

City of Torrington

ENGINEERING DEPARTMENT
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ADDENDUM No. 2

DATE ISSUED: APRIL 7, 2021

RE: CITY NORTH RECONSTRUCTION PHASE 2021.1

BID # CNR 027-040721

All bidders are hereby advised of the following amendments to the Contract Bid Documents, which are hereby made an integral part of the specifications for the subject project, prepared by The City of Torrington, to the same extent as all other documents. All work shall conform to the standards and provisions of same.

Bids submitted shall be deemed to include the Contract Document information as shown in Addendum No. 2. General bidders shall notify sub-bidders that may be affected by this addendum as applicable. Bidders shall be required to acknowledge receipt of this Addendum in the space provided on the Bid Proposal Form, Page BP-1. Failure to acknowledge this Addendum by the Bidder may result in the rejection of their bid. Bidders are directed to review changes to all portions of the work as changes to one portion may affect the work of another.

1. **Replace the “BID FORM – Exhibit “A”” (Pages BF 1 to BF 5) in its entirety with the attached Bid Form noted as Addendum #2 – April 6, 2021.**
2. **Replace the Technical Specification Section 2.01 “Clearing and Grubbing” (Pages 2.01-01 to 2.01-02) in its entirety the attached Technical Specification Section 2.01 “Clearing and Grubbing” (Pages 2.01-01 to 2.01-02) noted as Addendum #2 – April 6, 2021.**
3. **Replace the Technical Specification Section 2.02 “Earth Excavation” (Pages 2.02-01 to 2.02-05) in its entirety with the attached Technical Specification Section 2.02 “Earth Excavation” (Pages 2.02-01 to 2.02-05) noted as Addendum #2 – April 6, 2021.**
4. **Replace the Technical Specification Section 4.06 “Bituminous Concrete” (Pages 4.06-001) with the attached Technical Specification Section 4.06 “Bituminous Concrete” (Pages 4.06-001) noted as Addendum #2 – April 6, 2021.**
5. **Remove the “Asphalt Adjustment Cost” spec from the Contract Manual, this is now included in the Technical Specification Section 4.06 “Bituminous Concrete”.**
6. **Remove the “Field Density Testing Correction” (Pages 4.07-01 to 4.07-05) spec from the Contract Manual, this is now included in the Technical Specification Section 4.06 “Bituminous Concrete”.**
7. **Replace the Technical Specification Section 6.53 “Clean Existing Drainage System” (Pages 6.53-01) in its entirety with the attached Technical Specification Section 6.53 “Clean Existing Drainage System” (Pages 6.53-01) noted as Addendum #2 – April 6, 2021.**

8. **Replace the Technical Specification Section 8.11 “Concrete Curbing” (Pages 8.11-01) in its entirety with the attached Technical Specification Section 8.11 “6” Concrete Curbing” (Pages 8.11-01 to 8.11-04) noted as Addendum #2 – April 6, 2021.**
9. **Replace the Technical Specification Section 9.20 “Bituminous Concrete Sidewalk and Driveway” spec (Pages 9.20-01 to 9.20-03) in its entirety with the attached Technical Specification Section 9.20 “Bituminous Concrete Sidewalk and Driveway” (Pages 9.20-01 to 9.20-03) noted as Addendum #2 – April 6, 2021.**
10. **Replace the Technical Specification Section 9.71 “Maintenance & Protection of Traffic” (Pages 9.71-001 to 9.71-010) in its entirety with the attached Technical Specification Section 9.71 “Maintenance & Protection of Traffic” (Pages 9.71-001 to 9.71-010) noted as Addendum #2 – April 6, 2021.**
11. **Replace the Technical Specification Section 02620 “Concrete Sidewalks and Driveway and Apron” spec (Pages 02620-01 to 02620-03) in its entirety with the attached Technical Specification Section 2.62 “Concrete Sidewalks and Driveway and Apron” and replaced as Page numbers (Pages 2.62-01 to 2.62-03) noted as Addendum #2 – April 6, 2021.**
12. **Replace “List of Technical Specifications for City North Reconstruction Phase 2021.1” in its entirety with the attached “List of Technical Specifications for City North Reconstruction Phase 2021.1” noted as Addendum #2 – April 6, 2021.**
13. **Insert the attached “Notice to Contractor – Phasing of Project” at the beginning of Technical Specifications as shown on the revised List of Technical Specifications for City North Reconstruction Phase 2021.1 – noted as Addendum #2 – April 6, 2021.**
14. **Insert the attached “Notice to Contractor – Margerie Sewer Trench” at the beginning of Technical Specifications as shown on the revised List of Technical Specifications for City North Reconstruction Phase 2021.1 – noted as Addendum #2 – April 6, 2021.**
15. **Insert the attached “Notice to Contractor – Pythian Culvert Repair” at the beginning of Technical Specifications as shown on the revised List of Technical Specifications for City North Reconstruction Phase 2021.1 – noted as Addendum #2 – April 6, 2021.**
16. **Insert the Technical Specification Section 6.01 “Full Depth Patch” into the Technical Specifications as shown on the revised List of Technical Specifications for City North Reconstruction Phase 2021.1 – noted as Addendum #2 – April 6, 2021.**
17. **Insert into plans “Culvert Detail Pythian Avenue” CSK-1**
18. **Insert into plans “Full Depth Patch Repair Detail” CSK-2**
19. **For clarification photos of the Pythian Avenue Culvert Repair have been added to this Addendum**

BID #CNR 027-040721 CITY NORTH RECONSTRUCTION PHASE 2021.1

END OF ADDENDUM No. 2

BID FORM - EXHIBIT "A"**Reconstruction of Various
Roads - Group 2020.6**

June 11, 2020

ITEM NO#	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
0105180A	Utility Conflict Resolution			
	for the price per Each of	10		
	_____ Dollars		_____	_____
	_____ Cents			
0201214A	Replace traffic and parking signs			
	for the price per Each of	79		
	_____ Dollars		_____	_____
	_____ Cents			
0202000A	Earth Excavation			
	for the price per Cubic Yard of	3,973		
	_____ Dollars		_____	_____
	_____ Cents			
0202529	Cut Bituminous Concrete Pavement			
	for the price per Linear Feet of	10,096		
	_____ Dollars		_____	_____
	_____ Cents			
0304002A	Processed Aggregate Base			
	for the price per Cubic Yard of	5,300		
	_____ Dollars		_____	_____
	_____ Cents			
0406236A	Material for Tack Coat			
	for the price per Gallons of	2,012		
	_____ Dollars		_____	_____
	_____ Cents			
0406272A	Milling of Existing HMA [0" - 8"]			
	for the price per Square Yard of	33,526		
	_____ Dollars		_____	_____
	_____ Cents			

ITEM NO#	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
0406442A	Bituminous Concrete (HMA) Super Pave for the price per TON of	8,486		
	_____ Dollars		_____	_____
	_____ Cents			
0406999A	Asphalt Adjustment Cost for the price per Lump Sum of	1		
	_____ Dollars		\$5,000.00	\$5,000.00
	_____ Cents			
0507001A	Catch Basin Top (Supply Only) for the price per Each of	62		
	_____ Dollars		_____	_____
	_____ Cents			
0507771A	Reset Catch Basin, Single Grate for the price per Each of	64		
	_____ Dollars		_____	_____
	_____ Cents			
0586040	New Catch Basin Structure with Top (0'-8') for the price per Each of	19		
	_____ Dollars		_____	_____
	_____ Cents			
0586650A	Reset Manhole (Storm Sewer) Frame & Cover for the price per Each of	22		
	_____ Dollars		_____	_____
	_____ Cents			
0586651A	Reset Manhole (Sanitary Sewer) Frame & Cover for the price per Each of	62		
	_____ Dollars		_____	_____
	_____ Cents			

ITEM NO#	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
0586780A	Manhole Frame & Cover (Storm) (Supply Only) for the price per Each of	9		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____
0586781A	Manhole Frame & Cover (Sanitary) (Supply Only) for the price per Each of	2		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____
0586785A	Manhole or Catch Basin Structure Rebuild for the price per Vertical Feet of	48		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____
0586790A	Remove Existing Catch Basin or Manhole for the price per Each of	2		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____
0601270A	FULL DEPTH PATCH (HIGH EARLY STRENGTH CONCRETE) for the price per Lump Sum of	1		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____
0651885A	12" HDPE Storm Sewer Pipe for the price per Linear Feet of	514		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____
0653001A	Clean Existing Catch Basin for the price per Each of	20		
	_____ Dollars		_____	_____
	_____ Cents		_____	_____

ITEM NO#	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
0821161A	6" Concrete Curb for the price per Linear Feet of	21,493		
	_____ Dollars		_____	_____
	_____ Cents			
0921001A	Concrete Sidewalk Ramps for the price per Square Feet of	3,360		
	_____ Dollars		_____	_____
	_____ Cents			
0921039A	Detectable Warning Pad for the price per Square Feet of	576		
	_____ Dollars		_____	_____
	_____ Cents			
0922001A	Bituminous Concrete Driveway & Sidewalk for the price per Square Feet of	84,914		
	_____ Dollars		_____	_____
	_____ Cents			
0950005A	Turf Establishment for the price per Square Yard of	7,733		
	_____ Dollars		_____	_____
	_____ Cents			
0970006A	Traffic Person (Municipal Police Officer) for the price per Hour of	1,200		
	_____ Dollars		\$65.00	\$78,000.00
	_____ Cents		_____	_____
0970007A	Traffic Person (Uniformed Flagger) for the price per Hour of	1,200		
	_____ Dollars		_____	_____
	_____ Cents			

ITEM NO#	ITEM DESCRIPTION	ESTIMATED QUANTITY	UNIT PRICE	TOTAL AMOUNT
0971001A	Maintenance and Protection of Traffic for the price per Lump Sum of	1		
	_____ Dollars			
	_____ Cents			
0975001A	Mobilization and Demobilization (5% max) for the price per Lump Sum of	1		
	_____ Dollars			
	_____ Cents			
0980001A	Construction Staking for the price per Lump Sum of	1		
	_____ Dollars			
	_____ Cents			
1208928A	Sign Face - Sheet Aluminum (Type IV Reflective Sheeting) for the price per Square Feet of	351		
	_____ Dollars			
	_____ Cents			
1209114A	4" White/Yellow Hot Applied Painted Pavement Markings for the price per Linear Feet of	4,700		
	_____ Dollars			
	_____ Cents			
1209131A	Hot Applied Markings, Symbols & Legends for the price per Square Feet of	658		
	_____ Dollars			
	_____ Cents			

TOTAL BID AMOUNT: \$ _____

**SECTION 2.01
CLEARING AND GRUBBING**

ITEM 0201001A CLEARING AND GRUBBING

2.01.01—Description

2.01.02—Materials (Vacant)

2.01.03—Construction Methods

2.01.04—Method of Measurement

2.01.05—Basis of Payment

2.01.01—Description: This work shall consist of clearing the ground of trees, stumps, brush, rubbish and all objectionable material that is within the construction limits as defined by the design road width plus cut or fill slopes as required to match into existing grades and in accordance with these specifications or as directed by the Engineer. This work shall also include the clearing of the ground necessary for the construction and installation of roadway widening, drainage, structures, ditches, channels, fences and other appurtenances. Included in this work shall be the preservation from injury or defacement of vegetation and objects designated to remain.

2.01.02— Materials (Vacant)

2.01.03—Construction Methods:

The limits for clearing and grubbing lines for this contract shall be determined by the design road width as shown on the design drawings plus widening excavation widths to construct the design road width plus sidewalks and cut or fill slopes (as per typical details) as required to match into existing grades. The contractor shall clear and grub all areas within the city ROW as far back from the edge of pavement as required to provide the typical road cross section to install new pavements, curbs, road widening, sidewalks and cut fill slopes.

The Contractor shall mark all trees, shrubs and plants to be removed in accordance with the plans and these specifications. The Engineer shall have 7 days to field review the markings and make any adjustments prior to the start of the clearing operation. Within the excavation lines all trees shall be cut off and stumps removed to a depth of not less than 12 in below the graded surface.

Within the fill lines where an embankment is to be made not more than 5 ft deep, trees, stumps, roots, etc., shall be removed. Where the embankments to be made exceed 5 ft deep, trees, stumps, roots, etc., shall be cut off to within 6 in of the ground surface.

In areas where clearing is necessary for the construction and installation of the design road widths and various appurtenances, all trees and stumps shall be cut flush with the ground; and all dead or uprooted trees, brush, roots or otherwise objectionable material shall be removed as directed unless otherwise indicated on the plans.

Prior to clearing operations, a meeting must be held. Those attending the meeting should include the Contractor, the Engineer, the designer, local tree warden or equivalent, and the District Environmental Coordinator. All clearing issues shall be resolved to the satisfaction of the Engineer before any trees are cut.

All trees scheduled to be removed outside of the proposed gutter or curb lines shall be visibly marked or flagged by the Contractor at least seven days prior to cutting of such trees.

The Engineer will inspect the identified trees within 7 days of the marking of the trees and verify the limits of clearing and grubbing prior to the Contractor proceeding with his cutting operation.

All branches of trees extending within the roadway shall be trimmed as directed to provide a 16-ft minimum vertical clearance including selective trimming of such trees as directed.

The Contractor shall dispose of all such trees, stumps, brush, etc., in a satisfactory manner and shall remove all rubbish and refuse from within the highway limits.

All excavations made below subgrade surface by the removal of trees, stumps, etc., shall be filled with suitable material, which shall be compacted thoroughly in accordance with the provisions governing formation of embankments.

All fences, stonewall fences and ornamental and utilitarian domestic accessories, such as, but not limited to garden pools, arbors, stair railings, fireplaces, sheds and incinerators, within the highway limits shall be removed as directed. However, the removal of materials in stonewalls, that are to be removed and not used in a new stonewall fences, will be paid for according to the provisions of Section 2.02.

All road signs, mail boxes, etc., shall be removed and reset as directed.

Where roadways are to be widened, the contractor shall clear and grub the existing area to be excavated to a width that includes where the top or toe of grading slopes matched into the existing, or to a minimum of 4 feet beyond the edge of pavement.

All work to relocate mailboxes to meet the City Standard Detail shall be included in this item.

2.01.04—Method of Measurement: When no price for “Clearing and Grubbing” is asked for on the proposal form, the cost of the work as described above shall be included in the cost of all other work and no direct payment for “Clearing and Grubbing” will be made.

When a price is asked for on the proposal form on a lump sum basis, this shall include all the work as described above, which may be necessary to properly complete the Project, unless the item is included under another Project pay item.

The work, material, tools, equipment and labor incidental to the disposal of trees, stumps, etc., will not be measured for payment.

Relocation of mailboxes will not be measured for payment.

2.01.05—Basis of Payment: Payment for this work will be at the Contract lump sum price for “Clearing and Grubbing,” except as noted above, and shall include all equipment, tools and labor incidental to the completion of this item. All costs incidental to the disposal of trees, stumps, etc., will be included in the lump sum price of “Clearing and Grubbing.”

Relocation of mailboxes will not be paid for separately and the cost associated with relocating mail boxes shall be included in the lump sum price of this item.

PAY ITEM
CLEARING AND GRUBBING

PAY UNIT
L.S.

**SECTION 2.02
EARTH EXCAVATION**

**ITEM 0202000A EARTH EXCAVATION
ITEM 0202529A CUT BITUMINOUS CONCRETE PAVEMENT**

2.02.01—Description: Earth excavation shall consist of the removal and satisfactory disposal, in the manner herein required, of all material taken from within the limits of the work contracted for, the removal of which is necessary for the construction of the roadway, subgrade, shoulders, slopes, entrances, retaining walls, gutters, channels and other miscellaneous construction to the dimensions and limits shown on the plans or as ordered.

Earth excavation shall include the formation of embankments, the disposal of excess or unsuitable material, removal of old foundations, concrete or bituminous concrete sidewalks, concrete or masonry walls, crib walls, bin walls, stone wall fences or farm wall fences and filling of cellar or other holes, and in the absence of such items in the contract, the clearing and grubbing and the shaping and cleaning of slopes and of shoulders.

Earth excavation shall include the reuse of excavated material for backfilling of turf restoration areas requiring filling behind new curbing, filling in low areas and matching into existing grades where turf may or may not be required.

2.01.02—Materials:

- 1) Suitable material for roadway embankments, backfilling behind curbing, sidewalk and driveway subgrade shall be the material encountered during the course of construction as determined by the Engineer. Reclaimed roadway material shall be considered suitable material for use as roadway base and subbase and also for general backfilling.
- 2) Unsuitable material shall include debris, frozen material, organic matter, sod, topsoil, all wet or soft muck, peat, silt, clay or any other material which, as determined by the Engineer, will not provide sufficient support or maintain the completed construction in a stable condition.
- 3) Surplus material shall include reclaimed material removed to achieve design or existing grading and suitable excavated material that is deemed by the Engineer to be useful for reuse elsewhere within the project limits.
- 4) Reclaimed material as removed from the roadway after pulverization meeting the requirements of Section 4.03.02 shall be used as base and subbase material in roadway construction, grading, widening and general backfilling as earth backfill including behind new curbing and formation of embankments.
- 5) Millings materials as removed from the roadway after pulverization meeting the requirements of Section 4.03.02 shall be used as base and subbase material in backfill behind new curbing under sidewalks, under Turf Establishment in areas where sidewalks are removed, and formation of embankments.
- 6) Excess material shall be considered all material that cannot be reused within the project limits as base and subbase material in roadway construction, grading, widening and general backfilling including earth backfill including behind new curbing and formation of embankments.

2.02.03—Construction Methods:

1. General

The Contractor shall perform all excavations of every description and of whatever substances encountered, to the widths and depths indicated on the Drawings and as otherwise specified. During excavations, material determined by the Engineer to be suitable for backfilling shall be piled in an orderly manner a sufficient distance from the banks of the stream to avoid overloading and to prevent runoff or slides. All excess excavated materials not required or unsuitable for backfill shall be removed and wasted away from the site. Care shall be taken not to over excavate below the depths indicated on the plans unless authorized by the Engineer. Unauthorized over depth excavations shall be backfilled at the Contractor's expense. If ledge is encounter it is anticipated that this material will not be removed and proposed grades may be adjusted by the Engineer to accommodate the ledge remaining in-place.

Excavation shall be made in conformity with the requirements of the plans and as ordered by the Engineer. The Contractor shall, when necessary in excavation areas, provide and maintain ditches which are adequate to prevent free water from becoming incorporated in material to be used to form embankments, such ditching to be at the sole expense of the Contractor.

2. Unsuitable Excavation

Whenever unstable soil, that is incapable of properly supporting the road structure, is encountered below the proposed subgrade of the roadway, as determined by the Engineer, such soil shall be removed and refilled with crushed stone material as hereinafter specified, placed in minimum 8-inch lifts and thoroughly compacted.

3. Use of Excavated Materials

To the extent they are needed, all suitable materials from the specified excavations shall be used in the construction of required permanent roadway widening, earth fill or boulder/rock fill. Suitable materials may also be used in as fill under sidewalks and in areas where sidewalks are being removed as fill below the topsoil. The suitability of materials for specific purposes will be determined by the Engineer. The Contractor shall not waste or otherwise dispose of suitable excavated materials.

4. Surplus Materials:

All surplus material shall be used where directed by the Engineer, to uniformly widen embankments, to flatten slopes, to fill low areas in the right of way, to widen roadway with surplus reclaimed material or for such other purposes as the Engineer may direct.

The Contractor shall use all surplus material immediately for backfill or where not operationally possible to do so, stockpile all suitable material for future reuse. When reclaimed roadway material is graded and compacted to the intended design grade or as directed by the Engineer and grading operations are completed, excess reclaimed material from roadways shall be deemed as surplus material and reused on the site.

Surplus material or earth excavation shall be loaded, transported, stockpiled, reloaded and placed for use in other locations within the entire project limits. This item applies to material loaded, and hauled either within the project or hauled and disposed of offsite.

5. Reclaimed Material

Reclaimed Material and any other material deemed surplus or as directed by the Engineer shall first and foremost be reused as needed for road widening, backfill or earth fill.

The contractor shall not dispose of surplus reclaimed material until all backfilling and earth fill requirements are is completed and to the satisfaction of the Engineer. If backfill locations are not operationally available or prepared for filling, the contractor shall stockpile the material for future use. If material cannot be stockpiled within the project limits, the contractor will be required to stockpile the material off site at a location provided by the contractor.

6. Placement of Embankment Material:

All excavated material and reclaimed material obtained within the limits of the Project shall be used in the formation of embankments as directed by the Engineer.

All excavated material including reclaimed roadway material or any other excavated material deemed suitable for reuse by the Engineer shall be loaded, transported, and placed for use as fill within the project limits as directed by the Engineer. This material may need to be stockpiled for future use which shall then be reloaded and use as required within the project limits.

When embankments are to be constructed on slopes steeper than 1:3, the slope of the existing ground on which the embankment is to be placed shall be plowed deeply or cut into steps before the filling is begun.

The depth of each layer, before compaction, shall not exceed 12 in except as permitted hereinafter by these specifications, or with the permission of the Engineer.

The embankment shall be crowned or pitched to provide drainage at the close of each day's operations. Where filling in 12-in layers is impracticable, as in the case of filling in water or over slopes too steep for the operation of equipment, the embankment may be constructed in a single layer to the minimum elevation at which equipment can

be operated, as determined by the Engineer; and above this elevation, the embankment shall be constructed as specified herein.

Earth slopes with a degree of slope from 2:1 to 5:1 shall be tracked unless the Engineer directs that they shall not be tracked. Tracking shall consist of traversing the slopes with cleated tracks so that the cleat indentations are horizontal. Where topsoil is to be placed on slopes, the tracking shall be done prior to the installation of the topsoil. Tracking is not to be construed to be used for slope compaction. Its sole purpose is to provide indentations in the slope to help reduce soil erosion. Other methods of achieving the desired results may be used, with the permission of the Engineer.

7. Compaction:

The entire area of each layer of the embankment and the subgrade in the excavated areas shall be uniformly compacted to at least the required minimum density by use of compaction equipment consisting of rollers, compactors or a combination thereof. Earth-moving and other equipment not specifically manufactured for compaction purposes will not be considered as compaction equipment.

The dry density after compaction shall not be less than 95% of the dry density for that soil when tested in accordance with AASHTO T 180, Method D. Each layer of the embankment and the subgrade shall be compacted at optimum moisture content. No subsequent layer shall be placed until the specified compaction is obtained for the previous layer

8. Roadway Widening:

Roadways shall be widened where the design width is greater than the existing width as shown on the contract design plans or as measured in the field or directed by the Engineer. Reclaimed roadway material shall be used as aggregate base and sub-base material in roadway widening locations. Reclaimed roadway material adjacent to the widening shall be used for and placed in excavated widening locations.

Surplus reclaimed material shall be moved from other location as required within the project limits or as directed by the Engineer shall and placed in excavated widening location.

9. Disposal Of Unsuitable Or Excess Material:

All material deemed by the Engineer as unsuitable or as deemed to be in excess of what can be used or placed within the project limits as fill or as roadway widening, shall be disposed of offsite by the contractor.

The City of Torrington does not guarantee nor imply any areas available for disposal of excess or unsuitable excavated material within project limits. The Contractor shall dispose of offsite all excavated material in excess of that which can be reused or placed within permitted project areas.

10. Maintaining Roadway Edge:

In the case where existing sidewalk is to be removed and curb is not installed on roads where the roadway is not being repaved, care should be taken to maintain the existing edge of the roadway. If the contractor damages the roadway they shall sawcut and patch the edge of the roadway at their own expense.

2.02.04—Method of Measurement:

Earth excavation will be measured as the actual number of cubic yards in place in its original position prior to excavation. Payment limit lines for unsuitable material excavation shall be the area designated by the plans, special provisions or as deemed by the Engineer as unsuitable material below the subgrade in cut sections, below the limits of top soil in fill sections and beyond the bottom of trench as shown depicted on the construction details for trench excavation.

The removal, loading, stockpiling (on or off site), transporting (within and to and from the site), reloading, placing, filling behind curbing, filling under removed sidewalks where Sidewalks are not being replaced, filling in low areas, compacting or disposing of excavated material will be measured for payment only once during the initial excavation process.

Any material re-excavated from a stockpile or replacement as roadway base gravel or fill for backfilling behind curbing or in low fill areas or to match into existing slopes as required will not be measured for payment.

Top soil to be stripped is not considered unsuitable material for proposes of measurement for payment. Removal of topsoil will be considered part of the clearing grubbing and demolition payment item. Stripped top soil shall be stock piled and saved for use on the project or the City's use if requested. Any stockpiling, drying or re-excavation of material on the project shall not be measured for payment.

Excavation of roadway widening areas will be measured as the number of cubic yards of earth excavation as measured volume of material in place in its original position prior to excavation. The volume in place shall be calculated by measuring the length, widening width and depth in place prior to excavation as follows:

- The length shall be measured along the road gutter line where the design width is greater than the existing width as shown on the contract design plans or as measured in the field or directed by the Engineer.
- The side of road to be widened and the width of widening on each side of the road shall be determined from the proposed and existing widths as shown on the contract design plans or as directed by the Engineer. The width of excavation shall be 6 inches wider than the widening width required for the base lift asphalt.
- The depth of excavation shall be calculated as the average of the depth from the existing grade to the subgrade. The depth measured at the back of curb and depth measured at the back edge of widening shall be averaged.

Reclaimed material as excavated and loaded after the reclaiming process will be measured as recorded by truck load box volume. The volume measurement of each load shall be recorded on individual tickets per truck load as issued and signed daily in the field by authorized field inspectors as designated by the Engineer.

Bituminous concrete pavement, bituminous concrete curb, concrete, granite, rubble, boulders, parts of or whole utility structures shall be separated and not be mixed with loads of excavation that is to be measured for payment as truck load box volume.

The removal, loading, stockpiling (on or off site), transporting (within and to and from the site), reloading, placing, filling behind curbing, filling under removed sidewalks where Sidewalks are not being replaced, filling in low areas, compacting or disposing of excavated material will be measured for payment only once during the initial excavation process.

Any material re-excavated from a stockpile or replacement as roadway base gravel or fill for backfilling behind curbing or in low fill areas or to match into existing slopes as required will not be measured for payment.

The cutting of bituminous concrete pavement will be measured for payment as the number of linear feet of cut made by an approved method to the lines delineated on the plans or as directed by the Engineer. Cuts made necessary by the Contractor's operation, such as, but not limited to, patching, bituminous concrete samples, continuance of previous runs, faulty work or faulty materials will not be measured for payment. Bituminous parking areas are considered as bituminous concrete pavement.

Removal and disposal of existing bituminous concrete curbing will not be measured for payment and shall be considered incidental to associated work items.

The removal and disposal of drainage structures including but not limited to manholes or catch will not be measured for payment and shall be considered incidental to associated work items.

Removal of bituminous concrete pavement in the roadway or bituminous concrete curbing shall be removed by other methods as necessary and will not be measured for payment as "Earth Excavation" and shall be considered incidental to work item for Milling 0-8 Inches.

Removal of gravels in the roadway below the bituminous concrete to reach design depths shall be removed by other methods as necessary and will not be measured for payment as "Earth Excavation" and shall be considered incidental to work item for Milling 0-8 Inches.

As required prior to the Milling process, the removal of earth, topsoil, grass or organic materials covering existing bituminous concrete asphalt layers will not be measured for payment and shall be considered incidental to work item for Milling 0-8 Inches.

Bituminous concrete pavement in driveways will be measured as the actual number of cubic yards in place in its original position prior to excavation and calculated by the measured area of bituminous concrete driveway multiplied by the actual thickness of material in place in its original position prior to excavation.

Concrete or Bituminous Concrete Sidewalks will be measured as the actual number of cubic yards in place in its original position prior to excavation and calculated by the measured area of Concrete or Bituminous Concrete Sidewalk multiplied by the actual thickness of material in place in its original position prior to excavation.

2.02.05—Basis of Payment:

Excavated materials as described herein will be paid for at the Contract unit price per cubic yard for “Earth Excavation.” The price shall include all equipment, tools and labor incidental to the completion of the excavation, loading, transporting, formation and compaction of embankments, reuse of surplus material within the project limits, and the disposal of excess or unsuitable material offsite in accordance with the provisions of the plans and of these specifications.

Unsuitable material excavation will be paid for at the contract unit price per cubic yard for "Earth Excavation", which price shall include all equipment, disposal, trucking, tools, supervision, labor and material incidental thereto.

Excavated material deemed by the Engineer to be unsuitable for use within the project limits and required to be disposed of offsite will be paid for at the Contract unit price per cubic yard for “Earth Excavation” which price shall include all materials, equipment, loading, transporting, tools and labor incidental thereto.

~~Loading, transporting and disposal of reclaimed material deemed as excess by the Engineer and disposed of offsite outside of the project limits will be paid for at the Contract unit price per cubic yard for “Earth Excavation”.~~

PAY ITEM

EARTH EXCAVATION

CUT BITUMINOUS CONCRETE PAVEMENT

PAY UNIT

Cubic Yard (C.Y.)

Linear Feet (L.F.)

END OF SECTION

SECTION 4.06
BITUMINOUS CONCRETE

Item #0406442A – Bituminous Concrete (HMA) Super Pave

4.06.01 - Description

4.06.02 - Quality Assurance

4.06.03 - Materials

4.06.04 - Equipment

4.06.05 - WMA or HMA Construction

4.06.06 - Contractor Quality Control of WMA or HMA Pavement

4.06.07 - Method of Measurement

4.06.08 - Basis of Payment

4.06.01 - DESCRIPTION

The work under this item shall consist of furnishing hot mix asphalt (HMA) or warm mix asphalt (WMA) composed of mineral aggregate, asphalt binder, and if desired qualified WMA additive, mixed in a central mixing plant and placed on a prepared course in accordance with these specifications and conformance to the lines, grades, thickness and typical cross sections shown on the contract drawings or as directed by the Engineer.

A Leveling/Shim Course where specified will consist of a thin application of warm or hot mix asphalt, paver machine applied and roller compacted, placed on a clean, prepared roadway surface that may or may not have been milled, using an asphalt emulsion tack coat.

Each course shall be constructed to the depth, typical section, or elevation required by the contract and/or plans and shall be rolled, finished, and approved before the placement of the next course.

4.06.02 – QUALITY ASSURANCE

1. Quality Control

The Contractor assumes the responsibility of the quality for all materials and construction incorporated into the work and will control all the processes leading to final results through this function. Quality Control activities include:

- Maintain a Contractor Quality Control System; Proficiency testing prior to production with Engineer;
- Inspection and Testing of Warm or Hot Mix Asphalt Production; Inspection and Testing of Warm or Hot Mix Asphalt Placement;

See Section “Contractor Quality Control of WMA or HMA Pavement” of these specifications for additional information.

2. Acceptance

The Engineer, or their authorized agent, will perform the Quality Acceptance function for this work. All material will be considered for acceptance through a sampling and testing program performed by the Engineer or their agent. Quality Acceptance activities include:

- Proficiency testing prior to production with Contractor;
- Inspection of WMA or HMA Production Plant and Testing Laboratory; Production Trials of

**SECTION 6.53
CLEAN EXISTING DRAINAGE SYSTEM**

ITEM 0653001A – CLEAN EXISTING CATCH BASIN

6.53.01—Description: This work shall consist of furnishing all equipment, tools, labor, and materials and performing all work necessary for cleaning, removing and disposing of all sludge, dirt, sand, gravel, roots, grease, and other debris from the existing drainage system which includes: culverts, 12 in to 42 in diameter; culverts, greater than 42 in diameter; manholes; catch basins; and drop inlets, throughout the Project limits, as directed by the Engineer.

6.53.02—Vacant

6.53.3 Construction Methods: Selection of the equipment used shall be based on the condition of the drainage lines at the time the cleaning operations commence and shall be approved by the Engineer.

The sequence of the Contractor’s work shall allow for the proper and adequate maintenance of all functional drainage systems.

Precautions shall be taken to protect the drainage systems at all times. All workers shall be experienced and skilled in the use of the equipment. The Engineer reserves the right to prohibit the use of any equipment or method deemed inappropriate for the intended work.

Any and all debris resulting from the cleaning operations shall be removed from the Site and disposed of by the Contractor. The Contractor shall make every effort to remove all sludge, dirt, sand, gravel, roots, grease, and other debris from the existing drainage systems including discharge points. Washing sludge, dirt, sand, gravel, roots, grease, and other debris downstream will not be permitted.

6.53.4 Method of Measurement: Catch basins, manholes and drop inlets will be measured for payment by the actual number of units cleaned.

Culverts cleaned under this item will be measured for payment by the actual number of linear feet of culvert cleaned for those 12 in to 42 in diameter, and those greater than 42 in diameter.

6.53.5 Basis of Payment: This work will be paid for at the Contract unit price each for “Clean Existing Catch Basin,” “Clean Existing Manhole,” or “Clean Existing Drop Inlet.” Cleaning of culverts will be paid for at the Contract unit price per linear foot for, “Clean Existing Culvert - 12” to 42” Diameter,” or “Clean Existing Culvert - Greater than 42” Diameter,” which price shall include all equipment, tools, and labor incidental to the completion of these items. All costs incidental to the disposal of sludge, dirt, sand, gravel, roots, grease, and other debris will be included in the price above.

Pay Item	Pay Unit
Clean Existing Catch Basin	EA.
Clean Existing Manhole	EA.
Clean Existing Drop Inlet	EA.
Clean Existing Culvert - 12” to 42” Diameter	L.F.
Clean Existing Culvert - Greater than 42” Diameter	L.F.

END OF SECTION

**SECTION 8.11
6" CONCRETE CURBING**

ITEM 0821161A - 6" CONCRETE CURBING

PART 1 - SCOPE

- 1.01 The work covered by this section of the specifications consists of furnishing all plant, labor, equipment, appliances and materials, and of performing all operations in connection with the placement of precast, cast in place, slip formed, or extruded Concrete Curbing in strict accordance with this section of the specifications and applicable drawings, and subject to the terms and conditions of the CONTRACT.
- 1.02 Extruded concrete curbing shall consist of machine laid Extruded concrete, constructed on the base course pavement to the dimensions and details shown on the plans, or as directed by the Engineer, and in conformity with the specifications.
- 1.03 Extruded concrete curbing will be formed by equipment specifically manufactured for the installation of extruded concrete curbing, and the minimum height of the exposed face of curb is to be 6 inches as shown on the Extruded Concrete Curbing detail.
- 1.04 Prior to placing extruded curbing, an adhesive specifically manufactured for bonding concrete to asphalt and/or concrete will be applied.

PART 2 – MATERIALS

- 2..01 The materials used in the concrete for machine-extruded concrete curb will meet the following requirements:
- The concrete for cast-in-place or slip formed curbing shall be Class "F" concrete conforming to the requirements of Article M.03 CTDOT Form 818.
 - The concrete shall be designed to include approximately 75% State approved concrete sand and 25% 3/8" rock.
 - The concrete shall contain not less than 5% nor more than 7% entrained air at the time the concrete is placed.
 - The concrete shall contain a minimum of 620 pounds of portland cement (6.5 sacks) per cubic yard.
 - The mix design will meet class PCC04462, yielding concrete that will have a minimum compressive strength of 4,400 PSI in 28 days.
 - The concrete shall be produced according to ASTM C94 Ready Mixed Concrete or ASTM C685 Concrete produced by volumetric continuous mixing.
 - The concrete shall contain a minimum of one (1) pound of fiber mesh reinforcement per cubic yard
- 2.02 The extruded curb shall be bonded to the new base course pavement by using approved "concrete to asphalt" adhesive or a two-component epoxy; manufacturer's instructions must be followed.

Anchor extruded concrete curbs to existing pavement or base by using an adhesive. The adhesive will be Sika Latix, Laricrete 40, Concsive Paste LPL or other approved equal. The surface of the pavement or base will be prepared in accordance with the manufacturer's recommendations.

2.03 Curing Compound:

- Liquid membrane curing compounds shall meet the requirements of AASHTO M148 except that when tested in the water retention test described in AASHTO T155, the curing compound shall restrict the loss of water present in the test specimen at the time of application of the compound to not more than 0.03 grams per square centimeter of surface.
- The curing compound shall be Type 1, clear or translucent, to which a fugitive dye has been added. Curing compounds containing wax shall not be used. Curing compound shall be delivered in the manufacturer's original clean, sealed containers. Each container shall be legibly marked with the name of the manufacturer, the name of the compound, the type of compound, the manufacturer's batch number, the date of manufacture, and the manufacturer's 36 recommended shelf life. Curing compound which has been in storage for more than one year from the date of manufacture or more than the manufacturer's recommended shelf life, whichever is less, shall not be used.

2.04 Fly Ash will meet the requirements of Class "C" or "F".

- 2.05 The concrete for cast-in-place or slip formed curbing shall be Class "F" concrete meeting the pertinent requirements of Section M.03.
Precast curb shall meet the requirements of Subarticle M.08.02-4.
Joint filler shall meet the requirements of Subarticle M.03.08-2.
If required, base material shall meet the requirements of Section M.02.

PART 3 – CONSTRUCTION METHODS

3.01 Construction methods for **precast, cast in place, and slip formed** concrete curbing shall meet the requirements of Article 6.01.03, as supplemented by the following:

1. **Excavation:** Excavation shall be made to the required depth, and the base upon which the curbing is to be set shall be compacted to a firm, even surface.
2. **Section Lengths:** All curbing sections shall have uniform length of approximately 10 ft., unless otherwise directed. The length of straight curb sections may be varied slightly where necessary for closures, but no section less than 6 ft. long will be permitted. Curbing set on a radius of 100 ft. or less shall be constructed in accordance with the details on the plans.
3. **Cast-In-Place Curbing:** Concrete shall be placed in clean forms on a moist, firm, unfrozen base. The concrete shall be placed and finished to a smooth, even surface.
As an exception to Article 6.01.03, where forms are used, they shall be so constructed that the form for exposed faces may be removed before the concrete has taken final set in order to permit finishing.
4. **Precast Concrete Curbing:** A mound of concrete, as shown on the plans, shall be placed at all joints.

5. Openings: Where indicated on the plans, or directed, openings shall be made through the curbing at the elevations and of the size required.

3.02 **Extruded Concrete Curbing** shall be construction in accordance with Section 8.15 of the CDOT Form 817 Standard Specifications, and as shown on the Contract Drawings Detail Sheet and as supplemented by the following requirements.

1. The curbing shall be construction in one contiguous section from end to end with concrete removed at all driveways or as shown on design details for driveways and curbing.
2. Extruded Concrete Curbing shall be placed on the base course asphalt surface with the intent of paving the top course up against the curbing. The curbing shall be installed such that the final height of curb is 6" as measured from the finished asphalt top course surface. The face of the curb shall set to the design width or off set of the road as shown on the design drawings.
3. Prior to the arrival of the mixture on the Project site, the surface of the pavement where the curbing is to be constructed shall be cleaned of all loose and foreign material. The surface, which shall be perfectly dry and clean at the time the mix is placed, shall be coated with an approved adhesive just prior to placing the mixture.
4. On arrival at the site, the concrete shall be transferred from the truck to the hopper of the curbing machine; and the mixture shall be kept clean and free from dirt and foreign materials at all times.
5. The surface of the curbing shall be tested with a 10-foot straightedge, and any variation from a true line exceeding ¼ inch shall be satisfactorily corrected. The only compaction required shall be that obtained by the approved mechanical curbing machine.
6. Where machine work is impractical, the Engineer may permit hand-laid curbing to be constructed.
7. If the design of the curbing machine is such that the outside wheels operate outside of the curb, the Contractor will be required to obtain a smooth surface by grading and consolidating the area on which the outside wheel of the machine rides, and this work shall be done at the Contractor's expense. In general the base course asphalt shall be paved 12" wider on each side that the design curb-curb width to accommodate the placement of the curb and allow the curb machine to travel completely on the base course asphalt.
8. Curbing shall be tapered in height for a horizontal distance of three (3) feet at all driveways and a horizontal distance of six (6) feet or as required to meet ADA standards, at all sidewalk ramps. New curbing may require smooth transitioning in height to match into existing curbing or sidewalks.
9. The concrete will hold the shape of the curb section without "slumping" after process of extrusion.
10. After the completion of curbing, traffic and parked vehicles shall be kept at a safe distance for a period of not less than 24 hours and until the curbing has set sufficiently to prevent injury or damage to the work.

11. The curb will follow the contour of the pavement and will be aesthetically pleasing to the eye. Control joints will be cut as soon as possible and uniform to the eye. The control joint shall be installed at nine-foot intervals and more often on radii, so as to minimize shrinkage cracking.

12. Freshly extruded curb will be lightly touched up with a steel hand trowel. The finished curb will be coated with a curing compound, which has been designed to seal the surface and form a water proofing membrane. A sample and the manufacturer's specifications shall be submitted for approval. Concrete mixture shall be submitted to the Engineer for approval

3.03 **Backfilling:** After the concrete has set sufficiently, the grading shall be completed to the lines shown on the plans, or as ordered, by refilling to the required elevation with approved material which shall be placed in layers of not over 6 inches (150 millimeters) in depth and compacted until firm and solid. Care shall be taken as not to damage or move the new concrete curb. All damaged curb shall be replaced.

PART 4 – METHOD OF MEASUREMENT

4.01 This work will be measured for payment along the top of the curb and will be the actual number of lineal feet of concrete curbing complete in place and accepted. The width of driveways where the new curb is to be removed will NOT be included in the measurement for payment.

4.02 The Contractor shall make and submit to the Engineer all measurements necessary for determining final quantities for payment in accordance with the Special Provisions and Technical Specifications. All such measurements shall be made in the presence of the City's representative at a mutually agreeable time.

PART 5 – BASIS FOR PAYMENT

5.01 This work will be paid for at the contract unit price per lineal foot for "Extruded Concrete Curbing" of the type specified, complete in place, which price shall include all materials, equipment, tools and labor incidental thereto. The unit price shall also include all excavation, backfilling, disposal of surplus material and openings related to this item.

There will be no direct payment for furnishing, placing and compacting base material, but the cost of this work shall be considered as included in the general cost of the work.

ITEM
6" CONCRETE CURBING

UNIT
L.F.

END OF SECTION

SECTION 9.20 - BITUMINOUS CONCRETE SIDEWALK AND DRIVEWAY

ITEM 0922001A - BITUMINOUS CONCRETE SIDEWALK AND DRIVEWAY

ITEM 0922501A - BITUMINOUS CONCRETE DRIVEWAY

~~ITEM 0921039A - DETECTABLE WARNING PAD~~

9.20.01—Scope

9.20.02—Materials

9.20.03—Construction Methods

9.20.04—Measurement

9.20.05—Payment

9.20.01 - SCOPE

The work covered by this section of the specifications consists in furnishing all plant, labor, equipment, appliances and materials and in performing all operations in connection with the placement of bituminous concrete pavement, complete in place. Work under this section includes bituminous concrete sidewalk, and residential bituminous concrete driveway aprons. See typical utility trench detail for permanent patch requirements, typical bituminous concrete sidewalk detail for sidewalk requirements, bituminous concrete curbing detail for curb requirements and detectable warning pad in bituminous concrete sidewalk section detail. Paving material and methods of placement shall be fully done in accordance with the Referenced Specifications and Details.

The Contractor shall install PVC sleeves in the new sidewalk/pavement for installation of traffic and No Parking signs. The locations and the specifications for the sleeves shall be confirmed with the City’s Traffic Authority. Work shall include reviewing underground utilities to avoid interference problems. A field meeting is required with the Traffic Authority prior to placement of any sleeves. **The sleeves shall have 4” inside diameter set to 30” minimum depth.**

~~Detectable Warning Pads shall be installed in Bituminous Concrete Sidewalks at all accessible intersection ramps at locations as shown on the contract drawings. Detectable Warning Pads shall be installed according to Americans with Disabilities Act (ADA) Public Right of Way Accessibility Guidelines (PROWAG).~~

9.20.02 - MATERIALS

The materials for the bituminous concrete mixture, sources of supply, formula for mix, mix tolerances, approval of mix formula and the control of the mixture shall conform to the requirements of Article M.04 of the Reference Specifications Form 817, HMA S0.375.

~~Reclaimed asphalt material from the site shall be used in place of gravel subbase and processed aggregate base material.~~

~~The Detectable Warning Pad~~

~~Detectable Warning Pad shall be a prefabricated detectable warning surface tile as manufactured from Engineered Plastics Inc. 300 International Drive, Suite 100 Williamsville, NY 14221, telephone number (800) 682-2525 or the approved equal from ADA Fabricators, INC. P.O Box 179 North Billerica, MA 01862 telephone number (978) 262-9900. The tile shall conform to the dimensions shown on the plans and have a gray homogeneous color throughout in compliance with Federal Standard 595 Color FS-36496 or approved equal.~~

~~Materials for Detectable Warning Pad bedding concrete shall conform to the requirements of Article M.03.01 of the REFERENCE SPECIFICATIONS, for Class "F" Concrete. The concrete shall contain not less than 5% nor more than 7% entrained air at the time the concrete is deposited in the forms. Air entrainment shall be obtained and the concrete cured in accordance with the provisions of Article 4.01.03 for Concrete Pavement.~~

~~Detectable Warning Pad installed in bituminous concrete sidewalks shall conform to CITY OF TORRINGTON,~~

~~DETECTABLE WARNING PAD IN BITUMINOUS CONCRETE SIDEWALKS DETAIL 2.14, SHEET SD-2A.~~

9.20.03 - CONSTRUCTION METHODS

Excavation, including saw cutting, removal of any existing sidewalk, or driveway, shall be made to the required depth below the finished grade, as shown on the plans or as directed by the Engineer. All soft and yielding material shall be removed and replaced with suitable material.

Subgrade shall be prepared in accordance with Reference Specification, Section 2.09.03, Construction Methods.

Processed aggregate base or reclaimed material from the roadway shall be applied in accordance with Reference Specification, Section 3.04.03, Construction Methods.

Bituminous paving shall be applied in accordance with Reference Specification, Section 4.06, and Construction Methods.

Bituminous tack coat shall conform to Section M.04.01 of the Reference Specifications and shall be applied between asphaltic concrete layers in case of delayed construction or overlays of existing pavements.

Where residential driveways exceed 20' in length, paving of residential driveways shall be accomplished by means of a paving machine capable of paving the entire width and length of the driveway in one continuous operation.

The paver shall have a receiving hopper with sufficient capacity to provide for a uniform spreading operation and a distribution system that places the mix uniformly, without segregation. The paver shall be equipped with and use a vibratory screed system with heaters or burners. The screed system shall be capable of producing a finished surface of the required evenness and texture without tearing, shoving, or gouging the mixture.

Residential driveway with original gravel surface shall have the base and subbase prepared as written herein and paved to the same width and to a depth of 10 feet as measured from the gutter line of the street.

The extent of removal and re-paving of bituminous concrete residential driveways will be determined in the field by the Engineer as required to match into the new roadway and existing driveway. Given the main roadway is to be reconstructed to the same existing grades, the driveway re-paving areas should be minimal. The area of driveway repaving shall be kept to a minimum where possible.

Unless otherwise specified herein or on the contract drawings, the depth of bituminous concrete residential driveways and sidewalks shall be 2 inches thick after compaction.

Vibratory self-propelled rollers of sufficient size shall be used for paving of all sidewalks and residential driveways. Vibratory plate compactors are only to be used for small areas where rollers cannot access.

All rollers shall be self-propelled and designed for compaction of bituminous concrete. Roller types shall include steel-wheeled, pneumatic or a combination thereof and may be capable of operating in a static or dynamic mode. Rollers that operate in a dynamic mode shall have drums that use a vibratory or oscillatory system or combination of the vibratory system achieves compaction through vertical amplitude forces.

Sidewalks and driveways adjacent to each other shall be paved simultaneously to prevent cold joints. Cold joints shall be avoided by paving one complete length of sidewalk between street intersections where possible. Sidewalks shall remain continuous where possible. Paving machines should be used for long driveways as specified herein. Where new sidewalks are located with new driveways, the sidewalks shall be paved continuously in one length including the driveway portion between the sidewalk and the edge of roadway area, all paved prior to paving driveways. Provided the driveway cannot be paved simultaneously with the sidewalk, the cold joint shall be located at the back of sidewalk.

Where catch basin structures and tops are reset or replaced adjacent to existing bituminous concrete sidewalk, the existing bituminous concrete sidewalk shall be saw cut, removed and replaced full width by the length of the adjacent catch basin excavation area to the depth equal to the existing sidewalk.

9.20.04 – METHOD OF MEASUREMENT

This work will be measured for payment as follows:

1. Bituminous Concrete Driveway—Bituminous Concrete Sidewalk: This work will be measured by the actual number of square feet of completed and accepted sidewalk or driveway, in place as shown on the contracts design drawings or as directed by the Engineer in the field.

2. Excavation: Excavation of the bituminous concrete sidewalk or driveway, backfilling, and disposal of surplus material will be classified as Earth Excavation under Section 2.02 and measured for payment by the cubic yard as Earth Excavation except as noted in 9.20.04(5) and 9.20.05(6). The volume measured for payment shall be the actual volume of material calculated by the measured area of bituminous concrete driveway multiplied by the actual thickness.

~~3. Gravel or Reclaimed Miscellaneous Aggregate Base: This work will not be measured for payment but the cost thereof shall be included in the price bid for the sidewalk or driveway.~~ This work will be measured by the actual number of cubic yards of material placed and will be paid for under the Item Processed Aggregate Base.

4. Saw cutting of existing Bituminous Concrete Driveways: This work will be measured by the actual number of lineal feet of completed saw cut Bituminous Concrete Driveway roadway or sidewalk.

~~5. For work associated with providing Detectable Warning Pad shall be measured as the number of each warning pad installed in place in sidewalks at each accessible intersection ramp and/or as shown on the contracts design drawings or as directed by the Engineer.~~

6. Where catch basin structures and tops are reset or replaced adjacent to existing bituminous concrete sidewalk, and existing bituminous concrete curbing, the removal and replacement of existing bituminous concrete sidewalk shall not be measured for payment and all work including saw cutting, excavation, removal and replacement full width of bituminous concrete sidewalk work shall be considered part of all other bid items.

9.20.05 – BASIS OF PAYMENT

This work will be paid for at the Contract unit price per square feet for “Bituminous Concrete Sidewalk” or “Bituminous Concrete Driveway,” complete in place, which price shall include removal of existing asphalt, saw cutting, all processed aggregate base, and all equipment, tools, labor and materials incidental thereto.

Excavation of the sidewalk or driveway, and disposal of surplus material will be paid for as Earth Excavation under Section 2.02

Saw cutting of existing Bituminous Concrete Driveways will be paid under Item 0202529 Cut Bituminous Pavement when the item is included in the bid form. If there is no item in the bid form, there will be no payment for saw cutting Bituminous Concrete Driveways.

~~For work associated with providing Detectable Warning Pad shall be paid for at the contract unit price per each of Detectable Warning Pad which price shall include and all excavation, form setting, base preparation, compaction, tools, materials, and equipment used for this activity.~~

Where catch basin structures and tops are reset or replaced adjacent to existing bituminous concrete sidewalk, the removal and replacement of existing bituminous concrete sidewalk shall not be paid for and the cost of all work including saw cutting, excavation, removal and replacement full width of bituminous concrete sidewalk work shall be considered part of all other bid items.

<u>PAY ITEM</u>	<u>PAY UNIT</u>
BITUMINOUS CONCRETE SIDEWALK AND DRIVEWAY	S.F.
BITUMINOUS CONCRETE RESIDENTIAL DRIVEWAY	S.F.
DETECTABLE WARNING PAD	EACH

END OF SECTION

SECTION 9.71 - MAINTENANCE & PROTECTION OF TRAFFIC

ITEM # 0970006A - MUNICIPAL POLICE OFFICER
 ITEM # 0970007A - TRAFFIC PERSON (UNIFORMED FLAGGER)
 ITEM # 0971001A - MAINTENANCE & PROTECTION OF TRAFFIC

9.71.01—General

9.71.02—Products

9.71.03—Construction Methods

9.71.04—Traffic Control Plans

9.71.05—Measurement and Basis of Payment

9.71.01 - GENERAL

The work under this section shall consist of maintaining and protecting vehicular and pedestrian traffic in the project area to the satisfaction of the applicable Torrington Police Departments Traffic Control Officer and the Engineer.

The contractor shall maintain and protect all existing traffic operations. Pedestrian access shall be maintained to all businesses. The Contractor shall provide traffic control/devices under this section for the duration of the construction period.

The Contractor shall provide any traffic control devices as may be necessary in accordance with this specification and the “Manual on Uniform Traffic Control Devices” (MUTCD, Latest Edition), Section 6F, titled “Temporary Traffic Control Zone Devices”. The Contractor shall have, available on the project, a sufficient number of traffic drums to fulfill all the requirements, as specified in the contract, to provide adequate traffic control during periods of unforeseen circumstances or emergencies.

Under this item the Contractor shall provide the services of “Traffic Persons (Uniformed Flagger)” and “Municipal Police Officer(s)” for such periods, as the Engineer approves for the control and direction of vehicular traffic and pedestrians.

It is the City’s intention that one (1) Traffic Control Person is to be used for catch basin and manhole resetting, drainage and sidewalk installation. For CIR, reclaiming, milling, grading and paving operations, a minimum of two (2) Traffic Control Persons are to be used. The Engineer will determine the requirements of which type of Traffic Control Person be used either Municipal Police Officers or Uniformed Flaggers and direct the Contractor to which type and quantity accordingly.

Traffic Persons (Uniformed Flagger) or “Municipal Police Officer(s)” requested by the Contractor solely for the contractor’s operational needs will not be approved for payment. The Contractor must submit in writing requests for any additional Traffic Persons (Uniformed Flagger) or “Municipal Police Officer(s)” due to any unusual circumstances departing from the intent as outlined in this section. Hours worked by Traffic Persons (Uniformed Flagger) or “Municipal Police Officer(s)” beyond the specified daily hours of work listed elsewhere in these contract documents will not be paid for by the City of Torrington., as they are deemed to be for the contractor’s convenience and are due to poor scheduling and/or coordination on the part of the contractor.

During construction hours only, the Contractor may request that the work area be closed to traffic or lanes reduced and barricaded off with 42” traffic cones. The Engineer may approve such request depending on the location of work and traffic conditions. Certain segments of the street may be approved for closure by the Engineer/ Torrington Police Departments Traffic Control Officer depending on location and traffic conditions. Upon completion of each work day the traffic cones shall be relocated to the sidewalk edge or edge of construction work zone and all closed traffic lanes reopened to traffic. Advanced lane closure signs shall be installed at the beginning of the work day and then removed or covered at the end of the work day.

Under Maintenance and Protection of Traffic (M&PT) the Contractor is required to keep in operation the following: all vehicle and pedestrian signals including necessary support structures; all vehicle and pedestrian detection; the pre-emption system; and coordination to the master, if in a system. The contractor will be held liable for all damage to existing equipment resulting from his or his subcontractor's actions. Any removal or cutting of an existing loop detector for required curb installation or trench excavation work shall be replaced with new materials within 24 hours of loop cut or removal unless the Engineer determines otherwise.

9.71.02 - PRODUCTS

All signs, barricades and necessary devices shall be of sufficient size and color so as to adequately inform the public of any possible traffic hazards and alternate routes and shall conform to the details as outlined in the "Manual on Uniform Traffic Control Devices" (MUTCD, Latest Edition), Section 6F, titled "Temporary Traffic Control Zone Devices". Detour signs shall be covered or removed when the detour is not in operation. Type III barricades and appropriated signs shall be used where road closed.

42-inch Traffic Cones shall be constructed of materials to a thickness to withstand impact without damage to cones or to vehicles. The traffic cones shall be of sufficient mass or have bases to which ballast may be added to assure that they will not be blown over or displaced by wind from passing vehicles. Traffic Cones shall have shall have four six-inch (150 mm) wide stripes (two - white and two - orange) of flexible bright fluorescent sheeting. The material for the stripes shall be the same material specified for Traffic Drums herein.

9.71.03 - CONSTRUCTION METHODS

Traffic person (Uniformed Flagger) shall be persons who have successfully completed flagger training by the American Traffic Safety Services Association (ATSSA), National Safety Council (NSC) or other programs approved by the Engineer. A copy of the Traffic Person's training certificate shall be provided to the Engineer before the Traffic Person performs any work on the project.

Traffic Person (Uniformed Flagger) shall conform to Chapter 6E, Flagger Control, in the Manual of Uniformed Traffic Control Devices (MUTCD) and shall wear a high visibility safety garment that complies with OSHA, MUTCD, ASTM Standards and the safety garment shall have the words "Traffic Control" clearly visible on the front and rear panels, minimum letter size 2 inches. Worn/faded safety garments that are no longer highly visible shall not be used. The Engineer shall direct the replacement of any worn/faded garment at no cost to the City. Traffic Person (Uniformed Flagger) shall use a STOP/SLOW paddle that is at least 18 inches in width with letters at least 6 inches high. The paddle shall be mounted on a pole of sufficient length to be 6 feet above the ground as measured from the bottom of the sign.

Municipal Police Officers shall be sworn Municipal Police Officers who perform criminal law enforcement duties from the Municipality in which the project is located. Their services may also include an official Municipal Police vehicle when requested by the Engineer. If Municipal Police Officers are unavailable, other Trafficpersons (Uniformed Flagger) may be used when authorized by the Engineer.

Law enforcement personnel shall wear the high visibility safety garment that complies with OSHA, MUTCD, and ASTM Standards, as provided by their law enforcement agency.

Law Enforcement Personnel may be also be used to conduct motor vehicle enforcement operations in and around work areas as directed and approved by the Engineer.

The Contractor is advised that he shall coordinate the maintenance and protection of traffic, both vehicular and pedestrian for the entire job. The Contractor shall insure that the provisions provided herein shall be complied with by all parties involved in work on this contract. The Contractor is advised that other projects in the near vicinity of the work site may be under construction at the time this project is under construction. The Contractor shall, therefore, determine from the CITY if another project is under construction and coordinate his work with the Contractor of the other project(s).

42-inch Traffic Cones shall be used to separate moving lanes of traffic from the work area or where lane closures are temporary for the work day hours. Type I barricades shall be used to barricade work zones from operating travel lanes and parking lanes. Each barricade shall be affixed with suitable construction signs.

Type III barricades shall be used for road closure operations.

The Contractor shall submit to the Engineer a plan for the Maintenance and Protection of Traffic at least one week prior to the start of construction for review and approval. The Contractor shall fine-tune the plan incorporating the Contractors scheduling/phasing of construction and showing appropriate modifications related to placement of traffic/pedestrian control devices and signage. Prior to the start of work operations on the project requiring the use of a Traffic Person (Uniformed Flagger), a meeting will be held with the Contractor, the Torrington Police Departments Traffic Control Officer and the Engineer to review the Traffic Control operations, lines of responsibility, and operating guidelines which will be used on the project.

Barriers, warning signs, lights, etc. shall conform to the latest edition of the "Manual on Uniform Traffic Control

Devices” (MUTCD). The Contractor shall furnish, light and maintain such warning signs necessary for the safe regulation or convenience of traffic. All signs shall be subject to the approval of the Torrington Police Departments Traffic Control Officer. The Contractor shall provide, erect and maintain suitably lighted barricades, warning lights, etc. as needed or as directed in order to keep people, animals and vehicles from excavations, obstacles, etc. The Contractor shall take such reasonable means or precautions as may be needed to prevent damage or injury to persons, vehicles or other property and to minimize the inconvenience and danger to the public by his construction operations. He shall arrange his operations to provide access to properties along the street including driveways and provide access to fire hydrants, manholes, gate boxes or other utilities. The Contractor shall confine his occupancy of public or traveled ways to the smallest space compatible with the efficient and safe performance of the work contemplated by the Contract.

The Contractor shall observe and obey all local and state laws, ordinances, regulations and permits in relation to the obstruction of streets and highways, keeping passageways open and protecting traffic where there may be danger from blasting or other construction activities.

It shall be the sole responsibility of the contractor to keep the Police and Fire Departments, Ambulance Services, the Board of Education, All Star Transportation, and USA Hauling, pre-warned at least 72 hours in advance of changes in traffic patterns due to reduction of pavement widths. The contractor shall supply, install, maintain, replace, as necessary, adjust, move, relocate and store all signs, suitable lighted barricades, traffic cones and traffic delineators, as necessary to carry out the traffic routing plan and maintain vehicular and pedestrian traffic. Sign placement and wording to be approved by the Torrington Police Departments Traffic Control Officer and the Engineer. If additional signs and protection is needed, the total cost shall be paid by the Contractor.

On a weekly basis, the Contractor shall inform the Torrington Police Departments Traffic Control Officer and the Engineer of their scheduled operations for the following week and the anticipated days when a Traffic Person (Uniformed Flaggers) is requested (or in special situations a Municipal Police Officers). The Engineer shall review this schedule and approve the Traffic Persons (Uniformed Flaggers) or Municipal Police Officers requested. If the Contractor changes or cancels any scheduled operations without prior notice of same as required by the company providing the Traffic Persons (Uniformed Flaggers) or Municipal Police Officers and such that services are no longer required, the Contractor will be responsible for payment at no cost to the City of Torrington of any show-up cost for any Traffic Persons (Uniformed Flaggers) or Municipal Police Officers not used because of the change. Exceptions, as approved by the Engineer, may be granted for adverse weather conditions and unforeseeable causes beyond the control and without the fault or negligence of the Contractor.

Advanced warning traffic control signage shall be installed on permanent posts at all entry points to all streets under construction. Signs shall also be permanently installed on all intersecting streets in advance of the streets under construction. These signs shall remain in place for the duration of the contract. The work to supply and install all signs shall be considered incidental to and part of the item Maintenance and Protection of Traffic.

The Contractor shall be responsible for the safety and protection of all areas of the contract work site and all roads 24 hours per day, seven days per week for the duration of the contract. The contractor shall monitor the works zones are required during all weather events to ensure the roadways are passable and safe for the travelling public. The contractor shall leave the work zone at the end of each day safe and free of hazards. All potential hazards such as raised structures, uneven or rough roads, must be clearly marked and applicable advanced warning signing in place. All keyways, or tie in transitions shall be ramped accordingly to provide smooth transitions that will not create damage to any type vehicle at the posted speed.

The Contractor shall maintain at least one lane of traffic (10ft minimum clearance) for local traffic and emergency vehicles at all times throughout construction. Outside of work hours, nights and weekends, all roads shall be reopened to 2 lanes of traffic.

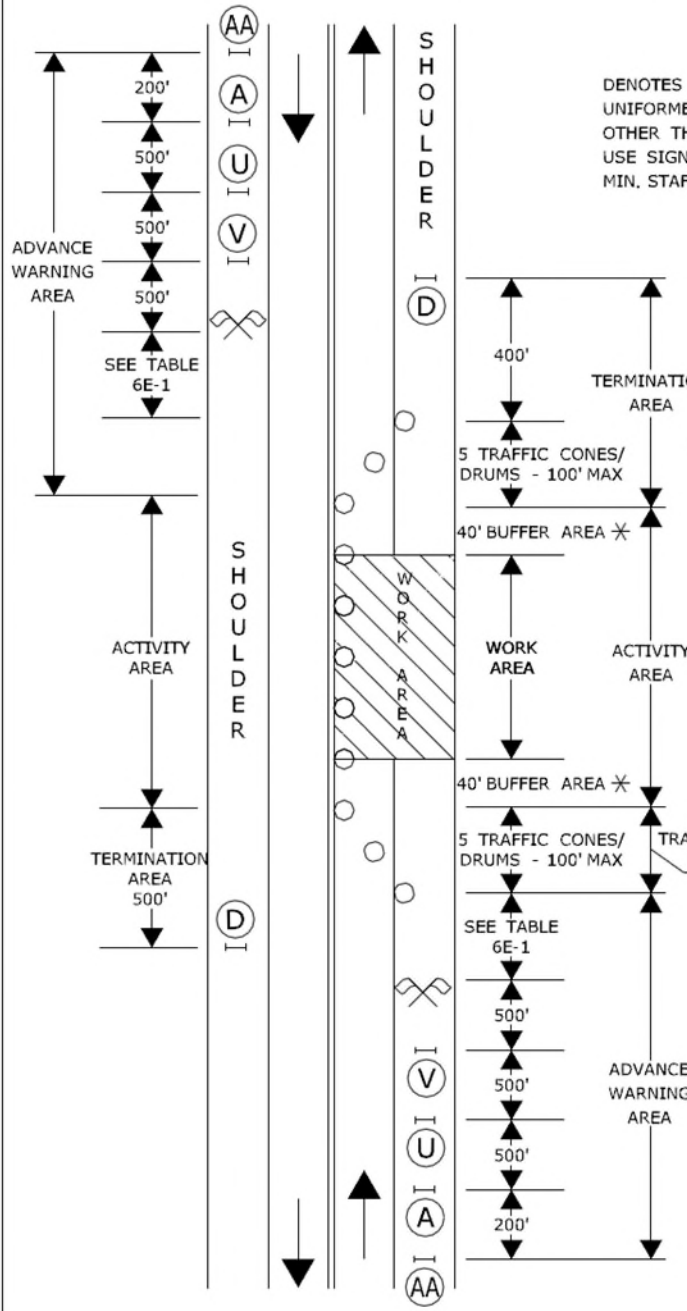
All structures shall be lowered or ramped to allow no more than a 2” lip and no more than a 2” grade change in 10’ in all directions.

9.71.04 - TRAFFIC CONTROL PLANS

The following Construction Traffic Control Plans shall be used where applicable:

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)



DENOTES APPROXIMATE LOCATION OF UNIFORMED FLAGGER, TRAFFICPERSON OTHER THAN POLICE OFFICERS SHALL USE SIGN 80-9950 MOUNTED ON A 6' MIN. STAFF.

FROM THE MUTCD (2009 EDITION)
Table 6E-1. Stopping Sight Distance as a Function of Speed.

Speed (mph)	Distance (ft)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495

(D) 80-9612
4' x 2' END ROAD WORK

80-9950
SIDE A SIDE B
STOP 19" SLOW

(V) 80-9803
3' x 3' (Flagger sign)

(U) 80-9834
3' x 3' ONE LANE ROAD AHEAD

(A) 80-9603
3' x 3' ROAD WORK AHEAD

(AA) 31-1906
4' x 3.5' ROAD WORK AHEAD FINES DOUBLED

- TRAFFIC CONE OR TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ← HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 1 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* Charles S. Harlow
2012.06.05 15:55:23-04'00"
PRINCIPAL ENGINEER

WORK IN TRAVEL LANE AND SHOULDER TWO LANE HIGHWAY ALTERNATING ONE-WAY TRAFFIC OPERATIONS

SIGN FACE
108 SQ. FT (MIN.)

HAND SIGNAL METHODS TO BE USED BY UNIFORMED FLAGGERS

THE FOLLOWING METHODS FROM SECTION 6E.07, FLAGGER PROCEDURES, IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES," SHALL BE USED BY UNIFORMED FLAGGERS WHEN DIRECTING TRAFFIC THROUGH A WORK AREA. THE STOP/SLOW SIGN PADDLE (SIGN NO. 80-9950) SHOWN ON THE TRAFFIC STANDARD SHEET TR-1220 01 ENTITLED, "SIGNS FOR CONSTRUCTION AND PERMIT OPERATIONS" SHALL BE USED.

A. TO STOP TRAFFIC

TO STOP ROAD USERS, THE FLAGGER SHALL FACE ROAD USERS AND AIM THE STOP PADDLE FACE TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FREE ARM SHALL BE HELD WITH THE PALM OF THE HAND ABOVE SHOULDER LEVEL TOWARD APPROACHING TRAFFIC.



B. TO DIRECT TRAFFIC TO PROCEED

TO DIRECT STOPPED ROAD USERS TO PROCEED, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. THE FLAGGER SHALL MOTION WITH THE FREE HAND FOR ROAD USERS TO PROCEED.



C. TO ALERT OR SLOW TRAFFIC

TO ALERT OR SLOW TRAFFIC, THE FLAGGER SHALL FACE ROAD USERS WITH THE SLOW PADDLE FACE AIMED TOWARD ROAD USERS IN A STATIONARY POSITION WITH THE ARM EXTENDED HORIZONTALLY AWAY FROM THE BODY. TO FURTHER ALERT OR SLOW TRAFFIC, THE FLAGGER HOLDING THE SLOW PADDLE FACE TOWARD ROAD USERS MAY MOTION UP AND DOWN WITH THE FREE HAND, PALM DOWN.



- TRAFFIC CONE **OR** TRAFFIC DRUM
- * OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
- ◀ HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW

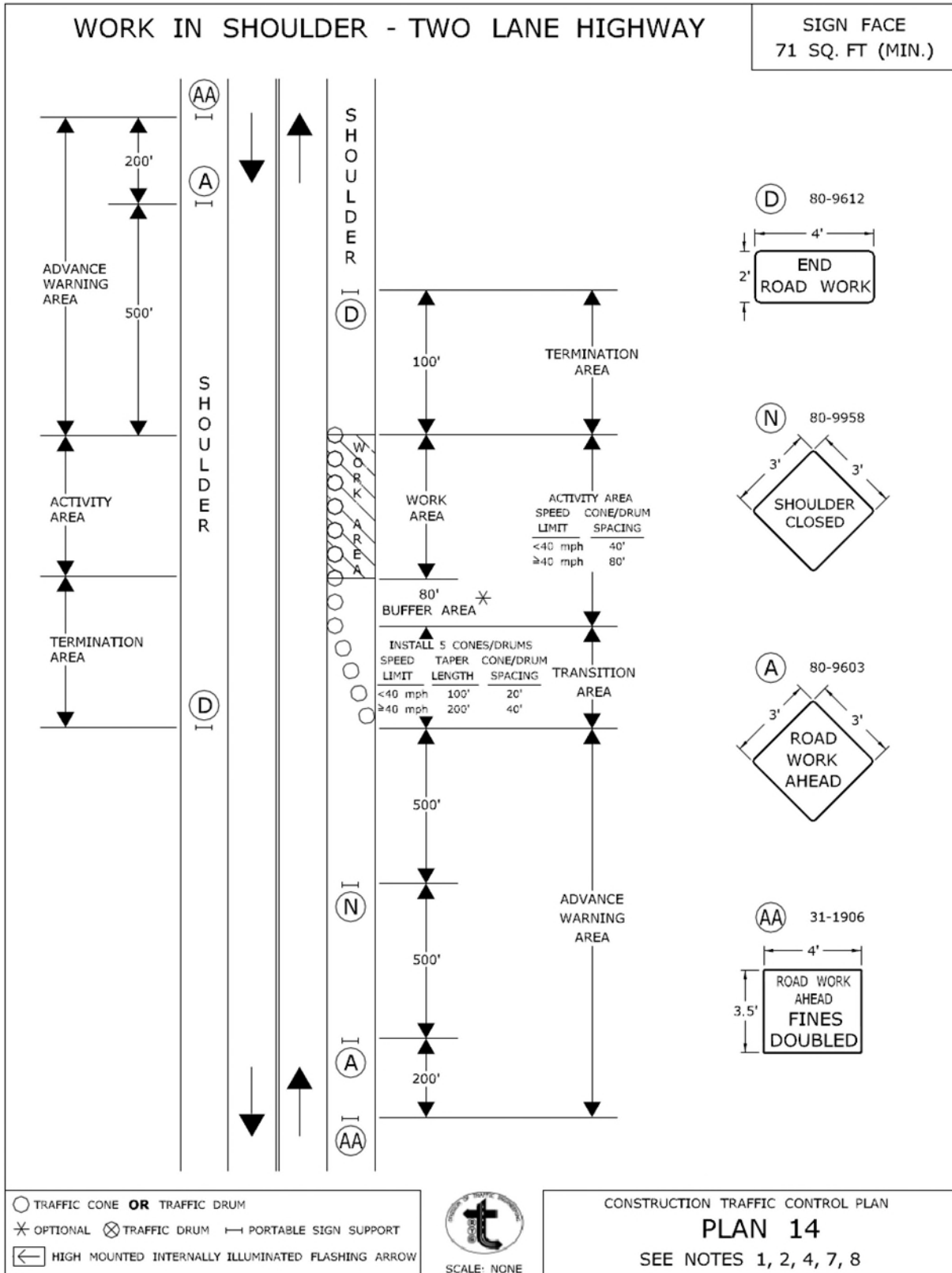


CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 13 - SHEET 2 OF 2
SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

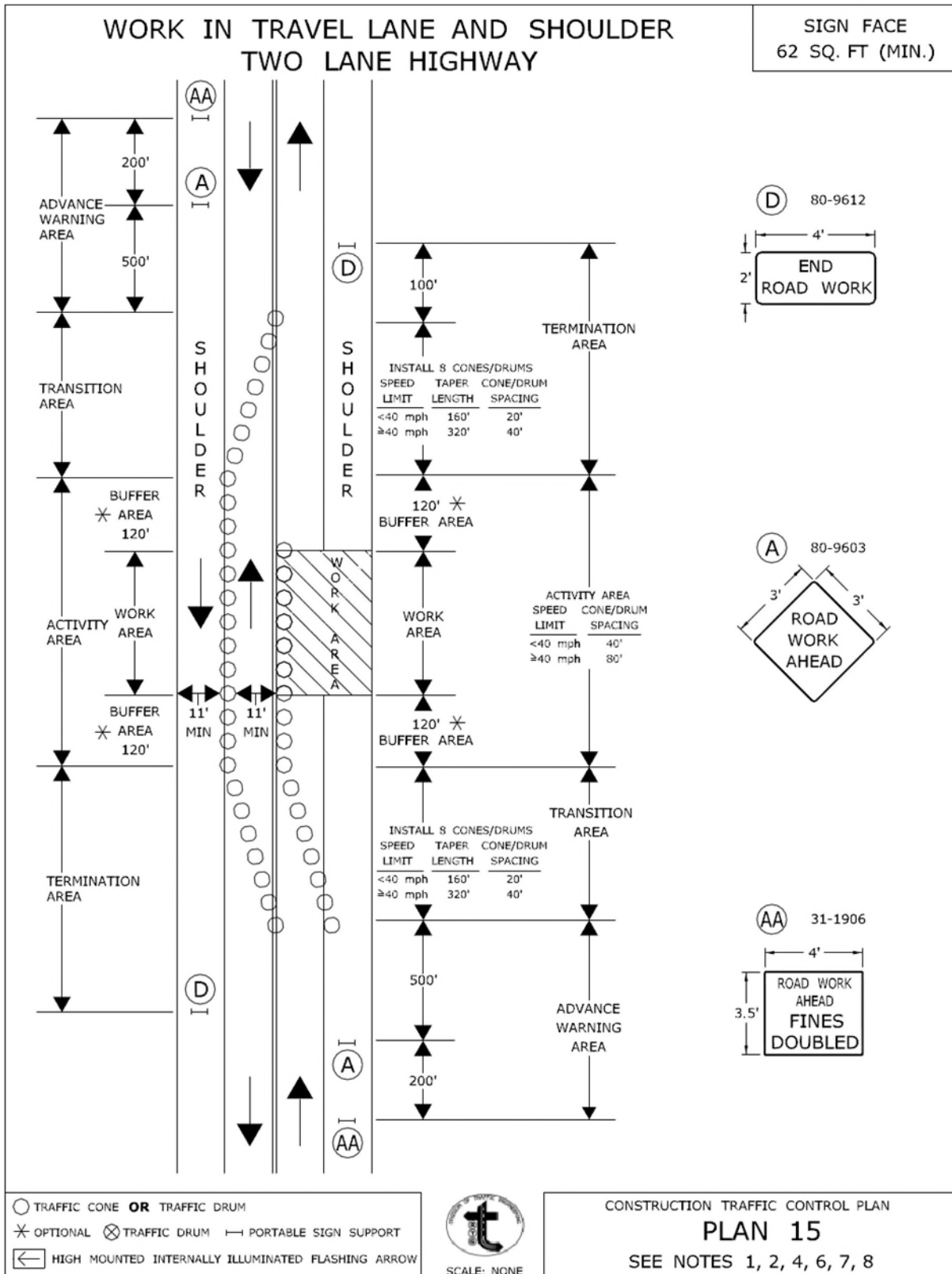
APPROVED

Charles S. Harlow
Charles S. Harlow
2012.06.05 15:55:45-04'00"
PRINCIPAL ENGINEER



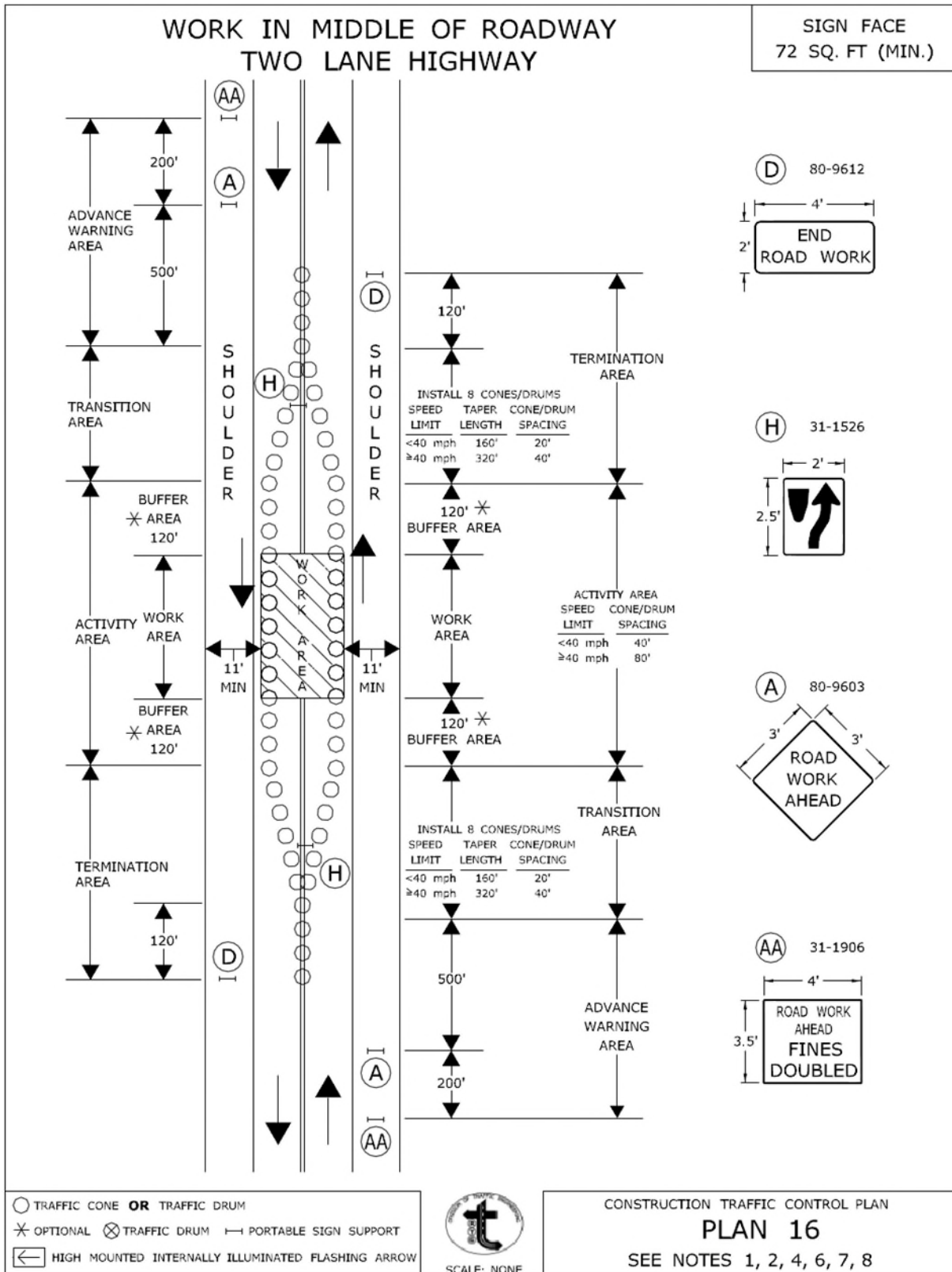
CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

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PRINCIPAL ENGINEER



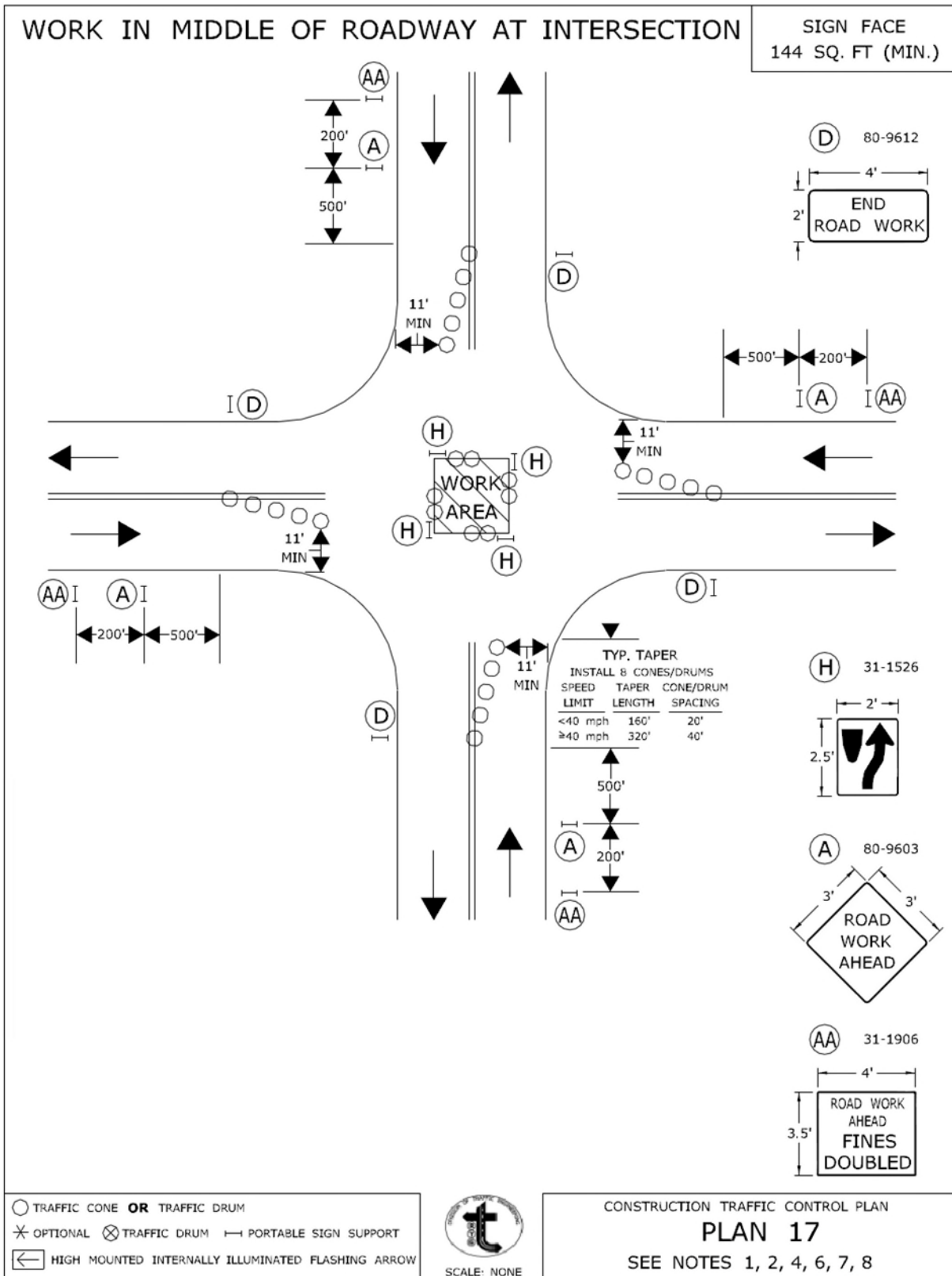
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BUREAU OF ENGINEERING & CONSTRUCTION

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PRINCIPAL ENGINEER



CONNECTICUT DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED *Charles S. Harlow* Charles S. Harlow
2012.06.05 15:56:51-04'00"
PRINCIPAL ENGINEER



○ TRAFFIC CONE **OR** TRAFFIC DRUM
 ✱ OPTIONAL ⊗ TRAFFIC DRUM — PORTABLE SIGN SUPPORT
 HIGH MOUNTED INTERNALLY ILLUMINATED FLASHING ARROW



CONSTRUCTION TRAFFIC CONTROL PLAN
PLAN 17
 SEE NOTES 1, 2, 4, 6, 7, 8

CONNECTICUT DEPARTMENT OF TRANSPORTATION
 BUREAU OF ENGINEERING & CONSTRUCTION

APPROVED Charles S. Harlow
 2012.06.05 15:57:16-04:00
 PRINCIPAL ENGINEER

9.71.05 – MEASUREMENT AND BASIS OF PAYMENT

Work associated with the Maintenance and Protection of Traffic will be paid for at the Contract Lump Sum Price for "Maintenance and Protection of Traffic". This price shall include the cost of all signs, cones, barricades, etc., and all materials, labor and equipment necessary for the maintenance and protection of traffic as specified herein. Price shall include the cost of preparing and setup of lane closure operations. Work under this item will be paid monthly, which cost shall be the Lump Sum Bid Price divided by the number of months allowed for completion of construction work given in the Contract.

Services of Traffic Persons (Uniformed Flaggers) or Municipal Police Officers of the type and number specified by the Engineer will be measured for payment by the actual number of hours for each Traffic Person (Uniformed Flagger) or Municipal Police Officers rendering services approved by the Engineer. Services related to the movement of construction vehicles and equipment, or at locations where traffic is unnecessarily restricted by the Contractor’s method of operation, will not be measured for payment. Hours worked by Traffic Persons (Uniformed Flagger) or Municipal Police Officers beyond the specified daily hours of work listed elsewhere in these contract documents will not be paid for by the City, as they are deemed to be for the contractor’s convenience, and are due to poor scheduling and/or coordination on the part of the contractor. Travel time will not be measured for payment for services provided by Traffic Person (Uniformed Flagger) or Municipal Police Officers. Mileage fees associated with Traffic Person services will not be measured for payment. Safety garments and STOP/SLOW paddles will not be measured for payment.

Municipal Police Officer(s) will be paid in accordance with the schedule described herein:

Municipal Police Officer: The sum of money shown on the Proposal and in the itemized Bid Form as "Estimated Cost" for this work will be considered the bid price even though payment will be made as described below. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded and the original price will be used to determine the total amount for the contract.

The use of a municipal police and/or vehicle authorized by the Engineer will be paid at the actual rate charged by the Police Department. The invoice must include a breakdown of each “Municipal Police Officer(s)” actual hours of work and actual rate applied. Upon receipt of the invoice from the Police Department, the Contractor shall forward a copy to the Engineer. The invoice will be reviewed and approved by the Engineer prior to any payments. The rate charged by the Police Department for use of a Municipal Police officer and/or a municipal police vehicle shall not be greater than the rate it normally charges others for similar services. The City of Torrington will reimburse services of Municipal Police Officer(s) as a direct payment to the Contractor with no markup.

The Torrington Police Department Officers used for Traffic Control, according to their union contract, are paid a minimum of 4 hours or 8 hours for each day worked. Should the Contractor cancel within 2 hours of the scheduled starting time, the Police Department will charge the Contractor a minimum of 4 hours. The Engineer will not reimburse the Contractor for the 4 hour minimum as a result of negligence for failure to cancel the police officer within the required time. Should the Contractor cancel after the Police Officer starts work, Police Department will charge the Contractor a minimum of 8 hours for the day regardless of the amount of time spent on the job. Over time rates will be charged after 8 hours of work.

“Traffic person (Uniformed Flagger)” will be paid for at Contract unit price per hour, for “Traffic person (Uniformed Flagger)”, which price shall include all compensation, insurance benefits and any other cost or liability incidental to the furnishing of the Traffic person services authorized under the Contract or as approved by the Engineer.

Traffic Persons (Uniformed Flaggers), only the hours as clearly shown on daily ticket slips as authorized by signature by the Engineer or City Site Inspector will be considered for payment.

PAY ITEM

TRAFFIC PERSON (UNIFORMED FLAGGER)
 MUNICIPAL POLICE OFFICER
 MAINTENANCE & PROTECTION OF TRAFFIC

PAY UNIT

HOURLY
 HOUR (EST. COST)
 LUMP SUM (LS)

END OF SECTION

SECTION 2.62
CONCRETE SIDEWALKS AND DRIVEWAY APRON

ITEM 0921001A - CONCRETE SIDEWALK RAMPS
ITEM 0921039A - DETECTABLE WARNING PAD

PART 1 - SCOPE

- 1.01 The work covered by this section of the specifications consists of furnishing all transportation, labor, layout, equipment, appliances and materials, and of performing all operations in connection with the construction of Concrete Sidewalks, Residential Concrete Driveway Aprons and Commercial Concrete Driveway Aprons. Accessible ramps will not be paid as a separate item and will be considered Concrete Sidewalk and paid under the unit price for "Concrete Sidewalk and Concrete Driveway Apron".
- 1.02 The scoring pattern and surface finish shall follow the typical details shown on construction detail drawings.
- 1.03 The Contractor shall install PVC sleeves in the new sidewalk/pavement for installation of traffic and No Parking signs. The locations and the specifications for the sleeves shall be confirmed with the City's Traffic Authority. Work shall include reviewing underground utilities to avoid interference problems. A field meeting is required with the Traffic Authority prior to placement of any sleeves. **The sleeves shall have 4" inside diameter set to 30" minimum depth.**
- 1.04 Detectable Warning Pads shall be installed in Concrete Sidewalks at all accessible intersection ramps at locations as shown on the contract drawings. Detectable Warning Pads shall be installed according to Americans with Disabilities Act (ADA) Public Right of Way Accessibility Guidelines (PROWAG).

PART 2 - MATERIALS

- 2.01 Submit the product data for each type of product and design mixture indicated for approval.
- 2.02 The concrete for granite stone/concrete curb foundations shall conform to the requirements of Article M.03.01 for Class "A" Concrete, of the REFERENCE SPECIFICATIONS.
- 2.03 Materials for sidewalk concrete shall conform to the requirements of Article M.03.01 of the REFERENCE SPECIFICATIONS, for Class "F" Concrete. The concrete shall contain not less than 5% nor more than 7% entrained air at the time the concrete is deposited in the forms. Air-entrainment shall be obtained and the concrete cured in accordance with the provisions of Article 4.01.03 for Concrete Pavement. Welded Wire Fabric (6"x6"-10/10) shall be used as detailed. Contraction Joints shall have ½" diameter x 12" long steel dowels placed at 2 foot centers. Dowels shall be smooth surface to allow movement. A preformed or premolded expansion joint filler for the manufactured for intended purposed shall be submitted and approved by City.
- 2.04 "Saltguard" a Proscos Concrete sealer for salt protection shall be applied on the concrete finish. If a substitute product is proposed by the Contractor then the contractor shall submit product information for City approval. The product shall be specifically manufactured for this type of application. The rate of application shall be as recommended by manufacturer.
- 2.05 Processed aggregate for base shall conform to Article M.05.01, Grade B for processed aggregate base and pavement of the REFERENCE SPECIFICATIONS.
- 2.06 The Detectable Warning Strip shall be a prefabricated detectable warning surface tile as manufactured from Engineered Plastics Inc. 300 International Drive, Suite 100 Williamsville, NY 14221, telephone number (800) 682-2525 or the approved equal from ADA Fabricators, INC. P.O Box 179 North Billerica, MA 01862 telephone

number (978) 262-9900. The tile shall conform to the dimensions shown on the plans and have a gray homogeneous color throughout in compliance with Federal Standard 595 Color FS 36496 or approved equal.

PART 3 – CONSTRUCTION METHODS

- 3.01 Construction methods for concrete sidewalks shall conform to the requirements Article 9.21.03, of the REFERENCE SPECIFICATIONS.
- 3.02 Excavation and Subgrade: Excavation, including removal of any existing sidewalk or driveway apron, shall be made to the required depths below the finished grade to conform to the dimensions on City Detail. All soft and yielding material shall be removed and replaced with suitable material. Subgrade shall be prepared in accordance with the REFERENCE SPECIFICATIONS, Section 2.09.03, Construction Methods. Extra care shall be taken by Contractor as not to disturb existing buried underground facilities. Contractor shall take special measures to protect such underground facilities.
- 3.03 When connecting new concrete sidewalk to a section of existing concrete sidewalk, the connection point shall be at the nearest joint in the existing sidewalk, or if no existing joint is in the area where sidewalk is to terminate, then contractor shall saw cut the existing sidewalk to create a straight and neat terminal joint. The limits on new sidewalk shall be more defined during a field meeting prior to construction with the City Engineer. Existing concrete shall be drilled to accommodate dowels.
- 3.04 Subbase and Processed Aggregate Base: See Technical Specification Section 02220 Excavation, Trenching, Backfilling, and Compacting.
- 3.05 Forms: Forms shall be of metal or wood, straight, free from warp and of sufficient strength to resist springing from the pressure of the concrete. If made of wood, they shall be of 2-inch surfaced plank except that at sharp curves thinner material may be used. If made of metal, they shall be of approved section and shall have a flat surface on the top. Forms shall be of a depth equal to the depth of the sidewalk. Forms shall be securely staked, braced and held firmly to the required line and grade and shall be sufficiently tight to prevent leakage of mortar. All forms shall be cleaned and oiled or wetted before concrete is placed against them. Sheet metal templates 1/8 inch in thickness, of the full depth and width of the walk, shall be spaced at intervals of 12 feet or as directed. If the concrete is placed in alternate sections, these templates shall remain in place until concrete has been placed on both sides of the template. As soon as the concrete has obtained its initial set, the templates shall be removed.
- 3.06 Concrete: The concrete shall be proportioned, mixed, placed, etc., in accordance with the provisions of Section 6.01 for Class "F" Concrete of the REFERENCE SPECIFICATIONS, except as modified herein. The surface of the concrete shall be finished as shown on City Standard details as shown attached herein. Tests will be taken by an independent qualified trained geotechnical hired by the City. A slump test shall be taken on each concrete truck delivered at site. Acceptable slump test results shall be 3½" plus or minus ½ inch. Air entrainment tests (AASHTO T 152) shall also be done on each concrete truck delivered to the site and acceptable range shall be as specified in paragraph 2.02 above. Concrete cylinders for compression tests shall be done on every 20 cubic yards delivered to the site as a minimum. The City testing consultant will perform other random testing as directed by the city. Preparation and procedure standards for concrete cylinders testing shall follow AASHTO T 141, AASHTO T 126, AASHTO T 22, **however no exception on approval shall be made in the case where the minimum 28 day compressive test results in a break less than 4,000 psi.**
- 3.07 The Detectable Warning Strip for new construction shall be set directly in poured concrete according to the plans and the manufacturer's specifications or as directed by the Engineer. The contractor shall place two 25-pound concrete blocks or sandbags on each tile to prevent the tile from floating after installation in wet concrete.
- 3.08 The contractor shall measure the grades of sidewalk, driveway, and ramp, slope and cross slope by means of a M-D Building Products Smart Tool™ 24" level or approved equal. Measurements shall be taken during preparation of the base layers, and as the concrete surface is finished. Sidewalk grades shall slope to drain away from buildings to curb at a uniform 1/4" per foot measured perpendicular to the curb or approved in the field by the City if the Contractor contemplates a problem. Street pavement grades will be adjusted to new curb grades when the street is reclaimed by the City of Torrington Street Department.

- 3.09 The Contractor shall provide protection of the finished surface during curing. Any graffiti shall not be acceptable. Any panel sections that are vandalized, damaged or written on with graffiti shall be replaced at the Contractor's expense. Removal of unacceptable concrete work shall be the entire panel unit between joints. The contractor shall factor weather conditions such as rain into his schedule before pouring new concrete. **Covering the concrete with plastic will not be allowed.**
- 3.10 Pedestrian access to the adjacent buildings shall be the Contractor's responsibility and he shall coordinate schedule with building tenants and owners. Building access shall be maintained by staging work or by some other means as agreed upon by tenants and/or owners.

PART 4 – MEASUREMENT

- 4.01 Concrete Sidewalk and Residential Concrete Driveway Apron will be measured by the actual number of square feet of completed and accepted. Accessible ramps will not be measured as a separate pay item but will be paid under the concrete sidewalk item.
- 4.02 Detectable Warning Pad will be measured by the actual number of square feet of completed and accepted

PART 5 – PAYMENT

- 5.01 Concrete Sidewalk and Residential Concrete Driveway Apron will be paid for at the contract unit price per square foot for "Concrete Sidewalk and Concrete Driveway Apron", complete in place. The unit prices for this item shall include all, excavation and removal, existing retaining wall support, backfill, disposal of demolition or surplus materials, subgrade preparation and compaction work, gravel, processed aggregate base, concrete, reinforcement mesh and dowels, sealer, joint filler, finishing, survey layout, equipment, tools, materials and labor incidental thereto. Accessible ramps will not be paid as a separate item and will be considered Concrete Sidewalk and paid under the unit price for "Concrete Sidewalk and Concrete Driveway Apron".
- 5.02 4" PVC sleeves for traffic and no parking sign installation will be not paid for separately under this section. This work is to be paid under "Existing Traffic and Parking Signs Reinstalled" item specified under Section 09930 Parking and Traffic Signs.
- 5.03 For work associated with providing Detectable Warning Pad shall be paid for at the contract unit price of square feet of Detectable Warning Pad which price shall include and all excavation, form setting, base preparation, compaction, tools, materials, and equipment used for this activity.

<u>ITEM</u>	<u>UNIT</u>
CONCRETE ADA COMPLIANT SIDEWALK RAMP	S.F.
DETECTABLE WARNING PAD	S.F.

END OF SECTION

**LIST OF
TECHNICAL SPECIFICATIONS
FOR
CITY NORTH RECONSTRUCTION PHASE 2021.1**

Notice to Contractor – Phasing of Project	
Notice to Contractor – Pythian Culvert Repair	
Notice to Contractor – Margerie Sewer Trench	
SECTION 1.01 -	REFERENCES
SECTION 1.02 –	SUBSURFACE DATA
SECTION 1.04 –	SCOPE OF WORK
SECTION 1.05 –	CONTROL OF THE WORK
SECTION 1.05 -	UTILITY CONFLICT
SECTION 1.06 –	STORAGE AND PROTECTION
SECTION 1.08 -	PROSECUTION AND PROGRESS
SECTION 2.01 –	CLEARING AND GRUBBING
SECTION 2.02 –	EARTH EXCAVATION
SECTION 2.09 -	FORMATION OF SUBGRADE
SECTION 2.10 –	EROSION CONTROLS
SECTION 2.62 -	CONCRETE SIDEWALKS AND DRIVEWAYS
SECTION 3.04 -	PROCESSED AGGREGATE BASE
SECTION 4.03 –	FULL DEPTH RECLAMATION
SECTION 4.06 –	BITUMINOUS CONCRETE
SECTION 4.06 -	MILLING 0-4 INCHES
SECTION 4.06 -	ASPHALT ADJUSTMENT
SECTION 4.07 -	FIELD DENSITY TESTING
SECTION 5.07 –	CATCH BASINS, MANHOLES
SECTION 6.51 -	STORM PIPE AND UNDERDRAIN
SECTION 8.11 –	CONCRETE CURBING
SECTION 9.20 –	PAVING BITUMINOUS SIDEWALKS AND DRIVEWAYS
SECTION 9.50 –	TURF ESTABLISHMENT
SECTION 9.71 –	MAINTENANCE AND PROTECTION OF TRAFFIC
SECTION 9.75 –	MOBILIZATION AND DEMOBILIZATION
SECTION 9.80 –	CONSTRUCTION STAKING
SECTION 12.09 –	HOT APPLIED MARKINGS, SYMBOLS & LEGENDS

NOTICE TO CONTRACTOR – PHASING OF PROJECT

At no time throughout the project shall more than 100,000 Square feet or 1/3 of the project roadway be open to gravel at any given time. Areas of roadway that are on gravel for the full width of the roadway shall not be kept in gravel state for more than 30 days without prior approval from the project engineer. This requirement does not negate the requirement for dust control on this project.

NOTICE TO CONTRACTOR – MARGERIE SEWER TRENCH

Prior to the start of this project the Water Pollution Control Authority (WPCA) will be having a contractor perform sewer main repairs on Margerie Street. The trenches from this sewer repair work will be left as gravel trenches. Upon signing of this contract the contractor who is awarded the North End Reconstruction Project will take over maintenance of these trenches until such time as they mill and pave Margerie Street.

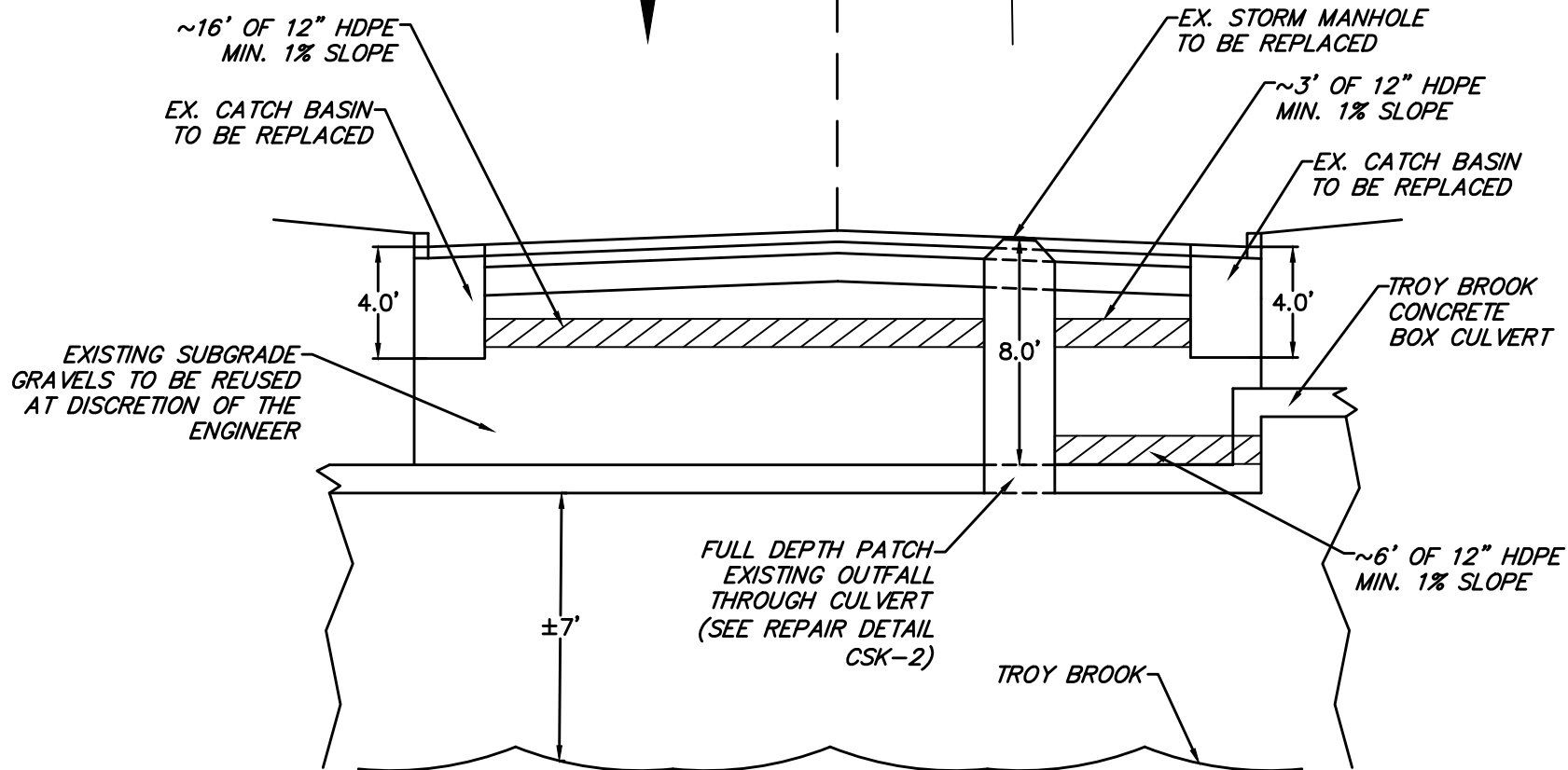
NOTICE TO CONTRACTOR – PYTHIAN CULVERT REPAIR

Full depth patching of the outfall on Pythian Avenue below the manhole shall take place before any other work takes place on Pythian Avenue.

PYTHIAN AVENUE

TO TORRINGTON P.D.

TO BRIGHTWOOD AVE.



Plan Showing
CULVERT DETAIL
PYTHIAN AVENUE
CITY NORTH RECONSTRUCTION

prepared by
City of Torrington Engineering Department

APRIL 7th, 2021
Scale: NTS



Drawn by: DH
Checked by: KB
SHEET NO. CSK-1

IMPORTANT NOTE:
UNDERGROUND UTILITIES ARE APPROXIMATE
BASED ON ANY INFORMATION ON AVAILABLE RECORDS -
"CALL BEFORE YOU DIG" 1-800-452-4455

1 INCH

EXISTING REINFORCING STEEL SHALL BE THOROUGHLY CLEANED. REPAIR REINFORCING STEEL IF DETERMINED TO BE DAMAGED BY THE ENGINEER.

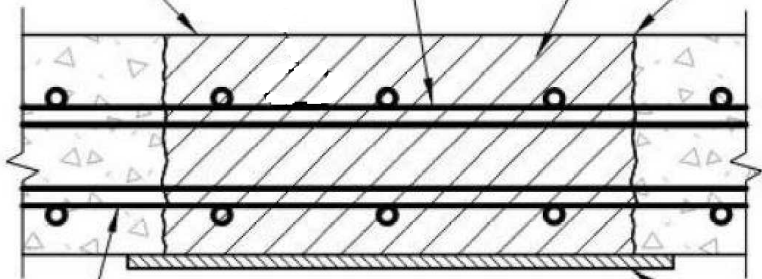
FINISH SMOOTH AND EVEN ADJACENT CONCRTE

REMOVE DETERIORATED CONCRETE AND REPLACE WITH PATCHING MATERIAL

EDGES OF REMOVAL TO BE PERPENDICULAR TO EXPOSED FACES. APPLY A 1/2" DEEP SAWCUT AROUND AREA TO BE REMOVED. SEE NOTE 2

EXISTING REINFORCEMENT

FORM SHALL BE SUPPORTED IN A MANNER APPROVED BY THE ENGINEER



FULL DEPTH PATCH REPAIR

SCALE: 1 1/2" = 1'-0"







