

GENERAL SPECIFICATIONS MANUAL FOR REHABILITATION

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Community Development Division

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GENERAL SPECIFICATIONS

DIVISION 1 – GENERAL

SECTION 1A – DEFINITIONS

1. "City" means the Community Development Division of the City of Steubenville's Planning and Zoning Commission or its authorized representative.
2. "Contractor" means the individual or firm contracting with the Owner for performance of any or all of the work called for by the Work Write Up.
3. "Owner" means the person, persons or their authorized representative identified as such on the Work Write Up and contracting with the Contractor for performance of the prescribed work.

SECTION 1B - GENERAL SPECIFICATIONS FOR HOUSING REHABILITATION

These General Specifications provide specifications for items, materials and installation to be furnished under the construction contract for the rehabilitation of residential properties. These specifications were prepared by the Community Development Division staff for use in the Housing Rehabilitation Program administered by the Community Development Division of the City of Steubenville's Planning and Zoning Commission. Any questions on the intent or interpretation of these specifications shall be referred to the Community Development Division for clarification.

SECTION 1C – CODES, ORDINANCES AND STANDARDS

Work required by the Work Write Up and these General Specifications shall be performed in accordance with all applicable codes, ordinances and the Residential Rehabilitation Standards (RRS) prepared by the Ohio Department of Development's Office of Housing and Community Partnerships (OHCP). If a contradiction exists between the codes and the Work Write Up, RRS or these General Specifications, the requirement of the code will apply, except when the requirement of the Work Write Up, RRS or these General Specifications exceeds those of the codes, then the requirement of the Work Write Up, RRS or these General Specifications shall apply, whichever requirement is most stringent.

SECTION 1D – PERMITS

Any permits required for the execution of the work called for by the Work Write Up shall be obtained and paid for by the Contractor prior to the start of that work.

SECTION 1E - PROJECT INSPECTION

The Contractor shall visit the project site and determine any conditions, which may affect his work. This shall include inspection of the site and structure(s). Any conditions affecting his work shall be taken into consideration in his bid proposal and execution of the work to be performed.

SECTION 1F - STANDARDS AND INSPECTIONS

Work required by the Work Write Up and these General Specifications shall be performed with specified or approved equal materials and equipment by mechanics skilled in their respective trades. Standards for satisfactory quality workmanship shall be established by the intent of the contract, compliance with all applicable code, ordinance and RRS requirements, these General Specifications, accepted trade and industry standards and the City. In addition to inspections required from other authorities, all work shall be subject to inspection by the City. A final inspection by the City will be made upon notification by the Contractor that all required work has been accomplished. At that time it is expected that all work has been completed.

SECTION 1G – MATERIALS

Unless otherwise specified all materials and equipment incorporated in the work required by the Work Write Up and these General Specifications shall be new and of the quality specified by these General Specifications. The Contractor shall, if requested, furnish evidence as to the kind and quality of materials. It is the intent of the Work Write Up to permit the use of materials of any manufacturer so long as they are fully consistent with the quality and performance requirements of these General Specifications. Substitution shall be approved and executed by contract change order. It shall be understood that the use of materials other than those designated, without prior approval by contract change order shall constitute a violation of the contract and that the Owner or City shall have the right to require the removal of such materials and their replacement with the designated materials at the Contractor's expense.

SECTION 1H - WORK DESCRIPTION

A Work Write Up for each property, identified by Owner and address, will indicate all work to be performed with locations. Locations may be related to drawings which are included as part of the Work Write Up. Anything called for on the drawings and not listed in the Work Write Up shall be treated as if called for by the Work Write Up. Work called for in the Work Write Up shall comply with the requirements of these General Specifications. Each item of the Work Write Up includes reference to specific requirements of these Specifications. These references do not preclude the requirement to meet all other applicable requirements of these General Specifications. All work called for by the Work Write Up shall include all labor, material, equipment and permits necessary to perform the work unless otherwise specified.

If there is a conflict between the requirements of these General Specifications and the requirements of the Work Write Up which may include drawings, the Contractor shall notify the City for a determination as to which applies.

SECTION 1I – COMPLIANCE WITH MANUFACTURES’ RECOMMENDATIONS

Installation of products, assemblies and equipment specified will be in accordance with manufactures’ instructions, recommendations and specifications. Associated installation products, methods and hardware shall be as recommended by the manufactures.

SECTION 1J – ENGINEERING

When engineering is required as part of the Work Write Up the engineering requirements shall supersede the requirements of these General Specifications. Engineering required for the execution of the work shall be obtained by the City and provided to the Contractor at no cost. Engineering inspections associated with the engineered work will be performed at no cost to the Contractor except when actions of the Contractor cause additional inspections to be required.

SECTION 1K - PROPERTY DAMAGE AND SECURITY

The correction of any damage to the project site or adjacent properties as a result of any activities associated with the Contractor’s execution of the work shall be the responsibility of the Contractor. Settlement actions for damages shall be to the satisfaction of the property Owner(s). The Contractor shall ensure security of buildings by use of existing locking devices and boarding of any openings as a result of his work. New work and newly installed products shall be protected from damage through completion of the project. Any damage to such work or products shall be repaired or product replaced to the satisfaction of the Owner and City. The Contractor shall be held responsible for any damage or defacement caused in the process of delivery of materials or execution of work. Responsibility shall include the repair or replacement cost of damaged surfaces.

SECTION 1L - INSTRUCTION MANUALS AND WARRANTIES

When provided by the manufacturer, the Contractor shall provide to the Owner and City, Owners Manuals, guarantees, warranties and certificates for furnished materials and equipment.

SECTION 1M - TRASH REMOVAL

The Contractor shall remove from the site all trash, debris and waste materials accumulated during fulfillment of the contract by the Contractor, sub-contractor and any other personnel used in the performance of the contract. Trash, debris and waste materials awaiting removal from the site shall be controlled to avoid scattering and unsightly accumulation. The Contractor shall not use the Owners trash facility.

DIVISION 2 - SITE WORK

SECTION 2A - EARTH WORK

1. **Excavation**: Excavate to grades required by the work called for. The bottoms of footing foundation trenches are to be level. Footings must rest on virgin soil or properly compacted fill. Haul all excess excavated dirt from site or as directed in Work Write Up.

2. **Backfill:**
 - A. **General:** Backfill and grade to obtain finish grades as called for. Backfill material shall be free of all rubbish and any rocks larger than 3" in diameter.
 - B. **Compaction:** Backfill shall be compacted to a minimum of 90% of the maximum Proctor Density ASTM D-698. Compaction shall be by mechanical tamping. Water shall not be used for compacting.
 - C. **Engineering:** Engineering report shall supercede A and B.
3. **Grading and Drainage:** Site grading shall accomplish the following:
 - A. Allow drainage of surface water away from structure.
 - B. Avoid concentrating runoff onto neighboring properties.
 - C. Minimize erosion.
 - D. Provide wood-to-earth separation for affected structures on property.
 - E. In areas where dirt has been disturbed, the area is to be free of all rocks larger than 1" in diameter and rubbish and have a rake finish.
 - F. Swales shall be a minimum of 5' from building and well defined.
 - G. Soil shall be compacted and uniformly spread and suitable for plant growth.

SECTION 2B - LANDSCAPE WORK

1. **Tree and Shrub Placement:** Plants shall be nursery grown, sound, healthy, vigorous, free from plant diseases and insects or their eggs, and shall have normal, healthy root systems.
2. **Tree and Shrub Pruning:** Trees and shrubs shall be pruned in accordance with accepted nursery practice. Broken and disfigured branches shall be removed. When limbs larger than 2" in diameter are removed the butt ends that remain on the tree shall be properly sealed. Pruning shall ensure adequate clearance from structures and utility lines.
3. **Sodding:**
 - A. **Preparation:** Preparation for sodding shall include:
 - (1) Removal of all vegetation to ground level.
 - (2) Removal of all rock and rubbish, rototilling and raking to provide a smooth, firm base.
 - (3) Establishment of proper grade and drainage including removal or addition of suitable soil as required for finish sodded surface to meet requirements of Section 2A-3 of this Division.
 - B. **Material:** Sod shall be a strain or blend of strains of Kentucky Blue Grass and supplied by a turf farm whose sod meets the requirements of the American Sod Producers Association.
 - C. **Installation:**
 - (1) Sod shall be installed within time limit set forth by turf farm supplying sod.
 - (2) Fertilize as recommended by turf farm supplying sod (one application required).
 - (3) Provide property Owner and City with warranty and written care and maintenance instructions supplied by turf farm.

4. **Lawn Reconditioning:** Lawn reconditioning shall consist of the following:
 - A. **Preparation:** Preparation for seeding shall include:
 - (1) Raking all debris from area to be reconditioned and scratch surface as required.
 - (2) Fertilizing with starter fertilizer as recommended by seed producer.
 - B. **Material:** Seed shall be a strain or blend of strains of Kentucky Blue Grass as recommended by local suppliers.
 - C. **Placement:** Placement of seed shall include:
 - (1) Spreading seed and raking in accordance with seed provider's instructions.
 - (2) Providing initial watering.
 - (3) Providing property Owner and City with written care and maintenance instructions from seed producer.

5. **Rock:** Rock installation shall consist of the following:
 - A. **Preparation:** Preparation for rock shall include:
 - (1) Establish proper grade and drainage including removal or addition of soil to meet requirements of Section 2A-3 of this Division.
 - (2) Grade the subgrade evenly to a depth of 4" below desired finish grade.
 - B. **Placement:** Placement rock shall include:
 - (1) Edging installation if specified shall be securely staked prior to installation of rock.
 - (2) Subgrade covering installation of 6 mil visqueen over entire subgrade prior to installation of rock.
 - (3) Finish material placement a minimum of 4" deep and spread uniformly over entire area.

SECTION 2C – DRIVEWAYS

1. **Preparation:**
 - A. Establish proper grade and drainage to include removing or providing additional soil as required to meet applicable requirements of Division 2, Section 2A-3.
 - B. The subgrade shall be evenly graded to a depth that will permit the installation of the required new materials to the desired finish grade.
 - C. Sod or vegetation shall be removed, and any soft or mucky places shall be dug out and filled with a granular material thoroughly compacted.

2. **Gravel Installation:**
 - A. Gravel installation shall include edging of 4" redwood, cedar or galvanized metal securely staked prior to installation of gravel.
Note: Edging may be omitted if edge of gravel abuts sidewalk, curb, structure or other suitable edge.
 - B. Finish material shall be as specified and a minimum of 4" deep and spread uniformly over the entire area.

3. **New Asphalt Installation:**
 - A. Asphalt pavement shall have a minimum compacted thickness of 2". Base shall be of crushed stone, gravel, or durable road material and properly compacted to 4" minimum thickness.

B. Asphalt material shall be obtained from a local established asphalt batch plant and asphalt driveways shall be constructed only by a contractor or subcontractor that specializes in asphalt work. Surface shall be rolled with a 5 to 10 ton roller; areas inaccessible to a power roller shall be thoroughly tamped with hot iron tamper. Asphalt shall be applied only in suitable weather conditions. The Contractor will pay special attention to properly attaching the new driveway to all existing sidewalks, porches, garage floors, and any other abutting areas.

4. **Concrete Installation:** (see Division 3, Sections 3A and 3C).

SECTION 2D – FENCING

1. **General:** The exact location of any new fencing shall be established by the property Owner.

2. **Fence Repair:** Sections of all types of fences to be repaired shall be restored to a condition comparable to new, including gates. Replacement materials shall match existing.

3. **Chain Link:**

A. **Fabric:** Chain link fabric shall be 11 1/2 gauge wire woven in a 2” galvanized mesh. Fabric shall be tied to posts and top rail with aluminum or galvanized wire.

B. **Posts:** Line posts shall be 1 5/8" OD galvanized pipe spaced at a maximum of 10'-0" on center and set in concrete a minimum of 24" below grade. End posts, corner posts and gate posts shall be 2 1/2" OD galvanized pipe set in concrete a minimum of 30" below grade. Holes shall be large enough to provide space for 2" of concrete around post.

C. **Top Rails:** Top rails of 1 3/8" OD galvanized pipe shall be included in all installations.

D. **Gates:** Gates shall be constructed of 1 3/8" OD galvanized pipe with welded or factory fitted joints. Fabric in gates shall be same as fence.

E. **Fittings and Hardware:** Fittings and hardware shall be either galvanized steel, aluminum or galvanized malleable metal. Provide and install all fittings and hardware for a complete installation.

4. **Wood:**

A. **Material:** Fencing components shall be of material specified.

B. **Fasteners:** Nails, staples, bolts, etc. shall be galvanized or cadmium plated.

C. **Posts:** Posts shall be 4" x 4" spaced a maximum of 8'-0" on center and set in concrete a minimum of 30" below grade. Concrete shall be sloped 1/2" from post to finished grade. Posts shall be set on 6" of gravel at bottom. Hole shall be large enough to provide space for 4" of concrete around post.

D. **Rails:** Fences with vertical board facings shall have 2" x 4" rails. Two rails are required for fences up to 6'-0" high. Rails shall be securely fastened to posts to rigidly support all loads.

E. **Facing Boards:** Facing boards shall be of the style specified. Facing boards with knots exceeding 1/3 of board width will not be accepted. When style of fence is such that boards may be fastened to either side of posts, the Contractor shall have the Owner specify the selected side in writing.

F. **Gates:** Gates shall match the fence in which they are placed and shall include all hardware necessary for the specific application. Hinges shall be bolted to both support

post and gate. Gates shall be constructed to withstand normal usage and shall include a minimum of one cross brace secured by a gusset at each end.

DIVISION 3 – CONCRETE

SECTION 3A - GENERAL REQUIREMENTS

1. **Preparation:**

- A. Concrete work shall include all excavation, backfill and compaction required for complete job. Surfaces adjacent to concrete shall be restored to match adjacent surfaces, unless otherwise specified.
- B. Sod and vegetation shall be removed and any soft or mucky places shall be dug out and filled with granular material and thoroughly tamped.

2. **Concrete Design:**

- A. Concrete shall reach the following minimum compression strengths within 28 days.
 - (1) Concrete walls and interior slabs: 2500 pounds per square inch (psi).
 - (2) Driveways, curbs, sidewalks, patios, porches and garage floors: 3000 psi.
- B. Minimum allowable sacks of cement per cubic yard shall be 5 for 2500 psi concrete and 5 ½ for 3000 psi concrete.

3. **Form Work:**

- A. Walls: Cast in place concrete shall be formed with plywood or steel forms. Forms shall be substantially free of surface defects and sufficiently tight to prevent leakage. They shall be properly braced and tied to maintain the design position and shape. In no case shall supporting forms or shoring be removed until sufficient strength has been obtained to support the member's weight and any superimposed loads. Form ties shall be removed to a point flush with concrete surface or recessed and grouted.
- B. Flat Work: Cast in place flat work shall be formed with 2x material or steel forms, except that flat work more than 4" above grade shall be formed with plywood or steel. Forms shall be properly braced and tied to maintain the design position and shape. In no case shall supporting forms or shoring be removed until sufficient strength has been obtained to support the member's weight and any superimposed loads.

4. **Mixing:**

Unless prior approval is obtained in writing from the Owner with City concurrence, all concrete shall be ready-mixed and transported to the site by an established ready-mix company.

5. **Reinforcement:**

- A. Walls: Concrete stem walls and retaining walls shall have a minimum of #4 continuous rebar (two top and two bottom) with all breaks lapped a minimum of 24". Horizontal reinforcing shall be continuous around corners or by engineer's design.
- B. Flat Work: Concrete floors, walks, decks, porches, patios, and driveways shall, instead of rebar or wire mesh, have polypropylene fibers added at a rate of 1 and ½ lbs. per cubic yard or by engineer's design. Block outs (12" minimum clear distance in all directions) must be installed around all valve boxes, manholes, poles, etc. encountered in walk or

driveway areas. Concrete shall be placed in the blocked out areas at a point in time after the walk or driveway has been cast. Resilient bituminous fiber expansion joint must be installed around the blocked out area between the two pours.

- C. Pads: Unless otherwise specified all pads shall have polypropylene fibers added as per Section 3A 5-B above, or by engineer's design.

6. **Placing**:

Concrete shall be placed continuously where possible or provide construction joints with reinforcement for transfer of stress. Concrete work shall be straight and plumb with square corners and shall be placed in such a manner that when forms are removed no honeycombs, large voids or form marks are evident and face has a generally uniform appearance. If these requirements are not met, the Contractor shall be responsible for surfacing entire face to a uniform appearance.

7. **Protection of Concrete**:

Concrete shall be protected from any weather condition which could compromise the strength or appearance of the finished concrete. The Contractor shall protect the concrete from traffic and vandalism until concrete will withstand normal traffic without damage. The Contractor shall be responsible for repairing or removing and replacing, without added cost to the Owner or City, any concrete, the strength or appearance of which is damaged from improper protection, workmanship or materials.

8. **Repair of Concrete Surfaces**:

Repair shall be true and level with adjacent surfaces and finishes shall match existing. Repair of concrete surfaces shall include:

- A. Removing existing spalling concrete, loose concrete, or loose cement coating.
- B. Cleaning area to insure good bonding of patch material.
- C. Wetting the surface and keeping moist during entire process.
- D. Filling all voids and cracks with a mixture of concrete and bonding agent placed in accordance with manufacturer's recommendations.
- E. Repairing any existing cement coating.

SECTION 3B - CONCRETE WALLS

1. **Concrete Foundation Walls**:

- A. Foundations shall be constructed in accordance with engineer's design and shall include installation of all recommended foundation drain systems. Installation shall include sump pump and pit when required to get water to grade.
- B. The top of finish walls shall be such that no more than two sill plates are required to maintain finish floor elevation. Beam pockets shall be formed and beam support shall be provided.
- C. When constructing a foundation for an existing structure, the new foundation shall be placed so that vertical alignment with the existing exterior walls and corners is achieved.

2. **Concrete Retaining Walls**:

- A. For walls under 4'-0" in height see work write up.

B. Walls over four feet 4'-0" in height shall be constructed in accordance with engineer's design.

3. **Piers:**

Piers shall be a minimum of 12" in diameter and 36" in depth unless otherwise specified.

SECTION 3C - CONCRETE FLAT WORK

1. **Concrete Walks, Ramps, Steps, Stoops, Patios, Driveways, and Aprons:**

A. Total thickness of all concrete shall be 4" minimum. Exposed surfaces shall be free of honeycombs, voids and form marks and have a generally uniform appearance. Provide exterior flat concrete with light broom finish. Proper drainage shall be maintained away from all building walls with a minimum slope of 1/8" per foot. Edges shall be tooled with a device designed specifically for this purpose.

B. Concrete walks shall be a minimum of 30" wide, unless otherwise specified. When walk joins steps that are wider than walk, the walk shall be tapered to step width from a point approximately 48" from steps. Score sidewalks with 1/2" control joints at a maximum of 5'-0" on center and provide 1/2" x 4" resilient bituminous fiber expansion joints at points where walk abuts existing concrete.

C. Score driveways and patios with 1/2" control joints at a maximum of 10'-0" on center in both directions. Provide and install 1/2" x 4" resilient bituminous fiber expansion joints every 20 linear feet (lf) of driveway and at points where driveway and patios abut existing concrete.

D. Vehicle garage door apron shall be poured flush with garage floor, and extend 1' to each side of garage door opening and extend out 2' flush with driveway grade.

2. **Interior Concrete Floors:**

A. Floors shall have steel trowel finish, smooth and free from trowel marks. Aggregate shall be tamped away from surface using tools designed for this purpose. Interior concrete floor slabs shall be a minimum of four inches (4") thick, with one-half inch (1/2") x four inch (4") resilient bituminous fiber expansion material at perimeter of floor and at any other structural elements.

B. Concrete floors shall be finished (except where floors are shown to slope to drain) with a maximum one-quarter inch (1/4") variation in an eight foot (8'-0") distance in any direction.

C. Garage floors shall be sloped for drainage to overhead door opening and include a concrete apron. (See paragraph 1 of this section)

SECTION 3D – SIDEWALKS, CURBS, CURB RAMPS AND DRIVEWAY APRONS

Sidewalks, curbs, curb ramps and driveway aprons located within public street or alley right-of-ways must be designed and constructed in accordance with the standards of the City of Steubenville's Engineering Department. Handicapped accessible curb ramps of a type and design approved by the City Engineer must be provided at all street and alley intersections. The portion of driveway aprons located within a public street or alley right-of-way must be constructed of concrete with a thickness of 6" minimum. All work taking place within a public

right-of-way must be approved by the City Engineer, and the Contractor shall be responsible for obtaining such approval.

DIVISION 4 – MASONRY

SECTION 4A - GENERAL REQUIREMENTS

1. **Placing**: Masonry shall be laid with level courses, uniform joints, square corners, plumb verticals and true surfaces. Joints to be struck flush where covered with finish or not exposed to view and with a concave tool where exposed. When new and existing masonry are joined, transition shall be structurally sound and watertight and if exposed shall be uniform in appearance. Work shall include all necessary anchors, lintels and ties.
2. **Cold Weather Precaution**: Masonry work shall be protected from any weather condition which could compromise the strength or appearance of the finished work.
3. **Mortar**: Masonry mortar shall be mixed using a masonry cement specifically designed for this application.

SECTION 4B - FOUNDATIONS AND RETAINING WALLS:

Masonry work called for shall include excavation, backfilling, reinforcing, coring, etc., as applicable. For walls under 4'-0" in height see Division 12. Walls over 4'-0" in height shall be constructed in accordance with engineer's design.

SECTION 4C - REPAIR OF EXISTING

1. **Walls**: When repair of existing masonry is required all materials and installation methods used shall match existing materials and finishes as closely as possible. Any or all of the following methods, as required, shall be used to achieve this.
 - A. **Tuck Pointing**: When tuck-pointing is required the work shall include:
 - (1) Removing existing mortar to a minimum of 3/4" and all loose and deteriorated mortar.
 - (2) Cleaning joint edges to ensure good bonding.
 - (3) Wetting the surface and keeping moist during the entire process.
 - (4) Forcing mortar into joints with caulking tool.
 - (5) Striking joint to seal and blend in with existing.
 - (6) Cleaning entire surface to remove all mortar from face of masonry (brick, rock or stone).
 - B. **Resetting Existing Units**: Existing masonry units may be reused if undamaged and clean.
 - C. **Parging**: When parging is required, the work shall have a uniform and even finish and shall include:
 - (1) Brushing and washing down entire surface to remove loose and deteriorated material.
 - (2) Keeping surface damp while applying parging.
 - (3) Coating entire surface with skim coat of masonry mixed at a ratio of three parts sand and one part masonry cement.

D. **Shotcrete:** When shotcreting is required refer to Uniform Building Code, 1997 Edition, Section 1924, Page 2-170. The finish shotcrete surface shall be uniform and even and when applied to a flat surface shall be flat.

2. **Chimney:** When a chimney is to be repaired, this includes tuck pointing, replacing damaged or missing masonry and parging, and installing a new cap and/or flue extension where necessary.

DIVISION 5 – METALS

SECTION 5A - RAILINGS AND HANDRAILS

Railings shall be custom manufactured and securely anchored. Prefabricated railing kits may be acceptable only when approved by the Owner and City. Joints are to be rigid and dressed down to a smooth, even surface. Railings shall be painted with one coat of metal primer and two coats of suitable finish paint.

SECTION 5B - FOUNDATION AND ATTIC VENTS

1. **General:** When openings for vents are constructed care shall be taken to avoid unnecessary damage to adjacent components.
2. **Foundation Vents:** Foundation vents shall have a means of closing and shall be screened with corrosion resistant wire mesh. Vents shall not be placed in close proximity to existing or new plumbing. Vents shall be standard quality brands designed for the specific application.
3. **Attic Vents:** Attic vents called for shall be screened with corrosive resistant wire mesh and shall provide protection against entrance of rain or snow. Vents shall be standard quality brands designed for the specific application.

DIVISION 6 – CARPENTRY

SECTION 6A – FRAMING

1. **General:** Framing called for shall provide construction which will assure safe support of all design loads and provide a suitable base for attachment of finish material. Framing lumber shall be identified by the Grade Mark of a recognized grading association. Framing shall be level and plumb, and where possible all corners shall be square. Window and door openings shall be level, plumb, and square. Engineering requirements shall supercede all requirements of this section.
2. **Sill Plates:** When sill plate is called for, plate shall be sealed to foundation with closed cell foam weather stripping, grout or other gasket material. Sill plates shall be redwood or pressure treated material.
3. **Posts and Beams Under Floor Joists:** Posts and beams, shall consist of:
 - A. Three 2" x 8" members fastened together to form a beam.

- B. Posts of 4" x 4" wood or 3" pipe spaced a maximum of 8'-0" on center and fastened to both beam and pad with brackets designed for the specific application. Installation shall assure that all beam member joints break over support posts and all points of contact with beam are shimmed for solid bearing.
 - C. Pad supporting each post 14" square x 36" deep poured-in-place concrete with two horizontal #4 rebar in each direction. Top of pad shall be a minimum of 3" above ground.
4. **Floor Framing:** For new floor systems joists size and spacing shall be as called for. When additional floor framing is called for, new joists size shall be consistent with existing members.
5. **Sub Flooring:** Subflooring shall be plywood OSB (oriented strand board) or waferboard. Subflooring shall be glued and nailed. When matching existing, new subfloor shall provide a uniformly smooth transition.
6. **Furring and Leveling of Existing Floors:**
- A. Remove all base and trim so that new floor sheathing will contact wall.
 - B. When leveling of floor(s) is called for, floor shall be leveled to the high point of the area being leveled unless otherwise specified. When leveling is called for in a particular room it shall extend into any new and existing closet or pantry located in or adjacent to that room.
 - C. When leveling of floor(s) is called for, continuous furring strips shall be used. Furring material shall be of structural grade and shall be installed to obtain a structurally sound and level surface for installation of finished flooring. (See Division 9, Section 9E)
 - D. When furring strips run parallel to existing floor joists, they shall be installed directly over floor joists.
 - E. Contact shall be maintained the entire length of the continuous furring strip between the existing floor and furring strips and the furring strips and new floor sheathing.
 - F. The spacing of the furring strips and sheathing shall conform to the requirements of the Uniform Building Code for spacing and sheathing thickness.
 - G. Sheathing shall conform to sub flooring requirements of paragraph 5 above.
 - H. If shimming is necessary, shimming material shall be a structural material with full bearing.
7. **Changes in Floor Level:** When leveling the floor in one area causes level differences from adjacent floors of more than 1/2", this change shall take place at openings. When such a change in levels does occur, the transition shall be made as follows:
- A. When the difference is 3" or more, treat as a step with a vertical riser. Finish of riser shall be the same as adjoining wall or either of the two adjacent floors. Owner and City shall approve finish prior to installation.
 - B. When the difference is less than 3" provide a tapered rise compatible with adjacent floors constructed of solid material. Finish of tapered rise shall be the same as adjacent floor finish, unless otherwise specified. Slope shall not exceed one in five.
8. **Walls:**
- A. New walls shall be constructed of 2" x 4" studs at 16" on center, continuous length from soleplate to double top plate and all ends shall be cut square. Wall framing shall include

backing for all planned accessories. Location of all openings shall be as called for per drawings. Exterior walls shall have two continuous beads of caulking applied between soleplate and subfloor.

- B. When furring of walls is called for all furring material shall be of structural grade and shimmed as needed to obtain a rigid and plumb surface for installation of finish material.

9. **Ceiling Framing:**

- A. Framing members for new ceilings in existing spaces shall be properly sized for span and spaced 16” on center. Members shall be anchored to provide a rigid level plane with provision for perimeter nailing of wallboard.
- B. Additional framing members for reinforcement shall be properly sized, located, and anchored to meet the structural requirements of the Building Code.
- C. When intermediate beams are added to support ceiling joists the beam shall be continuous between supporting members, properly sized, located, and anchored to meet the structural requirements of the Building Code. When the beam is installed in a finished space it shall be finished to match adjacent surfaces, unless otherwise specified.

10. **Rafters and Trusses:**

Rafters and trusses shall be set to provide an even plane for roof sheathing so that finished roofing has an even surface and provides a smooth transition between existing and new roofing. Rafters size and spacing shall be as called for. Rafters shall run full length without joints. When roof trusses are called for, they shall be engineered.

- 11. **Roof Sheathing:** Roof sheathing shall be plywood or OSB (oriented strand board). When matching existing sheathing, transition shall provide a uniformly smooth surface.

12. **Wood Decks, Ramps, Steps, Railings, Retaining Walls:**

- A. **Material:** Decks, ramps, steps and railing structural components shall be approved construction grade lumber. Decking, stair treads, all guardrail components and handrails shall be redwood. Fasteners shall be galvanized or cadmium plated. Material used shall be free of loose or missing knots. Redwood shall be sealed (See Division 9 Section 9C). Retaining wall components shall be designated for landscape use by the manufacturer.
- B. **Construction:** Construction details shall be in accordance with the Work Write Up and/or drawings, if applicable.

- 13. **Repair of Framing and Structural Members:** When the repair of framing or structural members is called for, the repair shall achieve the strength and load bearing capacity of the original member.

SECTION 6B - EXTERIOR SIDING

1. **General:**

- A. **Preparation:** Preparation for siding installation shall include securing any loose wood members and replacing defective with like material prior to installing new siding. Any existing caulking, which will interfere with proper installation of new siding, shall be removed. New wood furring shall be installed as required to ensure finish wall is reasonably plumb and even.

B. Installation:

- (1) Siding shall be installed to run level, plumb and true to line, and meet at even levels at corners and existing siding. Siding abutting trim and adjacent siding shall be squarely cut and properly fitted.
 - (2) Caulking shall be installed around all openings and abutting wood trim. Color of caulking shall match finish color of siding.
 - (3) Installation shall include all flashing, trim, and accessories necessary for a finished, weather resistant product. Surface preparation and installation of siding, flashing and accessories shall be in accordance with manufacture's recommendations.
 - (4) New unfinished lap and plywood siding shall be primed or sealed ready for final finish.
2. **Lap Siding:** Vertical joints shall be staggered so that any two joints will be separated by at least two siding strips. Short pieces of siding shall not be concentrated in one area. Corner trim shall fit tight and true to vertical line of structure. Insulated backer shall be installed with all metal and vinyl siding.
 3. **Repair:** When repair of siding is called for it shall consist of the repair or replacement of any damaged or deteriorated siding members. Finish and design of siding material shall match existing adjacent siding as closely as possible. Siding used for repair or to fill in voids shall be laced into existing siding so that vertical joints shall have a minimum horizontal separation of 24".

SECTION 6C - PORCHES, STOOPS AND DECKS

1. **Replacement of Components (Flooring, Ceiling, Columns, Railings, Steps, and Skirting and Lattice):** Replacement of any components shall be with like material in style, size and installation, unless otherwise specified. Finger joint material may be used when painted. New unfinished material shall be primed or sealed and ready for final finish. Members shall be securely fastened and installed to meet at even levels and cut to abut uniformly adjacent members.
2. **Repair:** When repair of components is called for repair shall consist of matching existing materials in size, style, and finish including decorative and ornamental moldings. Repair shall include all material and methods necessary to achieve uniformity between new and existing members.

SECTION 6D - FASCIA, SOFFIT AND EXTERIOR TRIM

1. **General:** Members shall be securely fastened and installed to run true to line and meet at even levels at corners. Cuts and miters shall be even so as to abut uniformly to adjacent member. New unfinished material shall be primed or sealed and ready for final finish.
2. **Wood:**
 - A. **Fascia and Trim:** New material shall be redwood or clear pine, unless otherwise specified. Corners and in-line joints shall be mitered.

- B. **Soffit:** New soffit material shall be a minimum of three eighths inch (3/8") exterior grade plywood, plugged, and sanded unless otherwise specified. Fascia shall be plowed to receive soffit.
- 3. **Vinyl and Metal:** Vinyl and metal members shall be installed per manufacturer's recommendations with all accessories necessary for a complete installation. Backing materials shall be as recommended by manufacturer.
- 4. **Repair:** When repair of components is called for repair shall consist of matching existing material in size, style, and finish including decorative and ornamental molding. Repair shall include all materials and methods necessary to achieve uniformity between new and existing members.

SECTION 6E - INTERIOR TRIM, CLOSET COMPONENTS AND SHELVING

1. Material:

- A. New interior trim shall match predominant existing material in size, style, finish, including any decorative and ornamental molding. Trim material shall be kiln dried or otherwise seasoned solid wood. Synthetic wood or veneered trim shall not be accepted. Trim material shall be dressed free of tool marks and other objectionable defects. When finish is to be natural or stain, trim material shall be stain grade. Finger joint material shall not be accepted. When trim is to be painted, material may be finger joint.
- B. Clothes closet, pantry closet and open shelf material shall be 3/4" x 12" minimum wood bullnose unless otherwise specified. Linen closet shelf material shall be 3/4"x 16" minimum wood bullnose with a minimum of five shelves. Shelves shall be painted to match adjacent finish. Closet shelf wall support shall be 1" x 4" material secured to solid backing. Clothes closet rod shall be 1" diameter wood or metal, supported on ends with manufactured wall brackets. Rod shall not be painted.

2. Installation:

- A. Trim members shall be securely fastened tight to wall and installed to run true to line, meet at even levels to adjacent corner members, and all line cuts and miters shall be even so as to abut uniformly to adjacent members. This work shall be accurately and neatly performed and the joints shall be secured to prevent separation. Trim shall be joined only at corners except for runs in excess of 12'-0", in which one splice will be permitted midway of run. Casings around all openings shall be joined only at corners. External corners shall be mitered and internal corners shall be mitered or coped. Splicing of trim shall be done with mitered joints over solid backing. Fasteners used in installation shall be set below the surface. Holes shall be filled smooth with surface. When material is to be stained fill shall match stain color.
- B. Continuous support secured to solid backing shall be installed at ends and back of closet shelves. Clothes closet shelf and rod shall have a center support bracket if span is more than (5'-0"). Bracket shall be specifically designed for shelf and rod installation and securely fastened to solid backing and installed level. Rod shall be installed at a height of 56" above floor unless otherwise specified.

C. Pantry closet and open shelves shall have center support brackets if span is more than 5'-0". Bracket shall be specifically designed for shelf installation and securely fastened to solid backing.

3. **Repair:** Existing interior trim which is broken, splintered, cracked, chipped, warped or otherwise defective shall be replaced or repaired with new material. Repair shall include all materials and methods necessary to achieve uniformity between new and existing members. Installation shall conform to all requirements of this section unless otherwise specified.

SECTION 6F - INTERIOR WALL PANELING

1. **Material:** See Work Write Up.
2. **Installation:** Paneling shall be installed on solid wall surfaces. It shall not be fastened directly to furring strips or open framing. Any holes in existing wall material with an area exceeding one square foot to include holes from construction activity shall be repaired. Paneling shall be installed plumb and level. When paneling abuts trim it shall be tightly fitted. Exposed paneling edges shall not be accepted.
3. **Repair:** Repair of wall paneling shall consist of securing loose wall paneling and components.

SECTION 6G - INTERIOR SOFFIT

Soffits called for shall provide construction that will support all design loads and provide a suitable base for attachment of cabinets. Framing shall be level and plumb. When soffits are called for, the finished edge shall project a minimum of 1 1/2" past the finished edge of the wall cabinet. Soffit edges shall run parallel to wall cabinets. Soffits shall have a minimum of 1/2" drywall, taped and finished to match adjacent surfaces.

SECTION 6H - KITCHEN, BATH AND UTILITY CABINETS

1. **General:**
 - A. Cabinets shall conform to ANSI A161.1 "Recommended Minimum Construction and Performance Standards for Kitchen Cabinets". Cabinets shall be certified by the National Kitchen Cabinet Association.
 - B. No plastic or vinyl transfer finishes shall be accepted. No plastic drawers, drawer fronts or doors shall be accepted.
 - C. Wall and base cabinets shall be of the same construction and same outside appearance.
 - (1) Face frames shall be solid 3/4" thick hardwood.
 - (2) Sides of cabinets shall be a minimum of 3/8" plywood and prefinished to match cabinet front when exposed.
 - (3) Tops and bottoms shall be a minimum 3/8" thick plywood or medium density fiberboard.
 - (4) Cabinets shall have backs constructed of a minimum 1/8" hardboard.
 - (5) Interior of all cabinets shall have a melamine finish.

- (6) Shelves shall be a minimum of 5/8" thick medium density fiberboard surfaced with a melamine finish.
 - D. Cabinet installations shall include all accessories, operating and mounting hardware, filler strips, panels and molding provided by the cabinet manufacturer for a complete installation.
 - E. When utility or pantry cabinets are called for, they shall match kitchen cabinets in style and finishes.
2. **Installation:**
- A. Cracks and voids in walls and floor, and at junction of walls and floor, shall be permanently filled and sealed prior to installation of cabinets.
 - B. Where existing cabinets are removed and the area is not covered by new cabinets, the walls, floor and trim shall be finished to match adjacent finishes.
 - C. Cabinet doors shall be properly aligned and drawers shall operate freely. Hardware shall operate smoothly and easily. Cabinets shall be installed straight, level, and plumb and securely anchored with screws of proper size and quantity. Cabinets on either side of an appliance shall align front and top. Cabinets shall be secured to each other and to the wall by counter sinking screws neatly through the rails and stiles of the cabinets. Any screw not penetrating solid material shall be removed. Holes and any damage to the interior finish shall be filled and refinished.
 - E. When shims are used in leveling cabinets they shall be securely fastened and capable of supporting loads.
 - F. When trim exists where new cabinets are to be installed, base and trim shall be cut and removed to avoid scribing cabinets. Base and trim shall be fitted tightly and neatly to newly installed cabinets.
 - G. When cabinet installation is not tight fitting at floors, walls and ceiling, continuous molding shall be installed.
 - H. Openings necessary for plumbing and mechanical components shall be cut so that a properly sized escutcheon or trim will conceal the opening(s). If structural integrity of the cabinet is diminished as a result of cutting such openings reinforcement shall be provided.
3. **Replacement and Repair of Components:** When replacement of cabinet components is called for, components to be replaced shall be consistent in style, material and finish with existing cabinet. When repair of cabinet components is called for repair shall restore component to its original appearance, structural integrity and operation.

SECTION 6I - COUNTER TOPS

1. **General:** Counter tops shall be shop built. Surfaces shall be minimum 1/16" thick high-pressure plastic laminate. Laminate shall be applied to all exposed edges. Counter tops shall have a minimum 4" backsplash. End splash shall be installed where counter top abuts walls or built-in cabinet work. If top consists of more than one section, sections shall be assembled to achieve a structurally sound, rigid, single unit top. Joints shall be tight, aligned and smooth. Counter top allowance shall include the retail cost of the complete top ready for installation.

2. **Installation:** Edges that abut walls or other cabinets shall be scribed to fit tight to that surface. Counter top abutting walls shall be fitted with a maximum 1/8" opening prior to caulking. Caulking shall be uniformly applied and finished to be neat and smooth. No molding will be accepted. Openings cut and holes drilled for plumbing fixtures, electrical components and appliances shall be neat and close fitting. Tops shall be secured to cabinet with screws installed into core of top through base cabinet.
3. **Repair:** Repair of counter tops shall consist of the following:
 - A. Adhering all loose laminates and other coverings with a product specifically designed for this purpose.
 - B. Securing loose top to cabinets.
 - C. Removing deteriorated sealant at walls and around plumbing fixtures replacing with new sealant specifically designed for this purpose. Sealant shall be uniformly applied and finished to be neat and smooth.

SECTION 6J - STAIR OPENINGS, STAIR UNITS, HANDRAILS AND GUARDRAILS

1. **General:** The design, construction, and installation of all stair units shall be the responsibility of the Contractor. If code requirements preclude installation of stair unit in a specified location, the Contractor shall notify the City before constructing the stair unit. Stair units may be job built or pre-manufactured and shall include landings as required. When the construction of a new stair opening or modification of an existing stair opening, including modifications for head room is called for, it shall include all framing necessary to modify the existing or create a new opening sized to accommodate the existing or specified stair unit and provide all necessary clearances. Structural members shall be approved construction grade materials; for exterior stairs, fasteners shall be galvanized or cadmium plated. Material used for stair units shall be free of loose or missing knots. Unless otherwise specified new stair units shall have treads and risers for closed construction and stair treads shall be 5/4" material pre-manufactured for this application. New stair unit installations shall include new handrail and appropriate hardware. Handrail shall be 1 1/2" to 2" standard handrail stock with brass plated metal brackets. Handrails shall be finished with a natural finish unless otherwise specified. Finger joint material may be used only when handrails are to be painted. When guardrails are called for, they shall consist of posts, rails, balusters, and necessary hardware, or finished frame walls.
2. **Installation:** Stair units shall be installed plumb and level, each tread shall be level and each riser shall be plumb. Where stair units meet wall surfaces, transition shall include finish wood molding or continuous skirtboard. Handrail installations shall meet applicable code requirements. Handrail brackets shall be screwed to structural members or to securely anchored backing.
3. **Repair:** When repair of a stair unit, handrail or guardrail is called for, it shall include the repair or replacement of any damaged, deteriorated, or missing component or portion thereof. This shall include the repair or replacement of any associated brackets, screws and hardware. Components shall be returned to a like-new and structurally sound condition. Repairs shall match existing materials in style and finish.

DIVISION 7 - MOISTURE PROTECTION

SECTION 7A - DAMP PROOFING

Damp proofing shall be applied in conjunction with new foundation construction and conform to engineering specifications.

SECTION 7B - PERIPHERAL DRAINS AND SUMP PUMP SYSTEMS

1. **Peripheral Drains**: Peripheral drains shall be installed in conjunction with new foundation construction when specified and conform to engineering requirements.
2. **Sump Pump Systems**: When a new sump pump system is called for where none exists, it shall include sump pit with container and cover designed for this application, sump pump, all electrical connections and discharge drainage to exterior of structure. Sump pit container shall be a minimum of 18" diameter by 24" deep, designed for this application. Sump pumps shall be submersible type, minimum 1/3 horse power (hp), automatic control, and UL approved. Discharge line with check valve shall extend from the pump through the exterior wall at a height to permit discharge into a splash block set on grade. A concrete splash block shall be included as part of this installation. When a new sump pump is to be installed in an existing system, existing components of the system shall be inspected and repaired or replaced to ensure proper operation.

SECTION 7C - CAULKING

1. **General**: The requirements of this section shall apply to all interior and exterior work where caulking is common practice to provide a finished product or in preparation for final finish. This includes new work, repairs and alterations, and preparation for painting.
2. **Material**: Caulking shall be acrylic latex caulk unless otherwise specified.
3. **Preparation**: Surfaces to which caulking is to adhere shall be clean, dry, frost free and sound. Loose material shall be removed prior to application. Joints greater than 3/8" in depth shall be partially filled with a rope or yarn backup material as recommended by the manufacturer of the caulking.
4. **Application**: Caulking shall be handled according to the manufacturer's written instructions. The completed application shall provide a weather tight surface. The caulking shall be uniformly applied and the finished surface shall be neat and smooth.

SECTION 7D - INSULATION

1. **General**: When space limitations will not allow sufficient insulation to meet the "R Value" required by this section these spaces will be insulated to achieve the highest "R Value" possible. The Contractor shall provide a certification of "R Value" for all installations to the Owner and City.

2. **Material:** Insulation shall be standard quality brands of batt, blanket, or loose thermal insulating materials fully suitable for the particular installation. Insulation shall be delivered to the site in manufacturers' original packaging with seals unbroken and labels intact. Insulation materials shall be noncombustible, nontoxic and shall not attract insects or vermin.
3. **Installation:**
 - A. Attics (rooms or spaces immediately below the roof) shall be insulated to a minimum value of R-30. Attic insulation shall be installed between all heated and unheated spaces. No more than one vapor barrier shall be allowed with attic insulation.
 - B. Exterior wall cavities shall be insulated to a minimum value of R-11, to include all voids between framing and window and door units when exposed. If finished wall surfaces must be disturbed for installation, surface shall be repaired and finished so that no evidence of work is apparent.
 - C. Exterior crawl space walls shall be insulated to a minimum value of R-19.
 - D. Floors over unheated spaces shall be insulated to a minimum value of R-19.
 - E. Required clearances shall be maintained between mechanical and electrical components and insulation.

SECTION 7E - ROOFING

1. **General:** (See requirements of Division 7, Section 7F)
 - A. **Preparation:** Roofing installations shall include the removal of any existing material to meet local code requirements (See Division 11, Section 11A). When roof sheathing is exposed, secure any loose sheathing, replace defective with material of same thickness to establish a firm, true base. When installation is over existing roofing, set protruding nails, nail down loose roofing, and replace curled or warped roofing material to achieve an even surface. Clear roof surface of debris. Roofing installations shall include new roof jacks.
 - B. **Repair:** Color and design of roofing material shall match existing adjacent roofing as closely as possible.
2. **Shingle Roofing:**
 - A. **Material:**
 - (1) 3-Tab shingles shall be a minimum of 235 lbs. per square.
 - (2) T-Lock asphalt shingles shall be a minimum of 240 lbs. per square.
 - (3) 3-Tab fiberglass shingles shall be a minimum of 225 lbs. per square.
 - (4) T-Lock fiberglass shingles shall be a minimum of 225 lbs. per square.
 - (5) Wood shingles shall be No. 1 cedar shingles with a minimum of 205-225 lbs. per square.
 - B. **Installation:**
 - (1) When asphalt shingles are to be installed over existing roofing, a minimum of 30 pound (lb) roofing felt shall be applied prior to installation.
 - (2) When asphalt shingles are to be installed directly over roof sheathing, a minimum of 15 lb. roofing felt shall be applied prior to installation.
 - (3) Shingles shall run true to horizontal line, meet at uniform levels at ridges, be cut and properly fitted adjacent to protruding members and other shingles with allowance for

- thermal expansion, and true to a set line in valleys and along eaves and rakes. Shingles adjacent to eaves and rakes shall be adequately nailed along same.
- (4) New shingles shall extend 1/2" beyond rake and eave edges.

3. **Roll Roofing:**

A. **Material:**

- (1) Mineral surfaced single coverage asphalt roll roofing shall be a minimum of 90 lbs. per square.
- (2) Mineral surface double coverage asphalt roll roofing shall be a minimum of 110 lbs. per square.

B. **Installation:**

- (1) Roll roofing shall be run true to horizontal line, be cut even and properly fitted to adjacent protruding members.
- (2) Roll roofing shall be cemented and securely nailed.
- (3) Roll roofing installations shall include a minimum of 15 lb. felt and 9" edge strips. Edge strips shall overhang eaves and rakes 1/4" to 3/8".

4. **Built Up Roofing:**

A. **Material:** Built up roofing felt shall be 15 lb. fiberglass. Cement shall be hot bituminous asphalt. Cant strips shall be installed at all vertical intersections.

B. **Installation 3-Ply:** Built up roofing shall be composed of 3-plys of felt, alternating with hot layers of asphaltic cement. A final layer of 9/16" roof aggregate shall be applied to a hot layer of flooded asphaltic cement.

C. **Installation 4-Ply:** Built up roofing shall be composed of 4 plys of felt, alternating with hot layers of asphaltic cement. A final layer of 9/16" roof aggregate shall be applied to a hot layer of flooded asphaltic cement.

5. **EPDM Rubber Roofing:**

A. **Material:** All materials by Firestone Building Products.

B. **Installation:** As per manufacturer's specifications.

SECTION 7F - SHEET METAL

1. **Roof Flashing:**

A. Roofing installations shall include new valley flashing and other flashing necessary to achieve a weathertight installation.

B. Valley flashing shall be metal flashing material minimum No. 28 gauge galvanized sheet gauge corrosion resistant metal; other flashing shall be No. 26 gauge galvanized sheet corrosion resistant metal. Installation shall be in accordance with industry standards. Installation shall achieve weather tight performance without the use of excessive and unsightly mastics.

C. Shingle and roll roofing installations shall include style "A" metal drip edge along all eaves and rakes, drip edge shall not be installed in less than 4'-0" lengths. Overhang of all existing roofing shall be trimmed back to allow proper installation of drip edge.

D. Built up roof installations shall include gravel stop along all edges, flashing at vertical intersections, and parapet wall caps.

2. **Gutters and Downspouts:**

- A. **General:** Gutters shall be installed so that water flow from roof will be caught by the gutters. Each downspout shall drain a maximum of 600 square feet (sf) of roof area and downspouts shall be spaced to drain a maximum of 30 linear feet (lf) of gutter. Downspouts that discharge onto a roof shall terminate with an elbow a maximum of 1" above roof. Downspouts shall be located so that water will be diverted a minimum of 30" away from structure and will drain away from the foundation without draining onto adjoining properties.
- B. **Material:** Gutters shall be seamless 5" K Style. Galvanized steel gutter material shall be a minimum of No. 26 gauge. Aluminum gutter material shall be a minimum of .027 inches in thickness. Downspouts and downspout extensions shall be 3" x 2" corrugated rectangular material to match gutters. Splashblocks shall be precast concrete.
- C. **Installation:** Gutters shall have a uniform slope at the rate of one sixteenth inch (1/16") per foot to downspout. Gutters shall be installed under drip edge when it exists. Hangers shall be securely fastened and shall be spaced a maximum of 36" on center. Strap hangers shall be concealed under roofing material. Corners and drops shall be fastened with sheet metal screws and end caps shall be stapled or crimped. Corners, drops and end caps shall be sealed to be watertight using a mastic designed for this purpose. Downspouts shall be securely fastened at top and bottom, if over 10'-0" in length a third intermediate fastener shall be installed equal distance between top and bottom fasteners. Elbows shall be fastened with sheet metal screws and downspouts shall terminate with an elbow. Installation of gutters, downspouts and accessories shall be in accordance with trade standards. Galvanized gutters, downspouts and accessories shall be primed and painted (See Division 9, Section 9C).
- D. **Repair:** Repair of gutters shall include removal of all debris from gutters and realignment to achieve pitch for proper drainage. Loose gutters and downspouts shall be securely anchored and resealed. Splash blocks or extensions shall be provided and installed where missing. Repairs shall be with materials to match existing.

DIVISION 8 - DOORS, WINDOWS, GLASS, SCREENS AND AREA WELLS; CRAWL SPACE, CELLAR, BASEMENT AND ATTIC ENTRIES

SECTION 8A - DOORS AND FRAMES

- 1. **General:** Whenever door units are installed, frames, sills, and thresholds shall be plumb, level, square, and rigid. Frames shall be sized to fit the opening and wall thickness. Whenever doors are installed in existing frames, frames, sills, and thresholds shall be repaired as necessary to provide square, plumb, level, and rigid openings for the new installation. New doors shall fit properly in their frames and shall operate smoothly and easily. Contractor shall repair any voids or holes left as a result of removing existing hardware. When openings are constructed or existing openings modified, headers shall be provided to maintain the structural integrity of the wall and be in compliance with applicable codes. Care shall be taken to avoid unnecessary damage to adjacent components. In the event that damage occurs as a result of construction, damaged components shall be repaired or replaced to match existing in style and finish. When opening modification results in voids in

adjacent surfaces, voids shall be filled to achieve uniformity between new and existing materials.

2. **Repair of Existing Doors, Frames and Hardware:** When repair of any door unit component is called for it shall consist of ensuring that the component specified functions properly. Any damaged or deteriorated portion of the component shall be repaired or replaced and finished to match existing.
3. **Replacement of Door Components:** When replacement of any door unit component is called for it shall consist of removing the damaged component and installing a like component that provides all functions, style, and finish of the original. Replacement component shall be adjusted to function properly.
4. **Finishes:** New doors shall be finished (See Division 9, Section 9C).
5. **Exterior Doors:**
 - A. **Material:**
 - (1) **Doors:** 1 3/4" solid core exterior grade, faced veneer of wood, masonite or metal.
 - (2) **Glass/Glazing:** See Section 8C.
 - (3) **Frame:** One piece clear pine rabbeted frame, may be finger joint if painted.
 - (4) **Casing:** Casing shall match existing exterior and interior materials, style and finishes. (See Division 6, Sections 6D and Section 6E)
 - (5) **Hardware:** Residential grade (Kwickset or equal) consisting of 1 ½ pair of 4" x 4" butts, key-in-knob entry lockset and single throw deadbolt keyed alike, one-way viewer, and one wall or floor stop.
 - (6) **Weather Stripping:** Residential quality weather stripping of magnetic, vinyl or aluminum with neoprene seal.
 - (7) **Threshold:** Aluminum or wood with vinyl insert or aluminum or wood in conjunction with vinyl door sweep.
 - B. **Installation:** Openings between door casing and exterior wall material shall be caulked with a silicone sealant. When accessible, voids between door unit and framing shall be insulated. Doors shall be weather tight with a weather tight threshold. Installation shall be in such a manner that side and head margins are uniform. Bottom shall clear finish floor through entire swing. Complete exterior door unit shall consist of door, rabbeted jamb, butts, casings on both sides, key in knob entry lockset, weather stripping, threshold and door stop as described in paragraph 5A. Installation will include drip cap over door. Exterior door installation shall include door and all hardware and weather stripping as described in paragraphs 5A,(1.),(5.),(6.).
6. **Interior Doors:**
 - A. **Passage Doors:**
Material:
 - (1) **Door:** 1 3/8" minimum thickness, hollow core wood veneer or solid core wood veneer.
 - (2) **Frame:** One-piece clear pine or mahogany frame, may be finger joint if painted.
 - (3) **Casing and Stops:** Casing and stops shall match existing materials, styles, and finishes. (See Division 6, Section 6E)

(4) Hardware: Residential grade (Kwickset or equal); bath doors shall have privacy lockset, all others shall have passage set. Installation shall include one pair of 3 ½" x 3 ½" butts and one wall or floor mounted doorstop.

(5) Threshold: Beveled solid wood.

B. Bifold and Bypass Doors:

Material:

(1) Door: 1 3/8" minimum thickness, hollow core wood veneer or 1" minimum solid wood or metal.

(2) Frame: One-piece clear pine or mahogany frame, may be finger joint if painted.

(3) Casing: Casing shall match existing materials, styles, and finishes and include trim to conceal track. (See Division 6, Section 6E)

(4) Hardware: Hardware necessary for a complete installation, to include pulls and guides.

C. Pocket Doors:

Material:

(1) Door: 1 3/8" minimum thickness, hollow core wood veneer or solid core wood veneer.

(2) Frame: Opening shall be finished with clear pine or mahogany frame, may be finger joint if painted.

(3) Casing: Casing shall match existing materials, styles and finishes. (See Division 6, Section 6E)

(4) Hardware: Hardware necessary for a complete installation, to include pulls. Bath doors shall have privacy lock set designed specifically for this application.

D. Accordion Doors:

Material:

(1) Door: 3/8" minimum thickness, wood or vinyl.

(2) Frame: Opening shall be finished with clear pine or mahogany frame, may be finger joint if painted.

(3) Casing: Casing shall match existing materials, style and finishes and include trim to conceal track. (See Division 6, Section 6E)

(4) Hardware: Hardware as provided by the manufacturer for a complete installation.

E. Installation: Complete interior door units shall consist of all materials as described under specific door headings above and shall be installed in such a manner that side and head margins are uniform and will remain so with normal use. Door shall clear finish floor through entire swing or motion. Interior door installation shall include all hardware as described in applicable "Hardware" paragraphs above.

7. Glass Doors for Tub and Shower Enclosures:

A. Material:

(1) Frame: Jambs, head rails, and sills shall be extruded anodized aluminum.

(2) Doors: Frame or frameless, maximum two-panel door for tub enclosure.

(3) Glass and Glazing: See Section 8C.

B. Installation: Shower stall door and tub enclosure assemblies shall consist of all components provided by the manufacturer for the specific model and application, to include all jambs, head rails, sills, door and all operating hardware. New assembly shall be watertight.

8. Storm and Screen Doors:

A. Wood Storm Doors:

Material:

- (1) Door: Frame shall be 1 1/8" thick select clear kiln dried ponderosa pine with interchangeable glass and screen inserts sized for secure tight fit. Screen wire shall be 16 x 18 heavy duty aluminum mesh. (See Section 8C for glass/glazing)
- (2) Frame: To be installed in existing finished opening.
- (3) Hardware: Machine finished brass plated thumb latch, no key locking handle, air-draulic closure and corrosive resistant metal chain. Easy change locking latches for glass and screen interchanging, three 3" x 1 1/2" brass plated hinges for half surface, face mount or offset installation.
- (4) Weather Stripping: Full perimeter weather stripping of wood with neoprene or wood with wool pile. Door to have bottom sweep fitted weather tight.

B. Aluminum Storm Doors:

Material:

- (1) Door: 1 1/4" maximum and 1 1/16" minimum extruded hollow shape, 6063-T6 alloy aluminum, minimum .055 thickness. Door shall be selfstoring. Screen wire shall be 16 x 18 heavy-duty aluminum mesh (See Section 8C for glass/glazing).
- (2) Frame: Frame shall be aluminum Z-bar type.
- (3) Hardware: Machine finished plated thumb latch, no key locking handle, air-draulic closure and corrosive resistant metal chain. Hinges shall be four oilite bearing Z-bar type.
- (4) Weather Stripping: Full perimeter weather stripping of nylon electropile with waterproof backing. Door to have expander and vinyl bottom sweep.

C. Vinyl Storm Doors:

Material:

- (1) Door: Frame shall be 1 1/4" maximum and 1 1/6" minimum by 3", extruded hollow shape rigid vinyl. Door shall be self-storing. Screen wire shall be 16 x 18 heavy-duty aluminum mesh (See Section 8C for glass/glazing).
- (2) Frame: Frame shall be vinyl Z-bar type.
- (3) Hardware: Machine finished plated thumb latch, no key locking handle, air-draulic closure and corrosive resistant metal chain. Hinge shall be full length.
- (4) Weather Stripping: Full perimeter weather stripping of nylon electropile with waterproof backing. Door to have expander and vinyl bottom sweep.

D. Wood Screen Doors:

Material:

- (1) Door: Frame shall be 1 1/8" select clear kiln dried ponderosa pine. Screen wire shall be 16 x 18 heavy-duty aluminum mesh.
- (2) Frame: To be installed in existing finished opening.
- (3) Hardware: Machine finished brass plated thumb latch, no key locking handle, air-draulic closure and corrosive resistant metal chain. Three, 3 1/2" x 1 1/2" brass plated hinges for half surface, face mount, or offset installation.

- E. Installation:** Complete storm of screen door units shall consist of all components as described under materials listings for the specific type of door listed above. Swing of door shall be approved by Owner.

9. **Overhead Garage Door:**

- A. **Material:** When an overhead door unit is called for it shall include four section door, all tracks and track hangers, rollers and lifting hardware, keyed locking hardware, stop molding with weather seal, tension springs and hardware, and bottom weather seal. Overhead garage door shall be wood, masonite, or steel and when of sandwich construction shall have a minimum 1 3/8" thick polystyrene insulating core. When overhead garage door is of single skin and frame construction it shall have a minimum frame thickness of 1 3/8" with a polystyrene insulating backing. When overhead garage door is of wood construction with recessed panels it shall have a minimum frame thickness of 1 3/8".
- B. **Installation:** Overhead garage doors and their components shall be installed to fit and operate correctly. Overhead garage doors shall be weather tight with particular emphasis given to seal at floor. Overhead garage door tracks shall be securely anchored and rigidly installed.

SECTION 8B - WINDOWS AND FRAMES

1. **Primary Windows:**

A. **Complete Window Units:**

- (1) **General:** Complete window units shall include casing, sill, stool, apron, lifts, locks, screens, and all hardware necessary for a complete installation. Frames shall be sized to fit the opening and wall thickness. Style, and finish of window unit will be identified Work Write Up. When an opening is constructed in a concrete or masonry wall the rough opening shall be constructed with redwood, pressure treated lumber, or minimum 16 gauge hollow metal. When openings are constructed or existing openings modified, headers shall be provided to maintain the structural integrity of the wall. Care shall be taken to avoid unnecessary damage to adjacent components. In the event that damage occurs as a result of construction, damaged components shall be repaired or replaced to match existing in style and finish.
- (2) **Finishes:** New wood window units shall be finished (See Division 9, Section 9C).
- (3) **Materials:**
- a. **Window Units:** Wood, aluminum, vinyl, vinyl clad. (See Work Write Up).
 - b. **Casing:** Casing shall match existing exterior and interior materials, style, and finishes (See Division 6, Sections 6D and E).
 - c. **Hardware:** Hardware shall be residential grade and shall be designed for the application.
 - d. **Glass and Glazing:** (See Section 8C)
- (4) **Installation:** Whenever complete window units are installed, units shall be plumb, level, square and rigid. Unless otherwise specified top of window unit shall align with existing windows in room. Voids between window unit and framing shall be insulated. Joints on exterior walls between window unit and wood, masonry, or metal shall be caulked with a silicone sealant. Window units shall have a drip cap and be weather tight.

B. **Replacement Window Kits and Replacement Sash:**

- (1) **General:** Replacement window kits shall include jamb liners, sash with glass and glazing, clips, fasteners, hardware, screens and other accessories as supplied by the manufacturer for proper installation. In addition, new side and head stops, both

- interior and exterior, shall be included. Replacement sash shall include new sash milled to match existing with glass and glazing, operating mechanism and hardware to match existing. Replacement window kits and replacement sash shall be fitted properly in the existing frames and shall operate smoothly and easily. New wood shall be finished to match existing frame (See Division 9, Section 9C).
- (2) Materials:
- a. Window Sash: Wood, aluminum, vinyl, vinyl clad (See Work Write Up).
 - b. Hardware: Hardware shall be residential grade and shall be designed for the application.
 - c. Glass/Glazing: (See Section 8C)
- (3) Installation: Whenever replacement window kits or replacement sash is installed, existing frame shall be repaired as necessary to provide square, plumb, level, and rigid opening for new installation. Contractor shall repair or replace damaged trim incidental to the window. Replacement window kits shall be installed in accordance with manufacturer's recommendations.
- C. Repair of Existing Sash, Frames, and Hardware: When repair of any window unit component is called for it shall consist of ensuring that the component specified functions properly. Any damaged or deteriorated portion of the component shall be repaired or replaced and finished to match existing.
- D. Replacement of Window Components: When replacement of any window component is called for it shall consist of removing the damaged component and installing a like component that provides all functions, style, and finish of the original. Replacement component shall be adjusted to function properly.

2. **Storm Windows**:

- A. General: Storm windows shall be self-storing combination storm and screen units. Window shall be installed straight, plumb, and level in existing openings to insure a weather tight enclosure and shall be securely anchored in accordance with the manufacturer's recommendations and be easily operable. Frame and sash member joints shall be mitered, neatly fitted, and securely fastened together with plated screws or welded joints. Weep holes shall be provided in frames. Storms and screens shall be compatible with the primary window operation and shall be neatly fitted with appropriate hardware so that the sash and screen can be removed from the inside. Installation shall include screens and necessary hardware. Exterior of primary windows and frames shall be cleaned prior to installation of storm windows. After installation all storm windows and their screens shall be thoroughly cleaned without using abrasive cleaning agents.
- B. Aluminum Storm Windows:
- (1) Material: Window frames shall be extruded mill finish aluminum 6063 T6 alloy with nominal wall thickness of .055". Screens shall be standard mill or charcoal aluminum. Weather stripping for interlocking panels shall be nylon electropile with waterproof backing. Aluminum windows shall conform to the Aluminum Window Manufacturer's Association standards (See Section 8C for Glass and Glazing).
 - (2) Installation: Windows shall be installed over a bead of silicone caulking with plated screws finished to match frame. Caulking shall ensure a weather tight installation.
- C. Vinyl Storm Windows:
- (1) Material: Window frames shall be welded vinyl extrusion of one-piece construction. Screens shall be standard mill or charcoal aluminum. Weather stripping for

interlocking panels shall be nylon electropile with waterproof backing (See Section 8C for Glass and Glazing).

(2) **Installation:** Windows shall be installed over a bead of silicone caulking with plated screws finished to match frame. Caulking shall ensure a weather tight installation.

D. **Replacement of Storm Window Components:** When replacement of any storm window component is called for, the new component shall match the original in all aspects.

E. **Repair of Existing Storm Windows:** When repair of any storm window component is called for, it shall consist of ensuring that the component specified functions properly. Any damaged or deteriorated portion of the component shall be repaired or replaced.

SECTION 8C - GLASS AND GLAZING

1. **General:** Glass shall be PPG, LOF, or equal. Thickness and type of glass and glazing shall be as recommended by the manufacturer for the specific application. Bathroom windows shall be glazed with obscure glass. Upon completion all glass shall be free of cracks, rattles and be clean.
2. **Exterior Doors:** Door lights shall be insulated glass installed to be weather tight.
3. **Glass Doors (Tub and Shower Enclosures):** Glass in tub and shower enclosures shall be safety-tempered glass.
4. **Storm Doors:** Storm door glass shall be double-strength tempered safety glass.
5. **Primary Windows:** Complete window units and replacement window kits shall have a minimum of 1/2" insulated glass. Unless otherwise specified, replacement sash, glass and glazing shall match existing.
6. **Storm Windows:** Storm window glass shall be double-strength.
7. **Replacement:** Glass replacement shall include the removal of all broken glass, old putty, and debris from window sash. Unless otherwise specified replacement glass and glazing shall match existing in type, style, thickness and installation. Glass set in metal with glazing clips shall be back-puttied with putty appropriate for the purpose, or set in neoprene glazing bed. Glass set in wood shall be secured in place with glazing points and faced puttied. Glazing compound shall be a quality commercial non-lead brand.

SECTION 8D - WINDOW SCREENS AND FRAMES

1. **General:** Whenever window screens are called for they shall be constructed and installed to match existing in material, fabrication, operation, hardware, and finish. If existing screens are not present, screen frames shall be constructed of 1 1/16" x 2 1/2" select clear kiln dried ponderosa pine. For screens exceeding 4'-0" in either dimension, an intermediate member of the same size shall be installed. Frames shall be constructed with rabbeted joints to provide a square and rigid frame. Screen mesh shall be 16x18 heavy-duty aluminum tightly stretched and secured to frame. Mesh edge shall be concealed with 1/2" half round molding.

2. **Repair:** When repair of any window screen component is called for it shall consist of ensuring that the component specified functions properly. Any damaged or deteriorated portion of the component shall be repaired or replaced.

SECTION 8E - AREA WELLS

1. **General:** The size of area wells required for egress shall be determined by applicable code requirements. The size of non-egress area wells shall be established by the width of the window and depth below grade. Width from foundation wall for non-egress area wells shall be 24" unless otherwise specified. The top of area wells shall be a minimum of 2" above grade. Area wells shall be securely fastened to the foundation wall at the top, bottom and intermediately. Area wells shall have a minimum of eight inches of crushed stone the top of which shall be a minimum of 4" below window sill. Unless otherwise specified, area well covers shall be pre-manufactured. Metal grills shall be No. 9 gauge expanded metal with reinforced edge. Area well covers shall be secured and if used on egress window shall be easily released. When the depth of the area well is greater than 44" a permanently attached egress ladder shall be installed. When area well is constructed of wood the ladder shall be wood; when constructed of metal the ladder shall be metal. When constructed of masonry or concrete the ladder may be wood or metal.
2. **Wood Area Wells:** When the width of area well exceeds 40", the area well shall be constructed of treated material 6" x 6" minimum. Corners furthest from the foundation wall shall be laced and corners adjacent to foundation wall shall be stacked. Number 4 rebars shall be driven continuously through all members to a depth of 24" below well bottom at all four corners. Posts adjacent to foundation wall shall be 2" x 4" minimum and anchored to foundation wall. When the width of area well is less than 40" the walls may be 2" x 6" material stacked on edge. Wall members shall be redwood or treated material. Posts furthest from foundation wall shall be 4" x 4" installed a minimum of 24" below well bottom. Posts adjacent to foundation wall shall be 2" x 4" minimum and anchored to foundation wall.
3. **Metal Area Wells:** Metal area wells shall be one piece corrugated galvanized 20-gauge metal manufactured for this specific application.

SECTION 8F - CRAWL SPACE, CELLAR, BASEMENT AND ATTIC ENTRIES

1. **Interior:** When the construction of a new interior crawl space, cellar or attic entry is called for it shall include cutting of opening, framing of opening, entry cover with hardware, trim and finishes necessary for a complete, functional and structurally sound installation. Finishes shall match surrounding finishes.
2. **Exterior:** When the construction of a new exterior crawl space, cellar, or basement entry is called for it shall include excavation, entry well, cutting of opening, framing of opening, entry cover or door unit with hardware, trim, flashing, and finishes necessary for a complete, functional and structurally sound installation. Construction of entry well shall include provisions for drainage.

3. **Ladders and Stairs**: When a ladder is called for it shall be wood or metal and permanently fastened and structurally sound to provide safe access. When stairs are called for they shall be constructed of wood or concrete and installed in compliance with all other requirements of these specifications.
4. **Repair**: When repair of any entry component is called for it shall be returned to a like new and structurally sound condition. This shall include the repair or replacement of any associated hardware. Repairs shall include all material and methods necessary to achieve uniformity between new and existing materials.

DIVISION 9 - FINISHES

SECTION 9A - STUCCO

1. **General**: When stucco is called for, installation methods and materials used shall adhere to trade standards. All materials shall be products manufactured for the specific application. Finish stucco surfaces shall be true and uniform. Work shall include preparation necessary for existing work to receive and adjoin new work. Installation shall include wire lath, ties and fasteners. Appropriate metal bead or stop shall be installed at all edges and corners. Expansion joints shall be placed to minimize stress within the stucco finish from structural movement. Stucco shall not be applied when temperature of surrounding air is below 40 degrees Fahrenheit and falling, unless precautions against freezing are provided.
2. **Repair of Existing Stucco**: When stucco repair is called for work shall include the removal of damaged stucco. Repair shall include new lath and stucco to match adjoining work in finish texture and color.

SECTION 9B - DRYWALL

1. **General**: When removal of existing wall or ceiling material is called for, all materials necessary to achieve a solid, sound surface for installation of new drywall shall be removed. When removal of existing wall material is called for, on exterior walls, prior to installation of new wallboard, exterior walls shall be insulated to R-13 (See Division 7, Section 7D). When removal of existing wall material is called for on walls where handrail brackets, grab bars, etc., are located, solid blocking shall be installed prior to installation of new drywall. Preparations for wallboard installation shall include all furring and shimming necessary to achieve a straight and plumb surface. Except for overlay installations all new wallboard shall extend behind trim. Trim shall be tight to face of wallboard without damage or distortion to trim installation. Any drywall treatment, preparation, or installation called for in a given room shall include closets and pantries in or adjacent to this room unless otherwise specified. Fasteners of adequate length to penetrate framing members by a minimum of 3/4" shall be used. When overlay or new drywall is called for, unless otherwise specified, trim shall remain in place. When trim is to be removed and reinstalled, care shall be taken to avoid damage or scarring trim material. In the event a member is damaged it shall be replaced with a like member. Trim shall be marked and identified for reinstallation in the same location. Reinstallation shall comply with requirements of Division 6, Section 6E. When trim is to remain wallboard shall be cut to fit tightly against trim. When wallboard projects past trim a

transitional molding shall be installed to compliment existing trim. When overlaying existing walls or ceilings, it is intended that the wall and ceiling materials will not be removed. However, if the Contractor elects to remove it, then it becomes his responsibility to comply with any additional requirements of the Building Code to include insulating exterior walls to R-13 (See Division 7, Section 7D and Division 14, Section 14A). Drywall contractor shall protect adjacent areas, furnishings, fixtures, electrical cover plates, finished hardware, heater covers, and grills from splattering, spillage or damage during wallboard installation and from taping and texturing applications

2. **Material:** Wallboard shall be 1/2" on walls and ceilings, with tapered edges, unless otherwise specified. Wallboard installed in bathrooms shall be water-resistant. Type "X" fire rated wallboard shall be installed where required by applicable codes. Nails or screws shall be treated to prevent rusting or spotting.
3. **Installation:** Care should be taken to stagger and minimize end joints. Wallboard shall be first applied to ceiling, then to walls. When both sides of partitions are to receive wallboard, joints on opposite sides shall be staggered. Wallboard shall be carefully fitted and sized prior to fastening in place. Edges and ends of wallboard shall occur on framing members, except those edges and ends which are perpendicular to the framing members. Electrical boxes and mechanical openings shall be flush with finished wallboard surface. Exposed exterior corners shall be protected with metal corner bead. Wallboard joints and inside corners shall be covered with a tape and compound designed for this specific purpose. Drywall compound shall be applied in accordance with the manufacturer's recommendations to include maintaining the minimum temperature during curing. Drywall application shall include the filling of all holes, gouges and imperfections with drywall compound. Drywall work shall provide a true, even, smooth plane that when finished reveals no joints, fastener heads or holes under normal lighting and viewing conditions. Texture shall be uniformly applied to the entire surface.
4. **Repair:** Repairing damaged areas shall include removing damaged material to framing on two opposite sides of damaged area and replacing with like material securely fastened to framing. Tape and finish to match adjacent surfaces and finishes with no visible signs of repair.

SECTION 9C - PAINTING

1. **General:**
 - A. **Material:** Paint materials shall be standard quality brands and fully suitable for the intended purpose. Paint materials shall be delivered to site in manufactures' sealed containers with original labels. The printed instructions shall clearly identify the suitability of the material for the type of exposure, surface to be covered, and type of service to which paint will be subject. Special consideration shall be given to ensure that the new finish will adhere to and be compatible with the existing surface. The Contractor shall furnish the Owner with color samples and the color selected by the Owner shall be initialed by both parties and a copy provided to the City. No lead-based paint shall be used.

B. Preparation:

It is mandatory that all contractors request and pass a "surface preparation inspection" by the City and the Owner before primer or paint application. Painting contractor shall apply paint or finishes only to surfaces prepared in accordance with this section. Painting or finishing of any surface by the painting contractor shall be considered acceptance that the surface preparation will provide for a first class job. Painting contractor shall protect vegetation, adjacent areas and furnishings from splattering, spillage or damage during painting. Contractor shall be responsible for paint removal or repair of damage to the Owner's satisfaction. Finish hardware, electrical cover plates, heater covers, and grills shall be removed prior to painting surrounding surfaces or otherwise protected. Painting contractor shall, after conferring with owner, remove all abandoned hardware, including hooks, screws, nails, anchors, wire, etc. and set nails and fill holes. Painting contractor shall ensure that all surfaces to be finished are free of peeling, blistered, or crazed paint, foreign material, minor holes, cracks, irregularities, and must be clean, smooth, and dry. Repair and patchwork shall be made with material appropriate for the specific application to achieve a sound repair. When preparing masonry for paint, remove any surface effervescence with a product designed for this purpose. Any area to be painted showing signs of mold or mildew shall be treated with a good fungicide and all areas shall be thoroughly dry before painting. Upon completion, the entire area shall be cleaned and left in a neat condition.

C. Application:

Each coat of paint shall be well brushed or rolled on, worked out evenly and allowed to dry before subsequent coat is applied. Spraying shall not be allowed except for masonry and poured concrete surfaces. Finish work shall be uniform in color, smooth and free from defects, smooth and free of brush marks, lap marks, bleeding, ghosting and shadowing. Edges where paint adjoins other materials or colors shall be sharp and clean. New and previously unpainted hardware, hardware accessories, electrical fixtures, switches, receptacle and cover plates are not to be painted. Items of this nature previously painted shall be painted to match surrounding finish except when items are plated metal, in which case, old paint shall be removed. When doors are finished, top, bottom and side edges shall be included. When windows are finished, bottom of lower sash rail and meeting faces of the meeting rails shall be included. The painting contractor shall verify in writing with the homeowner which windows are not operable before painting and will not be responsible for making those windows operable. Failure to do so may require the painting contractor to make all windows operable. Windows that are operable before painting will be operable after painting. Bare wood shall be primed and painted, except that to be stained or clear sealed.

2. Exterior:

A. General: Exterior painting shall be done only during favorable weather. Oil paint shall be applied when the temperature is above 40 degrees Fahrenheit, latex paint shall be applied when the temperature is above 50 degrees Fahrenheit and is expected to remain so for three hours after application. Temperature minimums shall be surface temperatures as well as air temperatures. Previously painted windows, doors, and their trims are part of exterior painting, including those found behind storm windows or doors. Wood screen and storm window frames shall be included in exterior painting. If either is stored at the

time, it is the Owner's responsibility to make them available to the Contractor. Previously painted foundations, decks, concrete porches, and stoops shall be part of exterior painting. Natural finished items are not to be painted unless specifically noted. When new gutters and downspouts are called for, the existing fascia and any new fascia shall be painted prior to installation of the new gutters. Exterior metal and plastic surfaces shall be painted, including railings, roof flashing, chimneys, chimney caps and mechanical components. Exterior painting shall include as many as three different colors, as selected by Owner.

- B. **Material:** In addition to the requirements of Section 9C, 1, exterior paints shall have a minimum of 35% plus or minus 2% volume of solids for the paint.
- C. **Preparation:** Sanding, wire brushing, scraping, and power washing are acceptable methods of cleaning. Joints and seams shall be caulked prior to painting to achieve a weather tight and smooth finish. Loose or deteriorated putty, including points, for sash shall be replaced.

3. **Interior:**

- A. **General:** Finishes called for in a particular room shall extend into any new and existing closet, built in cabinets or pantry located in or adjacent to that room. Walls, ceilings, and previously painted doors, windows, trim, and shelving shall be included. Natural finished items are not to be painted unless specifically noted. Cabinet doors, and drawers shall be closeable and operable after painting. Interior painting shall include as many as two different colors per room as selected by Owner to a maximum of six colors for the entire interior.
- B. **Material:** In addition to the requirements of Section 9C, 1, interior paints shall have a minimum of 30% plus or minus 2% volume of solids for the paint. Finishes used in kitchens, baths, and utility areas shall be durable and washable.
- C. **Preparation:** It is not intended that wood surfaces scheduled for refinishing or painting be completely stripped down to bare wood. Rather, it is intended that scratches and other surface blemishes be treated so as to make them unnoticeable. When wallpaper exists on a surface that is to be painted, it shall be the responsibility of the painting and general Contractors to determine the appropriate preparation so that the final finish is in compliance with all requirements of this Section.

4. **Cabinets:** Peeling, blistered or crazed paint shall be removed. Preparation of cabinet surfaces shall include filling of all voids, holes, cracks, surface irregularities and unevenness of existing paints so as to be unnoticeable after final finish is applied. Special attention shall be given to the removal of grease, mildew, and other foreign matter unique to kitchen and bath locations. When cabinets are finished, interior, shelves, doors, and drawers shall be included. Wall cabinet tops, when there is no soffit, bottoms and exposed ends, including stove and refrigerator cavities, shall be included. When cabinet doors or drawers are finished, all surfaces inside and out shall be included. After refinishing all cabinet doors and drawers shall operate smoothly, easily, and close tight.

5. **Gutters, Downspouts, Flashing, Vents and Metal Railings:** New metals not previously painted shall be primed with a rust preventing metal primer manufactured for the specific application. Previously painted metals shall be spot primed where necessary. Finish shall inhibit rust and be manufactured for the specific application.

SECTION 9D - WALL COVERING (CERAMIC TILE AND WALL PAPER)

1. **General**: All surfaces to be covered shall be clean, smooth, and free of foreign material, holes, cracks, and irregularities and must be dry. Adjacent areas and furnishings shall be protected from splattering, spillage or damage during installation.
2. **Ceramic Wall Tile**:
 - A. **Preparation**: Existing walls shall be treated with a water-resistant sealant designed specifically for this purpose.
 - B. **Material**: Tile and grout shall be suitable for the area and application. Adhesives and other application materials shall be those recommended specifically by the manufacturer of the tile. Tile allowance shall include the retail cost of the tile only.
 - C. **Installation**: Where possible, lay out work so that no tile less than 1/2 size occurs. The adhesive shall be applied to the entire surface to be tiled with a notched spreader blade. Tile shall be set by "floating method", surface of tiles shall be flush. In shower area height of last course of tile shall extend a minimum of one full tile above showerhead. Tile shall extend into window recesses (sill and sides) at same height as wall tile. Tile installations shall be trimmed with tile specifically designed for the application. Joints shall be uniform, shall align vertically and horizontally and be plumb and level. Tile joints shall be filled with white grout unless otherwise specified. Joints between tub and tile and between tile and any dissimilar material shall be sealed with a tub and tile sealant. Joints shall be sponged and tooled.
 - D. **Repair**: When repairing an existing tile wall, remove all cracked, loose, chipped or otherwise defective tile. Repair sub-surface wall material as necessary to provide a smooth and water resistant surface for installation of replacement tile. New tile being installed next to existing tile shall match existing as closely as possible in size, color, texture and glaze. Existing tile may be cleaned and reused when feasible. When repairing and sealing grout, remove all loose and deteriorated grout and sealant prior to installing new. Installation shall conform to all requirements of this section.
3. **Wall Paper**:
 - A. **Preparation**: Existing surfaces shall be prepared to ensure that the seams or any other features of any existing wall covering will not be visible through new covering. Sealant shall be applied as recommended specifically by the manufacturer of the wall covering. Surfaces shall be coated with sizing as recommended by the manufacturer of the wall covering. Special consideration shall be given to ensure the new covering will adhere to and not affect the stability of the existing surface.
 - B. **Material**: The type of paper used shall be suitable for the area and application. Wall covering allowance shall include the retail cost of covering only.
 - C. **Installation**: Wall covering surface shall be smooth, tight, and free of bubbles. Paper shall be plumb with seam type recommended by the manufacturer. Butt seams shall be tight and patterns shall align. Edges shall be fitted tightly against all trim. Edges where wall covering adjoins other material or finishes shall be sharp and clean. Wallpaper shall be installed behind all wall and ceiling accessories (grills, cover plates, fixtures, etc.).
 - D. **Repair**: Repair of wall paper surfaces shall consist of adhering wall paper with product specifically designed for this purpose.

SECTION 9E - FLOOR COVERINGS AND FINISHES

1. **General:** Flooring contractor shall install finish flooring materials only to surfaces prepared in accordance with the requirements of the finish material manufacturer. The placement of any finish flooring materials shall indicate the acceptance of the surface and compliance with all requirements of this section by the installer. When adhesives are used, they shall be designed for the specific application. Installation of floor coverings shall be accomplished by a skilled craftsman. Prior to installation over concrete, all cracks, depressions, and voids shall be filled or repaired. Where leveling is required a product designed specifically for this purpose shall be used. Concrete surface shall be sealed with a sealant designed for this application, prior to installation of floor covering. Floor surfaces to receive underlayment or finish floor covering shall be dry, smooth and clean. Floor coverings and finishes called for in a particular room shall extend into any new and existing closet or pantry located in or adjacent to the room. Floor coverings shall be cut evenly and close fitting at walls and all projections, seams shall be held to a minimum. Avoid seams in high traffic areas. Floor coverings shall be installed so that patterns align in both directions. Fill strips shall not be less than nine inches in width or less than thirty-six inches in length. The transition between rooms with different floor finishes shall occur at the center of the opening or the door, when the door is in the closed position. When new finish floors are called for, installation shall include trimming bottoms of existing doors that are to remain to clear new finish floor. The Contractor shall be responsible for keeping the new floor covering clean and protected from stains and all other damage until acceptance by Owner or final inspection. Patching of damaged vinyl is not acceptable. The General Contractor shall ensure care instructions for products installed are provided to the Owner.

2. **Vinyl:**
 - A. **Material:** Vinyl allowance shall include the retail cost of vinyl floor covering only.
 - (1) **Vinyl Sheet Goods:** Shall be of a reputable manufacturer and meet minimum FHA standard.
 - (2) **Base:** Rubber, vinyl, or wood.
 - (3) **Stair Noising:** Aluminum, vinyl, or rubber.
 - B. **Installation:** Vinyl installations, except when over concrete, shall include underlayment. Existing base shoe shall be removed prior to installation of vinyl. Water closet shall be removed prior to installation of vinyl. When reinstalling water closet a new bowl wax seal shall be installed. Seams shall be tight, straight, uniform and welded watertight using manufacture's seam sealer. Vinyl shall be fitted tight and sealed at tub and around all floor penetrations to be watertight. Transition from one floor covering type to another shall be made using a molding product designed for the specific materials and conditions. When a floor trap door is to be covered, the door will be trimmed with Macklinburg Duncan Door Trim Model No. 740-9114. The vinyl installation shall include all necessary trim items including pipe escutcheons for a complete and professional installation. Installation of vinyl floor covering on stairs shall include a noising trim specifically designed for this purpose. Tread and risers shall be one piece with no exposed edges. Rubber and vinyl base shall be continuous between corners, and all interior and exterior corners shall be premolded. For wood baseboard or baseshoe installation, see Division 6, Section 6E. After floor has set sufficiently to become seated,

clean with a neutral cleaner recommended by manufacturer. Floors and rubber base shall be left clean, smooth and free from air pockets, buckles, cracks and exposed edges.

- C. **Repair:** Vinyl repairs shall be made using manufacturer's recommended products and procedures. Finish repair shall be smooth, even and impervious to water. Any additional vinyl required for repair shall match all characteristics of existing vinyl and pattern shall align.

3. **Carpet:**

- A. **Material:** Carpet allowance shall include the retail cost of carpet only.

- (1) Wool, Acrylic, or Modacrylic Pile carpet shall be 25 ounces per square yard minimum.
- (2) 100% Nylon Pile carpet shall be 20 ounces per square yard minimum.
- (3) Pad shall be 1/2" pad, 5 pound, rebond minimum, unless otherwise specified.
- (4) Bath and kitchen carpet shall be water resistant designed for this use and shall be installed over flooring impervious to water.

- B. **Installation:** Base shoe shall be removed prior to installation of carpet. Surface of base exposed after removal of base shoe shall be finished to match adjacent surface. Installation shall be in accordance with the carpet industry practices and standards. Finished carpet installation shall be free of scallops, and puckers. Fasten tack strips to the floor by the most appropriate method to give permanent holding qualities. Lay pad in the largest possible lengths and widths using the minimum number of sections and lay flat without bubbles or wrinkles. Bond pad to concrete and staple to wood floors. Lay out the pad so that seams do not fall directly under the carpet seams. Tape pad seams where necessary to ensure seams remain tight. Make carpet seams uniform, unnoticeable, and permanent, by the method appropriate for the type of carpet and in accordance with the industry practices and standards. Treat all joining edges, regardless of seaming method, with a seam adhesive. Seams must have a minimum breaking strength of 100 pounds per inch and must be capable of withstanding all carpet cleaning processes. Products used in the seaming process shall be appropriate for the application. After installation, remove all debris, moldings, scraps, and other foreign matter. Remove any soiled spots or adhesive from the face of the carpet with the appropriate spot remove recommended by the carpet manufacturer. Remove all loose threads and vacuum carpeting.

- 4. **Underlayment:** Unless otherwise specified, 1/4" material (Luan plywood, AC plywood, waferboard, or fiber reinforced gypsum underlayment) designed and stamped for use as underlayment shall be installed.

5. **Wood Flooring (Repair and Refinishing):**

- A. **Repair:** When patching or replacing flooring, material and installation shall match existing. Where patch is more than two boards wide, the end joints shall be staggered a minimum of four inches. Sand patched area and feather into existing flooring. Stain and finish new sections of flooring to match existing.
- B. **Refinish:** Remove base shoe with care prior to sanding, save for reinstallation. Reinstall base shoe after flooring has been refinished. Reinstall base shoe, and, if damaged, provide new base shoe and refinish to match existing removed (See Division 6, Section 6E). Re-nail all loose flooring, set nails and fill all holes with a product specifically designed for this purpose. Floor surface shall be machine sanded with appropriate grit

paper to achieve a smooth uniform surface. When machine sanding is impossible hand sand to achieve a smooth even surface. A minimum amount of wood surface shall be removed. Apply wood filler to floor surface with a product designed for this purpose. Apply a minimum of two coats of polyurethane floor finish. When floors are to be stained, apply stain evenly.

SECTION 9F - PLASTER REPAIR

1. **General:** Properly prepare the area to receive patching plaster. Proper preparation shall include the removal of loose or damaged plaster cut out to clean, sharp edges to solid lath material. The areas to be patched shall be filled by one of the following methods.
 - A. **Wallboard Method:** Areas to be patched shall be filled with a thickness of wallboard that will allow the finish plaster coat to match the adjoining surface in plane, finish, and texture. The wallboard shall be securely fastened to a solid backing.
 - B. **Plastering Method:** Surfaces to be patched shall be dampened immediately before application of the new three coat wet plaster, all surfaces shall be smooth and free of bulges and match the adjoining surface in plane, finish and texture.

DIVISION 10 - SPECIALITIES

SECTION 10A - APPLIANCES

1. **General:** Appliances shall be delivered to site in manufacturers' containers and protected during construction. The Contractor shall be responsible for furnishing appliances in proper operating condition and without any defects or damages including the finish. The Contractor shall provide to the owner operation instructions, guarantees and warranty certificates for the furnished appliances. The energy-rating label shall remain on all appliances. When relocation of existing appliances is called for, installation requirements of this Section shall be adhered to except that the requirements for all features to operate faultlessly shall apply only to those features operating prior to relocation. The Contractor shall reconnect existing appliances temporarily removed during construction.
2. **Installation:** The Contractor shall be responsible for constructing openings for built in appliances. The installation of appliances shall include all mechanical, electrical, and plumbing service connections necessary for all features of the appliance to function properly. When new connections are required they shall be installed behind the appliance and out of site. Existing connections may be used if applicable code requirements are met (See Divisions 15 and 16). The Contractor shall check and make all necessary adjustments to insure that installed appliances and features operate faultlessly. Range, refrigerator, and dishwasher shall be installed level. Installation of garbage disposal shall include wall switch above counter top backsplash.
3. **Reconditioning Range, Refrigerator and Dishwasher:**
 - A. Reconditioning of appliances shall include assuring the proper operation of all controls, motors and the functions of all accessories and components. Unit shall be cleaned.
 - B. Cleaning of appliances shall include the removal of all grease, oil, dirt, dust, and debris from all finishes, elements and components of the appliance.

4. **Appliance Refinishing:** Refinishing kitchen appliances shall be accomplished by a sub-contractor recognized as a professional in this type of refinishing and using products designed specifically for this application.

SECTION 10B - PLUMBING FIXTURE REFINISHING

Refinishing of plumbing fixtures shall be accomplished by a sub-contractor recognized as a professional in this type of refinishing and using products designed specifically for this application.

SECTION 10C - MEDICINE CABINETS AND BATH ACCESSORIES

1. **General:** Medicine cabinet and bath accessories shall be installed level and securely anchored using manufactures' hardware at standard heights, unless otherwise requested by owner. When installed over sink, medicine cabinet shall be centered above sink. Locations of accessories shall be coordinated with owner. When "all" bath accessories are called for, the following shall be provided:
 - A. Two towel bars; one 24 inch, one 30 inch
 - B. One paper dispenser
 - C. One shower rod (not required with glass enclosure)
 - D. One soap dish
2. **Repair:** When repair of medicine cabinet or bath accessory is called for, repair shall restore item to its original appearance and operation and be securely anchored.

SECTION 10D - HOUSE NUMBERS

When new house numbers are called for they shall be a minimum of 5" in height, made of black or brass finished metal and be securely fastened with screws or nails supplied by the manufacturer.

SECTION 10E - MAIL BOXES

When a mail box is called for it shall be U.S. Postal approved and if post is provided, post may be wood or metal and shall include a platform for securing the mail box. Post shall be set in concrete and mail box shall be installed according to U.S. Postal Service requirements.

DIVISION 11 - DEMOLITION AND REMOVAL

SECTION 11A - GENERAL REQUIREMENTS

Any damage or loss resulting from demolition activities shall be corrected at the expense of the Contractor. Open holes and excavations as a result of demolition shall be filled with earth material free of rubbish or rocks larger than 3" in diameter. Fill shall be mechanically compacted in 6" lifts to a minimum of 90% of the maximum proctor density ASTM D-698. Fill shall not be

flooded. When only a component of a structure or equipment/fixture therein is removed, it shall be removed complete without damage to other portions of the property. When any unsightly voids, holes, outlines, etc., are left as a result of such removal they shall be repaired and finished to match adjacent materials and finishes. Debris as a result of demolition shall be removed from the site.

SECTION 11B - TREE AND SHRUB REMOVAL

Tree or shrub removal called for shall include removal of stump and roots to a depth of approximately 12" below finish grade level, backfilling of excavation, and hauling debris from site.

SECTION 11C - FENCE REMOVAL

Fencing along property line shall be removed only with the written consent of the property Owner. This consent shall be obtained by the Owner and placed in the "job file". Fencing material including concrete below grade shall be removed from site.

SECTION 11D - STRUCTURES

When a structure is to be demolished the entire structure and all debris shall be removed from site, including all foundations, sidewalks, steps, retaining walls, floor slabs, etc. When only a portion of a structure is to be demolished the remaining structure, including concrete portions, shall be neatly cut or finished off.

SECTION 11E - INTERIOR

When interior demolition is performed, all adjacent areas and furnishings shall be protected from damage and dust. When any existing mechanical or electrical component requires relocation as a result of demolition, it shall be relocated in a functional manner.

SECTION 11F - CONCRETE (WALLS, STEPS, STOOPS, WALKS, DRIVES, ETC.)

Demolition and removal of concrete shall include concrete below grade.

SECTION 11G - MASONRY CHIMNEYS

When a chimney or portion thereof is removed, all resulting openings shall be filled in to match adjacent structural and finish materials so that no outlines remain. If chimney supported any shelving, rods, etc., these items shall be replaced with new material to fit new space. When a chimney is removed entirely, the chimney foundation may remain unless otherwise specified.

SECTION 11H - EQUIPMENT AND FIXTURES

When an item of equipment or fixture is removed it shall be removed complete to include all associated ducting, piping, wiring, and connections in or passing through finished spaces. When

removal of any such piping, ducting, or wiring results in any abandoned lines they shall be properly capped or terminated. Termination of lines shall be outside of finished spaces and all evidence of their existence shall be removed. When a heating system or unit is removed, it shall be removed complete to include furnace or boiler, all ducting or piping (supply and return), gas supply and flue, registers or radiators, thermostats, and all other related hardware. If the condition, installation, and location of gas supply and venting are in compliance with these general specifications and all applicable codes, they may be used for the replacement system if a replacement system is called for. When only a component of the unit is to be removed it shall be removed complete without damage to other portions of that system.

SECTION 11I - UTILITIES

When electric appliances are changed from electric to gas and installed in the same location, the existing service shall remain. When gas appliances are changed from gas to electric and installed in the same location, the existing service shall remain. Gas shall be shut off and properly capped. When the Contractors work results in any abandoned utility or other service lines or equipment, the appropriate authority shall be notified so that the lines or equipment can be removed or properly deactivated. When the work results in any abandoned piping, ducting, wiring, fittings or associated equipment readily visible or accessible, it shall be disconnected and removed. When an electrical box contains a device that is to be abandoned, the box shall not be used as a junction box if the cover would be in a finished space.

SECTION 11J - JUNK AND TRASH

When junk or trash is to be removed, it shall be removed in its entirety without damage to other portions of the property.

SECTION 11K - SALVAGE RIGHTS

Owner has salvage rights only when identified in the Work Write Up. Unless specified in the Work Write Up that items are to be provided to or returned to the owner, the Contractor shall be responsible for removing and disposing of all debris.

DIVISION 12 - DRAWINGS

Drawings may accompany the Work Write Up from time when the City determines that drawings may be necessary. Anything called for on the drawings and not listed in the Work Write Up shall be treated as if called for by the Work Write Up. If there is a conflict between the requirements of these General Specifications and the requirements of the Work Write Up which may include drawings, the Contractor shall notify the City for a determination as to which applies.

DIVISION 13 - BARRIER REMOVAL

SECTION 13A - RAMPS

For design and construction of ramps, see Division 3; Division 5; Division 6, Section 6A; and Work Write Up.

SECTION 13B - DOORS AND DOOR OPENERS

For enlargement of door openings see Division 8, Section 8A

1. **Doors:**

- A. When a modified solid core complete door unit is called for, it shall consist of a complete exterior door unit with a low profile threshold and installed in accordance with Division 8, Section 8A and modified as follows:
 - (1) Replace existing butts with ball bearing butts, same size, number and location.
 - (2) Replace existing weather stripping with jamb-up style.
- B. When a new door with specialty hardware is called for, it shall consist of a new exterior door installed in accordance with Division 8, Section 8A and include the following specialty hardware to replace existing:
 - (1) Ball bearing butts same size, number and location as existing
 - (2) Jamb-up style weather stripping.
- C. When new specialty door hardware is called for, it shall consist of the following to replace existing and installed in accordance with Division 8, Section 8A:
 - (1) Ball bearing butts same size, number, and location as existing.
 - (2) Jamb-up style weather stripping.
- D. Upon completion of any of the above, special attention shall be given to ensure that door fits properly and operates smoothly and easily through a 90 degree swing.

- 2. **Door Openers:** When an automatic door opener is called for, it shall include the installation of a 110 volt electrical outlet connected to an existing circuit and located within 18" of the door opener unit. Exact location shall be coordinated with door opener installer. Installation of electrical wiring and apparatus shall comply with the requirements of Division 16, Section 16A. When an automatic door opener is called for, it shall be installed according to manufacturer's installation instructions using only specified or supplied hardware. Installation shall be accomplished by the supplier's installer. Installation of an automatic door opener shall include the removal of storm door if existing. Removal shall comply with requirements of Division 11.

SECTION 13C - GRAB BARS

When grab bars are to be installed, all mounting holes shall be used and each screw shall be securely anchored in solid backing. If solid backing does not exist, installation shall include the removal of existing wall or ceiling covering, installation of solid backing securely anchored to wall or ceiling framing, and the replacement of wall or ceiling finishes to original condition. Heights and locations shall be coordinated with the Owner and City. Horizontal bars shall be installed level and all vertical bars shall be plumb unless otherwise specified.

SECTION 13D - PLUMBING

- 1. **Barrier Free Water Closet:** For installation see Division 15, Sections 15A and 15B.
- 2. **Barrier Free Lavatory:** For installation see Division 15, Sections 15A and 15B.

3. **Job Built Barrier Free Showers:** See Work Write Up and Division 15, Sections 15A and 15B.
 - A. When a barrier free shower is called for, it shall include:
 - (1) Installation of a roll-in shower base to include relocating the existing floor drain or installation of new floor drain and vent as applicable.
 - (2) When a pre-manufactured base is specified, it shall be manufactured by a recognized firm and be designed for the specific application. Base shall include pre-manufactured transition ramp designed for this application and constructed to be compatible with shower base.
 - (3) When a poured in place concrete base is specified it shall consist of a water proof membrane specifically designed for this application, formed and poured concrete base with proper drainage, and ceramic tile finish. Base shall include transition ramp constructed as specified.
 - (4) Converting existing faucet to shower operation only or installation of new faucet if none exists.
 - (5) Replacement of existing shower head with new shower head or hand held personal shower system; or installation of standard shower riser, if none exists, with shower head or hand held personal shower system.
 - (6) Installation of additional matching tile so that shower walls are uniform and complete or installation of new tile in total shower area.
 - (7) Installation of chrome plated metal shower curtain rod if none exists.
 - B. When wall construction is called for it shall be included and consist of all framing, drywall and finishes.
4. **Pre-Manufactured Barrier Free Shower Enclosure:** Shower enclosure per Manufacture Specification
5. **Hand Held Personal Shower System:** When hand held personal shower system is called for it shall include diverter valve, hand held personal shower head with wall holder and a flexible hose with a minimum length of 108". This shall be a complete system manufactured for this application.

SECTION 13E - CABINETS AND COUNTER TOPS

1. For installation see Division 6, Sections 6H and 6I.
2. When wall cabinets are to be lowered, the height shall be coordinated with the Owner and the City.
3. When reconstruction of base cabinets is called for, see drawings.
4. When existing counter tops are to be supported as a result of base cabinet removal, see drawings.

SECTION 13F - MISCELLANEOUS

1. **Closet rod and shelf**: For installation see, Division 6, Sections 6A & 6E. When closet rod and shelf are to be lowered, the height shall be coordinated with the Owner and City.
2. **Tilted extension mirror**: For installation, see Division 10, Section 10C. When tilted extension mirror is called for, location shall be coordinated with Owner and City.

DIVISION 14 - ENVIRONMENTAL

SECTION 14A - HAZARDOUS MATERIALS (LEAD BASED PAINT AND ASBESTOS CONTAINING MATERIALS)

1. **Lead Based Paint**: The requirements of State and Federal Regulations shall be complied with when performing any work involving lead based paint including but not limited to the following activities.
 - A. Lead Based Paint Stabilization

Qualified Bidders: Only General Contractors who have completed a State-approved **LEAD SAFE RENOVATOR TRAINING PROGRAM** or are licensed by the State Health Department as **LEAD ABATEMENT CONTRACTORS**, and have been prequalified by the City.
 - B. Lead Based Paint Removal/Abatement

Qualified Bidders: Only General Contractors licensed by the State Health Department as **LEAD ABATEMENT CONTRACTORS** and have been prequalified by the City.

 - (1) The lead abatement contractor will be responsible for insuring his/her supervisors and workers attend appropriate training and hold the appropriate State-licenses.
 - (2) It is the responsibility of the General Contractor to insure that proof of the aforementioned training and licensing is provided to the City for the owner and his/her workers.
 - (3) When lead based paint is to be removed from building component surfaces, the component shall remain in place in accomplishing the removal.
2. **Asbestos Containing Materials**: Asbestos containing materials shall be handled and disposed of in accordance with State and Federal Regulations.

SECTION 14B - PEST CONTROL (ROACHES AND TERMITES)

1. **Roaches**: When roach treatment is called for, it shall be accomplished by a professional exterminator company licensed to perform this type of service. Type and kind of treatment shall be determined by the professional exterminator. The Contractor shall be responsible for the initial treatment and any recommended followup shall be the responsibility of the Owner.
2. **Termites**: When termite treatment is called for, it shall be accomplished by a professional exterminator company licensed to perform this type of service. Type and kind of treatment shall be determined by the professional exterminator. The Contractor shall be responsible for the initial treatment and any recommended followup shall be the responsibility of the Owner.

It shall be the responsibility of the contractor to repair or replace any damaged components caused by the treatment for termites.

DIVISION 15 - MECHANICAL

SECTION 15A - GENERAL REQUIREMENTS

Equipment shall be designed for the intended applications. Equipment and items installed under this section shall operate safely without leakage, undue noise, vibration, or corrosion. Equipment shall bear a permanent and legible factory-applied nameplate to permit identification of manufacturer, model number and type of unit. In addition, all units shall have the energy guide label approved by the Federal Trade Commission. A furnace, boiler, or water heater supported from the ground shall rest on a 4" concrete slab extending not less than 3" above the adjoining ground level. Cutting, drilling, and refinishing necessary for the proper execution of all work under this division shall be the responsibility of the Contractor. When damage to framing or structural members occurs as a result of the work, the damaged members shall be reinforced to achieve the strength and load bearing capacity of the original member. Match existing materials in size, style, and finish, including decorative and ornamental moldings. Repairs shall include all materials and methods necessary to achieve uniformity between new and existing members. Repairs shall meet all building code requirements. When a mechanical pit is called for, it shall include a concrete floor with concrete block walls constructed in accordance with drawings. See Division 12. If the walls exceed 44" in height there shall be a ladder installed as part of this installation. When work under this section results in abandoned utilities or mechanical components, see Division 11, Sections 11H and 11I.

SECTION 15B - PLUMBING

1. General:

- A. Newly installed piping shall be concealed in walls, ceilings and floors unless passing through spaces not intended to be finished. In unfinished basements, piping locations shall be coordinated with the owner to insure piping will be concealed by future construction.
- B. Whenever possible, water pipes shall not be installed in outside walls, ventilated attics or locations where freezing may occur. When it is necessary to install water pipes in these areas, they must be protected from freezing.
- C. Copper pipe connected to galvanized pipe shall be installed with dielectric connectors.
- D. Sill cocks shall be frost free, anti-siphon and installed a minimum of 10" above finish grade unless otherwise approved by the Owner. Installation in new location shall include water supply line.
- E. When a plumbing line is repaired, it shall be made fully functional using like materials. Damage, voids and holes created as a result of work required under this section shall be professionally repaired and refinished to eliminate all evidence of said work.

2. Service Lines (Sewer, Water and Gas):

- A. Excavation: Excavation requirements shall apply to the installation of all service lines. Contractor shall be responsible for the location of all underground services to the property. Excavation shall conform to all local, State, and Federal requirements. Any

damage or loss resulting from excavating activities shall be corrected at the expense of the Contractor. This includes, but is not limited to sidewalks, driveways, fencing, and retaining walls. Excavation of trenches shall not undermine or disturb the stability of the building foundation. Excavated trenches shall run in a straight line and provide continuous support for piping along its full length. Trenches shall be back filled evenly using acceptable fill material and thoroughly compacted (See Division 2, Section 2A).

- B. New Sewer Line: When a new sewer line is called for, it shall be installed from the sewer main to inside the structure foundation. Foundation opening around the pipe shall be sealed to be watertight. Installation shall include exterior clean out and the location to be approved by Owner. When a new sewer line is called for, and a grease trap is an active part of the sewer system the grease trap will be by-passed. When a grease trap is to be bypassed, the cover shall be removed and the grease trap shall be cleaned and filled with sand. Every sewer line abandoned as a result of work by the Contractor shall be plugged or capped outside the foundation wall. Foundation openings abandoned as a result of the Contractor's work shall be plugged and sealed to be watertight.
- C. Sewer Line Repair: When repair of a sewer line is called for, the location of blockage or damage shall be determined by the Contractor. Information related to prior efforts to clear the line and likely location of blockage or damage may be available from Owner. Blockage or damage shall be removed by whatever means necessary. If this requires excavation and repair of sewer line, work shall comply with all requirements of this section.
- D. Sewer Line Cleaning: When the sewer line is to be cleaned, it shall be cleaned from the blockage to the main.
- E. New Water Service Line: When a new water service line is called for, it shall be installed from the water main to meter located inside dwelling. Existing exterior meters shall be relocated to interior of dwelling with exterior remote counter. Location of both shall be coordinated with Owner. Work shall include the re-installation of curb stop valve and box. Water service lines shall be copper and of a design and size to meet applicable code requirements. If any portion of the water service line is copper and meets flow and applicable code requirements this portion may remain.
- F. Water Service Line Repair: Repair of line and components shall be accomplished to achieve strengths and durability necessary to prevent leakage and maintain existing water flow. Work shall comply with applicable requirements of this section.
- G. Water Meter Relocation: When a water meter is to be relocated, the new location shall be coordinated with Owner.
- H. New Gas Service Line (when no service exists): When a new gas service line is called for, it shall be installed from gas main to meter. Contractor shall be responsible for installation from meter to property line and for coordinating the installation from property line to gas main with the utilities company. Location of gas meter shall be coordinated with Owner.
- I. Gas Service Line Replacement: When an existing gas service line is abandoned installation requirements of Section 15B, Paragraph 2H, F shall apply. When existing gas service line is to be used as a conduit for the replacement line, the replacement line shall be installed from the gas main to meter. Meter may remain in existing location, except that meters located within structure shall be relocated to exterior. New location shall be coordinated with Owner.

J. Gas Meter Relocation: When a gas meter is to be relocated, new location shall be coordinated with Owner.

3. **Building Lines (Drains/Vents, Water, Gas)**:

A. Drains/Vents: When a new fixture drain line is called for, it shall be from fixture to rough plumbing connection. When drain line is exposed, it shall be chrome-finished. When replacement of all drain lines is called for, new lines shall be installed from inside of foundation to all fixtures and shall include fixture traps. When replacement of the entire drain/vent system is called for, replacement shall include all new drains from inside of foundation to all fixtures, including fixture traps and vents from all fixture drains through roof. When installing or replacing a portion of the drain/vent system is called for, new material shall be connected to existing with approved methods. When repair of drain/vent line is called for, repair shall achieve strength, durability, and flow of the original line.

B. Water Lines: When replacement of all water supply lines is called for, new lines shall be installed from inside foundation wall, or from meter when located inside dwelling, to all existing and proposed fixtures, faucets and mechanical equipment requiring water supply. For fixtures with shut off valves, new valves and supply lines from valves to faucet shall be installed. New shut off valves shall be installed symmetrically at the center line of the fixture. New water supply lines may be copper or plastic and must comply with the City Plumbing Code. When new fixture supply lines are called for, installation shall be from fixture to shut off valve. When new fixture supply lines are called for without shut off valves, installation shall be from the fixture to rough connection. When repair of a water supply line is called for, repair shall achieve strength, durability and flow of original line.

C. Gas Lines: When replacement of existing or installation of new gas supply line is called for, new line shall be installed from nearest properly sized supply line to appliance or equipment. Shut off and flexible connector shall not be visible upon final installation of dryer or stove in finished areas. When repair of a gas supply line is called for repair shall achieve strength, durability, and flow of original line.

4. **Fixtures**:

A. General: Plumbing fixtures shall be delivered to site in manufacturer's containers and protected during construction. Fixtures and plumbing accessories shall be new and installed according to all applicable plumbing codes. Fixtures installed in a new location, shall include supply lines, drains, and vents. Sinks installed in cabinets shall have chrome-finished or copper supply lines; and new chrome-finished brass shut off valves. Escutcheons shall be installed where plumbing lines pass through walls or floors of cabinets. Fixtures with exposed supply lines shall have chrome-finished risers and new chrome-finished brass shut off valves. Valves shall be installed at floor or wall with escutcheons so that only valves and risers are exposed. Shut-off valves are not required on claw foot tub installations. Drains and supply lines for clawfoot tubs shall be chrome-finished above floor line. Fixtures with exposed drain lines shall have chrome-finished P-traps and drain pipes. When existing fixtures with lead traps or drains are replaced, lead shall be replaced with PVC or ABS plastic. When a fixture component is to be replaced, it shall be of like quality and design of original, unless otherwise specified, and shall be installed and adjusted to operate properly. When a faucet is to be repaired, the repair shall return the faucet to its original operation.

- B. Water Closets: When a new water closet is called for, it shall consist of bowl, tank and cover constructed of vitreous china with seat and lid properly sized to fit water closet. It shall be installed with new wax ring sleeve and securely fastened with bolts and caps specifically designed for this application.
- C. Sinks: New kitchen sinks shall be stainless steel, porcelain enamel over steel, or porcelain over cast iron with a minimum depth of 8" and basket strainer(s). When a kitchen sink and faucet installation is called for, it shall include sink, sink basket strainer(s), P-trap, chrome faucet with spray, unless otherwise specified, and supply lines. New bath sinks shall be vitreous china, cultured marble, onyx, and porcelain enamel over steel, or porcelain over cast iron, with waste pop-up and pop-up lever. When a bath sink and faucet installation is called for, it shall include sink, faucet with pop-up, P-trap, chrome faucet, and supply lines. Sinks are to be secured to counter top with appropriate sink fasteners and shall not be installed on post formed edge of countertops. Perimeter of sink rim shall be sealed with plumbers putty and all excess putty removed. Before installation of wall hung sinks, the Contractor shall ensure that a minimum of 2"x6" backing is installed in the wall. Brackets specifically designed for the support of the sink shall be installed. When the sink design provides for support leg installation, chrome finished support legs specifically designed for this application shall be installed.
- D. Tubs: New tubs shall be 14" minimum in height, porcelain enamel over steel, porcelain over cast iron, or fiberglass, with complete bathtub waste assembly and P-trap. Tubs shall have a slip resistance surface unless otherwise specified. Tub shall be set level and supported at floor and wall. When a tub faucet is called for, it shall consist of valve(s) and spicket. When a combination tub/shower faucet is called for, it shall consist of valve(s), spicket and shower head. Valves, spickets and shower heads shall be chrome unless otherwise specified.
- E. Showers: New shower bases shall be fiberglass, plastic, or concrete with Coloroy membrane liner and ceramic finish. Complete shower base shall include waste assembly and P-trap. When a shower faucet is called for, it shall consist of valve(s) and shower head. Shower head shall be chrome-finished unless otherwise specified. Shower wall finishes shall be as specified and installed according to the manufacturer's installation instruction. Shower bases shall be set level.
- F. Washer Drip Pan: New washer drip pan installation shall consist of a drip pan designed for this application, flush mounted in wall with finish trim, supply valves, and all piping and connections to building supply, drain and vent systems.

5. **Water Heaters**:

- A. General: Water heaters shall be American Gas Association certified or UL listed and have a five year limited warranty tank.
- B. Gas Fired: New gas fired water heater in a new location it shall include all venting flues, gas supply lines and connections, water lines and connections, gas and water shut off valves, T&P valve with drip leg, and combustion air supply. When a new gas fired water heater is called for to replace an existing water heater in same location, it shall include gas and water connections, and T&P valve with drip leg. Installation shall include the inspection of all existing venting flues, gas and water piping, and valves, and combustion air supply. If necessary to meet applicable codes, the replacement or repair of these items shall be included. When a new gas line connection from water heater to shut off is called for, it may be rigid or approved flexible gas line.

- C. Electric: When a new electric water heater is called for in a new location, it shall include water line connections and valves, wiring and connections, and T&P valve with drip leg. When a new electric water heater is called for to replace an existing water heater in same location, it shall include water line connections, electrical connections, and T&P valve with drip leg. Installation shall include the inspection of all existing related wiring, water piping, and valves. If necessary to meet applicable codes, the replacement or repair of these items shall be included.

SECTION 15C - HEATING

1. Forced Air and Hot Water:

- A. General: Heating systems shall be capable of maintaining a minimum temperature of 70 degrees Fahrenheit when the outside temperature is minus 10 degrees at a point 3' above the floor in the center of all habitable rooms and other spaces. Heating systems shall be designed, installed, and balanced or adjusted to provide for the distribution of heat to all habitable rooms and other spaces in accordance with the calculated heat loss of the spaces to be heated. New units shall be sized and have ratings to ensure proper heating of all habitable rooms within the dwelling. Heat loss calculations used for this purpose shall be available upon request. When a new heating system is to be installed, contractor shall submit a drawing showing the location of all heating system components to include the location of furnace/boiler, flue, registers/radiators, and thermostat. Design shall be submitted and approved by Owner prior to commencement of installation. If in following the requirements of this section an existing chimney or flue is to be used, it shall be cleaned as part of the installation and, if necessary, brought into compliance with applicable codes. Supply and return piping for hot water systems and all supply duct work for warm air systems located in attic, ventilated crawl space, and other unconditioned spaces shall be insulated with material having thermal characteristics equivalent to 2" blanket insulation. Duct work and flues passing through finished areas must be enclosed. The enclosure location shall be approved by the owner and finished to match the adjoining surfaces. New system installations shall be complete and shall include a minimum 90% energy efficient furnace or boiler; all venting flues, proper returns, gas connections, supply lines, valves, controls, electrical connections, thermostat and combustion air to provide perimeter type heating through rigid metal ducting or piping with appropriate registers or radiators. Furnaces and boilers that require drainage of evaporative water where floor drain is not available shall be equipped with a system to discharge water specifically designed for this application.
- B. Forced Air: Whenever existing duct work is to be reused, it shall be cleaned throughout as part of new installation. Sheet metal work shall be accurately formed, fitted snugly, and properly secured. Runs, including those under base cabinets, shall be rigid metal ducting with properly sized registers. Registers shall be installed in the floor, unless otherwise specified. Supply registers shall be equipped with shut off dampers.
- C. Hot Water: Piping shall not be installed or located where freezing may occur. Piping shall be copper. If conditions warrant, plastic piping may be used with written approval from the Owner and the City. Number of zones and zone layout shall be approved by Owner.

2. **Electric Units:**
 - A. When a separate electric heating unit is called for, it shall be permanently installed and thermostatically controlled. Its design and location shall be approved by the Owner. Installation shall include all circuits, wiring, and connections.
 - B. Electric heating unit shall be sized to meet the requirements of Section 15C, Paragraph 1A for the room where unit is installed.

3. **Service and Repair:**
 - A. When servicing of a furnace or boiler is called for, it shall include the following as applicable:
 - (1) Checking and adjusting the thermostat, fan control, limit control, zone valves and belts.
 - (2) Replacing the filter(s).
 - (3) Light cleaning and lubricating of the motor(s), pump(s), and etc.
 - (4) Bleeding the air from hot water systems.
 - (5) Checking flue, gas supply lines, gas valves, and heat exchangers for leaks.
 - (6) Bringing any necessary repairs to the attention of the Owner and City.
 - B. When a component of a heating system is replaced, it shall be of like quality and design of original and shall be installed and adjusted to operate properly.
 - C. When repairs are made to the heating system, the repairs shall ensure the efficiency and integrity of the system is returned as originally installed.
 - D. After servicing, the mechanical contractor shall leave a certificate on the furnace or boiler indicating his company name, the work or repair completed and the date completed.

SECTION 15D - VENTILATION (RANGE HOODS, BATH FANS, AND DRYER VENTS)

1. **Range Hoods:** When a ducted range hood is called for, it shall include duct work designed for the shortest practical run to the exterior and all necessary hardware and electrical connections. Range hood venting through cabinets shall be enclosed with like material purchased from cabinet manufacturer. When a ductless range hood is called for, it shall include all necessary hardware and electrical connections.
2. **Bath Fans:** When a bath fan is called for, it shall be installed with a separate wall switch, venting duct with damper, all necessary hardware, accessories and electrical connections. Venting duct shall extend to the exterior and be protected against the elements.
3. **Dryer Vents:** When a dryer vent is called for, it shall consist of venting duct to the exterior (maximum length of 8'-0") with damper and weather cap designed for this application.
4. **Replacement of Components:** When a component of a range hood or bath fan is replaced, it shall be of like quality and design of original and shall be installed to operate properly.

DIVISION 16 - ELECTRICAL

SECTION 16A - GENERAL

Electrical wiring and devices installed shall be UL approved. Wiring shall be copper. Wiring installation shall be concealed in walls, ceilings, and floors. Materials and devices used shall be clearly marked to permit identification of manufacturer, model, and type. Cutting or drilling of

walls, floors, ceilings, and partitions for the installation of electrical work and the closing and refinishing of openings cut for access shall be the responsibility of the Contractor. Finishes shall conform to the conditions of the surrounding areas. When damage to structural members occurs as a result of the work, the damaged members shall be reinforced to achieve the structural integrity of the original member. Existing electrical wiring and devices throughout the building which will not be used shall be disconnected and removed in all spaces that are accessible (See Division 11, Section 11I). No switches shall be installed behind a door. New devices, equipment and fixtures shall be designed for their specific applications. New light fixtures shall include new bulbs in all sockets, size and style as recommended by manufacture. When a doorbell is called for, it shall consist of all necessary wiring (concealed), push button located convenient to entry, transformer, and bell tones per the Work Write Up. Location of bell tone shall be coordinated with Owner. Underground electrical installations shall include restoring excavation and surrounding area to the original condition. Where more than one living unit is supplied from a single service entrance panel, the disconnect and circuit protecting devices for each unit shall be clearly identified. The Contractor shall provide to the Owner, operation instructions, guarantees, warranties, and certificates for furnished devices when provided by the manufacturer.

SECTION 16B - TOTAL REWIRE

When a total rewire is called for, it shall include the following:

1. **New 100 amp Service**: New service shall include mast and wiring, meter base and meter. If the mast penetrates the roof, a new roof jack shall be installed. Service shall include a new drop from pole to mast.
2. **New 100 amp Distribution Panel**: New distribution panel shall include new breakers and breakers shall be identified and labeled in the service panel to indicate what they service. Location shall be coordinated with Owner and City.
3. **Circuit Rewiring**: Circuit rewiring shall include:
 - A. New wiring from the distribution panel to all existing openings and all electrically operated interior and exterior devices and fixtures permanently wired into the structure's electrical system. Outlets servicing major appliances shall be relocated if necessary to insure outlet is behind appliance and out of sight after appliances are installed. When any existing opening or device is located in violation of any applicable codes it shall not be rewired. When any device or fixture is in an unsafe condition it shall not be reconnected. At the time such determination is made, it shall be brought to the attention of the Owner.
 - B. Any additional openings, devices (including smoke detectors), and wiring required to meet all applicable codes (See Division 16, Section 16C).
 - C. Any additional openings, devices and requirements specifically called for (See Division 16, Section 16C).
 - D. New switches, outlets, and trim for all existing and added openings. Any existing decorative or custom trim plates shall be replaced only after coordination with Owner.
 - E. Fixtures called for by the Work Write Up. Fixture allowance shall be retail cost only.

SECTION 16C - ADDITIONS TO EXISTING SYSTEM

When additional outlets, switches or fixtures are called for, the boxes shall be securely anchored to support devices or fixtures to be installed and shall be installed flush with finish surfaces. Openings shall be cut so that they are concealed by standard size trim plates. When additional outlets, switches or fixtures are called for, installation shall include boxes, wiring from service feeders to boxes, grounding type outlets and switches with trim plates, and fixtures. Devices and trim plates shall match existing in style and color. Height and alignment (horizontal or vertical) shall be consistent with similar existing devices. Location of openings shall be coordinated with Owner. Fixtures installed over sinks shall be located on center line of sinks. When an additional 220 volt outlet is called for, installation shall include box, wiring feeder from distribution panel to box, proper size breaker, proper outlet for intended appliance, and trim plate. When smoke detectors are called for, they shall be hard wired into the electrical system. Battery powered smoke detectors are not permitted.

SECTION 16D - REPLACEMENT OF EXISTING ELECTRICAL COMPONENTS

When replacement of a switch, outlet or light fixture is called for, it shall consist of replacing the existing with new, installing in existing box and attaching to the existing wiring. It shall also include the replacement of missing or broken trim plates. Replacement components shall match style and color of original components.

SECTION 16E - SECURING ELECTRICAL COMPONENTS, FIXTURE REWIRING AND ELECTRICAL SYSTEM REPAIRS

Securing of an electrical component shall consist of anchoring the device so that it is properly secured to meet the requirements of the intended use. Rewiring an existing fixture shall consist of replacing all existing wiring and damaged or broken bulb receptacles. Materials used shall match original in style and installation. Electrical system repairs shall consist of identifying and repairing or replacing the problem component(s) so that the system functions properly.

SECTION 16F - DETACHED GARAGE

When the rewire of a detached garage is called for, the main structure distribution panel shall be used and the requirements of Division 16, Section 16B-3 shall apply.