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INFORMATION TO BIDDERS

The following notice shall constitute the "Instructions to Bidders", governing the preparation and submission of bids. To be entitled to consideration, bids must be made in accordance with the following instructions:

1. **Content of Proposal Forms** - Forms consisting of the documents listed below will be furnished by the Office of Community Development (OCD). Interested contractors who wish to submit a formal bid on a rehabilitation job should contact this Office. Bids shall be based on the work called for in these documents.
2. **Examination of Plans and the Location** - Statements as to the conditions and work description under which the work shall be performed, including plans, survey, measurements, dimensions, calculations are made solely to furnish a basis for comparison of bids and the parties do not guarantee or represent that they are to be taken as other than approximations. The contractor must satisfy himself by his own investigation and research regarding all conditions affecting the work to be done and labor and materials necessary, and make his bid in sole reliance thereon. **Bidders shall carefully examine the property and obtain the owner's signature on the bid document before making their bid.**

3. **Preparation of Bids**

The Bidder shall submit his bid on the blank forms furnished by the Office of Community Development. The bidder shall specify his bid price in both words and figures. All words and figures shall be in ink or typed. In case of a discrepancy between the written word and figures, the written words shall govern.

All bid packages shall be signed correctly with ink in the normal and usual places.

- If the bid is made by a sole-proprietorship, his name and address shall be provided.

- If a bid is submitted by a firm, partnership or corporation, it shall be signed by a person having such legal authority and shall print his name and title in the firm, partnership or corporation. If the bid is submitted by a firm or partnership the name and addresses of all members shall be given.

- If the bid is submitted by a corporation, the name of the state in which under the laws of which the corporation is chartered and the names, titles and business addresses of the President, Treasurer and Manager shall be given.

4. **Delivery of Bids**

All bids shall be submitted to the Office of Community Development, **Sealed in an Envelope** on which is clearly indicated the contents marked "Bid Package", indicating the contents, including the location of the project and name and address of the bidder.

5. **Withdrawal of Bids**

A Bidder may withdraw his bid provided the request is conveyed to the Director of Community Development prior to the opening of the bid. Bids may not be withdrawn after the bid opening. Failure by the successful bidder to honor the awarded bid will result in the bidder being prohibited from submitting bids for a period of six (6) months.

6. **Rejection of Bids**

Bids which fail to meet the requirements or which are incomplete, illegible, conditioned or contain obscurities, erasures, alterations, or irregularities of any kind, or in which errors occur, or which contain abnormally high or low prices for any class or item of work may be rejected. The County Office of Community Development and owner reserves the right to reject any and all bids for any reason whatsoever. Alternates proposed by a bidder which are not called for in the Scope of Work, shall be identified on the Addendum Sheet. Bids that are qualified by the bidder with unregistered alternates or

other changes shall not be considered.

INFORMATION TO BIDDERS

7. **Competency of Bidders**

No contract will be awarded except to responsible bidders capable of performing the class of work contemplated. Prior to the award of a contract, any bidder may be required to show that he has the necessary facilities, experience, ability and financial resources to perform the work in a satisfactory and diligent manner assuring a timely completion of the project.

8. **Important**

The bidder is advised that the Office of Community Development will receive a bid on behalf of the owner and that any contractual arrangement for performance of the work will be between the Contractor and the Owner. The Office of Community Development will neither be a party thereto, nor liable thereon.

9. **Awarding of the Bid**

The acceptance of the Bid and awarding of the contract shall be subject to the owner receiving financing under Orange Urban County Rehabilitation Program.

10. **Insurance Coverage**

Prior to being awarded the project, the Contractor must carry and maintain insurance coverage and provide the Office of Community Development with a "Certificate of Insurance" in the following amounts and conditions:

Comprehensive General Liability, including broad Form contractual	\$1,000,000 aggregate
Liability, bodily injury and property damage	\$1,000,000 each occurrence
Worker's Comp. & Disability	Entire obligation under New York Law

The Contractor must also provide a "Certification of Insurance" for all subcontractors to OCD.

11. **Time of Work**

Work must be started pursuant to the "Notice to Proceed" date and must be completed within 60 calendar days of work start. Failure to complete the project by the prescribed completion date will result in a \$150.00 per day forfeiture by the contractor until such date as all work is satisfactorily completed. The contractor must be able to start work within 30 days of the bid opening. Failure to start by the specified time frame may result in forfeiture of the bid.

12. **Additional Obligations**

The Contractor must obtain all necessary permits, licenses, inspections and all other requirements as may be set forth by the Federal, State or Municipal Governments and regulating authorities. Copies of all said permits, inspections, licenses, etc. must be provided to OCD for review prior to completion of the project.

SUPPLEMENTARY TECHNICAL SPECIFICATIONS

A. NOTICE TO CONTRACTORS AND OWNERS - Unless other wise noted in the specifications, in the event deteriorated, decayed and or rotted wood is discovered during the course of construction, the contractor will immediately notify the Owner and the Rehabilitation Inspector of the Orange County Rehabilitation Program, who will then conduct a field inspection to determine if the deterioration should be replaced.

A - 1. IMPORTANT NOTICE TO CONTRACTOR:

Under this Scope of Work item, the General Contractor shall be advised that this building *meets the criteria for the New York State Office of Parks, Recreation and Historical Preservation other wise known as SHPO, and that all methods of construction and materials are to be in keeping with the building's character and as per the Scope of Work. The Contractor shall take every precaution necessary to insure and preserve the building's appearance with new material to be installed in a manner that will minimize any appearance change. The Contractor shall notify the OCD of any problems that would affect the finished condition of the building.

* City of Newburgh – Architectural Review Commission review and recommendations takes precedence over NYS/SHPO.

Upon uncovering of any objectionable job conditions, the contractor shall notify the Owner and the OCD for verification of these conditions. The contractor is not to proceed on this work item until verified by Owner and as ordered by the OCD.

B. The Contractor shall file and pay for all the required permits and inspections necessary to complete the project.

C. The Contractor shall supply all materials, labor, tools and equipment, as specified in this Contractors Manual, required under this contract for a complete, neat and skilled installation.

D. **Codes:** Contractor shall perform all work in strict accordance with the New York State / Building, Fire, Maintenance and Energy Codes, the New York Board of Fire Underwriters, BOCA, plus any other Local Municipality code that is applicable including those found in this Contractors manual.
- Electricians – See Section 20, # 14000, General Requirements Electrical, pages 121-122.
- Plumbers – See Section 18, # 12000, General Requirements Plumbing, pages 102-103.
- Lead Based Paint (LBP) – See Section #15000, General Requirements for LBP, pages 125-134.
- Asbestos – See Section # 16000, General Requirements for Hazard Reduction, pages 135-136

E. Contractor shall remove and dispose of all debris and materials resulting from work.

F. Contractor shall be responsible for the repair of any adjoining work on which his work, in any way, is dependent for its proper installation.

G. All openings in the walls, floors, roof, etc., shall be accurately located and sited as per the mechanical requirements whether they are shown on drawings or not; neatly cut and no wider or deeper than necessary.

H. Contractor shall perform all work in strict conformance to the regulations promulgated pursuant to the Lead Based Paint Hazard Reduction Act of 1992 (24 CFR Part 35) by using US/HUD's Safe Work Practices and US/EPA's Renovation, Repair and Paint, (RRP), rule (40 CFR 745). The use of LBP is STRICTLY PROHIBITED. If applicable, specifications for LBP / Hazard Reduction activities concerning this bid are contained in a separate SECTION 15000 pages 125-134.

I. Contractor shall take all the necessary measures and precautions to protect surroundings and attachments (interior and exterior) and shall be liable for all damages that may be caused by his actions and work.

SUPPLEMENTARY TECHNICAL SPECIFICATIONS

- J. The Contractor shall perform all other work as required to deliver a completed and satisfactory job using skilled craftsmen. All measurements and the Scope of Work must be verified on the job by the contractor.
- K. Contractor must protect all landscaping including trees, bushes, plants, and lawn and will be held liable for any damage.
- L. **WORK PERFORMANCE**
- A. Labor Quality. All labor furnished by contractors or subcontractors must be performed by trained, skilled, competent craftsperson's, licensed when required. All work shall be performed to meet minimum acceptable quality standards and all work performed will be subject to inspections and approval by the OCD.
- B. Materials Quality. The contractor must furnish all materials, cartage, equipment, etc., at his expense that may be necessary to the satisfactory execution of the contract. The materials used and installed must be new and of the best quality as specified. These Performance Standards are not intended to exclude any products or materials of equal or greater merit than those specified herein. Trade names used herein are for the purpose of establishing the quality desired. Before substitutions for materials specified are made, the consent of the County must be obtained. All materials furnished and/or installed are subject to inspections and approval by OCD.
- M. Verification of Measurements: Contractor shall verify and be responsible for all measured dimensions. No extra compensation will be allowed because differences between actual measurements and dimensions were shown.

IV. PAYMENT

Contractor shall receive partial payment for percentage of work completed. Contractor is responsible for providing the Rehabilitation Inspector with a bill / invoice, a payment request signed by himself and the homeowner. Payment will only be released on satisfactorily completed work approved by the Rehabilitation Inspector.

V. GUARANTEE

All general construction work shall be guaranteed for a period of one (1) year after the date of completion. The general contractor shall replace or repair all work, materials and equipment which are found to be defective during the guarantee period and repair all damage to surrounding work caused by the failure, repair or replacement of the effects. All repairs and replacements shall be made promptly after receipt of notice of the defects, and without expense to the homeowner. The contractor shall remove all debris created by his Scope of Work and shall leave the site broom clean upon completion.

VI. CONFERENCES

OCD will schedule a conference after Notice of Award for all affected parties. When required in individual specifications Section, convene a pre-construction conference at project site prior to commencing Work of the Section.

VII. PROPOSED PRODUCTS LISTS AND DATA

Within thirty (30) days after date of Owner-Contractor Agreement, submit complete list of major products proposed for use, with name of manufacturer, trade name, and model number of each product. Submit two (2) copies as follows: one (1) to Owner and one (1) to Office of Community Development.

SITE WORK

02000 General Requirements

The site work includes, but not limited to, all labor, material, fuel, equipment and permits required for site excavation, grading, and soil preparation as shown on the drawings and/or Scope of Work:

- Excavation for footings, retaining walls, slabs, curbs, and foundations.
- Excavation of trenches for the location of storm or footing drain tile, septic systems, and sewer lines plumbing, electric or other utilities.
- Installation of back-fill, base-course material, stone, rip-rap, sand, K-Crete or other specified materials.
- Stripping, storage and re-use topsoil.
- Relocation and re-use of acceptable excavated material.
- Removal from the site (and proper disposal) of all debris and unsuitable material. Included, but not limited to:
 1. Concrete flatwork - slabs and walks
 2. Bituminous flatwork - driveways and walks
 3. Waterproofing
 4. Trees, stumps, branches or brush
 5. Metal, wood and plastic

2010 LANDSCAPING

Contractor shall landscape the property as specified in Scope of Work and below:

1. Contractor shall fill area with clean top soil along structure to a depth necessary to slope ground at a minimum of 4% and a maximum of 10% grade, so as to divert water away from the structure.
2. New basement window wells will be installed, if required. Top of window wells shall be 2" above ground level.
3. In all areas where plants and shrubs root system will be covered with more than 4" of soil, they will be replanted to new finished grade.
4. Upon completion of grading, all leaders shall be the correct height so that water will drain onto a splash block. A maximum height of leaders shall be 12".
5. Entire surface area shall be completely fine raked, properly graded and completely grass seeded, with 30% Premium Rye and 70% Blue Grass Blend mix. Entire lawn area shall be completely rolled and mulched or hayed, to secure newly planted grass seed.
(Note: Contractor shall notify Homeowner of their responsibility to water newly seeded lawn)

- 02020 6. All excess soil, debris or any other material shall be removed from site.
DEMOLITION

This Section includes the demolition and removal of structures included, but not limited to; disconnection, capping or removal of affected utilities, including Septic Systems; and the selective demolition for alteration and renovation work.

1. Submit a written plan describing demolition, removal procedures sequence and schedule. Work shall conform to all applicable state and local codes for demolition of components, safety of adjacent structures, dust control, service utilities and discovered hazards. Cease operations immediately if adjacent structures or components appear to be in danger. Immediately notify the Office of Community Development and the Owner.
2. Prepare site for demolition by providing, erecting and maintaining temporary barriers and security devices; notifying adjacent owners of work which may affect their property, potential noise, utility outage, or disruption; prevention of movement or settlement of adjacent structures through bracing or shoring; protection of existing components that are not to be demolished.
3. All material to be removed shall be done in a safe manner.
4. All waste materials, debris & rubbish from site are to be removed and legally disposed. Leave areas of work in clean condition. All construction debris are to be removed daily.

02030 FOUNDATION DRAINS

Installation of foundation perimeter drains:

1. Entire structure shall be excavated to a level 8" below top of basement floor.
2. All dirt and loose mortar from foundation wall shall be removed. All cracks and voids in parging are to be repaired / pointed.
3. Foundation shall be coated from finished grade level to base of footing with an elastomeric foundation coating.
4. 4" perforated pipe shall be laid in gravel bed on a minimum pitch of 1/4" per 10'. This shall be done around entire building and drain away from building to a location where pipe can safely exhaust the water.
5. Pipe shall be covered with a minimum of 6" of washed 1 ½" stone.
6. Gravel shall be covered with hay or untreated building paper.
7. Entire excavation shall be backfilled with clean fill and all excess dirt removed.
8. 3" of screened topsoil shall be spread over all disturbed areas and raked out to pitch water away from house.
9. All plants, bushes and trees are to be re-planted. ALL porches, sidewalks or any other items that may have been disturbed are to be replaced.
10. Final landscaping shall be in accordance with Section 3, Site Work, Code # 02010 of this

02035 manual.
INTERIOR FOUNDATION DRAIN

Contractor shall install interior foundation drain as per Scope of Work.

1. Layout and cut an opening in the concrete floor 12 inches from the foundation exterior wall for the entire perimeter and remove concrete.
2. Remove soil to a depth of 12 inches below finish floor.
3. Install 4 inch PVC perforated pipe with ¼ inch per 4 foot pitch into the Sump Pit.
4. Place ¾ inch stone below around and on top of perforated pipe.
5. Replace excavated concrete floor to match existing.
6. Install sump pit and sump pump as per Section 18, Plumbing, Code # 12075 Sump Pump Installation, of this manual. Connect pump discharge line to discharge outside in low area away from structure.
7. Sump pump pit shall have concrete bottom and sides of at least four (4") inches. Drain pipe shall empty into sump pit twelve (12") inches above pit floor.

02040 ASPHALT PAVING

Asphalt Paving shall consist of construction of one or more courses of Asphalt Paving on the prepared foundation in accordance with these specifications.

1. Contractor shall remove all growth and other foreign materials from surface to prepare for new surface.
2. New area shall be excavated to an average depth of six (6") inches.
3. New area shall be filled with item 4 Sub Base and rolled with a 2-ton roller to a minimum compaction thickness of six inches (6").
4. Surface course of N.Y.S. approved Type 4 Bituminous Concrete shall be applied to a thickness of four (4") inches after compaction with 2-ton roller. Areas shall have a minimum cross slope of one eighth of an inch per foot and a minimum longitudinal pitch of one percent.
5. Contractor must protect all shrubs, trees, bushes, plants, lawn, etc. and will be held liable for all damages to same.

NOTE: If existing area has a base of 6" of shale, then excavation is not required.

02050 CURTAIN DRAIN (French Drain)

The Contractor shall install a curtain Drain as per Scope of Work.

1. Excavation shall be to a depth of 42 inches minimum, by 24 inches wide.
2. Install 4 inch PVC perforated pipe on a 6 inch bed of 1½ washed gravel or stone. Perforated pipe shall be pitched at a 5% slope.
3. Backfill excavation to a minimum of 6 inches of finish grade with 1½ inch washed gravel.
4. Cover stone with filter fabric or hay.
5. Final grade and landscape as per **Landscape** code # **2010**.
6. Contractor is responsible for the removal of all unused excavated material.

02060 SEPTIC TANK INSTALLATION

Contractor shall provide and install all pre-cast concrete tanks, as manufactured by **Woodards Concrete Products**, or a high-density polyethylene septic tank with U.V. inhibitors, as manufactured by **Roth Global Plastics / Plastic Fralo Septic Tanks**, blow-molded, high molecular weight poly septic, also known as plastic tanks and potable-water cisterns, pumps, wiring, piping and labor as required. Installation shall include: excavating, tank installation, removal of old tank and piping, connection of any and all electric pumps, alarms and signaling devices, backfill and grading.

1. Tanks and fields are to be located as per drawing or Scope of Work.
2. Contractor shall pump out existing septic tank. Old, abandoned, or unused septic tanks are to be removed from the site.
3. Septic tank shall be precast concrete as manufactured by **Woodards Concrete Products, Inc.** or approved equal or a high-density polyethylene septic tank with U.V. inhibitors, as manufactured by **Roth Global Plastics / Plastic Fralo Septic Tank** or approved equal, and shall be at a minimum of 1000 gallon capacity.
4. Septic tank shall be set deep enough to provide a minimum of 12" fill coverage, while insuring proper pitch.
5. Contractor shall obtain all permits necessary and must perform all work in accordance with all state and local codes.
6. All excess material, dirt and debris from site are to be removed from site.
7. All areas shall be landscaped as per Section 3, Site Work, Code # 02010 of this manual.
8. Contractor is responsible for scheduling all inspections with engineer provided by OCD.

02065 SEPTIC SYSTEMS – NEW or REPLACEMENT

Install a new engineered septic system as designed by a New York State Professional Engineer (P.E.) in accordance with these specifications:

1. Tanks and fields are to be located as per engineered drawing or Scope of Work.
2. Contractor shall pump out existing septic tank. Old, abandoned, or unused septic tanks are to be removed from the site.
3. New septic tank shall be precast concrete as manufactured by Woodards Concrete Products, Inc. or approved equal or a high-density polyethylene septic tank with U.V. inhibitors, as manufactured by **Roth Global Plastics / Plastic Fralo Septic Tank** or approved equal, and shall be at a minimum of 1000 gallon capacity or as per the approved engineered design.

SEPTIC SYSTEMS – NEW or REPLACEMENT – continued

4. Septic tank shall be set deep enough to provide a minimum of 12" fill coverage, while insuring proper pitch or as per the approved engineered drawings.
5. Contractor shall obtain all permits necessary and must perform all work in accordance with all state and local codes.
6. All excess material, dirt and debris from site are to be removed from site.
7. All areas shall be landscaped as per Section 3, Site Work, Code # 02010 of this manual.
8. Contractor is responsible for scheduling all inspections with engineer provided by OCD.

02070 DRY-WELL / LEECHING TANK INSTALLATION

Contractor shall provide and install a pre-cast, concrete drywell / leeching tank, and all drainage pipes as required. Installation shall include, but not be limited to the excavation, piping, connection, back fill, grading and landscaping.

1. Dry well shall be located as per Scope of Work and as in this section, # 02090 of this manual below.
2. It shall be pre-cast concrete as manufactured by Woodards Concrete Products, Inc., or approved equal and shall be of sufficient size for its intended use.
3. Install deep enough to provide 12" minimum coverage of fill from top of reinforced concrete cover to finished grade
4. Install 1½ washed stone or gravel placed 24 inches around its perimeter.
5. Lateral leading to the Dry Well must be a minimum of 4 inches in diameter and pitched 1/16 of an inch per foot.
6. Back fill shall include placement of clean dirt free from large stones.
7. Landscape as per Section 3, Site Work, Code # 02010 of the manual.
8. All excess soil, debris or any other materials are to be removed from the site.

02080 SEWER LINE INSTALLATION

Contractor shall install a new sewer line from main line in the dwelling to a central sewer line.

1. All permits, bonds or other fees are the responsibility of the contractor.
2. Installation of the sewer line shall be as stated in specification prepared by the local municipal sanitation department.

02080 3. New waste line shall be as per local municipal ordinances and proper sizing, pitch, flow and installation insured.
SEWER LINE INSTALLATION – continued

4. Any contamination soil shall be disposed of before back-filling.
5. Upon installation of sewer line, trench shall be back-filled up to existing natural grade and be properly compacted.
6. The contractor will fine rake, seed and fertilize the work area to eliminate all evidence of the sewer line.
6. All excavated rocks, boulders and debris shall be removed from the site and disposed of properly.
8. The contractor shall comply with all safety regulations including US/OSHA trenching 29CFR1926 subpart 1926.652

SPECIAL NOTE: Upon completion of work, contractor must supply a Certificate of Compliance from the sanitation dept

02090 DRILLED WELL

1. Well shall be drilled to such a depth as necessary to provide six (6) gallons (+ or -) of water per minute. Dug wells shall not be accepted.
2. A six (6") inch diameter casing shall be installed thru soil to bedrock. All casing joints will be threaded and watertight. Casing shall be ASTM-A-53, ASTM-A-120 and API-5L.
3. Well location shall be as per Scope of Work or as site conditions allow.
4. Well shall be drilled plumb and true.
5. Contractor will clean area of all debris after drilling is complete.
6. Well shall be drilled in accordance with all applicable state and local codes.
7. A submersible well pump as manufactured by **Myers Model Rustler Series 4 Inch Composite and Stainless Steel Submersible Pump Series with PENTEK XE Series Motor** or an approved equal shall be installed as per Section 18 Plumbing, Code # 12050 of this manual.
8. Excavation of water line to structure shall be below the minimum frost line depth of 42 inches, see Site-Work, General Requirements – Code # 02000 of this manual.
9. Landscape as per Code # 02010 of this manual.
10. Water must be potable. Contractor is required to have water tested upon completion and copy of test submitted to OCD.
11. Include Section 18, Code # 12050 - SUBMERSIBLE WELL PUMP of this manual.

12. For other equipment related information please see Section 18, Plumbing # 12000, including # 12040 – Water Pressure Tank, # 12065 - Water Softeners, of this manual.

02095

WELL WATER CHLORINATION SYSTEMS

1. The contractor shall install a chemical well water chlorination system that is either a liquid injection system or a pellet system.
2. The selection the best system to use (Injection system, In-the-Well Chemical Feeder system, Out-of-the-Well Chemical Feeder system, or a chlorine / aeration system) shall be determined by the best solution for the existing type of water problem.
3. A properly functioning chlorinator system introduces chlorine into the water in such a way that all the water has a uniform concentration of chlorine. The chlorine injection point should be prior to any pressure tank.
4. The chlorinator must be a positive displacement type; metering pump shall be equipped with an anti-siphon device.
5. The chlorinator and well pump must be wired together to operate simultaneously.
6. That minimum free chlorine of 0.2mg/l shall be maintained throughout the distribution system.
7. A microbiological test of the water supply shall be performed by the installer, with results sent to the homeowner and the OCD.
8. That the chlorinator approval is based upon a peak maximum gallon per minute (gpm) flow of the existing well.

02100

MAIN WATER SUPPLY-LINE HOOK UP

1. Contractor shall install water line supply from the water main to existing plumbing.
 - a) This installation shall be made in full compliance with the municipal water department's specifications and bonding requirements. Include water meters as required. Contractor shall be responsible for all permits, fees, Bonding and scheduling for a satisfactory installation.
2. Contractor shall supply all labor and materials & shall include trenching as required.
3. Upon completion, trench shall be backfilled up to existing natural grade and to be properly compacted. The contractor shall fine rake, seed and fertilize the area of work to eliminate all evidence of trenching.
4. Upon completion of work, contractor must supply a certificate of compliance from the water department to insure proper installation of water line and water meter installation.
5. The contractor shall comply with all safety regulations including US/OSHA trenching 29CFR1926 subpart 1926.652

CONCRETE SECTION

03000 GENERAL REQUIREMENTS FOR CONCRETE

Unless otherwise noted in the Scope of Work or in product specifications all concrete placed on site shall be mixed off site and delivered by a concrete mixing type vehicle.

All concrete, unless otherwise noted in the Scope of Work shall be a 4000 lbs mix.

Copies of all concrete delivery slips will accompany all payment requests to OCD.

03010 CONCRETE COLD WEATHER PROTECTION - Special Consideration

1. At no time will more than two percent calcium chloride be used in freezing weather to accelerate concrete setting. Contractor will perform work in accordance with ACI 530 and ACI 530.1 and refer to Cold Weather Requirements as per IMIAC – Recommended Practices and Guide Specifications for Cold Weather Masonry Construction. The contractor shall provide the receipt as proof to OCD, when required.
2. No concrete shall be placed on frozen ground or when the temperature is less than 32 degrees.
 - a) Concrete may be placed when temperature is 32 degrees or more, provided however, that weather reports indicate a daily high of at least 40 degrees.
3. After concrete has been finished, when temperatures are expected to be below 32 degrees, a 12" inch cover of straw or the appropriate concrete curing blanket protection, shall be spread evenly to preclude freezing.
4. All frozen or spilled concrete will be removed and replaced at contractor's expense.
4. A controlled environment with an interior temperature of 40 degrees or greater is acceptable if the outside temperature remains at 32 degrees or greater for five (5) days thereafter.

03020 CONCRETE HOT WEATHER CONSTRUCTION

1. In extreme hot weather, care must be taken to avoid high temperatures in the fresh concrete and to prevent rapid drying after it is placed. Contractor will perform work in accordance with ACI 530 and ACI 530.1 and refer to Hot Weather Requirements as per IMIAC – Recommended Practices and Guide Specifications for Hot Weather Masonry Construction.
2. The sub-grade and forms will be sprinkled with water prior to placing (so as not to absorb water from the mix).
5. Moist curing must be started immediately - as soon as surfaces are hard enough to resist marring and will be kept constantly wet to avoid alternate wetting and drying the curing period for at least seven days.

03030

CONCRETE SIDEWALK

General requirement for concrete sidewalks, area of work as stated in Scope of Work. All concrete shall be 4000 psi mix, obtained directly from a ready mix supplier. **Concrete mixed by hand will not be accepted.** Save all concrete delivery tickets for the Owner. Construct and erect formwork in accordance with ACI 301. Perform cast-in-place concrete work in accordance with all applicable ACI specifications. Maintain poured concrete with a minimum of moisture loss and at a relatively constant temperature necessary for proper curing. The contractor shall provide the receipt as proof to OCD, when required.

1. The area shall be excavated to required depth to create a concrete finish of adjacent sidewalk to receive 4" of concrete slab. Compact the sub-grade to a 95% compaction.
2. Concrete shall be laid to a depth of 4" evenly tapered as it is laid and reinforced completely with 6/6 - #10 wire mesh. Walkway shall be same width as existing, unless otherwise stated.
3. Concrete is not to vary more than 1/4" over its entirety or it will be removed and replaced.
4. Concrete shall attain a stress of not less than 4,000 P.S.I. mix at twenty-eight (28) days.
5. Control joints are to be provided every five feet (5') and an asphalt expansion strip every twelve (12') feet.
6. When old concrete shall be removed, it shall be removed at the nearest concrete joint. If no joints exist, existing concrete square are to be cut with masonry saw as per # 5 of this item. The removed concrete shall be removed from the site and disposed of properly.
7. Sides of walk shall be formed straight or curve in a true arc.
8. Where new concrete abuts existing, a pre-molded asphalt expansion joint shall be placed.
9. Concrete shall be steel trowled and broom finished, and all edges tooled. Finished concrete shall be pitched for proper drainage and to conform to adjacent grade and sidewalk.
10. An Exterior Penetrating Concrete Sealer as manufactured by **Stone Technologies Corp**, concrete sealer X – 3, or approved equal shall be applied to the exposed areas of the sidewalk.
11. Upon completion of concrete, work area will be graded, fine raked to proper grade along sidewalk and completely grass seeded with 30% Premium Rye and 70% Blue Grass Blend mix. Entire area shall be rolled and fine water sprayed to secure grass.

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CONCRETE SIDEWALK SPECIFICATIONS/CITY OF NEWBURGH only

1. Sidewalks shall be 4" deep with 4000 psi concrete mix.
2. Steel reinforcement shall be 6/6 x 6/6 and shall be embedded midway between the upper and lower surfaces of the concrete.
3. 1/2" expansion joints shall be placed not more than 24' apart through the full depth of the concrete. Pre-molded bituminous joints shall be placed in all expansion joints, and at junctions of existing sidewalks, curbs, utilities, buildings, etc. The edges of such joints shall be rounded with a 1/4" radius edging tool.
4. Subgrade shall consist of 6" of well-compacted gravel.
5. Tamp and screed concrete true to grade and section, bring sufficient mortar to the surface for finishing with a wood float before concrete sets. Forms shall be equal in depth to the concrete.
6. See City of Newburgh Cement Concrete specs for requirements of other materials.

03040 INTERIOR CONCRETE SLABS

1. Interior slabs on grade shall be a full 4 inches thick and reinforced with 6/6 (6" x 6") #10 welded wire mesh.
2. All concrete shall rest on a six-mill polyethylene vapor barrier over four inches of washed gravel or well-tamped earth base as selected by OCD Rehab Inspector.
3. 4000 P.S.I. concrete mix shall be used unless otherwise specified.
4. Concrete shall be placed with a transit level or by using grade stakes and screeds.
 - a) Slab shall not vary more than 1/2" inch over entire surface.
5. Where slabs abut masonry walls, they shall be finished square and true.
6. Slabs shall be floated and twice steel trowled for a hard smooth finish.
7. Slabs not level within tolerance will be removed and replaced at contractor's expense.
8. Expansion joints of pre-molded asphalt material will be installed wherever slab abuts a masonry wall.

03050 EXTERIOR CONCRETE SLABS

1. Exterior slabs on grade, patios, stoops and porches shall be four inches thick and rest on 4" inch washed gravel base.
 - a) Slabs shall be formed true and square.
2. All concrete shall be pitched 1/2" inch (minimum) per (4') four feet in the direction of drainage.
3. 4000 P.S.I. concrete mix shall be used.
4. Concrete shall be reinforced with 6" x 6" #10 welded wire mesh.
5. Concrete shall be screened smooth and floated.
 - a) All stone will be at least 1/8 inch below the surface.
 - b) Finish shall be steel trowled and lightly broomed for a non-skid surface.
 - c) All edges shall be finished with a concrete edger.
 - d) An Exterior Penetrating Concrete Sealer as manufactured by **Stone Technologies Corp**, concrete sealer X – 3, or approved equal shall be applied to the exposed areas of the concrete slab.
6. Concrete incorrectly placed for drainage's and not true to within 3/8" will be removed and replaced at contractor's expense.
7. Exterior slabs abutting foundation walls shall have bituminous expansion joints minimum 1/2 inch X the thickness of the slab.
8. In all areas where concrete slab is larger than 20 sq. ft., perimeter of slab shall be twelve inches (12") thick and twelve inches (12") wide.

03060 REPLACE EXISTING CONCRETE PORCH

1. A minimum of 4" shall be removed from top of porch and steps and all-loose or cracked sections.
2. New concrete encapsulating the original porch shall be 4000 lbs mix, poured to a minimum of 4" in any area.
3. Top of the slab shall be no less than 2" from the top of the doorsill, and no more than 6" from doorsill.
4. Slab shall have a pitch of 1/2" in 4'.
5. Steps are to have ALL even risers and comply with NYS Building Code for riser height and tread width.
6. Porch slab and steps are to be reinforced with 6" x 6" - 10/10 welded wire.
7. Deck and steps are to be steel trowled and broom finished, and all edges tooled.
8. All vertical surfaces must be stoned smooth and free of honeycombs. Parging will not be accepted.

03060 REPLACE EXISTING CONCRETE PORCH continued

9. Railing shall be installed on both sides as per Spec. 05030 and comply with NYS Building Code.
10. Finished porch shall be same size as existing or a minimum of 4' x 4', whichever is larger.
11. An Exterior Penetrating Concrete Sealer as manufactured by **Stone Technologies Corp**, concrete sealer X – 3, or approved equal shall be applied to the exposed areas of the concrete slab.
12. All debris remaining shall be removed from the work site.

03070 CONCRETE PORCH & STEPS

1. Existing steps are to be removed and replaced with concrete as outlined in Scope of Work. Minimum requirements are as follows:
 - a) Landing shall be poured concrete with a minimum width and depth of four (4') feet, and thickness of four (4") inches.
 - b) Steps are to be poured concrete with a tread width of eleven (11") inches and all even riser heights of no more than seven (7") inches.
 - c) There shall be no variation-exceeding 1/8 inch in height of riser or width of treads.
 - d) Concrete is not to be less than a 4,000 P.S.I. mix.
2. Soil shall be excavated to a depth (below the frost line) of three (3') feet- six (6") inches (42 inches) to receive new concrete footing. Footing shall be a thickness of twelve (12") inches and a width of twenty-four (24") inches.
3. Cheek walls are to be eight (8") inch concrete block, poured solid with 4000 lbs concrete mix, to a height NO MORE THAN five (5") inches down from doorsill. All block joints above ground level are to be tool jointed. Every second course of block shall receive Dura-wall reinforcement.
4. Once cheek wall has set, inside of step area shall be filled with blank run gravel. Blank run shall be compacted every eight (8") inches.
5. Concrete landing and steps shall be reinforced with 6" X 6" #10 wire mesh and shall lip over concrete block 1 1/2". Concrete shall be a minimum of four (4") inches in thickness. Top of concrete slab shall be no less than two (2") inches below doorsill and sloping at 1/8" inch per foot away from doorsill in front edging of slab.
6. Concrete shall be steel trowled and broom finished and all edges tooled.
7. Where concrete abuts building, 3/8" pre-molded expansion joint shall be installed.
8. Upon completion of concrete work, area will be graded; fine raked and seeded with 30% Premium Rye and 70% Blue Grass blend.
9. Metal railings are to be installed as per Spec. 05030.
10. An Exterior Penetrating Concrete Sealer as manufactured by **Stone Technologies Corp**, concrete sealer X – 3, or approved equal shall be applied to the exposed areas of the concrete slab.

03080 REPAIR TO CONCRETE SLABS

Contractor shall make all necessary repairs to concrete slab (see Scope of Work).

1. SURFACE PREPARATION
 - a) Cracks are to be enlarged to a groove that is a minimum depth of (1") one-inch and a minimum width of (1/2") one half inch.
 - b) All holes are to be undercut to provide lock for patching material.
 - c) All areas to be repaired must be brushed out, removing all dirt, dust and debris.

03080 REPAIR TO CONCRETE SLABS continue

2. MATERIAL

Epoxy-vinyl concrete repair mix as manufactured by **Dur-A-Flex, Inc** or approved equal shall be used for all repairs.

- a) Material shall be mixed and applied as specified by manufacturer's instructions.
- b) All repaired areas shall be level with existing floor and feathered smooth.
- c) All debris shall be removed from job site and the area broom cleaned.

MASONRY AND CHIMNEY SECTION

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MASONRY AND CHIMNEY SECTION

04000 GENERAL SCOPE

1. Re-point all exterior brick, when required by the Scope of Work, including all chimney areas above the roofline as necessary
2. Repaint all exterior brick as per Section 09020 to match existing, if painted. All exterior colors to be coordinated with the Owner.
3. An Exterior Penetrating Concrete and Brick Sealer as manufactured by **Thompson's WaterSeal Clear Multi-Surface Waterproof**, or approved equal shall be applied to the exposed areas of the brick work.
3. Perform Work in accordance with ACI 530 and ACI 530.1.

04005 MASONRY VENDOR RESPONSIBILITIES

The contractor shall supply all labor and material necessary to install the masonry to the house. This will include:

- A. Mortar - Type
- B. Washed Sand
- C. Wall Anchors - Not Lighter than 22 gauge and not less than 7/8" inch wide and 6" inches long. (Corrugated Ties)
- D. Scaffolding
- E. Masonry means Cement Block, Brick, Stone, Marble, Glass Block, Travertine, Glass Block, Stucco or Tile or other cement or concrete products.

The contractor shall:

1. Lay masonry plumb, level and true to line in full beds of mortar. Butter ends of masonry with sufficient mortar to fill the end joints.
2. Lay exposed masonry wall in bond to match existing ties. Ties are to be placed in horizontal bed joints spaced 16" inches apart vertically.
3. Nail through each tie and sheathing into studs with one 6-d galvanized nail driven at an angle. Ties shall extend to within 1" of the exposed face of joint.
4. Joints in brick work are to be uniform, approximately 3/8" inches wide to match existing joints. Tool exposed joints are to match existing.
5. Mix all mortar and sand for a maximum of five (5) minutes, when required. Add only as much water as is compatible with convenience in using the mortar.
6. Cold weather precautions: DO NOT lay masonry when the temperature of outside air is below 40 degrees F; unless approved means are provided to the OCD Rehabilitation Inspector to heat the masonry material. Protect the completed work from freezing. No work shall be permitted with or upon frozen materials. DO NOT use antifreeze ingredients in mortar.

7. Clean new masonry surfaces after completion. Cleaned surface shall be free from mortar
MASONRY VENDOR RESPONSIBILITIES – continued

stains, drippings, efflorescence, and other foreign substances. Wet all masonry walls before applying solution of one (1) part muriatic acid to nine (9) parts to clear water.

8. Scrub walls with stiff fiber brush. Rinse with clean water immediately after cleaning.

04010 MASONRY SPECIFICATIONS FOR HISTORIC PRESERVATION WORK

1. Replace any missing or damaged masonry units with a matching material. Reset any loose masonry units and remove any deteriorated, cracked, or damaged mortar with hand held, non-power tools, to avoid damage to the individual brick units.
2. Install the following soft, lime rich mortar mix: 1 part white Portland cement, 3 parts Type S hydrated lime 6 parts sand with no admixtures.
3. Install new mortar to any damaged or missing joints, matching the size, profile and color of the original areas.

04015 RETAINING WALL

1. Height of wall shall be six (6") inches above finished grade.
2. Dirt shall be excavated to a depth of 42 inches for footings.
3. Continuous, reinforced with two horizontal rows of 5/8" rebar, footings are to be placed on undisturbed or tamped dirt. Bottom of footings shall be a minimum of 3' - 6' from lowest finished grade and shall be 20" wide and 12" deep.
4. The wall can either be a 12" concrete block with cavities filled with 4000 lbs. concrete mix or an 8" reinforced, with horizontal rows every 2 feet of # 5 rebar, concrete wall installed.
5. All concrete blocks shall be laid in full beds and all joints filled with mortar.
6. Dura-Wall pattern nine (9) gauge shall be installed on every second course of Cement Blocks.
7. Vertical #5 re-bars shall be installed in wall at 4' - 0" O.C. bars shall extend to footing.
8. Installation of 1 1/2" weep holes are to be done, thru wall 6" above grade of driveway at 5' - 0" O.C.
9. All cement block joints will be pointed so that joint will be in perfect condition and weather tight.
10. Concrete cap shall be installed 3" thick and overhang wall 3/4" all sides. Cap shall be steel trowled and all edges tooled.
11. 3/4 stone shall be placed to a depth of 1/3 the height of the wall and covered with hay. Backfill to grade with approved dirt.
12. Entire surface area shall be completely fine raked, properly graded and completely seeded. Entire lawn area shall be completely rolled and fine water sprayed to secure newly planted grass seed.
13. All excess soil material, debris or any other foreign materials shall be removed from site.

04020 REPAIR (FIELD STONE) FOUNDATION WALL

1. Loose fieldstones and deteriorated mortar are to be removed to provide a sound base. Brace the original wall for small repairs, if necessary, or if repairing a large section clear out the stones, down to the ground line and check the foundation. Replace all damaged stones with a similar stones.
2. Stone shall be set in new bed of mortar. All joints are to be compacted, tooled and pointed to make weather tight, complete the repair so that it lines up with the undisturbed portions. Mortar and design shall match the existing.
3. The face of stone shall be cleaned, upon completion of work, using a mild solution of muriatic acid. Fiber brushes are to be used and are to be rinsed thoroughly.

04025 REPAIR OF STONE WORK

1. Remove all loose stonework to provide a firm base and re-lay stone as existing.
2. Rake out all mortar and bed joints that are cracked and not bonded to stone. Wash clean and leave moist.
3. Re-set loose stone in new bed of Portland compact and tool all joints making weather tight.
4. The face of stone work shall be cleaned upon completion using a mild solution of muriatic acid. Use fiber brushes and rinse thoroughly.
5. Point up all sections so that work will be in perfect condition and weather-tight.

04030 REBUILD FOUNDATION WALL (Concrete Block)

1. Dirt shall be excavated away from wall to depth necessary to repair wall.
2. All damaged and loose block shall be removed.
3. Wall shall be rebuilt using the same concrete block, size and height as in the existing wall.
4. All concrete blocks shall be laid in full beds and all joints filled with mortar. The repaired section shall key into the existing walls where possible.
5. Install Duro-wall pattern #nine (9) gauges on every second course.
6. All joints are to be pointed so that the work will be in perfect condition and weather tight.
7. Exterior of wall below grade shall be waterproofed with tar.
8. Wall shall be capped with same design and material as the existing.
9. All block directly under a beam shall be a solid block or filled solid with concrete.

04035 MASONRY WALL REPAIR

Repair the masonry wall as outlined in Scope of Work.

- a) All masonry being removed and replaced shall be removed from the site by the contractor. Replacement masonry shall match the existing masonry in color, texture, coursework and mortar joints.
- b) All damaged, bulging or loose block work shall be removed to provide a sound surface for the repair. Remove all masonry cement blocks with cracks of 3/8" inch wide or

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greater and replace with new. All surrounding block work shall be cleaned of dust, dirt, debris and surfaces wet prior to laying new block.
MASONRY WALL REPAIR - continued

- c) All masonry cement shall conform to the latest ASTM (American Society for Testing Materials) specifications. Prepared mortar must not be more than one portion of Portland or equal cement portions of sand. All sand must be sharp and free from organic material. Masonry mortars shall be type "S" and conform to ASTM C-270. All water shall be potable and free from organic material.
 - d) New blocks shall be the same dimension as existing. Each course of blocks shall be bedded solidly in the mortar with vertical joints breaking halfway over the course below. Vertical joints are to be buttered the entire height of units and bonded into existing sound block work.
 - e) The wall reinforcement as manufactured by **Dur-O-Wall**, or an approved equal, every 2nd course. Reinforcement shall be continuous laps with a six-inch (6") minimum.
 - f) All block directly under a beam shall be a solid block or filled with concrete.
 - g) All surfaces not being worked on are to be protected during construction work.
1. At such time, as rain or snow is imminent, and/or work is discontinued, work shall be protected with waterproof membrane well secured. When work is resumed, top surface shall be cleaned of loose mortar and wet block as required.
 2. All masonry shall be protected against freezing for not less than 48 hours after installation, and shall not be constructed below 32 degrees Fahrenheit on falling temperatures or below 36 degrees Fahrenheit on falling temperatures without temporary heated enclosures or the precautions necessary to prevent freezing. Frozen materials shall not be used, nor shall frozen masonry be built upon.
 - h) The finish of new block work shall match the existing masonry.

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REBUILD BASEMENT ENTRANCE WALL

1. All dirt shall be excavated away from the wall to depth necessary to repair the wall.
2. All damaged and loose block shall be removed.
3. The wall shall be rebuilt using same size and height concrete block, as existing or original wall.
4. All concrete blocks shall be laid in full beds and all joints filled with mortar. The repaired section shall key into the existing walls where possible.
5. Install Duro-wall pattern #nine (9) gauges on every second course.
6. All joints shall be pointed so that work will match the existing wall and be weather tight.
7. Exterior of wall below grade shall be waterproofed with tar.
8. Wall shall be capped with 4" of concrete and made smooth and ready to receive new metal entrance door enclosure.
9. New entrance as manufactured by **Bilco Door**, or an approved equal shall be installed as per manufacturer's directions.

10. Entire door unit shall be painted inside and out as per **Section 15, Painting # 09020 Exterior painting** of this manual.
04040 REBUILD BASEMENT ENTRANCE WALL - continued

13. Handrails shall be installed according to NYS Building Code.

04050 BLOCK FOUNDATION (NEW FROST WALL)

1. Contractor shall supply all labor and materials necessary to complete the job.
2. Contractor shall excavate to a depth below frost, or 4' feet.
3. Concrete shall be at least 4,000 lbs., psi size of the footing to be at 8" x 16".
4. Concrete block will be used from footing to height necessary. Block shall be 8" x 8" x 16" set in full beds of mortar. Dura-wall shall be installed every second course. Block work shall be tool jointed to provide watertight seal.
5. The top row of block shall receive 1/2" x 8" right angle anchor bolts as specified by ASTM A193, ASTM A194, ASTM A307, ASTM A320, ASTM A325, or another approved anchoring system, every 4' feet embedded on mortar.

04060 REPAIR OF BRICK WORK (GENERAL)

Contractor shall:

1. Remove all loose brick to provide a firm base for the re-laying of the new or existing brick for the repair work.
2. Rake out all mortar and bed joints that are cracked and not bonded to the brick.
3. Reset the brick in new bed of mortar, point up all joints, compact and tool these joints making them weather-tight.
4. The face of brickwork shall be cleaned upon completion using a mild solution of muriatic acid. Use fiber brushes to scrub the masonry and rinse the cleaned brickwork thoroughly.

04065 BRICK CHIMNEY (REPAIR)

Contractor shall:

1. Remove all loose mortar joints and bricks that make up the chimney. Install new bricks as necessary. Any or all new bricks shall match existing. Repair or replace cement cap.
2. Rake out all mortar and bed joints that are cracked and not bonded to brick. Wash clean and leave moist.
3. Re-set loose brick in new bed of mortar compact and tool all joints making weather-tight.

04065 4. Compact mortar in all joints and cut clean, and tool joint.
BRICK CHIMNEY (REPAIR) - continued

5. The face of brickwork shall be cleaned upon completion using a mild solution of muriatic acid. Use fiber brushes and rinse thoroughly.
6. Point up all joints so that work will be in perfect condition and rinse thoroughly.
7. If cement wash is deteriorated, it shall be replaced.
 - a) Cast in place a new three (3") inch thick cement wash to extend two (2") inches beyond perimeter of chimney. Slope down from flue.

Material delivered and to be stored on property shall be protected and placed in an area directed and approved by owner in a safe manner. It shall be placed in an area so as not to disturb or damage homeowner's property. Any damaged areas shall be repaired and or replaced at contractor's expense.

NOTE: ALL OF THE ABOVE WORK SHALL BE COMPLETED IN ALL DETAILS AND SHALL INCLUDE ALL MATERIAL AND ACCESSORIES WHETHER OR NOT SPECIFIED HEREIN IN EACH AND EVERY INSTANCE.

CONTRACTOR SHALL BE LIABLE FOR SHINGLE REPAIRS AND REPLACEMENT IF DAMAGED DURING THE COURSE OF CONSTRUCTION.

04075 MASONRY CHIMNEY

Contractor shall completely remove existing block chimney to footing.

- a) Check chimney footing to insure that chimney is at a minimum of the required depth, 42 inches below grade and that the footing is in proper condition to receive a new chimney, if not, install a new footing as per normal and customary construction practices.
 - b) Remove all construction debris from this work from job site. Contractor shall construct masonry chimney as outlined in Scope of Work.
1. Chimney shall consist of the following materials:
 - a) 16" x 16" concrete chimney blocks
 - b) 8" x 8" flue liners
 - c) Concrete footing as per NYS Building Code
 2. Bottom of chimney footing shall rest at a minimum of 42 inches below ground level. Footing size shall be 2' x 2' X 12".
 3. Installation of clean out door shall be a minimum height of 24" above ground level. Size shall be 8" x 8" minimum.
 4. Three (3) brick ties are to be used every course of block and nailed into house making sure that the nails are driven into house studs.
 5. All block work shall be set in full beds of mortar with joints, tool finish.

04075 6. All block work shall be set plumb & square.
MASONRY CHIMNEY – continued

7. Flue tile shall be set in full beds of fire clay mortar with joints stuck off smooth on the inside.
8. Installation of flashing at roof shall be .025 gauge aluminum step and counter flashing. Penetration of flashing in mortar joint must be (1") properly keyed and locked.
9. Block work shall be a minimum height of two (2') feet above ridge or any point within 10'.
10. Flue tile will extend above last block at least 6" for wash.
11. Create a cement wash (cap) on last block so water will flow away from flue.
12. **Contractor shall be liable for shingle repair and replacement if damaged during the course of the repair.**

04080 RE-POINTING EXTERIOR BRICK JOINTS

1. Joint Preparation

- a. All old mortar shall be removed to a minimum of 2 ½ times the width of the joint (a depth of approximately ½" - 1" inch)
- b. Any loose mortar beyond the minimum depth shall be removed.
- c. The use of power tools such as saws or impact hammers is prohibited.
- d. Mortar shall be removed cleanly from brick, leaving square corners at the back of the cut.
- e. Before filling the joints they should be rinse with a jet of water to remove all loose particles and dust.

2. Mortar Preparation

- a. Mortar shall be mixed carefully to obtain uniformity of visual and physical characteristics.
- b. The use of additives such as antifreeze, salts, etc. is prohibited.
- c. Mortar mix shall be one (1) part white Portland cement, three (3) parts masonry lime, six (6) parts masonry sand or Part Type M.
- d. Ingredients should be measured by volume and thoroughly mixed before the addition of any water. Half the water should be added and mixed before adding additional water.

3. Filling the Joint

- a. Where existing mortar has been removed at a depth of greater than (1") inch, these areas shall be filled first.
- b. Mortar shall be applied in layers of approximately ¼" inch, packing mortar into the back corners.
- c. When the final layer of mortar is thumb-print hard the joint should be tooled to match the historic joint.
- d. After tooling, remove excess water from edge of the joints by brushing with bristle brush.

METALS SECTION

05010 GUTTERS AND LEADERS

Contractor shall install new 5" inch seamless white baked enamel finished aluminum gutters and required 2" x 3" baked finished aluminum leaders as manufactured by **Alcoa Aluminum** or approved equal. AS SPECIFIED IN SCOPE OF WORK.

1. All gutters shall be installed using Alcoa type or an approved equal; use concealed strap hangers / fascia brackets on plumb fascia boards and strap hangers on angled fascia; spacing shall not be more than (2') feet O.C. **(The use of spikes and ferrules is prohibited)**
2. All end caps and other connections shall be sealed with a liquid sealer and pop-riveted as recommended by the gutter manufacturer. **(The use of screws in making connections is prohibited)**
3. All leaders emptying on the ground shall end with an elbow and have a splash block placed under them to direct the runoff away from the structure. Leaders are to be a maximum height of (12") inches above splash block.
4. Leaders are to be attached to the side of the structure with the use of matching aluminum gutter straps secured to the wall.
5. The use of "steel" nails or drywall screws is prohibited.

NOTE: Straphangers shall be fastened under the shingles.

05020 COVER FOR WELL PIT & SUMP PUMP PIT

(See Section 16, Plumbing, for Well, Pump and Pit specifications)

Contractor shall have a steel lid made for covering all Well and Sump Pump Pits.

Material specification:

1. 1/4" Diamond plate steel.
2. Include two (2) grip holes, 2" X 6", or welded handles, for removal of the Pit Cover.
3. Include two (2) 1" x 1" x 1/8" angle ribs welded to the bottom of plate for strength and shifting of this plate form over the opening.
4. Diamond Plating shall be slotted to receive the supply pipe from the pump in the well.
5. Plate must be completely painted with a rustproof metal primer or be corrosion resistant.

05025 WROUGHT IRON RAILING

The Contractor shall install wrought iron railings as per the Scope of Work

1. The railing height shall comply with the NYS Building Code.
2. The railing shall be securely supported by:
 - a) Embedding post in concrete
 - b) Welding post to plate secured in concrete.
 - c) Bolting rails to wood. **NOTE: Bolting railing to concrete is Prohibited**
3. The railing shall be painted with a rust prohibitive paint or be corrosion resistant. (See Section 15, Painting, 09000)

05030 ALUMINUM RAILING

The Contractor shall install a new acrylic finished aluminum hand rail as per the Scope of Work. The handrail shall be manufactured by **Napco**, or approved equal.

1. New railings and posts shall be properly anchored as recommended by manufacturer's specifications.
2. New material shall be paint-finished before leaving the manufacturing plant. After setting the railing, touch up all abraded areas.
3. Railing and posts shall be installed in a rigid manner, plumb, square and true.
4. Railing shall be as selected by the homeowner as to type, color and design prior to installation.
5. Railing shall include all necessary accessories, end stop post shall have lamb's tongue bracket installed.

05035 METAL EXTERIOR STAIRWAY- BUILT-IN-PLACE

1. Contractor shall supply all materials and labor necessary to construct stairway.
2. Materials to be used are as follows:
 - a.) 24" wide, 9" deep grating tread.
 - b.) Safety Nosing.
 - c.) Stringers, to be made of channel iron.
 - d.) Closed risers
 - e.) 1 1/4" pipe railing.
 - f.) 3' x 4' grated platform.
3. All materials are to be zinc coated steel conforming to ASTM A446.

A. Fasteners:

1. Conceal bolts and screws wherever possible.

05035 METAL EXTERIOR STAIRWAY – continued

2. Use countersunk heads on exposed bolts and screws with ends of bolts and screws dressed flush after nuts are set.

B. Welding:

1. Structural steel, AWS D1.1 and sheet steel, AWS D1.3.

2. Where possible, locate welds on unexposed side.

3. Grind exposed welds smooth and true to contour of welded member.

4. Remove welding splatter.

C. Remove sharp edges and burrs.

D. Fit stringers to head channel and close ends with steel plates welded in place where shown.

E. Fit face stringer to newel post by tenoning into newel post, or by notching and fitting face stringer to side of newel where shown.

F. Shop Prime Painting: Prepare surface and apply primer as specified for ferrous metals in Section, PAINTING.

6. Stairway must meet all local and state requirements.

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CARPENTRY - ROUGH

06000 FRAMING LUMBER

1. All framing shall be #2 or better K.D. Hemlock, Dug Fir, Spruce-Pine-Fir (SPF) construction grade or better.
 - a. Material shall be free of loose knots, cracks, holes, and warps.
 - b. Framing lumber for studs, girders, beams, posts, columns and other load bearing members shall be of sufficient strength and rigidity to support the design load without exceeding the allowable stresses in conformance with the New York State Building Code.
 - c. Lumber shall be surface finished on all four sides.
 - d. No economy grade or Southern Yellow Pine (SYP) studs, except for Treated Lumber, will be accepted.

06020 FLOOR JOIST REPAIR

1. If any existing floor Joist is soft, twisted, deformed, split, then they must be replaced with beams of the same size and dimension. Contractor shall remove all rotted or damaged wood.
2. New wood floor Joist, Box Joists and Girders are to be installed level in place of those removed.
3. New floor joists will be sistered alongside existing joists.
4. New joists are to have full bearing on each side as per NYS code or engineered drawings.
5. New joists are to be securely nailed to existing beams and supports.
6. All bridging, wires, pipes or other items disturbed are to be replaced.

06030 GIRDER SUPPORT (LALLY) COLUMN REPLACEMENT

Contractor shall replace deteriorated girder columns as outlined in Scope of Work.

1. **(Lally)** Column shall be concrete filled metal with top and bottom plates securely anchored to girder and to concrete base.
2. If main carrier beam is sagging, contractor shall jack up to insure that floor is reasonably level; before installing new column. Contractor is responsible for any damage caused by jacking.
4. Column shall sit on a 16" x 16" x 8" concrete pad.

06050 FLOOR FRAMING

Contractor shall make all necessary repairs to insure that floor system is sound. Installation shall include removal and replacement of all deteriorated floor members as outlined in Scope of Work.
FLOOR FRAMING - continued

1. New joists shall be laid 16" inches O.C. with a nominal thickness of two inches and the same width as existing joists unless otherwise noted in Scope of Work.
2. Joists shall be doubled under all partitions, around stairwells, chimneys and other openings where unusual loading occurs. Check the bearing points of all existing floor joists at the masonry walls.
3. Joist hangers, if required, shall be as manufactured by **Teco** and shall be installed according to manufacturers specifications.
4. All wood floor framing shall be completed with normal and customary construction practices and according to NYS Residential Building Code.

NOTE: See Specifications #06000 (Wood Framing Lumber).

06065 REPAIR OF PLYWOOD SUB-FLOORING

Contractor shall remove all deteriorated floor sheathing as outlined in Scope of Work. **The use of OSB, MDF or Particle board is Prohibited.**

- a) All new plywood shall be Dug Fir or SPF (Spruce – Pine – Fir), constructed with exterior glue with a minimum of CDX surface. Thickness shall be as existing unless otherwise indicated in Scope of Work.
- b) Plywood shall be installed perpendicular to floor joists and stagger joints minimum of 24" and preferred 48" every other row. Plywood shall be installed tight at all edges.
- c) Nails shall be 8D common @ 6" O.C.
- d) New sub-floor shall provide a solid level surface.

06070 WALL FRAMING

1. Contractor shall make all necessary repairs to wall framing as outlined in Scope of Work.
 - a. WALL STUDS shall be 2" x 4" minimum dimension, 16" inches on center (OC) unless otherwise indicated in Scope of Work.
 - b. All SHOES & PLATES shall be of minimum dimension of 2" x 4" - (Use longest length possible). Top plate shall be doubled and interlocking at corners and wall sections.
2. All wall studs are to be installed plumb and square securely toe nailed to the shoes and plates.
3. HEADERS over window, door openings or other spans requiring large openings shall be sized adequately for the span and all loads imposed on them as per NYS residential Building code.

NOTE:
06075

All framing shall be installed with appropriate nails and fasteners.
REPAIR SHEATHING

Contractor shall replace all deteriorated sheathing to include but not be limited to the following:

1. Removal of siding to expose an area large enough to evaluate structural framing.
2. All deteriorated wood framing shall be removed and replaced as necessary.
 - a. In the event that termites or ants are present, the area shall be fumigated prior to closing the wall.
3. New CDX wall sheathing shall be installed same size as existing. **The use of OSB is strictly prohibited.**
6. The contractor shall install #15 felt paper and replace siding. All necessary painting shall match.

06080

ROOF RAFTERS

Contractor shall install new roof rafters as stated in Scope of Work.

1. All rafter material to be used shall be 2" X 8" minimum K.D., # 2 Dug Fir or SPF construction grade or better.
2. All ridge beam material shall be 2" X 12" minimum, K.D. # 2 Dug Fir or SPF construction grade or better.
3. Collar Ties shall be placed on every third set of rafters. Kings legs shall be installed under every ridge beam joint and if possible at 10' O.C.
4. All saw cuts are to be true and tight fitting, with no over-cutting at the birds mouth of each rafter.
5. Material shall be free of unusually long checking, loose knots, cracks, and holes or warping, and must be of proper size to carry dead and live load as outlined in N.Y. State Building Code.

06085

RAFTER REINFORCEMENT

Contractor shall install collar tie beams joined to existing roof rafters and reinforce all damaged rafters with new full-length rafters, or as per stamped engineered drawings.

1. Collar tie beams shall be new 2 x 6 K.D. wood and installed 32 inches on center (OC).
2. Top edge of collar beams shall be a minimum of three (3') feet down from the ridge.
3. Reinforcement rafters shall be the same as the existing rafters and installed with ends properly cut plumb and level, resting on the top plate and against the ridge beam and joined together using 10d common nails in a staggered 16" OC pattern.

4. If cracked rafter is sagging, contractor shall jack up rafter to insure that rafter is reasonably straight before installing reinforced new rafter.

06090 ROOF SHEATHING

1. Roof sheathing shall be standard grade CDX, exterior glue plywood, see Scope of Work for thickness.
 - a. Plywood shall be installed perpendicular to rafters and joints staggered every other row at 48".
 - b. Nails shall be 8D common @ 6" O.C.

06095 CONSTRUCTION OF ATTIC KNEE WALL

If the contractor shall construct knee wall in attic area to remove sagging weak roof system.

1. Materials are to be kiln-dried construction-grade Dug Fir or SPF 2" x 4"s.
2. Knee wall shall have a shoe and top plate with studs that are placed directly under each roof rafter. **Nailing the stud directly to the side of the rafter is Prohibited.**
4. Knee wall shall be constructed on both sides of roof systems.
5. Knee wall in attic shall be constructed as a one piece unit; care shall be taken that knee wall will rest on bearing wall where possible.

06100 REPAIR / REPLACE - FASCIA / SOFFIT

Contractor shall repair / replace all deteriorated fascia and soffit boards on house and porch roofs as specified in Scope of Work.

1. Contractor shall remove all deteriorated or rotted wood in the cornice, fascia and soffit boards.
2. Contractor shall replace with #2 pine or with material in kind, of the same dimension, type of wood, profile and size of the original pieces, keeping with existing design and dimension and re-nailing all loose boards.
3. Remove any flaking or loose paint, using HUD's Safe Work Practices if required. Caulk all open joints (1/8" or less) with latex acrylic caulk. All new fascia boards and soffits shall be painted with a non-lead exterior latex paint. All bare wood shall be painted with a non-lead exterior latex primer before finish coat is applied as per instructions under exterior wood painting. See Section 21, Standards for Lead Hazard Reduction of this manual.

NYS Historic Preservation (SHPO) and the City of Newburgh Architectural Review Commission (ARC) requirements:

4. If Corbelling is deteriorated to a point of being un-repairable, the use of Fypon Corbelling (urethane foam), as manufactured by **Fortune Brands Home and Hardware group**, or approved equal, is an acceptable method of replacement.
5. If Crown Moldings are deteriorated to a point of replacement, new moldings should match as

close as possible to the original moldings.

06105 CONSTRUCTION OF FASCIA - SOFFIT

Contractor shall supply and install all material and labor necessary to construct new fascia and soffit on existing house and:

1. Add necessary 2" x 4", minimum, SPF or Dug Fir to repair all deteriorated rafter tails, to keep with existing roof line and design.
2. Install new fascia board. New material shall be 1 x 6 #2 white pine. Fascia boards are to be wrapped with aluminum.
3. Install all necessary materials to install vented vinyl soffit to the house.
7. Vented vinyl soffit shall be the standard U-grooved design, installed at right angles to the building according to manufacturer's directions.
6. "F" channel and "J" Molding and trim on soffits shall fit as tight as per manufacturer directions.
7. **The use of drywall screws on any / all exterior work is strictly PROHIBITED.**

06110 FURNACE / UTILITY ROOM REPAIR

Contractor shall repair the furnace / utility room as stated in Scope of Work.

Contractor shall:

1. Remove all debris from area of work.
2. Repair all deteriorated Type X drywall as per section # 06405 Gypsum board repair and 06410 Fireproofing Furnace Room / utility Room or install 5/8" Type X 3/4 hr. fire rated sheetrock on all walls and ceiling to achieve NYS Residential Building Code, Chapter 24 compliance.
3. Tape and compound all joints to a finished product.
4. Install fire "B" Label door & jambs with self-closing hinges and passage lockset as manufactured by Schlage or approved equal.
8. Install fresh air vent - Air vent to be a minimum of 4" x 10". Pipe shall be installed vertically on interior wall with a minimum of 12" from finish floor and exit wall approximately 6' from floor. A screened louver shall be installed over existing opening. Inside of pipe shall be flush with sheetrock and interior opening covered with a screen.

NOTE: Electrical and plumbing is not part of the work unless stated otherwise in Scope of Work. Contractor shall coordinate work with electrical and plumbing contractor.

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CARPENTRY - FINISH

06200 REMOVAL OF LATH AND PLASTER or Drywall

1. Room must be sealed off with plastic and tape during the demolition similar to that of LBP Safe Work Practice. See Section 21, Standards for Lead Hazard Reduction of this manual.
2. Contractor shall safely remove all deteriorated wall materials (Lath, plaster, wall board, etc.) entirely to the wall frame as outlined in Scope of Work.
4. All nails and fasteners shall be removed leaving studs and other framing members clean.
5. Contractor shall remove all debris from premises and dispose of legally.

06210 WOOD PANELING

- 1) Contractor shall supply all material and labor necessary to complete job.
- 2) All nails used are to be a matching color and long enough to penetrate wood studs for solid nailing. Nails are to be placed in the wall studs.
- 3) Paneling shall be in heated area for a minimum of 48 hours before installation.
- 4) Paneling shall be hung plumb and secured flat to the wall with no rippling of/in the paneling.
- 5) Before panels are placed on wall, the sheetrock walls are to be painted where the paneling joints will meet. Color shall match joints of paneling.
- 6) All panels are to be glued and nailed as per manufacturer's directions.
- 7) All trim shall be installed as needed to completely finish.

06215 ATTIC LADDERS

1. Install an Attic Ladder as manufactured by Werner Century Wooden Attic Ladder – 350 lbs rated, or approved equal, as follows:
 - a) Remove the existing ladder.
 - b) If necessary, reframe the existing opening to accept the new ladder using customary and accepted construction practices.
 - c) All dimensional lumber used to reframe this opening shall be graded # 1 or better.
 - d) Installation of this new ladder shall be according to manufacturers directions
 - e) All disturbed drywall from this installation shall be repaired and finished and painted as per Sections 06405 Drywall Repair and 09010 Wall and Ceiling Painting.
 - f) Include all necessary trim, sealed or painted.

- g) Include a 2 inch thick Styrofoam fitted insulated box with re-enforced 5/8" plywood corners, for the attic side of the ladder.

06220 UTILITY STAIRS – BUILT-IN-PLACE (Interior / Exterior)

1. The construction of stairs for basement, porches or decks, etc., shall be done as follows:
 - a) Remove existing stairs.
 - b) Construct new stairs using framing lumber.
 - c) Treads are to be screwed and glued to stringers.
 - d) Treads are to be 2 x 10 Hem-Fir #1 or better.
 - e) Risers are to be cut to the appropriate width and length from 1 X 8, # 2 pine.
 - f) New stairs are to match existing layout.
 - g) New handrails are to be installed on both sides of these new Utility Stairs as per section 06235 / 06240 of this manual.
 - h) All Interior Stair Stringers are to be 2 x 12 hem-fir #1 or better.
 - i) All Exterior stair construction shall be completed using Pressure Treated (PT) lumber and appropriate, stainless steel, double dipped galvanization or epoxy coated nails or screws and ensure the proper chemical compatibility for the connections.
 - j) These built-in-place Utility Stairs shall comply with NYS Building Code.

06225 FINISH STAIR WORK

1. Contractor shall install new stairs as outlined in Scope of Work.
 - a) Rise and Run of these stairs shall comply with NYS Building Code requirements.
 - b) Stair work shall be fitted, nailed, screwed, and glued together forming a rigid structure without squeaks or vibration.
 - c) All stringers shall be of 5/4 Oak or Clear Pine.
RISERS shall be of 3/4" pine.
TREADS shall be of 5/4" installed with wood blocking glued to intersection of treads and risers. All Treads shall have 1" Bull Nosing.
 - d) Oak or Pine stairs shall be as selected by owner.
 - e) Stairs shall be installed level, (each direction) with stringers secured to wall framing.

06230 INTERIOR WOOD STAIR AND HANDRAILING REPAIR

1. Contractor shall repair all deteriorated and unsafe wood steps.
 - a) Contractor shall re-nail or screw and glue all the existing stair components as necessary or as per the Scope of Work.
 - b) Where treads are excessively worn, they shall be replaced with similar tread materials.
2. Contractor shall repair wood hand railing.
 - a) Contractor shall re-fasten and secure all railings where loose and replace brackets that are broken or missing.
 - b) Where balusters are missing or broken, they shall be replaced with similar or matching balusters.

SPECIAL NOTE: In the repair of stair and / or hand railing components: all replacement parts shall match existing in style, size, proportion and profile.

06235 EXTERIOR HANDRAILING Built-in-Place

Contractor shall install Pressure Treated (PT) wood railings as outlined in Scope of Work.

1. Railings shall be constructed of straight PT 5/4" x 6"s Top capping and 2" X 4" top and bottom cords continuous lengths shall be used. NO SPLICING.
2. Railings shall be installed on all open sides and securely anchored to PT 4 x 4 corner posts.
3. RAILINGS – The top rail shall be installed at a height of 36" inches from finished floor.
4. 2" x 2" continuous PT spindles are to be installed 5" O.C. around entire length of railing. All spindles must be screwed to railing and box with galvanized screws.
5. Coat all new PT wood with CWF or approved sealer.
6. **The use of drywall screws on any / all exterior work is strictly PROHIBITED.**

06240 HANDRAIL REPAIR (EXTERIOR)

Contractor shall repair and or replace all deteriorated wood members as outlined in Scope of Work, but not to be limited to the following:

1. All new wood shall be Pressure Treated (PT), kiln dried, construction grade # 2 or better.
2. Replacement railings and post, etc. shall match existing in dimension and design.
3. Railings and posts shall be installed in a rigid manner, plumb level and square.
4. Galvanized nails shall be used for all nailing, double dipped galvanized, epoxy coated or stainless steel screws shall be used for attachment when using screws. **The use of drywall screws on any / all exterior work is strictly PROHIBITED.**

06245 WOOD HANDRAILINGS - for Enclosed Staircases

1. Railing to be approved type standard design formed wood, wall mounted handrail for stairway.
2. Maximum distance for metal wall brackets securely mounted to existing wall studs shall be six (6') feet.
3. Length of handrail shall extend to full run of existing stair risers and shall be a one (1) section member.
4. Wood handrail shall receive one (1) coat of stain and two (2) finished coat applications of Gloss or Semi-Gloss Polyurethane.

06250 INTERIOR WOOD FLOORING REPAIR

1. Contractor shall remove and replace all deteriorated wood flooring with the same thickness, width, edge and type of wood as the existing floor being repaired.
2. Flooring shall be installed at right angles to the supporting floor joists, with closed joints, driven tightly together.
3. Flooring board joints are to be Racked (staggered) so that there will be at least two board widths between each joint.
4. Blind nail each strip with 8d annular (ring) type or 8d flooring nails. Surface nailing shall be kept to a minimum.

- a) All nail heads are to be counter sunk below finished surface.
- 5. New flooring shall be sanded level with existing and finished as necessary.
- 6. The repaired flooring shall be finished in the same manner as Section 15 – 09040 Re-finish Hardwood Floor.

06260 UNDERLAYMENT

- 1. Underlayment shall be ¼ inch A.C. plywood, unless otherwise called for in the Scope of Work.

NOTE: All subfloors shall have tight joints, solid, smooth, clean and reasonably level.

- a) Joints of each sheet of underlayment shall be staggered by a half of a sheet, where possible, and provide a smooth level surface.
- b) Proper length screws, 8" on center and 6" on the perimeter, are to be used.

06265 GENERAL PORCH REPAIR

The contractor shall make all the necessary repairs as outlined in Scope of Work to include the following:

- a) Repair or replacement of all structural decay, to include masonry piers, floor joists, decking, railing components, stair stringers, risers and treads, headers, soffits and fascia and porch ceiling.

NOTE: Contractor and OCD Rehabilitation Inspector shall inspect existing piers, support posts and floor joists. Any deteriorated members must be replaced.

- b) Rebuilding or replacing wood lattice work from grade to porch fascia board.
- c) All framing and stair / railing repair shall comply with NYS Building Code.

MATERIALS:

- a) All wood shall be kiln dried # 2 construction grade or better.
- b) Where possible, wood shall be # 2 SYP pressure treated or better.
- c) Double dipped galvanized nails / screws or epoxy coated or stainless steel fasteners shall be used throughout.
- e) **The use of drywall screws on any / all exterior work is strictly PROHIBITED.**

NOTE: Contractor shall insure that existing porch roof is adequately supported before removing or replacing columns. The contractor shall be responsible for all damages caused by his negligence.

06270 PORCH AND STAIR REPAIR

Contractor shall repair the existing porch and stair assembly to include, but not limited to, the following:

- a) Existing stair assembly, stringer, risers, treads and all railing components.
- b) Porch deck, including all box and floor joists, joist hangers, girders, support columns and piers, all blocking or bridging, tongue-and-groove flooring or PT decking and all porch railing components.

- c) All header support columns, all rafter support headers, all soffits including the porch ceiling, fascia and rafters.

06270 PORCH AND STAIR REPAIR – Continued

- d) All stair stringers are to be supported by a landing made of 4000 lbs, finished and edged concrete, 4 inches thick with 6" X 6" # 10 mesh wire placed at the center of the pad. The width of each pad shall be 12 inches beyond the outside of each stringer and 3 feet from the exposed riser.

MATERIALS

- a) All framing material shall be pressure treated kiln dried, # 2 construction grade or better.
- b) Double box frame, floor joist as existing (minimum 2" x 6" joists must include an appropriately centered supporting girder for spans over 6 feet).
- c) Floor decking shall be as existing unless otherwise written in the Scope of Work.
- d) Double dipped galvanized or epoxy coated nails or screws shall be used for all attachments.
- e) **The use of drywall screws on any / all exterior work is strictly PROHIBITED.**

CONTRACTOR RESPONSIBILITIES

1. The contractor shall remove all decayed, damaged or deteriorated material. All rubble and debris shall be removed and disposed of from site. If applicable or requested by OCD, a copy of the Certified Waste Manifest shall be given to the responsible Rehabilitation Inspector. Care shall be taken in removing material that will be reinstalled / reused.
2. The contractor is responsible for appropriately bracing the porch roof during period of construction of the porch deck and shall repair all damage if the bracing fails to hold.
3. Masonry / Concrete piers are to be checked by the Contractor and OCD Rehabilitation Inspector to insure that they are in good sound condition. If deteriorated, they shall be replaced with concrete piers as per section 06280 - b (Below).

06280 WOOD DECK (NEW)

Construction of all new wood deck and stair assemblies shall include all work items as listed, but not limited to, the following:

- 1-a) Excavation, backfill, grading, landscaping and debris cleanup.
- b) 4000 lbs Concrete mix 12" diameter pier with 2, # 5 rebar placed at the center of each, spaced 3 inches apart, running the length of each pier. 4" x 4" support posts are to be installed and properly anchored to piers by using 5/8 steel rod 8" into concrete pier and 9" into bottom center of post or secured to piers using post anchors as manufactured by "Teco". Concrete piers shall be six (6") inches above grade. Top of pier shall be tapered.
- c) All stair stringers are to be supported by a landing made of 4000 lbs, finished and edged concrete, 4 inches thick with 6" X 6" # 10 mesh wire placed at the center of the pad. The width of each pad shall be 12 inches beyond the outside of each stringer and 3 feet from the exposed riser.

- 06280
- d) Support columns either 4 inch "Lally" or 4" X 4" PT
 - e) Deck frame, decking and railing.
- WOOD DECK (NEW) - continued

MATERIALS

- 2-a) All wood shall be Pressure Treated (PT) SYP # 2 construction grade or better.
- b) Double box joist frame 2" x 10". Floor joists 2" x 10" on 16" centers.
- c) Floor decking 2" x 6" or premium grade 5/4 x 6.
- d) Joist hangers as manufactured by TECO, or approved equal, shall be installed at both ends of the floor joists.
- e) Double dipped galvanized nails / screws or epoxy coated screws shall be used for all attachments.
- f) **The use of drywall screws on any / all exterior work is strictly PROHIBITED.**

ADDITIONAL CONSIDERATIONS

1. The belt board and proper flashing against the structure must be secured by 3/8 "lag bolt with washers staggered every 16 inches on center (OC) that penetrate the framing structure.
2. 5/4" x 6" wood handrail cap properly secured to 4" x 4' posts. Posts are to be fastened with two (2) minimum 1/2 inch carriage bolts. 2" x 2" wood spindles on 5" centers are to be installed.
3. Stair assemblies shall be made with 2 x 12 treads. All risers must be equal and comply with NYS Building Code. All treads must be 11" and attached with the appropriated screws as in "2-e" of this section.
4. A concrete pad as in "1-c" of this section shall be poured to rest stringers on.
5. All material must be properly sized as required by NYS building code.
6. All wood shall be coated with CWF or approved sealer.

C A R P E N T R Y- G E N E R A L

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CARPENTRY- GENERAL

06300 KITCHEN REMODELING and Repair (use the appropriate sub sections for repair work)

Contractor shall remodel kitchen to include all work items as listed. This work shall include but not be limited to the following:

1. Demolition – to include but not limited to, all the existing base and wall cabinets and counter tops or as per the Scope of Work. Any drywall ceilings or walls or wood, vinyl tiled or ceramic flooring
2. The installation of new countertops and cabinets.
3. The installation of any /all necessary framing and blocking.
4. Repairing of all holes and damaged surfaces to walls and ceilings.
5. New flooring as per the Scope of Work
6. New gas range / oven with a new corrugated stainless steel tubing (CSST) gas supply, installed by a certified installer.
7. Supply a new range exhaust hood with exterior venting. Include a new electric outlet for this range hood.
8. New stainless steel sink and kitchen faucet with spray as manufactured by **Geber** or approved equal.
9. Install new drywall where required; taping and spackling, three (3) coats, to a finish coat and preparing for paint as per section 10, # 06400 - Installation and Finishing of Drywall and Section 15, Painting 09010 and 09030 of this Code Book.
10. Plumbing work shall include the installation of new sinks, faucets, copper or PEX water lines and chrome supply tubes and shutoff valves, vents and waste lines as per Section 18, Plumbing of this Code Book.
11. Electrical work shall comply with Section 20, Electric of this Code Book and with the National Electrical Code (NEC) for new wiring switches, receptacles, ceiling light fixtures, range hood, exhaust fan and Electric Range connections and any or all other electrical work shall be completed by a Orange County and the appropriate municipal licensed electrical contractor.
12. Installation of R-13 Kraft faced fiberglass insulation in any and all exterior open wall / ceiling stud cavities.
13. Painting of all walls, ceiling and wood items shall consist of one (1) coat primer and two (2) coats of finish paint as per the Painting Section 09010 and 09030.

A. ELEMENTS OF WORK

1. Cabinets as manufactured by KraftMaid Cabinets or an approved equal
 - a) New finished base and wall cabinets are to be furnished and installed. All required filler strips, end panels and moldings shall be installed for a tight fit to walls and ceiling, as per Scope of Work.
 - b) When necessary install the appropriate 2" X 6" wood blocking, necessary for the attachment of wall and base cabinets to the wall studs by:
 - 1) Removing the necessary / appropriate width and length of drywall.
 - 2) Installing the blocking.
 - 3) Reinstalling the drywall after attaching the blocking to the wall studs..
 - b) All cabinets are to be securely screwed to framing with the appropriate length screws; all styles screwed together. **The use of drywall screws is strictly PROHIBITED for all cabinet work.**

- 06300 KITCHEN REMODELING or REPAIR – continued
2. Countertops
 - a) New Post Form high heat and abrasion resistant plastic laminated countertops, as manufactured by **Formica brand** or **Wilsonart HD** laminate or approved equal, and all moldings, shall be furnished and installed.
 3. Kitchen Sink and Faucet
 - a) **Steel Kitchen Sink**, or an approved equal, with **Delta Chrome Single Lever Deck Handle Kitchen Faucet with Sprayer**, or an approved equal shall be installed as per the manufacturer's directions.
 - 4) Floor Covering (SEE Section 10, Code # 06450 & 06455 of this manual)
New vinyl floor covering shall be installed in kitchen area as follows:
 - a) Color, design and pattern shall be of owner's choice.
 - b) Sheet vinyl flooring as manufactured by **Armstrong** or **Congoleum** or an approved equal and installed as per the manufacturers directions.
 - c) Vinyl Adhesive Tile (VAT) flooring as manufactured by **Armstrong, Tarkett, Inc., Mannington Mills** or an approved equal and installed as per the manufacturers directions.
 - d) When new base cabinets are being installed or as per the Scope of Work, all flooring shall be installed so that it fits completely, wall to wall, under each base cabinet, refrigerator or existing dishwasher. This will prevent future movement or separation of sheet vinyl / tile joints and ensure an even and level counter top surface.
 - e) Adhesives used and applied shall be as per the manufacturer's directions.
 - f) All flooring transition moldings are to be included.
 - g) ¼ inch AC Interior Plywood underlayment shall be installed as the sub-floor for the new sheet vinyl. Attachment shall consist of nailing with a resin coated or annular type nail, in an 8" X 8" pattern in the field nailing into each floor joists and every 6" on the perimeter. The use of any particle board for underlayment is prohibited.
 - h) All subfloors shall be made tight, solid, smooth, clean and reasonably level and replaced with new where decayed.
 - i) New four (4") inch rubber cove base (manufactured) inside and outside corners shall be installed at the toe kick of each base cabinet.
 - j) Dash patch all underlayment butted joints.

06305 REFRIGERATOR and GAS / ELECTRIC RANGE with OVEN and VENTED RANGE HOOD

See Section 17, Appliances, # varies.

- a) Refrigerator shall be a Top Mount as manufactured by **Frigidaire, Whirlpool, GE** or an approved equal. All refrigerators shall be Energy Star rated.
Allow \$700.00 for the refrigerator.
- b) Gas Range shall be a free standing Energy Star rated range with oven as manufactured by **GE, Frigidaire, Tappan or Whirlpool**, or an approved equal.
Allow \$500.00 for the Gas Range.
- c) Electric Range shall be a free standing Energy Star rated range with oven as manufactured by **GE, Whirlpool** or an approved equal
Allow \$450.00 for the Electric Range.
- d) New vented range hood as manufactured by **Viking, Broan, Air King** or an approved equal, shall be supplied and installed.
Allow \$250.00 for this new range hood.

NOTE: All fixtures and accessories shall be provided new, in place and in operation condition.

06305 All materials delivered and stored on client's property shall be protected and placed in an area
REFRIGERATOR and GAS / ELECTRIC RANGE with OVEN and VENTED RANGE HOOD
continued

directed and approved by the homeowner in a safe manner. Materials shall be placed in an area so as not to disturb or damage homeowner's property. Any damaged areas shall be repaired and or replaced at contractor's expense, including landscaping.

The Contractor shall perform all the work as required in the Scope of Work in a competent skilled tradesman like manner.

06310 KITCHEN CABINET REPAIR

The contractor shall completely repair cabinets insuring proper operation as per Scope of Work.

1. All broken doors and drawers are to be repaired or replaced. Damaged sections that can be repaired are to be replaced with new wood, glued and pinned and sealed with polyurethane.
2. All broken drawer slides, hinges, knobs or other hardware are to be replaced with similar.
3. New doors, drawers, styles and mullions are to be finished to the match original cabinets.
4. All bare wood shall be refinished stained / painted and sealed.

06350 BATHROOM RENOVATION or REPAIR (use the appropriate sub sections for repair work)

The contractor shall renovate / remodel the bathroom to include all items as indicated. This work shall include, but not be limited to the following:

- a) Color, design and pattern shall be of the owner's choice.
Include all necessary demolition, patching or removal of the existing toilet, cabinet, fixtures and floor coverings to the subfloor. Remove the existing drywall ceiling, walls, wallpaper or any type of wall paneling, wall sink, cabinets, tub / shower and its doors and or enclosure and trim.
- b) Framing, furring, blocking, drywall.
- c) For ADA compliance only, a new matching style 36" pre-hung door, with new hardware, trim and paint shall be installed. Include the rough framing for this door.
- d) Installation of R-13 Kraft faced fiberglass insulation in any and all exterior open wall / ceiling stud cavities.
- e) Five/eighths (5/8") inch drywall shall be installed on the ceilings and walls, finished taped, painted and trimmed.
- f) Replace the existing sink, fixtures and cabinet or pedestal sink, or wall mounted sink with a new similar sink with cabinet or pedestal sink or wall hung sink. The cabinet shall be as manufactured by **KraftMaid** or approved equal. The fixtures shall be as manufactured by **Gerber or Delta**, or as an approved equal.
- g) An American Disabilities Act (ADA), **Energy Star** approved high-efficiency, low-flush toilet that have a flush rate of 1.6 gallons per flush, or less Water Closet as manufactured by **Kohler**, or approved equal. (See Section 18 Plumbing, code # 12040 Water Closet replacement of this manual)
- h) As per the Scope of Work, Install an ADA approved five (5') foot Shower Stall with Grab Bars and a Seat shall be installed as per the manufacturer's directions;
or

06350

BATHROOM RENOVATION or REPAIR - continued

- i) Replace the existing Bathtub and fixtures with a steel tub as manufactured by **Kohler, American Standard** or an approved equal. Include a Fiberglass Enclosure (wall surround see code # 06360 of this section next page) and a Shower Curtain Rod for the new Bathtub.
- j) Bathtub / Shower fixtures are to be as manufactured by **Delta Scald-Guard** or an approved equal. New cold and hot water lines with shut-off valves and new "P" traps shall be included for the Bathtub and or Shower.
- k) Bathroom sink to be used with a cabinet shall be a self-rimming, 19-Inch Round Centerset Drop-In Lavatory, Porcelain Enameled Steel as manufactured by **American Standard** or **Crane Plumbing** or an approved equal. Include new chrome supply tubes with chrome shut-off valves and a new "P" trap and a bathroom vanity (cabinet) as manufactured by **KraftMaid Cabinets** or an approved equal
- l) New Sheet Vinyl Flooring (SEE Section 10, Carpentry Interior, Code # 06455 of this manual)
- m) As per the Scope of Work, include a New Medicine Cabinet and Freestanding Linen Closet, (approximately 83" X 18" X 12"). Allow \$150 for the Medicine Cabinet and \$250 for the Linen Closet.
- n) Electrical work as per Section 20, Code 14001, Single Family Dwelling, or 14003 Multi-Family Dwelling, of this manual, to include new light fixture with power vent actuated by the same switch, a new dedicated G.F.C.I. outlet, as per the NEC.
- o) Install Grab Bars located in the Bathtub / Shower and Toilet areas as per the A.D.A.
- p) Paint all of the walls, ceiling and trim as per Section 15, Painting, Code # 09010 and 09030, of this manual.
- q) Include two (2) towel bars, with the appropriate 2" X 6" wall blocking for attachment purposes.

ADDITIONAL CONSIDERATIONS

Because of room layout there may be a window in the exterior wall where the Bathtub / Shower located, if this occurs the following steps are to be completed as follows:

Install a built-in-place shower using:

1. One-half inch (1/2 ") **Durock** cement board as manufactured by **USG**, or an approved equal, attached with the appropriate length epoxy coated high thread screws.
2. Install all the necessary wood blocking for all grab bars and shower seat as per the A.D.A. these grab bars and shower seat shall be made of non-corrosive materials.
3. A one piece slip resistant bathtub, shower base or vinyl pan liner shall be installed on the sub-floor of the shower as per manufacturer's specifications.
4. If a vinyl pan is used, a concrete base shall be placed over the vinyl pan liner, pitched to the drain before installing slip resistant 2" X 2" ceramic tiled floor See Section 10, Carpentry – Interior, # 06470 Ceramic Tile Repair of this manual.
5. Install matching 4" X 4" ceramic tiles on the Bathtub / Shower wall area.
6. All grouting shall be sealed with a silicon sealant.
7. Include a shower curtain rod and curtain.
8. Include a non-scalding shower fixture as manufactured by **Delta Scald-Guard** or an approved equal.
9. This gut renovation must be completed in five (5) working days; Starting on a Monday and ending at the end of the business day on Friday; **work on any**

weekend is strictly prohibited.

10. All work shall follow A.D.A. compliance.

06360

TUB ENCLOSURE

Contractor shall install new acrylic tub wall as manufactured by **Aqua Glass**, or approved equal, by the following:

1. Removing all existing tub surround sections, including any existing shower door assemblies and or curtain rod and bath / shower fixture trim ring and faucet; save for reuse if called for in the Scope of Work.
2. Repairing all water damaged wall sections behind or around the existing surround walls, to include but not limited to, the drywall or plaster, insulation if on an exterior wall, and wall frame.
3. Install the new tub surround as per the manufacturer's directions.
4. Caulk all joints with a bathroom silicone as manufactured by **GE** or approved equal, between tub wall and tub as per the manufacturers directions.
5. Repair the finish around new surround as necessary.

CARPENTRY-INTERIOR

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CARPENTRY - INTERIOR

06400 INSTALLATION AND FINISHING OF DRYWALL

1. Contractor shall furnish and install all materials and labor to complete the work as outlined in Scope of Work.
2. MATERIALS
All materials herein specified shall be as manufactured by **USG, Goldbond** or approved equal and shall be applied in accordance with the **6th edition of the USG Gypsum Construction Handbook**
 - a) Wall board installed in bathrooms shall be as manufactured by **USG Sheetrock brand Mold Tough Gypsum Panels** (green faced brown paper backing) or an approved equal.
 - b) Drywall installed in garages and or furnace rooms, shall be 5/8" type "X" gypsum board with a 3/4 hour fire-rating, or greater, as required by local and/or NYS Building Code.
 - c) Joint compound shall be **USG Sheetrock** brand joint compound or an approved equal, with a finish as per level 4 or 5 according to the USG 6th edition, Gypsum Construction Handbook for all interior rooms and level 2 for garages and level 1 for fire proofing.
 - d) Joint reinforcement shall be **Sheetrock Brand Joint Tape** or an approved equal.
 - e) Metal corner beads shall be installed on all outside corners all other corners shall be taped.
 - f) Fasteners shall be 1 1/4", minimum, high thread screws.
3. INSTALLATION
Drywall shall be installed as per the **6th edition of the USG Gypsum Construction Handbook**.

NOTE: The contractor shall insure that the area in which drywall being installed is adequately heated. Temperature shall be maintained at not less than 55 degrees during and following joint treatment application.

06405 GYPSON BOARD REPAIR

1. Contractor shall furnish and install all materials and labor as per section 06400 of this manual, to complete the work as outlined in Scope of Work.
2. All materials herein specified shall be as manufactured by **USG, Goldbond** or approved equal and shall be applied in accordance with the **6th edition of the USG Gypsum Construction Handbook**.
3. Joint compound shall be **USG Sheetrock brand joint compound** or an approved equal, with a finish as per level 4 or 5 according to the **USG 6th edition, Gypsum Construction**

Handbook for all interior rooms and level 2 for garages and level 1 for fire proofing.

- 06405 4. Joint reinforcement shall be Sheetrock Brand Joint Tape or an approved equal.
GYPSUM BOARD REPAIR continued
5. Fasteners shall be 1 1/4", minimum, high thread screws.
6. All damaged areas in the drywall are to be cut out stud to stud, and new drywall installed.
7. Joint compound shall be USG Sheetrock brand joint compound or an approved equal, with a finish as per level 4 or 5 according to **the USG 6th edition, Gypsum Construction Handbook** for all interior rooms and level 2 for garages and level 1 for fire proofing.

NOTE: The contractor shall insure that the area in which drywall being installed is adequately heated. Temperature shall be maintained at not less than 55 degrees during and following joints treatment application.

06410 FIREPROOFING BOILER / FURNACE ROOM / UTILITY ROOM

Contractor shall perform the following to fireproof furnace room.

1. Contractor shall install 5/8 type X fire rated sheetrock on walls and ceiling as per section 06400 of this manual.
2. Joint compound shall be **USG Sheetrock brand joint compound** or an approved equal, with a finish as per level 4 or 5 according to the USG 6th edition, Gypsum Construction Handbook for all interior rooms and level 2 for garages and level 1 for fire proofing
3. A 90 minute, "B" rated fire door with a self closer device and passage lock as manufactured by Schlage or an approved equal, shall be installed.
4. Air ventilation shall be provided and installed by the minimum formula of 1 cubic foot for every 20 BTU / hour, as required to operate the furnace / boiler / water heater. A common rule is 1 sq. inch of venting near the floor for every 1,000 BTU/hr. In cases where a trap is created to minimize the cold draft, one square inch of opening is required for every 4,000 BTU.
Piping shall be installed vertically on wall with a minimum of 12" from furnace floor and exit wall approximately 6' (feet) from floor. A screened louver shall be installed over exterior opening and over the interior opening.

06415 HEATING UNIT FIREPROOFING

Installation of 5/8" Type X Drywall around heating units shall be as per Section 06400 of this manual

1. All pipes and wires obstructing installation on wall and ceiling are to be relocated.

- 06415 HEATING UNIT FIREPROOFING continued
2. All penetrations through this drywall shall be at a maximum of 1/8 inch greater than the diameter of each necessary penetration. (1/8th larger than the pipes diameter)
 3. All penetrations shall be caulked with a fireproof caulk as manufactured by **3M Fire Barrier Sealant**, or an approved equal.
 5. Fasteners shall be 1 1/4", minimum, high thread screws.
 5. See Section 19, Heating, # 13000 - General Requirements for All Heating Units
- 06420 FIREPROOFING GARAGE
1. Contractor shall install and finish 5/8 type X fire rated sheetrock on walls and ceiling as per Section 10, Carpentry – Interior, 06400 of this manual.
 2. A 90 minute, "B" rated fire door with a self closer device and passage lock as manufactured by **Schlage** or an approved equal, shall be installed.
 3. Paint all the trim and any installed doors, including fire doors, as per Section 15, "Painting", of this manual; color to match the existing finish.
- 06425 ACOUSTIC TILE CEILING (REPAIR)
1. Contractor shall make all necessary repairs as outlined in the Scope of Work and as specified below.
 2. All damaged tiles shall be removed and replaced with a similar tile. Deteriorated wood furring strips are to be re-nailed or replaced as necessary.
 3. Replacement tile finish, texture, and color shall match existing as closely as possible and be approved by homeowner prior to installation.
 4. Tile shall be installed with staples and adhesive. Whenever possible, no surface nailing or stapling is permitted.
 5. In areas where tiles are sagging and coming loose from the furring strip, re-nail the loose furring strips and re-staple the loose ceiling tiles.
 6. Upon completion of ceiling repair, the entire ceiling shall be painted as per Section 15, Painting, of this manual.
- 06430 ACOUSTICAL TILE CEILING
- A. Contractor shall supply and install a new acoustical tiled ceiling as outlined in the Scope of Work. Installation shall include all trim and accessories as required.
 1. All materials herein specified shall be as manufactured by **USG, Armstrong** or approved equal and shall be installed in accordance with **the 6th edition of the USG Gypsum Construction Handbook**

2. Ceiling tile panel size shall be 12" x 12". The homeowner shall select finish texture and color.

06430 ACOUSTICAL TILE CEILING continued

3. Wood furring shall be of 1 x 3 or 1 x 4. The furring strips are to be nailed or screwed with 8D nails or 2 ¼ "high threaded screws to each ceiling joist.
 - c) The furring system shall be leveled and laid out so that partial panels of equal size finish at the perimeter on the opposite sides of the ceiling.
 - e) New ceiling moldings shall be installed, primed and painted as per Section 15, Painting, of this manual. Style and color shall be selected by the owner.

INSTALLATION NOTES - *(If Insulation is stated in the Scope of Work)

1. Contractor shall install R-19 fiberglass craft faced insulation, as manufactured by Owens – Corning, Johns Manville or an approved equal between floor / ceiling joists according to the manufacturer's directions.

06440 SUSPENDED ACOUSTIC CEILING

See page 310, Standards for Suspended Acoustical Ceilings, of the USG 6th edition, Gypsum Construction Handbook.

Also

See the Appendix in American Society for Testing and Materials (ASTM Standards, page 499).

The contractor shall supply and install all material necessary for a complete suspended acoustical tile ceiling as outlined in Scope of Work.

1. The new system shall be as manufactured by USG or Armstrong, or an approved equal, and approved by the homeowner.
 - a) The new ceiling layout shall be 24" x 48", 24" x 24", or as per the Scope of Work.
 - b) The new grid system shall be installed as per the manufacturer's directions.
 - c) The new ceiling shall be laid out so that partial panels of equal size finish at the perimeter on the opposite sides of the ceiling.
 - d) All fixtures, lights or A/C diffusers, etc shall be individually supported.

06450 VINYL ADHESIVE FLOOR TILE (VAT)

1. Contractor shall supply and install tile floor covering as outlined in Scope of Work, and as manufactured by Armstrong, Tarkett, or an approved equal.
 - a) Floor tile shall be installed according to manufacturer's specifications.
 - b) Tile shall be 12 x 12 self-sticking; color and pattern shall be selected by owner.
 - c) Include the installation of underlayment, as per Section 8, Carpentry – Finish, 06260 of this manual, if called for in the Scope of Work.
2. The color / texture transition between rooms with different floor colors / texture shall occur at

the center of the door when the door is closed.

06450 a) Tile shall extend under all appliances including refrigerator, range and dishwasher.
VINYL ADHESIVE FLOOR TILE (VAT) continued

2. TEMPERATURE AND VENTILATION REQUIREMENTS

Tile and Glue:

a) These requirements shall be as per the manufacture's directions.

3. RUBBER COVE BASE

a) New 4" inch rubber cove base shall be installed with re-manufactured inside and outside corners as required if called for in the Scope of Work.

4. CLEANING

a) Immediately upon completion of the work in each room, smears or surplus adhesive are to be removed from the floor and cove base.

NOTE: Only cleaners that are recommended by the flooring manufacturer are to be used.

5. BATHROOMS

a) The Water Closet shall be removed (See Section 18, Plumbing 12040) - to facilitate installing resilient flooring. Upon installation of the new flooring, a new bee's wax ring shall be used when reinstalling the Water Closet.

06455 SHEET VINYL FLOORING

1. The contractor shall supply and install Sheet Vinyl Flooring as outlined in Scope of Work, as manufactured by **Armstrong Luxury DIY Intermediate level**, or an approved equal. 12' foot rolls .090 gauge shall be installed according to manufacturer's specifications. Color and pattern shall be selected by homeowner.

2. INSTALLATION

a) Installation shall be as according to the manufacturer's directions.

3. CLEANING:

a) Immediately upon installation of flooring in each room, smears or surplus adhesives are to be removed from floors and base as per the manufacturer's directions.

4. FLOOR COVERING

Additional installation information as follows:

- a) Color, design and pattern shall be of the homeowner's choice.
- b) When new base cabinets, Kitchen or Bathroom, are being installed or as per the Scope of Work, all flooring shall be installed so that it fits completely, wall to wall, under each base cabinet, refrigerator, range or existing dishwasher, preventing future movement or separation of sheet vinyl / tile joints and ensure an even and level counter top surface.
- c) Adhesives used and applied shall be as per the manufacturer's directions.
- d) All flooring transition moldings are to be included.
- e) Underlayment shall be installed as the sub-floor for the new sheet vinyl as per Section 8, Carpentry – Finish, 06260, Underlayment of this manual.

- f) All subfloors shall be made tight, solid, smooth, clean and reasonably level and replaced with new where decayed.

06455 SHEET VINYL FLOORING continued

- g) New four (4") inch rubber cove base (manufactured) inside and outside corners shall be installed at the toe kick of each base cabinet.
- h) Dash patch all underlayment butted joints.

SPECIAL CONSIDERATIONS:

\$20.00 PER SQUARE YARD WILL BE ALLOWED FOR SHEET VINYL COST.

06460 REPAIR SHEET VINYL FLOORING

1. Patch cut from a scrap of the vinyl flooring from the owner. Be sure that the patch is larger than the damaged area.
2. Tape the patch over the damaged area, matching the pattern exactly.
3. Use the T-square to draw a square on the patch; make this square slightly larger than the damaged area. If possible, use the pattern on the vinyl to minimize the visibility of cut edges.
4. Cut through all the layers of vinyl at once, the scrap and the flooring.
5. Remove the damaged vinyl using a putty knife to get under the old vinyl flooring.
6. Use mineral spirits to soften the old adhesive and then scrape it away with a putty knife or a scraper.
7. Double-check the pattern and the fit, trimming as needed.
8. Trowel on some adhesive to the new patch and underside of the surrounding vinyl flooring.
9. Position the patch correctly and set it in place.
10. Roll the patch with the rolling pin. Press hard as you roll the pin to get rid of any trapped air pockets.
11. Clean up excess adhesive thoroughly.

06470 CARPET INSTALLATION

Contractor shall remove existing carpet and install new carpet and padding as selected by owner, and as outlined in Scope of Work. There is an allowance of **\$25.00 per yard** for purchase of carpet and padding.

CARPET - GENERAL

1. The contractor shall comply with manufacturer's instructions and recommendations for seam locations and direction of carpet. Uniformity of direction and lay of pile shall be maintained.
2. Seams are to be centered under doors and are not to be placed in traffic direction.
3. Carpet shall be extended under open-bottomed obstructions and under removable flanges and furnishings, and into all alcoves and closets.
4. Cut-outs are to be provided where required and edges bind cut properly where not concealed by protective edge guards or overlapping flanges.
5. Carpet, padding grade, carpet color and style shall be selected by homeowner.

CARPET INSTALLATION

1. All existing carpet and padding are to be removed from the site and disposed of properly.

06470 CARPET INSTALLATION continued

2. All sub-floor irregularities are to be repaired.
3. Carpet and padding shall be laid wall to wall in conformance with manufacturer's directions.

SEAM LOCATIONS

1. These locations shall be according to the manufacturer's directions.

06480 REPAIR OF TOUNGE & GROOVE HARDWOOD FLOORING

Hardwood flooring shall be repaired as outlined in the Scope of Work.

The following shall include but not be limited to:

1. Remove all deteriorated, damaged or buckled flooring. Replace the wood flooring with a matching and similar width and wood type, T & G flooring.
 - a. Area of work shall be free of dust, dirt and debris.
 - b. Sub-floor shall be inspected and replaced as necessary to provide a solid nailing surface.
 - c. Strip floor shall be laid over building (Rose paper) paper.
 - d. New floor shall be toothed onto existing with lapping joints.

2. NAILING

Wherever possible, Flooring shall be blind nailed as per the manufacturer's directions

- a. Countersink and fill all face nailing.

NOTE: Face nailing shall be kept to a minimum.

4. FINISHING

All new flooring shall be sanded level and smoothed with surrounding surfaces and complied with Section 15, Painting, # 09040 Re-finish Hardwood Floor of this manual.

06485 CERAMIC FLOOR

Contractor shall install a new ceramic tiled floor over new underlayment. Ceramic floor and wall tiles shall be as manufactured by Dal-tile Corporation, or an approved equal

1. Contractor shall completely remove existing floor covering and underlayment.

06485 CERAMIC FLOOR continued

2. Underlayment shall be one-half inch (1/2 ") **Durock** cement board as manufactured by USG, or an approved equal, attached with the appropriate length epoxy coated high thread screws.
3. Ceramic tile and saddle shall be set in mastic as manufactured by **Henry, W.W. Co. FPORSET034 Multi-Purpose Ceramic Tile Adhesive**, or approved equal.
 - a. Tile joints shall be set straight, level, perpendicular, and of even width not exceeding 1/16" inch.
 - b. Damaged or defective tile shall be replaced.
 - c. Tile floor shall be grouted using grout as manufactured by **LATICRETE SpectraLOCK Grout**, or an approved equal.

The grout shall be placed as per the manufacturer's instructions. The joints shall be tooled slightly concave and the excess mortar shall be wiped from the face of the tile. Indentations or depressions left in grout joints shall be re-grouted before grout begins to harden.
 - d. Tile shall be cleaned with a soft sponge and clean water until all grout is removed from tile. When grout has sufficiently set, all tiles are to be buffed with a soft rag or towel until the original luster of the tile is restored.
4. Where the bathtub abuts tile, the grout shall be dug out between tub and first course of ceramic tile and caulked with a silicone flexible caulking.
5. When tile flooring is being installed, toilet shall be removed. Toilet shall be reinstalled upon completion using new bees wax ring as per Section 18 Plumbing, code # 12040 of this manual.

06490 CERAMIC FLOOR REPAIR

Contractor shall repair ceramic floor covering as outlined in Scope of Work.

1. Contractor will remove all loose and broken ceramic tiles.
2. Surface of underlayment will be clean of all dirt and loose wood before new tiles are replaced.
3. All repair work shall follow Section 06470 (above).

06495 CERAMIC TILE INSTALLATION (TUB / SHOWER WALL)

1. Contractor shall repair or replace all loose and cracked tiles.
 - a. Contractor shall remove any / all existing wall tile that is loose and cracked and repair as per the Scope of Work. Damaged or defective tile shall be replaced.
 - b. Should the Scope of Work call the remove all wall board behind the existing ceramic tiles then the Contractor shall replace it with one-half inch (1/2 ") **Durock** cement board as manufactured by USG, or an approved equal, attached with the appropriate

length **epoxy coated high thread screws, (the use drywall screws is prohibited for this type of attachment)**, before replacing the ceramic tiles.

- d. All cement boards requiring cutting shall be cut in a neat and straight place and shall be made as tight as possible.

06495

CERAMIC TILE INSTALLATION (TUB / SHOWER WALL) continued

- e. Contractors shall seal all joints with silicone caulk and fiberglass mesh.
 - f. Ceramic tile installation and grouting shall be follow Section 06470 (above).
2. Where bathtub abuts tile, grout between tub and first course of ceramic tile shall be dug out and caulked with a silicone flexible caulking.

SIDING – Section 11

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SIDING

07000 GENERAL REQUIREMENTS - SIDING

- All siding installation and or repair must follow US / Housing and Urban Development (HUD) Lead Safe Work Practice and the US / Environmental Protection Agency (EPA) Lead Safety for Renovation, Repair and Painting (RRP rule), (see Section 21, General Requirements for all Lead Hazard Reduction Procedures, # 15000 of this manual for more information) on all residential structures built prior to 1978.
- All colors and styles are to be selected by the homeowner.
- All materials used shall be as per each section listed below and or as per the Scope of Work.
- The contractor will make every attempt to protect all landscaping.
- Trees and or shrubs that are in direct contact with the structure shall, with the permission of the owner, be trimmed back by a reasonable distance of 12 inches or more.
- All debris generated by the contractor including landscape removal shall be properly disposed of at the end of the work day it is generated.
- Before any siding or insulation board is applied, all nails or attachment devices must be removed and the nailing surface repaired to a flat plain.
- A house wrap as manufactured by **DuPont™ Tyvek® HomeWrap®**, or an approved equal shall be placed on the structure according to the manufacturers directions, before applying any foam insulation board.
- All insulation boards used shall be 3/4" insulated T & G Board, **Styrofoam Brand Extruded Polystyrene Wall Insulation** (Blue Board) as manufactured by Dow Chemical Company or an approved equal.
- Nailing into the exterior sheathing is unacceptable, when applicable. Nailing shall be placed in each wall stud.

07010 VINYL SIDING

Contractor shall install vinyl siding with aluminum fascia and trim and vinyl soffit. Vinyl siding as manufactured by **Alcoa Silhouette Classic**, or **Certainteed Classic** or an approved equal, shall have a Lifetime Warranty.

- Installation shall be as per the manufacturer's directions.
- The homeowner shall choose the color and finish of the siding and trim.
- Contractor shall install double 4" vinyl siding and all necessary trim. Installation materials shall include ¾ T&G foam insulation board, backer, and aluminum fascia with vented and solid vinyl soffit and trim.

Materials:

1. Insulation – all exterior area covered by siding and trim shall include 3/4" insulated T & G Board, **Styrofoam Brand Extruded Polystyrene Wall Insulation** (Blue Board) as manufactured by Dow Chemical Company or an approved equal. Installation shall be as per manufacturer's specifications.
2. Siding: shall be solid vinyl as manufactured by **Alcoa Silhouette Classic**, or **Certainteed Classic** or an approved equal, s equal. Color, texture and type of siding and trim shall be selected by the owner. No joints are to be closer than 36".
3. Nails: must be aluminum type. Length and spacing of all nails must be in full accordance with the siding manufacturer's specifications. Nails shall permit expansion and contraction of siding. **Nailing into the exterior sheathing is unacceptable. Nailing shall be placed in each wall stud.**

07010 VINYL SIDING continued

4. Trim: starter strips are required. Matching 1 1/8" continuous corner posts shall be used. Solid vinyl trim shall used around all windows and doors & shall include 1 1/8" J-Channel under sill and soffit trim and matching drip cap.
5. Contractor shall pack out to flush and wrap all window and door frames and other trim, with aluminum. The use of OSB or any particle boards for packing out is **PROHIBITED**. Plywood or solid boards such as pine is **permitted** for packing out trim.
6. Total edge of capping where it butts siding, window and door area shall be caulked; exterior window & door silicon caulking as manufactured by **GE 50 year** or an approved equal shall be used.
8. Soffit and Fascia - All capping materials are to be painted aluminum coil stock. All soffits shall be V-Grooved solid / perforated design installed at right angles to building. Molding and trim on soffit shall fit as tight as required by manufacturer. All existing vents are to be maintained & every third piece of soffit material shall be vented.
9. Follow directions in the Scope of Work for all Lead-Based Paint activities.

NOTE: Any decayed wood sheathing, siding, trim, rake, belt, soffit and fascia are to be repaired well enough to provide a firm nailing surface for the insulation board and vinyl siding and accessories. All bare wood shall be sealed with a latex primer. All vinyl siding shall be installed level.

07020 REPAIR ASBESTOS SHINGLE SIDING

NOTE: Only NYSDOL licensed asbestos handlers can perform work on Asbestos materials! Remove damaged sections and replace all missing sections of asbestos cement siding as outlined in the Scope of Work.

Paint color shall match existing as closely as possible, see Section 15, PAINTING, # 09020 and Section 21, Standards for Lead Hazard Reduction # 15000 of this manual.

1. Non-asbestos masonry siding of matching style shall be attached to sheathing with corrosion resistant Annular (ringed) aluminum siding nails used when installing the siding over plywood sheathing. Nails shall be long enough to penetrate into the wall studs, when possible.
2. Asphalt - saturated, coated backer strips (30 lbs. felt paper strips) are to be installed behind each vertical joint.
3. Siding shall be installed lining up with existing.
4. Caulk all siding that abuts against wood or masonry.
5. Repair any damaged or deteriorated nailing surfaces, siding or sheathing before placing the replacement siding tiles.

070430 INSTALLATION OR REPAIR OF CEDAR HANDSPLITS

Contractor shall install new # 1 cedar hand splits (cedar shakes) on the structure as specified in Scope of Work.

1. All broken and or deteriorated siding shall be removed from the building.
2. Exterior wall shall be checked for deteriorated sheathing and replaced if needed.
3. New #2 cedar hand splits (wood shakes) are to be installed to complete area.
4. Nails shall be Annular (ringed) aluminum siding nails and long enough to penetrate sheathing.
5. Paint or stain color shall match existing as closely as possible, see Section 15, PAINTING, # 09020 and Section 21, Standards for Lead Hazard Reduction # 15000 of this manual.

07040 FIBER-CEMENT SIDING

Install fiber-cement siding as manufactured by **James Hardie USA, HardiePlank® Lap Siding**, or an approved equal, with a 30 year warranty. All installations shall be performed as per the manufacturer's directions.

- The homeowner shall choose the color and finish of the siding and trim.

1. Follow the Scope of Work directions for placement of this siding.
2. Remove all existing masonry or siding covering of the building.
3. Repair all deteriorated sheathing; see Section 7, Carpentry – Rough, # 06075 of this manual.
4. All exterior area covered by siding and trim shall include 3/4" insulated T & G Board, **Styrofoam Brand Extruded Polystyrene Wall Insulation** (Blue Board) as manufactured by Dow Chemical Company or an approved equal. Installation shall be as per manufacturer's specifications. When installing the siding avoid overdriving the nails which can result in dimpling of the siding due to the compressible nature of the foam insulation/sheathing.
5. A water-resistive barrier is required in accordance with local building code requirements. The water-resistive barrier must be appropriately installed with penetration and junction flashing in accordance with local building code requirements.
6. All cutting, including the scoring and snapping technique shall be performed outside.
7. Do not use caulk at field butt joints. Install factory finished edges together at butt joints.
8. Do not use pneumatic fastening devices (air nailer).
9. Paint the fiber-cement siding as per Section 15, Painting, # 09020 of this manual.

07050

TEXTURE 1-11 PLYWOOD SIDING (T 1-11)

1. **The use of OSB T 1-11 is absolutely prohibited.** All T1-11 siding must be made from Fir Plywood.
2. The new plywood T 1-11 shall be pre-painted before installation to insure a water-proof seal of the new siding. Painting shall follow Section 15, PAINTING, # 09020 of this manual.
3. Install a house wrap as manufactured by **DuPont™ Tyvek® HomeWrap®**, or an approved equal shall be placed on the structure according to the manufacturers directions, before applying any foam insulation board.
4. All exterior area covered by siding and trim shall include 3/4" insulated T & G Board, **Styrofoam Brand Extruded Polystyrene Wall Insulation** (Blue Board) as manufactured by Dow Chemical Company or an approved equal. Installation shall be as per manufacturer's specifications.
5. Install 3/4" insulated T & G Board, **Styrofoam Brand Extruded Polystyrene Wall Insulation** (Blue Board) as manufactured by Dow Chemical Company or an approved equal.
6. Galvanized Button head nails, of a length appropriate to attach the siding to each wall stud shall be used to secure the siding to the structure.
7. Each T 1-11 joint shall fall on a wall stud.
8. Install the appropriate aluminum flashing at windows, doors or when stacking sheets over each other (Z Channel).

ROOFING – Section 12

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ROOFING

07100

STANDARD SPECIFICATIONS FOR INSTALLING STRIP SHINGLE ROOF

1. All roof areas shall receive new strip shingles as specified in Scope of Work.
2. All strip shingles three (3) tab asphalt or fiberglass roof shingles as manufactured by shall be manufactured by **GAF - Royal Sovereign or Tamko – Elite Glass-Seal** or an approved equal.
3. All strip shingles shall have a minimum of a 25-year warranty.
4. **The use of staples as an attachment device is STRICTLY PROHIBITED.**
5. Application of all the roofing materials shall be in accordance with the manufacturer's directions.
6. Remove all existing roof shingles of the entire roof.
7. Re-nail the entire existing roof sheathing. Minor repair of the roof sheathing is expected and required. Minor repair shall include up to 3 full sheets of CDX plywood, either installed as full sheets or cut into reasonable sizes, 32 "X 48" minimum. See Section 7, Carpentry – Rough, # 06075 sheathing repair, of this manual.
8. Replace all deteriorated or missing Fascia boards with similar dimensional materials.
9. Install an Ice & Water Barrier as manufactured by **Owens Corning - WeatherLock® Self-Sealing Ice & Water Barrier** Product or an approved equal, directly beneath the shingles as per the manufacturers directions and according to the NYS Building Code, 24 inches up from a perpendicular point where the interior side of the exterior wall meets the roof.
10. Install the new roof shingles through out the entire roof over 15 lbs. felt paper vapor barrier.
11. The new roof shall include a new Ridge Vent as manufactured by **Owens Corning, CertainTeed** or an approved equal and perimeter metal edging placed on all outside edges, with the shingles overhanging the edging by one inch.

Fasteners:

Roofing nails shall be 11-gauge or 12-gauge galvanized steel or the equivalent corrosion-resistant roofing nails. Nail heads should be low-profile, smooth and flat. Shanks should be barbed or otherwise deformed for added pull-out strength. Nails should be long enough to penetrate through all layers of roofing materials and extend through the underside of the roof deck or penetrate at least ¾ inch into wood plank or board decks.

Attachment requirements shall be in accordance with the manufacturer's directions. The minimum amount of nailing for each shingle shall be six (6) nails per strip shingle.

Flashings:

Flashings for asphalt shingle roof systems fall into four categories: perimeter edge metal, penetrations, valleys and vertical surfaces.

1. Perimeter edge metal: Because of the severity of climate, anticipated rainfall and freeze-thaw cycling, the use of perimeter edge metal shall be included.
2. Penetrations: Plumbing soil stacks, exhaust vents and pipes shall be flashed into asphalt shingle roof systems with some type of flat flange that extends around a penetration and is installed under shingles on the upslope of a flange.
3. Valleys: Valleys that are called "open valleys" are typically lined with sheet metal or can be weaved.
4. Vertical surfaces: When a roof system abuts a vertical surface, there are four types of flashing commonly used: apron, step, cricket (or backer) and counter-flashing.

07100 STANDARD SPECIFICATIONS FOR INSTALLING ROOF continued

Material standards:

Asphalt shingles shall meet standards established by the American Society for Testing and Materials (ASTM).

1. Organic asphalt shingles should meet ASTM D225, "Standard Specification for Asphalt Shingles (Organic Felt) Surfaced with Mineral Granules."
2. Fiberglass asphalt shingles should meet ASTM D3462, "Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules."

Time of Installation:

When the work starts, it shall continue on every normal workday so that the installation is completed quickly.

- a) Stripping of existing roof materials shall be done in sections not to exceed an area that can be reasonably re-shingled before the end of the work day.
- b) Down Time: precautions must be taken to insure that the roof is waterproof.
 1. **15 lb felt paper stapled over exposed areas is not considered adequate protection.**
 2. The contractor shall supply protective tarps that cover the exposed non-shingled roof area at the end of each work day until the installation is completed.

NOTE: The Contractor shall be held responsible for any and all damages to the property and its contents for not properly weather proofing due to negligence.

- c) Clean up: All old shingles, nails, dirt and debris are to be removed from the premises and legally disposed of. All antennas, lightning rods or other equipment originally attached to the roof are to be re-installed. Sweep the entire perimeter for nails with a magnetic broom.

07110 **SELF-ADHESIVE ROLLED ROOFING**

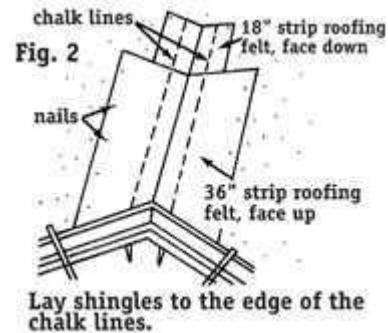
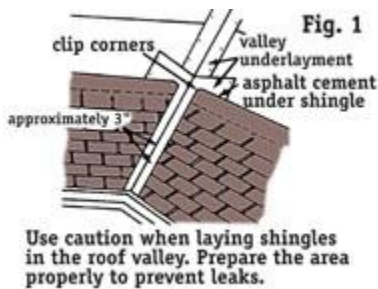
1. All roofing areas as specified in the Scope of Work shall receive a new two (2) part self-adhesive roofing system.
2. All roofing systems shall be as manufactured by **Polyglass USA – ELASTOFLEX SA**, or an approved equal.
3. Application of all the roofing materials shall be in accordance with the manufacturer's directions and have a 12-year warranty
4. Remove all existing roofing materials from the entire roof as per the Scope of Work.
5. Re-nail the entire existing roof sheathing. Minor repair of the roof sheathing is expected and required. Minor repair shall include up to 3 full sheets of CDX plywood, either installed as full sheets or cut into reasonable sizes, 32 "X 48" minimum. See Section 7, Carpentry – Rough, # 06075 sheathing repair, of this manual.
6. Replace and paint all deteriorated or missing Fascia boards with similar dimensional materials. See Section 15 Painting, # 09020 exterior painting.
7. Include new perimeter metal edging placed on all outside edges, with the roofing overhanging the edging by one inch.
8. Surface must be dry prior to new roof application.

07110 SELF-ADHESIVE ROLLED ROOFING - WITH A TWELVE YEAR WARRANTY continued

9. **Flashings:** Flashings for roof systems fall into three categories: penetrations, valleys and vertical surfaces.
Penetrations: Plumbing soil stacks, exhaust vents and pipes shall be flashed into the roof system with some type of flat flange that extends around a penetration and is installed under shingles on the upslope of a flange.
Valleys: Valleys that are called "open valleys" are typically lined with sheet metal.
Vertical surfaces: When a roof system abuts a vertical surface, there are four types of flashing commonly used: apron, step, cricket (or backer) and counter-flashing.
10. **Time of Installation:** When the work starts, it shall continue on every normal workday so that the installation is completed quickly. The contractor shall supply protective tarps that cover the exposed unprotected roof area at the end of each work day until the installation is completed.
11. **Clean up:** All old roofing, nails, dirt and debris are to be removed from the premises and legally disposed of. All antennas, lightning rods or other equipment originally attached to the roof are to be re-installed. Sweep the entire perimeter for nails with a magnetic broom.

NOTE: The Contractor shall be held responsible for any and all damages to the property and its contents for not properly weather proofing due to negligence.

07120 REPAIR ROOF VALLEYS



1. A roof valley is formed where two roofs join at an angle. You must be careful when shingling in this area - an improperly laid roof valley can easily develop leaks.
2. Valleys should be covered with a mineral-surfaced, roll roofing material (Fig. 1).
3. Place an 18" wide strip or metal flashing down the center of the valley, from the eaves to the top of the ridge.
4. Nail this material down on the outer edges only; making sure that it stays flat in the valley.
5. Place roofing cement along each edge.
6. Lay a 36" wide strip of the roofing material down on top of the previous strip, and nail its outer edges.
7. Snap two chalk lines down the edge of the valley. Start at the ridge, with the lines centered in the valley and 6" apart. As you move down the roof, spread the lines apart, about 1/8" per foot, down to the eaves.

07120 REPAIR ROOF VALLEYS continued

8. Apply shingles. Lay them down to the edge of the chalk lines; cut them to fit (Fig. 2).
9. Place the end of each shingle in roofing cement to seal it before nailing it into position.
10. Do not nail shingles closer than 6" to the chalk lines.

07130 FLAT ROOF REPAIR

Contractor shall refer to # 07110 of this Section in this manual for guidance beyond this sub-section

1. Roof area surfaces described in the Scope of Work are to be prepared as follows:
 - a) Remove existing flashing material and drip edge.
 - b) Inspect deck for decayed or defective material. Replace all such deficiencies keeping with dimensions, and nail down all loose roof deck sheathing.
 - c) Roof area surface must be free of dirt, dust and debris. Surface must be dry prior to new roofing application.
 - d) The contractor shall supply protective tarps that cover the exposed unprotected roof area at the end of each work day until the installation is completed.
 - e) All old roofing, nails, dirt and debris are to be removed from the premises and legally disposed of. Sweep the entire perimeter for nails with a magnetic broom.

07140 RE-TAR ROOF

When called for in the Scope of Work, repair all roofing leaks with plastic roof cement as manufactured by **Henry 204 Plastic Roof Cement**, or an approved equal.

1. Placement of the plastic roof cement shall be in accordance with the manufacturer's directions. The contractor shall:
 - a) Ensure that the repair is on a stable base.
 - b) That the area to be repaired is dry.
 - c) That the temperature is above the recommended degree stated by the manufacturer prior to placement.
2. Roof area surface shall be prepared as follows:
 - a) Roof area surface shall be free of dirt, dust and debris.
 - b) All blisters shall be cut, flaps folded open and thoroughly dried. Fill blister void with asphalt and return to original position and rest in place.
 - c) All buckles, ridges, folds, etc. must be cut out to ensure proper seal.
 - d) All flashing shall be secure and if deteriorated, replaced.
3. Spread plastic roof cement to provide a complete uniform coating. In areas of cut out or blisters, extra plastic roof cement shall be added.
4. Complete application of roofing system without pockets or blisters.

07150

SOFFIT VENTS

Contractor shall install under eave soffit vents to the existing soffits as manufactured by **GAF Masterflow Soffit / Undereave Vents (Intake), EAC Series** (screened aluminum), or an approved equal, as per the manufacturers directions. The minimum amount of ventilation shall be calculated by the following rule of one square foot of vent space for every 150 square feet of attic area.

1. New vents are to be properly sized for adequate ventilation of attic. Minimum size of vent shall be 16" x 4".
2. New vents are to be properly anchored to soffit and installed in accordance to manufacturer's instructions.
3. Location of vents are to be six (6') feet off of gable end and remaining vents distributed evenly along soffit at a maximum distance of 10' on center.
4. Vents will be centered in soffit.
5. Round soffit vents as manufactured by **Maurice Franklin** or an approved equal, may be used but must be placed between each rafter.
 - a) these vents must be 6-inch round screened aluminum.
 - b) fit into the hole made by a drill-type hole saw and are held in place by knobs on the side of the vent.

07160

ELIMINATION OF BUILT-IN-GUTTERS (Yankee Gutters)

1. Contractor shall remove all material related to built in gutter as per the Scope of Work.
2. New rafter ends are to be sistered (installed) as noted in the Scope of Work for creating the eaves, fascia and soffit areas and install exterior CDX plywood, see Section 7, Carpentry – Rough #'s 06000, 06080, 06085, 06090, 06105, of this manual.
 - a) Bridge existing gutters - if stated in Scope of Work. New 2 x 6" and exterior CDX plywood, see Section 7, Carpentry – Rough #'s 06000, 06080, 06085, 06090, 06105, of this manual, are to be installed to bridge existing gutter systems and keeping with existing sheathing tightness.
3. New 1" - # 2 white pine fascia board shall be installed. Width of fascia shall match the existing gables.
4. All soffit and fascia boards shall be painted as per Section 15, Painting, # 09020 of this manual. All bare wood shall be spot primed before primer coat is applied.
5. Follow Section 12, Standard Specifications for Installing Strip Shingled Roof, # 07100 of this manual.

07170 CONSTRUCT CRICKET

Construct cricket at brick chimney to divert water run off to sides as per the Scope of Work.

1. Remove all roofing materials to the sheathing. All exposed deteriorated boards / sheathing around this chimney area shall be replaced.
2. The Cricket shall be framed with 2 x 4's and the sheathing shall be ½ "Exterior C.D.X. Plywood. **The use of OSB, MDF or Particle board is Prohibited.** see Section 7, Carpentry – Rough #'s 06000, 06090 of this manual
3. Chimney shall be re-flashed with (.025) gauge aluminum flashing. Minimum penetration of flashing in mortar joints must be one (1") inch properly keyed and locked.
4. See Section 12, Roofing # 07100 of this manual for the re-roofing requirements.

INSULATION

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INSULATION

07200 GENERAL REQUIREMENTS FOR INSULATION

1. The contractor shall place Kraft or Unfaced faced insulation as manufactured by **Owens-Corning Fiberglass Insulation**, or an approved equal, in all areas defined in the Scope of Work, as per the manufacturer's directions. The use of foam insulation boards for an interior application, (excluding crawl spaces see Section 13 Insulation, # 07250 of this manual), is strictly **PROHIBITED**.
2. Insulation size shall be according to the NYS Energy Component Performance Approach:
 - A. Ceilings - R-38
 - B. 2 x 4 Walls - R-13
 - C. 2 x 6 Walls - R-21
 - D. Floors Assemblies - R-30
3. Insulation shall be proper width for opening and must be secured with staples and/or spring wire straps.
4. Kraft Faced Vapor barrier (paper faced) must face the heated area.
5. Areas that require ventilation, i.e.: roof / soffit ventilation, shall have the insulation placed according to the manufacturer's directions. In the cases of insulation filling the entire wall floor, ceiling or rafter cavity, foam ventilation, such as Rafter vent as manufactured by **Owens – Corning Rafter-R-Mate Attic Rafter Vents** or an approved equal shall be installed according to the manufacturer's directions.

These rules listed below shall be complied with when installing insulation:

- a) **Cavity Fill.** The batts should fill the cavity completely: no gaps top or bottom.
- b) **Compression.** The insulation should not be overly compressed.
- c) **Wired Area.** Insulation should be split or cut to fit around wired areas.
- d) **Plumbing.** Insulation should be placed between the outside wall and the pipes.
- e) **R-value.** The R-value should be marked on the insulation, faced or unfaced, and be visible for viewing. The R-value must meet or exceed the minimum R-value code requirements.
- f) **Stapling.** Faced batts should be stapled about every 8 to 12 inches. Either inset or face stapling is acceptable. If drywall is glued, face stapling should be avoided. High performance batts do not require stapling.
- g) **Vapor Retarder Placement.** It should be towards the "warm in winter" living area unless in extremely humid areas.
- h) **Vapor Retarder Integrity.** Tears in the vapor retarder should be taped.
- i) **Separate Vapor Retarder.** When required, cover unfaced insulation with a continuous 4 or 6 mil polyethylene sheeting.
- j) **Narrow Cavities.** Batts should be cut to fit.

- k) **Top Cavities.** Ceiling insulation should cover the top plates of exterior walls when possible.

07200 INSULATION OF FLOORS, CEILING AND WALLS continued

- l) **Electrical Boxes.** Batts should be cut to fit around electrical boxes with a separate cut piece placed behind each box.
- m) **Bay Window.** The outside wall, extended floor, and ceiling must be insulated.
- n) **Window Areas.** Every space around windows should be packed with insulation or caulked. Do not overstuff.
- o) **Door Frames.** Every space around doors should be packed with insulation or caulked. Do not overstuff.
- p) **Band Joists.** Unfaced insulation or insulation with a nonflammable facing should be used for band joists.

Ceilings and Floors

- q) **Overhangs.** These ceilings and floors also should be insulated.
- r) **Attic Openings.** The attic opening for ladders should be insulated with insulated covers or a piece of Kraft-faced R-38 batt.
- s) **Attic Cards.** A completed attic card should be placed near the attic opening when blown insulation is installed.
- t) **Attic Rulers.** When blown insulation is used, attic rulers should be installed, one for every 300 square feet of attic area. The installed thickness of blown insulation should not be less than the minimum settled thickness on the attic card.
- u) **Eave Baffles.** Baffles should be installed on eaves with vents.

General

- v) **Combustible Sources.** Keep insulation at least 3 inches away from combustible sources such as chimneys, non-IC fixtures, and heated flue pipes.
- w) **Unheated Rooms.** The walls, ceilings, and floors between living space and unheated areas should be insulated.
- x) **Tub Enclosures.** Insulation should be installed between tub enclosures and outside walls.
- y) **Exposed Facings.** A flame spread rated facing, such as a foil cap sheet, installed over Kraft, standard foil or other non-rated facing is not acceptable for an exposed application. Unfaced or special faced insulation products, such as FSK-25 insulation, are acceptable for exposed applications.

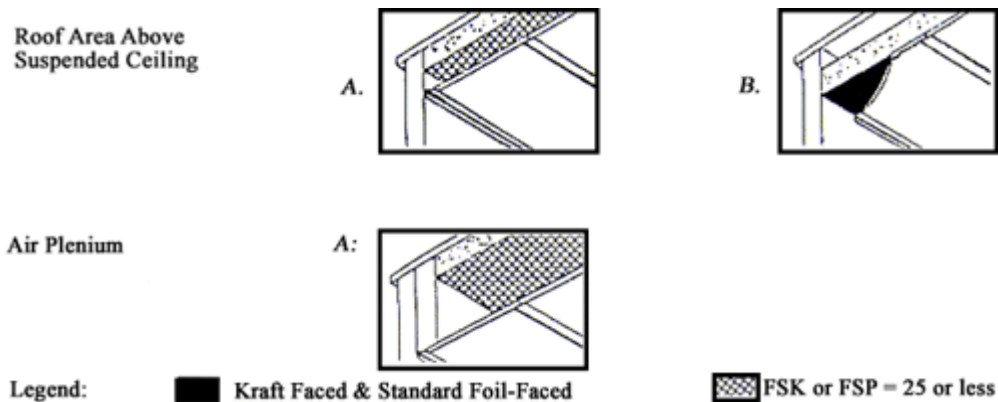
07210 INSULATE CEILING (SUSPENDED SYSTEM)

1. Install 6 inch, *Unfaced, R-19 fiberglass insulation as manufactured by **Owens-Corning Fiberglass Insulation**, or an approved equal, in all areas defined in the Scope of Work, as per the manufacturer's directions.
2. If using Kraft-Faced R-19 fiberglass insulation because of the need for a vapor barrier than the installation shall comply with the following:

07210 INSULATE CEILING (SUSPENDED SYSTEM) continued

- a) Kraft Faced Insulation shall have a Flame Spread Index = 25 or less and a Smoke Developed Index = 450 or less when tested per ASTM E 84 or UL®723. **Standard Kraft Faced batts do not conform to the requirements of any model code for exposed applications.** Their facings have Flame Spread Indices greater than 25.

Kraft facing is unacceptable in any part of the building in Types 1 and 11 construction. ICBO requirement for Types III, IV, and V construction is consistent with this interpretation. SBCCI and ICBO both provide for concealed application allowing a flame spread of up to 75, but the conditions of a "concealed" space are not defined. Most manufacturers print a fire warning label on Kraft Faced requiring substantial contact for proper application, making the interpretation above correct when a space results.



- A. Insulation, including facing, shall have a Flame Spread Index = 25 or less and a Smoke Developed Index = 450 or less.
B. Insulation must be in substantial contact with an approved ceiling construction material.

1. Insulation shall be installed on top of existing suspended ceiling system; and if required the flame resistant vapor barrier down facing heated area.
2. Batts are to be installed making reasonable contact on all sides with adjacent batts. All areas are to be insulated leaving no voids.
3. All ceiling panels are to be replaced as existing unless damaged, than replace existing tile with a similar new ceiling tile.
4. Contractor shall be certain and guarantee upon completion of the work that no empty pockets exist. If fire stops, bridging, or other construction exists, the contractor shall pack solid on either side of obstruction and complete the insulation as required.
5. Any item removed, disturbed or damaged during the course of work shall be repaired and / or replaced by the contractor to its original form.

BLOWN – IN – CELLULOSE – building envelop

Contractor shall insulate attic floor area with cellulose material to a minimum depth of 12".

1. Contractor shall repair all holes in the ceiling and exterior side walls before blowing into place loose cellulose insulation by means of a special blower and hose designed for the purpose, filling all voids and spaces of attic floor. It is important that the application machine be set as recommended by the machine manufacturer.
2. In joist areas, where soffit vents are installed, the opening from the attic into the soffit area may be blocked by batt type insulation between and at the ends of the joists. Insulation should not totally fill the space between ceiling and roof. There should be a 1 inch (2.54 cm) opening next to the roof for ventilation from the soffit area.
3. Enclosed Ceiling Cavities Installations must be made by pneumatic means and the cavity should be completely filled. This is done by inserting a fill tube into each cavity and withdrawing it as the cavity is filled. The air setting on the machine should be set as recommended by the machine manufacturer for sidewall application. Coverage will be proportional to that shown on the manufacturer's coverage chart under sidewalls, depending on the cavity size.
4. Installation into sidewall cavities must be made by pneumatic means. The air setting on the machine should be set as recommended by the machine manufacturer according to the size nozzle being used. After fill holes are drilled, all cavities should be checked for fire blocks or other obstructions with an electrician's fish tape or other similar tool. A mathematical check should be made in the first few stud space to assure that the proper amount of insulation is being installed (See Manufacturer's Coverage Chart).
5. Heaters and recessed light fixtures must not be covered by the insulation, unless the fixture has an IC rating. Local and national codes must be followed if applicable. A minimum of 3 inches (7.62 cm) of air space must be maintained between fixtures and the blocking.
6. Cold air returns and combustion air intakes for hot air furnaces must not be blocked or insulation be installed in a manner which would allow it to be drawn into the system.
7. Insulation must not contact chimneys or flues. A minimum of 3 inches (7.62 cm) of air space must be maintained with blocking used to retain the insulation.
8. The homeowner should be advised that in tightly constructed homes or when insulating existing homes which have fuel fired heating systems within the living area or basement, an air duct must be installed between the furnace room and a well ventilated outside area to provide combustion air. A local heating contractor should be contacted for proper duct size and installation.
9. Contractor shall be certain and guarantee upon completion of the work, that no empty pockets exist. If fire stops bridging, or other obstruction exist, Contractor shall drill holes on the side of obstruction to admit material and complete the insulation as required.
10. Material must be installed with uniform coverage of density and thickness. Coverage must conform to material specifications on product label.
14. Cellulose materials shall have a frame spread rating of 25 or less: "R" value shall be specified. Type and class must be specified & all bags and package coverings must be

07220 BLOWN – IN – CELLULOSE - continued

marked. All materials must comply with Federal Regulations 16 CFR Part 1209 Consumer Products Safety Commission Interim Safety Standard for Cellulose Insulation 16 CFR Part 460 FTC Trade Regulation Rule, Labeling and Advertising of Home Insulation.

NOTE: The contractor shall be responsible for clean-up of their work and any damage incurred to the dwelling and its contents as a result of the contractors negligence.

07230 INSTALLATION OF A CRAWL SPACE VAPOR BARRIER

The contractor shall install vapor barrier as manufactured by **DrySpace™ brand** with a 25 year warranty, or an approved equal, over the entire ground (dirt) area of the crawl space.

The difference between 6 mil plastic and a made for vapor barrier is that 6 mil plastic has a life of 3 – 5 years, where the made for vapor barrier has a warranty of 25 years

1. Contractor shall level ground area under crawl space. Rocks and other construction are to be removed to insure that the vapor barrier shall not be damaged.
2. A vapor barrier shall be installed over entire area. The plastic shall touch the crawl space walls with the joints shall be taped with **Waterproof Seam Tape™**, or an approved equal, or lap six (6") inches, and held in place with **Foundation Seal Tape™** or an approved equal or 1" of mason grade sand, or 1 ½ "flat cement blocks, or bricks through out the entire perimeter of the crawl space.
3. Any tears or holes punched in the vapor barrier around the perimeter of the crawl space are to be patched and taped with **Waterproof Seam Tape™** or an approved equal and held in place with one (1") inch covering of sand.

07240 INSULATE CRAWL SPACE WALLS

The remove all wet insulation before beginning this work is mandatory.

1. The contractor shall install a vapor barrier as in Code Item # 07240 (above) if called for in the Scope of Work.
2. Contractor shall install R-19 unfaced fiberglass Batt insulation on crawl space floor joist cavities. (See this Section, # 07200 of this manual for details)
3. Close foundation vents permanently with a cement block and install either internal ventilation or acceptable exterior supplied ventilation.
4. Install rigid foam or spray foam insulation on the above grade foundation walls.
5. Install R-19 fiberglass insulation in the rim (band) joist area.
6. Install DrySpace vapor barrier on the floor and walls.
7. Caulk all cracks in the foundation and at the mud sill.

DOORS & WINDOWS

08010

INSTALLATION OF PRE-HUNG METAL EXTERIOR DOOR

1. **Specifications:**

Door shall be 1 3/4" thick metal pre-hung exterior door as manufactured by either **Jeld-Wen** or **Masonite** or an approved equal and installed as per the manufacturer's directions.

- a) Door design shall be as selected by homeowner.
- b) The color of the paint shall be selected by the homeowner and applied by the contractor according to Section 15, Painting, # 09020 and 09030 of this manual.
- c) Threshold shall be as manufactured aluminum with factory installed vinyl sweep with aluminum sill or aluminum sill with vinyl bubble.
- d) All "Special Order" doors shall be determined by the contractor at the time of their pre-bid inspection. It is not the policy of OCCD to determine whether a product is, or is not, a "Special Order" item. **All pre-hung doors must be a manufactured item. Any attempt to modify either the door and / or jamb on site will not be accepted or paid for by OCCD.**
- e) All per-hung exterior doors must have the **Energy Star** rating label attached at the time of inspection

2. **Installation**

The pre-hung door unit shall be installed plumb, jamb head level and square to itself from the wall it is placed in. It shall be placed in the rough opening with equal margins at each jamb, normally 1/2 inch on each side.

The contractor shall inspect the rough opening and make all the necessary repairs and adjustments before installing this new pre-hung door.

The contractor shall place a minimum vapor barrier of 15 lbs. felt paper, on all 4 attachment areas, sill, 2 jamb sides and the header.

Each jamb shall be packed out to snug / plumb using cedar shakes only, being careful not to bow the jamb. Double nailing shall be placed at each pack out.

- a) The doors shall fit tightly against each stop and have no play in strike plate/lock assembly.
- b) Contractor shall install new entry lockset with deadbolt as manufactured by either **Kwikset** or **Schlage** or approved equal.
- c) Butt plates shall be as per the manufacturer
- d) All installations shall include replacement of exterior and interior trim, style as existing.

3. All the repair work shall be made for a satisfactory and tradesman like manner for this door installation.

4. Use a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing

5. Contractor shall paint on the door frame and trim as per Section 15, Painting, # 09020 and 09030 of this manual.

NOTE: See Scope of Work for special considerations.

08020 EXTERIOR WOOD DOOR (REPLACEMENT)

1. Contractor shall replace the exterior wood door(s) as outlined in the Scope of Work.
2. Doors shall be made of clear, kiln-dried machine sanded Douglas Fir.
 - a) Doors shall be 1 3/4" in thickness, solid core. Style shall be selected by homeowner.
 - b) Doors shall be either sealed or primed before installation, and painted after installation. Paint color as selected by owner, see Section 15, Painting, # 09020 and 09030 of this manual.
3. The door shall be installed plumb, true and square with equal margins.
 - a) Doors shall fit tightly against stop and have no play in strike plate / lock assembly.
 - b) Contractor shall install new keyed entry lockset with deadbolt as manufactured by either **Kwikset** or **Schlage** or an approved equal.
 - c) New brass butt hinges as manufactured by **Stanley** or an approved equal, shall be pair of 1 1/2 "X4 1/2 "X 4 1/2 ".
4. Jambs shall be wood of clear KD Pine, sized as existing, caulked and primed.
 - a) New painted door stops with a factory-installed gasket and an adjustable vinyl door bottom shall be installed. See Section 15, Painting, # 09020
 - b) Include a new door sweep as manufactured by **Battalion model 2RRG5** or an approved equal.
5. All installations shall include replacement of exterior and interior trim & styled as existing.
6. All repair work identified in the Scope of Work shall be made for a satisfactory door installation.
 - a) All decayed and rotted materials are to include framing and shall be removed and replaced with new and sound materials, sized as existing.
7. All new wood shall be primed and painted to match existing color and paint finish. See Section 15, Painting, # 09020
8. All wood doors shall comply with ANS / NWWDA I.S. 6-86 of Title 10 part 440 of the Standards for Weatherization Materials.

08030 HORIZONTAL SLIDING DOOR

1. Contractor shall remove existing horizontal sliding door and install a new patio door as manufactured by **Jeld-Wen model Builders Vinyl Sliding Patio Door**, or approved equal.
2. Door shall be installed as per manufacturer's specifications.
3. The new door shall have the **Energy Star** rating label attached at the time of the inspection.
4. All repair work as necessary shall be made for a satisfactory installation.
 - a) The contractor shall inspect the rough opening and make all the necessary repairs and adjustments before installing this new pre-hung door.

08030 HORIZONTAL SLIDING DOOR continued

- b) The contractor shall place a minimum vapor barrier of 15 lbs. felt paper, on all 4 attachment areas, sill, 2 jamb sides and the header.
 - c) Each jamb shall be packed out to snug / plumb using cedar shakes only, being careful not to bow the jamb. Double nailing shall be placed at each pack out.
 - d) All installations shall include replacement of exterior and interior casings to match as existing.
5. Contractor shall supply and install a rolling screen door specifically designed for the new door unit.
6. All raw wood and any other area this installation has disturbed shall be repaired and painted to match existing areas. See Section 10, Carpentry, # 06405, Section 15, Painting, # 09020 and 09030 of this manual.
7. All sliding glass doors must comply with ANSI / AAMA 1002.10–83 of Title 10 part 440 of the Standards for Weatherization Materials.

08040 EXTERIOR DOOR REPAIR

Contractor shall make all necessary repairs to doors outlined in Scope of Work. Work shall include but not be limited to the following:

1. Door Adjustment:
- a) All butt hinges shall be checked for loose or missing screws. If necessary tighten or reinstall missing screws with a similar type screw as the original. **The use of drywall screws is strictly PROHIBITED!**
 - b) If the screw hole in the jamb is stripped, take the weight of the door from the hinge, open the door wide and put something underneath it to hold it open. Then remove all of the screws from that particular hinge leaf. The screw holes should be big enough for a small wooden match to fit in. Dip one or two matches in **Elmer's Carpenters Wood glue**, or an approved equal, and stick them into the stripped screw hole. Screw the butt hinge back in place.
 - c) If necessary, the door shall be planed to provide uniform space between door and jamb and to allow smooth operation.
 - d) The strike plate, if missing shall be replaced, shall be adjusted to allow door to close tightly without excessive movement.
 - e) Paint touchups are to match the existing color and finish. See Section 15, Painting, # 09020 and 09030 of this manual.
2. Exterior Door Threshold:
- a) Contractor shall install new aluminum threshold.
 - b) Unit shall be aluminum sill with a vinyl bulb, or vinyl sweep under door.
 - c) Sill shall be attached to floor with screws and caulked to form a tight seal.
3. Weather – stripping:
- a) Install new weather-stripping at sides and top of door jamb to form a tight seal with door closed.
 - b) Material shall be wood stop with vinyl gasket.
 - c) Include a new door sweep as manufactured by **Battalion model 2RRG5** or an approved equal.

08040 EXTERIOR DOOR REPAIR continued

4. Glazing:

- a) All glass areas are to be re-glazed as necessary with **DAP 12122 '33' Window Glazing (RTU)** or an approved equal.
- b) All loose or cracked glazing compound shall be removed and scraped down to wood. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
- c) Any broken or cracked glass shall be replaced following "a" and "b" above.

Entry lock set:

- a) A new entry lockset as manufactured by **Kwikset, Schlage** or an approved equal shall be installed according to the manufacturer's directions.

08050 EXTERIOR BASEMENT DOOR ENCLOSURE

1. Contractor shall remove the existing decayed basement door enclosure and deteriorated concrete steps and side walls. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
2. Make all the necessary preparations for the installation of a new prefabricated concrete **PermEntry Basement Entrance as manufactured by Bilco Residential Products Inc.**, or an approved equal. Installation shall follow the manufacturer's directions.
3. A new steel bulkhead door to the basement as manufactured by **Bilco Residential Products, Inc.**, or an approved equal shall be installed on this new pre-fabricated concrete entry. The bulkhead door shall be sized to completely cover the opening and stairs, and include extension header if required.
4. The bulkhead door shall be painted inside and out as per Section 15, Painting, # 09020 of this manual.
5. Refer to the Scope of Work for additional items (exterior basement door).

08055 REPAIR OF EXTERIOR BASEMENT DOOR

1. Contractor shall repair basement wood door and jamb.
 - a) All butt hinges shall be checked for loose or missing screws. If necessary tighten or reinstall missing screws with a similar type screw as the original. **The use of drywall screws is strictly PROHIBITED!**
 - b) If the screw hole in the jamb is stripped, take the weight of the door from the hinge, open the door wide and put something underneath it to hold it open. Then remove all of the screws from that particular hinge leaf. The screw holes should be big enough for a small wooden match to fit in. Dip one or two matches in **Elmer's Carpenters Wood glue**, or an approved equal, and stick them into the stripped screw hole. Screw the butt hinge back in place.
 - c) If necessary, the door shall be planed to provide uniform space between door and jamb and to allow smooth operation.

08055 REPAIR OF EXTERIOR BASEMENT DOOR continued

- d) The strike plate, if missing shall be replaced, shall be adjusted to allow door to close tightly without excessive movement.
- e) New entry lockset with deadbolt as manufactured by either **Kwikset** or **Schlage**, or an approved equal shall be installed according to the manufacturer's directions, if required by the Scope of Work
- f) Install weather-stripping to each jamb, head and a new door sweep as manufactured by **Battalion model 2RRG5** or an approved equal.
- g) Paint touchups are to match the existing color and finish. See Section 15, Painting, # 09020 and 09030 of this manual.
- h) Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.

08060 INSTALLATION OF INTERIOR WOOD PASSAGE DOOR

- 1. All interior replacement doors are to be as stated in the Scope of Work or pre-hung solid jamb units as manufactured by either **Jeld-Wen** or **Masonite** or an approved equal and installed as per the manufacturer's directions.
- 2. Jambs and casings are to be clear pine. Casing shall match existing.
- 3. Doors shall be 1 3/8" inches thick, similar style with the door swing to match the existing, unless specified in the Scope of Work.
- 4. All repair work as necessary shall be made for a satisfactory installation:
 - a) The contractor shall inspect the rough opening and make all the necessary repairs and adjustments before installing this new pre-hung door.
 - b) The door shall be installed plumb, true and square with equal margins.
 - c) Each jamb shall be packed out to snug / plumb using cedar shakes only, being careful not to bow the jamb. Double nailing shall be placed at each pack out.
 - d) All installations shall include replacement of casing to match the existing.
 - e) Doors shall fit tightly against stop and have no play in strike plate / lock assembly.
 - f) Contractor shall install new privacy or dummy lockset as manufactured by either **Kwikset** or **Schlage** or an approved equal.
 - g) The door / jamb / casings shall be painted inside and out as per Section 15, Painting, # 09030 of this manual. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.

08070 REPAIR INTERIOR DOOR

Contractor shall re-hang the existing door according to the following steps:

- a) All butt hinges shall be checked for loose or missing screws. If necessary tighten or reinstall missing screws with a similar type screw as the original. **The use of drywall screws is strictly PROHIBITED!**
- b) If the screw hole in the jamb is stripped, take the weight of the door from the hinge, open the door wide and put something underneath it to hold it open. Then remove all of the screws from that particular hinge leaf. The screw holes should be big enough for a small wooden match to fit in. Dip one or two matches in **Elmer's Carpenters Wood glue**, or an approved equal, and stick them into the stripped screw hole. Screw the butt hinge back in place.

08070 REPAIR INTERIOR DOOR – continued

- c) If necessary, the door shall be planed to provide uniform space between door and jamb and to allow smooth operation.
- d) The strike plate, if missing shall be replaced, shall be adjusted to allow door to close tightly without excessive movement.
- e) New entry privacy or dummy lockset as manufactured by either **Kwikset** or **Schlage**, or an approved equal shall be installed according to the manufacturer's directions, if required by the Scope of Work
- g) Paint touchups are to match the existing color and finish. See Section 15, Painting, # 09030 of this manual. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.

08080 INSTALLATION OF AN ACCESS DOOR TO CRAWL SPACE

The contractor shall install an access door to the crawl space according to the following:

1. The door jamb, head and sill shall be made on site of 2" x 8" pressure treated lumber, when attaching to any concrete, bolted to blocks using lag bolts and lead plugs 16" O.C.
3. The contractor will use a 1 ¾ "solid birch wood door cut to fit the opening on site;
 - a) or a **manufactured pre-hung steel door ordered to fit the rough opening. Any attempt to modify this type of door and / or jamb on site is prohibited and will not be accepted or paid for by OCCD.**
4. Butt hinges shall be 3-1/2"x3-1/2" Gray Prime Coated, Spring Hinge for Standard Weight 1/4" Radius Corner as manufactured by **Stanley**, or an approved equal.
5. Contractor shall install new dummy as manufactured by either **Kwikset** or **Schlage** or an approved equal.
6. The door unit shall be installed plumb, jamb head level and square to itself from the wall it is placed in. It shall be placed in the rough opening with equal margins at each jamb, normally ½ inch on each side.
7. The contractor shall inspect the rough opening and make all the necessary repairs and adjustments before installing this new pre-hung door.
8. The contractor shall place a minimum vapor barrier of 15 lbs. felt paper, on all 4 attachment areas, sill, 2 jamb sides and the header.
9. Each jamb shall be packed out to snug / plumb using cedar shakes only, being careful not to bow the jamb. Double nailing shall be placed at each pack out.
 - a) The doors shall fit tightly against each stop and have no play in strike plate/lock assembly.
 - b) All installations shall include replacement of exterior and interior trim, style as existing.
10. Area between wood frame and block shall be caulked using a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing.
10. The color of paint shall be selected by owner, see Section 15, Painting, # 09030 of this manual.

08100

REPAIR EXISTING WINDOW

1. Contractor shall repair all windows of the dwelling according to the Scope of Work.
 - a) Remove all paint inhibiting movement from window jamb, rail and check / meeting rail and stops to allow upper and lower window sash to operate smoothly. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
 - b) All windows are to be adjusted for a smooth gliding operation.
 - c) All windows shall have working window locks. Broken locks are to be repaired or replaced where missing.
 - d) All broken sash cords or broken balancers are to be replaced. Carefully remove all the necessary casings to accomplish this for re-installation after the repair.
 - f) Loosen all deteriorated glazing with Linseed Oil before removing it down to wood and re-glazed using latex base glazing compound as manufactured by **DAP 12122 '33' Window Glazing (RTU)** or an approved equal.
 - g) Where sash, stops, check rails, sills, and/or jambs are decayed or broken, these items shall be replaced. In replacing, all materials and hardware shall match the existing in design and dimensions. All new work shall be painted to match existing. See Section 15, # 09020 and 09030 of this manual. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.

2. If the Scope of Work calls for **Jamb Liners** to be installed as a repair the contractor shall:

* **For Single and Double Hung Sash Windows only:**
 - a) Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
 - b) Remove all the old stops and any trim and save for reuse and remove sashes and any pulleys, rope or chains holding the window weights. Save each sash for reuse.
 - c) Follow the manufacturer's directions for the installation of each jamb liner.
 - d) If the sash repair requires, broken glass or re-glazing replacement, routing of the sash to fit the new jamb liner, paint removal or painting, and it is agreed to by the homeowner to have this work completed off site, the contractor will provide a temporary plywood filler for security and weather protection for each window.
 - e) All new work shall be painted to match existing. See Section 15, # 09020 and 09030 of this manual.
 - f) **The use of drywall screws is strictly PROHIBITED!**

08110

VINYL WINDOW REPLACEMENT

Contractor shall install new Energy Star® rated vinyl replacement windows as outlined in Scope of Work. Replacement windows shall be sized as the existing windows. **Decreasing the maximum allowed fenestration (opening) from the original opening is Prohibited.** Replacement windows shall be glazed with insulated glass as manufactured by **Certainteed Devon II, Crestline Select 300 or Simonton 5500 series** vinyl replacement windows, or an approved equal.

1. Installation shall comply with manufacturer's specifications.

2. All damaged, decayed or rotted materials, including window jambs, rail and check / meeting rail and stops and sills, shall be removed and replaced with new similar materials that match the existing style, size and shape.

08110 VINYL WINDOW REPLACEMENT - continued

3. Expanders or filler pieces will not be accepted.
4. All voids in sash weight pockets are to be filled with insulation. See Section 13, Insulation, 07200 of this manual.
5. All replacement windows shall include either full or half screens. The selection of either screen shall be determined by the home owner at the time of the pre-construction meeting.
6. All new raw wood, interior and exterior, shall be painted as per Section 15, Painting, # 09020 and 09030 of this manual. Color shall match the existing window. All damaged interior paint shall be touched-up to match surrounding area. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
7. Color of replacement window shall be as selected by homeowner.
8. **The use of drywall screws is strictly PROHIBITED!**
9. Use a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing.

08120 WINDOW REPLACEMENT – New construction

Contractor shall install new Energy Star® rated windows as outlined in Scope of Work. New windows shall be sized as the existing windows. **Decreasing the maximum allowed fenestration (opening) from the original opening is Prohibited.** New windows shall be glazed with insulated glass as manufactured by **Andersen 200 series, Marvin Ultimate Double Hung or Simonton ProFinish Brickmould 600 windows**, or an approved equal.

1. Installation shall comply with manufacturer's specifications and Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
2. The contractor shall inspect the rough opening and make all the necessary repairs and adjustments before installing this new window.
3. The window shall be installed plumb, true and square with equal margins.
4. The contractor shall place a minimum vapor barrier of 15 lbs. felt paper, on all 4 attachment areas, sill, 2 jamb sides and the header.
5. All gaps around windows must be filled with insulation. See Section 13, Insulation, 07200 of this manual.
6. Include all new interior trim, including a new sill and apron. **Picture frame style of interior trim shall not be permitted without the homeowner's permission.**
7. Use a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing.
8. Window and trim shall be painted to match existing on interior and exterior. See Section 15, Painting, # 09020 and 09030 of this manual.

08130 BASEMENT WINDOWS

1. Basement windows and their frames are to be completely removed, as per the Scope of Work, to the masonry. The new frames shall be built square, level, and plumb.
2. New Pressure Treated (PT) frames are to be installed using standard construction practices.
3. The new Energy Star® rated Basement windows, as manufactured by **Anderson – Basement A-Series Awning Windows**, or an approved equal, shall be installed as per manufacturer's directions.
4. Use a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing.
5. The new frame and any other raw wood shall be painted to match existing on interior and exterior. See Section 15, Painting, # 09020 and 09030 of this manual.
6. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.

08200 STORM DOOR INSTALLATION

1. Contractor shall install a new **Larson Ventilating Storm door** with a self-storing screen & Glass, or an approved equal. Style and color shall be as selected by the homeowner.
 - a) All doors must meet or exceed State and Federal standards.
 - b) The storm door shall be made of 1 5/8" thick aluminum frame with maintenance-free finish and have a laminated security glass shield
 - c) The new storm door shall be installed according to the manufacturer's directions.
 - d) The new storm door and frame unit shall be sized to fit the existing door jamb brick moldings. The contractor shall be responsible for correcting the opening, if necessary, to plumb, level and square. Expanders or filler pieces will not be accepted.
 - e) Use a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing.
 - f) The contractor will install the new storm door so that the door operates properly (the door closure is adjusted properly and the door latch holds the door closed by itself)
 - g) All storm doors shall have a ten-year warranty.
 - h) All storm doors and all glass located within its structure must comply with: ANSI / AAMA¹1102.7–89 of Title 10 part 440 of the Standards for Weatherization Materials.

NOTE: At completion, the contractor shall remove all finished protective materials, thoroughly cleaning all metal and glass surfaces.

08210 STORM AND SCREEN WINDOWS

The contractor shall install, as per the Scope of Work, new triple track combination storm windows with screens as manufactured by **Larson Bronze Series**, or an approved equal. Installation shall follow the manufacturer's directions. Any color choice shall be made by the homeowner.

These new storm and screen windows shall include:

- a) Heavy-duty metal pulls and tilt keys.

08210 b) High tempered T-6 aluminum frame.
STORM AND SCREEN WINDOWS continued

- c) Wrap around marine glazing.
- d) Color matching installation screws.
- e) Include a lifetime warranty.
- f) Comply with ANS I/ AAMA 1002.10–83 of Title 10 part 440 of the Standards for Weatherization Materials.

1. Each new storm window shall be sized correctly for a proper fit to the existing window.
2. Expanders or filler pieces will not be accepted with the exception for the factory included sash adjustment piece.

Installation Preparation:

All areas that are to receive storm windows, as per the Scope of Work, must be prepared according to the following:

- a) All exterior wood trim surfaces of window sash and window trim shall be repaired as necessary and painted as per Section 15, # 09020 of this manual.
 - b) All windows receiving storm windows shall be caulked with a silicone base caulking.
 - c) Storm window frames shall be erected square and plumb. All items of hardware shall be adjusted for proper function and all framing and hardware tested. All repairs and adjustments are to be made, leaving it in a satisfactory working condition.
3. Use a caulk as manufactured by **DuPont™ AirTite™ Siliconized Acrylic**, or an approved equal, for all exterior and interior weather tight sealing.
 4. At completion of work, the contractor shall remove all finish protective materials, thoroughly cleaning all metal and glass surfaces, replacing any broken glass or damaged parts and leaving all parts in first class operating condition.
 5. The contractor shall make all the necessary preparations, measures and precautions to protect all the surrounding landscaping and the dwellings exterior.
 6. Follow Lead Safe Work Practices if lead paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.

PAINTING

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PAINING

09000 PAINING GENERAL

Painting of the dwelling shall be performed according to the Scope of Work. The contractor shall:

- a) Use paint as manufactured by **Benjamin Moore** or an approved equal, applied as per the manufacturer's directions.
- b) Surface preparation shall be followed according to the manufacturer's directions.
- c) All deteriorated or rotted or damaged exterior siding, trim, including soffits and fascia's and all stair components and railings or interior drywall, plaster, and any / all trim shall be repaired or replaced with an in-kind type replacement.
- d) **Follow Lead Safe Work Practices**, as per the Scope of Work, if Lead-Based Paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
- e) All Interior and exterior painted surfaces shall receive a primer coat as manufactured by **Benjamin Moore Fresh Start® All Purpose 100% Acrylic Primer 023/N023** or an approved equal, applied according to the manufacturer's directions.
- f) The use of interior paint on any exterior surface is prohibited.
- g) The contractor shall make every effort to protect all belongings, possessions and landscaping during the course of this painting work.
- h) The contractor shall clean the work area / property at the end of each work day of all pertinent materials including tools, ladders and paint containers.

09010 EXTERIOR PAINTING

The contractor shall repair walls, porch ceilings, soffits, fascias and trim as necessary before preparing for paint.

The contractor shall:

- a) Remove all loose, scaling, peeling or cracked paint using the appropriate removal technique to a smooth condition, feather edges into sound adjoining surfaces.
- b) Secure all loose siding, trim or other exterior component.
- c) Window glass, screens and other finished surfaces adjacent to painted areas are to be protected. Paint misapplied, dripped or spilled onto non-painted surfaces shall be removed.
- d) Contractor shall protect all shrubs, trees, bushes, gardens, lawn, porch / lawn furniture and all masonry foundations and walkways, etc. If this is not accomplished the contractor will be held liable for all damages to same.
- e) Paint shall be applied in accordance with manufacturer's directions.
- f) Do not apply initial coating unless moisture content of surface is within limitations recommended by paint manufacturer.
- g) All exterior painted surfaces shall receive a primer coat as manufactured by **Benjamin Moore Fresh Start® All Purpose 100% Acrylic Primer 023/N023** or an approved equal, applied according to the manufacturer's directions.
- h) Two (2) coats of **Benjamin Moore** exterior or an approved equal shall be applied to all areas as per the Scope of Work. Color samples shall be approved by owner.
- i) **Porch wood deck** - If called for in the Scope of Work, the contractor shall apply paint to the porch wood deck as manufactured by **Benjamin Moore Floor & Patio**, or an approved equal, according to the manufacturer's directions.
- j) **Metal railings and hand rails** - If called for in the Scope of Work, the contractor shall apply paint to all metal railings and hand rails as manufactured by **Benjamin Moore**

Metal & Wood Enamel, or an approved equal, according to the manufacturer's directions.

09010 EXTERIOR PAINTING continued

- k) **Metal roofing** - If called for in the Scope of Work, the contractor shall apply paint to all metal roofing as manufactured by **Benjamin Moore Weatherproof Aluminum Paint 164**, or an approved equal, according to the manufacturer's directions.
- l) **Foundation masonry** - If called for in the Scope of Work, the contractor shall, first, repair all large cracks (1/16 " to 1/4 ") with an Elastomeric Patching Compound as manufactured by **Benjamin Moore Moorlastic® Textured Knife Grade Elastomeric Patching Compound 051**, or an approved equal, to the existing foundation masonry, brick, block or poured concrete.
and then, apply a paint over a primer coat as manufactured by **Benjamin Moore Fresh Start® 100% Acrylic Superior Primer (046)**, or an approved equal, to all the foundation, or other masonry items, before applying a paint as manufactured by **Benjamin Moore Moore's® Latex Floor & Patio Enamel 122**, or an approved equal, as per the manufacturer's directions.
- m) All paint containers are to be delivered to job site, either by the contractor or the distributor, in original new and unopened containers bearing manufacturer's name and label.
- n) All windows shall be in operating condition and free of "paint seal" and reasonably operational.
- o) All work shall be done in an expert tradesman like manner leaving surfaces free from droops, ridges and laps, and leaving the finish in a satisfactory condition.
- p) The paint color of the trim and siding shall be as selected by the homeowner.

09020 INTERIOR PAINTING

The contractor shall repair walls, ceilings and trim as necessary before preparing for paint.
The contractor shall:

- a) Remove all loose paint, plaster and other wall finishes using the appropriate removal technique.
- b) Repair all holes or cracks in the plaster / drywall ceiling or walls with tape and compound. See Section 10, Carpentry Interior, # 06405 of this manual.

Repair Plaster walls and ceilings by the following:

- 1 Protect walls and floors in the repair area with plastic drop cloths; use painter's tape to hold the drop cloths in place.
- 2 Use a 3/16-inch carbide-tipped masonry drill bit to bore holes through the plaster, but not through the wooden lath. Drill evenly spaced holes—about every 3 inches—around damaged wall area.
- 3 Clean dust from the holes with a wet/dry or hepa vacuum.
- 4 Place a plaster adhesive as manufactured by **Big Wally's Plaster Magic - Plaster Repair Adhesive, or an approved equal**, into each hole; remove any conditioner that runs down the wall with a sponge.
- 5 Immediately after squeezing adhesive into the holes, use a drill/driver to screw a **plaster ring** into as many holes as necessary to pull the plaster tight against the lath.
- 6 Allow the adhesive to dry, and then use the drill to remove all the screws and plastic rings. If necessary, scrape the rings from the wall with a putty knife.

- 09030 INTERIOR PAINTING continued
- 7 Scrape off any high points of adhesive with the 6-in. putty knife.
 - 8 Apply a thin coat of joint compound to the wall using the putty knife.
 - 9 Let the compound dry overnight, sand the surface lightly with 120-grit sandpaper, then apply a second, thinner compound coat.
 - 10 Prime and paint the wall.
- c) Fill all nail or screw holes checks or other imperfections in trim with wood putty as manufactured by **MinWax Wood Putty** or an approved equal.
 - d) Remove, and save for re-installation when completed, of all light switch plates and outlet covers before painting.
 - e) Sand all glossy paint surfaces for proper adhesion of new paint.
 - f) Use a painter tape as manufactured by **ScotchBlue™ Painter's Tape** or an approved equal, to protect the flooring, trim, cabinets, glass or any other object from over applying, dripping or running of the new paint.
 - g) The contractor will make every attempt to protect the possessions of the homeowner, including the safe removal of pictures, plug-in light fixtures, throw rugs, furniture or any other object.

09030 RE-FINISH of HARDWOOD FLOORS

1. The re-finishing of the hardwood floors of the dwelling shall be performed according to the Scope of Work.

The contractor shall:
2. Painted floors:
Follow Lead Safe Work Practices, as per the Scope of Work, if Lead-Based Paint is present. See Section 21, Standards for Lead Hazard Reduction, # 15000 of this manual.
3. Seal the Room:
Seal off the doorways with a plastic drop cloth, or 6 mil plastic, and masking / duct tape to keep the rest of the house clean. Be careful not to lift any paint the tape holding the protection is adhered to.
4. Remove the Finish:
Contractor shall examine all floors as per the Scope of Work, to insure that all damaged, checked, deteriorated flooring has been repaired or replaced with similar type flooring. All flooring must be sound and repaired prior to any sanding and finishing.
 - b) EQUIPMENT
 - All floors shall be sanded with a commercial belt type floor sander.
 - All edging and stairs are to be finished with a commercial type hand sander.
 - All corners where sanders cannot reach are to be finished by hand.
 - c) SANDING
 - All old finish shall be sanded to the original natural wood with Drum sandpaper (rough 36 grit, medium 50-60 grit, and fine 80-100 grit).

- Edger sandpaper disks (rough 36 grit, medium 50-60 grit, and fine 80-100 grit). -
- All floors are to be stripped to baseboards and under radiator. -
- All cracks are to be filled with approved plastic wood filler.

09030 RE-FINISH of HARDWOOD FLOORS continued

- Care must be taken to sand smooth all machine marks in flooring made by first sanding.

5. Sealing the Floor:

- e) SEALER
A penetrating floor sealer as manufactured by **American Paint Co., Duron Polyurethane Interior Alkyd Finish – Gloss or Semi-Gloss**, or an approved equal shall be applied according to the manufacturer's directions. The Homeowner shall select the type of finish, Gloss or Semi-gloss. When the first coat is dry, the floor shall be buffed with steel wool pad and completely vacuumed before applying the second coat of the polyurethane finish.
- f) FINISH COAT
There shall be allowed a 24 hour drying time between coats.

09040 WALL PAPERING

The contractor shall remove the existing wall paper and install new paper according to the Scope of Work. The type, color and pattern of the wall paper shall be selected by the homeowner.

The contractor shall:

- a) Removal of the wallpaper shall be completed using normal methods that include using a wallpaper and paste removal system as manufactured by **Wallwik SimpleStrip**, or an approved equal, that will not damage drywall or plaster.
- b) Contractor shall purchase and install the wallpaper according to the manufacture's directions and as selected by the homeowner.

Wall Preparation:

All open cracks and uneven surfaces are to be patched with spackling compound and sandpaper on a smooth surface. See Section 10, Carpentry Interior, # 06405 of this manual. Walls shall be cleaned of any sanding residue, grease or obvious stains. Any moldy areas must be treated with a bleach solution prior to the application.

The installer must also follow any instructions from the wallpaper and adhesive manufacturer as to what type of surface preparations are needed for effective bonding.

- a) On drywall (painted with latex or oil) use an acrylic primer or prep coat.
- b) On drywall (painted with builders flat) use a primer/sealer.
- c) On new plaster (after the proper curing time) use size mixed with the adhesive you plan to install the final wall covering with to prepare the surface.
- d) On older plaster (painted with latex or oil) use an acrylic primer or primer/sealer.
- e) On any wall with suspected defects or damage use a primer/sealer.
- f) On any wall with stains or mold issues use a stain killer primer. (mold must be treated

- 09050 WALL PAPERING continued
- with a bleach solution first)
 - g) On new or repaired drywall use a primer/sealer.
 - h) On a wall surface with residual wallpaper paste use a primer/sealer.

Installation:

Installation of the new wallpaper shall be as per manufacturer's instructions.

- a) New wallpaper shall be brushed smooth and completely free of any air void pockets.
- b) All butting seams are to be properly rolled and finished smooth.
- c) Every attempt shall be made by the installer to match all the wallpaper patterns.
- d) Upon completion, all paste shall be cleaned from all surfaces.

HANDICAPPED MODIFICATIONS

Next page

HANDICAPPED MODIFICATIONS

10000 AMERICAN WITH DISABILITIES ACT Compliance (ADA)

As called for in the Scope of Work, all bathroom modifications work shall comply with ADA to provide a barrier free environment for those with physical challenges.
See Section 9, Carpentry – General, # 06350, Bathroom Renovation of this manual.

10010 GENERAL BATHROOM MODIFICATION for ADA compliance

Contractor shall remodel bathroom to include all items as indicated in the Scope of Work. **A copy of all permits, (plumbing, electrical and building), must be presented to Community Development Office prior to start of work.**

This work shall include, but not limited to, the following:

1. Demolition and patching, removal of the existing tub and fixtures, floor coverings to the sub-floor, all drywall walls and ceiling, water closet and wall sink or vanity and sink, lighting fixtures, door, door jamb and all trim. See Section 8, Carpentry – Finish, # 06200 of this manual.
2. Repair or install all necessary framing, furring, blocking, drywall etc. Include a new Door with a minimum of 32 inches wide to accommodate wheelchairs and walkers. Doors should swing out rather than in, with clearance on both sides. The new door shall match the existing door and include new hardware and privacy lockset, trim and paint.
- Pocket doors may also be used.
See Section 14, Doors and Windows, # 08070 and Section 15, Painting, # 09030, Section 9, Carpentry General, # 06350, of this manual.
3. - Install a new pedestal sink as manufactured by **Kohler - Archer® pedestal lavatory with 4" centers** - K-2359-4 and fixtures as manufactured by as manufactured by **Gerber or Delta**, or as an approved equal.
- Install an ADA compliant water closet as manufactured by **Kohler - Highline® Class Five® elongated bowl toilet with Insuliner® tank and lock with right-hand trip lever**- K-3653-UR or an approved equal. Include chrome plated stops, chrome nipples, wax seal and flange with bolts. New seat shall also be included.
- Install an ADA compliant barrier free five (5") foot roll-in or transfer shower with grab bars and seat, as called for in the Scope of Work, and as manufactured by **Barrier-Free Access Systems, Inc.**, or an approved equal, as per the manufacturer's directions.
- Install a shower fixture as manufactured by **Delta - Scald-Guard**, or an approved equal, as per the manufacturer's directions. Include new cold and hot water lines with shut-off valves, supply tubes and "P" trap for both sink and shower. Existing drains, vents and supply lines to new relocated fixtures are to be modified. Fixture installation shall comply with the National Standard - A117-1. Contractor shall remove and properly dispose of all fixtures, modify existing drains, vents and supply lines to new, relocated fixtures. Fixture installation shall comply with the National Standard. A-1771.1.
See Section 18, Plumbing, # 12000 of this manual.

- 10010 BATHROOM MODIFICATION for ADA Compliance continued
4. Install new slip resistant sheet vinyl flooring over ¼" underlayment. See Section 10, Carpentry – Interior, # 06455 of this manual for directions.
 5. If called for in the Scope of Work, Install a new medicine cabinet and free standing linen closet whose size is approximately 83" X 18" X 12". Allow \$150 for the medicine cabinet and \$250 for the linen closet.
- If called for in the Scope of Work, construct an in-place closet using customary construction practices. See Section 7, # 06000, 06070, Section 10, # 06400 of this manual.
 6. **Paint** all walls, ceiling and trim, colors selected by the homeowner. See Section 15, Painting, # 09030 of this manual.
 7. **Electrical** work shall be completed by Orange County licensed Electricians. Electrical work shall include a G.F.C.I. outlet at the sink area, switched ceiling light fixture with a new powered vent. See Section 20, Electrical, # 14000 of this manual.
 8. **Plumbing** work shall include the installation of Grab Bars in the shower and toilet area as per A.D.A. All new piping shall be properly sized and rated as per code. New trap assembly, waste and vents are to be installed as required. They are to be tied into existing waste and vent if properly sized or installed new as per the NYS Plumbing code. See Section 18 Plumbing, # 12000 of this manual.
 9. If called for in the Scope of Work, include insulation in all exterior walls / ceiling. See Section 13, Insulation, # 07200.
 11. Include 2 separate towel bars and a shower curtain rod.
 11. All gut renovations involving bathrooms must be completed in five (5) working days, starting on a Monday and completing by the end of the business day the following Friday. This work will not involve a weekend.

The contractor shall make every attempt to address the following:

- a) The threshold of the doorway should be even with the adjacent floor.
- b) Provide for an area large enough to hold a five-foot circle to allow a wheelchair 360-degree turn.
- c) Make sure a wheelchair can roll up to the sink with knee room underneath. Do not block access with a vanity cabinet. Shelves, baskets and trays must be built at accessible heights from a seated position.
- d) Avoid hard-to-open latches and door handles. Consider using lever handles.
- e) Mount bathtub faucet controls toward the entry side of the tub where they can be reached easily.
- f) Add a wall-mounted handheld showerhead, preferably mounted on a slide bar so someone of any height can use it. g)
- g) Toilets should be a height without the seat of either 16 ½ inches (used in residential construction) or 18 inches (used in commercial construction) to make it easier for someone in a wheel chair. h)
- h) Use door locks that can be opened from outside in case of emergency.
- i) Provide wall-mounted grab bars both in the toilet area and in the tub and/or shower. Use "L" shaped, horizontal and/or vertical bars. Grab bars are to be

- installed at 2' - 10" above finished floor.
- j) Add accessible faucets, such as single-handle or lever type that do not require a strong grip to operate.

10010 BATHROOM MODIFICATION for ADA Compliance continued

ADDITIONAL CONSIDERATIONS

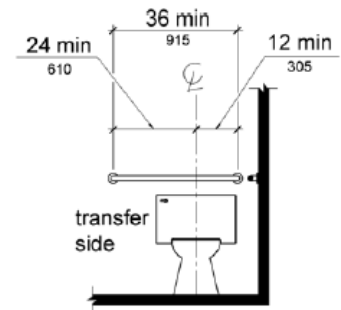
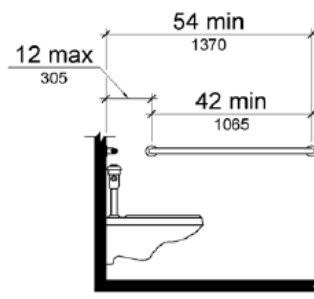
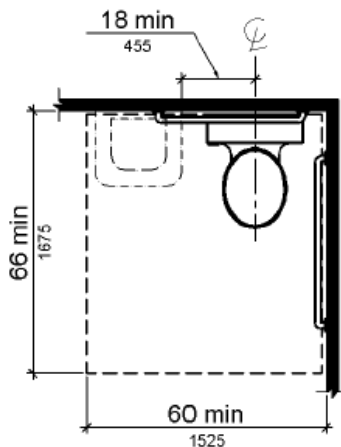
Because of room layout there may be a window in the exterior wall where the Bathtub / Shower located, if this occurs the following steps are to be completed as follows:

Install a built-in-place shower using:

- a. One-half inch (1/2 “) **Durock** cement board as manufactured by **USG**, or an approved equal, attached with the appropriate length epoxy coated high thread screws.
- b. Install all the necessary wood blocking for all grab bars and shower seat as per the A.D.A. these grab bars and shower seat shall be made of non-corrosive materials.
- c. A one piece slip resistant bathtub or shower base or vinyl pan liner shall be installed on the sub-floor of the shower as per manufacturer's specifications.
- d. If a vinyl pan is used, a concrete base shall be placed over the vinyl pan liner, pitched to the drain before installing slip resistant 2" X 2" ceramic tiled floor See Section 10, Carpentry – Interior, # 06470 Ceramic Tile Repair of this manual.
- e. Install matching 4" X 4" ceramic tiles on the Bathtub / Shower wall area.
- f. All grouting shall be sealed with a silicon sealant.
- g. Include a shower curtain rod and curtain.
- h. Include a non-scalding shower fixture as manufactured by **Delta Scald-Guard** or an approved equal.
- i. This gut renovation must be completed in five (5) working days; Starting on a Monday and ending at the end of the business day on Friday; **work on any weekend is strictly prohibited.**
- j. All work shall follow A.D.A. compliance.

2010 ADA Standards for Accessible Design “2010 Standards” or “Standards”

**Effective date September 15, 2010
Grab Bar locations for Toilets**



GENERAL KITCHEN MODIFICATION for ADA Compliance

Contractor shall remodel kitchen to include all items as indicated in the Scope of Work. **A copy of all permits, (plumbing, electrical and building), must be presented to Community Development Office prior to start of work.** Modification work shall comply with ADA to provide a barrier free environment for those with physical challenges. See Section 9, Carpentry – General, # 06300, of this manual.

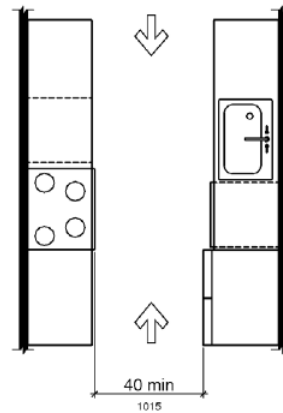
This work shall include, but not limited to, the following:

1. Demolition and patching, removal of the existing cabinets and fixtures, floor coverings to the sub-floor, all drywall walls and ceiling, water closet and wall sink or vanity and sink, lighting fixtures, door, door jamb and all trim. See Section 8, Carpentry – Finish, # 06200 of this manual.
2. Repair or install all necessary framing, furring, blocking, drywall etc. If called for in the Scope of Work, include a new Door or passageway opening with a minimum of 32 inches wide to accommodate wheelchairs and walkers. The new door shall match the existing door and include new hardware and passage lockset, trim and paint.
- Pocket doors may also be used.
See Section 14, Doors and Windows, # 08070 and Section 15, Painting, # 09030, Section 9, Carpentry General, # 06350, of this manual.
3. **Cabinets:** as manufactured by **KraftMaid Cabinets – Passport Series**, or an approved equal:
 - a) New finished base and wall cabinets are to be furnished and installed. All required filler strips, end panels and moldings shall be installed for a tight fit to walls and ceiling, as per Scope of Work.
 - b) When necessary install the appropriate 2" X 6" wood blocking, necessary for the attachment of wall and base cabinets to the wall studs by:
 - 1) Removing the necessary / appropriate width and length of drywall.
 - 2) Installing the blocking.
 - 3) Reinstalling the drywall after attaching the blocking to the wall studs..
 - b) All cabinets are to be securely screwed to framing with the appropriate length screws; all styles screwed together. **The use of drywall screws is strictly PROHIBITED for all cabinet work.**
 - c) **Soffits:** Sheetrock soffits above all wall cabinets are to be constructed. The depth of soffit shall be 1' 9" from finished ceiling. Exposed joints are to be taped and spackled three (3) coats. All molding and trim are to be selected by owner.
4. **Countertops:**
 - a) New Post Form high heat and abrasion resistant plastic laminated countertops, as manufactured by **Formica brand** or **Wilsonart HD** laminate or approved equal, and all moldings, shall be furnished and installed.

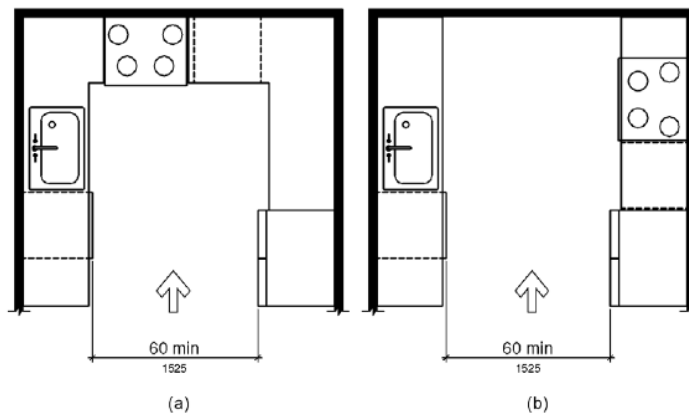
Clearances are measured from the furthest projecting face of all opposing base cabinets, counter tops, appliances, or walls, excluding hardware.

Additional Information:

In pass through kitchens where counters, appliances or cabinets are on two opposing sides, or where counters, appliances or cabinets are opposite a parallel wall, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 40 inches (1015 mm) minimum. Pass through kitchens shall have two entries.



In U-shaped kitchens enclosed on three contiguous sides, clearance between all opposing base cabinets, counter tops, appliances, or walls within kitchen work areas shall be 60 inches (1525 mm) minimum.



Kitchen Work Surface: at least one 30 inches (760 mm) wide minimum section of counter shall provide a kitchen work surface.

Cabinetry shall be permitted under the kitchen work surface provided that all of the following conditions are met:

- (a) The cabinetry can be removed without removal or replacement of the kitchen work surface;

(b) The finish floor extends under the cabinetry;

(c) The walls behind and surrounding the cabinetry are finished.

Work Surface Height: The kitchen work surface shall be 34 inches (865 mm) maximum above the finish floor or ground.

EXCEPTION: A counter that is adjustable to provide a kitchen work surface at variable heights, 29 inches (735 mm) minimum and 36 inches (915 mm) maximum shall be permitted.

Range or Cooktop: Where a forward approach is provided, the clear floor or ground space shall provide knee and toe clearance. Where knee and toe space is provided, the underside of the range or cooktop shall be insulated or otherwise configured to prevent burns, abrasions, or electrical shock. The location of controls shall not require reaching across burners.

Sinks: shall be mounted with the counter or rim no higher than 34" (865 mm) above the finish floor.

Knee Clearance: Knee clearance that is at least 27" (685 mm) high, 30" (760 mm) wide, and 19 in (485 mm) deep shall be provided underneath sinks.

Sink Depth: Each sink shall be a maximum of 6-1/2" in (165 mm) deep.

Clear Floor Space: A clear floor space at least 30" by 48" (760 mm by 1220 mm) shall be provided in front of a sink to allow forward approach. The clear floor space shall be on an accessible route and shall extend a maximum of 19" in (485 mm) underneath the sink.

Exposed Pipes and Surfaces: Hot water and drain pipes exposed under sinks shall be insulated or otherwise configured so as to protect against contact. There shall be no sharp or abrasive surfaces under sinks.

Faucets: Faucets shall be Lever-operated, push-type, touch-type, or electronically controlled mechanisms are acceptable designs.

General: Fixed storage facilities such as cabinets, shelves, closets, and drawers are required to be accessible.

Clear Floor Space. A clear floor space at least 30" by 48" (760 mm by 1220 mm) that allows either a forward or parallel approach by a person using a wheelchair shall be provided at accessible storage facilities.

Accessible Height: Accessible storage spaces shall be within at least one of the reach ranges. Clothes rods or shelves shall be a maximum of 54" (1370 mm) above the finish floor for a side approach. Where the distance from the wheelchair to the clothes rod or shelf exceeds 10" (255 mm) (as in closets without accessible doors) the height and depth to the rod or shelf shall comply with Fig. 38(a) and Fig. 38(b) below.

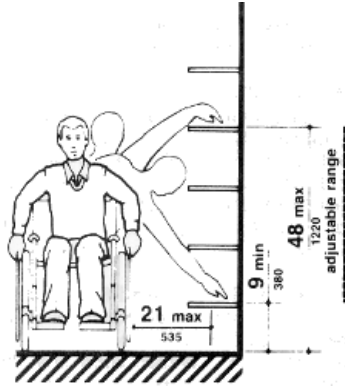


Fig. 38(a)
Shelves

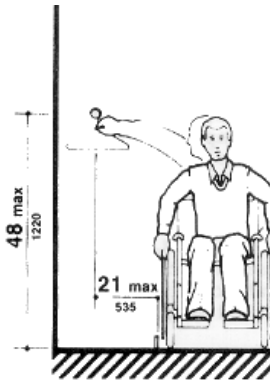


Fig. 38(b)
Closets

Hardware: Hardware for accessible storage facilities Touch latches and U-shaped pulls are acceptable.

5. Install new **slip resistant sheet vinyl flooring** over ¼" underlayment. See Section 10, Carpentry – Interior, # 06455 of this manual for directions.
6. **Paint:** all walls, ceiling and trim, colors selected by the homeowner. See Section 15, Painting, # 09030 of this manual.
7. **Electrical:** work shall be completed by Orange County licensed Electricians. Electrical work shall include a G.F.C.I. counter top outlets, switched ceiling light fixture, range hood and any other outlets and switching. See Section 20, Electrical, # 14000 of this manual.
8. **Plumbing:** work shall include a new stainless steel sink, single or double as selected by the homeowner, all new piping shall be properly sized and rated as per code. New trap assembly, waste and vents are to be installed as required. They are to be tied into existing waste and vent if properly sized or installed new as per the NYS Plumbing code. See Section 18 Plumbing, # 12000 of this manual.
9. If called for in the Scope of Work, include **insulation** in all exterior walls / ceiling. See Section 13, Insulation, # 07200.
10. Include the installation of all new trim to match the existing finish.
11. **Appliances:** Contractor shall supply and install a new **GE Cook Top** or an approved equal as follows:
 - a) Electric - GE Profile™ 30" Built-In CleanDesign Electric Cooktop Model #: PP945WMWW
 - b) Gas - GE® 36" Built-In Gas Cooktop Model #: JGP630WEKWW

These cooktops feature controls that are located up front, where they can be accessed without reaching across hot burners.

10020 GENERAL KITCHEN MODIFICATION for ADA Compliance continued

Free standing ranges:

- c) GE® 30" Free-Standing Electric Range Model #: JBP15DMWW
- d) GE® 30" Free-Standing Gas Range Model #: JGBS04BEMWH

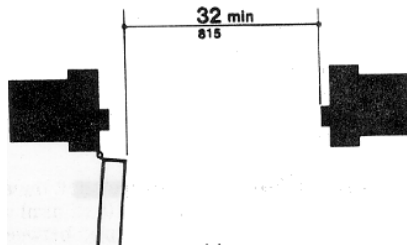
Refrigerators:

- e) GE® ENERGY STAR® 18.0 Cu. Ft. Top-Freezer Refrigerator
Model #: GTH18IBXWW
- f) GE® ENERGY STAR® 25.3 Cu. Ft. Side-By-Side Refrigerator with Dispenser
Model #: GSH25JGBCC

10030 ADA MODIFICATION OF ACCESS DOORS

The location of the doors shall be modified for handicapped access as outlined in Scope of Work.

1. All new doors shall have a minimum clear width of 2' - 8" (32") inches with the door open 90 degrees, measured between the face of the door and the opposite stop.



2. Existing door, trim and jamb shall be removed, framed opening modified (enlarged). See Section 14, Doors and Windows, # 08060 for Interior Doors and # 08010 for Exterior Doors of this manual.
3. New locksets shall be as manufactured by Schlage, Quickset or approved equal.
 - a) Door handles shall be lever-operated push type or U-shaped hardware that is easy to grasp with one hand and does not require a tight grip, pinch or twist of the wrist to operate.

10040 ADA COMPLIANT CONCRETE EXTERIOR RAMP

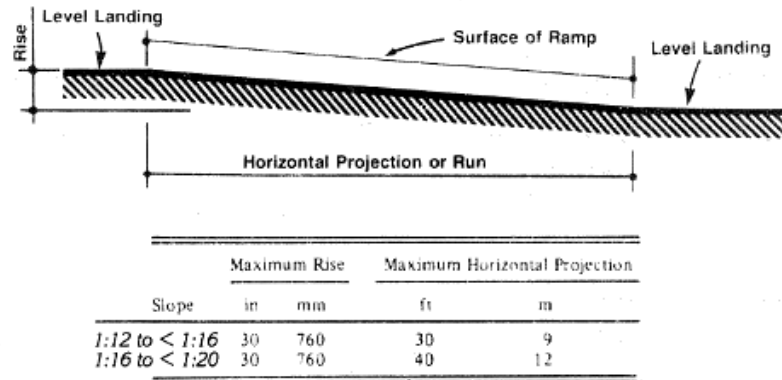
Contractor shall construct a concrete ramp to entrance door as outlined in Scope of Work. This work shall include but not be limited to the following:

1. Removal of existing concrete steps as required so as not obstructing slope of new ramp.

2. New construction to comply with A.N.S.I. standard 72302C.
3. RAMPS shall have a width of 40 inches minimum clearance between handrails and a
ADA COMPLIANT CONCRETE_EXTERIOR RAMP continued

10040

maximum slope of 1" inch rise per 1' foot run and the maximum rise for any run shall be 30". A level landing shall be constructed at the bottom and top of ramp.



The landing areas are to provide a clear turning area of 5' x 5' minimum. Landings shall also be installed at all changes in direction. Ramps shall have a brushed nonskid finish.

4. HANDRAILS: Ramps shall have metal pipe handrails 32" high on both sides, top handrail shall extend 1' 0" beyond the top and bottom of the ramp. All railings are to be properly anchored. Handrails are to be continuous without obstruction.
4. CONCRETE shall be 4,000 P.S.I. and to be reinforced with 6 x 6 x 10 x 10 wire mesh. Concrete shall be laid to a depth of 4" with a thickened edge of 8" where possible. A 4" stone compacted base will be provided under all concrete ramps, including landing areas and necessary footings. See Section 4, Concrete, # 03000 of this manual.
NOTE: Where new concrete meets old, stone shall be eliminated and slab thickness increased, as necessary.

10050

ADA COMPLIANT WOOD CONSTRUCTED EXTERIOR RAMP

Contractor shall construct a wood ramp to entrance door as outlined in Scope of Work. This work shall include but not be limited to the following:

1. Removal of existing concrete steps as required so as not obstructing slope of new ramp. Contractor shall remove and dispose of all debris.
2. Lumber:
- Lumber used shall be construction grade # 2 SYP Pressure Treated (PT).
3. Ramps:
- shall have a width of forty (40") inches minimum clearance between handrails. The maximum slope of a ramp in new construction shall be 1:12 (or 1" of rise for every

12" of run). A level landing shall be constructed at the bottom and top of ramp. The landing areas are to provide a clear turning area of 5' x 5' minimum. Landings shall also be installed at all changes in direction.

10050 ADA COMPLIANT WOOD CONSTRUCTED EXTERIOR RAMP continued

4. Handrails:
 - Ramps shall have handrails 32" high on both sides; top handrail shall extend 1' 0" beyond the top and bottom of the ramp.
 - Railings are to be securely anchored. Handrails are to be continuous without obstruction and comply with the NYS Building Code as well.

5. Ramp and Landing materials:
 - Ramp runners and landing joists are to be 2 x 6 spaced 16" O.C.
 - Ramp and landing decking shall be of 5/4" X 6" P.T. # 2 SYP.
 - All joints are to be solidly blocked.
 - Support posts are to be 4 x 4 maximum spacing of 8' - 0" and are to be anchored to concrete piers and footings, depth of footings must be 3' - 6" below grade.
 - Galvanized or epoxy coated decking screws shall be used for all attaching.
 - All wood components shall be of new pressure treated materials of proper size as required for a satisfactory installation and proper tie-in.
 - All handrails are to be securely bolted to ramp side runners.

5. Landing:
 - The PT wood ramp shall rest on 4' X 4' X 4", 4000psi, broom finished concrete landing. See Section 4, Concrete, # 03000 of this manual.

APPLIANCES

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APPLIANCES

11000 GENERAL STANDARDS

Appliances delivered and stored on the property shall be protected and placed in area directed and approved by owner in a safe manner.

- a) It shall be placed in an area so as not to disturb homeowner's property.
- b) Any damaged areas shall be repaired and/or replaced at contractor's expense.
- c) All color and style of the new appliance (s) shall be selected by the homeowner.
- d) **All appliances that can be shall be Energy Star rated.**
- e) Disposal of all existing appliances shall be made at an appropriate site.
- f) The contractor shall be responsible for and make all the arrangements for the payment and delivery of each appliance, **NOT THE HOMEOWNER.**

11010 NEW GAS RANGE REPLACEMENT

Contractor shall remove existing stove and replace with a new stove as per the Scope of Work.

1. The existing stove shall be disconnected and disposed of properly.
2. The Gas Range shall be a free standing Energy Star rated range with oven as manufactured by **GE, Frigidaire, Tappan or Whirlpool**, or an approved equal. Allow \$500 for this Gas Range.
3. The new gas range shall be installed by a certified, (LP or natural gas line), installer using Corrugated Stainless Steel Tubing (CSST) properly bonded to the grounding electrode system of the building. The installer shall meet all installation requirements of:
 - a) *The New York State Fuel Gas Code*
 - b) The equipment manufacturer.
4. Stove shall be electronic, pilot-free, ignition type.

NOTE: All fixtures and accessories shall be provided in place in operating condition.

11015 NEW ELECTRIC RANGE REPLACEMENT

Contractor shall remove existing range and replace with a new electric range as per the Scope of Work.

1. The existing stove shall be disconnected and disposed of properly.
2. Electric Range shall be a free standing Energy Star rated range with oven as manufactured by **GE, Whirlpool** or an approved equal

Allow \$450.00 for this Electric Range.

11015 NEW ELECTRIC RANGE REPLACEMENT continued

3. All electrical work shall be completed by Orange County licensed Electricians. See Section 20, Electric, # 14001 or 14003. The installer shall meet all the installation requirements of:
 - a) The National Electrical Code, ANSI/NFPA NO. 70
 - b) The equipment manufacturer.

11020 GAS WALL OVEN REPLACEMENT

Contractor shall install new gas wall oven as per the Scope of Work:

1. Contractor shall install oven as manufactured by **GE® 24" Built-In Gas Oven Model # JGRS06BEJBB**, or an approved equal, according to the manufacturer's directions.
Allow \$725.00 for this wall oven.
2. The contractor shall place the new wall oven in the existing opening and / or do all the necessary work to cabinet to fit the oven the in proper manner.
3. The existing oven shall be disconnected and disposed of properly.
4. The new gas range shall be installed by a certified, (LP or natural gas line), installer using Corrugated Stainless Steel Tubing (CSST) properly bonded to the grounding electrode system of the building. The installer shall meet all installation requirements of:
 - a) *The New York State Fuel Gas Code*
 - b) The equipment manufacturer.
5. The wall oven shall be electronic, pilot-free, ignition type.

11025 ELECTRIC WALL OVEN REPLACEMENT

Contractor shall install new electric wall oven as per the Scope of Work:

1. Contractor shall install oven as manufactured by **GE® 24" Electric Single Standard Clean Wall Oven Model #: JRS06SKSS**, or an approved equal, according to the manufacturer's directions.
Allow \$925.00 for this wall oven.
2. The contractor shall place the new wall oven in the existing opening and / or do all the necessary work to cabinet to fit the oven in the proper manner.
3. The existing oven shall be disconnected and disposed of properly.
4. All electrical work shall be completed by Orange County licensed Electricians. See Section 20, Electric, # 14001 or 14003. The installer shall meet all the

installation requirements of:

- a) The National Electrical Code, ANSI/NFPA NO. 70
- b) The equipment manufacturer.

11030 GAS BUILT-IN COOKTOP REPLACEMENT

Contractor shall install new gas wall oven as per the Scope of Work:

1. Contractor shall install cooktop as manufactured by **GE® 30" Built-In Gas Cooktop Model #: JGP328WEKWW**, or an approved equal, according to the manufacturer's directions.
Allow \$575.00 for this cooktop.
2. The contractor shall place the new gas cooktop in the existing opening and / or do all the necessary work to cabinet to fit oven in proper manner.
3. The existing cooktop shall be disconnected and disposed of properly.
4. The new gas cooktop shall be installed by a certified, (LP or natural gas line), installer using Corrugated Stainless Steel Tubing (CSST) properly bonded to the grounding electrode system of the building. The installer shall meet all installation requirements of:
 - a) *The New York State Fuel Gas Code*
 - b) The equipment manufacturer.
5. The gas cooktop shall be electronic, pilot-free, ignition type.

11035 ELECTRIC BUILT-IN COOKTOP REPLACEMENT

Contractor shall install new gas wall oven as per the Scope of Work:

1. Contractor shall install oven as manufactured by, **GE® 36" Built-In Electric Cooktop Model #: JP626WKWW**, or an approved equal, according to the manufacturer's directions.
Allow \$475 for this cooktop.
2. The contractor shall place the new cooktop in the existing opening and / or do all the necessary work to cabinet to fit the cooktop in the proper manner.
3. The existing cooktop shall be disconnected and disposed of properly.
4. All electrical work shall be completed by Orange County licensed Electricians. See Section 20, Electric, # 14001 or 14003. The installer shall meet all the installation requirements of:
 - a) The National Electrical Code, ANSI/NFPA NO. 70
 - b) The equipment manufacturer.

11040 RANGE HOOD VENT

Contractor shall install new gas wall oven as per the Scope of Work:

1. New vented range hood as manufactured by **Viking, Broan, Air King** or an

approved equal, shall be supplied and installed as per the manufacturer's directions.

Allow \$250 for this new range hood.

11040 RANGE HOOD VENT continued

2. The contractor shall place the new range hood in the existing opening and / or do all the necessary work to cabinet to fit the range hood in the proper manner.
3. The existing range hood shall be disconnected and disposed of properly.
4. All electrical work shall be completed by Orange County licensed Electricians. See Section 20, Electric, # 14001 or 14003. The installer shall meet all the installation requirements of:
 - a) The National Electrical Code, ANSI/NFPA NO. 70
 - b) The equipment manufacturer.
5. All necessary connections are to be installed to exhaust air to outside.
6. The contractor will check and clean, and if necessary replace the range hood vent ductwork to the exterior.

11045 REFRIGERATOR

Contractor shall install new refrigerator as per the Scope of Work:

1. Refrigerator shall be a Top Mount as manufactured by **Frigidaire, Whirlpool, GE** or an approved equal. All refrigerators shall be Energy Star rated. Allow \$700 for this refrigerator.
2. The contractor shall place the new refrigerator in the existing opening and / or do all the necessary work to cabinet to fit the refrigerator in the proper manner.
3. The existing refrigerator shall be disconnected and disposed of properly.

11050 GAS CLOTHES DRYER

Contractor shall install new gas clothes dryer as per the Scope of Work:

1. The gas dryer shall be as manufactured by **GE® 6.0 cu. ft. capacity DuraDrum™ gas dryer Model # GTDX100GMWW** or an approved equal. Allow \$475.00 for this dryer.
2. The new gas dryer shall be installed by a certified, (LP or natural gas line), installer using Corrugated Stainless Steel Tubing (CSST) properly bonded to the grounding electrode system of the building. The installer shall meet all installation requirements of:

- a) *The New York State Fuel Gas Code*
- b) The equipment manufacturer.

11050 GAS CLOTHES DRYER continued

3. The existing dryer shall be disconnected and disposed of properly.
4. A proper metal dryer vent line for this dryer shall be installed from dryer to exterior of house in accordance with national fuel gas code. Include a new vent connection between the dryer and the new vent.

11060 ELECTRIC CLOTHES DRYER

Contractor shall install new electric clothes dryer as per the Scope of Work:

1. Contractor shall install an electric clothes dryer as manufactured by **GE® 6.0 cu. ft. capacity DuraDrum™ electric dryer Model #: GTDX100EMWW**, or an approved equal, according to the manufacturer's directions.
Allow \$425 for this dryer.
2. The contractor shall place the new dryer in the existing opening.
3. The existing dryer shall be disconnected and disposed of properly.
4. All electrical work shall be completed by Orange County licensed Electricians. See Section 20, Electric, # 14001 or 14003 of this manual. The installer shall meet all the installation requirements of:
 - a) The National Electrical Code, ANSI/NFPA NO. 70
 - b) The equipment manufacturer.
5. A proper dryer metal vent line for this dryer shall be installed from dryer to exterior of house in accordance with national fuel gas code.

PLUMBING

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PLUMBING

12000

GENERAL REQUIREMENTS PLUMBING

The provisions of this section shall apply to the erection, installation, alteration, repairs, relocation, and replacement, addition to, use or maintenance of plumbing systems.

The installation of fuel gas distribution piping and equipment, heating systems, fuel gas-fired water heaters and water heater venting systems shall be regulated by the *Mechanical and Fuel Gas Codes of New York State*.

Plumbing systems in existing dwellings that are undergoing repairs, alterations, and changes in occupancy or construction of additions shall be permitted and comply with provisions of the *Existing Building and Plumbing Codes of New York State*.

Permits and Licenses: The contractor shall be responsible for complying with all *local Plumbing Licensing requirements* for the cities of *Newburgh, Middletown and Port Jervis*, and for the *County of Orange Electrical licensing requirements*.

The contractor shall obtain all required permits and inspections as required by state and local codes, and all work shall be in accordance therewith.

A copy of all permits, (plumbing, electrical and building), must be presented to Community Development Office prior to start of work. Copies of the certificate of completion shall also be presented to the owner and OCD.

- a) **Approved materials and equipment:** Materials, equipment and devices approved by OCD for use shall be constructed and installed in accordance with the manufacturer's directions and the NYS Building and Fire Code.
- b) The contractor shall furnish and install all soil, vent, and waste piping, the hot and cold water supply system, the plumbing fixtures and fittings, and the connections to the potable water supply and to the waste / sewer piping as called for in the Scope of Work..
- c) The heating contractor shall furnish a heating layout in conformance with the manufacturer's installation instructions, local codes; and shall install a complete heating, and if called for in the Scope of Work, air-conditioning system (A/C) of the type called for. **The system design and installation shall conform to the manufacturer's suggestions and directions. Any deviation from these directions will not be accepted by the OCD.**
- d) **Heating / AC systems:** All heating systems, and if called for in the Scope of Work, A/C systems, shall satisfy local weather conditions in accordance with the design practices recommended by ASHRAE, and shall conform to the rules and regulations of the National Board of Underwriters and any and all governing local and state codes.
- e) When applicable, all color selections are to be made by the homeowner.
- f) **Energy Star rated:** Unless called for in the Scope of Work **all** newly installed **Plumbing, Heating and A/C products and components that can be, will be Energy Star rated.** Examples include but not limited to heating systems, A/C systems, thermostats, water heaters, water closets, and tub / shower fixtures and other products.
- g) All products that require electrical connection work shall be completed by Orange County licensed Electricians. See Section 20, Electric, # 14001 or 14003 of this manual. The installer shall meet all the installation requirements of:
 - a) The National Electrical Code, ANSI/NFPA NO. 70
 - b) The equipment manufacturer.
- i) All installations shall be tested for leaks at the maximum working pressure for each system or product, and if necessary any and all corrections are to be.
- j) **Disposal or Debris:** The contractor shall be responsible for the disposal of all debris associated with the work.

12010 UPGRADE PLUMBING

The Contractor shall remove all visible galvanized piping. The work shall include, but not be limited to, all interior hot and cold water lines, all waste lines and replacement or repair of other related plumbing, as outlined in Scope of Work.

1. Contractor shall remove all galvanized, lead or deteriorated copper or plastic piping lines.
2. Existing copper and red brass piping shall remain if properly sized and in good condition.
3. All new separate shut off valves for hot and cold water lines are to be provided at the existing fixtures (sinks, tub and shower fixtures, washing machines and water closets, etc.). Stop and waste valves, chrome nipples are required.
4. All new piping and valves are to be properly sized and rated as per code. All interior copper pipes shall be Type L 3/4". All risers are to have a separate 3/4" stop.
5. New frost-free hose bibs for exterior hose connection are to be installed at the front and rear of house.
6. New trap assemblies for waste and vent lines are to be installed as required & tied-into existing, if properly sized, or installed new as per code.
 - a) All new fixtures and accessories as called for in the Scope of Work shall be installed in place and in proper operating condition.
 - b) All plumbing shall be tested for leaks at maximum working pressure for which the system is intended and all corrections made as necessary.
7. Cross-linked polyethylene (PEX) tubular plumbing supply piping is an allowable substitute for the traditional plumbing. See this section # 12015 below.

12015 CROSS-LINKED POLYETHYLENE TUBULAR (PEX)

The contractor shall install a PEX plumbing system as manufactured by **Uponor, PEX plumbing systems**, or an approved equal, as per the manufacturer's instructions. All PEX Pining systems shall have a 25-year warranty.

Before installing this type of piping the contractor shall consult the local building department and local codes for additional installation requirements:

- a) The contractor shall also consult with the OCD Rehabilitation Inspector before installing this product.
- b) The contractor shall furnish the OCD with a copy of the installer's certification from the manufacturer for this product.
- c) The contractor shall check the PEX tubing for the proper ASTM identification marking. Hot/Cold Water F-876 or F-876/877/and Standard for Fittings CSA B137.5
- Check for potable water listing [NSF International, Inc. (NSF-pw), or other recognized listing agency].
- All metallic insert fittings shall be marked with the Manufacturer's name, Trademark or other identification mark.

12015

CROSS-LINKED POLYETHYLENE TUBULAR (PEX) continued

Applicable Standards:

- ASTM F 876 - Specification for Cross-linked Polyethylene (PEX) Tubing.
- ASTM F 877 - Specification for Cross-linked Polyethylene (PEX) Plastic Hot and Cold Water Distribution Systems.
- ASTM F 1807 - Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR 9 Cross-linked Polyethylene (PEX) Tubing
- ASTM F 1960 - Specification for Cold Expansion Fittings with PEX Reinforcing Rings for use with Cross-linked Polyethylene (PEX) Tubing
- CSA B137.5 - Cross-linked Polyethylene (PEX) Tubing Systems for Pressure Applications

d) **Limitations on PEX use:**

- Do not use in applications where the temperature of the water could exceed 180° F at 100 psi unless specifically approved in the code, e.g., water heater relief line.
- **Do not use in any application where tubing will be exposed to direct sunlight.**
- Do not allow tubing to come in extended contact with any of at least the commonly encountered construction materials listed below:
(This list is not all-inclusive.)
 - Pipe thread sealing compounds
 - Firewall penetration sealing compounds
 - Exception - Water-soluble gypsum-based caulking
 - Petroleum-based materials such as:
 - Kerosene Benzene
 - Gasoline Solvents
 - Fuel Oils Cutting Oils
 - Asphaltic Paint Asphaltic Road Materials
- Consult your tubing manufacturer if you have questions about these or any other materials not listed.
- Do not place any PEX tubing in heavily contaminated soils or other heavily contaminated environments.
- Do not use tubing with gouges, cuts, cracks, abrasions, evidence of chemical attack, other defects, or tubing that has been crushed or kinked.
- Do not use in swimming pool piping systems.
- Review all limitations on the use of cross-linked polyethylene tubing and the fitting system you have selected to use.
- Keep tubing a minimum of 12" vertically or 6" horizontally from sources of high heat, such as recessed light fixtures, flue gas vents, or heating appliances.

12020

PLUMBING - BATHROOMS

Contractor shall install a new water closet, tub, wash basin and medicine cabinet as called for in the Scope of Work. All new fixtures are to be as manufactured by **Kohler, American Standard**, an approved equal, or as called for in the Scope of Work. Color and style shall be selected by the owner.

1. New tub shall be an enameled steel bath tub as manufactured by **American Standard Huron Series** or an approved equal with bath and shower diverter **Delta Scald-Guard** or equal, multi-flex pop-up bath drain and chrome plated shower curtain rod.

12020 PLUMBING – BATHROOMS continued

2. **WATER CLOSET** - The water closet shall be a vitreous china toilet, **Energy Star rated**, high-efficiency, low-flush toilet that have a flush rate of 1.6 gallons per flush, or less Water Closet as manufactured by **Kohler, American Standard**, an approved equal, and to include chrome nipples, shut-off valve, escutcheons, chrome supply tube, bees wax seal and flange with bolts. (New seat normally comes with the toilet, shall also be included.)
3. **LAVATORY** – The sink basin used with a vanity shall be a self-rimming, 19-Inch Round Centerset Drop-In Lavatory, Porcelain Enameled Steel as manufactured by **American Standard** or **Crane Plumbing** or an approved equal. Include new chrome supply tubes with chrome shut-off valves and a new “P” trap. The bathroom vanity (cabinet) shall be as manufactured by **KraftMaid Cabinets** or, an approved equal, and the basin shall be selected by homeowner with an allowance of \$300.00 for vanity.
4. All new trap assemblies, waste and vent piping shall also be included as required by the Scope of Work and tied-into existing waste and vent, if properly sized; or installed new as per NYS Plumbing Code. All wastes and vents as necessary for a complete and finished job must be installed
5. New copper tubing shall be installed for hot and cold line (Type L) 3/4 inch main lines with 1/2 inch to fixture. Cross-linked polyethylene (PEX) tubular plumbing supply piping is an allowable substitute for the traditional plumbing. See this section # 12015 above.
6. All galvanized supply piping shall be replaced with copper tubing or Cross-linked polyethylene (PEX) tubular plumbing supply piping as per the manufacturer’s directions. All galvanized waste and vent piping shall be replaced with Polyvinyl chloride (PVC) or ABS plastic piping.
6. All new piping whether it is for supply, waste or venting shall be properly sized and rated as per the NYS Plumbing, Fuel Gas or Mechanical Codes.

12025 PLUMBING - KITCHEN

1. A new **Elkay CR2522 'GOURMET' 25-inch Celebrity Single Bowl Top-Mount Stainless**
3. Plumber shall make all tie-in connections as required to make fixtures operational.
4. All new trap assemblies, waste and vent piping shall also be included as required by the Scope of Work and tied-into existing waste and vent, if properly sized; or installed new as per NYS Plumbing Code. All wastes and vents as necessary for a complete and finished job must be installed
5. New copper tubing shall be installed for hot and cold line (Type L) 3/4 inch main lines with 1/2 inch to fixture. Cross-linked polyethylene (PEX) tubular plumbing supply piping is an allowable substitute for the traditional plumbing. See this section # 12015 above.
6. All galvanized supply piping shall be replaced with copper tubing or Cross-linked polyethylene (PEX) tubular plumbing supply piping as per the manufacturer’s directions. All galvanized waste and vent piping shall be replaced with Polyvinyl chloride (PVC) or ABS plastic piping.

7. All new piping whether it is for supply, waste or venting shall be properly sized and rated as per the NYS Plumbing or Mechanical Codes.

12030 REPLACEMENT FAUCETS

Contractor shall remove the existing faucets as outlined in Scope of Work, and install new faucets as manufactured by **Gerber, Delta, Kohler or American Standard**, or approved equal as per the manufacturer's directions.

- a) New separate shut off valves shall be provided for hot and cold lines for the existing fixtures.
- b) Chrome plated supply lines that are exposed shall be installed.
- c) Include all new chrome escutcheons cover plates on all exposed piping.

12035 REPLACEMENT "P" TRAPS

As required by the Scope of Work, replace all "P" trap assemblies with either with Polyvinyl chloride (PVC) or ABS plastic or an assembly as manufactured by **Huntington Satin Nickel P-Trap Drain Assembly**, or an approved equal.

- a) All new trap assemblies, waste and vent piping shall also be included as required by the Scope of Work and tied-into existing waste and vent, if properly sized; or installed new as per NYS Plumbing Code. All wastes and vents as necessary for a complete and finished job must be installed
- b) Installation shall include all materials and labor.
- c) All exposed traps are to match finish of existing and finish at the wall or floor with an escutcheon trim plate.

12040 WATER PRESSURE TANK

Contractor shall supply and install a new pre-pressurized well tank as manufactured by **Amtrol WELL-X-TROL**, or approved equal, with a 7-year warranty.

1. The replacement Tank shall be properly sized and installed in existing tank location.
2. Installation **shall include** all new piping, connections, valves, gauges, and, if required check the Scope of Work, a pressure switches as manufactured by **Square D**, or an approved equal as needed to make operational. See Section 20, Electric, # 14001 or 14003 of this manual.
3. All electrical wiring shall be re-connected as per the NEC. See Section 20, Electrical, # 14000 of this manual.

12045 SHALLOW WELL REQUIREMENTS

The contractor shall install a new Jet water pump as manufactured by Myers Pump, or an approved equal and pressure tank, see # 12060 above for the pressure tank details.

1. Water pump shall be as manufactured by **Myers® Quick Draw™ Jet Pumps** – Shallow Well with a direct mount pressure switch, factory preset to 30-50 psi, or approved equal.

- 12045
2. Installation of this pump shall include all piping, connections, valves, and controls, and if called for a pressure tank as needed to make operational.
- SHALLOW WELL continued
3. New electrical circuit from panel box to pump shall be installed if existing is in poor condition. See Section 20, Electric, # 14001 or 14003 of this manual.
 4. The Contractor shall be responsible for having the well water tested for bacteria and submit a copy of this water test to the homeowner and OCD.

12050 SUBMERSIBLE WELL PUMP

1. Install a submersible pump as manufactured by **Myers Model Rustler Series 4 Inch Composite and Stainless Steel Submersible Pump Series with PENTEK XE Series Motor** or an approved equal or approved equal. Size shall be determined by depth of well.
2. Install all necessary PVC piping from well to house. All piping from well shall be a minimum of 1" diameter plastic buried a minimum of 4' in the ground.
3. Encase all electrical wiring from well to house in plastic conduit, so as not to be damaged during installation and backfilling. Electric will be connected at control box near existing pump. See Section 20, Electric, # 14001 or 14003 of this manual.
4. Contractor shall supply and install a new pre-pressurized well tank as manufactured by **Amtrol WELL-X-TROL**, or approved equal, with a 7-year warranty.
5. The contractor shall be responsible for the landscaping of area disturbed. See Section 3, Site Work, Code # 02010 of this manual.
6. For the Drilled Well specifications see Section 3, # 02090 of this manual.

12060 SUMP PUMP INSTALLATION

Contractor shall install new **Myers Model MCSP 1/3 HP Thermoplastic Pedestal Sump Pump, 50 GPM** and make all necessary connections and pit for sump pump in basement.

1. Prepare a hole in the floor that will accept a basin as manufactured by **Pentair Water FPW73-19 Sump Pump Basin 18" x 22"**, or an approved equal, according to the manufacturer's directions. Include a **FLOTEC PW73-20 Sump Basin Lid** or an approved equal, installed according to the manufacturer's directions.

Alternate Lid: as per Section 6, Metals, 05020, Cover for Well and Sump Pump Pit Cover.

- a) Place six (6") inches of 3/4" stone for the basin to sit on and surround the basin with this type stone to the bottom of the concrete floor.

- b) Finish the concrete floor surface of sump pump basin hole with a smooth concrete surface.

12060 SUMP PUMP INSTALLATION continued

2. Sump pump shall be installed as follows:
 - a) Install new dedicated GFCI electrical duplex outlet near sump pump hole with all necessary connections and in compliance with N.Y.S. Board of Fire Underwriters Code. See Section 20, Electric, # 14001 or 14003 of this manual.
 - b) Install new plastic drain pipe through the exterior wall with a check valve at pump. Pitch the drain pipe to ¼ inch per foot to insure water run off from pipe and place a leader splash block to divert the water. This drain pipe shall extend a minimum of eight (8') feet away from foundation and pipe shall be placed a minimum of 4" below ground.
 - c) Pump shall be installed in a secure manner. Wire must be strapped securely.

12065 WATER SOFTENER

The contractor shall at their expense test the water as called for in the Scope of Work. The resulting report shall be shared with the homeowner and OCD.

If it is found that the water requires softening than:

- the contractor shall install a water softener, as manufactured by **GE® 39,000 Grain Water Softener Model #: GXSH39E, or Fleck 5600 Meter Based 32K Best Water Softener System** or an approved equal, according to the manufacturer's directions.

- a) Use type "L" copper if copper piping is used for connecting the water.
- b) Install the bypass valve (if applicable) to the control valve.
- c) Install a dedicated standard outlet that is not controlled by a switch for the softener. See Section 20, Electric, # 14001 or 14003 of this manual.
- d) Include a drain for the backwashing cycles.
Note: Never connect the drain line directly into a drain. Allow an air gap between the drain line and waste line to prevent possibility of back-siphoning.
- e) Location of softener is important. It should dry, protected, level, and non-freezing area (34- 120 deg. F)
- f) The brine tank is the more accessible of the two tanks and should be placed so that is easier to get to.

Note:

If an electric water heater is used, turn off the electricity to the water heater while installing the softener. Once the installation is completed, turn on a few hot and cold water faucets and let them run. When certain there is no more air in the pipes, then turn on electricity to the water heater.

12070 GAS WATER HEATER

1. The contractor shall install new Water heater as manufactured by **GE® Gas Water Heater Model #: SG40T12AVG, or Bock 32 gallon PowerGas with a five (5) year limited warranty**, or an approved equal, installed according to the manufacturer's directions.
2. Contractor shall install all required plumbing and safety devices as stated by the manufacturer and NYS Building and Fire Codes.

- 12070
3. Upon completion of installation, the water heater shall be tested for leaks.
Caution: The recommended maximum hot water temperature setting for normal residential use is 120°F. * **See WARNING at the end of # 12075 on page 110 BELOW**
- GAS WATER HEATER continued
4. **Relief Valve:** The pressure rating of the relief valve must not exceed 150 PSI, the maximum working pressure of the water heater as marked on the rating plate.
5. **Vent Installation:** The contractor shall install new venting (breaching) for the water heater. Failure to properly vent this water heater may cause an explosion, fire, or carbon monoxide poisoning which may result in property damage, personal injury or death.
- Vents shall be sized and installed as specified by National Fuel Gas Code.
 - All horizontal vent connectors shall have a pitch up from the appliance of not less than 1/2" per foot.
 - Vents must be run above roofing when masonry chimney is unavailable. Vents shall not terminate through the basement windows or exterior walls.
 - Gas utilization equipment shall not be connected to a chimney flue for burning fuel.

12075 OIL FIRED WATER HEATER

- The contractor shall install new oil fired water heater as manufactured by **Bock 32E oil fired water heater**, or an approved equal, with a .63 EF rating with a five (5) year limited warranty, installed according to the manufacturer's directions.
- The contractor shall install all required plumbing and safety devices as stated by the manufacturer and NYS Building and Fire Codes.
- The fuel oil supply line must have a shut-off valve and oil filter as manufactured by **General Filters Inc., Model 1A-25B**, or an approved equal, located at the burner.
- Upon completion of installation, water heater shall be tested for leaks and water temperature set to homeowner's desired range.
Caution: The recommended maximum hot water temperature setting for normal residential use is 120°F. ***See WARNING at the end of # 12075 on next page BELOW**
- Vent Installation:**
The contractor shall install new venting (breaching) for the water heater. Failure to properly vent this water heater may cause an explosion, fire, or carbon monoxide poisoning which may result in property damage, personal injury or death.

 - Vents shall be sized and installed as specified by National Fuel Gas Code.
 - All horizontal vent connectors shall have a pitch up from the appliance of not less than 1/2" per foot.
 - Vents must be run above roofing when masonry chimney is unavailable. Vents shall not terminate through the basement windows or exterior walls.
 - Gas utilization equipment shall not be connected to a chimney flue for burning fuel.

- Relief Valve:** The pressure rating of the relief valve must not exceed 150 PSI, the maximum working pressure of the water heater as marked on the rating plate.
- Location:** Locate the water heater in a clean dry area as near as practical to the area of greatest heated water demand. Long un-insulated hot water lines can waste energy and water. Place the water heater in such a manner that the thermostat and element access

panels can be removed to permit inspection and servicing such as removal of elements or checking controls. The water heater and water lines should be protected from freezing temperatures. Do not install the water heater in outdoor, unprotected areas.

12080 ELECTRIC WATER HEATER

1. Contractor shall install new Water heater as manufactured by **GE® Electric Water Heater Model #: SE40M12AAH**, with a limited 12 year warranty or an approved equal.
2. This water heater must be installed in accordance with the manufacturer's instructions, local codes, utility codes, and utility company requirements or, in the absence of local codes, the latest edition of the National Electrical Code. It is available from some local libraries or can be purchased from the:
National Fire Protection Association,
Batterymarch Park, Quincy, MA 02269

As booklet ANSI/NFPA 70
3. **Location:** Locate the water heater in a clean dry area as near as practical to the area of greatest heated water demand. Long un-insulated hot water lines can waste energy and water. Place the water heater in such a manner that the thermostat and element access panels can be removed to permit inspection and servicing such as removal of elements or checking controls. The water heater and water lines should be protected from freezing temperatures. Do not install the water heater in outdoor, unprotected areas.
4. **Relief Valve:** The pressure rating of the relief valve must not exceed 150 PSI, the maximum working pressure of the water heater as marked on the rating plate.

*** ALL WATER HEATERS - WARNING: WATER TEMPERATURE ADJUSTMENT**

Safety and energy conservation are factors to be considered when selecting the water temperature setting of water heater's thermostat. Water temperatures above 125°F can cause severe burns or death from scalding. Be sure to read and follow the warnings outlined on the label pictured below. This label is also located on the water heater near the thermostat access panel.

Time/Temperature Relationship in Scalds

Temperature Time to Produce a Serious Burn:

120°F More than 5 minutes
125°F 1 ½ to 2 minutes
130°F About 30 seconds
135°F About 10 seconds
140°F Less than 5 seconds
145°F Less than 3 seconds
150°F About 1 1/2 seconds
155°F About 1 second

The chart shown above may be used as a guide in determining the proper water temperature.

NOTICE: Households with small children, disabled, or elderly persons may require a 120°F or lower thermostat setting to prevent contact with “HOT” water.

12085 CORRUGATED STAINLESS STEEL TUBING (CSST) GAS SUPPLY LINE

Installation must be performed by trained installer who has been trained in a training program recognized by the manufacturer and has been issued a Certificate of Training.

1. The Contractor must submit a copy of their installer’s certification from the manufacturer to OCD **BEFORE** the installation.
2. Install CSST as manufactured by **Titeflex, Ward, OmegaFlex** or **Parker Hannifin**, or an approved equal.
 - Titeflex CSST is stamped with the mark “**GASTITE.**”
 - Ward CSST is stamped with the mark “**WARDFLEX.**”
 - OmegaFlex CSST is stamped with the marks “**TRACPIPE**” or “**COUNTERSTRIKE.**”
 - Parker Hannifin CSST is stamped with the mark “**PARFLEX.**”
3. All CSST gas piping systems shall comply with ANSI LC 1 CSA 6.26 CSA design certified.
4. Installation must be performed strictly in accordance with local plumbing and/or building codes, and in accordance with the manufacturer and Installation Guide.
5. Pressure testing must be performed during rough construction with piping exposed.
6. Manufacturer installation requirements require adherence to additional bonding requirements which is addressed in NFPA 54, 2009 edition for special lightning protection installation provisions. **Bonding of CSST piping** must be performed by licensed electricians if the manufacturer’s instructions require use of a bonding jumper, then such work shall be done in accordance with applicable law, which includes the pulling of any required electrical permits. See Section 20, Electric, # 14001 or 14003 of this manual.

12090 INSTALLATION of BREACHING VENTILATION

The contractor shall install new properly sized breaching for water heaters and Heating equipment.

DONOT RE-USE the existing breaching!

The contractor shall be responsible for, but not limited to, the following:

- a) Vents shall be sized and installed as specified by National Fuel Gas Code.
- b) Slope vent pipe at least ¼" per foot up towards chimney. Avoid long horizontal runs, excessive number of elbows and tees.
- c) Breaching or chimneys must be run above roofing when masonry chimney is unavailable. Vents shall not terminate outside cellar windows or walls.
- d) Gas utilization equipment shall not be connected to a chimney flue used for burning other fuels such as a wood burning fireplace.
- e) Before installing the new breaching the contractor shall have the masonry chimney inspected for any defects.
- f) All damaged chimneys must be re-lined. – NFPA 211 requires chimney to be lined prior to connecting boiler.
- g) For oil to gas conversions, careful cleaning on the chimney liner and debris removal is essential.
- h) Refer to:
 - NFPA 31, Installation of Oil-Burning Equipment.

– NFPA 211, Standard for Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances.

- i) **Down Drafts:** To avoid down drafts, extend chimney at least 3 feet above location of roof penetration and at least 2 feet above any roof portion within 10 feet.

120905 VENT PIPE REPAIR (WET or DRY)

1. Contractor shall replace or repair the vent piping for the waste line as called for in the Scope of Work.
2. All piping shall be sized and installed as per N.Y.S. Building Code and all local building codes.
3. Installation shall include all work and materials for complete job.
4. Plumbing soil stacks, exhaust vents and pipes shall be flashed into asphalt shingle roof systems with some type of flat flange that extends around a penetration and is installed under shingles on the upslope of a flange.

HEATING

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HEATING

13000 GENERAL REQUIREMENTS FOR ALL HEATING UNITS

These specifications call for the furnishing of all the labor, materials, methods and procedures of every kind that may be needed to accomplish the removal of the present heating unit and replacement with a new heating unit.

Permits and Licenses: The contractor shall be responsible for complying with all local Plumbing and Electrical Licensing requirements for the cities of Newburgh, Middletown and Port Jervis, and for the County of Orange Electrical licensing requirements.

The contractor shall obtain all required permits and inspections as required by state and local codes, and all work shall be in accordance therewith.

A copy of all permits, (plumbing, electrical and building), must be presented to Community Development Office prior to start of work. Copies of the Certificate of Completion shall also be presented to the owner and OCD before or at the time final payment is made.

1. All related accessories are to be disconnected from the existing heating unit by the contractor prior to the removal.
2. The contractor shall include all rigging and hoisting practices & procedures as may be required to remove the existing heating unit from its pre-set location and setting the new boiler / furnace into position.
3. All the replacement work shall include the dismantling / demolition of the heating unit as called for in the Scope of Work after removal and the legal disposal of all related debris.
4. The contractor shall place new four (4") inch solid concrete block pad for the new heating unit as called for in the Scope of Work.
5. Repair or replace all electrical wiring to code and the manufacturer's specifications. The contractor shall include a new Emergency shut off switch at the top of the basement stairs or as per the Scope of Work and at the new heating unit. See Section 20, Electric, # 14001 or 14003 of this manual.
6. **Protection:** Install 5/8" type X firecode drywall over the new unit as per NYS Building and Fire Code.
See Section 10, Carpentry – Interior, 06412 Heating Unit Fireproofing of this manual.
All oil lines running on floor shall be properly protected with a PVC conduit piping. **The use of concrete for this protection is Prohibited.**
7. The contractor shall include and perform other work that may be reasonable and necessary to complete the installation so that the new heating system works according to the manufacturer's expectations.

8. **Include all New Controls:** if applicable, shall be United Laboratory (UL)-approved.
- a) **Circulator(s):** as manufactured by **B & G or Taco**, dual control thurst fill valve, manual bypass connector.
Expansion tank: as manufactured by **Amtrol** shall be provided.
 - b) **Protectorelay (Carlin Burner) Photo Cell** and a combination triple acting **Aquastat relay switch:** installed as manufactured by **Honeywell** or an approved equal, all individual control products are to be installed according to the manufacturer's directions.
 - c) **Automatic Boiler Feed** and **Pressure Relief Valve:** installed adjustable from 10 – 25 PSI with a built-in Check—Prevents emptying system if incoming pressure fails with a lockable Fast-Fill Lever as manufactured by **TACO** or approved equal, shall be installed according to the manufacturer's directions.
 - d) **Zone valve:** installed as manufactured by **Burnham** or equal, shall be installed as required for 2nd and / or 3rd story dwellings.
 - e) **Water Softener:** installed to protect the boiler from corrosion or sediment buildup, if called for in the Scope of Work. See Section 18, Plumbing # 12065 Water Softener, of this manual.
 - f) **Thermostat:** installed a 7 day programmable thermostat as manufactured by **Honeywell**, or an approved equal, must be installed. Any / all faulty wire found shall be replaced to source in one continuous circuit.
 - g) **Oil Filter with shut off and supply piping:** The fuel oil supply line must have a shut-off valve and oil filter as manufactured by **General Filters Inc., Model 1A-25B**, or an approved equal, located at the burner. All oil line fittings shall be of the flare type only. A fusible valve shall also be installed. Oil supply line shall be minimum 3/8" I.D. Cooper.
 - h) **Relief Valve Piping:** shall extend to and terminate twelve (12") inches above floor. All reliefs installed must be 3/4" lever type, ASME approved.
 - i) **New Breaching:** The contractor shall provide new breaching from heating unit to stack. See Section 18 Plumbing, # 12085 - Installation of Breaching Ventilation, of this manual.
 - j) **Copper piping:** All copper tubing shall be type "M".
9. **Heating Unit Performance Standard**
The heating contractor will calculate the heat loss of the dwelling, so that the proper sized unit will guarantee that the new heating system will maintain the heat within the house at 70 degrees F, when the outside temperature is zero (0) degrees F, and the wind has a velocity of 15 m.p.h.
10. **Testing – On Site**
Field tests shall be limited to the maximum working pressure for which the manufacturer of the heating unit intended. The contractor shall furnish all equipment, piping, water and labor necessary to perform such tests as may be required.

13000 GENERAL REQUIREMENTS FOR ALL HEATING UNITS continued

The heating unit and controls shall be properly tested and adjusted as may be necessary prior to activation.
See Section 18 Plumbing, # 12000 of this manual.

11. Cleaning

- a) After the assembly and connection, the heating unit shall be thoroughly cleaned. Cleaning shall be repeated as often as necessary to produce acceptable conditions.
- b) All piping installed under this contract shall be thoroughly cleaned of grease, oil, pipe compound, plaster and other dirt.
- c) All dirt and debris are to be removed from the premises and the work area shall be left clean.

12. Repair and Damage

At all times during the course of performing the work called for in the Scope of Work, the contractor shall protect from damage all existing piping, ducts, valves, fittings, fixtures, walls or ceiling or trim, etc. Any damage caused by the contractor and his workers, either directly or indirectly, shall be repaired at once, at no additional cost to the owner.

13. Time of Installation

1. Installation of the heating unit and all related work shall be done during normal working hours. The contractor shall give the owner and OCD 72 hour's notice of his intention to proceed.
2. All materials, valve controls and necessary fittings shall be on the site before removal of the existing boiler commences. Once work starts, it shall continue on every normal working day so as to quickly complete installation.

14. Guarantee

The contractor shall guarantee all work performed under the contract for a period of one year against all defects in materials and workmanship. A free 24 hour emergency service shall be provided from the time the burner is put into operation until the end of the guarantee period.
The contractor shall answer any / all service calls within 12 hours relating to the installation.

15. Special Requirements (On all natural gas / propane installation)

Gas utilities or the propane supplier must be notified upon installation and a copy of certificate of inspection by local utilities or propane supplier forwarded to OCD.

The Contractor must submit a copy of their installer's CSST certification from the manufacturer to the OCD **BEFORE** the installation. See Section 18, Plumbing, # 12080 Installation of Corrugated Stainless Steel Tubing (CSST) Gas Supply Line of this manual.

16. Installation shall include a one (1) year service agreement between the installer and the homeowner.

13010 OIL FIRED WATER BOILER

- A. The contractor shall install an oil-fired hot water boiler, as manufactured by **Buderus-Logano G115 US**, or **Crown Boiler – Tobago Series TWZ**, or **Burnham V-8 series**, or **Utica BC Series**, boiler/burner unit or approved equal, for hot water heating service (with tankless domestic water heater if stated in Scope of Work) and arranged for automatic firing with No. 2 oil, according to the manufacturer's directions.
- B. **Direct Vent Oil-Fired Hot Water Boiler**: If called for in the Scope of Work, as manufactured by **Buderus Logano G215/3 Oil Fired Hot Water Cast Iron Boiler w/Beckett Burner**, or a **Utica Oil Fired Direct Vent Boiler SW 4**, or an approved equal, installed as per the manufacturers directions.

Both types of boilers shall:

1. Boiler shall be constructed and tested in accordance with A.S.M.E. state and local boiler codes for 15 psi working pressure. Relief valve shall be set at 30 psi.
2. All requirements as stated in Specification 13000 are to be followed.

13020 GAS FIRED WATER BOILER

- A. The contractor shall install an gas-fired hot water boiler, as manufactured by **Burnham Series 2**, **Weil-McClain CGA series** or **Peerless Series MI** , boiler/burner unit or approved equal, for hot water heating service (with tankless domestic water heater if stated in Scope of Work) and arranged for automatic firing with gas according to the manufacturer's directions.
- B. **Direct Vent Gas Fired Hot Water Boiler**: If called for in the Scope of Work, install a boiler as manufactured by **Crown Boiler Co. Cabo2 CWD083**, **Utica Gas Fired Hot Water Boiler Series DVB**, **Peerless® PUREFIRE® gas-fired condensing boiler**, or an approved equal, according to the manufacturer's directions.

Both types of boilers shall:

1. Boiler shall be constructed and tested in accordance with A.S.M.E. state and local boiler codes for 15 psi working pressure. Relief valve shall be set at 30 psi.
2. The boiler shall have an automatic electronic ignition, no standing pilot light.
3. Piping from the relief valve shall extend to and terminate twelve (12") inches above floor. All reliefs installed must be 3/4" lever type, ASME approved.
4. All requirements as stated in Specification 13000 are to be followed.

13030 OIL FIRED WARM AIR FURNACE

A **Thermo-Pride**, **Lennox Elite Series 023**, **Carrier Comfort OBL/OBM**, or approved equal oil fired warm air furnace shall be installed. The heating contractor will calculate the heat loss for the proper sizing of the new furnace to guarantee that the system will maintain heat within the house at 70 degrees F. when outside temperature is 0 degrees F. with a 15 MPH wind has a velocity.

13030 OIL FIRED WARM AIR FURNACE continued

1. If called for separately or in combination with in the Scope of Work, install a new plenum and main supply ducts are too provided and connected to pick up all risers. The contractor shall replace or install new risers where damaged or missing to insure that all living area is heated.
2. All requirements as stated in Specification 13000 are to be followed.

13040 GAS FIRED WARM AIR FURNACE

A **Lennox Merit Series G 43**, or **Carrier Infinity 80 Gas Furnace** or approved equal oil fired warm air furnace shall be installed. The heating contractor will calculate the heat loss for the proper sizing of the new furnace to guarantee that the system will maintain heat within the house at 70 degrees F. when outside temperature is 0 degrees F. with a 15 MPH wind has a velocity.

1. If called for separately or in combination with in the Scope of Work, install a new plenum and main supply ducts are too provided and connected to pick up all risers. The contractor shall replace or install new risers where damaged or missing to insure that all living area is heated.
2. All requirements as stated in Specification 13000 are to be followed.
3. A properly sized new steel gas line with drip tube at burner unit shall be installed or install CSST as per See Section 18, Plumbing, # 12080 Installation of Corrugated Stainless Steel Tubing (CSST) Gas Supply Line of this manual.
All gas lines must be fastened to the ceiling.
4. All required safety features required by local utility company, manufacturer's specifications and New York State Fire and Building Code are to be provided.
5. All requirements as stated in Specification #13000 are to be followed.

13050 FUEL OIL TANK REPLACEMENT

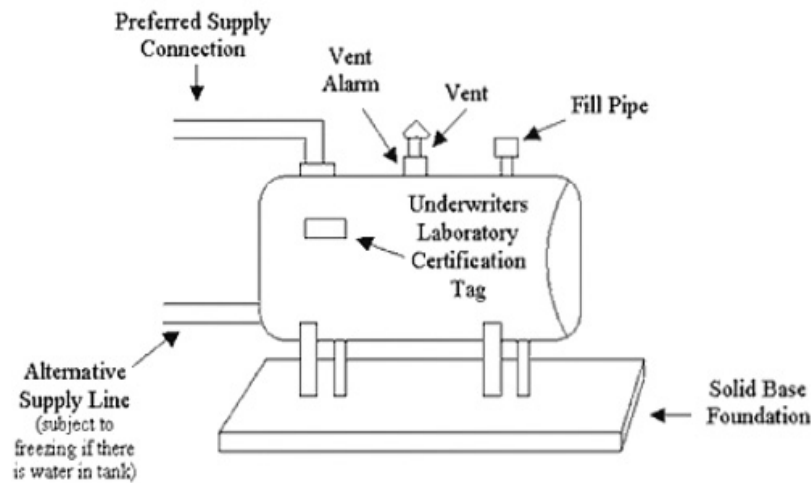
The contractor shall be responsible for the removal of the existing fuel oil tank and installation of a new UL Listed 275-gallon fuel oil tank with drip pan to supply the heating or hot water system.

- a) The contractor shall be responsible for removing and storing all of the fuel oil from the existing tank and returning it to the newly installed fuel oil tank. The contractor shall be responsible for making all the arrangements with the property owner to:
 - place a hold on delivery from the fuel oil supply company.
 - avoid accidental future use by red tagging the existing fill pipe, thereby taking it out of use until its removal
 - schedule a time that fits into the contract period and is most convenient for the tenant
- b) **Installation:** shall include:
 - if not present, include a stable concrete base for the tank to stand on, see manufacturers suggestions and Section 4, Concrete, #'s 03000 and 03040 of this manual.
 - a new UL Listed 275-Gallon Fuel Oil Storage Tank that is in accordance with National Fire Protection Association (NFPA) Code Standard 31 entitled "Installation of Oil-Burning Equipment".

13050 FUEL OIL TANK REPLACEMENT continued

- include the removal of the existing fill and vent piping and the installation of all new fill and vent piping and oil capacity gauge
 - include a new supply line with two (2) shut-off valves at the tank and furnace / boiler / water heater and a new oil filter. See this Section, # 13000 (g).
 - Location shall be, with approval of the property owner, as close as reasonable possible to the existing oil tank or in compliance with the NYS Building and Fire Code.
- c) **Disposal**: the contractor shall be responsible for the safe disposal of the old fuel oil tank according to Federal, State and local regulations.

Typical Above Ground Home Heating Oil Tank System



13055 BURIED FUEL OIL TANK REMEDIATION

The contractor shall be responsible for the safe removal of all the existing fuel oil from the buried fuel oil storage tank and return it to the newly installed 275-Gallon Fuel Oil Storage Tank(see Fuel Oil Tank Replacement # 13050 above).

- a) - The entire contents of the tank and related piping shall be emptied, cleaned and purged of all vapors.
 - The suction, inlet, gauge, vapor return and vapor lines shall be disconnected
 - Remaining underground piping shall be capped or plugged
 - b) The underground oil tank **MUST BE INSPECTED** by the Building Department of the municipality this tank is located in, and by the OCD Rehabilitation Inspector before filling it with an approved inert solid material such as foam or sand.
 - c) The contractor shall supply a copy of the Certificate of Compliance from the Building Department and the NYSDEC closure reports and /or paperwork to the property owner and to OCD.
 - d) A record of tank size, location and date of abandonment shall be supplied to the property owner and OCD.
 - e) For more information see the US / EPA Web site at:
<http://www.epa.gov/OUST/fsprevnt.htm#corrosion>
- and:

NYS Dept of Environmental Conservation (NYSDEC) Homeowner's Guide to Underground Heating Oil Tanks" at:

<http://www.dec.ny.gov/chemical/32263.html>

13060 HOT WATER BASEBOARD RADIATION

1. Contractor shall install new copper baseboard heating, **Slant/Fin - Base/Line 2000 Baseboard** or an approved equal, in all rooms called for in the Scope of Work and as per the manufacturer's directions.
- 1-A If called for in the Scope of Work, install an under the cabinet heater as manufactured by Slant/Fin "The Kicker" Kickspace Heater or an approved equal, according to the manufacturer's directions. Include all electrical connections as required by the manufacturer. See Section 20, Electric, # 14001 or 14003 of this manual.
2. All baseboard radiation shall be properly anchored to wall.
3. All requirements as stated in Specification 13000 are to be followed.
4. Contractor shall install proper flow check and bleeder valves.
5. 3/4" gate valves and boiler drains must be installed before circulator or zone valve for proper bleeding of system.

13070 DUCT WORK

1. Contractor shall supply all materials and labor necessary to complete job.
2. Contractor shall calculate the Cubic Feet per Minute, or CFM, amount and install properly sized duct work to properly distribute the airflow, produced by your heating/cooling system, to the dwelling. This involves Return Air (unconditioned) coming into the heating/cooling system.
3. Basic Guidelines for ductwork and placement:
 - Supplies are located on outside walls
 - Returns are located on inside walls. They should not be located in the same area as the furnace, nor should they be located by moisture sources such as kitchens or bathrooms.
 - Return Air CFM must be equal or greater than Supply Air CFM.
 - Wyes commonly reduce.
 - Tees split, but do not reduce, and an appropriate reducer must be added.
 - Dampers on take-off duct runs allow for adjustments of air distribution.
 - In order to maintain velocity, reduce duct size.
 - Never locate ducts at the end of the trunk line run the last take-off run to be located 12" 18" from end.
 - Always stagger take-off ducts by 12" to maintain pressure.
 - Use insulated duct or duct board in unheated spaces.
 - Flexible duct work must be stretched tightly for maximum air flow.
4. Holes in openings in joints in existing duct work are to be patched.
5. Material shall be galvanized sheet metal.
6. Installation of new ductwork shall be done in accordance with manufacturer's instructions and code requirements including dampers access doors, supports and or hangers.
7. Insulate all duct work as per the industry standard and / or as per the Scope of Work. See

Section 13, Insulation # 07200 of this manual.

13080 PREFABRICATED - METAL CHIMNEY and LINERS

Contractor shall install a United Laboratory (UL)-approved stainless steel Class "A" rated insulated chimney as manufactured by **Selkirk Corporation Metalbestos Sure-Temp** designed for All-Fuel applications, or an approved equal; installed according to the manufacturer's directions.

Large custom masonry fireplace liner: install a UL approved metal chimney as manufactured by Selkirk **Galva-Temp Large** or an approved equal, designed with a Galvanized Steel outer casing.

Existing Masonry Chimney Flue Liner: Install an insulated multi-flex stainless steel flue liner as manufactured by **Flex King Pro**, or an approved equal, as per the manufacturer's directions.

- 1) Use only the size of pipe recommended by the appliance manufacturer. This will ensure that the appliance operates at its maximum efficiency, and that you don't inadvertently compromise the product's warranty.
- 2) There are two basic options for the layout: run the pipe through the ceiling and out the roof; or run it out of an exterior wall and up to the required height. The chimney must also be a minimum of 24 inches above anything within 10 feet of the chimney.
- 3) The chimney pipe must be secured at 8-foot intervals. The contractor shall also install support straps at the fittings. When passing through walls or ceilings, secure the appropriate collar for the opening. A wall thimble collar, or ceiling support collar, and other basic components for the installed chimney are usually included as part of the installation kit.
- 4) All heating units' chimneys shall be rated "UL Class A - All Fuel Approved to 2100° F".

ELECTRICAL

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ELECTRICAL

14000 ELECTRICAL GENERAL REQUIREMENTS

The provisions of this section shall apply to the erection, installation, alteration, repairs, relocation, and replacement, addition to, use or maintenance of Electrical systems.

The installation of all residential electrical systems or parts thereof shall be regulated by the *National Electrical Code (NEC) and the County of Orange Electrical Licensing Law*. See end of 14000 for more information on this law.

Electrical systems in existing dwellings that are undergoing repairs, alterations, and changes in occupancy or construction of additions shall be permitted and comply with provisions of the *existing NEC and Building and Fire Codes of New York State*.

Permits and Licenses: The contractor shall be responsible for complying with all *Local Electrical Licensing requirements* for the cities of *Newburgh, Middletown and Port Jervis*, and for the *County of Orange Local Law # 8 – 2007 regarding Electrical Licensing and Regulation requirements*. The contractor shall obtain all required permits and inspections as required by state and local codes, and all work shall be in accordance therewith.

All work shall be inspected and approved by *New York State Board of Fire Underwriters*.

A copy of all permits, (electrical and building), must be presented to Community Development Office prior to start of work. Copies of the certificate of completion shall also be presented to the owner and OCD.

- a) **Approved materials and equipment:** Materials, equipment and devices shall be United Laboratory (UL) and OCD approved for use, and shall be constructed and installed in accordance with the manufacturer's directions and the NEC and if applicable the NYS Building and Fire Code.
- b) **Electric Panels and sub-panels:** as manufactured by **Square D, General Electric (GE), Westinghouse**, or an approved equal shall be installed according to the manufacturer's directions.
- c) **Electrical outlets and Switches:** as manufactured by **Leviton** or an approved equal. To include dimmer switches, G.F.C.I. outlets, duplex receptacles, toggle switches and switch and outlet receptacle cover plates.
- d) **Smoke Detector:** as manufactured by **Kidde 120V Hardwired Ionization Smoke Alarm with Battery Back-up**, or an approved equal. Installed, interconnected as per the manufacturer's directions.
- e) **Heat Detector:** as manufactured by **Kidde 120V Hardwired Heat Detector with Battery Backup**, or an approved equal. Installed, interconnected, with the Smoke Detectors as per the manufacturer's directions.
- f) **Carbon Monoxide Detector:** as manufactured by **Kidde 120V Hardwired Nighthawk Interconnectable Carbon Monoxide Alarm with Battery Backup**, or an approved equal.
- g) **Combination Smoke and Carbon Monoxide Detector:** as manufactured by **Kidde Photoelectric Smoke and Carbon Monoxide Alarm with 9V Battery Back up or BRK 120V Hardwired, Smoke and Carbon Monoxide Alarm with Battery Backup**, or an approved equal, installed in line as per the manufacturer's directions.

14000

- h) **Lighting:** as called for in the Scope of Work and be as manufactured by **Progressive Lighting** or approved equal., all ceiling and wall fixtures shall have the UL label and selected by the owner.
 - i) **All Lighting or other electrical appliances that can be shall be Energy Star rated.**
- ELECTRICAL GENERAL REQUIREMENTS continued

ATTENTION

Effective January 1, 2011, all new residential construction must be equipped with carbon monoxide monitors. Effective July 1, 2011, all non-owner occupied, residential properties must be equipped with carbon monoxide monitors.

For the complete County of Orange Local Law # 8 – 2007 regarding Electrical Licensing and Regulation requirements go to Orange County's Web site:

<http://www.orangecountygov.com/>

Find County Departments, click on Consumer Affairs and Weights and Measures

14001

SINGLE FAMILY DWELLING

The contractor shall comply with all of the following requirements, including the Electrical General Requirements #14000.

Contractor shall make the following electrical improvements in compliance with the NEC and the N.Y.S. Board of Fire Underwriters Code.

Special Requirements

A. Light Fixtures:

1. All light fixtures are to operate from a switch located at entrance to the area serviced.
2. All pull chain ceiling fixtures (in living areas) shall be eliminated and replaced with new light fixtures. All damaged light fixtures shall be replaced. When light fixtures are being replaced the following light fixtures will be used. Fixtures will be as manufactured by **Progressive Lighting** or approved equal. The contractor will furnish all the light bulbs for each fixture.
3. Three way switches and four way switches shall be installed as necessary in all passage areas. When passage areas are less than 5 feet apart, such as living rooms, kitchens, hallways, etc., switch will be located in a central location.
4. Basements, crawl space or attic area are to be provided with light operating from a switch located at the access point.
5. Front and Rear Entrances shall be provided with light fixtures and single pole switch. If called for in the Scope of Work, a light fixture, as manufactured by **Progress Lighting**, or an approved equal, shall be installed according to the manufacturer's directions.

B. Recepticles (outlets)

The outlets as stated below are minimum additional duplex plugs as needed and the contractor shall install any additional duplex outlets as required by New York State Board of

Fire Underwriters.

14001

SINGLE FAMILY DWELLING continued

1. Remove all duplex two (2) prong outlets and replace with new duplex three (3) prong grounded receptacles.

2. If called for in the Scope of Work additional outlets installed to eliminate use of extension cords. All extension cords shall be disconnected and removed. Extension cords are the property of the owner.

3. **Kitchens**: If called for in the Scope of Work receptacles shall be provided with adequate duplex outlets at all work areas, G.F.C.I. receptacles near sink area as per code. All new kitchen outlets are to be on separate 20 amp breaks.

4. **Bathrooms**: If called for in the Scope of Work, install G.F.C.I. receptacle at or the near bathroom sink. All other bathroom outlets shall also be G.F.C.I. protected.

5. **Basements and Attached Garages**: If called for in the Scope of Work, duplex receptacles located in the basement or Garage areas are to be installed to eliminate the use of extension cords for appliances or equipment. G.F.C.I. receptacles are to be installed as required by code.

6. **Laundry Areas**: If called for in the Scope of Work install G.F.C.I. receptacle for the washing machine.

7. **Exterior**: One exterior protected G.F.C.I. outlet, located at owner's discretion, shall be installed.

C. **Smoke Detectors**

All bedroom areas, bedroom hallways, and all levels required by code of the dwelling shall be provided with hardwired interconnected smoke detectors as required by N.Y.S. Fire Code.

D. **Carbon Monoxide Detector**

As called for in the Scope of Work, located in the lowest level where a bedroom is located

E. **Combination Smoke and Carbon Monoxide Detector**

Are allowed as per code.

F. All outlets and services must be fully functional and wired in strict compliance with the N.Y.S. Board of Fire Underwriters Code or removed.

G. All electrical wiring shall be concealed within partitions or walls. All necessary patching and repairs are to be made after installing electrical items. Wire mold or raceways are not allowed unless prior approval is given from the OCD and the homeowner.

F. **Electric Panels** and **sub-panels**

Contractor shall label all new and existing circuit breakers in the panel for the rooms each breaker controls. There will be no generalization of each description.

All receptacles are to be grounded. All electrical violations are to be removed.

No painting or decorating shall be done by the electrical contractor.

The contractor must coordinate the work with homeowner for scheduling.

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MULTI-FAMILY DWELLINGS

The contractor shall comply with all of the following requirements, including the Electrical General Requirements #14000 and 14001.

The Contractor shall make the following electrical improvements according to the Scope of Work and in compliance with the NEC and the N.Y.S. Board of Fire Underwriters Code. Work shall include but not be limited to:

- a) The electrical contractor shall compute the electrical needs for each apartment. If the existing service is inadequate a new properly sized main service and a new circuit breaker panel box shall be installed.
- b) A separate electrical service shall be provided for each apartment unit.
- c) Separate electrical service for the owner's panel.
- d) SPECIAL REQUIREMENT

Smoke detectors shall be wired in sequence between all apartment units to insure that if an incident occurs in one apartment all other units will be notified.

STANDARDS FOR LEAD HAZARD REDUCTION

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STANDARDS FOR LEAD HAZARD REDUCTION

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GENERAL REQUIREMENTS FOR ALL LEAD HAZARD REDUCTION PROCEDURES

The contractor must follow the *United States Housing and Urban Development's (HUD) Lead-Based Paint (LBP) Safe Work Practice* rules as set forth for pre-1978 built housing as per the *Residential Lead-Based Paint Hazard Act of 1992 (Title X)* and the *United States Environmental Protection Agency's (EPA) Renovation, Repair and Maintenance Final Rule (40 CFR Part 745)* which created the *EPA's Renovation, Repair and Painting (RRP)* program effective April 2010.

For the complete EPA / LBP - RRP rules go to the EPA's Web site at:

<http://www.epa.gov/lead/pubs/renovation.htm>

For the complete HUD / LBP Safe Work Practice Rule's go to the HUD Web site at:

<http://www.hud.gov/offices/lead>

The following General Requirements are incorporated into all Construction Contracts for projects utilizing CDBG and HOME and other Program funding or technical assistance from the Orange County Office of Community Development Lead Hazard Reduction Program ("Lead Program").

All of the work shall be performed as set forth in these General Requirements and the General Specifications by Trade and any other Contract Documents.

When any variance or waiver is approved by the New York State Department of Health, Orange County Department of Health, or the New York State Department of Parks and Recreation – Historic Preservation Office (SHPO) or, if applicable, the City of Newburgh Architectural Review Commission (ARC), it will not affect any Orange County Office of Community Development (OCD) projects without OCD written approval prior to the start of the job.

Conflict of Rules:

When an issue of which agency rule applies to the LBP remediation work occurs, the contractor shall contact the OCD job Inspector immediately.

Over the course of normal working conditions the contractor shall adhere to HUD / LBP Safe Work Practice Rules first while satisfying the EPA / LBP RRP rule at the same time.

In the event of any conflict, the stricter standards shall apply.

It shall be the responsibility of the contractors to ensure that all their employees are properly certified and trained according to HUD's LBP Safe Work Practice or leave the site. There shall also be at least one (1) employee with the EPA's RRP certification on site at all times until the structures LBP Clearance testing has passed.

Work Scheduling and Occupant Relocation

Because of homeowner / tenant relocation issues all LBP hazard reduction work shall start on a Monday and finish with a clearance testing results by the next or following Friday, totaling five (5) days.

If the contractor requires more time to complete this LBP hazard reduction work, it shall be the

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contractor's responsibility to make the request for more time by submitted in writing five (5) business days before the Pre-Construction meeting takes place. **There shall be no assumption by the contractor that this request for more time will be approved by OCD.**
GENERAL REQUIREMENTS FOR ALL LEAD HAZARD REDUCTION METHODS continued

Important:

Failed Clearance Testing

The contractor shall be responsible for payment of any /all expenses incurred to OCD for their failure to pass the first (1st) LBP Clearance Test. The additional expenses include, but are not limited to, the cost of Clearance and related testing, OCD approved expense for occupant relocation and meals and any other related costs.

When applicable, all work shall be coordinated with the General Contractor or other contractors in order to minimize any delay in project completion. The Contractor shall be responsible for promptly bringing to the attention of the Owner and the Lead Program any conditions that may delay the work.

1.) Conduct of Contractor's Personnel/Use of Premises

The Contractor shall at all times be responsible for enforcing strict discipline and good order among Contractor's employees and shall not employ on the project any unfit person or anyone not skilled, qualified and, when applicable, certified for the work assigned.

2.) Site Supervisor Qualifications

The contractor shall provide one site supervisor certified in the EPA/RRP and HUD/LBP Safe Work Practices, whose responsibilities include coordination, safety, security, and execution of all phases of the project.

For abatement activities that are regulated under the Lead Program, the site supervisor and workers shall be certified by the US / EPA under the 40 CFR Part 745 (also known as the 402 / 404 Rule).

3.) Project Monitoring

The owner and the Lead Program have the authority to stop the Contractor's work at any time throughout the duration of the project under the following circumstances:

1. The contractor's work does not comply with applicable federal, state or local regulations.
2. The contractor's work does not comply with the Contract Documents.
3. The contractor's work presents a potential immediate or future health hazard to workers and/or current or future building occupants.

At the property owner's or the OCD Lead Program's request, the contractor shall immediately stop all activities and correct any deficiencies in the work. Work shall not resume without approval of the OCD Rehabilitation Inspector.

4.) Decisions to Withhold Approval of Payments

The property owner and the OCD Lead program may withhold approval of Payment Requests for the following reasons:

1. Work not completed or completed improperly;

- 15000 GENERAL REQUIREMENTS FOR ALL LEAD HAZARD REDUCTION METHODS continued
2. Defective Work not remedied;
 3. Third party claims filed or reasonable evidence indicating probable filing of such claims;
 4. Failure of the contractor of record to make timely payments to subcontractors or for labor, materials or equipment;
 5. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;
 6. Damage to the owners property or another contractor;
 7. Reasonable evidence that the work will not be completed within the time specified in the Contract, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay; or
 8. Persistent failure to carry out the Work in accordance with the Contract documents; and,
 9. Failure to provide documents required at Construction Closeout.
- 5.) Verification of Quantities and Measurements
- All measurements and quantities provided in any Contract Documents are for the contractor's information prior to a mandatory site inspection. The contractor is responsible for verifying all measurements and all quantities. **No claim for additional funds due to discrepancies in measurements or quantities shall be honored if not submitted at the time of the initial bid proposal.**
- 6.) Codes and Ordinances
- The execution of the work shall comply with all applicable federal, state and local laws, rules, regulations and guidelines. These standards include, but are not limited to:
- 24 CFR Part 35 – Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Housing Receiving Federal Assistance and Federally Owned Residential Property Being Sold.
http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes
 - 29 CFR 1926 – Construction Industry Standards
 - 29 CFR 1926.62 – Construction Industry Lead Standard
 - 29 CFR 1910.1200 – Hazard Communication
<http://www.osha.gov/pls>
 - 40 CFR Part 261 – EPA Regulations.
<http://www.epa.gov/lead/>
- Contractor and the OCD Lead Program shall rely on the HUD Guidelines (24 CFR Part 35) dated September 16, 1999, as amended, for guidance regarding appropriate work practices or procedures not otherwise defined in the Contract Documents.
http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes
- 7.) Worker Protection
- Contractor must comply with all applicable federal, state, and local laws and regulations related to safety in the workplace, including a respiratory protection program, personal protective clothing, medical surveillance, mandatory training and all other requirements of the OSHA Construction Industry Lead Standard (29 CFR 1926.62). The U. S. EPA must certify

all workers and supervisors performing lead abatement activities.

<http://www.osha.gov/pls>

15000 GENERAL REQUIREMENTS FOR ALL LEAD HAZARD REDUCTION METHODS continued

8) HVAC Systems

Contractor shall ensure that all heating, ventilating and air conditioning equipment which is located in, runs through, or services the work area or adjacent areas which Contractor occupies have been shut down and cannot accidentally startup during the construction period. All heat registers and returns in the work area shall have 6 mil polyethylene taped over them.

9) Lead-Based Paint Activities

The U. S. Department of Housing and Urban Development (HUD) issued a regulation to protect young children from lead-based paint hazards in housing that is financially assisted by the Federal government.

- The regulation (24 CFR Part 35), entitled "Requirements for Notification, Evaluation and Reduction of Lead-Based Paint Hazards in Federally Owned Residential Property and Housing Receiving Federal Assistance," was published in the Federal Register on September 15, 1999.
- The requirements apply to housing built before 1978; the year lead-based paint was banned nationwide for consumer use.
- The rule requires that all deteriorated paint must be stabilized or abated, except when the paint is found not to be lead-based paint or when the deterioration is limited to hairline cracks or small nicks, scratches or nail holes.
- The requirements apply to all interior and exterior surfaces and common areas that are associated with multi-family rental dwelling units. If applicable, a separate construction specification that addresses lead-based paint activities is attached. Please refer to Section 21 (15000) of this manual for further details or on the Web at: http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes

10.) Prohibited Practices

Contractors shall not use the following prohibited paint removal and clean-up methods:

1. Open flame burning or torching;
2. Heat guns operating above 1,100 degrees Fahrenheit or electric heat plates;
3. Machine sanding or grinding without a HEPA vacuum exhaust tool;
4. Uncontained hydro-blasting or high-pressure wash;
5. Abrasive blasting or sand blasting;
6. Methylene chloride chemical paint removers; or
7. Dry sweeping of lead contaminated areas or surfaces.

Can be found on the Web at:

<http://www.hud.gov/offices/cpd/affordablehousing/training/web/leadsafe/keyrequirements/safepactices.cfm>

11.) Caution Signs (EPA/RRP and OSHA rule)

At each separate work area, the Contractor shall display cautions signs which conform to EPA and OSHA requirements wherever the treatment process is reasonably expected to break or disturb any lead containing substances. The Contractor shall keep the signs posted until the Lead Program advises the Contractor that the unit or work area has passed visual inspection and any required Dust Clearance tests.

Can be found on the Web at:

EPA: <http://www.epa.gov/lead/pubs/renovation.htm>

OSHA: http://www.osha.gov/pls/oshaweb/owadisp.show_document

12.) Definitions

As used in the Contract Documents, the following terms shall have the following meanings:

For interior work, "Prepare for Paint or Stain" means to feather edges to a smooth transition from existing painted areas to bare substrate, finish sand scraped surfaces, and wipe with a damp rag to remove residue. Approved spackle and filler may be used on a limited basis where there is a substandard transition between substrate and top coat.

"Remove, Strip Off-Site and Reinstall" means to carefully remove the architectural element or component by methods that will cause the least damage to the element or components, strip off-site using appropriate methods that leave surfaces free of lead containing dust and without chemical residues that may deter paint adhesion, prepare for paint or stain, as appropriate, and reinstall to the same location and configuration.

"Remove Paint" has the same meaning as Strip Paint.

"Sanding" means to remove burrs and rough edges from treated areas (i.e. bare wood at stabilized areas). Use of a wet sanding is recommended to provide a smooth surface. Wipe with a damp rag to remove residue prior to sealing surface.

"Scribing" a component to be dipped means to punch an identifying marker that permanently indents the wood in a side or edge of the component that will not be seen when the component is reinstalled but will withstand the treatment and be apparent upon completion of stripping. (i.e. the bottom edge of door, jamb edge of sash, back-side of trim.)

"Stabilization" has the same meaning as a means of repairing any physical defect in the substrate of a painted surface that is causing paint deterioration, removing loose paint and other material.

"Strip Paint" means to completely remove all paint from the identified component or substrate. Following the complete removal, the component or substrate shall be prepared for paint or stain, as appropriate.

15000 GENERAL REQUIREMENTS FOR ALL LEAD HAZARD REDUCTION METHODS continued

13.) Security

Contractor shall be responsible for the security of all work areas in the dwelling. The contractor shall be responsibility for allowing only authorized personnel into the work area and securing all assigned entrances and exits at the end of the workday. If applicable, Lead Contractor shall coordinate work area security with the General Contractor.

15001 MATERIALS AND WORK TIMES

1.) Materials

All materials used in connection with the Contract are to be new, of first quality and without defects, unless stated otherwise in the Scope of Work. Any material substitutions should be submitted with the bid proposal. All paints, stains, sealers, fillers, glues, caulk and like materials used for stabilization of lead hazards must be as per the Scope of Work and installed in accordance with manufacturer's specifications and recommendations. Primers and topcoats must be compatible.

2.) Finish Selection

The property owner shall select finishes, colors, styles and types of materials from in-stock options, unless otherwise state in the Scope of Work and Contract Documents.

3.) Substitutions

All requests for substitutions of proprietary items must be approved in advance by the Owner and the Lead Program. Requests for substitutions by Contractor shall include the manufacturer's specifications, full installation instructions and warranties. In the case of historically significant components, additional information may be required of the Contractor.

4.) Work Times

Contractor and subcontractors are to schedule working hours between 7:00 am and 6:00 pm Monday through Friday. Requests to work on weekends and before or after these hours must be approved in advance by the Owner.

15002 RELOCATION AND TENANT BELONGINGS

1.) Relocation

Unless otherwise provided in the Contract Documents, all occupants must be out of the work area while work is underway. Children and pregnant women are specifically prohibited from entering the dwelling at any time during interior work, including times when work is not in progress.

2.) Tenant Belongings

In the case of occupied units, residents will be requested by Owner to remove belongings from the work area, whenever possible, prior to the initiation of work by the Contractor. Residents will also be asked to move remaining large items, such as heavy furniture, into a storage area or room Identified as not receiving treatment. In the event that such an area is not available, residents will be asked to place remaining items, boxed and bagged to the extent feasible, in the cent of the

room. Construction Contract may allow for penalties if belongings are not packed at the time of job start.

15001 MATERIALS AND WORK TIMES continued

At the time of the initial pre-cleaning of the work area, Contractor shall ensure that resident has removed their belongings from the site, placed them securely in a non-work area, or placed them in the center of the room. Any belongings remaining in work areas shall be covered with two layers of 6 mil plastic and secured to the floor barrier system. This barrier shall remain intact during all phases of work. The plastic shall be cleaned and removed in conjunction with other final cleaning procedures at the end of the job.

Appliances are to remain in place, if possible. Contractor shall ensure that power is supplied to appliances, if the appliances were powered at the job start-up.

15003 INTERIOR, EXTERIOR, WINDOW WORKSITE PREPARATION AND CLEANUP

Interior, Exterior and Window worksite preparation shall be in accordance with the requirements of HUD's - 24 CFR Part 35, 29 CFR 1926.62 and the EPA's - 40 CFR Part 261 and any other additional program requirements in the Construction Contract and its attachments.

1.) Daily and Ongoing Cleanup

During the disturbance of lead dust and / or lead painted surfaces, periodic HEPA vacuuming shall be performed by the Contractor to minimize the tracking of lead dust to other areas of the dwelling. Daily cleaning shall be performed to minimize work exposure and to ensure good clearance results. Daily cleaning should include removal of large and small debris and paint chips as well as HEPA vacuum or wash of all tools and equipment removed from containment, visual inspection of all barriers and repair of plastic sheeting as needed.

2.) Lead Waste Disposal

All waste from activities involving the disturbance or removal of Lead-Based Paint shall be considered construction debris / waste and managed in accordance with the local requirements and regulations of the NYS Department of Environmental Conservation.

15004 SOIL CONTAMINATION

For contracts involving treatment of exterior surfaces, including porches, the Contractor shall have the following responsibility:

In the event of an increase in the level of the lead content in the following:

- 400 ug/g in high contact bare soil play areas
- 1200 ug/g in other residential yard areas such as drip lines
- 5000 ug/g or more in grass covered soil

as may otherwise be set for the in the regulations; the Contractor shall remedy the hazard, at no cost to the owner of the Lead Program, in a lead-safe, appropriate, and approved manner,

until the soil lead levels have been reduced to the lead level existing prior to the initiation of exterior work.

15004 SOIL CONTAMINATION continued

The Lead Program shall conduct all soil sampling. A pre-intervention soil sample shall be taken prior to the initiation of exterior work. A post-intervention soil sample shall be taken in conjunction with clearance testing or following the completion of exterior work, whichever is later.

15005 CHANGE ORDERS

Should the Contractor encounter latent conditions during performance of the work differing significantly from those shown in the Specifications or other Contract Documents, or unknown conditions of an unusual nature differing significantly from those already encountered during performance of the work, Contractor shall notify the OCD Rehabilitation Inspector prior to disturbance of the conditions. The OCD Rehabilitation Inspector shall promptly investigate the conditions. If, in the opinion of the OCD Rehabilitation Inspector conditions do so differ, the Construction Contract shall, with approval of the Property Owner, Contractor, OCD Rehabilitation Inspector and OCD Director, be modified by a written Change Order, to provide for any change in cost resulting from such conditions.

Should such alterations result in increased or decreased cost to the Contractor, a fair and equitable sum shall be agreed upon between OCD and the Contractor in writing before such work is begun. The cost shall be added to or deducted from the contract amount by means of a written Change Order, utilizing the standard form for the OCD Lead Program.

15006 INSPECTIONS AND CLEARANCE TESTING

1.) HEPA / WET WASH / HEPA Cycle Prior to Final Clearance

Unless otherwise stated in the Contract Documents, the HEPA vacuum / Wet Wash / HEPA vacuum cycle will be used in all instances of final cleaning prior to clearance testing.

Procedures for final clean shall include:

- HEPA vacuum all surfaces starting high to low from the end farthest from the main work entrance, moving toward that entry. Each room shall be vacuumed from the ceiling down to the floor, starting with the ceiling, upper shelves, headers, proceeding to the walls, then to the lower sills and baseboards and finally to the floor.
- Wet wash ALL SURFACES in the work area with a lead specific detergent, including areas which were covered with plastic.
- HEPA vacuum work area again as described above.

Prior to clearance testing, the Contractor may request to seal porous or painted floors, only with prior written approval from the Lead Program and the Owner.

2.) Visual Inspections

All interior painted surfaces from which LBP has been removed or on which LBP has been stabilized under the Contract must be visually inspected by the OCD Rehabilitation Inspector prior to priming or repainting. At the time of the visual inspection, all work must be completed

and area shall visibly free of dirt and debris. All waste and debris shall be removed according to HUD's Safe Work Practice from the property prior to the visual inspection.

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INSPECTION AND CLEARANCE TESTING continued

The contractor shall give the OCD at least twenty-four (24) hours prior notice of readiness for visual inspection of treated paint surfaces. OCD, if possible, shall conduct the visual inspection within twenty-four (24) hours, excepting weekends and holidays, of the time when the unit or work area is ready for inspection. If possible, visual Inspections which are follow-up inspections following a failure will be conducted with forty-eight (48) hours, excepting weekends and holidays, of the time that the work area or unit is ready for inspection.

In the event that a unit fails the visual inspection of treated paint surfaces by OCD, the contractor shall make all the necessary repairs and undertake cleanup, until the unit passes a visual inspection.

3.) Clearance Testing

Upon completion of the Work and prior to final payment to the Contractor, the following inspection and testing shall be performed:

1. A final inspection shall be performed by the OCD or its agent to verify that all work has been completed.
2. Dust clearance testing, Dust Wipe sampling, shall be performed in accordance with the requirements of the Lead Program or its agency. In order to be deemed work satisfactorily completed, dust lead levels cannot exceed:
 - (a) 40 ug/sf (micrograms/square foot) on floors;
 - (b) 250 ug/sf (micrograms/square foot) on window sills; and
 - (c) 400 ug/sf (micrograms/square foot) on window wells.

The contractor shall give the Lead Program at least twenty-four (24) hours prior notice readiness for final visual inspection and dust clearance testing. The Lead Program or its agent shall conduct the visual inspection and/or dust clearance testing within twenty-four (24) hours, excepting weekends and holidays, of the time when the unit or work are is ready for inspection.

Visual Inspections or dust wipe clearances which are follow-up inspections following a failure will be conducted within forty-eight (48) hours, excepting weekends and holidays of the time that the work area or unit is ready for inspection.

Dust wipe samples will be shipped by overnight delivery on the day that the samples are taken, unless the samples cannot be delivered to the nearest drop-off by the daily deadline. In such situations, the samples will be shipped the following day.

Sample results will be provided to OCD which will notify the contractor and the property owner immediately upon receipt.

In the event that a unit fails a final visual inspection or the dust wipe clearance thresholds contractor shall re-clean the unit or work area at the contractor's expense. The contractor shall be responsible for re-cleaning until the unit passes a final visual inspection and dust wipe clearance thresholds.

In the event of a final clearance inspection failure, contractor shall be liable for the actual cost of the inspection, deductible from any payment due the contractor.

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In the event of a dust wipe clearance failure, contractor shall be liable for the actual cost of any follow-up testing and the analysis cost of any follow-up samples, deductible from any payments due Contractor.

INSPECTIONS AND CLEARANCE TESTING continued

The contractor shall be liable for any liquidated damages specified in the Contract resulting from any delays in the completion of the Work due to failure of visual inspections or dust wipe clearances, deductible from any payments due Contractor.

4.) Exterior Work

In the event the Contract includes any work which involves the disturbance of lead paint surfaces on the exterior of the building, contractor shall, in addition to following all precautions required in the regulations for lead control, HEPA vacuum and clean all exterior horizontal surfaces and all window wells. Surfaces should be dry before priming or repainting. Refer to specifications for any additional program requirements.

Following completion of the Work, the Lead Program shall conduct a visual inspection and may take dust wipe samples on selected exterior horizontal surfaces and window wells.

In the event that work fails the final visual inspection or dust wipe clearance thresholds on the sampled surfaces, the contractor shall re-clean the work areas at their own (contractors) expense. The contractor shall be responsible for re-cleaning until the surfaces passes a final visual inspection and dust wipe clearance thresholds.

5.) Contract Close-out

Following completion of the Work, Contractor shall provide to Owner, in addition to the final requisition for payment, the following documents:

- If applicable, Proof of Appropriate Disposal of Construction and Hazardous Waste;
- Waiver of Liens (if required by Owner or Funding/Financing Sources); and,
- Copies of all records and reports required by the Lead Program.

Failure to provide these documents will be a basis for withholding the final payment.

ASBESTOS

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STANDARDS FOR ASBESTOS HAZARD REDUCTION

16000 GENERAL REQUIREMENTS FOR ASBESTOS HAZARD REDUCTION

Exposure to asbestos fibers, a known carcinogenic agent, creates a serious risk to the public safety and health, and that the public is more frequently exposed to these risks as a result of an increasing number of rehabilitation, reconstruction and demolition projects on buildings or structures containing asbestos or asbestos materials.

The handling of asbestos-containing materials is regulated by the Environmental Protection Agency (EPA) under the National Emissions Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, and the Occupational Safety and Health Administration (OSHA) under regulations delineated in 29CFR 1926.1101.

Responsibility of contractor: The contractor shall permit only those persons who hold valid asbestos handling certificates appropriate to the tasks actually performed by such persons to engage in work on an asbestos project.

The contractor shall supply a current copy of their NYS / DOL asbestos license along with all other people's licenses working on the site with the bid to the OCD.

Residents of the dwelling that the asbestos work will performed will not have access to the dwelling during the course of the work. All work related to asbestos remediation will be performed in a manner consistent with Federal regulations promulgated under the Federal Occupational Safety and Health Act pursuant to chapter 15 of title 29 of the United States Code (OSHA), and is performed in a manner which will not expose the public to asbestos fibers in excess of background levels or .01 fibers per cubic centimeter, whichever is greater, provided that the work involves the encapsulation, enclosure, removal, disturbance or handling of: less than 160 square feet or 260 linear feet of asbestos or asbestos material.

The contractor shall provide all testing results and a copy of the certified waste manifest to the property owner and the OCD before any payment is made.

For more information visit the NYS / DEC Web site at:

<http://www.dec.ny.gov/chemical/8791.html>

Recordkeeping: it shall be the responsibility of each contractor to keep records as per the New York State Department of Labor.

Notification of residential and business occupants: Every contractor engaged in the abatement portion of a project shall post or otherwise provide for a written notification to residential and business occupants of a building **ten (10) days prior** to the commencement of work. If the work is scheduled to begin less than 10 days after the execution of the contract, each contractor shall post or otherwise provide written notice of any asbestos project to residential occupants in the building where work will be performed at least **three (3) days** prior to commencement of work.

Definitions: the following terms shall mean:

Posted notices: shall remain in place until completion of the project.

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Abatement: Procedures to control fiber release from asbestos material. This includes removal, encapsulation, enclosure and repair, disturbance of friable asbestos or any handling of asbestos material that may result in the release of asbestos fiber.

GENERAL REQUIREMENTS FOR ASBESTOS HAZARD REDUCTION continued

Airlock: A system for permitting entrance and exit while restricting air movement between a contaminated area and an uncontaminated area. It consists of two curtained doorways separated by a distance of at least three feet, such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow-through contamination.

Air sampling: The process of measuring the fiber content of a known volume of air collected during a specific period of time.

Asbestos handler: Any person who performs the duties described in section 56-2.2(c) (1) of the NYS/DOL Industrial Code Rule No. 56.

Asbestos material: Any material containing more than one percent by weight of asbestos.

Asbestos project: Work undertaken by a contractor which at any time involves any aspect of the removal, encapsulation, enclosure or disturbance of friable asbestos, or any handling of asbestos material that may result in the release of asbestos fiber, except work in an owner- occupied single family dwelling performed by the owner of such dwelling. An asbestos project shall include the planning, design, monitoring, inspection and air sampling of abatement work, as well as the supervising of such activities.

Asbestos waste: Asbestos material or asbestos contaminated objects requiring disposal pursuant to any applicable State or Federal law or regulation.

Cleanup: The utilization of HEPA vacuuming and/or wet cleaning to control and eliminate accumulations of asbestos material and asbestos waste material.

Clearance air monitoring: The collection of a volume of air using aggressive sampling techniques and analyzed to determine the airborne concentration of fibers upon conclusion of an asbestos abatement project.

Encapsulant (sealant) or encapsulating agent: A liquid material which can be applied to asbestos material and which prevents the release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).

Encapsulation: The coating or spraying of asbestos material with an encapsulant (sealant) or encapsulating agent.

Friable: That condition of crumbled, pulverized, powdered, crushed or exposed asbestos which is capable of being released into the air by hand pressure.

HEPA vacuum equipment: Vacuuming equipment with a high efficiency particulate air filtration system.

Minor asbestos project: An asbestos project involving the removal, disturbance, repair, encapsulation, enclosure or handling of 10 square feet or less of asbestos or asbestos material, or 25 linear feet or less of asbestos or asbestos material.

Surfactant: A chemical wetting agent added to water to improve its penetration.

This manual revised by NAE 2011