

**STANDARD SEDIMENT CONTROL NOTES**

- 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 (313-1855).
- 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 EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR 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.
- 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.
- 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 PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	4.95	ACRES
AREA DISTURBED	1.11	ACRES
AREA TO BE ROOFED OR PAVED	0.12	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.00	ACRES
TOTAL CUT	3260	CU.YDS.
TOTAL FILL	735	CU. YDS.

 OFFSITE WASTE/BORROW AREA LOCATION: \_\_\_\_\_
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- 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:

- PREFERRED -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONES (92 LBS./1000 SQ.FT.) AND 600 LBS./ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO THREE INCHES OF SOIL AT TIME OF SEEDING, APPLY 400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
- ACCEPTABLE -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS./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 PERIODS 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 (0.5 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 SLOPE 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 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 PERIOD MARCH 1 -- APRIL 30 AND FROM AUGUST 15 -- OCTOBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.). THE FOR PERIOD MAY 1 -- AUGUST 14, SEED WITH 3 LBS./ACRE OF WEEPING LOVEGRASS (0.7 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 1/2 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 GAL. PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. 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.

**SEDIMENT CONTROL**

( ) 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."

*Steve Sharav*  
SIGNATURE OF DEVELOPER  
PRINT NAME BELOW SIGNATURE  
Steve Sharav

2/4/13  
DATE

( ) 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"

*Scott Hoban*  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE  
Scott Hoban

2-4-13  
DATE

( ) FOR THE HOWARD SOIL CONSERVATION DISTRICT:

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

*John R. ...*  
HOWARD SOIL CONSERVATION DISTRICT

2/17/13  
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. 21150 Expiration Date: 9-20-14

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan J. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS  
*Will R. ...* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS

*Thomas E. Butler* 2/5/13  
CHIEF, BUREAU OF ENGINEERING  
*Steve Sharav* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 300  
Baltimore, MD 21244  
www.stvinc.com



DES: RDB			
DRN: CSC			
CHK: SRH			
DATE: JUNE 2012	BY: NO.	REVISION	DATE

**EROSION AND SEDIMENT CONTROL NOTES**

600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

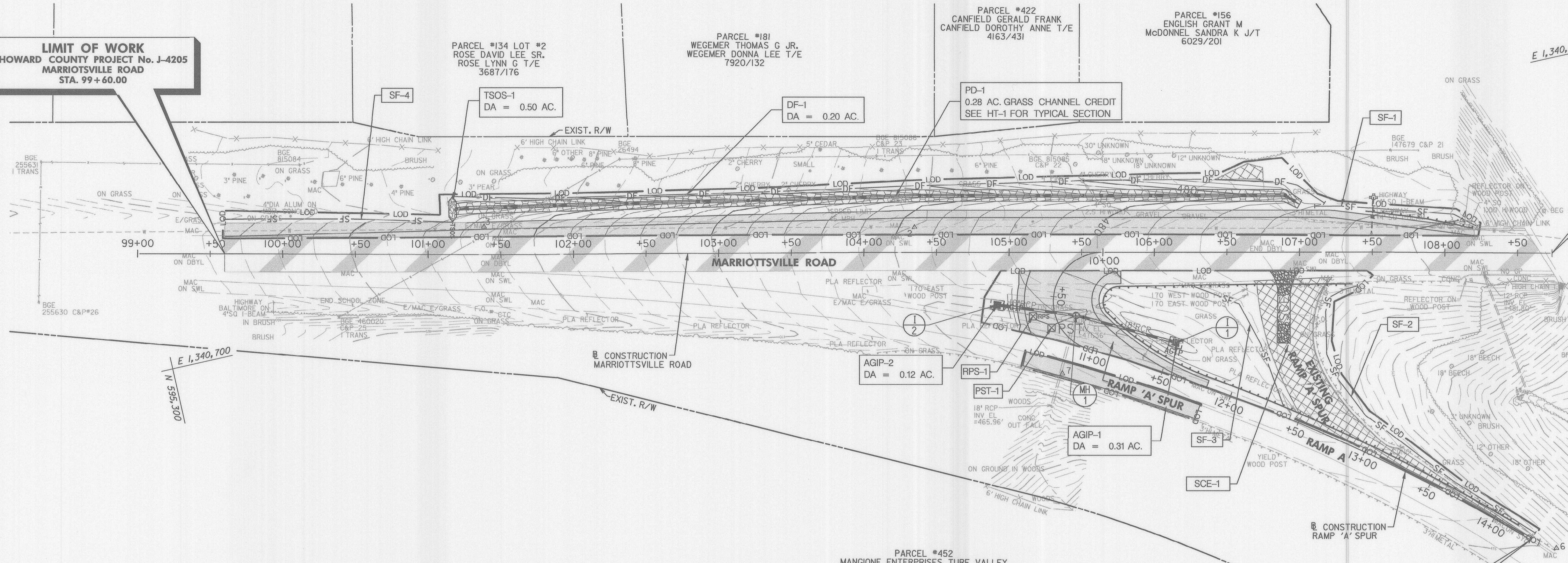
ES-1

SCALE: AS SHOWN  
SHEET 5 OF 7

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
RAMP 'A' SPUR  
STA. 14+29.25



**SEQUENCE OF CONSTRUCTION**

1. CONSTRUCT DIVERSION FENCE (DF-1) FROM STA 101+17 TO STA 107+17 LT.
2. CONSTRUCT SILT FENCE (SF-1 AND SF-4) AS SHOWN.
3. CONSTRUCT TEMPORARY STONE OUTLET STRUCTURE (TSOS-1) AS SHOWN.
4. RELOCATE EXISTING FIRE HYDRANT AS SHOWN ON DWG. HD-01.
5. BEGIN FULL DEPTH PAVING FROM STA 99+60 TO STA 108+20 LT AND CONSTRUCT PROPOSED GRASS CHANNEL (PD-1) AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING.
6. UPON COMPLETION OF THE FULL DEPTH PAVING AND GRASS CHANNEL, STABILIZE ANY REMAINING DISTURBED AREAS, AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE TSOS-1, SF-1, SF-4, DF-1 AND STABILIZE THESE AREAS.
7. CONSTRUCT I-1, I-2, MH-1 AND PROPOSED STORM DRAIN AS SHOWN. FOR PIPE PROFILES REFER TO DWG. DP-1.
8. INSTALL AGIP-1 AND AGIP-2 AS SHOWN.
9. CONSTRUCT PROPOSED RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. A REMOVABLE PUMPING STATION (RPS-1) AND PORTABLE SEDIMENT TANK (PST-1) SHALL BE USED TO REMOVE ANY STANDING WATER FROM THE WORK ZONE IF NECESSARY.
10. INSTALL SILT FENCES (SF-2 AND SF-3) AS SHOWN.
11. UPON COMPLETION OF THE PROPOSED RAMP 'A' SPUR, CONSTRUCT SCE-1 AS SHOWN AND BEGIN EXCAVATION OF THE EXISTING RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. DURING EXCAVATION, THE CONTRACTOR SHALL ENSURE THAT EXISTING DRAINAGE PATTERNS ARE MAINTAINED ALONG THE EXISTING RAMP.
12. UPON COMPLETION OF EXCAVATION, STABILIZE ANY REMAINING DISTURBED AREAS AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE ANY REMAINING PERIMETER CONTROLS AND STABILIZE THESE AREAS.

SILT FENCE (SF)	
115 L.F.	(SF-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 107+10 TO 108+22 LT.
255 L.F.	(SF-2) @ CONSTR - MARRIOTTVILLE ROAD - STA 107+40 RT. TO CONSTR. RAMP 'A' STA 14+29 LT.
110 L.F.	(SF-3) @ CONSTR - RAMP 'A' - STA 11+52 TO 12+36 LT.
158 L.F.	(SF-4) @ CONSTR - MARRIOTTVILLE ROAD - STA 99+60 TO 101+17 LT.

STABILIZED CONSTRUCTION ENTRANCE (SCE)	
30 TONS	(SCE-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 106+92, 17.6' RT.

DIVERSION FENCE (DF)	
610 L.F.	(DF-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 101+17 TO 107+17 LT.

TEMPORARY STONE OUTLET STRUCTURE (TSOS)	
1 EA.	(TSOS-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 101+17, 31.2' LT.

AT-GRADE INLET PROTECTION (AGIP)	
1 EA.	(AGIP-1) @ CONSTR - RAMP 'A' - STA 11+53, 22.0' LT.
1 EA.	(AGIP-2) @ CONSTR - RAMP 'A' - STA 10+55, 38.8' RT.

REMOVABLE PUMPING STATION (RPS)	
1 EA.	(RPS-1) TO BE PLACED AS NEEDED IN THE FIELD

PORTABLE SEDIMENT TANK (PST)	
1 EA.	(PST-1) TO BE PLACED AS NEEDED IN THE FIELD

**LEGEND**

	FULL DEPTH HMA PAVEMENT
	HMA GRINDING AND RESURFACING
	REMOVAL OF EXISTING PAVEMENT (PAID FOR AS CLASS I EXCAVATION)
	TYPE 'A' SOIL STABILIZATION MATTING

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY COLLEGEVILLE DISTRICT.

Approved: *[Signature]* 2/14/13  
Howard S.C.D. 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. 21350 Expiration Date: 9-2014

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 2/14/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com



DES: RDB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY: NO.	
REVISION	

**EROSION AND SEDIMENT CONTROL PLAN**

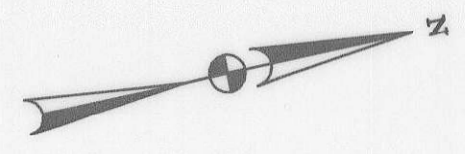
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION

HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

ES-2

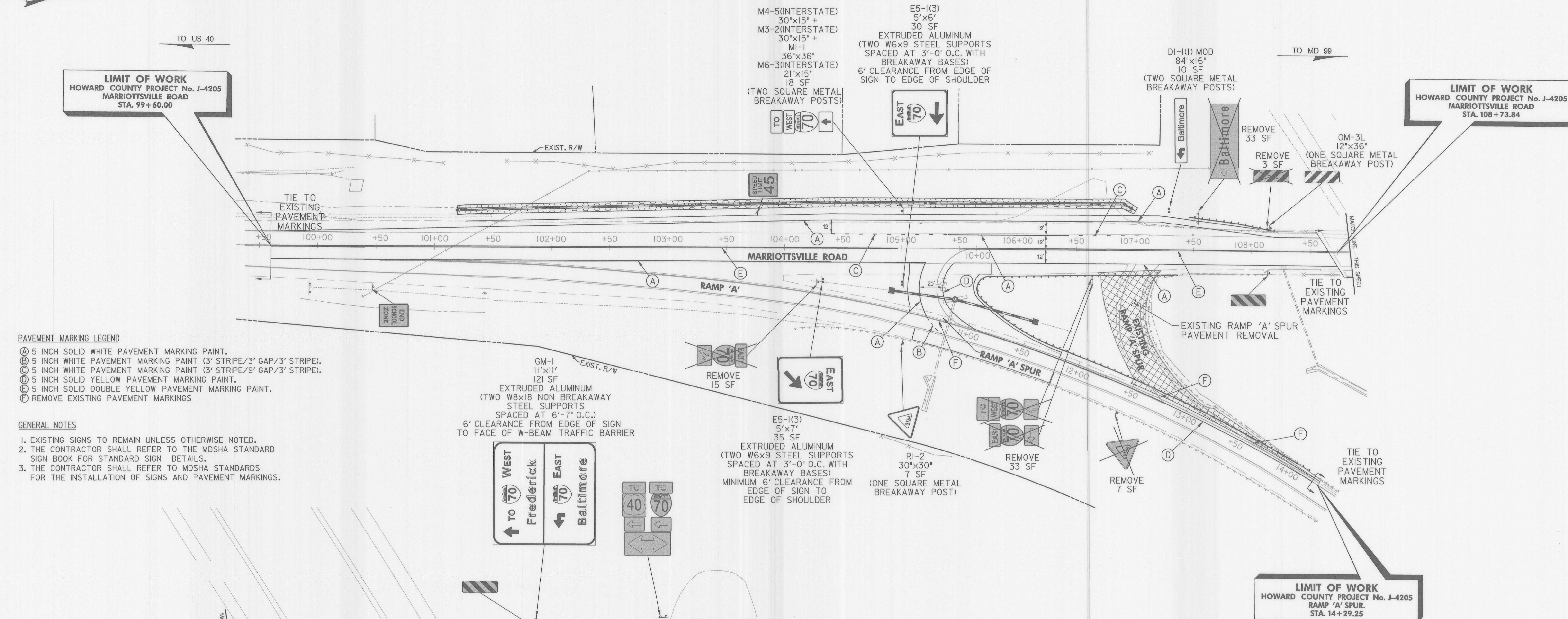
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SHEET 6 OF 7



**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

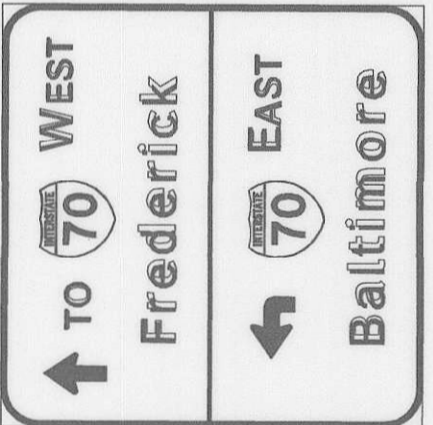
**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84



- PAVEMENT MARKING LEGEND**
- (A) 5 INCH SOLID WHITE PAVEMENT MARKING PAINT.
  - (B) 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/3' GAP/3' STRIPE).
  - (C) 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/9' GAP/3' STRIPE).
  - (D) 5 INCH SOLID YELLOW PAVEMENT MARKING PAINT.
  - (E) 5 INCH SOLID DOUBLE YELLOW PAVEMENT MARKING PAINT.
  - (F) REMOVE EXISTING PAVEMENT MARKINGS

- GENERAL NOTES**
1. EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.
  2. THE CONTRACTOR SHALL REFER TO THE MDSA STANDARD SIGN BOOK FOR STANDARD SIGN DETAILS.
  3. THE CONTRACTOR SHALL REFER TO MDSA STANDARDS FOR THE INSTALLATION OF SIGNS AND PAVEMENT MARKINGS.

SIGNING LEGEND	
SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
	PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED



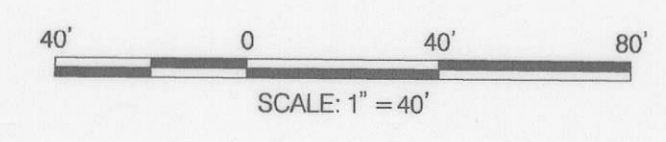
**SIGN DETAIL (NOT TO SCALE)**

PANEL DESIGNATION	QUANTITY	SIZE		COLOR		BORDER		ARROW	SHIELD	
		AREA (S.F.)	WIDTH	HEIGHT	LEGEND BORDER	BACKGROUND	WIDTH			RADIUS
GM-1	1	121	11'-0"	11'-0"	W	W	G	2"	12"	M1-1 24"

**LEGEND**

(1) CLEARVIEW TYPE 5W  
\* SEE SHA STANDARD SIGN BOOK FOR ARROW DETAILS

NOTES: 1. COLORS: G=GREEN, W=WHITE/SILVER.  
2. SEE SHA STANDARD SIGN BOOK FOR ARROW DETAILS.



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. 21350, Expiration Date: 9-20-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*W. R. Mall* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Steve Shuman* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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Baltimore, MD 21244  
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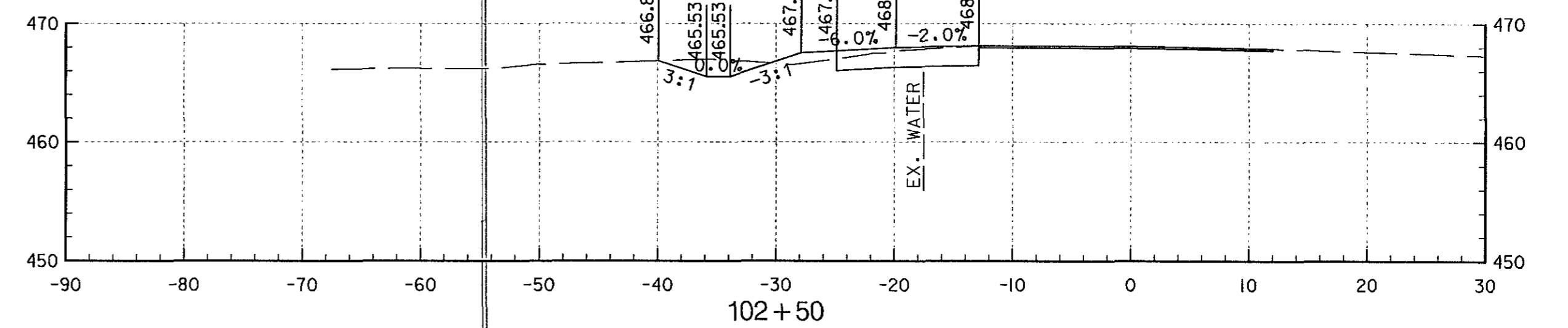
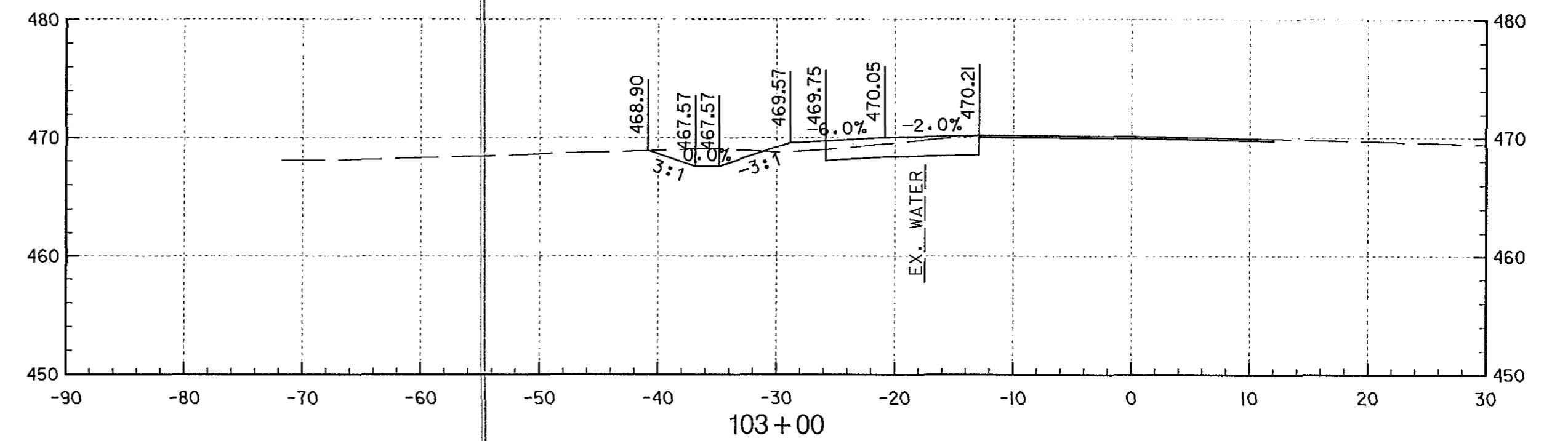
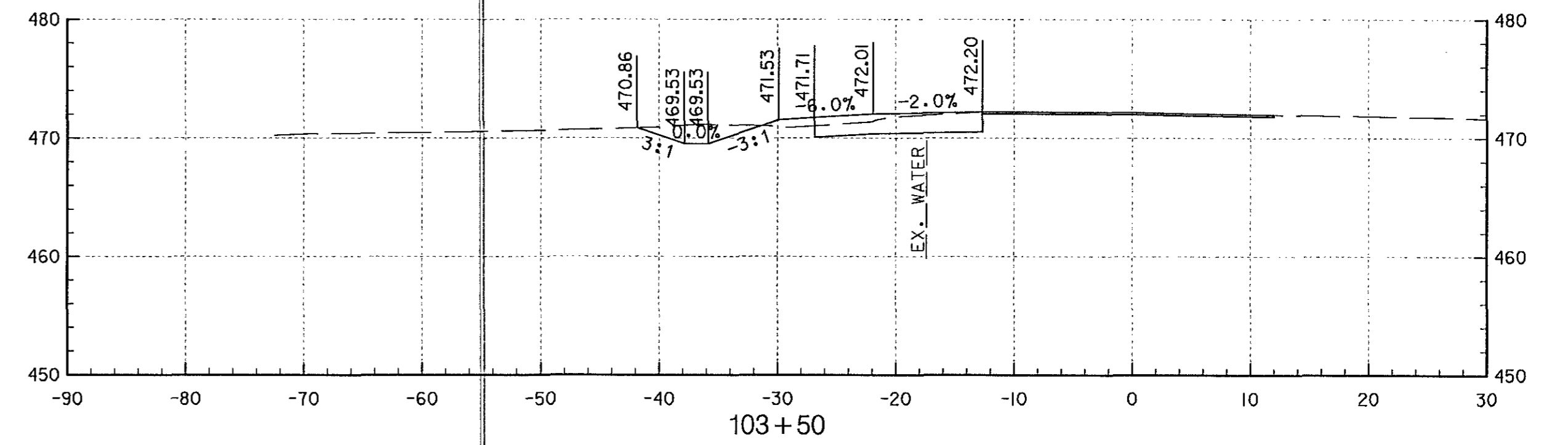
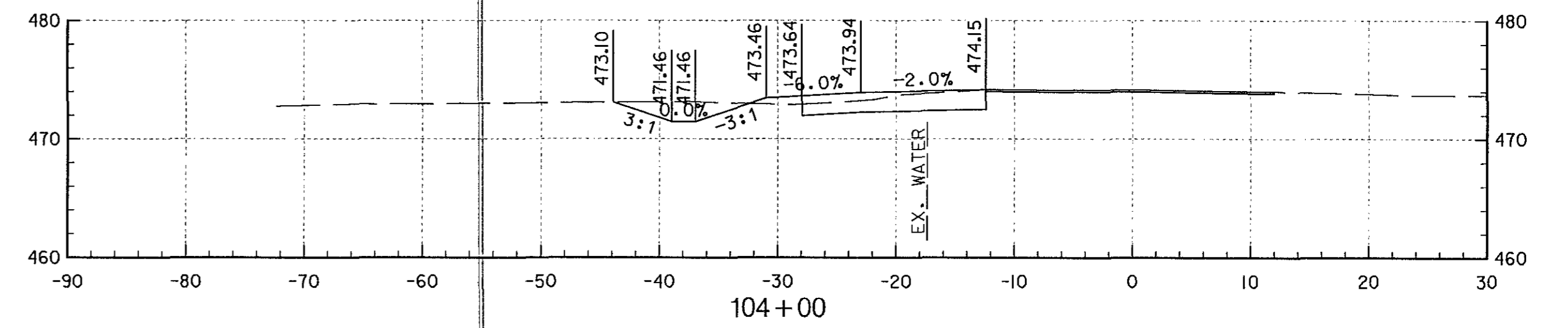
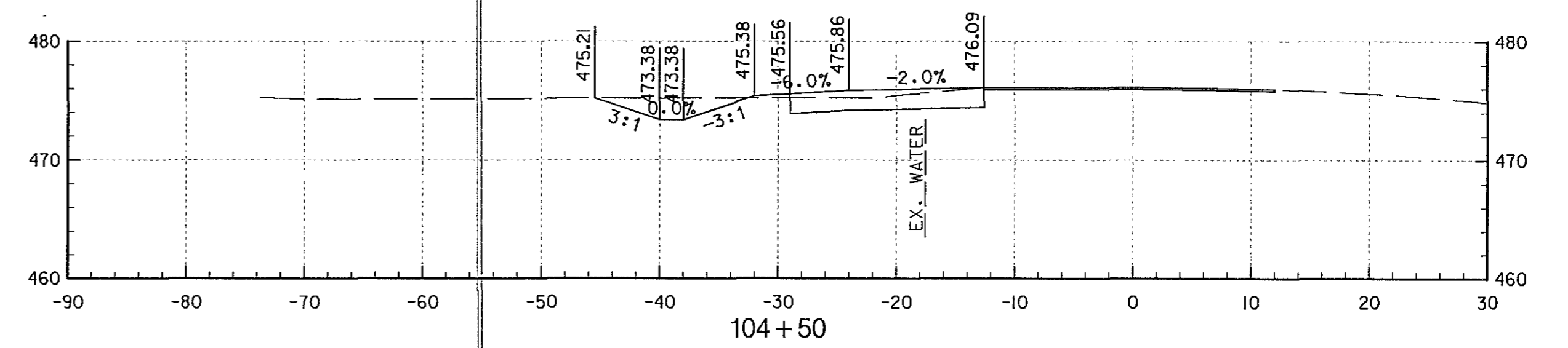
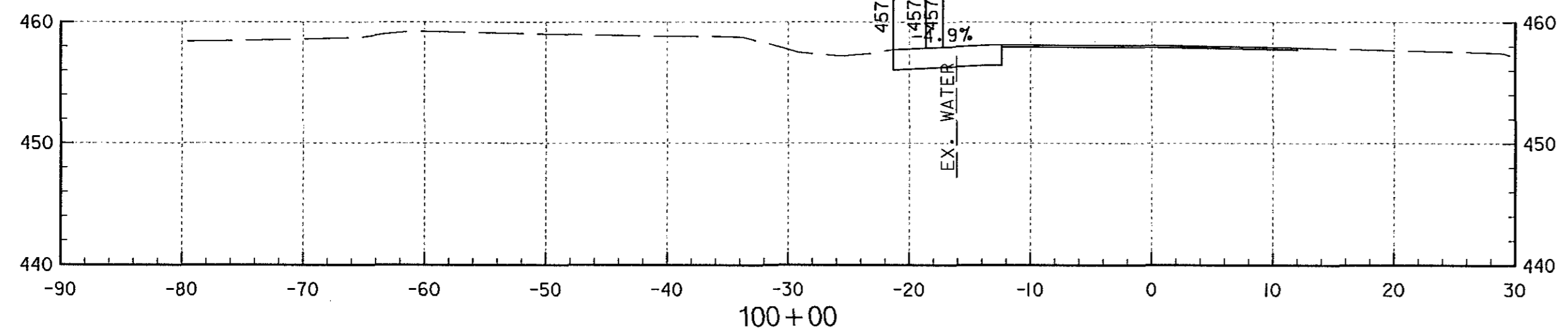
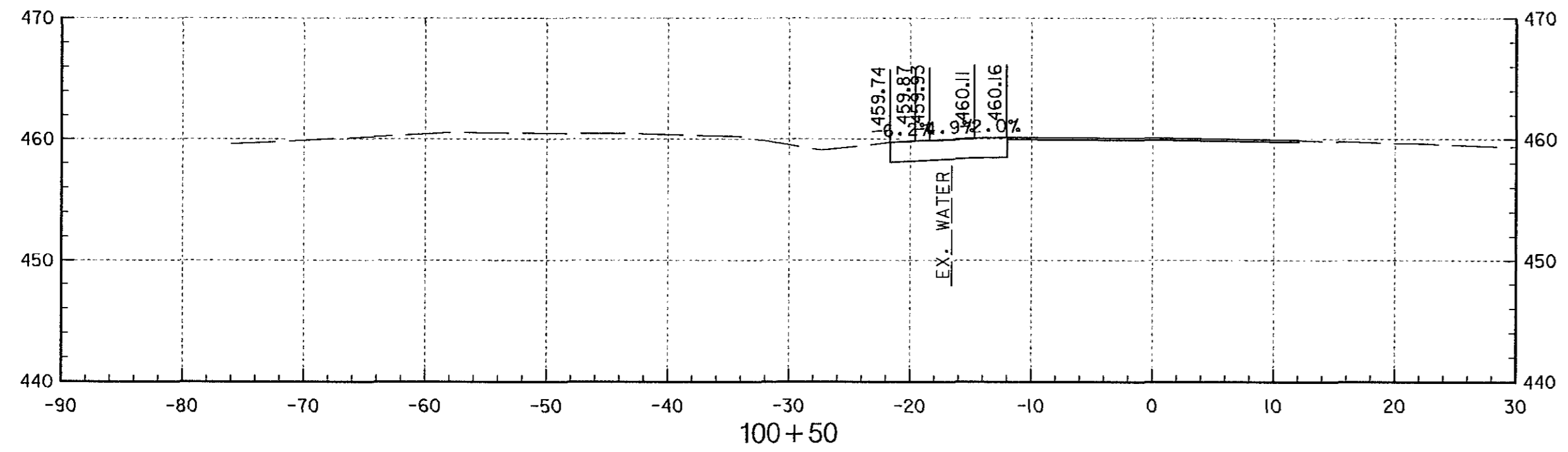
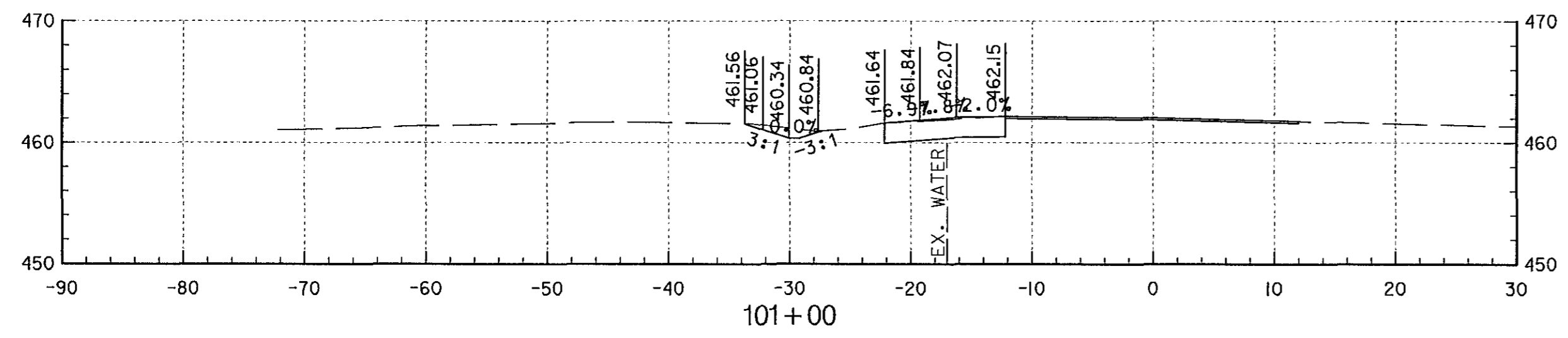
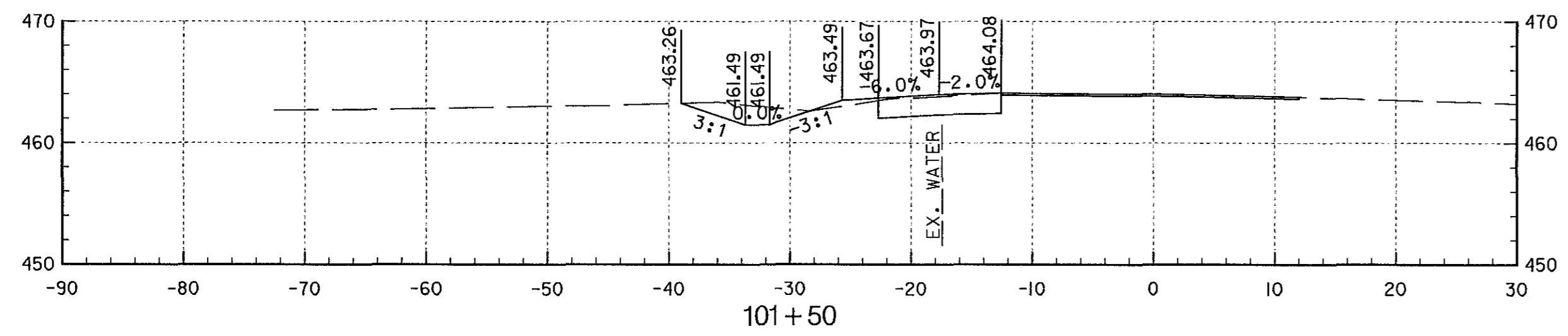
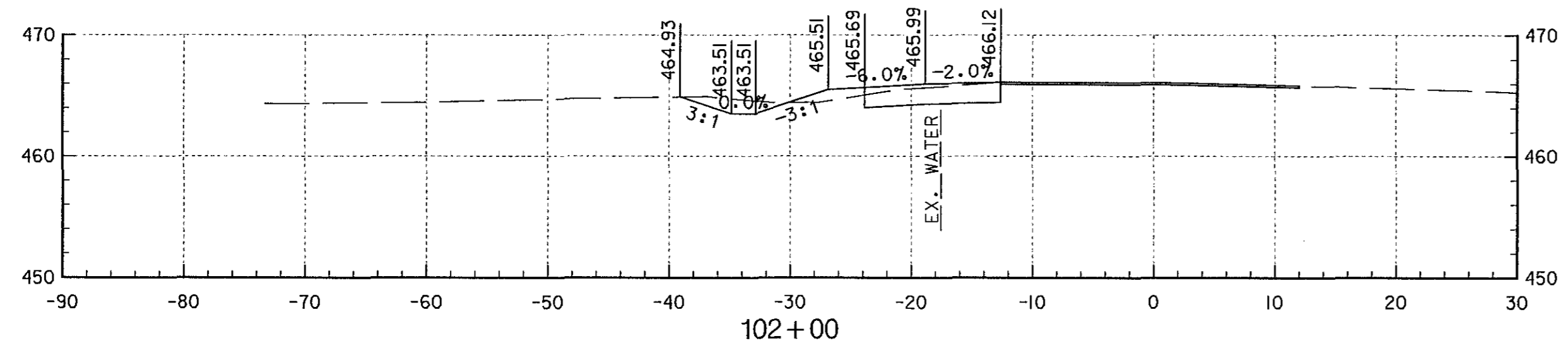


DES: ROB			
DRN: CSC			
CHK: SRH			
DATE: JUNE 2012	BY: NO.	REVISION	DATE: 600' SCALE MAP NO. BLOCK NO.

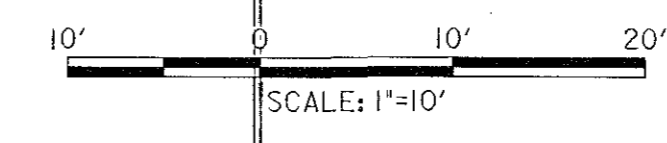
**SIGNING AND PAVEMENT MARKING PLAN**

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 7 OF 7



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. 21390, Expiration Date: 9-20-14



DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

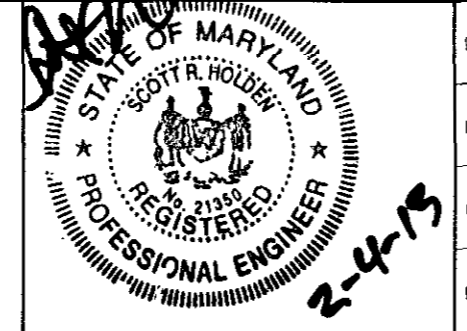
*Janet Lu* 2/8/13  
 DIRECTOR OF PUBLIC WORKS DATE

*Steve Shauer* 2/4/13  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Thomas P. Butler* 3/5/13  
 CHIEF, BUREAU OF ENGINEERING DATE

*Steve Shauer* 2/4/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com



DES: RDB	BY: NO.	REVISION
DIR: CSC		
CHK: SRV		
DATE: JUNE 2012		

**CROSS SECTIONS**

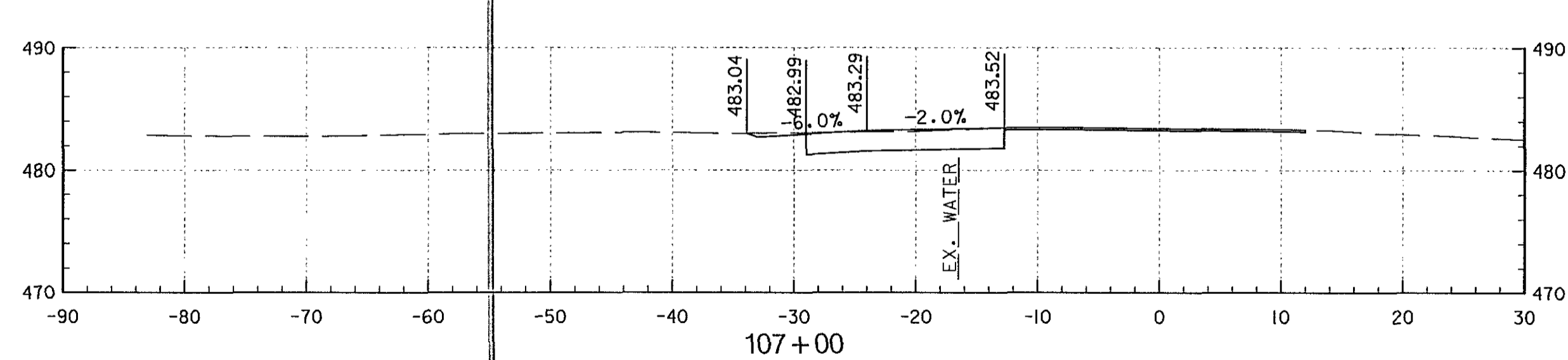
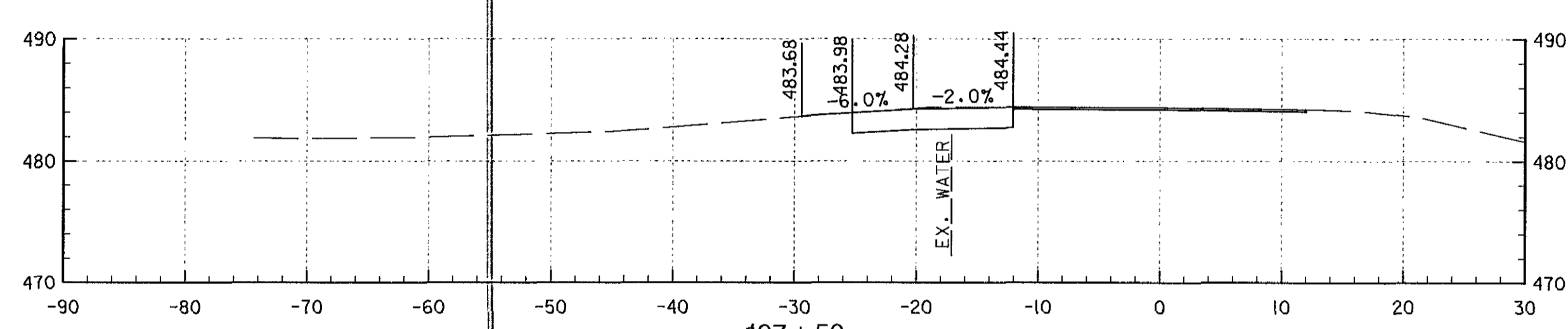
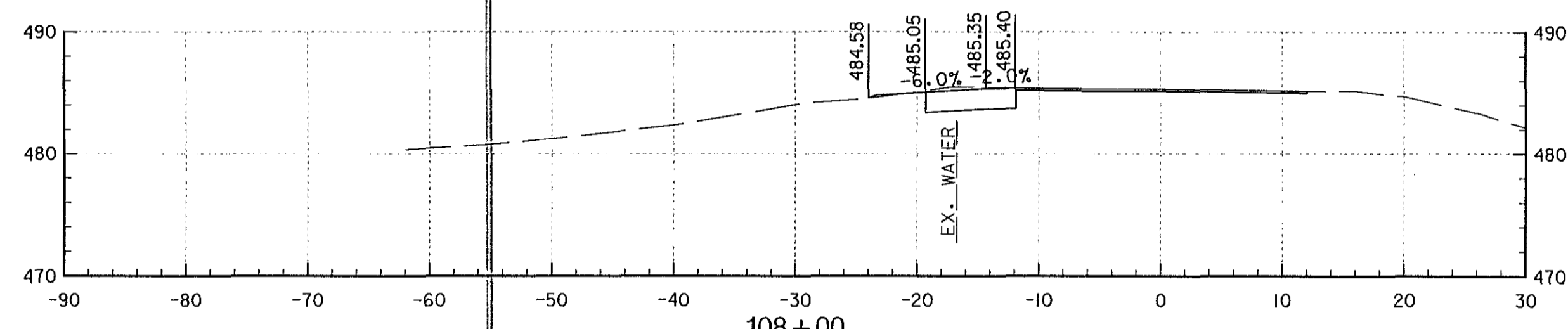
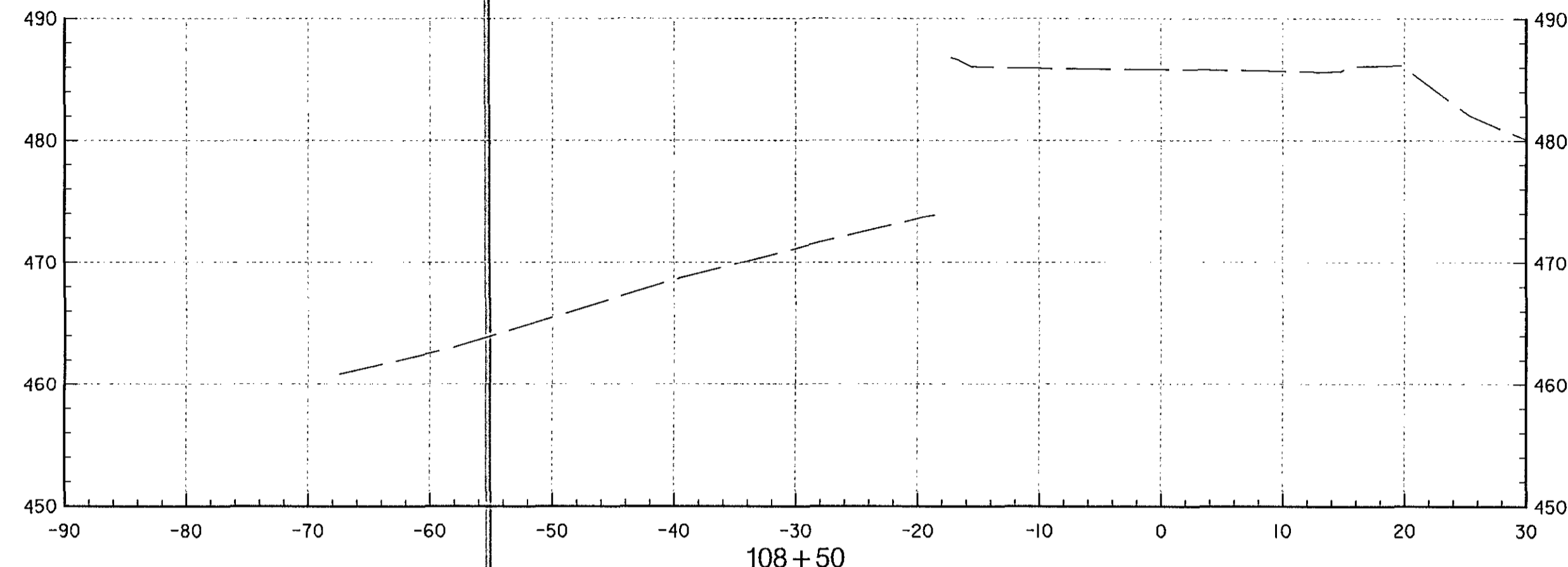
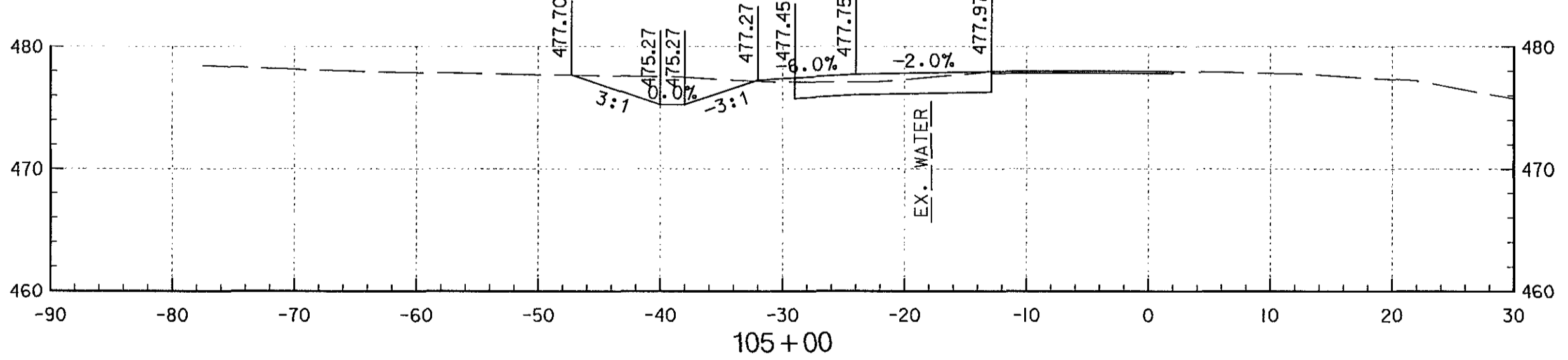
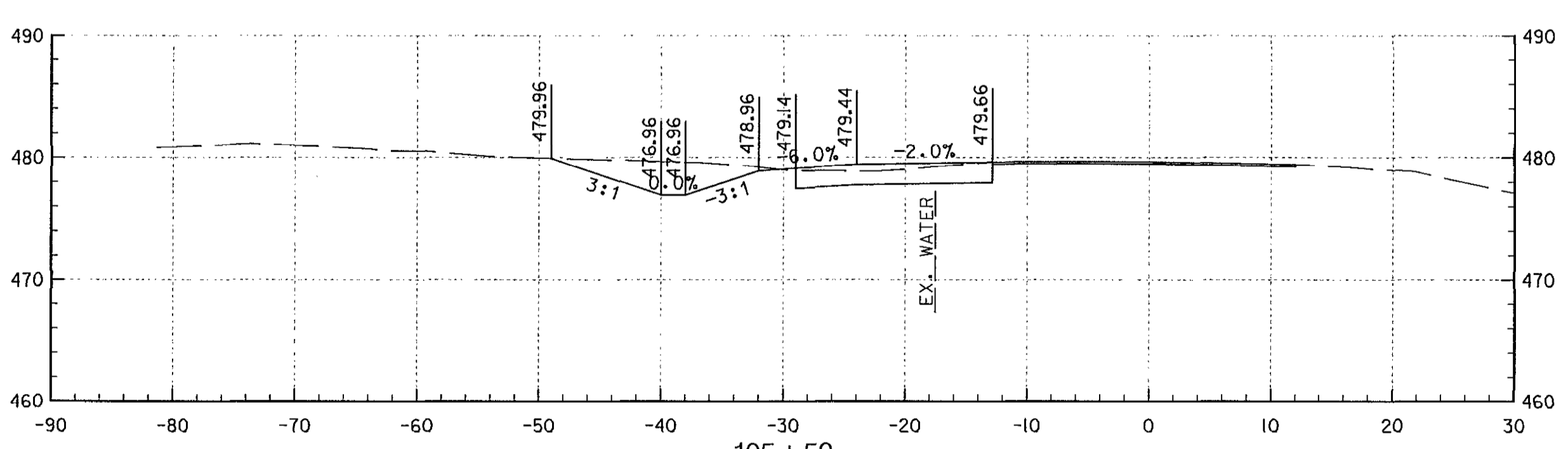
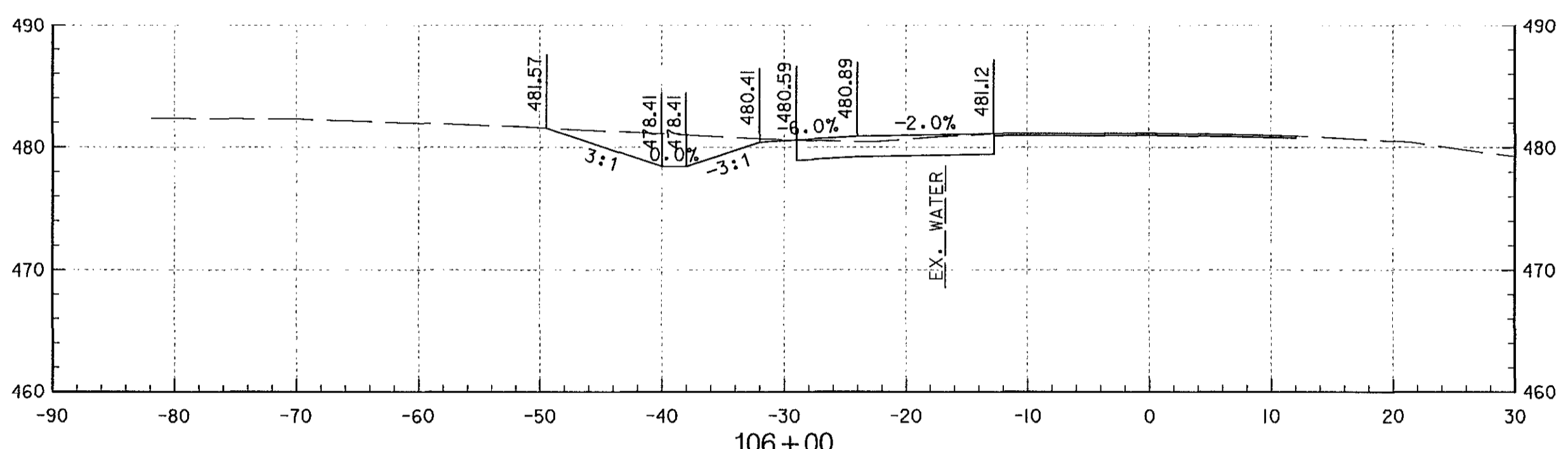
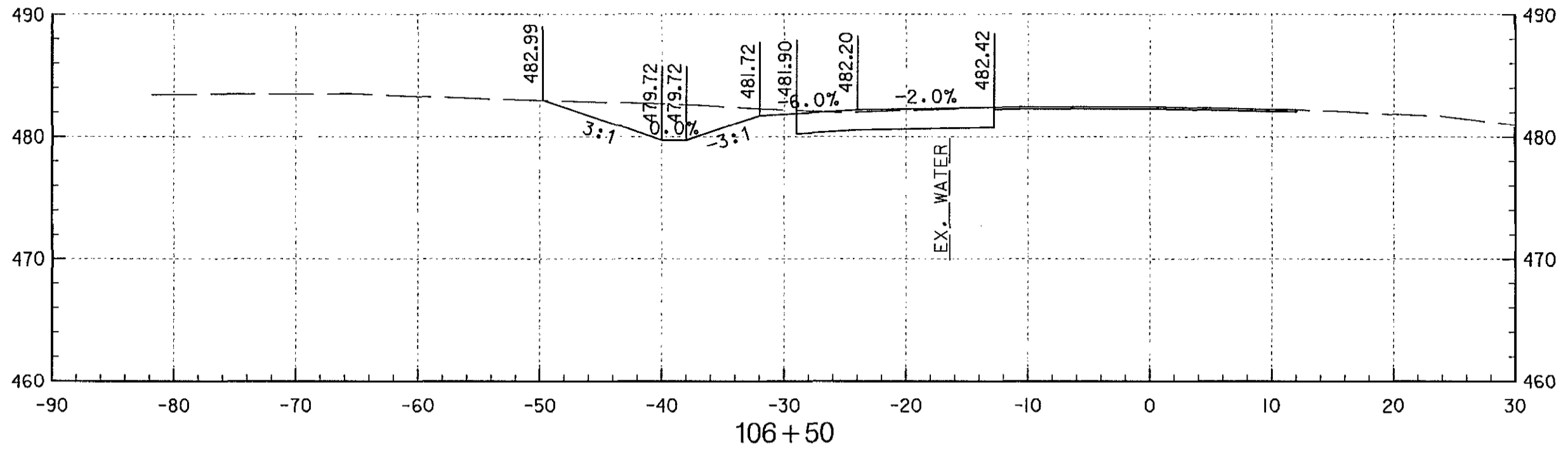
DATE: 6/20/12 MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

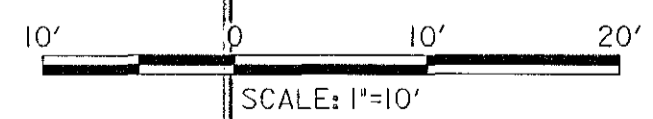
HC-1

SCALE: AS SHOWN

SHEET 1 OF 3



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. 21350, Expiration Date: 9-20-14



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 Friday, June 29, 2012 AT 11:27 AM

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

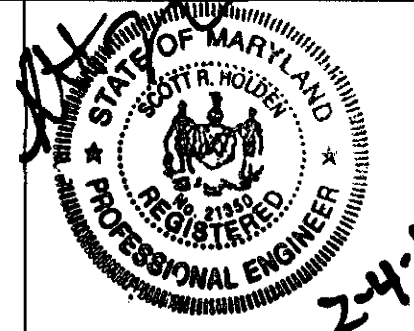
*Jan J. Lee* 2/6/13  
 DIRECTOR OF PUBLIC WORKS DATE

*Steve Shaver* 2/4/13  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Steve Shaver* 2/4/13  
 CHIEF, BUREAU OF ENGINEERING DATE

*Steve Shaver* 2/4/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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 Baltimore, MD 21244  
 www.stvinc.com

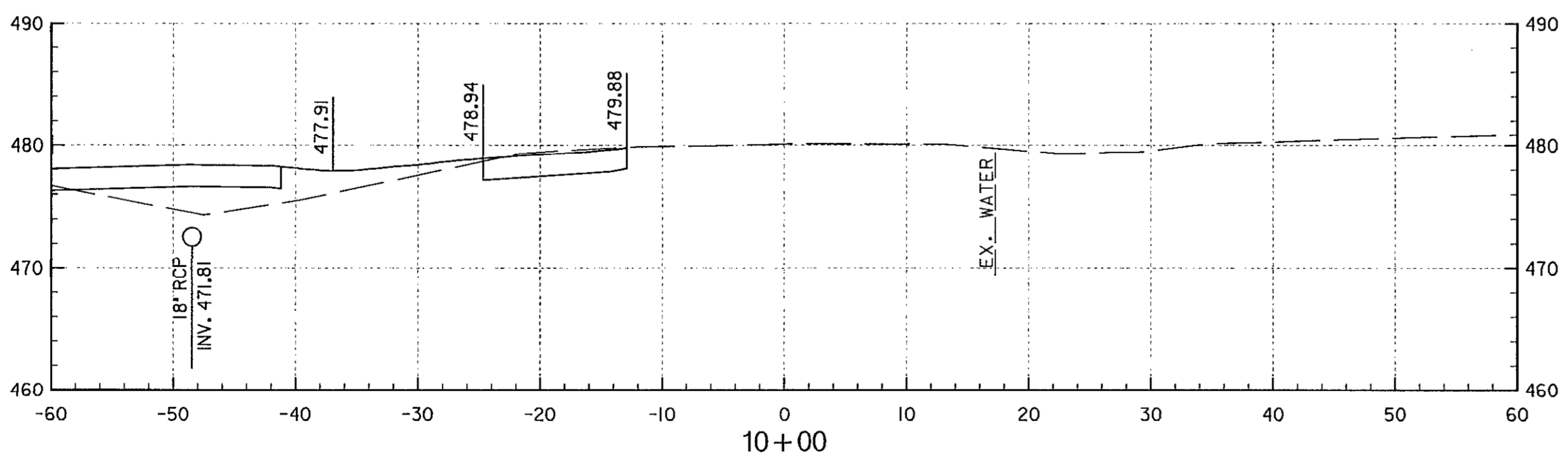
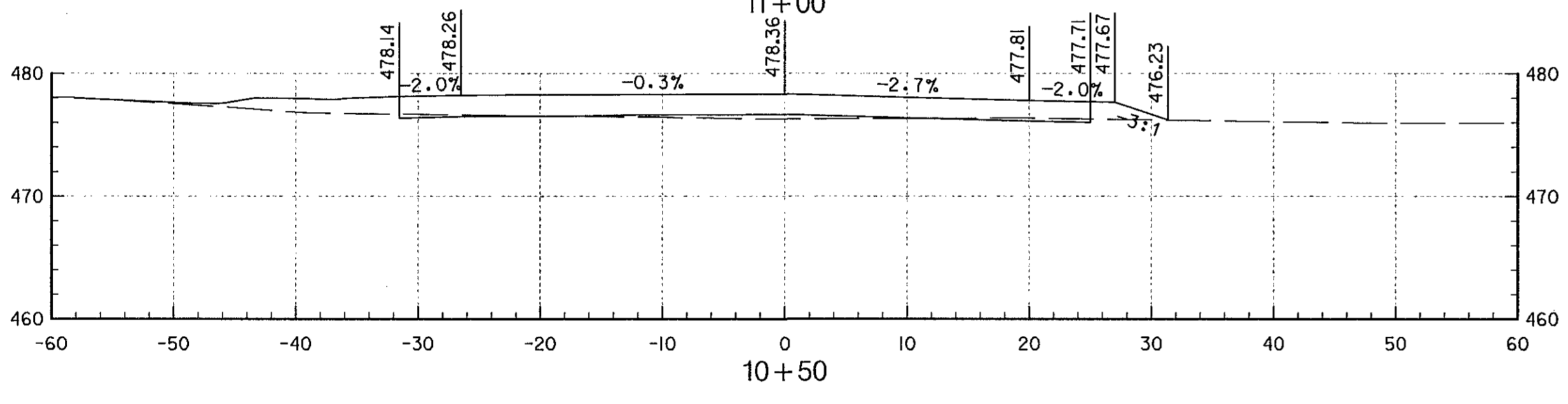
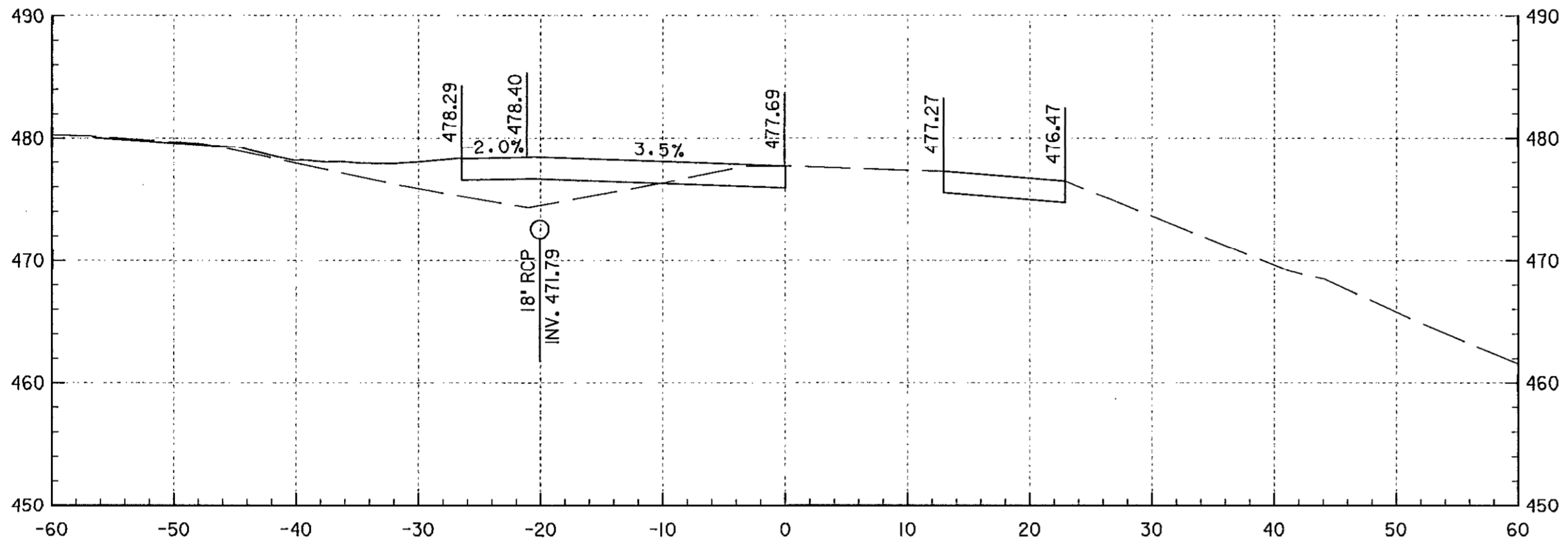
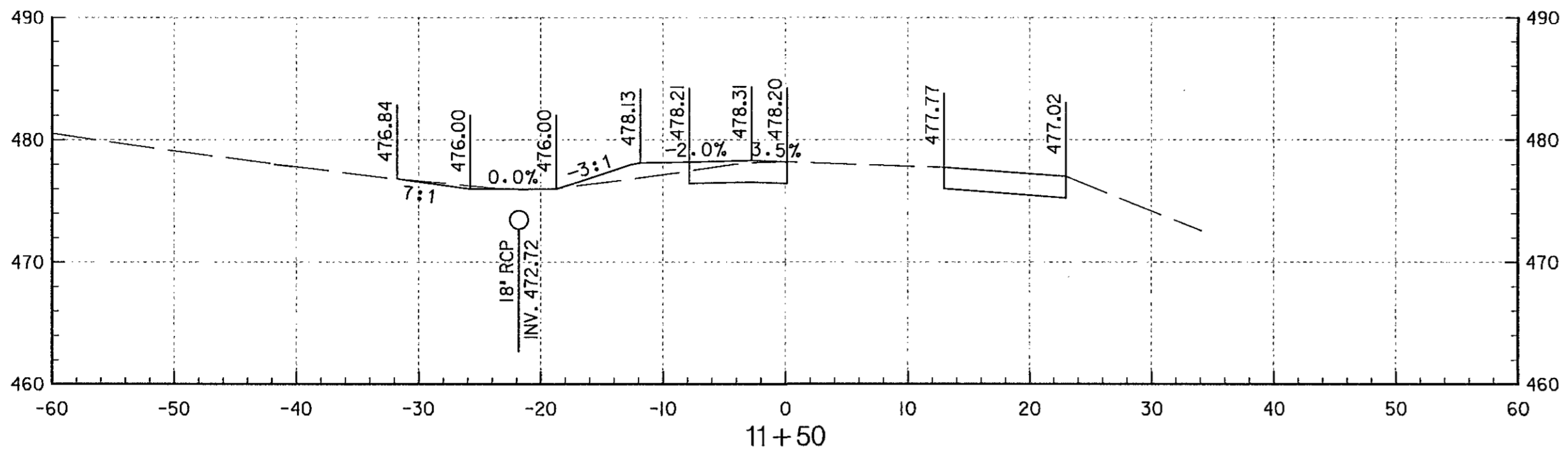


DES: RDB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY: NO.	
REVISION	
DATE	
600' SCALE MAP NO.	
BLOCK NO.	

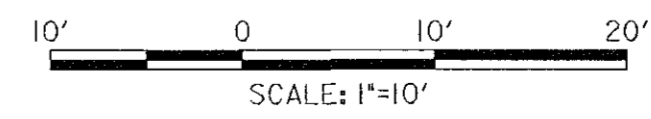
CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

HC-2  
 SCALE: AS SHOWN  
 SHEET 2 OF 3



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. 2150, Expiration Date: 9-20-14



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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Ray Chen* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE  
*Will 2. Maff* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS DATE

*Momas & Butler* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE  
*Steve Shawa* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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Baltimore, MD 21244  
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DES: RDB			
DRN: CSC			
CHK: SRH			
DATE: JUNE 2012	BY: NL	REVISION	DATE

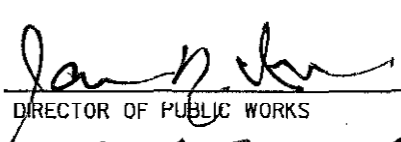
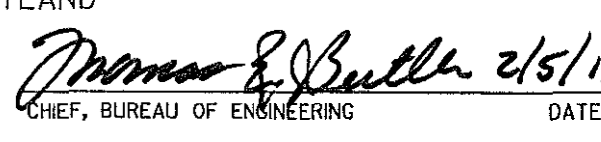

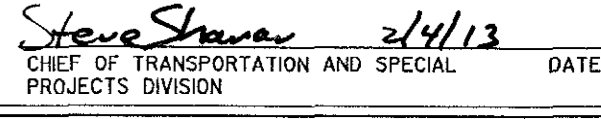
CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

HC-3  
SCALE: AS SHOWN  
SHEET 3 OF 3

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	MISCELLANEOUS DETAILS
3	ROADWAY PLAN
4	DRAINAGE PROFILES
5	EROSION AND SEDIMENT CONTROL NOTES
6	EROSION AND SEDIMENT CONTROL PLAN
7	SIGNING AND PAVEMENT MARKING PLAN

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

 DIRECTOR OF PUBLIC WORKS DATE: 2/6/13	 CHIEF, BUREAU OF ENGINEERING DATE: 2/5/13
 CHIEF, BUREAU OF HIGHWAYS DATE: 2-8-13	 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE: 2/4/13

# FINAL ROAD CONSTRUCTION

## MARRIOTTSVILLE ROAD AT I-70 PHASE I - BYPASS LANE AND RAMP RELOCATION

### HOWARD COUNTY PROJECT NO. J-4205

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION

**PHASE 1**  
 1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.

2. ERADICATE THE EXISTING EDGELINE ON THE WEST SIDE OF MARRIOTTSVILLE ROAD AND THE CENTERLINE MARKINGS FROM STA. 99+60 LT TO 108+50 LT. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON THE WEST SIDE OF MARRIOTTSVILLE ROAD TWO FEET EAST AND THE EXISTING CENTERLINE ONE FOOT EAST, MAINTAINING 11 FOOT TRAVEL LANES.

3. INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE WEST EDGELINE OF MARRIOTTSVILLE ROAD BETWEEN STA. 99+60 LT AND 108+20 LT.

4. RELOCATE FIRE HYDRANT LOCATED AT STA. 107+50 LT. AS SHOWN ON ROADWAY PLANS.

5. INSTALL TRAFFIC SIGNAL CONDUIT SYSTEM AS SHOWN ON ROADWAY PLAN.

6. CONSTRUCT FULL DEPTH PAVEMENT FOR NEW BY-PASS LANE, SHOULDER AND DRAINAGE ALONG SB MARRIOTTSVILLE ROAD AS SHOWN ON THE CONTRACT DOCUMENTS.

**PHASE 2A**  
 1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.

REMOVE PHASE 1 TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE 1 AND INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT TRAFFIC ALONG MARRIOTTSVILLE ROAD FOUR FEET WEST, MAINTAINING 12 FOOT TRAVEL LANES ALONG MARRIOTTSVILLE ROAD. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON WEST SIDE OF RAMP 'A' TO THE EAST, MAINTAINING AN 11 FOOT TRAVEL LANE ON RAMP 'A' BETWEEN STA 104+90 RT AND 106+50 RT.

INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF MARRIOTTSVILLE ROAD BETWEEN STA. 104+90 RT AND 105+90 RT AND ALONG WEST SIDE OF RAMP 'A' BETWEEN STA. 104+90 RT AND 106+50 RT.

CONSTRUCT FULL DEPTH PAVEMENT FOR THE NEW RAMP 'A' SPUR, INCLUDING THE DRAINAGE UNDER RAMP 'A' SPUR, AS SHOWN ON THE CONTRACT DOCUMENTS.

**PHASE 2B**  
 1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.

2. INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF RAMP 'A' BETWEEN STA. 104+00 RT. AND STA 12+00 RT. INSTALL TEMPORARY PAVEMENT MARKING TAPE AND SHIFT THE TEMPORARY BARRIER INSTALLED IN PHASE 2A ALONG THE EAST SIDE OF RAMP 'A' SPUR TO THE WEST AS NECESSARY TO PROVIDE A MINIMUM 11 FOOT TRAVEL LANE ALONG RAMP 'A'.

3. CONSTRUCT FULL DEPTH PAVEMENT ALONG THE EAST SIDE OF RAMP 'A', INCLUDING THE DRAINAGE UNDER RAMP 'A', AS SHOWN ON THE CONTRACT DOCUMENTS.

**PHASE 3**  
 1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.

2. REMOVE TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE 2. INSTALL PERMANENT SIGNS AND TEMPORARY PAVEMENT MARKING PAINT IN ITS PERMANENT LOCATION, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED RAMP 'A' SPUR. INSTALL TEMPORARY TRAFFIC BARRIER ALONG EAST SIDE OF MARRIOTTSVILLE ROAD BETWEEN STA. 106+50 RT AND 107+50 RT AND ALONG THE WEST SIDE OF RAMP 'A' BETWEEN STA. 12+25 LT AND 14+50 LT.

3. REMOVE EXISTING SPUR RAMP. REMOVE TEMPORARY TRAFFIC BARRIER.

**PHASE 4**  
 1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.

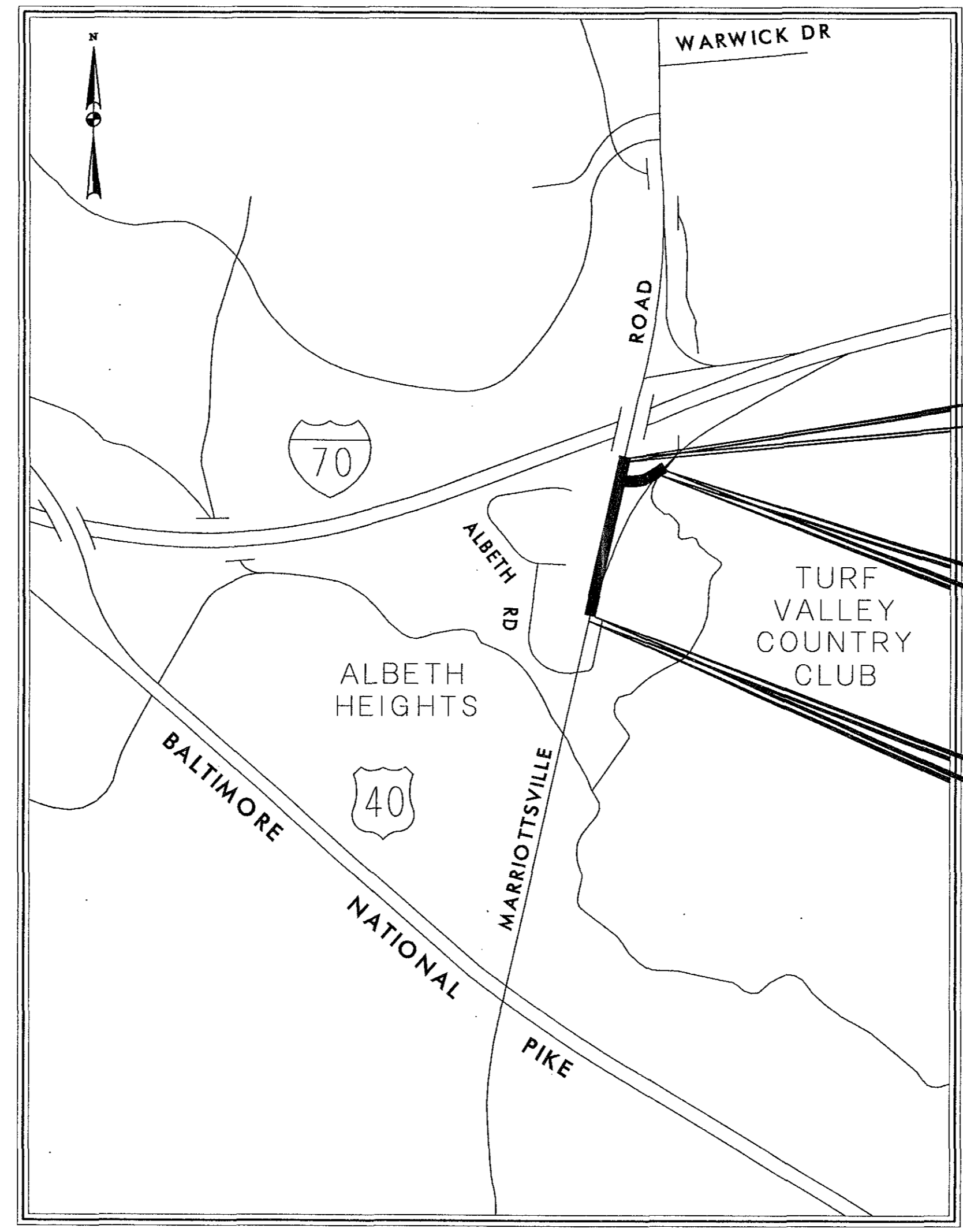
2. GRIND AND RESURFACE EXISTING ROADWAY BETWEEN STA. 99+60 AND 108+65.

3. INSTALL PERMANENT PAVEMENT MARKINGS.

SHA R-O-W PLAT NUMBERS	
35505	(EXISTING)
31494	(EXISTING)
31492	(EXISTING)

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS WHEN APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 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 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- EXISTING UTILITIES ARE BASED ON CURRENT HOWARD COUNTY CONTRACT DRAWINGS: EXISTING 12" WATER- CONTRACT NO. 44-3480.



**LIMIT OF WORK**  
 HOWARD COUNTY PROJECT No. J-4205  
 MARRIOTTSVILLE ROAD  
 STA. 108 + 73.84

**LIMIT OF WORK**  
 HOWARD COUNTY PROJECT No. J-4205  
 RAMP 'A' SPUR  
 STA. 14 + 29.25

**LIMIT OF WORK**  
 HOWARD COUNTY PROJECT No. J-4205  
 MARRIOTTSVILLE ROAD  
 STA. 99 + 60.00

HORIZONTAL DATUM	NAD 83/91
VERTICAL DATUM	NAVD 88

LENGTH OF PROJECT  
 MARRIOTTSVILLE ROAD = 0.17 MILES

**VICINITY MAP**  
 SCALE: 1"=600'

DESIGN DESIGNATION CHART		
CONTROLS / YEARS	2010	2030
AVERAGE DAILY TRAFFIC (A.D.T.)	25,000	47,500
DESIGN HOURLY VOLUME (D.H.V.)	1,350	2,350
DIRECTIONAL DISTRIBUTION	70%	60%
% TRUCKS - A.D.T.	2%	2%
% TRUCKS - D.H.V.	3%	3%
DESIGN SPEED	50 MPH	
FUNCTIONAL CLASSIFICATIONS	UNDIVIDED INTERMEDIATE ARTERIAL	
CONTROLS OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	RURAL	
TERRAIN	LEVEL	
ANTICIPATED POSTED SPEED	45 MPH	

## THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**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. 21350, EXPIRATION DATE: 9-20-2014



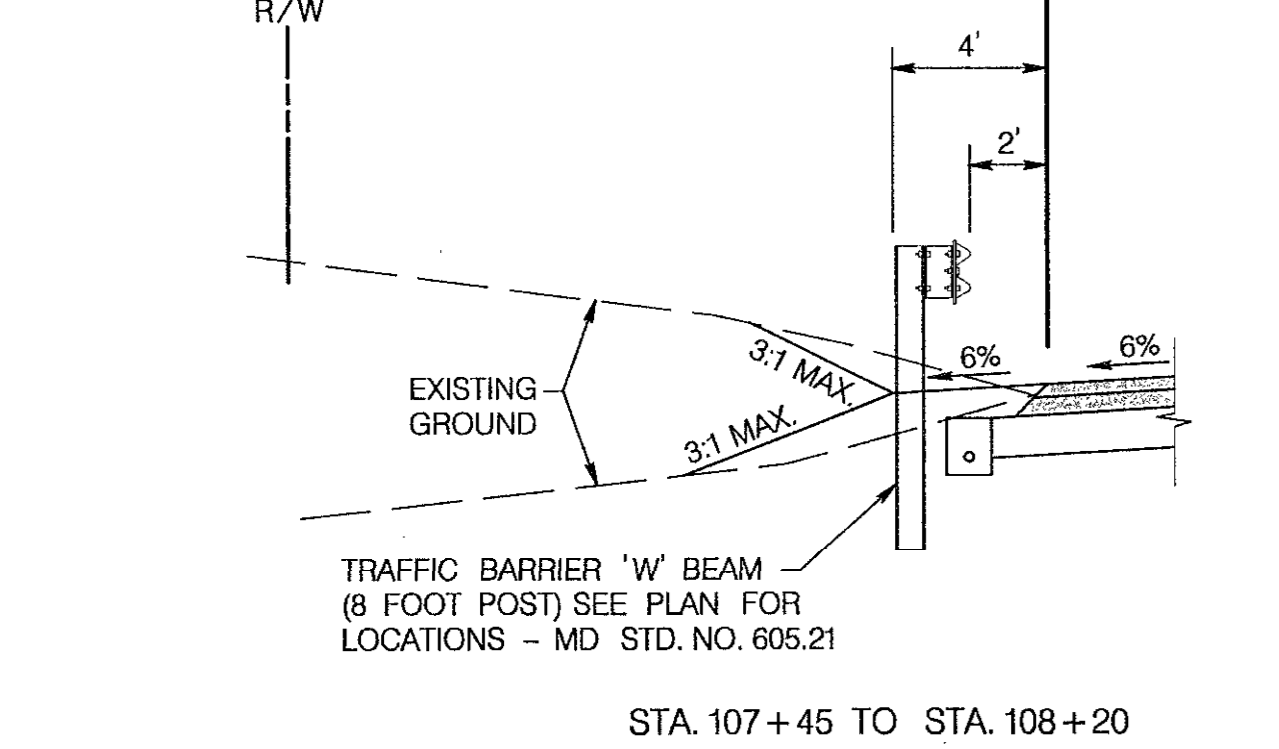
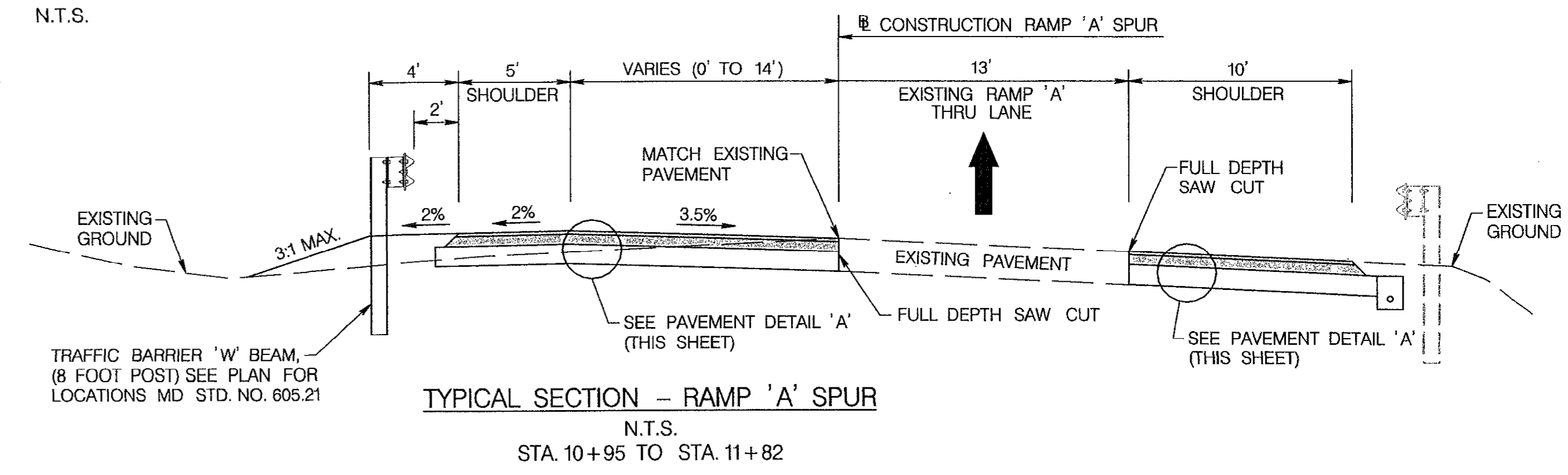
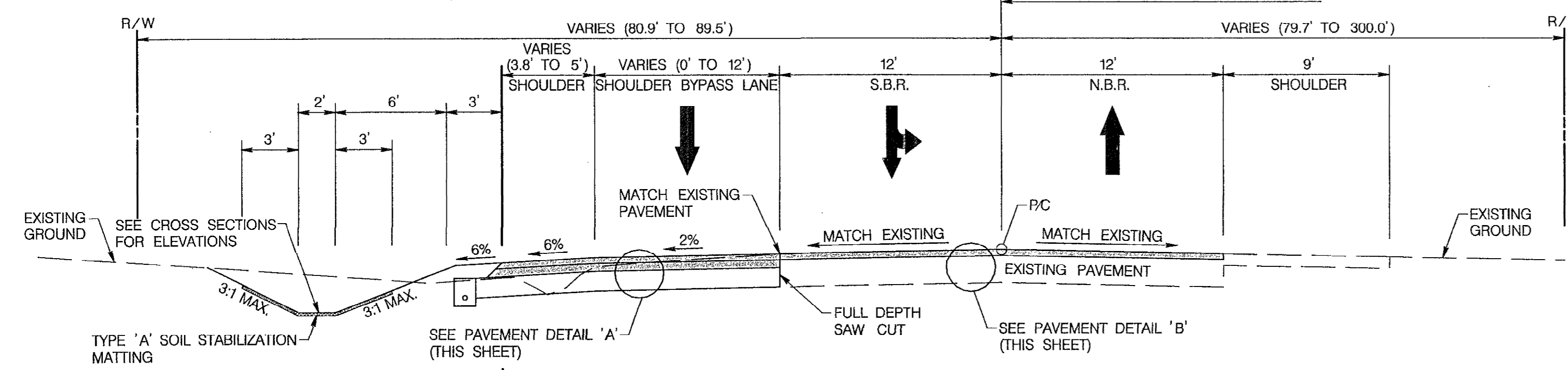
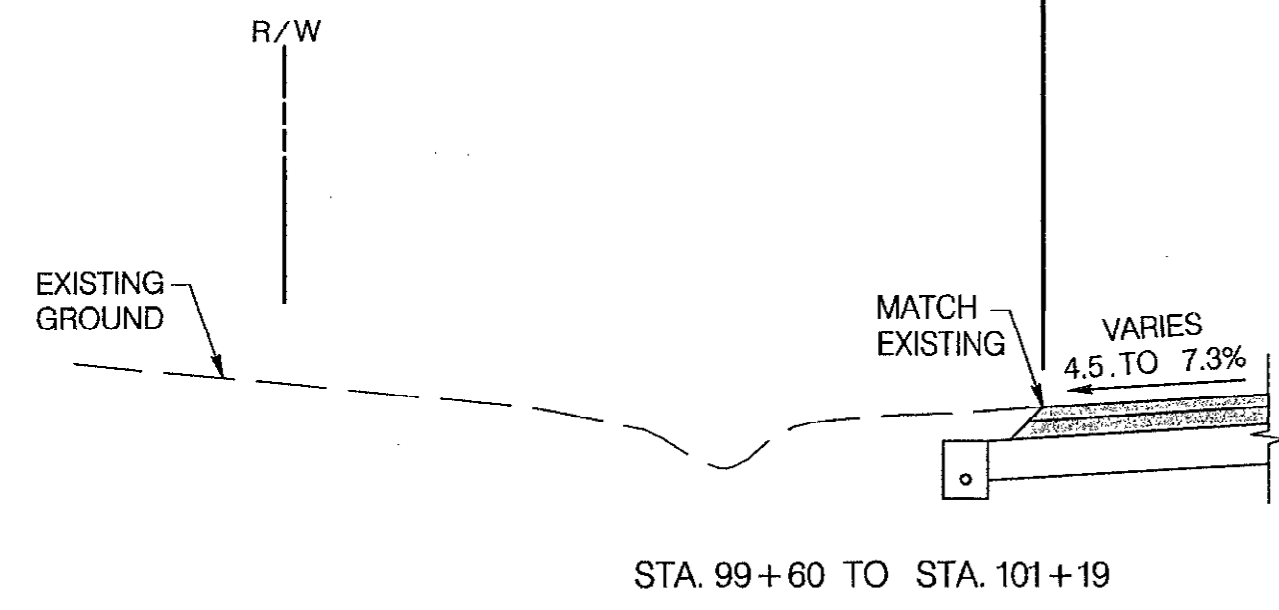
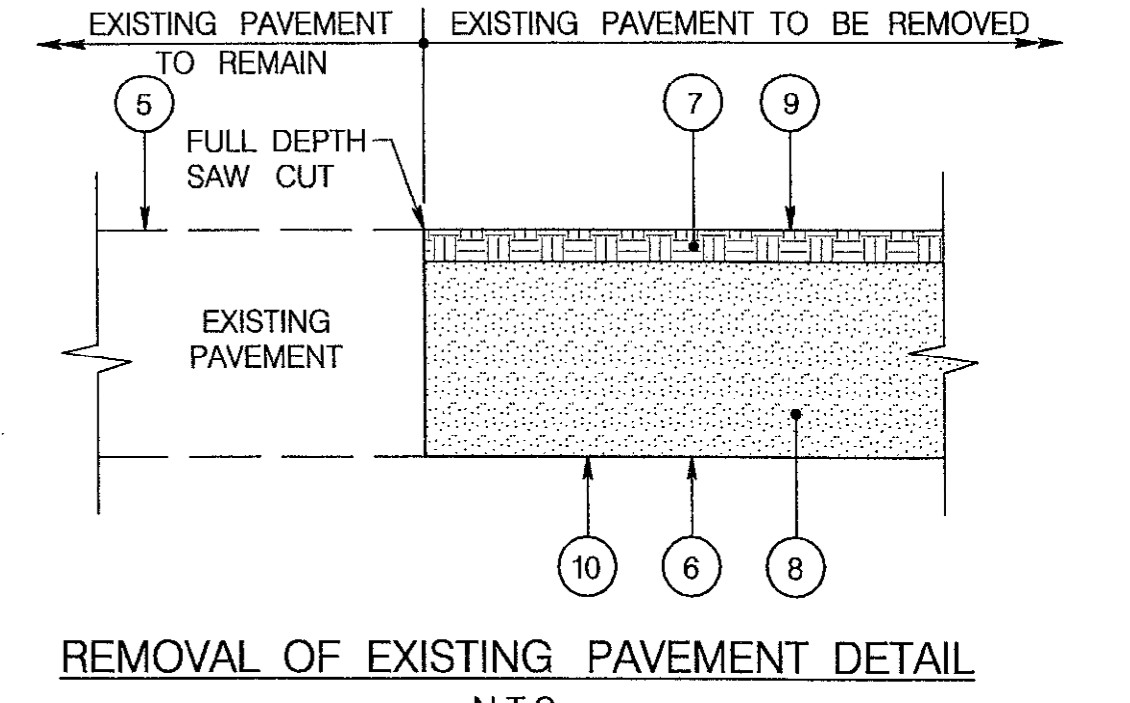
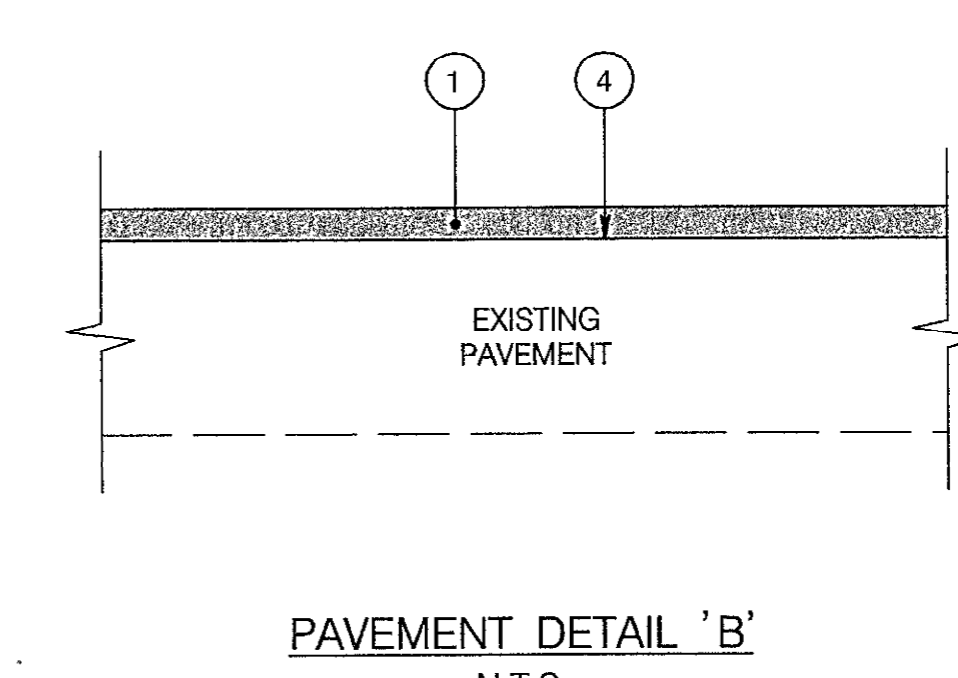
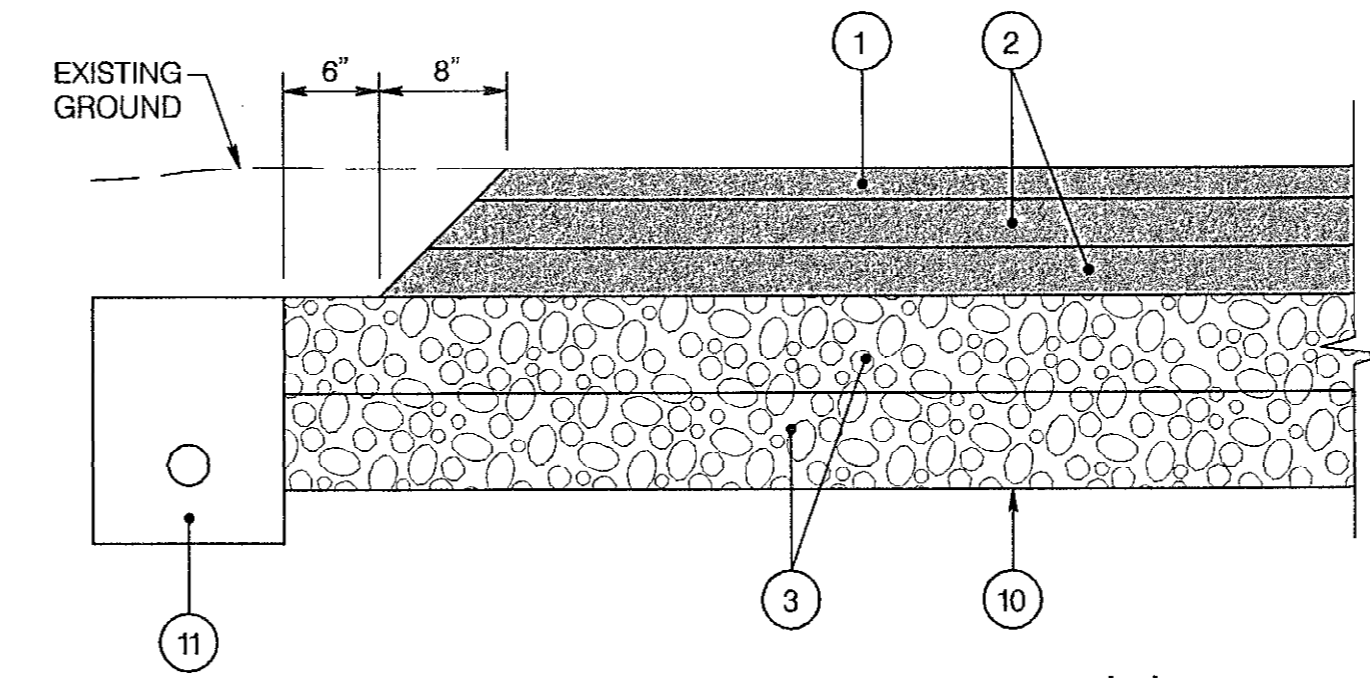
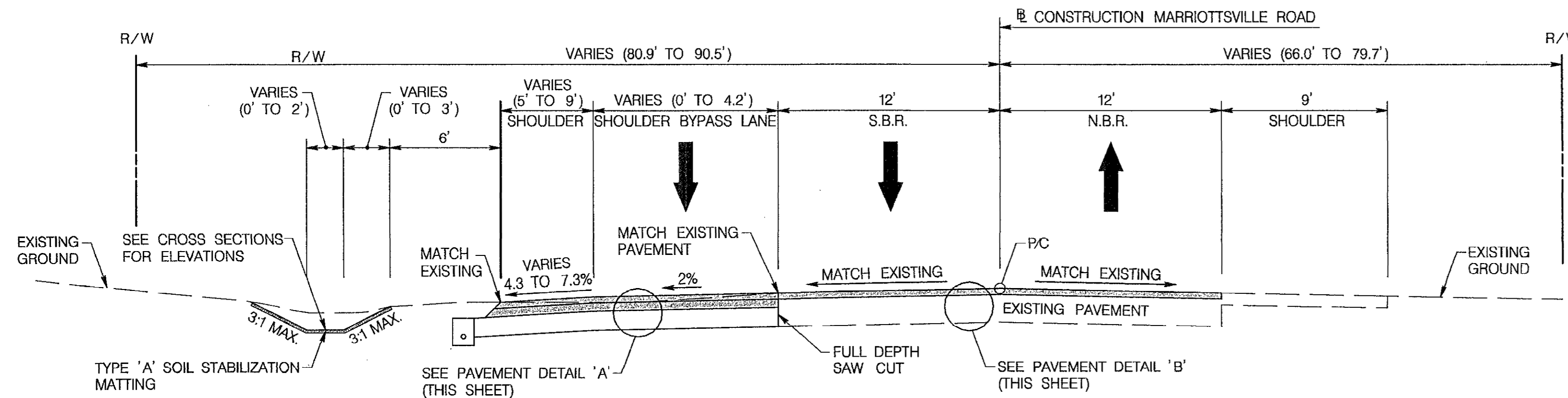
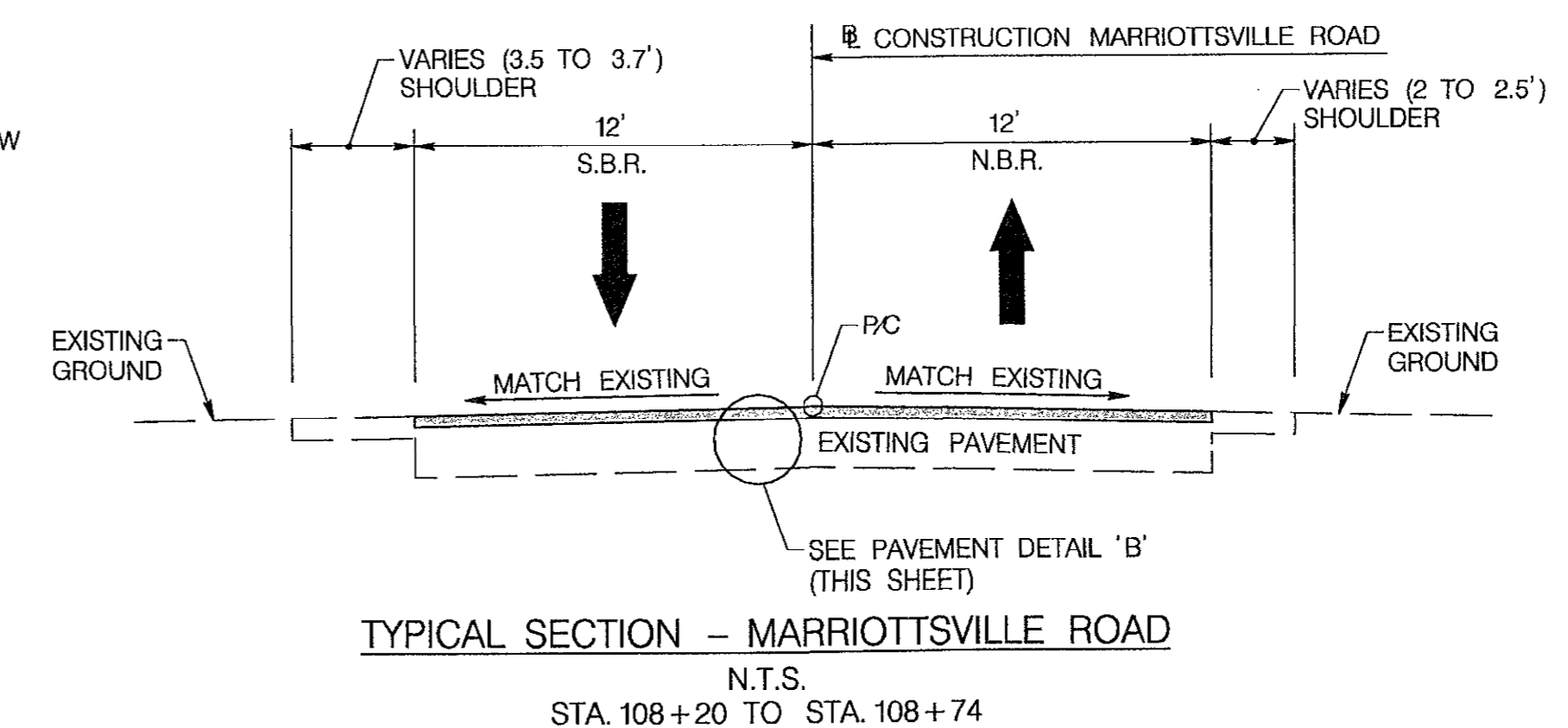
**STV Incorporated**  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com

MARRIOTTSVILLE ROAD AT I-70  
 PHASE I  
 BYPASS LANE AND RAMP RELOCATI

TAX MAP No. 16  
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYL  
 SCALE: AS SHOWN DATE: JUNE 2012  
 SHEET 1 OF 7

**PAVEMENT LEGEND**

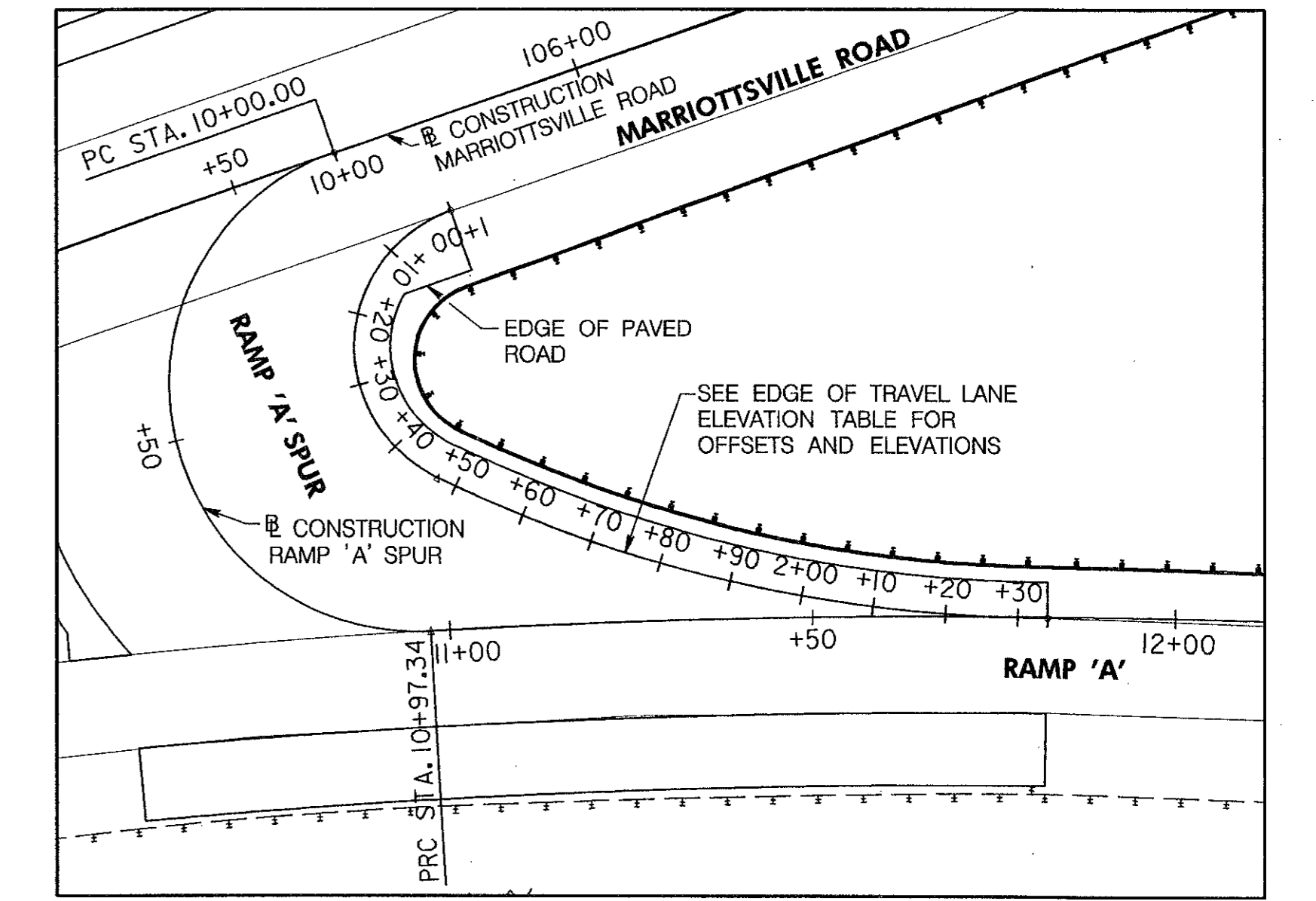
- ① 2" HOT MIX ASPHALT SUPERPAVE 12.5mm FOR SURFACE, PG 64-22, LEVEL 2
  - ② 3" HOT MIX ASPHALT SUPERPAVE 19.0mm FOR BASE, PG 64-22, LEVEL 2
  - ③ 6" GRADED AGGREGATE BASE COURSE
  - ④ TOP OF EXISTING PAVEMENT AFTER 2" GRINDING
  - ⑤ TOP OF EXISTING PAVEMENT
  - ⑥ BOTTOM OF EXISTING PAVEMENT
  - ⑦ TOPSOIL-FURNISH AND PLACED 2" DEPTH
  - ⑧ VARIABLE DEPTH BORROW EXCAVATION (TO BE SUPPLIED FROM SUITABLE MATERIAL AVAILABLE FROM CLASS 1 AND CLASS 2 EXCAVATION)
  - ⑨ SEEDING AND MULCHING
  - ⑩ TOP OF SUBGRADE AND LIMIT OF EXCAVATION
  - ⑪ 6" PERFORATED UNDERDRAIN (SEE STD. NO. MD 387.11, STD. 387.01 AND PAVEMENT LEGEND NOTE)
- PAVEMENT LEGEND NOTE: ALL UNDERDRAIN SHALL BE WRAPPED WITH CLASS SD TYPE II NON WOVEN GEOTEXTILE



**EDGE OF TRAVEL LANE ELEVATION TABLE  
MARRIOTTVILLE ROAD / RAMP 'A' SPUR**

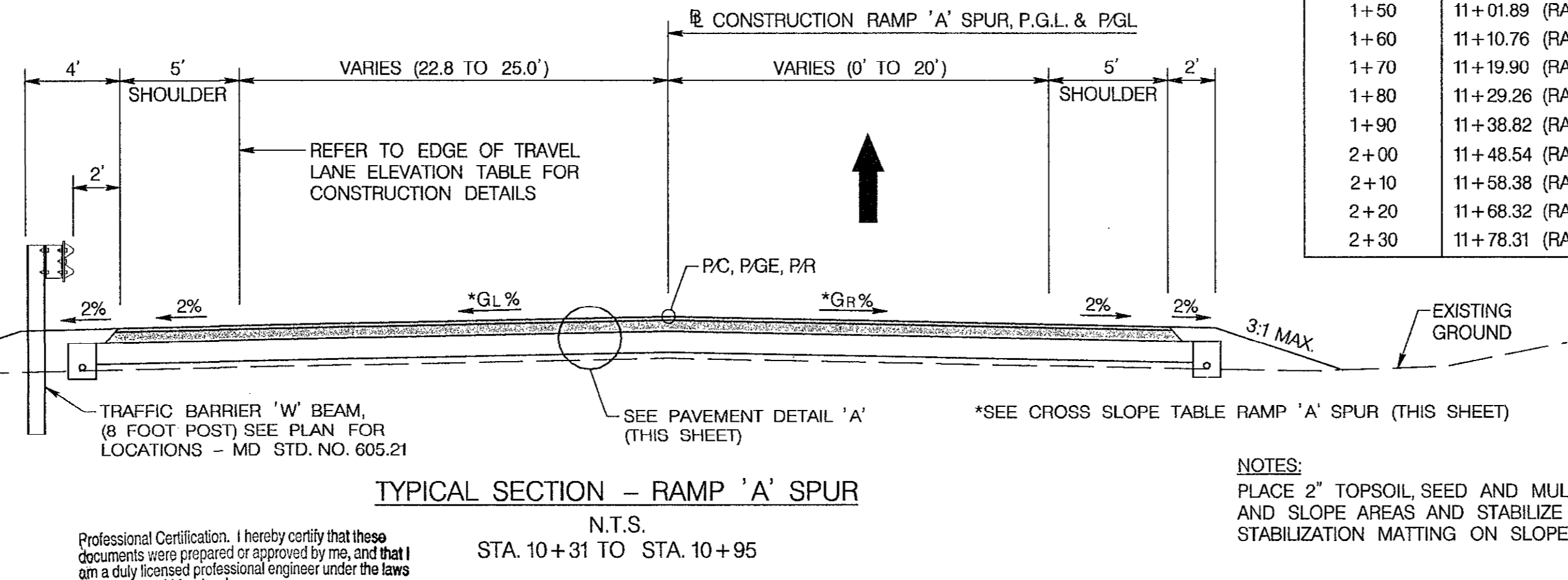
EDGE OF TRAVEL LANE	EQUALITY STATION	BASELINE OFFSET	SHOULDER ELEVATION
1+00	105+77.14 (MARRIOTTVILLE ROAD)	12.96' RT.	480.26*
1+10	105+67.56 (MARRIOTTVILLE ROAD)	15.44' RT.	479.62
1+20	10+12.00 (RAMP 'A' SPUR)	21.43' LT.	479.00
1+30	10+42.82 (RAMP 'A' SPUR)	26.18' LT.	478.36
1+40	10+84.49 (RAMP 'A' SPUR)	24.74' LT.	478.17
1+50	11+01.89 (RAMP 'A' SPUR)	19.56' LT.	478.40
1+60	11+10.76 (RAMP 'A' SPUR)	15.21' LT.	478.36
1+70	11+19.90 (RAMP 'A' SPUR)	11.36' LT.	478.35
1+80	11+29.26 (RAMP 'A' SPUR)	8.04' LT.	478.35
1+90	11+38.82 (RAMP 'A' SPUR)	5.28' LT.	478.32
2+00	11+48.54 (RAMP 'A' SPUR)	3.07' LT.	478.31
2+10	11+58.38 (RAMP 'A' SPUR)	1.42' LT.	478.32
2+20	11+68.32 (RAMP 'A' SPUR)	0.35' LT.	478.35
2+30	11+78.31 (RAMP 'A' SPUR)	0.14' RT.	478.38*

\*MATCH EXISTING ELEVATION



**CROSS SLOPE TABLE  
RAMP 'A' SPUR**

STATION	G <sub>1</sub> %	G <sub>2</sub> %
10+30.71	2.0%	2.0%
10+39.76	1.2%	2.2%
10+67.66	1.1%	4.0%
10+95.37	3.5%	



NOTES:  
PLACE 2" TOPSOIL, SEED AND MULCH ON ALL ROADSIDE AND SLOPE AREAS AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING ON SLOPES 2:1 OR GREATER.

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. 21350, Expiration Date: 9-20-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan 7 2013*  
DIRECTOR OF PUBLIC WORKS  
DATE

*Steve Shuman 2/1/13*  
CHIEF, BUREAU OF HIGHWAYS  
DATE

*Steve Shuman 2/1/13*  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION  
DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com

Professional Engineer  
2-4-13

DES: ROB	DATE: JUNE 2012
DRN: CSC	BY: NO.
CIV: SRH	REVISION
DATE: JUNE 2012	REVISION

**MISCELLANEOUS DETAILS**

DATE: 600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

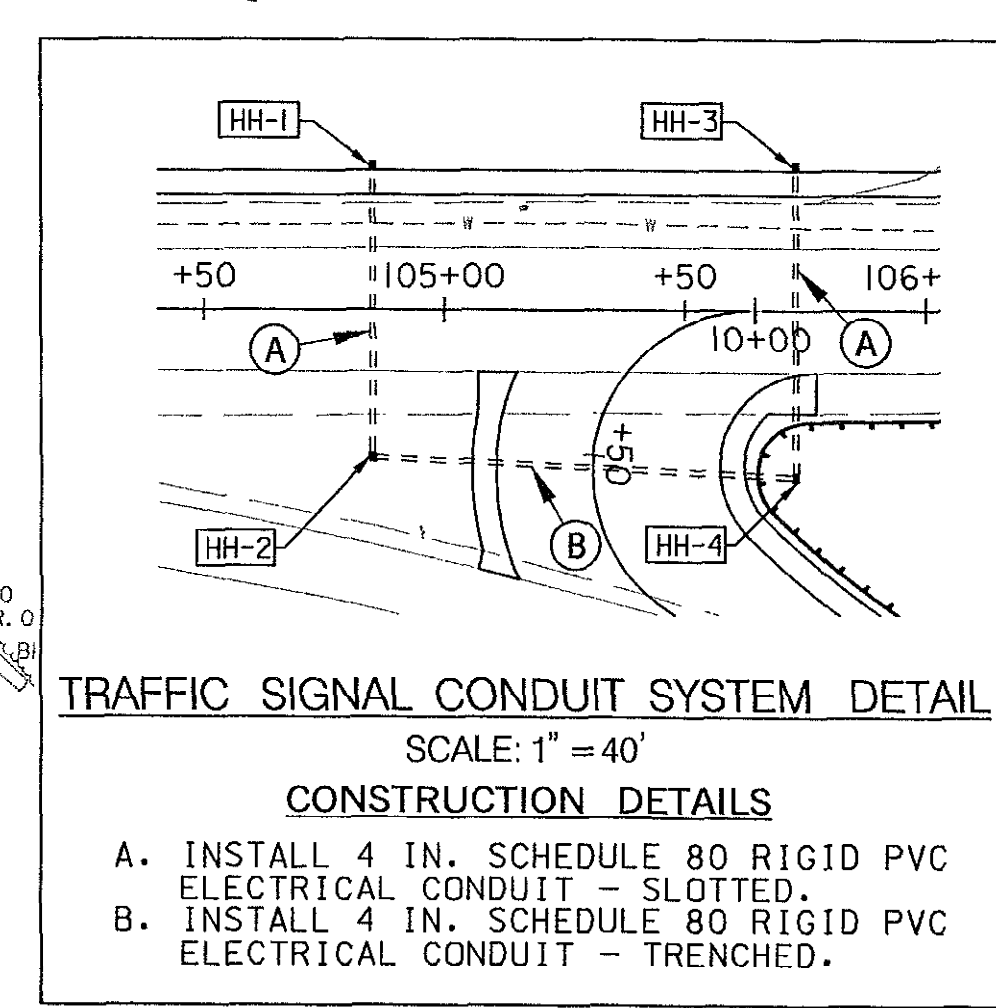
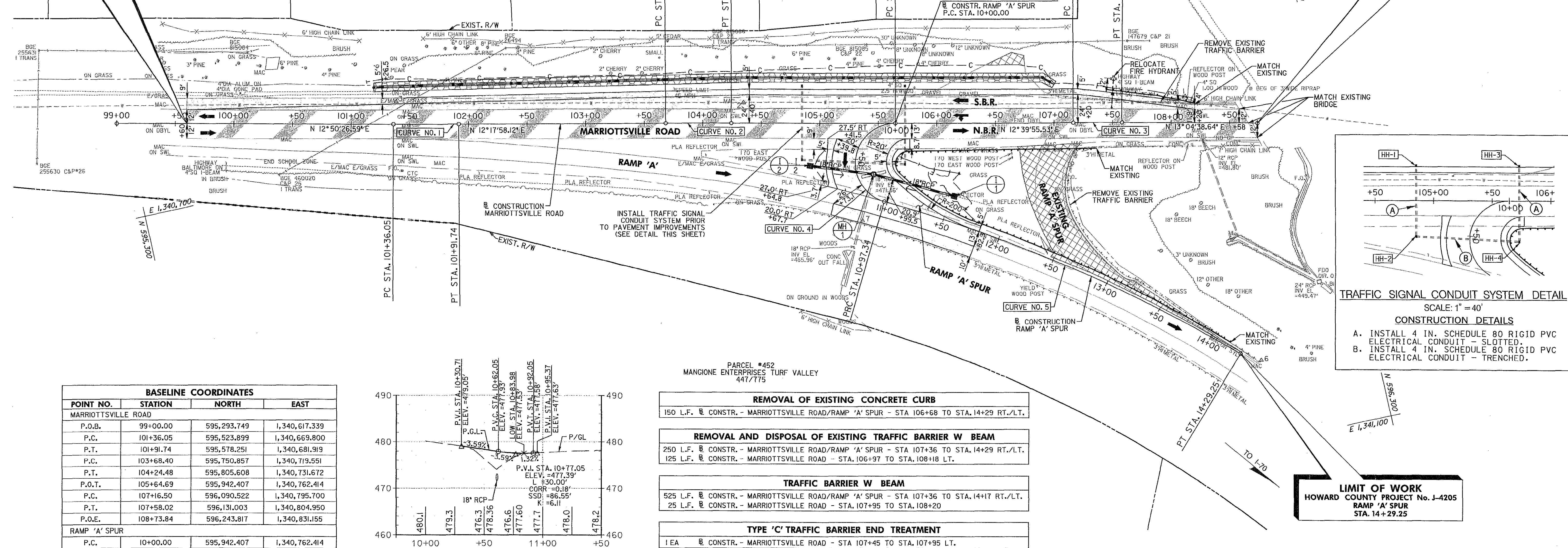
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SCALE: AS SHOWN  
SHEET 2 OF 7

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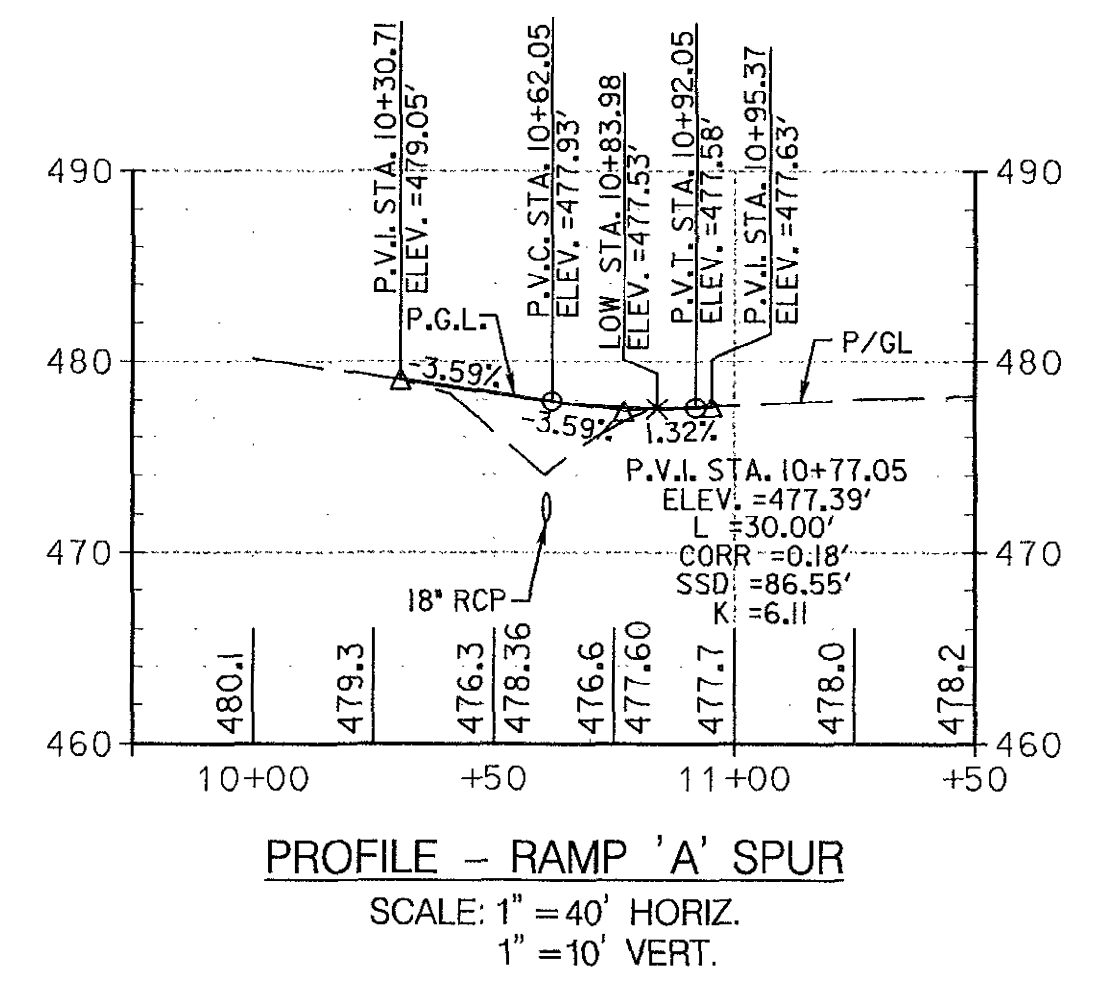


**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84



BASELINE COORDINATES			
POINT NO.	STATION	NORTH	EAST
MARRIOTTVILLE ROAD			
P.O.B.	99+00.00	595,293.749	1,340,617.339
P.C.	101+36.05	595,523.899	1,340,669.800
P.T.	101+91.74	595,578.251	1,340,681.919
P.C.	103+68.40	595,750.857	1,340,719.551
P.T.	104+24.48	595,805.608	1,340,731.672
P.O.T.	105+64.69	595,942.407	1,340,762.414
P.C.	107+16.50	596,090.522	1,340,795.700
P.T.	107+58.02	596,131.003	1,340,804.950
P.O.E.	108+73.84	596,243.817	1,340,831.155
RAMP 'A' SPUR			
P.C.	10+00.00	595,942.407	1,340,762.414
P.R.C.	10+97.34	595,918.664	1,340,825.432
P.T.	14+29.25	596,186.038	1,341,020.479



- REMOVAL OF EXISTING CONCRETE CURB**  
150 L.F. @ CONSTR. - MARRIOTTVILLE ROAD/RAMP 'A' SPUR - STA 106+68 TO STA. 14+29 RT./LT.
- REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM**  
250 L.F. @ CONSTR. - MARRIOTTVILLE ROAD/RAMP 'A' SPUR - STA 107+36 TO STA. 14+29 RT./LT.  
125 L.F. @ CONSTR. - MARRIOTTVILLE ROAD - STA. 106+97 TO STA. 108+18 LT.
- TRAFFIC BARRIER W BEAM**  
525 L.F. @ CONSTR. - MARRIOTTVILLE ROAD/RAMP 'A' SPUR - STA 107+36 TO STA. 14+17 RT./LT.  
25 L.F. @ CONSTR. - MARRIOTTVILLE ROAD - STA. 107+95 TO STA. 108+20
- TYPE 'C' TRAFFIC BARRIER END TREATMENT**  
1 EA @ CONSTR. - MARRIOTTVILLE ROAD - STA 107+45 TO STA. 107+95 LT.
- 6" PERFORATED UNDERDRAIN**  
780 L.F. @ CONSTR. - MARRIOTTVILLE ROAD - STA 101+60 TO STA. 107+80 LT.  
50 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+00 TO STA. 11+82 RT.  
110 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+41 TO STA. 10+65 LT.  
125 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+73 TO STA. 11+82 RT.

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
1	596,188.518	1,340,795.500	485.42
2	595,819.710	1,340,717.072	475.25
3	595,530.363	1,340,651.674	463.32
4	594,716.343	1,340,471.149	440.85
5	593,868.600	1,340,303.897	449.14
6	596,202.234	1,341,029.779	473.84
7	595,896.956	1,340,837.639	476.42
12	596,502.760	1,340,864.365	486.20
16	593,250.964	1,340,192.701	463.89

CURVE DATA							
CURVE	P.I. STATION	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MARRIOTTVILLE ROAD							
1	101+63.90	0° 32' 28.4" LT.	0° 58' 18.98"	5,895.00'	27.84'	55.69'	0.07'
2	103+96.44	0° 21' 57.41" RT.	0° 39' 09.26"	8,780.00'	28.04'	56.08'	0.05'
3	107+37.26	0° 24' 43.11" RT.	0° 59' 31.69"	5,775.00'	20.76'	41.52'	0.04'
RAMP 'A' SPUR							
4	12+42.56	164° 02' 30.40" LT.	168° 31' 01.9"	34.00'	242.56'	97.34'	210.94'
5	12+64.25	14° 58' 25.06" RT.	4° 30' 41.32"	1,270.00'	166.90'	331.90'	10.92'

TRAFFIC SIGNAL CONDUIT SYSTEM SCHEDULE				
NO.	STATION	OFFSET	BASELINE	MD STANDARD NO.
HH-1	104+85	30' LT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03
HH-2	104+85	31' RT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03
HH-3	105+73	30' LT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03
HH-4	105+73	35' RT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03

STRUCTURE SCHEDULE							
NO.	STATION	OFFSET	BASELINE	DEPTH	MD STANDARD NO., TYPE	T.S.	REMARKS
I-1	11+52.70	21.96' LT.	RAMP 'A' SPUR	3.25'	MD-378.II, DBL OPENING TYPE 'K'	476.0'	
I-2	10+54.43	38.75' RT.	RAMP 'A' SPUR	2.50'	MD-378.II, DBL OPENING TYPE 'K'	474.5'	
MH-1	10+69.59	13.4' LT.	RAMP 'A' SPUR	6.50'	MD-384.0I, 48" DIA. PRECAST MANHOLE	477.9'	REPLACE EXISTING INLET WITH MANHOLE

PIPE SCHEDULE							
FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT	REMARKS
I-1	MH-1	18"	CLASS IV RCP	72'	472.8'	471.5'	
I-2	MH-1	18"	CLASS IV RCP	55'	472.0'	471.5'	

**TYPE 'A' SOIL STABILIZATION MATTING**  
520 S.Y. @ CONSTR. - MARRIOTTVILLE ROAD - STA 101+17 TO STA. 107+00 LT.

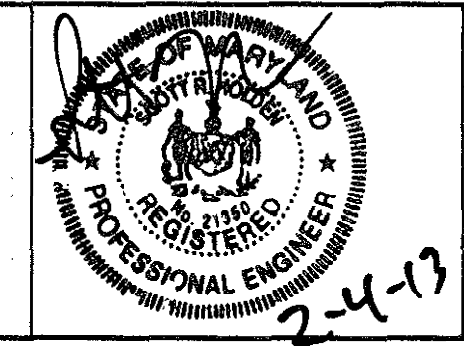
- LEGEND**
- FULL DEPTH HMA PAVEMENT
  - HMA GRINDING AND RESURFACING
  - REMOVAL OF EXISTING PAVEMENT
  - TYPE 'A' SOIL STABILIZATION MATTING
  - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT

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.  
21350  
9-20-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director of Public Works: *Will R. Smith* 2-8-13  
Chief, Bureau of Highways

Chief, Bureau of Engineering: *Thomas R. Butler* 2/5/13  
Chief of Transportation and Special Projects Division: *Steve Shaw* 2/4/13

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Baltimore, MD 21244  
www.stvinc.com

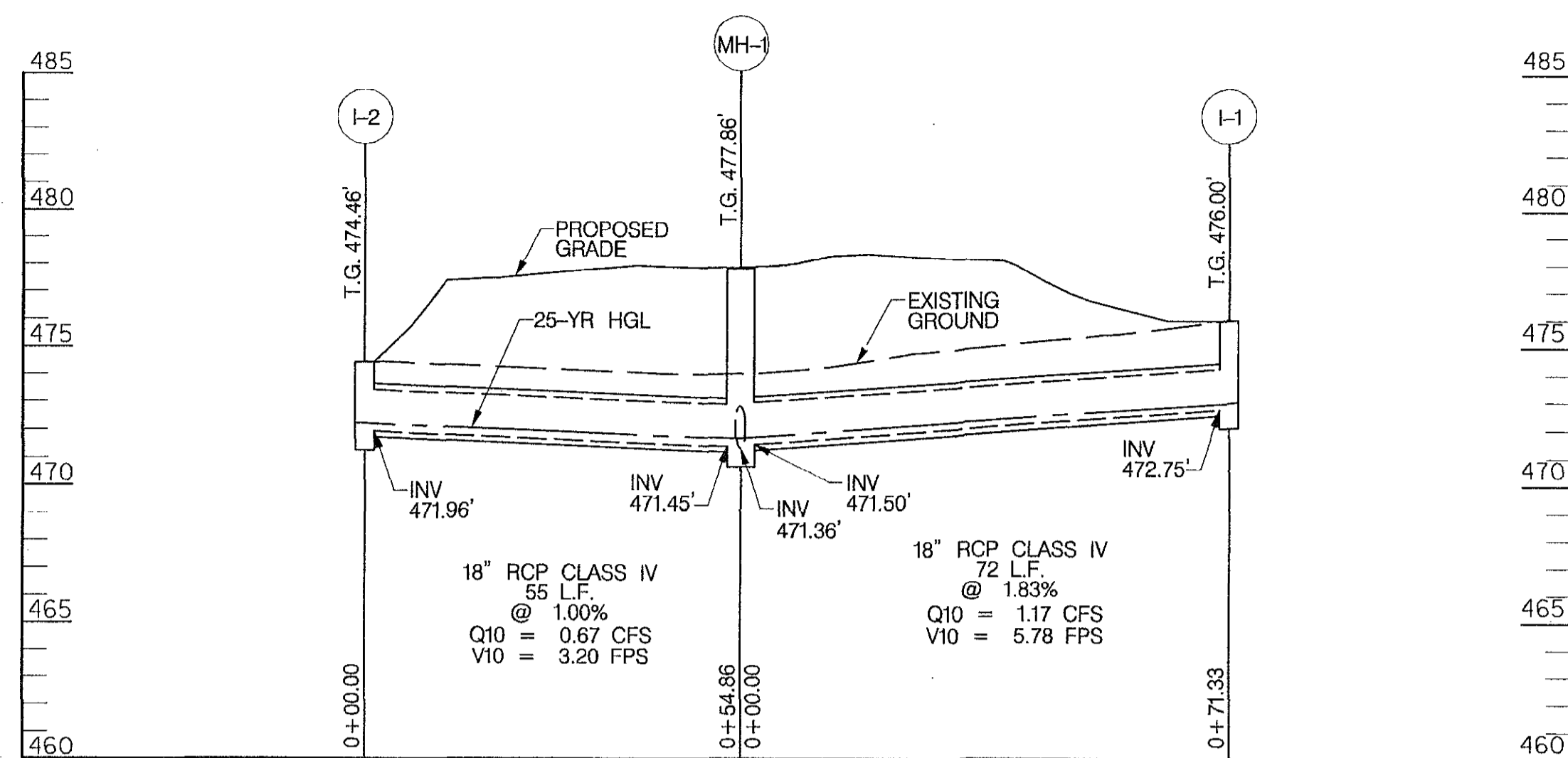


DATE: JUNE 2012  
BY: NO.  
REVISION  
DATE: 600' SCALE MAP NO.  
BLOCK NO.

**ROADWAY PLAN**

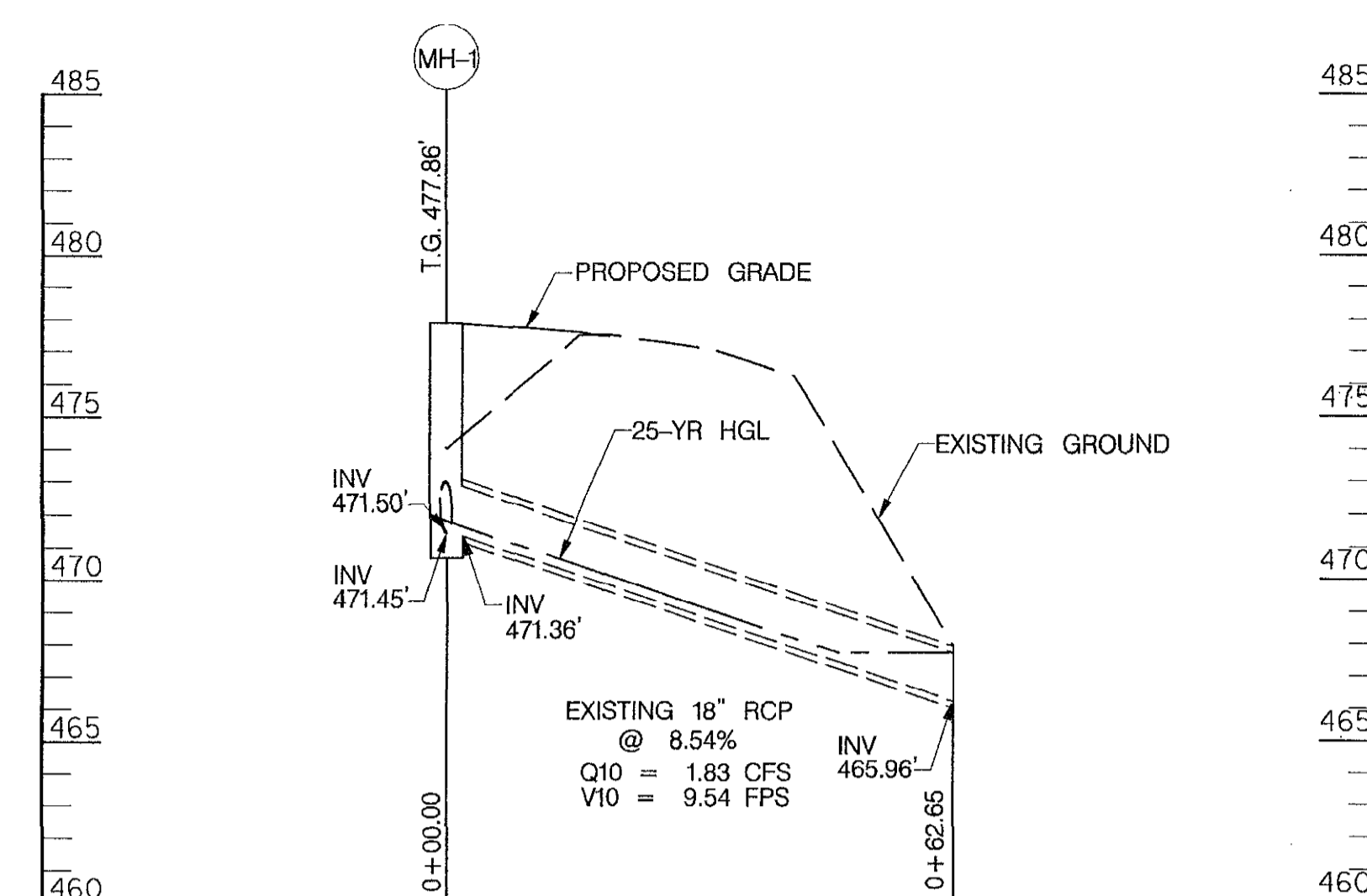
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

HD-1  
SCALE: AS SHOWN  
SHEET 3 OF 7



PIPE PROFILE - I-2 TO I-1

SCALE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 5'



PIPE PROFILE - MH-1 TO EX. OUTFALL

SCALE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 5'

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. 21350, Expiration Date: 9-20-14

I:\PROJECTS\4014563\4014563.dwg DATE: 2/15/13 11:24 AM

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Paul J. Linn* 2/15/13  
 DIRECTOR OF PUBLIC WORKS DATE  
*W. R. ...* 2-8-13  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Thomas B. Butler* 2/15/13  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Steve Stann* 2/1/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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 Baltimore, MD 21244  
 www.stvinc.com



DES:	RRB
DRN:	CSC
CHK:	SRH
DATE:	JUNE 2012
BY:	NO.
REVISION:	
DATE:	600' SCALE MAP NO. BLOCK NO.

STORM DRAIN PROFILES

MARRIOTTSVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

DP-1  
 SCALE: AS SHOWN  
 SHEET 4 OF 7

**STANDARD SEDIMENT CONTROL NOTES**

- 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 (313-1855).
- 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 EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR 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.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 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 PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	4.95	ACRES
AREA DISTURBED	1.11	ACRES
AREA TO BE ROOFED OR PAVED	0.12	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.00	ACRES
TOTAL CUT	3260	CU.YDS.
TOTAL FILL	735	CU. YDS.

 OFFSITE WASTE/BORROW AREA LOCATION: \_\_\_\_\_
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- 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:

- PREFERRED -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONES (92 LBS./1000 SQ.FT.) AND 600 LBS./ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
- ACCEPTABLE -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS./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 PERIODS 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 (0.5 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 SLOPE 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 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 PERIOD MARCH 1 -- APRIL 30 AND FROM AUGUST 15 -- OCTOBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ. FT.). THE FOR PERIOD MAY 1 -- AUGUST 14, SEED WITH 3 LBS./ACRE OF WEEPING LOVEGRASS (0.7 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 GAL. PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. 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.

**SEDIMENT CONTROL**

( ) 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."

*Steve Sharav* 2/4/13  
 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"

*Scott Hoban* 2-4-13  
 SIGNATURE OF ENGINEER DATE  
 PRINT NAME BELOW SIGNATURE

( ) FOR THE HOWARD SOIL CONSERVATION DISTRICT:

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

*John Whitson* 2/17/13  
 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. 21350, Expiration Date: 9-20-14

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*William J. Murr* 2/6/13  
 DIRECTOR OF PUBLIC WORKS DATE

*Thomas E. Suttler* 2/5/13  
 CHIEF, BUREAU OF ENGINEERING DATE

*Steve Sharav* 2/4/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com



DES: ROB			
DRN: CSC			
CHK: SRH			
DATE: JUNE 2012	BY: NO.	REVISION	DATE

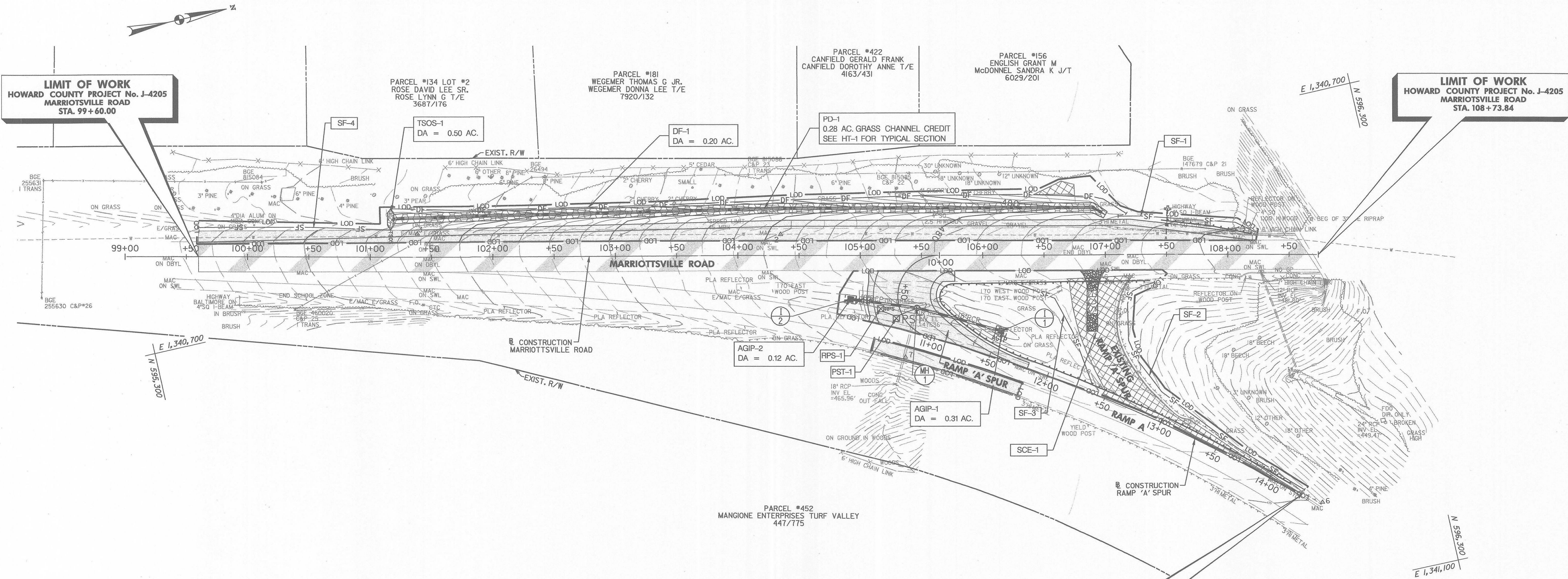
**EROSION AND SEDIMENT CONTROL NOTES**

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

ES-1

SCALE:  
 AS SHOWN

SHEET  
 5 OF 7



**SEQUENCE OF CONSTRUCTION**

1. CONSTRUCT DIVERSION FENCE (DF-1) FROM STA 101+17 TO STA 107+17 LT.
2. CONSTRUCT SILT FENCE (SF-1 AND SF-4) AS SHOWN.
3. CONSTRUCT TEMPORARY STONE OUTLET STRUCTURE (TSOS-1) AS SHOWN.
4. RELOCATE EXISTING FIRE HYDRANT AS SHOWN ON DWG. HD-01.
5. BEGIN FULL DEPTH PAVING FROM STA 99+60 TO STA 108+20 LT AND CONSTRUCT PROPOSED GRASS CHANNEL (PD-1) AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING.
6. UPON COMPLETION OF THE FULL DEPTH PAVING AND GRASS CHANNEL, STABILIZE ANY REMAINING DISTURBED AREAS, AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE TSOS-1, SF-1, SF-4, DF-1 AND STABILIZE THESE AREAS.
7. CONSTRUCT I-1, I-2, MH-1 AND PROPOSED STORM DRAIN AS SHOWN. FOR PIPE PROFILES REFER TO DWG. DP-1.
8. INSTALL AGIP-1 AND AGIP-2 AS SHOWN.
9. CONSTRUCT PROPOSED RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. A REMOVABLE PUMPING STATION (RPS-1) AND PORTABLE SEDIMENT TANK (PST-1) SHALL BE USED TO REMOVE ANY STANDING WATER FROM THE WORK ZONE IF NECESSARY.
10. INSTALL SILT FENCES (SF-2 AND SF-3) AS SHOWN.
11. UPON COMPLETION OF THE PROPOSED RAMP 'A' SPUR, CONSTRUCT SCE-1 AS SHOWN AND BEGIN EXCAVATION OF THE EXISTING RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. DURING EXCAVATION, THE CONTRACTOR SHALL ENSURE THAT EXISTING DRAINAGE PATTERNS ARE MAINTAINED ALONG THE EXISTING RAMP.
12. UPON COMPLETION OF EXCAVATION, STABILIZE ANY REMAINING DISTURBED AREAS AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE ANY REMAINING PERIMETER CONTROLS AND STABILIZE THESE AREAS.

SILT FENCE (SF)	
115 L.F.	(SF-1) @ CONSTR - MARIOTTVILLE ROAD - STA 107+10 TO 108+22 LT.
255 L.F.	(SF-2) @ CONSTR - MARIOTTVILLE ROAD - STA 107+40 RT. TO CONSTR. RAMP 'A' STA 14+29 LT.
110 L.F.	(SF-3) @ CONSTR - RAMP 'A' - STA 11+52 TO 12+36 LT.
158 L.F.	(SF-4) @ CONSTR - MARIOTTVILLE ROAD - STA 99+60 TO 101+17 LT.

STABILIZED CONSTRUCTION ENTRANCE (SCE)	
30 TONS	(SCE-1) @ CONSTR - MARIOTTVILLE ROAD - STA 106+92, 17.6' RT.

DIVERSION FENCE (DF)	
610 L.F.	(DF-1) @ CONSTR - MARIOTTVILLE ROAD - STA 101+17 TO 107+17 LT.

TEMPORARY STONE OUTLET STRUCTURE (TSOS)	
1 EA.	(TSOS-1) @ CONSTR - MARIOTTVILLE ROAD - STA 101+17, 31.2' LT.

AT-GRADE INLET PROTECTION (AGIP)	
1 EA.	(AGIP-1) @ CONSTR - RAMP 'A' - STA 11+53, 22.0' LT.
1 EA.	(AGIP-2) @ CONSTR - RAMP 'A' - STA 10+55, 38.8' RT.

REMOVABLE PUMPING STATION (RPS)	
1 EA.	(RPS-1) TO BE PLACED AS NEEDED IN THE FIELD

PORTABLE SEDIMENT TANK (PST)	
1 EA.	(PST-1) TO BE PLACED AS NEEDED IN THE FIELD

- LEGEND**
- [Solid Grey Box] FULL DEPTH HMA PAVEMENT
  - [Diagonal Lines Box] HMA GRINDING AND RESURFACING
  - [Cross-hatch Box] REMOVAL OF EXISTING PAVEMENT (PAID FOR AS CLASS I EXCAVATION)
  - [Circular Pattern Box] TYPE 'A' SOIL STABILIZATION MATTING

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY OCCUPATION DISTRICT.

Approved: *[Signature]* 2/14/13  
 Date: 2/14/13  
 Howard S.C.D.

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. 21350      Expiration Date: 9-2014

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 2/6/13  
 DIRECTOR OF PUBLIC WORKS  
 DATE

*[Signature]* 2/8/13  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

*[Signature]* 2/5/13  
 CHIEF, BUREAU OF ENGINEERING  
 DATE

*[Signature]* 2/14/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION  
 DATE

**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com

**MARYLAND PROFESSIONAL ENGINEER**  
*[Signature]*  
 2-4-13

DES: ROB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY NO.	REVISION

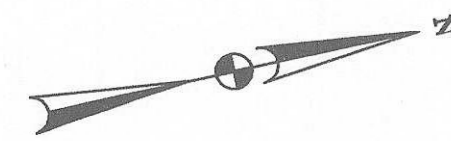
**EROSION AND SEDIMENT CONTROL PLAN**

MARIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

ES-2

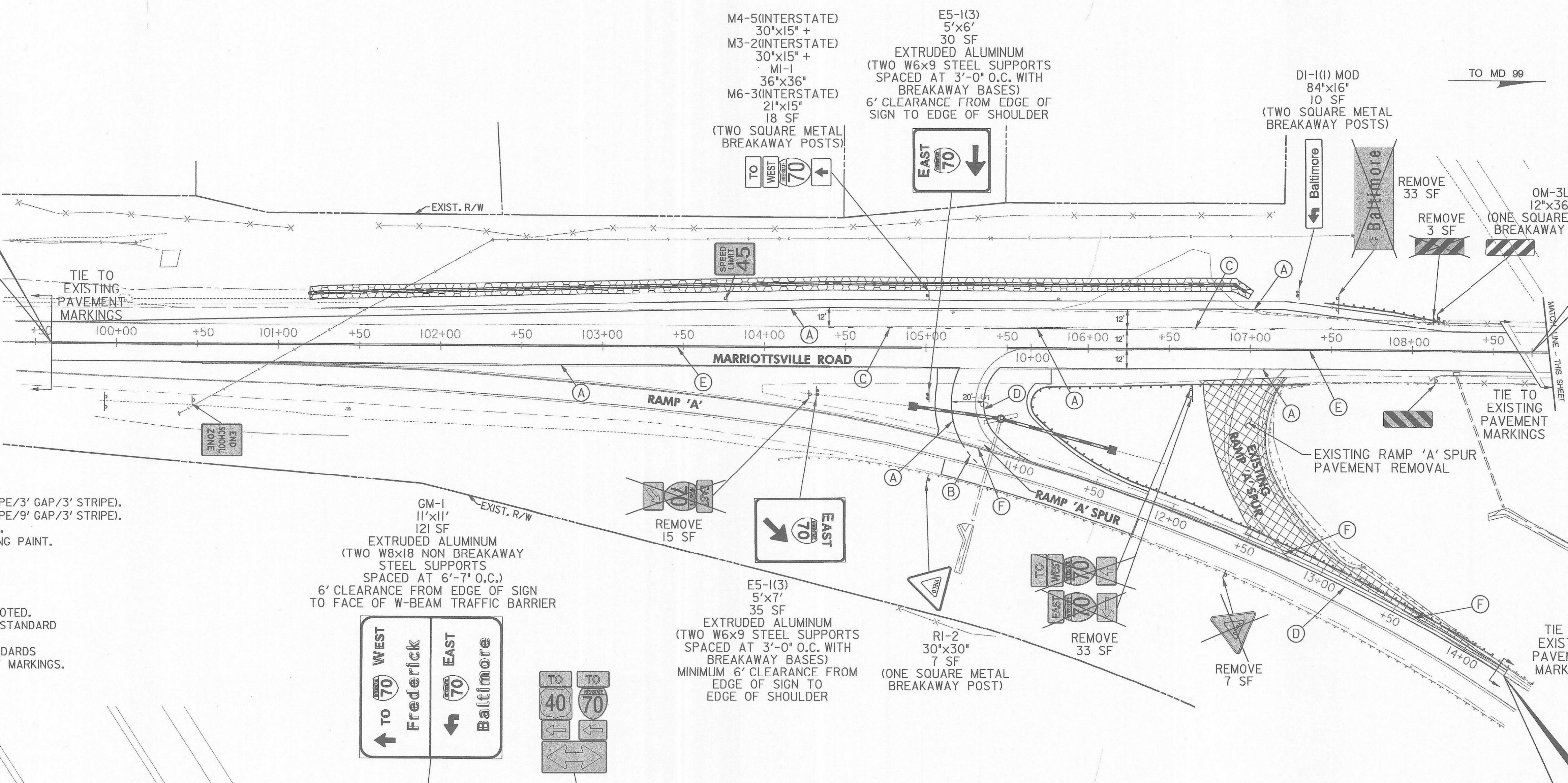
SCALE: AS SHOWN

SHEET 6 OF 7



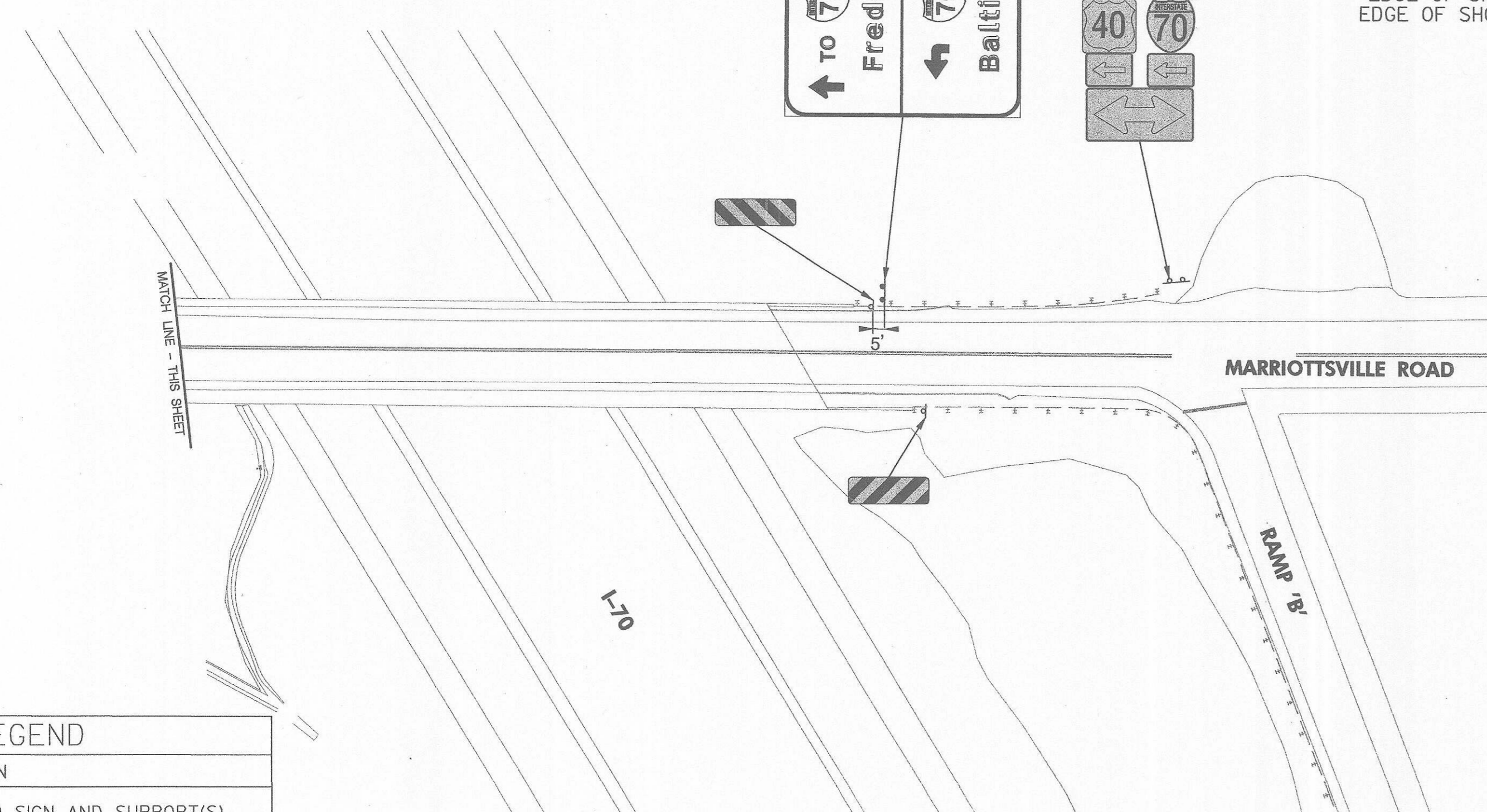
**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84



- PAVEMENT MARKING LEGEND**
- Ⓐ 5 INCH SOLID WHITE PAVEMENT MARKING PAINT.
  - Ⓑ 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/3' GAP/3' STRIPE).
  - Ⓒ 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/9' GAP/3' STRIPE).
  - Ⓓ 5 INCH SOLID YELLOW PAVEMENT MARKING PAINT.
  - Ⓔ 5 INCH SOLID DOUBLE YELLOW PAVEMENT MARKING PAINT.
  - Ⓕ REMOVE EXISTING PAVEMENT MARKINGS

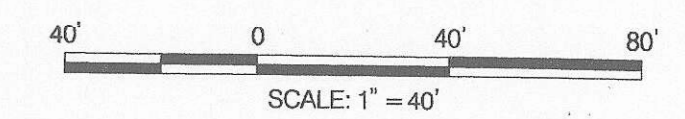
- GENERAL NOTES**
1. EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.
  2. THE CONTRACTOR SHALL REFER TO THE MDSA STANDARD SIGN BOOK FOR STANDARD SIGN DETAILS.
  3. THE CONTRACTOR SHALL REFER TO MDSA STANDARDS FOR THE INSTALLATION OF SIGNS AND PAVEMENT MARKINGS.



**SIGN DETAIL (NOT TO SCALE)**

PANEL DESIGNATION	QUANTITY	SIZE		COLOR		BORDER		ARROW	SHIELD
		AREA (SF)	WIDTH	HEIGHT	LEGEND	BACKGROUND	WIDTH		
GM-1	1	121	11'-0"	11'-0"	W	W	G	2"	12"

NOTES: 1. COLORS: G=GREEN, W=WHITE/SILVER.  
2. SEE SHA STANDARD SIGN BOOK FOR ARROW DETAILS.



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. 21350, Expiration Date: 9-20-14

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SIGNING LEGEND	
SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
	PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Janet L...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Norman E. Smith* 2/6/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve Shaver* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com

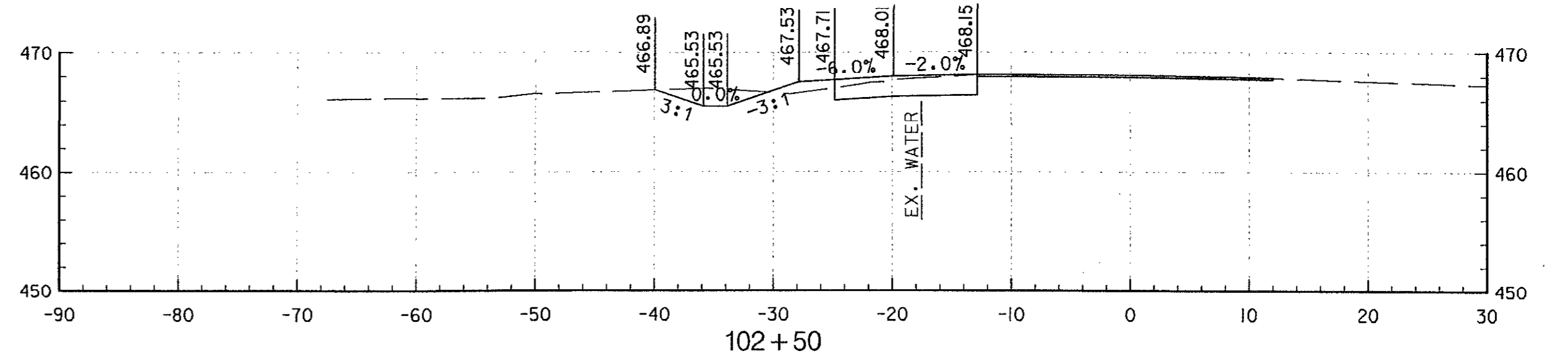
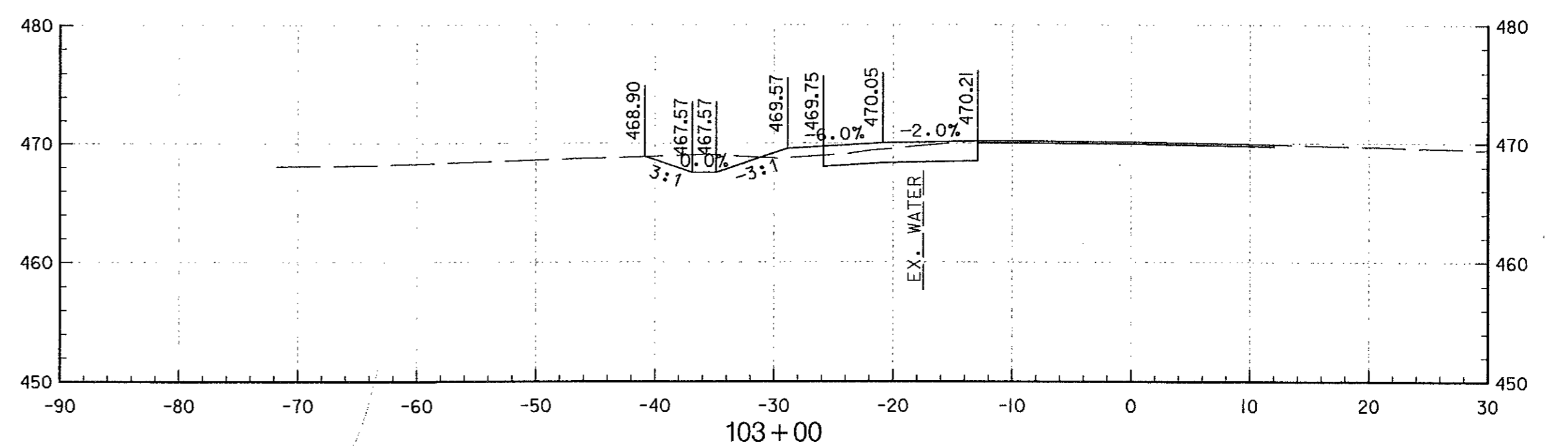
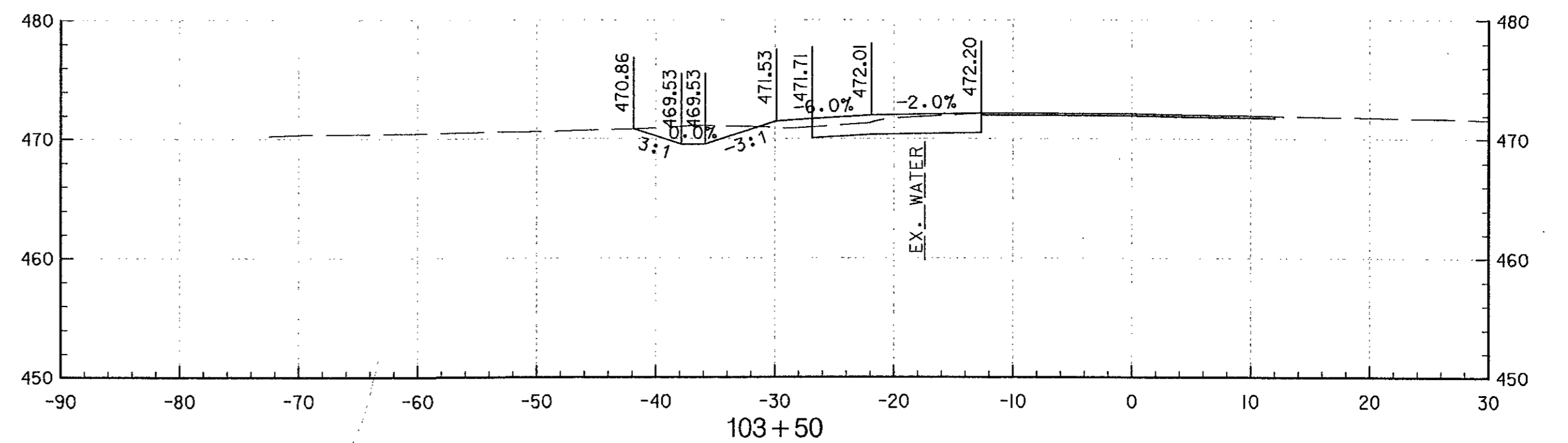
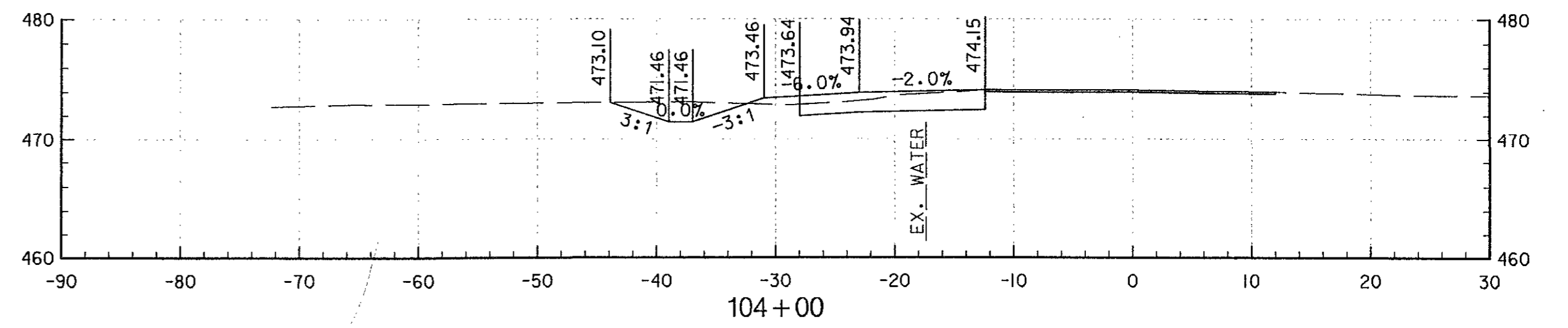
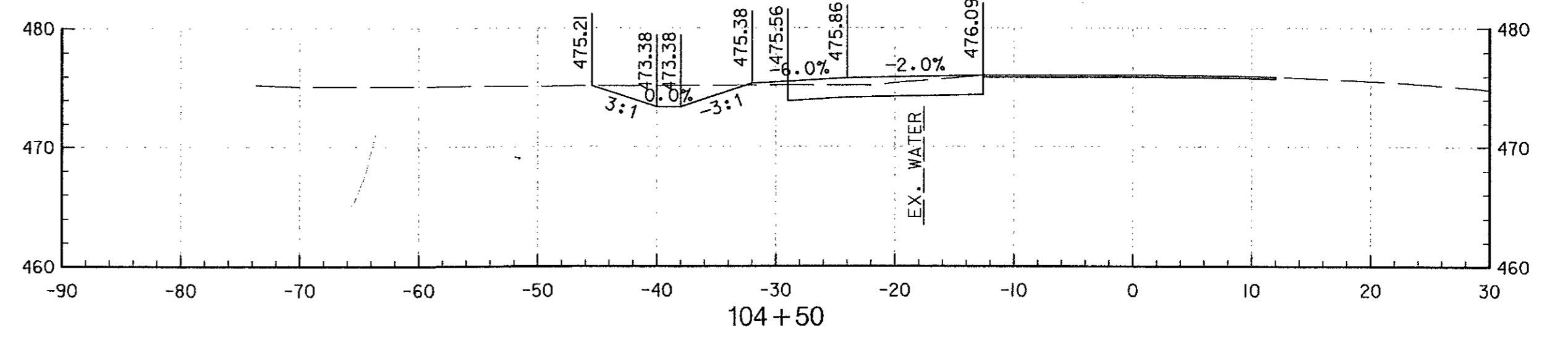
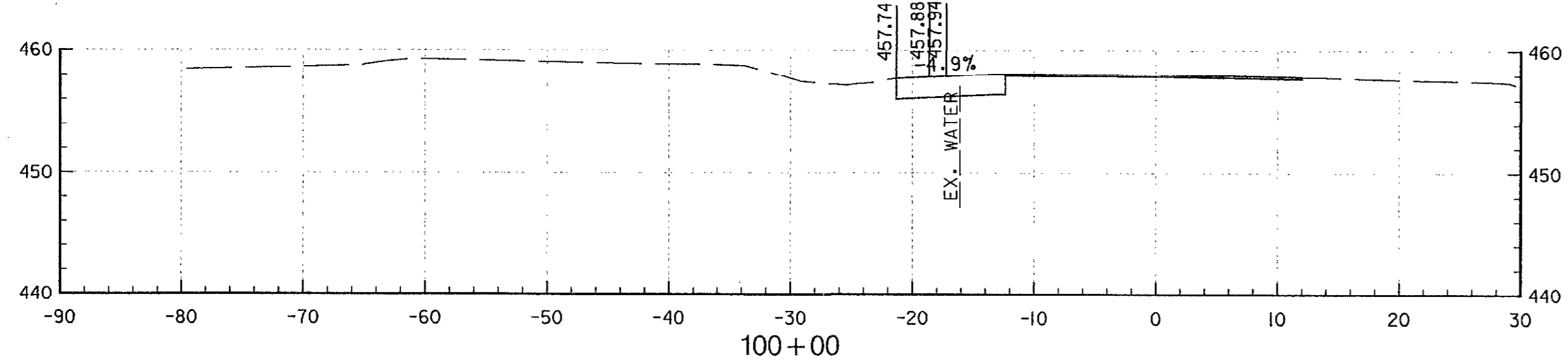
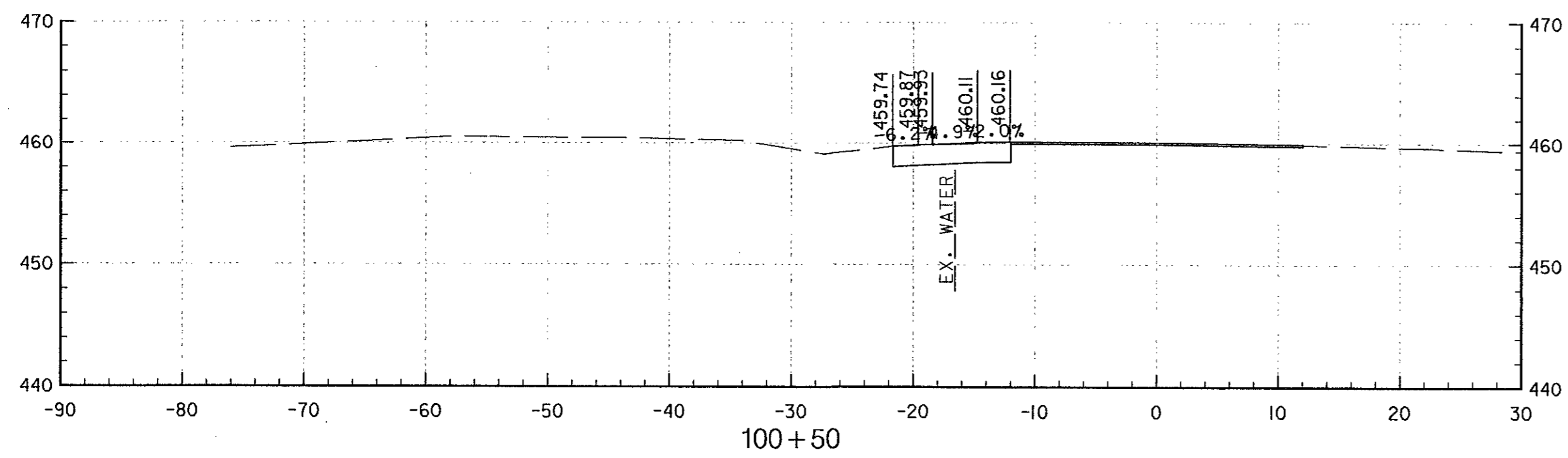
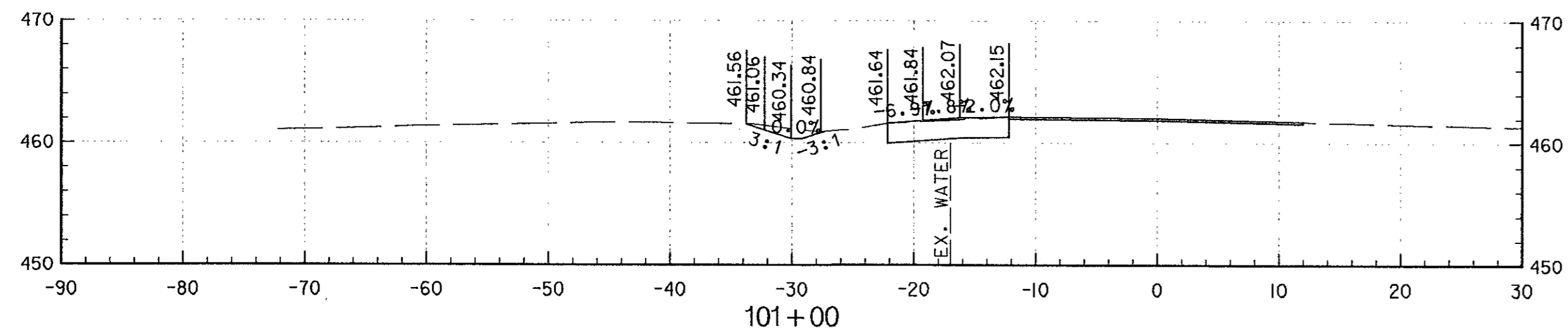
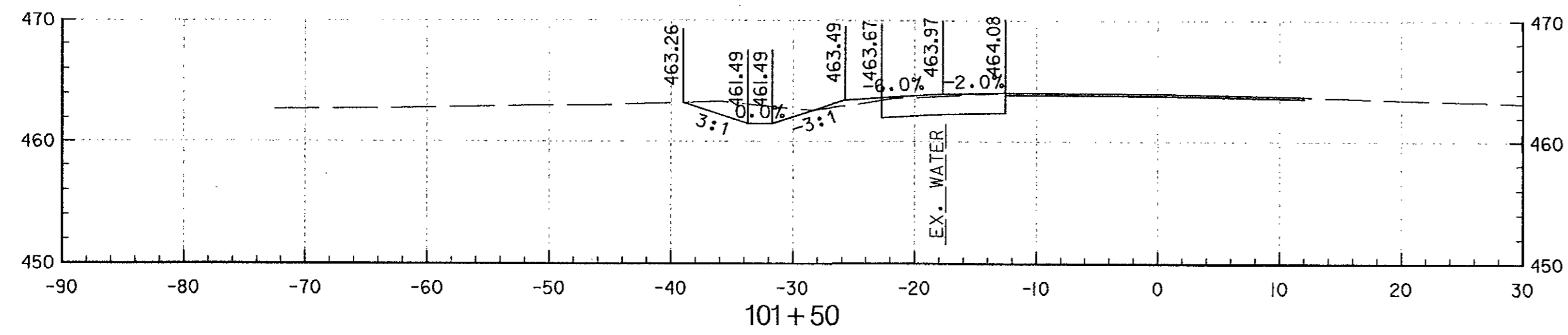
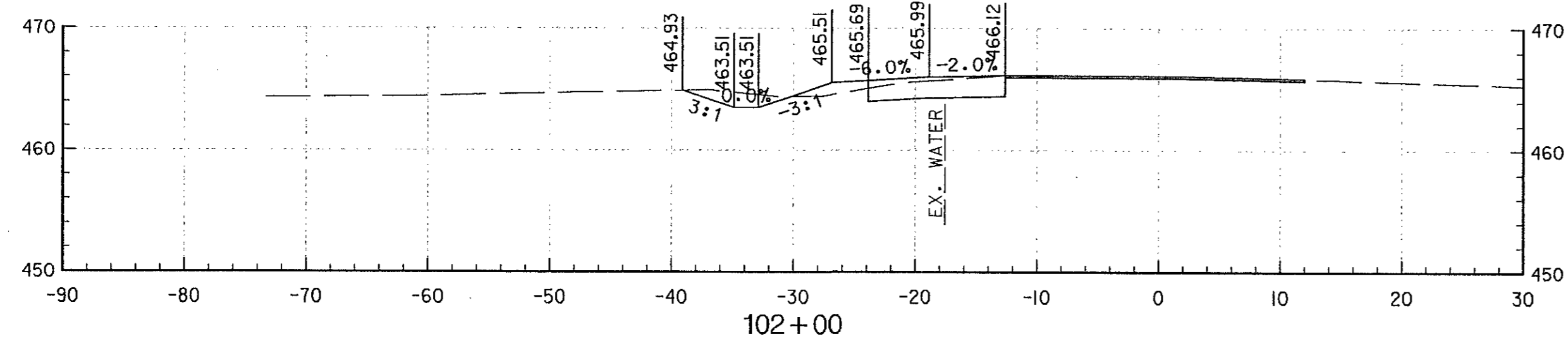


DES: ROB	BY NO.	REVISION
DRN: CSC		
CHK: SRH		
DATE: JUNE 2012		

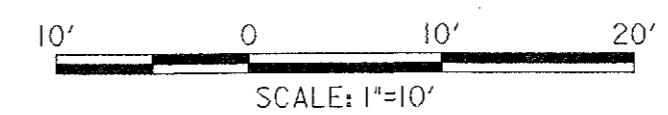
**SIGNING AND PAVEMENT MARKING PLAN**

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 7 OF 7



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. 21350, Expiration Date: 9-20-14

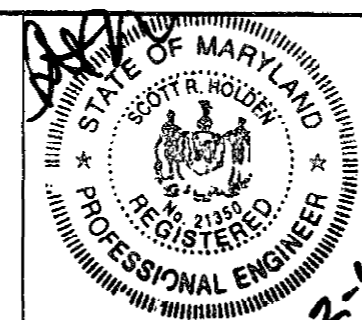


DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jan G. ...*  
 DIRECTOR OF PUBLIC WORKS  
 DATE: 2-8-13  
 CHIEF, BUREAU OF HIGHWAYS

*Thomas R. ...*  
 CHIEF, BUREAU OF ENGINEERING  
 DATE: 2/4/13  
 Steve Shawar  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION

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 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com



DES: RRD  
 DRN: CSC  
 CHK: SRH  
 DATE: JUNE 2012

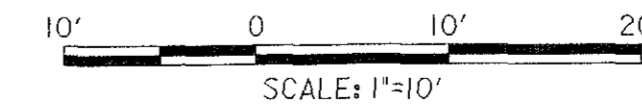
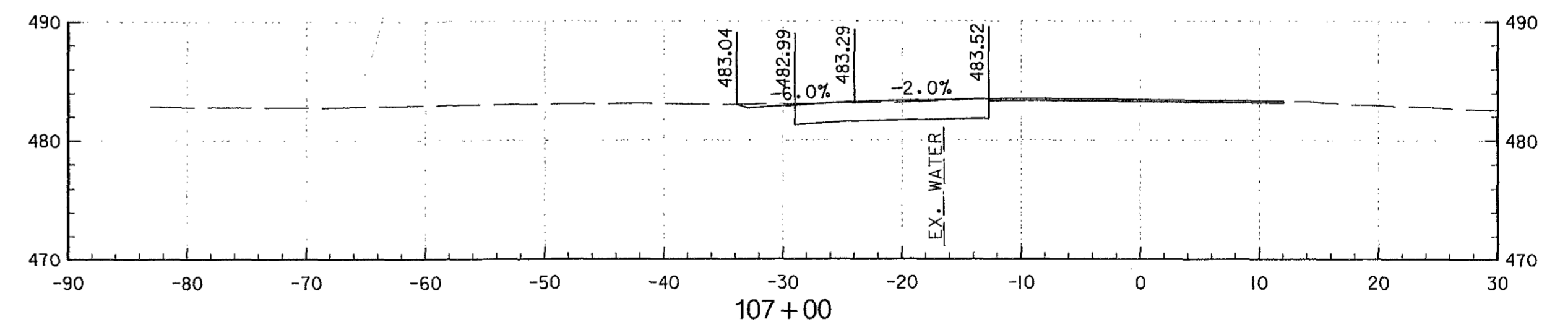
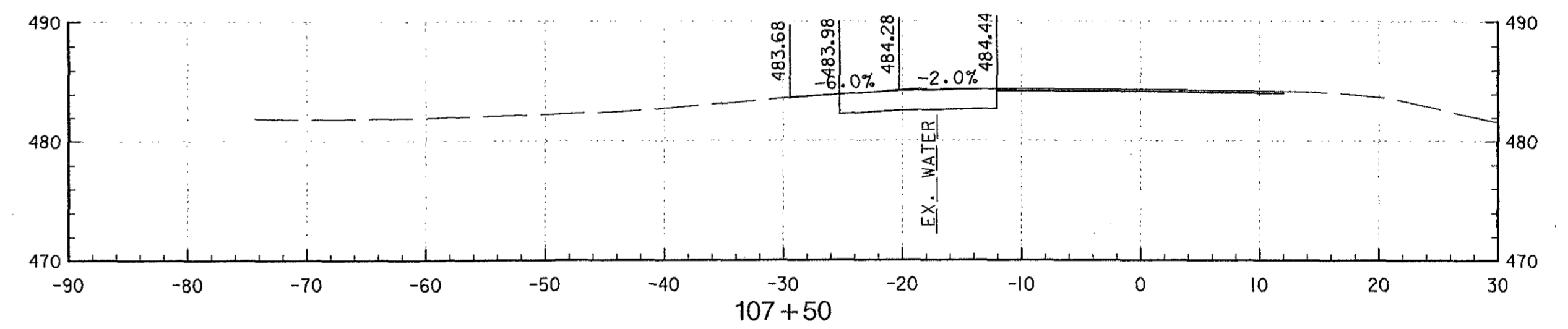
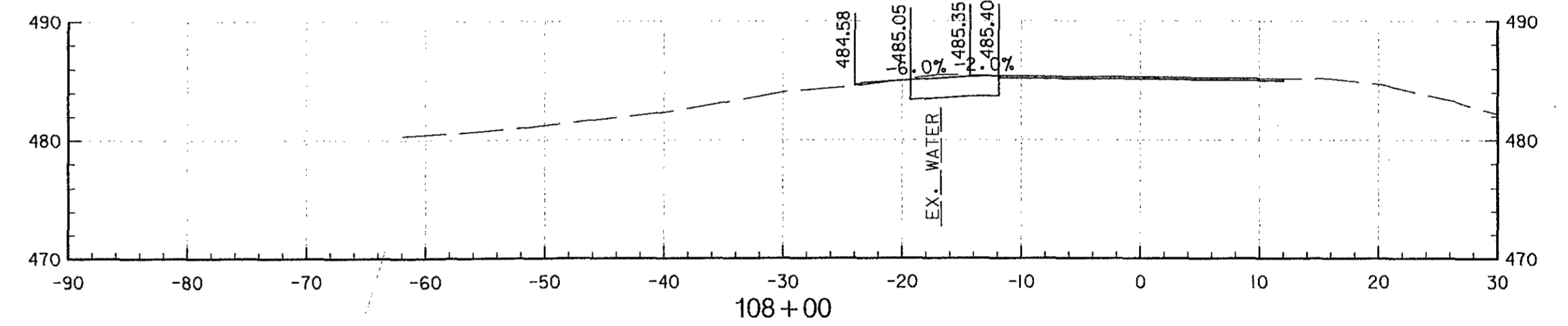
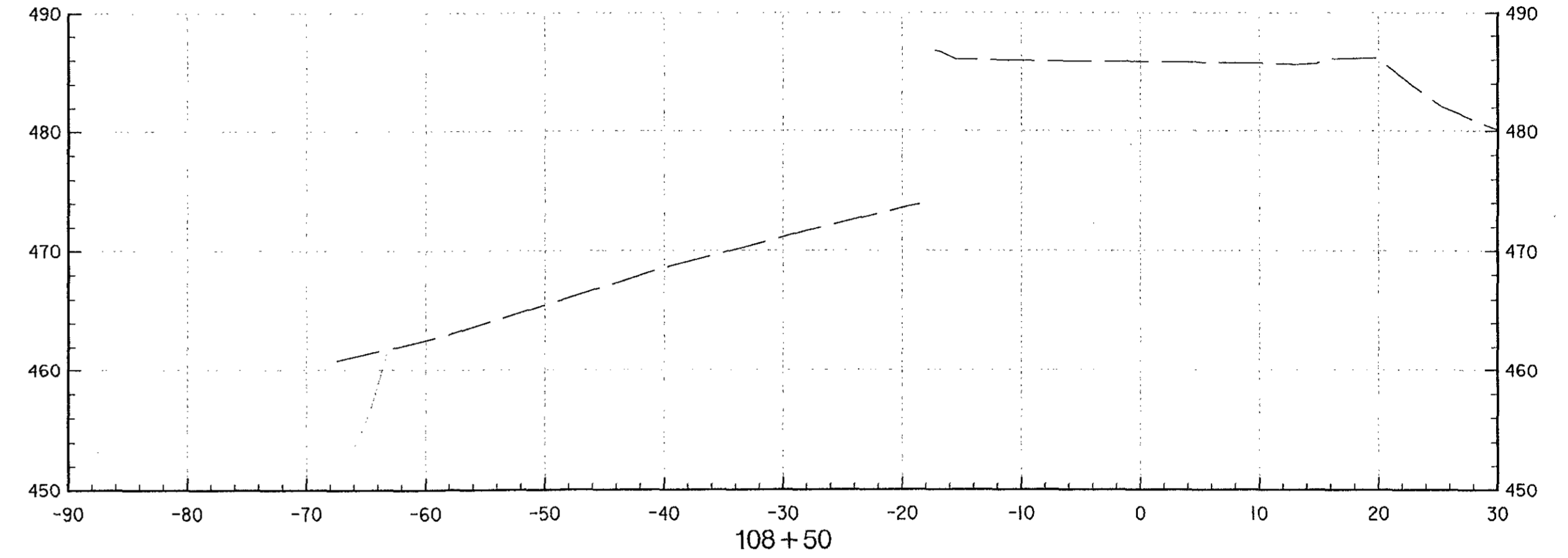
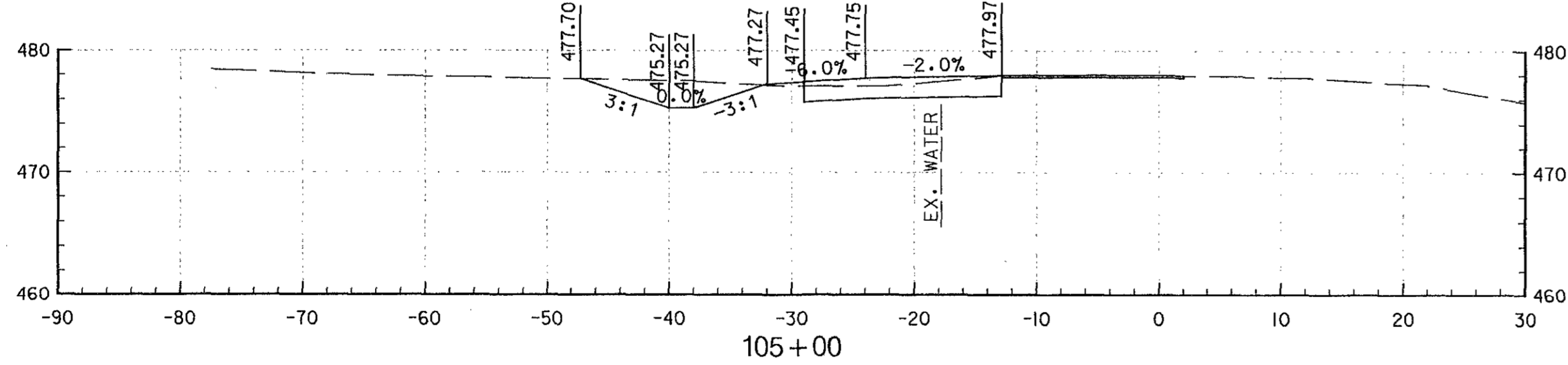
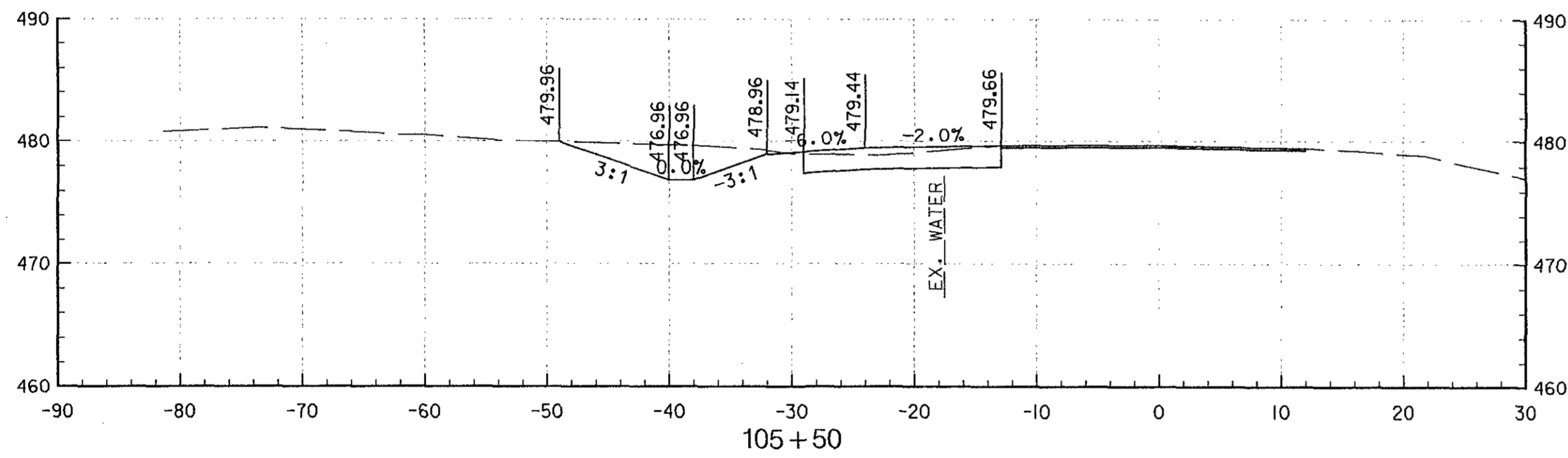
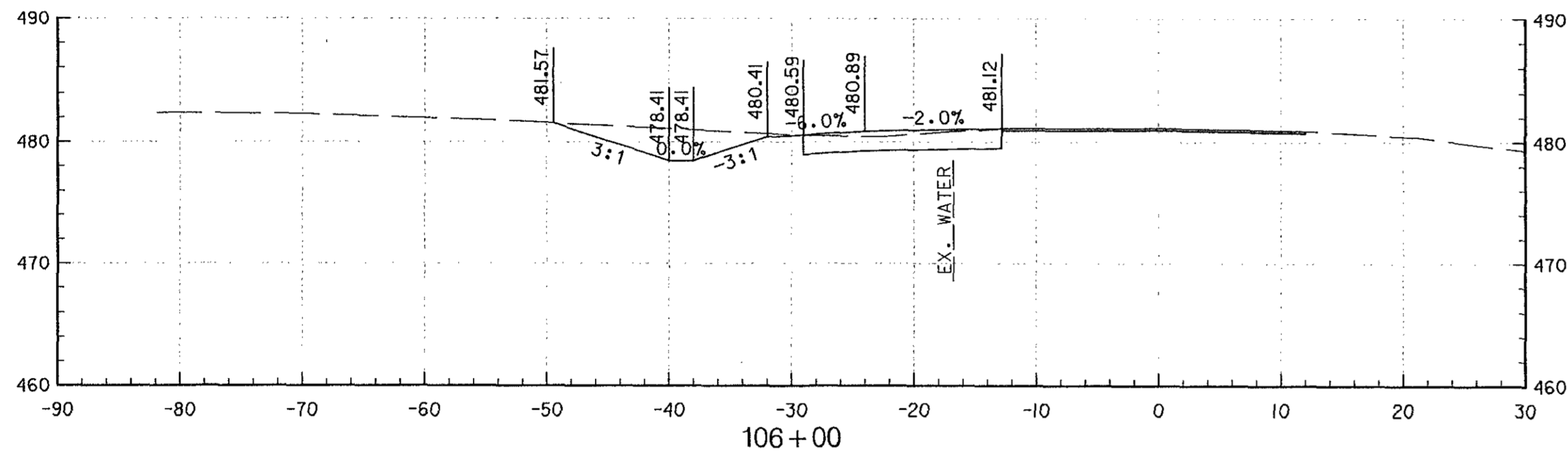
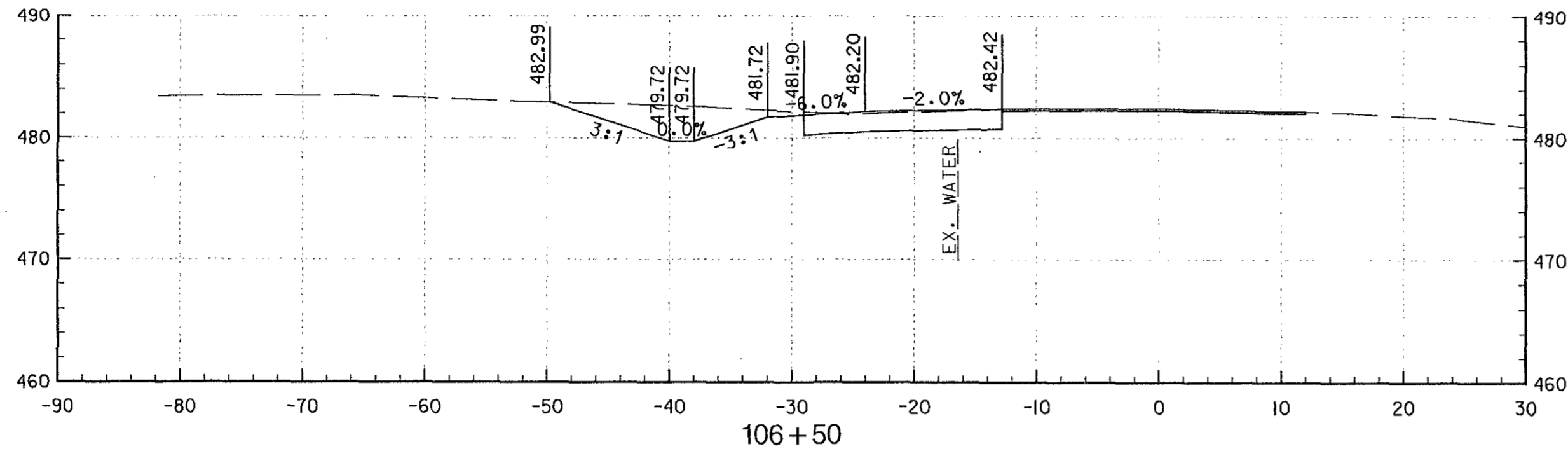
CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

HC-1

SCALE:  
 AS SHOWN

SHEET  
 1 OF 3



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. 21350 Expiration Date: 9-30-14

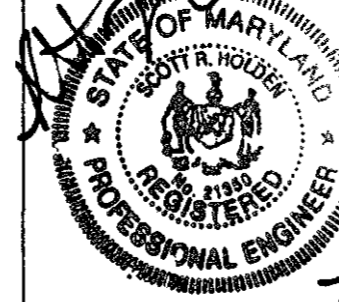
I:\PROJECTS\4014362\4014362\_0001\Drawings\TRA\p1c\002.Marr.cgm Friday, June 29, 2012 AT 11:27 AM

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jan 7* *2/6/13*  
 DIRECTOR OF PUBLIC WORKS DATE  
*Steve Shaver* *2-8-13*  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Steve Shaver* *2/5/13*  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Steve Shaver* *2/4/13*  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com



DES: RDB	BY: NO.	DATE: JUNE 2012
DRN: CSC	REVISION	
CHK: SRH		

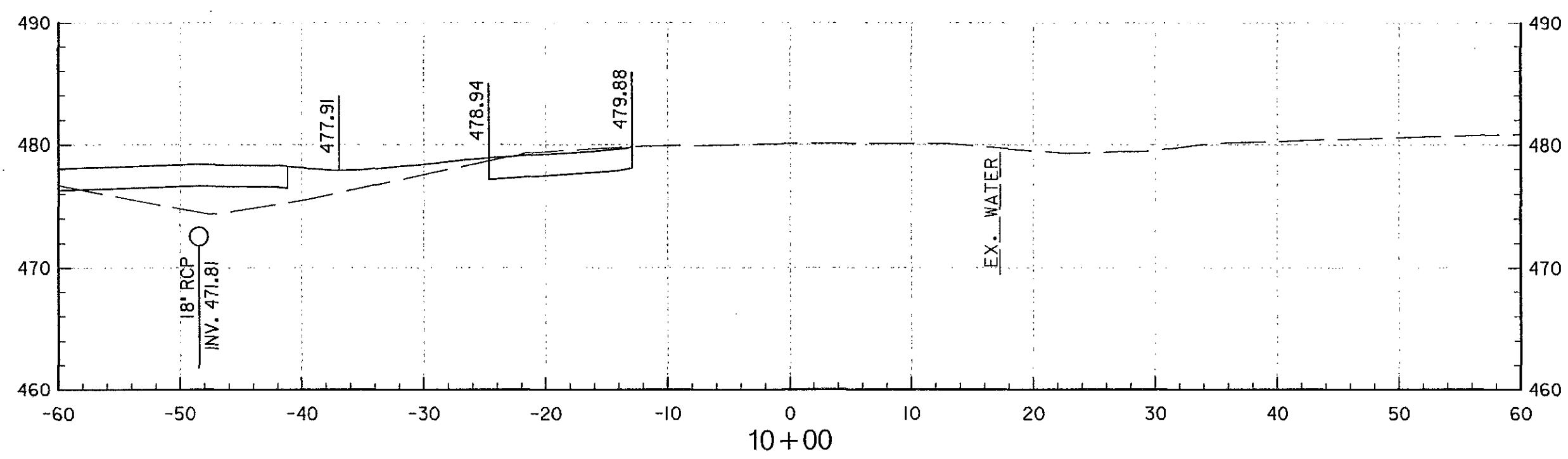
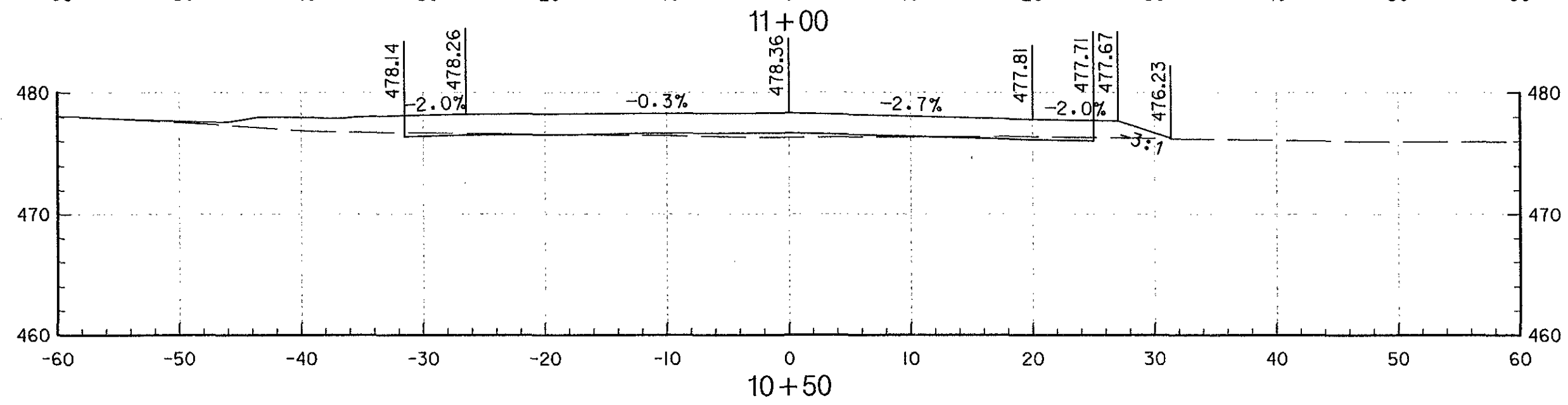
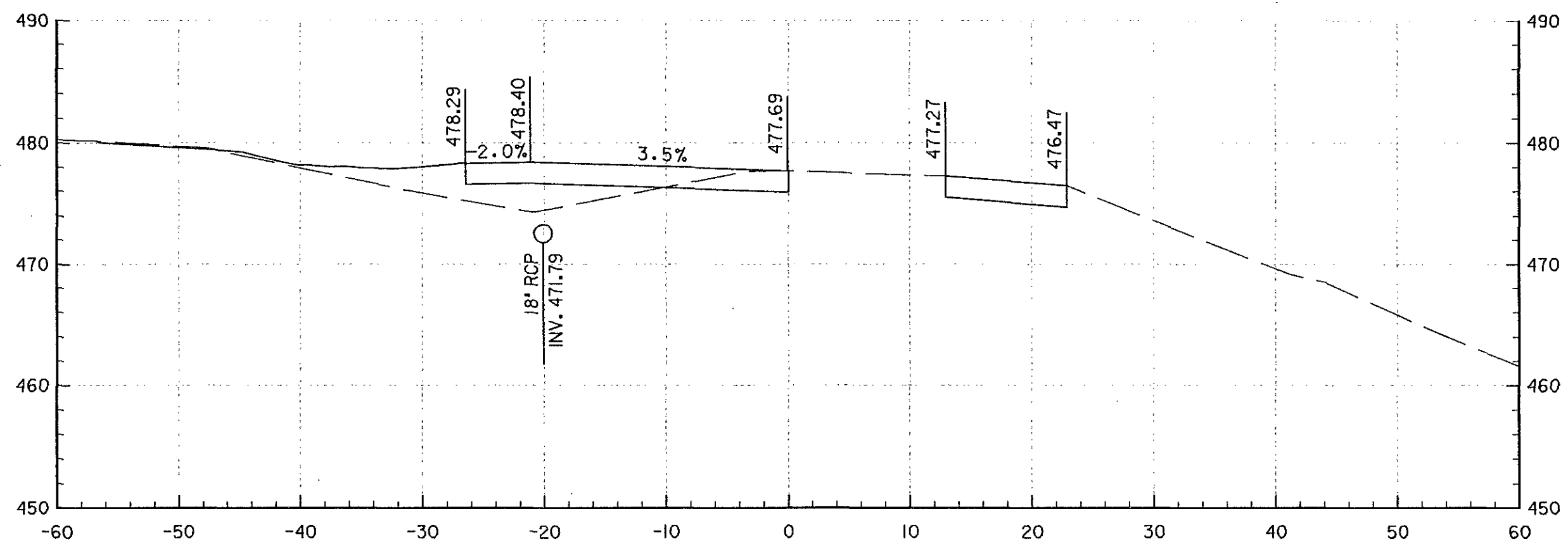
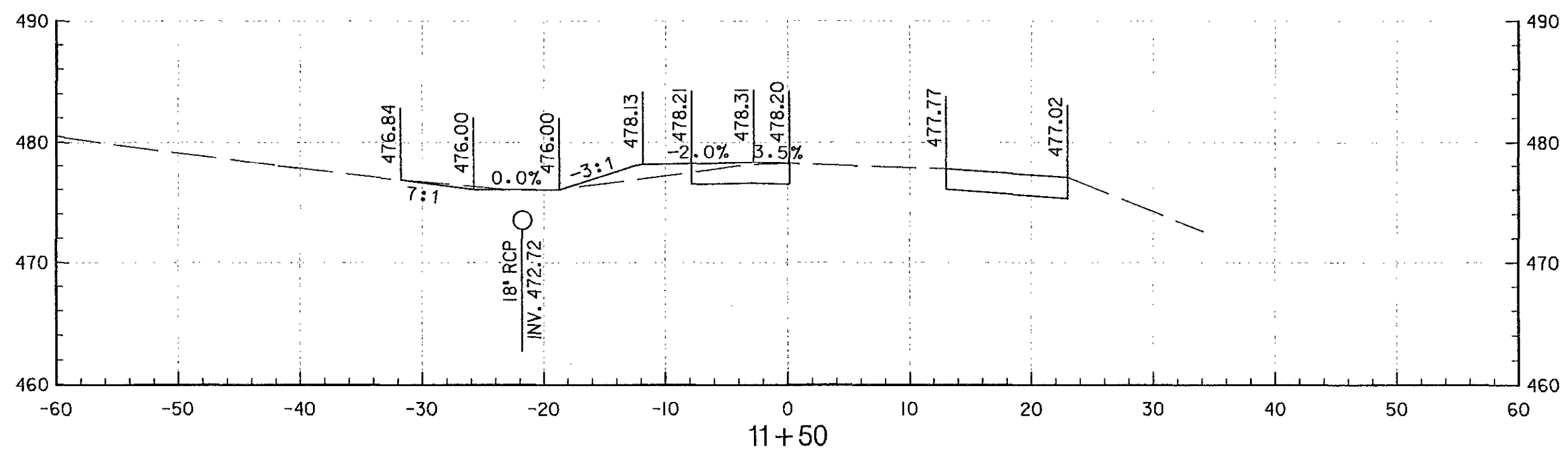
CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

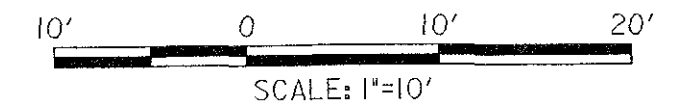
HC-

SCAL AS SH

SHEI 2 OF



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. 2150, Expiration Date: 9-20-14



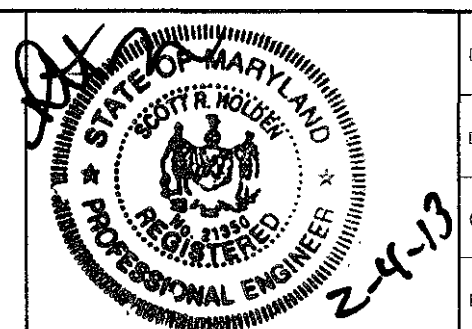
HC-3  
 SCALE: AS SHOWN  
 SHEET 3 OF 3

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*David J. ...* 2/8/13  
 DIRECTOR OF PUBLIC WORKS  
*Steve ...* 2-8-13  
 CHIEF, BUREAU OF HIGHWAYS

*Thomas R. ...* 2/5/13  
 CHIEF, BUREAU OF ENGINEERING  
*Steve ...* 2/4/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION

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 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com



DES: RSB	BY: NO.	REVISION
DRW: CSC		
CHK: SRH		
DATE: JUNE 2012		

CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND



SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	MISCELLANEOUS DETAILS
3	ROADWAY PLAN
4	DRAINAGE PROFILES
5	EROSION AND SEDIMENT CONTROL NOTES
6	EROSION AND SEDIMENT CONTROL PLAN
7	SIGNING AND PAVEMENT MARKING PLAN

# FINAL ROAD CONSTRUCTION

# MARRIOTTSVILLE ROAD AT I-70 PHASE I - BYPASS LANE AND RAMP RELOCATION HOWARD COUNTY PROJECT NO. J-4205

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

### MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION

#### PHASE I

1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
2. ERADICATE THE EXISTING EDGELINE ON THE WEST SIDE OF MARRIOTTSVILLE ROAD AND THE CENTERLINE MARKINGS FROM STA. 99+60 LT TO 108+50 LT. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON THE WEST SIDE OF MARRIOTTSVILLE ROAD TWO FEET EAST AND THE EXISTING CENTERLINE ONE FOOT EAST, MAINTAINING 11 FOOT TRAVEL LANES.
3. INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE WEST EDGELINE OF MARRIOTTSVILLE ROAD BETWEEN STA. 99+60 LT AND 108+20 LT.
4. RELOCATE FIRE HYDRANT LOCATED AT STA. 107+50 LT. AS SHOWN ON ROADWAY PLANS.
5. INSTALL TRAFFIC SIGNAL CONDUIT SYSTEM AS SHOWN ON ROADWAY PLAN.
6. CONSTRUCT FULL DEPTH PAVEMENT FOR NEW BY-PASS LANE, SHOULDER AND DRAINAGE ALONG SB MARRIOTTSVILLE ROAD AS SHOWN ON THE CONTRACT DOCUMENTS.

#### PHASE 2A

1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
- REMOVE PHASE I TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE I AND INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT TRAFFIC ALONG MARRIOTTSVILLE ROAD FOUR FEET WEST, MAINTAINING 12 FOOT TRAVEL LANES ALONG MARRIOTTSVILLE ROAD. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON WEST SIDE OF RAMP 'A' TO THE EAST, MAINTAINING A 11 FOOT TRAVEL LANE ON RAMP 'A' BETWEEN STA 104+90 RT AND 106+50 RT.
- INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF MARRIOTTSVILLE ROAD
3. BETWEEN STA. 104+90 RT AND 105+90 RT AND ALONG WEST SIDE OF RAMP 'A' BETWEEN STA. 104+90 RT AND 106+50 RT.
- CONSTRUCT FULL DEPTH PAVEMENT FOR THE NEW RAMP 'A' SPUR, INCLUDING THE DRAINAGE
4. UNDER RAMP 'A' SPUR, AS SHOWN ON THE CONTRACT DOCUMENTS.

#### PHASE 2B

1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
2. INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF RAMP 'A' BETWEEN STA. 104+00 RT. AND STA 12+00 RT. INSTALL TEMPORARY PAVEMENT MARKING TAPE AND SHIFT THE TEMPORARY BARRIER INSTALLED IN PHASE 2A ALONG THE EAST SIDE OF RAMP 'A' SPUR TO THE WEST AS NECESSARY TO PROVIDE A MINIMUM 11 FOOT TRAVEL LANE ALONG RAMP 'A'.
3. CONSTRUCT FULL DEPTH PAVEMENT ALONG THE EAST SIDE OF RAMP 'A', INCLUDING THE DRAINAGE UNDER RAMP 'A', AS SHOWN ON THE CONTRACT DOCUMENTS.

#### PHASE 3

1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.
2. REMOVE TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE 2, INSTALL PERMANENT SIGNS AND TEMPORARY PAVEMENT MARKING PAINT IN ITS PERMANENT LOCATION, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED RAMP 'A' SPUR. INSTALL TEMPORARY TRAFFIC BARRIER ALONG EAST SIDE OF MARRIOTTSVILLE ROAD BETWEEN STA. 106+50 RT AND 107+50 RT AND ALONG THE WEST SIDE OF RAMP 'A' BETWEEN STA. 12+25 LT AND 14+50 LT.
3. REMOVE EXISTING SPUR RAMP. REMOVE TEMPORARY TRAFFIC BARRIER.

#### PHASE 4

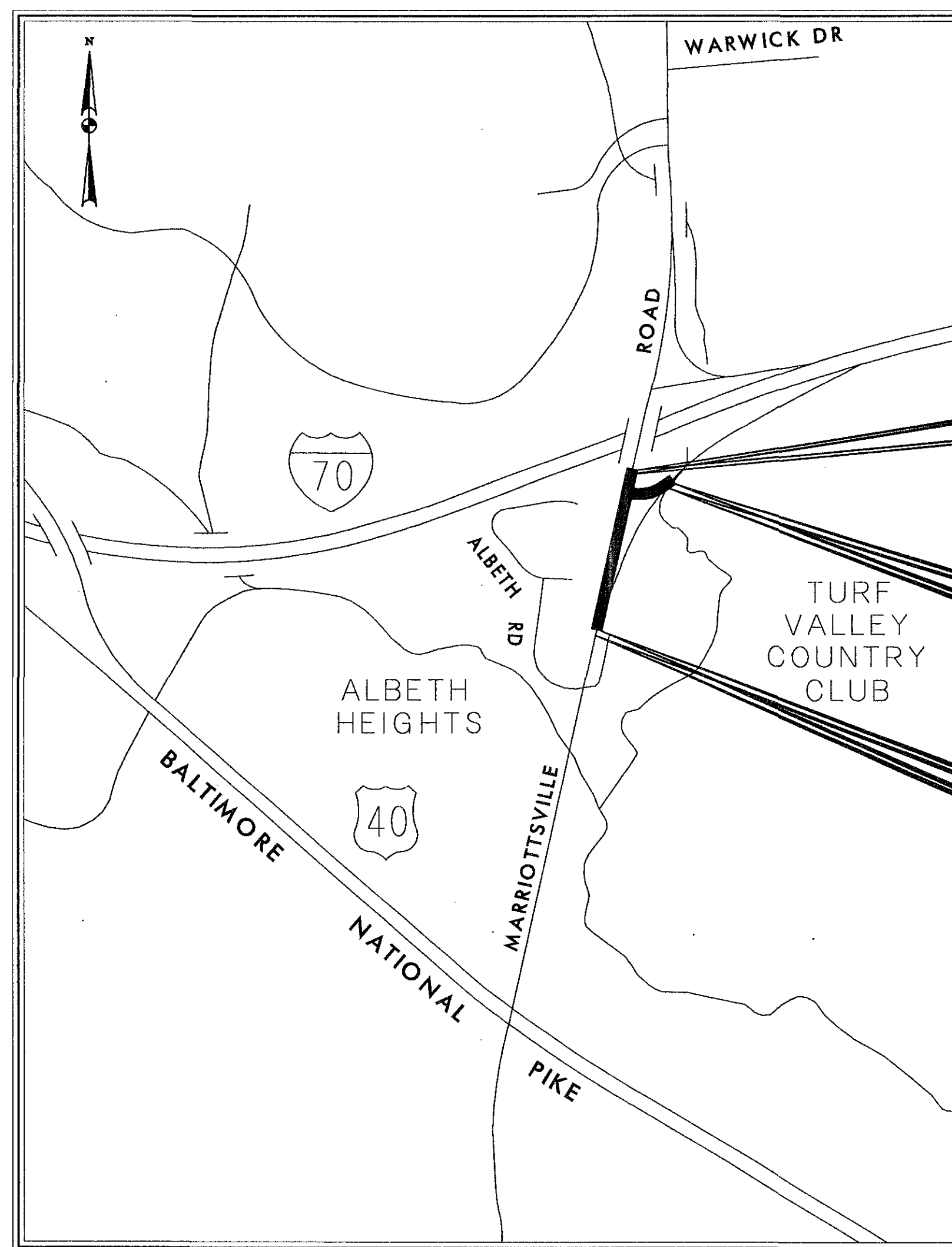
1. ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.
2. GRIND AND RESURFACE EXISTING ROADWAY BETWEEN STA. 99+60 AND 108+65.
3. INSTALL PERMANENT PAVEMENT MARKINGS.

### SHA R-0-W PLAT NUMBERS

35505	(EXISTING)
31494	(EXISTING)
31492	(EXISTING)

### GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS WHEN APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY 'MISS UTILITY' AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. EXISTING UTILITIES ARE BASED ON CURRENT HOWARD COUNTY CONTRACT DRAWINGS; EXISTING 12' WATER- CONTRACT NO. 44-3480.



**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTSVILLE ROAD  
STA. 108+73.84

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
RAMP 'A' SPUR  
STA. 14+29.25

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTSVILLE ROAD  
STA. 99+60.00

HORIZONTAL DATUM	NAD 83/91
VERTICAL DATUM	NAVD 88

LENGTH OF PROJECT  
MARRIOTTSVILLE ROAD = 0.17 MILES

### VICINITY MAP

SCALE: 1"=600'

## THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

DESIGN DESIGNATION CHART		
CONTROLS / YEARS	2010	2030
AVERAGE DAILY TRAFFIC (A.D.T.)	25,000	47,500
DESIGN HOURLY VOLUME (D.H.V.)	1,350	2,350
DIRECTIONAL DISTRIBUTION	70%	60%
% TRUCKS - A.D.T.	2%	2%
% TRUCKS - D.H.V.	3%	3%
DESIGN SPEED	50 MPH	
FUNCTIONAL CLASSIFICATIONS	UNDIVIDED INTERMEDIATE ARTERIAL	
CONTROLS OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	RURAL	
TERRAIN	LEVEL	
ANTICIPATED POSTED SPEED	45 MPH	

### MARRIOTTSVILLE ROAD AT I-70 PHASE I BYPASS LANE AND RAMP RELOCATION

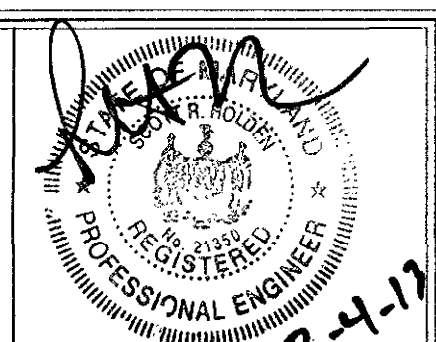
TAX MAP No. 16  
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JUNE 2012

SHEET 1 OF 7

### 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. 21350, EXPIRATION DATE: 9-20-2014

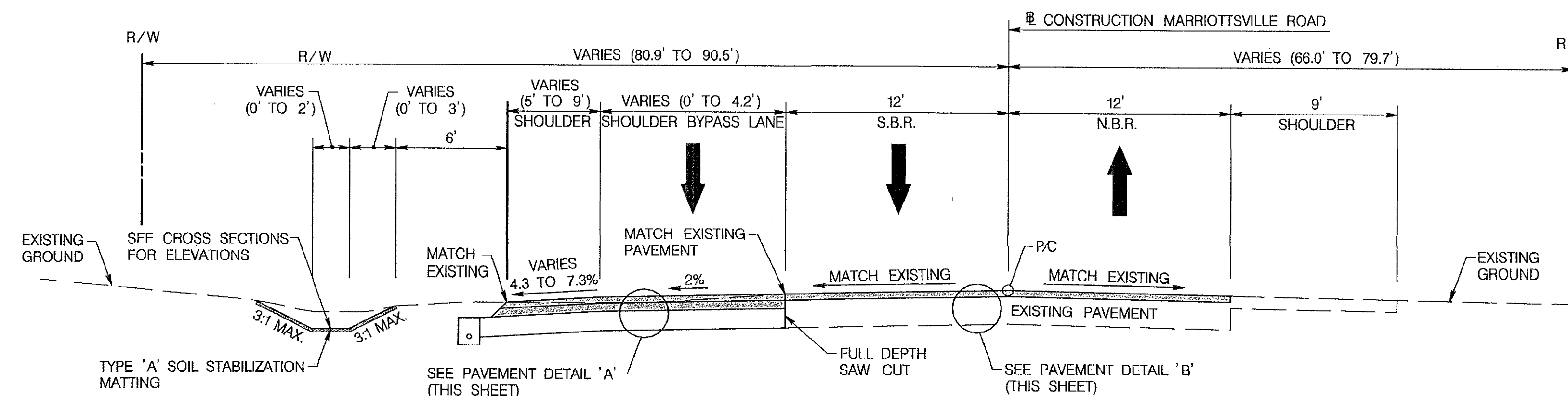
**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com



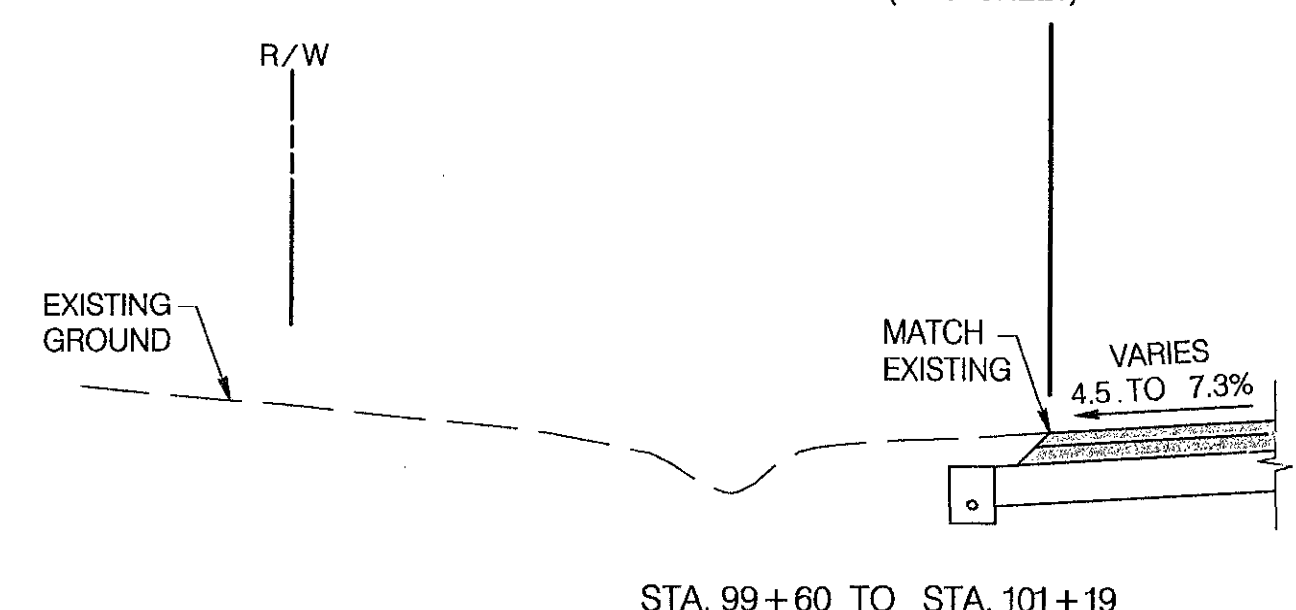
**PAVEMENT LEGEND**

- ① 2" HOT MIX ASPHALT SUPERPAVE 12.5mm FOR SURFACE, PG 64-22, LEVEL 2
- ② 3" HOT MIX ASPHALT SUPERPAVE 19.0mm FOR BASE, PG 64-22, LEVEL 2
- ③ 6" GRADED AGGREGATE BASE COURSE
- ④ TOP OF EXISTING PAVEMENT AFTER 2" GRINDING
- ⑤ TOP OF EXISTING PAVEMENT
- ⑥ BOTTOM OF EXISTING PAVEMENT
- ⑦ TOPSOIL-FURNISH AND PLACED 2" DEPTH
- ⑧ VARIABLE DEPTH BORROW EXCAVATION (TO BE SUPPLIED FROM SUITABLE MATERIAL AVAILABLE FROM CLASS 1 AND CLASS 2 EXCAVATION)
- ⑨ SEEDING AND MULCHING
- ⑩ TOP OF SUBGRADE AND LIMIT OF EXCAVATION
- ⑪ 6" PERFORATED UNDERDRAIN (SEE STD. NO. MD 387.11, STD. 387.01 AND PAVEMENT LEGEND NOTE)

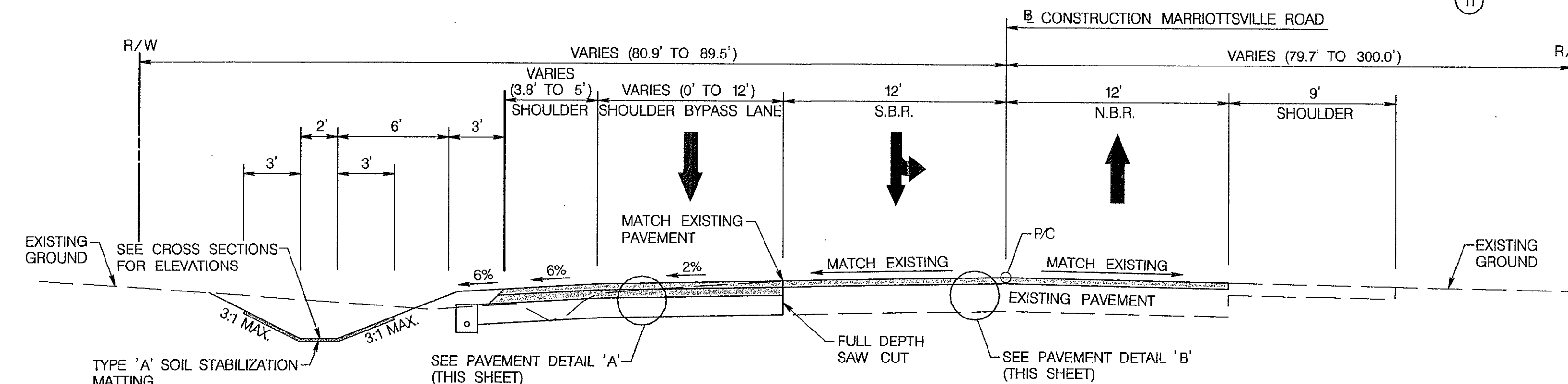
PAVEMENT LEGEND NOTE: ALL UNDERDRAIN SHALL BE WRAPPED WITH CLASS SD TYPE II NON WOVEN GEOTEXTILE



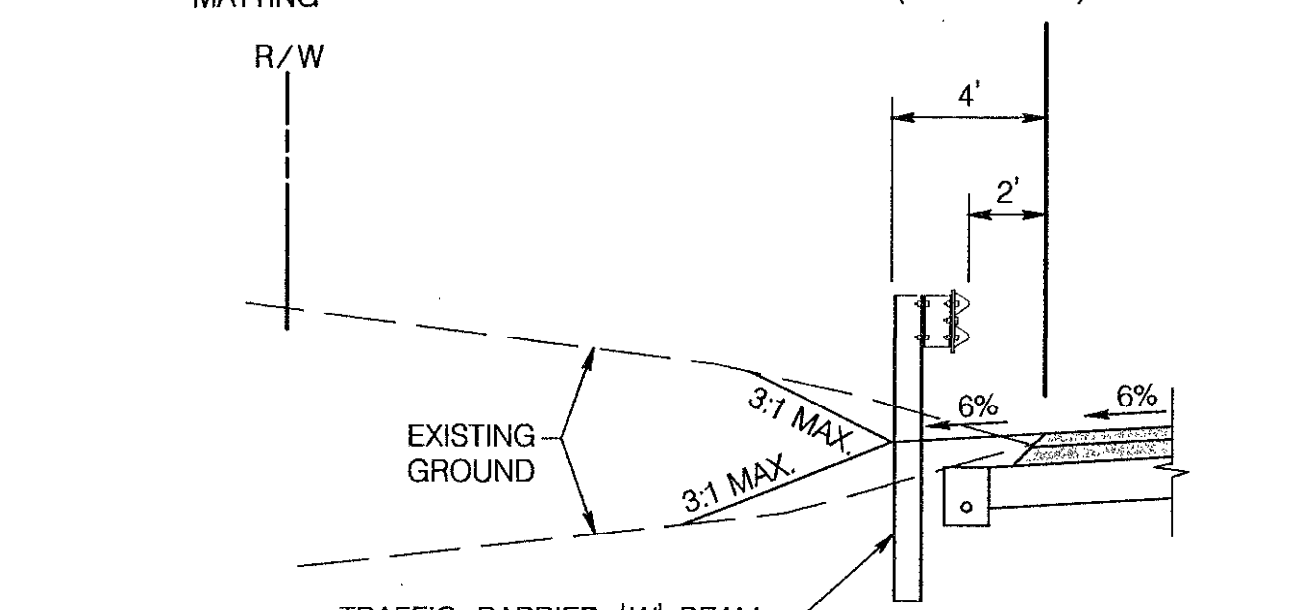
**TYPICAL SECTION - MARRIOTTVILLE ROAD**  
N.T.S.  
STA. 99+60 TO STA. 101+26



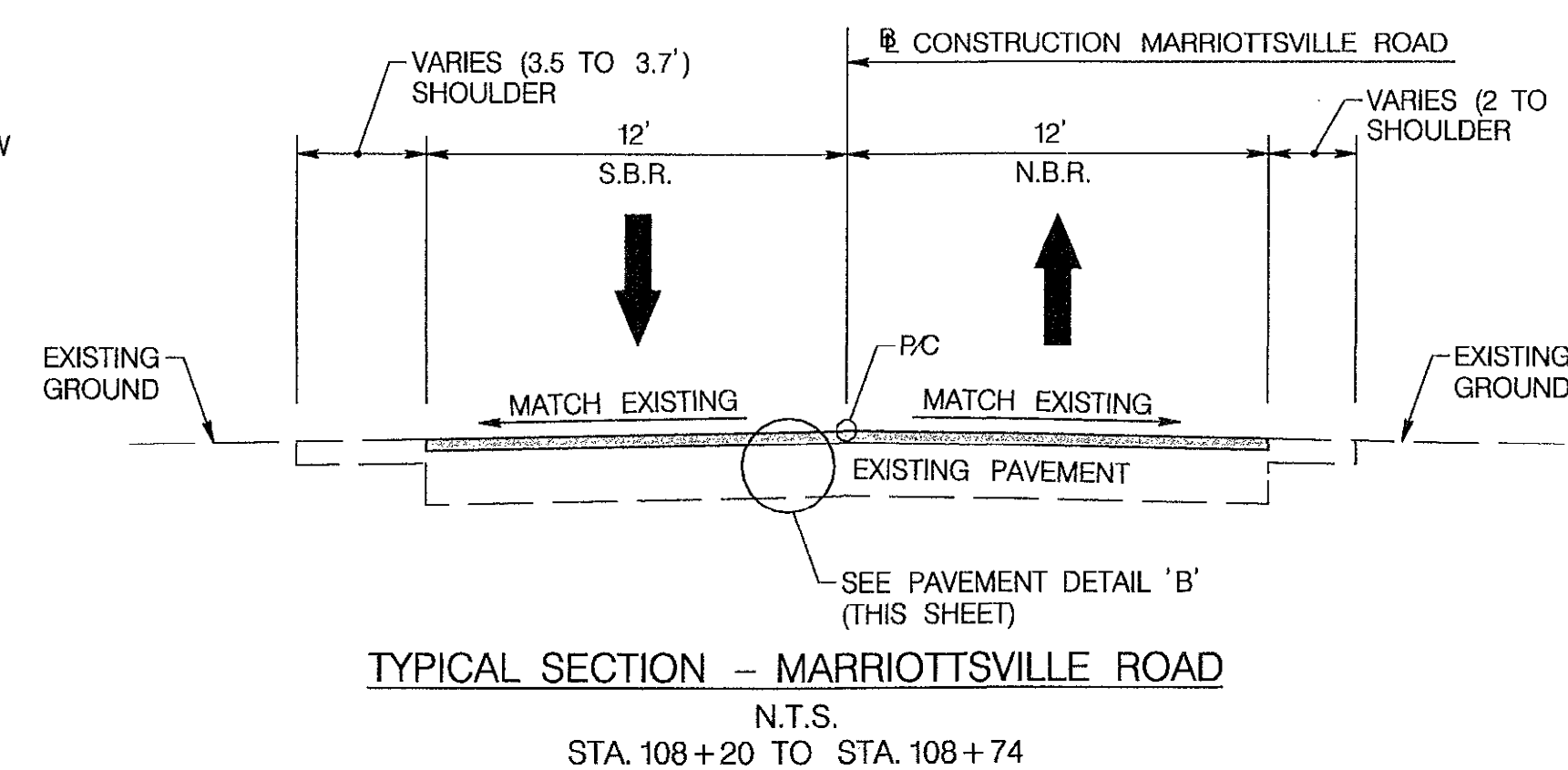
STA. 99+60 TO STA. 101+19



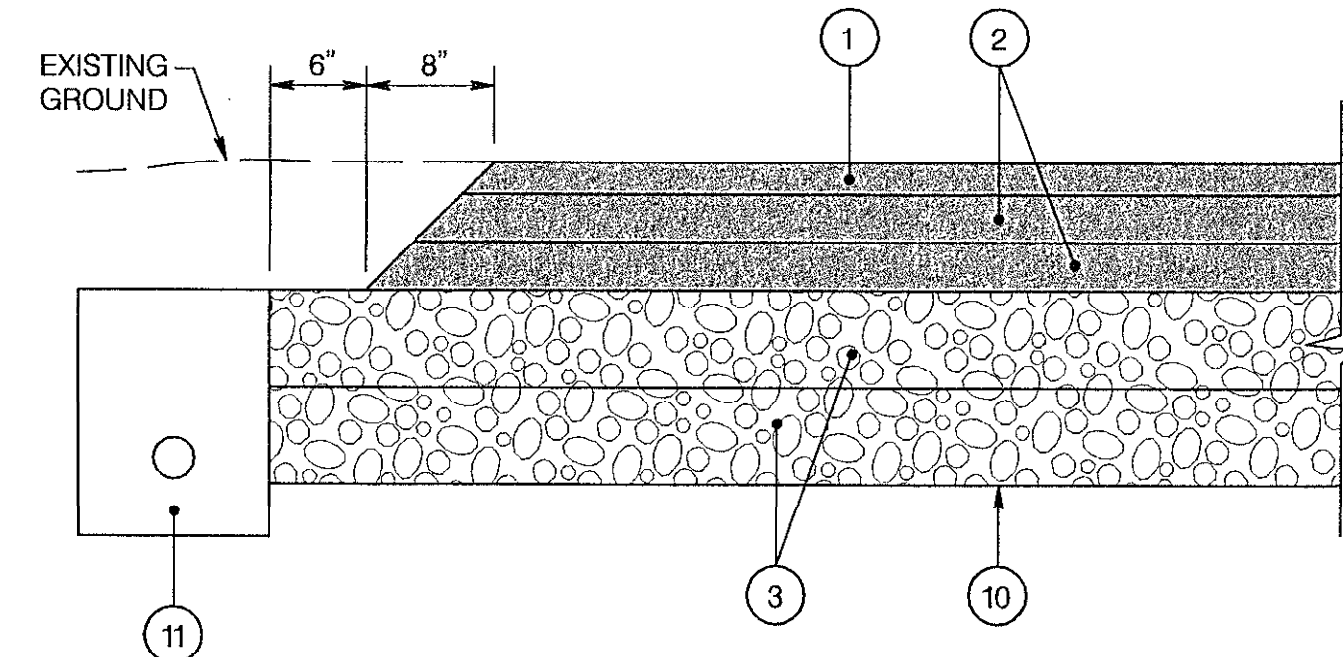
**TYPICAL SECTION - MARRIOTTVILLE ROAD**  
N.T.S.  
STA. 101+26 TO STA. 108+20



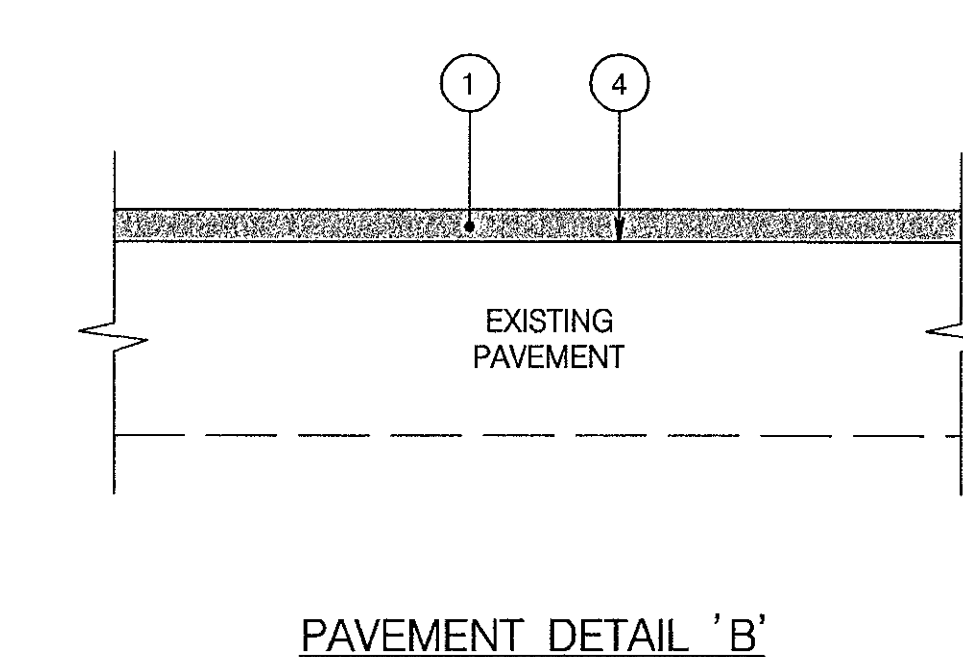
STA. 107+45 TO STA. 108+20



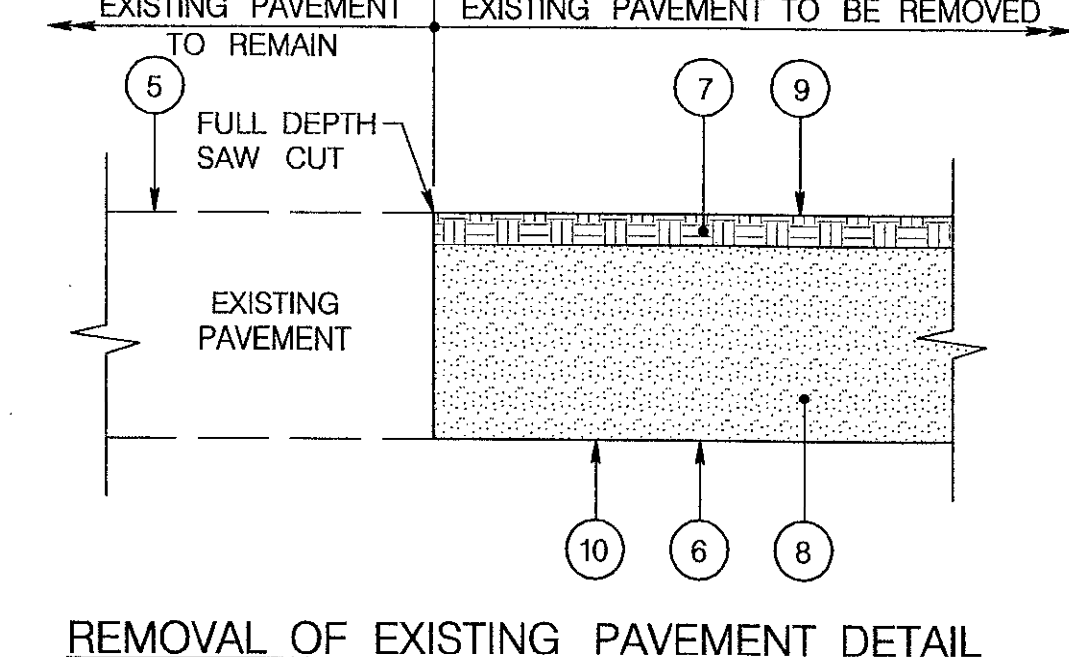
**TYPICAL SECTION - MARRIOTTVILLE ROAD**  
N.T.S.  
STA. 108+20 TO STA. 108+74



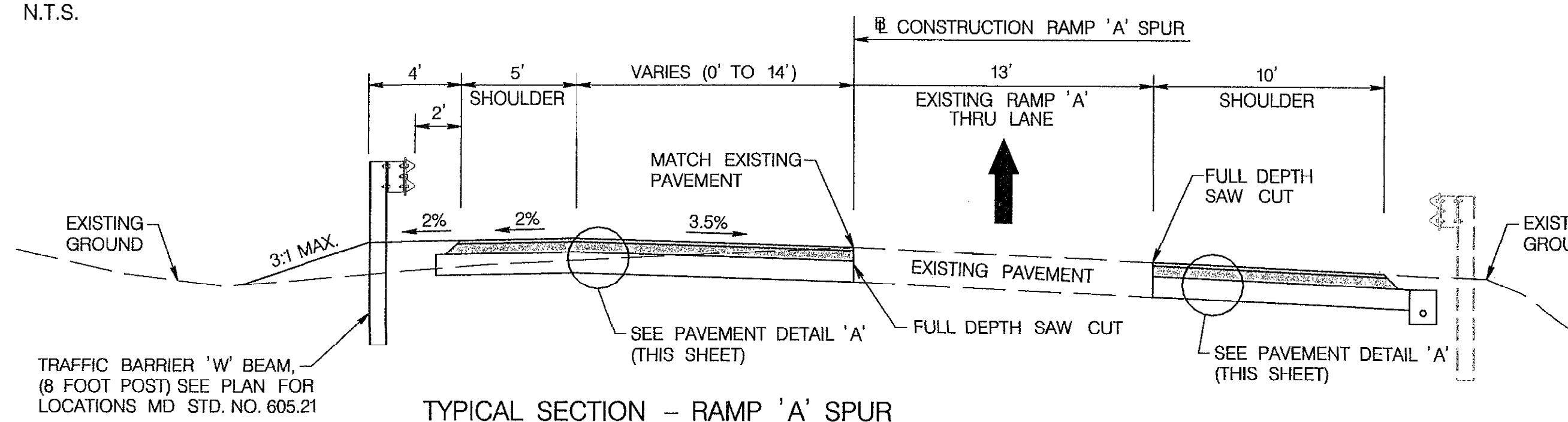
**PAVEMENT DETAIL 'A'**  
N.T.S.



**PAVEMENT DETAIL 'B'**  
N.T.S.



**REMOVAL OF EXISTING PAVEMENT DETAIL**  
N.T.S.

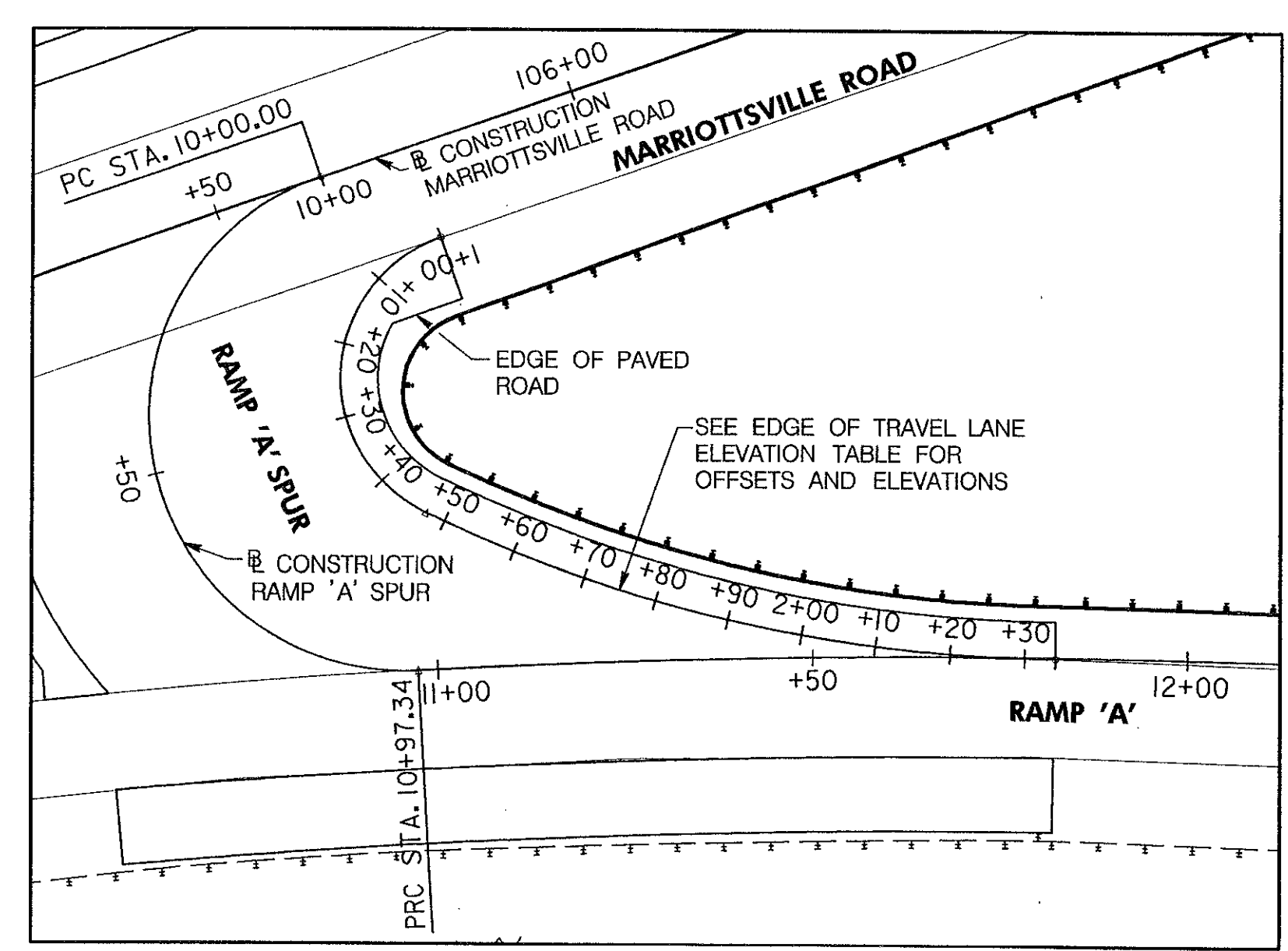


**TYPICAL SECTION - RAMP 'A' SPUR**  
N.T.S.  
STA. 10+95 TO STA. 11+82

**EDGE OF TRAVEL LANE ELEVATION TABLE  
MARRIOTTVILLE ROAD / RAMP 'A' SPUR**

EDGE OF TRAVEL LANE	EQUALITY STATION	BASELINE OFFSET	SHOULDER ELEVATION
1+00	105+77.14 (MARRIOTTVILLE ROAD)	12.96' RT.	480.26*
1+10	105+67.56 (MARRIOTTVILLE ROAD)	15.44' RT.	479.62
1+20	10+12.00 (RAMP 'A' SPUR)	21.43' LT.	479.00
1+30	10+42.82 (RAMP 'A' SPUR)	26.18' LT.	478.36
1+40	10+84.49 (RAMP 'A' SPUR)	24.74' LT.	478.17
1+50	11+01.89 (RAMP 'A' SPUR)	19.56' LT.	478.40
1+60	11+10.76 (RAMP 'A' SPUR)	15.21' LT.	478.36
1+70	11+19.90 (RAMP 'A' SPUR)	11.36' LT.	478.35
1+80	11+29.26 (RAMP 'A' SPUR)	8.04' LT.	478.35
1+90	11+38.82 (RAMP 'A' SPUR)	5.28' LT.	478.32
2+00	11+48.54 (RAMP 'A' SPUR)	3.07' LT.	478.31
2+10	11+58.38 (RAMP 'A' SPUR)	1.42' LT.	478.32
2+20	11+68.32 (RAMP 'A' SPUR)	0.35' LT.	478.35
2+30	11+78.31 (RAMP 'A' SPUR)	0.14' RT.	478.38*

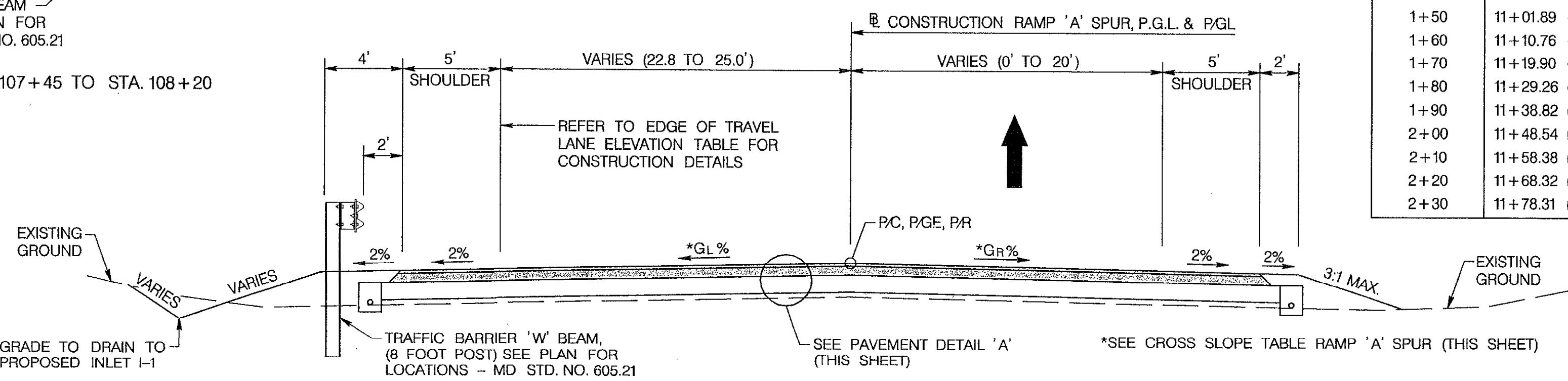
\*MATCH EXISTING ELEVATION



**RAMP 'A' SPUR EDGE OF TRAVEL LANE GEOMETRY**  
SCALE: 1" = 20'

**CROSS SLOPE TABLE  
RAMP 'A' SPUR**

STATION	G <sub>1</sub> %	G <sub>2</sub> %
10+30.71	2.0%	
10+39.76	1.2%	2.2%
10+67.66	1.1%	4.0%
10+95.37	3.5%	



**TYPICAL SECTION - RAMP 'A' SPUR**  
N.T.S.  
STA. 10+31 TO STA. 10+95

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. 21350, Expiration Date: 9-20-14

NOTES:  
PLACE 2" TOPSOIL, SEED AND MULCH ON ALL ROADSIDE AND SLOPE AREAS AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING ON SLOPES 2:1 OR GREATER.

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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Thomas E. ...* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve Shuman* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com

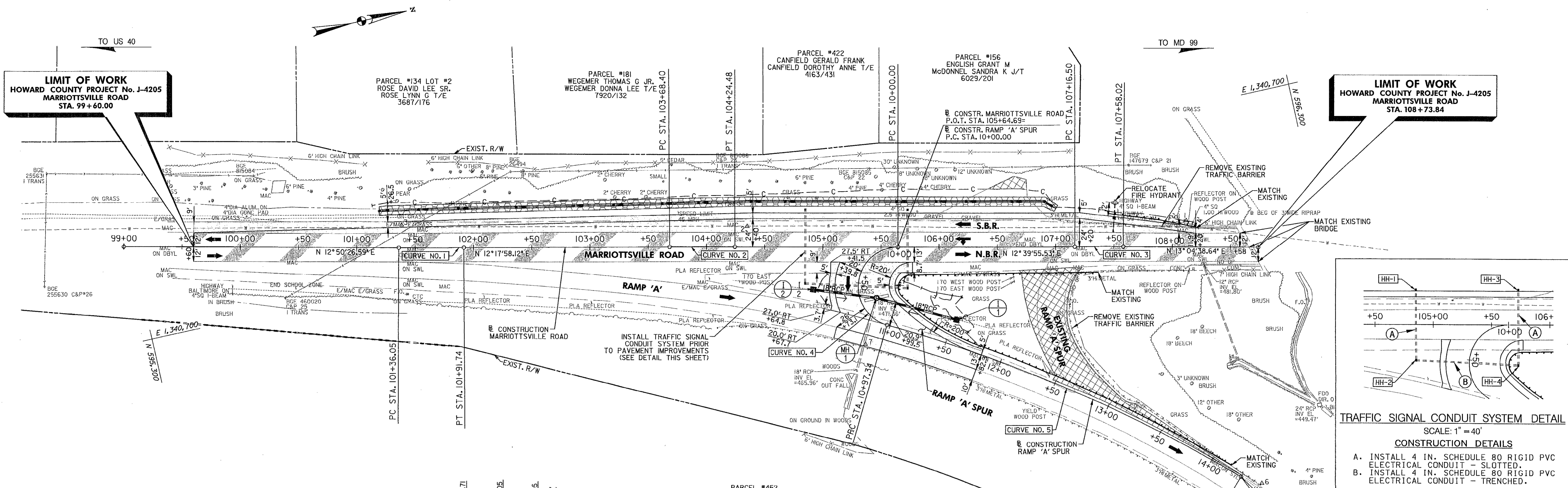
PROFESSIONAL ENGINEER  
2-4-13

DES: RDB	
GRN: CSC	
CHK: SMH	
DATE: JUNE 2012	
BY: NO.	
REVISION	

**MISCELLANEOUS DETAILS**

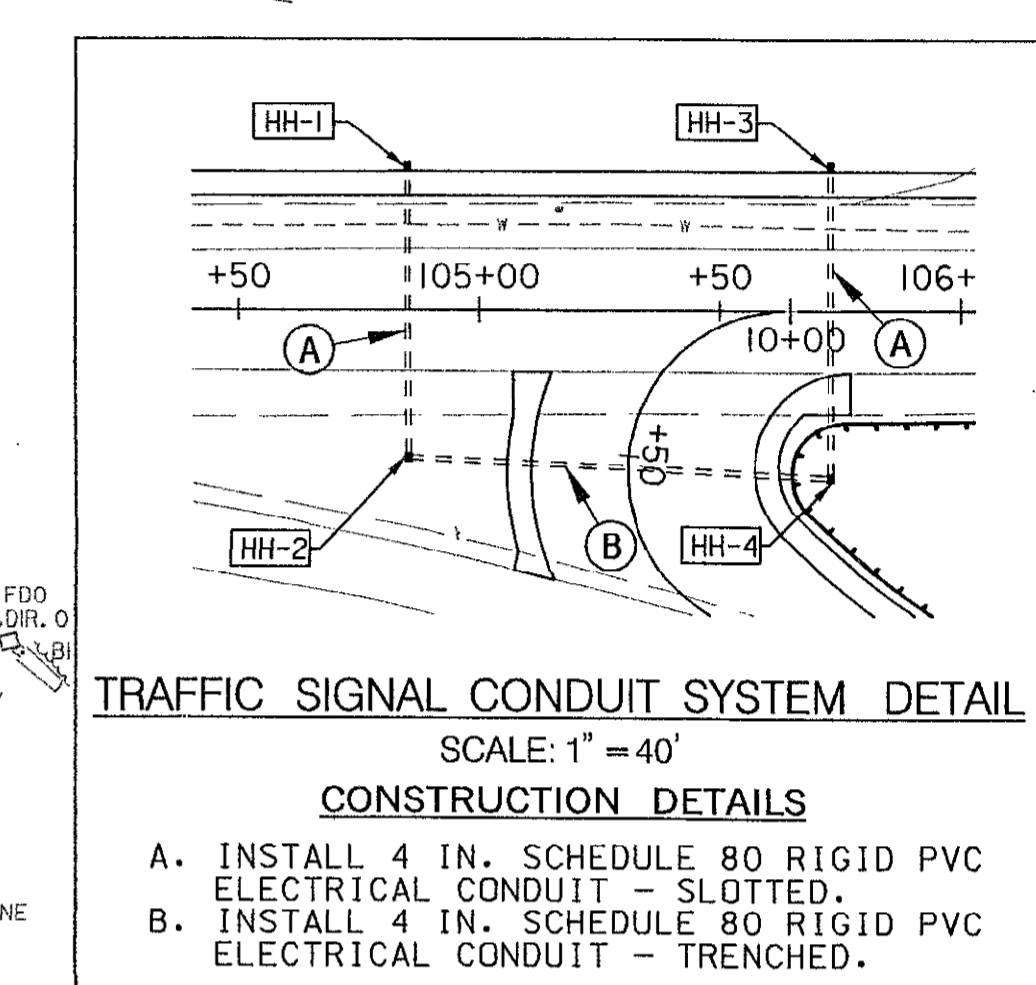
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

DE-I  
SCALE: AS SHOWN  
SHEET 2 OF 7



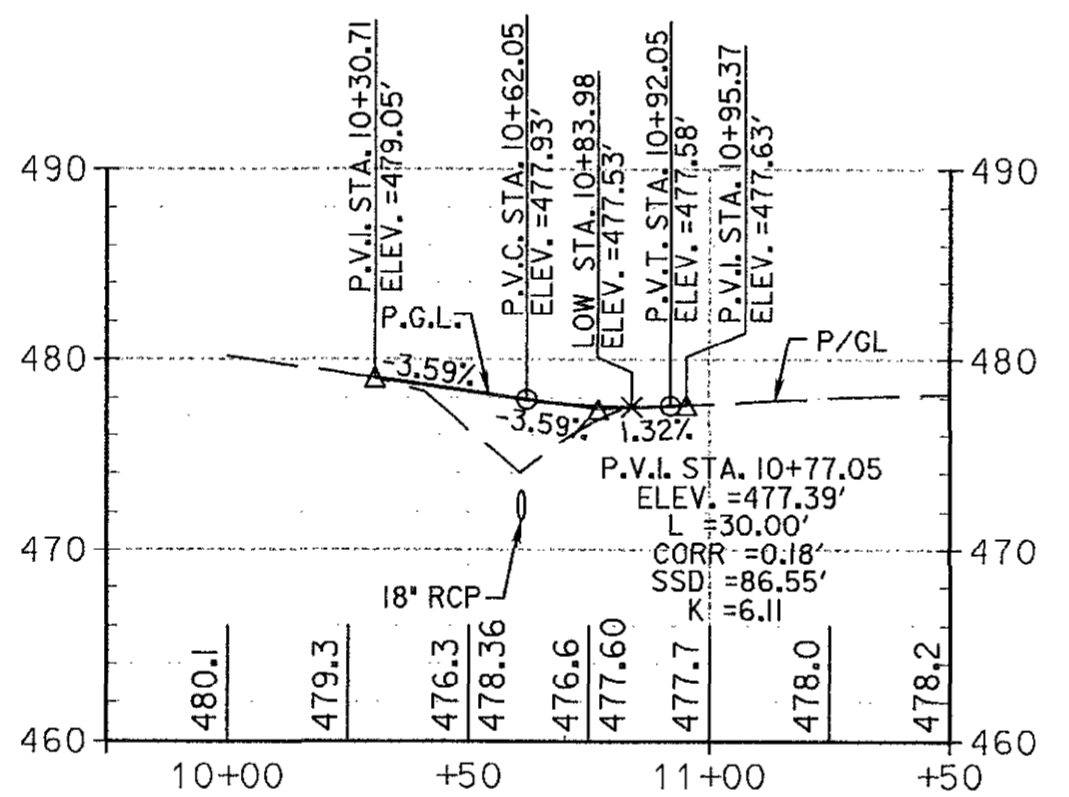
**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARIOTTVILLE ROAD  
STA. 108+73.84



**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
RAMP 'A' SPUR  
STA. 14+29.25

BASELINE COORDINATES			
POINT NO.	STATION	NORTH	EAST
<b>MARIOTTVILLE ROAD</b>			
P.O.B.	99+00.00	595,293.749	1,340,617.339
P.C.	101+36.05	595,523.899	1,340,669.800
P.T.	101+91.74	595,578.251	1,340,681.919
P.C.	103+68.40	595,750.857	1,340,719.551
P.T.	104+24.48	595,805.608	1,340,731.672
P.O.T.	105+64.69	595,942.407	1,340,762.414
P.C.	107+16.50	596,090.522	1,340,795.700
P.T.	107+58.02	596,131.003	1,340,804.950
P.O.E.	108+73.84	596,243.817	1,340,831.155
<b>RAMP 'A' SPUR</b>			
P.C.	10+00.00	595,942.407	1,340,762.414
P.R.C.	10+97.34	595,918.664	1,340,825.432
P.T.	14+29.25	596,186.038	1,341,020.479



- REMOVAL OF EXISTING CONCRETE CURB**  
150 L.F. CONSTR. - MARIOTTVILLE ROAD/RAMP 'A' SPUR - STA 106+68 TO STA. 14+29 RT./LT.
- REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM**  
250 L.F. CONSTR. - MARIOTTVILLE ROAD/RAMP 'A' SPUR - STA 107+36 TO STA. 14+29 RT./LT.  
125 L.F. CONSTR. - MARIOTTVILLE ROAD - STA. 106+97 TO STA. 108+18 LT.
- TRAFFIC BARRIER W BEAM**  
525 L.F. CONSTR. - MARIOTTVILLE ROAD/RAMP 'A' SPUR - STA 107+36 TO STA. 14+17 RT./LT.  
25 L.F. CONSTR. - MARIOTTVILLE ROAD - STA. 107+95 TO STA. 108+20
- TYPE 'C' TRAFFIC BARRIER END TREATMENT**  
1 EA CONSTR. - MARIOTTVILLE ROAD - STA 107+45 TO STA. 107+95 LT.
- 6" PERFORATED UNDERDRAIN**  
780 L.F. CONSTR. - MARIOTTVILLE ROAD - STA 101+60 TO STA. 107+80 LT.  
50 L.F. CONSTR. - RAMP 'A' SPUR - STA. 10+00 TO STA. 11+82 RT.  
110 L.F. CONSTR. - RAMP 'A' SPUR - STA. 10+41 TO STA. 10+65 LT.  
125 L.F. CONSTR. - RAMP 'A' SPUR - STA. 10+73 TO STA. 11+82 RT.

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
1	596,188.518	1,340,795.500	485.42
2	595,819.710	1,340,717.072	475.25
3	595,530.363	1,340,651.674	463.32
4	594,716.343	1,340,471.149	440.85
5	593,868.600	1,340,303.897	449.14
6	596,202.234	1,341,029.779	473.84
7	595,896.956	1,340,837.639	476.42
12	596,502.760	1,340,864.365	486.20
16	593,250.964	1,340,192.701	463.89

CURVE DATA							
CURVE	P.I. STATION	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
<b>MARIOTTVILLE ROAD</b>							
1	101+63.90	0° 32' 28.47" LT.	0° 58' 18.98"	5,895.00'	27.84'	55.69'	0.07'
2	103+96.44	0° 21' 57.41" RT.	0° 39' 09.26"	8,780.00'	28.04'	56.08'	0.05'
3	107+37.26	0° 24' 43.11" RT.	0° 59' 31.69"	5,775.00'	20.76'	41.52'	0.04'
<b>RAMP 'A' SPUR</b>							
4	12+42.56	164° 02' 30.40" LT.	168° 31' 01.19"	34.00'	242.56'	97.34'	210.94'
5	12+64.25	14° 58' 25.06" RT.	4° 30' 41.32"	1,270.00'	166.90'	331.90'	10.92'

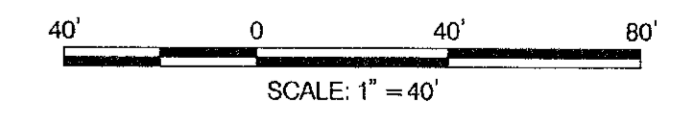
STRUCTURE SCHEDULE							
NO.	STATION	OFFSET	BASELINE	DEPTH	MD STANDARD NO., TYPE	T.S.	REMARKS
I-1	11+52.70	21.96' LT.	RAMP 'A' SPUR	3.25'	MD-378.II, DBL OPENING TYPE 'K'	476.0'	
I-2	10+54.43	38.75' RT.	RAMP 'A' SPUR	2.50'	MD-378.II, DBL OPENING TYPE 'K'	474.5'	
MH-1	10+69.59	13.4' LT.	RAMP 'A' SPUR	6.50'	MD-384.OI, 48" DIA. PRECAST MANHOLE	477.9'	REPLACE EXISTING INLET WITH MANHOLE

PIPE SCHEDULE							
FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT	REMARKS
I-1	MH-1	18"	CLASS IV RCP	72'	472.8'	471.5'	
I-2	MH-1	18"	CLASS IV RCP	55'	472.0'	471.5'	

TRAFFIC SIGNAL CONDUIT SYSTEM SCHEDULE				
NO.	STATION	OFFSET	BASELINE	MD STANDARD NO.
HH-1	104+85	30' LT.	CONSTR. - MARIOTTVILLE ROAD	MD-811.OI-03
HH-2	104+85	31' RT.	CONSTR. - MARIOTTVILLE ROAD	MD-811.OI-03
HH-3	105+73	30' LT.	CONSTR. - MARIOTTVILLE ROAD	MD-811.OI-03
HH-4	105+73	35' RT.	CONSTR. - MARIOTTVILLE ROAD	MD-811.OI-03

**TYPE 'A' SOIL STABILIZATION MATTING**  
520 S.Y. CONSTR. - MARIOTTVILLE ROAD - STA 101+17 TO STA. 107+00 LT.

- LEGEND**
- FULL DEPTH HMA PAVEMENT
  - HMA GRINDING AND RESURFACING
  - REMOVAL OF EXISTING PAVEMENT
  - TYPE 'A' SOIL STABILIZATION MATTING
  - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT



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.  
21850  
9-20-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Lauren* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Thomas & Butler* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve Shaw* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 300  
Baltimore, MD 21244  
www.stvinc.com

PROFESSIONAL ENGINEER  
2-4-13

DES: RDB	BY: MDL	REVISION	DATE:
DRN: CSC			
CHK: SRH			
DATE: JUNE 2012			

**ROADWAY PLAN**

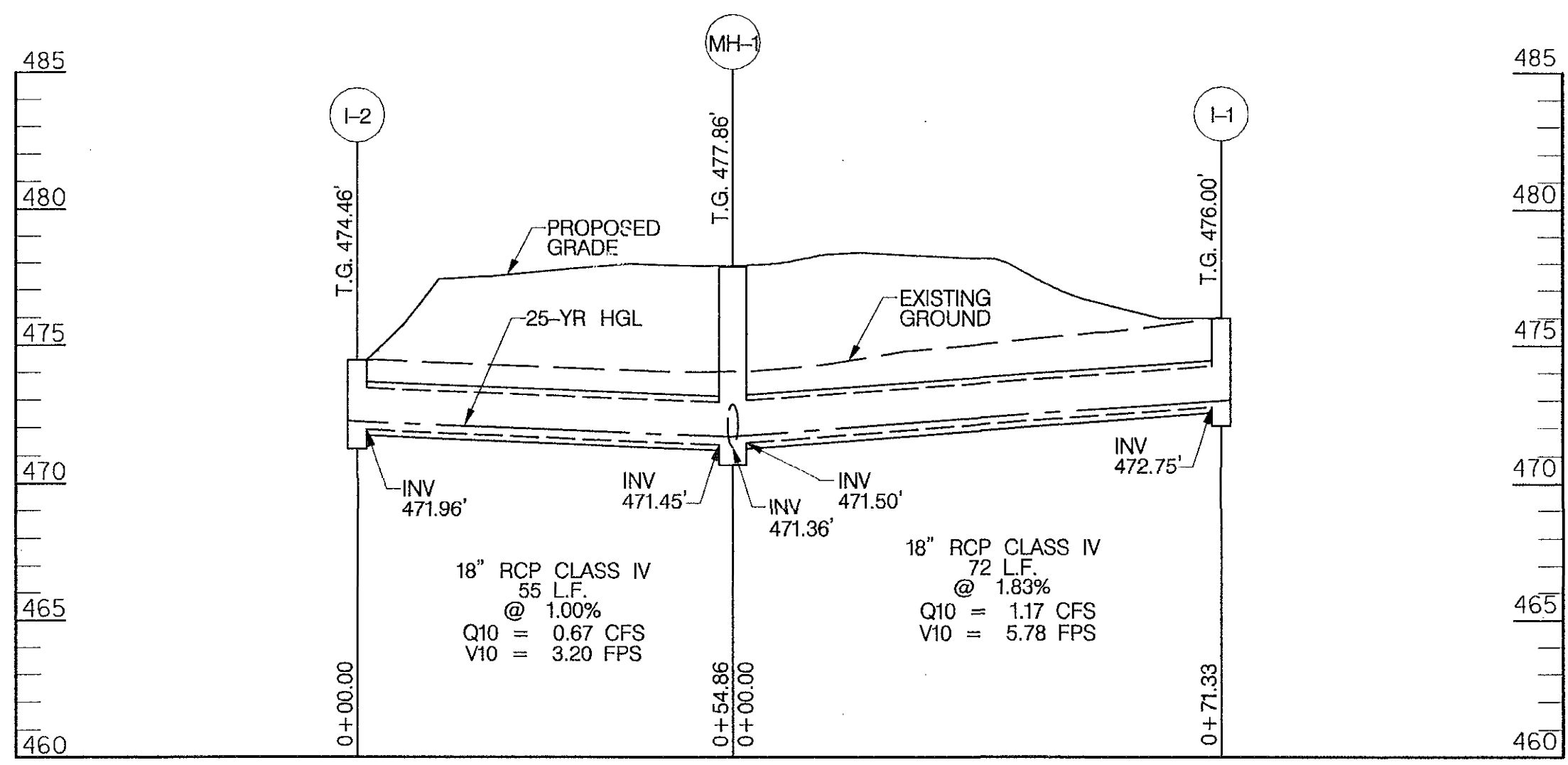
MD-300 SCALE MAP NO. BLOCK NO.

MARIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION

HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

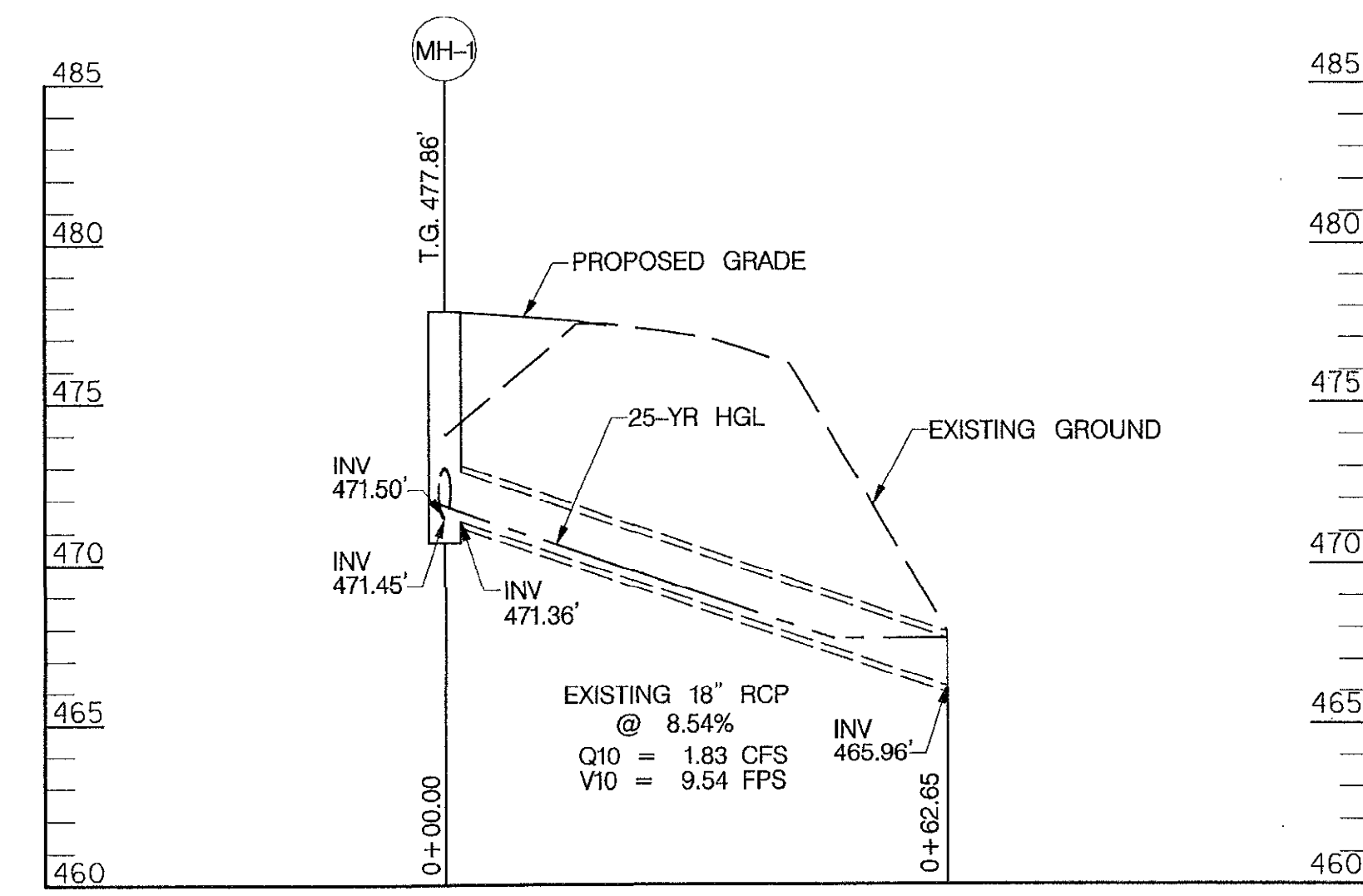
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SHEET 3 OF 7

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PIPE PROFILE - I-2 TO I-1

SCALE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 5'



PIPE PROFILE - MH-1 TO EX. OUTFALL

SCALE:  
 HORIZONTAL: 1" = 20'  
 VERTICAL: 1" = 5'

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. 21350, Expiration Date: 9-20-14

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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

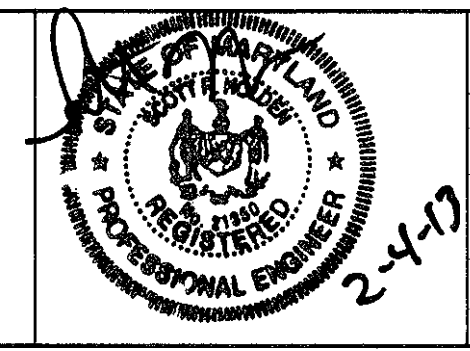
*James Wilson* 2/8/13  
 DIRECTOR OF PUBLIC WORKS DATE

*Steve Sharaw* 2/4/13  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Thomas K. Butler* 2/15/13  
 CHIEF, BUREAU OF ENGINEERING DATE

*Steve Sharaw* 2/4/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stvinc.com



DES: RDB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY: NO.	
REVISION	
DATE	

STORM DRAIN PROFILES

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

DP-1

SCALE:  
 AS SHOWN

SHEET  
 4 OF 7

**STANDARD SEDIMENT CONTROL NOTES**

- 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 (313-1855).
- 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 EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR 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.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 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 PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:
 

TOTAL AREA OF SITE	4.95	ACRES
AREA DISTURBED	1.11	ACRES
AREA TO BE ROOFED OR PAVED	0.12	ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.00	ACRES
TOTAL CUT	3260	CU. YDS.
TOTAL FILL	735	CU. YDS.

 OFFSITE WASTE/BORROW AREA LOCATION: \_\_\_\_\_
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- 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:

- PREFERRED -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONES (92 LBS./1000 SQ.FT.) AND 600 LBS./ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
- ACCEPTABLE -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS./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 PERIODS 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 (0.5 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 SLOPE 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 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 PERIOD MARCH 1 -- APRIL 30 AND FROM AUGUST 15 -- OCTOBER 15, SEED WITH 2 1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.). THE FOR PERIOD MAY 1 -- AUGUST 14, SEED WITH 3 LBS/ACRE OF WEEPING LOVEGRASS (0.7 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 GAL. PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. 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.

**SEDIMENT CONTROL**

( ) 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."

*Steve Sharav*  
SIGNATURE OF DEVELOPER  
PRINT NAME BELOW SIGNATURE  
**Steve Sharav**

**2/4/13**  
DATE

( ) 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"

*Scott Holden*  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE  
**Scott Holden**

**2-4-13**  
DATE

( ) FOR THE HOWARD SOIL CONSERVATION DISTRICT:

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

*John P. ...*  
HOWARD SOIL CONSERVATION DISTRICT

**2/17/13**  
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. **2-1350**, Expiration Date: **9-20-14**

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan N. ...*  
DIRECTOR OF PUBLIC WORKS  
**2/6/13**  
DATE

*Thomas E. Butler*  
CHIEF, BUREAU OF ENGINEERING  
**2/6/13**  
DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com



DES: ROB  
GRN: CSC  
CHK: SRH  
DATE: JUNE 2012

**EROSION AND SEDIMENT CONTROL NOTES**

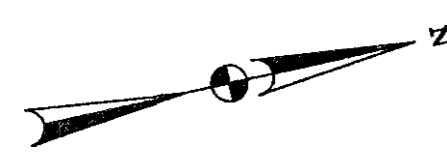
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

ES-1

SCALE:  
AS SHOWN

SHEET  
**5 OF 7**

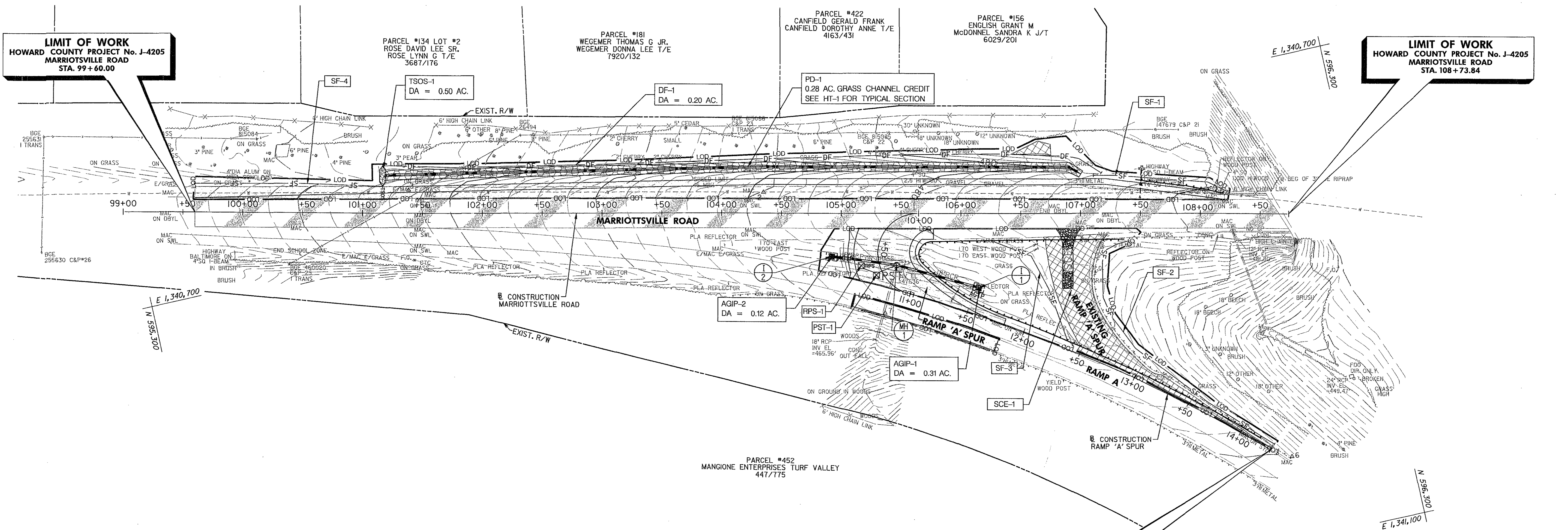
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**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
RAMP 'A' SPUR  
STA. 14+29.25



**SEQUENCE OF CONSTRUCTION**

1. CONSTRUCT DIVERSION FENCE (DF-1) FROM STA 101+17 TO STA 107+17 LT.
2. CONSTRUCT SILT FENCE (SF-1 AND SF-4) AS SHOWN.
3. CONSTRUCT TEMPORARY STONE OUTLET STRUCTURE (TSOS-1) AS SHOWN.
4. RELOCATE EXISTING FIRE HYDRANT AS SHOWN ON DWG. HD-01.
5. BEGIN FULL DEPTH PAVING FROM STA 99+60 TO STA 108+20 LT AND CONSTRUCT PROPOSED GRASS CHANNEL (PD-1) AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING.
6. UPON COMPLETION OF THE FULL DEPTH PAVING AND GRASS CHANNEL, STABILIZE ANY REMAINING DISTURBED AREAS, AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE TSOS-1, SF-1, SF-4, DF-1 AND STABILIZE THESE AREAS.
7. CONSTRUCT I-1, I-2, MH-1 AND PROPOSED STORM DRAIN AS SHOWN. FOR PIPE PROFILES REFER TO DWG. DP-1.
8. INSTALL AGIP-1 AND AGIP-2 AS SHOWN.
9. CONSTRUCT PROPOSED RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. A REMOVABLE PUMPING STATION (RPS-1) AND PORTABLE SEDIMENT TANK (PST-1) SHALL BE USED TO REMOVE ANY STANDING WATER FROM THE WORK ZONE IF NECESSARY.
10. INSTALL SILT FENCES (SF-2 AND SF-3) AS SHOWN.
11. UPON COMPLETION OF THE PROPOSED RAMP 'A' SPUR, CONSTRUCT SCE-1 AS SHOWN AND BEGIN EXCAVATION OF THE EXISTING RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. DURING EXCAVATION, THE CONTRACTOR SHALL ENSURE THAT EXISTING DRAINAGE PATTERNS ARE MAINTAINED ALONG THE EXISTING RAMP.
12. UPON COMPLETION OF EXCAVATION, STABILIZE ANY REMAINING DISTURBED AREAS AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE ANY REMAINING PERIMETER CONTROLS AND STABILIZE THESE AREAS.

SILT FENCE (SF)	
115 L.F.	(SF-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 107+10 TO 108+22 LT.
255 L.F.	(SF-2) @ CONSTR - MARRIOTTVILLE ROAD - STA 107+40 RT. TO @ CONSTR. RAMP 'A' STA 14+29 LT.
110 L.F.	(SF-3) @ CONSTR - RAMP 'A' - STA 11+52 TO 12+36 LT.
158 L.F.	(SF-4) @ CONSTR - MARRIOTTVILLE ROAD - STA 99+60 TO 101+17 LT.

STABILIZED CONSTRUCTION ENTRANCE (SCE)	
30 TONS	(SCE-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 106+92, 17.6' RT.

DIVERSION FENCE (DF)	
610 L.F.	(DF-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 101+17 TO 107+17 LT.

TEMPORARY STONE OUTLET STRUCTURE (TSOS)	
1 EA.	(TSOS-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 101+17, 31.2' LT.

AT-GRADE INLET PROTECTION (AGIP)	
1 EA.	(AGIP-1) @ CONSTR - RAMP 'A' - STA 11+53, 22.0' LT.
1 EA.	(AGIP-2) @ CONSTR - RAMP 'A' - STA 10+55, 38.8' RT.

REMOVABLE PUMPING STATION (RPS)	
1 EA.	(RPS-1) TO BE PLACED AS NEEDED IN THE FIELD

PORTABLE SEDIMENT TANK (PST)	
1 EA.	(PST-1) TO BE PLACED AS NEEDED IN THE FIELD

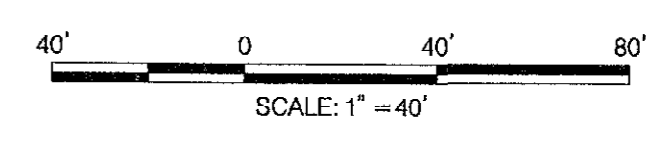
- LEGEND**
- FULL DEPTH HMA PAVEMENT
  - HMA GRINDING AND RESURFACING
  - REMOVAL OF EXISTING PAVEMENT (PAID FOR AS CLASS I EXCAVATION)
  - TYPE 'A' SOIL STABILIZATION MATTING

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY COMMISSION DISTRICT.

Approved: *[Signature]* 2/14/13  
Howard S.C.D. 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. 21350 Expiration Date: 9-2014



I:\PROJECTS\032624\032624\_001\Drawings\TRAFILES\001\_Marr.rvt

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*[Signature]* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 2/8/13  
CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 2/6/13  
CHIEF, BUREAU OF ENGINEERING DATE

*[Signature]* 2/14/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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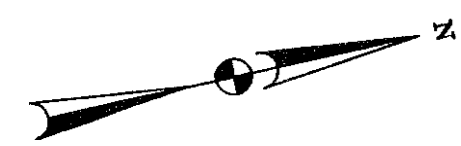
**PROFESSIONAL ENGINEER**  
*[Signature]* 2-14-13

DES: ROB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY: NO.	REVISION
DATE	600' SCALE MAP NO.
	BLOCK NO.

**EROSION AND SEDIMENT CONTROL PLAN**

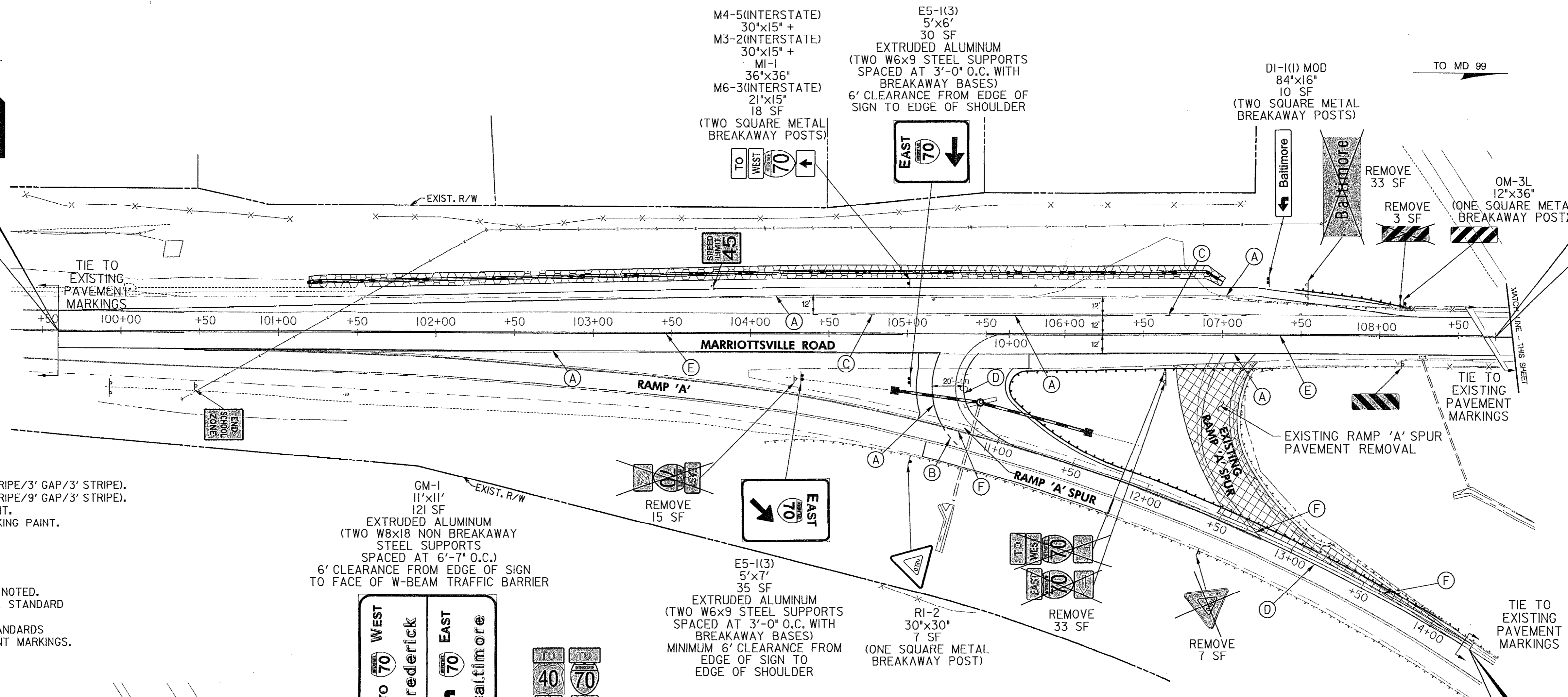
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

ES-2  
SCALE: AS SHOWN  
SHEET 6 OF 7



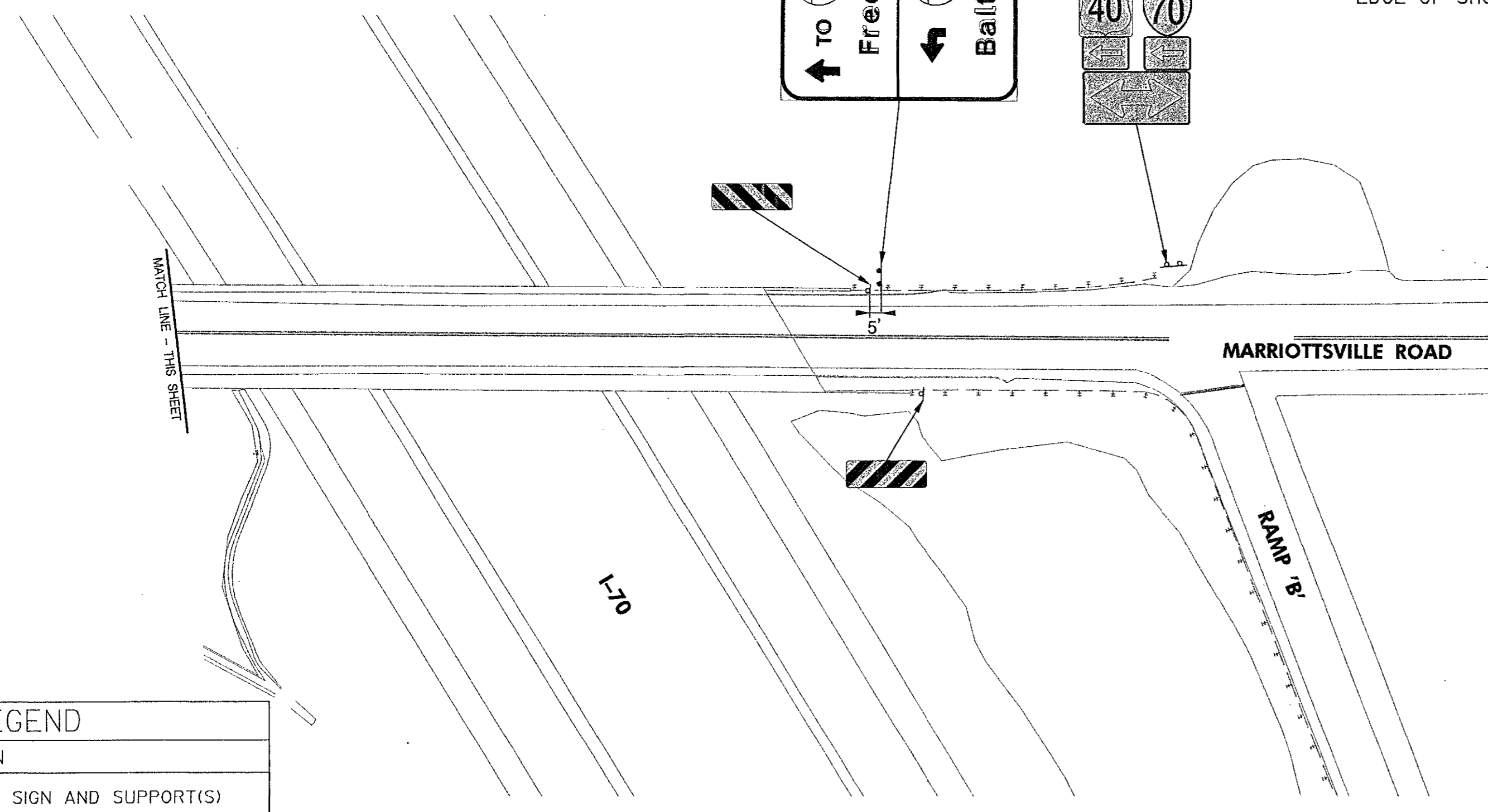
**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84



- PAVEMENT MARKING LEGEND**
- (A) 5 INCH SOLID WHITE PAVEMENT MARKING PAINT.
  - (B) 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/3' GAP/3' STRIPE).
  - (C) 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/9' GAP/3' STRIPE).
  - (D) 5 INCH SOLID YELLOW PAVEMENT MARKING PAINT.
  - (E) 5 INCH SOLID DOUBLE YELLOW PAVEMENT MARKING PAINT.
  - (F) REMOVE EXISTING PAVEMENT MARKINGS

- GENERAL NOTES**
1. EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.
  2. THE CONTRACTOR SHALL REFER TO THE MSHA STANDARD SIGN BOOK FOR STANDARD SIGN DETAILS.
  3. THE CONTRACTOR SHALL REFER TO MSHA STANDARDS FOR THE INSTALLATION OF SIGNS AND PAVEMENT MARKINGS.

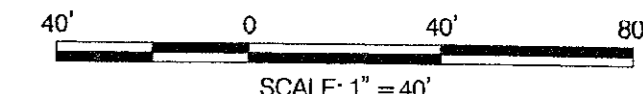


**SIGN DETAIL (NOT TO SCALE)**

PANEL DESIGNATION	QUANTITY	SIZE		COLOR		BORDER		ARROW	SHIELD
		AREA (S.F.)	WIDTH	HEIGHT	LEGEND BORDER	BACKGROUND	WIDTH		
GM-1	1	121	11'-0"	11'-0"	W	W	G	2"	12"

**LEGEND**

NOTES: 1. COLORS: G=GREEN, W=WHITE/SILVER.  
2. SEE SHA STANDARD SIGN BOOK FOR ARROW DETAILS.



**SIGNING LEGEND**

SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
	PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

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. 21350, Expiration Date: 9-26-14

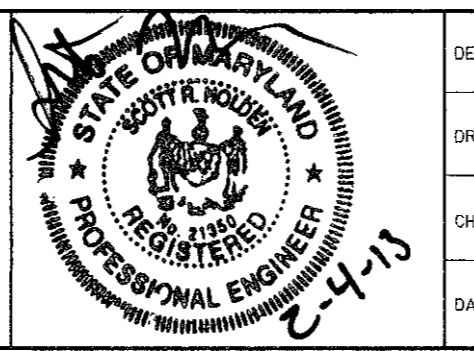
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Janet L. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Norman E. ...* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve ...* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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DES: RBG	BY NO.	REVISION
DRW: CSC		
CHK: SRH		
DATE: JUNE 2012		

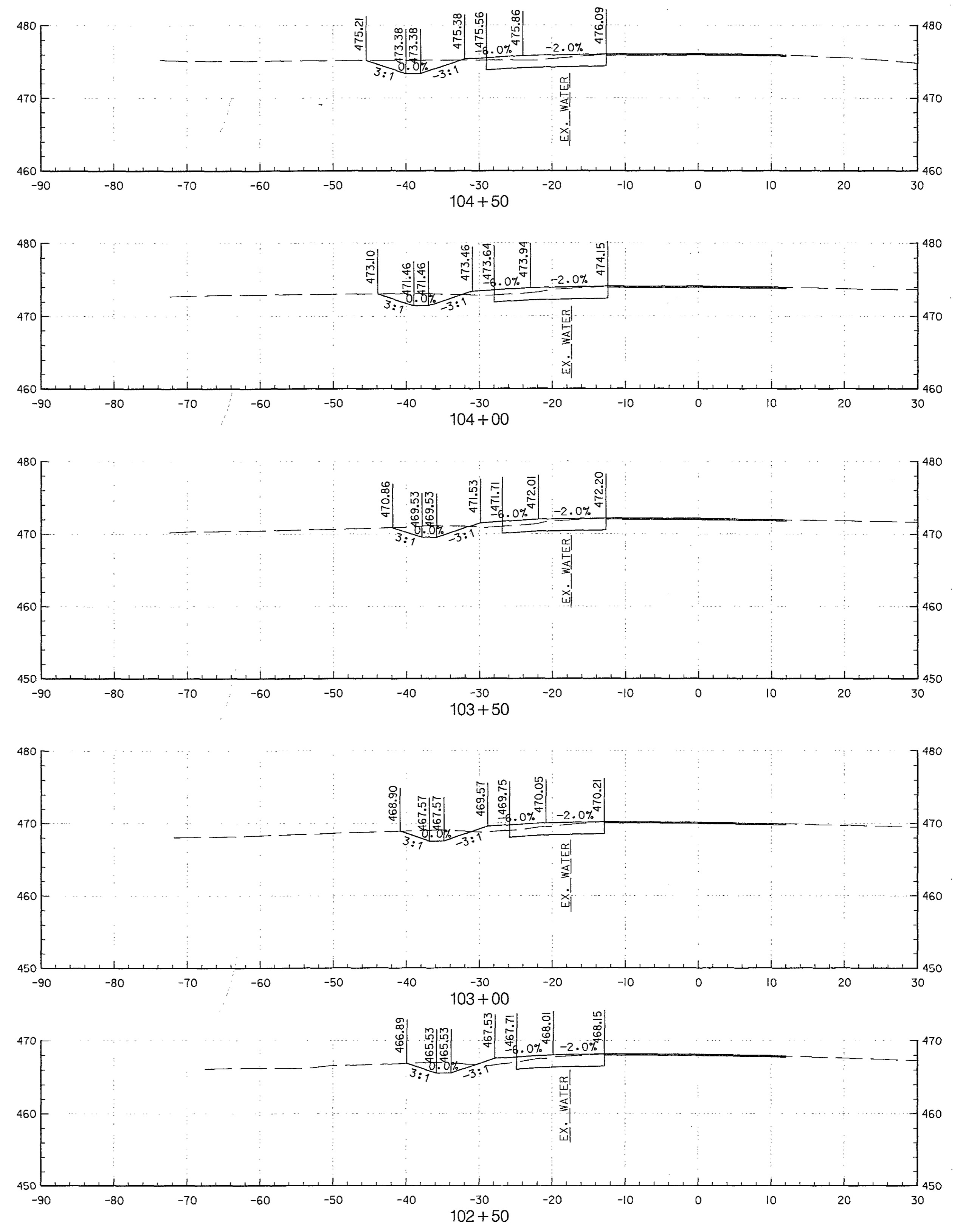
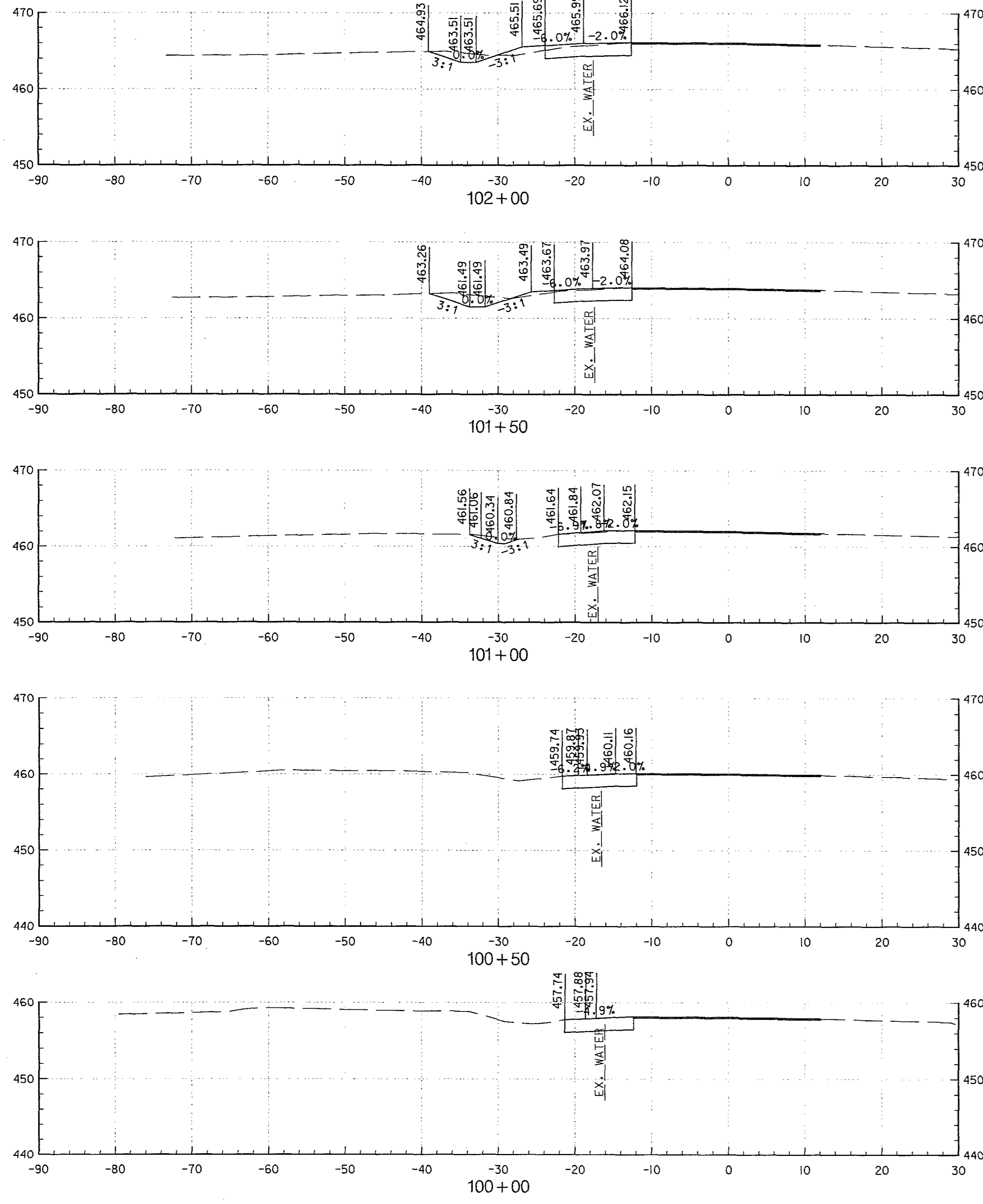
**SIGNING AND PAVEMENT MARKING PLAN**

DATE: 600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

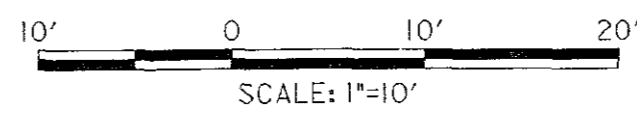
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS SHOWN

SHEET  
1 OF 1



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 License No. 21390, Expiration Date: 9-20-14



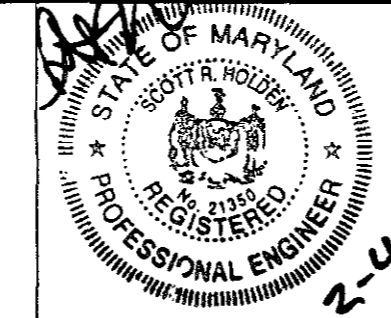
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DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John J. ...* 2/8/13  
 DIRECTOR OF PUBLIC WORKS DATE

*Steve Shaver* 2/4/13  
 CHIEF, BUREAU OF HIGHWAYS DATE

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 Baltimore, MD 21244  
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DES: ROB	BY: NO.	REVISION
DRN: CSC		
CHK: SRH		
DATE: JUNE 2012		

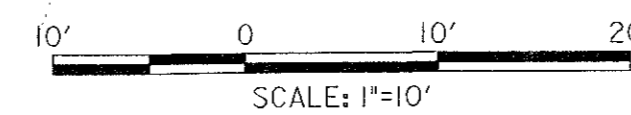
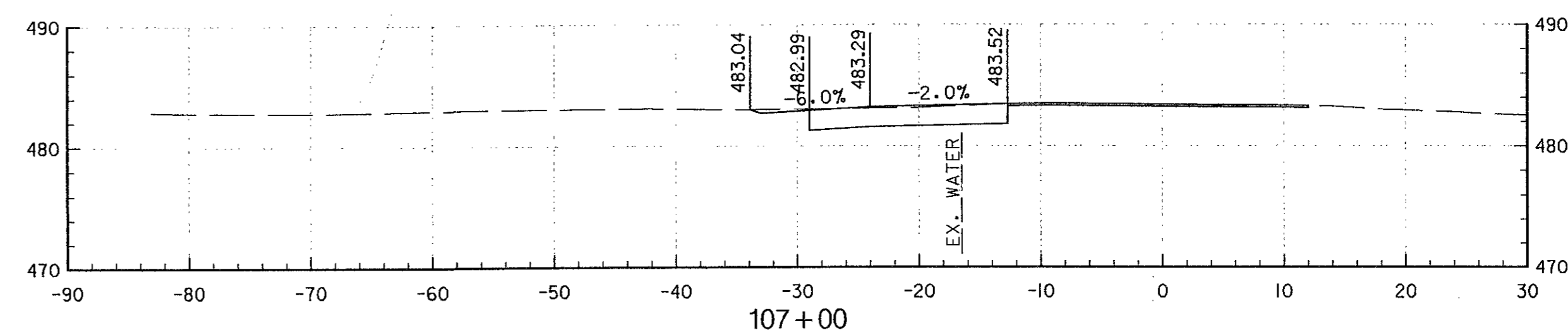
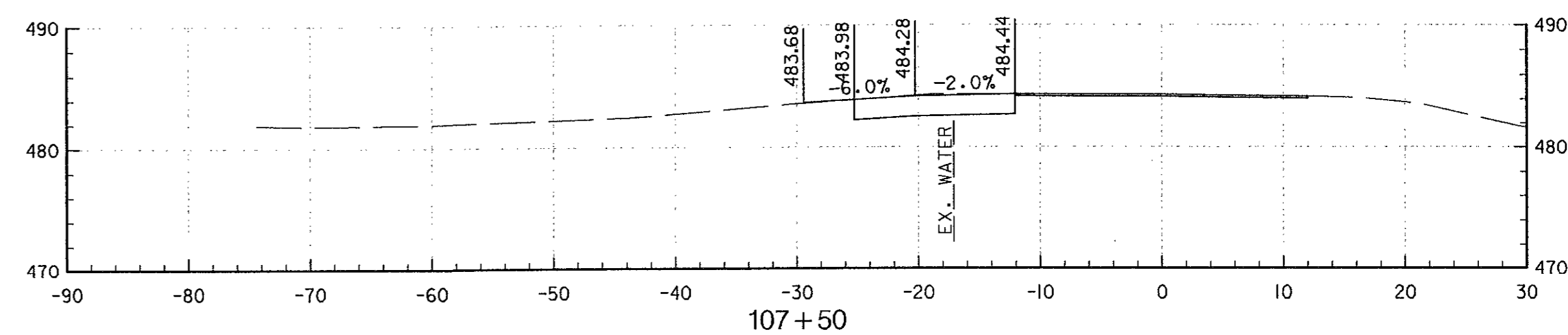
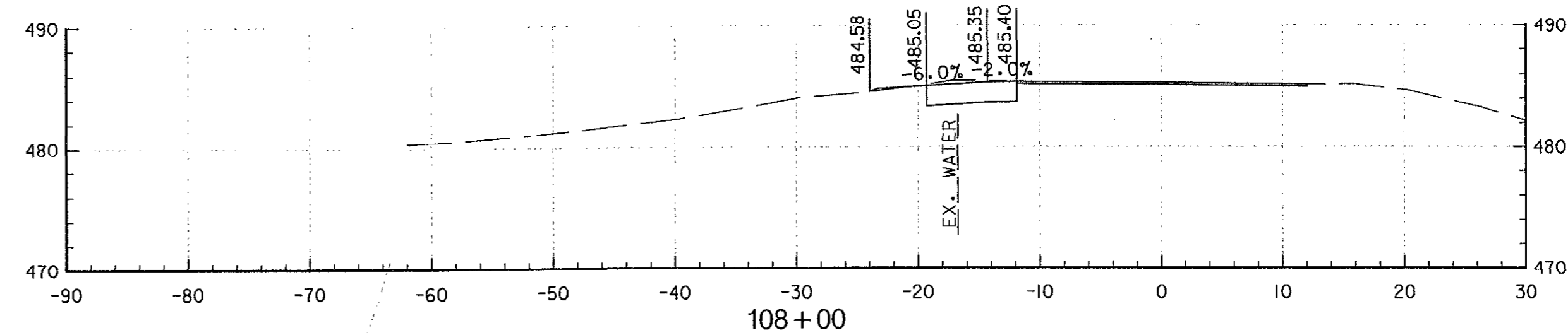
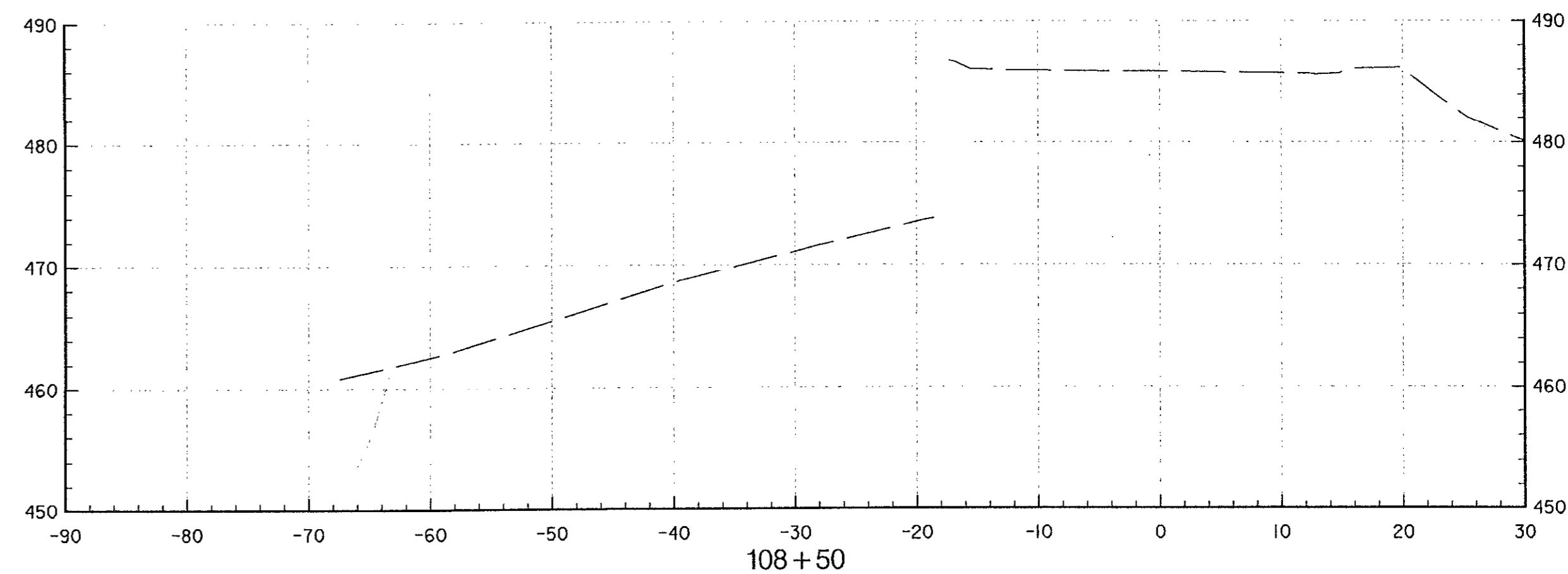
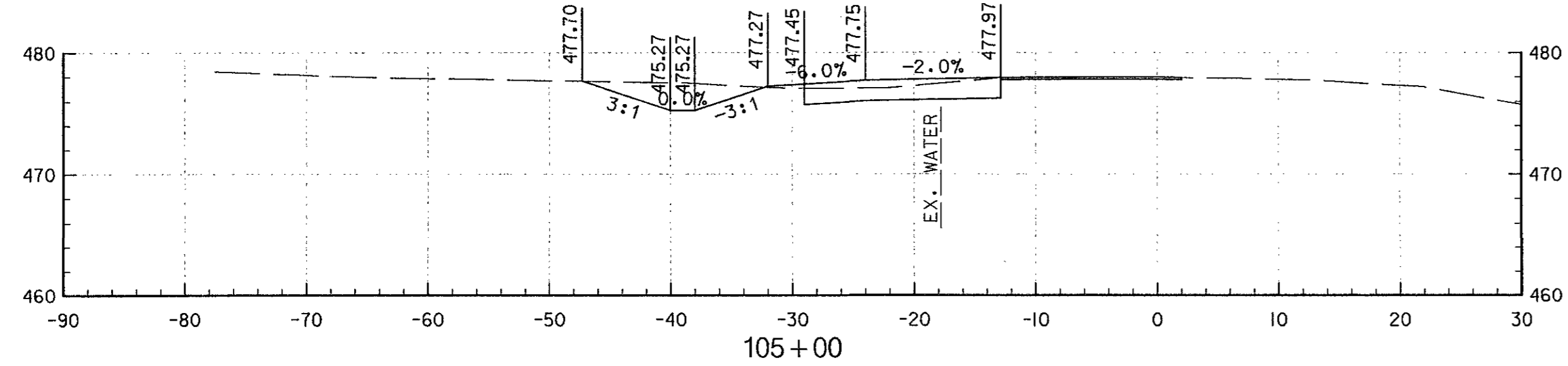
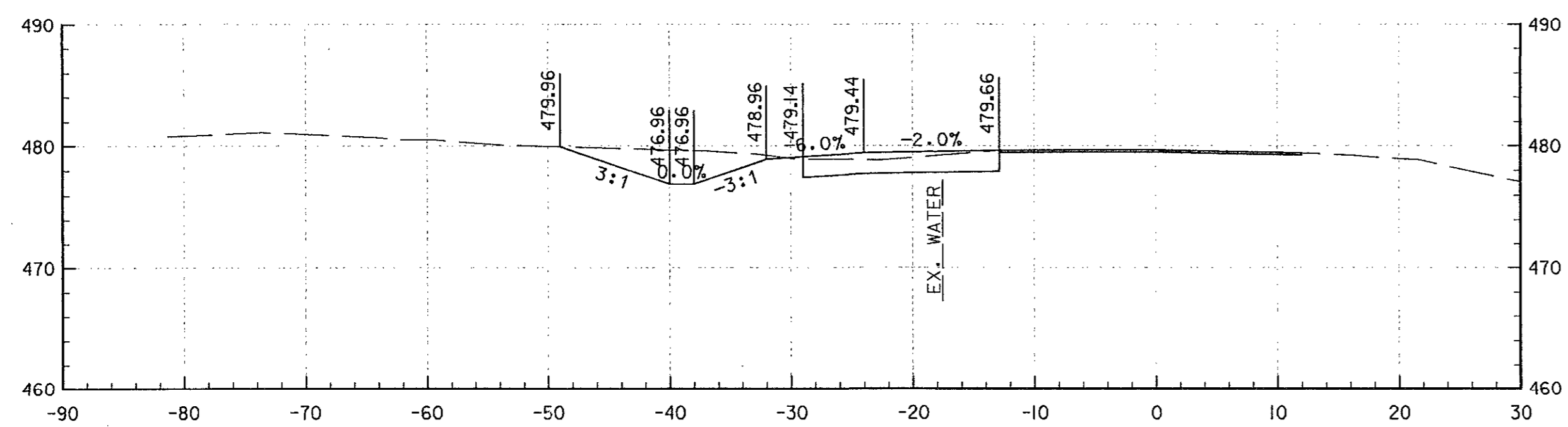
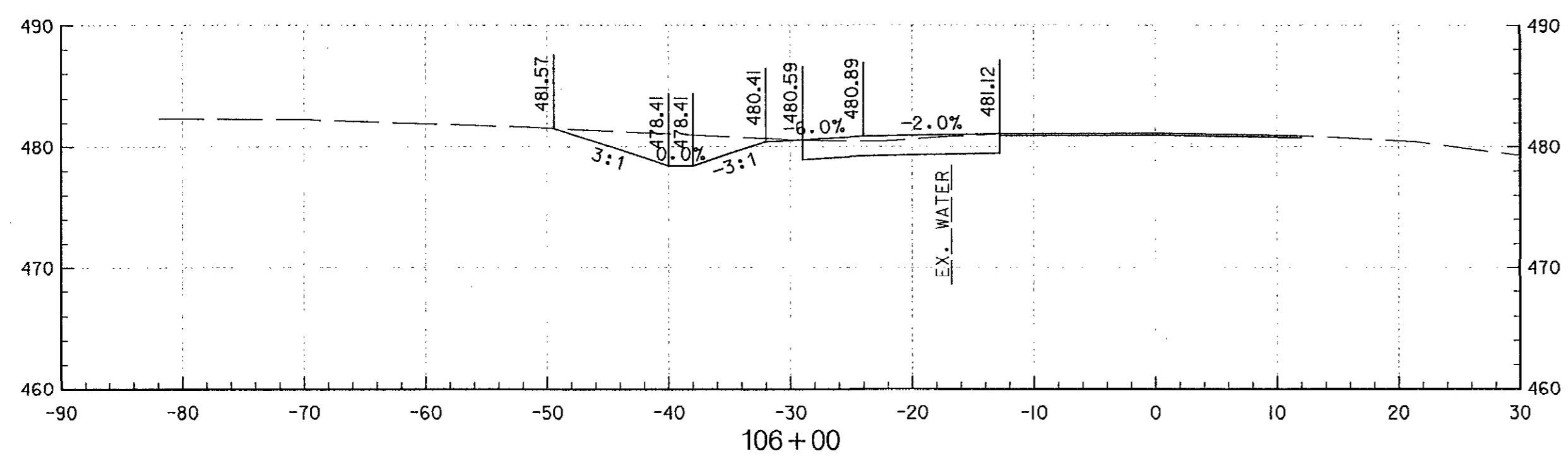
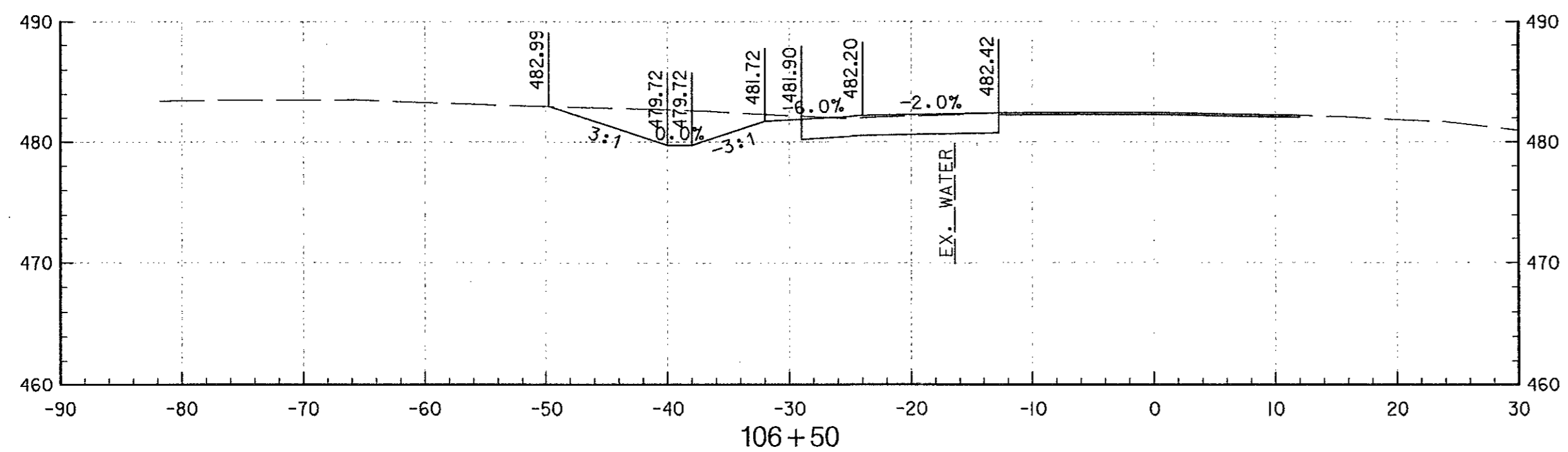
**CROSS SECTIONS**

DATE: 600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

HC-1  
 SCALE: AS SHOWN  
 SHEET 1 OF 3





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.

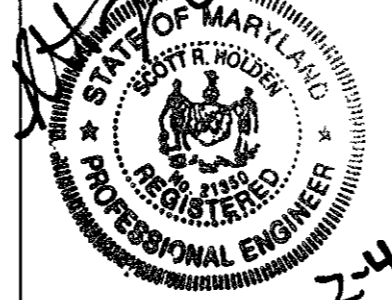
License No. 21350, Expiration Date: 9-20-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan J. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE  
*W. R. ...* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS DATE

*Mona E. ...* 3/5/13  
CHIEF, BUREAU OF ENGINEERING DATE  
*Steve ...* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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DES: RDB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY: [ ]	REVISION
DATE	600' SCALE MAP NO. BLOCK NO.

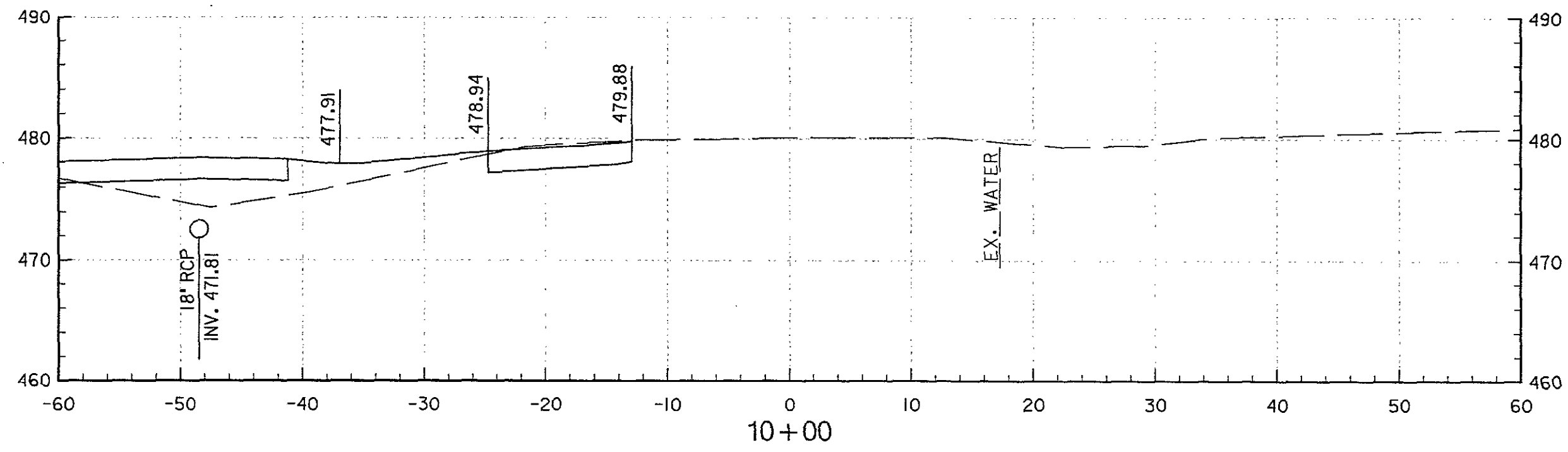
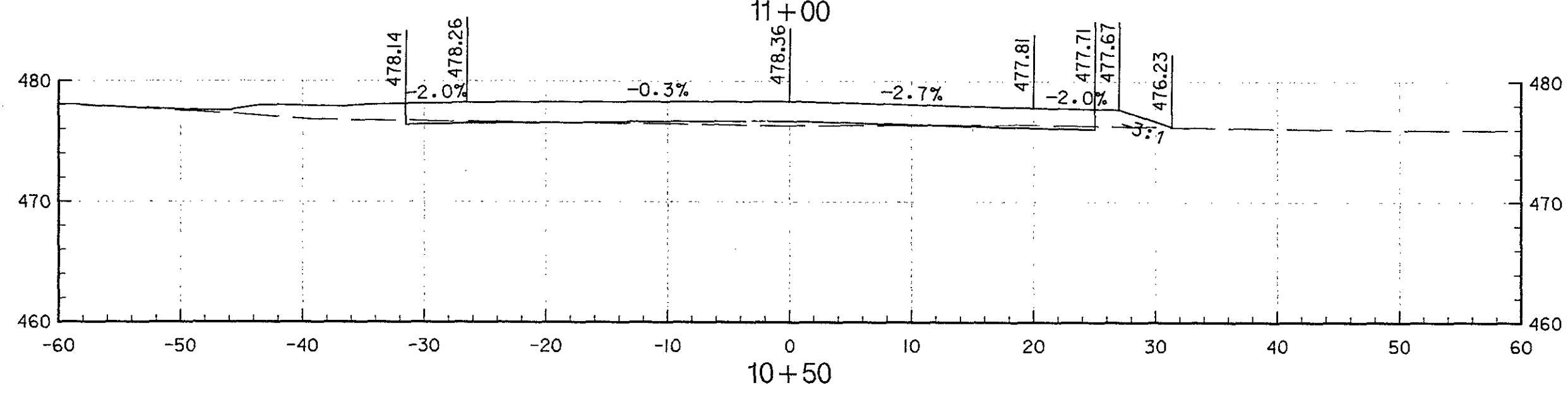
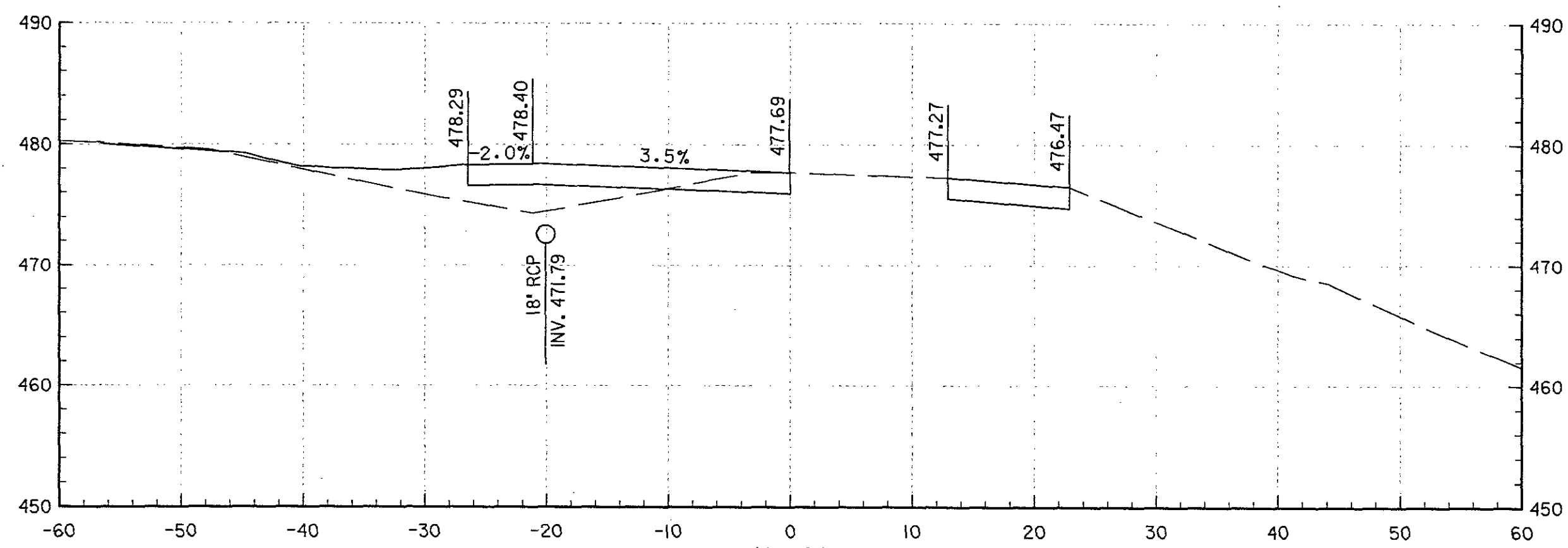
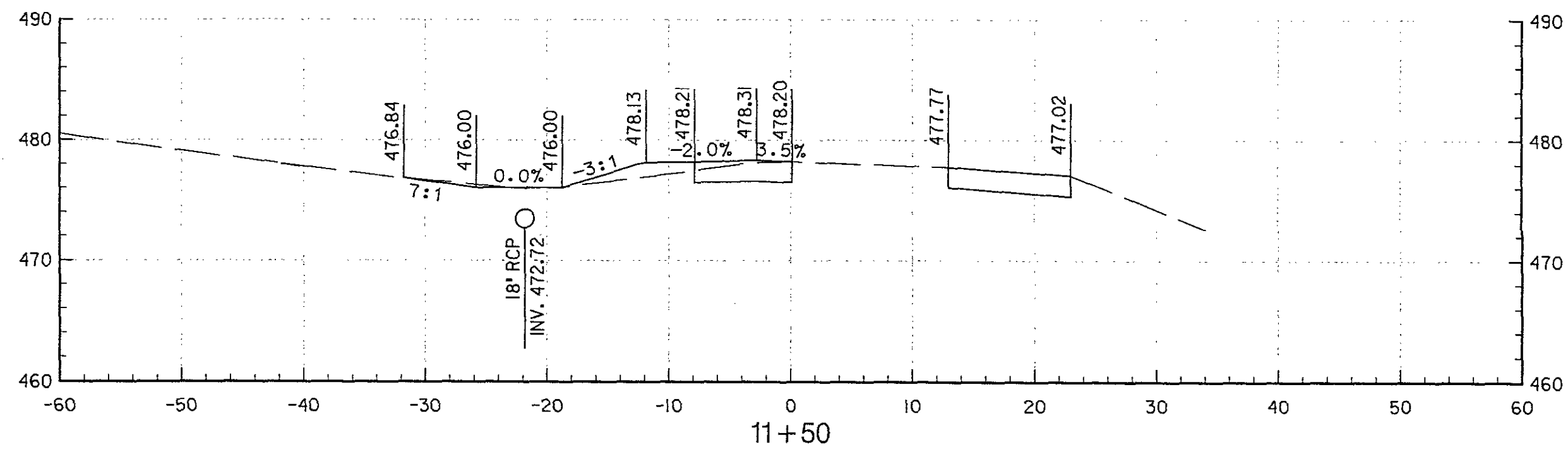
CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

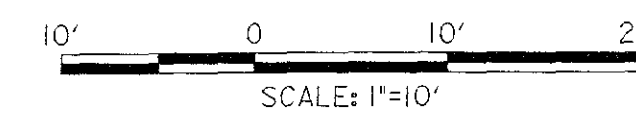
HC-2

SCALE:  
AS SHOWN

SHEET  
2 OF 3



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 License No. 21950, Expiration Date: 9-20-14



I:\PROJECTS\100\10362\10362.dwg, 2/8/13, 2:02:41 PM, 1/28/13

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*John J. ...* 2/8/13  
DIRECTOR OF PUBLIC WORKS DATE

*Mona R. Butler* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve Shaver* 2/1/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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DES: RDB  
PRN: CSC  
CHK: SR4  
DATE: JUNE 2012

CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

HC-3

SCALE:  
AS SHOWN

SHEET  
3 OF 3

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	MISCELLANEOUS DETAILS
3	ROADWAY PLAN
4	DRAINAGE PROFILES
5	EROSION AND SEDIMENT CONTROL NOTES
6	EROSION AND SEDIMENT CONTROL PLAN
7	SIGNING AND PAVEMENT MARKING PLAN

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*Jan P. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Thomas E. ...* 2/5/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Will R. ...* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS DATE

*Steve ...* 2/6/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

# FINAL ROAD CONSTRUCTION

## MARRIOTTVILLE ROAD AT I-70

### PHASE I -

## BYPASS LANE AND RAMP RELOCATION

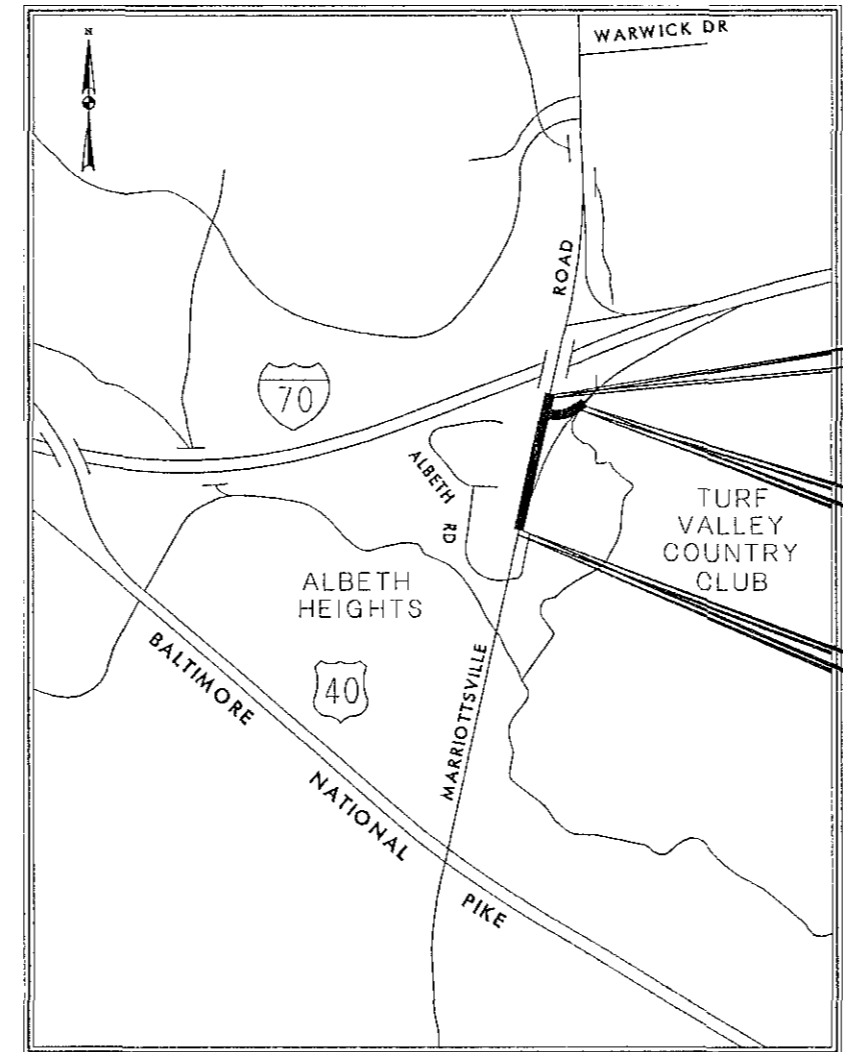
### HOWARD COUNTY PROJECT NO. J-4205

MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION

- PHASE 1**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
  - ERADICATE THE EXISTING EDGELINE ON THE WEST SIDE OF MARRIOTTVILLE ROAD AND THE CENTERLINE MARKINGS FROM STA. 99+60 LT TO 108+50 LT. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON THE WEST SIDE OF MARRIOTTVILLE ROAD TWO FEET EAST AND THE EXISTING CENTERLINE ONE FOOT EAST, MAINTAINING 11 FOOT TRAVEL LANES.
  - INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE WEST EDGELINE OF MARRIOTTVILLE ROAD BETWEEN STA. 99+60 LT AND 108+20 LT.
  - RELOCATE FIRE HYDRANT LOCATED AT STA. 107+50 LT, AS SHOWN ON ROADWAY PLANS.
  - INSTALL TRAFFIC SIGNAL CONDUIT SYSTEM AS SHOWN ON ROADWAY PLAN.
  - CONSTRUCT FULL DEPTH PAVEMENT FOR NEW BY-PASS LANE, SHOULDER AND DRAINAGE ALONG SB MARRIOTTVILLE ROAD AS SHOWN ON THE CONTRACT DOCUMENTS.
- PHASE 2A**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
  - REMOVE PHASE I TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE I AND INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT TRAFFIC ALONG MARRIOTTVILLE ROAD FOUR FEET WEST, MAINTAINING 12 FOOT TRAVEL LANES ALONG MARRIOTTVILLE ROAD. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON WEST SIDE OF RAMP 'A' TO THE EAST, MAINTAINING AN 11 FOOT TRAVEL LANE ON RAMP 'A' BETWEEN STA 104+90 RT AND 106+50 RT.
  - INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF MARRIOTTVILLE ROAD BETWEEN STA. 104+90 RT AND 105+50 RT AND ALONG WEST SIDE OF RAMP 'A' BETWEEN STA. 104+90 RT AND 106+50 RT.
  - CONSTRUCT FULL DEPTH PAVEMENT FOR THE NEW RAMP 'A' SPUR, INCLUDING THE DRAINAGE UNDER RAMP 'A' SPUR, AS SHOWN ON THE CONTRACT DOCUMENTS.
- PHASE 2B**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
  - INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF RAMP 'A' BETWEEN STA. 104+00 RT AND STA 12+00 RT. INSTALL TEMPORARY PAVEMENT MARKING TAPE AND SHIFT THE TEMPORARY BARRIER INSTALLED IN PHASE 2A ALONG THE EAST SIDE OF RAMP 'A' SPUR TO THE WEST AS NECESSARY TO PROVIDE A MINIMUM 11 FOOT TRAVEL LANE ALONG RAMP 'A'.
  - CONSTRUCT FULL DEPTH PAVEMENT ALONG THE EAST SIDE OF RAMP 'A', INCLUDING THE DRAINAGE UNDER RAMP 'A', AS SHOWN ON THE CONTRACT DOCUMENTS.
- PHASE 3**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.
  - REMOVE TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE 2. INSTALL PERMANENT SIGNS AND TEMPORARY PAVEMENT MARKING PAINT IN ITS PERMANENT LOCATION, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED RAMP 'A' SPUR. INSTALL TEMPORARY TRAFFIC BARRIER ALONG EAST SIDE OF MARRIOTTVILLE ROAD BETWEEN STA. 106+50 RT AND 107+50 RT AND ALONG THE WEST SIDE OF RAMP 'A' BETWEEN STA. 12+25 LT AND 14+50 LT.
  - REMOVE EXISTING SPUR RAMP. REMOVE TEMPORARY TRAFFIC BARRIER.
- PHASE 4**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.
  - GRIND AND RESURFACE EXISTING ROADWAY BETWEEN STA. 99+60 AND 108+65.
  - INSTALL PERMANENT PAVEMENT MARKINGS.

GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS WHEN APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 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 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- EXISTING UTILITIES ARE BASED ON CURRENT HOWARD COUNTY CONTRACT DRAWINGS; EXISTING 12" WATER- CONTRACT NO. 44-3480.



**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
RAMP 'A' SPUR  
STA. 14+29.25

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

HORIZONTAL DATUM    NAD 83/91  
VERTICAL DATUM        NAVD 88

LENGTH OF PROJECT  
MARRIOTTVILLE ROAD = 0.17 MILES

**VICINITY MAP**  
SCALE: 1"=600'

DESIGN DESIGNATION CHART		
CONTROLS / YEARS	2010	2030
AVERAGE DAILY TRAFFIC (A.D.T.)	25,000	47,500
DESIGN HOURLY VOLUME (D.H.V.)	1,350	2,350
DIRECTIONAL DISTRIBUTION	70%	60%
% TRUCKS - A.D.T.	2%	2%
% TRUCKS - D.H.V.	3%	3%
DESIGN SPEED	50 MPH	
FUNCTIONAL CLASSIFICATIONS	UNDIVIDED INTERMEDIATE ARTERIAL	
CONTROLS OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	RURAL	
TERRAIN	LEVEL	
ANTICIPATED POSTED SPEED	45 MPH	

SHA R-O-W PLAT NUMBERS	
35505	(EXISTING)
31494	(EXISTING)
31492	(EXISTING)

## THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 100  
Baltimore, MD 21244  
www.stvinc.com

**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. 21360, EXPIRATION DATE: 9-20-2014

2-4-13

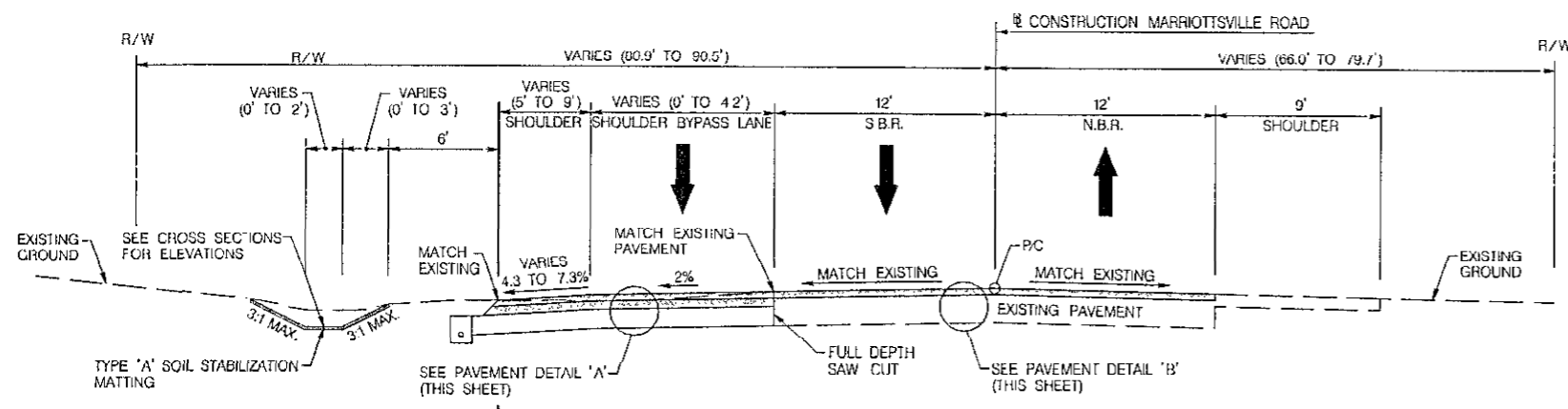
MARRIOTTVILLE ROAD AT I-70  
PHASE I  
BYPASS LANE AND RAMP RELOCATION

TAX MAP No. 16  
3RD ELECTION DISTRICT    HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN        DATE: JUNE 2012  
SHEET 1 OF 7

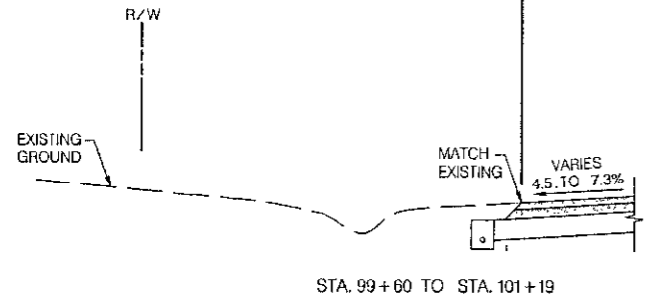
I:\PROJECTS\1014342\1014342\_0001\DWG\1014342\_001.dwg, February 01, 2013 AT 02:25 PM

**PAVEMENT LEGEND**

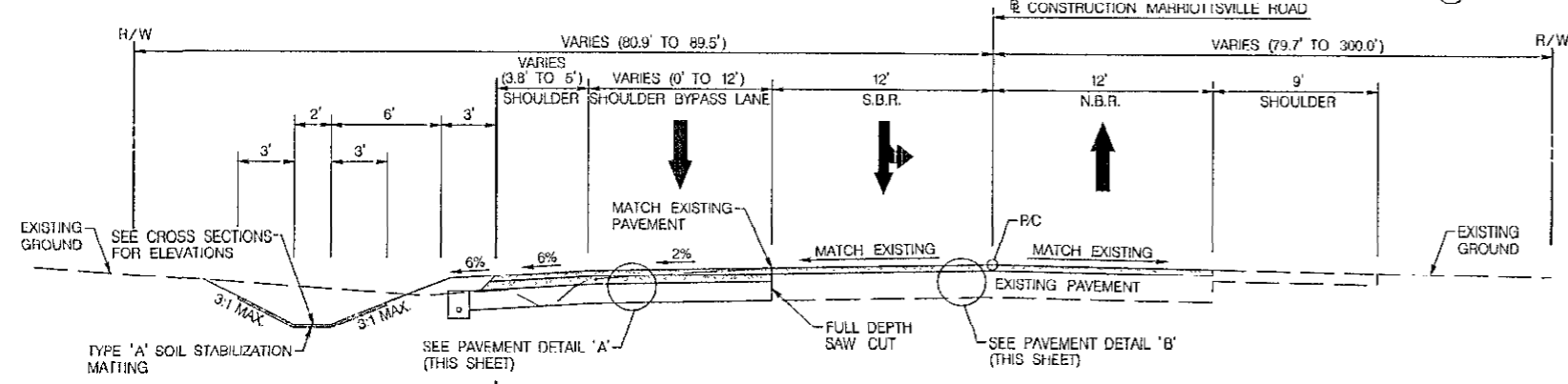
- 1 2" HOT MIX ASPHALT SUPERPAVE 12.5mm FOR SURFACE, PG 64-22, LEVEL 2
  - 2 3" HOT MIX ASPHALT SUPERPAVE 19.0mm FOR BASE, PG 64-22, LEVEL 2
  - 3 6" GRADED AGGREGATE BASE COURSE
  - 4 TOP OF EXISTING PAVEMENT AFTER 2" GRINDING
  - 5 TOP OF EXISTING PAVEMENT
  - 6 BOTTOM OF EXISTING PAVEMENT
  - 7 TOPSOIL-FURNISH AND PLACED 2" DEPTH
  - 8 VARIABLE DEPTH BORROW EXCAVATION (TO BE SUPPLIED FROM SUITABLE MATERIAL AVAILABLE FROM CLASS 1 AND CLASS 2 EXCAVATION)
  - 9 SEEDING AND MULCHING
  - 10 TOP OF SUBGRADE AND LIMIT OF EXCAVATION
  - 11 6" PERFORATED UNDERDRAIN (SEE STD. NO. MD 387.11, STD. 387.01 AND PAVEMENT LEGEND NOTE)
- PAVEMENT LEGEND NOTE: ALL UNDERDRAIN SHALL BE WRAPPED WITH CLASS SD TYPE II NON WOVEN GEOTEXTILE



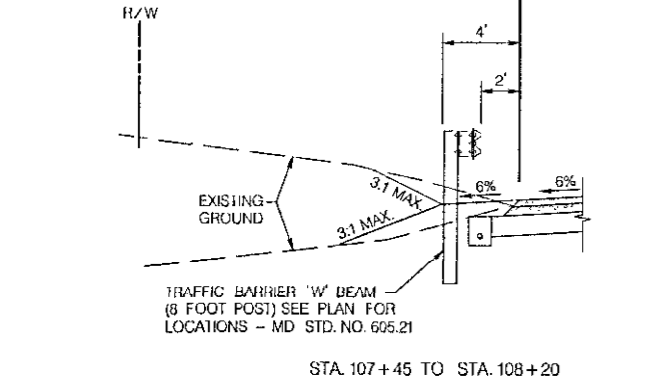
TYPICAL SECTION - MARRIOTTSVILLE ROAD  
N.T.S.  
STA. 99+60 TO STA. 101+26



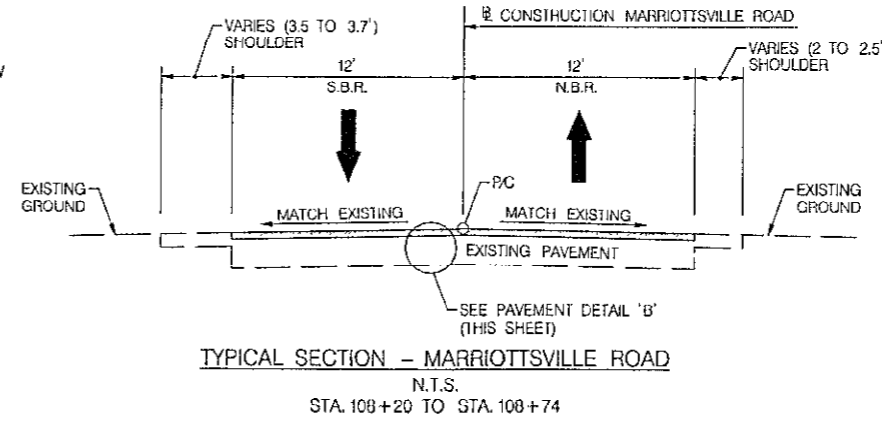
STA. 99+60 TO STA. 101+19



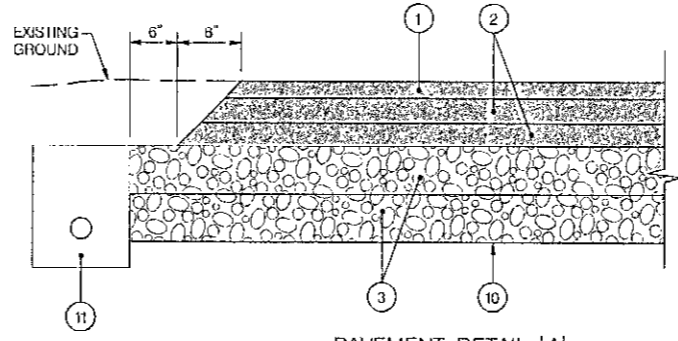
TYPICAL SECTION - MARRIOTTSVILLE ROAD  
N.T.S.  
STA. 101+26 TO STA. 108+20



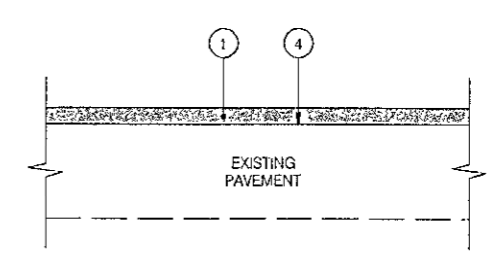
STA. 107+45 TO STA. 108+20



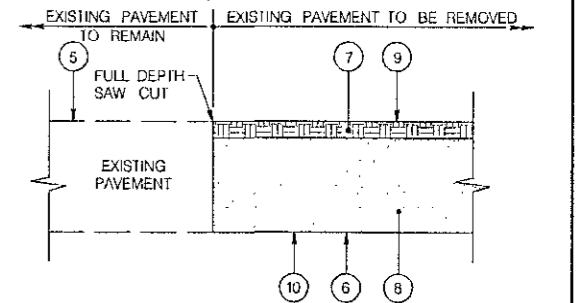
TYPICAL SECTION - MARRIOTTSVILLE ROAD  
N.T.S.  
STA. 108+20 TO STA. 108+74



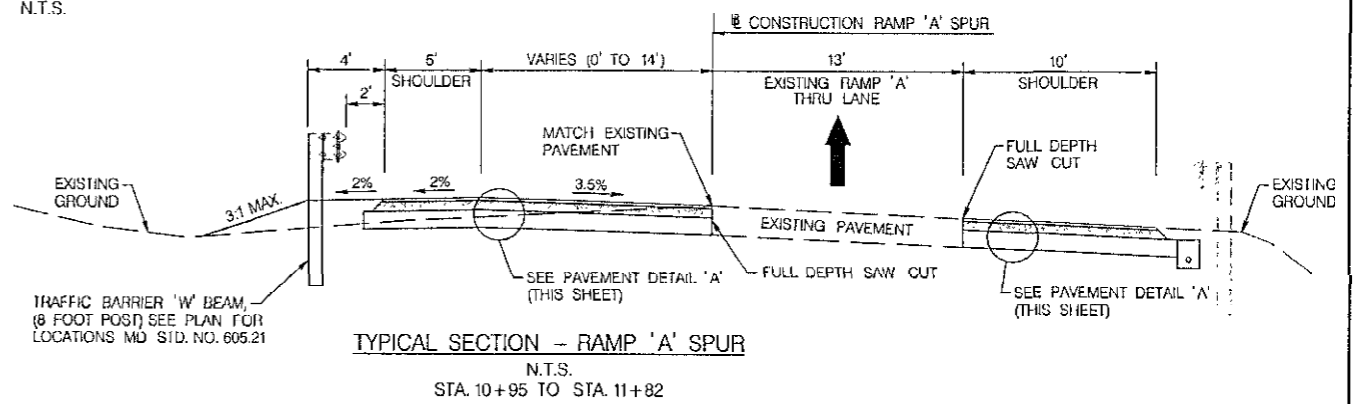
PAVEMENT DETAIL 'A'  
N.T.S.



PAVEMENT DETAIL 'B'  
N.T.S.



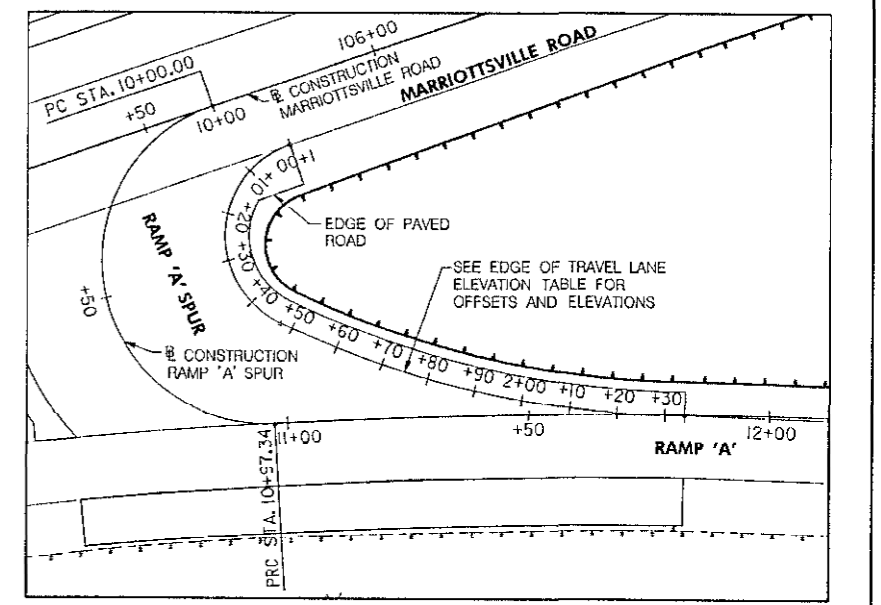
REMOVAL OF EXISTING PAVEMENT DETAIL  
N.T.S.



TYPICAL SECTION - RAMP 'A' SPUR  
N.T.S.  
STA. 10+95 TO STA. 11+82

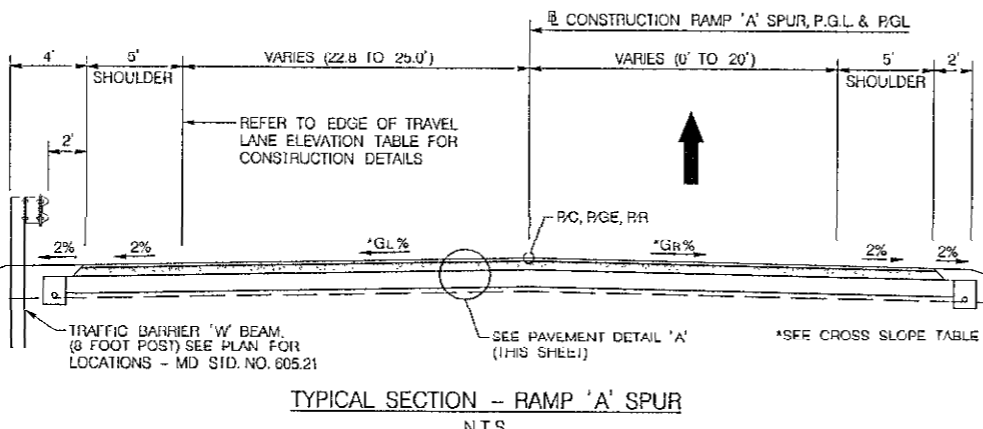
EDGE OF TRAVEL LANE ELEVATION TABLE MARRIOTTSVILLE ROAD / RAMP 'A' SPUR			
EDGE OF TRAVEL LANE	EQUALITY STATION	BASELINE OFFSET	SHOULDER ELEVATION
1+00	105+77.14 (MARRIOTTSVILLE ROAD)	12.96' RT.	480.28*
1+10	105+67.56 (MARRIOTTSVILLE ROAD)	15.44' RT.	479.62
1+20	10+12.00 (RAMP 'A' SPUR)	21.43' LT.	479.00
1+30	10+42.82 (RAMP 'A' SPUR)	26.18' LT.	478.36
1+40	10+84.49 (RAMP 'A' SPUR)	24.74' LT.	478.17
1+50	11+01.89 (RAMP 'A' SPUR)	19.56' LT.	478.40
1+60	11+10.76 (RAMP 'A' SPUR)	15.21' LT.	478.36
1+70	11+19.90 (RAMP 'A' SPUR)	11.36' LT.	478.35
1+80	11+29.26 (RAMP 'A' SPUR)	8.04' LT.	478.35
1+90	11+38.82 (RAMP 'A' SPUR)	5.28' LT.	478.32
2+00	11+48.54 (RAMP 'A' SPUR)	3.07' LT.	478.31
2+10	11+58.38 (RAMP 'A' SPUR)	1.42' LT.	478.32
2+20	11+68.32 (RAMP 'A' SPUR)	0.35' LT.	478.35
2+30	11+78.31 (RAMP 'A' SPUR)	0.14' RT.	478.38*

\*MATCH EXISTING ELEVATION



RAMP 'A' SPUR EDGE OF TRAVEL LANE GEOMETRY  
SCALE: 1" = 20'

CROSS SLOPE TABLE RAMP 'A' SPUR	
STATION	G <sub>L</sub> %   G <sub>R</sub> %
10+30.71	2.0%   2.0%
10+39.76	1.2%   2.2%
10+67.66	1.1%   4.0%
10+95.37	3.5%   3.5%



TYPICAL SECTION - RAMP 'A' SPUR  
N.T.S.  
STA. 10+31 TO STA. 10+95

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. 21350, Expiration Date: 9-20-14

NOTES:  
PLACE 2" TOPSOIL, SEED AND MULCH ON ALL ROADSIDE AND SLOPE AREAS AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING ON SLOPES 2:1 OR GREATER.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James P. Sullivan* 2/6/13  
DIRECTOR OF PUBLIC WORKS  
DATE

*Thomas R. Buller* 2/6/13  
CHIEF, BUREAU OF ENGINEERING  
DATE

*Steve Shuman* 2/6/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION  
DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvin.com

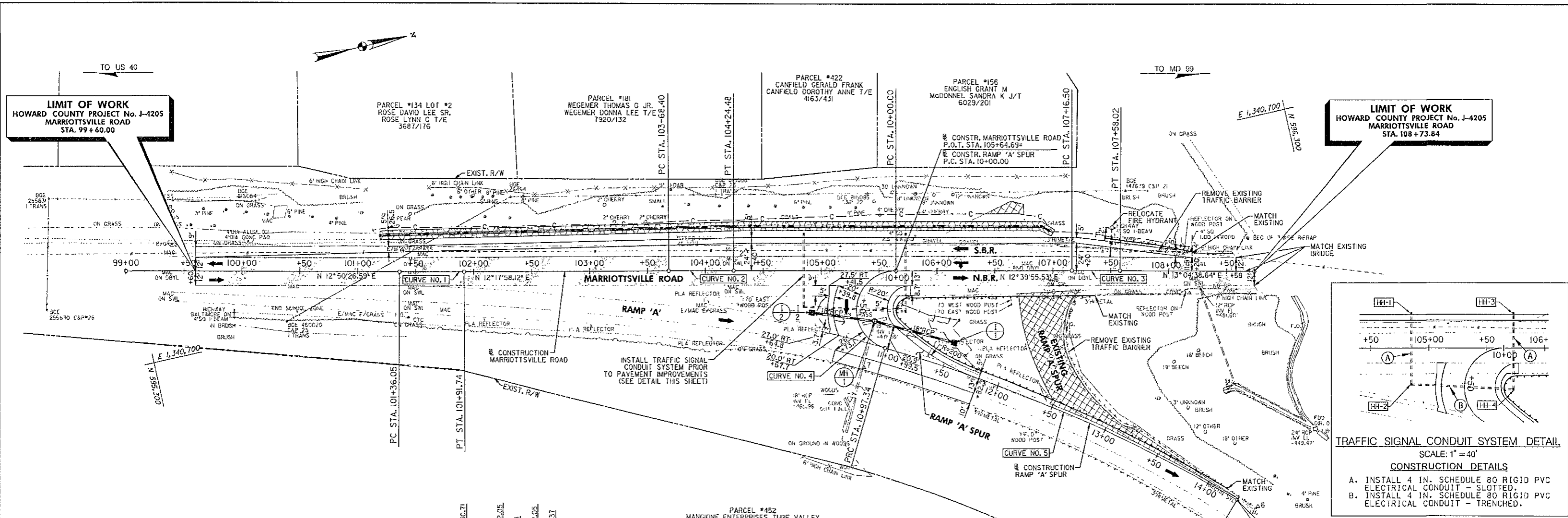
Professional Engineer  
2-4-13

DES. NO.	
APP. NO.	
DATE	JUNE 2012
BY	NO.
REVISION	

MISCELLANEOUS DETAILS

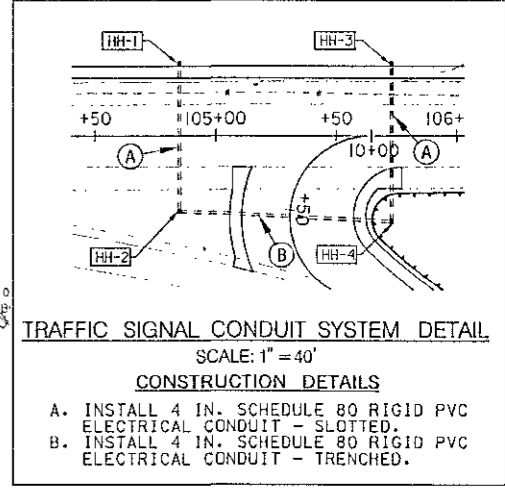
MARRIOTTSVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

DE-1  
SCALE: AS SHOWN  
SHEET 2 OF 7

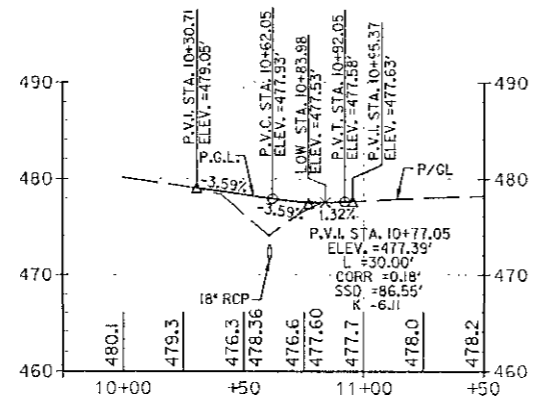


**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108 + 73.84

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99 + 60.00



BASELINE COORDINATES			
POINT NO.	STATION	NORTH	EAST
MARRIOTTVILLE ROAD			
P.O.B.	99+00.00	595,293.749	1,340,617.339
P.C.	101+36.05	595,523.899	1,340,669.800
P.T.	101+91.74	595,578.251	1,340,691.919
P.C.	103+68.40	595,750.857	1,340,719.551
P.T.	104+24.48	595,805.608	1,340,731.672
P.O.T.	105+64.69	595,942.407	1,340,762.414
P.C.	107+16.50	596,090.522	1,340,795.700
P.T.	107+58.02	596,131.003	1,340,804.950
P.O.E.	108+73.84	596,243.817	1,340,831.155
RAMP 'A' SPUR			
P.C.	10+00.00	595,942.407	1,340,762.414
P.R.C.	10+97.34	595,918.564	1,340,825.432
P.T.	14+29.25	596,186.038	1,341,020.479



- REMOVAL OF EXISTING CONCRETE CURB**  
150 L.F. @ CONSTR. - MARRIOTTVILLE ROAD/RAMP 'A' SPUR - STA. 106+68 TO STA. 14+29 RT./LT.
- REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM**  
250 L.F. @ CONSTR. - MARRIOTTVILLE ROAD/RAMP 'A' SPUR - STA. 107+36 TO STA. 14+29 RT./LT.  
125 L.F. @ CONSTR. - MARRIOTTVILLE ROAD - STA. 106+97 TO STA. 108+18 LT.
- TRAFFIC BARRIER W BEAM**  
525 L.F. @ CONSTR. - MARRIOTTVILLE ROAD/RAMP 'A' SPUR - STA. 107+36 TO STA. 14+17 RT./LT.  
25 L.F. @ CONSTR. - MARRIOTTVILLE ROAD - STA. 107+95 TO STA. 108+20
- TYPE 'C' TRAFFIC BARRIER END TREATMENT**  
1 EA @ CONSTR. - MARRIOTTVILLE ROAD - STA. 107+45 TO STA. 107+95 LT.
- 6" PERFORATED UNDERDRAIN**  
780 L.F. @ CONSTR. - MARRIOTTVILLE ROAD - STA. 101+60 TO STA. 107+80 LT.  
50 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+00 TO STA. 11+82 RT.  
110 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+41 TO STA. 10+65 LT.  
125 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+73 TO STA. 11+82 RT.

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
1	596,188.518	1,340,795.500	485.42
2	595,819.710	1,340,717.072	475.25
3	595,530.363	1,340,651.674	463.42
4	594,716.343	1,340,471.149	440.85
5	593,868.600	1,340,303.897	449.14
6	596,202.234	1,341,029.779	473.84
7	595,896.956	1,340,837.639	476.42
12	596,502.760	1,340,864.365	486.20
16	593,250.964	1,340,192.701	463.89

CURVE DATA							
CURVE	P.I. STATION	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MARRIOTTVILLE ROAD							
1	101+63.90	0°32'28.47" LT.	0°58'18.98"	5,895.00'	27.84'	55.69'	0.07'
2	103+95.44	0°21'57.41" RT.	0°39'09.26"	8,780.00'	28.04'	56.08'	0.05'
3	107+37.26	0°24'43.11" RT.	0°59'31.69"	5,775.00'	20.76'	41.52'	0.04'
RAMP 'A' SPUR							
4	12+42.56	164°02'30.40" LT.	168°31'01.19"	34.00'	242.56'	97.34'	210.94'
5	12+64.25	14°58'25.06" RT.	4°30'41.32"	1,270.00'	166.90'	331.90'	10.92'

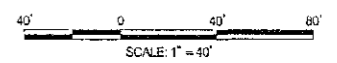
TRAFFIC SIGNAL CONDUIT SYSTEM SCHEDULE				
NO.	STATION	OFFSET	BASELINE	MD STANDARD NO.
HH-1	104+85	30' LT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03
HH-2	104+85	31' RT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03
HH-3	105+73	30' LT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03
HH-4	105+73	35' RT.	@ CONSTR. - MARRIOTTVILLE ROAD	MD-811.01-03

STRUCTURE SCHEDULE							
NO.	STATION	OFFSET	BASELINE	DEPTH	MD STANDARD NO., TYPE	T.S.	REMARKS
I-1	11+52.70	21.96' LT.	RAMP 'A' SPUR	3.25'	MD-378.11, DBL. OPENING TYPE 'K'	476.0'	
I-2	10+54.43	38.75' RT.	RAMP 'A' SPUR	2.50'	MD-378.11, DBL. OPENING TYPE 'K'	474.5'	
MH-1	10+63.59	13.4' LT.	RAMP 'A' SPUR	6.50'	MD-384.01, 48" DIA. PRECAST MANHOLE	477.9'	REPLACE EXISTING INLET WITH MANHOLE

PIPE SCHEDULE							
FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT	REMARKS
I-1	MH-1	18"	CLASS IV RCP	72'	472.8'	471.5'	
I-2	MH-1	18"	CLASS IV RCP	55'	472.0'	471.5'	

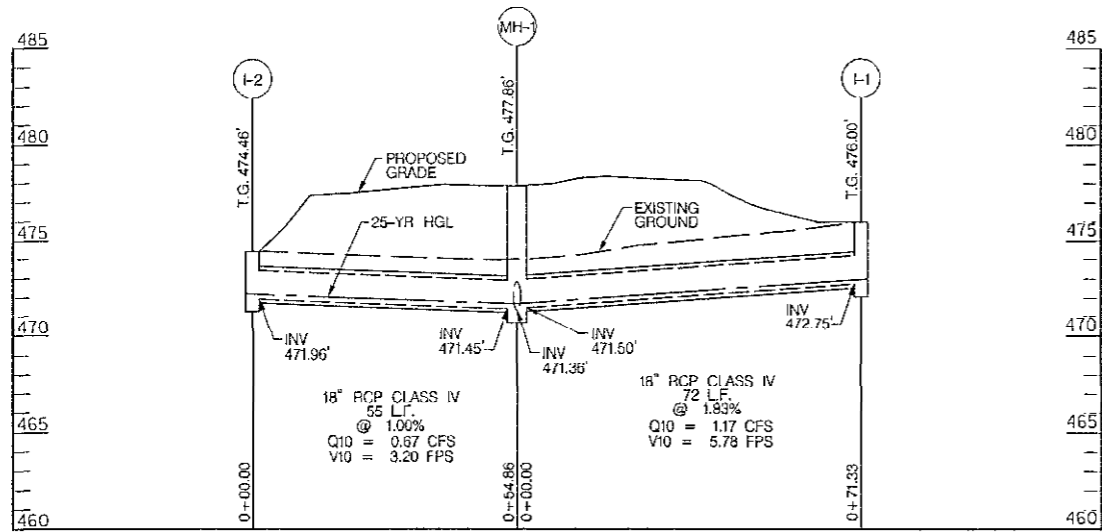
**TYPE 'A' SOIL STABILIZATION MATTING**  
520 S.Y. @ CONSTR. - MARRIOTTVILLE ROAD - STA. 10+17 TO STA. 107+00 LT.

- LEGEND**
- FULL DEPTH HMA PAVEMENT
  - HMA GRINDING AND RESURFACING
  - REMOVAL OF EXISTING PAVEMENT
  - TYPE 'A' SOIL STABILIZATION MATTING
  - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT



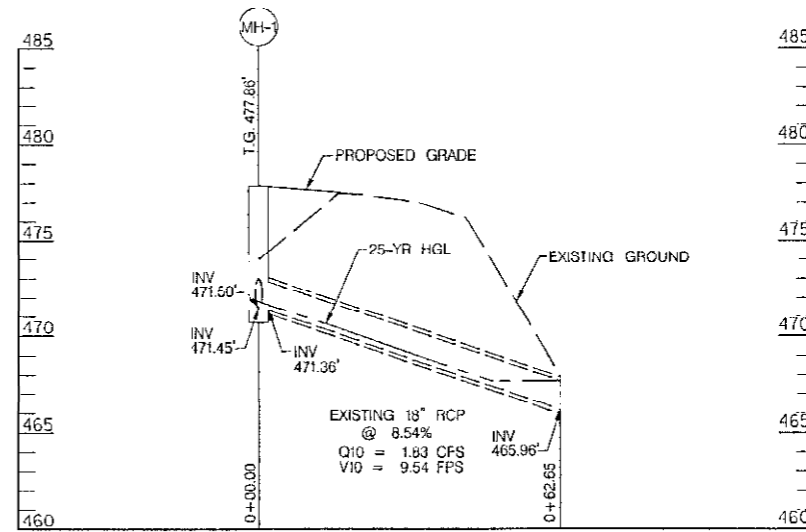
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
2-19-12  
9-20-14

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: <i>John J. ...</i> DATE: 2/13 Chief, Bureau of Highways: <i>W. ...</i> DATE: 2-8-13	STV Incorporated 7125 Ambassador Road, Suite 200 Baltimore, MD 21244 www.stvinc.com Chief, Bureau of Engineering: <i>Thomas R. ...</i> DATE: 2/5/13 Chief of Transportation and Special Projects Division: <i>Steve ...</i> DATE: 2/11/13	REGISTERED PROFESSIONAL ENGINEER MARYLAND No. 24113 DATE: JUNE 2012	ROADWAY PLAN MARRIOTTVILLE ROAD AT I-70 PHASE 1 - BYPASS LANE AND RAMP RELOCATION HOWARD COUNTY PROJECT No. J-4205 3rd ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE: AS SHOWN SHEET 3 OF 7
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PIPE PROFILE - I-2 TO I-1

SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



PIPE PROFILE - MH-1 TO EX. OUTFALL

SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'

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. 21350, Expiration Date: 9-20-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James R. Williams*  
DIRECTOR OF PUBLIC WORKS  
DATE: 2-8-13

*Thomas E. Butler* 2/5/13  
CHIEF, BUREAU OF ENGINEERING  
DATE: 2/4/13  
*Steve Shanan*  
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com



DESIGNER	
CHECKED	
DATE	JUN 2012
REVISION	

STORM DRAIN PROFILES

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

DP-1

SCALE:  
AS SHOWN

SHEET  
4 OF 7

PROJECT: MARRIOTTVILLE ROAD, PHASE 1 - BYPASS LANE AND RAMP RELOCATION; DATE: 2/5/13; TIME: 10:00 AM

**STANDARD SEDIMENT CONTROL NOTES**

- 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 (313-1855).
  - 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 EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
  - FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR 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.
  - ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
  - 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 PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
  - 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                 | 4.95 | ACRES   |
| AREA DISTURBED                     | 1.11 | ACRES   |
| AREA TO BE ROOFED OR PAVED         | 0.12 | ACRES   |
| AREA TO BE VEGETATIVELY STABILIZED | 0.00 | ACRES   |
| TOTAL CUT                          | 3260 | CU.YDS. |
| TOTAL FILL                         | 735  | CU.YDS. |
- OFFSITE WASTE/BORROW AREA LOCATION:
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
  - ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  - 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.
  - 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:

- PREFERRED -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONES (92 LBS./1000 SQ.FT.) AND 600 LBS./ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING, HARROW OR DISK INTO THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
- ACCEPTABLE -- APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS./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 PERIODS 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 (0.5 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 SLOPE 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 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 PERIOD MARCH 1 -- APRIL 30 AND FROM AUGUST 15 -- OCTOBER 15, SEED WITH 2 1/2 BUSHEL 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 (0.7 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 GAL. PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPE 8 FT. OR HIGHER, USE 348 GAL. 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.

**SEDIMENT CONTROL**

( ) 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."

*Steve Sharav* 2/4/13  
 SIGNATURE OF DEVELOPER DATE  
 PRINT NAME BELOW SIGNATURE  
 Steve Sharav

( ) 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."

*Scott Hobbs* 2-4-13  
 SIGNATURE OF ENGINEER DATE  
 PRINT NAME BELOW SIGNATURE  
 Scott Hobbs

( ) FOR THE HOWARD SOIL CONSERVATION DISTRICT:

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

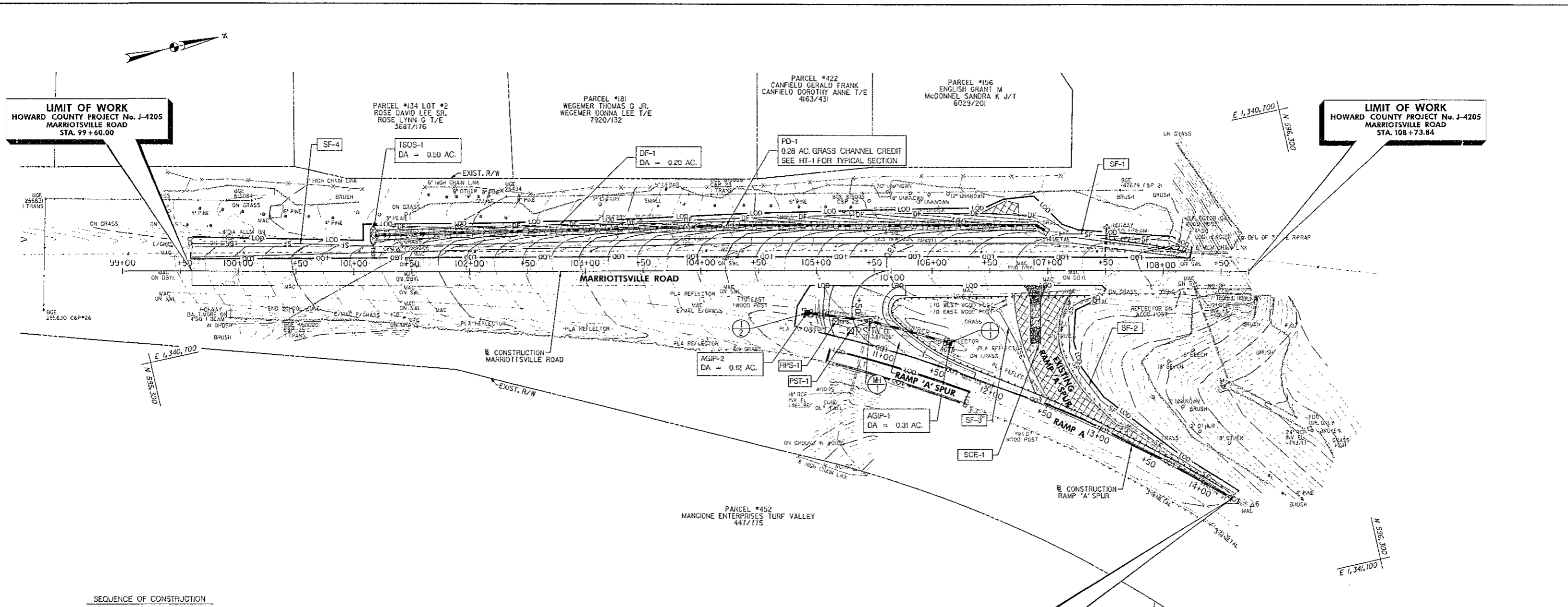
*John R. ...* 2/17/13  
 HOWARD SOIL CONSERVATION DISTRICT DATE

Professional Certification. I hereby certify that these documents were prepared or supervised by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21250, Expiration Date: 9-20-14

MARRIOTTVILLE ROAD AT I-70 PHASE 1 - BYPASS LANE AND RAMP RELOCATION HOWARD COUNTY, MARYLAND  
 PROJECT NO. 21250, SHEET 5 OF 7

<p>DEPARTMENT OF PUBLIC WORKS                  HOWARD COUNTY, MARYLAND</p> <p><i>John J. ...</i> 2/6/13                  DIRECTOR OF PUBLIC WORKS DATE</p> <p><i>Thomas E. Butler</i> 2/6/13                  CHIEF, BUREAU OF ENGINEERING DATE</p> <p><i>Steve Sharav</i> 2/4/13                  CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE</p>	<p><b>STV</b>                  STV Incorporated                  7125 Ambassador Road, Suite 200                  Baltimore, MD 21244                  www.stvinc.com</p>	<p><b>PROFESSIONAL ENGINEER</b>                  REGISTERED                  STATE OF MARYLAND                  LICENSE NO. 21250                  EXPIRES 9-20-14</p>	<p><b>EROSION AND SEDIMENT CONTROL NOTES</b></p> <p>MARRIOTTVILLE ROAD AT I-70                  PHASE 1 - BYPASS LANE AND RAMP RELOCATION                  HOWARD COUNTY PROJECT No. J-4205                  3rd ELECTION DISTRICT                  HOWARD COUNTY, MARYLAND</p>
<p>DATE: JUNE 2012 BY: NO. _____ REVISION: _____</p>			<p>SCALE: AS SHOWN</p> <p>SHEET 5 OF 7</p>

ES-1



**LIMIT OF WORK**  
 HOWARD COUNTY PROJECT No. J-4205  
 MARRIOTTVILLE ROAD  
 STA. 99+60.00

**LIMIT OF WORK**  
 HOWARD COUNTY PROJECT No. J-4205  
 MARRIOTTVILLE ROAD  
 STA. 108+73.84

**LIMIT OF WORK**  
 HOWARD COUNTY PROJECT No. J-4205  
 RAMP 'A' SPUR  
 STA. 14+29.25

**SEQUENCE OF CONSTRUCTION**

1. CONSTRUCT DIVERSION FENCE (DF-1) FROM STA 101+17 TO STA 107+17 LT.
2. CONSTRUCT SILT FENCE (SF-1 AND SF-4) AS SHOWN.
3. CONSTRUCT TEMPORARY STONE OUTLET STRUCTURE (TSOS-1) AS SHOWN.
4. RELOCATE EXISTING FIRE HYDRANT AS SHOWN ON DWG. HD-01.
5. BEGIN FULL DEPTH PAVING FROM STA 99+60 TO STA 108+20 LT AND CONSTRUCT PROPOSED GRASS CHANNEL (PD-1) AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING.
6. UPON COMPLETION OF THE FULL DEPTH PAVING AND GRASS CHANNEL, STABILIZE ANY REMAINING DISTURBED AREAS, AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE TSOS-1, SF-1, SF-4, DF-1 AND STABILIZE THESE AREAS.
7. CONSTRUCT I-1, I-2, MH-1 AND PROPOSED STORM DRAIN AS SHOWN. FOR PIPE PROFILES REFER TO DWG. DP-1.
8. INSTALL AGIP-1 AND AGIP-2 AS SHOWN.
9. CONSTRUCT PROPOSED RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. A REMOVABLE PUMPING STATION (RPS-1) AND PORTABLE SEDIMENT TANK (PST-1) SHALL BE USED TO REMOVE ANY STANDING WATER FROM THE WORK ZONE IF NECESSARY.
10. INSTALL SILT FENCES (SF-2 AND SF-3) AS SHOWN.
11. UPON COMPLETION OF THE PROPOSED RAMP 'A' SPUR, CONSTRUCT SCE-1 AS SHOWN AND BEGIN EXCAVATION OF THE EXISTING RAMP 'A' SPUR AS SHOWN. THE CONTRACTOR SHALL STABILIZE ANY DISTURBED AREA AT THE END OF EACH WORK DAY. DURING EXCAVATION, THE CONTRACTOR SHALL ENSURE THAT EXISTING DRAINAGE PATTERNS ARE MAINTAINED ALONG THE EXISTING RAMP.
12. UPON COMPLETION OF EXCAVATION, STABILIZE ANY REMAINING DISTURBED AREAS AND WITH THE PERMISSION OF THE HOWARD COUNTY SCD, REMOVE ANY REMAINING PERIMETER CONTROLS AND STABILIZE THESE AREAS.

SILT FENCE (SF)	
115 L.F.	(SF-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 107+10 TO 108+22 LT.
255 L.F.	(SF-2) @ CONSTR - MARRIOTTVILLE ROAD - STA 107+40 RT. TO @ CONSTR. RAMP 'A' STA 14+29 LT.
110 L.F.	(SF-3) @ CONSTR - RAMP 'A' - STA 11+52 TO 12+36 LT.
158 L.F.	(SF-4) @ CONSTR - MARRIOTTVILLE ROAD - STA 99+60 TO 101+17 LT.

STABILIZED CONSTRUCTION ENTRANCE (SCE)	
30 TONS	(SCE-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 106+92, 17.6' RT.

DIVERSION FENCE (DF)	
610 L.F.	(DF-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 101+17 TO 107+17 LT.

TEMPORARY STONE OUTLET STRUCTURE (TSOS)	
1 EA.	(TSOS-1) @ CONSTR - MARRIOTTVILLE ROAD - STA 101+17, 31.2' LT.

AT-GRADE INLET PROTECTION (AGIP)	
1 EA.	(AGIP-1) @ CONSTR - RAMP 'A' - STA 11+53, 22.0' LT.
1 EA.	(AGIP-2) @ CONSTR - RAMP 'A' - STA 10+55, 38.8' RT.

REMOVABLE PUMPING STATION (RPS)	
1 EA.	(RPS-1) TO BE PLACED AS NEEDED IN THE FIELD

PORTABLE SEDIMENT TANK (PST)	
1 EA.	(PST-1) TO BE PLACED AS NEEDED IN THE FIELD

- LEGEND**
- [Symbol] FULL DEPTH HMA PAVEMENT
  - [Symbol] HMA GRINDING AND RESURFACING
  - [Symbol] REMOVAL OF EXISTING PAVEMENT (PAID FOR AS CLASS I EXCAVATION)
  - [Symbol] TYPE 'A' SOIL STABILIZATION MATTING

THIS DEVELOPMENT PLAN IS APPROVED FOR EROSION CONTROL AND SEDIMENT CONTROL BY THE HOWARD COUNTY ENGINEERING DIVISION.

Approved: *[Signature]* 2/14/13  
 Howard S.C.D. 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. 21350 Expiration Date 9-20-14

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*[Signature]* 2/6/13  
 DIRECTOR OF PUBLIC WORKS DATE

*[Signature]* 2/8/13  
 CHIEF, BUREAU OF HIGHWAYS DATE

*[Signature]* 2/14/13  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stv.com



DESIGN	DATE	BY	NO.	REVISION
DESIGN				
CHKD				
CHKD				
DATE	JUNE 2012			

**EROSION AND SEDIMENT CONTROL PLAN**

DATE: CUD SCALE: MAP 1/2" = 1' BLOCK NO.

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

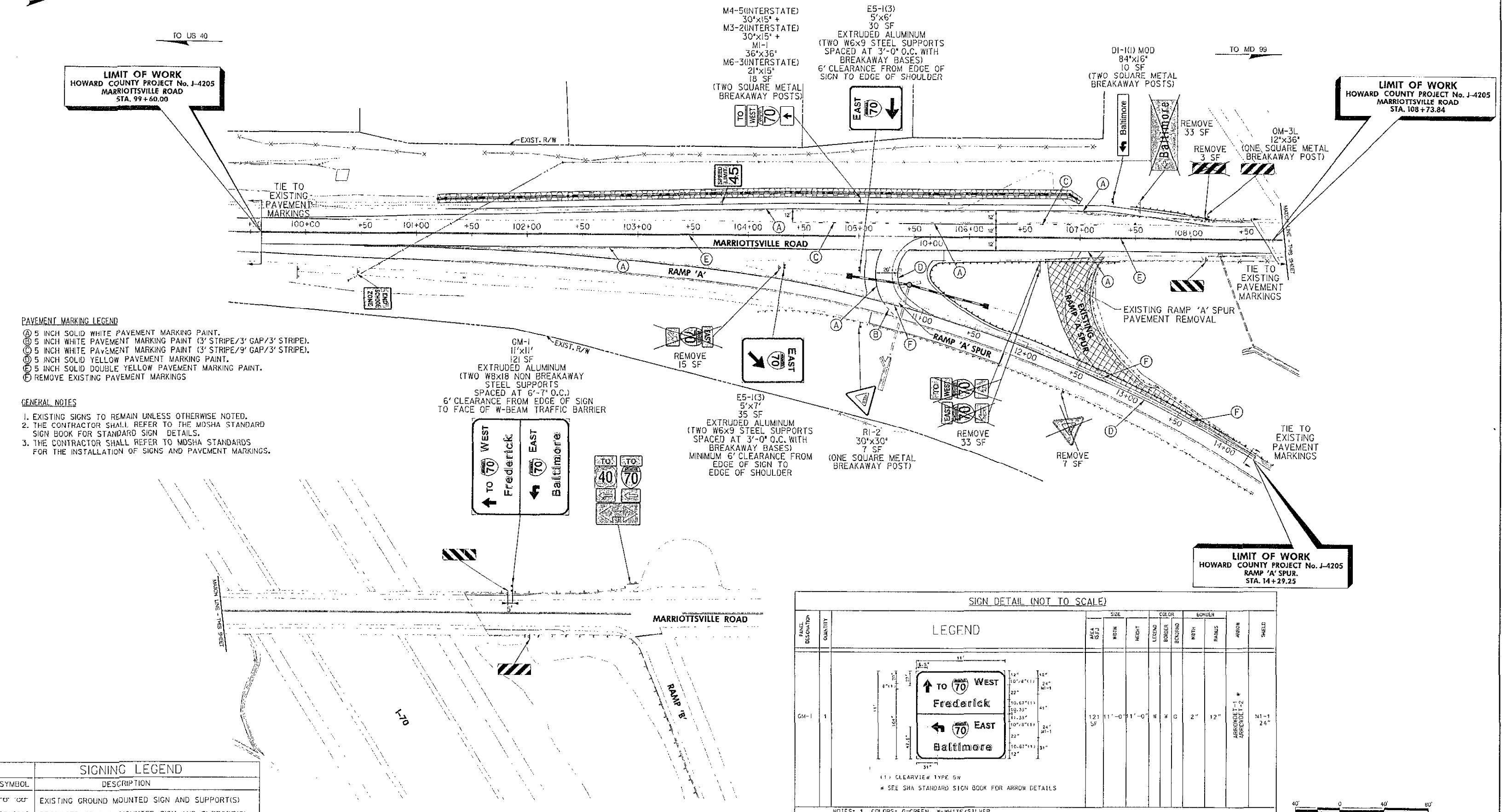
ES-2  
 SCALE: AS SHOWN  
 SHEET 6 OF 7





**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 99+60.00

**LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTVILLE ROAD  
STA. 108+73.84



- PAVEMENT MARKING LEGEND**
- Ⓐ 5 INCH SOLID WHITE PAVEMENT MARKING PAINT.
  - Ⓑ 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/3' GAP/3' STRIPE).
  - Ⓒ 5 INCH WHITE PAVEMENT MARKING PAINT (3' STRIPE/9' GAP/3' STRIPE).
  - Ⓓ 5 INCH SOLID YELLOW PAVEMENT MARKING PAINT.
  - Ⓔ 5 INCH SOLID DOUBLE YELLOW PAVEMENT MARKING PAINT.
  - Ⓕ REMOVE EXISTING PAVEMENT MARKINGS

- GENERAL NOTES**
1. EXISTING SIGNS TO REMAIN UNLESS OTHERWISE NOTED.
  2. THE CONTRACTOR SHALL REFER TO THE MDSHA STANDARD SIGN BOOK FOR STANDARD SIGN DETAILS.
  3. THE CONTRACTOR SHALL REFER TO MDSHA STANDARDS FOR THE INSTALLATION OF SIGNS AND PAVEMENT MARKINGS.

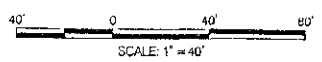
SIGN DETAIL (NOT TO SCALE)

PANEL DESCRIPTION	QUANTITY	AREA (SF.)	WIDTH	HEIGHT	LEGEND	BORDER	BACKGROUND	WIDTH	HEIGHT	ARROW	SHIELD
GM-1	1	121	11'-0"	11'-0"	W	W	G	2"	12"	ARROWSET-1 ARROWSET-2	M1-1 24"

**LEGEND**

1. CLEARVIEW TYPE SW  
\* SEE SHA STANDARD SIGN BOOK FOR ARROW DETAILS

NOTES: 1. COLORS: G=GREEN, W=WHITE/SILVER.  
2. SEE SHA STANDARD SIGN BOOK FOR ARROW DETAILS.



**SIGNING LEGEND**

SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
	PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

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. 21359 Expiration Date: 9-20-14

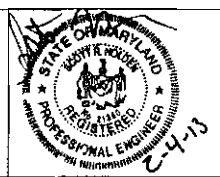
DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*J. J. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Thomas E. Butler* 2/6/13  
CHIEF, BUREAU OF ENGINEERING DATE

*Steve ...* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

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7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
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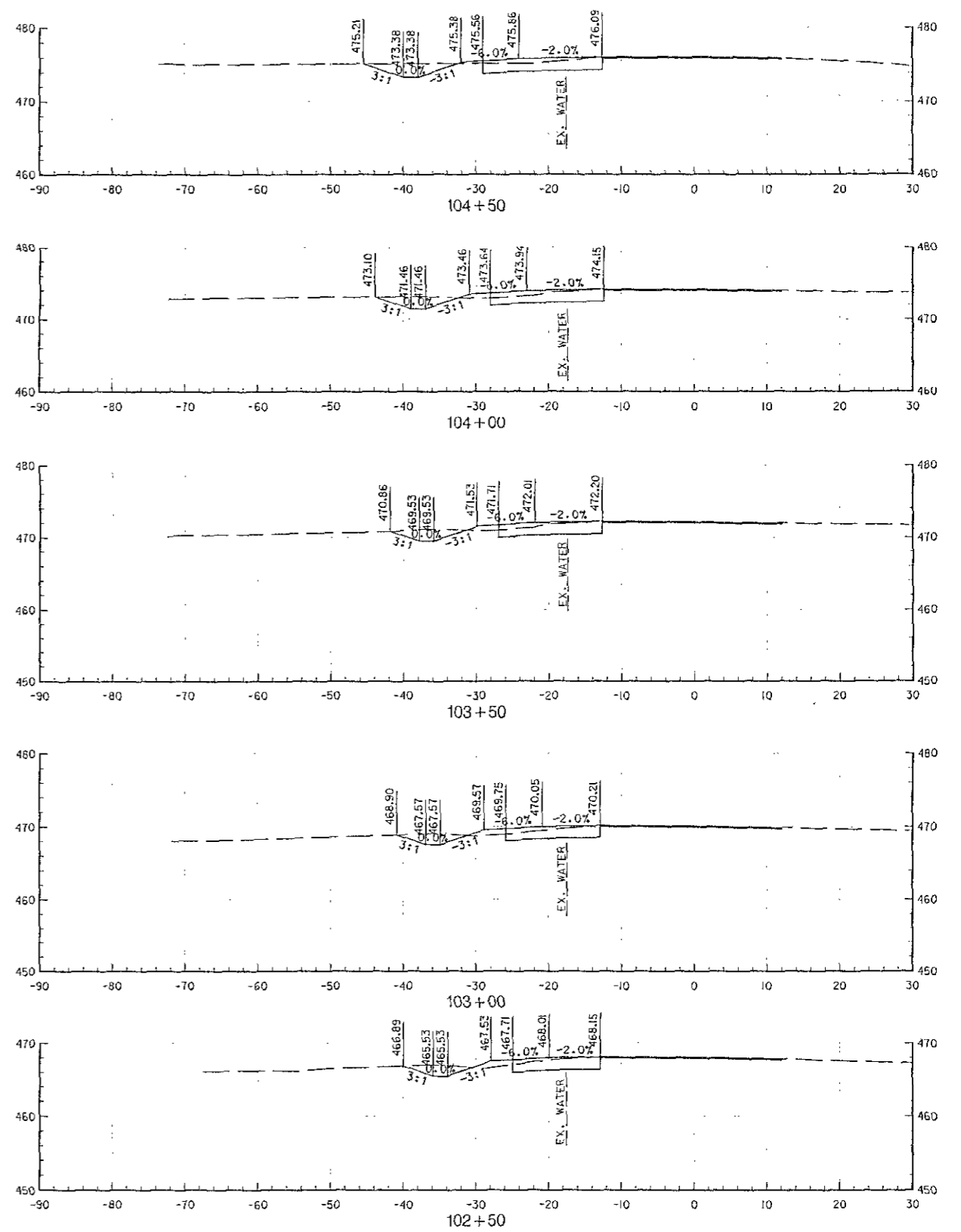
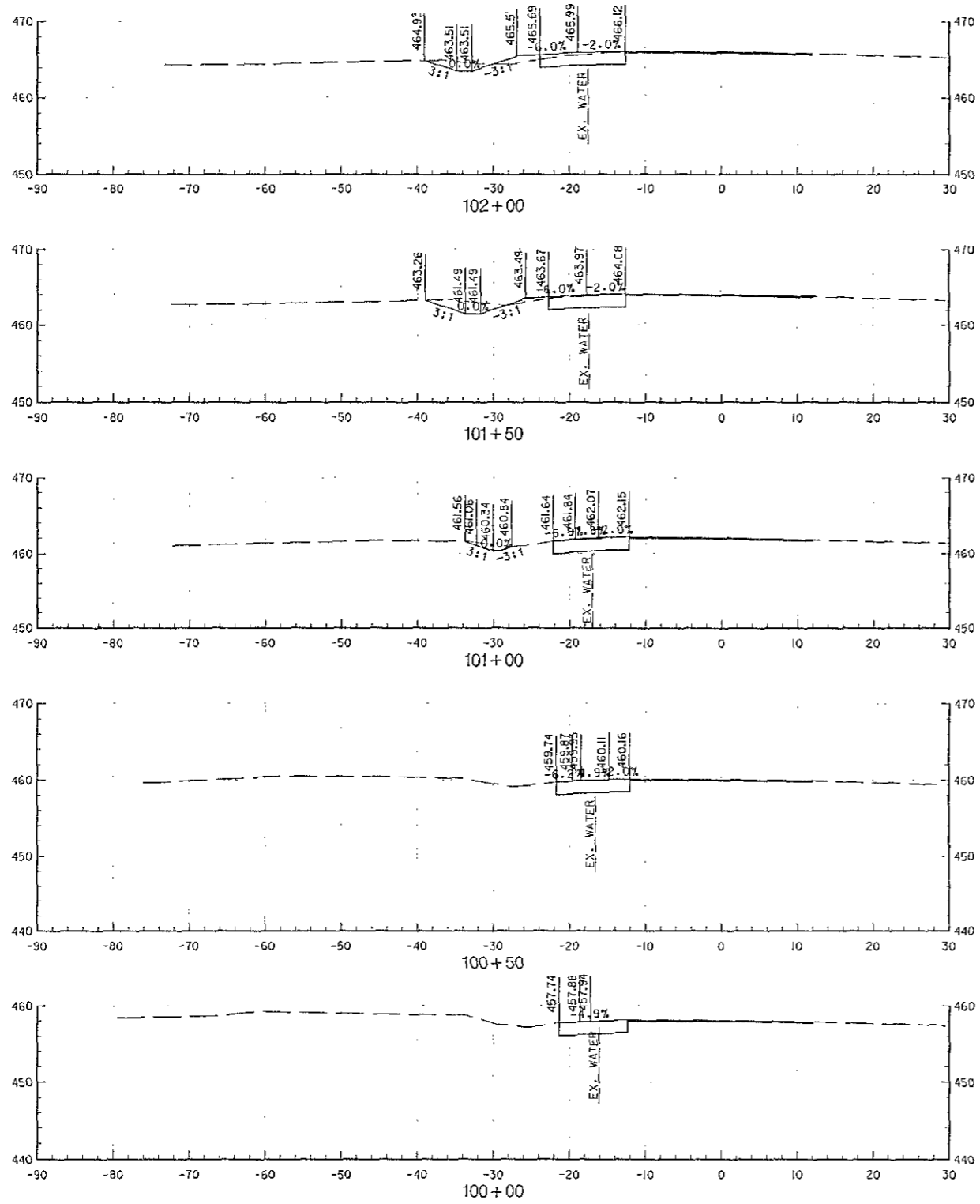
DESIGN	
DATE	JUNE 2012
BY	TEL
REVISION	
DATE	
BUDGET SCALE	MAP NO.
BLOCK NO.	

**SIGNING AND PAVEMENT MARKING PLAN**

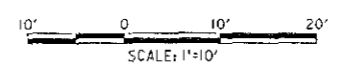
MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE:  
AS SHOWN

SHEET  
7 OF 7



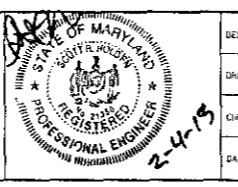
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
 License No. 21370, Expiration Date 9-20-14



HC-1  
SCALE: AS SHOWN  
SHEET 1 OF 3

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: [Signature] 2/8/13  
 Chief, Bureau of Engineering: [Signature] 2/8/13  
 Chief, Bureau of Highways: [Signature] 2-8-13  
 Chief of Transportation and Special Projects Division: [Signature] 2/1/13

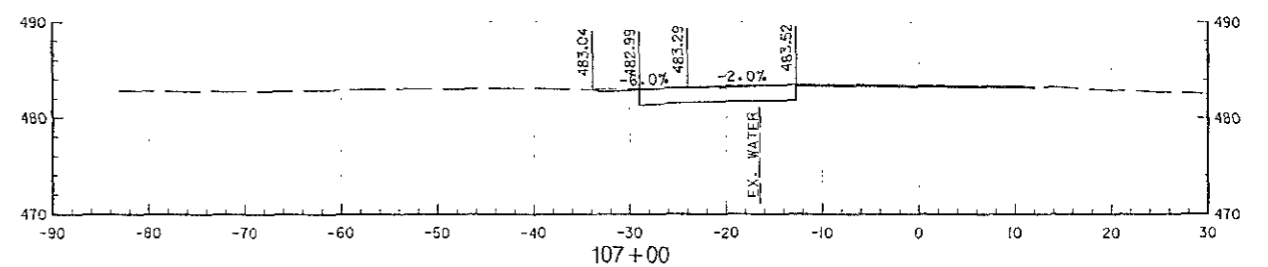
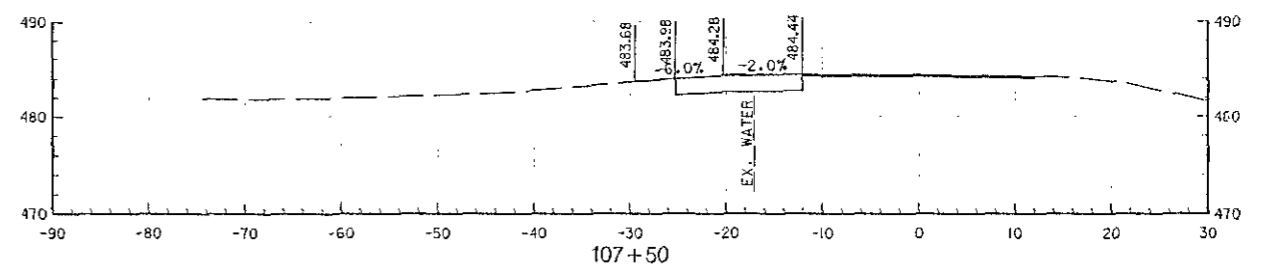
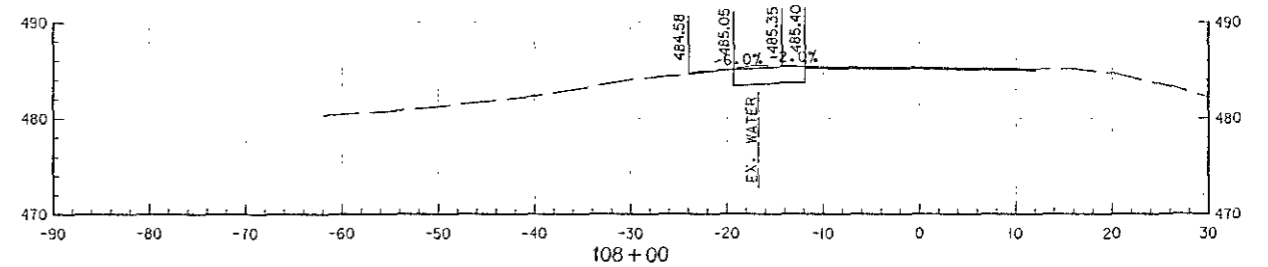
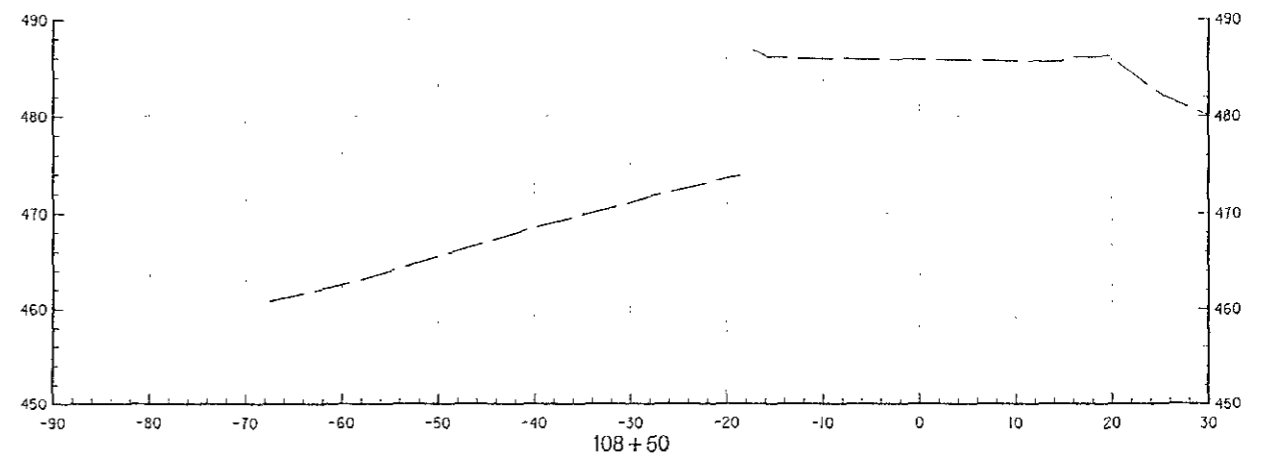
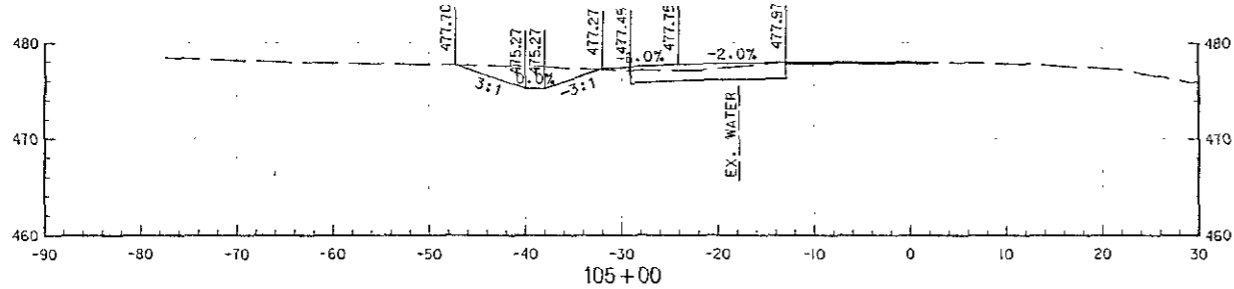
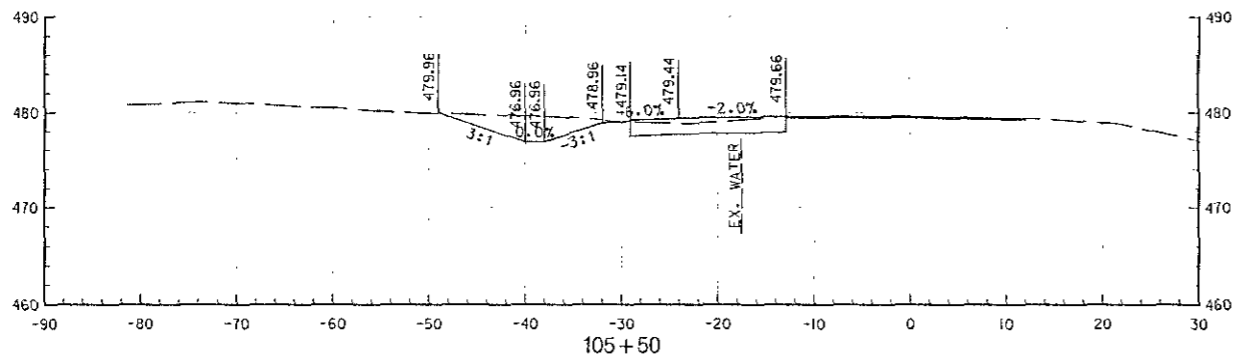
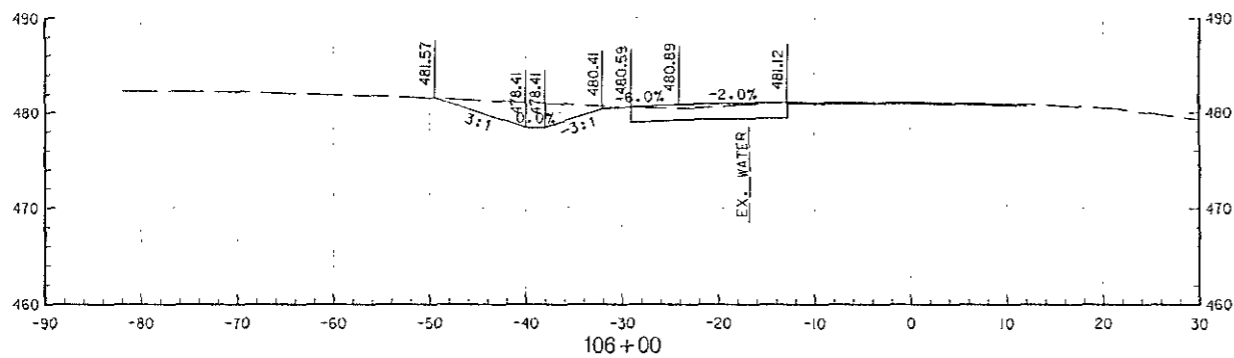
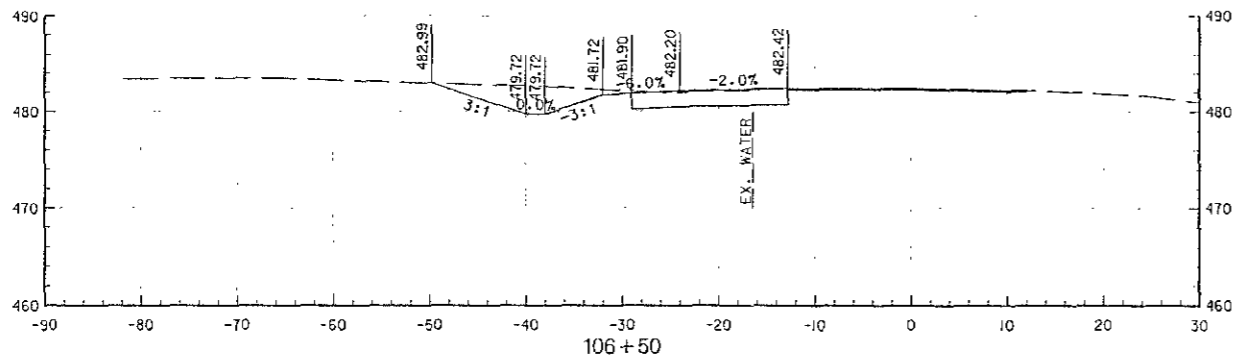
**STV**  
 STV Incorporated  
 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
 www.stv.com



DESIGNER	PROJ.	
DRW.	CSC	
CHECKED	SRH	
DATE	JUNE 2012	
BY	NO.	
REVISION		

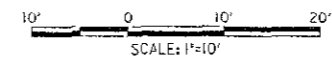
**CROSS SECTIONS**

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND



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. **21350**, Expiration Date: **9-20-14**



### CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

HC-2

SCALE: AS SHOWN

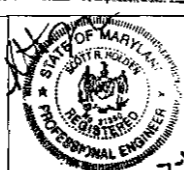
SHEET 2 OF 3

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*Jan 17 2013*  
 DIRECTOR OF PUBLIC WORKS DATE  
*Steve Shuman 2/1/13*  
 CHIEF, BUREAU OF HIGHWAYS DATE

*Thomas P. Switzer 2/5/13*  
 CHIEF, BUREAU OF ENGINEERING DATE  
*Steve Shuman 2/1/13*  
 CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

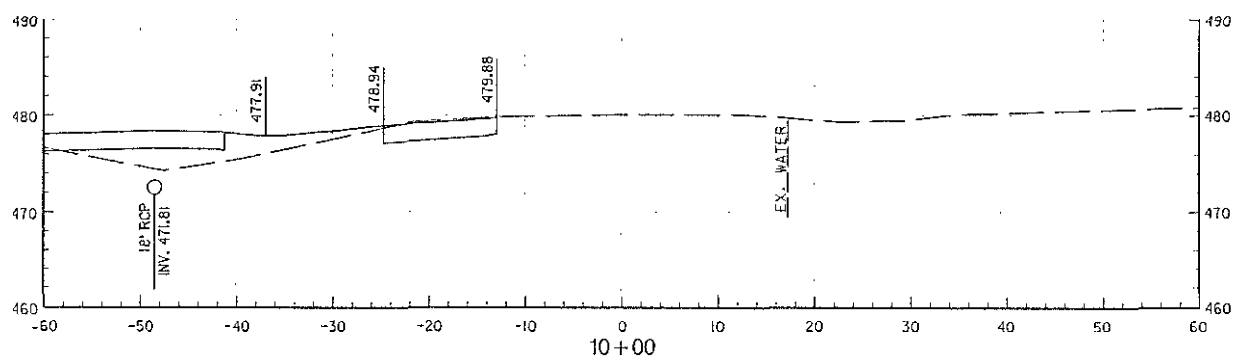
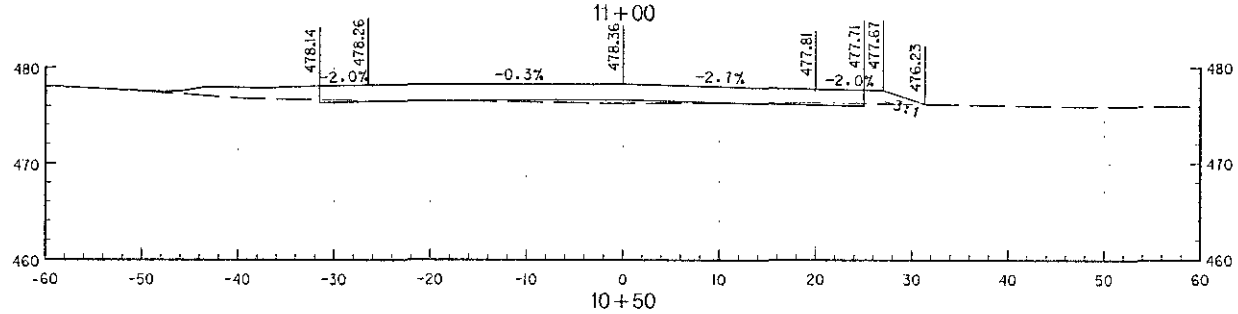
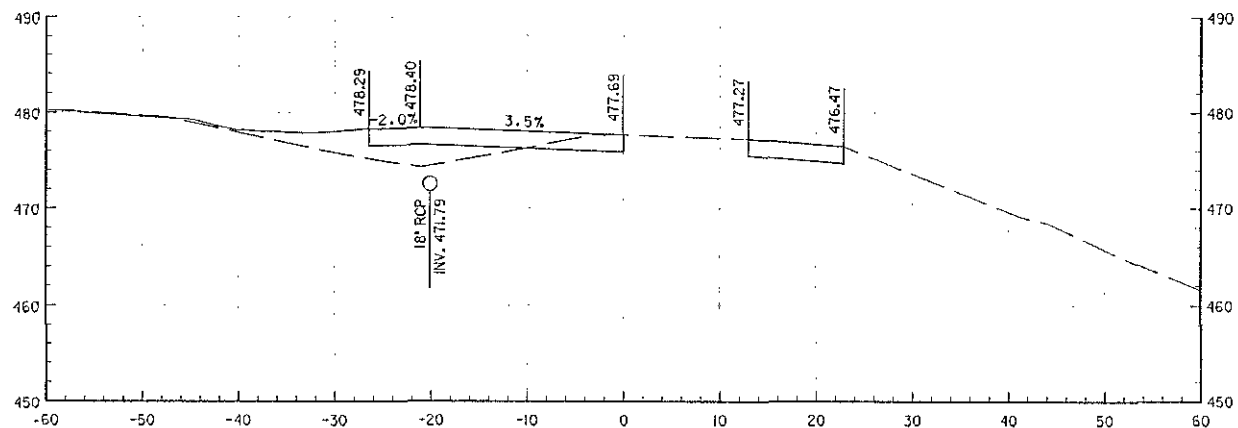
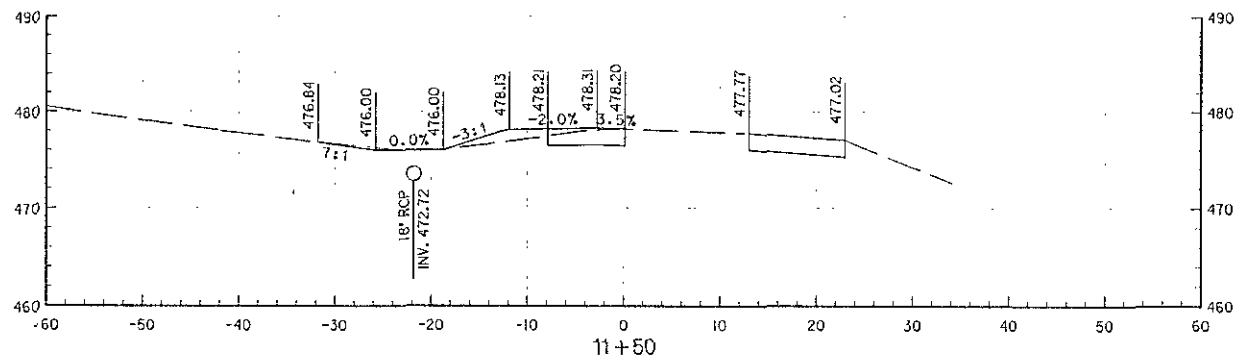
**STV**  
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 Baltimore, MD 21244  
 www.stvinc.com



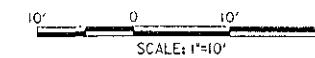
DES. NO.	RUB.	DATE
REV. NO.	BY	DATE
REV. NO.	BY	DATE
REV. NO.	BY	DATE
REV. NO.	BY	DATE
REV. NO.	BY	DATE

DATE: JUNE 2012

PROJECT: MARSHVIEW, HOWARD COUNTY, MARYLAND, PROJECT NO. J-4205, SHEET 2 OF 3, DATE: 2/1/13



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. 2350, Expiration Date: 9-20-14



HC-3

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND

*John J. Smith* 2/6/13  
 DIRECTOR OF PUBLIC WORKS DATE

*Thomas R. Butler* 2/5/13  
 CHIEF, BUREAU OF ENGINEERING DATE

**STV**  
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 7125 Ambassador Road, Suite 200  
 Baltimore, MD 21244  
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DESIGNED BY	
CHECKED BY	
DATE	JUNE 2012
SCALE	AS SHOWN
REVISION	

CROSS SECTIONS

MARRIOTTVILLE ROAD AT I-70  
 PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
 HOWARD COUNTY PROJECT No. J-4205  
 3rd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE:  
 AS SHOWN  
 SHEET  
 3 OF 3

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	MISCELLANEOUS DETAILS
3	ROADWAY PLAN
4	DRAINAGE PROFILES
5	EROSION AND SEDIMENT CONTROL NOTES
6	EROSION AND SEDIMENT CONTROL PLAN
7	SIGNING AND PAVEMENT MARKING PLAN

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. ...* 2/5/13  
DIRECTOR OF PUBLIC WORKS DATE  
CHIEF, BUREAU OF ENGINEERING

*Will R. ...* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS DATE

*Steve ...* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

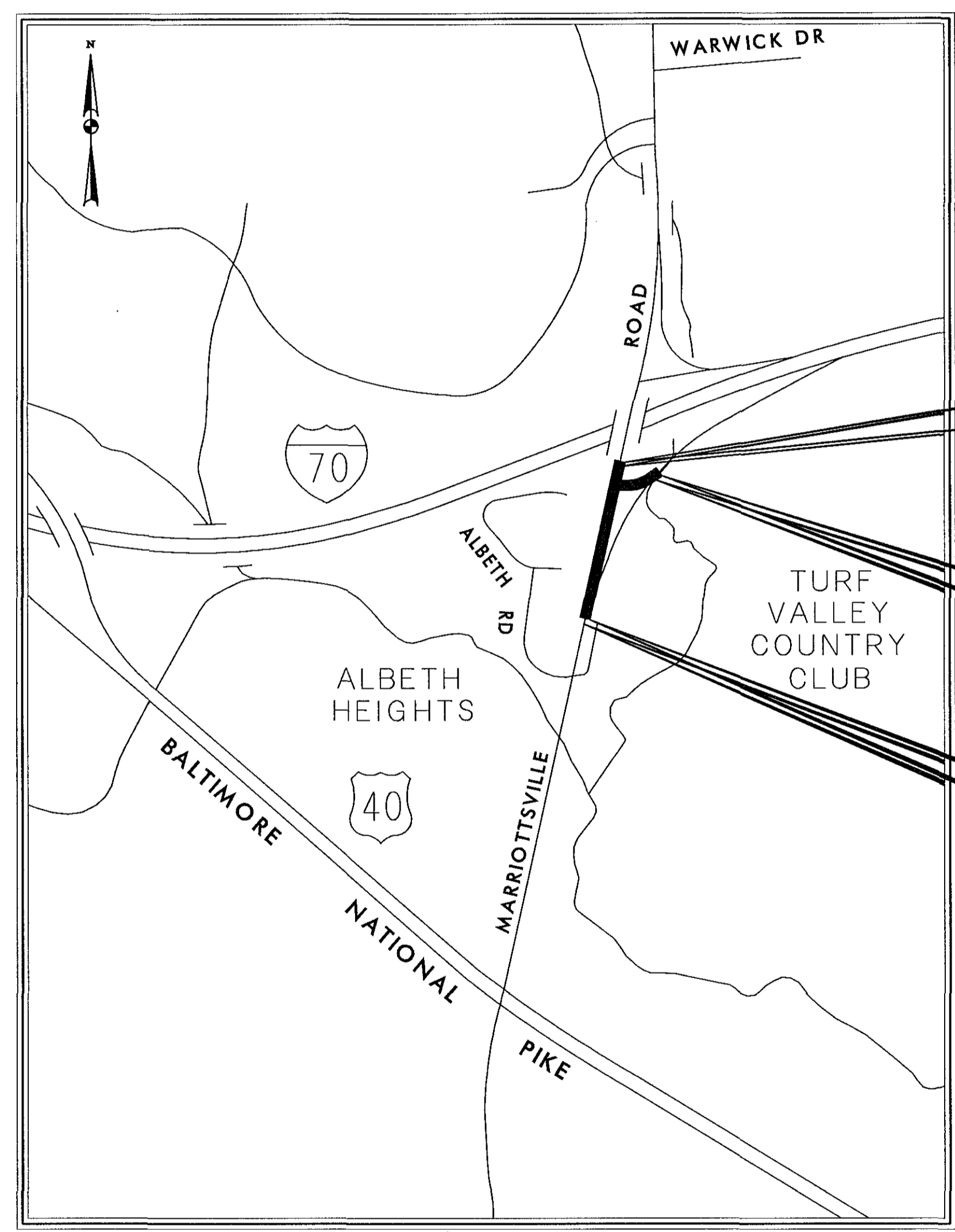
# FINAL ROAD CONSTRUCTION

## MARRIOTTSVILLE ROAD AT I-70 PHASE I - BYPASS LANE AND RAMP RELOCATION

### HOWARD COUNTY PROJECT NO. J-4205

**MAINTENANCE OF TRAFFIC SEQUENCE OF CONSTRUCTION**

- PHASE 1**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
  - ERADICATE THE EXISTING EDGELINE ON THE WEST SIDE OF MARRIOTTSVILLE ROAD AND THE CENTERLINE MARKINGS FROM STA. 99+60 LT TO 108+50 LT. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON THE WEST SIDE OF MARRIOTTSVILLE ROAD TWO FEET EAST AND THE EXISTING CENTERLINE ONE FOOT EAST, MAINTAINING 11 FOOT TRAVEL LANES.
  - INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE WEST EDGELINE OF MARRIOTTSVILLE ROAD BETWEEN STA. 99+60 LT AND 108+20 LT.
  - RELOCATE FIRE HYDRANT LOCATED AT STA. 107+50 LT. AS SHOWN ON ROADWAY PLANS.
  - INSTALL TRAFFIC SIGNAL CONDUIT SYSTEM AS SHOWN ON ROADWAY PLAN.
  - CONSTRUCT FULL DEPTH PAVEMENT FOR NEW BY-PASS LANE, SHOULDER AND DRAINAGE ALONG SB MARRIOTTSVILLE ROAD AS SHOWN ON THE CONTRACT DOCUMENTS.
- PHASE 2A**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
- REMOVE PHASE 1 TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING
- TAPE INSTALLED IN PHASE 1 AND INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT TRAFFIC ALONG MARRIOTTSVILLE ROAD FOUR FEET WEST, MAINTAINING 12 FOOT TRAVEL LANES ALONG MARRIOTTSVILLE ROAD. INSTALL TEMPORARY PAVEMENT MARKING TAPE TO SHIFT THE EDGELINE ON WEST SIDE OF RAMP 'A' TO THE EAST, MAINTAINING A 11 FOOT TRAVEL LANE ON RAMP 'A' BETWEEN STA 104+90 RT AND 106+50 RT.
- INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF MARRIOTTSVILLE ROAD
- BETWEEN STA. 104+90 RT AND 105+90 RT AND ALONG WEST SIDE OF RAMP 'A' BETWEEN STA. 104+90 RT AND 106+50 RT.
- CONSTRUCT FULL DEPTH PAVEMENT FOR THE NEW RAMP 'A' SPUR, INCLUDING THE DRAINAGE
- UNDER RAMP 'A' SPUR, AS SHOWN ON THE CONTRACT DOCUMENTS.
- PHASE 2B**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.06-18 FOR SHOULDER WORK WITH CRASH CUSHIONS PER MD 104.01-70-73 FOR 50 MPH AND MD 104.02-09 FOR FLAGGING OPERATION.
  - INSTALL TEMPORARY TRAFFIC BARRIER ALONG THE EAST SIDE OF RAMP 'A' BETWEEN STA. 104+00 RT. AND STA 12+00 RT. INSTALL TEMPORARY PAVEMENT MARKING TAPE AND SHIFT THE TEMPORARY BARRIER INSTALLED IN PHASE 2A ALONG THE EAST SIDE OF RAMP 'A' SPUR TO THE WEST AS NECESSARY TO PROVIDE A MINIMUM 11 FOOT TRAVEL LANE ALONG RAMP 'A'.
  - CONSTRUCT FULL DEPTH PAVEMENT ALONG THE EAST SIDE OF RAMP 'A', INCLUDING THE DRAINAGE UNDER RAMP 'A', AS SHOWN ON THE CONTRACT DOCUMENTS.
- PHASE 3**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.
  - REMOVE TEMPORARY TRAFFIC BARRIER, REMOVE TEMPORARY PAVEMENT MARKING TAPE INSTALLED IN PHASE 2. INSTALL PERMANENT SIGNS AND TEMPORARY PAVEMENT MARKING PAINT IN ITS PERMANENT LOCATION, AND SHIFT TRAFFIC ONTO NEWLY CONSTRUCTED RAMP 'A' SPUR. INSTALL TEMPORARY TRAFFIC BARRIER ALONG EAST SIDE OF MARRIOTTSVILLE ROAD BETWEEN STA. 106+50 RT AND 107+50 RT AND ALONG THE WEST SIDE OF RAMP 'A' BETWEEN STA. 12+25 LT AND 14+50 LT.
  - REMOVE EXISTING SPUR RAMP. REMOVE TEMPORARY TRAFFIC BARRIER.
- PHASE 4**
- ESTABLISH ALL TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH SHA STANDARD MD 104, SPECIFICALLY MD 104.02-01 FOR SHOULDER WORK AND MD 104.02.09 FOR FLAGGING OPERATION.
  - GRIND AND RESURFACE EXISTING ROADWAY BETWEEN STA. 99+60 AND 108+65.
  - INSTALL PERMANENT PAVEMENT MARKINGS.



- LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTSVILLE ROAD  
STA. 108+73.84
- LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
RAMP 'A' SPUR  
STA. 14+29.25
- LIMIT OF WORK**  
HOWARD COUNTY PROJECT No. J-4205  
MARRIOTTSVILLE ROAD  
STA. 99+60.00

HORIZONTAL DATUM	NAD 83/91
VERTICAL DATUM	NAVD 88

LENGTH OF PROJECT  
MARRIOTTSVILLE ROAD = 0.17 MILES

**VICINITY MAP**  
SCALE: 1"=600'

**GENERAL NOTES:**

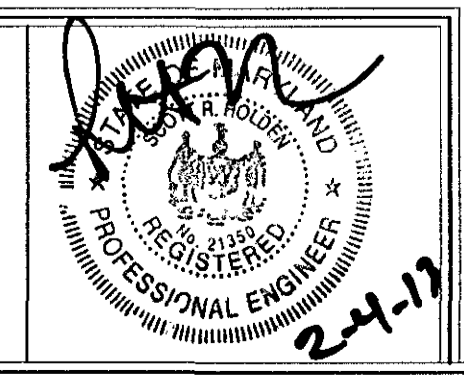
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS WHEN APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/ CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY 'MISS UTILITY' AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- EXISTING UTILITIES ARE BASED ON CURRENT HOWARD COUNTY CONTRACT DRAWINGS; EXISTING 12' WATER- CONTRACT NO. 44-3480.

**DESIGN DESIGNATION CHART**

CONTROLS / YEARS	2010	2030
AVERAGE DAILY TRAFFIC (A.D.T.)	25,000	47,500
DESIGN HOURLY VOLUME (D.H.V.)	1,350	2,350
DIRECTIONAL DISTRIBUTION	70%	60%
% TRUCKS - A.D.T.	2%	2%
% TRUCKS - D.H.V.	3%	3%
DESIGN SPEED	50 MPH	
FUNCTIONAL CLASSIFICATIONS	UNDIVIDED INTERMEDIATE ARTERIAL	
CONTROLS OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	RURAL	
TERRAIN	LEVEL	
ANTICIPATED POSTED SPEED	45 MPH	

SHA R-O-W PLAT NUMBERS	
35505	(EXISTING)
31494	(EXISTING)
31492	(EXISTING)

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com



**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. 21350, EXPIRATION DATE: 9-20-2014

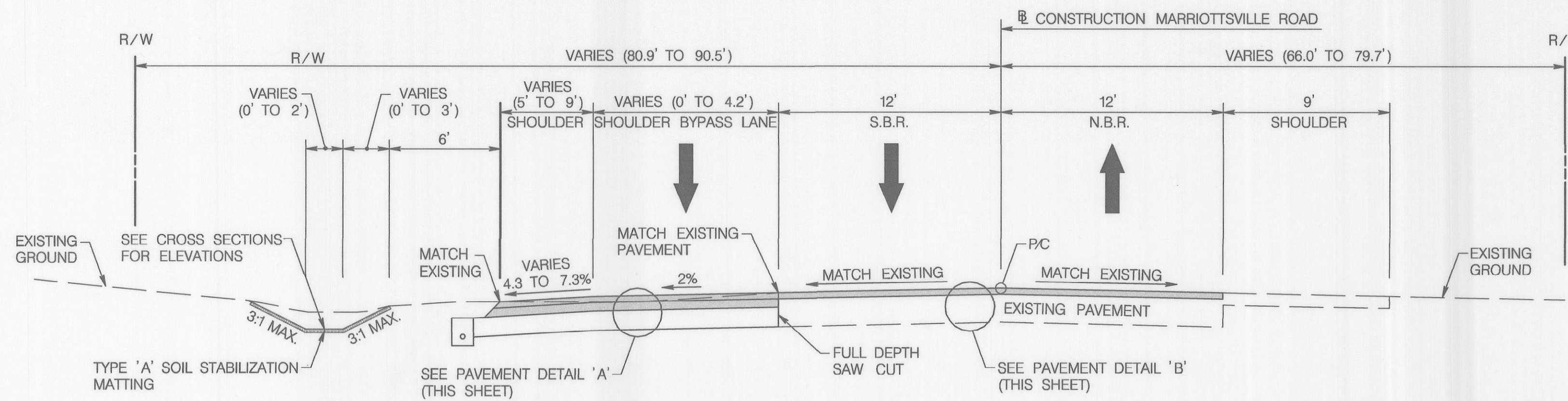
## THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

### MARRIOTTSVILLE ROAD AT I-70 PHASE I BYPASS LANE AND RAMP RELOCATION

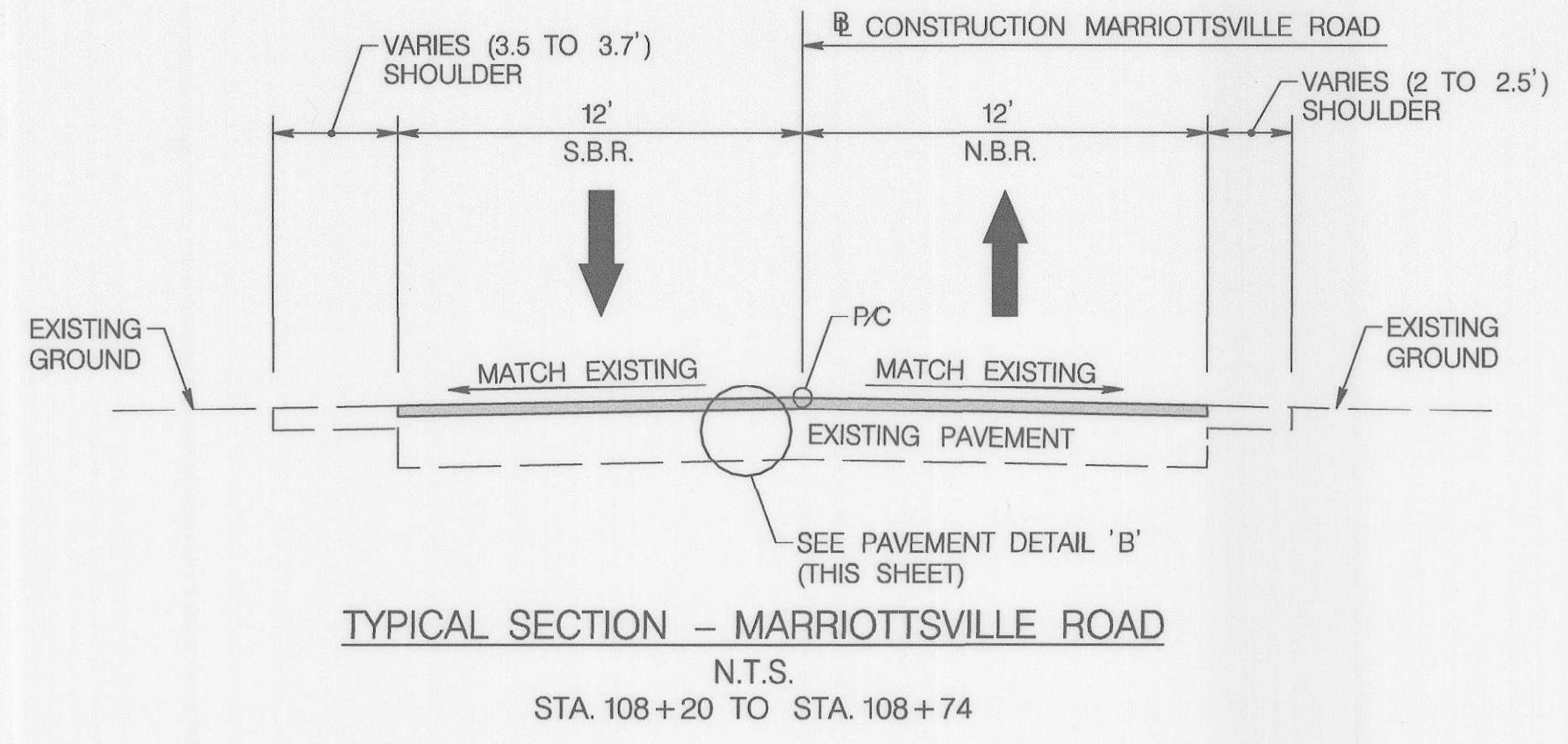
TAX MAP No. 16  
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: JUNE 2012  
SHEET 1 OF 7

PAVEMENT LEGEND

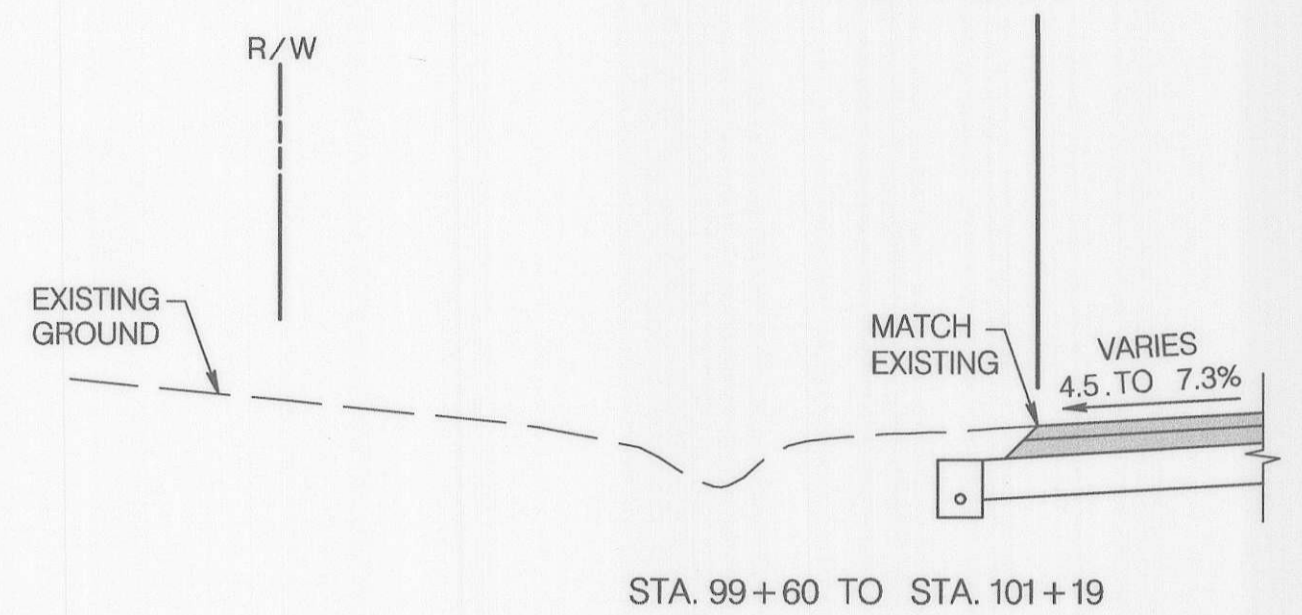
- ① 2" HOT MIX ASPHALT SUPERPAVE 12.5mm FOR SURFACE, PG 64-22, LEVEL 2
  - ② 3" HOT MIX ASPHALT SUPERPAVE 19.0mm FOR BASE, PG 64-22, LEVEL 2
  - ③ 6" GRADED AGGREGATE BASE COURSE
  - ④ TOP OF EXISTING PAVEMENT AFTER 2" GRINDING
  - ⑤ TOP OF EXISTING PAVEMENT
  - ⑥ BOTTOM OF EXISTING PAVEMENT
  - ⑦ TOPSOIL-FURNISH AND PLACED 2" DEPTH
  - ⑧ VARIABLE DEPTH BORROW EXCAVATION (TO BE SUPPLIED FROM SUITABLE MATERIAL AVAILABLE FROM CLASS 1 AND CLASS 2 EXCAVATION)
  - ⑨ SEEDING AND MULCHING
  - ⑩ TOP OF SUBGRADE AND LIMIT OF EXCAVATION
  - ⑪ 6" PERFORATED UNDERDRAIN (SEE STD. NO. MD 387.11, STD. 387.01 AND PAVEMENT LEGEND NOTE)
- PAVEMENT LEGEND NOTE: ALL UNDERDRAIN SHALL BE WRAPPED WITH CLASS SD TYPE II NON WOVEN GEOTEXTILE



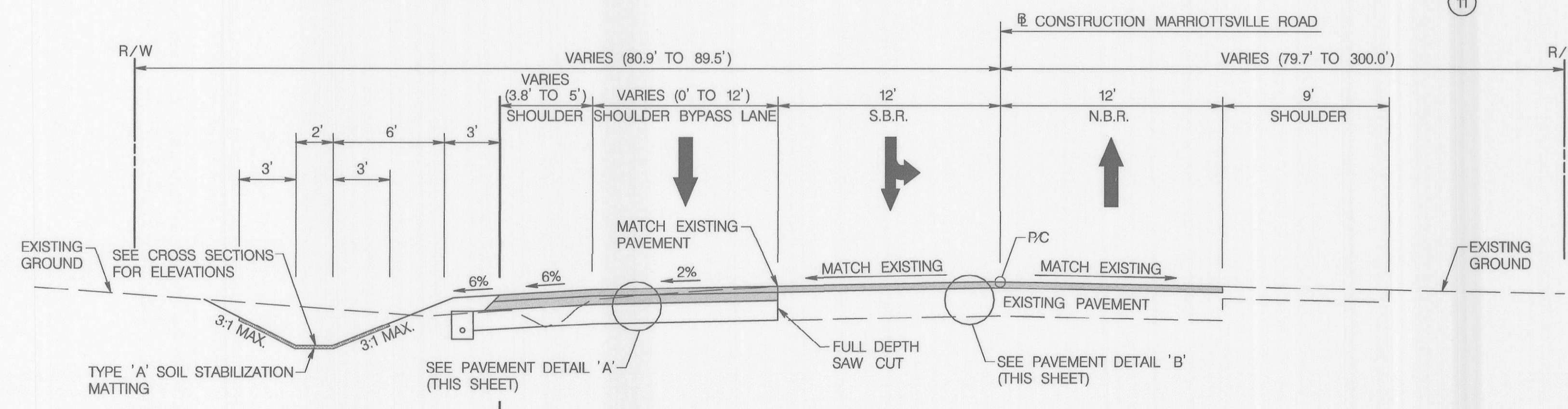
TYPICAL SECTION - MARRIOTTVILLE ROAD  
N.T.S.  
STA. 99+60 TO STA. 101+26



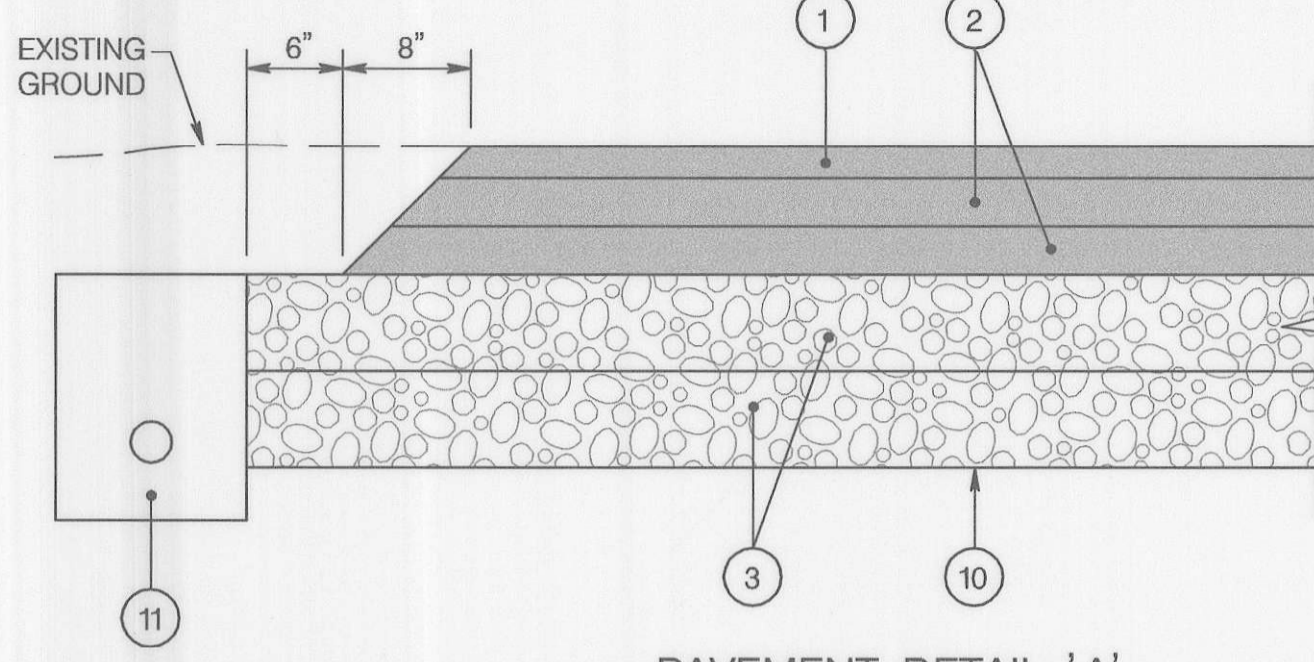
TYPICAL SECTION - MARRIOTTVILLE ROAD  
N.T.S.  
STA. 108+20 TO STA. 108+74



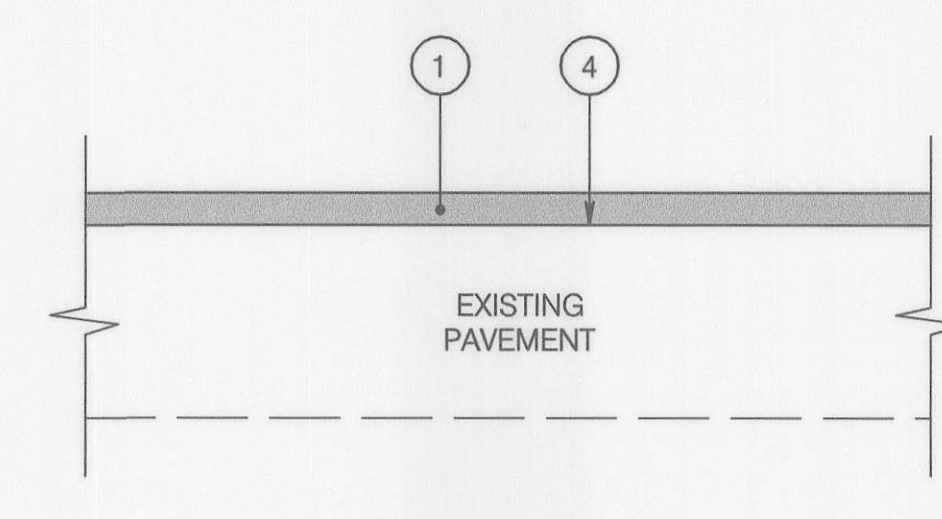
STA. 99+60 TO STA. 101+19



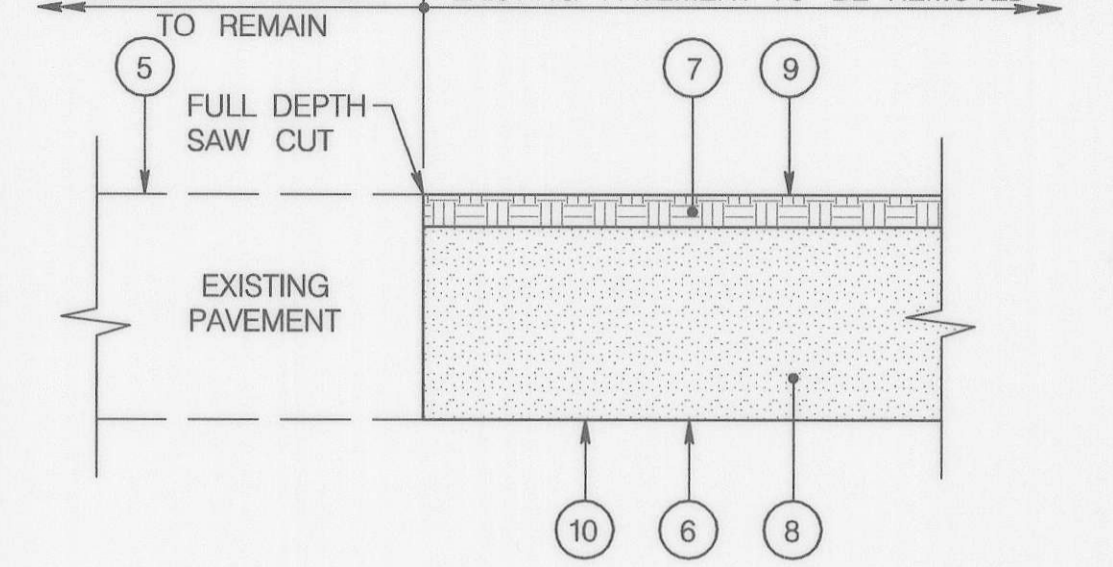
TYPICAL SECTION - MARRIOTTVILLE ROAD  
N.T.S.  
STA. 101+26 TO STA. 108+20



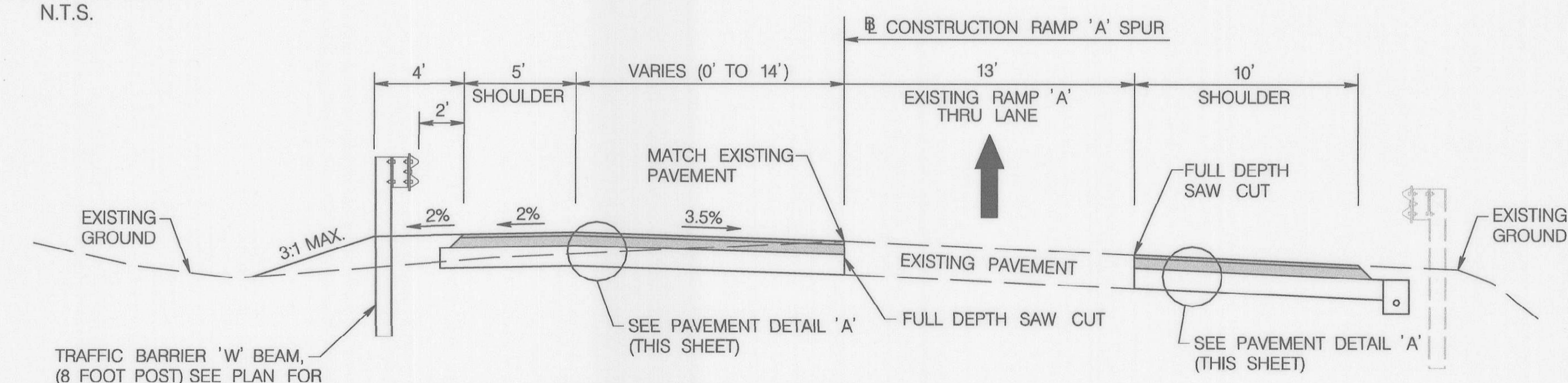
PAVEMENT DETAIL 'A'  
N.T.S.



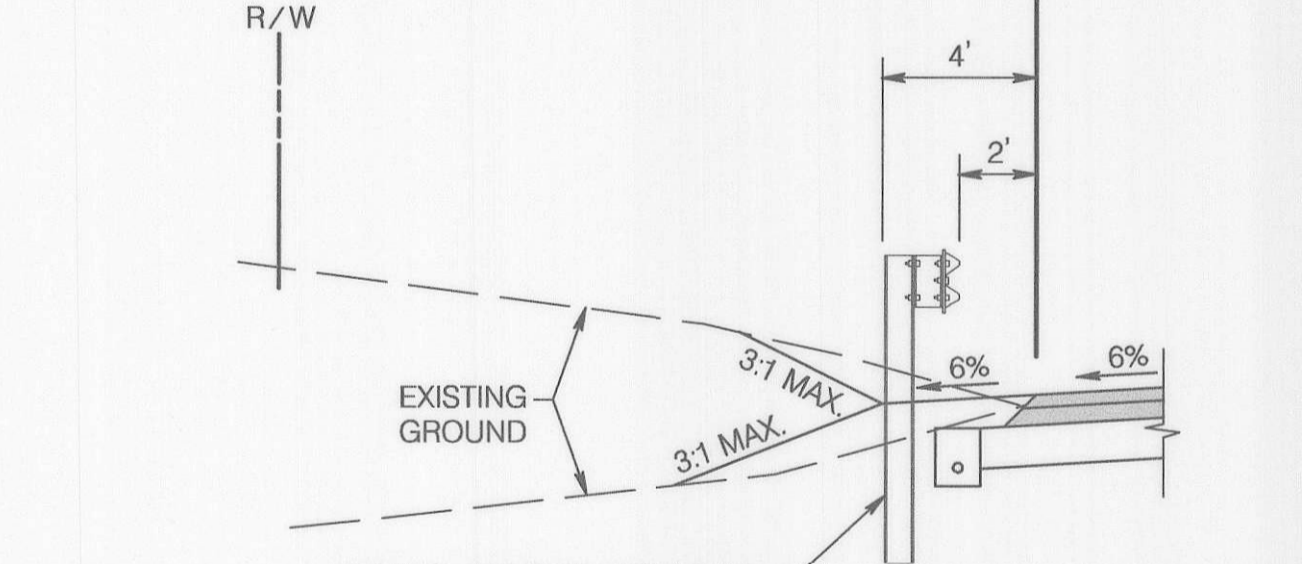
PAVEMENT DETAIL 'B'  
N.T.S.



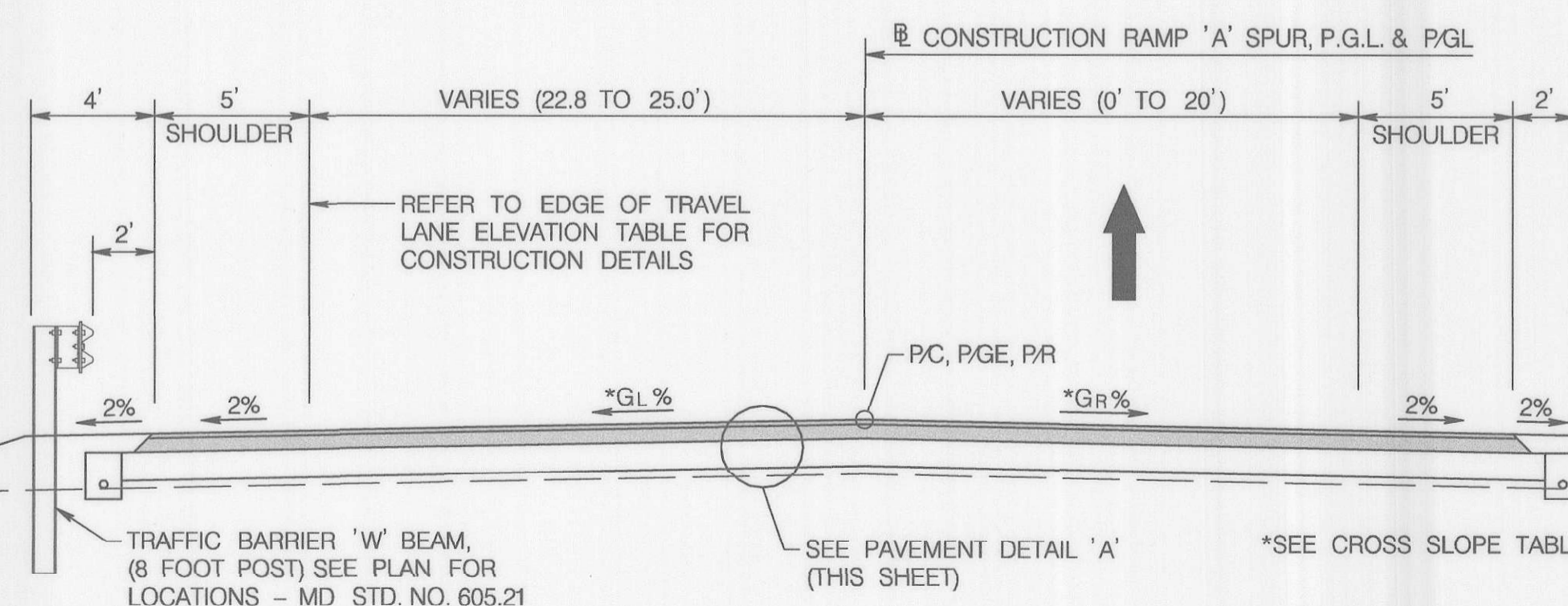
REMOVAL OF EXISTING PAVEMENT DETAIL  
N.T.S.



TYPICAL SECTION - RAMP 'A' SPUR  
N.T.S.  
STA. 10+95 TO STA. 11+82



STA. 107+45 TO STA. 108+20

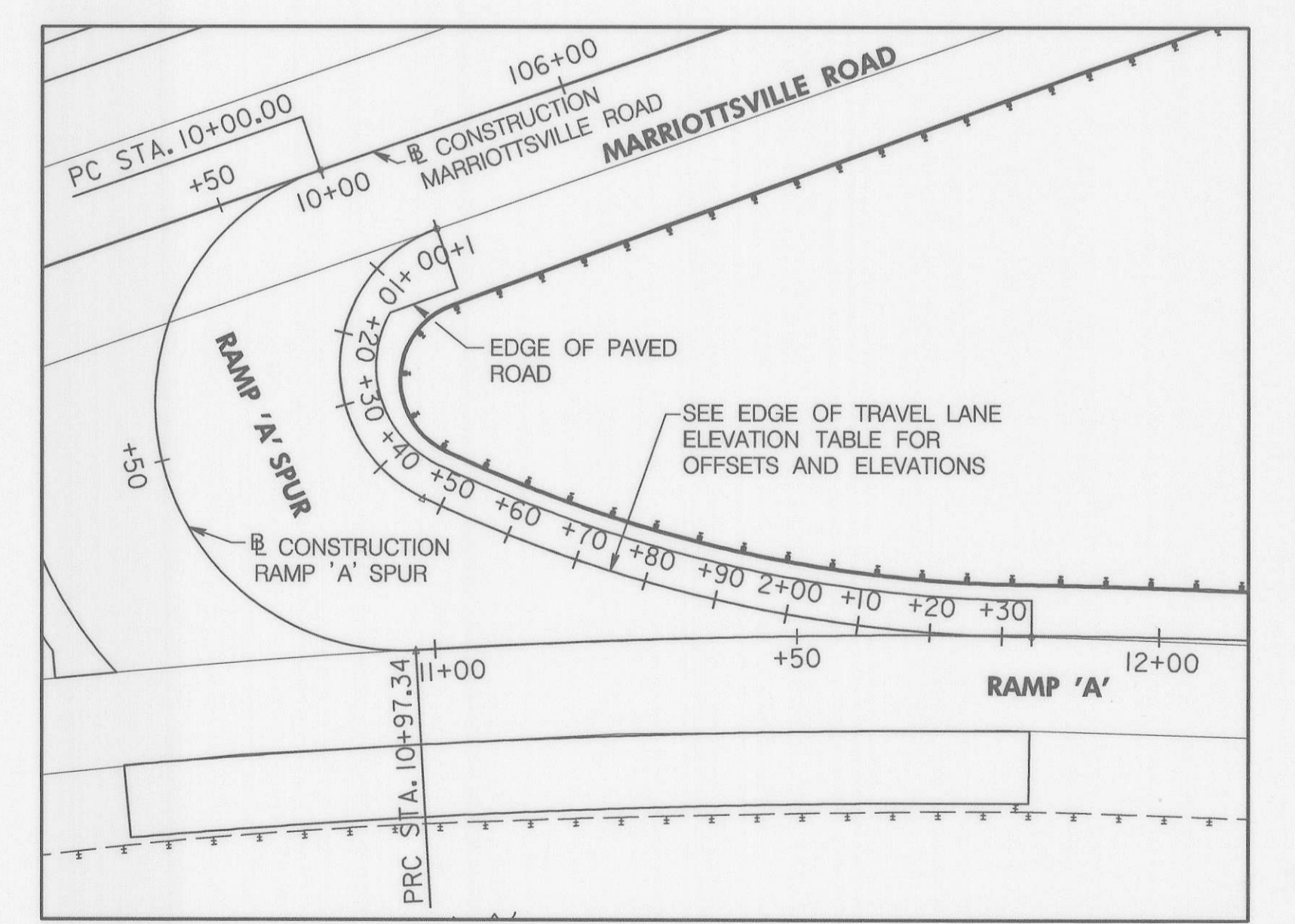


TYPICAL SECTION - RAMP 'A' SPUR  
N.T.S.  
STA. 10+31 TO STA. 10+95

EDGE OF TRAVEL LANE ELEVATION TABLE  
MARRIOTTVILLE ROAD / RAMP 'A' SPUR

EDGE OF TRAVEL LANE	EQUALITY STATION	BASELINE OFFSET	SHOULDER ELEVATION
1+00	105+77.14 (MARRIOTTVILLE ROAD)	12.96' RT.	480.26*
1+10	105+67.56 (MARRIOTTVILLE ROAD)	15.44' RT.	479.62
1+20	10+12.00 (RAMP 'A' SPUR)	21.43' LT.	479.00
1+30	10+42.82 (RAMP 'A' SPUR)	26.18' LT.	478.36
1+40	10+84.49 (RAMP 'A' SPUR)	24.74' LT.	478.17
1+50	11+01.89 (RAMP 'A' SPUR)	19.56' LT.	478.40
1+60	11+10.76 (RAMP 'A' SPUR)	15.21' LT.	478.36
1+70	11+19.90 (RAMP 'A' SPUR)	11.36' LT.	478.35
1+80	11+29.26 (RAMP 'A' SPUR)	8.04' LT.	478.35
1+90	11+38.82 (RAMP 'A' SPUR)	5.28' LT.	478.32
2+00	11+48.54 (RAMP 'A' SPUR)	3.07' LT.	478.31
2+10	11+58.38 (RAMP 'A' SPUR)	1.42' LT.	478.32
2+20	11+68.32 (RAMP 'A' SPUR)	0.35' LT.	478.35
2+30	11+78.31 (RAMP 'A' SPUR)	0.14' RT.	478.38*

\*MATCH EXISTING ELEVATION



RAMP 'A' SPUR EDGE OF TRAVEL LANE GEOMETRY  
SCALE: 1" = 20'

CROSS SLOPE TABLE  
RAMP 'A' SPUR

STATION	G <sub>L</sub> %	G <sub>R</sub> %
10+30.71	2.0%	
10+39.76	1.2%	2.2%
10+67.66	1.1%	4.0%
10+95.37	3.5%	

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. 21350, Expiration Date: 9-20-14

NOTES:  
PLACE 2" TOPSOIL, SEED AND MULCH ON ALL ROADSIDE AND SLOPE AREAS AND STABILIZE WITH TYPE 'A' SOIL STABILIZATION MATTING ON SLOPES 2:1 OR GREATER.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. ...* 2/6/13  
DIRECTOR OF PUBLIC WORKS DATE

*Steve Shaver* 2/1/13  
CHIEF OF TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com

PROFESSIONAL ENGINEER  
2-4-13

DES: ROB	
DRN: CSC	
CHK: SRH	
DATE: JUNE 2012	
BY: NO.	
REVISION	

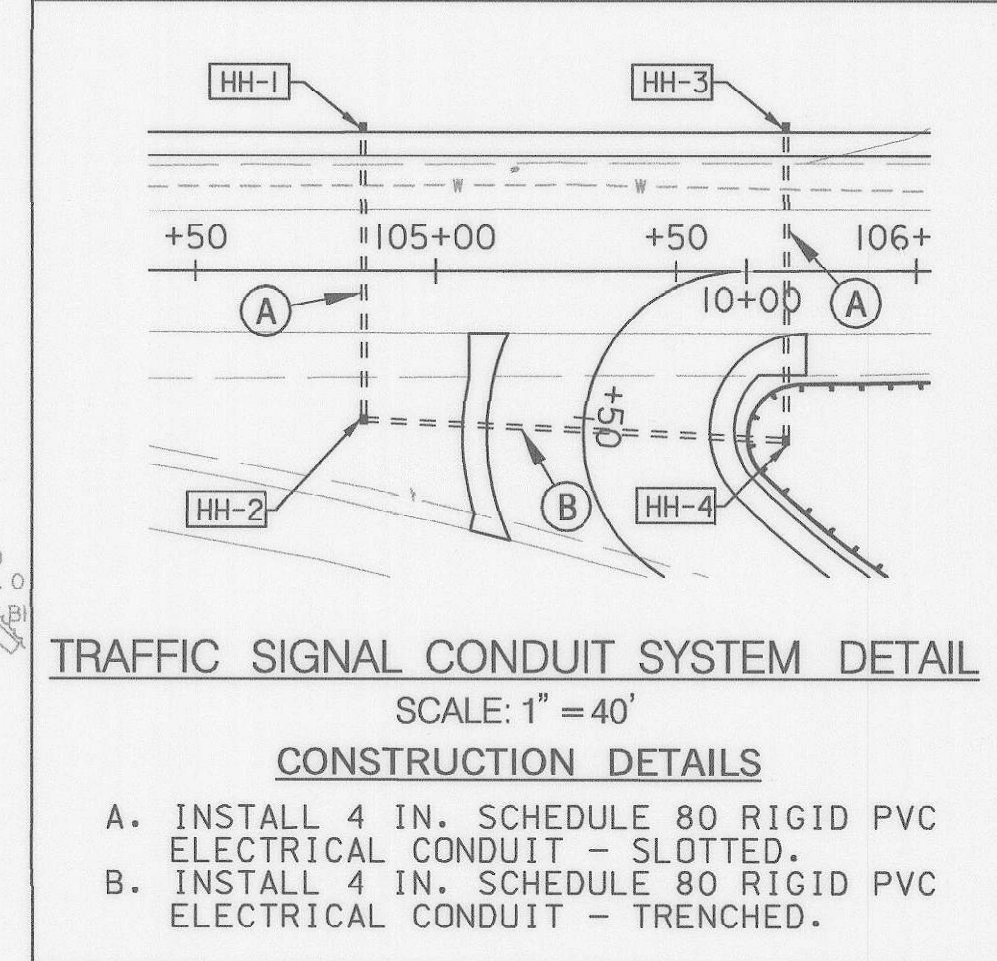
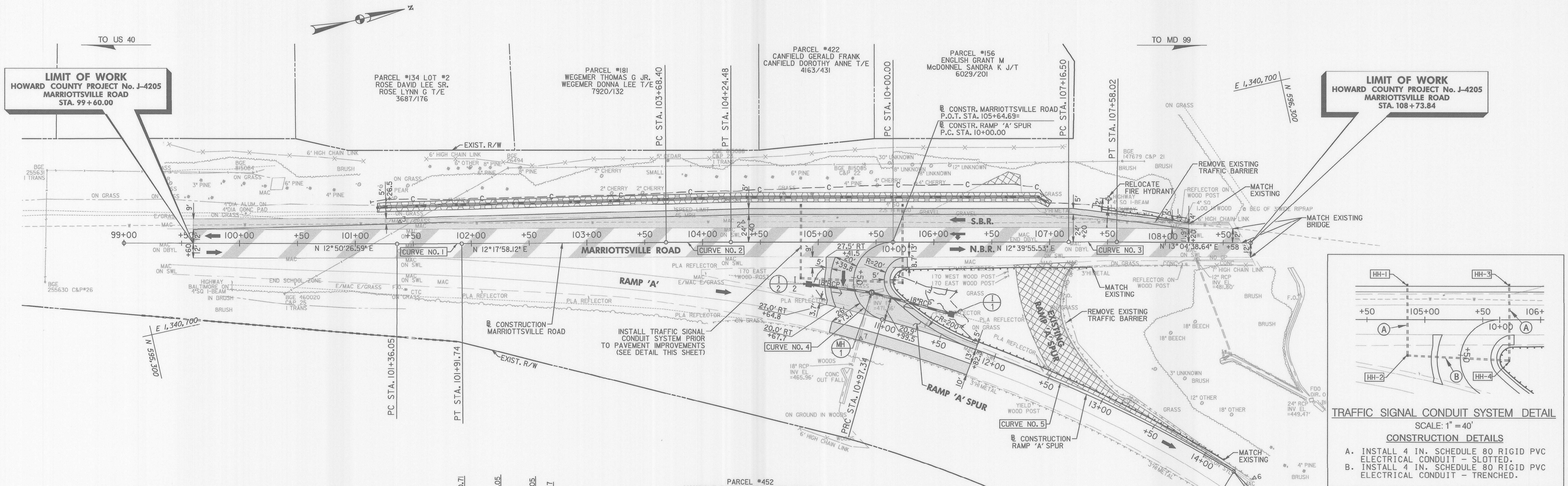
MISCELLANEOUS DETAILS

DATE: 600' SCALE MAP NO. BLOCK NO.

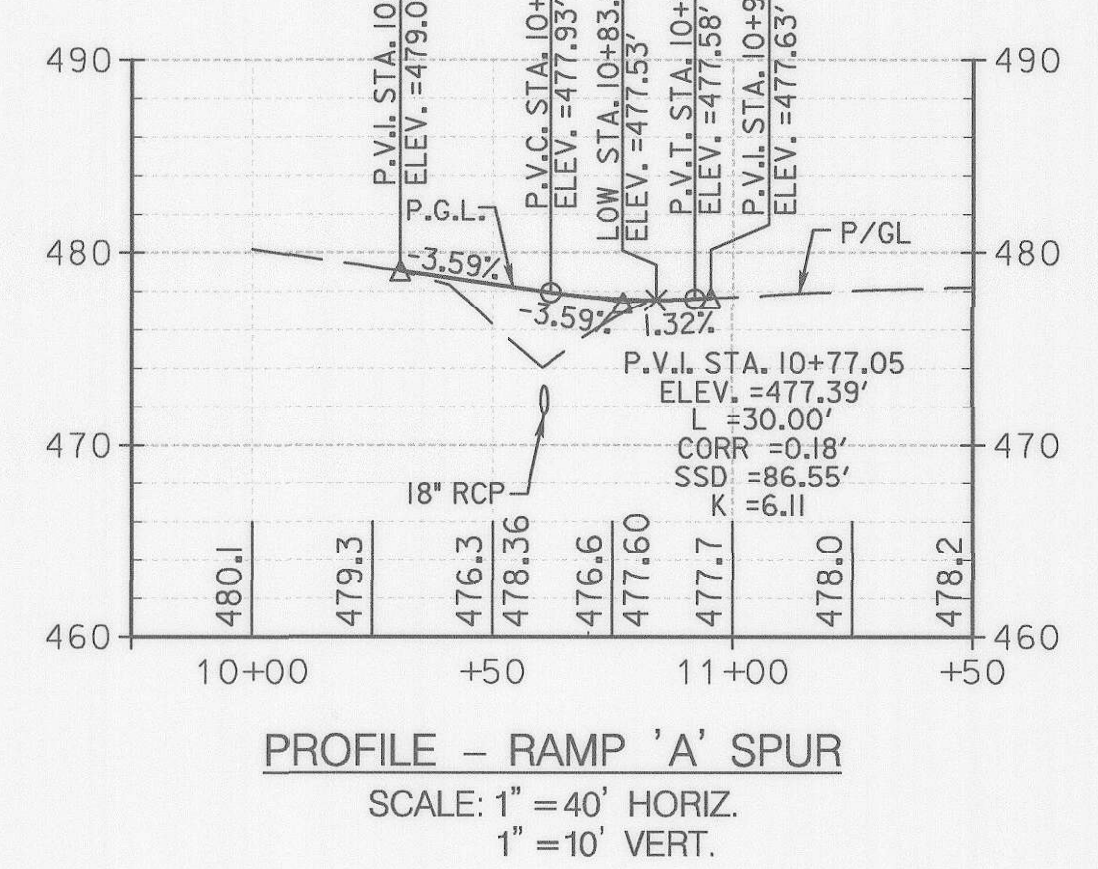
MARRIOTTVILLE ROAD AT I-70  
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HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 2 OF 7

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BASELINE COORDINATES			
POINT NO.	STATION	NORTH	EAST
<b>MARIOTTVILLE ROAD</b>			
P.O.B.	99+00.00	595,293.749	1,340,617.339
P.C.	101+36.05	595,523.899	1,340,669.800
P.T.	101+91.74	595,578.251	1,340,681.919
P.C.	103+68.40	595,750.857	1,340,719.551
P.T.	104+24.48	595,805.608	1,340,731.672
P.O.T.	105+64.69	595,942.407	1,340,762.414
P.C.	107+16.50	596,090.522	1,340,795.700
P.T.	107+58.02	596,131.003	1,340,804.950
P.O.E.	108+73.84	596,243.817	1,340,831.155
<b>RAMP 'A' SPUR</b>			
P.C.	10+00.00	595,942.407	1,340,762.414
P.R.C.	10+97.34	595,918.664	1,340,825.432
P.T.	14+29.25	596,186.038	1,341,020.479



- REMOVAL OF EXISTING CONCRETE CURB**  
150 L.F. @ CONSTR. - MARIOTTVILLE ROAD/RAMP 'A' SPUR - STA 106+68 TO STA. 14+29 RT./LT.
- REMOVAL AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM**  
250 L.F. @ CONSTR. - MARIOTTVILLE ROAD/RAMP 'A' SPUR - STA 107+36 TO STA. 14+29 RT./LT.  
125 L.F. @ CONSTR. - MARIOTTVILLE ROAD - STA. 106+97 TO STA. 108+18 LT.
- TRAFFIC BARRIER W BEAM**  
525 L.F. @ CONSTR. - MARIOTTVILLE ROAD/RAMP 'A' SPUR - STA 107+36 TO STA. 14+17 RT./LT.  
25 L.F. @ CONSTR. - MARIOTTVILLE ROAD - STA. 107+95 TO STA. 108+20
- TYPE 'C' TRAFFIC BARRIER END TREATMENT**  
1 EA @ CONSTR. - MARIOTTVILLE ROAD - STA 107+45 TO STA. 107+95 LT.
- 6" PERFORATED UNDERDRAIN**  
780 L.F. @ CONSTR. - MARIOTTVILLE ROAD - STA 101+60 TO STA. 107+80 LT.  
50 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+00 TO STA. 11+82 RT.  
110 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+41 TO STA. 10+65 LT.  
125 L.F. @ CONSTR. - RAMP 'A' SPUR - STA. 10+73 TO STA. 11+82 RT.

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
1	596,188.518	1,340,795.500	485.42
2	595,819.710	1,340,717.072	475.25
3	595,530.363	1,340,651.674	463.32
4	594,716.343	1,340,471.149	440.85
5	593,868.600	1,340,303.897	449.14
6	596,202.234	1,341,029.779	473.84
7	595,896.956	1,340,837.639	476.42
12	596,502.760	1,340,864.365	486.20
16	593,250.964	1,340,192.701	463.89

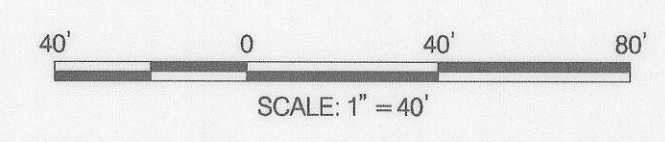
CURVE DATA							
CURVE	P.I. STATION	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
<b>MARIOTTVILLE ROAD</b>							
1	101+63.90	0°32'28.47" LT.	0°58'18.98"	5,895.00'	27.84'	55.69'	0.07'
2	103+96.44	0°21'57.41" RT.	0°39'09.26"	8,780.00'	28.04'	56.08'	0.05'
3	107+37.26	0°24'43.11" RT.	0°59'31.69"	5,775.00'	20.76'	41.52'	0.04'
<b>RAMP 'A' SPUR</b>							
4	12+42.56	164°02'30.40" LT.	168°31'01.19"	34.00'	242.56'	97.34'	210.94'
5	12+64.25	14°58'25.06" RT.	4°30'41.32"	1,270.00'	166.90'	331.90'	10.92'

STRUCTURE SCHEDULE							
NO.	STATION	OFFSET	BASELINE	DEPTH	MD STANDARD NO., TYPE	T.S.	REMARKS
I-1	11+52.70	21.96' LT.	RAMP 'A' SPUR	3.25'	MD-378.11, DBL OPENING TYPE 'K'	476.0'	
I-2	10+54.43	38.75' RT.	RAMP 'A' SPUR	2.50'	MD-378.11, DBL OPENING TYPE 'K'	474.5'	
MH-1	10+69.59	13.4' LT.	RAMP 'A' SPUR	6.50'	MD-384.01, 48" DIA. PRECAST MANHOLE	477.9'	REPLACE EXISTING INLET WITH MANHOLE

PIPE SCHEDULE							
FROM	TO	SIZE	TYPE	LENGTH	INV. IN	INV. OUT	REMARKS
I-1	MH-1	18"	CLASS IV RCP	72'	472.8'	471.5'	
I-2	MH-1	18"	CLASS IV RCP	55'	472.0'	471.5'	

TRAFFIC SIGNAL CONDUIT SYSTEM SCHEDULE				
NO.	STATION	OFFSET	BASELINE	MD STANDARD NO.
HH-1	104+85	30' LT.	@ CONSTR. - MARIOTTVILLE ROAD	MD-811.01-03
HH-2	104+85	31' RT.	@ CONSTR. - MARIOTTVILLE ROAD	MD-811.01-03
HH-3	105+73	30' LT.	@ CONSTR. - MARIOTTVILLE ROAD	MD-811.01-03
HH-4	105+73	35' RT.	@ CONSTR. - MARIOTTVILLE ROAD	MD-811.01-03

- LEGEND**
- FULL DEPTH HMA PAVEMENT
  - HMA GRINDING AND RESURFACING
  - REMOVAL OF EXISTING PAVEMENT
  - TYPE 'A' SOIL STABILIZATION MATTING
  - 4 INCH SCHEDULE 80 RIGID PVC CONDUIT



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.  
 21350, 9-22-14

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *John R. ...* DATE: 2/13/13  
 Chief, Bureau of Highways: *Steve Shaver* DATE: 2/13/13

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com

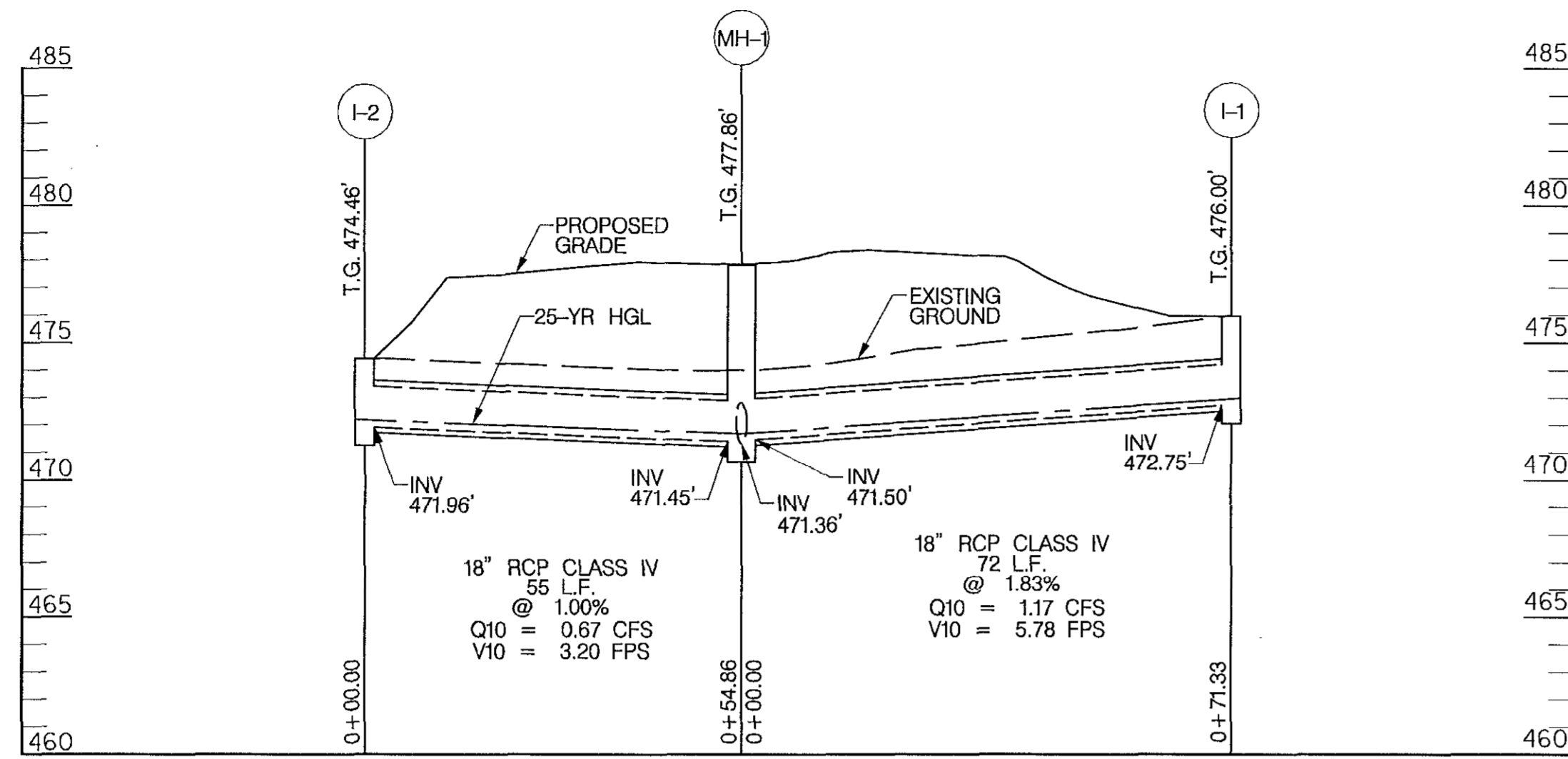
Professional Engineer  
2-4-13

DES:	DRW:	CHK:	DATE:	BY:	NO.	REVISION	DATE:	600' SCALE MAP NO.	BLOCK NO.
ROB	CSC	SRH	JUNE 2012						

**ROADWAY PLAN**

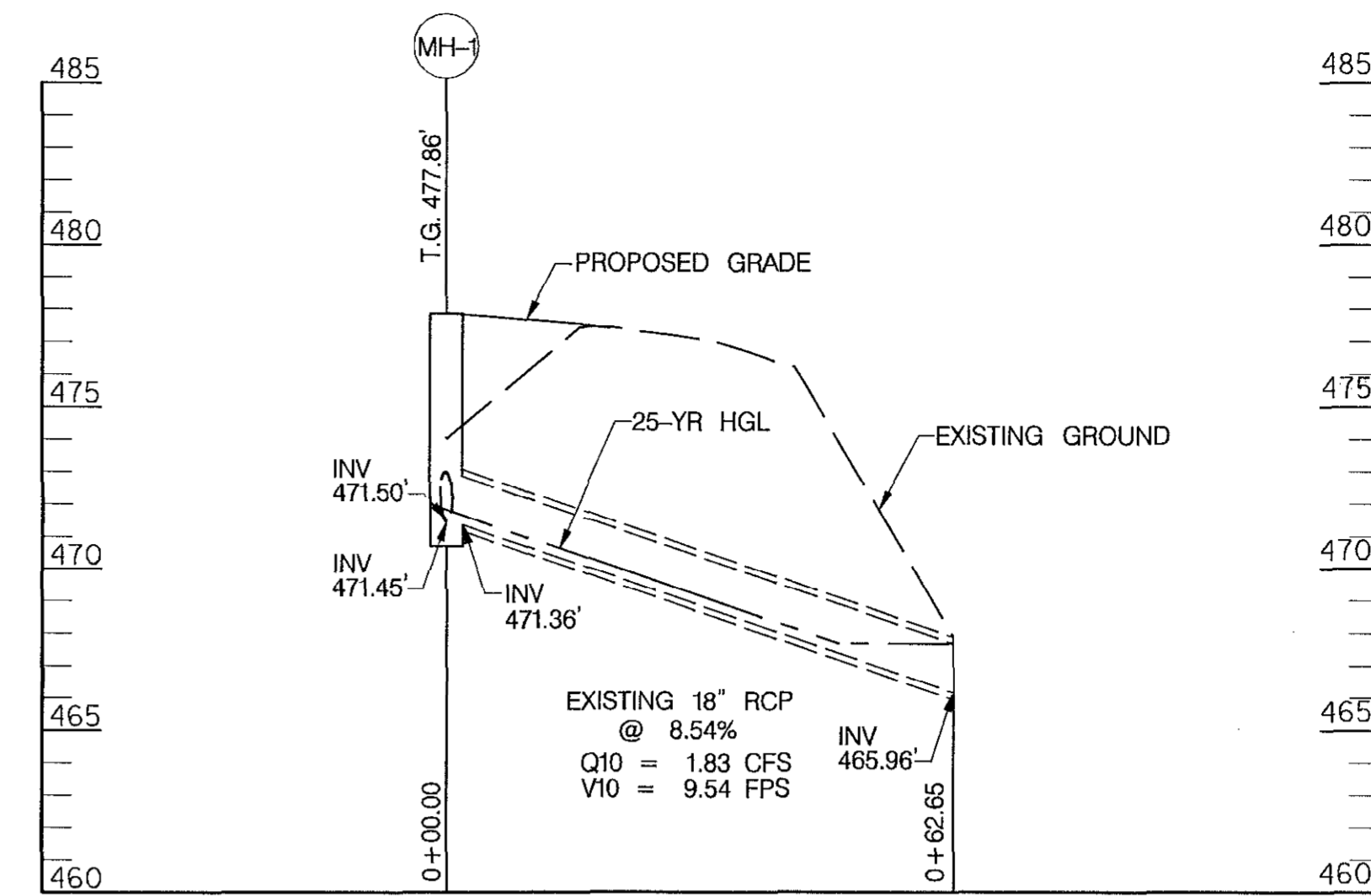
MARIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN  
SHEET 3 OF 7



PIPE PROFILE - I-2 TO I-1

SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'



PIPE PROFILE - MH-1 TO EX. OUTFALL

SCALE:  
HORIZONTAL: 1" = 20'  
VERTICAL: 1" = 5'

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. 21350, Expiration Date: 9-20-14

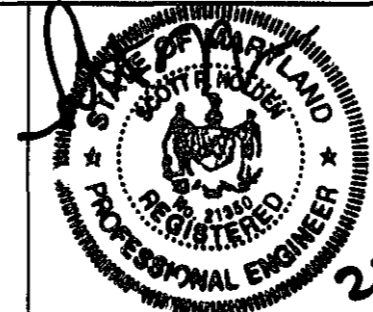
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DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Moran* 2/8/13  
DIRECTOR OF PUBLIC WORKS  
*Walter D. Moran* 2-8-13  
CHIEF, BUREAU OF HIGHWAYS

*Thomas R. Butler* 2/8/13  
CHIEF, BUREAU OF ENGINEERING  
*Steve Sharau* 2/4/13  
CHIEF OF TRANSPORTATION AND SPECIAL  
PROJECTS DIVISION

**STV**  
STV Incorporated  
7125 Ambassador Road, Suite 200  
Baltimore, MD 21244  
www.stvinc.com



DES: RDB  
DRN: CSC  
CHK: SRH  
DATE: JUNE 2012  
BY: NO.  
REVISION

STORM DRAIN PROFILES

DATE: 600' SCALE MAP NO. \_\_\_\_\_ BLOCK NO. \_\_\_\_\_

MARRIOTTVILLE ROAD AT I-70  
PHASE 1 - BYPASS LANE AND RAMP RELOCATION  
HOWARD COUNTY PROJECT No. J-4205  
3rd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

DP-1

SCALE:  
AS SHOWN

SHEET  
4 OF 7