DGN
$DGNLEV

$REF001 $REF002 $REF003 $REF004 $REF005 $REF006
$LEV001 $LEV002 $LEV003 $LEV004 $LEV005 $LEV006

SURVEYED BY _____
SUPERVISED BY _____
DESIGNED BY Dewberry (703) 849-0607

DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

REVISED	FHWA REGION	STATE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.
7/17/08	3	VA.		7		21(4)

IN PROGRESS 102208
NOT FOR CONSTRUCTION

DRAINAGE DESCRIPTIONS

Sheet 10 (Continued)

10-8 — 10-4
102' - 72" Conc. Pipe Req'd. (2.7' Cover)
Inv.(In) = 245.2'; Inv.(out) = 244.7'
4" Bedding Material Aggregate No.25 or 26 Req'd. Above
8" Bedding Material Aggregate No.57 Wrapped In
Geotextile Drainage Fabric

Ex.10-9
Remove Existing End Section
Connect Req'd. 36" Conc. Pipe To Existing 36" Conc. Pipe

Ex.10-9 — 10-8
20' - 36" Conc. Pipe Req'd. (3.2' Cover)
Inv.(In) = 248.0'; Inv.(out) = 247.9'
4" Bedding Material Aggregate No.25 or 26 Req'd. Above
8" Bedding Material Aggregate No.57 Wrapped In
Geotextile Drainage Fabric
Connect Prop. Conc. 36" Pipe To Existing Conc. 36" Pipe.

10-10
1 - St'd. 36" ES-1 or 2 Req'd.

10-10 — 10-4
133' - 36" Conc. Pipe Req'd. (2.5' Cover)
Inv.(In) = 247.4'; Inv.(out) = 246.7'
1 - St'd. 36" ES-1 or 2 Req'd.
Undercut 24" and fill with
4" Bedding Material Aggregate No.25 or 26 Req'd. Above
20" Bedding Material Aggregate No.57 Wrapped In
Geotextile Drainage Fabric

Ex.10-11
Remove Existing Headwall
1 - Special Design. JB-1 Req'd. (Contractor to provide shop drawings)
H = 8.1'
Type C Tower Req'd.
1 - St'd. MH-1 Frame and Cover Req'd.
Inv. = 243.7'

10-12
1 - St'd. 15" ES-1 or 2 Req'd.

10-12 — 10-4
11' - 15" Conc. Pipe Req'd. (2.6' Cover)
Inv.(In) = 248.9'; Inv. (out) = 248.8'

Sheet 11

11-1
1 - St'd. DI-3C Req'd.
L = 10'; H = 3.9'; Inv. = 251.4'

11-1 — 11-2
40' - 15" Conc. Pipe Req'd. (2.5' Cover)
Inv.(In) = 251.4'; Inv. (out) = 250.2'

11-2
1 - St'd. DI-3C Req'd.
L = 6'; H = 4.5'; Inv. = 249.6'
(Connect 1-St'd. CD-2 and 2-St'd. UD-4 to Structure)

11-2 — 11-10
27' - 15" Conc. Pipe Req'd. (3.0' Cover)
Inv.(In) = 249.6'; Inv. (out) = 247.8'

11-3
1 - St'd. DI-3C Req'd.
L = 8'; H = 4.7'; Inv. = 246.8'
St'd. IS-1 Inlet Shaping Req'd.
(Connect 1-St'd. CD-2 and 2-St'd. UD-4 to Structure)

11-3 — 11-4
86' - 24" Conc. Pipe Req'd. (3.1' Cover)
Inv.(In) = 246.8'; Inv. (out) = 246.4'

11-4
1 - St'd. DI-3B Req'd.
L = 6'; H = 5.4'; Inv. = 246.4'
St'd. IS-1 Inlet Shaping Req'd.
(Connect 2-St'd. UD-4 To Structure)

11-4 — 11-7
92' - 24" Conc. Pipe Req'd. (4.6' Cover)
Inv.(In) = 246.4'; Inv. (out) = 245.9'

11-5
1 - St'd. DI-3B Req'd.
L = 10'; H = 4.2'; Inv. = 249.8'
St'd. IS-1 Inlet Shaping Req'd.
(Connect 1-St'd. UD-4 To Structure)

11-5 — 11-7
88' - 15" Conc. Pipe Req'd. (2.8' Cover)
Inv.(In) = 249.8'; Inv. (out) = 248.8'

11-6
1 - St'd. DI-3B Req'd.
L = 10'; H = 4.2'; Inv. = 256.3'

11-6 — 11-5
212' - 15" Conc. Pipe Req'd. (2.8' Cover)
Inv.(In) = 256.3'; Inv. (out) = 250.1'

11-7
1 - St'd. DI-3B Req'd.
L = 6'; H = 6.9'; Inv. = 245.9'

11-7 — Ex.11-11
34' - 30" Conc. Pipe Req'd. (4.1' Cover)
Inv.(In) = 245.9'; Inv. (out) = 245.8'

11-8
1 - St'd. DI-3B Req'd.
L = 10'; H = 3.9'; Inv. = 250.4'

11-8 — 11-2
102' - 15" Conc. Pipe Req'd. (2.7' Cover)
Inv.(In) = 250.4'; Inv. (out) = 249.9'

11-9
1 - St'd. DI-3B Req'd.
L = 10'; H = 3.9'; Inv. = 259.1'

11-9 — 11-6
67' - 15" Conc. Pipe Req'd. (2.5' Cover)
Inv.(In) = 259.1'; Inv. (out) = 256.6'

11-10
1 - St'd. DI-7 Req'd.
Grate A, Type III Req'd.
H = 3.0'; Inv. 247.5'
St'd. IS-1 Inlet Shaping Req'd.
(Connect 2-St'd. UD-2 To Structure)

11-10 — 11-3
35' - 18" Conc. Pipe Req'd. (2.6' Cover)
Inv.(In) = 247.5'; Inv. (out) = 247.1'

Ex.11-11
Modify Existing Manhole
Lower Top To Match Finished Grade

Sheet 12

12-1
1 - St'd. DI-3BB Req'd.
L = 14'; H = 11.7'; Inv. = 240.0'
(Connect 1-St'd. UD-4 To Structure)

12-1 — 12-9
75' - 15" Conc. Pipe Req'd. (10.2' Cover)
Inv.(In) = 240.0'; Inv. (out) = 237.0'

12-3
1 - St'd. DI-3B Req'd.
L = 8'; H = 3.9'; Inv. = 242.1'

12-3 — 12-6
43' - 15" Conc. Pipe Req'd. (2.5' Cover)
Inv.(In) = 242.1'; Inv. (out) = 241.0'

12-4
1 - St'd. DI-3B Req'd.
L = 16'; H = 3.9'; Inv. = 251.2'

12-4 — 12-5
150' - 15" Conc. Pipe Req'd. (2.5' Cover)
Inv.(In) = 251.2'; Inv. (out) = 244.5'

12-5
1 - St'd. DI-3B Req'd.
L = 14'; H = 4.2'; Inv. = 244.2'

12-5 — 12-6
85' - 15" Conc. Pipe Req'd. (2.8' Cover)
Inv.(In) = 244.2'; Inv. (out) = 241.0'

12-6
1 - St'd. DI-3A Req'd.
H = 4.2'; Inv. = 240.7'
(Connect 1-St'd. UD-4 To Structure)

12-6 — 12-7
56' - 15" Conc. Pipe Req'd. (2.8' Cover)
Inv.(In) = 240.7'; Inv. (out) = 239.7'

12-7
1 - St'd. DI-3B Req'd.
L = 10'; H = 4.3'; Inv. = 239.4'
(Connect 1-St'd. UD-2 and 1-St'd. UD-4 to Structure)

12-7 — 12-8
20' - 15" Conc. Pipe Req'd. (2.8' Cover)
Inv.(In) = 239.4'; Inv. (out) = 239.2'

12-8
1 - St'd. 15" ES-1 or 2 Req'd.
2.61 Sq.Yds. Standard EC-3 Type B Culvert Outlet
Protection Required

12-9
1 - St'd. 15" ES-1 or 2 Req'd.
1.56 Sq.Yds. Standard EC-1 Class I Required
Type A Installation

Sheet 13

13-1
1 - St'd. DI-3B Req'd.
L = 10'; H = 3.9'; Inv. = 234.2'
(Connect 1-St'd. UD-4 To Structure)

13-1 — 13-2
98' - 15" Conc. Pipe Req'd. (2.7' Cover)
Inv.(In) = 234.2'; Inv. (out) = 233.7'

13-2
1 - St'd. DI-3C Req'd.
L = 6'; H = 4.5'; Inv. = 233.4'
(Connect 1-St'd. UD-4 To Structure)

13-2 — 13-3
31' - 15" Conc. Pipe Req'd. (3.0' Cover)
Inv.(In) = 233.4'; Inv. (out) = 233.3'

13-3
1 - St'd. DI-3B Req'd.
L = 10'; H = 4.4'; Inv. = 233.0'

13-3 — 13-4
116' - 15" Conc. Pipe Req'd. (3.7' Cover)
Inv.(In) = 233.0'; Inv. (out) = 232.4'

13-4
1 - St'd. DI-3C Req'd.
L = 6'; H = 5.5'; Inv. = 232.1'
(Connect 1-St'd. CD-2 and 2-St'd. UD-4 to Structure)

13-4 — 13-5
17' - 15" Conc. Pipe Req'd. (4.0' Cover)
Inv.(In) = 232.1'; Inv. (out) = 231.5'

13-5
1 - St'd. DI-7 Req'd.
Grate A, Type III Req'd.
H = 3.0'; Inv. 231.5'
(Connect 2-St'd. UD-2 To Structure)

13-5 — 13-6
35' - 18" Conc. Pipe Req'd. (2.9' Cover)
Inv.(In) = 231.5'; Inv. (out) = 231.3'

13-6
1 - St'd. DI-3C Req'd.
L = 6'; H = 4.7'; Inv. = 231.3'
(Connect 1-St'd. CD-2 and 2-St'd. UD-4 to Structure)

13-6 — 13-7
17' - 24" Conc. Pipe Req'd. (2.4' Cover)
Inv.(In) = 231.3'; Inv. (out) = 231.2'

13-7
1 - St'd. 24" ES-1 or 2 Req'd.
6.66 Sq.Yds. Standard EC-3 Type B Culvert Outlet
Protection Required
1 - Level Spreader with Plunge Pool Req'd. (See Sheet 2M for details)

13-8
1 - St'd. DI-3B Req'd.
L = 8'; H = 3.9'; Inv. = 233.5'
(Connect 1-St'd. UD-4 To Structure)

13-8 — 13-9
138' - 15" Conc. Pipe Req'd. (2.5' Cover)
Inv.(In) = 233.5'; Inv. (out) = 232.3'

13-9
1 - St'd. DI-3B Req'd.
L = 4'; H = 4.2'; Inv. = 232.0'

13-9 — 13-6
32' - 15" Conc. Pipe Req'd. (2.8' Cover)
Inv.(In) = 232.0'; Inv. (out) = 231.8'

13-10
1 - St'd. DI-3B Req'd.
L = 6'; H = 3.9'; Inv. = 232.1'
(Connect 1-St'd. UD-4 To Structure)

13-10 — 13-6
66' - 15" Conc. Pipe Req'd. (2.7' Cover)
Inv.(In) = 232.1'; Inv. (out) = 231.7'

13-11
1 - St'd. DI-3B Req'd.
L = 6'; H = 3.9'; Inv. = 233.9'
(Connect 1-St'd. UD-4 To Structure)

13-11 — 13-4
76' - 15" Conc. Pipe Req'd. (2.7' Cover)
Inv.(In) = 233.9'; Inv. (out) = 233.4'

Temporary Drainage

T-1
7' - 15" Conc. Pipe Req'd. (1.3' Cover)
Inv.(In) = 238.5'; Inv. (out) = 238.4'
Connect Proposed 15" Pipe To Existing Structure

T-2
60' - 15" Conc. Pipe Req'd. (1.5' Cover)
Inv.(In) = 235.3'; Inv. (out) = 235.0'
Connect Proposed 15" Pipe To Existing Structure

T-3
1 - St'd. 18" ES-1 or 2 Req'd.
3.75 Sq.Yds. Standard EC-1 Class AI Required
Type B Installation

COMMONWEALTH OF VIRGINIA
DAVID JOHN MAHONEY
Lic. No. 020798
PROFESSIONAL ENGINEER

ALLOWABLE PIPE TYPES (UNLESS OTHERWISE SHOWN ON PLANS) (SEE STANDARD DRAWING PC-1 FOR HEIGHT OF COVER LIMITATIONS)

LOCATION (LOUDOUN CO.)	CONCRETE	ALUMINUM COATED TYPE 2 CORRUGATED STEEL	ALUMINUM COATED TYPE 2 CORRUGATED STEEL FULLY ASPHALT COATED	GALVANIZED CORRUGATED STEEL FULLY ASPHALT COATED WITH PAVED INVERT	GALVANIZED STEEL STRUCTURAL PLATE FULLY ASPHALT COATED WITH PAVED INVERT	POLYMER COATED (10/10) CORRUGATED STEEL	CORRUGATED ALUMINUM ALLOY CULVERTS & STRUCTURAL PLATE	PVC (POLYVINYLCHLORIDE STORM DRAIN PIPE) (SMOOTH INTERIOR)	POLYETHYLENE DOUBLE WALL TYPE S AND TYPE D	POLYETHYLENE CORRUGATED TYPE C
Storm Drain Systems: Route 7, Ramps, & Route 607	X									
Culverts: Route 7, Ramps, & Route 607	X	X	X	X	X	X	X	X	X	X
Shoulder Slot Inlets		X	X	X		X	X			X

A			SHEET NO. 21(4)

$TIME$STAMP$