



# Existing Structures – Structure Rehabilitation – Repairing Spalled Surface Areas (Except Bridge Decks)

## Revision and Approval

Revision	Date	Nature of Changes	Approved By
0	07-15-2021	Original Issue	Michael Francis

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## Background

This process establishes Structure Construction (SC) roles and responsibilities for submittal review and authorization, quality assurance, materials, construction inspection, and payment for repair of spalled concrete surfaces.

Prior to reviewing this Bridge Construction Memo (BCM), it is essential to review the [Contract Specifications](#), Section 60-3.05B, *Existing Structures – Structure Rehabilitation – Repairing Structures – Repairing Spalled Surface Areas*, that this BCM is based on as identified in the title block above. The information in the contract specifications typically will not be repeated in the text of this BCM.

## Process Inputs

1. Submittals required by the *Contract Specifications* for work that requires spall repair

## Procedure

1. All work associated with this process is charged as: [Project Direct – Construction](#).
2. Inspection of field work for this process is:

- a. [Benchmark](#) to:
    - i. Verify workmanship of chipping. Sound the concrete after chipping is complete. (Remove additional damaged material as necessary).
    - ii. Verify surface prep (cleanliness before placement of patching material).
  - b. [Intermittent](#) for all other activities.
  - c. [Continuous](#) during patching.
3. Before construction begins:
- a. Structure Representative (SR)/Assistant Structure Representative (ASR) reviews the contract documents and the Resident Engineer's pending file; inspects the spalled and unsound areas of concrete and determines a root cause. See [Concrete Technology Manual \(CTM\)](#), Chapter 6, *Structure Concrete Repair and Rehabilitation*.
  - b. The SR/ASR measures amount and extent of damage using appropriate tools (i.e., pick hammer, marking paint, measuring instrument):
    - i. If damaged areas are larger than what is shown in the contract plans, consult with Design and or Structures Maintenance & Investigations (SM&I).
  - c. If not shown on the contract documents, determine a repair method:
    - i. Refer to *CTM*, Chapter 6.
    - ii. Consult with SM&I.
  - d. Review and authorize the Contractor's submittals for filler material and repair method. See *CTM*, Chapter 6.
    - i. Consult with Materials Engineering and Testing Services (METS) on proposed replacement/repair product.
    - ii. Consult the METS [Authorized Materials List](#) for precast repair materials.
    - iii. If the Contractor proposes a new repair material, consult with METS for testing and review of the Contractor's proposal.
4. During construction:
- a. Inspect repair work according to *CTM* Chapter 6. SR/ASR to ensure that ambient temperatures and weather are suitable for undertaking repair work:
    - i. Use a temperature gun to determine if the surface temperature of the area to accept the repair material is within manufacturer's recommended temperature range.
  - b. Measure repair work performed on a daily basis and discuss quantities with the Contractor. Track quantities on the daily inspection reports.

- c. Verify soundness of the patched concrete 14 days after placement.
  - d. Contact the designer for assistance to address any unusual conditions that are discovered during the investigative and/or repair work that should be addressed by a change order or in a future contract.
  - e. Document all inspection, construction, and quality assurance activities pertinent to this BCM, in the daily reports per [BCM C-7](#), *Daily and Weekly Reports*.
5. Following construction:
    - a. Review quantities and authorize payment for completed repair work.
  6. File all test results and daily reports in the appropriate category in the project records as specified in the *Construction Manual*, [Section 5-1.02](#), *Contract Administration – Project Records and Reports – Organization of Project Documents*.

## **Process Outputs**

1. Authorized submittals for filler material and repair method
2. Daily reports

## **Attachments**

None