



HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS HOWARD COUNTY CAPITAL PROJECT D-1124-03

GENERAL NOTES

- This contract shall be constructed under provisions of the Maryland Department of Transportation, State Highway Administration (S.H.A.) "Standard Specifications for Construction and Materials," dated January 2001, including all revisions thereof and additions thereto, except where noted otherwise; the Special Provisions included in the invitation for bids book; the Administration Book of Standards for Highways and Incidental Structures; as well as the latest Howard County Design Manual Standards and Specifications & Details for Construction dated 2006 and revisions thereof and additions thereto.
- The Contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1870 at least five (5) working days prior to the start of work.
- The Contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work. The Contractor shall contact the following utilities at least 5 days prior to beginning any work under this contract. For additional information and requirements with respect to utilities, see Special Provisions.
BGE Gas Division (410) 291-5834
BGE Electric Division (410) 855-6958
Verizon (410) 224-9980
Comcast (410) 497-0232
- Project Background:
Location: Elkridge, Maryland
Tax Map: 38
Election District: 1
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD).
- Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the Contractor's expense.
- The existing utilities shown hereon are located from the best information available, but no guarantee is made to their accuracy. The approximate location of existing utilities are shown for the Contractor's information and convenience. The Contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the Contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- Horizontal and vertical datums based on to the Maryland State Plane Coordinate System NAD 83 and NAVD 88 and is referenced to Howard County Survey Control Monuments: 371D N 556,907.4177 E 1,384,460.9875 Elev. 157.314 & 38D6 N 557,155.4454 E 1,384,992.2276 Elev. 174.506
- Clearing shall be limited to the "Limit of Disturbance" as shown on the sediment and erosion control plan. Grading shall be done in such a manner as to provide positive drainage. Contractor shall seed and mulch all disturbed areas except as otherwise directed.
- The contractor shall take extreme caution not to disturb the existing vegetation outside the limits of construction. Soil stabilization shall conform to "Maryland Standards and Specifications for Soil Erosion and Sediment Control," dated 1994, published jointly by Water Management Administration, Soil Conservation Service, and State Soil Conservation Committee.
- All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with AASHTO T-180.
- This drawing is based on a field ran topographic survey performed by Associated Engineering Services, Inc. (AESI) 34 West Franklin St, Hagerstown, Maryland 21740 on or about November 2009.
- All sign posts used for traffic control signs installed in the County Right-of-Way shall be mounted on a 2" galvanized steel, perforated, square tube post (14 gauge) inserted into a 2-1/2" galvanized steel, perforated, square tube sleeve (12 gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.
- A staging and stockpile area will be determined by the contractor and approved by the Howard County Engineer.

MAINTENANCE OF TRAFFIC (MOT)

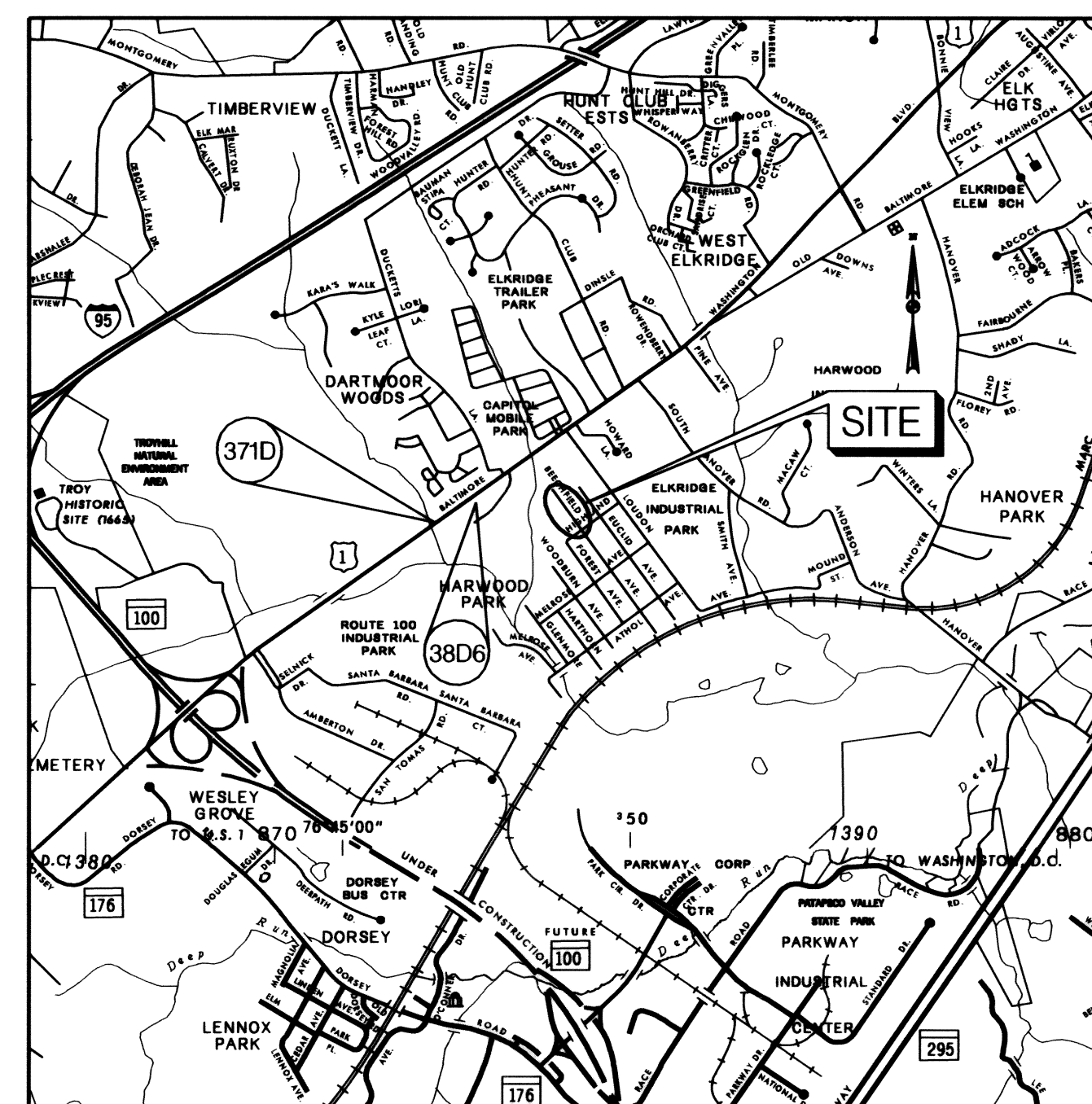
- All work shall be done in accordance with MD SHA Standard Detail MD 104.02-10.
- Contractor to maintain a minimum 10' travel lane at all times.
- Throughout the period of construction, traffic will be maintained by implementing standard traffic control work zone typical plans in accordance with the latest plans and manuals of the Maryland State Highway Administration. The contractor will be required to adhere to The Manual of Uniform Traffic Control Devices (2009 edition and all revisions). The contractor is required to maintain access to all driveways at all times for the duration of the project. If the contractor is unable to reconstruct existing driveway aprons after curb installation, contractor shall provide graded aggregate backfill behind curb to maintain use of driveways. All items not listed in the itemized schedule of prices, required for maintaining traffic, including but not limited to signing, barriers, drums, temporary aggregate and pavement, shall be included in the lump sum unit bid price for maintenance of traffic.

-  PLAN LOCATION OF TEST PIT
-  PLAN LOCATION OF ROADWAY BORING

NOTE:
ROADWAY BORING AND TEST PIT LOG SUMMARY SHEETS
ARE AVAILABLE UPON REQUEST.

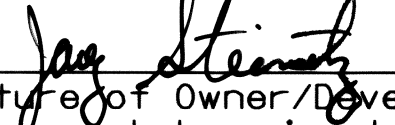
INDEX OF DRAWINGS

SHEET NO.	TITLE
1	TITLE SHEET
2	TYPICAL SECTION AND DETAILS
3	ROADWAY PLAN
4	STORM DRAIN PROFILES, STRUCTURE AND PIPE SCHEDULES
5	MISCELLANEOUS DETAILS
6	GRADING, EROSION AND SEDIMENT CONTROL PLAN
7	EROSION AND SEDIMENT CONTROL NOTES AND DETAILS
8	EROSION AND SEDIMENT CONTROL DETAILS



LOCATION MAP
SCALE: 1" = 2000'

By the Owner/Developer
"I/We certify that all development and/or construction will be done according to these plans, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning project. Also authorize periodic on-site inspections by the Howard Soil Conservation District."


Signature of Owner/Developer
Print name below signature
Jay Steimetz
3/30/10
Date

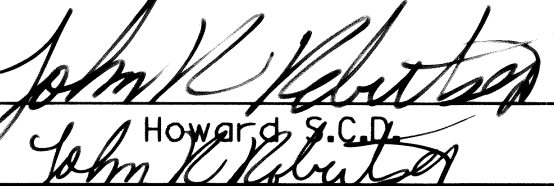
By the Owner/Engineer
"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This Plan was prepared in accordance with the requirements of the Howard Soil Conservation District."

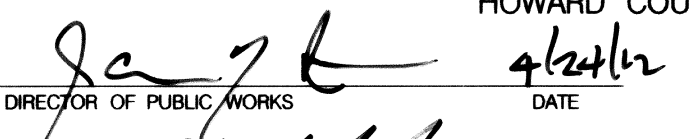

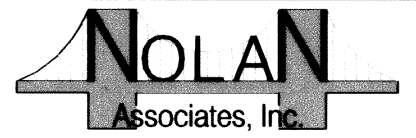


Signature of Engineer
Print name below signature
Charles S. Nolan
3/31/2010
Date


CHARLES S. NOLAN, P.E.
3/31/2010
DATE

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THESE DOCUMENTS ARE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 15212, EXPIRATION DATE: 12/24/2010."

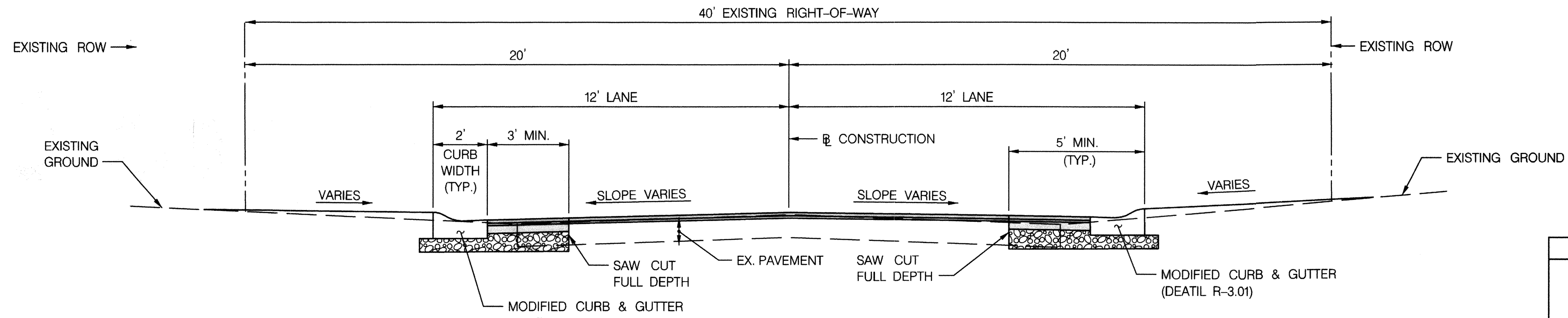
These plans are approved for soil erosion and sediment control by the Howard Soil Conservation District.


John K. Kibitzer
4/8/10
5/8/12
Date

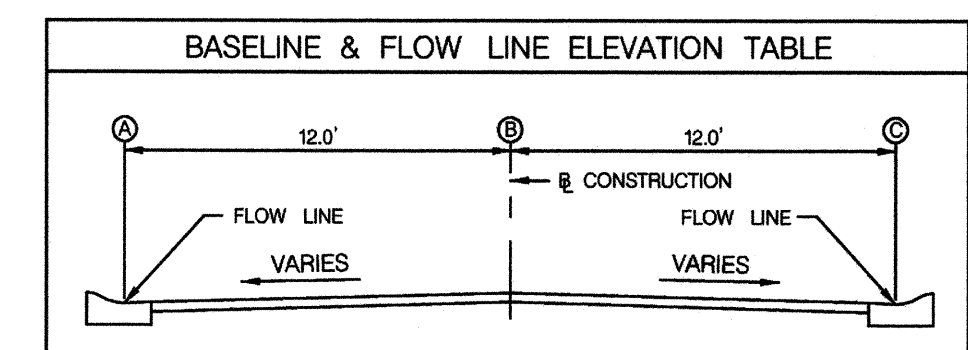
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p> DIRECTOR OF PUBLIC WORKS 4-24-12 DATE</p> <p> CHIEF BUREAU OF ENGINEERING 4/20/12 DATE</p>	<p> NOLAN Associates, Inc. Engineers - Civil/Structural/Inspections 4785 Dorsey Hall Drive Suite 124 Ellicott City, Maryland 21042 Phone: (410) 995-3651 Fax: (410) 995-1363</p>	<p></p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>DES: GWF</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DRN: BSB</td> <td></td> <td></td> <td></td> </tr> <tr> <td>CHK: CSN</td> <td></td> <td></td> <td></td> </tr> <tr> <td>DATE: APRIL 2010</td> <td>BY:</td> <td>NO.:</td> <td>REVISION:</td> </tr> </table>	DES: GWF				DRN: BSB				CHK: CSN				DATE: APRIL 2010	BY:	NO.:	REVISION:	<h2>TITLE SHEET</h2>	<p>BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS CAPITAL PROJECT D-1124-03 ELECTION DISTRICT NO. 1 ELKRIDGE, MARYLAND</p>	<p>SCALE: AS SHOWN</p> <p>SHEET 1 OF 8</p>
DES: GWF																						
DRN: BSB																						
CHK: CSN																						
DATE: APRIL 2010	BY:	NO.:	REVISION:																			

NOTES

1. WIDTH OF EXISTING PAVEMENT MAY EXTEND BEYONDS LIMIT OF PROPOSED CURB AND GUTTER. IF REQUIRED, REMOVE EXISTING ROADWAY PAVEMENT BEYOND FACE OF NEW CURB GUTTER PAN. REMOVAL OF PAVEMENT SHALL BE INCIDENTAL TO CLASS I EXCAVATION.
2. AREA BEHIND BACK OF CURB TO BE ADJUSTED TO MEET EXISTING GROUND WHERE DRIVEWAY MEETS CURB. CONTRACTOR TO RECONSTRUCT DRIVEWAY APRON SIMILAR TO HQ. CO. STD. DETAIL R-6.05 EXCEPT THAT DRIVEWAY WIDTH SHALL MATCH THE WIDTH OF EXISTING DRIVEWAY. DRIVEWAY APRON RECONSTRUCTION TO CONSIST OF P-1 PAVEMENT SECTION, OR REINFORCED CONCRETE AS NOTED.
3. ALL FULL DEPTH SAW CUTS REQUIRED WILL NOT BE MEASURED BUT THE COST WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE CURB AND GUTTER PAY ITEM.
4. THE GAB PLACED UNDER AND BEHIND CURB & GUTTER WILL NOT BE MEASURED BUT THE COST WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE CURB & GUTTER PAY ITEM.

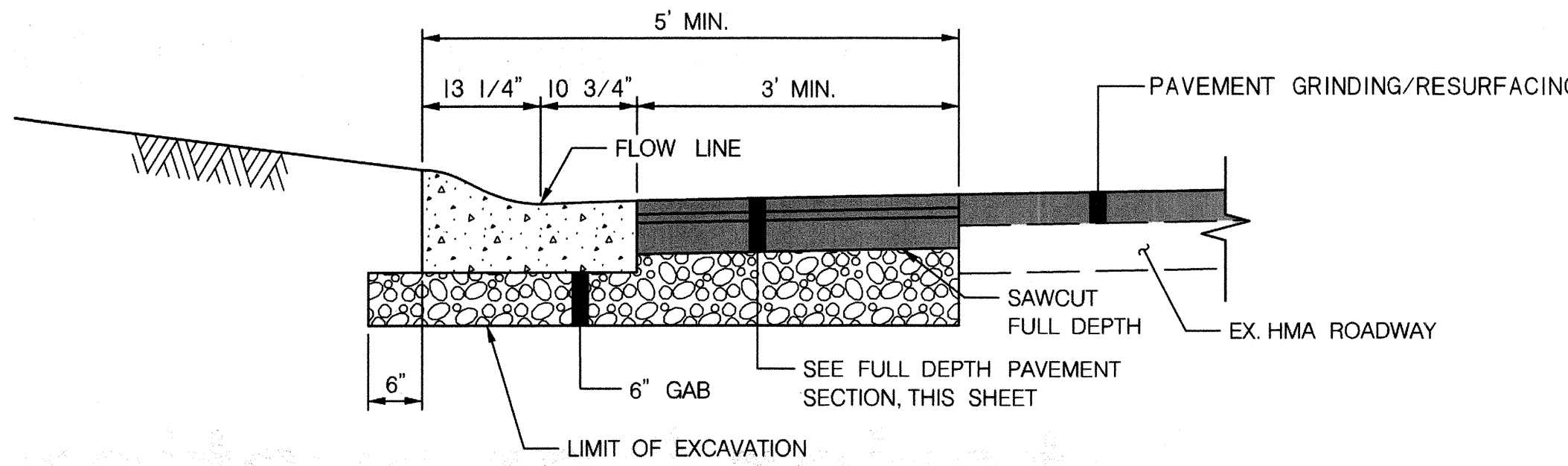


ROADWAY TYPICAL SECTION
STA. 101+67.89 TO STA. 107+13.90
SCALE: 1" = 3'

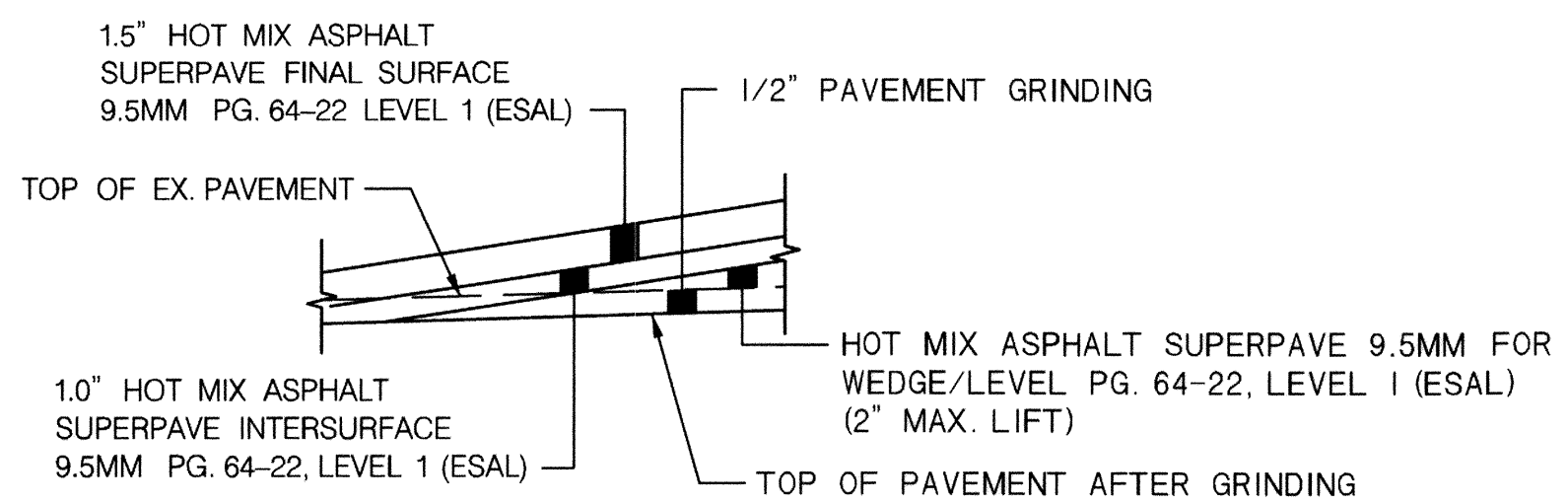


STATION	A		B		C	
	PROP.	EXIST.	PROP.	EXIST.	PROP.	EXIST.
101+52	MEET EXISTING					
101+67.89 (1)	-	-	-	-	183.52	-
101+69.94 (2)	183.39	-	-	-	-	-
101+75	183.44	183.29	183.70	183.44	-	-
102+00	183.37	183.22	183.63	183.37	-	-
102+25	182.69	183.12	183.21	182.46	-	-
102+50	182.44	182.39	182.69	182.44	-	-
102+75	181.76	181.82	182.01	182.11	-	-
103+00	181.30	181.49	181.55	181.70	-	-
103+25	180.22	180.52	180.69	180.90	-	-
103+50	179.46	179.71	179.88	180.12	-	-
103+75	178.30	178.50	178.67	178.92	-	-
104+00	177.08	177.49	177.66	177.84	-	-
104+25	175.86	176.20	176.37	176.30	-	-
104+50	174.61	174.93	175.10	175.19	-	-
104+75	173.72	173.41	173.97	173.72	-	-
105+00	172.29	172.38	172.79	172.54	-	-
105+25	170.63	170.51	170.88	170.63	-	-
105+50	168.68	168.82	168.93	168.68	-	-
105+75	166.64	166.23	166.40	166.16	-	-
106+00	163.72	163.80	163.97	163.96	-	-
106+25	161.23	161.36	161.93	161.80	-	-
106+50	158.87	159.14	159.31	159.46	-	-
106+75	156.80	156.54	157.01	156.80	-	-
107+00	154.26	154.16	154.51	154.26	-	-
107+13.90 (3)	153.22	-	-	153.22	-	-
107+25	152.03 (4)	152.12	152.64	151.68 (4)	-	-
107+50	151.07 (4)	150.71	150.71	151.04 (4)	-	-
107+53 (5)	150.96	-	-	150.96	-	-

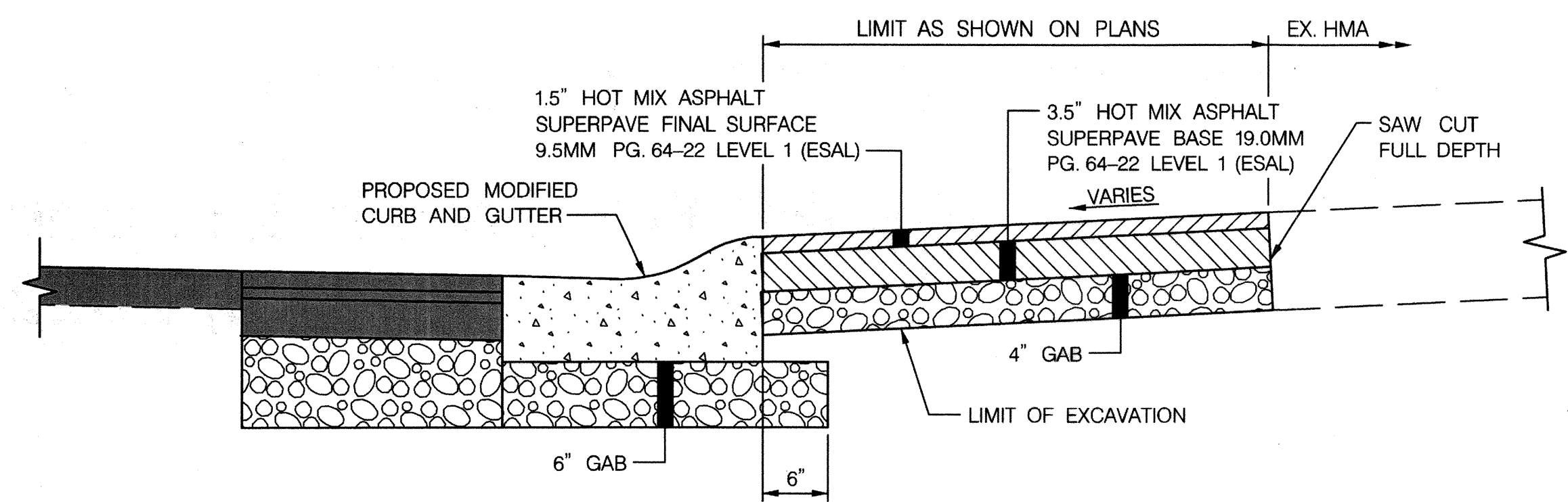
- (1) - P.T. CURB FLOW LINE ELEVATION RIGHT OF B
- (2) - P.T. CURB FLOW LINE ELEVATION LEFT OF B
- (3) - P.C. CURB FLOW LINE ELEVATION LEFT AND RIGHT OF B
- (4) - P.C. FLOW LINE ELEVATION 30' LEFT AND RIGHT OF B
- (5) - CURB FLOW LINE ELEVATION AT B AND 30' LEFT AND RIGHT



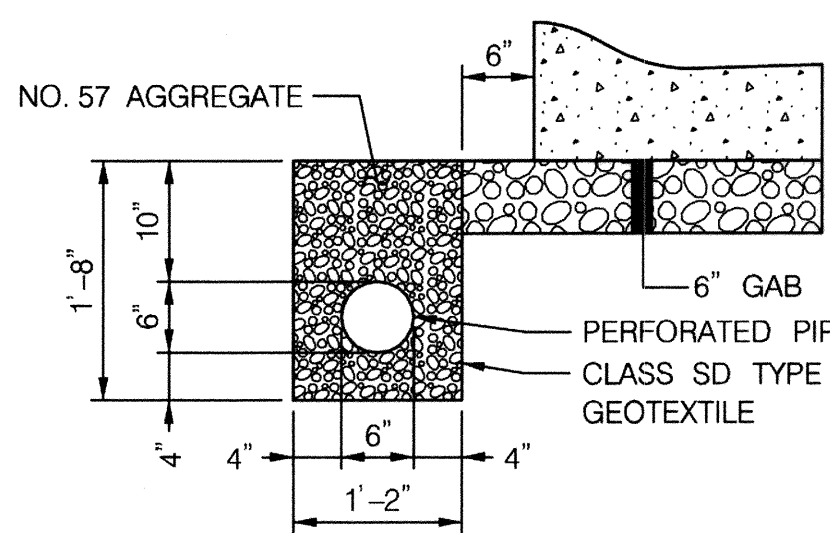
DETAIL FOR MODIFIED COMBINATION CURB AND GUTTER CONSTRUCTION
NOT TO SCALE



PAVEMENT WEDGE/LEVEL DETAIL
NOT TO SCALE

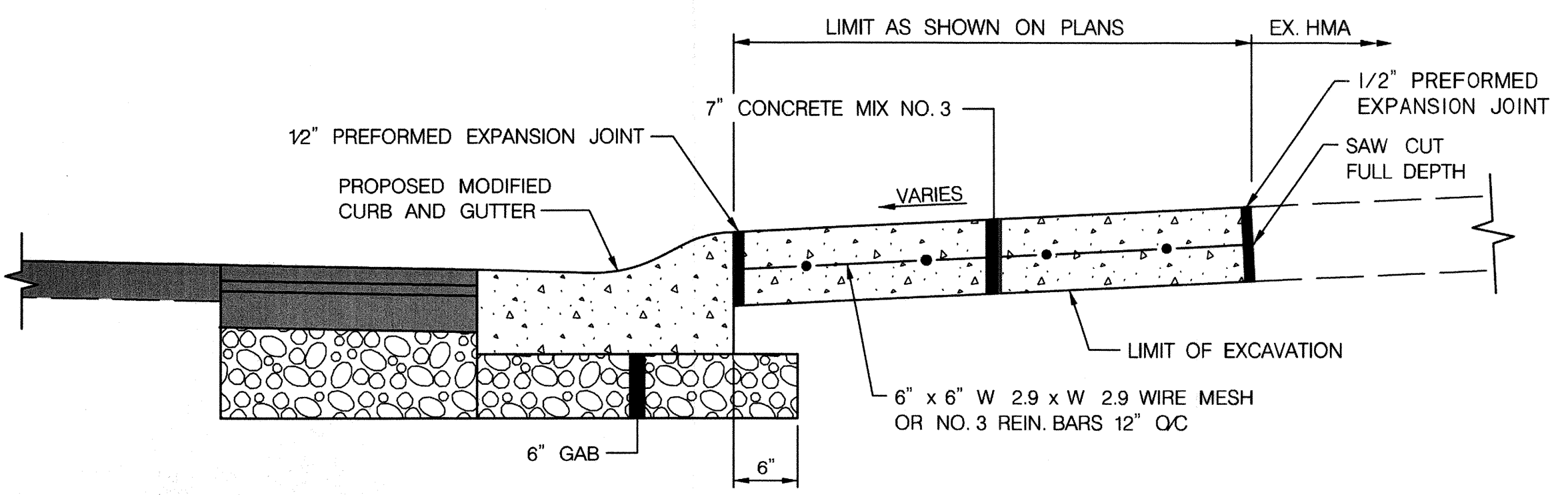


P-1 PAVEMENT SECTION FOR DRIVEWAY RECONSTRUCTION
NOT TO SCALE

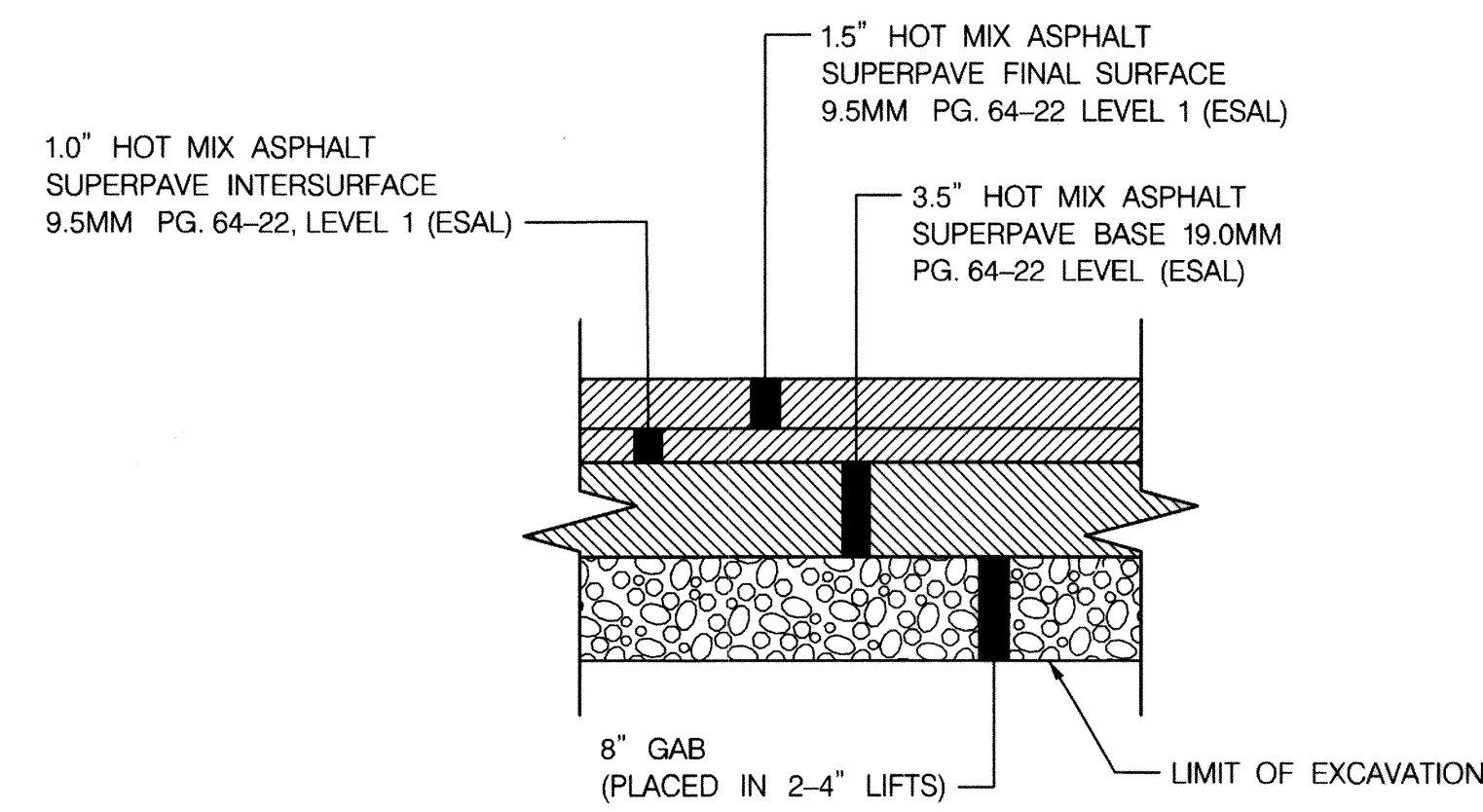


6" LONGITUDINAL UNDERDRAIN DETAIL
NOT TO SCALE

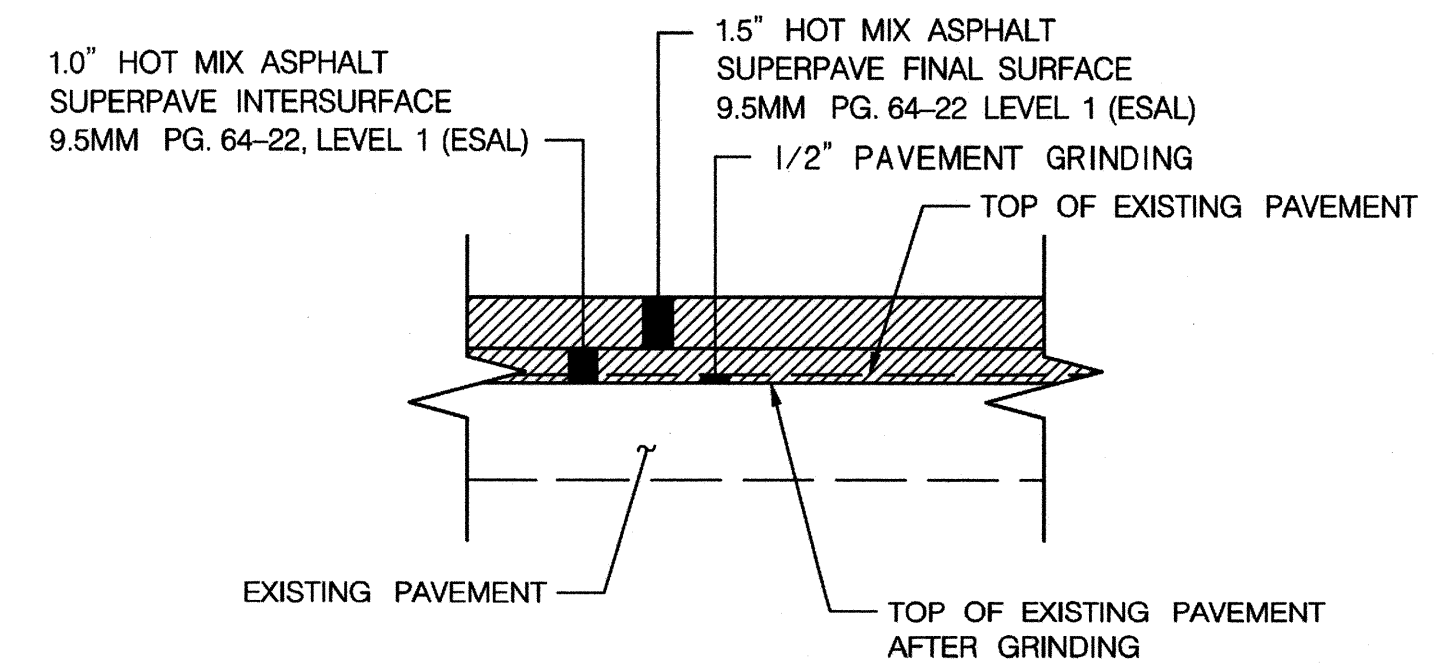
NOTE:
FOR ADDITIONAL INFORMATION SEE DETAIL R-1.09



REINFORCED CONCRETE SECTION FOR DRIVEWAY RECONSTRUCTION
NOT TO SCALE



P-2 PAVEMENT SECTION DETAIL FOR PATCH AND WIDENING AREAS
NOT TO SCALE



PAVEMENT GRINDING/RESURFACING DETAIL
NOT TO SCALE

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

John K. ... 4/24/12
DIRECTOR OF PUBLIC WORKS DATE

Monica S. ... 4/25/12
CHIEF, BUREAU OF ENGINEERING DATE

Steve Shaver 4/20/12
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

NOLAN
Associates, Inc.
Engineers - Civil/Structural/Inspection
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042

Phone: (410) 995-3851 Fax: (410) 995-1383



DES:	GW				
DRN:	BSB				
CHK:	CSN				
DATE:	APRIL 2010				
BY:	NO.				
REVISION:					
DATE:					

TYPICAL ROADWAY SECTION AND DETAILS

600' SCALE MAP NO. _____ BLOCK NO. _____

BEECHFIELD AVENUE
DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELKRIDGE, MARYLAND

SCALE:
AS SHOWN

SHEET
2 OF 8

INSTALL TYPE 'C' DEAD END BARRICADE
(HO. CO. STD. R-5.11)
STA. 107+58, 20' LT. TO 20' RT. - 40 L.F.

ADJUST EXISTING SANITARY MANHOLE FRAME AND COVER
STA. 102+08, LT. EXIST. ELEV. 183.17 PROP. ELEV. 183.65
STA. 104+38.41, LT. EXIST. ELEV. 174.90 PROP. ELEV. 175.50
STA. 107+50, LT. EXIST. ELEV. 151.05 PROP. ELEV. 150.72

GRIND EXISTING PAVEMENT
STA. 101+52 TO STA. 107+39, RT. - 1081 S.Y.

RELOCATE EXISTING WATER METER
STA. 104+72, LT. - 1 EACH
STA. 106+97, LT. - 1 EACH

REMOVE AND REPLACE CONCRETE SIDEWALK (4" THICKNESS)
STA. 106+40 TO STA. 106+43, LT. - 24 S.F.
STA. 106+85.5 TO STA. 106+89, LT. - 27 S.F.

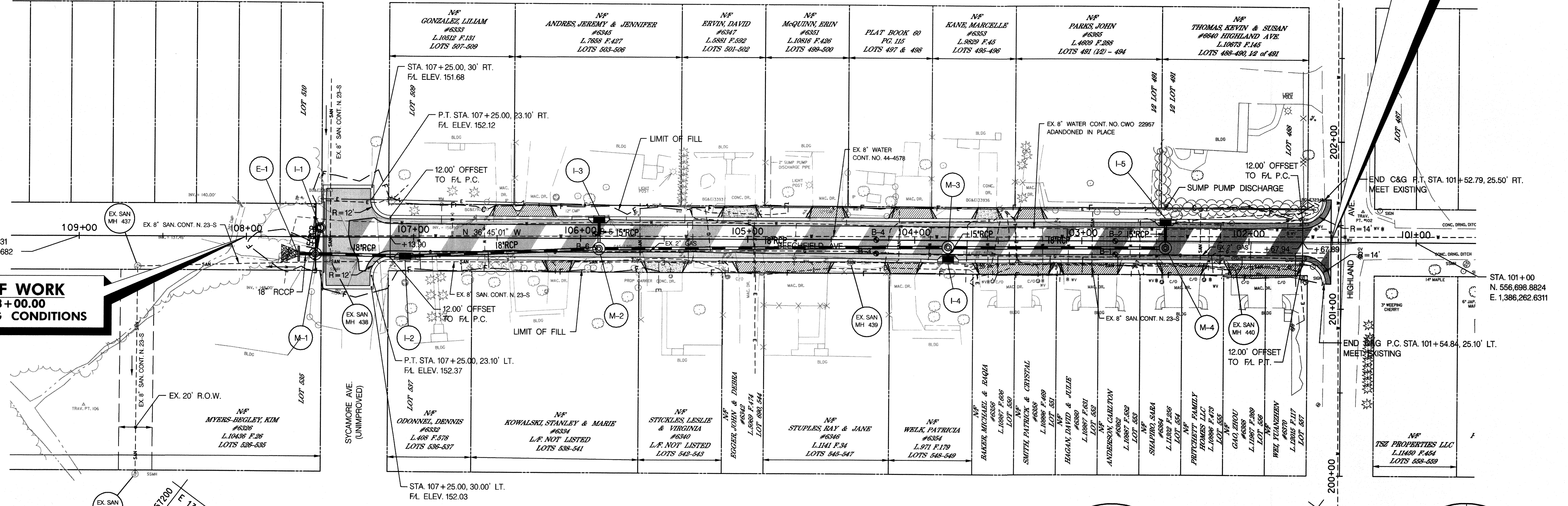
INSTALL CLASS I RIPRAP OUTLET PROTECTION
STA. 107+69 TO STA. 107+79, LT. - 8 S.Y.

NOTE: RELOCATED LOCATION TO BE DETERMINED
IN FIELD BY ENGINEER AND HOWARD COUNTY
BUREAU OF UTILITIES REPRESENTATIVE.
CONTRACTOR SHALL COORDINATE RELOCATION
WITH ENGINEER.

NOTE: SIDEWALK TO BE REMOVED AND REPLACED FROM
BACK OF PROPOSED CURB TO RIGHT-OF-WAY LINE.
SIDEWALK SHALL BE SAW CUT AT RIGHT-OF-WAY LINE.

LIMIT OF WORK
STA. 101+50.94
MEET EXISTING CONDITIONS

LIMIT OF WORK
STA. 108+00.00
MEET EXISTING CONDITIONS



ROADWAY PLAN
SCALE: 1" = 30'

INSTALL 6-INCH LONGITUDINAL UNDERDRAIN
(SEE DETAIL ON SHEET NO. 2)
STA. 101+80 TO STA. 102+50, RT. - 70 L.F. (TIE INTO I-5)
(SEE NOTE 1)
STA. 102+55 TO STA. 105+89, RT. - 334 L.F. (TIE INTO I-3)
(SEE NOTE 2)

NOTES: 1. CONTRACTOR TO LOCATE EXISTING SUMP PUMP DISCHARGE
PIPE, STA. 102+52(±), RT AND CONNECT TO I-5 INLET AS
DIRECTED BY THE ENGINEER COST SHALL BE INCIDENTAL
TO UNDERDRAIN PAY ITEM.
2. CONNECT EXISTING 2" SUMP PUMP DISCHARGE PIPE,
STA. 104+86, RT. INTO UNDERDRAIN AS DIRECTED BY
THE ENGINEER. COST SHALL BE INCIDENTAL TO
UNDERDRAIN PAY ITEM.

CONSTRUCT 7" COMBINATION CURB AND GUTTER
STA. 101+53, 21' LT. TO STA. 101+53, 21' RT. - 47 L.F.
SEE DETAIL SHEET 5.

CONSTRUCT MODIFIED COMBINATION CURB AND GUTTER
STA. 101+55, LT. TO STA. 101+53, RT. - 1253 L.F.
NOTES: 1. PROVIDE CURB TRANSITIONS AT ALL INLETS AS SHOWN
IN DETAIL R-3.06.
2. MODIFY CURB ALIGNMENT TO CLEAR SANITARY SEWER
MANHOLE FRAME AND COVER AT STA. 104+38.41, LT.

REMOVE AND RELOCATE EXISTING WOOD FENCE
STA. 104+12 TO STA. 104+40, RT. - 40 L.F.

NOTE: CONTRACTOR AND ENGINEER SHALL DOCUMENT
CONDITION OF EXISTING FENCE TO DETERMINE IF
RE-USE OF MATERIAL IS FEASIBLE. IF DETERMINED
THAT NEW MATERIAL IS REQUIRED CONTRACTOR
SHALL MATCH EXISTING FENCE STYLE. A MAILBOX
LOCATED ON FENCE SHALL BE RELOCATED ALONG
WITH THE FENCE WITH COST INCLUDED AS PART
OF FENCE RELOCATION PAY ITEM.

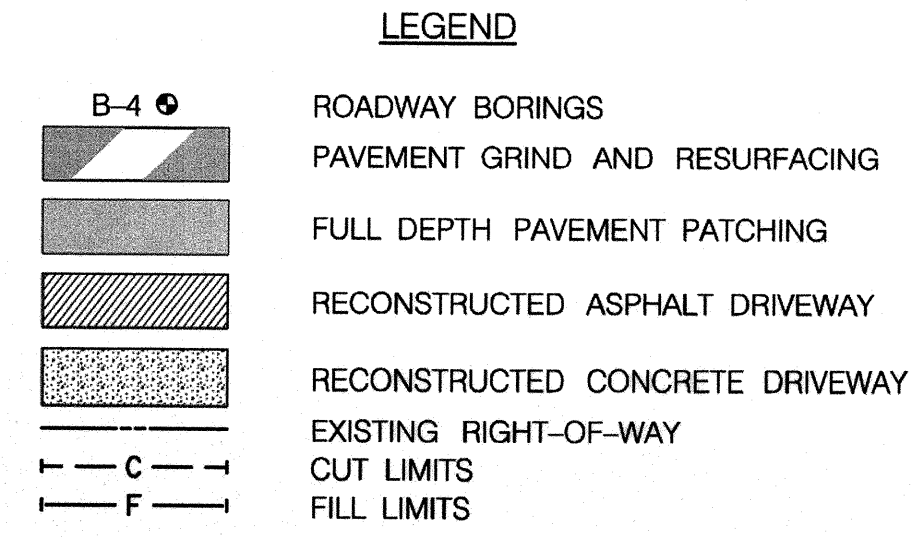
REMOVE AND RELOCATE EXISTING MAILBOX
101+67, LT. 103+13, RT.
102+14.5' LT. 103+45.5' RT.
102+67' LT. 104+64' RT.
103+15, LT. 104+92, RT.
103+64, LT. 105+65, RT.
103+84, LT. 106+55, RT.
104+52, LT.
105+09, LT.
105+12, LT.
105+38, LT.
106+39.5, LT.
106+84, LT.
107+11, LT.

NOTE: CONTRACTOR AND ENGINEER SHALL DOCUMENT
THE LOCATION, TYPES AND CONDITION OF
EXISTING MAILBOXES THAT WILL BE AFFECTED BY
CONSTRUCTION. CONTRACTOR SHALL REMOVE AND
RELOCATE IMPACTED MAILBOXES AS PER DIRECTION
OF ENGINEER. THE COST OF REMOVAL AND
RELOCATION SHALL BE INCLUDED AS PART OF THE
CONTRACT LUMP SUM PAY ITEM.

RECONSTRUCT DRIVEWAY WITH P-1 PAVEMENT
STA. 103+21 TO STA. 103+41, RT. - 117 S.F.
STA. 103+87 TO STA. 104+16, RT. - 171 S.F.
STA. 104+39 TO STA. 104+65, RT. - 153 S.F.
STA. 106+14 TO STA. 106+55, RT. - 234 S.F.
STA. 101+67 TO STA. 102+14, LT. - 360 S.F.
STA. 102+25 TO STA. 102+55, LT. - 190 S.F.
STA. 102+75 TO STA. 103+15, LT. - 252 S.F.
STA. 103+16 TO STA. 103+65, LT. - 332 S.F.
STA. 103+94 TO STA. 104+18, LT. - 135 S.F.
STA. 104+48 TO STA. 105+09, LT. - 405 S.F.
STA. 106+03 TO STA. 106+23, LT. - 117 S.F.

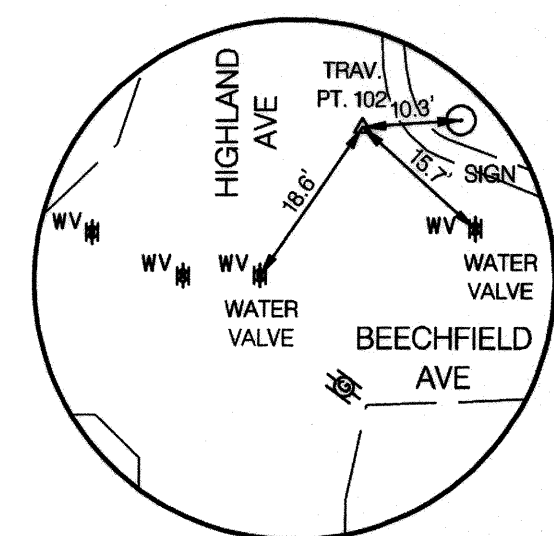
RECONSTRUCT DRIVEWAY WITH REINFORCED CONCRETE
STA. 103+47 TO STA. 103+66, RT. - 108 S.F.
STA. 104+92 TO STA. 105+18, RT. - 162 S.F.
STA. 105+35 TO STA. 105+64, LT. - 171 S.F.

REMOVE EXISTING PIPE
12" CMP - STA. 104+43 TO STA. 104+63, RT.
12" CMP - STA. 104+95 TO STA. 105+15, RT.
12" CMP - STA. 105+83 TO STA. 106+63, LT.
8" DIP - STA. 107+33 TO STA. 107+62, LT.
NOTE: COST OF REMOVAL OF EXISTING PIPE
SHALL BE INCIDENTAL TO CLASS I
EXCAVATION WITH COST PAY ITEM.

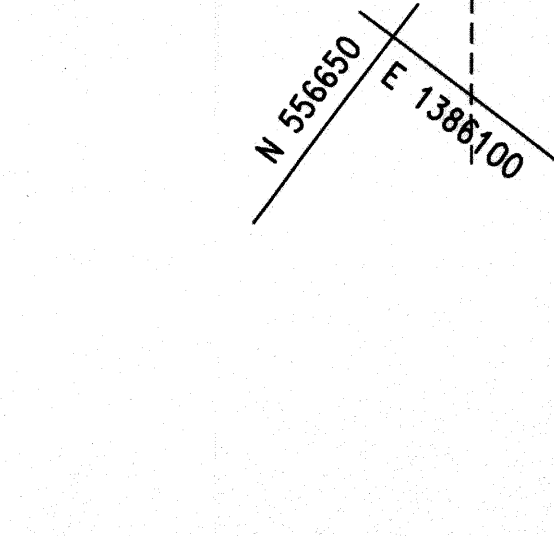


NOTE: ALL TREES AND SHRUBS WITHIN THE LOD ARE TO REMAIN IN PLACE
AND UNHARMED TO THE MAXIMUM EXTENT POSSIBLE. IF IT IS DETERMINED
THAT A TREE OR SHRUB REQUIRES REMOVAL, THE CONTRACTOR SHALL
REMOVE AND RESET THE EX. TREE OR SHRUB TO THE SATISFACTION OF THE
COUNTY ENGINEER. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE
COUNTY ENGINEER PRIOR TO THE REMOVAL ALL COST FOR THE REMOVAL
AND RESETTING OF EXIST. TREE OR SHRUB SHALL BE INCLUDED AS PART OF
THE LUMP SUM PAY ITEM.

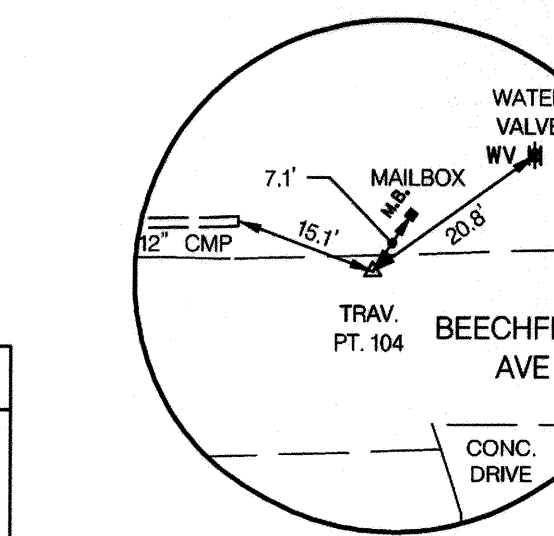
NOTE: THE CONTRACTOR SHALL MAKE EVERY EFFORT TO MINIMIZE IMPACTS TO
EXISTING LANDSCAPING AND PLANTING BEDS. IF IT IS DETERMINED THAT
LANDSCAPING OR PLANTING BEDS ARE IMPACTED, THE CONTRACTOR SHALL
REMOVE AND REPLACE EX. LANDSCAPING TO THE SATISFACTION OF THE
COUNTY ENGINEER. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE
COUNTY ENGINEER PRIOR TO DISTURBING THE EXISTING LANDSCAPING SHALL
BE INCLUDED AS PART OF THE LUMP SUM PAY ITEM.



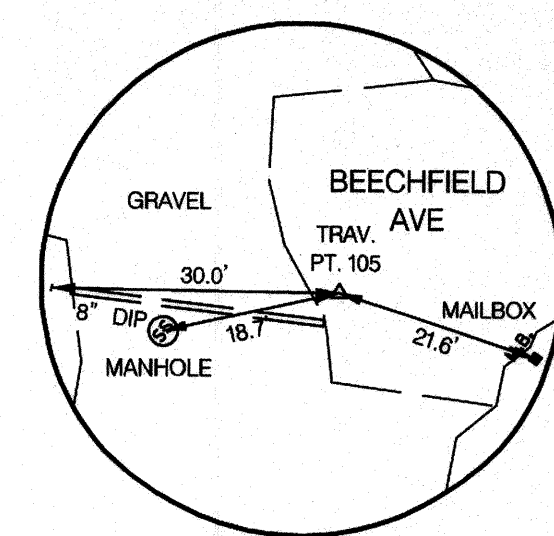
TRAV. PT. 102
N. 556,735.4469
E. 1,386,258.2730
ELEV. 183.14



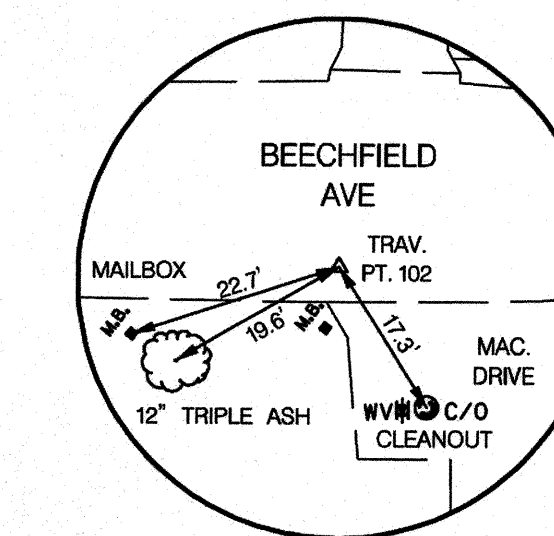
TRAV. PT. 103
N. 556,903.3979
E. 1,386,097.8952
ELEV. 178.63



TRAV. PT. 104
N. 557,079.8735
E. 1,385,988.4318
ELEV. 167.05



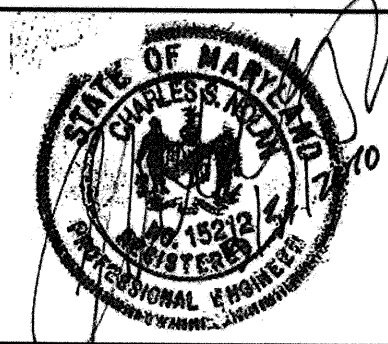
TRAV. PT. 105
N. 557,198.6595
E. 1,385,876.3236
ELEV. 151.69



TRAV. PT. 106
N. 557,276.9377
E. 1,385,704.9936
ELEV. 128.34

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Director of Public Works: [Signature]
Chief, Bureau of Engineering: Thomas S. Rutler 4/25/12
Chief, Bureau of Highways: [Signature] 4-24-12
Chief, Transportation and Special Projects Division: Steve Sharov 4/20/12

NOLAN
Associates, Inc.
Engineers - Civil/Structural/Inspections
4785 Dorsey Hall Drive
Suite 124
Ellicott City, Maryland 21042
Phone: (410) 995-3681 Fax: (410) 995-1363



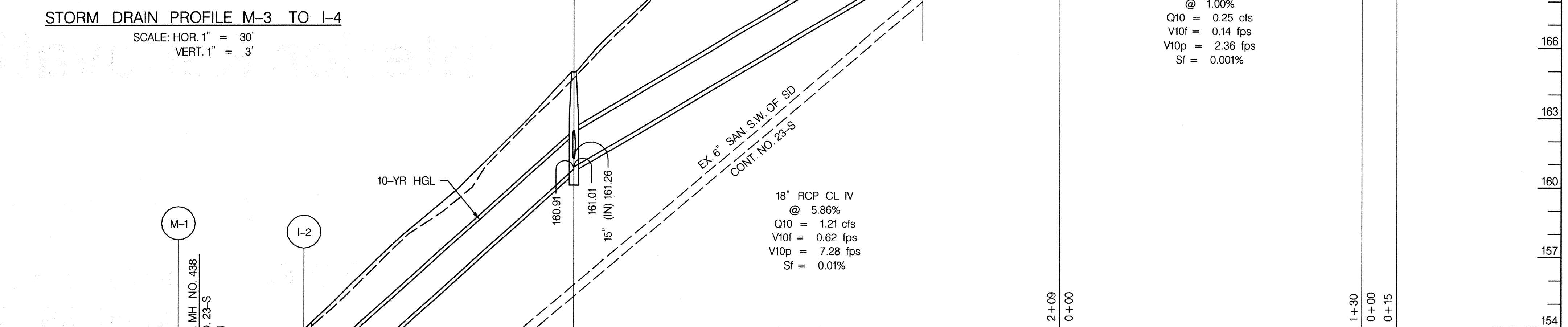
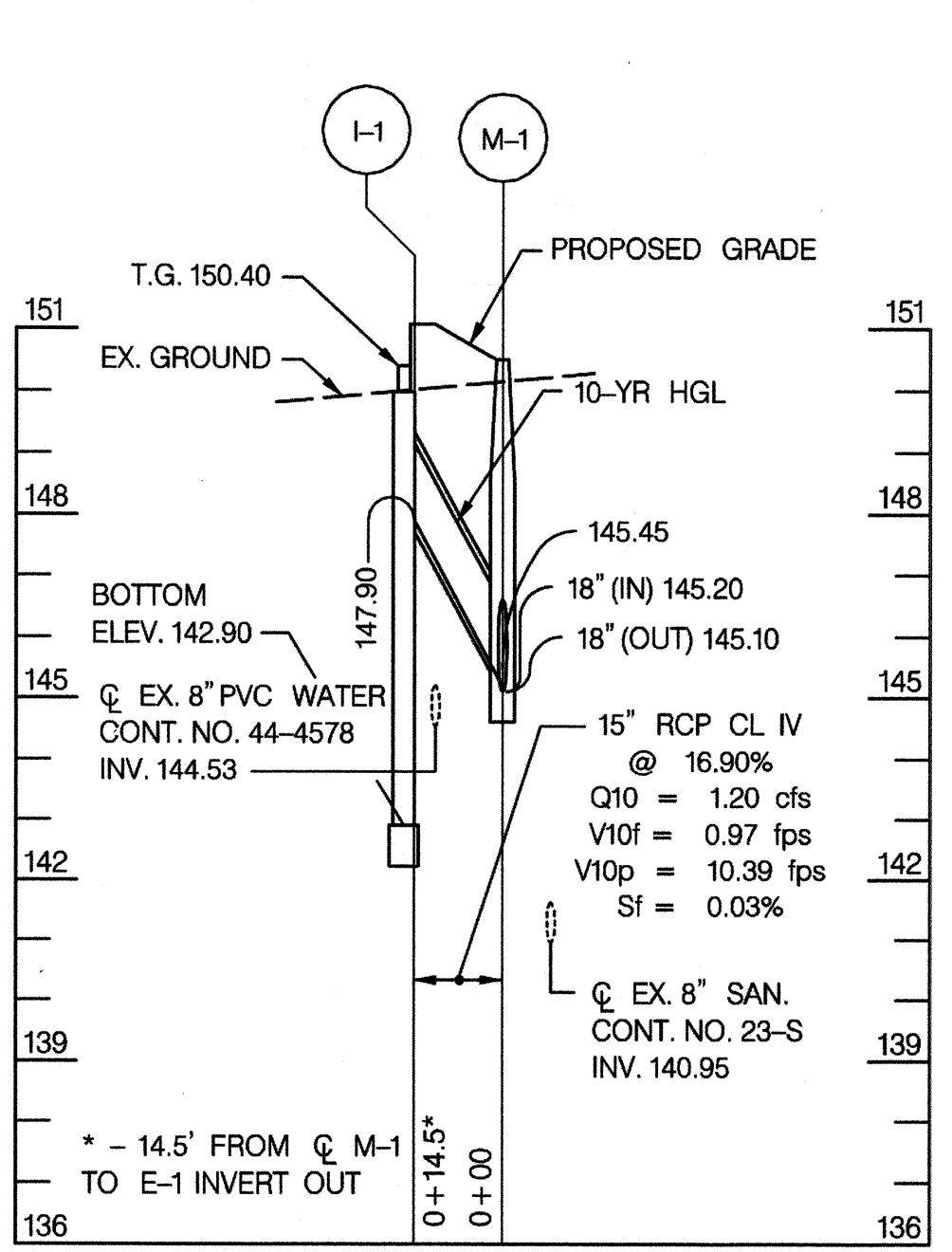
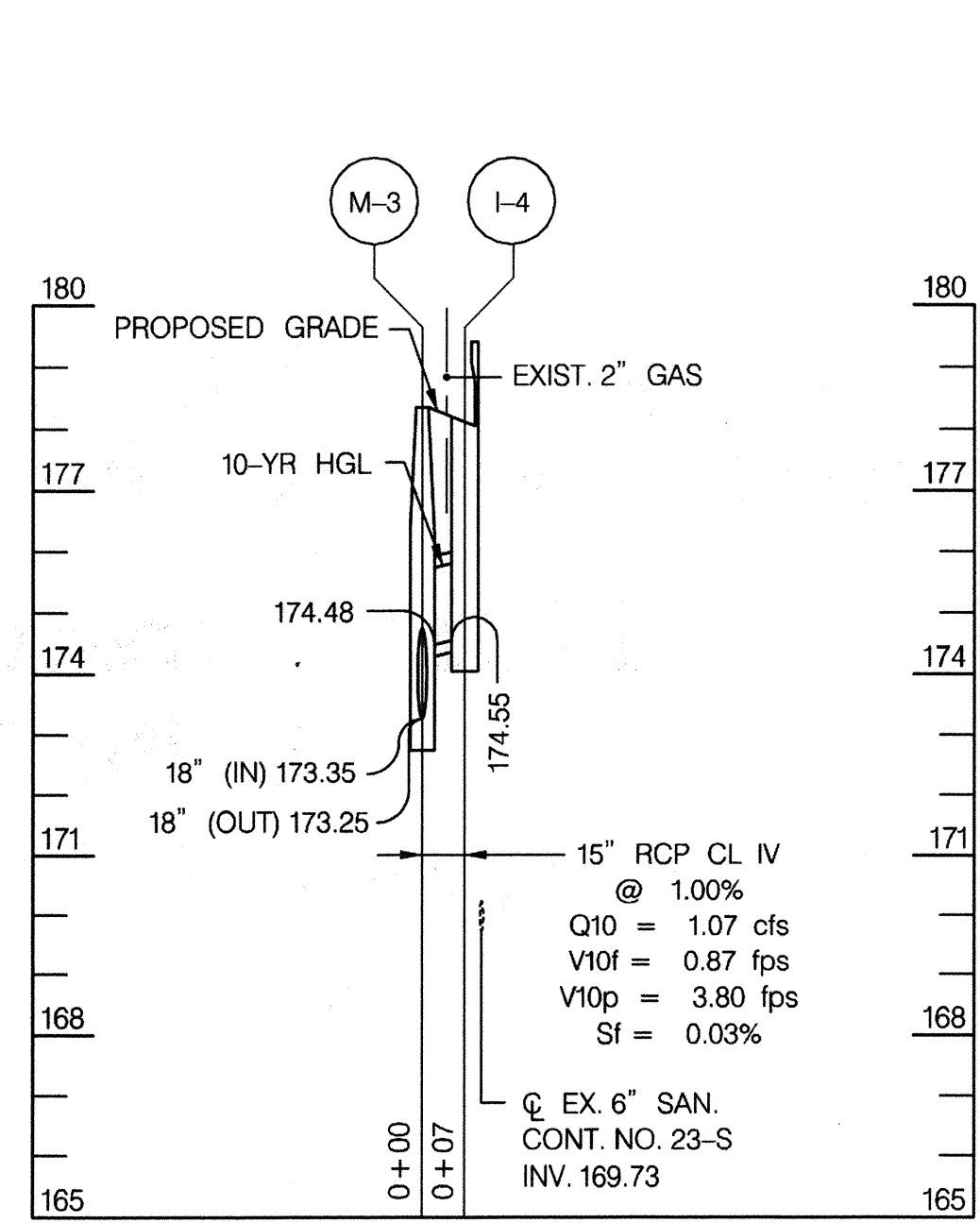
DES:	GWF				
DRN:	BSB				
CHK:	CSN				
DATE:	APRIL 2010	BY	NO.	REVISION	DATE

ROADWAY PLAN

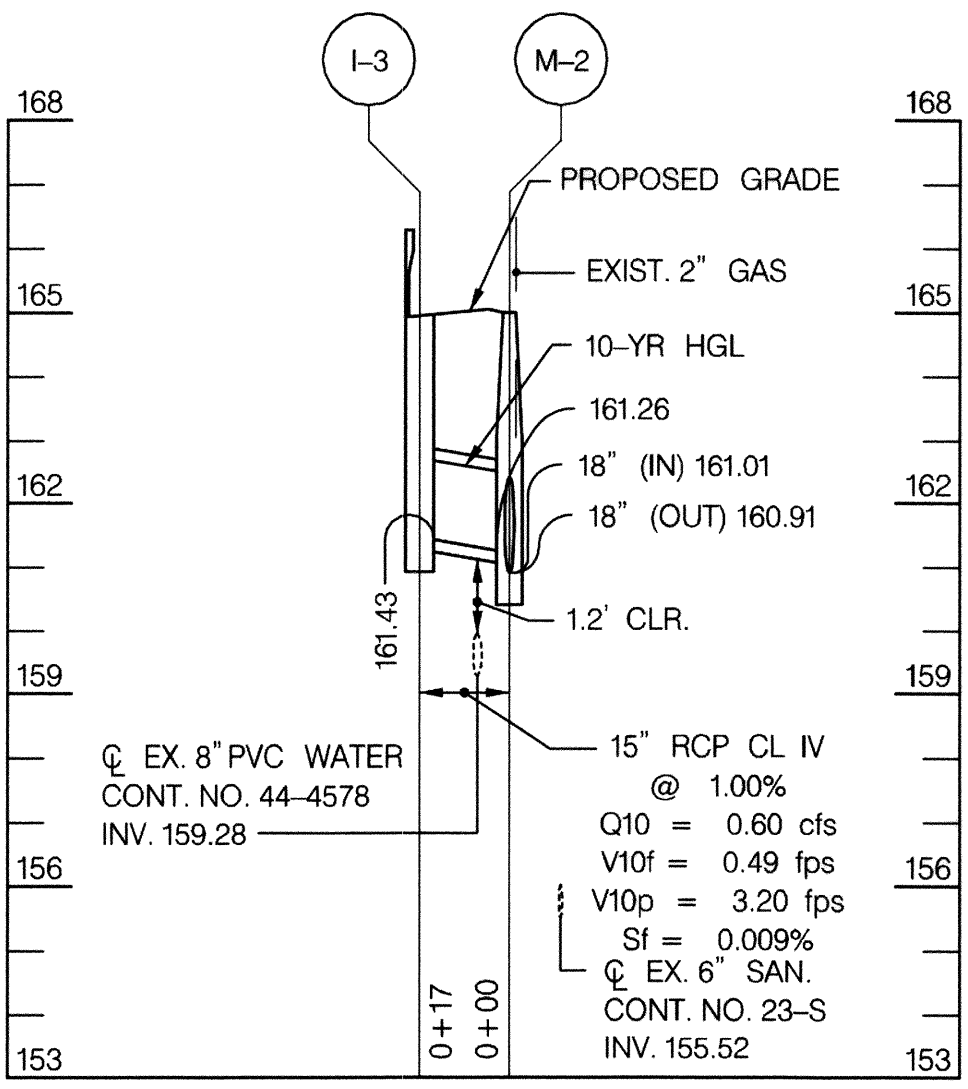
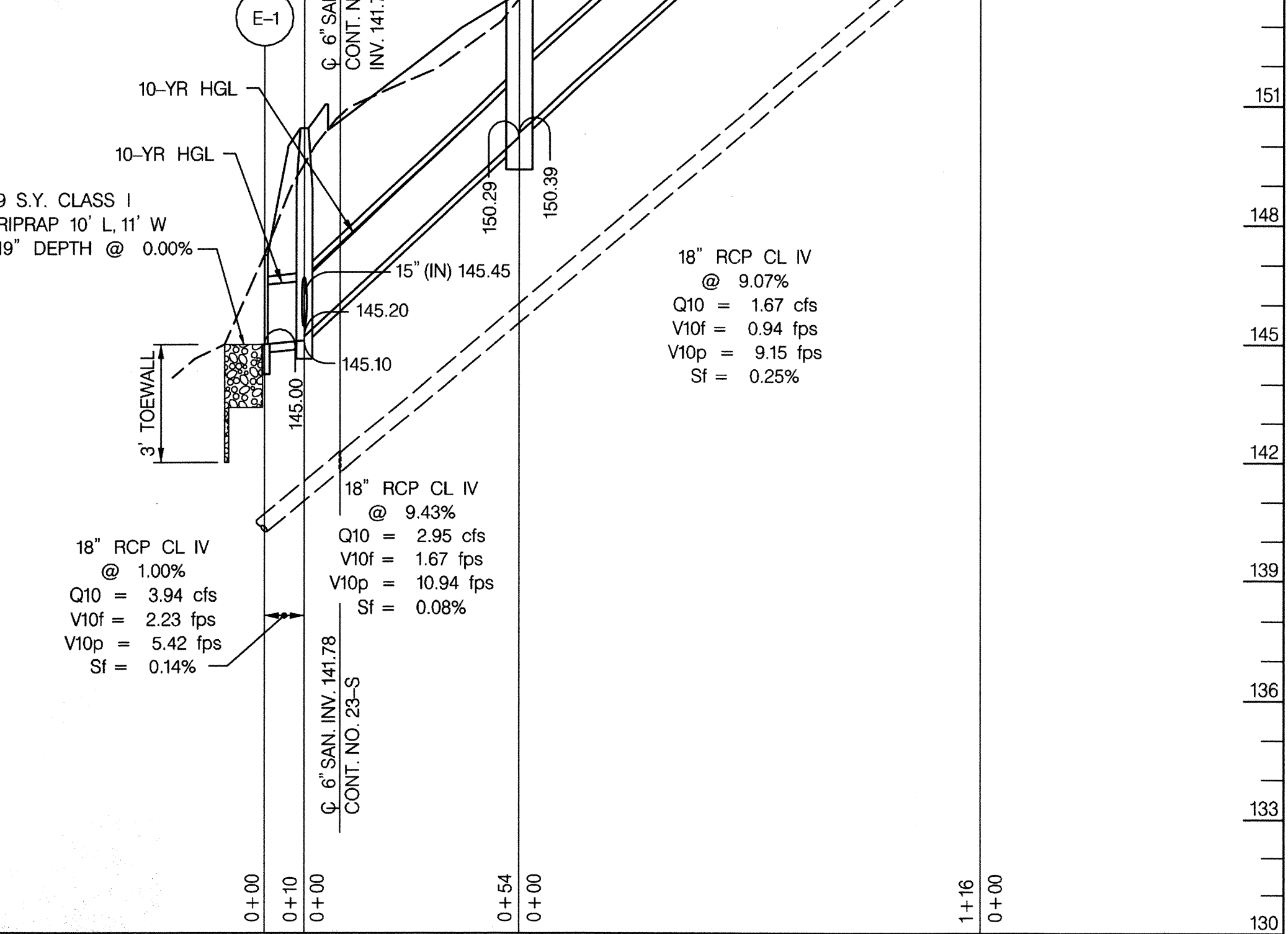
600' SCALE MAP NO. _____ BLOCK NO. _____

BEECHFIELD AVENUE
DRAINAGE IMPROVEMENTS
CAPITAL PROJECT D-1124-03
ELECTION DISTRICT NO. 1
ELK RIDGE, MARYLAND

SCALE:
AS SHOWN
SHEET
3 OF 8



FROM STRUCT.	TO STRUCT.	SIZE (IN.)	TYPE	LENGTH (FT.)
M-1	E-1	18"	RCCP CL IV	10
I-1	M-1	15"	RCCP CL IV	15'
I-2	M-1	18"	RCCP CL IV	54
M-2	I-2	18"	RCCP CL IV	116
I-3	M-2	15"	RCCP CL IV	17
M-3	M-2	18"	RCCP CL IV	209
I-4	M-3	15"	RCCP CL IV	7
M-4	M-3	18"	RCCP CL IV	130
I-5	M-4	15"	RCCP CL IV	15



NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL.	STD. NO.
I-1	STC 450I PRECAST CONCRETE STORMCEPTOR	STA. 107+56, 5.50' RT.***	—	147.90	151.40**	SEE DETAIL
I-2	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 107+05, 12' LT.*	150.39	150.29	153.89	MDSA STD. NO. MD-374.4I
I-3	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 105+89, 12' RT.*	—	161.43	164.93	MDSA STD. NO. MD-374.4I
I-4	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 103+80, 12' LT.*	—	174.55	178.05	MDSA STD. NO. MD-374.4I
I-5	PRECAST STD. TYPE 'S' COMB. INLET DOUBLE GRATE TANDEM W/VANE GRATE	STA. 102+50, 12' RT.*	—	175.05	182.44	MDSA STD. NO. MD-374.4I
M-1	PRECAST MANHOLE	STA. 107+59, 10' LT.	145.20 (18") 145.45 (15")	145.10	150.50	HO. CO. STD. G-5.1I
M-2	PRECAST MANHOLE	STA. 105+89, 6.0' LT.	161.26 (15") 161.01 (18")	160.91	165.00	HO. CO. STD. G-5.1I
M-3	PRECAST MANHOLE	STA. 103+80, 4.0' LT.	174.48 (15") 173.35 (18")	173.25	178.35	HO. CO. STD. G-5.1I
M-4	PRECAST MANHOLE	STA. 102+50, 4.0' LT.	174.90	174.65	182.61	HO. CO. STD. G-5.1I
E-1	TYPE 'C' ENDWALL FOR CIRCULAR PIPE	STA. 107+69, 10' LT.	—	145.00	147.25	HO. CO. STD. D-5.2I

**--OFFSET AND TOP GRATE ELEVATION AT FLOWLINE
 ***--TOP GRATE ELEVATION
 ****--LOCATION GIVEN TO CENTER OF STRUCTURE.
 NOTE THAT GRATE IS OFFSET FROM CENTER PER DETAIL.

STORM DRAIN PROFILE E-1 TO I-5
 SCALE: HOR. 1" = 30'
 VERT. 1" = 3'

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

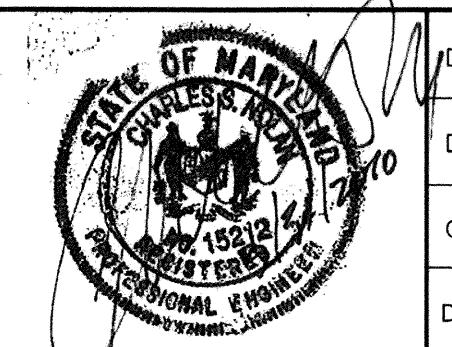
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

John B. ...
 DIRECTOR OF PUBLIC WORKS
 DATE 4/24/12

Thomas J. Ruttle
 CHIEF, BUREAU OF ENGINEERING
 DATE 4/24/12

Steve ...
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
 DATE 4/24/12

NOLAN
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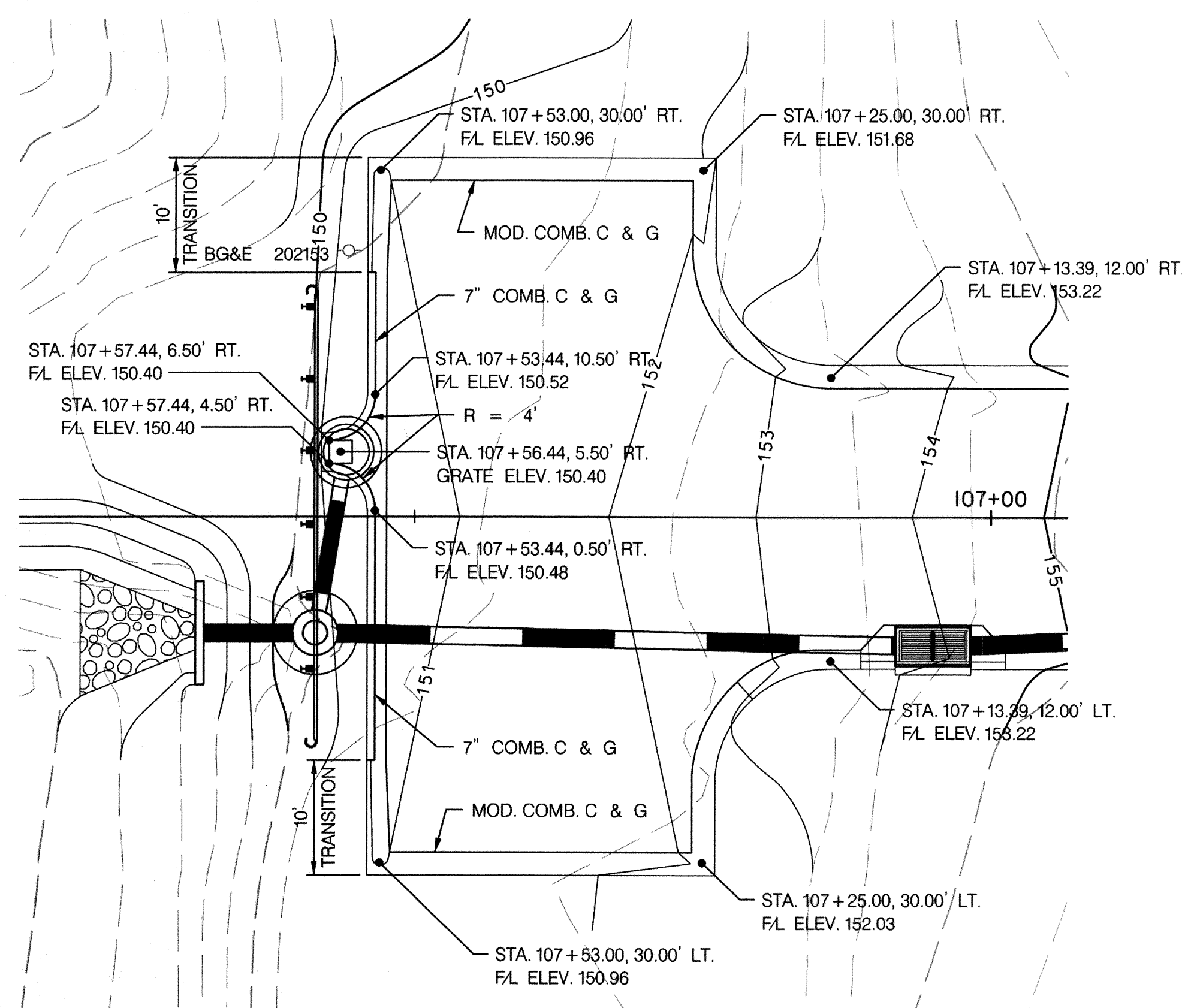


DES:	GWF	BY	NO.	REVISION	DATE
DRN:	BSB				
CHK:	CSN				
DATE:	APRIL 2010				

**STORM DRAIN PROFILES,
 STRUCTURE & PIPE
 SCHEDULES**

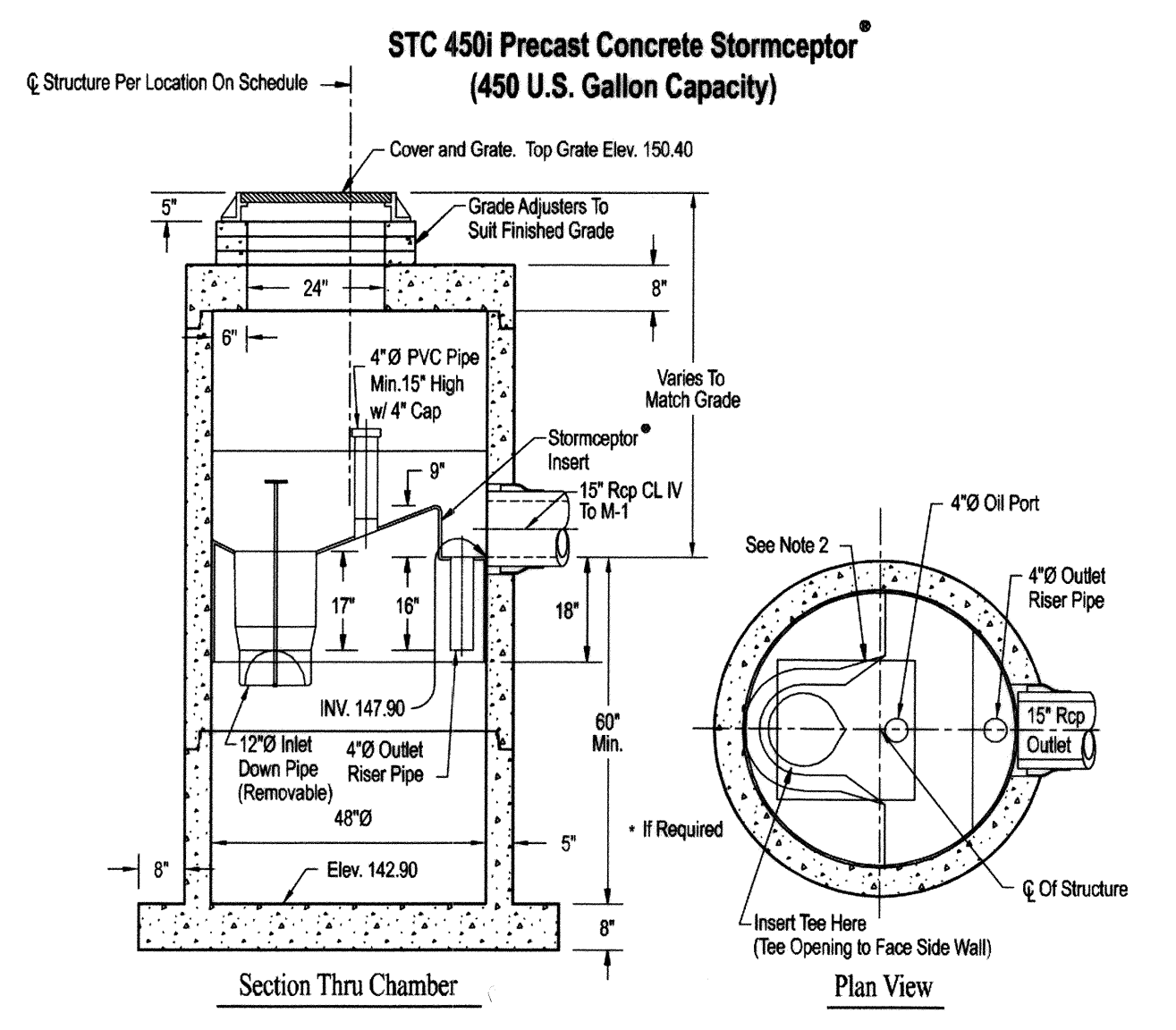
BEECHFIELD AVENUE
 DRAINAGE IMPROVEMENTS
 CAPITAL PROJECT D-1124-03
 ELECTION DISTRICT NO. 1
 ELKBRIDGE, MARYLAND

SCALE: AS SHOWN
 SHEET 4 OF 8

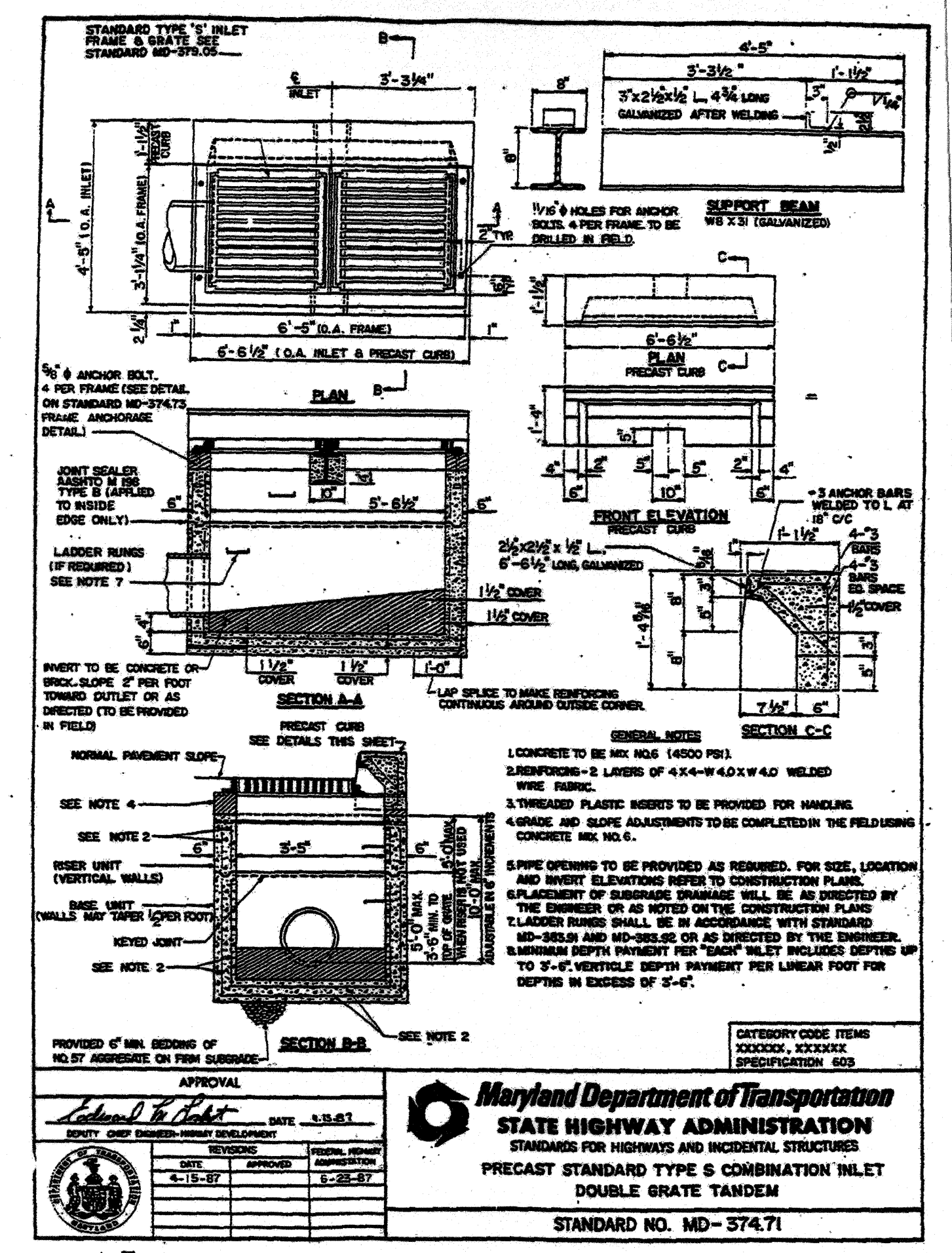


T TURN AROUND DETAIL
SCALE: 1" = 10'

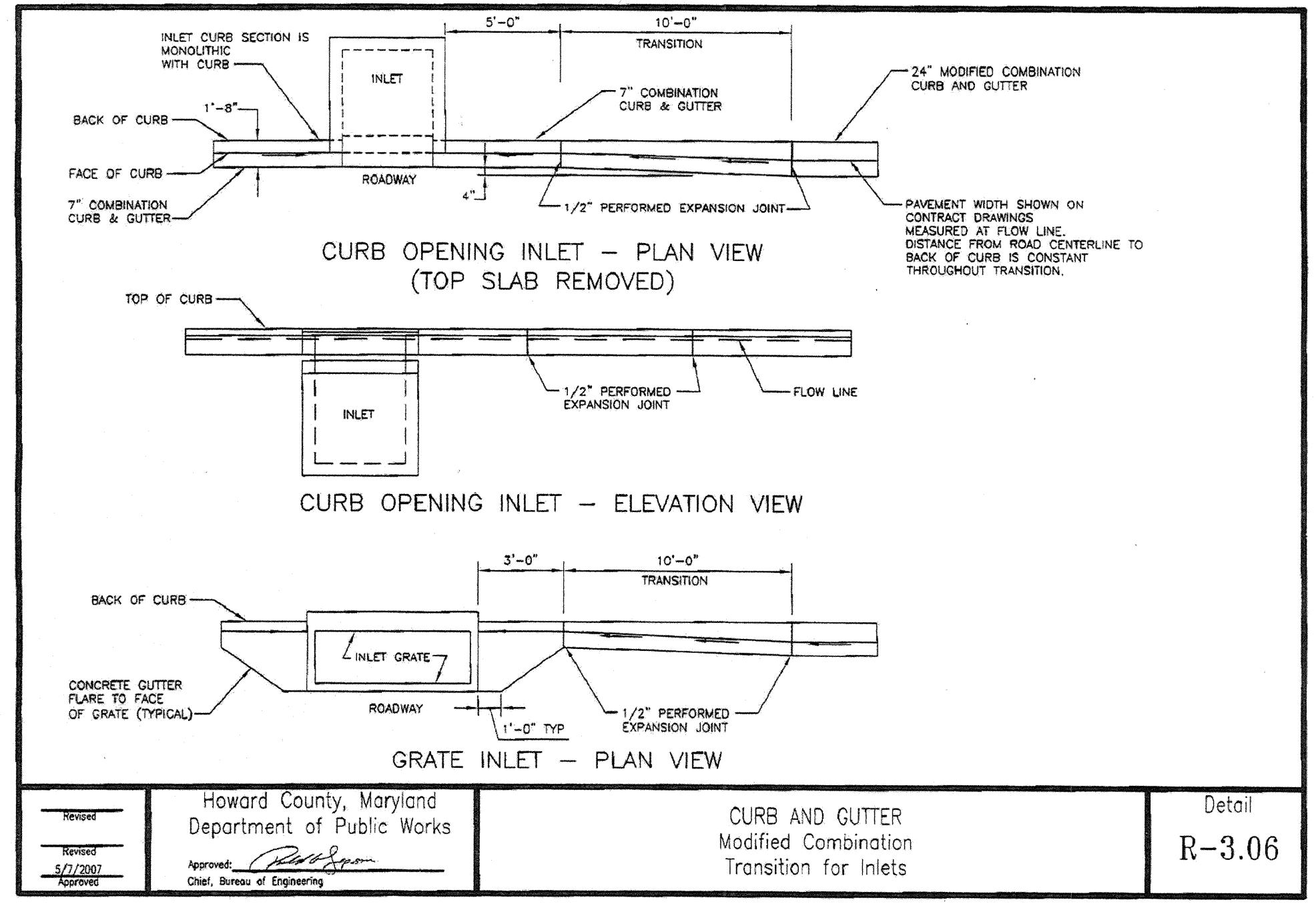
Rinker Concrete Pipe Division



- Notes:
1. The Use Of Flexible Connection is Recommended at The Inlet and Outlet Where Applicable.
 2. The Cover Should be Positioned Over The Inlet Drop Pipe and The Oil Port.
 3. The Stormceptor System is protected by one or more of the following U.S. Patents: #4985148, #5498331, #5725760, #5753115, #5849181, #6068765, #6371690.
 4. Contact a Concrete Pipe Division representative for further details not listed on this drawing.
 5. For station and offset to centerline of grate, see 1 turn around detail.
- 1-1 Maintenance Requirements:
1. Units should be inspected post construction, prior to being put into service.
 2. Inspect every six months for the first year to determine the oil and sediment accumulation rate.
 3. In subsequent years, inspections should be done annually.
 4. Cleaning is required once the sediment depth reaches 15% of storage capacity, (generally taking one year or longer).
 5. Inspect the unit immediately after oil, fuel or chemical spill.
 6. A licensed waste management company should remove oil and sediment and dispose responsibly.



1-1 INLET DETAIL
NOT TO SCALE



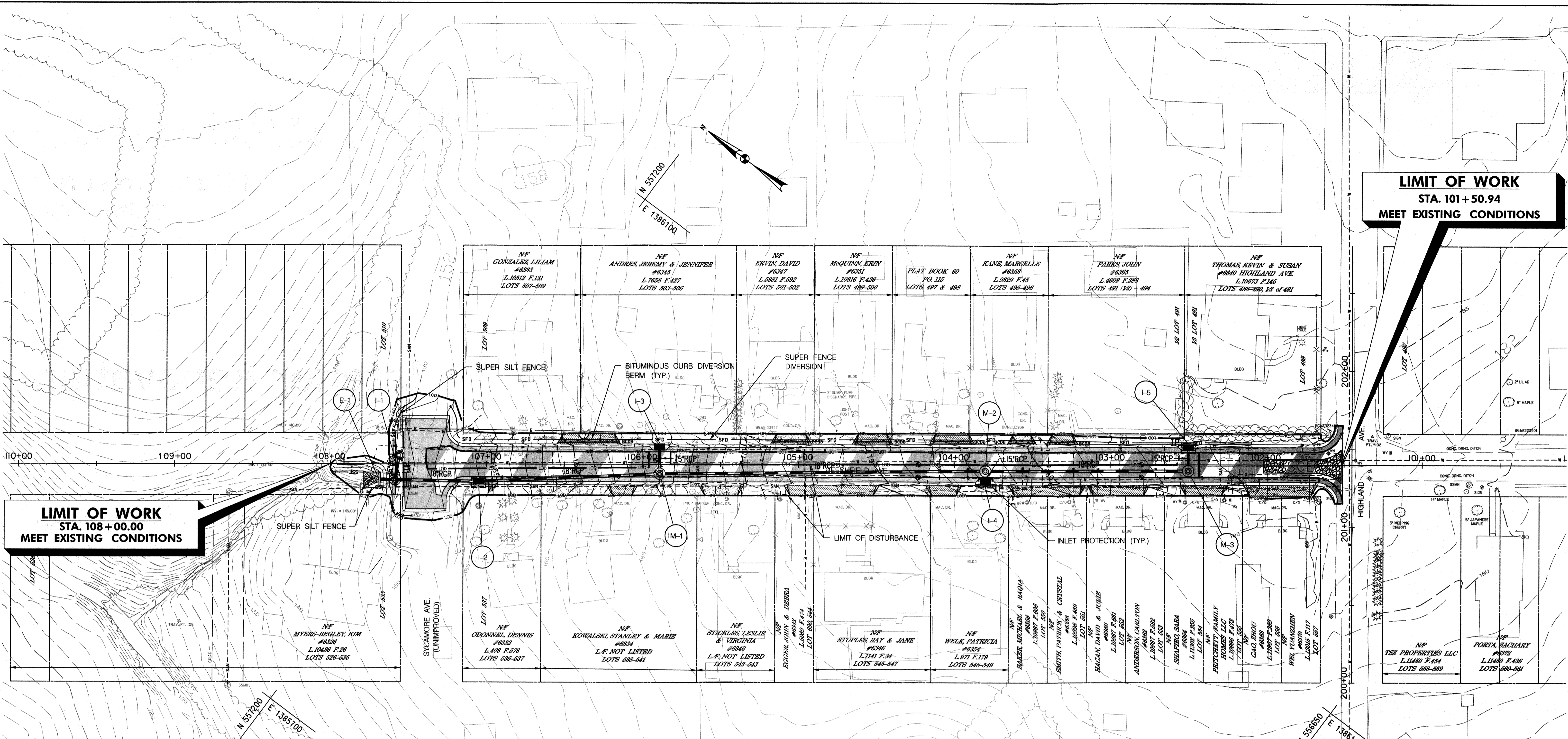
Howard County, Maryland
Department of Public Works

Approved: *[Signature]*
Chief, Bureau of Engineering

Detail
R-3.06

(SEE TITLE SHEET FOR PROFESSIONAL CERTIFICATION)

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>[Signature]</i> Chief, Bureau of Highway: <i>[Signature]</i> 4-24-12		NOLAN Associates, Inc. Engineers - Civil/Structural/Inspections 4785 Dorsey Hall Drive Suite 124 Ellicott City, Maryland 21042 Phone: (410) 995-9651 Fax: (410) 995-1863		DES: GWF DRN: BSB CHK: CSN DATE: APRIL 2010		MISCELLANEOUS DETAILS		BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS CAPITAL PROJECT D-1124-03 ELECTION DISTRICT NO. 1 ELKBRIDGE, MARYLAND		SCALE: AS SHOWN SHEET 5 OF 8	
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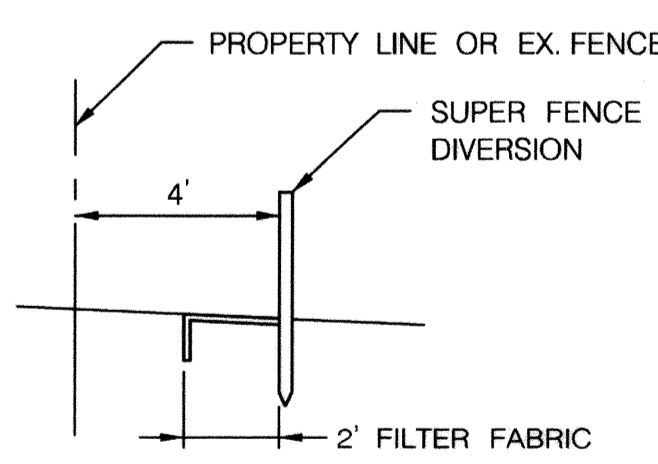
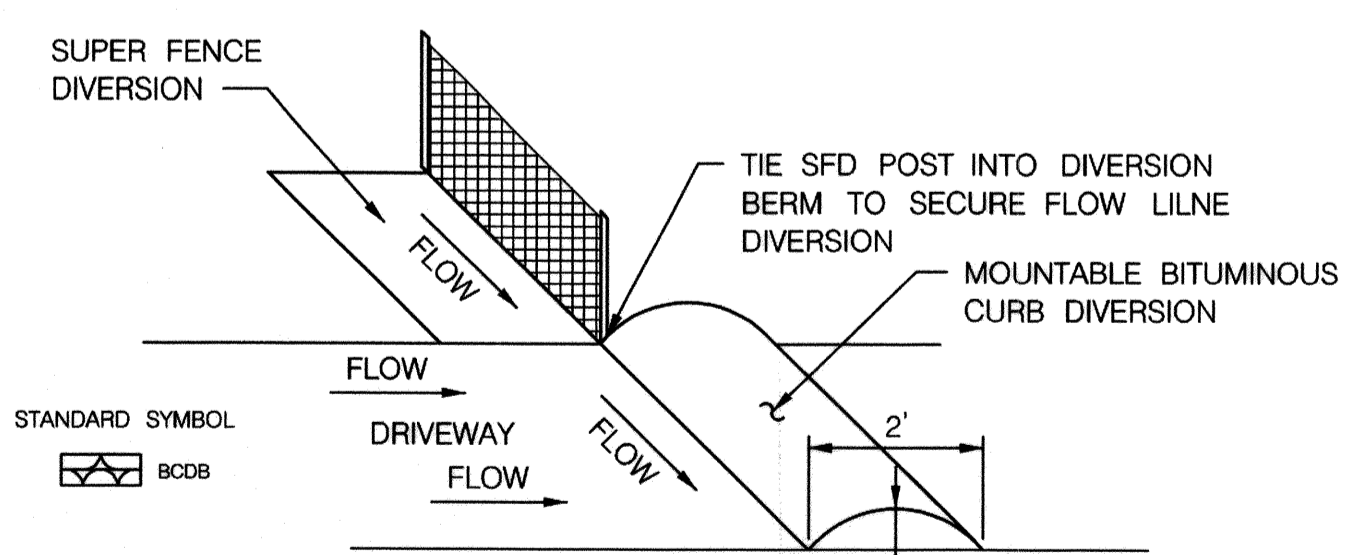


LIMIT OF WORK
 STA. 101 + 50.94
 MEET EXISTING CONDITIONS

LIMIT OF WORK
 STA. 108 + 00.00
 MEET EXISTING CONDITIONS

GRADING, EROSION AND SEDIMENT CONTROL PLAN
 SCALE: 1" = 30'

- LEGEND**
- PAVEMENT GRIND AND RESURFACING
 - FULL DEPTH PAVEMENT PATCHING
 - RECONSTRUCTED ASPHALT DRIVEWAY
 - RECONSTRUCTED CONCRETE DRIVEWAY
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - LIMIT OF DISTURBANCE
 - SUPER SILT FENCE
 - SUPER FENCE DIVERSION
 - INLET PROTECTION
 - STABILIZED CONSTRUCTION ENTRANCE



INSTALL SUPER FENCE DIVERSION

STA. 101+75 TO STA. 103+23, RT. - 138 L.F.
 STA. 103+37 TO STA. 103+51, RT. - 14 L.F.
 STA. 103+62 TO STA. 103+71, RT. - 28 L.F.
 STA. 104+12 TO STA. 104+43, RT. - 31 L.F.
 STA. 104+62 TO STA. 104+94, RT. - 33 L.F.
 STA. 105+14 TO STA. 106+18, RT. - 104 L.F.
 STA. 106+35 TO STA. 106+41, RT. - 7 L.F.
 STA. 106+51 TO STA. 107+25, RT. - 90 L.F.

NOTES: BITUMINOUS CURB DIVERSION BERM (BCDB) TO BE INSTALLED ALONG EXIST. DRIVEWAYS BETWEEN SECTIONS OF SUPER FENCE DIVERSION AS SHOWN ON DETAIL.

INSTALL INLET PROTECTION

STA. 107+54, LT. - 1 EACH
 STA. 107+05, LT. - 1 EACH
 STA. 105+89, RT. - 1 EACH
 STA. 103+80, LT. - 1 EACH
 STA. 102+50, RT. - 1 EACH

INSTALL SUPER SILT FENCE

STA. 107+52, 34' LT. TO 30' RT. - 75 L.F.
 STA. 107+79, 18' LT. TO STA. 107+79, 2' LT. - 60 L.F.

THIS PLAN IS FOR SEDIMENT AND EROSION CONTROL PURPOSE ONLY

- NOTES: 1. FOR SEQUENCE OF CONSTRUCTION SEE SHEET 6.
 2. LOCATION OF STABILIZED CONSTRUCTION ENTRANCE SHOWN FOR INFORMATION PURPOSES THE EXACT LOCATION TO BE NEGOTIATED IN FIELD.
 3. SPOIL FROM TRENCHING OPERATIONS IS TO BE PLACED ON THE UPHILL SIDE OF EXCAVATION.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: [Signature] DATE: 4-24-12 Chief, Bureau of Engineering: [Signature] DATE: 4/20/12 Chief, Transportation and Special Projects Division: [Signature] DATE: 4/20/12		NOLAN Associates, Inc. Engineers - Civil/Structural/Inspections 4785 Dorsey Hall Drive Suite 124 Ellicott City, Maryland 21042 Phone: (410) 995-3551 Fax: (410) 995-1363				DES: GWF DRN: BSB CHK: CSN DATE: APRIL 2010		GRADING, EROSION AND SEDIMENT CONTROL PLAN 600' SCALE MAP NO. _____ BLOCK NO. _____		BEECHFIELD AVENUE DRAINAGE IMPROVEMENTS CAPITAL PROJECT D-1124-03 ELECTION DISTRICT NO. 1 ELKRIDGE, MARYLAND		SCALE: AS SHOWN SHEET 6 OF 8	
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