

SECTION S413 - SPEED HUMP

S413-1 DESCRIPTION

Work consists of installation of speed humps as required in Contract Documents and as directed by Project Manager.

References to NYSDOT specifications are to be in accordance with latest edition of *NYSDOT Standard Specifications (US Customary Units)*.

S413-2 MATERIALS

S413-2.01 Asphalt

Asphalt pavement is to be 9.5 F2 top course HMA 80 series compaction in accordance with NYSDOT Section 402 Hot Mix Asphalt (HMA) Pavements.

S413-2.02 Tack Coat

Tack coat is to be diluted or straight tack coat in accordance with Section S407 Tack Coat.

S413-2.03 Temporary Speed Hump

Temporary speed hump is to be prefabricated rubber product in accordance with traffic calming safety standards and specifications outlined by Institute of Transportation Engineers (ITE), and capable of being removed and reinstalled numerous times without showing signs of excessive wear and tear.

S413-2.04 Striping

Striping is to be 65 mils thick 12 inch wide overlaid white plastic preformed permanent pavement marking tape material in accordance with appropriate specification under MCDOT Section 686 Traffic specifications.

S413-2.05 Signage

Sign is to be W8-1 BUMP temporary warning sign mounted on fixed temporary sign support and are to be in accordance with NYSDOT Section 619 Work Zone Traffic Control.

S413-3 CONSTRUCTION DETAILS

S413-3.01 General

Minimum of 5 days prior to commencing construction of speed hump, Contractor is to provide written notification of planned work to residents of street receiving such treatment, residents of any intersecting street(s) up to one block away, and to Project Manager. Project Manager will in turn notify Office of Emergency Services, local City NSC Office, City School District and any other interested parties that installation of speed humps is scheduled to take place.

Notification to residents is to be type written, is to contain information informing residents of planned work, and is to be approved by Project Manager before distribution. Notification is to be placed in plastic bag with handles that have capability of being hung on door knob, and distributed to all residents in affected area.

During speed hump construction street can be temporarily closed on daily basis during working hours only. Street must be open and fully accessible to vehicular traffic daily outside of working hours. Street closure is to be done with use appropriate traffic control signs and devices required to maintain and protect traffic, as directed by Project Manager and in accordance with NYSDOT Section 619 Work Zone Traffic Control.

Adjacent areas disturbed or damaged during construction must be restored within 15 working days after construction of speed hump.

S413-3.02 Signage

Contractor is to contact MCDOT Monday through Friday, between hours of 9:00AM and 3:00PM, (585) 753-7733, minimum of 6 weeks prior to commencing construction of speed hump.

Contractor is to install temporary signage minimum of 10 days prior to commencing construction of speed hump. MCDOT will install permanent signage sometime after completion of speed hump.

Install temporary signage consisting of BUMP warning sign mounted on fixed temporary sign support in accordance with NYSDOT Section 619 Work Zone Traffic Control. Signage is to be provided at each speed hump location, one set in each direction, and covered until speed hump has been constructed. Signage is to remain in place and be maintained in good condition until MCDOT installs permanent signage. After permanent signage has been installed, Contractor is to remove temporary signage.

Install sign post sleeve in locations where speed hump signage will fall within paved area.

S413-3.03 Construction Performance Standards

Cross section and profile of each and every speed hump are to be surveyed to verify that speed hump has been constructed to required parabolic shape, and that it falls within required tolerance range.

Speed hump will be acceptable only if parabolic shape is within range of +0.03 and -0.06 feet of required theoretical elevations. Take any steps necessary to correct any deficiencies that fall outside of required tolerance range.

S413-3.04 Speed Hump Installation - General

Speed hump is to be constructed of asphalt top course, across and 2 feet narrower than width of existing pavement, leaving 12 inch wide open area between outer most edge of speed hump and pavement edge for drainage purposes.

Use any method necessary to form parabolic shape and to achieve proper height of speed hump. One such proven method for forming parabolic shape of speed hump is to construct template from minimum 16 foot long wooden 2x10, with center portion of bottom of template cut into basic parabolic shape of speed hump, leaving 2 foot flat area at each end of template. To stiffen and minimize any bending of template, attach length of metal channel to top portion of template.

After initial placement of asphalt, before compaction and while asphalt is still fresh and pliant, form asphalt surface into basic parabolic shape using template. With flat ends of template resting on abutting pavement surface, drag or shimmy template across asphalt surface forming basic parabolic shape of speed hump. During compaction it may be necessary to remove excess or place additional asphalt material. Repeat template operation until speed hump is fully compacted and has achieved its proper height and shape.

Do not perform final rolling operation until required parabolic shape of each speed hump in turn has been verified in accordance with Subsection S413-3.03 Construction Performance Standards.

Pavement markings are to be installed using overlay method and as recommended by manufacturer.

S413-3.05 Speed Hump (Existing Pavement)

Construct 25 inch wide keyway in shape of speed hump and across existing pavement where speed hump is to be installed. Keyway is to be constructed by saw cutting existing pavement minimum of 1-1/2 inches deep along outer most edge of speed hump, then milling on bias to 0 inch at inner edge of keyway. Thoroughly clean pavement surface, and apply tack coat making sure to completely cover surface area. Tack coat must be applied before placement of any new asphalt material, and between any and all subsequent asphalt courses.

S413-3.06 Speed Hump (New Pavement)

Finish paving street with asphalt top course up to outer most limits of speed hump before constructing speed hump. Take extra steps to ensure that portion of asphalt top course placed within 12 inch wide open area between outer most edges of speed hump and pavement edge is properly compacted. Speed hump is to be constructed on top of binder course. Thoroughly clean pavement surface, and apply tack coat making sure to completely cover surface area. Tack coat must be applied before placement of any new asphalt material, and between any and all subsequent asphalt courses.

If Contractor elects to or inadvertently paves entire street without making allowance for speed hump construction, speed hump is to be constructed in accordance with Subsection S413.3.05 Speed Hump (Existing Pavement).

S413-3.07 Temporary Speed Hump

Temporary speed hump is to be installed within 45 days after Notice to Proceed has been issued, and removed after substantial completion of Project, as determined by Project Manager.

No more than 10 days after removal of temporary speed hump, re-notification is to be done in accordance with Subsection S413-3.01 General, stating that temporary speed humps have been removed.

Signage is to be installed in accordance with Subsection S413-3.02 Signage.

Temporary speed hump is to be installed across and 2 feet shorter than width of existing pavement, leaving 12 inches wide open area between outer most edge of temporary speed hump and pavement edge for drainage purposes. Prior to installation of temporary speed hump, existing pavement area is to be thoroughly cleaned. Installation of temporary speed humps is to be in accordance with manufacturer's instructions. Maintain temporary speed humps, making any adjustments or re-installation necessary to ensure that temporary speed humps remain properly situated.

If temporary speed humps do not come pre-stripped, pavement markings are to be installed using overlay method, and as recommended by manufacturer.

When project extends for more than one construction season requiring winter shutdown, temporary speed humps, hardware and signage are to be removed during first week of October, and re-installed at same location(s) during week immediately preceding April 15th of following year. Before re-installation of temporary speed humps, re-notification is to be done in accordance with Subsection S413-3.01 General.

For winter shutdown, upon removal of temporary speed humps, restore existing pavement, filling in all holes necessitated for installation of temporary speed hump anchoring system. Properly store and protect temporary speed humps, hardware and signage during winter shutdown.

After final removal of temporary speed humps and hardware, permanently restore existing pavement, permanently filling in all holes necessitated for installation of temporary speed hump anchoring system.

As temporary speed humps and hardware become property of City of Rochester after final removal, any material that is damaged is to be repaired. Any materials that are damaged beyond repair, are to be replaced with new materials.

Temporary speed humps and hardware, are to be delivered to City's Street Maintenance Division, 945 Mt. Read Boulevard, Rochester, New York, Monday through Friday, between hours of 8:00AM and 3:00PM, (585) 428-7479. Street Maintenance Division requires minimum of 2 working days advance notice to make arrangements for delivery of salvaged materials.

S413-3.08 Temporary Speed Hump (Furnished)

Temporary speed humps and hardware, will be as furnished by City of Rochester.

To make arrangements for pick-up, Contractor is to call City's Street Maintenance Division, 945 Mt. Read Boulevard, Rochester, New York, Monday through Friday, between hours of 8:00AM and 3:00PM, (585) 428-7479. Street Maintenance Division requires minimum of 2 working days advance notice to make arrangements for pick-up of furnished materials.

Installation, removal, salvaging and repair or replacement of temporary speed humps and hardware is to be done in accordance with Subsection S413-3.07 Temporary Speed Hump.

Upon final removal, temporary speed humps and hardware are to be returned to City's Street Maintenance Division, 945 Mt. Read Boulevard, Rochester, New York, Monday through Friday, between hours of 8:00AM and 3:00PM, (585) 428-7479. Street Maintenance Division requires minimum of 2 working days advance notice to make arrangements for delivery of salvaged materials.

S413-4 METHOD OF MEASUREMENT

Quantity to be measured for payment will be number of speed humps constructed, or number of temporary speed humps installed.

S413-5 BASIS OF PAYMENT

S413-5.01 General All Items

Unit price bid for all items includes cost of: preparation and distribution of written notification; providing plastic bags; notifying and coordinating with Monroe County Traffic Engineering for signage installation; cleaning pavement; additional pavement preparation; and furnishing all labor, material and equipment necessary to complete work.

Restoration of adjacent areas disturbed or damaged during construction; furnishing and installing sign post sleeves, pavement markings; and maintenance and protection of traffic will be paid for under separate bid items.

S413-5.02 Signage

Furnishing, installing, maintaining and removing temporary signage will be paid for under lump sum bid item for Basic Work Zone Traffic Control per NYSDOT Section 619 Work Zone Traffic Control.

S413-5.03 Speed Hump (Existing Pavement)

Unit price bid also includes cost of: construction of keyway including saw cutting and milling; furnishing and installing asphalt pavement; template; tack coat; construction of speed hump; survey of cross-section and profile to verify parabolic shape of speed hump for quality control measures; correction of any deficiencies that fall outside of required tolerance range.

S413-5.04 Speed Hump (New Pavement)

Unit price bid also includes cost of: furnishing and installing asphalt pavement; template; tack coat; construction of speed hump; survey of cross-section and profile to verify parabolic shape of speed hump for quality control measures; correction of any deficiencies that fall outside of required tolerance range.

S413-5.05 Temporary Speed Hump

Unit price bid also includes cost of: providing, installing, maintaining, removing and delivery of temporary speed hump and hardware; repairing or replacement of damaged materials; notifying and coordination with City Street Maintenance Division; furnishing, installing, maintaining and removing speed hump warning signs and sign posts; permanent restoration of existing pavement, including filling in all holes necessitated for installation of temporary speed hump anchoring system.

For installation of temporary speed hump including winter layover, unit price bid also includes cost of: removing, storing, protecting and reinstalling temporary speed hump, speed hump warning signs and sign posts; re-notification; temporary pavement restoration, including filling in all holes necessitated for installation of temporary speed hump anchoring system.

S413-5.06 Temporary Speed Hump (Furnished)

Unit price bid also includes cost of: picking-up, installing, maintaining, removing and delivery of temporary speed hump and hardware; repairing or replacement of damaged materials; notifying and coordination with City Street Maintenance Division; furnishing, installing, maintaining and removing speed hump warning signs and sign posts; permanent restoration of existing pavement, including filling in all holes necessitated for installation of temporary speed hump anchoring system.

For installation of temporary speed hump (furnished) including winter layover, unit price bid also includes cost of: removing, storing, protecting and re-installing temporary speed hump, speed hump warning signs and sign posts; re-notification; temporary pavement restoration, including filling-in all holes necessitated for installation of temporary speed hump anchoring system.

Payment will be made under:

ITEM NO.	ITEM	PAY UNIT
S413.01	Speed Hump (Existing Pavement)	Each
S413.02	Speed Hump (New Pavement)	Each
S413.03	Temporary Speed Hump	Each
S413.04	Temporary Speed Hump (Winter Layover)	Each
S413.05	Temporary Speed Hump (Furnished)	Each
S413.06	Temporary Speed Hump (Furnished) (Winter Layover)	Each

REVISED December 1, 2015