

<p>TO:</p> <p>MAIN OFFICE AND REGIONAL OFFICES</p> <p>SUPERSEDED BY EB 97-020 EFFECTIVE 4/4/1997</p>	<h1>ENGINEERING INSTRUCTION</h1> <p>NEW YORK STATE DEPARTMENT OF TRANSPORTATION</p>
<p>Distribution:</p> <p><input checked="" type="checkbox"/> Main Office <input checked="" type="checkbox"/> Regions <input type="checkbox"/> Special</p>	<p>Code: <u> EI 76-28 </u></p> <p>Date: <u> 4/8/76 </u></p> <p>Supersedes:</p>
<p>APPROVED: <u><i>J. V. Hourigan</i></u> DEPUTY CHIEF ENGINEER (STRUCTURES)</p>	

Attached are the following:

1. Design Guidelines for use with pay items 580.01; 580.02; and 580.03.

3. Special Note No. 9 for Reconstruction Projects.

DESIGN GUIDELINES

ITEM 580.01 - REMOVAL OF STRUCTURAL CONCRETE

This item shall be used for the removal of sound or unsound concrete in the following cases:

1. The concrete removed is not to be replaced such as a sidewalk or concrete parapet removal.
2. The concrete removed constitutes an entire element of a structure or a substantial portion of an element such as a pier cap or part or all of a wingwall. The element removed may or may not be replaced. If replaced, the appropriate construction items shall be used.
3. The removed concrete will be replaced but the limits of replacement will differ from the original limits. Examples are removal of portions of a backwall or wingwall when the replaced portion is higher or longer than the original.

This item shall not be used for removal of all or part of structural slabs nor for the removal of an entire substructure unit. In those cases use the appropriate structural slab removal or removal of substructures item.

Special Note No. 8 shall be included in the plans if new concrete is to be applied to existing concrete surfaces.

Payment lines for the removal of concrete shall be shown on the plans. Sometimes the exact limit of removal will be known at the time of plan preparation and at other times the exact limits must be determined in the field. When removing sound concrete, the designer shall show definite payment lines on the plans for the concrete removal. Generally, it will not be necessary to limit the weight of chipping hammers when removing sound concrete.

When removing unsound concrete and the designer is not sure where sound concrete will be encountered, the designer shall show a payment line on the plans and indicate by note that the concrete shall be removed to the payment line shown on the plans or to a sound surface whichever is deeper. In these cases, in order to limit concrete removal to that which is necessary and intended, Special Note 9, which limits the chipping hammer to 25 pounds, shall be placed on the plans. In some instances it may be necessary to remove a large volume of concrete where the use of a small hammer is both expensive and unnecessary such as a pier cap removal. In those cases, Special Note 9 shall be omitted. The Contractor will still be responsible for damages as per Special Note 2. In those cases where the hammer limitation may be required in some locations and not others, the designer must designate on the plans where Special Note 9 shall apply.

DESIGN GUIDELINES

- ITEM 580.02 - REMOVAL OF STEEL SUPPORTED STRUCTURAL SLABS WITH SHEAR CONNECTORS
- ITEM 580.03 - REMOVAL OF STEEL SUPPORTED STRUCTURAL SLABS WITHOUT SHEAR CONNECTORS
-

These items shall be used to remove either all or portions of the structural slab. Use the appropriate item depending on whether or not there are existing shear connectors.

The designer must clearly indicate on the plans the materials that are to be removed under the slab removal item. Generally, materials that are embedded in or are an integral part of the slab, such as bar reinforcement, scuppers, manholes, conduit, curbs, sidewalks, parapets and raised medians should be included in the slab removal item. Roadway overlays, granite curbs, railings, utilities, light poles, and any other materials that are likely to be removed in a separate operation or with different equipment should be removed under their own items.

When utilities are located on the structure, the designer should check with the Regional Structures Engineer to insure that all necessary work involving those utilities has been taken care of. The plans must clearly indicate who is responsible for removing or relocating the existing utilities; who is responsible for furnishing the materials for any new utility work, and who is responsible for the installation of the utility; the utility locations and details should be shown on the plans.

The number of square feet of structural slab removed and disposed of shall be measured in the field. There shall be no deductions in area for small openings (approximately 10 square feet or less) such as scuppers, manholes, joints or holes completely through the slab. However, in situations where there are large open areas such as continuous or intermittent sections of open grating, the open areas will be deducted from the plan area. The designer must clearly identify those special areas and indicate limits on the plans to exclude such areas from the slab removal item.

For spans over water, railroads, roadways and any other spans where necessary, the designer should include Special Note 4 on the plans stating that the Contractor shall prevent all materials from falling below. Use the appropriate special notes from the list for reconstruction projects.

If shear connectors exist, the Contractor shall be given the option of either retaining and reusing them or removing and replacing them with new stud shear connectors. The designer must include the design spacing and details for the new stud shear connectors on the plans. The cost of furnishing and installing new stud shear connectors shall be included in the price bid for the removal of structural slab item.

Where partial removal of the slab is indicated on the plans, the designer should protect the concrete that is to remain by limiting the size of hammer to twenty five pounds as provided for in Special Note 9.

Where complete removal of the slab is indicated on the plans, no limitation shall be placed on the size of the hammer. The Contractor, however, will still be responsible for damage as per Special Note 2.

SPECIAL NOTES FOR RECONSTRUCTION PROJECTS

The designer should use Special Note 9 (below) with Items 580.01, 580.02 or 580.03 when he wishes to limit the size of hammer to twenty-five pounds.

- 9 - Chipping hammers shall not exceed twenty-five pounds in weight.