

## SECTION 01 73 29

### CUTTING AND PATCHING

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES

- A. Requirements and limitations for cutting and patching of Work.

##### 1.2 RELATED SECTIONS

- A. Section 01 11 00 – Summary of Work
- B. Section 01 31 13 – Project Coordination
- C. Section 01 25 13 – Product Substitution Procedures

##### 1.3 DEFINITION

- A. "Cutting and Patching" is defined to include the cutting and patching of nominally completed and previously existing concrete, steel, wood and miscellaneous metal structures; piping; and pavement in order to accommodate the installation and coordination of work required under the Contract Documents, to uncover facilities and structures for access or inspection, or to obtain samples for testing or similar purposes.

##### 1.4 REQUIREMENTS OF STRUCTURAL WORK

- A. Do not cut and patch structural work in a manner resulting in a reduction of load-carrying capacity or load/deflection ratio.
- B. Prior to cutting and patching the following categories of work, obtain the City Representative's approval to proceed:
  - 1. Structural concrete
  - 2. Structural steel
  - 3. Foundation construction
  - 4. Bearing and retaining walls
  - 5. Structural decking
  - 6. Timber and primary wood framing
  - 7. Miscellaneous structural metals, including equipment supports, stair systems, and similar categories of work
  - 8. Pressurized piping, tanks and vessels

##### 1.5 OPERATIONAL AND SAFETY REQUIREMENTS

- A. Do not cut and patch operational elements and safety-related components in a manner resulting in a reduction of capacities to perform in the manner intended or resulting in decreased operational life, increased maintenance, or decreased safety.
- B. Obtain the City Representative's approval to proceed prior to cutting and patching the following categories of work:
  - 1. Sheeting, shoring, and cross bracing
  - 2. Operating systems and equipment

3. Water, moisture, vapor, air, smoke barriers, membranes and flashings
4. Noise and vibration control elements and systems
5. Control, communication, conveying and electrical wiring systems

## 1.6 SUBMITTALS

- A. Submit written request in accordance with Section 01 33 00 in advance of cutting or alteration which affects:
  1. Structural integrity of any element of project work or retained adjoining structure.
  2. Integrity of weather-exposed or moisture-resistant element.
  3. Efficiency, maintenance, or safety of any operational element.
  4. Work of City or separate contractor.
  5. Visual qualities of sight exposed elements.
- B. Request shall include the following:
  1. Identification of project work.
  2. Location and description of affected work.
  3. Necessity for cutting or alteration.
  4. Description of proposed work, and products to be used including:
    - a. Scope of cutting, patching, alteration or excavation.
    - b. Trades to execute work.
    - c. Products proposed to be used.
    - d. Extent of refinishing to be included.
    - e. How structural elements will be reinforced.
  5. Cost proposal, when applicable.
  6. Alternatives to cutting and patching.
  7. Effect on work of City or separate contractor, or on structural or weatherproof integrity of retained structures or work.
  8. Written permission of affected separate contractor.
  9. Date and time work will be uncovered or executed.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Except as otherwise indicated, provide materials for cutting and patching which will result in equal or better work than the work being cut and patched in terms of performance characteristics and including visual effects where applicable. Use material identical with the original materials where feasible.
- B. Primary Products: Materials shall comply with the requirements of the Technical Specifications and Drawings or those required for original installation where applicable.
- C. Product Substitution: For any proposed change in materials, submit request for substitution under provisions of Section 01 25 13.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Inspect existing conditions prior to commencing Work, including elements subject to damage or movement during cutting and patching.

- B. After uncovering existing work, inspect conditions affecting performance of work.
- C. Beginning of cutting or patching means acceptance of existing conditions.
- D. Report unsatisfactory or questionable conditions to the City Representative in writing; do not proceed with work until City Representative has provided further instructions.

### 3.2 PREPARATION

- A. Provide temporary supports to ensure structural integrity of the Work. Provide devices and methods to protect other portions of work from damage.
- B. Provide protection from elements for areas which may be exposed by uncovering work.
- C. Maintain excavations free of water.

### 3.3 INSTALLATION

- A. Employ skilled tradesmen to perform cutting and patching. Except as otherwise indicated, proceed with cutting and patching at the earliest feasible time and perform the work promptly.
- B. Use methods least likely to damage work to be retained and work adjoining.
  - 1. In general, where physical cutting action is required, use sawing and grinding tools and not hammering and chopping tools. Openings through concrete work shall be core drilled.
  - 2. Comply with the requirements of the Technical Specifications and Drawings wherever applicable.
  - 3. Comply with requirements of the applicable sections of Division 2 where cutting and patching requires excavating and backfilling.
- C. Patch with seams which are not visible and comply with specified tolerances for the work.
- D. Restore exposed seams of patched area; and, where necessary, extend finish restoration onto retained work adjoining, in a manner which will eliminate evidence of patching.

END OF SECTION