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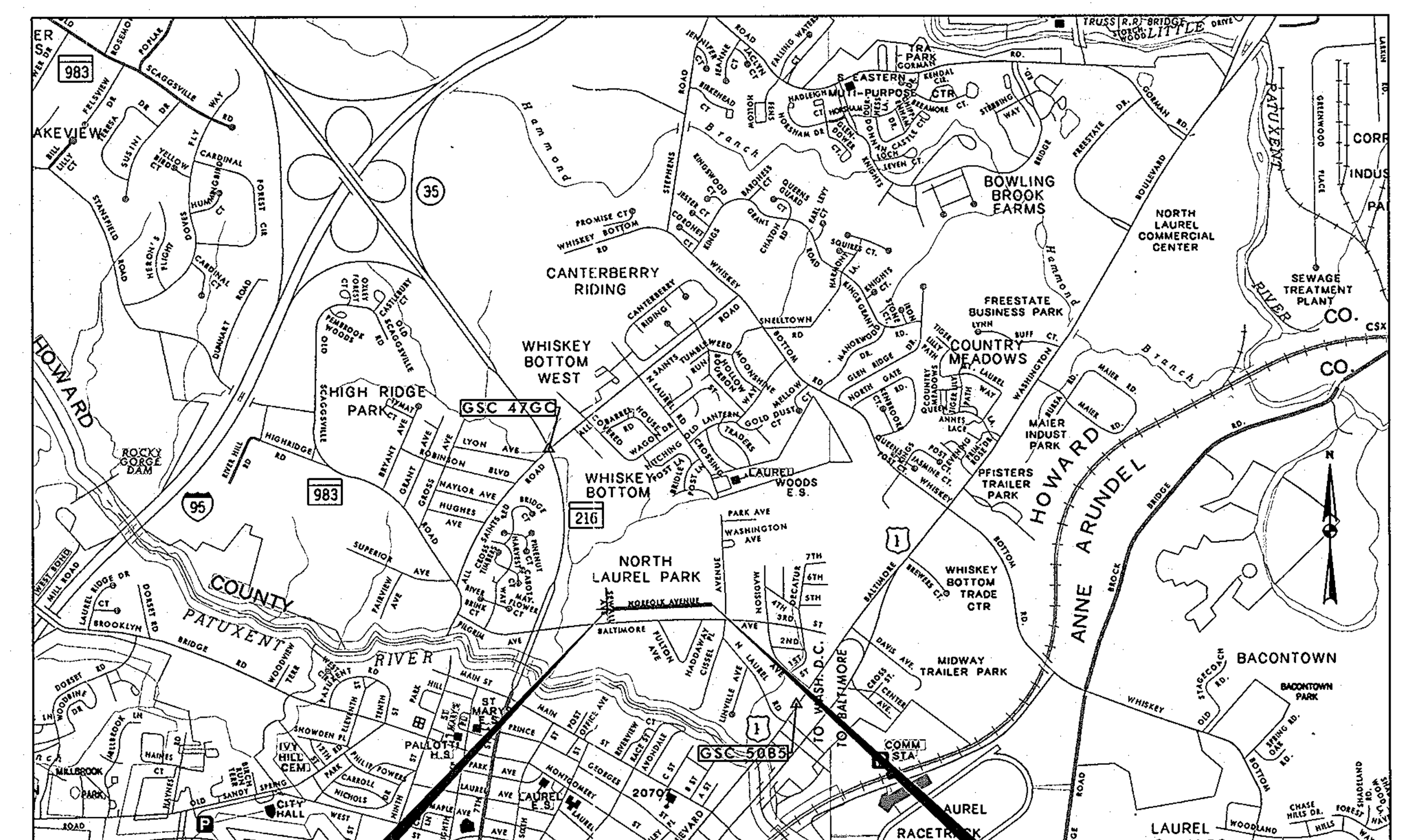
8-9	EROSION AND SEDIMENT CONTROL PLANS
10	EROSION AND SEDIMENT DRAINAGE AREA (DA) MAP



LOCATION MAP

SCALE 1" = 2000'

LIMIT OF WORK
NORFOLK AVENUE
STA. 100+60.50
CAPITAL PROJECT NO. J-4183

LIMIT OF WORK
NORFOLK AVENUE
STA. 114+67
CAPITAL PROJECT NO. J-4183

CAPITAL PROJECT NO. J-4183

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. ALL INFORMATION AND DETAILS ON THESE DRAWINGS SHALL BE CONSTRUCTED AS PER THE PLANS OR AS DIRECTED BY THE HOWARD COUNTY ENGINEER.
3. ALL STATIONING AND DIMENSIONING ARE TO BE FIELD VERIFIED BY THE CONTRACTOR.
4. STORM DRAINAGE SLOPES ARE TO BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE HOWARD COUNTY ENGINEER.
5. APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THESE LOCATIONS ARE BASED ON UTILITY PLANS OR TOPOGRAPHIC SURVEYS. TEST PIT LOCATIONS ARE PROVIDED IN THE SPECIFICATIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESOLVE ANY DISCREPANCIES BETWEEN THE UTILITY LOCATIONS SHOWN ON THE PLANS AND THE TEST PIT INFORMATION PROVIDED. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

   COMCAST 410-461-1362
   BGE (CONTRACTOR SERVICES) 410-850-4620
   BGE (UNDERGROUND DAMAGE CONTROL) 410-787-9068
   MISS UTILITY 1-800-257-7777
   HOWARD COUNTY BUREAU OF UTILITIES 410-313-4900
   HOWARD COUNTY DIVISION OF CONSTRUCTION INSPECTION 410-313-1880
   VERIZON 1-800-743-0033 / 410-224-9210

6. SEE HOWARD COUNTY STANDARD DETAILS NO'S G-1.01 AND G-1.02 FOR STANDARD SYMBOLS AND ABBREVIATIONS.
7. HORIZONTAL COORDINATES ARE BASED ON MD NAD 83/91 HORIZONTAL DATUM AND VERTICAL ELEVATIONS ARE BASED ON NAVD 1988 VERTICAL DATUM, TRANSFERRED FROM HOWARD COUNTY CONTROL STATIONS; 50B5 AND 47GC.

50B5	47GC
N 524,999.3552	N 528,939.7525
E 1,357,925.6879	E 1,354,223.5926
ELEV. 177.424	ELEV. 226.267

8. A STAGING AND STOCKPILE AREA WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY THE HOWARD COUNTY ENGINEER.
9. TOPOGRAPHY SURVEY INFORMATION BASED ON FIELD SURVEY PERFORMED BY JOHNSON, MIRMIRAN & THOMPSON DATED APRIL / MAY, 2005.
10. 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 ON UNIFORM TRAFFIC CONTROL DEVICES (2000 EDITION AND ALL REVISIONS). THE CONTRACTOR IS REQUIRED TO MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES FOR THE DURATION OF THE PROJECT. 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.
11. THE CONTRACTOR SHALL UTILIZE A TWO LANE, TWO WAY ROADWAY FLAGGING OPERATION AS SPECIFIED IN THE MARYLAND SHA BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, STANDARD NO. MD 104.02-10 FOR TRAFFIC CONTROL DURING CONSTRUCTION.
12. TOP OF CURB (T.C.) FOR CURB OPENING INLETS SHALL APPLY TO CENTERLINE OF INLET AT TOP OF CURB TOP OF RIM (T.R.) MANHOLE ELEVATIONS SHALL APPLY TO CENTER OF MANHOLE COVER.

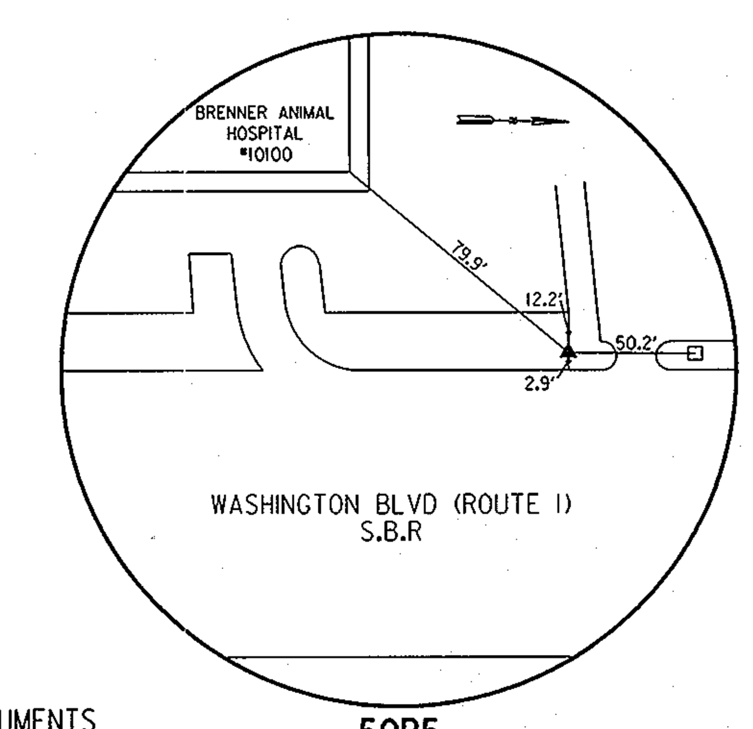
NORFOLK AVENUE - ROADWAY IMPROVEMENTS

HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

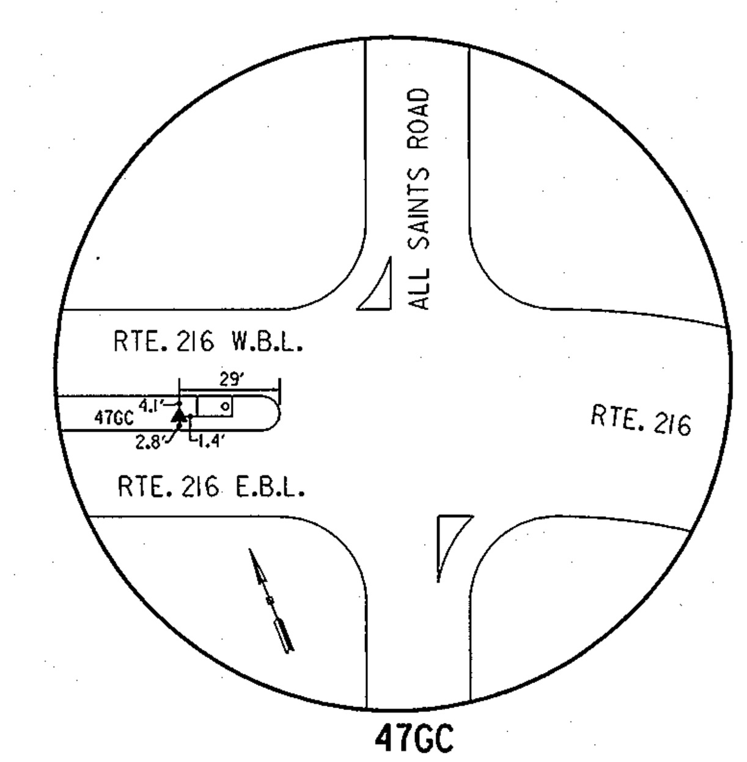
CONVENTIONAL SIGNS

DRAINAGE AREA BOUNDARY
EXISTING SIGN
LIMIT OF GRADING
ELECTRICAL HAND BOX - SIGNALS
PROPOSED MEDIAN BARRIER
BURIED UTILITY LINES & NO. OF CABLES
STATE, COUNTY OR CITY LINES
PROPOSED TRAFFIC BARRIER
EXISTING TRAFFIC BARRIER
FENCE LINE
RIGHT OF WAY LINE
EXISTING ROADWAY
RAILROAD
BASE OR SURVEY LINE
FIRE HYDRANT

TEST PIT
PROPOSED HMA PAVEMENT MILL AND OVERLAY
PROPOSED HMA PAVEMENT OVERLAY
PROPOSED FULL DEPTH HMA PAVEMENT
PROPOSED RIPRAP
EXISTING CULVERT
PROPOSED CULVERT
EXISTING DROP INLET
UTILITY POLE
MARSH
HEDGE
GROUND ELEVATION
GRADE ELEVATION



50B5
CONCRETE MONUMENT



47GC
CONCRETE MONUMENT

APPROVED: FOR STORM DRAINAGE SYSTEMS AND PUBLIC ROADS. HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Steve Sharar 7/9/08
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION — DATE

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

John R. Robertson 7/9/08
Howard Soil Conservation District — Date

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12966, EXPIRATION DATE: MAY 19, 2010"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 7/15/08
CHIEF, BUREAU OF ENGINEERING 7/9/08
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION 7/9/08
CHIEF, BUREAU OF HIGHWAYS 7-10-08

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152-0949

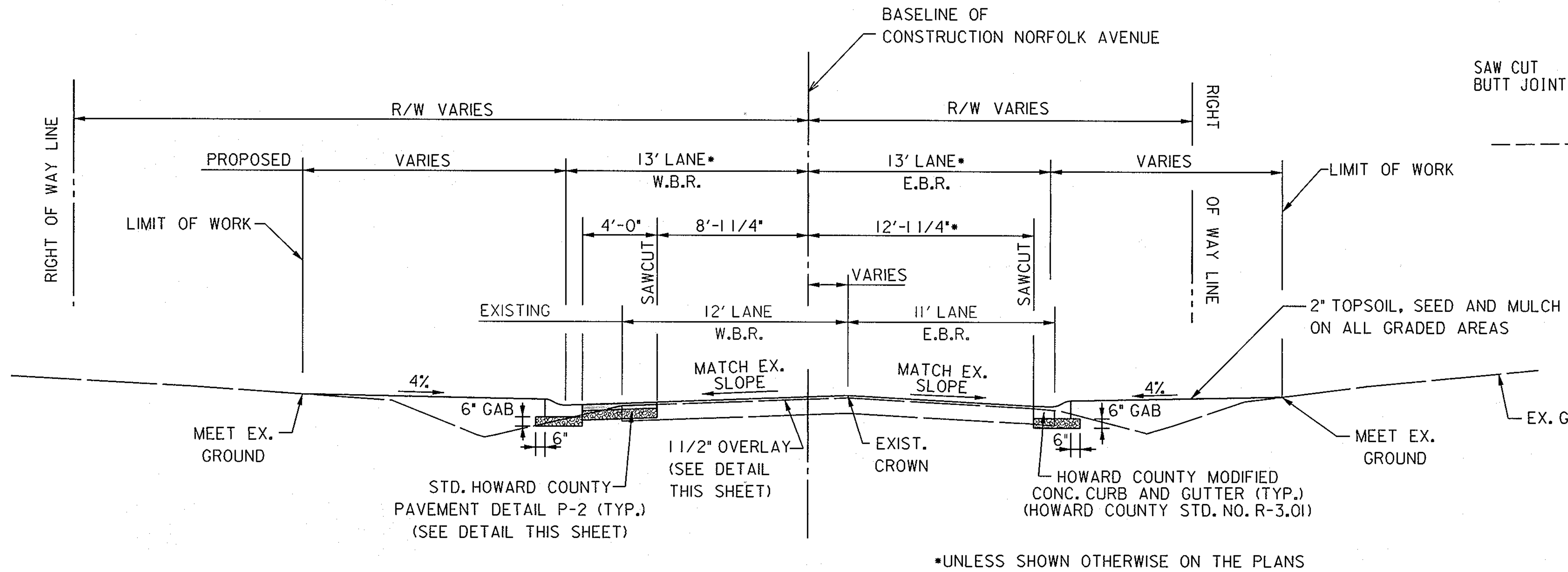
STATE OF MARYLAND — WALTER R. KULIS — NO. 12966 — REGISTERED PROFESSIONAL ENGINEER — 7-8-08

DES: SER				
DRN: CWW				
CHK: WRK				
DATE: 7/2008	BY	NO.		DATE

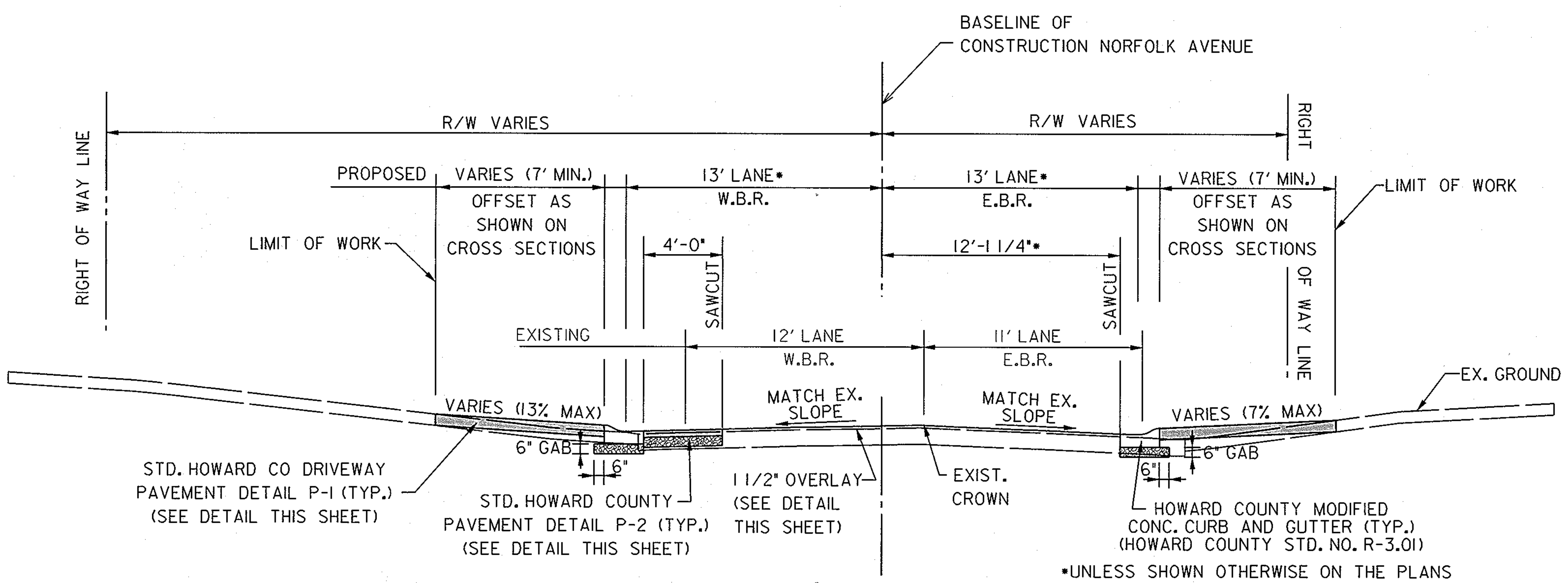
CAPITAL PROJECT NO.
J-4183

TITLE SHEET
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 — HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN
SHEET 1 OF 10



NORFOLK AVENUE TYPICAL SECTION



NORFOLK AVENUE AT DRIVEWAYS TYPICAL SECTION

NOTES:

1. REMOVE EXISTING PAVEMENT UNDER PROPOSED FULL DEPTH PAVEMENT, CURB, AND GRADING AS DIRECTED BY THE COUNTY. REPLACE WITH COMPACTED COMMON BORROW. DO NOT REMOVE ANY EXISTING GRADED AGGREGATE BASE.

2. ALL FULL DEPTH SAW CUTS REQUIRED WILL NOT BE MEASURED BUT THE COST WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE FOR THE PAVEMENT AND CURB ITEMS.

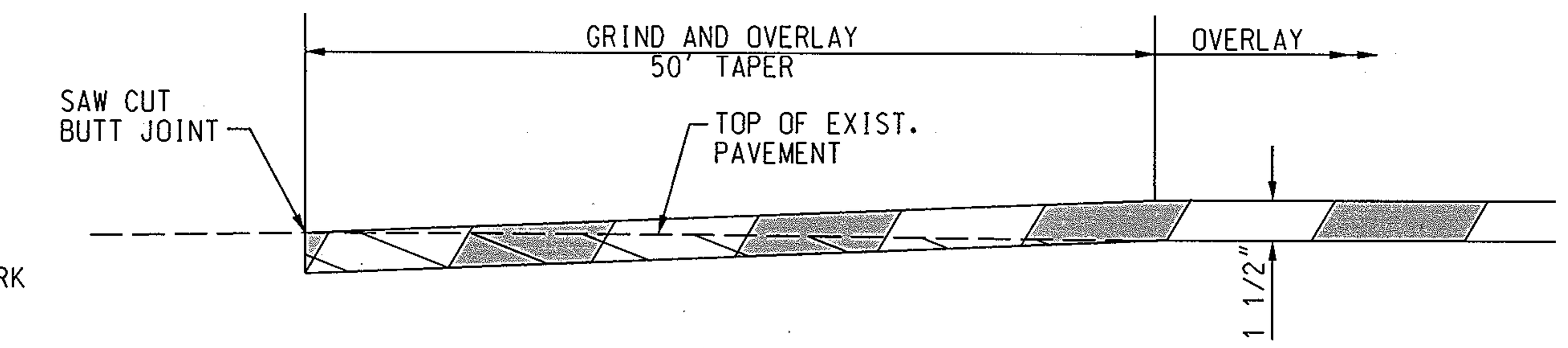
3. THE GAB PLACED UNDER AND BEHIND THE CURB AND GUTTER WILL BE PAID FOR AT THE SQUARE YARD UNIT PRICE BID FOR 6" GRADED AGGREGATE BASE COURSE IN THIS CONTRACT. THE GAB PLACED FOR THE PROPOSED PAVEMENT SECTIONS WILL BE PAID FOR AT THE SQUARE YARD UNIT PRICE BID FOR 4" GRADED AGGREGATE BASE COURSE IN THIS CONTRACT.

4. DRIVEWAYS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS AND IN ACCORDANCE WITH HOWARD COUNTY STD. NO. R-6.05, EXCEPT THAT THE DRIVEWAY WIDTH SHALL MATCH THE WIDTH OF THE EXISTING DRIVEWAYS.

5. UNLESS SPECIFIED OTHERWISE, ALL EXCAVATION REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED PAVEMENT, DRIVEWAYS, AND CURB AND GUTTER SHALL BE CONSIDERED CLASS I EXCAVATION AND WILL BE PAID FOR AT THE CUBIC YARD UNIT PRICE BID FOR CLASS I EXCAVATION.

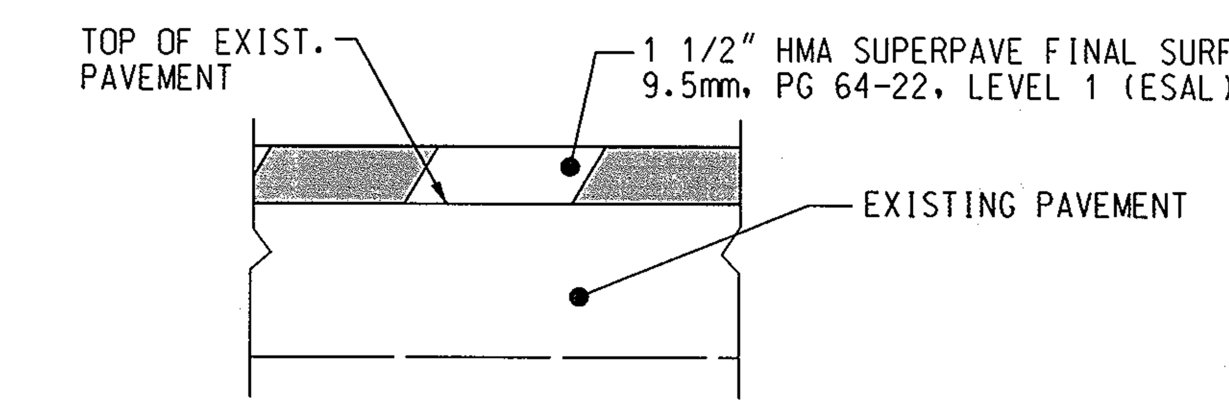
PAVING LEGEND

- PROPOSED FULL DEPTH HMA PAVEMENT
- PROPOSED HMA PAVEMENT OVERLAY
- PROPOSED HMA PAVEMENT MILL AND OVERLAY
- GRADED AGGREGATE BASE

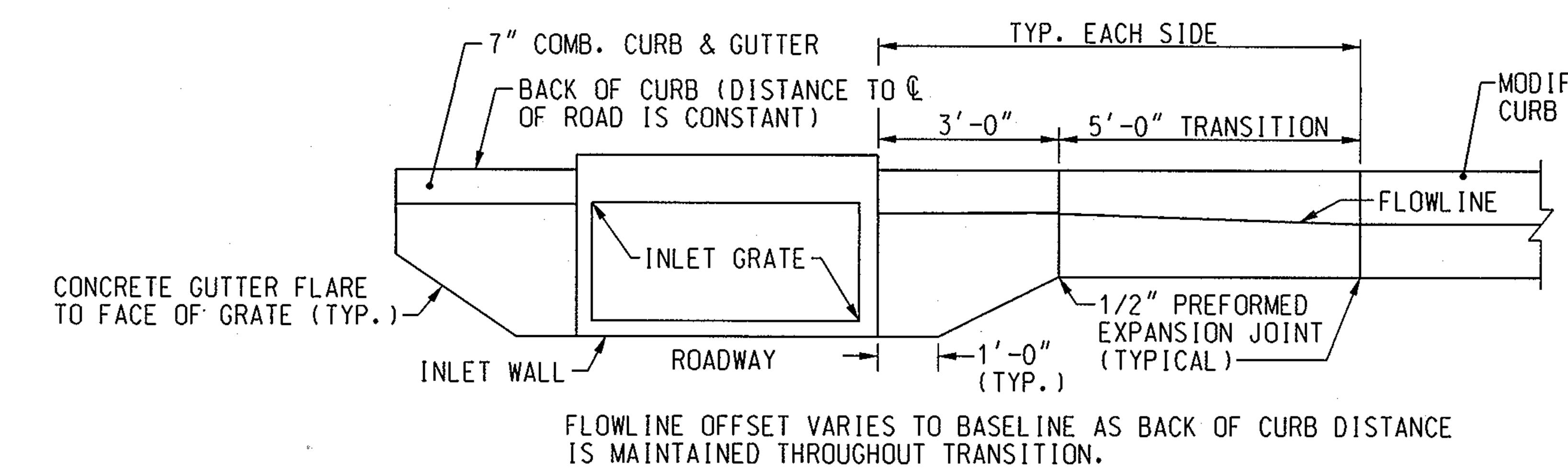


HEEL-IN DETAIL

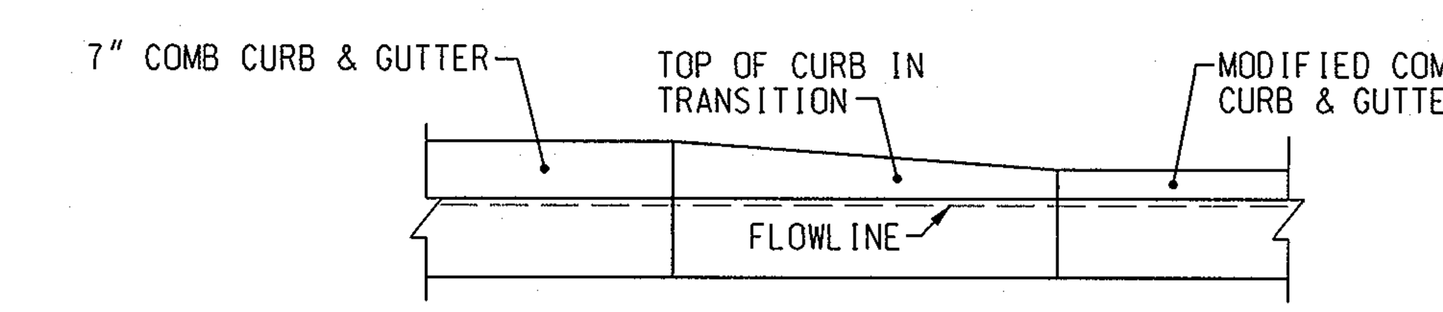
STA. 100+60.50 TO STA. 101+10.50



OVERLAY PAVEMENT DETAIL

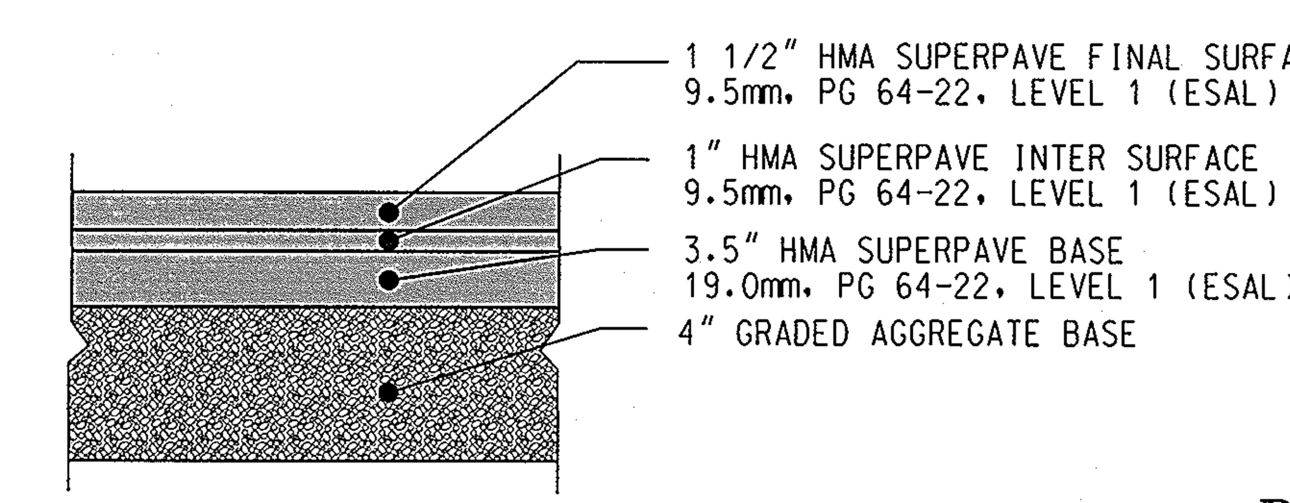


PLAN

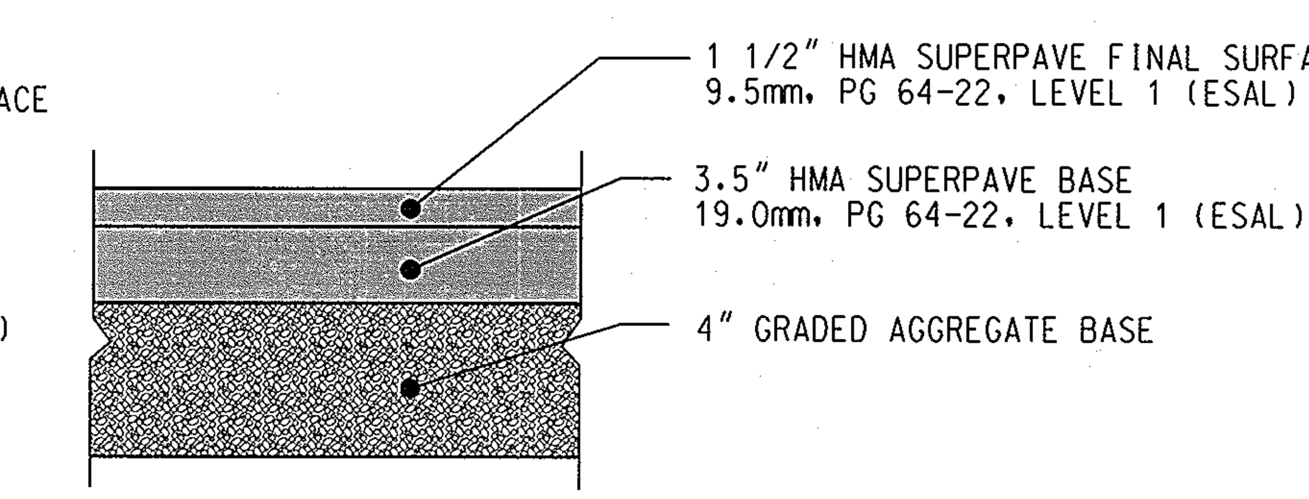


ELEVATION

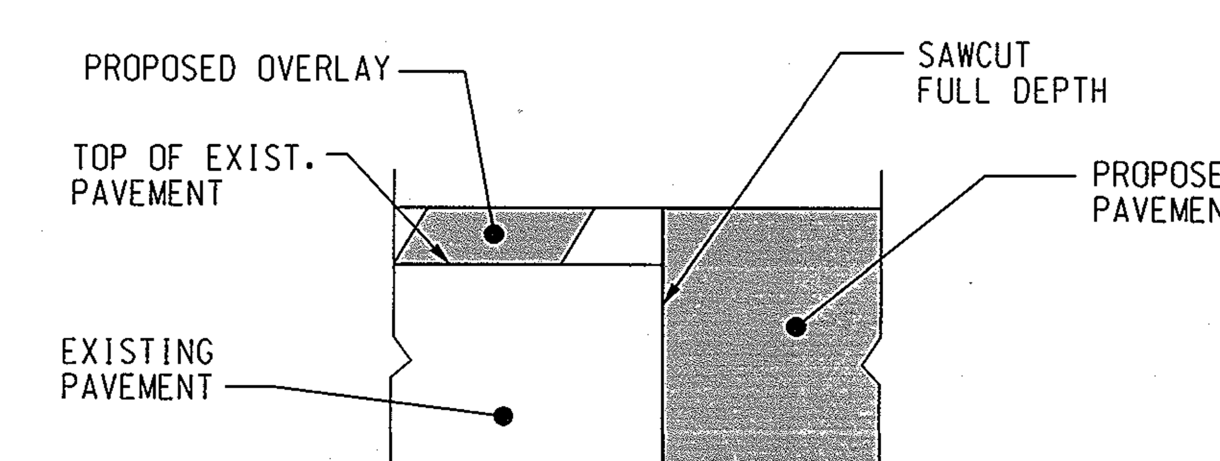
MODIFIED 7" CURB & GUTTER TO MODIFIED CURB & GUTTER DETAIL
(I-1 & I-2)



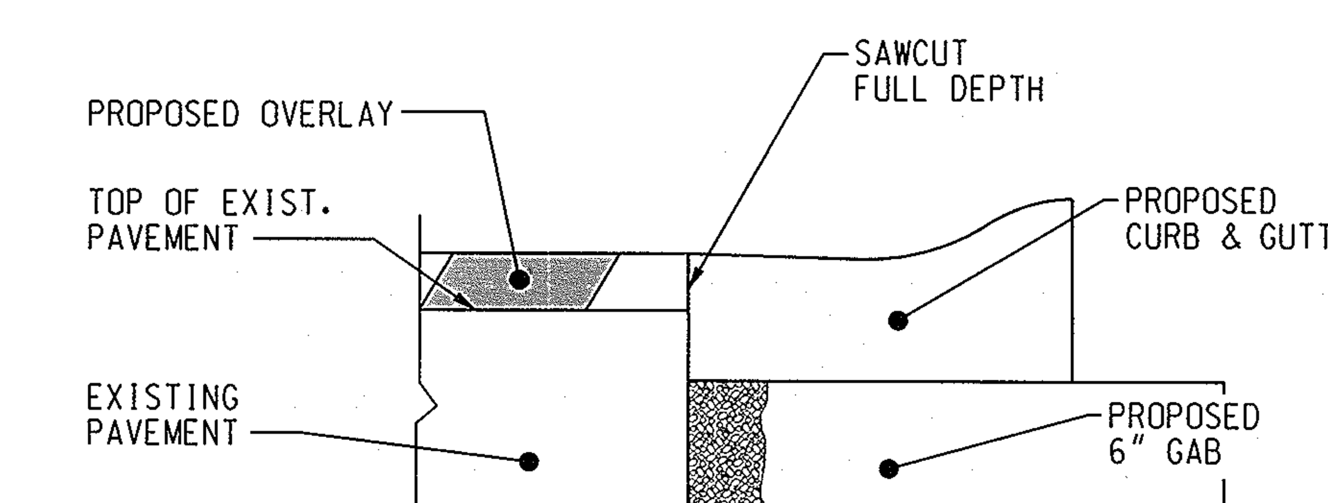
PAVEMENT DETAIL P-2



PAVEMENT DETAIL P-1



TYPICAL PAVEMENT JOINT A
(ADJACENT TO FULL DEPTH HMA PAVEMENT)



TYPICAL PAVEMENT JOINT B
(ADJACENT TO NEW CURB)

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12966, EXPIRATION DATE: MAY 19, 2010

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7/15/08 — DIRECTOR OF PUBLIC WORKS
7/9/08 — CHIEF, BUREAU OF ENGINEERING
Steve Shavar 7/9/08 — CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
7-10-08 — CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152 0949

STATE OF MARYLAND — PROFESSIONAL ENGINEER — 7-8-08

DES: SER				
DRN: CWW				
CHK: WRK				
DATE: 7/2008	BY	NO.		DATE

CAPITAL PROJECT NO.
J-4183

TYPICAL SECTIONS AND DETAILS
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 — HOWARD COUNTY, MARYLAND

SCALE: NONE

PIPE SCHEDULE				
PIPE	FROM	TO	TYPE	LENGTH
P-1	M-1	EX. I-1	18" RCP, CL. IV	34 L.F.
P-2	I-2	M-1	18" RCP, CL. IV	26 L.F.
P-3	I-1	I-2	15" RCP, CL. IV	21 L.F.

STRUCTURE SCHEDULE								
NO.	STATION	OFFSET	NORTHING**	EASTING**	TYPE	STD. NO.	T.C.	DEPTH
I-1*	101+02	14.4', LT.	526,548.51	1,355,251.96	DOUBLE WR INLET PRECAST	D-4.35	206.63	4.09'
I-2*	101+02	12.4', RT.	526,521.69	1,355,253.43	DOUBLE WR INLET PRECAST	D-4.35	206.45	4.43'
M-1	100+71	12.0', RT.	526,520.38	1,355,222.59	4'-0" SHALLOW PRECAST MANHOLE	G-5.12	204.53	3.13'

NOTE: *SEE DETAIL, SHEET 2 FOR TRANSITION TO STD. 7" CURB AND GUTTER AT TYPE 'WR' INLETS.
**NORTHING AND EASTING FOR INLETS I-1 AND I-2 GIVEN AT THE FACE OF CURB AT INLET CENTERLINE, M-1 GIVEN AT CENTER OF MANHOLE STRUCTURE.

BULKHEAD EXISTING PIPE
1 EA. - STA. 100+80.7, 20.6' RT.
1 EA. - STA. 100+70.0, 42.8' RT.

REMOVE EXISTING STORMDRAIN STRUCTURES
1 EA.- STA. 100+80.8, 19.2' RT.

SURVEY CONTROL POINTS				
NO.	EASTING	NORTHING	ELEV.	DESC.
JMT-2	1,355,182.51	526,503.68	204.56	REBAR & CAP
JMT-3	1,355,509.36	526,533.64	217.52	REBAR & CAP

MODIFIED COMBINATION CURB AND GUTTER STD. NO. R-3.01
707 L.F. - STA. 100+65.66, RT. TO STA. 107+50, RT.
674 L.F. - STA. 100+65.46, LT. TO STA. 107+25, LT.

* TRANSITION CURB AT DRIVEWAYS IN ACCORDANCE WITH STD. NO. R-6.05.
ALL CURB TRANSITIONS AND LOCATIONS OF STD. 7" CURB AND GUTTER AT WR INLETS SHALL BE INCLUDED IN THIS LINEAR FOOT ITEM.

GRINDING EXISTING ASPHALT PAVEMENT 0 INCH TO 1.5 INCH DEPTH
140 S.Y. - STA. 100+60.50 TO STA. 101+10.50

7" COMBINATION CURB AND GUTTER STD. NO. R-3.01
25 L.F. - STA. 107+25, LT. TO STA. 107+50, LT.

TRANSITION CURB AT DRIVEWAYS IN ACCORDANCE WITH STD. NO. R-6.05.
TRANSITION CURB FROM MODIFIED TO 7" IN ACCORDANCE WITH STD. NO. R-3.02 FROM STA. 107+25 TO STA. 107+35. CURB WITHIN THIS TRANSITION SHALL BE INCLUDED IN THIS LINEAR FOOT ITEM.

NOTE: THE PROPERTY OWNERS AT #9696, #9680, #9675, AND #9659 NORFOLK AVENUE HAVE AN EXISTING SPRINKLER SYSTEM WITHIN THE COUNTY RIGHT-OF-WAY. THE CONTRACTOR SHALL BE REQUIRED TO REPAIR AND REPLACE ANY PART OF THE EXISTING SYSTEM THAT IS DAMAGED DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER. ALL COSTS SHALL BE PAID FOR UNDER THE BID ITEM RELOCATE EXISTING SPRINKLER SYSTEM.

NOTE: THERE ARE EXISTING ROOF DRAIN /SUMP PUMP OUTFALLS WITHIN THE PROPOSED GRADING LIMITS. THE CONTRACTOR SHALL BE REQUIRED TO CONNECT THE EXISTING PIPE THROUGH THE PROPOSED CURB AND GUTTER OR TO THE NEAREST STORM DRAIN SYSTEM TO THE SATISFACTION OF THE ENGINEER. ALL COSTS SHALL BE PAID FOR UNDER THE BID ITEM RELOCATE AND EXTEND EXISTING DRAIN OUTFALLS.

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 PLANTING 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 COSTS SHALL BE INCLUDED IN THE EACH ITEM FOR REMOVE AND RESET EXIST. TREE OR SHRUB.

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 THE EX. LANDSCAPING TO THE SATISFACTION OF THE COUNTY ENGINEER. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE COUNTY ENGINEER PRIOR TO DISTURBING THE EXISTING LANDSCAPING. ALL COSTS SHALL BE INCLUDED IN THE LUMP SUM ITEM FOR LANDSCAPING AND PLANTING BED REPLACEMENT.

PAVING LEGEND

- PROPOSED FULL DEPTH HMA PAVEMENT
- PROPOSED HMA PAVEMENT OVERLAY
- PROPOSED HMA PAVEMENT MILL AND OVERLAY

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12966, EXPIRATION DATE: MAY 19, 2010

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7/15/08 DIRECTOR OF PUBLIC WORKS
Steve Shaver 7/9/08 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
7/9/08 CHIEF, BUREAU OF ENGINEERING
7-10-08 CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND WALTER R. KUHNS 12966 REGISTERED PROFESSIONAL ENGINEER
7-8-08

DES: SER			
DRN: CWW			
CHK: WRK			
DATE: 7/2008	BY	NO.	DATE

CAPITAL PROJECT NO.
J-4183

PLAN SHEET
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

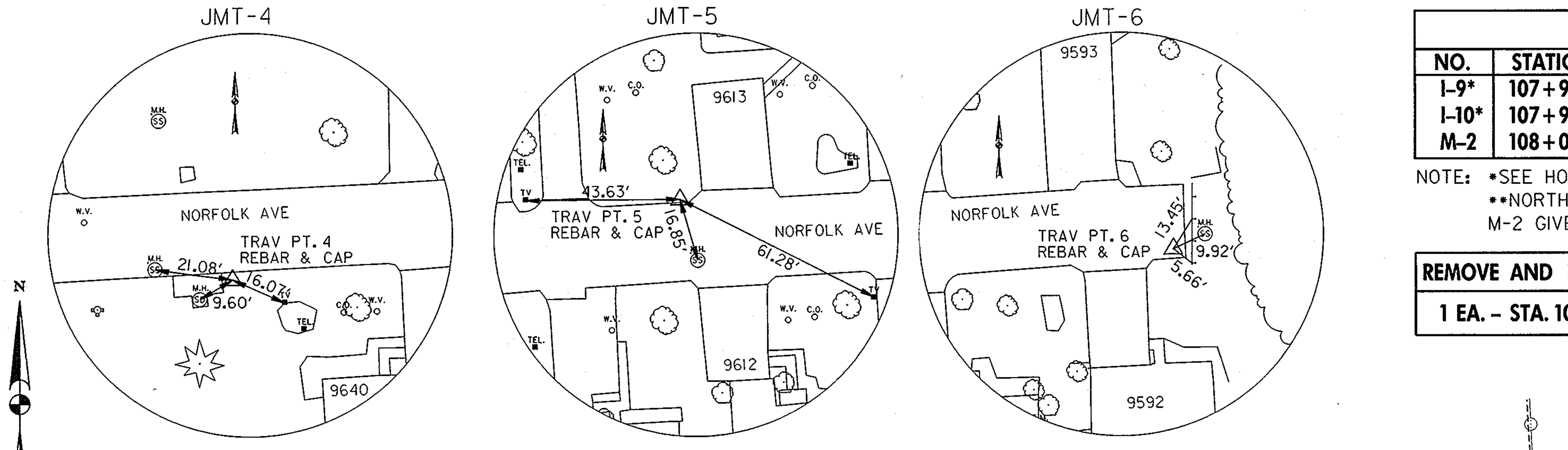
SCALE 1" = 30'

PIPE SCHEDULE				
PIPE	FROM	TO	TYPE	LENGTH
P-4	I-10	M-2	18" RCP, CL. IV	10 L.F.

SURVEY CONTROL POINTS				
NO.	EASTING	NORTHING	ELEV.	DESC.
JMT-4	1,355,959.61	526,557.80	210.34	REBAR & CAP
JMT-5	1,356,310.78	526,602.70	214.76	REBAR & CAP
JMT-6	1,356,598.10	526,599.53	206.61	REBAR & CAP

NOTE: THERE ARE EXISTING ROOF DRAIN /SUMP PUMP OUTFALLS WITHIN THE PROPOSED GRADING LIMITS. THE CONTRACTOR SHALL BE REQUIRED TO CONNECT THE EXISTING PIPE THROUGH THE PROPOSED CURB AND GUTTER OR TO THE NEAREST STORM DRAIN SYSTEM TO THE SATISFACTION OF THE ENGINEER. ALL COSTS SHALL BE PAID FOR UNDER THE BID ITEM RELOCATE AND EXTEND EXISTING DRAIN OUTFALLS.

DEAD END BARRICADE TYPE C STD. NO. R-5.11
25 L.F. – STA. 114+52.5, 12.5' RT. TO STA. 114+52.5, 12.5' LT. USE 8-FOOT LONG POSTS

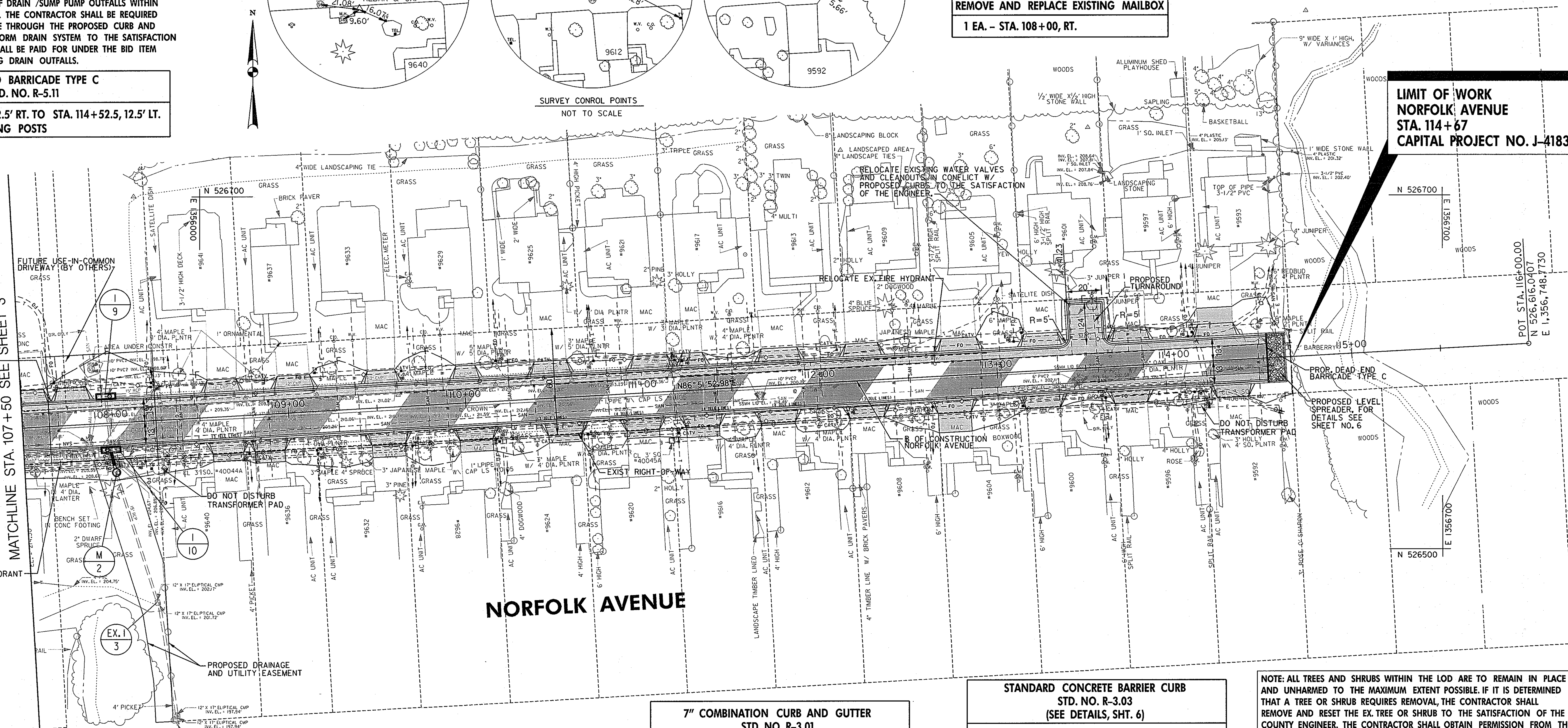


SURVEY CONROL POINTS
NOT TO SCALE

STRUCTURE SCHEDULE								
NO.	STATION	OFFSET	NORTHING	EASTING	TYPE	STD. NO.	T.C./T.R.	DEPTH
I-9*	107+98	13.4', LT.	526,585.59	1,355,947.11	PRECAST TYPE 'A-10' INLET	D-4.03	210.95	3.58'
I-10*	107+99	13.4', RT.	526,558.82	1,355,949.78	PRECAST TYPE 'A-10' INLET	D-4.03	211.06	6.25'
M-2	108+01	28.1', RT.	526,544.27	1,355,952.98	STORMCEPTOR (SEE DETAIL M-2, SHEET 6)	- - - -	211.25	11.88'

NOTE: *SEE HOWARD CO. STD. DETAIL R-3.06 FOR TRANSITION TO STD. 7" COMBINATION CURB AND GUTTER AT TYPE 'A-10' INLETS.
**NORTHING AND EASTING FOR INLETS I-9 AND I-10 GIVEN AT THE FACE OF CURB AT INLET CENTERLINE, M-2 GIVEN AT CENTER OF MANHOLE STRUCTURE.

REMOVE AND REPLACE EXISTING MAILBOX
1 EA. – STA. 108+00, RT.



7" COMBINATION CURB AND GUTTER STD. NO. R-3.01
42 L.F. – STA. 107+78, RT. TO STA. 108+20, RT. 69 L.F. – STA. 107+50, LT. TO STA. 108+19, LT.

* TRANSITION CURB AT DRIVEWAYS IN ACCORDANCE WITH STD. NO. R-6.05.
TRANSITION CURB FROM 7" TO MODIFIED IN ACCORDANCE WITH STD. NO. R-3.02. CURB WITHIN THE TRANSITION SHALL BE INCLUDED IIN THIS LINEAR FOOT ITEM.

STANDARD CONCRETE BARRIER CURB STD. NO. R-3.03 (SEE DETAILS, SHT. 6)
48 L.F. – STA. 114+52, RT. TO STA. 114+52, LT.

MODIFIED COMBINATION CURB AND GUTTER STD. NO. R-3.01
28 L.F. – STA. 107+50, RT. TO STA. 107+78, RT. 632 L.F. – STA. 108+20, RT. TO STA. 114+52, RT. 677 L.F. – STA. 108+19, LT. TO STA. 114+52, LT.

* TRANSITION CURB AT DRIVEWAYS IN ACCORDANCE WITH STD. NO. R-6.05.

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 COSTS SHALL BE INCLUDED IN THE EACH ITEM FOR REMOVE AND RESET EXIST. TREE OR SHRUB.

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 THE EX. LANDSCAPING TO THE SATISFACTION OF THE COUNTY ENGINEER. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE COUNTY ENGINEER PRIOR TO DISTURBING THE EXISTING LANDSCAPING. ALL COSTS SHALL BE INCLUDED IN THE LUMP SUM ITEM FOR LANDSCAPING AND PLANTING BED REPLACEMENT.

PAVING LEGEND

- PROPOSED FULL DEPTH HMA PAVEMENT
- PROPOSED HMA PAVEMENT OVERLAY
- PROPOSED HMA PAVEMENT MILL AND OVERLAY

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 12966, EXPIRATION DATE: MAY 19, 2010

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7/15/08 — DIRECTOR OF PUBLIC WORKS
Steve Sharar 7/9/08 — CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
7/9/08 — CHIEF, BUREAU OF ENGINEERING
7-10-08 — CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — WALTER R. KULIS — NO. 12966 — REGISTERED PROFESSIONAL ENGINEER
7-8-08

DES:	SER	BY	NO.		DATE
DRN:	CWW				
CHK:	WRK				
DATE:	7/2008				

CAPITAL PROJECT NO.
J-4183

PLAN SHEET
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

SCALE 1" = 30'

FILE: q:\smd\300663.24norfolkave_hw\cadd\pHD-P002_NorfolkAve.dgn
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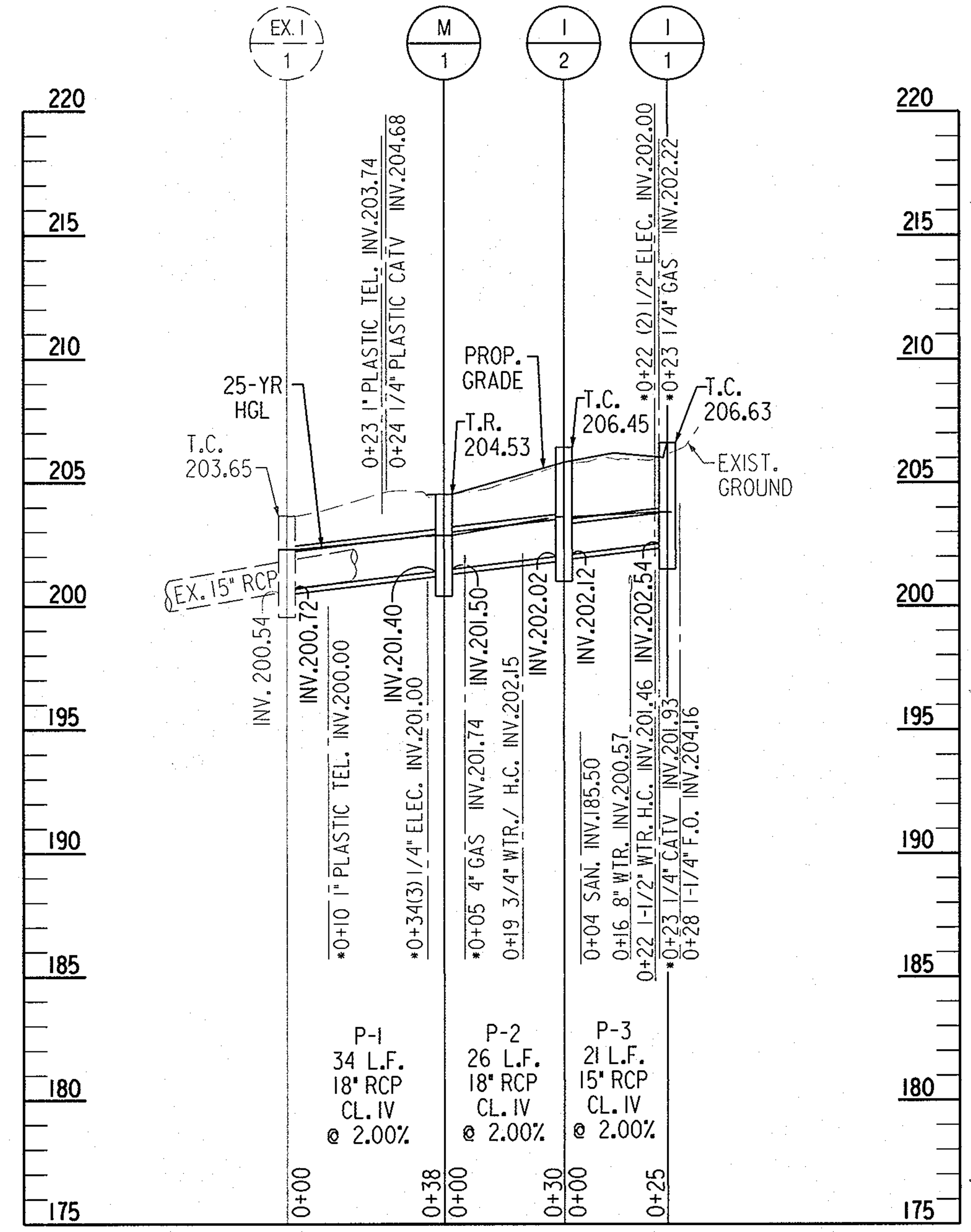
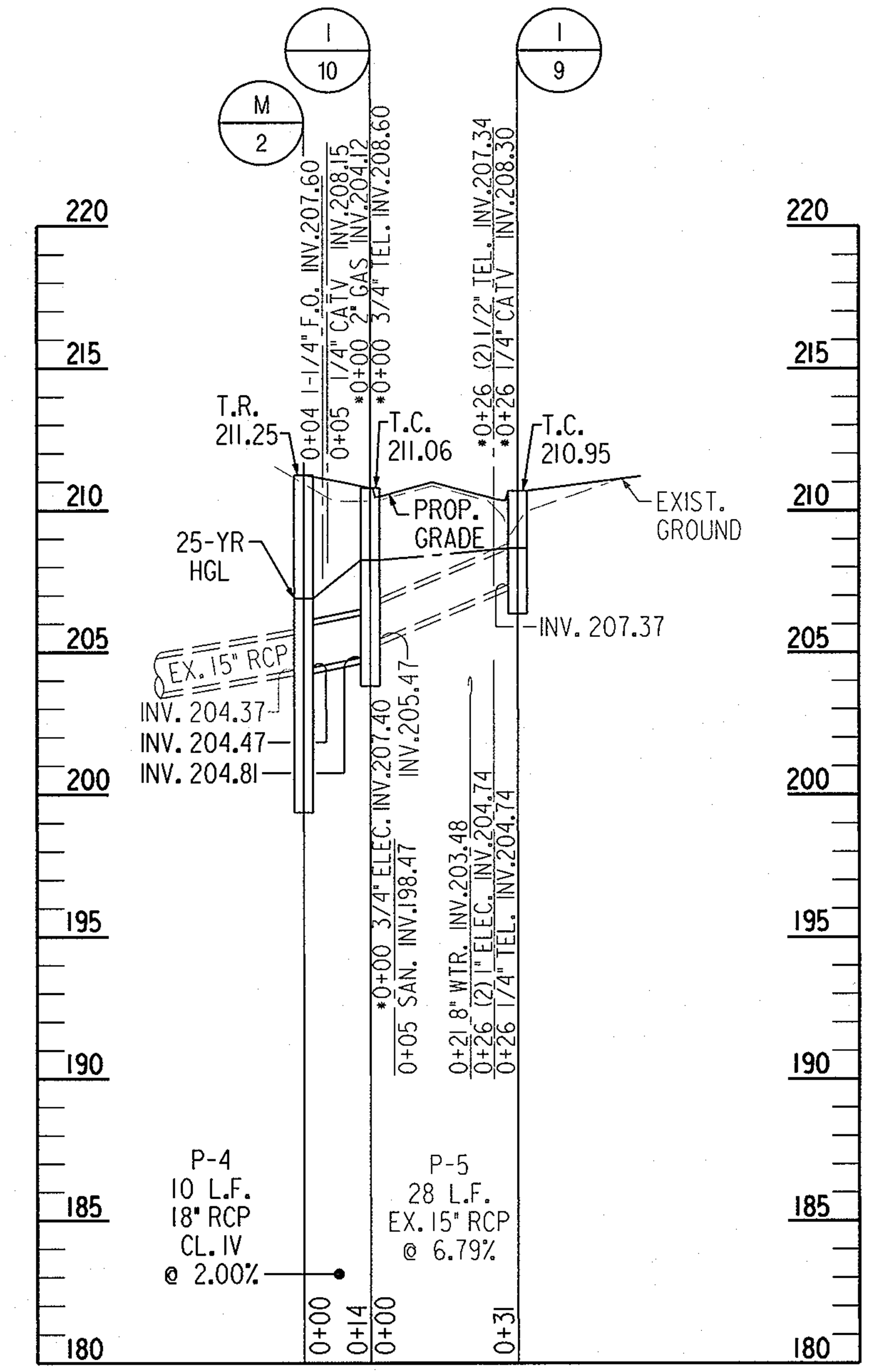


• UTILITY TO BE RELOCATED BY OTHERS



NOTE: STC 4501 PRECAST CONCRETE STORMCEPTOR, SEE DETAIL M-2, SHEET 6

• UTILITY TO BE RELOCATED BY OTHERS

ADJUST EXISTING UTILITIES SHEET 3			
LOCATION	UTILITY TYPE	EXIST. ELEV.	PROP. ELEV.
1 EA. - STA. 100+89.7, 23.3'RT.	CLEANOUT	205.65	206.05
1 EA. - STA. 101+92.2, 24.0'RT.	CLEANOUT	213.53	213.62
1 EA. - STA. 102+40.7, 15.4'LT.	CLEANOUT	215.54	216.85
1 EA. - STA. 102+41.8, 24.9'RT.	CLEANOUT	217.21	217.40
1 EA. - STA. 103+10.8, 24.7'RT.	CLEANOUT	218.59	219.19
1 EA. - STA. 103+50.5, 25.9'RT.	WATER VALVE	218.48	218.72
1 EA. - STA. 103+59.9, 14.7'LT.	CLEANOUT	217.87	218.27
1 EA. - STA. 104+01.0, 25.6'RT.	WATER VALVE	217.43	217.65
1 EA. - STA. 104+07.5, 25.8'RT.	CLEANOUT	217.37	217.48
1 EA. - STA. 104+58.8, 25.4'RT.	CLEANOUT	216.40	216.46
1 EA. - STA. 104+99.1, 25.7'RT.	WATER VALVE	215.37	215.55
1 EA. - STA. 105+10.2, 25.6'RT.	CLEANOUT	214.94	215.36
1 EA. - STA. 105+51.2, 25.0'RT.	WATER VALVE	214.22	214.57
1 EA. - STA. 105+61.4, 24.6'RT.	CLEANOUT	214.21	214.39
1 EA. - STA. 106+00.5, 26.0'RT.	WATER VALVE	213.65	213.87
1 EA. - STA. 106+08.7, 27.0'RT.	CLEANOUT	213.62	213.76
1 EA. - STA. 106+50.1, 24.9'RT.	WATER VALVE	212.36	212.71
1 EA. - STA. 106+60.3, 25.1'RT.	CLEANOUT	212.21	212.51
1 EA. - STA. 106+99.9, 24.2'RT.	WATER VALVE	211.48	211.90
1 EA. - STA. 107+09.3, 25.3'RT.	CLEANOUT	211.25	211.81
1 EA. - STA. 107+47.6, 27.5'RT.	CLEANOUT	211.24	211.29

ADJUST EXISTING UTILITIES SHEET 4			
LOCATION	UTILITY TYPE	EXIST. ELEV.	PROP. ELEV.
1 EA. - STA. 107+90.5, 30.9'LT.	SAN. SEWER MANHOLE	210.82	211.68
1 EA. - STA. 108+39.7, 25.9'RT.	CLEANOUT	211.25	211.59
1 EA. - STA. 108+49.0, 26.1'RT.	WATER VALVE	211.50	211.64
1 EA. - STA. 109+28.3, 26.1'RT.	CLEANOUT	211.37	212.37
1 EA. - STA. 109+40.0, 25.4'RT.	WATER VALVE	211.86	212.55
1 EA. - STA. 109+78.8, 25.1'RT.	CLEANOUT	212.36	213.24
1 EA. - STA. 109+89.7, 25.2'RT.	WATER VALVE	212.18	213.47
1 EA. - STA. 110+39.1, 26.0'RT.	WATER VALVE	213.75	214.29
1 EA. - STA. 110+80.6, 24.2'RT.	CLEANOUT	214.25	214.88
1 EA. - STA. 111+90.5, 25.0'RT.	WATER VALVE	214.80	215.00
1 EA. - STA. 111+98.0, 24.6'RT.	CLEANOUT	214.55	214.81
1 EA. - STA. 112+50.6, 24.6'RT.	CLEANOUT	213.12	213.48
1 EA. - STA. 112+91.0, 25.7'RT.	WATER VALVE	212.44	212.54
1 EA. - STA. 112+99.7, 25.9'RT.	CLEANOUT	212.14	212.31
1 EA. - STA. 114+57.8, 4.5'RT.	SAN. SEWER MANHOLE	205.99	206.48

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2009"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7/15/08 — DIRECTOR OF PUBLIC WORKS
Steve Sharar 7/9/08 — CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
7/9/08 — CHIEF, BUREAU OF ENGINEERING
7-10-08 — CHIEF, BUREAU OF HIGHWAYS

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — REGISTERED PROFESSIONAL ENGINEER — No. 15466

DES: AMB
DRN: JMB
CHK: CWH
DATE: 7/2008

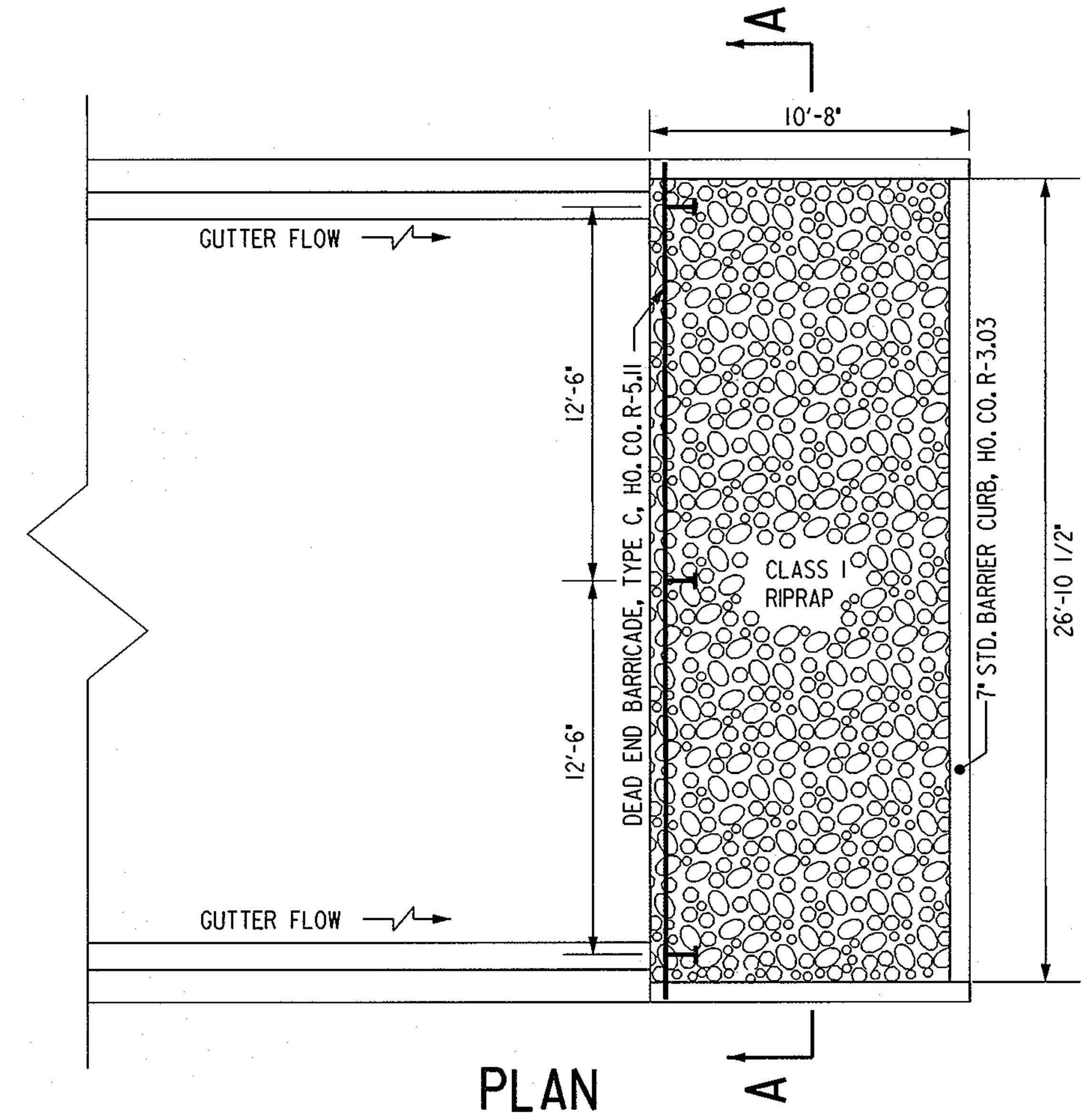
BY	NO.		DATE

CAPITAL PROJECT NO.
J-4183

PIPE PROFILES
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

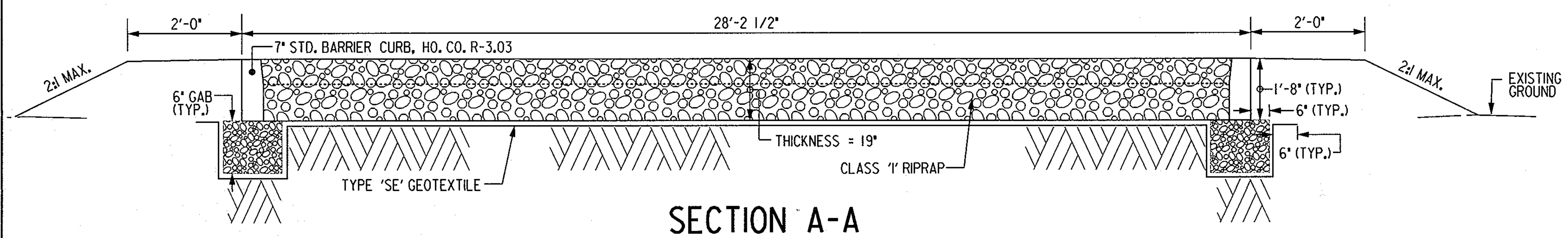
SCALE
H: 1" = 30'
V: 1"=5'

SHEET 5 OF 10



PLAN

N.T.S.



SECTION A-A

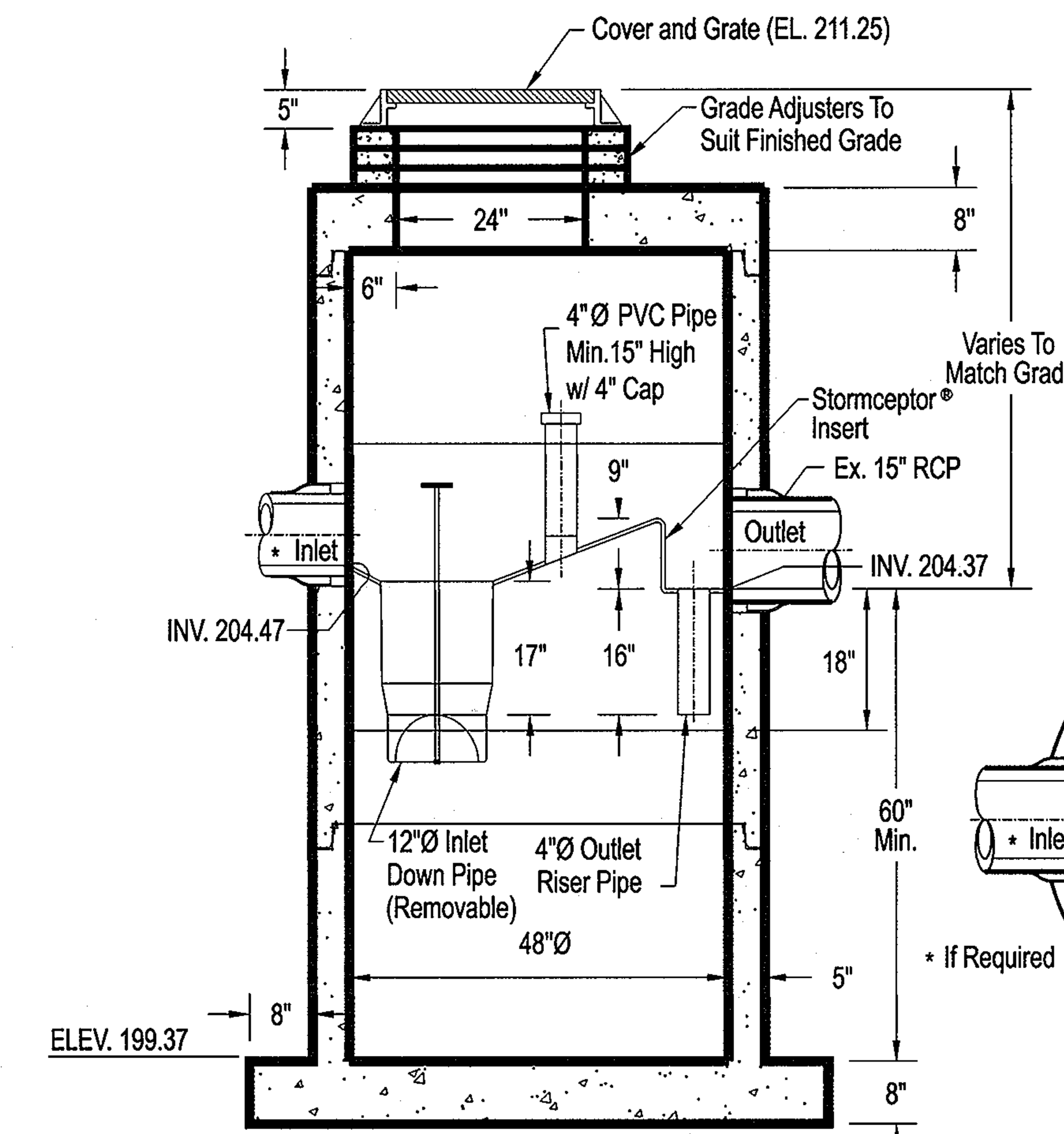
N.T.S.

LEVEL SPREADER DETAIL

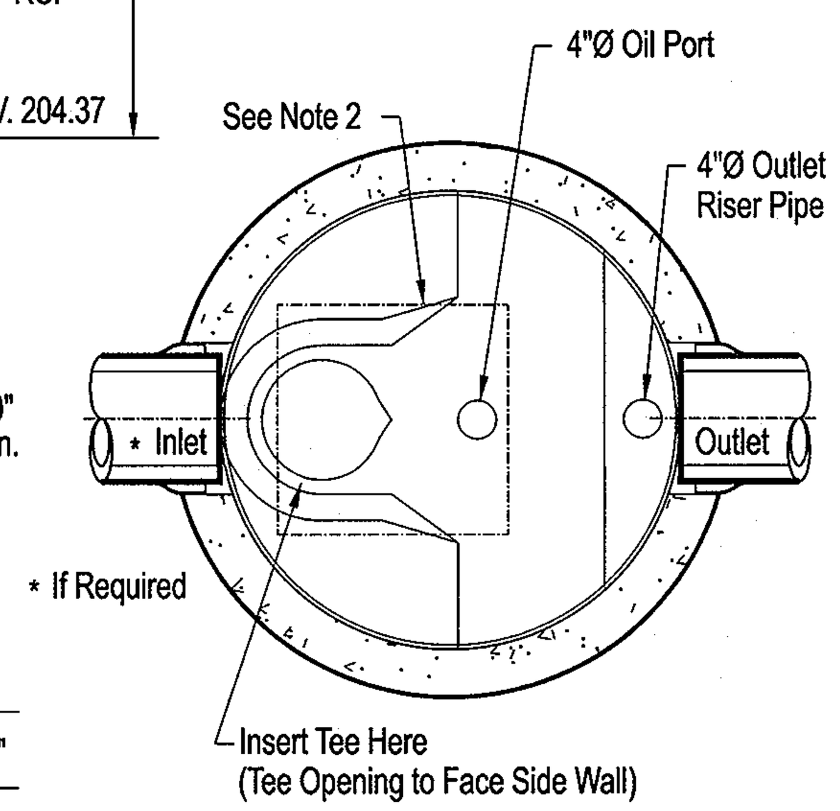
Rinker MATERIALS™

Concrete Pipe Division

STC 450i Precast Concrete Stormceptor®
(450 U.S. Gallon Capacity)



Section Thru Chamber



Plan View

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.

Rinker 027

DETAIL M-2

N.T.S.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2009"

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 7/15/08
CHIEF, BUREAU OF ENGINEERING 7/9/08
Steve Shaner 7/9/08
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION
CHIEF, BUREAU OF HIGHWAYS 7-10-08

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — No. 15466 — REGISTERED PROFESSIONAL ENGINEER

DES: AMB			
DRN: JMB			
CHK: CWH			
DATE: 7/2008	BY	NO.	DATE

CAPITAL PROJECT NO.
J-4183

DRAINAGE DETAILS
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 6 OF 10

STANDARD SEDIMENT CONTROL NOTES

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction (410-313-1855).

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the most current MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL and revisions thereto.

3. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within: a) 7 calender days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. I, Chapter 12 of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seeding (Sec. 51), sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis:

Total Area of Site	2.35	Acres
Area Disturbed	1.25	Acres
Area to be roofed or paved	1.37	Acres
Area to be vegetatively stabilized	0.56	Acres
Total Cut	550	Cu. Yds.
Total Fill	610	Cu. Yds.
Off-site waste/borrow area locations:	N/A	

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

11. Trenches for the construction of utilities is limited to three pipe lengths or that which shall be back-filled and stabilized by the end of each work day, whichever is shorter.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules:

1. Preferred -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 600 lbs/acre 10-10-10 fertilizer (14 bs/1000 sq.ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs/acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq. ft.).

2. Acceptable -- Apply 2 tons/acre dolomitic limestone (92 lbs/1000 sq. ft.) and 1000 lbs/acre 10-10-10 fertilizer (23 lbs/1000 sq. ft.) before seeding. Harrow or disk into upper three inches of soil.

Seeding -- For the period March 1 -- April 30, and August 1 -- October 15, seed with 60 lbs/acre (1.4 lbs/1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 -- July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs/acre (.05 lbs/1000 sq.ft.) of weeping lovegrass. During the period of October 16 -- February 28, protect site by:
Option 1 -- Two tons per acre of well anchored straw mulch and seed as soon as possible in the spring.
Option 2 -- Use sod.
Option 3 -- Seed with 60 lbs/acre Kentucky 30 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Maintenance -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.

Seedbed preparation: -- Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.

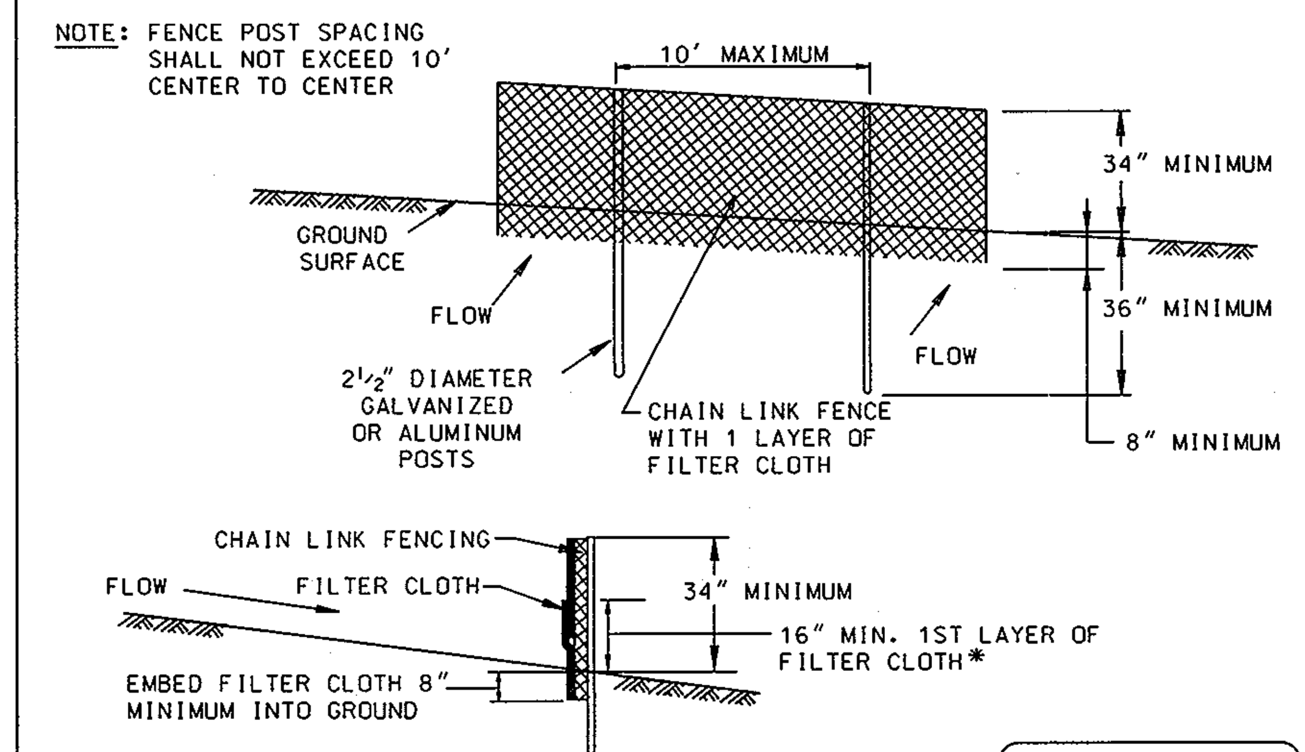
Soil Amendments: -- Apply 600 lbs/acre 10-10-10 fertilizer (14 lbs/1000 sq.ft.).

Seeding: -- For periods March 1 -- April 30 and from August 15 -- October 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs/1000 sq.ft.). For the period May 1 -- August 14, seed with 3 lbs/acre of weeping lovegrass (.07 lbs/1000 sq. ft.). For the period November 16 -- February 28, protect site by applying 2 tons/acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: -- Apply 1-1/2 to 2 tons/acre (70 to 90 lbs/1000 sq. ft.) of unrotted weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq. ft.) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.

DETAIL 33 - SUPER SILT FENCE



* IF MULTIPLE LAYERS ARE REQUIRED TO ATTAIN 42"

STANDARD SYMBOL: SSF

Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

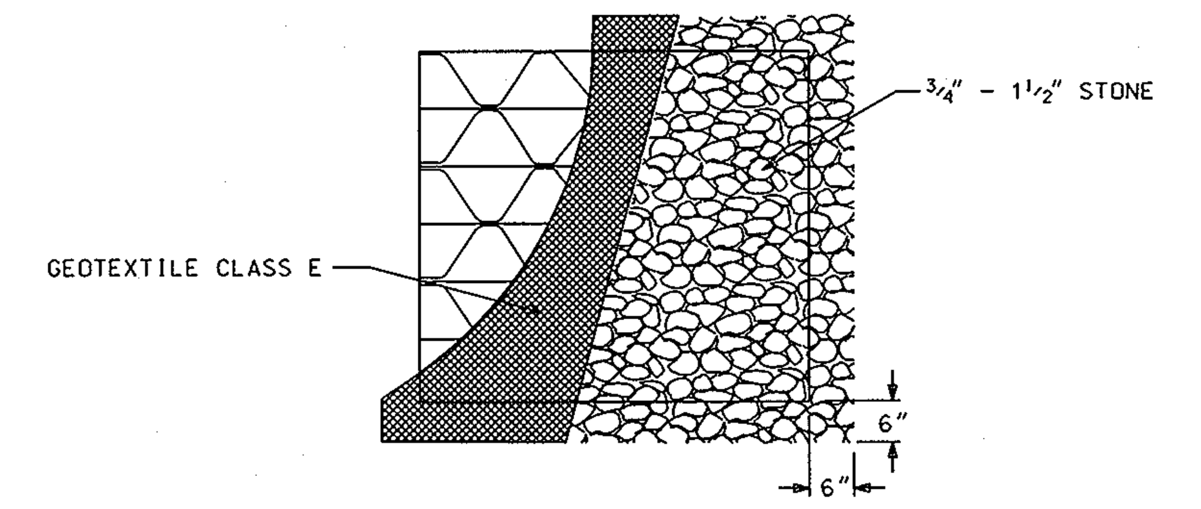
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

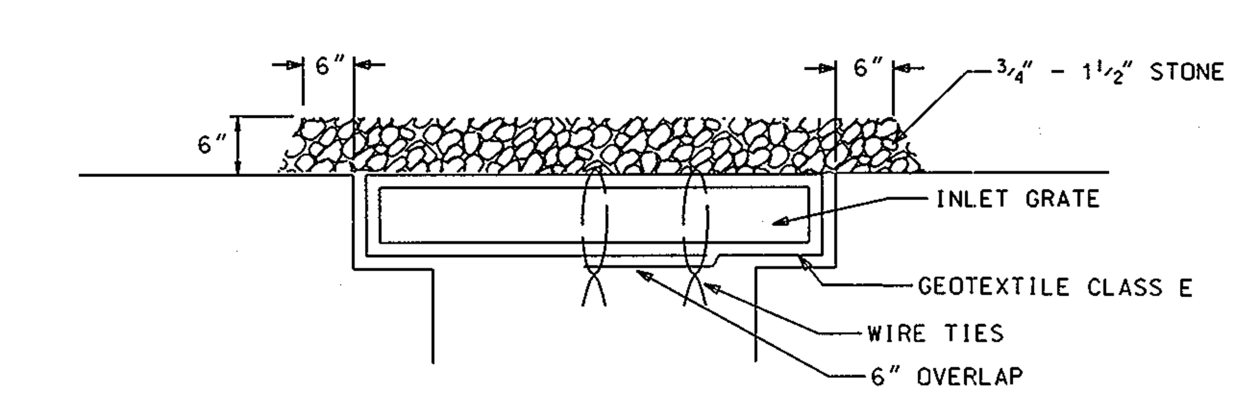
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B - AT GRADE INLET PROTECTION



PLAN/CUT AWAY VIEW



STANDARD SYMBOL: AGIP

CROSS SECTION

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 1 1/2" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SUPER SILT FENCE

Design Criteria

Slope	Slope Steepness	Slope Length (maximum)	Silt Fence Length (maximum)
0 - 10%	0 - 10:1	Unlimited	Unlimited
10 - 20%	10:1 - 5:1	200 feet	1,500 feet
20 - 33%	5:1 - 3:1	100 feet	1,000 feet
33 - 50%	3:1 - 2:1	100 feet	500 feet
50% +	2:1 +	50 feet	250 feet

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SEQUENCE OF CONSTRUCTION

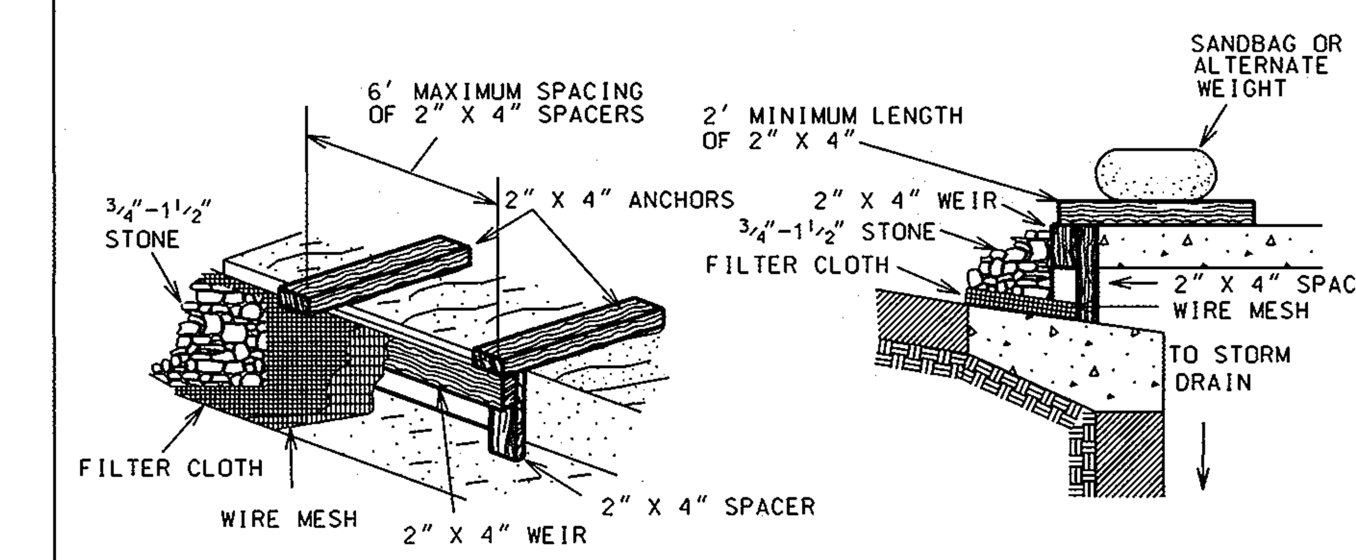
1. CONTRACTOR SHALL OBTAIN GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS PRIOR TO BEGINNING CONSTRUCTION.
2. CONTRACTOR SHALL CONTACT HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES, AND PERMITS AT (410) 313-2455 TO SCHEDULE A PRE-CONSTRUCTION MEETING AT LEAST 72 HOURS BEFORE CONSTRUCTION IS TO BEGIN.
3. INSTALL SUPER SILT FENCE, SSF-1 AND SSF-2 AT EAST END OF NORFOLK AVENUE.
4. INSTALL ROADWAY BASE WIDENING, CURB AND GUTTER FROM STA. 103+00 TO STA. 101+00. CONTRACTOR SHALL PERFORM FILLING OPERATIONS, REMOVE EXISTING DRIVEWAY CULVERTS, AND PROVIDE DRIVEWAY REHAB FOR AREAS BEHIND CURB FROM UPSTREAM TO DOWNSTREAM AS ROADWAY WORK PROGRESSES.
5. CONSTRUCT STORM DRAIN SYSTEM FROM EX. I-1 TO I-2 AND INSTALL CIP-1, AGIP-2, AND AGIP-1. RUNOFF SHALL NOT BE DIRECTED TO AGIP-1 AND AGIP-2 UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.
6. INSTALL ROADWAY BASE WIDENING, CURB AND GUTTER AT SEWALL AVE INTERSECTION. CONTRACTOR SHALL PERFORM FILLING OPERATIONS, REMOVE EXISTING DRIVEWAY CULVERTS AND STORMDRAIN STRUCTURES, BULKHEAD EXISTING PIPES, AND PROVIDE DRIVEWAY REHAB FOR AREAS BEHIND CURB FROM UPSTREAM TO DOWNSTREAM AS ROADWAY WORK PROGRESSES.
7. INSTALL ROADWAY BASE WIDENING, CURB AND GUTTER FROM STA. 103+00 TO STA. 107+75, FROM STA. 111+50 TO 108+25, AND FROM STA. 111+50 TO 114+50. CONTRACTOR SHALL PERFORM FILLING OPERATIONS, REMOVE EXISTING DRIVEWAY CULVERTS, AND PROVIDE DRIVEWAY REHAB FOR AREAS BEHIND CURB FROM UPSTREAM TO DOWNSTREAM AS ROADWAY WORK PROGRESSES.
8. INSTALL ROADWAY BASE WIDENING, CURB AND GUTTER FROM STA. 107+75 TO STA. 108+25. REMOVE EXISTING JUNCTION BOX AND PIPE CONNECTIONS, CONSTRUCT I-9 AND STORMDRAIN SYSTEM FROM I-10 TO M-2. INSTALL CIP-10 AND CIP-9.
9. CONSTRUCT LEVEL SPREADER AT EAST END OF NORFOLK AVE.
10. ONCE ALL DISTURBED AREAS HAVE BEEN STABILIZED AND WITH THE APPROVAL OF THE INSPECTOR, REMOVE INLET PROTECTIONS AND SUPER SILT FENCE.

NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE THROUGHOUT THE LENGTH OF THE PROJECT.
2. WITHIN 24 HOURS OF INITIAL DISTURBANCE, ALL DISTURBED AREA UNDER ROADS SHALL BE STABILIZED WITH GAB AND/OR PAVEMENT AND LAWN AREAS SHALL BE STABILIZED WITH SEED AND MULCH.
3. INSTALLATION OF THE STORM DRAIN SHALL BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED EACH WORKING DAY.
4. INSTALL INLET PROTECTION AS EACH INLET IS BUILT.
5. SPOIL FROM THE TRENCHING OPERATION IS TO BE PLACED ON THE UPHILL SIDE OF CONSTRUCTION.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2009

DETAIL 23 - CURB INLET PROTECTION (COG OR COS INLETS)



STANDARD SYMBOL

MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length, plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.

2. Place a continuous piece of Geotextile Class E the same as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1 ' beyond both ends of the throat opening.

6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 16 - 5B	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

By the Developer:

"I/We certify that all development and construction will be done according to this plan, 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 the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."

Ronald G. Lepson — 7/9/08

Signature of Developer — Date
Print name below Signature

By the 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 and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Paul F. Clement — 07/08/08

PAUL F. CLEMENT

Signature of Engineer — Date
Print name below Signature

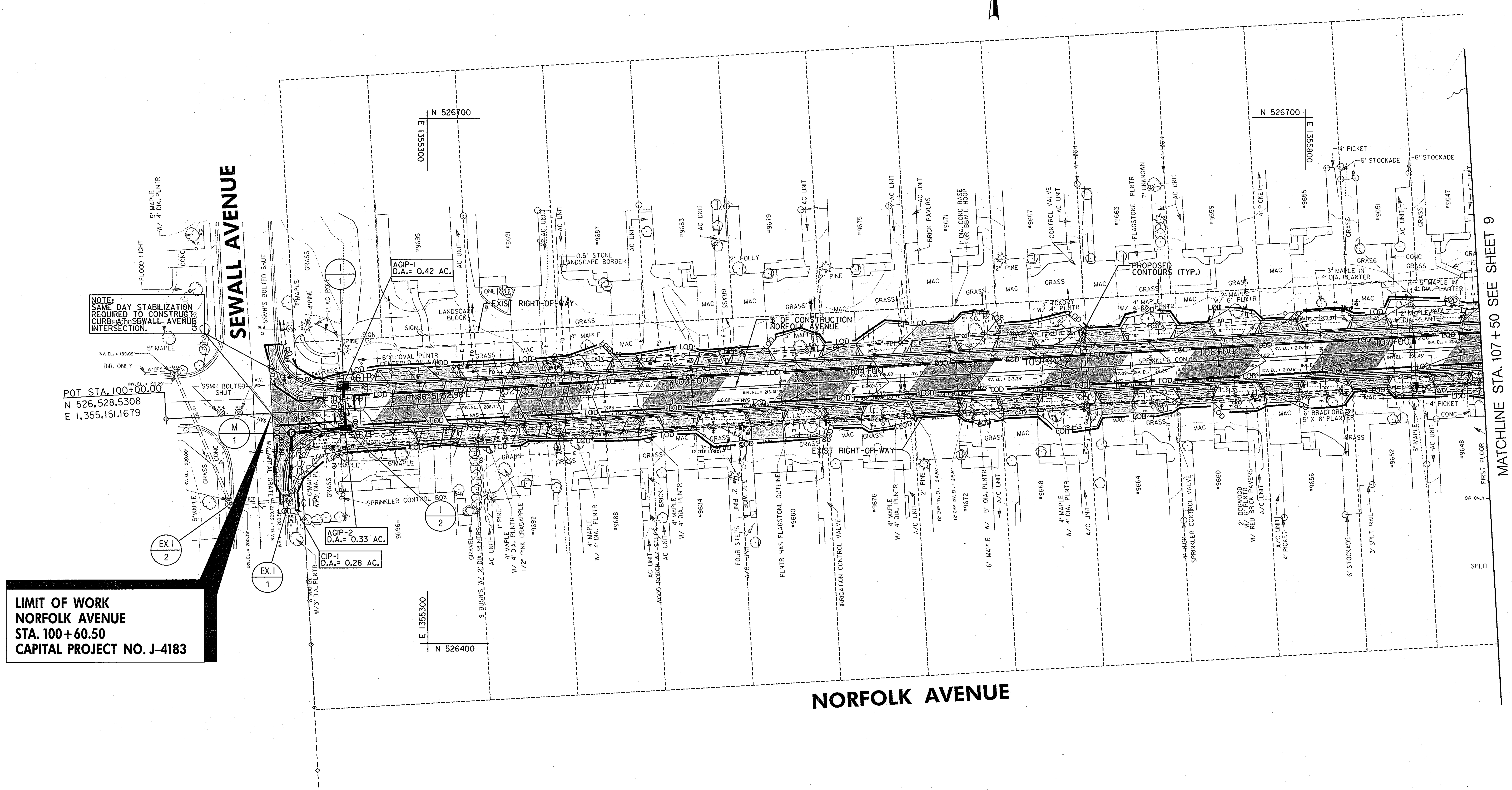
This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT

Howard SCD — 7/9/08 — Date

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		JOHNSON, MIRMIRAN & THOMPSON Engineering A Brighter Future 72 Loveton Circle Baltimore, Maryland 21152-0949	DES: AMB	CAPITAL PROJECT NO. J-4183	EROSION AND SEDIMENT CONTROL DETAILS AND NOTES	SCALE AS SHOWN
7/15/08 DIRECTOR OF PUBLIC WORKS	7/9/08 CHIEF, BUREAU OF ENGINEERING		DRN: JMB		NORFOLK AVENUE ROADWAY IMPROVEMENTS	SHEET 7 OF 10
Steve Sharar 7/9/08 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION	7-10-08 CHIEF, BUREAU OF HIGHWAYS		CHK: CWH			
			DATE: 7/2008	BY / NO. / DATE	ELECTION DISTRICT 3 — HOWARD COUNTY, MARYLAND	

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — No. 15466 — REGISTERED PROFESSIONAL ENGINEER — 07/08/08

INLET PROTECTION SCHEDULE		
AGIP-1	STA. 101+02, 14.4' LT.	- 1 EA.
AGIP-2	STA. 101+02, 12.4' RT.	- 1 EA.
CIP-1	STA. 100+66, 50.0' RT.	- 1 EA.



NOTE:

NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.

"PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 7/15/08
CHIEF, BUREAU OF ENGINEERING 7/9/08
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION 7/9/08
CHIEF, BUREAU OF HIGHWAYS 7-10-08

JOHNSON, MIRMIRAN & THOMPSON
Engineering A Brighter Future
72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — NO. 15466 — REGISTERED PROFESSIONAL ENGINEER

DES: AMB
DRN: JMB
CHK: CWH
DATE: 7/2008

BY	NO.		DATE

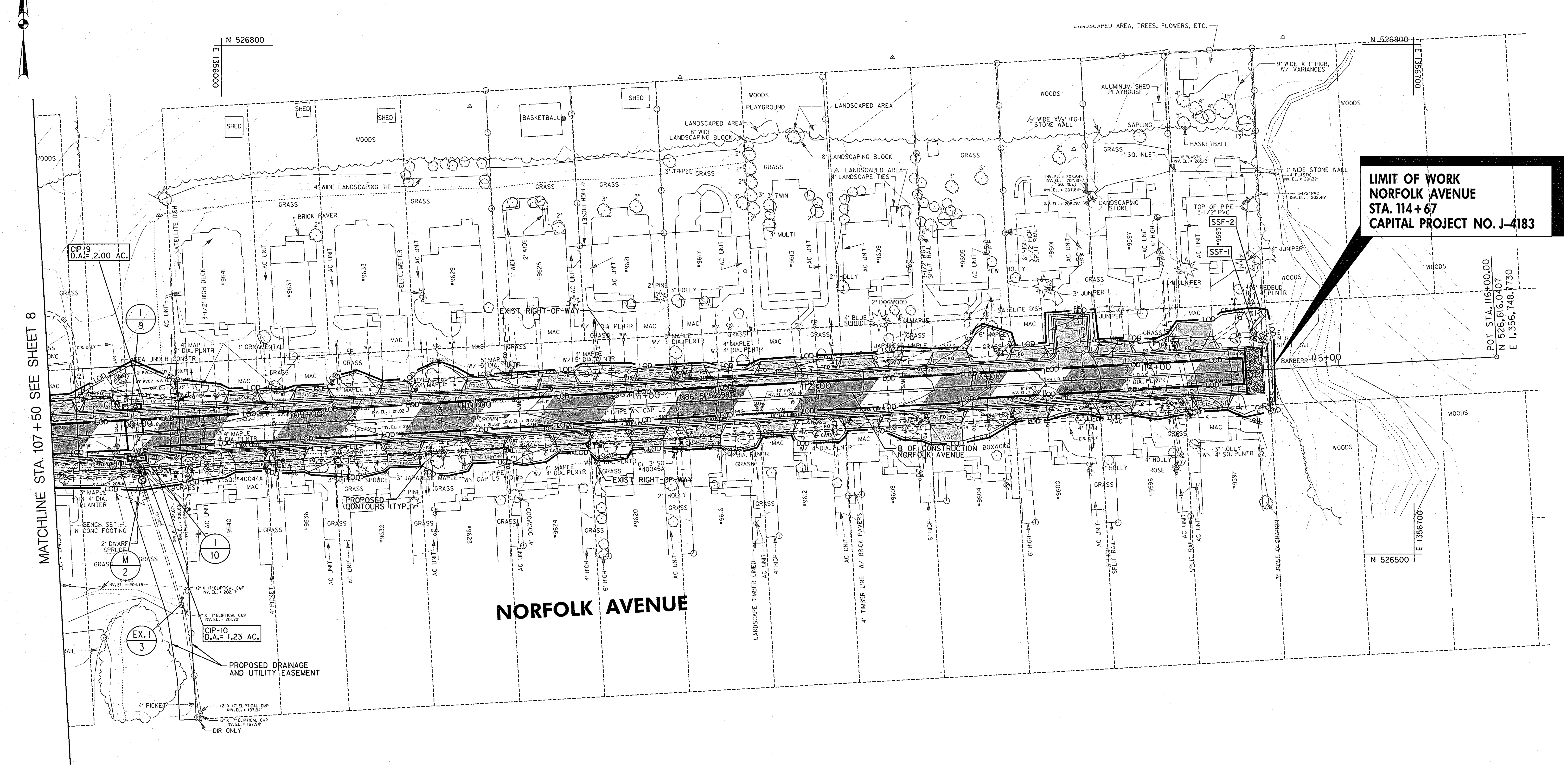
CAPITAL PROJECT NO.
J-4183

EROSION AND SEDIMENT CONTROL PLAN
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

SCALE 1" = 30'
SHEET 8 OF 10

INLET PROTECTION SCHEDULE (CIP)		
CIP-9	STA. 107+98, 13.4' LT.	- 1 EA.
CIP-10	STA. 107+99, 13.4' RT.	- 1 EA.

SUPER SILT FENCE SCHEDULE		
SSF-1	STA. 114+61, 33.4' LT. TO STA. 114+63, 23.0' RT.	- 65 LF
SSF-2	STA. 114+62, 35.3' LT. TO STA. 114+65, 24.4' RT.	- 70 LF



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DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[signature] 7/15/08
DIRECTOR OF PUBLIC WORKS

[signature] 7/7/08
CHIEF, BUREAU OF ENGINEERING

Steve Sharar 7/9/08
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

[signature] 7-10-08
CHIEF, BUREAU OF HIGHWAYS

JMT
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72 Loveton Circle Baltimore, Maryland 21152-0949

STATE OF MARYLAND — PAUL FRANKLIN CLEWETT — NO. 15466 — REGISTERED PROFESSIONAL ENGINEER
7/07/08

DES: AMB			
DRN: JMB			
CHK: CWH			
DATE: 7/2008	BY	NO.	DATE

CAPITAL PROJECT NO.
J-4183

EROSION AND SEDIMENT CONTROL PLAN
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

SCALE 1" = 30'

SHEET 9 OF 10

*PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 15466, EXPIRATION DATE: JULY 15, 2009

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7/15/08 DIRECTOR OF PUBLIC WORKS	7/9/08 CHIEF, BUREAU OF ENGINEERING
Steve Sharar 7/9/08 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION	7-10-08 CHIEF, BUREAU OF HIGHWAYS

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STATE OF MARYLAND — PAUL FRANKLIN CLEMENT — NO. 15466 — REGISTERED PROFESSIONAL ENGINEER

DES: AMB				
DRN: JMB				
CHK: CWH				
DATE: 7/2008	BY	NO.		DATE

CAPITAL PROJECT NO.
J-4183

EROSION AND SEDIMENT CONTROL DA MAP
NORFOLK AVENUE
ROADWAY IMPROVEMENTS
ELECTION DISTRICT 3 HOWARD COUNTY, MARYLAND

SCALE 1" = 50'
SHEET 10 OF 10