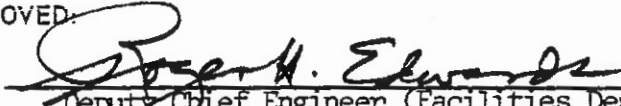


TO:  <b>SUPERSEDED BY EI 82-067 EFFECTIVE 2/17/1983</b>	<b>ENGINEERING INSTRUCTION</b> NEW YORK STATE DEPARTMENT OF TRANSPORTATION
Distribution: <input type="checkbox"/> Main Office <input type="checkbox"/> Regions <input checked="" type="checkbox"/> Special	Code: <u>EI 78-56</u>
APPROVED:  Deputy Chief Engineer (Facilities Design)	Date: <u>9/28/78</u>  Supersedes: MODIFIES EI 77-057 DATE 12/23/77

We are transmitting, under separate cover, copies of the following Standard Sheet :

619-3R1 Temporary Concrete Barrier

This Standard Sheet supersedes Standard Sheet 619-3 issued with Engineering Instruction 77-57 commencing with the January 11, 1979 letting.

The following modifications have been made:

1. A 36 steel has been added as an alternate to A 588 steel for plates (See Note # 1).
2. The connection device has been modified.
3. The Mark 4B1 stirrups have been moved.
4. Two drainage pockets have been added at the 1/5 points.

These modifications have been made because of the limited supply of A 588 steel, to increase the concrete cover over the 4" x 4" x 1/2" tube and the Mark 4B1 stirrup at the end of each barrier section, and provide for drainage adjacent to the barrier.

Temporary concrete barrier units which have been manufactured and approved for projects before this change will not be disallowed until, as determined by the Engineer, they show such signs of wear as to render them unusable.

Also you will find the following attachments.

1. A revision to Section 619 of the Standard Specifications which will be inserted into the proposal of every project utilizing temporary concrete barriers.
2. A special note providing for variation in the barrier units.

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MAINTENANCE AND PROTECTION OF TRAFFIC  
TEMPORARY BOX BEAM BARRIER, AND TEMPORARY CONCRETE BARRIER

On Pages 6-53 through 6-64 of the Standard Specifications of January 3, 1978 make the following revisions:

619-1.03 Delete this Subsection and substitute the following:

"619-1.03 Construction Signs, Temporary Box Beam Barrier, Temporary Concrete Barrier, Construction Barricades, and Lighting for Construction Barricades. The Contractor shall furnish, install, move, and maintain construction signs, temporary box beam barrier, temporary concrete barrier, construction barricades, and lighting for construction barricades as shown on the plans or as ordered by the Engineer, and in accordance with the New York State Manual of Uniform Traffic Control Devices."

619-2.02 Delete this Subsection and substitute the following:

619-2.02 Construction Signs and Other Signs. Sign panels may be made of aluminum, galvanized steel or plywood except when placed on Type III Breakaway Barricades, ~~then~~ sign material shall conform to the requirements for the aluminum panels. When reflectorization is required by the N.Y.S.M.U.T.C.D. reflective sheet material shall be used and it shall conform to the photometric and color requirements of material specifications as follows:

For signs that are exclusively used during daylight hours, 730-05.01 Reflective Sheeting (Class A) or 730-05.02 Reflective Sheeting (Class B) may be used at the Contractor's option.

For signs that are used during daylight and/or night hours, 730-05.02 Reflective Sheeting (Class B) shall be used.

When reflectorization is not required, the sign face background shall be any one of the following: 730-05.01, Reflective Sheeting (Class A), 730-05.02, Reflective sheeting (Class B); or exterior type paint conforming to the appropriate Highway Color Tolerance Chart PR Colors No. 1 through No. 6.

Black characters shall be non-reflective, Type V, and shall conform to the requirements of Subsection 730-13, Reflectorized Sheeting Sign Characters (Type V), except that reflective background material shall meet the requirements stated above.

White characters shall meet the requirements of either Subsection 730-12, Reflectorized Sheeting Sign Characters (Type IV) or Subsection 730-13, Reflectorized Sheeting Sign Characters (Type V), except that type IV characters shall consist of cutout reflective sheeting material meeting the requirements of cutout reflective sheeting material meeting the requirements of Subsection 730-05.02, Reflective Sheeting (Class B) and reflective background materials shall meet the requirements stated above.

619-2.03 Delete this subsection and substitute the following:

619-2.03 Delineators, Temporary Box Beam Barrier, Temporary Concrete Barrier, Construction Barricades, Lighting for Construction Barricades, and Pavement Delineation. Delineators, barricades, lighting for construction barricades, pavement delineation and similar materials shall meet the requirements of these specifications and shall be in accordance with the plans, applicable Standard Sheets and the New York State Manual of Uniform Traffic Control Devices. No materials or methods which will cause damage to any pavement or paving course that will be retained shall be employed in the removal of pavement markings.

Temporary box beam barrier shall meet the requirements of box beam median barrier as specified in Subsection 710-21 Box Beam Guide Railing and Median Barrier. After the removal of the barrier, the pavement repairs shall be made in accordance with the applicable requirements of Section 401 BITUMINOUS PAVEMENTS or Section 502 PORTLAND CEMENT CONCRETE PAVEMENT.

Temporary concrete barriers shall conform to the dimensions, joint connections, material details, and anchoring details shown on the Standard Sheet. The barrier sections shall be precast concrete units. The Manufacturer shall certify that the temporary concrete barrier units conform to the details shown on the standard sheet or approved drawing.

The Engineer will inspect the temporary concrete barrier sections upon delivery to the project site for conformance to specifications. Any barrier sections having damage and/or defects in the concrete and/or joint connections will be rejected by the Engineer when in his judgement the performance of the barriers will be affected.

The temporary concrete barrier sections shall form a smooth and continuous barrier when joined together. Any sections damaged or misaligned while in service shall be corrected or replaced to the satisfaction of the Engineer.

When reflectorization is required by the New York State Manual of Uniform Traffic Control Devices, reflective sheet material shall be used and it shall conform to photometric and color requirements of Subsection 730-05.02 Reflective Sheeting (Class B) except where glass or plastic buttons are used as delineators. Construction barricades, cones, and drums may be reflectorized with reflective sheeting conforming to the requirements of Subsection 730-05.01 Reflective Sheeting (Class A).

When reflectorization is not required, any paints utilized shall be of an exterior type conforming to the appropriate Highway Color Tolerance Chart PR Colors No. 1 through No. 6.

These requirements must be maintained throughout the period of the Contract with repair or replacement made by the Contractor as necessary.

Pavement delineation shall consist of reflectorized paint or reflectorized pressure sensitive tape that is specifically designed for use on pavements. If paint is used, the materials, including glass beads, shall conform to the material requirements of Section 640 - REFLECTORIZED PAVEMENT MARKING PAINTS of the Specifications. If tape is used, it shall be of a type that will adhere to the surface to which it is applied. It shall be thin, flexible and capable of conforming to the texture of the surface of the pavement to which it is applied, including base, binder and top courses of asphalt concrete. The line segment shall be not less than four nor more than six inches in width and the color shall be as specified in the New York State Manual of Uniform Traffic Control Devices."

"619-3.03 Change the title of this Subsection to "619-3.03, Temporary Box Beam Barrier, Temporary Concrete Barrier, Construction Barricade, and Lighting for Construction Barricades."

Delete the first and second paragraphs and substitute the following:

"The contractor shall furnish, erect, move and remove, temporary concrete barrier, construction barricades and lighting for construction barricades where and as indicated on the plans, on the Standard Sheets, in the New York State Manual of Uniform Traffic Control Devices, or as directed by the Engineer. Posts and painted members or bands used to delineate drop-offs will not be considered to be barricades.

Where indicated on the plans or in the proposal, construction barricades shall be supplemented either by approved flashing or steady burning lights.

Temporary box beam barrier shall be erected in accordance with the requirements for box beam median barrier specified in Subsection 606-3.01 and 606-3.03.

Each run, or bay, of temporary concrete barrier units shall be fastened together to form a continuous chain. The units ~~at~~ each end of a run, or bay, as well as certain intermediate units shall be anchored as shown on the Standard Sheet to prevent any movement in the run, or bay. The distance between anchored units shall not exceed 120' (one hundred and twenty feet). However, a lesser distance may be required if shown on the plans. Where shown on the plans or directed by the Engineer, tapered end sections shall be installed on the ends of the barrier run."

619-4.03 Delete this Subsection and substitute the following:

"619-4.03, Temporary Box Beam Barrier, and Temporary Concrete Barriers. The quantity of temporary box beam barrier, and temporary concrete barrier shall be computed by the number of linear feet placed in accordance with the contract documents and/or direction of the Engineer. Temporary box beam barrier shall be measured in accordance with the requirements of 606-4.01. Temporary concrete Barrier shall be measured along the centerline of the uppermost surface."

619-5.02 Delete this Subsection and substitute the following:

"619-5.02 Construction Signs. The lump sum bid shall include all material, equipment and labor necessary to erect, remove, relocate, protect, maintain, store or replace any construction signs required to properly sign the contract. The lump sum bid shall also include the repair or replacement of reflectorized signs when the Engineer determines the reflective sheeting no longer conforms to the material specifications. This item is to cover payment for all signs which are determined by the Engineer to be necessary for the proper performance of the work, regardless of whether or not they are actually shown in the contract plans.

Payment will be made at the lump sum price bid as follows:

Fifty (50) percent of the lump sum price will be paid when ten(10) percent of the contract work has been completed. The remaining fifty (50) percent will be paid proportionally in accordance with the total contract work completed, beginning with the estimate following the initial payment on this item."

619-5.03 Delete this Subsection and substitute the following:

"619-5.03, Temporary Box Beam Barrier, and Temporary Concrete Barrier. The unit price bid per linear foot of temporary box beam barrier, and temporary concrete barrier shall include all material, equipment, and labor necessary to erect, maintain, and remove the required barrier, including any required connection devices, end treatments, delineation or guiding devices, repairing pavement after removal of box beam barriers, and devices for pinning and connecting temporary precast concrete barrier units. Any movement of temporary box beam barrier or temporary concrete barrier, except movements of the concrete barrier necessary to maintain, realign, or replace damaged units will be considered as a movement to a new location and the Contractor will be entitled to payment for the movement.

After placement, payment will be made for ninety (90) percent of the quantity of temporary box beam barrier, or temporary concrete barrier furnished and erected in accordance with the contract requirements. The remaining ten (10) percent will be paid upon removal."

619-5.04 Delete this Subsection and substitute the following:

"619-5.04 Construction Barricades. The unit price bid per linear foot of barricade shall include all material, equipment and labor necessary to erect, maintain and remove required barricades. Whenever barricades are moved to a new location or the diagonal stripes are changed to allow traffic to pass on the other side of the barricade, payment will be made in the same manner as if it were a new barricade. Minor movements of the barricade from one side of the roadway to the other side or rearrangement within a work area, not requiring any change in the diagonal stripes, will not be considered as movement to a new location and will not entitle the Contractor to additional payment.

After placement, payment will be made for ninety (90) percent of the quantity of barricade furnished and erected in accordance with the contract requirements. The remaining ten (10) percent will be paid upon removal."

Under the list of payment items add the following:

<u>Item No.</u>	<u>Pay Item</u>	<u>Pay Unit</u>
619.0413	Type III Construction Barricade	Linear Foot
619.17	Temporary Concrete Barrier	Linear Foot
619.18	Temporary Box Beam Barrier	Linear Foot

Under the list of payment items delete the following:

619.0401	Construction Barricades	Linear Foot
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LIGHTING FOR CONSTRUCTION BARRICADES

The mounting of battery packs for lighting on construction barricades shall be at the base of the barricade.

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## TEMPORARY CONCRETE BARRIER

The details for Temporary Concrete Barrier shown on Standard Sheet 619-3R1 are standard. The Contractor may use temporary concrete barrier which has been approved on other Department projects, provided he submits documentation, acceptable to the Engineer, that the units he intends to supply were previously approved, and the units show no signs of wear as to render them unusable as determined by the Engineer.

Other designs, which have not been previously approved for use on New York State Department of Transportation projects, may be proposed by the Contractor and if found acceptable incorporated into the Contract by Order-on-Contract. No variation in the method of connecting the units together will be approved unless the Contractor produces acceptable evidence that Temporary Concrete Barrier, with the proposed joint system, has been crash tested by a recognized testing agency, and the results of these tests meet with the approval of the Deputy Chief Engineer (Structures).

The cross sectional dimensions shown on Standard Sheet 619-3R1 shall be used in all cases and variations will not be permitted.

9/28/78