

PROJECT MANUAL

RENOVATION OF

5656 WATERMAN

ST. LOUIS CITY, MO 63112

ISSUE DATE: 07/07/2017

PROJECT #: 2017026

ARCHITECT:

ST. LOUIS DESIGN ALLIANCE, INC.
6014 DELMAR BLVD
ST. LOUIS, MO 63112
314-863-1313

saint louis

DESIGN ALLIANCE

▼architects

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INVITATION TO BID

DATE: July 31, 2017
TO: Altman Charter Company, BC Construction, W. Pierson Construction
PROJECT: 5656 Waterman
St. Louis, MO

You are invited to bid on the renovation of the 5656 Waterman, existing three-story apartment building.

All bids must be on a lump sum basis. Drawings and project manual will be made available via download from STLDA's FTP site.

FTP site address: (see original GC bid invitation emails)

Bids will be privately opened. Owner will receive electronic bids until the bid date and time indicated below
Email bids to jeffreymcgee@stlda.com.
BIDS NOT SUBMITTED PROPERLY ON STLDA'S BID FORM WILL BE DISCARDED.

Bid Deadline: August 23, 2017 @ 2:30pm

Begin Construction: September 18, 2017

Pre-bid meeting/Walkthrough: August 7, 2016 @ 9:00am

The Owner reserves the right to waive irregularities and to reject all bids.

If you have any questions related to the drawings, please contact Jeff McGee at STLDA by phone at (314) 863-1313 or by email at jeffreymcgee@stlda.com

5656 Waterman BID FORM - STIPULATED SUM

- A. Bidder: _____.
- B. Project Name: 5656 Waterman
- C. Owner: Quadrangle Housing
- D. Architect: ST. LOUIS DESIGN ALLIANCE, INC.
- E. Architect Project Number: 2017026

1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid Contract: The undersigned Bidder, having carefully examined the construction documents, and all subsequent Addenda, as prepared by ST. LOUIS DESIGN ALLIANCE, INC. and Architect's consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, for the stipulated sum of:

_____ Dollars(\$_____).

1.3 TIME OF COMPLETION

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Architect, and shall fully complete the Work within _____ calendar days.

1.4 ACKNOWLEDGEMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:

- 1. Addendum No. 1, dated _____.
- 2. Addendum No. 2, dated _____.
- 3. Addendum No. 3, dated _____.
- 4. Addendum No. 4, dated _____.

1.5 ALTERNATES

- Alternate #1 Repoint the entire building
- Alternate #2 Iron fence at parking in lieu of chain link
- Alternate #3 Clerestory/light monitor at rear stair
- Alternate #4 (6625): Skylight at front stair

Alternate #5 (6633): Rear stair guardrails & handrails

A. UNIT PRICES

Unit Price #1: Rebuild bay at kitchen

Unit Price #2: Unit price per joist, replacement required for unidentified joists requiring replacement

Unit Price #3: Unit price per lintel for double window.

Unit Price #4: Unit price per lintel for double window.

Unit Price #5: Unit price per lintel for triple window.

1.6 Allowances – Contractor includes all allowances required by the technical specifications in their bid.

1.7 The undersigned Bidder agrees to execute a contract for this Work in the above amount within 10 days after written Notice to Award, if offered within 60 days after receipt of bids.

1.8 SUBMISSION OF BID

A. Respectfully submitted this ____ day of _____, 2016.

B. Submitted By _____(Name of bidding firm or corporation).

C. Authorized Signature: _____(Handwritten signature).

D. Signed By: _____(Type or print name).

E. Title: _____(Owner/Partner/President/Vice President).

F. Street Address: _____.

G. City, State, Zip _____.

H. Phone: _____.

I. Federal ID # _____.

001213 INSTRUCTIONS TO BIDDERS

1. Bid due date and submission as listed in Invitation To Bid.
2. Bidders shall be provided access to architect's FTP web site from which all pertinent documents will be posted and may be downloaded.
3. The contract documents are complementary and together describe the full scope of work. The documents do not attempt to show every item required to complete the work. By submitting a bid the Bidder represents that the documents have been reviewed in their entirety and the full scope of work is included in the bid. Errors or misinterpretations resulting from the use of partial documents is solely at the Bidder's risk.
4. The contract documents do not record all existing conditions. The documents do not attempt to show every item required to complete the work. It is the Bidder's responsibility to visit the site prior to submission of bid in order to ensure that bid reflects those conditions which can be determined from a thorough visual inspection of the site and existing conditions.
5. Bidders shall carefully study and compare the contract documents and bring to architect's attention any apparent discrepancies or questions regarding intent of the documents. **Only the architect** is authorized to interpret the intent of the contract documents. Interpretations, corrections, changes to the contract documents shall be made only by Addendum issued by architect. Any other interpretations, corrections, changes made in any other manner or by Bidders shall not be binding on owner.
6. This is a "Design/Build" proposal for plumbing, HVAC, electrical and fire protection systems (if fire suppression is included in scope). Bidder shall submit with bid a brief description of proposed systems highlighting configurations, capacities, equipment, fixtures etc. to allow for proper evaluation of proposed systems.
7. Owner shall pay for required building permit fees. Bid includes the cost of all other permits, inspections, labor, material and equipment required to be furnished to properly perform the work as intended by the Contract Documents.
 - a. MSD: Owner shall pay MSD review and connection fees. Contractor shall be responsible for all other MSD fees
 - b. Water: Contractor shall be responsible for tap fees
 - c. Gas: Contractor shall be responsible for disconnect and destroy fees.
8. Owner reserves the right to accept or reject any or all bids.
9. Form of agreement shall be owner's agreement bound in project manual.
10. Retainage shall be 10% of amount due contractor for each payment application.

00811 SUPPLEMENTARY GENERAL CONDITIONS

1. Contractor shall not be authorized to interpret contract documents and shall not be eligible for extra payment as a result of interpreting intent of contract documents improperly. Apparent discrepancies or conflicting instructions in the documents shall only be interpreted by architect. Proceeding without such interpretations from architect may result in significant project delays and expenses to contractor.
2. All required submittals shall be made electronically except for applications for payment which require "live" signatures.
3. Contractor shall deliver to Architect and Owner prior to beginning the Work an itemized schedule showing projected progress of the Work and completion dates.
4. Contractor shall deliver to Architect and Owner prior to beginning of the Work a list of the major subcontractors for the project.
5. Contractor shall maintain and submit evidence of liability and worker's compensation insurance coverage to Owner prior to beginning the Work.
6. Owner shall maintain "builder's risk" insurance to compensate project in case of fire, vandalism, theft or other damage as may occur.
7. Owner shall order and pay for all "spot surveys" required. Contractor shall coordinate scheduling of such surveys with Owner.
8. All submittals shall be made electronically.
9. Submittals shall be reviewed by Contractor prior to submission to Architect for conformance with contract documents. ***Any changes from contract documents shall be highlighted in the submittal and shall be documented to demonstrate that the proposed change(s) are in keeping with intent of the contract documents.*** The Architect shall approve or not approve the proposed change(s).
10. It is the contractor's **SOLE RESPONSIBILITY** to highlight any proposed deviation from the contract documents in materials or construction methods. Failure to do so is done solely at the contractor's risk and ***any approvals by Architect of submittals without such documentation shall be deemed null and void.***
11. It shall be the Contractor's responsibility to make such changes necessary to remove any item(s) or assemblies that are not in conformity with the contract documents at its sole expense.
12. Applications for payment shall be submitted on latest edition A.I.A. Documents G-701 & G-703 or equivalent as approved by Architect or Owner. Application's itemized list shall be categorized in sufficient detail to allow for easy identification of costs incurred as Work progresses.
13. Contractor's general conditions line items and profit shall not exceed the percentage of the contract in the "total completed and stored to date" column for each application for payment.
14. Unconditional lien waivers shall be submitted with each application for payment according to the following schedule:
 - General Contractor: entire amount of payment due
 - Subcontractors: amount received from immediately preceding application
 - Major material suppliers: amount received from immediately preceding application

15. In order for a proposed change in the Work to be considered, documentation shall be submitted to Architect detailing both quantities and unit pricing and any other supporting data to establish cost for the proposed change. All lump sums without backup will be rejected.

012000 ALTERNATES, UNIT PRICES, ALLOWANCES

1. Provide a bid which includes all required labor and material and any other associated costs to complete the work described in the Alternates.
 - a. Alternates shall be:
 - i. Alternate #1 Re-point entire building
 - ii. Alternate #2 Iron privacy fence in lieu of chain link @ parking
 - iii. Alternate #3 Roof monitor
 - iv. Alternate #4 Sky light
 - v. Alternate #5 Rear stair guardrails
2. Contractor shall submit all invoices applying to allowances to Architect for verification purposes.
3. Contractor and subcontractors shall not apply markups of any kind to invoices from suppliers on change orders
4. Allowance & Unit prices shall include all costs for labor, material, taxes, shipping, delivery charges, etc. required to complete the work. Quantities shall be determined by measurement and contract sum adjusted accordingly by change order.
 - a. See technical specifications for allowances
 - b. Unit prices shall be:
 - i. Unit price rebuild bay @ kitchen
 - ii. Joist replacement (required for unidentified joists requiring replacement)
 - iii. Unit price per lintel for single window
 - iv. Unit price per lintel for double window
 - v. Unit price per lintel for triple window

013000 ADMINISTRATIVE REQUIREMENTS

1. Contractor shall field verify all dimensions. Report discrepancies to Architect for interpretation. Proceeding without such interpretation from architect may result in delays and expenses to contractor.
2. No materials may be substituted without prior approval from Architect.
3. Final cleaning shall be responsibility of Contractor and shall include but not be limited to removing labels, cleaning equipment, windows, floors, cabinets mirrors etc.,
4. Contractor shall maintain a set of record drawings to record changes in the Work. Drawings shall dimension actual locations of all underground and below slab piping and utilities included in project.
5. Collect all "attic stock" as required by the drawings or specifications and store in location acceptable to Owner.
6. Contractor shall deliver to Owner at final completion a list of all equipment serial numbers, warranties, manuals, and similar product and manufacturer's documentation.

015000 TEMPORARY FACILITIES

1. Provide all required temporary facilities and construction for proper performance of the Work
2. All charges from utility companies shall be included in the contract amount unless connection is provided by Owner through existing building systems.
3. Provide and maintain enclosures for temporary openings in order to keep building weather-tight and secure.
4. Notify utility locator service as required to locate buried utility lines prior the beginning of trenching or excavation.
5. Protect all existing building and site improvements and landscaping as directed by Owner. Verify items to be protected prior to beginning of construction. Failure to adequately provide such protection shall require contractor to repair or replace damaged items or areas with like material, size, shape, profile, etc.
6. Keep job site free from debris. Remove construction debris from site on regular basis.
7. Prevent dust and debris from becoming a nuisance to the public, to the neighbors, and to other work being performed on or near the site.
8. Restrict the construction area from access by the general public through the use of temporary partitions, locks, etc., as required for public safety. Keep construction area clean and maintain safety precautions. Do not use public areas for storage of materials, staging areas, or work areas. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on the site.
9. Keep job site free from debris. Remove construction debris from site on regular basis.

023000 SUBSURFACE EXPLORATION

1. A geotechnical engineering investigation of site conditions has not been performed.
2. Contractor shall include in bid all labor and material necessary to accommodate the soil conditions which can be anticipated from a visual investigation of the site and local conditions and the contract documents.

033000 CONCRETE

1. All concrete shall be 3500 psi minimum compressive strength. Provide air entrainment in work exposed to weather.
2. Perform all work in accordance with ASTM C 94/C 94M
3. Perform all work in accordance with ACI 301 1-5 & ACI 117
4. Reinforcing steel shall be ASTM A 615/A 615M, Grade 60
5. Work shall comply with ACI bulletin 306.1 for cold weather placement, ACI 301 for hot weather placement.
6. Work shall comply with CRSI "Manual of Standard Practice" for placing reinforcement.
7. Obtain at least one compression test for each day's pour. Testing shall be performed by a qualified reputable testing agency paid for by Contractor.
8. Vapor retarder shall be 15 mill and meet ASTM E 1745 Class "A". Include manufacturer's recommended adhesive or pressure-sensitive tape.
9. Vapor retarder shall be placed on smooth base, extend retarder completely around all penetrations and slab edges to ensure proper performance of retarder.
10. Contractor shall include cost of stepping foundation as can be reasonably anticipated by a visual inspection of site and review of contact documents. If a topographic survey has not been provided elevation drawings must be considered diagrammatic and do not show all intended footing and foundation depths or required steps.
11. Remove fins and projections and fill honeycombed areas in all foundation walls.
12. Bottom of all footings and grade beams shall be 30" minimum below finished grade at all points.
13. Install 4" perforated, corrugated drain tubing with filter cloth at perimeter of foundation where floor slab is below grade. Terminate at sump pit or if slope permits, daylight at grade.
14. Exterior concrete slabs intended primarily for foot traffic shall be 4" min thickness with 6x6, 1.4x1.4 welded wire fabric reinforcing, light broom, with control joints at 20'-0" o.c. maximum or as otherwise indicated on the drawings. Seal all concrete walks with Consolideck Saltguard WB.

Interior concrete slabs shall be 4" min thickness with 6x6, 1.4x1.4 welded wire fabric reinforcing, trowelled finish, installed on 4" minimum granular fill with vapor retarder. Provide control joints at 20'-0" o.c. maximum at offsets and column footings, control joints at 10'-0" oc. each way.

Exterior and interior concrete slabs intended primarily for vehicular traffic shall be 5" min thickness with 6x6, 1.4x1.4 welded wire fabric reinforcing, light broom finish for exterior slabs and trowelled finish for interior slabs, with control joints at 20'-0" maximum each way.
15. Expansion joints shall be asphalt impregnated filler strips and receive backer rod.
16. Install paving in public right-of-way in accordance with municipality standards for mix, thickness, finishing method,
17. Slope all exterior slabs 1/8" per ft. minimum to provide proper drainage.

042000 MASONRY

1. Work shall comply with Brick Industry Association (BIA) Technical Note No. 1, latest edition, for construction during cold and hot weather conditions.
2. Perform work in accordance w/ ACI-530-08
3. Provide 4' x 4' or other sample panels as directed by architect for review of patterns, color, joint size and tooling, etc.
4. Brick shall be salvaged existing brick where possible or shall match existing as closely as possible.
5. Mortar shall be ASTM C 270-10 or BIA M1, Type "N", colored, from single manufacturer, mortar color shall be selected from manufacturer's standard colors. Confirm color with Architect prior to commencement of work.
6. All water for mortar mix shall be potable.
7. Joints shall match existing - confirm with Architect prior to commencement of work.
8. Lay units in one half running bond unless otherwise indicated on drawings.
9. Install EPDM 20mil. membrane flashing at window and door lintels, window sills, and at base of all veneer walls at foundation.
10. Provide cavity drainage material similar or equal to ½" masonry mat as manufactured by CavClear. Similar or equal to be approved by architect.
11. Provide weeps at maximum 33" on center at all veneer cavities.
12. Install adjustable "dove tail" galvanized wire ties at 16" on center vertically and horizontally
Install galvanized truss type wire reinforcing at 16" on center vertically between concrete masonry units and brick veneer units. Install additional anchors with 12" of openings.
13. Supply and install loose steel lintels as required at all masonry openings, 4" minimum bearing at each end. Size shall be 3-1/2" x 3-1/2" x ¼" unless otherwise indicated on drawings.
14. Provide miscellaneous masonry accessories for grout, expansion and control joints, weep/ vent products where required for proper installations.
15. Repointing shall be performed in areas as indicated on drawings. Joints shall be ground or raked out to a minimum depth of ¾". Repoint with mortar matching original composition, color shall be approved by architect.
16. All masonry surfaces shall be cleaned in accordance with BIA Technical Note No. 20 using cleaning agent suitable for brick type and color. Apply with brush by hand or pressurized water matching cleaning agent with application method. Remove all paint, graffiti, stains, etc from existing exterior masonry to be rebuilt or repointed. Clean all rebuilt or repointed masonry after all exterior work is complete.
17. Remove all abandoned conduit, nails, screws, vents, louvers, light fixtures, signage, and extraneous hardware from exterior of building. Replace brick where holes are larger than 1". Mortar all holes smaller than 1" diameter.

061000 ROUGH CARPENTRY

1. Framing shall comply with American Wood Council Wood (AWC) publication **WCD 1 - Details for Conventional Wood Frame Construction**, latest edition.
2. Material Schedule:
 - All wood: 19% maximum moisture content
 - Stud framing: Any species allowed by ANSI **National Design Specification (NDS) for Wood Construction**
 - Joist framing: Any species allowed by ANSI **National Design Specification (NDS) for Wood Construction**
 - Preservative treated lumber: American Wood Protection Association (AWPA) **Book of Standards**
 - Fire treated lumber: American Wood Protection Association (AWPA) **Book of Standards**
 - Plywood: American Plywood Association (APA) product guide for **Performance Rated Panels**
 - Oriented Strand Board: American Plywood Association (APA) product guide for **Performance Rated Panels**
 - Trim: S4S primed, Fir, rough cut clear B grade cedar, MiraTEC, or Azek
(no application of exterior composite trim at fascia or frieze boards)
3. Install closed foam sill sealer between foundation and wall plates. Fill all voids with additional thickness of sill sealer or sealant.
4. Exterior building wrap shall be similar to "Tyvek" as manufactured by DuPont.
5. All fasteners and connectors shall comply IBC, with regard to type and spacing.
6. All work shall be installed straight, plumb, level and true.
7. Provide temporary bracing required during construction to support assemblies until fully constructed.
8. Provide shear panel bracing as required by IBC
9. Provide blocking, fire-retardant, nailers, etc. required for proper support of cabinets, counter tops, shelving, ceiling fixtures, grab bars, etc.
10. All openings in bearing partitions and exterior walls shall receive 2-2x10 header unless otherwise indicated on drawings.
11. Install firestopping in walls and soffits as required by IBC
12. Install fire rated assemblies in accordance with approved test assemblies.
13. Double joists under all parallel partitions, 5" offset permitted to accommodate plumbing and ductwork.
14. Provide access panel (minimum 22" x 30") at all attic or roof areas if alternate #3 is selected.
15. Install full height blocking at mid-point of all joists with 14'-0" span or greater.
16. Any breaches in existing subfloor (excluding knots) shall be filled in with new subfloor.
17. Contractor shall make a thorough visual inspection of the existing exterior wall openings noted to receive new window/door/panel. Any existing exterior wall opening that is visually out of plumb, square, or level shall be made "visually" plumb, square, and level.
18. Contractor shall make a thorough inspection of the exiting floor structure/system. Any areas of the existing floor system that are out of level shall be made level to within 1/2" in 10'-0".
19. Upon award of contract, contractor shall establish the following framing inspection benchmarks with the architect and owner: floor levelness, MEP framing (toilet locations, electrical panel locations, exhaust routing, blocking for equipment, RAG placement, etc.), and cabinetry dimensions.

062000 FINISH CARPENTRY

1. Provide running and standing trim as indicated on drawings
2. All window, door, base, etc. trim shall match existing profiles & finish. Stained trim shall match existing species of wood.
3. Exposed plywood panels for interior applications shall be veneer grade, no exposed edges.
4. Stair trim schedule:
 Handrail: colonial profile, match existing species
5. Finished handrail assemblies shall support 200# concentrated load applied at any point along top rail. Verify load capacity of any/all existing handrails to remain; replace as required.
6. Provide running and standing trim as indicated on drawings, finger jointed and primed for painting unless noted otherwise.
7. Provide submittals for interior trim showing profiles & materials
8. Interior finish materials shall not have a flame spread exceeding 200.
9. Existing trim within units shall be scraped, sanded, filled, and painted
10. Existing trim within main stairwell shall be stripped, sanded, and stained
11. Install all work straight, plumb, level, true, fit all joints tightly.
12. Existing marble, caulk existing joints, replace damaged piece to match & clean.

072100 BUILDING INSULATION

1. Install insulation and vapor retarders as indicated on drawings.
2. Batt insulation shall be kraft or foil faced at roof assembly.
3. Batt insulation shall be unfaced at basement ceilings and floor/clg assemblies.
4. Install R-38 of closed cell foam insulation @ roof where depth of roof/clg assembly is < 13".
5. Provide fiberglass sound batt insulation @ all stud cavities containing PVC drain lines where plaster & lathe finish has been removed.
6. Install fiberglass batts (R-11) in all partitions separating bedrooms from other bedrooms or public spaces (corridors, living rooms, kitchens, etc) where plaster & lathe finish has been removed.
7. 1" closed cell foam insulation @ but not limited to joist pockets, masonry wall penetrations, and window counter weight pockets @ exterior wall to ensure air tightness of the building.
8. Install all insulation in accordance with manufacturer's instructions.

074646 FIBER-CEMENT SIDING

1. Panel siding shall be similar to HardiePanel as manufactured by James Hardie, 4'x10' or 4'x8' (sizes as shown on Drawings), smooth finish, prefinished as selected by Architect, smooth seams and edges (verify with Architect), install according to manufacturer's instructions. Board and batten trim at all joints.
2. Install all siding and wall panels with "rainscreen" application, furring shall be installed between cladding and a code-approved weather barrier. Furring shall be 3/4" thick and a minimum of 1 1/2" wide. Install products per manufacturer's requirement as indicated by James Hardie's manufacturer's detail guidelines.
3. Provide adequate flashing, water management & moisture control per manufacturer's instruction.
4. Fiber cement trim in width and thicknesses indicated on drawings.
5. Provide all required accessories for proper installation.
6. Touch up all exposed fasteners and cuts and blemishes as directed by manufacturer's instructions.
7. Install in accordance with manufacturer's instructions

076000 SHEET METAL

1. Sheet metal work shall conform to the Sheet Metal and Air-Conditioning Contractors' National Association (SMACNA) standards, latest edition.
2. Material thickness schedule:
 - Aluminum coil stock: .032 ga
 - Aluminum gutters and downspouts: .032 ga
3. All flashing exposed to view shall be aluminum, baked enamel finish, manufacturer's standard colors.
4. Contractor shall prudently install flashing, counter flashing and step flashing to prevent water penetration at roofs, walls.
5. Gutters and downspouts shall be aluminum, baked enamel finish, manufacturer's standards colors, 6" Ogee profile gutter UNO with 4" min rectangular downspout UNO, extruded on site. Mount with roof hanger. Seal all joints for watertight installation. Provide & install gutter guards at all gutters.
6. Isolate dissimilar materials to prevent electrolysis.
7. Terminate downspouts at preformed concrete splash block or underground drain boot as indicated on drawings and as required by municipality.

078400 JOINT AND FIRE RETARDANT SEALANTS

1. Sealant schedule:
 - Backer rod: closed cellular polyethylene foam
 - Paving joints: two-part urethane
 - Exterior joints: silicone
 - Interior joints at wet/ damp locations: silicone
 - Interior joints: acrylic
 - Fire assemblies: intumescent acrylic
2. Provide sealant colors from manufacturer's standard. Verify color of all sealants with architect prior to installation.
3. Sealant shall be selected as appropriate for width of joint and adjacent materials and in keeping with manufacturer's performance characteristics.
4. Install sealants in accordance with manufacturer's instructions.
5. Install sealant at perimeter of all openings and penetrations in exterior walls.
6. Install sealant at all dissimilar interior materials (countertops, backsplashes, wood trim, tile). Select sealant opacity and color as appropriate to application to achieve most finished appearance.
7. Fire retardant sealant: 3M Fire Barrier Sealant.
8. Install sealant @ all openings in exterior walls (doors, windows, etc.), wall penetrations.

081000 DOORS AND FRAMES

1. Submit shop drawings for doors and frames and all accessories.
2. Steel doors shall meet ANSI and Steel Door Institute standards. Provide UL labeled units for required fire ratings as indicated on drawings. Steel doors shall be 18 ga., 1-3/4" thick, seamed, insulated.
3. Steel frames shall be 16 ga, welded, provide anchors appropriate for installation in each type, condition.
4. Install foam insulation at all exterior hollow metal frame installations.
5. Exterior doors shall be fiberglass (see door types).
6. Doors shall be:
 - a. doors within units: Similar to Jeld-Wen, Tria composite L-series all panel interior door L2020
 - b. doors within units 2E: Similar to Jeld-Wen, Authentic wood all panel interior door 1022
 - c. unit entry doors: Similar to Jeld-Wen, custom wood all panel model E0022, solid core.
 - d. basement entry door: insulated steel
7. Door frames shall be:
 - a. doors within units: flat jamb to receive casing
 - b. unit entry doors: split jamb hollow metal frame to receive casing
 - c. basement entry door: insulated steel
8. All glass in exterior doors and sidelights shall be tempered, insulated 1/2" glass, LoE II glass w/ argon fill.
9. Provide manufacturer's standard exterior door hardware options for style, finish and proper function. Single point locking system for doors under 7'-0" ht. All doors taller than 7'-0" shall receive three point locking system.
10. Provide "UL" label attached to all doors and frames required to be fire rated.
11. Doors and frames shall be reinforced and prepared to receive hardware.
12. Install all work level and plumb, provide proper clearances, ease of operation, and proper latching. Coordinate coring at unit entry door with Marshal Best hardware supplied by Owner. Marshal Best hardware does not have standard coring.
13. Exterior doors shall be properly weather-stripped with adjustable threshold. No daylight shall be showing at door perimeter.
14. All interior doors shall be painted.
15. Field verify dimensions of all doors within existing openings.

08500 WINDOWS

1. Submit shop drawings for windows indicating sizes, styles, quantities, and accessories. Field verify existing opening sizes.
2. Provide manufacturer's standard warranty.
3. Replacement windows shall be similar to Architect Series Reserve aluminum clad windows by Pella. Windows shall be Energy Star rated, LoE II glass with argon fill, full screen at operable portions, exterior color selected from manufacturer's full line (selected by architect).
 - a. Window in shower at bathroom U05 will be a full aluminum or vinyl window. See line 15.
4. Fire rated windows @ stair shaft shall be 90min rated windows similar to 7650 TDH by Optimum window with 3/16" Ceramic & fire rated glazing tape by
Per IBC 2009 703.5: Fire rated glazing in accordance with ASTM E 119 or UL 263. Fire-resistance-rated glazing shall bear a label or other identification showing the name of the manufacturer, the test standard and the identifier "w-xxx," where the "xxx" is the fire-resistance rating in minutes. Such label or identification shall be issued by an agency and shall be permanently affixed to the glazing.
Per IBC 2009 715.5: fire-protection-rated glazing shall comply with NFPA 80.
5. Operation shall be as indicated on drawings. Provide applied muntins, as indicated on drawings.
6. Provide tempered glazing in locations as required by 2009 IBC currently in force in municipality.
7. Provide manufacturer's standard exterior window hardware options for style, finish and proper function.
8. Provide fiberglass insect screens at all operable units from manufacturer's standard options at second and third floor windows. Provide security screens at first floor windows.
9. Double or single hung units shall have tilt sash and sash locks and bottom sash lift handle.
10. All window hardware finishes shall be manufacturer's standard to match window interior
11. Window contractor shall anticipate that ALL existing interior and exterior painted wood trim contains lead paint. Window contractor shall abide by all applicable lead paint regulations including the EPA's Renovate Right program and the EPA's Final Rule on Lead.
12. Any sealant remaining in existing openings shall be removed. Existing storm windows shall be removed. Existing painted wood trim shall be scraped, sanded, filled & painted.
13. Use 100% silicone sealants at all window installations.
14. Install windows level and plumb and in accordance with manufacturer's instructions, adjust sash for smooth operation and proper latching. Windows shall be clean on exterior and interior and free of dust within balancers and other operating mechanisms.
15. Bathroom windows shall be tempered, and 60% Opaque Privacy Film by Quality Glass Tinting or similar.
16. Caulk the entire perimeter (interior and exterior) of all new windows w/ 100% silicon caulk, color approved by architect.

17. Each bedroom shall have one window that meets all requirements for “Emergency Escape and Rescue” as stated in Section 1029, 1013.8, & 2406.4.6 of 2012 IBC
 - a. Window shall have a clear opening of 5.7 square feet.
 - b. Minimum net clear opening height shall be 24”
 - c. Minimum net clear opening width shall be 20”
 - d. Emergency escape and rescue openings shall be operational from the inside of the room without the use of keys, tools or special knowledge.
 - e. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44” measured from the finished floor to the bottom of the clear opening.
 - f. Net clear opening dimensions required shall be obtained by the normal operation of the emergency escape and rescue opening from the inside.
 - g. Emergency escape and rescue opening shall open directly into a public way, or to a yard or court that opens to a public way.
 - h. Windows shall be provided with ASTM F 2090 devices where applicable per section 1013.8

07810 UNIT SKYLIGHTS

1. Skylight units shall be wood frame, self-flashing, aluminum clad, Low E argon filled insulated glass with tempered exterior light and laminated interior light, clear glass, similar or equal to units manufactured by Velux. Provide all accessories for proper installation. Similar or equal shall be approved by architect.
2. Install unit in accordance with manufacturer's instructions.
3. Skylight units shall be acrylic dome, clear outer acrylic panel/ white inner, pan-flashed unit on aluminum, insulated curb. Install in accordance with manufacturer's instructions.
4. Skylight installation shall be watertight.

087000 DOOR HARDWARE

1. All door hardware shall be of sufficient quantity, size and strength to properly operate and fit doors sizes, fire-rating and function as indicated on door schedule and/ or floor plans.
2. All exterior doors shall be fully weather-stripped at head, jamb and sill. Provide threshold at sill.
3. Install wall mounted stop at doors opening against adjacent walls. Provide floor mounted stop when opening against adjacent doors.
4. Door hinges shall be manufacturer's standard size quantity, finish appropriate for proper function of door size and weight.
5. Install all hardware in accordance with manufacturer's instructions.
6. Install hardware in accordance with manufacturer's requirements, adjust for proper and smooth operation and proper latching.
7. All hardware items are to be in quantity, size and strength to properly operate and fit door sizes and function (including fire rating) as shown on door schedule and floor plans.
8. Hardware Supplier shall make adjustments to actual door hardware to ensure that above performance is met. Notify Architect of any adjustments required.
9. Door hardware shall be Schlage, "F" series, "Latitude" style, "Satin Nickel" finish or equal (approved by architect).
10. Provide new aluminum adjustable threshold in mill finish and weather-stripping at all new building entry doors.
11. Deadbolts shall be MBT2 ANSI Grade 2 Heavy Duty Tubular Deadbolts as manufactured by Marshall Best Security. Levers shall be MB1 Series ANSI Grade 1 Extra Heavy Duty Lever Locks as manufactured by Marshall Best Security.
12. Thresholds, gaskets, and door stops shall be manufactured by Pemko or similar.
13. Provide new marble threshold at all unit entry doors. Confirm threshold depth with finished wall thickness
14. Unit entry door spring hinges shall match door hardware finish, match or exceed door hardware grade, be approved for door size, weight, and rating, and shall be manufactured by Stanley or similar. Unit entry door shall receive floor stop or wall bumper (application determined per door condition).
15. Interior unit doors shall receive rigid door stops or hinge stops (application determined per door condition).
16. Front door closer and lockset hardware shall match door hardware finish at unit doors and shall be Commercial Grade II hardware.

092000 GYPSUM BOARD SYSTEMS

1. All gypsum board shall be 5/8" thick.
2. Provide regular, fire resistance rated, moisture and mold resistant panels as required by application indicated on drawings. For fire rated assemblies shown on drawings provide material from ONLY ONE OF THE LISTED MANUFACTURERS..
3. Install moisture/ mold resistant panels in all bathroom and similar damp locations
4. Typical stud spacing shall be 16" on centers unless otherwise indicated on drawings.
5. Provide all required framing members, accessories for complete installation to meet performance requirements.
6. Install control joints in accordance with Gypsum Association's published recommendations.
7. Only install cement board in locations to receive ceramic tile finish or cultured marble.
8. Finish shall be three coat work, smooth, in all areas as required by ASTM C840, Level 4.
9. Provide all required trims and accessories for proper, finished installation.
10. Provide proper grade of screw per fire rating of partition (UL/IBC)

093000 TILING

1. Tile and natural stone shall be installed on ½" thick cement backer board, equal to Durock as manufactured by United States Gypsum. Similar or equal shall be approved by architect.
2. Provide tile per finish index.
3. Custom shower bases shall receive vinyl shower pan liner, 40 mil thickness, with prefabricated corners. Floor shall slope to drain at all points.
4. Epoxy grout shall be compatible with type of tile and location to ensure proper performance, color selected from manufacturer's standard options.
5. Installer shall provide and install ½" cement board underlayment at all floor and wall areas to receive tile or stone.
6. Provide recessed 8"x10"x 3" "shampoo shelf" in all tile tub & shower surrounds.
7. Mounting schedule:
Combination tub/ shower: 5'-0" above tub or to bottom of soffit
Showers: 6'-6" above top of shower base
8. Provide and install marble threshold at doors where tile abuts different floor material. Thresholds shall be directly adhered to subfloor.
9. Provide all required trims, special shapes and accessories for proper, finished installation and appearance.
10. Grout shall be epoxy type and shall be compatible with tile (color as selected from manufacturer's standard colors)
11. Floor tile shall be installed with thin-set method,
12. Wall tile shall be installed with adhesive method.
13. Install an aluminum termination edge protection similar to profiles manufactured by Schluter Systems at all wall tile installations where tile is not abutting an adjacent material.

09550 WOOD FLOORING

1. Submit product samples and on site finish options for review.
2. Hardwood flooring shall be, red oak, No. 1, job finished (see finish schedule for stain).
3. Deliver flooring to job site for climate acclimation one week prior to installation.
4. Install #15 felt underlayment prior to installation of hardwood.
5. Provide base shoe to match existing.
6. Provide wood reducer threshold as required (match species and finish)
7. Finish shall be polyurethane, three coats of satin finish. Apply final coat after all trades have substantially completed their work.
8. Install in accordance with National Wood Flooring Association (NWFA) recommendations for each substrate condition.

099000 PAINTING

1. Paints and stains shall be provided from only the following manufacturers: PPG/ Porter, Sherwin Williams, Benjamin Moore, Pratt & Lambert, Cabot, Olympic,
2. Comply with EPA lead-safe work practices when removing lead paint. General contractor shall obtain EPA certificate for lead paint removal and post warning signs. All workers shall be certified to remove lead paint. General contractor shall maintain records to document compliance with 2010 EPA Remodeling, Repair and Repainting Rule.
3. Paint Schedule:
Interior drywall typical: 1 coat latex primer, 2 coats eggshell latex, final coat roller applied
Interior drywall at bathrooms: 1 coat latex primer, 2 coats semi-gloss enamel, final coat roller applied.
Interior wood trim (paint): 1 coat acrylic primer, 2 coats semi-gloss latex enamel
Interior wood trim (stain): 1 coat oil base stain sealer, 2 coats satin finish polyurethane
Exterior wood trim and metal (paint): 1 coat acrylic primer, 2 coats acrylic exterior, semi-gloss
Exterior wood trim (stain): 3 coats opaque stain.
4. Walls shall be a different color from ceilings. Trim may be different color from walls.
5. Prepare all surfaces to receive paint. Painter shall bring to attention of General Contractor surface defects needing repair prior to start of painting. Finished work shall be free of surface defects.
6. Install sealants as required to achieve finished appearance
7. Leave work clean and adjacent surfaces free of splatters, drips etc.
8. Install in accordance with manufacturer's instructions for each substrate condition.
9. Scrape and paint all exposed existing steel (lintels, stair structure, & porches) with rust inhibiting primer and paint. Window lintels shall match window/door molding.
10. Paint cover of electrical panels.
11. Apply paint and stain in accordance with manufacturer's instructions, free of surface defects.

102800 TOILET ACCESSORIES

1. Mirrors shall be ¼" plate glass, adhesive attachment.
2. Submit product data and shop drawings for review.
3. Toilet accessories schedule (finish shall match plumbing fixtures)
 - a. Toilet paper dispenser: Genta series by Moen
 - b. Towel bar: Genta series by Moen
 - c. Towel Hook: Genta series by Moen (if indicated on drawings)
 - d. Shower rod: 1214 by ASI
4. Recessed medicine cabinet: similar to Mendenhall medicine cabinet by Rejuvenation. Item# C3647 <https://www.rejuvenation.com/catalog/products/mendenhall>
5. Provide all accessories required for proper installation and install in accordance with manufacturer's instructions.

105500 POSTAL SPECIALTIES

1. Submit shop drawings and submittals for review by Architect.
2. Mailboxes shall be recessed mount, aluminum finish, USPS approved, similar to model # 3507 aluminum finish as manufactured by Salisbury Industries. 6 mailboxes with 1 outgoing mail slot.
3. Provide all accessories for proper installation.
4. Knox box shall be KNOX 3200 Series recessed mount (color selected from manufacturers standards and approved by Architect), and shall be supplied by Owner and installed by General Contractor. If exist location of Knox box is accepted by owner & local municipality, existing box may remain.
5. Install all specialties in accordance with manufacturer's instructions.

105700 CLOSET SHELVING

1. Closet shelving shall be wire units, baked enamel, integral rod for clothes hanging
2. Provide adjustable shelving hardware/ supports where adjustable shelving indicated on drawings.
3. Provide all intermediate supports, material and accessories appropriate to application for proper installation
4. Anchor all support brackets ONLY to blocking or studs. Drywall anchors of any kind or not acceptable.
5. Install in accordance with manufacturer's instructions.

114000 EQUIPMENT

1. Kitchen equipment for NON-ACCESSIBLE units shall be:
 - a. Washer: EFLS617SIW by Electrolux (w/ braided hose type)
 - b. Dryer: EFME617SIW by Electrolux
 - c. Dishwasher - 24": WDT720PAD by Whirlpool
 - d. Microwave - 30": WMH53520C by Whirlpool
 - e. Range - 30" WFE515S0ES by Whirlpool
 - f. Refrigerator -33": WRT311FZD by Whirlpool
2. Provide all required power, plumbing and ventilation for proper installation of kitchen equipment.
3. Provide all accessories required for stacked washer/dryer
4. Verify all equipment selections and locations with Owner prior to rough-ins.
5. Install all equipment in accordance with manufacturer's instructions.
6. Vent all equipment to the exterior.
7. Alternate kitchen equipment packages will be considered by Owner & Architect

122000 WINDOW TREATMENTS

1. Submit product samples and shop drawings for review.
2. Horizontal louver blinds shall be 2" Horizontal Faux Wood blinds as manufactured by Spring Window Fashions, color selected from manufacturer's standard colors. Product line shall be Graber Lake Forest. Provide samples for review. Alternate manufacturers will be considered upon approval of Owner & Architect.
3. All exterior windows shall receive blinds custom sized to fit opening.
 - a. Window treatments shall not be applied at frosted windows UNO
 - b. Low profile blinds at porch doors
4. Provide all required accessories for proper installation including headrail, cord tilter, cord lock, braided ladder, slats, and bottom rail required for proper installation.
5. Install in accordance with manufacturer's instructions.

123000 CASEWORK

1. All cabinets placed against walls shall be anchored to blocking, studs. Island cabinets shall be anchored to subfloor and joists.
2. Provide all required fillers and accessories to provide proper clearances for door and drawer operation including clearances for pulls.
3. Provide cabinets per Finish Index. Submit samples and shop drawings for review.
4. Provide 30mm thick solid surface countertops at kitchen & bathroom countertops.
 - a. Countertops shall have 1" overhang U.N.O.
5. Install all cabinets straight and plumb.
6. Scribe tops and end panels as required to provide tight, neat joint. Joint shall not exceed 1/4" width.
7. Hardware shall comply with ANSI A 156.9
 - a. Pulls: per finish index
 - b. Hinges: concealed, adjustable, stainless steel
 - c. Drawer guides: side mounted, nylon roller action
8. Anchor all cabinets directly to structural members or blocking.
9. Install all work level and plumb, adjust all doors and drawers for proper alignment and operation.
10. Provide finished end panels at all exposed edges of cabinetry.
11. Provide finished interiors to all microwave cabinets.
12. End panels shall be 1/2" solid wood
13. Provide required supports at suspended countertops per manufacturer's requirements.
14. Drawers shall be 5/8" solid wood with dovetail
15. Base cabinet box shall have full depth braces (not glued plastic corner braces)

15000 PLUMBING DESIGN BUILD

1. The plumbing contractor shall be solely responsible for the design and construction of the plumbing system.
2. Plumbing Contractor shall provide all documentation required to secure permit for the plumbing work.
3. All work shall conform with applicable codes and ordinances.
4. Provide all material and labor for a complete system, including but not limited to: incoming water service, supply waste and vent system, domestic water supply system, fixtures and fittings.
5. Submit product samples and shop drawings for review.
6. Install all work in accordance with manufacturer's instructions.
7. The design and installation of the plumbing system shall be the sole responsibility of the plumbing contractor and shall incorporate all requirements as shown in the contract documents
8. The design shall satisfy all requirements of codes and regulations currently enforced by all governmental agencies having jurisdiction over the work.
9. Plumbing system shall be detailed so that a complete determination may be made as to the quality and quantity of the work proposed. The successful contractor will then be required to prepare and submit final coordinated working drawings and design calculations of all systems, that comply with contract documents and the building code.
10. These sealed drawings will be used by the contractor to obtain a building permit.
11. The design and installation of the plumbing system shall incorporate all requirements shown in the contract documents.
12. The design of the plumbing system shall include but not be limited to the following:
 - a. All drawings required for permit including signed and sealed drawings
 - b. Submission of shop drawings/submittals for review by architect and incorporation of all comments
 - c. New supply system w/ shutoffs provided in the laundry room of each unit
 - d. New drain/waste/vent system including connection to public utility
 - e. Calculation and inclusion of all applicable tap fees and connection fees.
 - f. Coordination with all other trades, including mechanical, electrical design/build subcontractors
 - g. Contractor shall utilize existing water service to structure.
 - h. Contractor shall perform work for sewer lateral per civil drawings.
 - i. Existing gas service shall be removed, taps destroyed by GC.
13. Engineered drawings shall be submitted and approved by architect and local; authorities prior to fabrication and the start of work
14. The contractor shall obtain all permits and pay all fees required for the work under this section
15. The contractor shall run piping so that it does not interfere with any other mechanical, or electrical work.
16. The contractor accepts the specifications and guarantees that the work will be carried out in accordance with the requirements of the specifications or such modifications as may be made in the contract documents.
17. The contractor shall guarantee that the "design and build" system will provide a plumbing system which will operate properly and will conform to all current building codes.
18. Contractor shall further guarantee that the workmanship and material will be standard of the industry, and that only fully experienced workmen will do the work.
19. The final written guarantee is to state that the plumbing contractor will replace and make good, at his own expense, any defects which may develop in fixtures, equipment, or faulty workmanship or material for one year after substantial completion and acceptance by the owner, upon written notification from the owner.

20. Fixtures and fittings schedule to establish a functional and quality standard:
 - a. Garbage disposal: ½ hp Badger 5 by ISE
 - b. Toilet: 1.6 gallon, round front, tank toilet (white) by Mansfield
 - c. Tub: Existing tub shall be refinished by Miracle Method surface refinishing 314-334-3025
 - d. Shower: K-9479 Archer by Kohler (color selected from manufacturer's standards). GC shall provide color samples to architect for selection.
 - i. Shower door - 76" tall from bottom curb to head, coral door, finish shall match plumbing fixtures, ¼" thick frosted glass, continuous hinge doors. Contact : Jake Nelson at Trinity Glassworks 314-330-0423
 - e. Kitchen sink: Moen G20256
 - f. Kitchen faucet: Moen Align 7165SRS spot resistant stainless
 - g. Tub/Shower: Moen, Genta Chrome Posi-Temp
 - h. Bathroom under-mount sink Kohler Bachata K-2608-SU
 - i. Bathroom faucet: Moen, Genta Chrome one handle high arch
21. Hose bibs shall be freeze proof type with backflow prevention.
22. Water heater shall be 48 gal. electric minimum 0.67 energy factor, with first hour delivery GPH of 60 gallons/hour minimum. Acceptable manufacturers: A.O. Smith, Rheem, Rudd, State.
23. Provide plastic recessed box wall connections for washing machine, hot and cold supply shutoffs, drain connections.
24. Provide metal drip pan with 3" curb @ washing machines, water heaters, furnaces, and condensate lines in units.
25. Provide floor drains @ all washing machine drip pans, water heaters, furnaces and basements.
26. Sound insulate all PVC waste lines in walls and ceilings with pipe wrap designed for that purpose, unless insulation required by partition types or floor/ceiling assembly is present.
27. Terminate all plumbing vents @ "backside" of roof unless code restrictions prevent. Collect vents in attic where possible to reduce roof penetrations.
28. Provide a shut off valves for each unit in laundry room U.N.O.
29. All DWV piping shall be PVC-schedule 40 (solid).
30. All supply piping shall be CPVC
31. All supply piping shall be run in interior walls.
32. Fire tested and certified reports
33. See civil drawings for site utility locations.

15500 HEATING VENTILATION AIR-CONDITIONING (HVAC) DESIGN BUILD

1. The design and installation of the HVAC system shall be the sole responsibility of the HVAC contractor and shall incorporate all requirements shown in the contract documents.
2. The design shall satisfy all requirements of codes and regulations currently enforced by all governmental agencies having jurisdiction over the work.
3. HVAC system shall be detailed so that a complete determination may be made as to the quality and quantity of the work proposed. The successful Contractor will then be required to prepare and submit final coordinated working drawings and design calculations of all systems that comply with contract documents and the building code.
4. These sealed drawings will be used by the contractor to obtain a building permit.
5. The design and installation of the HVAC system shall incorporate all requirements shown in the contract documents.
6. The design of the HVAC system shall include but not be limited to the following:
 - a. Complete heating and cooling system.
 - b. Exhaust fan ductwork and termination.
 - c. Installation of all temperature control wiring for units.
 - d. Heat gain/loss calculations for proper design and permit.
 - e. Submission of shop drawings/submittals for review by Architect and incorporation of all comments
 - f. All drawings required for permit including signed and sealed drawings
 - g. Submission of technical literature describing all equipment proposed to be supplied.
 - h. Coordination with all other trades, including electrical and plumbing design/build contractors
7. Engineered drawings shall be submitted and approved by Architect and local authorities prior to fabrication and the start of work.
8. Contractor shall obtain all permits and pay all fees required for the work under this section.
9. This Contractor is to run his piping so that it does not interfere with any other plumbing or electrical work.
10. The Contractor accepts the Specifications and guarantees that the work will be carried out in accordance with the requirements of the Specifications or such modifications as may be made in the Contract Documents.
11. The Contractor shall guarantee that the "design and build" system will provide an HVAC system which will operate properly and will conform to all current building codes.
12. Contractor shall further guarantee that the workmanship and material will be Standard of the Industry, and that only fully experienced workmen will do the work.
13. The final written guarantee is to state that the HVAC Contractor will replace and good, at his own expense, any defects which may develop in fixtures, equipment, or faulty workmanship or material for one (1) year after substantial completion and acceptance by the Owner, upon written notification from the Owner.
14. Each system shall provide and maintain an even temperature throughout all areas of the unit.
15. Basement heater shall be 5KW minimum furnace w/ thermostat. Equipment shall be designed to maintain a minimum temperature at entire basement of 55 F.
16. Basement dehumidifier shall be similar to model #1850F by Aprilaire
17. HVAC system shall be electric.
18. Location of furnace, condensing units, exhaust fans, and return air grilles are located on the drawings (diagrammatic)
19. All equipment shall be vented to exterior while meeting the local codes.
20. Balance system after final installation to meet Owner's preferences.
21. Provide ductwork and roof or exterior wall termination for hoods and exhaust fans.
22. Install all equipment in accordance with respective listing. Install all work in accordance with manufacturer's instructions. Clean all equipment filters @ Substantial Completion. Protect ductwork from infiltration of dust and debris during construction. Install new filters at completion of project.

23. Seal all joints in ductwork and at all boots.
24. Verify location and layout of all proposed equipment, flues, and soffits with Owner prior to beginning installation. Contractor should design layout to keep ductwork in soffits as shown on the drawings.
25. All ceiling and wall registers shall be rectangular, adjustable damper, painted baked enamel finish, white.
26. Furnace return air and make-up air grills shall be applied to both sides of opening. No studs shall be visible through grill. At high return air grills provide baffle to mitigate noise transfer.
27. Provide return air grilles at bedrooms shall have acoustical filters, centered above door as required for pressure balance & return air supply at unit/space.
28. Equipment shall be Energy Star qualified.
29. Furnaces shall be 90% efficient min. manufactured by Bryant, Carrier, American Standard, RUUD, Trane, York.
30. Provide 4" vinyl unit ID stickers at condensing units.
31. Air conditioners shall be top discharge, 14 SEER minimum efficiency heat pump, manufactured by Bryant, Carrier, American Standard, RUUD, Trane, York. Condensing units may be located a maximum distance of 75' away from air handler.
32. Provide dampers w/ requisite ratings at all duct penetrations of fire partitions and fire walls.
33. Provide simple programmable white thermostat by White Rodgers or similar. Install per manufacturer's recommendations.
34. Provide PVC or copper condensate lines, piped so as to minimize exposure to damage. Install one mock-up condensate line per unit type for review by Owner.
35. Floor registers located in hardwood floors installations shall be hardwood, flush, rectangular, adjustable damper, finished to match adjacent flooring.

PREFABRICATED FIREPLACES

1. Prefabricated fireplace units shall be wood burning, UL listed, zero clearance, triple wall stainless steel flue, refractory brick lined, 44" nom. Width, similar or equal to "Biltmore" as manufactured by Majestic. Similar or equal shall be approved by architect
2. Provide all material and accessories required for proper installation.
3. Install in accordance with manufacturer's instructions.

26000 ELECTRICAL DESIGN BUILD

1. Engineered drawings shall be submitted and approved by Architect and local authorities prior to fabrication and the start of work.
2. Submit product samples and shop drawings for review.
3. This Contractor shall provide all documentation required obtain all permits and pay all fees required for the work under this section.
4. This Contractor shall give all required notices when inspections are required by State or Local authorities.
5. All work shall conform to applicable codes and ordinances.
6. Install all work in accordance with manufacturer's instructions.
7. Light fixture schedule on drawings to establish a functional and quality standard.
8. This Contractor is to run wiring so that it does not interfere with any other plumbing or mechanical work.
9. The Contractor accepts the Specifications and guarantees that the work will be carried out in accordance with the requirements of the Specifications or such modifications as may be made in the Contract Documents.
10. The Contractor shall guarantee that the "design and build" system will provide an Electrical system which will operate properly and will conform to all current building codes. Contractor shall further guarantee that the workmanship and material will be Standard of the Industry, and that only fully experienced workmen will do the work.
11. The final written guarantee is to state that the Electrical Contractor will replace and good, at his own expense, any defects which may develop in fixtures, equipment, or faulty workmanship or material for one (1) year after substantial completion and acceptance by the Owner, upon written notification from the Owner.
12. Provide all material and labor for a complete system, including but not limited to: incoming service, panels, power, lighting, Smoke, Heat and carbon monoxide detectors, toilet exhaust fans, communication/ data/ TV wiring.
13. Review existing electrical service and include all costs associated with the additional capacity needed for new structures, including a totally new service if required.
14. Coordinate final design of panel easement (if required) and the work with Ameren Electric.
15. Service entrance conduit and conductors to new panelboards.
16. Circuit breaker panelboards, Contractor to verify required capacity.
17. Accurately label all circuits @ panel.
18. All single and double pole switches shall be toggle type.
19. All switches, outlets, cover plates shall be thermoplastic nylon, white.
20. Provide and install 75 cfm min., 1 one max., and exhaust fan in each bathroom. Exhaust to exterior (side or rear only) and shall conform to applicable codes and ordinances. Provide a new aluminum grill (color shall match brick) or exhaust through roof.
21. Entry system shall be GTA-DES with GT-OP3 with blank panel recessed model as manufactured by Aiphone. System shall provide for Postal Service access. Coordinate with USPS for requirements. All unit smoke detectors shall be smoke and carbon monoxide multi-head type, hard-wired and interconnected within each unit, and shall have a battery back-up. Smoke detectors shall be provided as part of Fire Alarm Contractor's scope of work.
22. Smoke detectors only at public areas
23. Contractor shall verify with Owner all appliances requiring 220v receptacle and provide and install outlet matched to appliance.
24. Contractor shall verify with Owner all light, outlet, switch locations and quantities prior to beginning wiring installation. Additional devices requested by Owner shall be added as an extra cost. Meters may not be mounted on street-facing facades. Coordinate meter location w/ Architect.
25. Wiring at existing masonry walls shall be flexible conduit cut in to existing masonry; no exposed conduit shall be used.
26. Low voltage wiring shall be run to utility closet junction box @ each unit.
27. All bulbs shall be a maximum of 3000k U.N.O.
28. Exterior lighting shall be on photocell U.N.O.

29. Site utilities and services - GC shall provide all site utilities and service distribution requirements for the building. The electrical contractor shall take full responsibility of coordinating the electrical telephone, and cable TV with the local service providers and the city.

310000 EARTHWORK

1. If soil is encountered at design elevation of questionable bearing capacity or otherwise appears unsatisfactory for foundation and under slab support, Contractor shall immediately notify Architect and continue excavation only at direction of Architect. If such conditions are encountered a geotechnical engineer may be employed to provide instruction on how work is to proceed and monitor excavation and backfilling operations.
2. The cost of the geotechnical engineer and remedial work subsequently ordered by the geotechnical engineer shall be an additional expense and submitted as a change order.
3. Notify Architect if groundwater is suspected or observed at design elevations for footings/ foundations.
4. Prevent surface water from ponding on subgrades and flooding project site and surrounding properties.
5. Provide siltation barriers at perimeter of site where grading and excavation occurs to control erosion and prevent runoff at adjacent properties.
6. Contractor shall be solely responsible for establishing floor elevations relative to existing grades.
7. In the event of unsatisfactory material for fill or backfill, Owner to be informed of amount. Contractor shall present to owner time and material submittal for replacement.
8. Stockpile topsoil during excavation for replacement at finish grading.
9. Slope finished grades away from foundation wall a minimum $\frac{1}{2}$ " per ft. for a minimum distance of 10'-0".
10. Finish grading shall provide positive drainage for entire site to drain water off site and maintain existing drainage patterns at property lines.
11. Finish grading shall leave all yards smooth, ready to receive seeding, sod, plantings.
12. Repair all eroded areas, ruts, etc., make all yards ready to receive seeding or sod and plantings. If seeding, sodding or planting cannot be performed due to time of year or weather conditions contractor shall still be responsible for repair of yard when conditions permit. Control erosion and prevent discharge onto adjacent properties and waterways.
13. Contractor shall maintain yard until grass and plantings are sufficiently established to prevent erosion.
14. Soil compaction shall be 95% of maximum density at optimum moisture content.
15. Granular fill compaction shall be 100% of maximum density.

321200 FLEXIBLE PAVING

1. Drives and parking areas shall be asphaltic concrete:
 - 8" graded granular base course
 - 3" asphalt mix, Type C
2. Install all paving in accordance with AI MS-22 Second Edition 2001.
3. All paved areas shall be sloped $\frac{1}{4}$ " per ft. minimum to minimize ponding.
4. Repair all paved areas damaged by construction.
 - a. Survey existing condition of paving prior to commencement of construction. Any damage due to construction shall be repaired by GC.
5. Pavement markings shall use white pavement paint

329000 LANDSCAPING

1. Protect existing plants and yard areas indicated to not be disturbed.
2. Sod all lawn areas disturbed by construction.
3. Sod shall be tall fescue similar to Heartland Turf-Type by Heartland Turf Farms.
4. Properly prepare soil consistent with requirements of respective plantings.
5. Install all trees, shrubs, ground cover, flowering plants etc. in accordance with growers and industry standards.
6. It shall be the contractor's responsibility to water all seed and sod installations daily until grass is established.
7. Remove surplus soil, landscape materials and other waste material and dispose of properly off site.
8. All shrubs shall be 5 gallon. All perennials shall be 1 gallon.
9. Gravel fill shall be 2" min. depth of ¾"-1" clean limestone gravel.
10. Top of Gravel & stone fill match adjacent walk where applicable.
11. Gravel fill and planting areas shall receive 6" aluminum edging.
12. Provide 1-year unconditional guarantee for all plants installed. Install in accordance with growers recommendations & industry standards.
13. Mulches
 - a. Organic Mulch: free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:
 - i. Type: Well Decomposed, Double Ground, Shredded Hardwood Bark Mulch
 - b. Peat Mulch: Provide peat moss in natural, shredded or granulated form, of fine texture, with a pH range of 4 to 6 and a water-absorbing capacity of 1100 to 2000 percent.