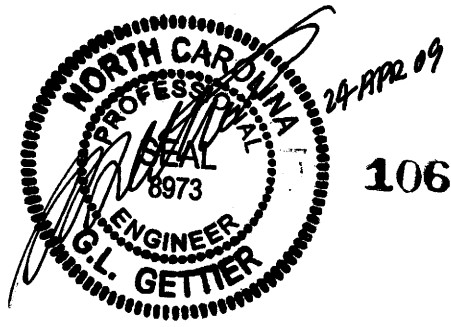


TIP#: U-2826A
Date: April 9, 2009
Revised Date:



Law Enforcement:
2-19-09

SPI

Description

Furnish Law Enforcement Officers and marked Law Enforcement vehicles to direct traffic in accordance with the contract.

Construction Methods

Use uniformed Law Enforcement Officers and marked Law Enforcement vehicles equipped with blue lights mounted on top of the vehicle, and Law Enforcement vehicle emblems to direct or control traffic as required by the plans or by the Engineer.

Measurement and Payment

Law Enforcement will be measured and paid for in the actual number of hours that each Law Enforcement Officer is provided during the life of the project as approved by the Engineer. There will be no direct payment for marked Law Enforcement vehicles as they are considered incidental to the pay item.

Payment will be made under:

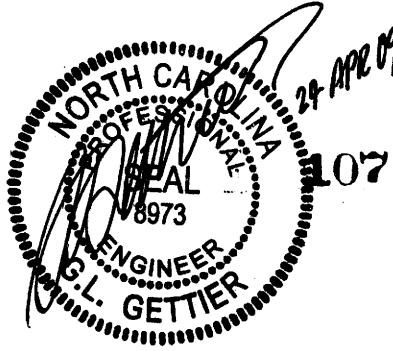
Pay Item

Law Enforcement

Pay Unit

Hour

TIP #: U-2826A
Date: April 9, 2009
Revised Date:



WATER FILLED BARRIER:

3-20-07

SPI

Description

Furnish, install, secure, maintain, remove, and reset Water Filled Barrier in accordance with the contract.

Materials

- (A) **General**
Provide Water Filled Barrier that meets the requirements of NCHRP 350 Test Level II for work zones that have a posted speed limit of 45 mph or less. Provide Water Filled Barrier that acts as its own free standing, non-redirective end treatment. Use environmentally safe anti-freezing agent in the water per manufacturer specifications and recover agent when the barrier is drained. Do not drain Water Filled Barrier into or across an existing travel lane. Provide barrier units that are capable of being lifted and moved when filled if draining is not possible. Dispose of water and agent properly.
- (B) **Material Qualifications**
Use Water Filled Barrier that is on the Approved Products List or is Traffic-qualified by the Work Zone Traffic Control Unit. For more information on the Traffic-qualification process, contact the Work Zone Traffic Control Unit at Century Center Building B, 1020 Birch Ridge Dr., Raleigh, NC, 27610 (919) 250-4159, or see the approved product list on NCDOT web site at: www.ncdot.org/~wztc
- (C) **Historical Performance**
Historical performance of the Water Filled Barrier will be used in determining future use of the material by the Department, regardless if the Water Filled Barrier has been traffic-qualified. Poor past or poor current performance of Water Filled Barrier at any site, whether or not related to a specific contract may be grounds for non-acceptance of a product on any project under contract.

Construction Methods

Place and install Water Filled Barrier units as shown in the plans and per manufacturer specifications on roadways with posted speed limits of 45 mph or less.

Furnish delineators for Water Filled Barrier that meet the requirements of Section 1088-2 and Section 1170-3 (E) of the *Standard Specifications*.

Measurement and Payment

Water Filled Barrier will be measured in accordance with Section 1170-4 of the *Standard Specifications* and paid for in linear feet.

Resetting Water Filled Barrier will be measured in accordance with Section 1170-4 of the *Standard Specifications* and paid for in linear feet.

There will be no direct payment for barrier delineators as they are considered incidental to these pay items.

Payment will be made under:

Pay Item	Pay Unit
Water Filled Barrier	Linear Foot
Reset Water Filled Barrier	Linear Foot

PEDESTRIAN BARRICADE:**Description**

Furnish, install, maintain, relocate and remove detectable pedestrian barricades with signs attached for temporary closure of curb ramps, crosswalks and sidewalks in accordance with the contract.

Materials

Furnish pedestrian barricades comprised of a single unit of water-filled barrier that is orange in color. Use water-filled barrier units that comply with all material requirements of the "Water Filled Barrier" section of these Project Special Provisions.

Provide "SIDEWALK CLOSED" and "CROSSWALK CLOSED" signs for attachment to pedestrian barricades as shown in the Plans. Provide signs that comply with Article 1089-1 of the Standard Specifications.

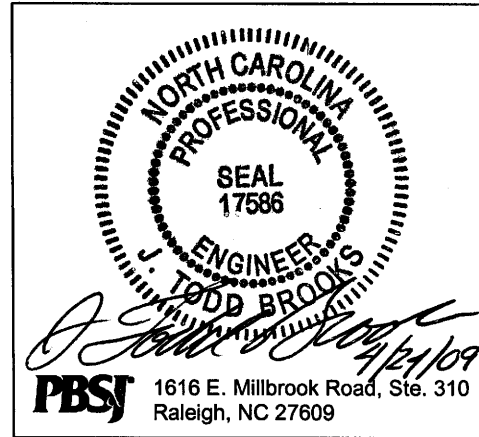
Provide two barricade rails per pedestrian barricade that comply with Article 1089-3 of the Standard Specifications. Provide barricade rails that are 4" wide and that are the same length as the water-filled barrier unit.

Provide two Schedule 40 or Schedule 80 PVC pipes per pedestrian barricade that are approximately 48 inches long for mounting the barricade rails to the water-filled barrier. Provide pipes of diameter that will facilitate insertion of pipe into connector pin holes in the flanges at each end of the barrier unit. The Contractor may submit alternate attachment methods and materials to the Engineer for review, consideration and approval.

Construction Methods

Assemble pedestrian barricades as shown in the Plans. Insert PVC pipes in the connector pin holes at each end of the water-filled barrier unit and attach the two barricade rails to the PVC pipes. Attach the bottom rail approximately 4 inches above the top of the barrier unit and attach the second rail 4" above the first so that the total height of the assembled pedestrian barricade is approximately 48 inches measured from the base of the water-filled barrier to the top of the top barricade rail. Attach the sidewalk/crosswalk closure sign to the face of the barricade rails, centering the signs both horizontal and vertically on the rails as shown in the Plans.

Fill the water-filled barrier with a sufficient volume of water to prevent overturning of the pedestrian barricade in the wind and to prevent easy movement of the barricade by pedestrians as approved by the Engineer.



U-2826A**Work Zone Traffic Control Project Special Provisions**

Do not anchor pedestrian barricades to any pavement surfaces unless such anchoring method has passed the crash test requirement of NCHRP 350 for work zone category II devices.

Place the pedestrian barricade so that the striped barricade rails and sign are facing pedestrians on the sidewalk or pedestrian path.

When closing a curb ramp, place the pedestrian barricade with a "CROSSWALK CLOSED" sign attached in the gutter pan at the bottom of the ramp and perpendicular to the ramp to block pedestrian access to the street or crosswalk. Place a minimum of one drum to delineate the approach end of the water-filled barrier unit.

For sidewalk closures, place a pedestrian barricade with a "SIDEWALK CLOSED" sign attached across and perpendicular to the sidewalk to be closed.

Maintenance

At no cost to the Department, periodically inspect and clean pedestrian barricades. Immediately repair or replace any pedestrian barricade, barricade rails, signs attached to the pedestrian barricades, or retro-reflective sheeting that are torn, crushed, discolored or otherwise damaged.

Measurement and Payment

Pedestrian barricade will be measured and paid for as the maximum number of pedestrian barricades acceptably placed and in use at any one time during the life of the project.

Relocation and stockpiling of pedestrian barricades is considered incidental to the measurement of the quantity of pedestrian barricades and no separate payment will be made.

Drums placed to delineate the approach end of pedestrian barricades located at the base of curb ramps will be measured and paid for separately in accordance with the Section 1130 of the Standard Specifications.

No measurement of and separate payment for signs used on pedestrian barricades as such signs will be considered incidental to furnishing, installing and relocating the pedestrian barricades.

Payment will be made under:

Pay Item	Pay Unit
Pedestrian Barricade	Each

MAINTENANCE OF PEDESTRIAN ACCESS

Description

Design, furnish, install, maintain, relocate, modify and remove measures to maintain pedestrian paths, crosswalks and pedestrian access to all businesses and residences within the project limits.

General Requirements

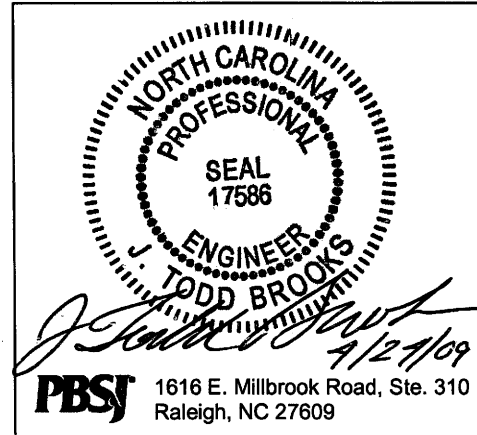
Maintain pedestrian paths and access within the limits of the project, including all existing roadways which cross or intersect the project, unless otherwise provided in the contract or the plans or approved by the Engineer. Pedestrian paths and access shall be maintained from the time the Contractor begins work on the project site until acceptance of the project, including any periods during which the Contractor's operations are suspended, unless otherwise provided for in the contract or approved by the Engineer. The Contractor shall conduct his work in a safe manner which will create a minimum amount of inconvenience to pedestrians.

The Contractor shall be responsible for maintaining in a safe, passable, and convenient condition, such part or parts of existing walkways and crosswalks as are being used by him to maintain pedestrian traffic within the limits of the project from the time the Contractor begins work on the project until acceptance of the project. The Contractor shall be responsible for the removal of ice and snow from all pedestrian paths and sidewalks open to pedestrian traffic except for crosswalks. The Department will be responsible for removal of ice and snow from crosswalks as part of the Department's responsibility to clear existing roadways that are open to traffic as prescribed in Section 150 of the *Standard Specifications*.

Wherever it is necessary to utilize traffic control devices as shown in the plans, as determined by the Engineer, or in order to conform to the provisions of this section, the work of furnishing, erecting, operating, maintaining, covering, relocating, and removing traffic control devices shall be in accordance with the provisions of Divisions 11 and 12 of the *Standard Specifications* and other sections of these Project Special Provisions.

While the plans and the Special Provisions provide measures for maintaining pedestrian traffic and access for typical conditions and situations foreseen on this project, it is not the intent of the plans and these Special Provisions to address and provide for all situations and conditions that may be encountered on this project. It is the responsibility of the Contractor to review the plans and site conditions to evaluate and determine the needs and measures for maintaining pedestrian paths and access during all stages of construction and at all locations within the limits of the project. The Contractor shall adapt measures shown in the plans to site conditions as necessary and as directed by the Engineer and develop alternative measures for maintaining pedestrian paths and access where necessary, subject to the Engineer's approval. The Contractor shall coordinate and cooperate with affected property owners, business owners and operators, and residents to determine any special access needs and minimize inconvenience thereto.

It is ultimately the responsibility of the Contractor to provide for and maintain safe and reasonable pedestrian access to all businesses and residences and safe and reasonable pedestrian paths within the project limits. Provide temporary paths, ramps and walkways that are smooth, free of tripping hazards,



Work Zone Traffic Control Project Special Provisions

free from abrupt grade changes, hard-surfaced, stable, and slip resistant. Provide facilities which accommodate pedestrians as well as the delivery of goods and parcels by hand truck.

Maintain access to pedestrian signal pushbuttons at all times during construction. Maintain operations of audible pedestrian signals at all times during construction.

Materials

Temporary ramps, walkways and sidewalks shall be minimum of 48 inches wide.

The maximum longitudinal slope of a ramp shall be 1:12.

Ramps shall have level landings at the bottom and top of each ramp run. Landings shall be at least as wide as the ramp run leading to it. The landing length shall be a minimum of 60 inches clear. The sidewalk and roadway pavement abutting each end of the ramp may be used as the landings subject to the aforementioned length and width requirements.

Provide temporary asphalt such as cold patch or base material for construction of temporary pedestrian ramps or provide a Handi Curb ramp manufactured by Handi-Ramp® of Libertyville, Illinois, for temporary pedestrian ramps. Provide Handi Curb ramps that have a bright yellow powder-coated finish. For information on Handi Curb, contact Handi-Ramp® at (800) 876-RAMP or via their website: www.handiramp.com.

Construction Methods

Install ramps at locations specified in the plans. Position ramps to ensure required clear landing at each end of the ramp run.

Construct temporary pedestrian ramps in the locations shown on plans and at other locations where field conditions warrant their use. For ramps constructed of temporary asphalt, construct ramp that is a minimum of 48 inches wide and has a longitudinal slope of no steeper than 1:12. Construct ramp flares on each side of the ramp with a slope no steeper than 1:10.

Where Handi Curb ramps are used for temporary pedestrian ramps, install the Handi Curb ramp in accordance with the manufacturer's instructions. Do not anchor the Handi Curb ramp to the curb or sidewalk using adhesives or intrusive fasteners or anchors unless approved by the Engineer.

Remove temporary pedestrian ramps when no longer needed and properly dispose of asphalt materials.

When a ramp or walkway is not in use but accessible to pedestrians, block off both ends of the ramp or walkway using pedestrian barricade as described in another section of these Project Special Provisions.

Regularly inspect ramps after installation to ensure that all components are remain in good condition and properly assembled. Tighten any hardware or components that have become loose and replace any missing hardware and components. Immediately repair or replace components that have been damaged or which are defective.

When construction vehicles, equipment, personnel and materials must encroach upon or cross a temporary pedestrian path, provide personnel to temporarily stop and detain the pedestrians who approach the affected area and to help them safely traverse the work area.

Measurement and Payment

Except for pedestrian barricades, no measurement shall be made for any measures described herein required to maintain safe and convenient pedestrian access and circulation within the project limits as such work will be considered incidental to the road construction. Pedestrian barricades, when required, will be measured and paid for in accordance with the "Pedestrian Barricade" section of these project special Provisions.