

SECTION 01045 - CUTTING AND PATCHING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 1 - GENERAL REQUIREMENTS, which are hereby made a part of this section of the specifications.

- B. Equality of material, article, assembly or system other than those named or described in this Section shall be determined in accordance with the provisions of Article IV of the CONTRACT AND GENERAL CONDITIONS.

1.02 SUMMARY

- A. This Section specifies administrative and procedural requirements for cutting, patching and fire-stopping.
- B. Refer to other Sections for specific requirements and limitations applicable to cutting, patching and fire-stopping individual parts of the Work.
1. Requirements of this Section apply to mechanical and electrical installations. Refer to Division-15 and Division-16 Sections for other requirements and limitations applicable to cutting and patching mechanical and electrical installations.
- C. Demolition of selected portions of the building for alterations is included in Section "Selective Demolition."

1.03 SUBMITTALS

- A. Cutting and Patching Proposal: Submit a proposal describing procedures a minimum of 10 working days in advance of the time cutting and patching will be performed and request approval to proceed. Include the following information, as applicable, in the proposal:
1. Describe the extent of cutting and patching required and how it is to be performed; indicate why it cannot be avoided.
2. Describe anticipated results in terms of changes to existing construction; include changes to structural elements and operating components as well as changes in the building's appearance and other significant visual elements.
3. List products to be used and firms or entities that will perform Work.
4. Indicate dates when cutting and patching is to be performed.
5. List utilities that will be disturbed or affected, including those that will be relocated and those that will be temporarily out-of-service. Indicate how long service will be disrupted.

6. Where cutting and patching involves addition of reinforcement to structural elements, submit details and engineering calculations to show how reinforcement is integrated with the original structure.

- B. Approval by the Designer to proceed with cutting and patching does not waive the Designer's right to later require complete removal and replacement of a part of the Work found to be unsatisfactory.

1.04 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce their load-carrying capacity or load-deflection ratio.
- B. Obtain approval of the cutting and patching proposal from the Designer before cutting and patching the following structural elements:

- Foundation construction.
- Bearing and retaining walls.
- Structural concrete.
- Structural steel.
- Lintels.
- Timber and primary wood framing.
- Structural decking.
- Stair systems.
- Miscellaneous structural metals.
- Exterior curtain wall construction.
- Equipment supports.
- Piping, ductwork, vessels and equipment.
- Structural systems of special construction in Division-13.

- C. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance, or decreased operational life or safety.

1. Obtain approval of the cutting and patching proposal from the Designer before cutting and patching the following operating elements or safety related systems:

- Shoring, bracing, and sheeting.
- Primary operational systems and equipment.
- Air or smoke barriers.
- Water, moisture, or vapor barriers.
- Membranes and flashings.
- Fire protection systems.
- Noise and vibration control elements and systems.
- Control systems.
- Communication systems.
- Conveying systems.
- Electrical wiring systems.
- Special construction specified by Division-13 Sections.

- D. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Designer's opinion, reduce the building's esthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.
- E. If possible, retain the original installer or fabricator to cut and patch the following categories of exposed Work, or if it is not possible to engage the original installer or fabricator, engage another recognized experienced and specialized firm for the following work:
- Processed concrete finishes.
 - Stonework and stone masonry.
 - Ornamental metal.
 - Matched-veneer woodwork.
 - Preformed metal panels.
 - Window wall system.
 - Stucco and ornamental plaster.
 - Finished wood flooring.
 - Fluid-applied flooring.
 - Carpeting.
 - Aggregate wall coating.
 - Wall covering.
 - Swimming pool finishes.
 - HVAC enclosures, cabinets or covers.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Use materials that are identical to existing materials. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect. Use materials whose installed performance will equal or surpass that of existing materials.

PART 3 - EXECUTION

3.01 INSPECTION

- A. The General Contractor shall be responsible for all cutting and patching, including all cutting and patching required by sub contractors.
1. Before cutting existing surfaces examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.
 2. Before proceeding, meet at the site with parties involved in cutting and patching, including mechanical and electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

3. The General Contractor shall be responsible for drilling holes 1" or larger in diameter required by the HVAC , Fire Protection, Plumbing and the Electrical Contractors. Sub Contractors shall mark size and location of all holes required.

3.02 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of the Project that might be exposed during cutting and patching operations.
 - 1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
 - 2. Take all precautions necessary to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.03 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Where required to maintain an existing product or system warranty, such as a roof warranty, employ a manufacturer's approved and warranted Contractor to perform the cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cutting: Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review proposed procedures with the original installer; comply with the original installer's recommendations.
 - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots neatly to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine such as Carborundum saw or diamond core drill. Any and all cores larger than and including 2" diameter shall be by the General Contractor (locations marked by Sub Contractor).
 - 4. Comply with requirements of applicable Sections of Division-2 where cutting and patching requires excavating and backfilling.

5. By-pass utility services such as pipe or conduit, before cutting, where services are shown or required to be removed, relocated or abandoned. Cut-off pipe or conduit in walls or partitions to be removed. Cap, valve or plug and seal the remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after by-passing and cutting.
- C. Patching: Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
1. Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 2. Where removal of walls or partitions extends one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.
 3. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch, after the patched area has received primer and second coat.
 4. Patch, repair or re-hang existing ceilings as necessary to provide an even plane surface of uniform appearance.
 5. Existing carpet tile to remain as shown. Contract to provide protection and shampoo at end of construction.
- D. Plaster Installation: Comply with manufacturer's instructions and install thickness and coats as indicated.
1. Unless otherwise indicated provide 3-coat Work.
 2. Finish gypsum plaster with smooth-troweled finish. Sand lightly to remove trowel marks.
 3. Cut, patch, point-up and repair plaster to accommodate other construction and to restore cracks, dents and imperfections.

3.06 CUTTING AND PATCHING OF MASONRY

- A. The work shall include careful examination of the Drawings and the existing field conditions to determine quantities, options, locations, sizes, types and detail of the masonry described on the drawings and in this specification including but not limited to the following
1. In general all of the existing interior walls are masonry/concrete
 2. Cutting and patching at the installation of plumbing fixtures and piping
 3. Patching of the existing masonry/concrete at the removal of walls
 4. Patching of the existing masonry at the removal and installation of all mechanical and electrical equipment and devices. All equipment and devices must be recessed
 5. All exposed surfaces shall match the surrounding surface.

3.04 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition. Shampoo all existing carpets tiles.

END OF SECTION 01045