

**SECTION 08 1429
WOOD DOORS**

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PART 2 PRODUCTS

2.01 INTERIOR WOOD DOORS

- A. Quality Level: Premium Grade , in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.
- B. Wood products that Emit Low or No Formaldehyde
- C. Wood products that Emit Low or No VOC
- D. Interior Doors: 1-3/4 inches (44 mm) thick unless otherwise indicated; solid lumber construction; mortised and tenoned joints.
 - 1. Mastercraft- prefinished Craftsman 3- panel flat prehung Interior Door
Oak Menards model number 4113537 SKU #: 4113537 (specifically for 32" x 80"- model number and SKU will be slightly different for different sizes)
 - 2. Door Type: 6-panel, prehung

2.02 ACCESSORIES

- A. Molding: Wood, of same species as door facingshape, mitered corners; prepared for countersink style tamper proof screws.
- B. Adhesives and Sealants: VOC content not to exceed the following [g/L; less water and less exempt compounds]:
 - 1. Multipurpose Construction Adhesives: 70g/L
- C. Privacy Lockset- on bathrooms and master bedroom doors, Passage on all other doors
- D. Hinges to match the lockset
- E. Door stop

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions and AWI/AWMAC Quality Standards requirements.
- B. Coordinate installation of doors with installation of frames and hardware.

3.02 TOLERANCES

- A. Conform to specified quality standard for fit, clearance, and joinery tolerances.

3.03 LOCATIONS

- A. All interior doors

END OF SECTION

**SECTION 08 3323
OVERHEAD GARAGE DOORS & OPENER**

PART 1 GENERAL

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1.01 QUALITY ASSURANCE

- A. Products Requiring Electrical Connection: Listed and classified by testing firm acceptable to the authority having jurisdiction as suitable for the purpose specified and indicated.

PART 2 PRODUCTS

2.01 COILING DOORS

- A. Exterior Coiling Doors: Aluminum slat curtain.
 - 1. Guides: Formed track; galvanized steel.
 - 2. Electric operation.
 - 3. Mounting: Within framed opening.
 - 4. Exterior lock and latch handle.

2.02 ELECTRIC OPERATION

- A. Electric Operators: Chain Drive Garage Door Opener
 - 1. Motor Rating: 1/2 hp (250 W); continuous duty.
 - 2. Motor Controller: NEMA ICS 2, full voltage, reversing magnetic motor starter.
 - 3. Controller Enclosure: NEMA 250 Type 1.
 - 4. Opening Speed: 12 inches per second (300 mm/s).
 - 5. Brake: Adjustable friction clutch type, activated by motor controller.
 - 6. Manual override in case of power failure.
- B. Control Station: Standard three button (OPEN-STOP-CLOSE) momentary control for each operator.
 - 1. 24 volt circuit.
- C. Safety Edge: Located at bottom of curtain, full width, electro-mechanical sensitized type, wired to stop operator upon striking object, hollow neoprene covered.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- C. Complete wiring from disconnect to unit components.

3.02 LOCATION

- A. Garage

END OF SECTION

SECTION 08 5313

WINDOWS

PART 1 GENERAL

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1.01 PERFORMANCE REQUIREMENTS

PART 2 PRODUCTS

2.01 COMPONENTS

- A. Windows: Existing new windows= Anderson Perma-Shield Narrowline Windows
 - 1. Configuration: double hung – both sashes operable
 - 2. Color: To match existing: wood interior, white clad exterior
 - 3. Insect Screens: 14/18 mesh, steel strands.
 - 4. Fasteners: Stainless steel.
 - 5. Hardware: match color of existing windows

2.02 ADHESIVES AND SEALANTS

- A. VOC content not to exceed the following [g/L; less water and less exempt compounds]:
 - 1. Multipurpose Construction Adhesives: 70 g/L
 - 2. Structural Glazing Adhesives: 100 g/L

2.03 HARDWARE

- A. Double Hung Sash: Metal and nylon spiral friction slide cylinder, each sash, each jamb.
- B. Sash lock: Lever handle with cam lock.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install window units in accordance with manufacturers instructions.
- B. Attach window frame and shims to perimeter opening to accommodate construction tolerances and other irregularities.
- C. Align window plumb and level, free of warp or twist. Maintain dimensional tolerances and alignment with adjacent work.
- D. Insulate any voids between the window frame and the rough opening with foam insulation.

3.02 ADJUSTING

- A. Adjust hardware for smooth operation and secure weather tight closure.

3.03 APPLICATIONS

- A. Water Management: Walls, Exterior Windows
 - 1. Provide weather-resistive barrier/housewrap
 - 2. Provide pathway for liquid water to exit exterior wall assembly
 - 3. Provide pan flashing, side flashing, and head flashing

3.04 LOCATION

- A. REPAIR/REPLACEMENT WINDOWS
 - 1. Throughout- Ensure all existing windows are in operable condition, including functioning hardware and sash locks.
- B. MULLIONS/SCREENS
 - 1. Ensure all windows have functioning screens
 - 2. Ensure that the 2 second floor windows meet egress requirements
 - 3. Provide and install a cross type mullion in (two) both 2nd floor awning windows, so each window resembles two double hung windows.
- C. BASEMENT WINDOWS

1. Clean and repair basement windows as needed to function properly. Note that west window located under west side door will be removed, opening to be blocked in using concrete block. This window should be salvaged incase there are needed parts for repair of the other 5 windows (note south-east window vent needs to be re-attached)

D. NEW WINDOWS

1. DOUBLE HUNG:

- a. Kitchen- glass block window at front elevation to be replaced with 2 double hung windows that measure a total of approximately 5'-10" in width and 36" in height (Height to be approved by project manager to ensure that the window does not interfere with new kitchen counter top/backsplash.

END OF SECTION

SECTION 09 2116
GYPSUM BOARD INSTALLATION

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 BOARD MATERIALS

- A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.
1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 2. Thickness:
 - a. Vertical Surfaces: 1/2 inch (13 mm).
 - b. Ceilings: 1/2 inch (13 mm).
- B. Backing Board For Wet Areas: One of the following products:
1. Application: Surfaces behind tile in wet areas including tub and shower surrounds and shower ceilings.

2.03 ACCESSORIES

- A. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.
1. Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners , except as otherwise indicated.
 2. Ready-mixed vinyl-based joint compound.
 3. Powder-type vinyl-based joint compound.
 4. Chemical hardening type compound.

PART 3 EXECUTION

3.01 BOARD INSTALLATION

- A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.
- B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

3.02 JOINT TREATMENT

- A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:
1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 2. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.

3.03 LOCATIONS

- A. Walls and Ceilings - throughout house (1st and 2nd floors), including basement stairway.

SECTION 09 3000

TILING

PART 1 GENERAL

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1.01 TILE

- A. First floor bathroom- use existing octagon tile- repair/replace as needed (see area around toilet/wall)
- B. Other areas for -Floor tile to be provided by owner (All other materials to be supplied by contractor)

1.02 FIELD CONDITIONS

- A. Do not install adhesives in an unventilated environment.
- B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

- A. Wall tile to be provided by owner (all other materials to be supplied by contractor)

2.02 TRIM AND ACCESSORIES

- A. Ceramic Accessories: Glazed finish, same color and finish as adjacent field tile; same manufacturer as tile.
- B. Ceramic Trim: Matching bullnose, double bullnose, cove base, and cove ceramic shapes in sizes coordinated with field tile.
- C. Thresholds: Marble, white or gray, honed finish; 2 inches (50 mm) wide by full width of wall or frame opening; 1/2 inch (12 mm) thick; beveled one long edge with radiused corners on top side; without holes, cracks, or open seams.

2.03 SETTING MATERIALS

2.04 GROUTS

- A. Standard Grout: Any type specified in ANSI A118.6 or A118.7.

2.05 THICK-BED MATERIALS

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Install tile, thresholds, and stair treads and grout in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and The Tile Council of North America Handbook recommendations.
- B. Lay tile to pattern indicated. Do not interrupt tile pattern through openings.

3.02 INSTALLATION - FLOORS - THIN-SET METHODS

- A. Over wood substrates, install in accordance with The Tile Council of North America Handbook Method F142, with standard grout , unless otherwise indicated.
 - 1. Where epoxy bond coat and grout are indicated, install in accordance with The Tile Council of North America Handbook Method F143.
- B. Over wood substrate with backer board underlayment, install in accordance with The Tile Council of North America Handbook Method F144, for cementitious backer boards, with standard grout.

3.03 INSTALLATION - FLOORS - MORTAR BED METHODS

- A. Over wood substrates, install in accordance with The Tile Council of North America Handbook method F141, with standard grout , unless otherwise indicated.

3.04 INSTALLATION - SHOWERS AND BATHTUB WALLS

- A. At tiled shower receptors install in accordance with The Tile Council of North America Handbook Method B415, mortar bed floor, and W244, thin-set over cementitious backer unit walls.
- B. At bathtub walls install in accordance with The Tile Council of North America Handbook Method B412, over cementitious backer units with waterproofing membrane.
- C. Grout with standard grout as specified above.

3.05 INSTALLATION - WALL TILE

- A. On exterior walls install in accordance with The Tile Council of North America Handbook Method W202, thin-set over concrete and masonry with latex-Portland cement grout.
- B. Over cementitious backer units on studs, install in accordance with The Tile Council of North America Handbook Method W244 , using membrane at toilet rooms.

3.06 LOCATIONS

Tile to be supplied by owner and installed by general contractor. All other materials to be supplied and installed by general contractor. General contractor to pick up tile from NWHP Frogtown office and deliver to site.

- A. First floor Bathroom
 - 1. Bathtub tile surround
 - 2. Repair existing floor
- B. Second floor Bathroom
 - 1. Shower tile surround
 - 2. Bathroom floor

END OF SECTION

**SECTION 09 6219
LAMINATE FLOORING**

PART 1 - GENERAL

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1.01 ALLOWANCES

1.02 SYSTEM DESCRIPTION

- A. Design Requirements: Provide concealed fastening wherever possible.
 - 1. Attachment considerations shall take into account site peculiarities and expansion and contraction movements so there is not possibility of loosening, weakening, buckling, or fracturing connection between wood flooring and substrate.

1.03 QUALITY ASSURANCE

- A. Single Source Responsibility: Furnish laminate flooring from one manufacturer for Residential Units unless otherwise acceptable to Project Manager.
- B. Composite-wood Products: Contain no urea formaldehyde.
- C. Installer Qualifications: Acceptable to manufacturer with experience on at least five projects of similar nature in past five years.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials from damage, moisture, soiling and deterioration during transit and storage.
- B. Do not deliver flooring materials until Project site conditions and operations which could damage, soil or deteriorate work are complete.
- C. Store products and materials in ventilated, interior locations under constant minimum temperature and relative humidity recommended by manufacturer.

1.05 FIELD CONDITIONS

- A. Environmental Requirements: Obtain and maintain temperature and moisture conditions as recommended by laminate flooring manufacturer during installation and remainder of construction period.

PART 2 - PRODUCTS

2.01 LAMINATE FLOORING – RESIDENTIAL UNITS

- A. Description: Laminate flooring (Direct Pressure Laminate) consisting of four layered construction, Four layered thermal fused process includes smooth, abrasion resistant wear surface composed of cellulose paper saturated with melamine resin embedded with aluminum oxide to provide stain and scratch resistance, VTX print saturated with melamine resin to provide fade resistance, high density fiberboard core with technology to add moisture resistance, and melamine saturated balanced backing paper for added dimensional stability.
- B. Basis of Design: **Tarkett** series to be selected by Project Manager. Selected from currently available Collection in 4.92 inches width x 47.24 inches length having nominal total gauge of 0.47 inch.
- C. Other Acceptable Manufacturers:
 - 1. Pergo Laminate Floors, Mediterranean Kempas.

2.02 ACCESSORIES

- A. Transition Pieces: Provide coordinating transitions and moulding pieces designated for L8706 to meet installation application for finishing and transitioning to other flooring products.
- B. Primer and Adhesive: Manufacturer's recommended for conditions.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine conditions and proceed with work in accordance with Section 01 40 00.

1. Verify that substrates comply with manufacturer's requirements.
2. Ensure concrete has cured 28 days minimum.
3. Verify concrete curing compounds are compatible with flooring adhesive.
4. Verify that substrate is clean, dry, free of voids and cracks.

3.02 PREPARATION

- A. Concrete Substrate Moisture Testing: Perform tests recommended by manufacturer and as follows. Proceed with installation only after substrates pass testing.
1. Perform anhydrous calcium chloride test, ASTM F1869. Ensure concrete is within floor manufacturer's recommended limits prior to installation.
 2. For substrates with moisture vapor permeance in excess of 3 pounds water vapor per 1000 SF per 24 hour period, use floor coating manufacturer's suggested remedy. Do not proceed with flooring application until condition is corrected.
- B. Preparation:
1. Remove ridges, bumps, trowel marks and protrusions from substrate.
 2. Clean substrate to remove paint, dirt, oil, grease, sealers, release agents, hardening compounds, curing compounds, residual adhesives, and harmful substances which could impair performance of adhesive materials used with flooring products.
 3. Fill depressions, low spots, cracks, joints, holes, indentations, and other defects with leveling and patching compounds. Trowel to smooth, flat surface producing substrate to within tolerance of 1/4 inch in 10 feet.
 4. Vacuum clean substrate.
 5. Prime substrate in accordance with manufacturer's requirements.

3.03 LAMINATE FLOORING INSTALLATION

- A. Install flooring and adhesive in accordance with manufacturer's recommendations.
1. Install laminate flooring plumb, level, square, and free from warp or twist while maintaining dimensional tolerances and alignment with surrounding construction.
 2. Roll flooring immediately after installation with minimum 100 pounds roller.
 3. Install flooring wall to wall before installation of floor-set cabinets, casework, furniture, equipment, movable partitions, etc. Extend flooring into toe spaces, door recesses, closets, and similar openings.
 4. Scribe, cut, and fit to permanent fixtures, columns, walls, partitions, pipes, outlets, and built-in furniture and cabinets leaving required expansion of 1/4 inch to 1/2 inch.
 5. Install flooring with adhesives, tools, and procedures in accordance with manufacturer's recommendations. Observe recommended adhesive trowel notching, open times, and working times.
- B. Transition Pieces: Install coordinated transitions and molding pieces in accordance with manufacturer's recommendations.

3.04 CLEANING AND PROTECTION

- A. Cleaning: Clean as recommended by manufacturer. Do not use materials or methods which may damage finish and surrounding construction.
1. Remove excess adhesive from floor surface as work progresses.

3.05 LOCATIONS

- A. First floor: Living room/ Dining room/ Kitchen/ Hallways and Entryways/ and 2 Closets (Front coat closet and closet under the stairs to 2nd floor)

SECTION 09 6800

CARPETING

PART 1 GENERAL

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1.01 ALLOWANCES

1.02 FIELD CONDITIONS

- A. Maintain minimum 70 degrees F (21 degrees C) ambient temperature 24 hours prior to, during and 24 hours after installation.
- B. Ventilate installation area during installation and for 72 hours after installation.

PART 2 PRODUCTS

2.01 CARPET

- A. Carpet Type Shaw Anso Yarn Texture Serenity Garden: Tufted, nylon, conforming to the following criteria, **40 oz.:**
 - 1. FHA Approved
 - 2. VOC Content: Provide CRI Green Label Plus certified product ; in lieu of labeling, independent test report showing compliance is acceptable.

2.02 CUSHION

- A. Cushion: Cellular rubber:
 - 1. VOC Content: Provide CRI Green Label Plus certified product ; in lieu of labeling, independent test report showing compliance is acceptable.

2.03 ACCESSORIES

- A. Tackless Strip: Carpet gripper, of type recommended by carpet manufacturer to suit application, with attachment devices.
- B. Seam Adhesive: Recommended by manufacturer.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Lay out carpet and locate seams in accordance with shop drawings:
 - 1. Locate seams in area of least traffic, out of areas of pivoting traffic, and parallel to main traffic.
 - 2. Align run of pile in same direction as anticipated traffic and in same direction on adjacent pieces.

3.02 STRETCHED-IN CARPET

- A. Install tackless strips with pins facing the wall around entire perimeter, except across door openings. Use edge strip where carpet terminates at other floor coverings.
- B. Double cut carpet seams , with accurate pattern match. Make cuts straight, true, and unfrayed. Apply seam adhesive to all cut edges immediately.
- C. Form seams straight, not overlapped or peaked, and free of gaps.
- D. Following seaming, hook carpet onto tackless strip at one edge, power stretch, and hook firmly at other edges. Follow manufacturer's recommendations for method and amount of stretch.
The carpet should be stretched to eliminate puckers, scallops and ripples.

3.03 LOCATION

- A. Stairway to 2nd floor, excluding bottom step and landing (Bottom step and landing to be finished wood to match laminate floor)
- B. All of 2nd floor excluding bathroom
- C. 1st Floor bedrooms including closets (2 bedrooms)

END OF SECTION

**SECTION 09 9000
PAINTING AND COATING**

PART 1 GENERAL

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1.01 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.02 FIELD CONDITIONS

- A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Paints and Coatings: Sherwin Williams Low VOC or an any manufacturer listed in MPI Approved Products List (at www.paintinfo.com) approved by Project Manger.
 - 1. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
 - 2. Provide all paint and coating products from the same manufacturer to the greatest extent possible.
- B. Stains: Minwax Low VOC or any other manufacturer approved by Project Manager

2.02 MATERIALS - GENERAL

- A. Volatile Organic Compound (VOC) Content:
 - 1. Provide coatings that comply with the most stringent requirements specified in the following:
 - a. Flat: 50 grams/Liter
 - b. Non-Flat: 50 grams/Liter
 - c. Floor Coating: 100 grams/Liter
 - d. Anti-Corrosive: 250 grams/Liter

2.03 PAINT SYSTEMS

- A. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.
- B. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.
- C. Where sheen is not specified or more than one sheen is specified, sheen will be selected later by Construction Manager from the manufacturer's full line.
- D. Provide colors as directed by Construction Manager.
- E. Provide smooth texture throughout.

2.04 EXTERIOR PAINT SYSTEMS

- A. Wood Traffic Surfaces:
 - 1. Applications include but are not limited to Decks.
 - 2. EXT 6.5D Deck Stain: Wood Preservative MPI #37, Deck Stain MPI #33.

2.05 INTERIOR PAINT SYSTEMS

- A. Dressed Lumber:
 - 1. Applications include but are not limited to doors, door frames, window frames, window casings, trim, baseboards, and moldings.
- B. Plaster and Gypsum Board:

PART 3 EXECUTION

3.01 SCOPE -- SURFACES TO BE FINISHED

- A. Paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.
- B. Paint the surfaces described in PART 2 and as follows:
 - 1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
 - 2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
 - 3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.
 - 4. Paint back sides of access panels and removable and hinged covers to match exposed surfaces.
- C. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
 - 2. Items indicated to receive other finish.
 - 3. Items indicated to remain naturally finished.
 - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.

3.02 APPLICATION

- A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.
- B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.
- C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.
- D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.
- E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.

3.03 LOCATIONS

- A. Throughout
 - 1. Walls and Ceilings: Flat Sherwin Williams Low VOC
 - a. Wall Color: TBD
 - b. Ceiling Color: TBD
 - 2. Interior Trim Stain: Low VOC
 - a. Trim Color: To match prefinished interior doors
- B. Kitchen and Bath
 - 1. Walls and Ceilings: Eggshell Sherwin Williams Low VOC
 - a. Wall Color: TBD
 - b. Ceiling Color: TBD
- C. Basement:
 - 1. Stairway to include treads, risers, and landings.
 - a. Walls: Eggshell to match Kitchen/Bath: TBD
 - b. Treads/risers: to match basement floor paint: grey

- D. Exterior:
 - 1. Exterior doors and garage service door
 - a. Interior color: to match interior wall paint color
 - b. Exterior color: TBD by project manager

END OF SECTION

**SECTION 09 9723
CONCRETE AND MASONRY COATINGS**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 MATERIALS

- A. Coatings - General: Provide complete systems formulated and recommended by manufacturer for the applications indicated, in the thicknesses indicated.

PART 3 EXECUTION

3.01 PRIMING

- A. Apply primer to all surfaces, unless specifically not required by coating manufacturer. Apply in accordance with coating manufacturer's instructions.

3.02 COATING APPLICATION

- A. Apply coatings in accordance with manufacturer's instructions, to thicknesses specified.
- B. Apply in uniform thickness coats, without runs, drips, pinholes, brush marks, or variations in color, texture, or finish. Finish edges, crevices, corners, and other changes in dimension with full coating thickness.

3.03 LOCATIONS

- A. Basement Foundation Walls - DryLock by ULG, or like product.
- B. Basement Floor - concrete floor grey

END OF SECTION

**SECTION 10 5623
CLOSET STORAGE SHELVING**

PART 1 GENERAL

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1.01 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, with installation instructions.

PART 2 PRODUCTS

2.01 SHELVING APPLICATIONS

- A. Shelf Depth: 12 inches (305 mm), unless otherwise indicated.
- B. Other Bedroom Closets:
 - 1. Wall-to-wall shelf with free sliding hanger rod.
 - 2. Not less than 4 feet (1.25 m) of shoe shelf.
- C. Coat Closets:
 - 1. Wall-to-wall shelf with integral hanger rod.
- D. Linen Closets:
 - 1. Wall-to-wall shelves spaced at 13 inch (330 mm) vertically, not less than 16 inch (408 mm) deep.
- E. Storage Closets:
 - 1. Wall-to-wall storage shelves, stacked at 13 inch (330 mm) vertically, not less than 12 inch (305 mm) deep.

2.02 MATERIALS

- A. Wire Shelving: Factory-assembled coated wire mesh shelf assemblies for wall-mounting, with all components and connections required to produce a rigid structure that is free of buckling and warping.
 - 1. Construction: Cold-drawn steel wire with average tensile strength of 100,000 psi (690 MPa) resistance welded into uniform mesh units, square, rigid, flat, and free of dents or other distortions, with wires trimmed smooth.
 - 2. Coating: PVC or epoxy, applied after fabrication, covering all surfaces.
 - 3. PVC Coating: 9 to 11 mils (0.23 to 0.28 mm) thick.
 - 4. Epoxy Coating: Non-toxic epoxy-polyester powder coating baked-on finish, 3 to 5 mils (0.76 to 1.27 mm) thick.
 - 5. Standard Mesh Shelves: Cross deck wires spaced at 1 inch (25.4 mm).
 - 6. Close-Mesh Shelves: Cross deck wires spaced at 1/2 inch (12.7 mm).
 - 7. Shelf and Rod Units: Integral hanging rod at front edge of shelf.
 - 8. Free-Sliding Hanging Rod: Integral hanging rod that permits uninterrupted sliding of hangers the full width of the shelf.
 - 9. Shoe Shelves: Same wire spacing as standard mesh shelves; angled wall brackets; upturned front lip.
- B. Fasteners: As recommended by manufacturer for mounting substrates.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions, with shelf surfaces level.
- B. Install back clips, end clips at side walls, and support braces at open ends. Install intermediate support braces as recommended by manufacturer.

3.02 LOCATIONS

- A. Closets Throughout

END OF SECTION

**SECTION 10 7446
WINDOW WELLS**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Product: St. Paul Corrugating Lux-Right AreaWalls, Economy Grade, or like product approved by Construction Manager or Project Manager.
- B. Manufactured from 18 gauge, pre-galvanized, regular spangle steel sheets.
- C. Limitations: Care should be used in selecting the style and grade of larger and deeper window wells, which should be specified in heavier gauge and properly supported during backfill and while other construction activity is taking place.

2.02 ACCESSORIES

- A. Fasteners: Use masonry nails, self-drilling anchors or other approved fasteners..

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Window wells should be extended beyond the rough opening for the window by at least 3". Some building codes will require additional clearance.
- C. Top of the window wells should be 2" above the established grade line and down at least 12" below the windowsill.
- D. Install proper gravel for drainage.

3.02 LOCATIONS

- A. All basement windows that require a window well by code. (5 windows. Window at west entrance to be closed to allow for a poured stoop)

END OF SECTION

SECTION 11 3100

RESIDENTIAL APPLIANCES

PART 1 GENERAL

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1.01 SUMMARY

- A. All appliances must be purchased new and Energy Star certified or high efficiency models when Energy Star certification is not possible.

1.02 PRICE AND PAYMENT PROCEDURES

- A. Product:
 - a. Refrigerator: FFHT2126LS/K Energy Star Rated 21 cu ft top mounted refrigerator, stainless steel, with icemaker
 - b. Range: FFGF3053LS Frigidaire 30" Free-standing Gas Range, Self Clean, Clock
 - c. Microwave/Hood: FFMV162LS Over the Range Micro/Hood, to be vented to exterior
 - d. Dishwasher: FGHD2433KF Energy Star 24" Built-in Dishwasher, including dishwasher cord.

1.03 SUBMITTALS

- A. Product Data: Manufacturer's data indicating dimensions, capacity, and operating features of each piece of residential equipment specified.

1.04 QUALITY ASSURANCE

- A. Electric Appliances: Listed and labeled by UL and complying with NEMA standards.
- B. Gas Appliances: Bearing design certification seal of AGA.

PART 3 EXECUTION

2.01 INSTALLATION

- A. All appliances shall be uncrated, cleaned and readied for use.
- B. Dryer and Rangehood should be vented to exterior.
- C. Installation shall include all cord attachments, wiring, plumbing as gas hook ups necessary for appliance operation.
- D. Install in accordance with manufacturer's instructions.
- E. Anchor built-in equipment in place.

2.02 LOCATIONS

- A. Kitchen

END OF SECTION

SECTION 12 1110
HRA MAIL BOX AND HOUSE NUMBERS

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Mailbox:
 - 1. Black enamel finish, letter-sized mail box with magazine rack and lock-eye for padlock.
Style: TBD
- B. House Numbers:
 - 1. 3" high metal or PVC house numbers on a 1"x4" pine backer board painted with 2 coats of exterior latex paint. Color: TBD

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.02 LOCATION

- A. House Number and Mailbox at Front Entrance- location to be approved by project manager
- B. One House Number at Garage Overhead Entrance

**SECTION 12 1111
BATHROOM FURNISHINGS**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 TOWEL SETS

- A. Install a metal bath set comprised of a three 24" towel bar and toilet paper holder
- B. Manufacturer: Saga Series Toilet Accessories
 - 1. Towel Bar: Model # DN6818xx
 - 2. Toilet Paper Holder: Model # DN6808xx
- C. Brushed nickel finish to match faucet

2.02 SHOWER CURTAIN ROD

- A. Install a shower curtain rod using wall anchors.
- B. Manufacturer: Moen, Adjustable Shower Rod. Model # DN2160xx
- C. Brushed nickel finish to match faucet

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

3.02 LOCATIONS

- A. 1st floor bathroom
 - Medicine cabinet in first floor bath room to be reused. Interior is to be cleaned.
- B. 2nd floor bathroom
 - Owner will supply a framed mirror for above the vanity sink. General contractor to install.

END OF SECTION

**SECTION 12 3530
RESIDENTIAL CASEWORK**

PART 1 GENERAL

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1.01 PRICE AND PAYMENT PROCEDURES

- A. Kitchen and Bathroom Cabinet and Counter Top

1.02 SUBMITTALS

- A. Shop Drawings: Indicate casework locations, large scale plans, elevations, clearances required, rough-in and anchor placement dimensions and tolerances.

1.03 QUALITY ASSURANCE

- A. Products: Complying with KCMA A161.1 and KCMA Certified.

PART 2 PRODUCTS

2.01 COMPONENTS

- A. Kitchen Cabinets: See Kitchen Design
- B. Bathroom Vanity Cabinets: Single 30 inch Vanity Cabinet shall match Kitchen Cabinet finish.
- C. Cabinet Construction: Plywood sides and bases.
- D. Kitchen Countertop: Post formed plastic laminate over particle board, coved to back splash.
 - 1. Side Splash: Plastic laminate over particle board, square internal intersections to back splash and top surface, contoured to suit counter top profile.
 - 2. Manufacturer: WilsonArt, Color: TBD

2.02 HARDWARE

- A. Hardware: Manufacturer's standard.- selected by project manager

2.03 FABRICATION

PART 3 EXECUTION

3.01 LOCATIONS

- A. Kitchen Cabinets & Counter Top: Kitchen
- B. Bathroom Cabinet & Counter Top: 2nd floor bath

3.02 INSTALLATION

- A. Install casework, components and accessories in accordance with manufacturer's instructions.
- B. Set casework items plumb and square, securely anchored to building structure.

3.03 LOCATIONS

- A. Kitchen
 - 1. Cabinets to be supplied by owner. To be picked up, delivered by general contractor. Location: NWHP Frogtown office on Dale Street. To be installed by general contractor.
 - 2. Countertops/backsplash: provided and installed by general contractor
 - 3. Hardware: provide and installed by general contractor. Selection by owner
- B. First floor bathroom
 - 1. Pedisal sink supplied by owner. General contractor to pick up and deliver to site from NWHP Frogtown office on Dale Street.
- C. Second floor bathroom
 - 1. Vanity with sink/top supplied by owner. General contractor to pick up and deliver to site from NWHP Frogtown office on Dale Street.

END OF SECTION

**SECTION 22 3000
PLUMBING EQUIPMENT**

PART 1 GENERAL

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1.01 SUBMITTALS

- A. Product Data:
 - 1. Provide Owner's Manuals for all equipment.

PART 2 PRODUCTS

2.01 RESIDENTIAL INDIRECT-FIRED WATER HEATER

- A. GENERAL REQUIREMENTS
 - 1. Hot water tanks shall be designed for production of domestic hot water using hot water as heating source. The principle consist of two concentric tanks. The inner tank contains domestic hot water and the outer tank contains heating systems water.
 - 2. The inner tank material shall be 304L corrugated stainless steel or higher corrosion resistance stainless steel and have a maximum working pressure of 150 psi. The cold water connection into this tank shall extend to near the bottom of the tank. The hot water connection shall be at the top of the tank. Tanks shall be designed to be self-descaling.
 - 3. The outer tank shall be surrounded with a minimum of 2 inches of CFC/HCFC-free rigid polyurethane foam insulation with an equivalent "R" value of R-16.
- B. MANUFACTURER: Amtrol Inc., Boilermate or like product approved by Project Manager
 - 1. Hot water tank shall have ETL certification.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install plumbing equipment in accordance with manufacturer's instructions, as required by code, and complying with conditions of certification, if any.
- B. Coordinate with plumbing piping and related fuel piping work to achieve operating system.
- C. Hot water tank shall be installed by a heating contractor whose principal occupation is the sale and installation of plumbing, heating, and or air conditioning equipment and shall be installed in compliance with all applicable codes.
- D. Provide water & gas supply & flue piping
- E. LOCATIONS

NOTE CODE COMPLIANCE REPORT dated 9/2/2014

- 1. Water Heater - basement
- 2. Plumbing Piping, water, gas supply and flue piping- new throughout
- 3. Water Meter- has been removed- general contractor to provide, install, coordinate new water meter installation.

END OF SECTION

SECTION 22 4000
PLUMBING FIXTURES AND PIPING

PART 1 GENERAL

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1.01 PRICE AND PAYMENT PROCEDURES

PART 2 PRODUCTS

2.01 SINKS

- A. Kitchen Sink: Remove existing sink to code legal dump.
 - 1. Sink: Install a 22 gauge 33"x22"x8" double bowl, stainless steel, self rimming kitchen sink. Manufacturer: Moen, Model number 2212, or like product to be approved by Project Manger
 - 2. Faucet: Manufactured by Moen, Model 7825 or like product to be approved by Project Manager Finish: Chrome/Nickle
 - a. Flow Rate: 2.0 GPM maximum
- B. Laundry Tub: Remove existing sink to code legal dump.
 - 1. Sink: Install single bowl, 24" fiberglass laundry tray to fin under faucet.
 - 2. Faucet: 1.5 GPM
- C. Bathroom Vanity: (2nd floor)
 - 1. 30" vanity with sink- provided by owner- see Casework (to be delivered by GC)
 - 2. Faucet: Single lever faucet with 1.5 GPM maximum flow rate
 - a. Moen Lav Faucet- Series Chateau, Model #4621 w/ 1.5 GPM aerator.- ensure fixture is compatible with fits on owner provided vanity/sink Finish: Chrome/Nickle
- D. Pedistal Sink (1st floor bath)
 - 1. Provided by owner- GC to pick up at NWHP Frogtown office
 - 2. Faucet: 1.5 GPM
 - a. Moen Lav Faucet- Seiries Chateau, Model #4621 w/ 1.5 GMP aerator- ensure fixture is compatible with owner provided pedestal- faucet hole spread) Finish: Chrome/Nickle

2.02 TOILET

- A. Water Closets: Kohler or ProFlow 1.28 GPF toilet. Rear of tank to be maximum 1" from wall behind. Include seat.
 - 1. Bowl: Round.
 - 2. Flush Actuator: Manufacturer's standard.
 - 3. Rough in: 12 inch (305 mm).
 - 4. Seat: Manufacturer's standard or recommended round closed front seat with lid.
 - 5. Color: White.

2.03 BATHTUBS

- A. Use existing bathtub.- to be protected during construction and cleaned at final/end of construction cleaning. Ensure trap and drain stop are functioning appropriately.
- B. Faucet: Moen tub/shower faucet w/ 2.0 GPM aerator.
 - a. Moen- Chateau series: Finish: Chrome/Nickle

2.04 SHOWERS

- A. Fiberglass 1-piece 48" x 30" shower base pan with drain
- B. Faucet: Moen Shower faucet w/ 2.0 GPM aerator Finish: Chrome/Nickle

2.05 SUMP PUMP

- A. Install ½ HP sump pump. Vented to exterior. Install exterior 10' hose. Tied to interior basement perimeter drain tile

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install each fixture with trap, easily removable for servicing and cleaning.
- B. Install new PVC or ABS waste and vent piping from basement to kitchen sink, all bathroom fixtures, and laundry sink.
- C. Install flexible PEX piping with a minimum number of coupling to all fixtures. Install mechanical connectors and shut off valves if appropriate for each fixture.
 - 1. Six pipe to 1990 CABO minimums per table 2406.5
 - 2. Include clothes washer hook up.
- D. Furnish and install all water piping and shut-off valves necessary to complete work.
- E. Retrofit the water meter to comply with existing code.
- F. Install components level and plumb.
- G. Seal fixtures to wall and floor surfaces with sealant as specified in Section 07 9005, color to match fixture.
- H. Seal around plumbing penetrations in all exterior surfaces, surfaces that border on unconditioned spaces, between floors, and throughout the exterior of the building.
- I. Clean out basement floor drain at end of construction period and verify operation and function.
 - 1. Install new drain cover.

3.02 LOCATIONS

- A. Exterior:
 - 1. Hose bibb - located on side of the house- ensure existing is freeze proof or replace with freeze proof bibb.
- B. Basement:
 - 1. Laundry tub & faucet
 - 2. Floor drain to be installed before new concrete floor poured.
 - 3. Domestic Water
 - 4. Indirect-Fired Water Heater
 - 5. Existing shower- keep or demo?
- C. Main Level:
 - 1. Kitchen:
 - a. Kitchen Sink and Faucet
 - b. Dishwasher
 - 2. Bathroom:
 - a. Use existing Toilet- provide and install any needed parts to ensure proper operation.
 - b. Vanity Sink and faucet
 - c. Use existing Bath Tub (new tile surround to be installed)- provide and install tub/shower faucet (access panel to be in back bedroom closet)
 - 2. Bathroom:
 - a. Use existing Toilet- provide and install any needed parts to ensure proper operation.
 - b. Vanity Sink and faucet
- D. 2nd Floor Level:
 - 1. Bathroom:
 - a. Kitchen Sink and Faucet
 - b. Dishwasher
 - 2. Bathroom:

- a. Use existing Toilet- provide and install any needed parts to ensure proper operation.
 - b. Vanity Sink and faucet
 - c. Use existing Bath Tub (new tile surround to be installed)- provide and install tub/shower faucet (access panel to be in back bedroom closet)
- c. Use existing Bath Tub 3.

END OF SECTION

**SECTION 23 0000
RESIDENTIAL VENTILATION**

PART 1 GENERAL

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PART 2 PRODUCTS

2.01 BATHROOM VENT FAN/LIGHT FIXTURE:

- A. All vent fans shall be energy star rated ceiling mounted fan/light fixtures rated for a minimum 100 watt exterior ducted vent fan capable of a minimum of 80 CFM
- B. Product: NuTone QTREN080FLT or like product to be approved by the Project Manger
- C. Switch: Light and fan shall use same switch with a time delay for fan such as the EFI/Light Time Delay Switch Part # 5100.505 or equipped with a humidistat sensor.
- D. Ducting: Install 4" metal duct and vent to the exterior ideally through a gable end using a 4" hooded vent with damper.
 - 1. All duct seams shall be sealed with duct mastic. Insulate duct work with vinyl or foil faced R-6 minimum duct insulation.
 - 2. Repair any damage to the ceiling installation or air seal fan/light assembly to the ceiling with low VOC caulk.

2.02

2.03 DUCT ASSEMBLIES

- A. Low Pressure Supply (Heating Systems): 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.
- B. Low Pressure Supply (System with Cooling Coils): 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.
- C. General Exhaust: 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.
- D. Kitchen Cooking Hood Exhaust: 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.

2.04 DUCTWORK FABRICATION

- A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.
- B. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.
- C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.
- D. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

2.05 KITCHEN HOOD EXHAUST DUCTWORK

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, SMACNA Kitchen Ventilation Systems and Food Service Equipment Fabrication & Installation Guidelines and NFPA 96.

PART 3 EXECUTION

3.01 INSTALLATION

NOTE CODE COMPLIANCE REPORT DATED 9/2/14- GC to ensure all items are addressed

GAS METER HAS BEEN DISCONNECTED AND REMOVED- GC to provide, install, coordinate the re-hook up of the gas meter.

LOCATIONS:

- A. Kitchen- hood vent**
- B. 1st floor bath- fan light (dual switch)**
- C. 2nd floor bath- fan light (dual switch)**

END OF SECTION

SECTION 23 5400
FORCED AIR FURNACE AND DUCTS

PART 1 GENERAL

1.01 SUBMITTALS

- A. Product Data: Provide rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.
- B. Product data indicating Heating, Cooling equipment and Ducts are in compliance with Air Conditioning Contractors of America (ACCA) Manuals, Parts J, S, and D. Alternate Compliance paths are as Follows:
 - 1. ASHRAE Handbooks

1.02 WARRANTY

- A. Provide three year manufacturers warranty for solid state ignition modules.
- B. Provide five year manufacturers warranty for heat exchangers.
- C. Provide five year manufacturers warranty for electronic air cleaners.

PART 2 PRODUCTS

2.01 GAS FIRED FURNACES

- A. Annual Fuel Utilization Efficiency (AFUE): 0.95 ("condensing").
- B. Units: Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heating element, controls, air filter, humidifier, and accessories; wired for single power connection with control transformer.
 - 1. Safety certified by CSA in accordance with ANSI Z 21.47.
 - 2. Venting System: Direct.
 - 3. Combustion: Sealed
 - 4. Air Flow Configuration: Upflow.
 - 5. Heating: Natural gas fired.
- C. Performance:
 - 1. HVAC contractor will be responsible to determine heat load using Manual J.
- D. Cabinet: Steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner.
- E. Primary Heat Exchanger:
 - 1. Material: Hot-rolled steel
 - 2. Shape: Tubular type.
- F. Secondary Heat Exchanger:
 - 1. Material: Aluminized steel.
 - 2. Coating: Polypropylene.
- G. Gas Burner:
 - 1. Atmospheric type with adjustable combustion air supply,
 - 2. Gas valve , two stage provides 100 percent safety gas shut-off; 24 volt combining pressure regulation, safety pilot, manual set (On-Off), pilot filtration, automatic electric valve.
 - 3. Electronic pilot ignition, with electric spark igniter.
- H. Supply Fan: Centrifugal type rubber mounted with direct drive with adjustable variable pitch motor pulley.
- I. Motor: Refer to Section 22 0513; 1750 rpm two-speed, permanently lubricated , hinge mounted.
- J. Air Filters: 1 inch (25 mm) thick glass fiber, disposable type arranged for easy replacement.
- K. Ducts: Install all new supply and return air ducting to code.

1. Ducts SHALL not be installed to attic for distribution to upper floor.
2. Supply and returns shall not be installed in ceilings.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with NFPA 90A.
- B. Install gas fired furnaces in accordance with NFPA 54.
- C. Provide vent connections in accordance with NFPA 211.
- D. The Contractor shall have all HVAC ducting cleaned by a professional duct cleaning company after all interior repairs are completed inside the house.
- E. Ducts shall not be installed in unconditioned space, such as the attic, for distribution for second floor.
- F. Provide and install vent covers- color: TBD. Vents are not to be located in floor surfaces. Location of supply and return runs as well as vents are to be approved by owner.
- G. Provide and install supply and return runs for 1st floor and 2nd floor per code.
- H. Provide and install one supply in basement.

END OF SECTION

**SECTION 26 0001
POWER, WIRING AND DEVICES**

PART 1 GENERAL

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1.01 SUMMARY OF BULLETIN 80-1 (PROPERTY MAINTENANCE CODE)

- A. All hazardous, improper and/or illegal wiring shall be removed or required to the present Electrical Code. This will include other buildings on the property such as garages, sheds, etc.
- B. Minimum size for all new services for single residential occupancies shall be 100 ampere, 240 Volt.
- C. No additions or extensions will be allowed on an existing ampere services.
- D. The Following are minimum requirements for new service installation:
 - 1. **Electrical outlets required:** Every habitable room 120 square feet or less in area, of a dwelling or dwelling unit of a multiple dwelling shall contain at least two separate and remote duplex outlet shall be required for each additional 80 square feet or fraction thereof. Most new outlets must be Arc-Fault Circuit Interrupters (AFCI) protected according to Section 210.12 of the 2008 National Electrical Code.
 - 2. **In Kitchens:** Three separate and remote duplex outlets shall be required. At least one of the required duplex outlets shall be supplied by a separate twenty ampere circuit. Any new receptacle installed for the counter top shall be of the Ground Fault Circuit Interrupter (GFCI) type.
 - 3. **Every public hall, water closet compartment, bathroom, laundry room and furnace room must contain at least one electric light fixture.** In addition to the light fixture, every bathroom and laundry room must have at least one duplex outlet. The required duplex outlet in each laundry room must be on a separate twenty ampere circuit. The required duplex outlet in each bathroom must be of the (GFCI) type. Any existing outlets in any bathroom must be converted to a GFCI-protected outlet or removed. The required GFCI outlet in the bathroom must be immediately adjacent to the sink. If a bathroom is added or gutted as part of the update, a 20 ampere circuit will be required per NEC 210.11(C)(3).
 - 4. **Every common hall and inside stairway** in every residential structure or dwelling unit shall be adequately lit with an illumination of at least five lumens per square foot in the darkest portion of the normally traveled stairs and passageways.
 - 5. **All exterior exits and entryways** are required to be illuminated a minimum of one footcandle at grade level for security.
 - 6. **Exterior lighting** at garages is required to be adequate so as to not endanger health or safety. An average of one footcandle at the pavement is required. Exterior lighting must be in conformance with other city codes.
 - 7. **Basement:** One lighting outlet is required for each 200 square feet of floor space. At least one of the required basement lighting outlets shall be switched from the head of the stairs.
 - 8. **Smoke Detectors:**
 - a. All single-family dwelling shall have a hard-wired (120 volt electrical, not battery) battery-backup smoke detector installed near (not in) the bedrooms. If there are legal bedrooms on more than one level, the detector shall be installed on the level that has the greater number of bedrooms. If there are an equal number of bedrooms on more than one level, the detector shall be installed on the upper level near the bedrooms.
 - b. If the project includes building construction that requires a Building Permit, additional hard wired interconnected and/or battery-type smoke detectors are required per the Building Code.
 - 9. **Metallic Light Fixtures (Luminaries):** If within five feet horizontally or eight feet vertically of grounded surfaces (metallic piping, concrete floor, etc.) must be grounded.
 - 10. **Residential Closet Lights:** All closet lights must either be a florescent fixture(luminaire) or an enclosed incandescent fixture of the types required by the present Electrical Code. Fixtures must not be directly over the storage area in a closet; they must either be moved or eliminated and blanked off.

11. **Service conduits run in outside walls:** If a 100-ampere service is changed from fuses to circuit breakers, the meter is already outside, and the existing conduit is run in the outside wall, the conduit may be re-used. If the service is an upgrade (increase in amperage), conduit in the wall may not be re-used.

1.02 SECTION INCLUDES:

- A. Rewire house to code
- B. Overhead Garage Door Opener: see Section 08 3323
- C. Certify Electrical Distribution: Electrician shall inspect all exposed wiring, motors, fixtures and devices for malfunction, shorts and hosing code compliance. Non-functioning and dangerous equipment and wiring shall be replaced
- D. Replace existing electrical service with a residential, 150 amp, single phase, 3 wire electric service to the basement.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Conduit and Cable: Provide materials that meet code requirements.
- B. New Service: Include a main disconnect, 22 circuit panel board, meter socket, weather head, service cable, and ground rod and cable. Seal exterior service penetrations.
 1. New service panel shall conform to the BOCA Existing Structures code.
- C. Devices and Coverplates: Provide all White devices. Provide heavy duty residential grade devices.
- D. Smoke/CO Detectors: Hard wired w/ battery-back up type units
- E. Doorbell system: System containing a low voltage transformer, power connection, buzzer and front door button.
- F. Equipment Wiring: Provide the correct power supply on separate circuit, with over current protection including all connectors for the Water Heater, Boiler, Microwave, Refrigerator, and Dishwasher.
 1. Kitchen Receptacles to be 20 amp Circuits:
 - a. Install small appliance circuits along counter tops to code.
 - 1) Evenly dividing the number of countertop appliance receptacles between 2 circuits.
 - 2) GFCI receptacles when they fall within 6 feet of sink.
 - b. Individual circuits for permanently installed appliances; range, dishwasher, exteriorly vented Microwave with Rangehood and refrigerator to code.
- G. Bathroom Vent Fan/Light Fixture: Shall be Energy Star rated ceiling mounted fan/light fixture rated for a min 100 watt exterior ducted vent fan capable of a minimum of 80 CFM
 1. Product: NuTone QTREN080FLT or like product to be approved by the Project Manger
 2. Switch: Light and fan shall use same switch with a time delay for fan such as the EFI/Light Time Delay Switch Part # 5100.505 or equipped with a humidistat sensor.
 3. Ducting: Install 4" metal duct and vent to the exterior ideally through a gable end using a 4" hooded vent with damper.
 - a. All duct seams shall be sealed with duct mastic. Insulate duct work with vinyl or foil faced R-6 minimum duct insulation.
 - b. Repair any damage to the ceiling installation or air seal fan/light assembly to the ceiling with low VOC caulk.
- H. GFCI Receptacles: Install flush mounted, ground fault circuit interrupted ivory duplex receptacle adjacent to lavatory using copper Romex.

2.02 MATERIALS

- A. All materials shall be UL approved and/or National Electrical Code rated.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. Building Codes: The extent of electrical work indicated in the Scope of work is stated generally to indicate end result of work. The Contractor is responsible for making a thorough inspection of the site to determine the full extent of work required to achieve the end results. All electrical work must meet current building code requirements and must pass City of Saint Paul field inspection. Any work that does not meet codes or pass inspection must be corrected to the satisfaction of the city inspector at no additional cost to the Owner.
- C. Remove and dispose of all abandoned wiring and devices. Modify existing wiring and devices as indicated
- D. All new wiring, when passing through living areas, shall be concealed.
- E. All new recepticals and switches
- F. All new outlet covers: White
- G. All drilling, cutting and fastening shall be neat and true, and shall not critically damage framing members.
- H. All patching shall match the surrounding surface.

3.02 LOCATIONS

NOTE

- 1. SEE CODE COMPLIANCE REPORT DATED 9/2/15- ensure all items are met.**
 - 2. THERE ARE 2 (TWO) SERVICE PANELS- since entire home will need to be rewired to code. Combine service panels into one, providing complete circuit directory.**
 - 3. ELECTRIC METER HAS BEEN DISCONNECTED AND REMOVED. General contractor to provide, install, coordinate re-hook up of electrical service**
 - 4. Since all walls and ceilings are opened or will be opened up- All electrical will need to be brought up to current code- all rewired to current NEC.**
- A. Throughout
 1. House (basement, 1st floor, 2nd floor)
 2. Garage

END OF SECTION

SECTION 26 5101

HRA LIGHTING

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PART 1 GENERAL

1.01 PRICE AND PAYMENT PROCEDURES

PART 2 PRODUCTS

2.01 INTERIOR LIGHTING

- A. Royce Lighting
 - 1. Product Series: Valhalla, Heirloom Nickle finish
 - a. 3 Light Flush Mount: Model RFM2247
 - b. 2 Light Wall Sconce: Model RW2247
 - c. 3 Light Semi Flush Mount: Model RSF2247
 - d. Mini Chandelier: RMC2247
 - e. Mini Pendant: RC2247
 - f. 4 Light Vanity: Model RV2247
- B. Other Acceptable Manufacturers: To be approved by Project Manager

2.02 EXTERIOR LIGHTING

- A. Garages: DualBrite 300 watt motion security light with shields: Model SL-5318-WH-D
- B. Exterior Pendants:
 - 1. Patriot Lighting
 - a. Shaker Cove Mission Estar
- C. Exterior Flush Mount
 - 1. Patriot Lighting
 - a. Mission

2.03 BASEMENT LIGHTING

- A. Stairway: One fixture on stairway landing and one at the bottom of the stairway. Once switch at the top of the basement stairway to control these two lights.
- B. Additional ceiling mounted pull chain lights in various location throughout the basement where necessarily.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with manufacturer's instructions.
- B. All new wiring when passing through living areas shall be concealed.
- C. Wire mold and surface mount boxes for receptacles.
- D. Install luminaires plumb and square and aligned with building lines and with adjacent luminaries.

3.02 LOCATIONS

- A. BASEMENT:
 - 1. Replace all with new pull chain porcelain fixtures.
- B. MAIN LEVEL:
 - 1. Front Entry – Ceiling mount, wall switch at latch side of door.
 - 2. Living-room - Ceiling fixture, 3 way wall switch
 - 3. Kitchen – Ceiling Mounted- over kitchen sink
 - 4. Kitchen – 2 pendent lights over island
 - 5. East Side Entry - ceiling light, wall switch
 - 6. West Side Entry- ceiling light, wall switch
 - 7. Dining room area- ceiling light, 3 way wall switch (this fixture to be supplied by Owner)
 - 8. South east bedroom- ceiling light, wall switch

9. South west bedroom- ceiling light, wall switch
 10. Bathroom- Vanity light, wall switch
 11. Bathroom- Fan/Light combo with 2 switches (one for fan one for light)
 12. Hallway/ back entry/stair area- 2 ceiling lights, 3 way wall switch
 13. Stairway to 2nd floor- ceiling light, 3 way wall switch
 5. Stairway to basement- ceiling light on 1/2 up landing, switch at top.
- C. UPPER LEVEL:
1. Hall - ceiling light, wall switch
 2. Bedroom - 2 Ceiling fixtures, wall switches
 3. Bathroom - Vanity Light, wall switch
 4. Bathroom- Fan/Light combo with 2 switches (one for fan one for light)
 5. Bedroom closets- 2 ceiling fixtures, wall switches
- D. EXTERIOR:
1. Front porch - Wall fixture, wall switch
 2. Both (2) Side entry - wall sconce, wall switch

END OF SECTION

**SECTION 31 2113
RADON MITIGATION**

PART 1 GENERAL

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1.01 QUALITY ASSURANCE

- A. Contractors: Must be Certified to perform this work and listed by the Minnesota Department of Health.
 - 1. <http://www.health.state.mn.us/divs/eh/indoorair/radon/mitigation.html>

1.02 WARRANTY

- A. Product should be warranted to reduce indoor radon concentrations to below 4 pCi/L for 5 years.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Active Mitigation System:
 - 1. Provide a sub-slab or sub membrane depressurization system with an in-line fan.
 - 2. Fan powered soil depressurization systems shall meet all of the following requirements:
 - a. above the eave of the roof
 - b. ten feet or more above ground level
 - c. ten feet or more from any window, door, or other opening into conditioned spaces of the structure that is less than two feet below the exhaust point
 - d. ten or more from any opening into an adjacent building.

2.02 MATERIALS

- A. All mitigation system electrical components shall be U.L. listed or of equivalent specifications.
- B. All plastic vent pipes in mitigation systems shall be made of Schedule 40 PVC, ABS or equivalent piping material.
- C. Vent pipe fittings shall be of the same material as the vent pipes.
- D. Sump pit covers shall be made of durable plastic or other rigid material and designed to permit air tight sealing to permit easy removal for sump pump servicing. The cover shall be sealed using silicone or other non-permanent type caulking materials or air tight gasket.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Install in accordance with suggested best practices created by the Minnesota Department of Health, Indoor Air Quality Unit..
- B. When installing radon mitigation systems that use sump pits as the suction point for active soil depressurization it is required that submersible sump pumps be installed.
- C. All pipe routing shall be located within the structure. If this is absolutely not possible, contact HRA Project manager. In cases where the contractor is unable to determine a run for piping, system shall be installed on the rear elevation, with approval from Project Manager.
- D. All joints and connections in radon mitigation systems using plastic vent pipes shall be permanently sealed with adhesives as specified by the manufacturer of the pipe material used.
- E. Attic and external piping runs in areas subject to sub-freezing conditions should be protected to avoid the risk of vent pipe freeze-up.
- F. Vent pipes shall be fastened to the structure of the building with hangers strapping or other supports that will adequately secure the vent material. Existing plumbing pipes, ducts, or mechanical equipment shall not be used to support or secure a radon vent pipe.
 - 1. Horizontal Supports: shall be installed at least every 6 feet.
 - 2. Vertical Supports: shall be installed at least every 8 feet.
- G. Radon mitigation fans shall be wired to its own electrical circuit and conform with all codes.

- H. All active soil depressurization radon mitigation systems shall include a mechanism to monitor system performance and warn of system failure.

END OF SECTION

SECTION 31 2200

GRADING

PART 1 GENERAL

\$ _____

PART 3 EXECUTION

2.01 ROUGH GRADING

- A. When excavating through roots, perform work by hand and cut roots with sharp axe.

2.02 FINISH GRADING

- A. Build up ground slope at foundation wall using clean fill.
- B. New fill shall have an approximate slope of 1/12 and extend away from the foundation wall approximately five (5) feet.
- C. Adjust window wells for new slope.
- D. Remove roots, weeds, rocks, and foreign material while spreading.
- E. Vigorously tamp or roll new fill to achieve settled depth.
- F. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of subgrade.

2.03 LOCATIONS

- A. Around house and garage
 - 1. See Site Plan.
 - 2. This plan does NOT include a rain garden

END OF SECTION

**SECTION 32 1313
CONCRETE PAVING**

PART 1 GENERAL

\$ _____

PART 2 PRODUCTS

2.01 PAVING ASSEMBLIES

- A. Concrete Sidewalks and Median Barrier: 3,000 psi (20.7 MPa) 28 day concrete, 4 inches (100 mm) thick, buff color Portland cement, exposed aggregate finish.

2.02 FORM MATERIALS

- A. Wood form material, profiled to suit conditions.

PART 3 EXECUTION

3.01 FORMING

- A. Place and secure forms to correct location, dimension, profile, and gradient.

3.02 COLD AND HOT WEATHER CONCRETING

- A. Follow recommendations of ACI 305R when concreting during hot weather.
- B. Follow recommendations of ACI 306R when concreting during cold weather.

3.03 FINISHING

- A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge 1/4 inch (6 mm) radius.
- B. Curbs and Gutters: Light broom, texture parallel to pavement direction.

3.04 LOCATIONS

- A. See Landscape Plan for sidewalk replacement locations
- B. Garage apron to alley

ALTERNATE # _____

- A. Garage Floor/Curb- Blade cut around interior perimeter of garage (within 1' of the walls). Remove concrete. Prepare ground and install min 6" tamped sand base. Slab: Pour a 4" floating concrete slab with 12" thickened edge and control joints, WWM reinforcement.

END OF SECTION

SECTION 32 9223

SODDING

PART 1 GENERAL

\$ _____

PART 2 PRODUCTS

2.01 MATERIALS

- A. Sod: TPI, Certified Turfgrass Sod quality; cultivated grass sod; type indicated in plant schedule on Drawings; with strong fibrous root system, free of stones, burned or bare spots; containing no more than 5 weeds per 1000 sq ft (100 sq m). Minimum age of 18 months, with root development that will support its own weight without tearing, when suspended vertically by holding the upper two corners.

PART 3 EXECUTION

3.01 LAYING SOD

- A. Moisten prepared surface immediately prior to laying sod.
- B. Lay sod immediately after delivery to site to prevent deterioration.
- C. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches (300 mm) minimum. Do not stretch or overlap sod pieces.
- D. Water sodded areas immediately after installation. Saturate sod to 4 inches (100 mm) of soil.

3.02 MAINTENANCE

- A. General Contractor is responsible for the maintenance of sod until project closeout.

3.03 LOCATION

- A. See Site Plan
- B. Site Work, as needed. (no bare soil permitted)

END OF SECTION