

Mandatory Lead Interim Control Measures:

- **NOTE:** The Lead Report will not be available at the time of bidding. For bidding purposes assume that all existing painted wood will test positive for lead in the report. Contractor will receive the report prior to construction.
- **General:** All work to be done in accordance with applicable City, State and Federal rules and regulations and laws. Work to be done by certified lead abatement workers, provide documentation to Construction Mgr. Contractor is responsible for all required notifications. Any questions regarding Lead requirements for this project or to schedule worker certification class contact Mike Jensen, Hennepin County, (612) 348-2114.
- **Scope of Work:** Prior to start of construction the Lead-Based Paint Risk Assessment Report and recommendations prepared by Hennepin County will be forwarded to the Contractor.
- **Preparation:** Before lead hazard reduction, all work areas to be prepped with poly sheeting drop cloths and dust containment barriers. The work area shall be cleaned daily to remove paint chips and dust.
- **Dust Removal:** Contractor to use appropriate practices and methods to reduce generation and transmission of lead paint dust. At the conclusion of lead abatement and upon the projects substantial completion and prior to the contractors final draw request, all walls, trim and floors shall be:
 - vacuumed with a high efficiency particle accumulator vacuum (HEPA),
 - washed with a lead-specific detergent and rinsed with clean water,
 - vacuumed with a high efficiency particle accumulator vacuum (HEPA) to remove remaining dirt and dust.
- **Disposal:** All paint chips and dust must be double-bagged. Contractor to submit receipts/manifests of proper disposal.
- **Clearance Testing:** Upon project substantial completion and prior to the contractors final draw request, Hennepin County shall perform the Lead Clearance Test and provide GMHC with a Lead Clearance for the property. Cost of the first clearance test is to be paid by GMHC. ; Any necessary subsequent clearance tests at Contractor's expense.

Interior Product Requirements:

- Interior Paints and Varnishes:
 - Use only Sherwin-Williams Harmony or approved equal Low VOC paints.
 - Use only Low VOC water based varnish on floors and millwork
 - All paints and varnishes must meet the Green Seal G-11 Environmental Standard
- Caulks and Sealants: Comply with regulation 8, rule 51, Bay Area Air Quality Management
- Seal any exposed particle board such as the underside and unfinished ends of the kitchen tops.

Construction Debris Disposal Requirements: Contractors must provide a recycle type dumpster service to haul away all waste and debris, and properly dispose of and recycle all recyclable materials. Recycle dumpster materials to reduce non-hazardous construction and demolition waste by 25% of weight through recycling, salvage in, or diversion strategies. All cardboard packaging and materials must be recycled.

Asbestos Abatement; The contractor is responsible for abating all asbestos materials as described in the Asbestos Report by Angstrom Analytical. Closely follow all State and City requirements. Contractor must provide CM with disposal manifest.

The following materials tested positive for the presence of asbestos:

Floor Tile & Mastic	Window Glazing	Adhesive
TSI	Sink Undercoat	

The friable materials are:

1. Approximately 2-3 linear feet of asbestos containing insuliton on A/C line in the basement.

The non-friable materials:

Category I:

2. Approximately 920-1040 square feet of asbestos containing 9x9 floor tile and mastic in the basement .
3. Approximately 15-20 square feet of asbestos containing adhesive on the wall in the basement.

Category II:

4. Approximately 11-12 windows with asbestos containing glazing compound on the exterior.
5. Approximately 1 sink with an asbestos containing undercoating, in the kitchen.

(In order to maintain their integrity, the roofing materials and the vibration dampeners in the basement were not sampled and are assumed to be asbestos containing unless future testing proves otherwise).

Site Work;

- Remove all yard planting beds, plants, bushes, weeds, and outlaw growth on the entire site. Remove to 8" below grade. NOTE: bushes along north lot line along neighbors driveway are to remain. Verify with CM on site prior to removal.
- Rear Yard Patio; remove the entire patio. Add black dirt to raise grade even with yard and at foundation to a minimum of 8" pitch in 3'. Cover area with new sod.
- Rear Yard West Side of the Garage; Add black dirt to raise grade even with yard and cover area with new sod.
- Rear Yard NW Corner; remove plantings to below grade. Add black dirt to raise grade even with yard and cover area with new sod.
- Trim all trees to 8' up from grade and 8' away from all structures
- Around the entire house install plastic edging to create a 3' wide planting bed area. Raise grade around the foundation to a minimum of 8" pitch in 3'. Cover area with landscape fabric. Install wood mulch to 4" deep.
- Install metal basement window wells. Maintain 6" below the window sills and fill with 3" deep pea gravel.
- No bare soils anywhere on entire site including blvds., install grass seed with erosion cover over all bare areas or new sod as called for above.

Concrete Sidewalks and Driveway;

- Permanently remove the south side sidewalk running along the driveway. Add black dirt to even out grade.
- Remove and replace with same size front and rear sidewalks between stoop and driveway.
- NOTE: the driveway curb cut is to remain.
- Concrete Driveway; remove and replace the concrete driveway with new 4" thick concrete driveway the same width and length as existing. Include 4" compacted gravel base and control joints.
- Treat all new concrete with a Concrete Sealer.

Roofing on House and Garage;

- Complete tear-off and re-roof of all shingles on house and garage. There may or may not be multiple layers of shingles. Contractor is responsible to remove all shingles.
- Remove the entire metal Furnace Flue and infill roof deck.
- Remove any TV Dish, antenna, and/or all cables.
- Install new matching d-style drip edge at all roof edges.
- Install all new matching roof vents, galvanized frost-proof plumbing vent stacks and flashing.
- Install CertainTeed Winterguard ice and water barrier to 6 foot at all drip edges, wrap up sidewall/roof junctions and at all penetrations. Install underlayment.
- Install CertainTeed Landmark Architectural Style shingles. Color; Weathered Wood
- Assure no leakage. Clean up and remove all debris and nails.

Gutters and Downspouts;

- Remove all existing gutters and down spouts.
- Install all new 5" seamless aluminum gutters along all house roof edges.
- Install all new large style downspouts with 6' extensions.
- Color; Bright White.

Existing Wood Siding @ House and Garage;

- Remove awnings and fill all holes.
- Repair any loose, damaged or missing pieces.
- Clean existing siding and allow to dry.
- Remove all existing old caulk. Re-caulk all joints and seams on all metal wrap and around all siding penetrations.
- Paint; Use ONLY Sherwin Williams Duration Paint. No Substitutions.
- Siding Color; Sherwin Williams, SW 6207 Retreat, Satin Finish

Stone and Brick Veneer Siding, Chimney, and Planters;

- Stone Planter on Front of House; The front wall of this planter is falling off. Remove stones and rebuild planter wall to like new condition. Reuse as many existing stones as possible.
- Repair and tuck point all of the stone planters to original condition. Empty and clean out all three stone planters, two in front yard, one in rear.
- Caulk around all penetrations.
- Remove all plants and dirt. Clean out planters.

Existing Metal Soffits and Fascia @ House;

- Remove awnings and fill all holes.
- Repair any loose, damaged or missing pieces.
- Power wash existing metal siding, trim, soffits, and fascia, Scrub with brush to clean.
- Remove all existing old caulk. Re-caulk all joints and seams on all metal wrap and around all siding penetrations.
- Finish paint all with metal compatible paint. Assure full coverage.
- Paint; Use ONLY **Sherwin Williams Duration Paint**. Super White, No Substitutions.

New Metal Wrap on Window and Door Trim @ House and Garage. Also, new Metal Soffit and Fascia Garage only;

- Remove and discard all storm windows
- Remove and discard all metal awnings
- Remove any existing metal wrap at all windows and doors.
- Install new white metal wrap at exposed wood on all windows and doors including blind stops.
- Assure that new metal wrap is tucked up behind siding at top as a drip cap.
- Garage; Install new white metal soffits and fascia.
- Remove all existing old caulk. Re-caulk all joints and seams on all metal wrap.
- New Metal Wrap Color; Bright White.

Exterior Front and Rear Entry Doors;

- Remove package and dispose of existing doors, sill, threshold, and frames.
- Install new Doors to be insulated steel doors Masonite 9-Panel-1-Lite or approved equal.
- Install new Bronze color Schlage Lock Sets, includes locking knob and dead-bolt. Common key all doors.
- Raise the door sill as required to clear finish floor by 1" to allow for a rug.
- Finish paint all doors semi gloss finish.
- Interior Color; SW 6140 Moderate White.
- Exterior Color; SW 6409 Edgy Gold.

Combination Storm Doors; Remove existing storm doors. Install two new combination storm doors, Install new Larson # 830-82, Screen-Away Storm Doors, Color; White. Install wind chains and closers.

Windows;

- Remove and discard all storm windows, awnings, blinds, shutters, curtains, and hardware. Fill all holes.
- Double Hung Windows; At all existing wood double hung windows; Remove existing sash. Install new vinyl Double-Hung window inserts with insulated, Low-E, Argon glass sash, color white. Full Screens. SilverLine or approved equal. Windows must be Energy-Star Rated. Assure smooth operation of all windows.
- Living Room front fixed window; Remove existing sash. Install new vinyl window insert with insulated, Low-E, Argon glass sash, color white. SilverLine or American Craftsman 8500 Series or approved equal. Window must be Energy-Star Rated.
- 1st Floor bathroom window use obscured glass at **bottom sash only**.
- Small Basement Windows; At all small wood basement windows remove package and dispose of the entire window and frame. Replace all existing wood basement windows with new venting glass block windows. Existing glass block windows are to remain.
- Hazardous Locations; Contractor is responsible to install Tempered Glass as required by code at all Hazardous Locations.

Garage;

- Remove all contents, including anything stored in the rafters.
- Sweep and clean all interior wall, ceiling and rafter cavities.
- Floor Slab; Power wash, sweep and clean existing slab.
- Windows; Install metal wrap over exterior trim. Clean inside and out
- Garage Service Door;
 - Remove package and dispose of existing doors, sill, threshold, and frames.
 - Install new Door to be insulated steel doors Masonite 6-Panel or approved equal.
 - Install new Bronze color Schlage Lock Set, includes locking knob and dead-bolt. Common key all doors
 - Finish Paint door and frame; Semi gloss finish, Color; Sherwin Williams, SW 6409 Edgy Gold
- Overhead Door – Existing overhead door is to remain. Adjust so that it operates properly. Wash door inside and out.
- Garage Door Opener—existing opener is to remain. Adjust so that it operates properly. Provide 2 remotes.
- Soffits, Fascia, Window Trim, and Door Trim; Cover existing with new pre finished metal wrap at Fascia, Soffit and Trim around the windows and doors Color; Bright White.
- Siding; Carefully inspect entire garage. Remove and replace all missing, rotted, or damaged pieces of siding with new matching pieces. Caulk around all windows and doors.
- Finish paint all siding to match house.
- Roofing; remove tv dish. Remove and replace all shingles to match house.

Existing Hardwood Flooring;

- Remove any existing carpet, pad, and tack strip. Fill holes.
- Completely sand and varnish with 3 coats of Green Seal Low VOC water based floor varnish, semi gloss finish.
- Areas with wood floors to be refinished include; Entire 1st Floor except Kitchen and Bathroom.

Vinyl Flooring;

- Remove all existing flooring and sub-floor.
- Install new 5 ply birch tech plywood sub-floor. No other underlayment will be accepted.
- Install Mannington Benchmark vinyl flooring. Roberts 2001 adhesive. Color; San Marino 3711.
- Areas to receive new vinyl flooring; Kitchen and Front Entry.

Interior Product Requirements:

- Paints: ONLY Use Sherwin-Williams Harmony or approved equal best grade paints and primers meeting the Green Seal G-11 Environmental Standard.
- Varnish and Stains: ONLY Use water based varnishes and stains meeting Green Seal G-11 Environmental Standard
- Caulks and Sealants: Comply with regulation 8, rule 51, Bay Area Air Quality Management

Interior Doors; _

- Install a new matching door at top of basement steps
- All existing doors are to remain.
- Adjust doors as required so that they open, close, and latch properly.
- Prep for painting; Remove all hardware. Remove any stickers, fill any holes and cracks, sand out any rough spots.
- Finish paint all doors. Color; Sherwin Williams SW 6140 Moderate White, Semi Gloss

Hardware; _

- At all interior doors; Install all new Bronze color door hinges, door stops, and Schlage "Accent" Lever sets to all doors.
- Install 4" Bronze pulls on all cabinet doors and drawers in kitchen and bathrooms.
- All other miscellaneous hardware to be Bronze color.

Millwork; 1st Floor and Basement

- Includes doors, casings, baseboards, base shoe, miscellaneous wood trim, and stairways.
- Install new matching base shoe where missing at all locations except Bathrooms.
- Kitchen; Install new matching baseboards and shoe.
- Sand all millwork smooth, fill and caulk all miters, holes, and cracks
- NOTE: Do not paint over any rough wood or imperfections.
- Prime and paint all Millwork. Color; Sherwin Williams Duration, SW 6140 Moderate White, Semi Gloss

Interior Walls @ 1st Floor and Stairway to Basement;

- Remove all plastic laminate back splash, wall paper from the Kitchen, Bathroom, SW Bedroom, and NE Bedroom.
- Remove all abandon hardware and fill holes. Patch all cracks and holes.
- Prime and paint all walls.
- 1st Floor Bathroom;
 - Remove all existing ceramic tile, paneling, and plaster from tub surround walls.
 - Install ½" Durock Cement Board on all new tub surround walls behind ceramic tile up 5' from top of tub.
- Prime and paint. Bathrooms and Kitchen walls to be semi gloss finish, all other walls flat finish.
- Wall Color; Sherwin Williams, Harmony or approved LOW VOC Equal, SW 6142 Macadamia

Ceilings @ 1st Floor and Stairway to Basement;

- Bathroom Ceiling cover with ½" drywall over existing plaster.
- Remove any abandon hardware and patch all cracks and holes.
- Install a new Knock-Down Textured Finish at all ceilings.
- Prime and paint. Bathrooms and Kitchen ceilings to be semi gloss finish, other ceilings flat finish.
- Ceiling and Plaster Cove Color; Sherwin Williams Harmony, SW 6140 Moderate White

Closet Shelving; All existing closet shelving is to remain. Remove and reinstall after painting. Paint all shelving.

Kitchen;

- Remove existing appliances, exhaust fan, sink, counter tops, cabinets, flooring, and light fixtures.
- Treat walls and ceilings per scope above.
- Electrical, plumbing, and gas as required for new Kitchen layout
- Floor; remove all layers of existing flooring to expose sub floor. Install new vinyl flooring per scope
- Install new matching baseboards and shoe.
- Microwave Exhaust Fan; Vent to exterior.
- New Cabinets – Provide and install Rosebud or approved equal kitchen cabinets per plan. Cabinets to be Maple, Natural Finish, flat panel doors. Provide and install per Kitchen Plan. Contractor is responsible to verify all dimensions and include fillers. Notify the CM of any required cabinet changes.
- Cabinet sizes;
 - South Wall; 1"F, W3030, VALANCE, W3030, W2430, 1"F, B30, SB36, B30, DISHWASHER END PANEL
 - North Wall; W3612, W1530, W3012, W2430.
- Cabinet Hardware; install 4" bronze color pulls on all cabinets doors and drawers.
- New Counter Tops; Provide and install new counter tops per plan. Counter Top Color; Formica 3450-RD Mineral Jet.
- Appliances; Contractor to provide and install new refrigerator with ice maker, dishwasher, microwave, and gas range as listed below;
 - Whirlpool Energy-Star Stainless Steel Finish
 - Refrigerator, Right-Hinge WRT1L1TZYS with Ice-Maker WECKMFEZ1
 - Dishwasher; WDF510PAYS
 - Gas Range; WFG520S0AS
 - Microwave; WMH31017AS

Basement;

- Asbestos Abatement; The contractor is responsible for abating all asbestos materials as described in the Asbestos Report by Angstrom Analytical. Closely follow all State and City requirements. Contractor must provide CM with disposal manifest.
- Fireplace; Have the fireplace and chimney professionally inspected and provide CM with a written report. Clean out the fire box.
- Remove the water heater, furnace, electronic return air, humidifier, old dryer and old dryer venting, any debris, and all abandon electrical, plumbing, and heating equipment, wires and parts.
- Basement Ceilings with Unfinished Areas / Exposed Ceiling Joists; Remove all abandon hardware and sweep entire ceiling area clean of all dirt, cobwebs, and dust.
- Basement Ceilings with Finished Ceiling Tiles or Plaster;
 - Remove all abandon hardware. Inspect ceiling, secure loose tiles and repair damaged tiles.
 - Replace missing tiles with new tiles. Match existing as close as possible.
 - Prime & paint all tiles. Ceiling Color; Sherwin Williams Low VOC, SW 6140 Moderate White
 - NOTE: Install a proper access panel at all valves, dampers, and any other locations where future access will be needed.
- Basement Exterior Walls with Exposed Masonry Blocks;
 - Clean with a bleach solution to remove all signs of mold.
 - Tuck point and fill all wall cracks or holes.
 - Paint all exposed foundation masonry walls with TWO COATS Drylock paint.
- Basement Walls, Interior and Exterior Finished Areas. Includes paneling and brick.
 - Remove all abandon hardware and fill all holes.
 - Remove all mirrors and stickers
 - Prime and paint all. Wall Color; Sherwin Williams, LOW VOC Equal, SW 6142 Macadamia
- Basement Bar; fir out wall behind bar to clear conduit and cover wall with paneling & paint
- Basement Baseboards, Casings, Shelving, Cabinets, Bar, Interior Doors; clean up and finish paint per millwork scope above
- Basement Flooring and Slab;
 - Asbestos Abatement; remove all existing floor tiles and mastic.
 - Remove all vinyl floor tiles and mastic and sweep and scrub clean entire floor
 - Water Meter Room and Electrical Panel Room; Paint floor gray.
 - Mechanical/Laundry Room, ½ Bathroom, and Entire Family Room Entire Basement install new Commercial Vinyl Glue Down Tiles. Install Congoleum 12"x12" glue down tiles. MUST USE A Low VOC Adhesive. Color; CH-17 Antique White.
- Basement Stairway;
 - Finish paint walls and ceiling
 - Remove wood rail from north side
 - Remove stair step carpet. Install new commercial carpet at stair treads and risers. Color; Tan-on-Tan.
 - Install a new black iron railing along the open side of the stairs to meet code.
 - Install a continuous painted handrail as required to meet code.
- Basement Laundry Sink; Clean existing laundry sink inside and out. Provide two stoppers. Install a new drain assembly. Clean and Paint metal sink legs hi-gloss gray.
- Basement Bathroom;
 - Remove and replace toilet, sink and faucet.
 - Ceiling, Walls, and Flooring as described above.
 - Clean existing sink to like new condition
 - Caulk with silicone to seal around toilet

Insulation and Air-Sealing;

Testing—GMHC will contract and pay for IR and Blower Door insulation testing to verify that the work complies with Scope. Contractor shall make any necessary corrections to the insulation and bypass sealing work as determined by the testing

Infiltration Reduction Scope of Work

Location	Scope of Work
Attic bypasses	Seal all attic bypasses (air leaks) airtight including all sewer stacks/vents, chimney chaseway, bathroom wet wall top plate, kitchen soffits, conduit holes, interior wall top plates and attic hatch. Weatherstrip attic hatch airtight using a permanently affixed door type weatherstripping custom fit to existing opening and sealed with caulk, mitered in corners. Check all dropped ceilings and seal all openings airtight including front entry area, hallway/bathroom and kitchen.
House	Seal airtight all interior air leaks including all millwork at doors, windows and baseboards using an interior, clear, painter's caulk.
Basement/ Foundation	Seal airtight all basement air leaks including all foundation window frames and penetrations including at furnace/water heater vents, combustion air/clothes dryer vents, exterior water faucet, gas/electric service lines, and AC refrigerant line.

Insulation	Existing Conditions	Scope of Work
Separate West Attic	4" to 10" blown cellulose	Insulate 6"x12" west attic to an even total R50.
Peak-open	4" to 10" blown cellulose	Add cellulose insulation to existing attic insulation for an even total R50 (16inches). Install vent chutes only as necessary (if soffit vents are currently open).
Attic Hatch	Not insulated	Replace existing attic hatch with a 3/4" plywood hatch, insulate hatch to R30+ using fiberglass batts covered with House Wrap or 6" extruded polystyrene glued and screwed to hatch.
Exterior Sidewalls	1/8" foil batt	Insulate to capacity all exterior side walls using a sense pack cellulose slip tube method gaining access best way.
Well Room	No insulation	Seal airtight all seams, gaps, cracks, of the underground well room and paint ceiling, walls, floor with lock tight paint. Insulate 3 walls and ceiling of well room with 2" Thermax type foam board glued and screwed to secure. Also foil tape all seams of foam board.

1st Floor Bathroom;

- Remove all plumbing fixtures, vanity, light fixtures, medicine cabinet, mirrors, accessories, shelving, paneling, ceramic floor and wall tile, and plaster to expose framing around tub surround walls.
- Walls, Ceilings, Millwork, Plumbing and Electrical – Per Scope
- Ceramic Tile Floor, Base, and Tub/Shower Surround;
 - Remove existing ceramic floor and walls. Remove all drywall from tub-surround walls.
 - Insulate exterior wall cavities and poly.
 - Install new ½” cement board substrate over tub surround walls up minimum of 5’ from the top of tub.
 - Install new ceramic tile on tub surround walls from top of tub up to ceiling.
 - Install new ceramic tile on bathroom floor and base.
 - Floor Tile: KateLo, Crossville 12x12 Cotto or Crossville 12x12 Vista with Matching Base, Grout – Laticrete
 - Wall Tile; Kate Lo, IC Puebla 3x6, Grout – Laticrete (Unsanded)
 - Decorative Listello (3” or 4” Strip), Crossville Ebb & Flow Mosaics
 - ½”x ½” Mosaic, ½” x 3” Stacked Mosaics or, ½” x 3” Linear Mosaics
 - Color to be decided by contractor, Grout – Laticrete (Unsanded)
- Ventilation; Install new Panasonic FV-08VKSL1 w/ Light exhaust fan properly vented to the exterior per the manufacture’s recommendations. Set for continuous ½ speed with switch for full speed boost.
- Install a new 30” Maple Vanity with a cultured marble top. Color; white-on-white. Install bronze pulls on vanity.
- Accessories Provide and Install;
 - One Bronze color towel bar
 - Matching Bronze color toilet paper holder
 - Shower curtain rod
 - 30” mirrored recessed medicine cabinet above sink.
- Caulk – Caulk with silicone to seal around all edges of, toilet, tub and tile, including at floor.

Plumbing;

- **Warranty** — The entire plumbing system shall meet the requirements of the MN State Building Code, and the Richfield Building Inspections Department.
- **Main Water Supply** – Install a new water meter as required by city. Inspect meter and meter valves for leaks. Assure all working properly.
- **Water Supply lines** – Inspect all existing water supply pipes for leaks.
- **Sewer Service** — Sewer line to be cleaned-out (augured) from floor house to street. Assure proper hookup and operation of floor drain. Provide documentation of work.
- **Floor drain** -- Assure proper working order. Open up, clean, Auger out.
- **Hose Bib** — Remove all existing. Install two new anti siphon frost-proof type at front and rear.
- **Gas Lines;**
 - Inspect all existing gas lines for leaks.
 - Connect the water heater, furnace and gas range.
 - Cap off dryer gas line for future use.
- **Water Heater** – Replace with new gas fired, powered-direct-vent through sidewall, 50 Gallon A.O. Smith, or approved equal.

Kitchen; See Kitchen Plan

- Install Stainless steel, two-compartment, Moen sink.
- Install Moen faucet. Series-Chateau, Model # 7430 set to 2.0 GPM max flow aerator.
- Install, hook-up and level dishwasher.
- Run new water line and hook up ice-maker.
- Install and hook-up gas range.

1st Floor Bathroom;

- Provide and install new fixtures.
- Toilet; Install new White Kohler, ProFlow, or approved 1.28 GPF Toilet. Rear of tank to be maximum 1 inch from wall behind. Include seat.
- Install 30" Maple Vanity with Bronze pulls, and a cultured marble top. Color; white-on-white.
- Install Moen Lav faucet, Series-Chateau, Model # 4621 w/ aerator set to 1.5 GPM max flow.
- Install Moen Tub/Shower faucet Series-Chateau w/ aerator set to 2.0 GPM max flow.
- Install new Tub/Shower. Cast iron or Americast 30x60 inch, ceramic tile surround.

Basement Bathroom;

- Provide and install new fixtures.
- Toilet; Install new White Kohler, ProFlow, or approved 1.28 GPF Toilet. Rear of tank to be maximum 1 inch from wall behind. Include seat.
- Install 18" Kohler Pedestal Sink. Color White.
- Install Moen Lav faucet, Series-Chateau, Model # 4621 w/ aerator set to 1.5 GPM max flow.

Basement Sink; Existing sink is to remain. Install new drain assembly. Check and repair any leaks. Clean inside and out.

HVAC;

Warrant the entire new heating, cooling and venting system shall meet the requirements of the MN State Building Code and the City of Richfield Building Inspections Dept.

Flue; Remove and discard the entire existing furnace and water heater flue. Infill roof, ceiling and walls as required.

Heating / Cooling System;

- Remove existing furnace, electronic air filter, humidifier, and AC unit.
- Furnace; Provide and install new furnace. Size per Manuel-J and S method. Design, supply and install entire new forced air heating system including a Goodman Furnace, Two Stage, ECM Motor, GMVC95 Variable-Speed, sealed combustion, direct vent through the sidewall. Include AC hook up. Run pipe and hook-up gas. Set unit on 2" pad. Install vibration control. System to be operable and ready to use at project completion.
- Modify supply and return plenum drop for standard size 1" furnace filter.
- Air-Conditioning; Provide and install Goodman (or approved equal) minimum 13 SEER unit.
- Duct Work; Install a new air filter connection with guides. All other existing duct work may remain if in good condition and adequate size. Seal all seams with metal tape or mastic. Assure proper heat and cooling to all finished rooms. System to be operable and ready to use at project completion.
- Provide 3 extra filters

Testing – Test fire, check and balance entire system and controls.

Registers; Install all new registers. Clean out all debris and vacuum clean.

Thermostat – Install new Honeywell programmable setback thermostat including all wiring.

Duct Cleaning; After all work has been completed, have the entire duct system professionally cleaned. Provide documentation of cleaning to the CM.

Kitchen Microwave Exhaust Fan Venting; Vent up through the ceiling and roof with new insulated rigid steel vent piping and roof damper.

1st Floor Bathroom Venting; Install new Energy Star Panasonic FV-08VKSL3 w/ Light exhaust fan properly vented to the exterior per the manufacture's recommendations. Set for continuous ½ speed with switch for full speed boost.

Combustion Air Venting –Supply and Install exterior air drop from rim to basement floor into 5 gallon plastic bucket near furnace/water heater.

Dryer Venting– Remove existing dryer duct and damper. Install all new damper and insulated, rigid metal ductwork thru wall and down to floor ready for connection.

Abandoned Equipment – Remove all abandoned equipment, pipes, ductwork and associated hardware in basement.

- **Gas Lines;**

- Inspect all existing gas lines for leaks.
- Connect the water heater, furnace and gas range.
- Cap off dryer gas line for future use.

Electrical;

Warranty - The entire electrical system shall meet the requirements of: the MN State Building Code and the City of Richfield Building Inspections Dept.

Demo & Disconnects - Remove all existing electrical fixtures, appliances, and all hazardous, illegal and abandoned wiring, electrical hardware and equipment in the house and garage. Remove all surface mounted wiring and devices in finished rooms and on exterior. Disconnect wiring as necessary for construction.

Main Panel— Existing panel is to remain. Inspect panel and correct all hazards. Label all circuits.

Devices; Replace all outlets, switches, & cover plates. Install new White devices and cover plates.

Light Fixtures – Provide all new per the Light Fixture Selection list below and install all new fixtures in all locations.

Smoke and CO Detectors – Remove all existing smoke and CO detectors. Install all new CO detectors in 1st floor hallway outside of bedrooms and in basement. Install new smoke detectors per code; one in each bedroom and one outside of all bedrooms. One in Basement.

Exterior—Install two GFI exterior outlets. One near front and Rear entry doors.

Telephone – Assure that there is a proper working phone jack in the living room, basement family room, and all bedrooms.

Cable TV-- Remove any exterior surface run cable. Assure that there is a proper working in-wall cable TV jack in the living room, basement family room, and all bedrooms. Note; all jacks to be home-runs to single location in basement.

NW and NE Bedrooms install new ceiling light with switch near door.

Kitchen; See kitchen plan.

- Install outlet in cabinet above range for microwave
- Install 3 new GFI wall outlets. 2 on south wall and 1 on north wall left of sink.
- Install outlets and connect dishwasher, gas range and refrigerator.

1st Floor Bathroom;

- Install new ceiling fan/light combination with separate switching
- Install new wall fixture over vanity with new switch
- Install new GFI outlet

Stairway to Basement; install new low profile wall mounted 36" Fluorescent light with 3-way switch.

Basement Bathroom;

- Replace recessed light with new
- Install new GFI outlet on right side of vanity.

Basement Mechanical Room;

- Install new ceiling light with switch near door.
- Install new outlet for direct-vent water heater
- Wire as required for new furnace and AC unit.

Light Fixture Selections;

These Existing Light Fixtures are to remain. Clean inside and out and install CF Bulbs.

- Basement Family Room Recessed Lights
- Basement Family Room Wall Sconces
- Basement Family two surface lights on west end

Provide and install the following new Energy Star Light Fixtures;

All Fixtures are available at...**MaximLighting.Com**

All fixtures are Oil Rubbed Bronze Color.

- Living Room; M85841WSOI, 2 Bulb
- Kitchen Ceiling; (Two) M85842WSOI, 3 Bulb
- Kitchen above Sink; M85840WSOI, 1 Bulb
- 1st Floor Hallway; M85840WSOI, 1 Bulb
- NE Bedroom; M85841WSOI, 2 Bulb
- NW Bedroom; M85841WSOI, 2 Bulb
- SW Bedroom; M85841WSOI, 2 Bulb
- 1st Floor Bathroom above vanity; M85809WSOI, 3 Bulb
- 1st Floor Bathroom Ceiling Fan/Light; Panasonic FV08VKSL3 with light
- Top of Basement Stairs; 36" Low Profile Fluorescent
- Basement Bathroom replace recessed with new Energy Star recessed fixture
- Basement Family Room Surface Ceiling; M85841WSOI, 2 Bulb
- Exterior Wall Mounted Light Fixtures. Two on Garage, Two on House; (4) M85924RP, 1 Bulb

Final Clean-up;

- The complete project shall be maid-cleaned.
- All debris removed from the site at the completion of the contract.
- Remove all labels, clean all glass (outside and inside)
- Clean and vacuum all finish flooring
- Clean all light fixtures
- Clean plumbing fixtures, counter tops, all cabinets (outside and inside).
- Open up all floor registers and remove debris and vacuum out ducts.
- Unfinished basement areas; sweep to remove cob webs & dust from the ceiling, walls & floor
- Clean off furnace, water heater and any other equipment.
- Install a new clean filter in furnace
- Install small rug at interior of front and rear entry doors.

Permits;

Include all required project permits and close out all permits prior to final draw.

Utilities;

GMHC will pay for natural gas, water, and electric use during construction.

Contractor is responsible to order service, coordinate connections and maintain utilities.

Keys and Remotes;

Provide CM with minimum of 2 house keys and two garage door remotes.