

## SECTION 9 – CONCRETE PAVEMENT PATCHING

### 9.1 SELECTING PATCH AREAS *(Rev. 09-28-09)*

Concrete patching locations will be marked on the pavement by INDOT personnel, generally the PE/S. The PE/S should refer to the contract plans for specific locations identified by the designer; however, patching quantities often are planned as a percentage of the entire pavement within the contract without specific locations identified. This will require the PE/S to use sound judgment in marking out the areas to be patched to ensure that the worst sections are repaired without over running the plan quantity in the contract. A general procedure that can be used is as follows:

- Note the location of any patches that are specifically identified on the plans. If the planned patch locations equal the total contract quantity, then no further investigation needs to be done and the planned patches should be marked. Otherwise, continue below.
- Drive each lane of the entire job and note the general condition of the pavement.
- Determine the approximate total area of the pavement within the project limits.
- Determine the percentage of contract patching area over the total area.
- Pick an area that has a degree of deterioration that should be repaired and use it as an example to select other locations within the job.
- Drive the job again, counting the approximate number of locations that are similar to the example.
- Calculate the approximate total area of patching based on standard patch size with any added areas of oversize patches added in.
- If the calculation is less than the contract quantity, continue to pick additional locations with decreasing degrees of deterioration until the contract quantity is met.
- If the calculation is more than the contract quantity, delete some patches that may not be as deteriorated as others until the contract quantity is met.

It is highly likely that the quantity in the contract will not be enough to repair every location that a PE/S may believe needs to be addressed. The PE/S should contact the AE and the Project Manager if they feel that the project cannot be properly completed without additional patching.

### 9.2 REMOVING PAVEMENT AND PLACING PATCHES *(Rev. 09-28-09)*

In addition to details shown in standard drawings and plans the following guidance should be observed when removing pavement and placing patches.

- (a) Methods and equipment used in cutting, breaking and removal of the pavement must not cause structural damage to the pavement to be left in place. It may be necessary to use hand methods in trimming and straightening the edges of the patch after removal of the pavement to avoid damaging the surrounding pavement. Minor chipping of the existing pavement cannot be avoided in most cases.

- (b) If the existing pavement is damaged, the contractor must replace it at no additional cost to the Department, provided that the damage was due to poor workmanship. If the damage was unavoidable or was the result of previous damage that was not noticed at the time the patch was marked, then it should be included in the patch and paid for under the contract.
- (c) Determine if the subbase is suitable to remain in place. The contractor must not unnecessarily remove subbase during the pavement removal process and must compact any subbase left in place. If the subbase is contaminated because of pumping, then it should be replaced in kind and at the depth of the original subbase. If the contract does not include an item for new subbase material, the PE/S should contact the AE to confirm that items will be added to place new material.
- (d) If the existing subbase is clean, but is saturated or standing in water, the PE/S should contact the AE to determine if drainage pipe or aggregate should be installed to drain the subbase.
- (e) The depth of the patch should not exceed the depth of the existing pavement and the patching material should not extend under the existing pavement. Prior practice was to place an additional 6 in. depth of patching material and “key” it 6 in. back under each end of the patch. This practice is no longer to be used.
- (f) Longitudinal tie bars that are to remain in place be straightened. Retrofit tie bars must be added as required, dependent on the length of the patch.
- (g) Dowel bars must be installed at each end of the patch and intermediate dowel baskets for D-1 joints placed within the patch, dependent on the length of the patch and existing adjacent D-1 joints.