

SECTION 01 73 29 CUTTING AND PATCHING

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Administrative and Procedural Requirements for Cutting and Patching
- B. Related Documents:
 - 1. Refer to the General Conditions and other Sections of these Specifications, for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

1.02 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.03 SUBMITTALS

- A. Cutting and Patching Proposal:
 - 1. Where approval of procedures is required before proceeding, submit a proposal describing procedures in advance of the time cutting and patching will be performed. Include the following information, as applicable:
 - a. Describe the extent of cutting and patching required and how it is to be performed. Indicate why it cannot be avoided.
 - b. Describe anticipated results, include changes to structural elements and operating components and changes in the building's appearance and other visual elements.
 - c. List products to be used and entities that will perform work.
 - d. Indicate dates when cutting and patching is to be performed.
 - e. Utility Services and Mechanical/Electrical Systems: List services/systems that cutting and patching procedures will disturb or affect. List services/systems that will be relocated and those that will be temporarily out of service. Indicate how long services/systems will be disrupted.
 - f. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
 - g. Design-Builder's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval to proceed does not waive the Design-Builder's right to later require complete removal and replacement of work found to be unsatisfactory.

1.04 QUALITY ASSURANCE

- A. Do not cut and patch operating elements or safety components in a manner that would reduce their capacity to perform as intended, or would increase maintenance, or decrease operational life or safety. Obtain approval of the cutting and patching proposal before cutting and patching operating elements or safety related systems.

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- B. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Structural elements include, but are not limited to:
 - 1. Structural concrete
 - 2. Structural steel
 - 3. Lintels
 - 4. Miscellaneous structural metals
 - 5. Equipment supports
- C. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety. Operational elements include, but are not limited to:
 - 1. Primary operational systems and equipment.
 - 2. Air or smoke barriers.
 - 3. Fire-suppression systems.
 - 4. Mechanical systems piping and ducts.
 - 5. Control systems.
 - 6. Communication systems.
 - 7. Electrical wiring systems.
- D. Miscellaneous Elements: Do not cut and patch miscellaneous elements or related components in a manner that could change their load-carrying capacity; that results in reducing their capacity to perform as intended; or that result in increased maintenance or decreased operational life or safety. Miscellaneous elements include, but are not limited to:
 - 1. Water, moisture, or vapor barriers.
 - 2. Membranes and flashings.
 - 3. Equipment supports.
 - 4. Piping, ductwork, vessels, and equipment.
 - 5. Noise and vibration control elements and systems.
- E. Visual Requirements
 - 1. Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would reduce the building's aesthetic qualities, or result in visual evidence, in the University's Representative and AOR's opinion, of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.
- F. Cutting and Patching Conference: Before proceeding, meet at Project site with parties involved in cutting and patching, including Plumbing, Fire Protection, HVAC and Electrical trades. Review areas of potential interference and conflict. Coordinate procedures and resolve potential conflicts before proceeding.

1.05 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

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PART 2 PRODUCTS

2.01 MATERIALS

- A. Use materials 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. Use materials whose performance will equal or surpass of existing materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Before cutting, 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.

3.02 TEMPORARY SUPPORT

- A. Provide temporary support of Work to be cut.

3.03 PROTECTION

- A. Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions that might be exposed during cutting and patching operations.
- B. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- C. Take all precautions 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.
- D. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems, when possible, before cutting to minimize interruption to occupied areas.

3.04 PERFORMANCE

- A. Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
- B. Cut existing construction to provide for the installation of other components or the performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

3.05 CUTTING

- A. All cutting of areas shall be by Subcontractor requiring cutting, except where noted otherwise in the Specifications and/or Drawings.
- B. Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review procedures with the original installer; comply with the original installer's recommendations.
- C. Where cutting is required, use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
- D. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
- E. Proceed with patching after construction operations requiring cutting are complete.

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3.06 PATCHING

- A. All patching shall be by Subcontractor doing cutting work, and shall be performed by trade who would be customarily performing that type of work.
- B. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
- C. 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.
 - 1. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken containing the patch, after the patched area has received primer and second coat.
 - a. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - b. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 - 2. Patching shall include painting of surface in areas not scheduled for new paint. Paint shall be extended to nearest corner or other termination point as acceptable to the Design-Builder.
 - a. Where patching occurs in a painted surface, apply primer and intermediate paint coats over the patch and apply final paint coat over entire unbroken surface containing the patch. Provide additional coats until patch blends with adjacent surfaces.

3.07 CLEANING

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

END OF SECTION 01 73 29

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