ADDENDUM

Project: Park 1,4,10 Project No.: 505069318020101 Addendum No.: 01

Project Address: 50 S. 750 W. Orem, UT 84058 Date: 5-20-19

Owner: Corporation of the Presiding Bishop of The Church of Jesus Christ of Latter-day Saints, a Utah corporation sole

From (Architect): Trio Design Inc.

Instructions to Prospective Bidders:

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents and/or prior Addenda as noted below. All conditions, requirements, materials and workmanship are to be as described in the Contract Documents unless specifically stated otherwise. This Addendum consists of 15 pages

1. Changes to prior Addenda: None

2. Changes to Bidding Requirements:
   a. Time of Substantial Completion shall be 120 days (45 days estimated for rostrum construction)
   b. Include cost to camera sewer line at conclusion of project
   c. Revise, patch and repair existing sod and irrigation in areas affected by exterior work as needed

3. Changes to Conditions of the Contract: None

4. Changes to Specifications:
   a. Remove from Table of Contents: Section 12 6113
   b. Section 09 3013: Replace with attached
   c. Section 10 2113: Mfg./Product substitution approved: Hiny Hiders Solid Plastic- Scranton Products: Adam Arellano 570-348-0997

5. Changes to Drawings:
   a. Sheet A100 Clarification at Main Entrances (2): Do not remove/replace stairs- no work on stairs
   b. Sheet A101: Enlarge attic access in corridor, increase 1’ if possible each side to code minimum
   c. Sheet A102: Install 4” floor drain in each restroom
   d. Sheet A102: Install exhaust fan in family restroom vent thru attic, coordinate on site
   e. Sheet A 103: No new seating at rostrum, safeguard and reinstall removed seating
   f. Sheet A104 West Ramp: Relocate existing downspout to accommodate new ramp
   g. Sheet A104 North West Ramp: Relocate existing electrical splice box to accommodate new ramp
   h. Sheet MP101: Disregard mech. room layout on this sheet

End of Addendum

SECTION 09 3013

CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

A. Includes But Not Limited To:
   1. Furnish and install ceramic tile and tile setting materials and accessories as described in Contract Documents.

B. Related Requirements:
   1. Section 09 2900: 'Gypsum Board' for installation of backerboard behind ceramic tile, except for joint reinforcing.
   2. Section 22 1319: 'Facility Sanitary Sewer Specialties' for floor drains installed in ceramic tile floors.

C. Products Installed But not Furnished Under This Section:
   1. Interior Ceramic Tile Joint Sealants:

D. Related Requirements:
   1. Section 07 9213: 'Elastomeric Joint Sealants'.

1.2 REFERENCES

A. Association Publications:
   1. American National Standard Specification (ANSI) for the Installation of Ceramic Tile.
   2. International Standards Organization (ISO) 13007, ‘Classification for Adhesives and Grout'.
   3. Tile Council of North America:
      a. TCNA Handbook, 'Handbook for Ceramic, Glass, and Stone Tile Installation, 2015'.

B. Definitions:
   1. Crack Isolation: Prevention of transfer of cracks from substrate through tile or stone when substrate is subjected to horizontal movement of cracks.
   2. Dynamic Coefficient of Friction (DCOF): Measures ratio of forces necessary to keep two surfaces sliding.
   3. Epoxy Grout: Mortar system employing epoxy resin and epoxy hardener portions.
   4. Grout: Rich or strong cementitious or chemically setting mix used for filling tile joints.
   5. ISO 13007 Standards Product Classifications:
      a. Adhesives:

Types	Classes	Special Characteristics
C = Cementitious (Thin-Set Mortars)	1 = Normal 2 = Improved	F = Fast-Setting T = Slip-Resistant E = Extended Open Time S1 = Deformable S2 = Highly Deformable P1 = Plywood Adhesion P2 = Improved Plywood Adhesion
D = Dispersion (Mastics)	1 = Normal 2 = Improved	F = Fast-Setting T = Slip-Resistant

		E = Extended Open Time
R = Reaction Resin (Epoxies)	1 = Normal 2 = Improved	T = Slip-Resistant

1) Cementitious Adhesive (C): Mixture of hydraulic binding agents (e.g. portland cement), aggregates, and organic additives (e.g. latex polymers, moisture retention additive, etc…) to be mixed with water or latex admix before mixing.
2) Dispersion Adhesive (D): Ready-to-use mixture of organic binding agents in the form of an aqueous polymer dispersion, organic additives and mineral fillers - mastic type products.
3) Reaction Resin Adhesive (R): Single or multi-component mixture of synthetic resin, mineral fillers and organic additives in which curing occurs by chemical reaction – epoxy or urethane based products.
4) Class 1 (1): Adhesive has passed minimum pass level tests that are mandatory for that adhesive type.
5) Class 2 (2): Adhesive has passed same tests as Class 1 and/or other applicable tests, but at higher pass levels.
6) Fast-Setting (F): Adhesive with accelerated cure time that must achieve minimum strength requirements of fast setting adhesive. This designation does not apply to reaction resin adhesives (R).
7) Slip-Resistance (T): Downward movement of a tile applied to combed adhesive layer on vertical surface must be ≤ 0.5mm for a C or D adhesive, and ≤ 5mm for a type R adhesive.
8) Extended Open Time (E): Maximum time interval after application at which tiles can be embedded in applied adhesive and meet tensile adhesion strength requirement must be ≥ 30 minutes. This designation does not apply to reaction resin adhesives (R).
9) Deformability (S): Capacity of hardened adhesive to be deformed by stresses between tile and substrate without damage to installed surface – to pass S1 requirements an adhesive must be able to deform ≥ 2.5mm but < 5mm; to pass S2 requirements an adhesive must be able to deform ≥ 5mm. This designation does not apply to reaction resin adhesives (R).
10) Exterior Glue Plywood (P): Adhesive with ability to bond tile or stone to exterior glue plywood substrates (interior only). This designation does not apply to reaction resin adhesives (R) or dispersion adhesives (D).

b. Grouts:

Types	Classes	Special Characteristics
CG = Cementitious Grout	1 = Normal 2 = Improved	F = Fast-Setting A = High Abrasion Resistance W = Reduced Water Absorption
RG = Reaction Resin Grouts	1 = Normal 2 = Improved	Higher performance characteris-tics than improved cementitious grouts

1) Cementitious Grout (CG): Mixture of hydraulic binding agents (e.g. portland cement), aggregates, inorganic and organic additives (e.g. latex polymers, moisture retention additive, etc…).
2) Reaction Resin Grout (RG): Single or multi-component mixture of synthetic resin, mineral fillers and organic additives in which curing occurs by chemical reaction – epoxy or urethane based products.
3) Class 1 (1): Grout has passed minimum pass level tests that are mandatory for cementitious grouts.
4) Class 2 (2): Cementitious grout has passed same tests as Class 1 and/or other applicable tests, but at higher pass levels.
5) Fast-Setting (F): Grout with accelerated cure time that must achieve minimum compressive strength requirements under normal conditions within twenty four (24) hours. This designation applies only to cementitious grouts (CG).

6) High Abrasion Resistance (A): Capability of grout to resist wear. This designation applies only to cementitious grouts (CG).
7) Reduced Water Absorption (W): Grout has lower water absorption rate than standard cementitious grout. This designation applies only to cementitious grouts (CG).

6. Latex/Polymer Modified Portland Cement Mortar: Latex/Polymer modified portland cement mortar is a mixture of portland cement, sand, and special latex/polymer additive that is used as a bond coat for setting tile.
7. Pavers: Unglazed porcelain or natural clay tile formed by dust-pressed method and similar to ceramic mosaics in composition and physical properties but relatively thicker with 6 inch - or more of facial area. (ASTM C242).
8. Sanded Cement Grout: Factory prepared mixture of cement, graded sand, and other ingredients to produce water-resistant, dense, uniformly colored material. Used for joints of 1/8 inch width or greater.
9. Static Coefficient of Friction (SCOF): Measures ratio of forces necessary to start two surfaces sliding (older measurement of friction replaced by dynamic coefficient of friction (DCOF)).
10. Unsanded Cement Grout: Factory prepared mixture of cement and additives that provide water retentivity. Used for joints of 1/8 inch or less.

C. Reference Standard:
1. American National Standards Institute:
a. ANSI A108/A118/A136.1, 'American National Standards Specifications for the Installation of Ceramic Tile', Version 2013.1 (compilation of standards):
1) Installation Standards:
a) A108.01, ‘General Requirements: Subsurfaces and Preparation by Other Trades'.
b) A108.02, ‘General Requirements: Materials, Environmental, and Workmanship'.
c) A108.05, ‘Installation of Ceramic Tile with Dry-Set Portland Cement Mortar of Latex-Portland Cement Mortar'.
d) A108.6, ‘Installation of Tile with Chemical Resistant, Water Cleanable Tile-Setting and Grouting Epoxy’.
e) A108.10, ‘Installation of Grout in Tilework'.
f) A108.17, ‘Installation of Crack Isolation Membranes for Thin-Set Ceramic Tile and Dimension Stone'.
2) Material Specifications:
a) A118.1, ‘Dry-Set Portland Cement Mortar'.
b) A118.3. 'Chemical Resistant, Water Cleanable Tile-Setting and -Grouting Epoxy and Water Cleanable Tile-Setting Epoxy Adhesive'.
c) A118.4, ‘Latex Portland Cement Mortar'.
d) A118.6, 'Cement Grouts for Tile Installation'.
e) A118.7, ‘High-Performance Polymer Modified Latex/Portland Cement Grouts for Tile Installation’.
f) A118.10, ‘Load Bearing, Bonded, Waterproof Membranes for Thin-Set Ceramic Tile and Dimension Stone Installations'.
g) A118.12, ‘Crack Isolation Membranes for Thin-set Ceramic Tile and Dimension Stone Installations'.
b. ANSI A137.1, 'National Standard Specifications for Ceramic Tile'.
2. ASTM International:
a. ASTM A1064/A1064M-17, 'Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete'.
b. ASTM C144-11, ‘Standard Specification for Aggregate for Masonry Mortar'.
c. ASTM C150/C150M-17, ‘Standard Specification for Portland Cement'.
d. ASTM C206-14, ‘Standard Specification for Finishing Hydrated Lime'.
e. ASTM C207-06(2011), ‘Standard Specification for Hydrated Lime for Masonry Purposes'.
f. ASTM C242-15, ‘Standard Terminology of Ceramic Whitewares and Related Products’.
g. ASTM C373-16, 'Standard Test Method for Water Absorption, Bulk Density, Apparent Porosity, and Apparent Specific Gravity of Fired Whiteware Products'.
h. ASTM C482--02(2014), 'Standard Test Method for Bond Strength of Ceramic Tile to Portland Cement Paste'.
i. ASTM C501-84(2015), 'Standard Test Method for Relative Resistance to Wear of Unglazed Ceramic Tile by the Taber Abraser'.
j. ASTM C648-04(2014), 'Standard Test Method for Breaking Strength of Ceramic Tile'.

k. ASTM C847-14a, 'Standard Specification for Metal Lath'.

3. International Organization for Standardization:
   a. ISO 13007-1-2013, ' Ceramic tiles - Grouts and adhesives - Part 1: Terms, definitions and specifications for adhesives'.
   b. ISO 13007-2-2013, ' Ceramic tiles - Grouts and adhesives - Part 2: Test methods for adhesives'.
   c. ISO 13007-3-2013, ' Ceramic tiles - Grouts and adhesives - Part 3: Terms, definitions and specifications for grouts'.
   d. ISO 13007-4-2013, ' Ceramic tiles - Grouts and adhesives - Part 4: Test methods for grouts'.
4. Tile Council of North America:
   a. TCNA F141-15, 'Joists 16 inch o.c./Plywood Subfloor, Unbonded Mortar Bed, Ceramic Tile'. TCNA F144-15, 'Joists 16 inch o.c./Plywood, Subfloor, Cement or Giber-Cement, Backer Board, Ceramic Tile'.
   b. TCNA W211-15, 'Masonry or Concrete, Bonded Mortar Bed, Ceramic Tile'.
   c. TCNA W221-15, 'Solid Backing, Mortar Bed, Ceramic Tile'.
   d. TCNA W244c-15, 'Wood or Metal Studs, Cement Backer Board, Ceramic Tile'.
   e. TCNA W245-15, 'Wood or Metal Studs, Coated Glass Mat Water-Resistant Gypsum Backer Board, Ceramic Tile'.

1.3 ADMINISTRATIVE REQUIREMENTS

A. Pre-Installation Conference:
1. In addition to agenda items specified in Section 01 3100, review following:
   a. Review installation scheduling, coordination with related work, and placement of tile.
   b. Review Manufacturer's installation requirements, submittals, and Installers requirements to assure issuance of Manufacturer's system warranty.
   c. Review surface preparation.
   d. Review water-proofing and crack isolation membrane requirements.
   e. Review tile base installation requirements.
   f. Review floor tile grout thickness requirements.

1.4 SUBMITTALS

A. Action Submittals:
1. Samples:
   a. 24 inch square sample on specified tile backer showing all types of tile, grout, and colors specified in this Section. 1/2 of sample board shall show floor tile and 1/2 shall show wall tile.

B. Informational Submittals:
1. Certificates:
   a. Master grade certificate.
      1) Conform to ANSI A137.1.
2. Manufacturer's Instructions:
   a. Provide instructions for installation of tile-setting materials.
3. Source Quality Control Submittals:
   a. Provide Manufacturer documentation indicating proposed materials will satisfy requirements for Manufacturer's Warranty.
4. Qualification Statement. See Section 01 4301 for qualifications:
   a. Installer:
      1) Provide Qualification documentation if requested by Architect or Owner.

C. Closeout Submittals:
1. Include following in Operations And Maintenance Manual specified in Section 01 7800:
   a. Operations and Maintenance Data:
      1) Cleaning and maintenance instructions.
   b. Warranty Documentation:

1) Include copy of final, executed warranty.

c. Record Documentation:

1) Manufacturers Documentation:

a) Source Quality Control Submittal documentation showing materials will satisfy requirements for Manufacturer's Warranty.

b) Manufacturer's cut sheets of materials used in installed system.

c) Tile color and pattern selections.

1.5 QUALITY ASSURANCE

A. Source Of Materials:

1. Provide materials obtained from one (1) source for each type and color of tile, grout, and setting materials for Manufacture's system warranty.

B. Qualifications:

1. Installer: Requirements of Section 01 4301 applies, but not limited to following:
   a. Minimum three (3) years' experience installing specified tile installations.
   b. Minimum five (5) satisfactorily completed installations of comparable quality, scope, similar size, and complexity in past two (2) years before bidding.
   c. Upon request, submit documentation.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Delivery And Acceptance Requirements:

1. Deliver and store packaged materials in their original unopened containers with labels intact until time of use.

B. Storage and Handling Requirements:

1. Store and handle materials in a manner to prevent damage or contamination by water, freezing, or foreign matter.
2. Keep grade seals intact and cartons dry until tile are used.

1.7 FIELD CONDITIONS

A. Ambient Conditions:

1. Do not apply tile setting materials to surfaces that contain frost.
2. Keep ambient temperatures of area to receive tile work and surface temperatures of substrates at 50 deg F minimum during preparation of mortar bed, laying of tile, and for seventy-two (72) hours after completion of tile work. Use electric heat to prevent discoloration of grout.
3. Temperature of substrate shall be 60 deg F and rising for application of epoxy and furan unless otherwise specifically authorized by Manufacturer.
4. Maintain epoxy at stable temperature between 60 deg F and 90 deg F during curing period.

1.8 WARRANTY

A. Manufacturer Warranty:

1. Mortar Manufacturer's twenty-five (25) year minimum system warranty on tile-setting materials for surface preparation, setting materials and grouting materials; includes replacement of defective materials and deterioration, including replacement of tile and labor and materials when products purchased are used within their shelf life and installed in accordance to Manufacturers written instructions and industry standard guidelines.

PART 2 - PRODUCTS

2.1 SYSTEMS

A. Manufacturers:
1. Manufacturer's Contact List:
a. Ardex Engineered Cements, Aliquippa, PA www.ArdexAmericas.com.
1) Contact Information: Don Richards (206) 979-0401 www.Don.richards@ArdexAmericas.com.
b. Custom Building Products, Seal Beach, CA www.custombuildingproducts.com.
1) Contact Information: John Gallup (206) 718-6024 johng@cbpmail.net.
c. Dal-Tile Corp., Div. of Mohawk Industries, Dallas, TX www.daltile.com.
d. Interceramic Inc., Garland, TX www.interceramic.com.
e. Laticrete International Inc., Bethany, CT www.laticrete.com.
f. Mapei Americas Headquarters, Deerfield Beach, FL www.mapei.com.
1) Contact Information: Bart A. Wilde (801) 467-2060 www.bwilde@mapei.com.
g. Merkrete, by Parex USA, Inc., Anaheim, CA www.merkrete.com.
1) Contact Information: Andy Townes (505) 873-1181 andy.townes@parexusa.com.
h. Schulter Systems L.P., Plattsburgh, NY www.schluter.com.

B. Category Two National Contract Suppliers. See Section 01 6200 for definitions of Categories:
1. Contact following suppliers to procure components of tile assembly:
a. Daltile And Stone, Salt Lake City, UT:
1) LDS Project Coordinators:
a) Russ Green and Larry McCleary, (801) 487-9901, cell (801) 301 1461, fax (801) 487-0345 larry.mccleary@daltile.com - www.daltileproducts.com or www.daltilegreenworks.com.
b. Interceramic:
1) LDS Project Coordinators:
a) First Contact: Diego Chavez, phone (214) 503-5433, fax (877) 551-1979 dichavez@interceramic.com.
b) Second Contact: Jose Valdez, phone (214) 503-5507, fax (877) 551-1979 jvaldez@interceramic.com.

C. Design Criteria:
1. General:
a. Paver Tile: Standard grade porcelain tile, solid color throughout, graded in accordance with ANSI A137.1:
1) Cove Base with external and internal corner pieces shall be standard grade.
b. Ceramic Tile:
1) Tile shall be standard quality, white or off-white body, square or cushion edge, graded in accordance with ANSI A137.1.
2) Square edge, white body, lug type wall tile. Field wall tile shall have two lugs on each edge to assure uniform joint, approximately 0.040 inch.
3) External and internal corner pieces shall be standard grade.
2. Capabilities:
a. Paver Tile:
1) Water Absorption when tested in accordance with ASTM C373: 0.1 to 0.5 percent.
2) Abrasive Wear Resistance when tested in accordance with ASTM C501: 275 minimum.
3) Breaking Strength when tested in accordance with ASTM C648: 300 lbs minimum.
4) Bond Strength when tested in accordance with ASTM C482: 200 psi minimum.
5) Coefficient of Friction: 0.42 minimum as measured by DCOF (Dynamic Coefficient of Friction) AcuTest method and requirements as per ANSI A137.1.

D. Description:
1. Paver Tile:
a. Tile Sizes:
1) Finished floor with no slope shown on Contract Documents: 12 inches square minimum:

a) Cove Base: External and internal corner pieces to match with bull-nosed top:
(1) 6 inches by 12 inches.
(2) 6 inches by 8 inches.
b) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
(1) Daltile.
(2) Interceramic.
2) Finished floor with slope shown on Contract Documents: 8 inches square:
a) Cove Base: External and internal corner pieces to match with bull-nosed top:
(1) 6 inches by 8 inches.
b) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
(1) Daltile.
b. Category Four Approved Colors. See Section 01 6200 for definitions of Categories:
1) CD05 Bianco Alpi by Daltile.
2) Dotti Ivory by Interceramic.
2. Ceramic Tile:
1) Walls: 6 inch by 6 inch
2) Category Four Approved Colors. See Section 01 6200 for definitions of Categories:
a) Room Walls:
(1) 0100 White by Daltile.
(2) Bone by Interceramic.
b) Accent Color:
(1) 0135 Almond by Daltile.
(2) Canvas by Interceramic.

E. Materials:
1. Paver Tile:
a. Category Four Approved Products. See Section 01 6200 for definition of Categories:
1) Porcealto Graniti by Daltile.
2) Intertech Unglazed by Interceramic.
2. Wall Tile:
a. Category Four Approved Products. See Section 01 6200 for definition of Categories:
1) Semi-Gloss or Matte by Dal-Tile.
2) IC Brites or Mattes or Bold Tones Series by Interceramics.
3. Mortar Bed:
a. Portland Cement: Meet requirements of ASTM C150/C150M, Type 1, designation shall appear on bag.
b. Hydrated Lime:
1) Meet Requirements of one of following:
a) ASTM C206.
b) ASTM C207, Type S (designation shall appear on bag).
c. Sand: Clean, washed, well-graded, meeting requirements of ASTM C144 with gradation of 100 percent passing No. 8 sieve with not over five (5) percent passing No. 100 sieve.
d. Latex Additive; in lieu of all water:
1) Design Criteria:
a) Meet material specification requirements of ANSI A118.4 or ANSI 118.11.
b) Meet ANSI installation specification requirements of ANSI A108.5.
c) Expansion joints complies with TCA method EJ171.
2) Type Two Acceptable Products:
a) ARDEX: Ardex E 90 Mortar Admix.
b) CUSTOM: Thin-Set Mortar Admix.
c) LATICRETE: 4237 Latex Additive with 211 Powder.
d) MAPEI: Planicrete AC.
e) MERKRETE: 150 Latex Admixture.
4. Metal Trim:
a. Category Four Approved Products. See Section 01 6200 for definitions of Categories:
1) Tile / Carpet Junction: Schluter-RENO-AETK.
2) Over Expansion Joints In Slabs: Schluter DILEX-BWS, color G, PG, or HB as selected by Architect.

5. Joint Sealants:
   a. Interior Ceramic Tile Joints are furnished in Section 07 9213 and installed in Section 09 3013 'Ceramic Tiling' including the following:
      1) Ceramic and paver cove base inside corners.
      2) Ceramic and paver tile joints.
6. Backer Board Joint Reinforcing: 2 inch wide glass fiber mesh tape.
7. Tile Setting Products:
   a. Use only products of same Manufacturer to validate warranty, unless otherwise acceptable to Ceramic Tile Supplier.
   b. Use only products that meet Mortar Manufacturer's twenty five (25) year system warranty requirements.
   c. Latex-Portland Cement Mortar For Floors:
      1) Design Criteria:
         a) Meet ANSI material specification requirements of ANSI 118.4, ANSI 118.11, or ANSI A118.15.
         b) Meet ANSI installation specification requirements of ANSI A108.4 or ISO material specification ISO13007 installation material specification and . C2ES1P2 performance requirements for adhesive.
      2) Category Four Approved Products. See Section 01 62 00 for definitions of Categories:
         a) ARDEX: Ardex X77.
         b) CUSTOM: Megalite Crack Prevention Mortar or FlexBond Premium Crack Prevention Thin-set Mortar (no additives needed).
         c) LATICRETE: 254 Platinum Thinset.
         d) MAPEI: Ultraflex 3.
         e) MERKRETE: 735 Premium Flex.
   d. Latex/Polymer Modified Portland Cement Mortar For Walls:
      1) Design Criteria:
         a) Meet ANSI material specification requirements of ANSI 118.4, ANSI 118.11, or ANSI A118.15.
         b) Meet ANSI installation specification requirements of ANSI A108.4 or ISO material specification ISO13007 installation material specification and C2ES1P2 performance requirements for adhesive.
      2) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
         a) ARDEX: Ardex X77.
         b) CUSTOM: Megalite Thin-Set Mortar or FlexBond Fortified Thin-Set Mortar.
         c) LATICRETE: 254 Platinum Thinset.
         d) MAPEI: Ultraflex 3.
         e) MERKRETE: 735 Premium Flex.
   e. Floor Grout (Epoxy):
      1) Design Criteria:
         a) Meet ANSI material specification requirements of ANSI 118.3.
         b) Meet ANSI installation specification requirements of ANSI A108.6 and ISO material specification ISO13007 RG.
      2) Approved Color:
         a) ARDEX: 25 Stormy Mist.
         b) CUSTOM: No. 145 Light Smoke.
         c) LATICRETE: No. 24 Natural Grey.
         d) MAPEI: No. 11 Sahara Beige.
         e) MERKRETE: Pro Epoxy D-153 Buckskin.
      3) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
         a) ARDEX: Ardex WA.
         b) CUSTOM: CEG-Lite 100% Solids Commercial Epoxy Grout.
         c) LATICRETE: SpectraLOCK PRO.
         d) MAPEI: Kerapoxy (sanded).
         e) MERKRETE: Pro Epoxy.
   f. Wall Grout (Modified Polymer):
      1) Design Criteria:
         a) Meet ANSI material specification requirements of ANSI A118.6 or ANSI A118.7.
         b) Meet ANSI installation specification requirements of ANSI 108.10 or ISO material specification ISO13007 C2ES1P2.

2) Color:
   a) ARDEX: No. 01 Polar White.
   b) CUSTOM: No. 381 Bright White.
   c) LATICRETE: No. 44 Bright White.
   d) MAPEI: No. 00 White.
   e) MERKRETE: D-11 Snow White.
3) Category Four Approved Products. See Section 01 6200 for definitions of Categories:
   a) ARDEX: Ardex FH.
   b) CUSTOM: PolyBlend Non-Sanded Grout or Prism Color Consistent Grout.
   c) LATICRETE: 1600 Series Unsanded Dry Set Wall Grout with 1776 Grout Admix Plus additive.
   d) MAPEI: Keracolor-U Unsanded Polymer-Modified Grout.
   e) MERKRETE: Non-Sanded ColorGrout, latex modified.

g. Waterproofing Membrane:
1) Design Criteria:
   a) Meet ANSI installation specification requirements of ANSI 108.10.
   b) ANSI installation specification requirements not required.
2) Category Four Approved Products. See Section 01 6200 for definitions for Categories:
   a) Troweled applied, cement based:
      (1) ARDEX: Ardex 8+9.
      (2) MAPEI: Mapelastic 315.
   b) Liquid applied, latex based:
      (1) CUSTOM: RedGard Waterproofing or Crack Prevention Membrane or FractureFree Crack Prevention Membrane.
      (2) LATICRETE: Hydro Ban.
      (3) MAPEI: Mapelastic AquaDefense.
      (4) MERKRETE: Hydro-Guard SP-1.

h. Crack Isolation Membrane:
1) Design Criteria:
   a) Meet ANSI installation specification requirements of ANSI 118.12.
   b) ANSI installation specification requirements not required.
2) Category Four Approved Products. See Section 01 6200 for definitions for Categories:
   a) Flexible, thin, load-bearing, fabric-reinforced:
      (1) ARDEX: Ardex 8+9 with SK Mesh Tape.
      (2) CUSTOM: Crack Buster Pro Crack Prevention Mat Underlayment, with Peel & Stick Primer.
      (3) LATICRETE: Blue 92 Anti-Fracture Membrane.
      (4) MAPEI: Mapeguard 2, and Primer SM.
      (5) MERKRETE: Hydro-Guard SP-1.
   b) Liquid applied, latex based:
      (1) CUSTOM: RedGard Waterproofing and Crack Prevention Membrane or FractureFree Crack Prevention Membrane.
      (2) LATICRETE: Hydro Ban.
      (3) MAPEI: Mapelastic AquaDefense.
      (4) MERKRETE: Fracture Guard 5000.

i. Stone Thresholds:
1) Texture and color variation shall be within limits established by Architect's approved sample.
2) Free of defects that would materially impair strength, durability, and appearance.
3) Finish: 80 grit exterior hone.
4) White marble, one (1) piece, 7/8 inch thick by 2 1/2 inches by door opening width. Cross-section to meet handicap accessibility requirements.

F. Mixes:
1. Mortar Beds:

	Portland Cement	Dry Sand	Damp Sand	Hydrated Lime*
Floor Mix	One Part	5 Parts	4 Part	1/10 Part
Wall Mix	One Part	- -	5-1/2 to 7 Parts	1/2 Part

* Optional

PART 3 - EXECUTION:

3.1 INSTALLERS

A. Acceptable Installers:
   1. Meet Quality Assurance Installer Qualifications as specified in Part 1 of this specification.

3.2 EXAMINATION

A. Verification Of Conditions:
   1. Examine substrates where tile will be installed for compliance with requirements for installation tolerances and other conditions effecting performance of installed tile.
   2. Verify tile substrate is well cured, dry, clean, and free from oil or waxy films, and curing compounds.
   3. Notify Architect in writing if surfaces are not acceptable to install tile:
      a. Do not lay tile over unsuitable surface.
      b. Commencing installation constitutes acceptance of surfaces and approval of existing conditions.

3.3 PREPARATION

A. Surface Preparation:
   1. Allow concrete to cure for twenty-eight (28) days minimum before application of mortar bed.
   2. Repair and clean substrate in accordance with installation standards and manufacturer's instructions.

3.4 INSTALLATION

A. Interface With Other Work:
   1. Grounds, anchors, plugs, hangers, door frames, electrical, mechanical, and other work in or behind tile shall be installed before tile work is started.

B. Special Techniques:
   1. Install in accordance with following latest TCNA installation methods:
      a. Flush Concrete Slabs with crack isolation membrane: TCNA F115.
      b. Mortar Bed on Concrete Slab: TCNA F111 with reinforcing.
      c. Framed Walls: TCNA W245 with waterproof membrane.
      d. Tile Cove Base: TCNA Flush style.

C. Tolerances:
   1. Plane of Vertical Surfaces:
      a. 1/8 inch in 8 feet from required plane shall be plumb and true with square corners.
   2. Variation In Slab Grade:
      a. Plus or minus 1/8 inch in any 10 feet of floor slab and distance between high point and low point of slab of 1/2 inch .
      b. Slab Testing Procedure:
         1) Place ends of straightedge on 3/8 inch high shims.
         2) Floor is satisfactory if 1/4 inch diameter steel rod rolled under straightedge will not touch anywhere along 10 foot length and 1/2 inch diameter steel rod will not fit under straightedge anywhere along 10 foot length.

D. General:
   1. Install tile in pattern indicated:
      a. Align joints when adjoining tiles on floor, base, walls, and trim are same size.
      b. Adjust to minimize tile cutting and to avoid tile less than half size.

c. Center and balance areas of tile if possible.
2. Extend tile into recesses and under equipment and fixtures to form a complete covering without interruption:
3. Maintain heights of tilework in full courses to nearest obtainable dimension where heights are given in feet and inches and are not required to fill vertical spaces exactly.
4. Install cut tile with cuts on outer edges of field:
   a. Provide straight cuts that align with adjacent materials.
   b. When possible, smooth cut edges of tile or use appropriate cutter or wet saw to produce smooth cuts.
   c. Do not install tile with jagged or flaked edges.
5. Terminate tile neatly at obstructions, edges, and corners, without disruption of pattern or joint alignment:
   a. Fit tile closely where edges are to be covered by trim, escutcheons, or similar devices.
6. Provide straight tile joints of uniform width, subject to variance in tolerance allowed in tile size:
   a. Make joints smooth and even, without voids, cracks, or excess mortar or grout.
7. Use a beating block and hammer or rubber mallet so faces and edges of individual tiles are flush and level with faces and edges of adjacent tiles, and to reduce lippage.
8. Accessories in tilework shall be evenly spaced, properly centered with tile joints, and level, plumb, and true to correct projection.
9. Leave finished installation clean and free of cracked, chipped, broken, unbonded, and otherwise defective tile work.

E. Application On Concrete Floor:
1. On Mortar Bed:
   a. Apply mortar bed to depth equal to depression in slab minus 1/2 inch.
   b. Properly cure before installing tile.
2. Clean substrate surface thoroughly.
   a. Dampen if very dry, but do not saturate.
3. Install tile with 100 percent contact with mortar bed.
   a. Obtaining 100 percent contact may require troweling mortar layer on back of each tile before placing on mortar bed.
4. Install base by flush method (square or thin-lip method is not acceptable):
   a. Allow for expansion joint directly above any expansion or control joints in slab.
5. Insert temporary filler in expansion joints.

F. Application On Walls:
1. On Mortar Bed Over CMU:
   a. Apply mortar bed to required thickness of 3/8 inch minimum to 3/4 inch.
   b. Properly cure before installing tile.
2. On Glass Mat Gypsum Tile Backer Over Framing:
   a. Embed fiberglass reinforcing tape at joints with mortar used to adhere tile.
3. Dampen dry backings as determined by environmental conditions and Manufacturer's recommendations to achieve cure.
4. Allow for sealant joints full height at room corners in wall tile. Insert temporary filler in expansion joints.
5. Install wall tile directly atop bull-nosed paver tile base.

G. Application Of Mortar:
1. Do not spread more mortar than can be covered within ten (10) to fifteen (15) minutes:
   a. If 'skinning' occurs, remove mortar and spread fresh material.
   b. Spread mortar with notches running in one (1) direction, perpendicular to pressing, pushing and pulling of tile during placement.
2. Install tile before mortar has started initial cure:
   a. For thin set mortar application, use notch trowel that will achieve the recommended coverage of mortar after tiles have been installed.
3. Place tile in fresh mortar, press, push and pull tile slightly to achieve as near 100 percent coverage and contact of tile with setting material and substrate as possible:
   a. Average contact area shall be not less than eighty (80) percent except on exterior or shower installations where contact area shall be ninety-five (95) percent when not less than three (3)

tiles or tile assemblies are removed for inspection. The eighty (80) percent or ninety-five (95) percent coverage shall be sufficiently distributed to give full support of the tile.
b. Support corners and edges with mortar leaving no hollow corners or edges.

4. Install so there is 1/8 inch of mortar between tile and substrate after proper bedding:
a. Periodically remove sheets or individual tiles to assure proper bond coverage consistent with industry specifications.
b. If coverage is found to be insufficient, use a larger size notch trowel.

H. Application Of Grout:
1. Firmly set tile before applying grout:
a. This requires forty-eight (48) hours minimum.
2. Before grouting:
a. Remove all paper and glue from face of mounted tile.
b. Remove spacers or ropes before applying grouting:
3. Mixing Grout:
a. Use clean buckets and mixing tools:
1) Use sufficient pressure and flow grout in progressively to avoid air pockets and voids.
b. Machine mixing of grout is preferred to assure uniform blend. To prevent trapping air bubbles into prepared grout, use slow speed mixer.
c. Slake for fifteen (15) minutes.
d. Water or latex additives used for mixing with dry grout shall be measured accurately.
4. Before grouting entire area, do a test area to assure there will be no permanent staining or discoloration of tile and to verify that excess grout can be easily removed from tile surface:
a. If necessary, pre-coat exposed surfaces of tile with a grout release recommended by Grout Manufacturer to facilitate removal of excess grout.
5. Installing Grout:
a. Use caution, when grouting glazed ceramic tiles to prevent scratching or damaging surface of tile.
b. Dampen dry joints prior to grouting with sand-portland cement grout, standard sanded cement grout, standard unsanded cement grout, polymer modified sanded tile grout, and polymer modified unsanded tile grout. Do not leave puddles of water in joints before grouting.
c. Keep an adequate joint depth open for grouting. Force maximum amount of grout into joints.
d. Apply grout to produce full, smooth grout joints of uniform width, and free of voids and gaps
1) Fill joints of cushion edge tile to depth of cushion.
2) Fill joints of square edge tile flush with surface.
3) Fill joint between wall tile and bull-nosed paver tile base with floor grout.
e. Install floor tile with grout thickness of 3/16 inch maximum.
f. Remove excess grout from surface of tile before it loses its plasticity or begins to set.
g. Finished grout shall be uniform in color, smooth, and without voids, pin holes, or low spots.

I. Curing:
1. Keep installation at 65 to 85 deg F during first eight (8) hours of cure. Shade area completely from sun during this period.

J. Application of Joint Sealants:
1. Apply joint sealants after grout has cured:
a. This requires forty-eight (48) hours minimum.
2. Before applying sealant:
a. Remove spacers or ropes before applying joint sealants.
b. Apply backer rod and joint sealants at expansion joints.

3.5 FIELD QUALITY CONTROL

A. Non-Conforming Work:
1. Correct any work found cracked, chipped, broken, unbounded and otherwise defective or not complying with contract document requirements at no additional cost to the Owner.

3.6 CLEANING

A. If one has been used, remove grout release and clean tile surfaces so they are free of grout residue and foreign matter:
   1. If a grout haze or residue remains, use a suitable grout haze remover or cleaner.
   2. Flush surface with clean water before and after cleaning.

3.7 PROTECTION

A. Close to traffic areas where tile is being set and other tile work being done:
   1. Keep closed until tile is firmly set.
   2. Before, during, and after grouting, keep area clean, dry, and free from foreign materials and airflow that will interfere with setting and curing of grout.

B. Newly tiled floors shall not be walked on nor worked on without using kneeling boards or equivalent protection of tiled surface.

C. After cleaning, provide protective covering and maintain conditions protecting tile work from damage and deterioration:
   1. Where tiled surfaces will be subject to equipment or wheel traffic or heavy construction traffic, cover protective covering with 1/4 inch hardboard, plywood, or similar material.

END OF SECTION

SUBSTITUTION REQUEST
(During the Bidding/Negotiating Stage)

Project: Park 1, 4, 10 (19-664515)
OREM, UT

To: Brittany Johnson, Trio Design Inc.
brittany@triodesigninc.com, (801) 269-8063

Re: Metal Toilet Compartments

Substitution Request Number: SubReq-03692

From: Adam Arellano, Scranton Products

Date: 05/14/2019

A/E Project Number:

Contract For: Church of Jesus Christ of Latter-Day Saints

Specification Title: Metal Toilet Compartments

Description: Manufacturers

Section: 10 2113 Page: 2

Article/Paragraph: 2.1

Proposed Substitution: Hiny Hiders Solid Plastic

Manufacturer: Scranton Products Address: scrantonproducts.com Phone: 570-348-0997

Trade Name: Scranton Hiny Hiders Solid Plastic Model No.: N/A

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.

Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.

Submitted by: Adam Arellano

Signed by: Adam Arellano

Firm: Scranton Products

Address: 801 E Corey St
Scranton, Pennsylvania 18505

Telephone: , adam.arellano@azekco.com

A/E's REVIEW AND ACTION

☑ Substitution approved - Make submittals in accordance with Specification Substitution Procedures.

☐ Substitution approved as noted - Make submittals in accordance with Specification Substitution Procedures.

☐ Substitution rejected - Use specified materials.

☐ Substitution Request received too late - Use specified materials.

Signed by: [signature] **Date:** 5/20/19

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ ___