUES OR PROCEDURES WHICH WOULD PRODUCE UNCONTROLLED DUST, FUMES OR OTHER DAMAGING AIR POLLUTION.

- g. <u>AIR POLLUTION</u>: DO NOT USE MEANS, METHODS, TECHNIQUES OR PROCEDUR PRODUCE UNCONTROLLED DUST, FUMES OR OTHER DAMAGING AIR POLLUTION.
- h. TOXIC SUBSTANCES: CARE SHALL BE EXERCISED IN THE REMOVAL WORK TO PREVENT THE RELEASE OF TOXIC SUBSTANCES. SHOULD TOXIC SUBSTANCES SUCH AS PCB, ASBESTOS, OR LEAD PAINT BE ENCOUNTERED, STOP WORK AND IMMEDIATELY NOTIFY THE OWNER. REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS SHALL BE PERFORMED BY LICENSED ABATEMENT CONTRACTORS UNDER SEPARATE CONTRACT EXERCISED BY THE OWNER.
- 2. <u>PROTECTION OF THE PUBLIC</u>: DURING DEMOLITION OPERATIONS, PROVIDE ALL NECESSARY PROTECTION AND SAFE PASSAGE FOR THE PUBLIC, INCLUDING, BUT NOT LIMITED TO, BARRICADES, TEMPORARY PARTITIONS, DUST BARRIERS, AND SIGNS. ERECT AND MAINTAIN BARRIERS TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

F. <u>SALVAGED MATERIALS</u>:

GENERAL: MATERIALS FOR REUSE SHALL BE INCORPORATED INTO NEW WORK AS INDICATED EXCEPT FOR ITEMS INDICATED TO BE RETAINED AS PROPERTY OF THE OWNER, OTHER REMOVED AND SALVAGED MATERIALS NOT INDICATED FOR REUSE SHALL BECOME PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM SITE WITH FURTHER DISPOSITION AT OPTION OF THE CONTRACTOR. REMOVE SALVAGEABLE MATERIALS CAREFULLY TO AVOID EXCESSIVE DAMAGE.

END OF SECTION

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

A. WORK INCLUDED:

- 1. FIELD CHECK OF EXISTING CONDITIONS.
- 2. NEW CONCRETE FOOTINGS AND FLOOR SLABS.
- 3. SAW CUTTING AND REMOVING EXISTING CONCRETE FLOORS AS NECESSARY FOR NEW WORK.
- 4. PATCH AND REPAIR EXISTING CONCRETE SLAB AS REQUIRED AND FINISH ALL FLOOR CRACKS.
- 5. INSTALLATION OF STEEL PIPE GUARD POSTS AS SPECIFIED IN SECTION 05500.

B. <u>REFERENCE SPECIFICATIONS</u>:

- 1. EXCEPT AS OTHERWISE SPECIFIED, DESIGN, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE FOLLOWING CURRENT SPECIFICATIONS.
- 2. AMERICAN CONCRETE INSTITUTE (ACI) PUBLICATIONS, AND RELATED ASTM STANDARD SPECIFICATIONS REFERENCED THEREIN.
- a. SP-15 ACI FIELD REFERENCE MANUAL: INCLUDING STANDARD SPECIFICATIONS FOR STRUCTURAL CONCRETE ACI 301 W/ SELECTED ACI REFERENCE.
- b. SP-66 ACI DETAILING MANUAL (FORMERLY ACI 315).
- c. ACI 302.1R GUIDE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION.
- d. ACI 304R GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE.
- e. ACI 305R GUIDE TO HOT WEATHER CONCRETING.
- f. ACI 306 GUIDE TO COLD WEATHER CONCRETING.
- g. ACI 308R GUIDE TO CURING CONCRETE.
- h. ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (CHAPTERS 3-7).
- i. ACI 347 GUIDE TO FORMWORK FOR CONCRETE. 3. ASTM INTERNATIONAL STANDARD SPECIFICATIONS, AS REFERRED TO HEREIN BY NUMBER.
- C. CONCRETE DESIGN:
- 1. <u>GENERAL</u>: ALL CONCRETE SHALL CONSIST OF PORTLAND CEMENT, COARSE AGGREGATE, FINE AGGREGATE AND POTABLE WATER.





- a. <u>3000 P.S.I.</u>: INTERIOR CONCRETE TOPPING
- D. CONCRETE MATERIALS

3. LOCATIONS:

- CEMENT: STANDARD BRAND OF PORTLAND CEMENT CONFORMING TO ASTM STANDARD C150. CEMENT SHALL BE KEPT DRY AT ALL TIMES, AND ONLY ONE BRAND SHALL BE USED FOR CONCRETE
- 2. <u>AGGREGATE</u>: FINE AGGREGATE CONFORMING TO ASTM STARDARD C33 REQUIREMENTS FOR HARDNESS, DURABILITY, PURITY, GRADATIONS, a. FINE AGGREGATE: CLEAN, HARD, DURABLE, UNCOATED GRAINS OF NATURAL SAND, FREE FROM

PASSING	3/8"	SIEVE:	100%	
PASSING NO.	4	SIEVE:	95% -	100%
PASSING NO.	8	SIEVE:	65% -	95%
PASSING NO.	16	SIEVE:	35% -	75%
PASSING NO.	30	SIEVE:	20% -	55%
PASSING NO.	50	SIEVE:	15% -	30%
PASSING NO.	100	SIEVE:	0% -	10%

3. <u>MIXING WATER</u>: CLEAN POTABLE WATER, FREE FROM OILS, ALKALIES, ACIDS, ORGANIC WATER, OR THER DELETERIOUS MATERIALS.

4. ADMIXTURES:

- a. DO NOT USE CALCIUM CHLORIDE OR OTHER SIMILAR ADDITIVES.
- b. ALL OTHER ADMIXTURES. TO RETARD OR ACCELERATE SETTING. TO REDUCE WATER RATIO. OR TO PREVENT FREEZING SHALL CONFORM TO ASTM STANDARD C494. ADMIXTURE SHALL HAVE LONG TERM TEST DATA PROVING ITS NON-CORROSIVE EFFECT ON REINFORCING STEEL. ADMIXTURE SHALL NOT BE USED WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT.

G. REINFORCING STEEL: PROVIDE ALL STIRRUPS, HOOKS, DOWELS, TIES, TIE WIRES, CHAINS, SPACERS AND OTHER ACCESSORIES NECESSARY OR REQUIRED TO FULLY COMPLETE THE WORK.

- 1. <u>GENERAL</u>: ALL REINFORCEMENTS SHALL BE CLEANED OF MILL OR RUST SCALE, AND SHALL BE FREE OF ALL COATINGS WHICH WOULD REDUCE OR DESTROY BOND.
- 2. <u>COLD DRAWN WIRE</u>: CONFORMING TO ASTM STANDARD A82.
- 3. <u>WELDED WIRE REINFORCING</u>: CONFORMING TO ASTM STANDARD A185.
- 4. <u>REINFORCING_STEEL_BARS</u>: RODS 3/8" AND LARGER SHALL BE DEFORMED BARS CONFORMING TO ASTM STANDARD A615. EPOXY-COATED REINFORCING BARS SHALL CONFORM TO ASTM STANDARD A775.
- H. FORMS:
- . <u>DESIGN</u>: PROVIDE FORMWORK DESIGNED FOR THE LOADS, LATERAL PRESSURE, AND ALLOWABLE STRESSES SPECIFIED IN CHAPTER 2 - DESIGN, OF ACI 347, AND TO SUIT REQUIREMENTS OF APPLICABLE BUILDING CODE.
- ANCHORING CEMENT: SUPER POR-ROK® ANCHORING CEMENT, QUALITY CONTROLLED HYDRAULIC CEMENT, QUICK-SETTING, POURABLE, NON-METALLIC, NON-SHRINK GROUT IN ACCORDANCE WITH ASTM STANDARDS C109 AND C900, AS MANUFACTURED BY CGM, INCORPORATED, BENSALEM, PA, (800)523-6570 OR (215)638-4400.

J. MISCELLANEOUS ITEMS:

- EXPANSION JOINT FILLER: FIBER CONFORMING WITH ASTM STANDARD D1751, TYPE I, 1/2" THICK FULL DEPTH OF SLAB FOR INTERIOR SLABS, 1" LESS THAN FULL SLAB DEPTH AT EXTERIOR LOCATIONS.
- JOINT SEALANT: HORIZONTAL CONCRETE MOVING JOINTS SHALL BE SEALED WITH VULKEM® 45 SSL ONE-PART, POURABLE GRADE SELF-LEVELING, POLYURETHANE JOINT SEALANT, CONFORMING TO ASTM STANDARD C920, TYPE S, GRADE P, CLASS 35, AS MANUFACTURED BY TREMCO INCORPORATED, SEALANTS & WATERPROOFING DIVISION, BEACHWOOD, OH, (216)292-5000 OR (800)321-7906.
- CURING AND SEALING COMPOUND: AREAS NOT SUBSEQUENTLY COVERED BY OTHER FINISH MATERIALS SHALL HAVE TWO (2) COATS OF LIQUID TYPE MEMBRANE FORMING CURING/SEALING COMPOUND COMPLYING WITH ANSI/ASTM C309, TYPE I, CLASS A. MANUFACTURER AND PRODUCT SHALL BE ONE OF THE FOLLOWING:

CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF ASTM STANDARD C33.

a. THE EUCLID CHEMICAL COMPANY - EUCOCURE VOX.

(216)531-9222 OR (800)321-7628.

K. TRANSIT MIXED CONCRETE:

EDURES WHICH WOUL	D
TION	

MAX <u>SLUMP</u>

SILT, LOAM, AND CLAY. RANGE IN THE FOLLOWING SIZES BY PERCENTAGE OF WEIGHT:

b. BASF CONSTRUCTION CHEMICALS - BUILDING SYSTEMS - SONNEBORN® KURE-N-SEALTM. 5. BONDING COMPOUND: EUCO-WELD, BY THE EUCLID CHEMICAL COMPANY, CLEVELAND, OH,

1. READY-MIXED CONCRETE SHALL BE BATCHED, MIXED, AND TRANSPORTED IN ACCORDANCE WITH ASTM STANDARD C94, SPECIFICATIONS FOR READY-MIXED CONCRETE, AND AGGREGATE FOR THE

OWNER'S REPRESENTATIVE WITH A COPY OF THE DELIVERY TICKET, GIVING INFORMATION PERTAINING TO EACH BATCH AS THE ARCHITECT MAY REQUIRE. THE DECISION OF THE OWNER'S REPRESENTATIVE AS TO THE QUALITY OF THE CONCRETE OR THE METHODS OF MIXING SHALL BE

CONCRETE TESTING: OWNER WILL ENGAGE THE SERVICES OF AN APPROVED, INDEPENDENT, UNBIASED TESTING LABORATORY TO MAKE TEST CYLINDERS AND TO DETERMINE THE QUALITY OF ALL CONCRETE, AND WILL PAY ALL COSTS INCURRED.

M. PLACING CONCRETE:

- 1. SET AND BUILD-IN ALL MATERIALS, ANCHOR BOLTS, SLEEVES, ANGLES, FURNISHED BY OTHER CONTRACTORS. N. CONCRETE FLOOR SLABS ON GROUND:
- <u>FLOOR TOLERANCE FLATNESS AND LEVELNESS</u>: FLOOR SHALL COMPLY WITH ASTM E1155 STANDARD TEST METHOD FOR DETERMINING FLOOR FLATNESS AND LEVELNESS USING THE F-NUMBER SYSTEM
- a. FLOOR SLABS SHALL BE CONSTRUCTED TO HAVE A MINIMUM FACE FLOOR FLATNESS OF FF=20 AND A MINIMUM FACE FLOOR LEVELNESS OF FL=17.
- O. <u>CONCRETE FINISH</u>: MONOLITHIC SLAB SURFACES SHALL RECEIVE TROWEL FINISH UNLESS OTHERWISE INDICATED.
- P. <u>MISCELLANEOUS CONCRETE WORK</u>: FURNISH AND INSTALL ALL MISCELLANEOUS CONCRETE WORK NECESSARY TO COMPLETE THE WORK SHOWN OR REQUIRED BY FIELD CONDITIONS.

END OF SECTION

A. WORK INCLUDED:

1. PRODUCTS AND MATERIALS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN. B. QUALITY ASSURANCE

- 1. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE FOLLOWING CURRENT STANDARD SPECIFICATIONS. a. NATIONAL CONCRETE MASONRY ASSOCIATION SPECIFICATIONS FOR THE DESIGN AND
- CONSTRUCTION OF LOAD-BEARING CONCRETE MASONRY. b. ASTM INTERNATIONAL STANDARD SPECIFICATIONS AS APPLICABLE AND AS SPECIFIED HEREIN BY NUMBER

C. MATERIALS:

- I. <u>CONCRETE MASONRY UNITS</u>: ALL CONCRETE BLOCK SHALL BE APPROVED BY ARCHITECT AND THE LOCAL BUILDING DEPARTMENT. STANDARD (UNCOLORED, PLAIN FACE) MASONRY UNITS SHALL HAVE A UNIFORM. MEDIUM TEXTURE.
- a. <u>ALL UNITS SHALL MATCH EXISTING, BE LOAD-BEARING, AND SHALL CONFORM WITH THE</u> FOLLOWING REQUIREMENTS: 1. STANDARD (UNCOLORED), HOLLOW, LOAD-BEARING UNITS, ASTM STANDARD C90.
- 2. STANDARD (UNCOLORED), SOLID, LOAD-BEARING UNITS, ASTM STANDARD C90.
- b. <u>FIRE_RATED_CONCRETE_BLOCK</u>: COMPLY WITH UNDERWRITERS LABORATORIES DESIGN U904 (3 HOUR RATING). CLASS RATINGS SHALL BE AS NOTED ON THE DRAWINGS.
- c. <u>WEIGHT TYPE</u>: ONE (1) WEIGHT TYPE OF BLOCK IS REQUIRED, NORMAL WEIGHT TWO OR THREE CORE BLOCK MADE WITH STONE OR GRAVEL AGGREGATE CONFORMING WITH ASTM STANDARD C33 WEIGHING NOT LESS THAN 125 P.C.F., OVEN DRY. CINDER AGGREGATE WILL NOT BE
- d. <u>DRYING SHRINKAGE</u>: CONCRETE BLOCK SHALL COMPLY WITH CHANGES IN LINEAR DIMENSION FROM A SATURATED CONDITION TO AN EQUILIBRIUM WEIGHT AND LENGTH UNDER ACCELERATED DRYING CONDITIONS AS SPECIFIED WITHIN ASTM STANDARD C426.
- e. FACE SIZE AND THICKNESS: BLOCK UNITS SHALL HAVE AN 8" X 16" FACE SIZE IN GENERAL, AND OTHER BLOCK UNITS OF THICKNESS AS REQUIRED.
- f. <u>QUALITY OF MASONRY UNITS</u>: ALL MASONRY UNITS SHALL BE SOUND, AND FREE FROM CRACKS AND STRUCTURAL DEFECTS. ALL UNITS EXPOSED IN THE FINISH WORK SHALL BE FREE FROM BROKEN CORNERS OR EDGES, CHIPS, POPS, STAINS, AND OTHER BLEMISHES.
- 2. FACE BRICK: SIZE, TYPE, TEXTURE, COLOR, AND MANUFACTURER SHALL MATCH EXISTING AND BE SUBJECT TO REVIEW BY ARCHITECT. PRICK SHALL BE CHARMERED TO REVIEW BY ARCHITECT. TO REVIEW BY ARCHITECT. BRICK SHALL BE GUARANTEED TO BE FREE FROM EFFLUORESCENCE, AND CONFORM TO ASTM C216, GRADE SW. PROVIDE SPECIAL SHAPES, INCLUDING SOLID BRICKS FOR SOLDIER COURSING, AS INDICATED ON DRAWINGS, OR REQUIRED BY FIELD CONDITIONS

3. MORTAR MATERIALS:

- a. <u>CEMENT</u>: AN APPROVED BRAND OF TYPE I PORTLAND CEMENT CONFORMING TO ASTM STANDARD
- b. LIME: AN APPROVED BRAND OF HYDRATED LIME CONFORMING WITH ASTM STANDARD C207. RESCREENED, CLEAN, SHARP, WASHED MATERIALS, FREE FROM DELETERIOUS SUBSTANCES, CONFORMING WITH ASTM STANDARD C144.
- d. <u>MIXING WATER</u>: POTABLE WATER SHALL BE CLEAN, FREE FROM OILS, AKALIES, ACIDS, ORGANIC NATER, OR OTHER DELETERIOUS MATERIALS.
- NO AIR-ENTRAINED ADMIXTURES OR MATERIAL CONTAINING AIR-ENTRAINED ADMIXTURES, ANTI-FREEZE COMPOUNDS, OR OTHER SUBSTANCES SHALL BE ADDED TO MORTAR. 4. PROPORTIONS AND USE OF MORTAR:
- a. MORTAR TYPE: PROVIDE TYPE S MORTAR CONFORMING TO ASTM STANDARD C270. MINIMUM STRENGTH SHALL BE 1800 P.S.I. AT 28 DAYS. TYPE N MORTAR IS PROHIBITED.
- b. CEMENT LIME MORTAR FOR BELOW GRADE MASONRY WORK: CEMENT LIME MORTAR SHALL BE PROPORTIONED ONE PART CEMENT; 1/4 PART LIME; 3 PARTS DAMP, LOOSE SAND, BY VOLUME.
- c. <u>CEMENT LIME MORTAR FOR ALL OTHER MASONRY WORK</u>: CEMENT LIME MORTAR SHALL BE PROPORTIONED ONE PART CEMENT; ONE PART LIME; 6 PARTS DAMP, LOOSE SAND, BY VOLUME. d. MASONRY CEMENT: MASONRY CEMENT PER ASTM STANDARD C91 WITH A PREFERRED AIR
- ENTRAINMENT OF 10% WILL BE ACCEPTABLE ONLY FOR USE WITHIN NON-LOAD BEARING INTERIOR PARTITIONS. USE OF MASONRY CEMENT FOR EXTERIOR WORK IS PROHIBITED.
- e. <u>PRE-BLENDED MORTAR MIXES</u>: IN LIEU OF FIELD MIXED CEMENT LIME MORTAR SPECIFIED ABOVE. HE CONTRACTOR MAY USE A PREPARED MORTAR, PROVIDING HE HAS SECURED THE ARCHITECT'S APPROVAL BEFORE INSTALLATION. PREPARED MORTAR PRODUCTS AND SYSTEM SHALL BE SUCH AS SPEC MIX® / QUIKRETE® AS MANUFACTURED BY SPEC MIX®, INC., EAGAN, MN, (888) 773-2649; www.specmix.com.

5. <u>GROUTING</u>:

a. <u>FINE GROUT</u>: PER ASTM STANDARD C476, FOR FILLING SPACES LESS THAN 4" IN ONE OR BOTH HORIZONTAL DIRECTIONS. b. COARSE GROUT: PER ASTM STANDARD C476, FOR FILLING 4" SPACES OR LARGER IN BOTH

HORIZONTAL DIRECTIONS. WALL REINFORCING:

- STEEL BAR REINFORCING: REINFORCING SHALL BE NOT LESS THAN SIZES INDICATED ON THE DRAWINGS, AND SHALL CONFORM WITH THE REQUIREMENTS OF ASTM STANDARD A615, GRADE 60, OR ASTM STANDARD A996, GRADE 60.
- WIRE REINFORCING: NO. 9 GAUGE HOT-DIPPED GALVANIZED STEEL WIRE, ZINC COATED ASTM STANDARD A153 CLASS B2, NOT LESS THAN 1.50 OZ. PER SQ. FT. (AFTER FABRICATION), AND APPROXIMATELY 1-1/2" LESS THAN WALL THICKNESS, BY ONE OF THE FOLLOWING MANUFACTURERS:

1.HOHMANN & BARNARD, INC., HAUPPAUGE, NY, (800)645-0616 OR (631)234-0600, LOXALL® REINFORCEMENT, LADDER TYPE #220 LADDER-MESH, FOR SINGLE WYTHE BLOCK MASONRY CONSTRUCTION

- c. <u>MECHANICAL BAR SPLICING:</u> DAYTON SUPERIOR CORPORATION, MIAMISBURG, OH, (888) 977-9600 OR (937) 866-0701; www.daytonsuperior.com PROVIDE MECHANICAL BAR SPLICING SYSTEM AS SHOWN AND/OR NOTED ON THE DRAWINGS.
- . BRICK VENEER ANCHORS AND TIES: MASONRY WIRE TIES, HOT-DIP GALVANIZED, COLD DRAWN STEEL WIRE, VENEER ANCHOR DW-10® SERIES ADJUSTABLE VENEER ANCHORS CONFORMING WITH THE REQUIREMENTS OF ASTM STANDARD A153. CLASS B2. FOR MASONRY/VENEER METAL STUD CONSTRUCTION. MANUFACTURER: HOHMANN & BARNARD, INC., HAUPPAUGE, NY, (800)645-0616 OR (631)234-0600.

D. MISCELLANEOUS ITEMS:

- I. <u>BLOCK_MASONRY_FILL</u>: GROUT FILL FOR BLOCK CORES SHALL BE NOT LESS THAN 2000 P.S.I. COMPRESSIVE STRENGTH AT 28 DAYS
- 2. WALL FLASHING: 40 MIL MEMBRANE CONSISTING OF 32 MIL RUBBERIZED ASPHALT COMPOUND INTEGRALLY BONDED TO 8 MIL HIGH DENSITY CROSS-LAMINATED POLYETHYLENE FILM, PERM-A-BARRIER® AS MANUFACTURED BY GRACE CONSTRUCTION PRODUCTS, CAMBRIDGE, MA (866)333-3726, (617)876-1400, OR COMPARABLE EQUIVALENT PRODUCT SUBJECT TO REVIEW BY THE ARCHITECT

- 3. JOINT FILLER: POLYETHYLENE, CLOSED CELL COMPRESSIBLE FOAM EXPANSION JOINT FILLER SUCH AS SONOLASTIC® EXPANSION-JOINT FILLER, AS MANUFACTURED BY BASF CONSTRUCTION CHEMICALS, LLC - BUILDING SYSTEMS, SHAKOPEE, MN, (800)433-9517, (800)243-6739 OR COMPARABLE EQUIVALENT PRODUCT SUBJECT TO REVIEW BY THE ARCHITECT.
- 4. <u>CAVITY MESH</u>: MORTAR NET AND MORTAR NET WEEP VENTS. MANUFACTURER: MORTAR NET USA, LTD, HIGHLAND, IN, (800)664-6638, OR OTHER COMPARABLE EQUIVALENT PRODUCT SUBJECT TO **REVIEW BY ARCHITECT.**
- 5. <u>WEEP HOLES</u>: #341 PLASTIC WEEP HOLES, ROUND MEDIUM DENSITY POLYETHYLENE, 3/8" O.D., 4" LONG WITH COTTON WICK, TESTED IN CONFORMANCE WITH ASTM STANDARDS D2244, D638 AND D746, AS MANUFACTURED BY HOHMANN & BARNARD, INC., OR OTHER COMPARABLE EQUIVALENT PRODUCT SUBJECT TO REVIEW BY ARCHITECT.
- E. CLEANING AND POINTING:
- 1. <u>GENERAL</u>: THOROUGHLY CLEAN ALL CONCRETE MASONRY BLOCK UNITS AND FACE BRICK. REMOVE ALL MORTAR, DIRT OR PAINT SPOTS; AND POINT UP ALL JOINTS FULL AND EVEN. IN GENERAL, USE ONLY WOOD PADDLES AND FIBER BRUSHES WITH CLEAN WATER AND SOAP FOR CLEANING. THOROUGHLY FLUSH THE SURFACE WITH CLEAN WATER AFTER CLEANING. USE OF ACIDS OR ALKALI CLEANING AGENTS WILL NOT BE PERMITTED.
- 2. <u>EXPOSED MASONRY</u>: ALL EXPOSED MASONRY SHALL BE DRY BRUSHED CLEAN AS THE WORK PROGRESSES AND AT COMPLETION, ALL SPOTS AND DIRT SHALL BE REMOVED AND JOINTS POINTED WHERE NECESSARY
- 3. <u>PROHIBITED METHODS</u>: THE USE OF PRESSURE WASHING, WIRE BRUSHES, OR OTHER ABRASIVES IS PROHIBITED.

END OF SECTION

ECTION 05 12 00 - STRUCTURAL STEEI

- A. WORK INCLUDED: FURNISH, FORM, FABRICATE, AND ERECT ALL NEW STRUCTURAL STEEL BUILDING FRAMING, COMPLETE WITH ANCHORAGE DEVICES, FASTENERS, CONNECTIONS, ACCESSORIES AND INCIDENTAL WORK.
- B. <u>CODES</u> <u>AND</u> <u>REFERENCE</u> <u>SPECIFICATIONS</u>: EXCEPT AS OTHERWISE SPECIFIED, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE FOLLOWING CURRENT CODES AND SPECIFICATIONS. 1. ALL APPLICABLE LOCAL BUILDING CODES.
- 2. AMERICAN WELDING SOCIETY (AWS), D1.1, STRUCTURAL WELDING CODE STEEL.
- 3. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC), SEPTEMBER 1, 1986, EXCEPT SECTIONS 7.9.2, 7.9.3, AND 7.9.5.
- 4. SPECIFICATION FOR STRUCTURAL STEEL FOR BUILDINGS, AND COMMENTARY THEREON, AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC., (AISC), MARCH 9, 2005.
- 5. SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM STANDARDS A325 OR A490 BOLTS, APPROVED BY RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS, JUNE 30, 2004, INCLUDING COMMENTARY BY AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC., (AISC).
- 6. SPECIFICATIONS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS) OF THE AISC, AS AMENDED TO DATE.
- C. QUALITY CONTROL . TESTING AGENCY SERVICES: CONTRACTOR MAY ENGAGE AT HIS EXPENSE, A SEPARATE TESTING AGENCY FOR INFORMATION AND GUIDANCE, TO ASCERTAIN THAT ALL NEW MATERIALS ARE FURNISHED, FABRICATED, INSTALLED, OR ERECTED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS. THE TESTING AGENCY SHALL SEND REPORTS OF ALL INSPECTIONS TO THE ARCHITECT. OWNER. AND GENERAL CONTRACTOR.

2. FABRICATOR EXPERIENCE: FABRICATOR SHALL BE CAPABLE OF DEMONSTRATING FIVE (5) YEARS SUCCESSFUL EXPERIENCE IN STEEL PRODUCTION.

- D. MATERIALS: . <u>STRUCTURAL</u> <u>SHAPES</u>, <u>BARS</u> <u>AND</u> <u>PLATES</u>: ROLLED FROM NEW BILLETS ONLY, MADE BY OPEN-HEARTH PROCESS CONFORMING TO ASTM STANDARD A36 OR ASTM A572, GRADE 50; SUBMIT
- MILL CERTIFICATES
- 2. <u>STEEL BOLTS, NUTS AND WASHERS</u>: HIGH STRENGTH STEEL BOLTS, NUTS AND WASHERS, CONFORMING TO ASTM STANDARD A325. BOLTS SHALL CARRY THE IDENTIFYING MARK OF THREE (3) RADIAL LINES.
- 3. EXPANSION BOLTS OR SLEEVES: HILTI® KWIK BOLT 3 EXPANSION ANCHOR BY HILTI, INC., TULSA, OK, (800)879-8000, (918)252-6000, OF SIZES TO SUIT BOLTS.
- 4. SLIDING JOINT PLATES: BEARING PADS SHALL BE FABREEKA® BEARING PAD CONSISTING OF MULTIPLE LAYERS OF COTTON-POLYESTER DUCK IMPREGNATED WITH HIGH QUALITY RUBBER. THE POLYTETRAFLUORETHYLENE (PTFE) SELF-LUBRICATING SURFACE BEARING ELEMENT SHALL BE COMPRISED OF 100 PERCENT VIRGIN (UNFILLED) POLYTETRAFLUORETHYLENE POLYMER AND BE BONDED TO A RIGID CONFINING SUBSTRATE. THE SUBSTRATE SHALL LIMIT THE FLOW (ELONGATION) OF THE CONFINED PTFE TO NOT MORE THAN .009" UNDER LOAD OF 2000 PSI FOR 15 MINUTES AT 78°F FOR A 2" X 3" TEST SAMPLE. THE VIRGIN (UNFILLED) PTFE SHALL HAVE A THICKNESS OF NOT LESS THAN 1/32" AND BE OF SIZES AS REQUIRED BY THE DRAWINGS. MANUFACTURER: FABREEKA INTERNATIONAL, INC., STOUGHTON, MA, (800)322-7352, (781)341-3655, OR COMPARABLE PRODUCTS SUBJECT TO REVIEW BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

5. <u>ARC WELDING ELECTRODES</u>: E-70 SERIES CONFORMING TO THE REQUIREMENTS OF THE AWS A5.1 OR A5.5 AND AISC SPECIFICATIONS.

- 6. PRIMING PAINT: PROVIDE ONE (1) OF THE FOLLOWING MANUFACTURERS PRODUCT, LEAD AND ZINC CHROMATE FREE, IRON OXIDE, ALKYD RESIN VEHICLE PRIMING PAINT, SUBJECT TO REVIEW BY THE ARCHITECT. SUBSTITUTIONS WILL NOT BE PERMITTED. a. ICI DEVOE® HIGH PERFORMANCE COATINGS, DEVSHIELD™ 4130 RUST PENETRATING METAL
- PRIMER, LIGHT GRAY. b. PPG ARCHITECTURAL FINISHES, INC., PPG HIGH PERFORMANCE COATINGS, SPEEDHIDE® INT/EXT
- RUST INHIBITIVE STEEL PRIMER 6-208 RED. c. TNEMEC, INC., TNEMEC PRIMER SERIES 10, 99 RED.

E. BEAMS

. ERECTION:

PLACED.

INCLUDED AS PART OF WORK.

H. PAINTING (SHOP AND FIELD):

3. PROVIDE SLOTTED CONNECTIONS WHERE DETAILED.

SECURING MEMBERS TO SUPPORTING MASONRY.

PAINT COAT BEFORE ASSEMBLING.

REMOVED. REPAINT SUCH AREAS.

1. FABRICATE BEAMS FROM ROLLED SECTIONS OF THE SIZE INDICATED, WITH NATURAL CAMBER UP. MEMBERS SHALL BE STRAIGHT AND WITHOUT CAMBER OF MORE THAN 1/8" FOR EVERY 10 FEET OF SPAN. EXCEPT WHERE SPECIAL CAMBER IS INDICATED ON THE DRAWINGS. CONNECTIONS SHALL BE SUFFICIENT TO DEVELOP FULL STRENGTH OF THE MEMBER.

6. SHOP PRIME PAINT AND FIELD TOUCH-UP ALL STRUCTURAL STEEL.

STRUCTURE, UNTIL THE PERMANENT CONNECTIONS ARE MADE.

WHERE SURFACES ARE EXPOSED IN THE FINISH WORK.

OPERATES ON AN IMPACT PROCESS.

FOR EACH LOCATION.

2. PLATES, ANGLES AND OTHER SHAPES SHOWN ATTACHED TO STRUCTURAL MEMBERS SHALL BE

4. FURNISH BEAMS BEARING ON MASONRY WITH BEARING PLATES AS REQUIRED TO LIMIT THE STRESS TRANSFERRED TO THE MASONRY TO 200 PSI. PROVIDE SUITABLE ANCHORAGE DEVICES FOR

7. FURNISH THE GENERAL CONTRACTOR WITH COPIES OF INVOICE FOR PURCHASE OF PAINT. 8. BEFORE SHOP PAINTING, THOROUGHLY CLEAN ALL SURFACES OF DIRT, GREASE, SCALE, AND RUST.

g. ON ALL SURFACES NOT IN CONTACT BUT INACCESSIBLE AFTER ASSEMBLING, PROVIDE ONE (1)

h. PROVIDE ONE (1) PAINT COAT ON ALL FINISHED SHOP FABRICATED PIECES. 4. AFTER ERECTION, CLEAN-OFF ALL FOREIGN MATERIAL FROM THE STEEL, AND, IF ANY PAINT IS

1. UNLESS OTHERWISE SHOWN ON THE DRAWINGS, ERECT ALL VERTICAL MEMBERS PLUMB, ALL HORIZONTAL MEMBERS LEVEL, AND ALL INTERSECTIONS OF MEMBERS AT RIGHT ANGLES. 2. CONNECT ALL MEMBERS TEMPORARILY WITH SUFFICIENT BOLTS TO INSURE THE SAFETY OF THE

3. PROVIDE TEMPORARY BRACING AND SHORING AS REQUIRED; REMOVE WHEN FINAL CONNECTIONS

4. DO NOT WELD CONNECTIONS UNTIL THE MEMBERS HAVE BEEN ALIGNED PROPERLY. REMOVE ALL TEMPORARY BOLTS, AND CLOSE ALL OPEN HOLES BY PLUG WELDING AND GRINDING SMOOTH,

5. WHERE FRAMING MEMBERS ARE SECURED TO EXISTING CONCRETE CONSTRUCTION, PROVIDE HOLES FOR EXPANSION SLEEVES BY DRILLING WITH A ROTARY DRILL AND BIT, NOT BY ANY METHOD THAT

6. WHERE FRAMING MEMBERS ARE SECURED TO EXISTING FRAMING, DRILL HOLES IN THE EXISTING FRAMING FOR BOLTED CONNECTIONS DO NOT WELD TO EXISTING STEEL FRAMING UNLESS SO INDICATED ON THE DRAWINGS OR UNLESS WRITTEN PERMISSION IS OBTAINED FROM THE ARCHITECT,

7. ASSUME FULL RESPONSIBILITY FOR THE CORRECT PLUMBNESS AND ALIGNMENT, AND FOR SETTING OF ALL STRUCTURAL STEEL MEMBERS. PROVIDE ALL GUYS AND BRACES NECESSARY TO MAINTAIN THE STRUCTURE PLUMB AND IN PROPER ALIGNMENT UNTIL SUCH TIME AS SUCCEEDING WORK IS IN PLACE AND, IN THE OPINION OF THE GENERAL CONTRACTOR, THE GUY AND BRACING ARE NO LONGER NECESSARY. AT COMPLETION, REMOVE AND DISPOSE OF ALL TEMPORARY WORK AND FACILITIES, OFF-SITE.

END OF SECTION

- A. WORK INCLUDED: PRODUCTS AND MATERIALS INDICATED ON THE DRAWINGS, AND AS SPECIFIED
- B. <u>REFERENCE SPECIFICATIONS</u>: EXCEPT AS OTHERWISE SPECIFIED HEREIN, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE FOLLOWING CURRENT SPECIFICATIONS.
- 1. SPECIFICATIONS FOR STRUCTURAL STEEL FOR BUILDINGS, AND COMMENTARY THEREON, AS ADOPTED BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MARCH 9, 2005. 2. AMERICAN WELDING SOCIETY (AWS), D1.1, STRUCTURAL WELDING CODE - STEEL.
- 3. STANDARD SPECIFICATIONS FOR OPEN WEB STEEL JOISTS AS ADOPTED BY THE STEEL JOIST INSTITUTE (SJI) AND THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC), ANNUAL
- 4. WHERE EXPOSED TO VIEW, MATERIALS SHALL CONFORM TO AISC SPECIFICATIONS FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL (AESS), MINIMUM, AS AMENDED TO DATE. C. QUALITY CONTROL
- TESTING AGENCY SERVICES: CONTRACTOR MAY ENGAGE, AT HIS EXPENSE, A SEPARATE TESTING AGENCY FOR INFORMATION AND GUIDANCE, TO ASCERTAIN THAT ALL NEW MATERIALS ARE FURNISHED, FABRICATED, INSTALLED, OR ERECTED IN ACCORDANCE WITH REQUIREMENTS OF THI CONTRACT DOCUMENTS. THE TESTING AGENCY SHALL SEND INSPECTION REPORTS TO THE ARCHITECT, OWNER, AND GENERAL CONTRACTOR.

D. MATERIALS:

- ROLLED PLATES AND SHAPES: FABRICATED FROM NEW OPEN HEARTH STEEL CONFORMING TO ASTM
- 2. <u>STANDARD BOLTS AND ANCHOR BOLTS</u>: UNFINISHED BOLTS CONFORMING TO ASTM STANDARD A307 GRADE A, WITH HEXAGON HEADS AND NUTS WHERE EXPOSED IN THE FINISH WORK. 3. <u>STEEL PIPE RAILINGS</u>: ASTM STANDARD A53, TYPE S - SEAMLESS, GRADE A, SCHEDULE 40, UNLESS OTHERWISE NOTED.
- 4. EXPANSION BOLTS:
- a. HILTI® KWIK BOLT 3 EXPANSION ANCHOR AS MANUFACTURED BY HILTI, INC., TULSA, OK, (800)879-8000 OR (918)252-6000; WWW.US.HILTI.COM b. POWER-STUD™ AS MANUFACTURED BY POWERS FASTENERS, INC., BREWSTER, NY, (800)524-3244
- OR (914)235-6300; WWW.POWERS.COM 5. <u>WELDING ELECTRODES</u>: SERIES E-60 OR E-70, AWS A5.1 OR A5.5.
- PRIMING PAINT: PROVIDE ONE (1) OF THE FOLLOWING MANUFACTURERS PRODUCT, LEAD AND ZIN CHROMATE FREE PRIMING PAINT, SUBJECT TO REVIEW BY THE ARCHITECT. SUBSTITUTIONS WILL NO BE PERMITTED.
- a. FERROUS METAL PAINT PRODUCT:
- 6.a. ICI PAINTS DEVOE® HIGH PERFORMANCE COATINGS, STRONGSVILLE. OH, (800)654-2616; www.devoecoatings.com. PRODUCT: DEVSHIELD 4130 RUST PENETRATING METAL PRIMER, LIGHT
- 6.b. PPG ARCHITECTURAL FINISHES, LOUISVILLE, KY, (800)441-9695; www.ppghpc.com. PRODUCT: PPG HIGH PERFORMANCE COATINGS (HPC), SPEEDHIDE® INT/EXT RUST INHIBITIVE STEEL PRIMER 6-208 RED 6.c. TNEMEC, INC., KANSAS CITY, MO, (800)863-6321; www.tnemec.com. PRODUCT: TNEMEC PRIMER
- b. <u>GALVANIZED STEEL PAINT PRODUCT</u>:

SERIES 10, 99 RED.

- 6.a. ICI DEVOE® HIGH PERFORMANCE COATINGS, STRONGSVILLE. OH, (800)654-2616; www.devoecoatings.com. PRODUCT: DEVGUARD™ 4160 MULTI-PURPOSE TANK & STRUCTURAL PRIMER, WHITE
- 6.b. PPG ARCHITECTURAL FINISHES, PPG HIGH PERFORMANCE COATINGS, PRODUCT SPEEDHIDE® INT/EXT GALVANIZED STEEL PRIMER 6-209, WHITE.
- 6.c. TNEMEC, INC., PRODUCT: HI-BUILD EPOXOLINE SERIES 66, WHITE.
- F. GENERAL CONNECTIONS AND WORKMANSHIP: WELD ALL SHOP CONNECTIONS, BOLT OR WELD ALL FIELD DNNECTIONS UNLESS OTHERWISE NOTED OR SPECIFIED. PROVIDE ALL CLIPS. LUGS. BRACKETS STRAPS, PLATES, BOLTS, NUTS, WASHERS, AS REQUIRED FOR COMPLETE FABRICATION AND ERECTION USE CONNECTIONS OF TYPE AND DESIGN REQUIRED BY FORCES TO BE RESISTED, AND TO PROVIDE SECURE FASTENING.
- G. INSTALLATIONS BY OTHERS
- 1. FURNISH LOOSE STEEL ANGLE LINTELS TO MASONRY CONTRACTOR.
- 2. FURNISH ALL PIPE GUARD POSTS AND DELIVER TO THE CONCRETE CONTRACTOR FOR FILLING WITH CONCRETE AND SETTING.

END OF SECTION

SECTION 06 20 00 - FINISH CARPENTRY

- A. WORK INCLUDED: PRODUCTS AND MATERIALS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN. B. WOOD FOR FINISH CARPENTRY:
- . <u>MILLWORK AND TRIM</u>: CUSTOM GRADE AS DEFINED IN THE ARCHITECTURAL WOODWORK QUALITY STANDARDS GUIDE SPECIFICATIONS, AND QUALITY CERTIFICATION STANDARDS OF THE ARCHITECTURAL WOODWORK INSTITUTE.
- 2. HARDWOOD: TRIM SHALL MATCH EXISTING.
- SECTION 07 21 00 INSULATION A. WORK INCLUDED: PRODUCTS AND MATERIALS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN.

B. BLANKET/BATT INSULATION:

- MANUFACTURER AND INSULATION: OPEN-FACED WITH VAPOR BARRIER (FOIL-FACED), UNLESS OTHERWISE NOTED ON THE DRAWINGS, FLAME-RESISTANT, MINERAL FIBER INSULATION. MANUFACTURER: THERMAFIBER, INC., WABASH, IN, (888)834-2371, (260)563-2111, OR COMPARABLE PRODUCT SUBJECT TO ARCHITECT REVIEW.
- a. <u>BLANKET/BATT_WIDTHS</u>: PROVIDE AS REQUIRED BY FRAMING MEMBER SPACINGS INDICATED ON b. <u>SURFACE BURNING CHARACTERISTICS</u>: NON-COMBUSTIBLE WITH CLASS A FIRE HAZARD CLASSIFICATION PER ASTM STANDARD E84.
- WITH VAPOR BARRIER: THERMAFIBER® FS-25 (WITH FOIL-FACED VAPOR RETARDER ATTACHED), YPE III, FLAME SPREAD MAXIMUM 25 AND SMOKE DEVELOPED 0.
- 2. WITHOUT VAPOR BARRIER: THERMAFIBER® FS-15 (UNFACED), TYPE I, FLAME SPREAD 0 AND SMOKE DEVELOPED 0.
- c. <u>TYPE AND QUALITY</u>: RESISTANT TO DECAY AND CORROSION. d. <u>THERMAL RESISTANCE R-VALUES</u>: PROVIDE AT LOCATIONS NOTED AND SPECIFIED ON DRAWINGS. THICKNESS SHALL BE AS DETERMINED BY MANUFACTURER FOR R-VALUE SPECIFIED. MORE THAN
- ONE LAYER OF INSULATION MAY BE USED TO ACHIEVE THE R-VALUE. e. <u>EXPOSED INSULATION</u>: WHERE EXPOSED IN WALLS OR CEILING SPACE, INSULATION SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL.
- . ACCESSORIES: PROVIDE ALL SUPPLEMENTARY MATERIALS AS REQUIRED BY DRAWINGS AND/OR FIELD CONDITIONS

END OF SECTION

Job Number SHEET TITLE **SPECIFICATIONS**

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Date Issued

Bids & Permit 12/23/2020

END OF SECTION