

B510-5 – REMOVAL-PAVEMENT WORK – OPSS 510510-5.1 GENERAL

This section is for Pavement Work removal tender items. The work covered by these tender items includes the removal and disposal of materials.

510-5.2 REFERENCES

CDED B510-0 - Removal
CDED B399-2 - Reclaim Asphalt Pavement

510-5.3 TENDER ITEMS

Cutting Existing Pavement
Removal of Asphalt Pavement
Removal of Asphalt Pavement from Concrete Surfaces
Removal of Asphalt - Treated Base
Removal of Asphalt Pavement, Partial Depth
Removal of Asphalt Pavement from Concrete Surfaces on Structures
Removal of Concrete Pavement
Removal of Cement - Treated Base
Removal of Concrete Base
Removal of Concrete Pavement, Partial Depth

510-5.4 SPECIFICATIONS

Details of removing pavement, both asphalt and concrete, are contained in OPSS 510.

510-5.5 SPECIAL PROVISIONS

The designer should refer to Chapter “E” of this manual to review the special provisions applicable to these tender items.

Include the appropriate special provisions as required.

510-5.5.1 Non-Standard Special Provisions (NSSPs)

Some removal operations may have their own specific requirements, in which case a non-standard special provision may be required to include such information as, limits of removal, removal restrictions, salvage/stockpiling, or other pertinent information.

510-5.6 STANDARD DRAWINGS

Applicable standard drawings are in the OPSD 100 series.

510-5.7 DESIGN

Removals required are dependent upon the specific project requirements as described in CDED B510-0.2 References.

510-5.7.1 Pavement Work Removals

a) General

The removal of asphaltic or concrete pavement, concrete or cement treated base specifically required to facilitate removal or partial removal of maintenance holes, catch basins, ditch inlets, valve chambers, pipe culverts, sewers, watermains and other utilities will be included in the price bid for the applicable tender item for removal of the under pavement component.

Where however there is a separate tender item for removal of pavement or base which overlaps the removal of pavement or base necessary to remove the aforementioned sub-surface structures, then payment will be made under the applicable tender item(s) for pavement and base removal.

When the granular and/or subgrade material underlying the pavement is being excavated as part of the Earth Excavation, Grading item, the pavement is included in both the earth excavation volume (m³) and the appropriate removal of pavement item(s) (m²).

b) Cutting Existing Pavement

This item is used when it is necessary to construct a straight and vertical cut in asphalt or concrete pavement in order to produce a clean edge on the pavement to be left in place when the formation of joints is not addressed elsewhere in the contract documents.

Cutting existing asphalt pavement is necessary to:

- i) Remove existing pavement in order to remove or place an underground utility, culvert or duct where the existing road is not being resurfaced;
- ii) Remove existing pavement in order to construct new curb and gutter within the existing paved surface which is not being resurfaced;
- iii) Remove an existing pavement lane or taper;

- iv) Reduce the existing pavement width.

Cutting is always required when removing portions of concrete pavement, asphalt covered concrete pavement and concrete or cement treated base.

c) Removal of Asphalt Pavement

This work includes full depth asphalt pavement removal and asphalt sidewalk removal whether on the roadway surface or encountered within an excavation.

This item also includes:

- i) Removal of asphalt pavement that has been resurfaced with surface treatment or other thin treatment.
- ii) Removal of prime, surface treatment, and mulch pavement over 50 mm in depth over granular surfaces.

Prime, surface treatment, and mulch pavement 50 mm or less in depth over granular surfaces do not qualify for payment under this item, but are included for payment under the earth excavation item if their removal is necessary.

Note: Mulch is a historical cold mix pavement material produced from Granular A and cutback or emulsified asphalt.

This item does not include pavement removal areas for jointing required as part of the paving operation under OPSS 313.

d) Removal of Asphalt Pavement from Concrete Surfaces

This work includes the removal of asphalt pavement from concrete surfaces on roadways.

e) Removal of Concrete Pavement
Removal of Concrete Base
Removal of Cement Treated Base

These items include removals of full depth concrete pavement, concrete pavement that is surfaced with asphalt, concrete base, concrete ripple strip and cement treated base, whether on the roadway surface or encountered within an excavation.

The removal of asphalt pavement from concrete surfaces is not part of the item.

f) Removal of Asphalt Treated Base

This work includes removal of full depth asphalt treated base whether on roadway surface or encountered within an excavation.

g) Removal of Asphalt Pavement, Partial Depth
Removal of Concrete Pavement, Partial Depth

This work includes the removal of asphalt or concrete pavement to a partial depth as specified in the contract.

This work is done when the existing asphalt pavement depth is at least 65 mm or greater in depth, and a minimum depth of 40 mm will remain in place.

h) Removal of Asphalt Pavement from Concrete Surfaces on Structures

This item includes the removal of asphalt pavement and waterproofing from concrete surfaces on bridge decks. The depths and limits of asphalt removal as well as the presence of waterproofing will be detailed on the contract plans.

When the entire bridge deck is being removed, the work of asphalt removal from the bridge deck should not be included with the concrete bridge deck removal item.

510-5.8 COMPUTATION

- a) Cutting Existing Pavement
- b) Removal of Asphalt Pavement
- c) Removal of Asphalt Pavement from Concrete Surfaces
- d) Removal of Concrete Pavement
- e) Removal of Concrete Base
- f) Removal of Cement Treated Base
- g) Removal of Asphalt Treated Base
- h) Removal of Asphalt Pavement Partial Depth
- i) Removal of Concrete Pavement, Partial Depth
- j) Removal of Asphalt Pavement from Concrete Surfaces on Structures

These are Plan Quantity Payment (PQP) items.

510-5.8.1 Sources of Information

- a) Cutting Existing Pavement
- b) Removal of Asphalt Pavement
- c) Removal of Asphalt Pavement from Concrete Surfaces
- d) Removal of Concrete Pavement

- e) Removal of Concrete Base
- f) Removal of Cement Treated Base
- g) Removal of Asphalt Treated Base
- h) Removal of Asphalt Pavement Partial Depth
- i) Removal of Concrete Pavement, Partial Depth
- j) Removal of Asphalt Pavement from Concrete Surfaces on Structures

The main sources of information are field note books, B-plans, Pavement Design Report, Soils Profile, Bore Hole data, and Core Logs.

510-5.8.2 Method of Calculation

- a) Cutting Existing Pavement

The unit of measurement for this item is the metre measured horizontally. The quantity is computed by scaling or chainage as applicable along the sawcut from the design drawings.

- b) Removal of Asphalt Pavement
- c) Removal of Asphalt Pavement from Concrete Surfaces
- d) Removal of Concrete Pavement
- e) Removal of Concrete Base
- f) Removal of Cement Treated Base
- g) Removal of Asphalt Treated Base
- h) Removal of Asphalt Pavement, Partial Depth
- i) Removal of Concrete Pavement, Partial Depth
- j) Removal of Asphalt Pavement from Concrete Surfaces on Structures

The unit of measurement for the removal of pavement structures is in square metres based on horizontal measure. Deductions will not be made from the area occupied by maintenance holes, catch basins, or valve chambers lying within the pavement removal limits.

The removal areas are determined from cross sections, plans and profiles.

Full depth pavement removals will be measured whether removed from the roadway surface or encountered within an excavation. The removal of pavement from the roadway surface and buried pavement is quantified separately.

510-5.9 DOCUMENTATION

510-5.9.1 Contract Drawings

Refer to 510-0.9 for general documentation information. Information specific to each tender item is as follows:

a) Cutting Existing Pavement

Complex cutting situations should be detailed on contract drawings.

b) Removal of Asphalt Pavementc) Removal of Asphalt Pavement from Concrete Surfacesd) Removal of Concrete Pavemente) Removal of Concrete Basef) Removal of Cement Treated Baseg) Removal of Asphalt Treated Baseh) Removal of Asphalt Pavement, Partial Depthi) Removal of Concrete Pavement, Partial Depthj) Removal of Asphalt Pavement from Concrete Surfaces on Structures

Show the pavement removal work on plans according to OPSD 100 series. For removal work not included in the OPSD 100 series, a legend designating the work must be included on the first removal plan sheet.

The partial depth removal of asphalt and concrete pavement should be detailed in typical sections in the contract drawings.

Temporary ramping at daily shutdown is required with partial depth removal of asphalt pavement work. Include typical sections in the drawings to show temporary longitudinal and transverse ramps and applicable dimensions.

510-5.9.2 Quantity Sheets (Q-sheets)

Refer to 510-0.9 for general documentation information.

Work locations are documented by station to station limits and offsets right or left of the roadway centreline on a Miscellaneous Quantity sheet.

Removal of different pavement depths and/or type is documented in separate columns. Partial depth removal of different depths is documented in separate columns.

The removal of buried asphalt or concrete is documented in separate columns regardless of type or composition.

Depth may be specified as a single value or a range.

The individual column entries are totalled into the tender total which is transferred to the Form of Tender.

510-5.9.2.1 Variation Items

Information specific to each tender item is as follows:

a) Cutting Existing Pavement

The pavement depth and type (reinforced concrete, unreinforced concrete, or asphalt) is specified.

b) Removal of Asphalt Pavement

The pavement depth and location (pvm't, sidewalk, buried pvm't) is specified. Pvm't refers to pavement at the surface.

c) Removal of Asphalt Pavement from Concrete Surfaces

The pavement depth is specified.

d) Removal of Concrete Pavement

The pavement depth and type (reinforced concrete, unreinforced concrete, or asphalt surfaced concrete) is specified.

e) Removal of Concrete Base

The base depth and type (reinforced or unreinforced) is specified.

f) Removal of Cement Treated Base

The base depth is specified.

g) Removal of Asphalt Pavement, Partial Depth

The average depth of removal is specified.

h) Removal of Concrete Pavement, Partial Depth

The average depth of removal is specified.

510-5.9.3 Non-standard Special Provisions

NSSP is required for the following:

- when salvage/stockpiling/re-use of removed pavement materials is required or to have work completed other than described in the specification.

- to preclude or further limit the weight of milling equipment from that specified in OPSS 510, used to remove asphalt from bridge decks if this is a concern.
- to specify the location of drainage cuts in shoulder asphalt, when only the pavement in the traffic lane(s) is being partial depth removed
- to specify the size of reinforcement in concrete, when the concrete is to be sawcut.

510-5.9.4 Documentation Accuracy

Depths are recorded to the nearest 5 mm.

a) Cutting Existing Pavement

Station locations are recorded in 0.1 m accuracy. Offsets are recorded in 0.01 m, 0.1 m or whole numbers depending on the nature of the work.

Individual lengths are entered in whole number metres on the Quantity Sheets.

- b) Removal of Asphalt Pavement
- c) Removal of Asphalt Pavement from Concrete Surfaces
- d) Removal of Concrete Pavement
- e) Removal of Concrete Base
- f) Removal of Cement Treated Base
- g) Removal of Asphalt Treated Base
- h) Removal of Asphalt Pavement, Partial Depth
- i) Removal of Concrete Pavement, Partial Depth
- j) Removal of Asphalt Pavement from Concrete Surfaces on Structures

For the above items, stations are recorded to the nearest whole number metre. Offsets are recorded in 0.1 m accuracy. Quantity entries are recorded to the nearest whole number square metres.