New Jersey Department of Transportation
1035 Parkway Avenue, PO Box 600, Trenton, New Jersey 08625-0600

Baseline Document Change Announcement

High Density Polyethylene (HDPE) pipe

BDC03S-13

March 22, 2004

SUBJECT: Revision to Subsections 207.04, 207.05, 207.06, 602.02, 602.03, 602.04, 602.05, 602.10, 602.11, & 913.11 of the *2001 Standard Specifications* and 207.06 *of the 2001 Standard Inputs in English and Metric units*

The above noted Subsections of the *2001 Standard Specification* have been revised to permit and regulate the use of High Density Polyethylene (HDPE) pipe. However, the Designer shall follow the guidelines provided in the Roadway Design manual for the use of HDPE pipe. All limitations and exceptions currently existing in the Design Manual regarding the use of HDPE pipe shall remain in force. HDPE is not to be considered an alternate pipe material unless specifically specified and permitted in the contract documents.

The following revisions have been incorporated in the both English unit *Standard Input SI2001E1* and Metric unit *Standard Input SI2001M1* dated March 22, 2004.

The following revisions have been incorporated in the English Unit *Standard Input SI2001E1*:

SECTION 207 - SUBSURFACE STRUCTURE EXCAVATION

207.04 Construction Requirements.
THE FIRST PARAGRAPH IS CHANGED TO:

Before excavating, existing subsurface structures which may be affected by or interfere with the proposed construction shall be located. If directed, test pits shall be excavated to obtain the required information. Test pits or portions of a test pit shall be dug by hand when in close proximity to utilities or when directed. Excavation beyond that which is necessary to obtain the required information will not be measured for payment. Test pits shall be backfilled according to Subsection 203.06.

1. Pipes and Culverts.
THE FIRST PARAGRAPH IS CHANGED TO:

The width of trench shall be at least 1 foot – 6 inches greater than the outside diameter of the pipe or culvert. When the material at the bottom of the excavation is rock or other hard material, it shall be

removed within 6 inches for reinforced concrete culvert pipe and high density polyethylene (HDPE) pipe, and 1 foot for corrugated metal, steel, or aluminum alloy culvert pipe outside the bottom of the pipe or culvert and the space backfilled with suitable material.

207.05 Bedding for Pipes and Culverts.
THE FIFTH PARAGRAPH IS CHANGED TO:

Bedding for corrugated aluminum alloy culvert pipe and HDPE pipe shall be placed as specified for Class B bedding.

207.06 Backfilling.

A. Pipes and Culverts.
THE ENTIRE TEXT IS CHANGED TO:

Backfill to a height of 2 feet above the top of pipes and culverts, except underdrains, corrugated aluminum alloy culvert pipe and HDPE pipe, shall be made with excavated material free from stones or rock fragments larger than 2 inches in any dimension. Below this level, the backfill shall be placed in layers not more than 6 inches thick, and each layer shall be compacted with flat-face mechanical tampers. Backfill shall be worked into the haunch area and compacted for all pipe.

For HDPE pipe, backfill to a height of 2 feet above the top of the pipe shall be made with excavated material free from class IV or class V materials according to ASTM D2321, with stones or rock fragments no larger than 1½ inch in any direction. Below this level, the backfill shall be placed symmetrically on each side of the pipe in layers not more than 6 inches thick with each layer compacted with flat-faced mechanical tampers for all pipe.

Backfill to a height of 2 feet above the top of corrugated aluminum alloy culvert pipe shall be made with a granular soil with the gradation as specified in Subsection 207.03. Below this level, the backfill shall be placed symmetrically on each side of the pipe in layers not more than 6 inches thick, and each layer shall be compacted with flat-faced mechanical tampers.

All backfill more than 2 feet above the top of pipes and culverts, except underdrains, shall be made with excavated material and compacted in 6 inches layers as follows:

1. By vibratory soil compactors, if the backfill material is predominately sand or sand and gravel.
2. By flat-faced mechanical tampers, if the backfill material is not predominantly sand or sand and gravel.
3. Flat-faced mechanical tampers may be substituted for the vibratory soil compactors where the shoring and bracing of trenches or other special conditions make the use of vibratory compactors impractical.
4. Care shall be taken to avoid contact between the pipe and compaction equipment at all times. All damaged pipes shall be removed and replaced at no additional cost to the State.

The Engineer may direct compaction to be according to Subsection 203.10 except that the frequency of measurements may increase. If a hydrohammer or hoe-pak is used for compacting the backfill over the pipe, a minimum of 4 feet of cover over the pipe shall be provided.

CLSM may be used as alternate backfill material when backfilling trenches for drainage pipe and utility conduit. Combining other backfill materials in the same trench as CLSM shall not be permitted. Mixing and placement of CLSM shall begin only when the ambient temperature is at least 30 °F. During placement, the CLSM mixture shall have a temperature of at least 41 °F and shall not be placed on frozen ground. The CLSM mixture shall be discharged directly from the truck into the trench to be filled with care taken to prevent the pipe from becoming displaced. After placement, the CLSM mixture shall be cured and protected to prevent damage from cold weather according to Subsection 405.14. CLSM shall not be used to replace pavement, base courses or drainage layers that form the structure of the roadway.

The special backfill in trenches for the underdrains shall be compacted by vibratory compactors. Earth backfill above the special backfill material shall be compacted as specified in Subsection 203.07.

Shoring, bracing, and sheathing shall be withdrawn as the backfilling proceeds. Compaction requirements shall not be compromised due to the removal of sheathing, shoring, trench boxes or other type of excavation support systems.

In rock cuts, the backfill shall be either broken stone or washed gravel.

SECTION 602 - PIPES

602.02 Materials
THE ENTIRE TEXT IS CHANGED TO:

Materials shall conform to the following Subsections:

Portland cement concrete for pipe plugs, encasements, or saddles shall conform to Section 914.

Where corrugated metal culvert pipe is designated, corrugated aluminum alloy culvert pipe or corrugated steel culvert pipe may be used.

Where corrugated metal culvert pipe arch is designated, corrugated aluminum alloy culvert pipe arch or corrugated steel culvert pipe arch may be used.

End sections shall be of the same material as the pipe or pipe arch to which the end sections are attached, except that end sections for HDPE pipe for outfall systems shall be concrete.

For jacked pipe, reinforced concrete culvert pipe shall conform to Subsection 913.04 except that the pipe shall be Class V, Wall B, tongue and groove type.

The tube material shall conform to the requirements of ASTM F 1216. The tube shall be fabricated to a size that, when installed, conforms to the internal circumference and length of the original pipe.

The wall color of the interior tube surface after installation shall not be of a dark or non-reflective nature that could inhibit proper closed-circuit television inspection.

All HDPE pipe shall be type S (smooth interior with annular corrugations), with gasketed silt-tight joints according to AASHTO M294

All HDPE pipes shall be in compliance with the requirements of the National Transportation Product Evaluation Program's (NTPEP) evaluation of HDPE and thermoplastic pipe. NTPEP test results shall be furnished to the Resident Engineer and to the Bureau of Materials Engineering and Testing before construction operation.

CONSTRUCTION

602.03 Construction Requirements.
THE SUBSECTION HEADING AND TEXT ARE CHANGED TO:

602.03 Construction and Inspection Requirements.

A. Construction. Excavation, bedding, backfilling, and disposal of excess material shall conform to Section 207 and the following:

1. Trench openings shall not remain open overnight, unless adequately protected, within or adjacent to roadways on which traffic is being maintained or within the normal limits of pedestrian access.
2. When installing storm drains across private property, the topsoil and sod disturbed by excavation operations shall be salvaged for use in restoring the area to its original condition.
3. Except where necessary to maintain flow, drains shall not be placed in embankment until it has been constructed to a height of at least 3 feet above the top of the pipe or to the top of the embankment, whichever is lower, and then a trench shall be excavated for placing of the pipe.
4. Before the installation of HDPE pipe, and at the discretion of the Resident Engineer, a technical representative from the pipe manufacturer shall be on site for the first day of pipe installation to validate proper installation procedures.
5. Existing drainage flow during construction shall be maintained until proposed drainage facilities are completed and put into service.
6. Pipe shall be handled and stored carefully in order to prevent damage such as cracking, denting and breaking. Pipe shall be lifted off of the delivery vehicle in order to avoid damage

while unloading. Pipe shall not be dragged off the vehicle. Pipe shall be stored in an area where it will not be damaged during construction operations. When pipe is stacked, it shall be properly blocked or strapped, and the bell and spigots shall alternate to reduce the load on the bells. Pipe that is damaged, bowed or considered unacceptable for other reasons will be rejected by the Engineer and shall not be used on the Project.

7. If heavy construction equipment (100 kips axle load) will be used in or over the vicinity of HDPE pipe or corrugated aluminum alloy culvert pipe, a temporary compacted cover of a minimum of 4 feet shall be placed over the top of the pipe. The materials for the temporary cover shall be excavated material free from stones larger than 2 inch for concrete pipe, 1½ inch for HDPE and 1 inch for corrugated steel pipe.
8. Sections of pipe damaged during construction shall be removed and replaced.

B. Inspection.

1. Video Inspection of Pipe.

Video inspection of pipe has been waived for this project.

Unless waived in the Special Provisions, video inspection of interior pipelines shall be made by the contractor no sooner than 30 days after completion of the pipe installation. The inspection shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by closed circuit television.

The video surveillance shall take place in dry pipe conditions to ensure viewing of the entire pipe circumference. A visual numerical registration of the distance the video camera is traveling from the starting point to the ending point within the pipe drainage structure shall be recorded on the footage tape at all times. Also, the name of the pipe run and the name of the structure shall be recorded on the footage tape at all times. The video camera shall be stopped at all joints, lateral connections, breaks and irregularities to ensure full view at these locations. The videotape shall provide clear, sharply focused pictures. Blurred or out of focus footage will not be acceptable. The videotape shall be in color and in VHS format and submitted to the Resident Engineer to become the property of the state. Tapes shall be sequentially numbered and a corresponding typewritten index shall be provided for all tapes listing the location, date, size and type of pipe, cross drains, longitudinal, berm, slope, etc.

If the pipe is found to be defective because of poor joints, deformation, breaks, connections or irregularities, corrective action, up to and including removal and replacement of the defective pipe shall be made as directed. Additional payment will not be made for corrective action work.

2. Deflection Inspection of HDPE Pipe.

Approximately 25 percent of the length of HDPE pipe shall be tested for deflection no sooner than 30 days after installation. Perform the deflection testing using either electronic deflectometers, calibrated television or video cameras, properly sized “go, no-go” mandrel, direct measurement extension rulers and tape measures in pipes that permit safe entry, or another acceptable device.

Where deflection is greater than 5 percent of the base inside diameter, the Contractor shall develop and submit a remediation or replacement plan to the Resident Engineer for approval.

Remedial action may include but is not limited to removal and replacement or an accepted repair procedure.

602.04 Laying of Pipe.
THE LAST PARAGRAPH IS CHANGED TO:

Pipe will be inspected before and during backfilling operations. Any pipe found to be out of alignment, excessively settled, lifted, or damaged shall be removed and relaid or replaced.

602.05 Joining Pipe.
THE FIRST PARAGRAPHS IS CHANGED TO:

Joints for rigid pipe shall be made with mortar, grout, or gaskets. Other types of joints recommended by the pipe manufacturer may be permitted as approved by the Resident Engineer. Corrugated metal pipe shall be joined by coupling bands.

THE FOLLOWING IS ADDED:

The use of split couplings for HDPE pipe shall not be permitted unless approved by the Resident Engineer for use in joining field cuts. All joints shall be of the bell and spigot, or bell and spigot type with a gasket according to ASTM F 477 to provide a silt-tight seal. Pipe connections shall be constructed according to the manufacturer's recommendations for assembly of joint components, lubrications and making of joints. The pipe fittings shall be free of inclusions and visible defects. The ends of the pipe shall be cut squarely so as not to adversely affect joining.

602.10 Method of Measurement.
THE FOLLOWING IS ADDED:

Video inspection of pipe will be measured by the linear foot.

602.11 Basis of Payment.
Payment will be made under:

Pay Item	*Pay Unit*
THE FOLLOWING PAY ITEMS ARE ADDED	
___ " HIGH DENSITY POLYETHYLENE PIPE	LINEAR FOOT
VIDEO INSPECTION OF PIPE	LINEAR FOOT
DEFLECTION TESTING OF HIGH DENSITY POLYETHYLENE PIPE	LINEAR FOOT

THE FOURTH PARAGRAPHS IS CHANGED TO:

Separate payment will not be made for material used as a temporary cover over corrugated aluminum alloy culvert pipe or HDPE pipe.

SECTION 913 - PIPE

913.11 Plastic Drainage Pipe.
THE SUBSECTION HEADING AND TEXT ARE CHANGED TO:

913.11 High Density Polyethylene (HDPE), PVC Drainage Pipe.
Corrugated HDPE drainage pipe shall conform to AASHTO M 252 or AASHTO M 294M. PVC drainage pipe shall conform to ASTM D 2729.

The following revisions have been incorporated in the Metric Unit *Standard Input SI2001M1*:

SECTION 207 - SUBSURFACE STRUCTURE EXCAVATION

207.04 Construction Requirements.
THE FIRST PARAGRAPH IS CHANGED TO:

Before excavating, existing subsurface structures which may be affected by or interfere with the proposed construction shall be located. If directed, test pits shall be excavated to obtain the required information. Test pits or portions of a test pit shall be dug by hand when in close proximity to utilities or when directed. Excavation beyond that which is necessary to obtain the required information will not be measured for payment. Test pits shall be backfilled according to Subsection 203.06.

1. Pipes and Culverts.
THE FIRST PARAGRAPH IS CHANGED TO:

The width of trench shall be at least 450 millimeters greater than the outside diameter of the pipe or culvert. When the material at the bottom of the excavation is rock or other hard material, it shall be removed within 150 millimeters for reinforced concrete culvert pipe and high density polyethylene (HDPE) pipe, 300 millimeters for corrugated metal, steel, or aluminum alloy culvert pipe outside the bottom of the pipe or culvert and the space backfilled with suitable material.

207.05 Bedding for Pipes and Culverts.
THE FIFTH PARAGRAPH IS CHANGED TO:

Bedding for corrugated aluminum alloy culvert pipe and HDPE pipe shall be placed as specified for Class B bedding.

207.06 Backfilling.
A. Pipes and Culverts.
THE ENTIRE TEXT IS CHANGED TO:

Backfill to a height of 600 millimeters above the top of pipes and culverts, except underdrains, corrugated aluminum alloy culvert pipe and HDPE pipe, shall be made with excavated material free from stones or rock fragments larger than 50 millimeters in any dimension. Below this level, the backfill shall be placed in layers not more than 150 millimeters thick, and each layer shall be compacted with flat-face mechanical tampers. Backfill shall be worked into the haunch area and compacted for all pipe.

For HDPE pipe, backfill to a height of 600 millimeters above the top of the pipe shall be made with excavated material free from class IV or class V materials according to ASTM D2321, with stones or rock fragments no larger than 37.5 millimeters in any direction. Below this level, the backfill shall be placed symmetrically on each side of the pipe in layers not more than 150 millimeters thick with each layer compacted with flat-faced mechanical tampers for all pipe.

Backfill to a height of 600 millimeters above the top of corrugated aluminum alloy culvert pipe shall be made with a granular soil with the gradation as specified in Subsection 207.03. Below this level, the backfill shall be placed symmetrically on each side of the pipe in layers not more than 150 millimeters thick, and each layer shall be compacted with flat-faced mechanical tampers.

All backfill more than 600 millimeters above the top of pipes and culverts, except underdrains, shall be made with excavated material and compacted in 150 millimeter layers as follows:

1. By vibratory soil compactors, if the backfill material is predominately sand or sand and gravel.
2. By flat-faced mechanical tampers, if the backfill material is not predominantly sand or sand and gravel.
3. Flat-faced mechanical tampers may be substituted for the vibratory soil compactors where the shoring and bracing of trenches or other special conditions make the use of vibratory compactors impractical.

4. Care shall be taken to avoid contact between the pipe and compaction equipment at all times. All damaged pipes shall be removed and replaced at no additional cost to the State.

The Engineer may direct compaction to be according to Subsection 203.10 except that the frequency of measurements may increase. If a hydrohammer or hoe-pak is used for compacting the backfill over the pipe, a minimum of 1200 MM of cover over the pipe shall be provided.

CLSM may be used as alternate backfill material when backfilling trenches for drainage pipe and utility conduit. Combining other backfill materials in the same trench as CLSM shall not be permitted. Mixing and placement of CLSM shall begin only when the ambient temperature is at least –1 °C. During placement, the CLSM mixture shall have a temperature of at least 5 °C and shall not be placed on frozen ground. The CLSM mixture shall be discharged directly from the truck into the trench to be filled with care taken to prevent the pipe from becoming displaced. After placement, the CLSM mixture shall be cured and protected to prevent damage from cold weather according to Subsection 405.14. CLSM shall not be used to replace pavement, base courses or drainage layers that form the structure of the roadway.

The special backfill in trenches for the underdrains shall be compacted by vibratory compactors. Earth backfill above the special backfill material shall be compacted as specified in Subsection 203.07.

Shoring, bracing, and sheathing shall be withdrawn as the backfilling proceeds. Compaction requirements shall not be compromised due to the removal of sheathing, shoring, trench boxes or other type of excavation support systems.

In rock cuts, the backfill shall be either broken stone or washed gravel.

SECTION 602 - PIPES

602.02 Materials.
THE ENTIRE TEXT IS CHANGED TO:

Materials shall conform to the following Subsections:

Portland cement concrete for pipe plugs, encasements, or saddles shall conform to Section 914.

Where corrugated metal culvert pipe is designated, corrugated aluminum alloy culvert pipe or corrugated steel culvert pipe may be used.

Where corrugated metal culvert pipe arch is designated, corrugated aluminum alloy culvert pipe arch or corrugated steel culvert pipe arch may be used.

End sections shall be of the same material as the pipe or pipe arch to which the end sections are attached, except that end sections for HDPE pipe for outfall systems shall be concrete.

For jacked pipe, reinforced concrete culvert pipe shall conform to Subsection 913.04 except that the pipe shall be Class V, Wall B, tongue and groove type.

The tube material shall conform to the requirements of ASTM F 1216. The tube shall be fabricated to a size that, when installed, conforms to the internal circumference and length of the original pipe.

The wall color of the interior tube surface after installation shall not be of a dark or non-reflective nature that could inhibit proper closed-circuit television inspection.

All HDPE pipe shall be type S (smooth interior with annular corrugations), with gasketed silt-tight joints according to AASHTO M294

All HDPE pipes shall be in compliance with the requirements of the National Transportation Product Evaluation Program's (NTPEP) evaluation of HDPE and thermoplastic pipe. NTPEP test results shall be furnished to the Resident Engineer and to the Bureau of Materials Engineering and Testing before construction operation.

CONSTRUCTION

602.03 Construction Requirements.
THE SUBSECTION HEADING AND TEXT ARE CHANGED TO:

602.03 Construction and Inspection Requirements.

A. Construction. Excavation, bedding, backfilling, and disposal of excess material shall conform to Section 207 and the following:

1. Trench openings shall not remain open overnight, unless adequately protected, within or adjacent to roadways on which traffic is being maintained or within the normal limits of pedestrian access.
2. When installing storm drains across private property, the topsoil and sod disturbed by excavation operations shall be salvaged for use in restoring the area to its original condition.
3. Except where necessary to maintain flow, drains shall not be placed in embankment until it has been constructed to a height of at least 1 meter above the top of the pipe or to the top of the embankment, whichever is lower, and then a trench shall be excavated for placing of the pipe.
4. Before the installation of HDPE pipe, and at the discretion of the Resident Engineer, a technical representative from the pipe manufacturer shall be on site for the first day of pipe installation to validate proper installation procedures.
5. Existing drainage flow during construction shall be maintained until proposed drainage facilities are completed and put into service.
6. Pipe shall be handled and stored carefully in order to prevent damage such as cracking, denting and breaking. Pipe shall be lifted off of the delivery vehicle in order to avoid damage while unloading. Pipe shall not be dragged off the vehicle. Pipe shall be stored in an area where it will not be damaged during construction operations. When pipe is stacked, it shall be properly blocked or strapped, and the bell and spigots shall alternate to reduce the load on the bells. Pipe that is damaged, bowed or considered unacceptable for other reasons will be rejected by the Engineer and shall not be used on the Project.
7. If heavy construction equipment (45 megagram axle load) will be used in or over the vicinity of HDPE pipe or corrugated aluminum alloy culvert pipe, a temporary compacted cover of a minimum of 1.2 meters shall be placed over the top of the pipe. The materials for the temporary cover shall be excavated material free from stones larger than 50 millimeters for concrete pipe, 37.5 millimeters for HDPE and 25 millimeters for corrugated steel pipe.
8. Sections of pipe damaged during construction shall be removed and replaced.

B. Inspection.

1. Video Inspection of Pipe.

Video inspection of pipe has been waived for this project.

Unless waived in the Special Provisions, video inspection of interior pipelines shall be made by the contractor no sooner than 30 days after completion of the pipe installation. The inspection shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by closed circuit television.

The video surveillance shall take place in dry pipe conditions to ensure viewing of the entire pipe circumference. A visual numerical registration of the distance the video camera is traveling from the starting point to the ending point within the pipe drainage structure shall be recorded on the footage tape at all times. Also, the name of the pipe run and the name of the structure shall be recorded on the footage tape at all times. The video camera shall be stopped at all joints, lateral connections, breaks and irregularities to ensure full view at these locations. The videotape shall provide clear, sharply focused pictures. Blurred or out of focus footage

will not be acceptable. The videotape shall be in color and in VHS format and submitted to the Resident Engineer to become the property of the state. Tapes shall be sequentially numbered and a corresponding typewritten index shall be provided for all tapes listing the location, date, size and type of pipe, cross drains, longitudinal, berm, slope, etc.

If the pipe is found to be defective because of poor joints, deformation, breaks, connections or irregularities, corrective action, up to and including removal and replacement of the defective pipe shall be made as directed. Additional payment will not be made for corrective action work.

2. Deflection Inspection of HDPE Pipe.

Approximately 25 percent of the length of HDPE pipe shall be tested for deflection no sooner than 30 days after installation. Perform the deflection testing using either electronic deflectometers, calibrated television or video cameras, properly sized "go, no-go" mandrel, direct measurement extension rulers and tape measures in pipes that permit safe entry, or another acceptable device.

Where deflection is greater than 5 percent of the base inside diameter, the Contractor shall develop and submit a remediation or replacement plan to the Resident Engineer for approval.

Remedial action may include but is not limited to removal and replacement or an accepted repair procedure.

602.04 Laying of Pipe.
THE LAST PARAGRAPH IS CHANGED TO:

Pipe will be inspected before and during backfilling operations. Any pipe found to be out of alignment, excessively settled, lifted, or damaged shall be removed and relaid or replaced.

602.05 Joining Pipe.
THE FIRST PARAGRAPHS IS CHANGED TO:

Joints for rigid pipe shall be made with mortar, grout, or gaskets. Other types of joints recommended by the pipe manufacturer may be permitted as approved by the Resident Engineer. Corrugated metal pipe shall be joined by coupling bands.

THE FOLLOWING IS ADDED:

The use of split couplings for HDPE pipe shall not be permitted unless approved by the Resident Engineer for use in joining field cuts. All joints shall be of the bell and spigot, or bell and spigot type with a gasket according to ASTM F 477 to provide a silt-tight seal. Pipe connections shall be constructed according to the manufacturer's recommendations for assembly of joint components, lubrications and making of joints. The pipe fittings shall be free of inclusions and visible defects. The ends of the pipe shall be cut squarely so as not to adversely affect joining.

602.10 Method of Measurement.
THE FOLLOWING IS ADDED:

Video inspection of pipe will be measured by the linear meter.

602.11 Basis of Payment.

Payment will be made under:

Pay Item	*Pay Unit*
THE FOLLOWING PAY ITEMS ARE ADDED	
___ MM HIGH DENSITY POLYETHYLENE PIPE	LINEAR METER
VIDEO INSPECTION OF PIPE	LINEAR METER
DEFLECTION TESTING OF HIGH DENSITY POLYETHYLENE PIPE	LINEAR METER

THE FOURTH PARAGRAPHS IS CHANGED TO:

Separate payment will not be made for material used as a temporary cover over corrugated aluminum alloy culvert pipe or HDPE pipe.

SECTION 913 - PIPE

913.11 Plastic Drainage Pipe.

THE SUBSECTION HEADING AND TEXT ARE CHANGED TO:

913.11 High Density Polyethylene (HDPE), PVC Drainage Pipe.

Corrugated HDPE drainage pipe shall conform to AASHTO M 252 or AASHTO M 294M. PVC drainage pipe shall conform to ASTM D 2729.

Instructions to Designers

The Designers shall follow the unchanged guidelines regarding the use of HDPE pipe provided in the current Design Manual. Following Standard Pay Item numbers shall be used if the use of HDPE pipe is specified:

English Units

Pay Item Number	*Pay Item Description*	*Pay Unit*
6B13R through 6B29R	___ " HIGH DENSITY POLYETHYLENE PIPE	LINEAR FOOT
6B02R	VIDEO INSPECTION OF PIPE	LINEAR FOOT
6B01R	DEFLECTION TESTING OF HIGH DENSITY POLYETHYLENE PIPE	LINEAR FOOT

Metric Units

Pay Item Number	*Pay Item Description*	*Pay Unit*
6B13R through 6B29R	___ MM HIGH DENSITY POLYETHYLENE PIPE	LINEAR METER
6B02R	VIDEO INSPECTION OF PIPE	LINEAR METER
6B01R	DEFLECTION TESTING OF HIGH DENSITY POLYETHYLENE PIPE	LINEAR METER

These Standard Pay Items have been incorporated in the Standard Pay Item list. and can be downloaded and viewed from the following New Jersey Department of Transportation Web Page:
http://www.state.nj.us/transportation/cpm/ProgramSupportServices/CostEstimating

Implementation Code R (ROUTINE)

Changes must be implemented in all applicable Department projects scheduled for Final Design Submission at least one month after the date of the BDC announcement. This will allow designers to make necessary plan, specifications, and estimate/proposal changes without requiring the need for an addenda or postponement of advertisement or receipt of bids.

Recommended By:

ORIGINAL SIGNED

Brian Strizki
Director,
Quality Management Services

Approved By:

ORIGINAL SIGNED

F. Howard Zahn
Assistant Commissioner,
Capital Program Management

BJS:KS:HVP
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