

## DIVISION 2 - SITE WORK

1. DEMOLITION
PROVIDE DEMOLITION AND REMOVAL OF STRUCTURES, PAVEMENT, SIDEWALKS, CURBS, ETC. AND THE CAPPING OF EXISTING UTILITIES. REMOVE ABOVE GRADE AND BELOW GRADE IMPROVEMENTS AND REMOVE GROWTH AND VEGETATION AT THE SITE.
COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, REGULATIONS AND STANDARDS. IN CASE OF CONFLICT THE MORE STRINGENT REQUIREMENT SHALL GOVERN.
SCHEDULE AND EXECUTE ALL WORK IN A CAREFUL MANNER WITH ALL CONSIDERATION FOR NEIGHBORS AND THE PUBLIC TO PREVENT INJURY TO PERSONS OR PROPERTY.
PRIOR TO ALL DEMOLITION WORK CAREFULLY INSPECT THE ENTIRE SITE AND ALL OBJECTS TO BE DEMOLISHED AND/OR LEFT INTACT AND DETERMINE AN ORDERLY SEQUENCE FOR THE DEMOLITION. LOCATE ALL EXISTING UTILITY LINES AND DETERMINE THE REQUIREMENTS FOR DISCONNECTION AND CAPPING. LOCATE ALL ACTIVE UTILITY LINES TRAVERSING THE SITE AND DETERMINE THE REQUIREMENTS FOR PROTECTION.
PROTECTION: THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR PROTECTION OF EXISTING BUILDINGS, SURROUNDING PROPERTY AND ALL PERSONS. THE CONTRACTOR SHALL ALSO PROVIDE ALL SHORING, TEMPORARY BARRICADES AND TEMPORARY ENCLOSURES AS NECESSARY TO PROTECT ADJACENT PROPERTY FROM DAMAGE.
TAKE ALL MEANS NECESSARY TO PREVENT THE SPREAD OF DUST DURING DEMOLITION OPERATIONS. THOROUGHLY MOISTEN ALL GROUND SURFACES AS OFTEN AS REQUIRED TO PREVENT DUST BEING A NUISANCE TO THE PUBLIC, NEIGHBORS AND THE CONCURRENT PERFORMANCE OF OTHER WORK ON THE SITE.
PRESERVE IN OPERATING CONDITION ALL ACTIVE UTILITIES TRAVERSING THE SITE AND REQUIRED FOR FUTURE OPERATION OF THE BUILDING AND SURROUNDING PROPERTIES.
COORDINATE DISCONNECTING, REMOVING, PLUGGING, ABANDONING AND RELOCATING UTILITIES WITH LOCAL UTILITY COMPANIES OR OTHER GOVERNING AGENCIES.
ASBESTOS ABATEMENT: REFER TO ASBESTOS CONTAINING MATERIAL (ACM) REPORT FOR COMPLETE DESCRIPTION OF MATERIALS IDENTIFIED. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL RULES AND REGULATIONS FOR THE PROPER PROTECTION, REMOVAL AND DISPOSAL OF ANY ASBESTOS CONTAINING MATERIAL.
POLLUTION CONTROL: THE CONTRACTOR IS RESPONSIBLE FOR ENSURING TRUCKS LEAVING AND ENTERING THE SITE DO NOT DROP DEMOLITION DEBRIS OR DIRT ONTO PUBLIC STREETS.
THE CONTRACTOR IS RESPONSIBLE FOR THE PREVENTION OF SOIL EROSION AND SILT FROM LEAVING THE SITE.
FILLING BASEMENTS & VOIDS: COMPLETELY FILL BELOW GRADE AREA AND VOIDS RESULTING FROM THE DEMOLITION OF THE STRUCTURE AND UTILITIES.
REFER TO THE GEO-TECHNICAL REPORT FOR FILL MATERIAL AND PLACEMENT METHODS. PLACE FILL, COMPACT AND GRADE THE SURFACE TO MEET ADJACENT GRADES AND AS SHOWN ON THE DRAWINGS.
DISPOSAL OF DEMOLISHED MATERIALS A. REMOVE FROM SITE AND LEGALLY DISPOSE ALL RUBBISH, DEBRIS AND ALL MATERIALS RESULTING FROM THE DEMOLITION OPERATIONS.
2. EARTHWORK
LOCATE EXISTING UNDERGROUND UTILITIES BY CAREFUL HAND EXCAVATION BEFORE STARTING EARTHWORK OPERATIONS. IF UTILITIES ARE TO REMAIN IN PLACE, PROVIDE PROTECTION FROM DAMAGE DURING CONSTRUCTION OPERATIONS. CONTACT LOCAL UTILITY COMPANY FOR INFORMATION REGARDING UNDERGROUND UTILITIES.
SHOULD UNCHARTED OR INCORRECTLY CHARTED PIPING OR OTHER UTILITIES BE ENCOUNTERED DURING EXCAVATION, CONSULT THE OWNER IMMEDIATELY FOR DIRECTIONS AS TO PROCEDURES. REPAIR DAMAGED UTILITIES TO THE SATISFACTION OF THE UTILITY OWNER. COOPERATE WITH THE OWNER, PUBLIC AND PRIVATE UTILITY COMPANIES IN KEEPING SERVICES AND FACILITIES IN OPERATION.
BARRICADE OPEN EXCAVATION AND POST WITH WARNING LIGHTS FOR THE SAFETY OF PERSONS, OPERATING WARNING LIGHT DURING HOURS OF DUSK TO DAWN EACH DAY.
PROTECT STRUCTURE, UTILITIES, SIDEWALKS, PAVEMENTS, AND OTHER FACILITIES IMMEDIATELY ADJACENT TO EXCAVATIONS, FROM DAMAGES CAUSED BY SETTLEMENT, LATERAL MOVEMENT, UNDERMINING, WASHOUT AND OTHER HAZARDS.
ALL FILL AND BACK FILL SHALL BE SELECTED FILL MATERIAL COMPACTED AS NOTED IN THE SOILS REPORT. GRADING PLAN AND EARTHWORK SPECIFICATIONS SHALL USE NON-EXPANSION FILL MATERIAL AT BUILDING AREA AND UNDER WALKS. ALL COMPACTION SHALL BE SUPERVISED AND CERTIFIED BY A LICENSED SOILS ENGINEER AND CERTIFICATION REPORT SHALL BE SUBMITTED TO OWNER PRIOR TO PLACING OF CONCRETE.
3. ASPHALT AND CONCRETE PAVING
REFER TO CIVIL DRAWINGS FOR SPECIFICATIONS) SEE GRADING AND PAVING PORTION OF SITE PREPARATION PROCEDURES ON THE SITE AND/OR GRADING PLAN.
MATERIALS: 1) BASE COURSE: AS NOTED ON CIVIL DRAWINGS 2) PRIME COAT: MC-250 OR MC-70 PER ASPHALT INSTITUTE (ASTM D2027-76) 3) SURFACE COAT: AS NOTED ON CIVIL DRAWINGS 4) PAVEMENT MARKINGS, PARKING STALL STRIPES SHALL BE: AS NOTED ON CIVIL DRAWINGS 5) SEAL COAT: PER CITY REQUIREMENTS.
PROVIDE ALL ASPHALT AND CONCRETE WORK COMPLETE, AS SHOWN ON THE DRAWINGS HEREIN SPECIFIED, INCLUDING CONCRETE FORM WORK, REINFORCEMENT DOWELS AND ACCESSORIES, CONCRETE MIXED, PLACE, FINISHED AND CURED.
EXTERIOR WALKS AND RAMPS TO BE LIGHT BROOM TEXTURE FINISH, UNLESS NOTED OTHERWISE.
EXTERIOR FLATWORK AND CURBS - PROVIDE EXPANSION CONTRACTION JOINT AT 20'-0" ON CENTER MAXIMUM AND CONTROL JOINT AT 5'-0" ON CENTER MAXIMUM.
4. TERMITE CONTROL
QUALITY ASSURANCE: CONFORM TO STATE, LOCAL, AND ALL OTHER REGULATIONS FOR THE USE AND APPLICATION OF TOXICANT CHEMICALS. APPLICATOR SHALL BE A COMPANY SPECIALIZING IN SOIL TREATMENT FOR TERMITE CONTROL WITH FIVE YEARS EXPERIENCE AND LICENSED FOR PROJECT LOCATION. SUBMIT COMPLETE PRODUCT DATA AND MANUFACTURER'S INSTRUCTIONS. INDICATE CAUTION REQUIREMENTS.
WARRANTY: FURNISH FIVE YEAR WARRANTY AGAINST INVASION OR PROPAGATION OF SUBTERRANEAN TERMITES, DAMAGE TO BUILDING OR CONTENTS CAUSED BY TERMITES. INCLUDE COST FOR REPAIRS TO BUILDINGS OR CONTENTS SO CAUSED. CERTIFICATION OF TREATMENT SHALL BE PROVIDED IN CLOSEOUT DOCUMENTS AT G.C. EXPENSE.
PRODUCTS: PROVIDE WATER EMULSION MATERIALS MANUFACTURED BY ONE OF THE FOLLOWING: BASE TERMI-DOR, DOW AGRO SCIENCES EQUITY 1.0 PERCENT; OR OTHER PRODUCT SUBSTITUTIONS IF APPROVED IN WRITING BY PANDA.
EXECUTION: VERIFY EXISTING CONDITIONS BEFORE STARTING WORK. APPLY IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, STATE AND FEDERAL LAWS AND OSHA REGULATIONS. COORDINATE INSTALLATION WITH ROUGH GRADING TO AVOID DISTURBANCES TO TREATED SOIL. RETREAT ANY DISTURBED SOIL. DO NOT PERMIT SOIL GRADING OVER COMPLETED WORK.
TREATMENT SCHEDULE: TREAT SOIL AT THE FOLLOWING LOCATIONS: UNDER FOOTINGS; UNDER SLABS ON GRADE; BOTH SIDES OF FOUNDATION WALLS; AND SOIL WITHIN 10 FEET OF BUILDING PERIMETER FOR A DEPTH AS RECOMMENDED BY THE MANUFACTURER FOR THE REGION WHERE PROJECT IS LOCATED.

## DIVISION 3 - CONCRETE

REFER TO STRUCTURAL DRAWINGS FOR CONCRETE SPECIFICATIONS

### SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PROVIDE concrete for new floor slabs (where required), for patching existing floor slabs, where installation of new plumbing and electrical lines require removal of existing concrete materials, and for concrete curbs when shown on the drawings.
REFERENCED STANDARDS: Comply with applicable provisions of the following codes, specifications and standards, except where more stringent requirements are shown or specified:  ACI 318: "Manual of Standard Practice" ACI 347: "Recommended Practice for Concrete Formwork" ACI 301: "Specifications for Structural Concrete for Buildings" ACI 302: "Floor and Slab Construction" ACI 304: "Measuring, Mixing and Placing Concrete" ACI 305: "Hot Weather Concreting" ACI 306: "Cold Weather Concreting" ACI 315: "Reinforcement Detailing" CRSIs "Manual of Standard Practice"
CONCRETE MATERIALS: ASTM C-150, Type 1, Portland cement, with ASTM C-33 sand and crushed stone aggregates, mixed to provide 4,000 PSI minimum compressive strength at 28 days with W/C ratio: 0.44 maximum. Provide slab material with mix design to result in concrete slump of not more than 3", or not more than 8" after addition of plasticizer to verified 3" maximum slump concrete.
WELDED WIRE FABRIC: ASTM A-185 welded steel wire fabric, min. 6 x 6 - W14-W14
MOISTURE BARRIER: 6 mils thick polyethylene sheet.
SELF-LEVELING FLOOR TOPPING: Provide "Ardex" SD-L topping at all floor surfaces too rough or too un-even to finish with the indicated materials. Install topping in accordance with manufacturer's directions.
REINFORCEMENT INSTALLATION: Clean off loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete. Support and secure against displacement by placement operations by supporting reinforcing with ties, spacers, chairs or hangers as required. Place reinforcement to obtain the minimum coverage for concrete protection. Arrange, space and secure tie bars and bar supports together with 16 gage wire to hold reinforcement accurately in position during concrete placement operations. Set wire ties so twisted ends are away from exposed surfaces.
INSTALL WELDED WIRE FABRIC in as long lengths as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.
JOINTS:
CONSTRUCTION JOINTS: Locate and install construction joints so as not to impair strength and appearance of the structure. Provide keyways in construction joints at least 1-1/2" deep. Place construction joints perpendicular to main reinforcement. Continue reinforcement across construction joints.
ISOLATION JOINTS IN SLAB-ON-GRADE: Construct at points of contact between slabs and vertical surfaces, such as column pedestals, foundation walls, grade beams and elsewhere as indicated. Provide removable-top type expansion joint material for installation of sealant, where exposed to view in the completed work.
CONTROL JOINTS IN SLAB-ON-GRADE: Construct to form panels to divide slab into controlled areas of concrete pours not exceeding 20'-0" OC each-way typically or as otherwise indicated in the Drawings. Provide sawn-control joints as soon as possible after slab finishing as may be safely done without dislodging aggregate. Saw cut no less than the top 1/4 the slab thickness.
CONCRETE PLACEMENT:
INSTALL concrete Work to match and meet existing adjoining surfaces. Do not transport wet concrete through public areas without prior approval of the Landlord and without extensive protection of the existing finishes.
COMPLY with ACI 304 "Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete", and as herein specified.
DO NOT USE CONCRETE which becomes non-plastic and unworkable, or which has been contaminated by foreign materials. Remove rejected concrete from the site and dispose of it in a location approved by local authorities.
CONCRETE CONVEYING: Handle concrete from the point of delivery and transfer to concrete conveying equipment, and to the location of final deposit, as rapidly and practicable as Specified in ASTM C-94. Use chutes or tremies for placing concrete where a drop of more than three (3) feet is required. Pumps may be used only if they can pump the mix designed. Do not add fine aggregate or water to the mix to satisfy needs of a pumping device.
DEPOSIT CONCRETE continuously or in layers of such thickness that no concrete will be placed on concrete which has hardened sufficiently to cause the formation of seams or planes of weakness. If a section cannot be placed continuously, provide construction joints. Deposit concrete as nearly as practicable in its final location to avoid segregation. Place in forms in horizontal layers not deeper than 24", and to avoid inelctric construction joints.
PLACING CONCRETE SLABS: Deposit and consolidate concrete slabs in a continuous operation, within the limits of construction joints, until the placing of a panel or section is completed. Consolidate concrete so it is thoroughly worked around reinforcement and other embedded items and into corners. Bring slab surface to the correct level with a straight edge, and then strike off. Use bull floats or darbies to smooth surface, leaving it free from bumps and hollows. Do not sprinkle water on the plastic surface. Do not disturb the slab surface prior to start of finishing operations.
DO NOT use vibrators to transport concrete inside forms. Do not vibrate forms or reinforcement. Do not subject concrete to any procedure which will cause segregation. Maintain reinforcement in proper position during placement.
FLOAT FINISH: Apply float finish to slab surfaces that are to receive trowel finish, and to surfaces which are to be covered with membrane waterproofing or roofing. Do not work surfaces after screeding, consolidating, and leveling slabs, until ready for floating. Begin floating when surface water has disappeared or when the concrete has stiffened sufficiently to permit operation of a power-driven floats. Consolidate surface with power driven floats, or by hand-floating if area is small or inaccessible to power units. Check and level the surface plane to a tolerance not exceeding 1/4" in ten (10) feet, in two different angles. Cut down high spots and fill low spots. Uniformly slope surfaces to drains. Immediately after leveling, re-float surface to a smooth, uniform, granular texture.
TROWEL FINISH: Apply trowel finish to interior and exterior concrete slab surfaces that are to be exposed to view (including exterior patio) and to slab surfaces that are to be covered with resilient flooring, carpet, ceramic or quarry tile, wood flooring or other floor-finishes. After floating, begin first trowel finish operation using a power-driven trowel. Begin final troweling when surface produces a ringing sound as trowel is moved over the surface. Consolidate concrete surface by final hand troweling operation, free from trowel marks, uniform in texture and appearance, and with a surface plane tolerance not exceeding 1/8" in ten (10) feet, in two different angles. Grind smooth surface defects which would telegraph through applied floor covering system.
CURBS:               Where concrete curbs are indicated on the Drawings, strip forms while concrete is still green and

steel-trowel surfaces to a hard, dense finish with corners, intersections and terminations slightly rounded.

PROTECT the freshly placed concrete from premature drying from wind, excessive cold and hot temperature, and maintain for a period of time necessary for hydration of cement and proper hardening.

### ARCHITECTURAL CAST STONE

### SECTION 04 72 00

#### PART 1 - GENERAL

RELATED DOCUMENTS: The Drawings, and general provisions of the Contract, including the General and Supplementary Conditions, and Division-1 Sections of the Specifications, apply to this Section.
WORK INCLUDED: Provide cast stone as shown on the drawings, as specified herein, and as needed to meet the requirements of the construction indicated in the Contract Documents. Types of applications include but are not limited to the following: Running trim shapes
RELATED SECTIONS Division-7 Section: Joint Sealants.
REFERENCES ACI 318 - Building Code Requirements for Reinforced Concrete. ASTM A 185 - Steel Welded Wire Fabric, Plain, for Concrete Reinforcement. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement. ASTM C 33 - Standard Specification for Concrete Aggregates. ASTM C 150 - Standard Specification for Portland Cement. ASTM C 270 - Standard Specification for Mortar for Unit Masonry. ASTM C 494 - Standard Specification for Chemical Admixtures for Concrete. ASTM C 642 - Standard Test Method for Specific Gravity, Absorption, and Voids in Hardened Concrete. ASTM C 979 - Standard Specification for Pigments for Integrally Colored Concrete. ASTM C 1194 - Standard Test Method for Compressive Strength of Architectural Cast Stone. ASTM C 1195 - Standard Test Method for Absorption of Architectural Cast Stone. ASTM C 1264 - Architectural Cast Stone. ASTM D 2244 - Standard Test Method for Calculation of Color Differences From Instrumentally Measured Color Coordinates. Cast Stone Institute Technical Manual.

#### DEFINITIONS

CAST STONE: Highly refined architectural concrete stone product manufactured to simulate fine grain texture of natural stone.

VIBRANT DRY TAMP (VDT) CASTING METHOD: Vibratory ramming of damp, zero-slump concrete against rigid formwork until it is densely compacted and ready for immediate removal from form.

#### SUBMITTALS

PRODUCT DATA: Test results of cast stone components made previously by manufacturer.

SUBMIT SHOP DRAWINGS to indicate sizes, profiles, setting mark, and locations of each cast stone item required, with dimensional plans, elevations, sections and large scale details., as applicable. Show arrangement of joints, bonding, details of anchors, inserts, joints, connections to adjoining materials, reinforcing, and methods of installation and anchoring. Indicate actual, verified in-place field dimensions of adjacent construction elements as applicable.

PROVIDE MATERIAL CERTIFICATES for the following signed by cast stone manufacturer certifying that materials comply with the following requirements:  
COMPRESSIVE STRENGTH AND WATER ABSORPTION TESTS of cast stone materials. Test results shall be determined by the average of three specimens per test. The results of compression tests shall be divided by a factor of 0.8 when saw-cut or core-drilled specimens are used.  
MATERIAL AND GRADE CERTIFICATES, for reinforcing bars and accessories.

#### QUALITY ASSURANCE

MANUFACTURER QUALIFICATIONS: A current producer member of Cast Stone Institute, with a minimum of 5 years of experience in producing cast stone of types required for project. Plant shall have adequate capacity to furnish quality, sizes, and quantity of cast stone required without delaying progress of the Work. Products previously produced by plant and exposed to weather shall exhibit satisfactory appearance.

STANDARDS: Comply with requirements of Cast Stone Institute Technical Manual.

#### DELIVERY, STORAGE, AND HANDLING

PACKING AND SHIPPING: Carefully load and pack all cast stone for transportation secured to shipping pallets and protected from damage and discoloration. Protect corners from damage.

ACCEPTANCE AT SITE: Receive and unload cast stone utilizing competent workmen with necessary care and handling to avoid damage and soiling.

HANDLE cast stone and related materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage, chipping, or other causes. Do not use pinch or wrecking bars. Lift with wide-belt-type slings where possible; do not use wire rope or ropes containing tar or other substances that might cause staining. If required to move cast stone, use wood rollers with cushions at end of wood slides.

STORE cast stone on wood skids or pallets covered with nonstaining, waterproof membrane. Place and stack skids and stones to distribute weight evenly and to prevent breakage or cracking of stones. Protect stored stone from weather with waterproof, nonstaining covers or enclosures, but allow air to circulate around stones.

REPLACEMENTS: In the event of damage, immediately make all repairs and replacements necessary at no additional cost to the Owner.

SCHEDULE AND COORDINATE PRODUCTION AND DELIVERY of cast stone components with unit masonry work to optimize on-site inventory and to avoid delaying the Work.

#### PART 2 - PRODUCTS

ARCHITECTURAL CAST STONE:  
Provide specific running trim and architectural units as indicated in the Drawings.  
Comply with: ASTM C 1164.  
Casting Method: Vibrant Dry Tamp.  
Compressive Strength: ASTM C 1194: 6,500 psi minimum at 28 days.  
Absorption: ASTM C 642 or C 1195: 6 percent maximum at 28 days.  
Color and Finish: Provide up to 2 different colors on cast-stone products, with up to two (2) textures (rough and smooth - fine grained). Match sample on file at Architect's office.  
Viewing Conditions: Compare in direct daylight at 10 feet, after subjecting to similar aging and weathering conditions.  
Maximum Variation, ASTM D 2244: 2 percent hue; 6 percent lightness, chroma, and hue combined.

CAST STONE MATERIALS  
Portland Cement: ASTM C 150, Type 1, white or gray as required to match Architect's sample.  
Course Aggregate: ASTM C 33, except for gradation; granite, quartz, or limestone.  
Fine Aggregate: ASTM C 33, except for gradation; natural or manufactured sands.  
Pigments: ASTM C 979, inorganic iron oxides.  
Admixtures: ASTM C 494.  
Water: Potable.  
Reinforcing:  
Bars: ASTM A 615/A 615M, galvanized or epoxy coated.  
Mesh: ASTM A 185, galvanized or epoxy coated.

MORTAR MATERIALS: ASTM C 270, Type N.

#### ACCESSORIES

Anchors: Type 304 Stainless Steel, sized for conditions.  
Sealant: As specified in Section 07 92 00.

CLEANER: Manufacturer's standard-strength, general-purpose cleaner designed for removing mortar and grout stains, efflorescence, and other construction stains from new masonry surfaces without discoloring or damaging masonry surfaces. Expressly approved for intended use by cast stone manufacturer and expressly approved by cleaner manufacturer for use on cast stone and adjacent masonry materials.

#### FABRICATION

SHAPES: Unless otherwise indicated on drawings, provide:  
Suitable wash on exterior sills, copings, projecting corners, and components with exposed top surfaces.  
Drips on projecting components, wherever possible.  
Fremolded corners where units wrap around corner elements. Do not field miter corners.

REINFORCEMENT: Provide reinforcement as required to withstand handling and structural stresses.

Comply with ACI 318.  
Provide reinforcement of a minimum of 0.25 percent of cross-section area.

CURING: Cure cast stone components with a direct fired steam generator at a minimum temperature of 105 degrees F for a minimum of 6 hours, within 12 hours of fabrication. Cure cast stone components in presence of carbon monoxide and carbon dioxide to promote carbonation at surface, to minimize efflorescence.

FINISHING: Remove cement film from exposed surfaces before packaging for shipment.

TOLERANCES: Fabricate cast stone components within specified tolerances.  
All Dimensions: Plus or minus 1/8 inch  
Maximum Bow, Camber, or Twist: Length/360.

#### PART 3 - EXECUTION

EXAMINE CONSTRUCTION to receive cast stone components. Notify Architect if construction is not acceptable. Do not begin installation until unacceptable conditions have been corrected.

INSTALL CAST STONE COMPONENTS in conjunction with masonry, complying with requirements of Division-4 Unit Masonry requirements.

#### SETTING:

Drench cast stone components with clear, running water immediately before installation.  
Do not use pry bars or other equipment in a manner that could damage cast stone components.  
Fill dowel holes and anchor slots completely with mortar or non-shrink grout.  
Set cast stone components in a full bed of mortar, unless otherwise detailed.  
Fill vertical joints with mortar.

Make all joints 3/8 inch, except as otherwise detailed.  
Leave head joints in copings and similar components open for sealant.  
Rake mortar joints 3/4 inch for pointing. Sponge face of each stone to remove excess mortar.  
Tuck point joints to a slight concave profile.

#### SEALANT JOINTS:

Comply with requirements of Division-7 Section "Joint Sealers".  
Prime ends of cast stone components, insert properly sized foam backing rod, and install sealant using sealant gun.  
Provide sealant joints at following locations and as otherwise detailed:  
Cast stone components with exposed tops.  
Joints at relieving angles.  
At control and expansion joints.

INSTALLATION TOLERANCES: Comply with requirements of Cast Stone Institute Technical Manual for installation tolerances, unless otherwise specified.  
VARIATION FROM PLUMB: Do not exceed 1/8 inch in 10 feet or 1/4 inch in 20 feet or more.  
VARIATION FROM LEVEL: Do not exceed 1/8 inch in 10 feet, 1/4 inch in 20 feet, or 3/8 inch maximum.  
VARIATION IN JOINT WIDTH: Do not vary joint thickness more than 1/8 inch in 36 inches or 1/4 of nominal joint width, whichever is less.  
VARIATION IN PLANE BETWEEN ADJACENT SURFACES (LIPPING): Do not exceed 1/16-inch difference between planes of adjacent units or adjacent surfaces indicated to be flush with units.

SURFACE REPAIR: Repair chipping and other surface damage noticeable when viewed in direct daylight at 10 feet. Repair with matching touchup material provided by manufacturer and in accordance with manufacturer's instructions. Repair methods and results to be approved by Architect.

#### CLEANING AND PROTECTION

IN-PROGRESS CLEANING: Clean cast stone components as work progresses. Remove mortar fins and smears before tooling joints.

FINAL CLEANING: Clean exposed cast stone, after mortar is thoroughly set and cured. Wet surfaces with water before applying cleaner. Apply cleaner to cast stone in accordance with manufacturer's instructions. Remove cleaner promptly by rinsing thoroughly with clear water.

PROTECTION: Protect cast stone components from splashing and other damage.

### END OF SECTION 04 72 00

### MANUFACTURED STONE VENEER

### SECTION 04 73 00

#### PART 1 - GENERAL

RELATED DOCUMENTS: The Drawings, and general provisions of the Contract, including the General and Supplementary Conditions, and Division-1 Sections of the Specifications, apply to this Section.

WORK INCLUDED: Provide stone veneer assemblies where indicated on the Drawings, as specified herein, and as necessary for complete installation. Types of applications include but are not limited to the following:  
Anchored and adhered to cold-formed metal framing and sheathing.  
Anchored and Adhered to Unit Masonry Backup.

RELATED SECTIONS INCLUDE THE FOLLOWING:  
Division 3 Section Cast in place concrete  
Division 4 Section "Unit Masonry Assemblies"  
Division 5 Section "Coldform metal framing."  
Division 6 Section "Rough Carpentry."  
Division 7 Section "Building Insulation" for insulation installed between stone veneer assemblies and backup material.  
Division 7 Section "Sheet Metal Flashing and Trim" for exposed sheet metal flashing.

#### SUBMITTALS

PRODUCT DATA: For each type of product indicated.

STONE SAMPLES FOR VERIFICATION: For each color, grade, finish, and variety of stone required.

#### QUALITY ASSURANCE

INSTALLER QUALIFICATIONS: An installer who employs experienced stone masons and stone fitters who are skilled in installing stone veneer assemblies similar in material, design, and extent to those indicated for this Project and whose projects have a record of successful in-service performance.

SOURCE LIMITATIONS FOR STONE: Obtain each variety of stone, regardless of finish, from a single quarry with resources to provide materials of consistent quality in appearance and physical properties. Obtain each variety of stone from a single quarry, whether specified in this Section or in another Section of the Specifications.

SOURCE LIMITATIONS FOR MORTAR MATERIALS: Obtain ingredients of a uniform quality for each mortar component from a single manufacturer and each aggregate from one source or producer.

#### DELIVERY, STORAGE, AND HANDLING

DELIVER PREBLENDED, DRY MORTAR MIX in moisture-resistant containers designed for lifting and emptying into dispensing silo. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, and in a dry location or in a metal dispensing silo with weatherproof cover.

STONE MASONRY ACCESSORIES, including metal items, to prevent corrosion and accumulation of dirt and oil.

#### PRODUCT CONDITIONS

PROTECTION OF STONE VENEER ASSEMBLIES: During construction, cover tops of walls, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed stone veneer assemblies when construction is not in progress.

EXTEND COVER A MINIMUM OF 24 INCHES down both sides and hold cover securely in place.  
STAIN PREVENTION: Immediately remove mortar and soil to prevent them from staining the face of stone veneer assemblies. Protect base of walls from rain-splashed mud and mortar splatter by coverings spread on the ground and over the wall surface. Protect sills, ledges, and projections from mortar droppings.  
Protect surfaces of windows and door frames, as well as similar products with painted and integral finishes, from mortar droppings. Turn scaffold boards near the wall on edge at end of each day to prevent rain from splashing mortar and dirt on completed stone veneer assemblies.

COLD-WEATHER REQUIREMENTS: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace stone veneer assemblies damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602. Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than 7 days after completing cleaning.

### METAL FABRICATIONS

### SECTION 05 50 00

#### PART 1 - GENERAL

RELATED DOCUMENTS: The Drawings, and general provisions of the Contract, including the General and Supplementary Conditions, and Division-1 Sections of the Specifications, apply to this Section.

WORK INCLUDED: Provide miscellaneous metal fabrications where indicated on the Drawings, as specified herein, and as necessary for complete installation. Types of applications include but are not limited to the following:  
Loose steel limits  
Steel framing and supports for mechanical and electrical equipment  
Steel framing and supports for applications where framing and supports are not specified in other Sections  
Steel ladders

RELATED SECTIONS include the following:  
Division-06 Section "Rough Carpentry" for metal framing anchors and other rough hardware.  
Division-09 Section "Painting" for finish painting of installed steel items.

#### SUBMITTALS

PRODUCT DATA: For each type of pre-fabricated or manufactured product indicated, including finishes.

SHOP DRAWINGS: For custom-fabricated indicated herein, detail fabrication and erection of each metal component indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other Sections.

SUBMIT STRUCTURAL ANALYSIS DATA (when applicable) indicating compliance with design loads, and provide shop drawings signed and sealed by the qualified Professional Engineer responsible for their preparation.

#### QUALITY ASSURANCE

FABRICATOR QUALIFICATIONS: A firm experienced in producing metal fabrications similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

PROFESSIONAL ENGINEER QUALIFICATIONS: Legally qualified to practice in jurisdiction where Project is located, experienced in providing engineering services of the kind indicated, with Professional Liability Insurance as required in Supplementary Conditions.

QUALIFY WELDING PROCEDURES AND PERSONNEL according to the following:

AWS D1.1, "Structural Welding Code-Steel."  
AWS D1.3, "Structural Welding Code-Sheet Steel."  
Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone recertification.



THIS DRAWING has been prepared by the Architect, or prepared under his direct supervision as an instrument of service and is intended for use only on this project. All Drawings, Specifications, Plans and Details, including the overall layout, form, arrangement, and composition of spaces and elements portrayed, constitute the original, unpublished Work of the Architect. Any reproduction, use, or disclosure of the information contained herein without the written consent of the Architect is strictly prohibited.

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RELATED DOCUMENTS: This Drawing is a single component of an integrated set of Construction Documents. General and Supplementary Conditions of the Contract, General Requirements, Specifications and other Drawings may affect the Work described. Failure to review and integrate the entire set of the whole of the Construction Documents does not relieve the Contractor from providing a complete Project. COMPLY WITH all laws, codes, ordinances and regulations with authorities having jurisdiction and with requirements of the Landlord, if applicable. Do not start Work until all permits and required approvals are obtained. VERIFY ACTUAL CONDITIONS and dimensions prior to construction. Commencement of work constitutes verification and acceptance of all existing conditions. Application of a material or equipment item to Work resulted by others constitutes acceptance of the Work and assumption of responsibility for satisfactory installation.

DIMENSIONS SHOWN are to finish face of a material unless otherwise indicated. INCLUDE A MEASUR Dimensions - 10' NO SCALE Drawing unless otherwise noted.

project title

CFT NV DEVELOPMENTS, LLC  
CFT RETAIL BUILDING  
E. 144TH AVENUE AND GRANT STREET  
THORNTON, CO 80023

project number

20045.001

drawing issuance

Permit/Bid Set	11.25.20
Construction Set	2.24.21
drawing revisions	

No.	Description:	Date:
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