

SECTION 01 73 29

~~~ PROJECT NOTE ~~~~~

AOR/EOR IS RESPONSIBLE FOR REVIEWING THIS SPECIFICATION SECTION IN DETAIL FOR COORDINATION WITH THE PROJECT SCOPE OF WORK.

ALL "PROJECT NOTE" TEXT IS TO BE REMOVED FOLLOWING REVIEW OF THE CONTENT OF EACH NOTE BY THE AOR/EOR.

EDIT THE DOCUMENT FOOTER TO INCLUDE THE PROJECT NAME AND NUMBER.

EDIT THE DOCUMENT HEADER TO INDICATE THE "AOR PROJECT ISSUE" DATE. THE "CPS CONTROL" DATE SHOULD NOT BE EDITED.

ALL DIVISION 00 AND DIVISION 01 SECTIONS ARE TO BE REVIEWED BY THE DESIGN MANAGER/CONSTRUCTION MANAGER FOR THE PROJECT. AOR/EOR TO COORDINATE ACCORDINGLY.

~~~ END OF PROJECT NOTE ~~~~~

CUTTING AND PATCHING

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Cutting and patching of existing construction.

1.02 SUBMITTALS

- A. Alterations to Existing Construction: Submit written request in advance of cutting or alteration that affects:
 - 1. Structural integrity of any element or assembly
 - 2. Integrity of weather exposed or moisture resistant element.
 - 3. Efficiency, maintenance, or safety of any operational element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of Board or separate Contractor.

1.03 QUALITY ASSURANCE

- A. General: Contractor shall take reasonable care prior to all cutting and drilling in order to minimize unintended damage to concealed conduits, cables, pipes, reinforcing steel, etc. In circumstances where the absence of such concealed elements is not established conclusively, utilize detection and mapping technology, e.g., X-ray or Sub-surface Interface Radar (SIR), to locate any such elements that may be present before proceeding with the cutting or drilling work.
- B. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio. Notify Architect/Engineer of Record if progress of work may have structural impact.
- 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 results in increased maintenance or decreased operational life or safety. Notify Architect/Engineer of Record if progress of work may have operational impact. Operational Elements include the following:
 - 1. Air or smoke barriers.
 - 2. Fire-protection systems.
 - 3. Control systems.
 - 4. Communication systems.

5. Conveying systems.
6. Electrical wiring systems.
7. Operating systems of special construction.

- D. Miscellaneous Elements: Do not cut and patch building elements or related components in a manner that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Notify Architect/Engineer of Record progress of work may have performance impact. Miscellaneous Elements include the following:
1. Water, moisture, or vapor barriers.
 2. Membranes and flashings.
 3. Exterior curtain-wall construction.
 4. Equipment supports.
 5. Piping, ductwork, vessels, and equipment.
 6. Noise- and vibration-control elements and systems.
- E. Physical Appearance: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect/Engineer of Record's opinion, reduce the building's aesthetic qualities.

1.04 FIELD CONDITIONS

- A. Drawings showing existing construction and utilities are based on casual field observation and existing record documents only.
1. Verify that construction and utility arrangements are as indicated. Failure to do so does not constitute a change order to the Work.
 2. Report discrepancies to Architect/Engineer of Record before disturbing existing installation.
 3. Beginning of cutting and patching work constitutes acceptance of existing conditions.

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.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. New Materials: As specified in product sections; match existing adjacent products and work for patching and extending work.
- B. Existing and In-Place Materials: Use materials identical to existing materials.
1. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
 2. If identical materials are unavailable or cannot be used, use materials that, when installed, shall match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.01 GENERAL

- A. Perform whatever cutting and patching is necessary to:

1. Complete the work.
2. Fit products together to integrate with other work.
3. Provide openings for penetration of mechanical, electrical, and other services.
4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-conforming work.

3.02 EXAMINATION

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

3.03 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 Project that might be exposed during cutting and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services (Including but not limited to HVAC, Plumbing, Fire Protection, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 2. Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to prevent interruption of services to occupied areas.
 3. Where existing systems or equipment are not active and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 4. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 5. Verify that abandoned services serve only abandoned facilities.
 6. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
 7. If existing services to occupied areas must be interrupted, coordinate and receive approval of the interruption of services prior to starting work.

3.04 PERFORMANCE

- A. General: Employ skilled workers to perform 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, and subsequently patch as required to restore surfaces to their original condition.
 - 2. Remove existing work as indicated and as required to accomplish new work.
 - 3. Prior to starting work in an area, make arrangements for moving of and subsequent reinstallation of any existing items which may conflict with the work area.
 - 4. Remove and replace existing walls and ceilings as required to facilitate installation of new work. Replacement of the existing walls & ceilings shall be coordinated as directed by the Architect/Engineer of Record and as delineated in the Contract Documents.
 - 5. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 6. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
 - 7. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Concrete and Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 - 5. Proceed with patching after construction operations requiring cutting are complete.
 - 6. See Section 31 23 16 - Excavation and 31 23 17 - Excavating, Backfilling, and Compacting for Utilities for site work,
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible.
 - 1. Finish patched surfaces to match finish that existed prior to patching, unless noted otherwise. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.
 - 2. Match color, texture, and appearance.
 - 3. Comply with installation requirements of individual sections.
 - 4. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.
 - 5. Restore work with new products in accordance with requirements of Contract Documents.
 - 6. Where feasible test and inspect patched areas after completion to demonstrate integrity of installation.

7. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
8. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that shall eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
9. 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 existing floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - 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.
 - b. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material , to full thickness of the penetrated element. Maintain designated fire rating of the wall, partition, ceiling, or floor construction.
10. Ceilings: Patch, repair, or rehang existing ceilings as necessary to provide an even-plane surface of uniform appearance.
11. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

3.05 CLEANING

- A. Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
- B. Refinish, repair, or remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

END OF SECTION 01 73 29