
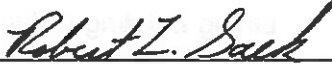


To: <p style="text-align: center;">SUPERSEDED ^{BY} <i>EB 02-024</i> EFFECTIVE 7/11/02</p>		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 01-028
Title: NEW STANDARD SPECIFICATION SECTION 602 REHABILITATION OF CULVERT AND STORM DRAIN PIPE			
Distribution: <input checked="" type="checkbox"/> Manufacturers (18) <input type="checkbox"/> Surveyors (33) <input checked="" type="checkbox"/> Main Office (30) <input checked="" type="checkbox"/> Consultants (34) <input checked="" type="checkbox"/> Local Govt. (31) <input type="checkbox"/> Contractors (39) <input checked="" type="checkbox"/> Regions/Agencies (32) <input type="checkbox"/> ()	Approved: <div style="text-align: center;">  <hr/> R. L. Sack, Director, Technical Services Division </div> <div style="text-align: right;"> 11/7/01 Date </div>		

ADMINISTRATIVE INFORMATION. This Engineering Instruction (EI) is effective for projects submitted for Letting on or after July 11, 2002, coinciding with the planned effective date for the proposed *2002 Standard Specifications*.

PURPOSE. To incorporate numerous existing special specifications for rehabilitation of culverts and storm drains into 602 Section of the Standard Specifications. This standardization of specifications eliminates redundancies and inconsistencies between the special specifications.

TECHNICAL INFORMATION. Design Guidelines for these items are being issued with EI 01-029.

TRANSMITTED MATERIALS. To save printing expense, the full text of Sections 602, 706-06, 706-10, 706-11, 707-02, and 707-05 will be contained in advance copies of the *2002 Standard Specifications* to be made available to designers. Full text is also available on the IntraDOT site in the Design Quality Assurance Bureau's Specifications and Standards page and with the electronic version of this EI on our web site at www.dot.state.ny.us, "Site Index", "E", "Engineering Directives...", "EI Index", "EIs Issued in 2001".

BACKGROUND. The 602 Section has been recently vacated by the incorporation of Polymer Coated Steel Pipes into the revised 603 Standard Specifications. All drainage pipe items, including Polymer Coated Pipe, are now included in the 603 Section. Section 602 will now be dedicated to the rehabilitation of culverts and storm drains.

Many culverts in New York State have reached or exceeded their anticipated service life. The primary distress has been corrosion; however, abrasion, joint separation, and side wall stress cracks and buckling are other reasons for replacing or rehabilitating pipe. Section 602 provides for the following methods to rehabilitate culverts:

- Paving Inverts With Portland Cement Concrete (PCC)
- Lining With Shotcrete
- Lining With Polyester Formed-In-Place Pipe Liner
- Lining With High Density Polyethylene Pipe
- Lining With Polyvinyl Chloride Pipe
- Lining With Corrugated Aluminum Structural Plate
- Lining With Corrugated Aluminum Pipe
- Lining With Aluminum Coated (Type 2) Corrugated Steel Pipe
- Lining With Concrete Lined Corrugated Steel Pipe
- Lining With Polymer Coated Corrugated Steel Pipe
- Lining With Tunnel Liner Plate (Galvanized or Aluminum)

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IMPLEMENTATION.

Disapproved Special Specifications

This EI disapproves the following special specifications:

18603.0501 M	Lining Existing Culvert with Concrete- Lined Corrugated Steel Pipe
18603.0511 M	Lining Existing Culvert with Corrugated Steel Pipe
18603.0521 M	Lining Existing Culvert with Corrugated Aluminum Pipe
09603.0523 M	Lining Existing Structural Plate Pipe Arch with Corrugated Aluminum Structural Plate Pipe
09603.1404 M	Replace Inverts of Existing Corrugated Metal Pipe
08603.1405 M	Paving Inverts of Existing Corrugated Metal Pipe
01603.1896 M	Reestablish Service Connections Through Formed-in-Place Pipe Liners
01603.1897 M	Polyester-Formed-in-Place Pipe Liner
01603.1898 M	Protruding Service Connection Removal
05603.1899 M	Polyester Formed-in-Place Pipe Liner
18603.18xx M	Polyester Formed-in-Place Pipe Liner
06603.22 M	Concrete Paving for Corrugated Metal Pipe Inverts
01603.90 M	Lining Existing Culvert with Corrugated Aluminum Structural Plate Pipe Arch
18603.90n M	Lining Existing Culvert with Corrugated Aluminum Structural Plate Pipe and/or Pipe Arch
01603.94 M	Installing Splice Plates in Existing Multi-plate Pipes
06603.9802XX M	Lining Existing Culvert with Smooth Interior HDPE Pipe
06603.9803XX M	Lining Existing Culvert with Smooth Interior Optional Type Pipe
07603.9803XX M	Lining Existing Culvert with Smooth Interior Optional Type Pipe

Standard Pay Items

Standard pay items associated with Section 602 are provided on pages 3 through 8 of this EI.

CONTACT. Direct questions to Field Engineering I of the Material Bureau at (518) 457-5956.

Table 1 Approved 602.25xx M pay items.

Item No. 602.25xx M Lining with High Density Polyethylene Pipe	
Diameter (mm)	Item No.
450	.2518
525	.2521
600	.2524
675	.2527
750	.2530
825	.2533
900	.2536
1 050	.2542
1 200	.2548
1 350	.2554
1 500	.2560
1 650	.2566
1 800	.2572
2 100	.2584
2 400	.2596

Table 2 Approved 602.30xx M pay items.

Item No. 602.30xx M Lining With Polyvinyl Chloride Pipe	
Diameter (mm)	Item No.
300	.3012
375	.3015
450	.3018
525	.3021
600	.3024
750	.3030
900	.3036
1 200	.3048

Table 3 Approved 602.35xx M pay items.

Item No. 602.35xx M Lining With Polyester Formed in Place Pipe Liner	
Diameter (mm)	Item No.
300	.3512
375	.3515
450	.3518
525	.3521
600	.3524
750	.3530
900	.3536
1 050	.3542
1 200	.3548

Table 4 Approved 602.40xx M pay items.

Item No. 602.40xx M Lining with Corrugated Aluminum Pipe Type IR				
Diameter (mm)	Gauge			
	16	14	12	10
450	.401816	.401814		
525	.402116	.402114	.402112	
600	.402416	.402414	.402412	
750	.403016	.403014	.403012	
900	.403616	.403614	.403612	.403610
1 050	.404216	.404214	.404212	.404210
1 200		.404814	.404812	.404810
1 350		.405414	.405412	.405410
1 500			.406012	.406010
1 650				.406610
1 800				.407210

Table 5 Approved 602.45xx M pay items.

Item No. 602.45xx M Lining with Aluminum Coated (Type 2) Corrugated Steel Pipe Type IR,12 gauge	
Diameter (mm)	Item No.
525	.451312
600	.451412
750	.45612
900	.451812
1 050	.451912
1 200	.452012
1 350	.452112
1 500	.452212
1 650	.452312
1 800	.452412
1 950	.452512
2 100	.452612
2 250	.452712
2 400	.452812
2 550	.452912

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Table 6 Approved 602.50xx M pay items.

Item No. 602.50xx Lining with Aluminum Structural Plate Pipe 230x65							
Diameter (mm)	Pipe Wall Thickness (mm)						
	2.54	3.18	3.81	4.44	5.08	5.72	6.35
1 525	.500101	.500102	.500103	.500104	.500105	.500106	.500107
1 675	.500201	.500202	.500203	.500204	.500205	.500206	.500207
1 830	.500301	.500302	.500303	.500304	.500305	.500306	.500307
1 980	.500401	.500402	.500403	.500404	.500405	.500406	.500407
2 135	.500501	.500502	.500503	.500504	.500505	.500506	.500507
2 285	.500601	.500602	.500603	.500604	.500605	.500606	.500607
2 440	.500701	.500702	.500703	.500704	.500705	.500706	.500707
2 590	.500801	.500802	.500803	.500804	.500805	.500806	.500807
2 745	.500901	.500902	.500903	.500904	.500905	.500906	.500907
2 895	.501001	.501002	.501003	.501004	.501005	.501006	.501007
3 050	.501101	.501102	.501103	.501104	.501105	.501106	.501107
3 200	.501201	.501202	.501203	.501204	.501205	.501206	.501207
3 355	.501301	.501302	.501303	.501304	.501305	.501306	.501307
3 505	.501401	.501402	.501403	.501404	.501405	.501406	.501407
3 660	.501501	.501502	.501503	.501504	.501505	.501506	.501507
3 810	.501601	.501602	.501603	.501604	.501605	.501606	.501607
3 960		.501702	.501703	.501704	.501705	.501706	.501707
4 115		.501802	.501803	.501804	.501805	.501806	.501807
4 265		.501902	.501903	.501904	.501905	.501906	.501907
4 420		.502002	.502003	.502004	.502005	.502006	.502007
4 570		.502102	.502103	.502104	.502105	.502106	.502107

Table 7 Approved 602.65xx M pay items.

Item No. 602.65xx M Lining With Concrete Lined CSP (68 x 13), 12 gauge			
Diameter (mm)	Gauge		
	14	12	10
1 200	.654814	.654812	.654810
1 350	.655414	.655412	.655410

Table 8 Approved 602.70xx M pay items.

Item No. 602.70xx M Lining With Concrete Lined CSP (125 x 25), 12 gauge			
Diameter (mm)	Gauge		
	14	12	10
1 500	.706014	.706012	.706010
1 650	.706614	.706612	.706610
1 800	.707214	.707212	.707210
1 950	.707814	.707812	.707810
2 100		.708412	.708410
2 250		.709012	.709010
2 400		.709612	.709610
2 550		.702102	.700102
2 700			.700108

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Table 9 Approved 602.75xx M pay items.

Item No. 602.75xx M Lining With Polymer Coated CSP (68 x 13), 12 gauge	
Diameter (mm)	Item No.
450	.751812
525	.752112
600	.752412
750	.753012
900	.753612
1 050	.754212
1 200	.754812
1 350	.755412

Table 10 Approved 602.80xx M pay items

Item No. 602.80xx M Lining With Polymer Coated CSP (75x25) or (125x25), 12 gauge	
Diameter (mm)	Item No.
1 500	.806012
1 650	.806612
1 800	.807212
1 950	.807812
2 100	.808412
2 250	.809012
2 400	.809612
2 550	.801112
2 700	.801312
2 850	.801512
3 000	.801712