

SECTION 503
TEMPORARY PAVEMENT RESTORATION

503-1 DESCRIPTION: This work consists of furnishing, placing, compacting, and maintaining a temporary pavement surface suitable for driving in accordance with these specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross sections shown on the plans, as measured in the field, or as established by the Engineer. This work is typically associated with utility installations such as conduits, storm drains, sanitary sewers and force mains that must be trenched across roadways.

503-2 MATERIALS: Allowable materials for temporary pavement surface restoration are aggregate surfacing or hard surfacing. Hard surfacing is considered cold mix asphalt (CMA) pavement or steel plates.

- a. Aggregate surfacing shall meet the following requirements:
 - 1. Stone or crushed concrete in accordance with Section 1001-4.1
 - 2. Reclaimed Asphalt Pavement (RAP) in accordance with Section 1001-7.5

- b. CMA shall meet the following requirements:
 - 1. Listed as a preapproved commercial high performance cold mix material on the LADOTD Qualified Products List 75.
 - 2. Mixture shall have a minimum shelf life of twelve months thereby remaining workable and retaining its performance characteristics during that time.
 - 3. Mixture, once in place and compacted, must be capable of withstanding changes in weather conditions, exposure to weighted conditions and continuous traffic flow.
 - 4. Material may be stored by stockpile or may be containerized. Handling, storage, and stockpiling of material shall be done in strict accordance with the manufacturer's recommendations.

- c. Structural steel shall conform to Section 602.

503-3 SUBMITTALS:

- a. Data submittal showing that selected material meets requirements of subsection 503-2.

- b. If bulk quantity is to be supplied by a local batch plant, then proof of mix certification by one of the preapproved commercial high performance cold mix material manufacturers listed on the LADOTD Qualified Products List 75 shall be submitted.

- c. For conditions that require a steel plate on trench widths greater than 48 inches or a support structure (wide excavation with multiple plates), the system must be designed by a Professional Engineer licensed in the State of Louisiana and submitted to the Owner before use.

503-4 CONSTRUCTION REQUIREMENTS: Contractor shall install temporary pavement surfacing immediately after completion of utility installation and final (secondary) backfill and compaction of utility trench. Refer to Section 4-5 for specific timing requirements. Roadway trench cut shall be

backfilled and temporarily surfaced or plated in accordance with specification and opened to traffic use at the end of the work shift, unless otherwise dictated by an approved lane closure permit.

Vehicular travel over backfilled but unsurfaced excavations will not be allowed. The Contractor shall provide a surface suitable for driving consisting of either aggregate or hard surfacing in accordance with Table 503-1. Temporary Aggregate Surfacing is only allowed when **all** aggregate table criteria are met. Temporary Hard Surfacing is required when **any** of the hard surface table criteria is met.

TABLE 503-1

Temporary Surface Type	ADT	Posted Speed Limit	Time Temporary Surfacing to Remain in Place Under Traffic
Aggregate	≤5000	≤45 mph	4 weeks or less
Hard	>5000	>45 mph	Greater than 4 weeks but no more than 60 days

Should the Contractor's operation or sequence of construction extend the time an aggregate surface is to remain in place under traffic beyond four weeks, the Contractor shall within one week place Temporary Hard Surfacing at no additional cost to the Owner or complete final pavement restoration. Temporary Hard Surfacing shall consist of at least 3 inches of CMA over 6 inches of stone base or steel traffic plates placed over the excavated area of sufficient width and thickness as indicated in subsection 503-4.3. If the Contractor fails to meet these requirements, the Engineer will issue a formal warning to the Contractor notifying him that failure to start or complete the follow-up work as scheduled will result in a directive to stop work on any future activities, pending compliance as directed by the Engineer.

Contractor shall inspect and maintain the temporary surfacing as necessary for traffic and to stay within acceptable surface tolerances as dictated in subsection 503-4.2e for the duration of its temporary use on the Project.

Construction requirements shall be as prescribed in the following subsections.

503-4.1 Aggregate: The Contractor shall place, shape, compact and maintain the aggregate as necessary for temporary pavement surfacing. The Contractor shall maintain and replenish the aggregate surfacing as necessary or as directed by the Engineer during its time in place under traffic at no additional cost to the Owner. When aggregate surfacing is no longer necessary the Contractor shall remove and dispose of the aggregate surfacing.

503-4.2 Cold Mix Asphalt Pavement:

- a. **Weather Limitations (CMA):** Cold mix asphalt concrete pavement courses shall be placed only when the air temperature is 20°F or above. When paving operations are discontinued because of rain, the mixture in transit shall be protected until the rain ceases. The surface on which the mixture is to be placed shall be swept to remove as much moisture as possible and the mixture may then be placed subject to removal and replacement at no additional cost to the Owner if contract requirements are not met.
- b. **Surface Preparation:** Contractor shall ensure final edges along pavement cut limits are straight, clean, solid vertical faces free from loose material prior to pavement restoration. Remove excessive water and any loose stone or debris from the surface of the stone base. Adjacent pavement surfaces shall be swept clean of dust, dirt, caked clay and loose material.
- c. **Spreading and Finishing:** The temporary surfacing material may be spread and finished by hand to the satisfaction of the Engineer. Patch material shall not be cast

from the truck to the grade. During spreading operations, material shall be thoroughly loose and uniformly distributed. Material that has formed into lumps and does not break down readily will be rejected. The surface shall be checked before rolling and irregularities corrected. The temporary surfacing material shall be placed and compacted in layers of no more than two inches in thickness.

Spreading, finishing and compaction of the temporary surfacing material shall leave the surface smooth and level with the edge of existing pavement. While the surface is being compacted and finished, the edges shall be shaped to a neat line.

- d. **Compaction:** Immediately after the mixture has been spread, it shall be thoroughly and uniformly compacted. Contractor shall compact each layer with mechanical compaction equipment such as vibratory plate compactor or single-drum vibratory roller. Larger patches may use a ride on or walk behind compactor. Use of pneumatic tires is not an acceptable means of compaction. To prevent adhesion of the patch material, plates and wheels of rollers shall be kept properly moistened.

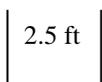
Surface of mixtures after compaction shall be smooth and true to cross slope and grade within the tolerances specified. Mixtures that become loose, broken, contaminated or otherwise defective shall be removed and replaced with fresh material compacted to conform with the surrounding mixture.

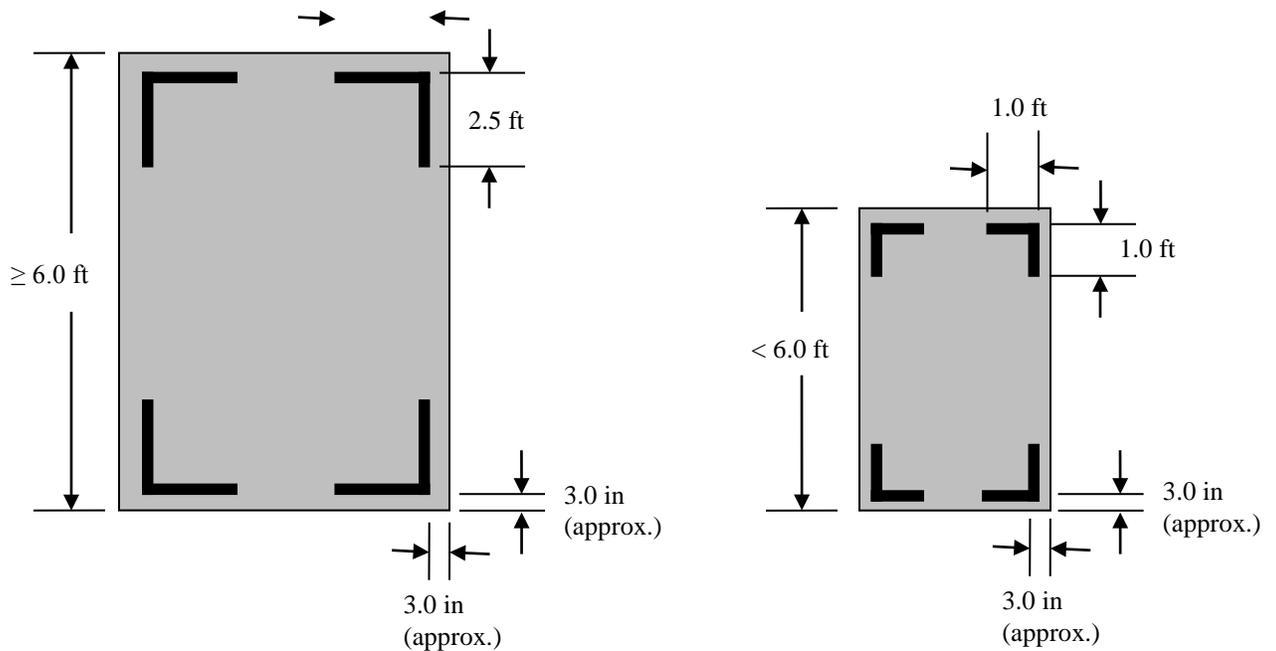
For CMA, the finished pavement shall have a tightly knit surface free of cracks, tears, ripples or other deficiencies. All deficiencies shall be corrected at the Contractor's expense and the Contractor shall adjust his operations to correct the problem. This may require the Contractor to adjust the mix or furnish additional or different equipment.

- e. **Surface Tolerances:** The distance at any point from a ten (10) foot straight edge to the surface shall not exceed one-half (1/2) inch in any direction. Lumps or depressions exceeding this tolerance shall be corrected by removing defective work and replacing with new material as directed.

503-4.3 Steel Plates: The use of steel plates shall be approved by the Engineer prior to installation and conform to the following:

- a. Steel plates, in the roadway, shall have the name and 24-hour emergency telephone number of the Contractor responsible for maintaining the plates stenciled on the roadway pavement adjacent to the plates. Painted text shall be in white lettering, using chalk based paint. The text shall be neatly stenciled lettering, a minimum of four (4) inches in height and shall be maintained in a neat and legible condition for the duration of the plate placement.
- b. Steel plates, in the roadway, shall be marked on all four corners with durable and highly reflective white pavement marking tape no less than 4 inches in width. The marking dimensions shall not be less than those recommended below:





c. Steel plate width and thickness requirements:

1. Steel plate bridging shall be designed for HS20-44 truck loading.
 2. Excavation width of 48 inches or less shall have a minimum thickness of 1-1/4 inch.
 3. Thickness of steel plates for trench widths exceeding 48 inches shall be designed by a Professional Engineer licensed in the State of Louisiana.
- d. Steel plates must be large enough to allow a minimum of 18 inches of bearing on all sides of the excavation for roadways with traffic speeds less than 45 mph.
- e. Trench walls and adjacent soils shall be sufficiently stabilized prior to the use of steel plates for bridging.
- f. Steel plates are not allowed for use to cover an excavation on roadways with speed limits of 45mph or greater.
- g. Whenever steel plates are used to cover an excavation on roadways where the related work is to take place for longer than two (2) weeks, the steel plates must be recessed into the existing pavement, milling out the pavement surface to ensure that the top of plate elevation matches the existing elevation of the adjacent pavement surface.
- h. Whenever steel plates are used to cover an excavation on roadways for less than two (2) weeks, the steel plates may be placed on top of the existing pavement with transitional cold mix asphalt concrete ramps against all vertical edges of the plates. All ramping must be accomplished to provide a minimum angle of approach of twelve to one (12:1), providing a smooth, gradual transition between the existing pavement and the plate. Steel plates shall be anchored to the roadway surface with pins or spikes on the four (4) outermost corners with additional pins placed as necessary to assure security of the plate. Pins shall be installed such that they do not protrude above the plate surface anymore than necessary to anchor the plate and shall not create a hazard for the motoring or pedestrian public. Steel plates should be welded together to prevent shifting/bouncing where necessary. No corner of any steel plate shall protrude into traveled way that may create a hazard to the motoring public.

- i. Steel plates shall be textured to provide a non-skid surface in dry and wet conditions. Plate riding surface shall be manufactured with or coated to provide a nominal coefficient of friction of 0.35 as determined by California Test Method (CTM) 342. Other standard tests for determining skid resistance may be approved by the Engineer, however it must be capable of verifying the skid-resistant surface provided is equal to or greater than the adjacent existing street or roadway surface.
- j. All steel plates used for bridging excavations, whether in the travel way or not, shall be without permanent deflection or other deformations such as chains, attachments, weldments, or irregularities that can constitute a hazard.
- k. "STEEL PLATE AHEAD" and "BUMP" warning signs shall be properly posted and maintained in advance of all roadway plates placed on the surface of the pavements. "STEEL PLATE AHEAD" warning signs shall be properly posted and maintained in advance of all roadway plates that are inlaid into the pavement surface.
- l. The Contractor is responsible for maintaining the steel plates until the roadway is properly backfilled and restored. The Contractor shall be responsible for any damages or injuries which may occur as a result of the use of steel plates.

503-5 MEASUREMENT: Temporary pavement surfacing will be measured by the square yard complete in place based on required minimum depths (9" for aggregate, 3" for CMA and 6" Stone Base; 1-1/4" for steel plate) as restored within the limits shown in the Contract Documents and as approved by the Engineer.

Material lost, wasted, rejected or applied contrary to the specifications will not be measured for payment. CMA needed to ramp steel plate edges will not be measured for payment.

503-6 PAYMENT: Payment for temporary pavement surfacing will be full compensation for furnishing all labor, materials, equipment, and incidentals required to produce the materials, preparing the surfaces on which the materials are placed, hauling the materials to the work site, placing and compacting the materials and base, maintaining and replenishing the temporary pavement surfacing for the duration of its temporary use on the Project, and the removal and disposal of temporary surfacing and base as necessary to place final pavement restoration.

503-7 PAY ITEMS:

<u>Item No.</u>	<u>Item</u>	<u>Unit</u>
5031000	Temporary Pavement Surfacing	Square Yard