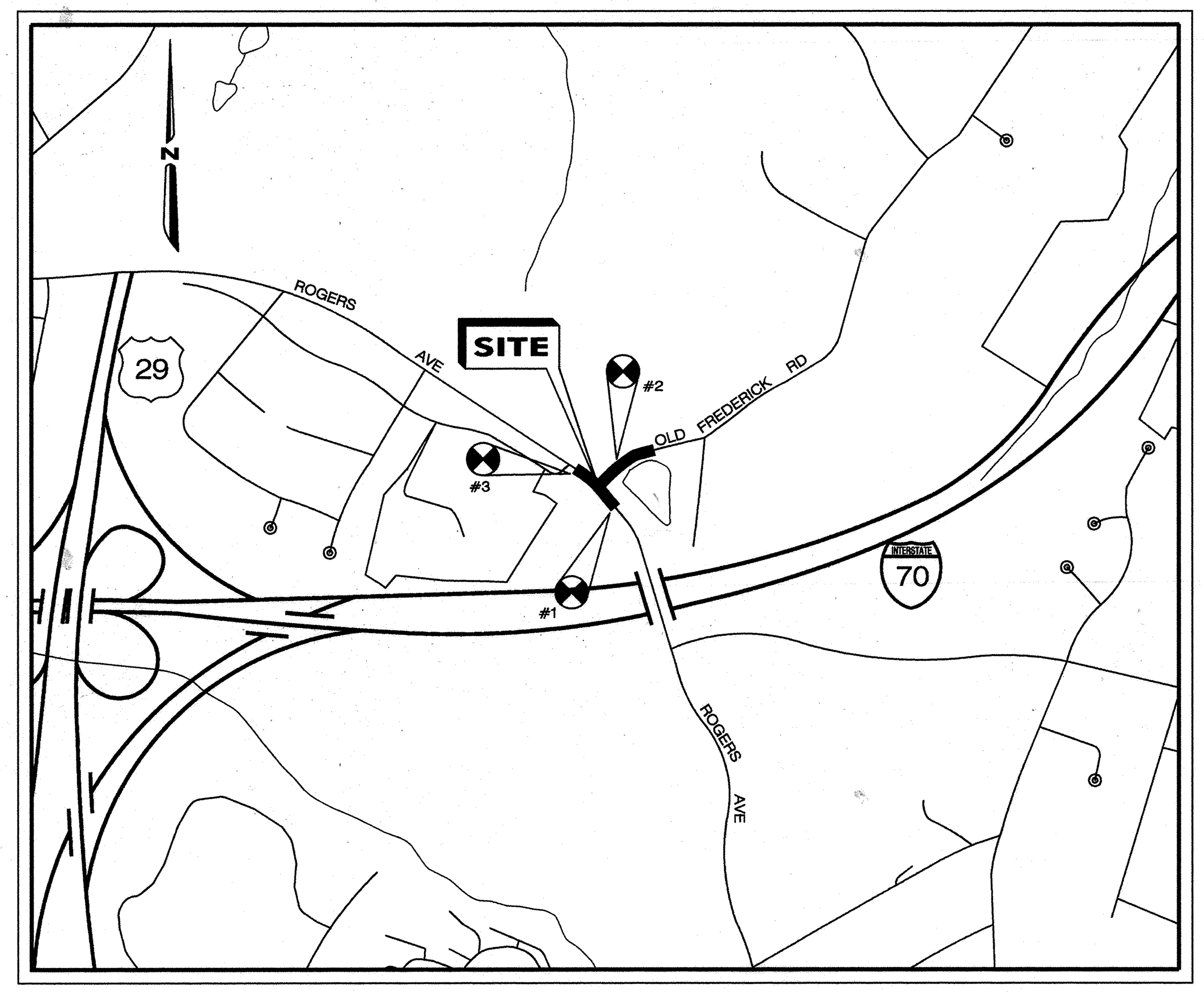
INDEX OF SHEETS



LOCATION MAP
SCALE 1" = 2000'

GENERAL NOTES

1. ALL INFORMATION AND DETAILS ON THESE DRAWINGS SHALL BE AS DIRECTED BY THE HOWARD COUNTY INSPECTOR.
2. ALL STATIONING AND DIMENSIONING ARE TO BE FIELD VERIFIED BY THE CONTRACTOR.
3. STORM DRAINAGE SLOPES ARE TO BE AS DIRECTED BY HOWARD COUNTY ENGINEER UNLESS OTHERWISE SHOWN ON PLANS.
4. APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.

   MISS UTILITY 1-800-257-7777
   BALTIMORE GAS & ELECTRIC CO. – ELECTRIC DISTRIBUTION 410-291-3096
   COMCAST CABLE – 410-461-0444
   VERIZON – TELECOMMUNICATIONS 410-224-9500
   BUREAU OF UTILITIES – HOWARD COUNTY D.P.W. 410-313-4900

   THE CONTRACTOR SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION OF ENGINEERING FOR VERIFICATION AND/OR INFORMATION REGARDING:

   A. PROPOSED/EXISTING RIGHT-OF-WAY.
   B. UTILITY RELOCATION.
   C. MAINTENANCE OF TRAFFIC DURING CONSTRUCTION.
   D. EROSION/SEDIMENT CONTROL CERTIFICATION AND PERMIT.
   E. HORIZONTAL/VERTICAL SURVEY CONTROL.
   F. GRADING PERMIT.
5. SEE HOWARD COUNTY STANDARD DETAILS NO'S G-1.01 AND G-1.02 FOR STANDARD SYMBOLS.
6. HORIZONTAL COORDINATES ARE BASED ON MD NAD 27 DATUM AND VERTICAL ELEVATIONS ARE BASED ON NGVD 1929 ELEVATIONS AND TRANSFERRED FROM MONUMENTS

   1 N 594327.6572
   E 1365319.4228
   ELEV. 476.56

   3 N 594652.0754
   E 1365003.9486
   ELEV. 474.50

   2 N 594614.3935
   E 1365191.5996
   ELEV. 476.17
7. MAINTENANCE OF TRAFFIC FOR BOTH ROGERS AVENUE AND OLD FREDERICK ROAD SHALL BE STAGED IN THREE PARTS WITH LOCAL TRAFFIC CONTROL FOR ALL THREE PARTS. TEMPORARY APPROACH SIGNS WILL REMAIN IN EFFECT THROUGHOUT THE DURATION OF THE WORK. THERE ARE TWO ACCESS DRIVES WITHIN THE WORK ZONE TO BE MAINTAINED BY THE CONTRACTOR.
8. A STAGING AND STOCKPILE AREA WILL BE DETERMINED BY THE CONTRACTOR AND APPROVED BY HOWARD COUNTY ENGINEER.
9. TOPOGRAPHIC SURVEY INFORMATION BASED ON FIELD SURVEY PERFORMED BY A. MORTON THOMAS AND ASSOCIATES DATED NOVEMBER, 2000

CAPITAL PROJECT NO. T–7076

Rogers Avenue at Old Frederick Road

"ROUND–ABOUT INTERSECTION"

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

ON-SITE BENCH MARKS

B.M. #1
N 594327.6572 E 1365319.4228 ELEV. 476.56
STEEL REBAR WITH PLASTIC CAP

B.M. #2
N 594614.3975 E 1365191.5996 ELEV. 476.17
STEEL REBAR WITH PLASTIC CAP

B.M. #3
N 594652.0754 E 1365003.9486 ELEV. 474.50
STEEL REBAR WITH PLASTIC CAP

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

7-3-02
CHIEF, TRAFFIC DIVISION — DATE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

7/31/02
U.S. Natural Resources Conservation Service — Date

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

7/31/02
Howard Soil Conservation District — Date

FILE: c:\cadd jobs\99-393.024\ustation\final\ps01rogers.dgn
DATE: 03-Jun-02 21:01

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
7-3-02
CHIEF, TRAFFIC DIVISION — DATE
7-19-02
CHIEF, BUREAU OF HIGHWAYS — DATE

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

BOARD OF PROFESSIONAL ENGINEERS No. 23503 FREDERICK A. CARIVAN STATE OF MARYLAND

DES: F.A.C.	BY	NO.	REVISION	DATE
DRN: C.D.F.				
CHK: F.A.C.				
DATE: 02/02				

CAPITAL PROJECT NO.
T–7076
600' SCALE MAP NO. ________ DATE: ________

TITLE PLAN
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 1 OF 14

REMOVE EXISTING SIGNS AS DIRECTED BY THE ENGINEER SEE SHEET 7

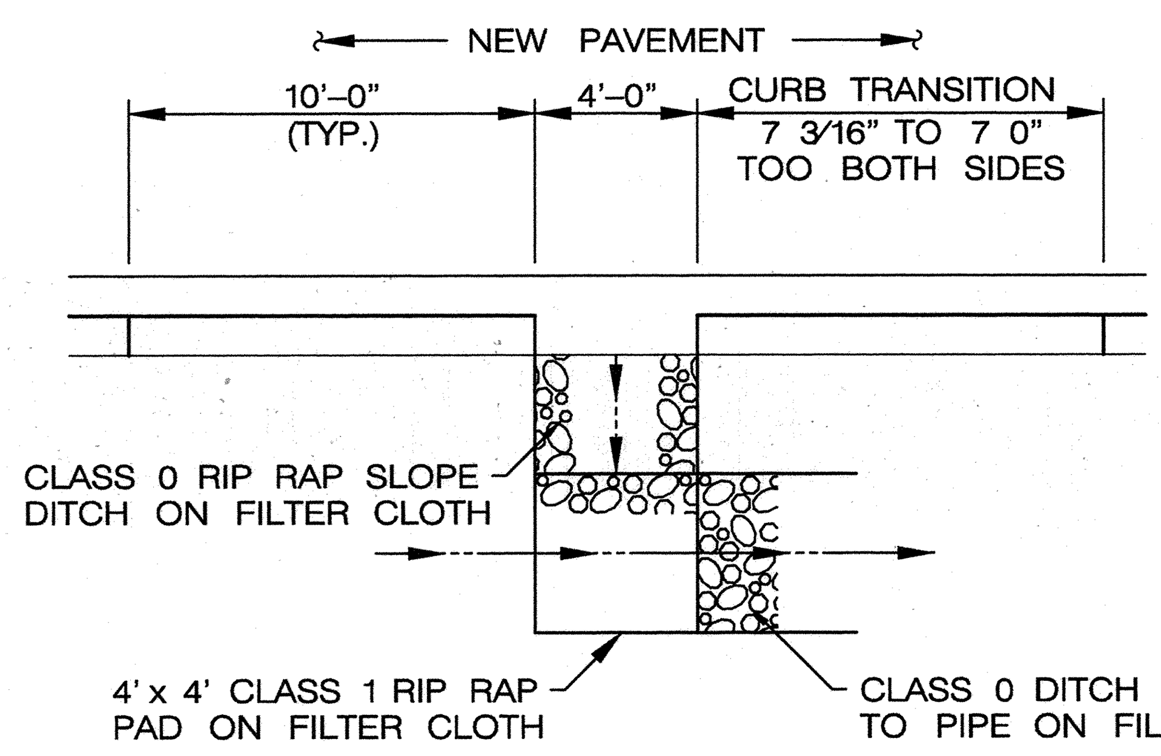
STA. 10+25, RT OLD FREDERICK RD. ——— 1 EA.
STA. 10+30, LT OLD FREDERICK RD. ——— 1 EA.

INSTALL RESIDENTIAL DRIVEWAY PER H.C.D.P.W. STD. R–6.05

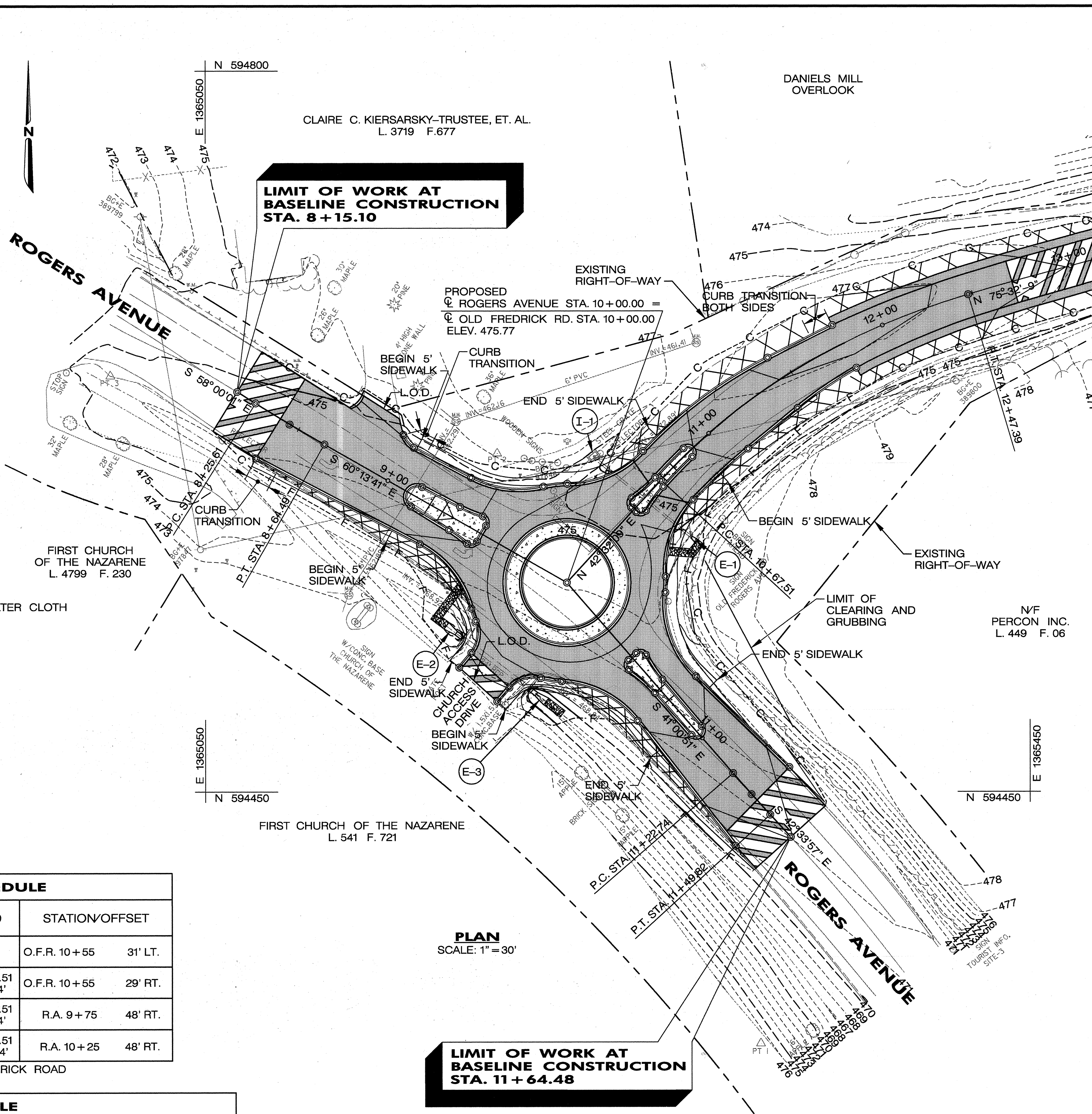
STA. 8+85, LT ROGERS AVE. ——— 1 EA.

NOTES:

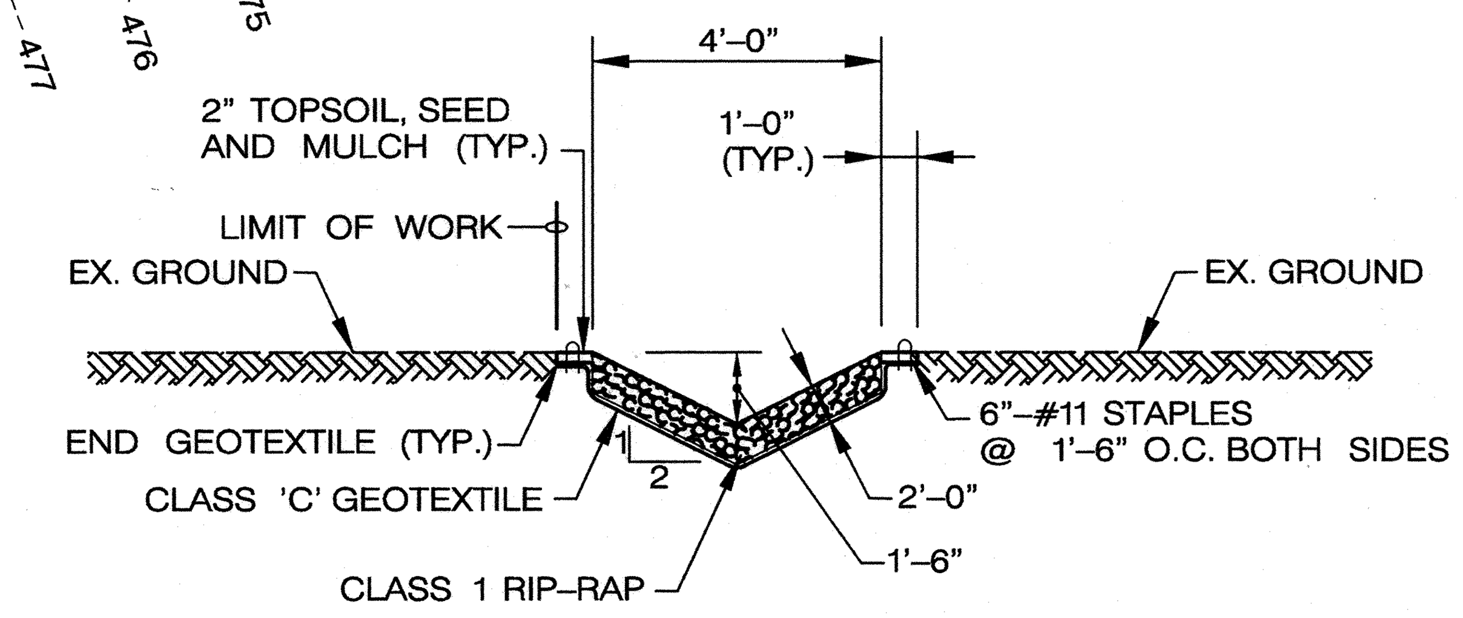
1. SEE SHEET 15 FOR GEOMETRY DATA.
2. SEE SHEET 11 FOR DETAIL OF PIPE EXTENSION.
3. PROTECT ALL EXISTING PRIVATE SIGNS DURING CONSTRUCTION. DAMAGE DUE TO THE CONTRACTOR'S WORK WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.



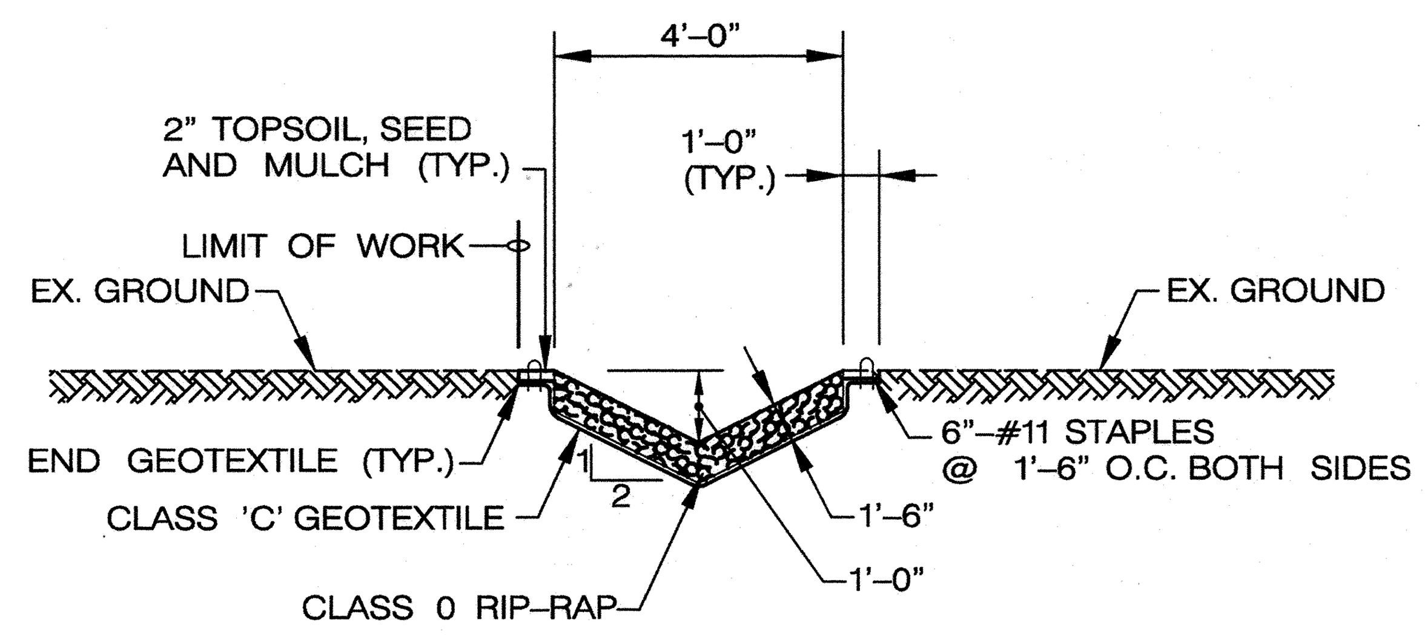
PLAN
SLOPE DITCH DETAIL
NOT TO SCALE
O.F.R. 9+55



PLAN
SCALE: 1" = 30'



CLASS 1 STONE PAD DETAIL
OLD FREDERICK RD. STA. 9+57 RT.
OLD FREDERICK RD. STA. 10+46 RT.
NOT TO SCALE



CLASS 0 STONE SLOPE DITCH DETAIL
OLD FREDERICK RD. STA. 9+57 RT.
OLD FREDERICK RD. STA. 10+46 RT.
NOT TO SCALE

STRUCTURE SCHEDULE

STRUCTURE NO.	TYPE	STANDARD	STATION/OFFSET	
I–1	YARD INLET	EXISTING	O.F.R. 10+55	31' LT.
E–1	CONCRETE END SECTION, CIRC. PIPE	HO. CO. SD–5.51 RIP–RAP 8'x4'	O.F.R. 10+55	29' RT.
E–2	CONCRETE END SECTION, CIRC. PIPE	HO. CO. SD–5.51 RIP–RAP 4'x4'	R.A. 9+75	48' RT.
E–3	CONCRETE END SECTION, CIRC. PIPE	HO. CO. SD–5.51 RIP–RAP 10'x4'	R.A. 10+25	48' RT.

R.A. = ROGERS AVENUE, O.F.R. = OLD FREDERICK ROAD

PIPE SCHEDULE

FROM	TO	TYPE	SIZE	LENGTH	SLOPE	INV. FROM	INV. TO	Q (cfs)	V (fps)
E–2	EX.	R.C.P. CLASS IV	24"	4 LF.	0.20%	468.93	468.92	9.20	2.93
EX.	E–3	R.C.P. CLASS IV	24"	4 LF.	0.20%	468.84	468.83	9.20	2.93

LEGEND

- PROPOSED FULL DEPTH PAVEMENT
- PROPOSED MILL AND OVERLAY
- TEXTURIZED, COLORIZED BITUMINOUS CONCRETE SURFACE
- EXISTING PAVEMENT REMOVAL
- ---- F ---- – LIMIT OF FILL
- ---- C ---- – TOP OF CUT
- L.O.D. – LIMIT OF DRIVEWAY WORK

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 7/26/02
CHIEF, TRAFFIC DIVISION — DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99–393.024

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

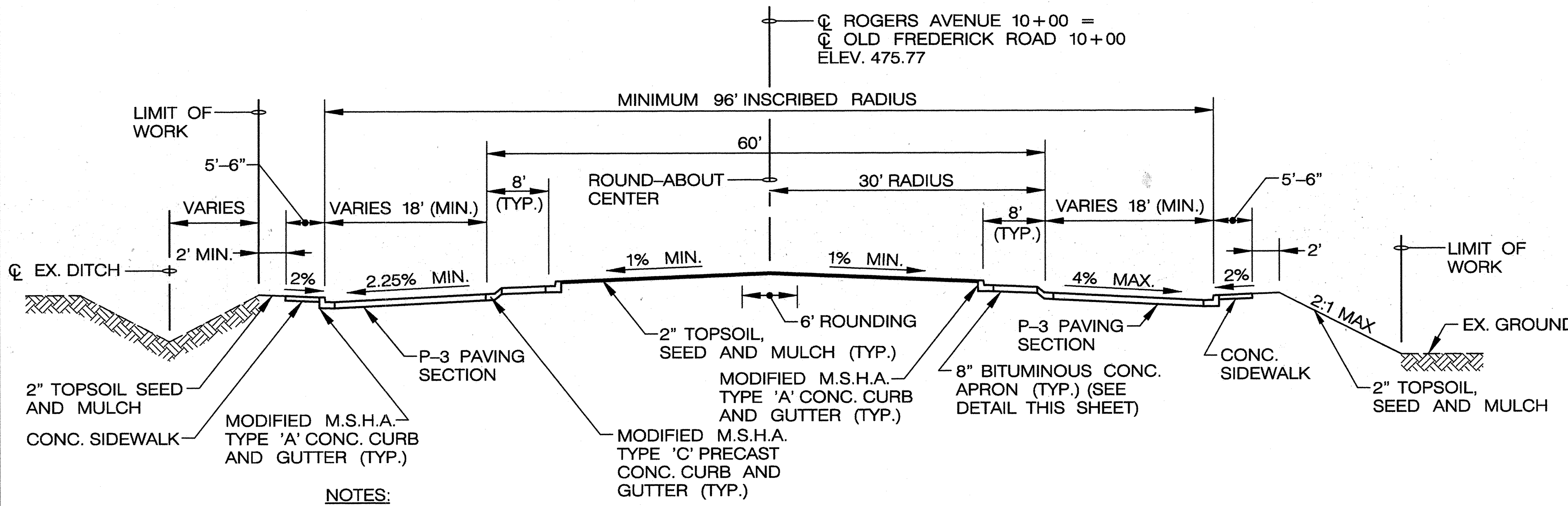
BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T–7076
600' SCALE MAP NO. ______ DATE: ______

PLAN SHEET
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

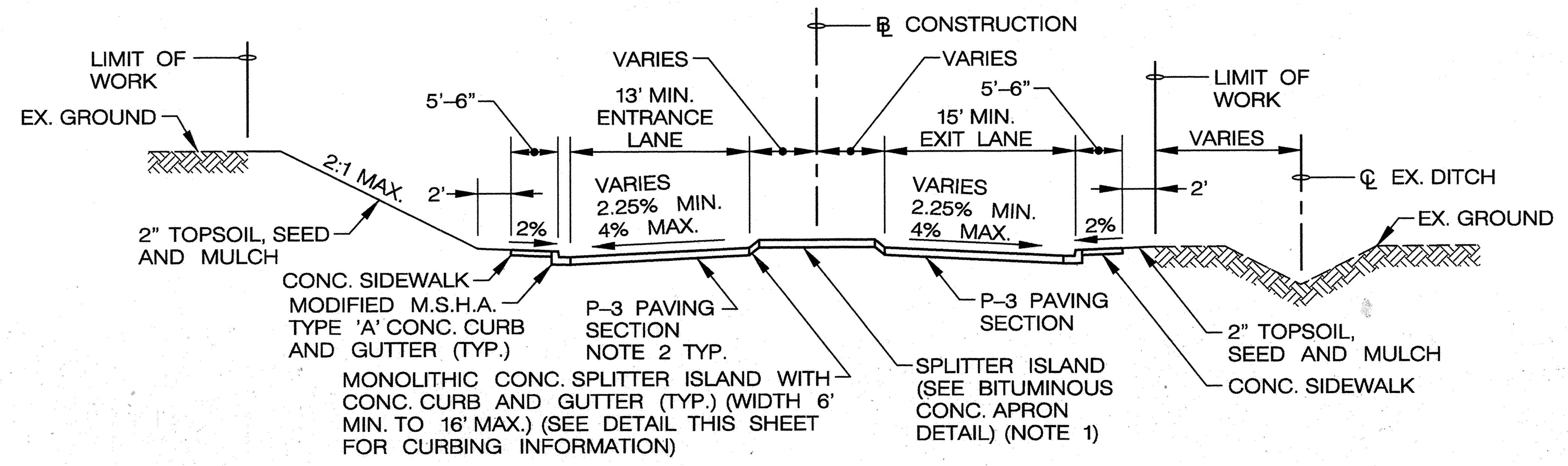
SHEET 2 OF 14



NOTES:

1. BREAK UP EXISTING BITUMINOUS CONCRETE INTO PIECES NO LARGER THAN 6" MAX, UNDER THE ROUND-ABOUT ISLAND AND BITUMINOUS CONCRETE APRON, FINE GRADE IN-PLACE. EMBANK WITH COMMON BORROW AND COMPACT. (SEE MSHA STD. SPEC. 201.03.03)
2. REMOVE THE EXISTING PAVEMENT ONLY UNDER THE NEW ROUND-ABOUT PAVEMENT AS DIRECTED BY THE COUNTY. DO NOT REMOVE ANY EXISTING GRADED AGGREGATE BASE.

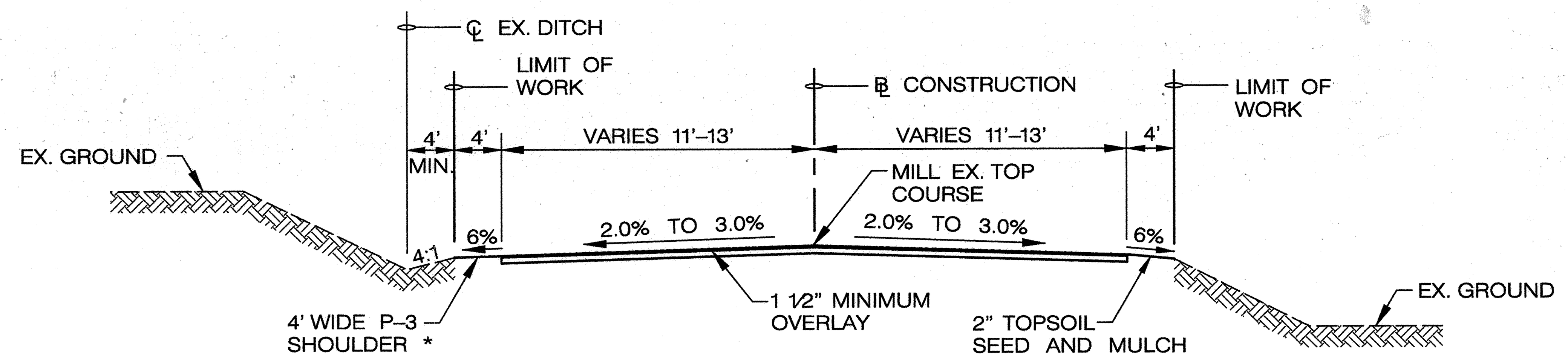
TYPICAL SECTION
NOT TO SCALE



NOTES:

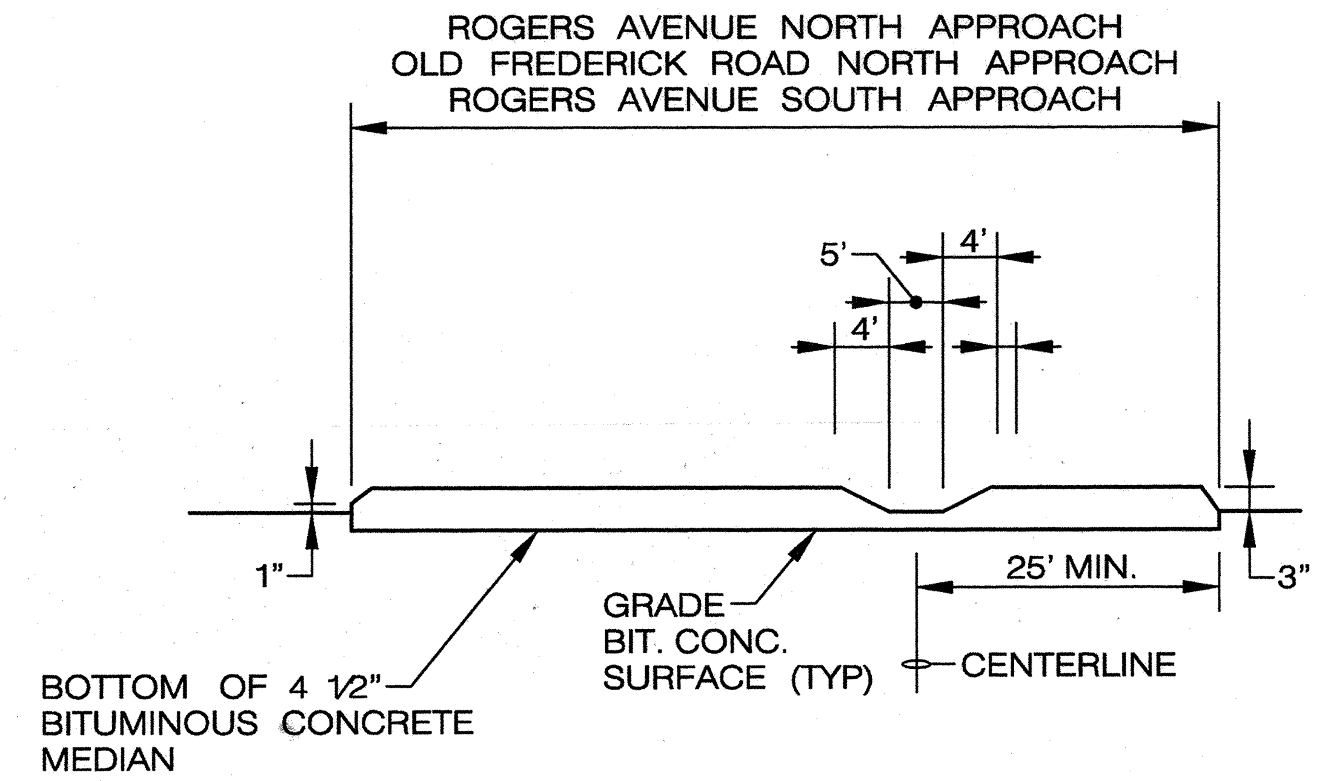
1. REMOVE THE EXISTING PAVEMENT ONLY UNDER THE SPLITTER ISLAND. GRADE BETWEEN THE EXISTING GRADED AGGREGATE AND THE BOTTOM OF THE CONCRETE SPLITTER ISLAND WITH GRADED AGGREGATE BASE.
2. REMOVE THE EXISTING PAVEMENT ONLY UNDER THE ENTRANCE AND EXIT LANES AS DIRECTED BY THE COUNTY. DO NOT REMOVE ANY EXISTING GRADED AGGREGATE BASE.

TYPICAL SECTION
NOT TO SCALE
EXCEL/DECEL LANE

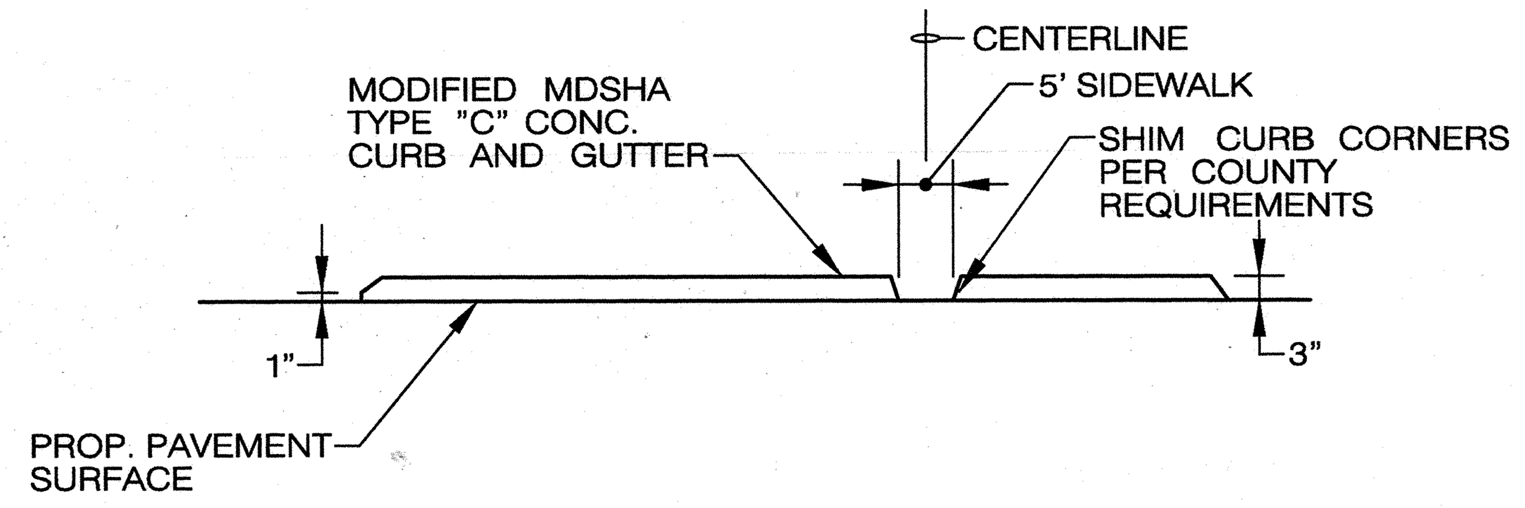


* P-3 SHOULDED BOTH SIDES OF OLD FREDICK STATION 11+81 TO 14+06.5

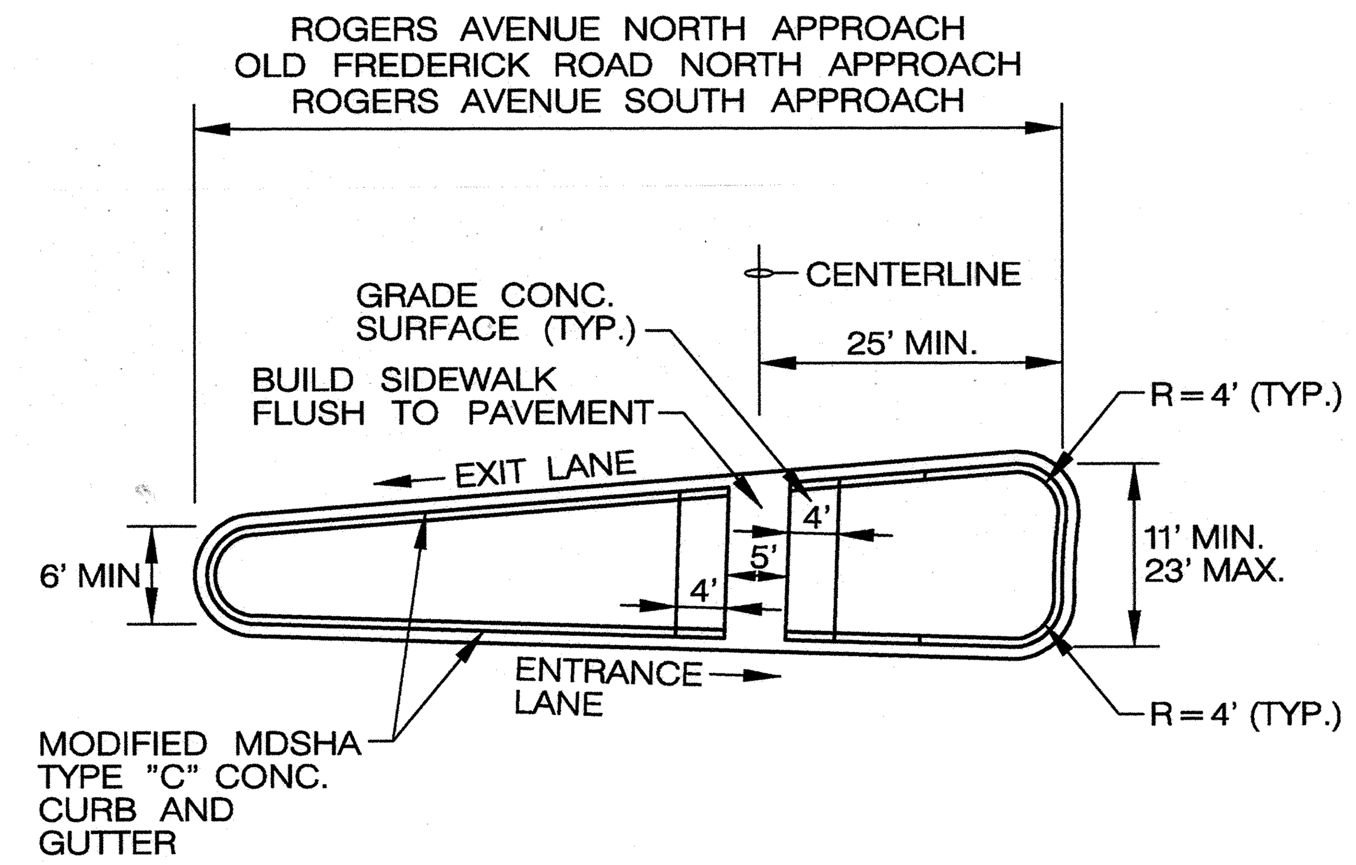
TYPICAL MILLING AND OVERLAY SECTION
NOT TO SCALE
ROGERS AVENUE STA. 8+15.10 TO STA. 8+40.00
ROGERS AVENUE STA. 11+40.00 TO STA. 11+64.48
OLD FREDERICK ROAD STA. 12+70.00 TO STA. 14+06.50



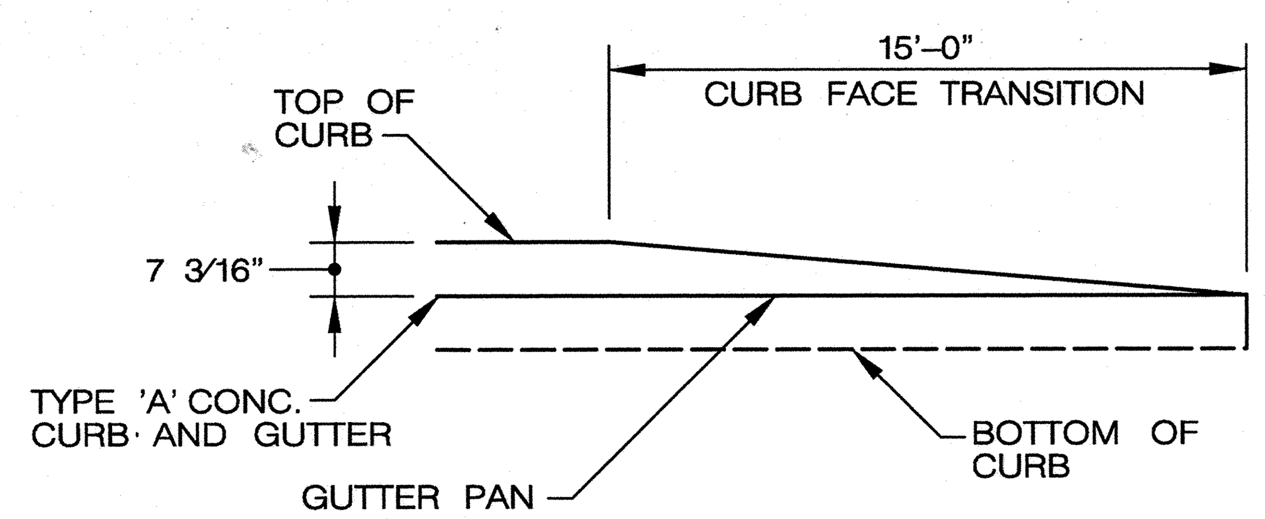
SPLITTER ISLAND ELEVATION
NOT TO SCALE



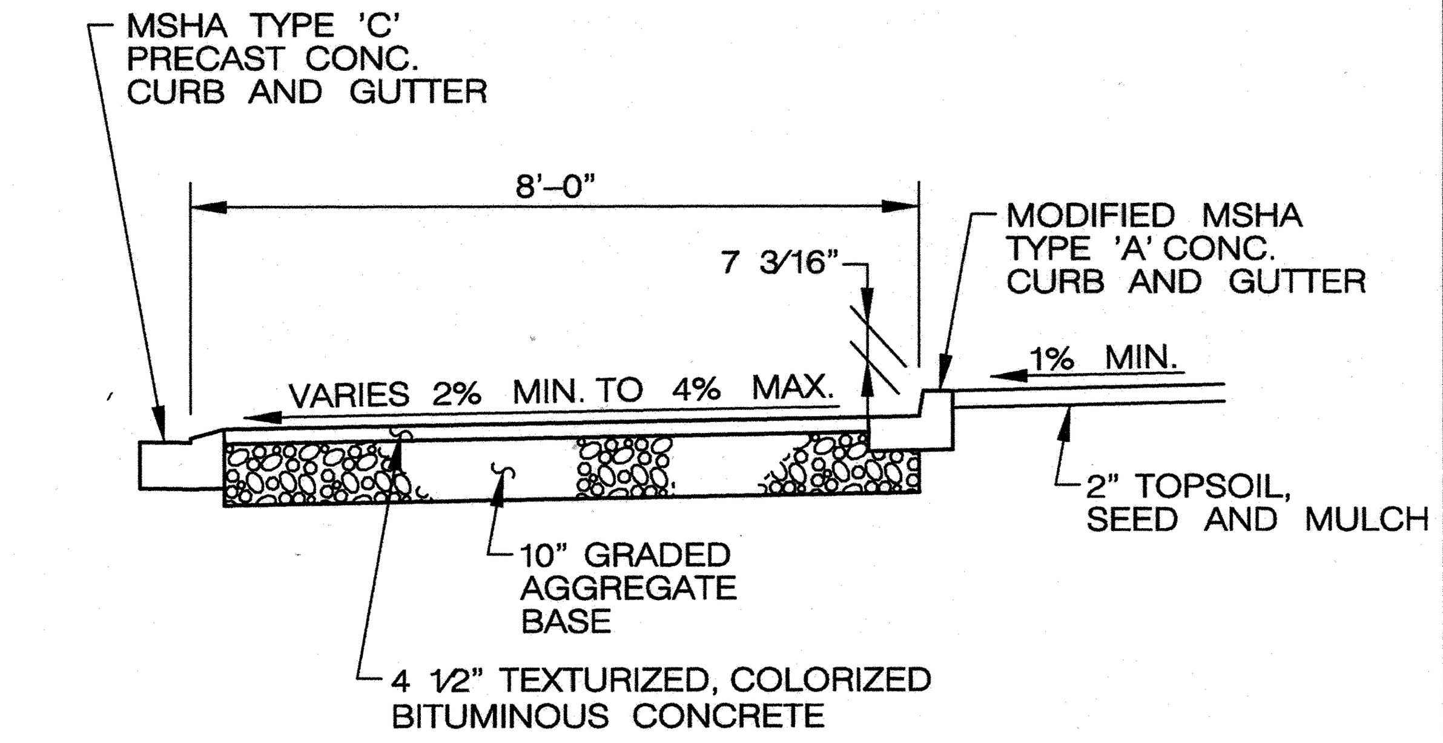
CURB ELEVATION
NOT TO SCALE



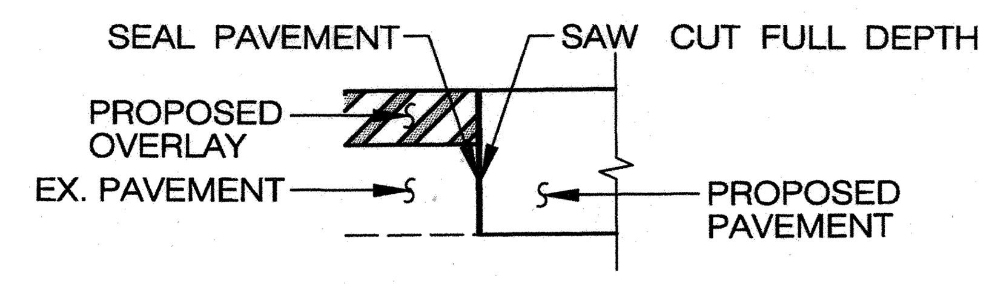
SPLITTER ISLAND PLAN
NOT TO SCALE



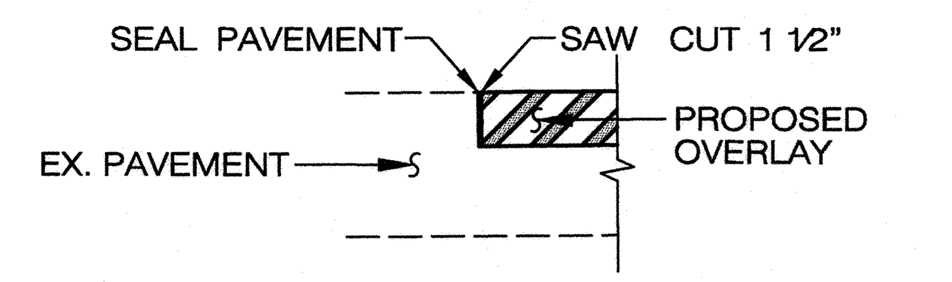
CURB AND GUTTER TRANSITION DETAIL
ROGERS AVENUE STA. 8+40 TO STA. 8+55 RT
ROGERS AVENUE STA. 8+95 TO STA. 9+10 LT
OLD FREDERICK ROAD STA. 11+66 TO STA. 11+81 LT AND RT
NOT TO SCALE



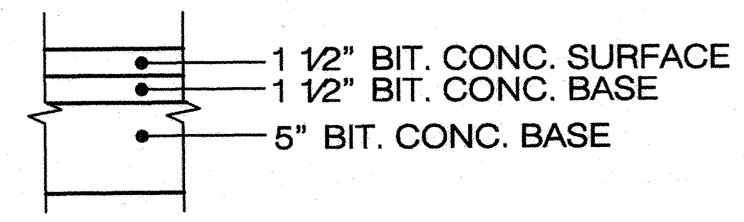
BITUMINOUS CONCRETE APRON DETAIL
NOT TO SCALE



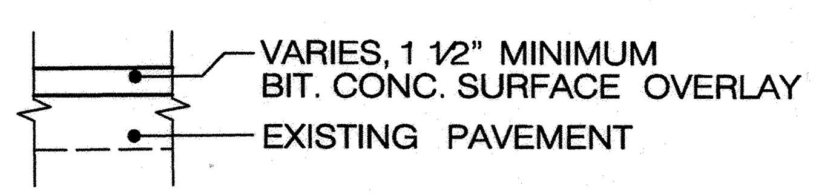
TYPICAL PAVEMENT JOINT
NOT TO SCALE



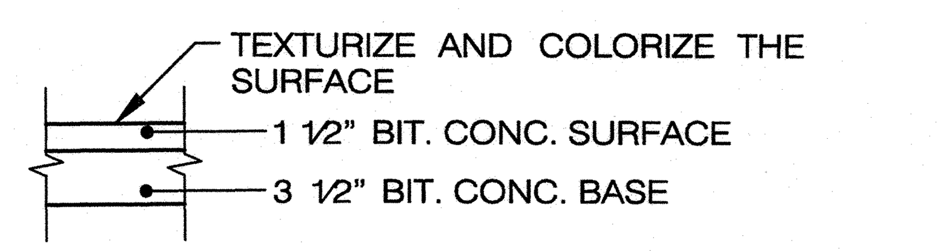
TYPICAL PAVEMENT JOINT
NOT TO SCALE



P-3 PAVING SECTION
NOT TO SCALE



PAVING OVERLAY SECTION
NOT TO SCALE



BITUMINOUS CONCRETE SPLITTER ISLAND AND APRON SECTION
NOT TO SCALE

NOTE:

1. THE TEXTURE AND COLOR WILL BE DETERMINED BY THE HOWARD COUNTY TRAFFIC DIVISION.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS	DATE 7/2/02
CHIEF, TRAFFIC DIVISION	DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS	DATE 7-1-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

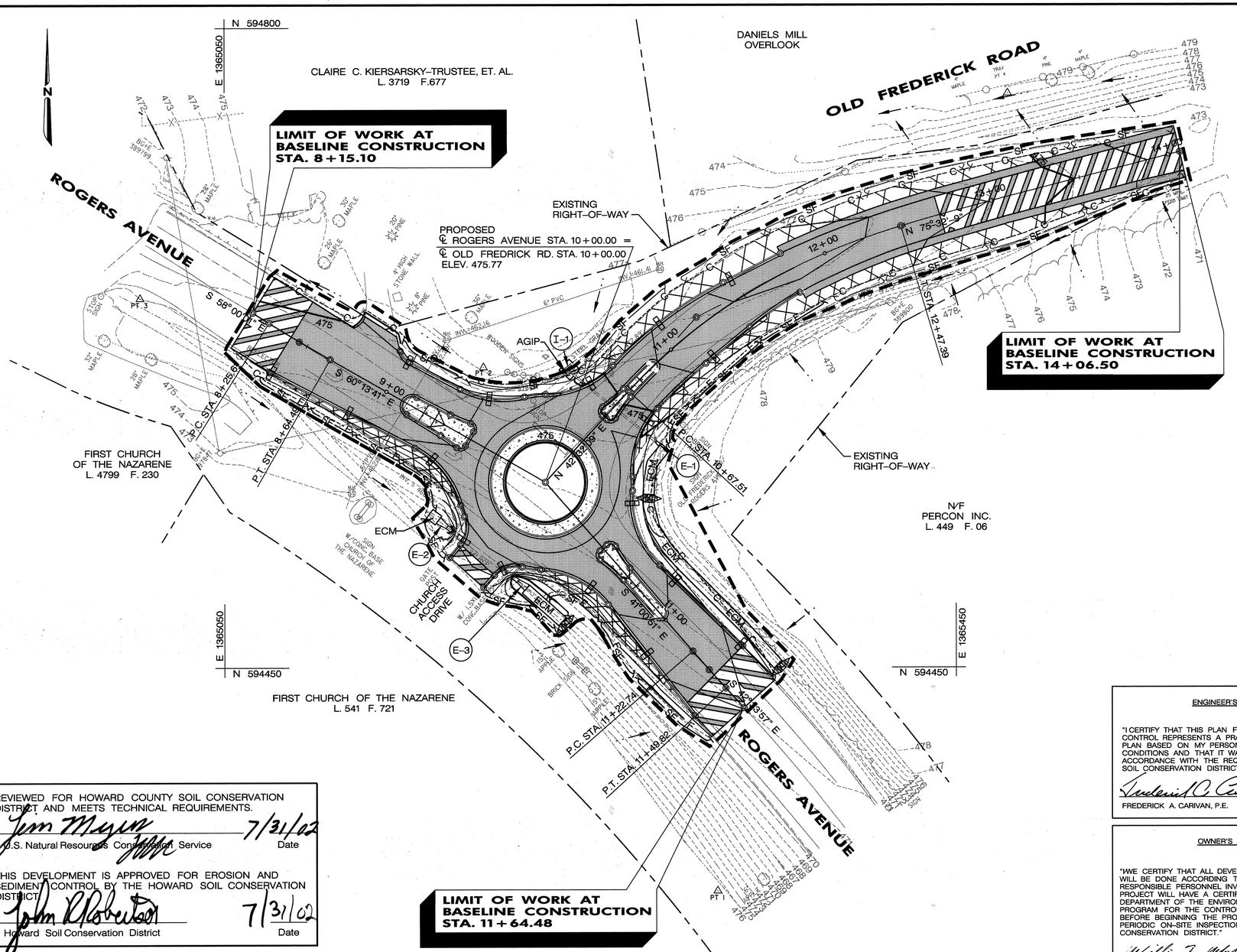
DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T-7076
600' SCALE MAP NO. ______ DATE: ______

TYPICAL SECTIONS AND DETAILS
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN
SHEET 3 OF 14



SEDIMENT AND EROSION CONTROL PLAN

SCALE: 1"=30'

SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410–313–1885)
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES THAT ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
   FOLLOWING INITIAL SOIL DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 3 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, B) 5 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR
7. SITE ANALYSIS:

TOTAL AREA OF SITE	N/A
AREA TO BE ROOFED OR PAVED	0.50 ACRES
AREA TO BE VEGETATIVELY STABILIZED	0.44 ACRES
AREA DISTURBED	0.94 ACRES
TOTAL CUT	1089 CU. YDS.
TOTAL FILL	220 CU. YDS.
OFFSITE WASTE/BORROW AREA LOCATION	TO BE DETERMINED BY CONTRACTOR (SITE MUST HAVE A CURRENT ACTIVE GRADING PERMIT)

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. THE CONTRACTOR SHALL SUPPLY STABILIZED CONSTRUCTION ENTRANCES ON ALL ENTERING LANES AS SHOWN ON DETAIL 24 ON SHEET 5 AS DIRECTED BY THE COUNTY ENGINEER.

LEGEND

- FULL DEPTH PAVEMENT
- MILL AND OVERLAY
- ECM – EROSION CONTROL MATTING
- LIMIT OF DISTURBANCE
- EXISTING CONTOURS
- XXX – PROPOSED CONTOURS
- C – TOP OF CUT
- F – LIMIT OF FILL
- SF – SILT FENCE
- CLEAN OFF–SITE STORMWATER
- STRAW BALE DIKE
- STONE OUTLET SEDIMENT TRAP #2 MODIFIED
- AGIP – AT GRADE INLET PROTECTION

ENGINEER'S CERTIFICATE

"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."

Frederick A. Carivan 4/7/02
FREDERICK A. CARIVAN, P.E. DATE

OWNER'S CERTIFICATE

"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."

William F. Malone, Jr. 7-30-02
SIGNATURE OF OWNER DATE
PRINT NAME BELOW SIGNATURE
William F. Malone, Jr.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Jim Myers 7/31/02
U.S. Natural Resources Conservation Service Date

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

John Robertson 7/31/02
Howard Soil Conservation District Date

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

CHIEF, TRAFFIC DIVISION DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 7/26/02 DATE

CHIEF, TRAFFIC DIVISION 7-3-02 DATE

CHIEF, BUREAU OF HIGHWAYS 7-19-02 DATE

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

BOARD OF PROFESSIONAL ENGINEERS No. 21077 FREDERICK A. CARIVAN STATE OF MARYLAND 6/7/02

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

FOR SEDIMENT & EROSION CONTROL ONLY

CAPITAL PROJECT NO.
T–7076

600' SCALE MAP NO. _____ DATE: _____

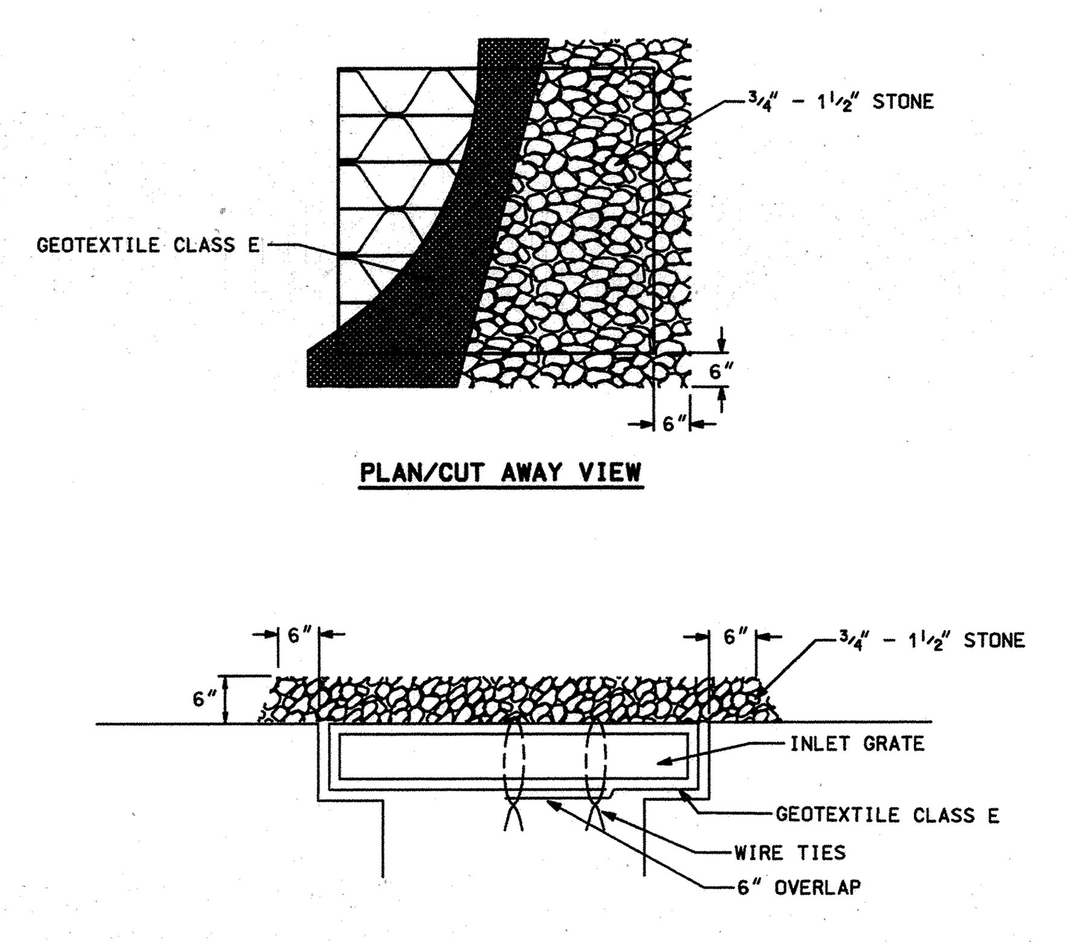
SEDIMENT AND EROSION CONTROL PLAN
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 4 OF 14

FILE: c:\cadd\ jobs\ 99-393.024\ ustation\ final\ esc24rogers.dgn
DATE: 04/08/02 2:44

DETAIL 23B - AT GRADE INLET PROTECTION



STANDARD SYMBOL: AGIP

CROSS SECTION

MAX. DRAINAGE AREA = ¼ ACRE

Construction Specifications

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

2. Place ¾" to 1½" stone, 4"-6" thick on the grate to secure the fabric and provide additional filtration.

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

EROSION CONTROL MATTING

Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".

2. Staple the 4" overlap in the channel center using an 18" spacing between staples.

3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.

4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.

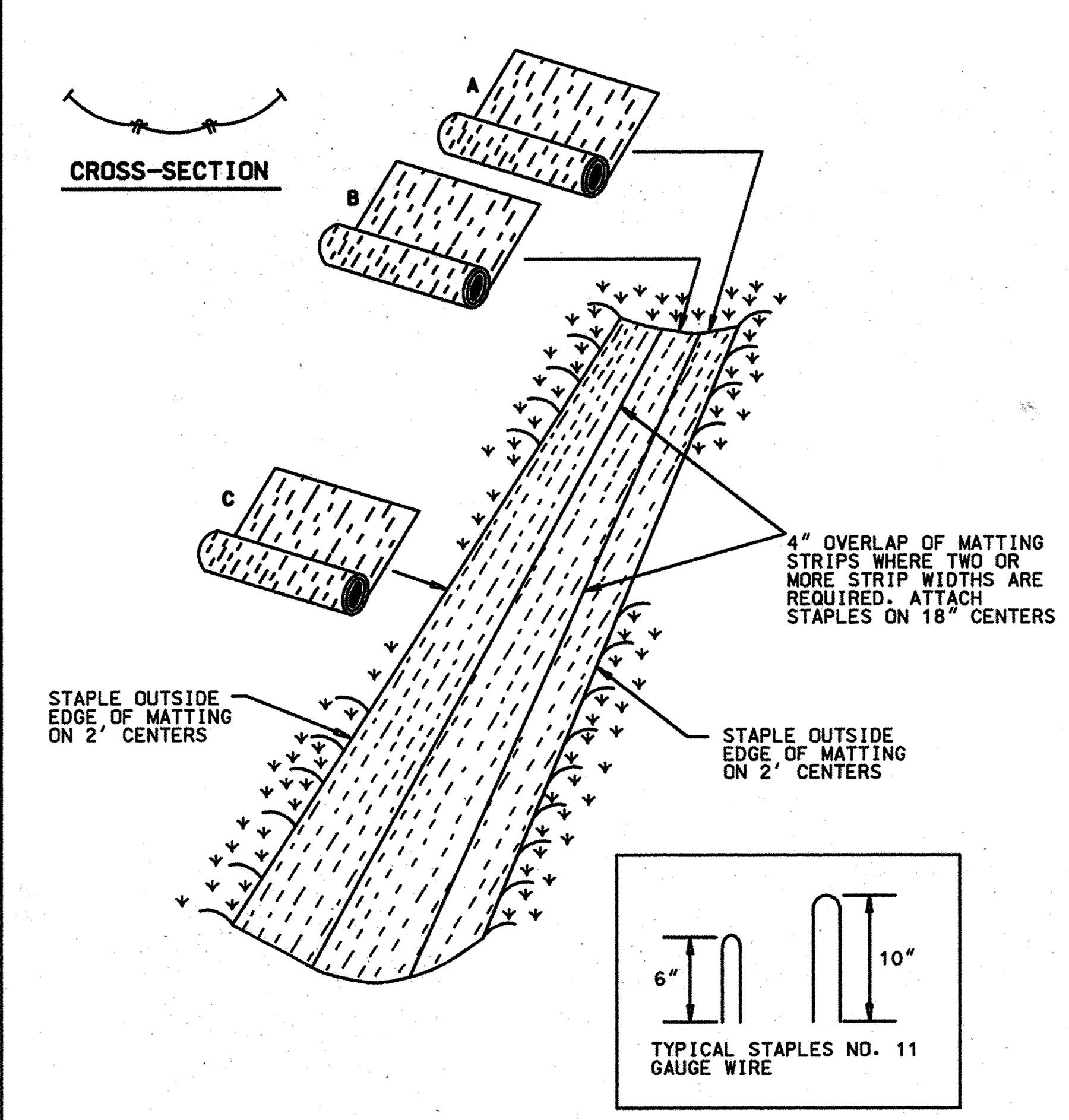
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 28 - 2A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 - EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

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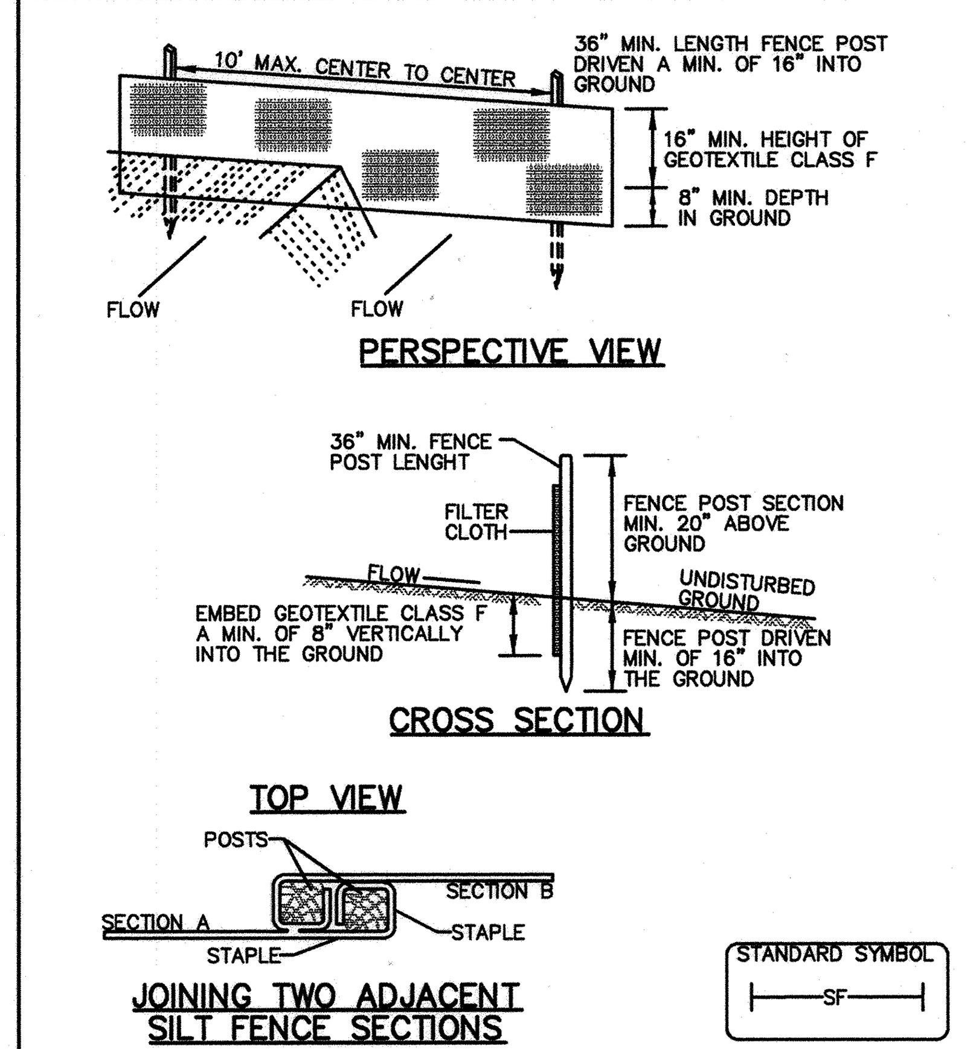
DETAIL 22 - SILT FENCE



STANDARD SYMBOL: SF

Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" X 1 1/2" square (minimum) cut or 1 3/4" diameter (minimum) round and shall bee of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.

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

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

3. Where ends of Geotextile fabric come together. They shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt fence shall be inspected after each rainfall event and maintained when bulges occur or when seduiment accumulation reached 50% of the fabric height.

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STABILIZED CONSTRUCTION ENTRANCE

Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3"), or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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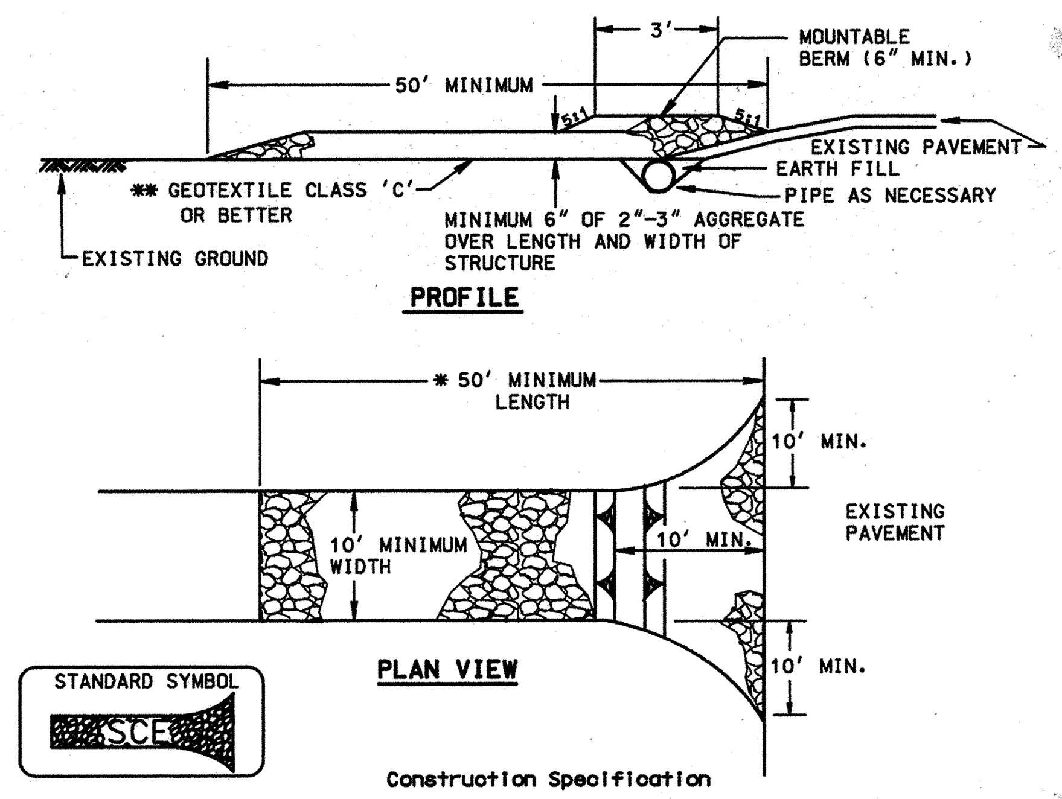
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



STANDARD SYMBOL: SCE

Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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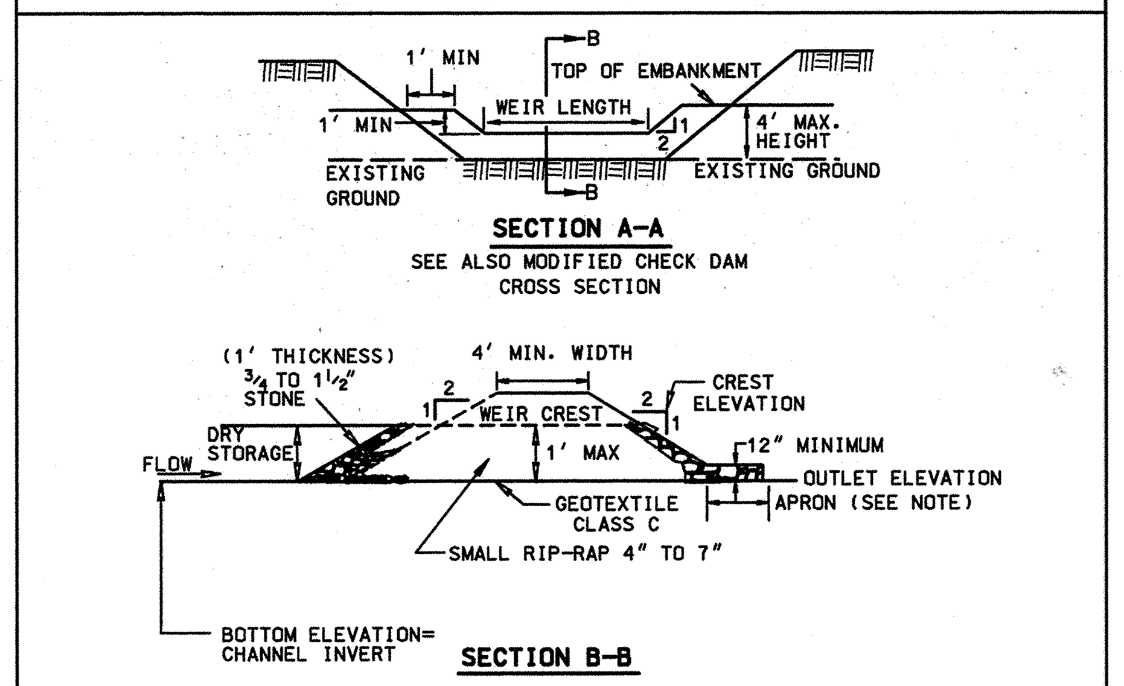
MODIFIED DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.

2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.

3. All cut and fill slopes shall be 2:1 or flatter.

4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1' thick layer of ¾" to 1½" washed aggregate placed on the upstream face of the outlet. Stone facing shall be adjusted as necessary to prevent clogging. Geotextile Class C shall be placed on the inside face of the stone outlet under the ¾" to 1½" aggregate.

5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

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STONE OUTLET SEDIMENT TRAP - ST II

6. The structure shall be inspected periodically and after each rain and repairs made as needed.

7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.

8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.

9. Refer to Section D for specifications concerning trap dewatering.

10. Minimum trap depth shall be measured from the weir elevation.

11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.

12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.

13. Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

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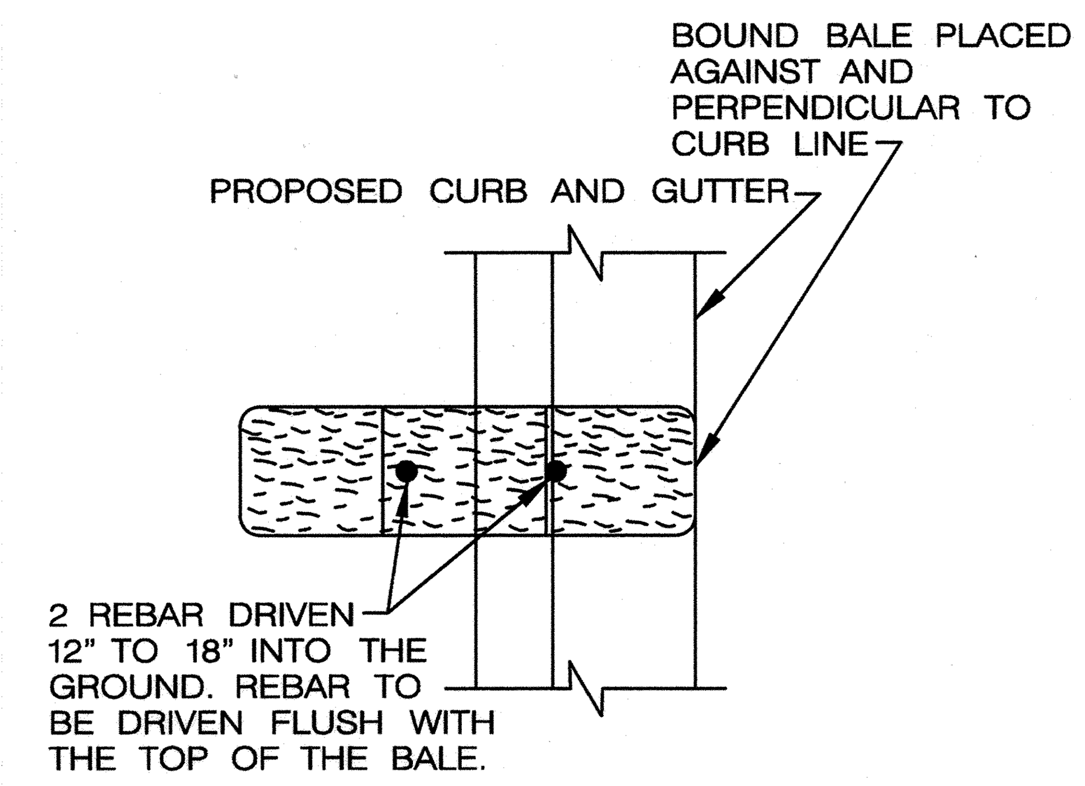
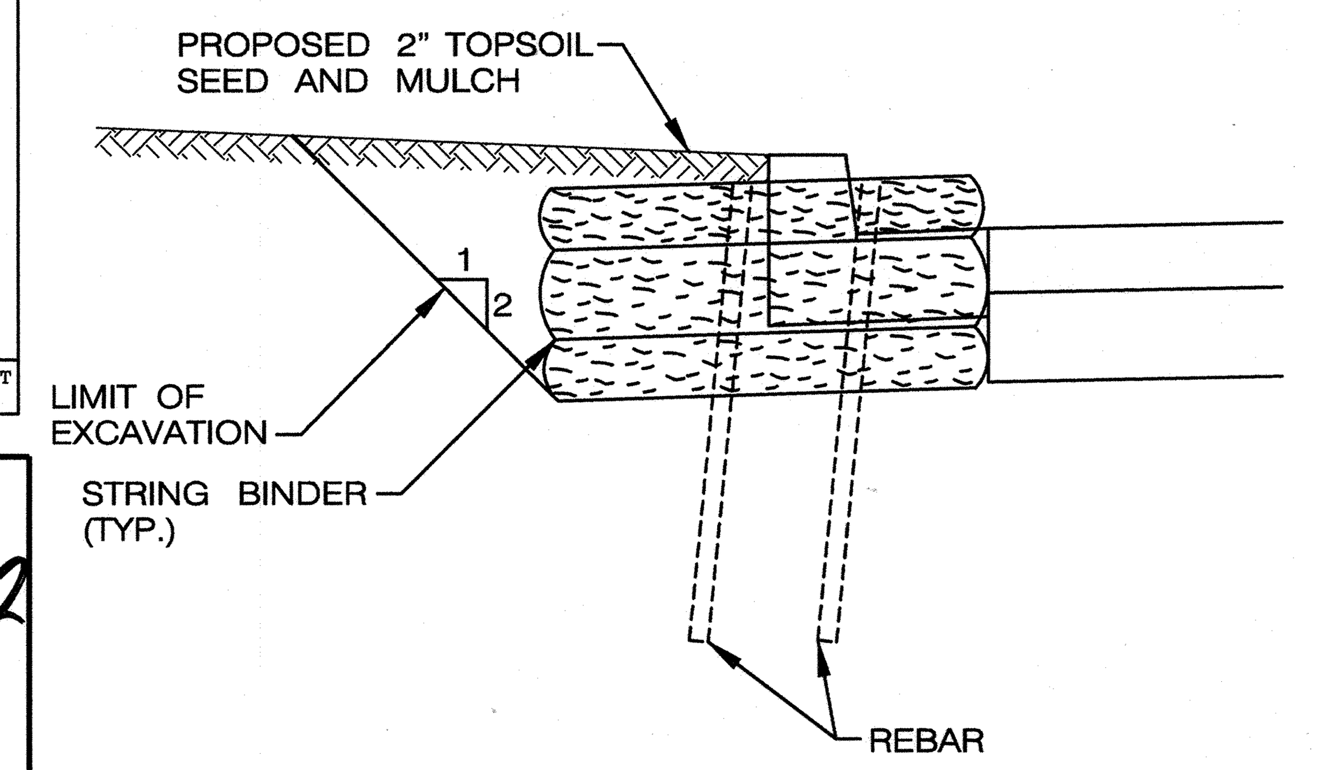


PLAN VIEW



ELEVATION VIEW

STRAW BALE DIKE DETAILS

NOT TO SCALE

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

[signature] 7/31/02

U.S. Natural Resources Conservation Service — Date

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

[signature] 7/31/02

Howard Soil Conservation District — Date

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

CHIEF, TRAFFIC DIVISION — DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[signature] 7/25/02 — DIRECTOR OF PUBLIC WORKS — DATE

[signature] 7-3-02 — CHIEF, TRAFFIC DIVISION — DATE

[signature] 7-19-02 — CHIEF, BUREAU OF HIGHWAYS — DATE

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

STATE OF MARYLAND — BOARD OF PROFESSIONAL ENGINEERS — No. 23506 — ERICK A. CARIVAN [signature] 6/7/02

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T-7076

600' SCALE MAP NO. ________ DATE: ________

SEDIMENT AND EROSION CONTROL DETAILS

Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 5 OF 14

FILE: c:\acad\jobs\99-393.024\ustation\final\sed5ngers.dgn DATE: 04-Jun-02 22:44

SECTION I – VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. SITE PREPARATION
  I. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
  II. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDING.
  III. SCHEDULE REQUIRED SOIL TESTS TO DETERMINE SOIL AMENDMENT COMPOSITION AND APPLICATION RATES FOR SITE HAVING DISTURBED AREA OVER 5 ACRES.

B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
  I. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES. SOIL ANALYSIS MAY BE PERFORMED BY THE UNIVERSITY OF MARYLAND OR A RECOGNIZED COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.
  II. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT. MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS SHALL ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE STATE FERTILIZER LAWS AND SHALL BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTEE OF THE PRODUCER.
  III. LIME MATERIALS SHELL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 50% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE SHALL BE GROUND TO SUCH FINENESS THAT AT LEAST 50% WILL PASS THROUGH A #100 MESH SIEVE AND 98–100% WILL PASS THROUGH A #20 MESH SIEVE.
  IV. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3–5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

C. SEEDBED PREPARATION
  I. TEMPORARY SEEDING
    A. SEEDBED PREPARATION SHALL CONSIST OF LOOSENING SOIL TO A DEPTH OF 3" TO 5" BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED IT SHOULD NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPED AREAS (GREATER THAN 3:1) SHOULD BE TRACKED LEAVING THE SURFACE IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.
    B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.
    C. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 – 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.
  II. PERMANENT SEEDING
    A. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:
      1. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0.
      2. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM).
      3. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (>30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION IS IF LOVE GRASS OR SERECIA LESPEDEZA IS TO BE PLANTED, THEN A SANDY SOIL (<30% SILT PLUS CLAY) WOULD BE ACCEPTABLE.
      4. SOIL SHALL CONTAIN 1.5% MINIMUM ORGANIC MATTER BY WEIGHT.
      5. SOIL MUST CONTAIN PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
      6. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21 STANDARD AND SPECIFICATION FOR TOPSOIL.
    B. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 – 5" TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREA AND TO CREATE HORIZONTAL EROSION CHECK SLOTS TO PREVENT TOPSOIL FROM SLIDING DOWN A SLOPE.
    C. APPLY SOIL AMENDMENTS AS PER SOIL TEST OR AS INCLUDED ON THE PLANS.
    D. MIX SOIL AMENDMENTS INTO THE TOP 3 – 5" OF TOPSOIL BY DISKING OF OTHER SUITABLE MEANS. LAWN AREAS SHOULD BE RAKED TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION, LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE.

      STEEP SLOPES (STEEPER THAN 3:1) SHOULD BE TRACKED BY A DOZER LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. THE TOP 1 – 3" OF SOIL SHOULD BE LOOSE AND FRIABLE. SEEDBED LOOSENING MAY NOT BE NECESSARY ON NEWLY DISTURBED AREAS.

D. SEED SPECIFICATIONS
  I. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED SHALL BE SUBJECT TO RE–TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED SHALL HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON THIS JOB. NOTE: SEED TAGS SHALL BE MADE AVAILABLE TO THE INSPECTOR TO VERIFY TYPE AND RATE OF SEED USED.
  II. INOCULANT – THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES SHAL BE A PURE CULTURE OF NITROGEN–FIXING BACTERIA ON THE CONTAINER. ADD FRESH INOCULANT AS DIRECTED ON PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING.
    NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75–80 F. CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

E. METHODS OF SEEDING
  I. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER), BROADCAST OR DROP SEEDER, OR A CULTIPACKER SEEDER.
    A. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES AMOUNTS WILL NOT EXCEED THE FOLLOWING: NITROGEN; MAXIMUM OF 100 LBS. PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS): 200 LBS/AC; K20 (POTASSIUM): 200 LBS/AC.
    B. LIME – USE ONLY GROUND AGRICULTURAL LIMESTONE, (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.
    C. SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDING SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.
  II. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OF BROADCAST SPREADERS.
    A. SEED SPREAD DRY SHALL BE INCORPORATED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON THE TEMPORARY OR PERMANENT SEEDING SUMMARIES OR TABLES 25 OR 26. THE SEEDED AREA SHALL THEN BE ROLLED WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT.
    B. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.
  III. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER SEED WITH SOIL.
    A. CULTIPACKER SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH SOIL COVERING. SEEDBED MUST BE FIRM AFTER PLANTING.
    B. WHERE PRACTICAL, SEED SHOULD BE APPLIED IN TWO DIRECTIONS PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)
  I. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLY BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.
  II. WOOD CELLULOSE FIBER MULCH (WCFM).
    A. WCFM SHALL CONSIST OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.
    B. WCFM SHALL BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WILL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.
    C. WCFM, INCLUDING DY, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.
    D. WCFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL SHALL FORM A BLOTTER–LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND SHALL COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDINGS.
    E. WCFM MATERIAL SHALL CONTAIN NO ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO–TOXIC.
    F. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM. DIAMETER APPROXIMATELY 1 MM., PH. RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6% MAXIMUM AND WATER HOLDING CAPACITY OF 90% MINIMUM.
      NOTE: ONLY STERILE STRAW MULCH SHOULD BE USED IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

G. MULCHING SEEDED AREAS MULCH SHALL BE APPLIED TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.
  I. IF GRADING IS COMPLETED OUTSIDE OF THE SEEDING SEASON, MULCH ALONE SHALL BE APPLIED AS PRESCRIBED IN THIS SECTION AND MAINTAINED UNTIL THE SEEDING SEASON RETURNS AND SEEDING CAN BE PERFORMED IN ACCORDANCE WITH THESE SPECIFICATIONS.
  II. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE. MULCH SHALL BE APPLIED TO A UNIFORM LOOSE DEPTH OF BETWEEN 1" AND 2". MULCH APPLIED SHALL ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. IF A MULCH ANCHORING TOOL IS TO BE USED, THE RATE SHOULD BE INCREASED TO 2.5 TONS/ACRE.
  III. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1,500 LBS. PER ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER, AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 LBS. OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

H. SECURING STRAW MULCH (MULCH ANCHORING): MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE TOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON SIZE OF AREA AND EROSION HAZARD:
  I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWING IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES. THE PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD BE USED ON THE CONTOUR IF POSSIBLE.
  II. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. THE FIBER BINDER SHALL BE APPLIED AT A NET DRY WEIGHT OF 750 POUNDS/ACRE. THE WOOD CELLULOSE FIBER SHALL BE MIXED WITH WATER AND THE MIXTURE SHALL CONTAIN A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
  III. APPLICATIONS OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. THE REMAINDER OF AREA SHOULD APPEAR TO BE UNIFORM AFTER BINDER APPLICATION. SYNTHETIC BINDERS – SUCH AS ACRYLIC DLR (AGRO–TACK), DCA–70, PETROSET, TERRA TAX II, TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED AT RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR MULCH.

NOTES:

1. THE CONTRACTOR WILL PROVIDE STONE CONSTRUCTION ENTRANCES, IF NECESSARY, ON THE GRAVEL SURFACE IN THE WORK ZONES DURING ALL PHASES OF CONSTRUCTION AS DIRECTED BY THE COUNTY. SEE DETAIL NO. 24 ON SHEET 5 OF 15.
2. PROVIDE E.C.M. DITCH LINING FOR ALL SWALES WHERE RIP–RAP LINING IS NOT INDICATED.
3. AS DIRECTED BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, ADDITIONAL STRAW BALE DIKES MAY BE REQUIRED.
4. PLACE EROSION CONTROL MATTING ON ROUND–ABOUT CENTER ISLAND UNTIL TOPSOIL AND SEED IS STABILIZED.
5. WHERE GRAVEL SUBBASE IS EXPOSED, COVER WITH A MINIMUM OF 3" OF GRAVEL AGGREGATE BASE AT THE END OF EACH WORK DAY.

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT. (1 DAY)
2. OBTAIN PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR TO PROCEED. (1 DAY)
3. INSTALL ALL WORK ZONE SIGNING. (1 DAY)
4. INSTALL SEDIMENT CONTROL MEASURES SHOWN ON PLANS. (2 DAYS)
5. REMOVE EXISTING BITUMINOUS MATERIALS. (2 DAYS)
6. ALTER EXISTING DRAINAGE STRUCTURE (7 DAY)
7. EXCAVATE FOR THE CONSTRUCTION OF ROUND–ABOUT AND APPROACHES. STABILIZE THE WORK ZONE WITH G.A.B. MATERIAL. INSTALL TEMPORARY SEED AND MULCH TO ALL SLOPE AREAS THAT ARE DISTURBED DURING CONSTRUCTION. INSTALL PROPOSED CURB AND GUTTER, CONCRETE SPLITTER ISLANDS AND CONCRETE APRONS. INSTALL TWO BITUMINOUS CONCRETE BASE COURSES ON ROUND–ABOUT AND APPROACHES. THE CONTRACTOR SHALL NOT EXPOSE EARTH THAT CANNOT BE TEMPORARILY OR PERMANENTLY STABILIZED WITHIN 24 HOURS. (15 DAYS)
8. ADJUST ALL UTILTIES TO LINE AND GRADE AS SHOWN ON THE PLANS. (1 DAYS)
9. PLACE PERMANENT STABILIZATION ON EARTH SLOPES. (2 DAYS)
10. PLACE BITUMINOUS CONCRETE SURFACE COURSE. (2 DAYS)
11. PLACE SIGNING, STRIPING AND PAVEMENT MARKINGS. (2 DAYS)
12. REMOVE SEDIMENT CONTROL DEVICES WITH APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. (1 DAY)

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION AND PURPOSE

CONDITIONS WHERE PRACTICE APPLIES CONSTRUCTION AND MATERIAL SPECIFICATIONS

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

I. TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE A LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THAT APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA–SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

  i. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURE SUB SOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONE, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.

  ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

  iii. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4–8 TONS/ACRE (200–400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

  i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION I – VEGETATIVE STABILIZATION METHODS AND MATERIALS.

IV. TOPSOIL APPLICATION

  i. WHEN TOP SOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

  ii. GRADES ON THE AREAS TO BE TOP SOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4"–8" HIGHER IN ELEVATION.

  iii. TOPSOIL SHALL BE UNIFORMLY DISTURBED IN A 4" – 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PREFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOP SOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

  iv. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
Jim Myers 7/31/02
U.S. Natural Resources Conservation Service — Date

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT
John R Robertson 7/31/02
Howard Soil Conservation District — Date

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

CHIEF, TRAFFIC DIVISION — DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, TRAFFIC DIVISION — DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

STATE OF MARYLAND — BOARD OF PROFESSIONAL ENGINEERS (seal) 6/7/02

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T-7076
600' SCALE MAP NO. ________ DATE: ________

SEDIMENT AND EROSION CONTROL NOTES

Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 6 OF 14

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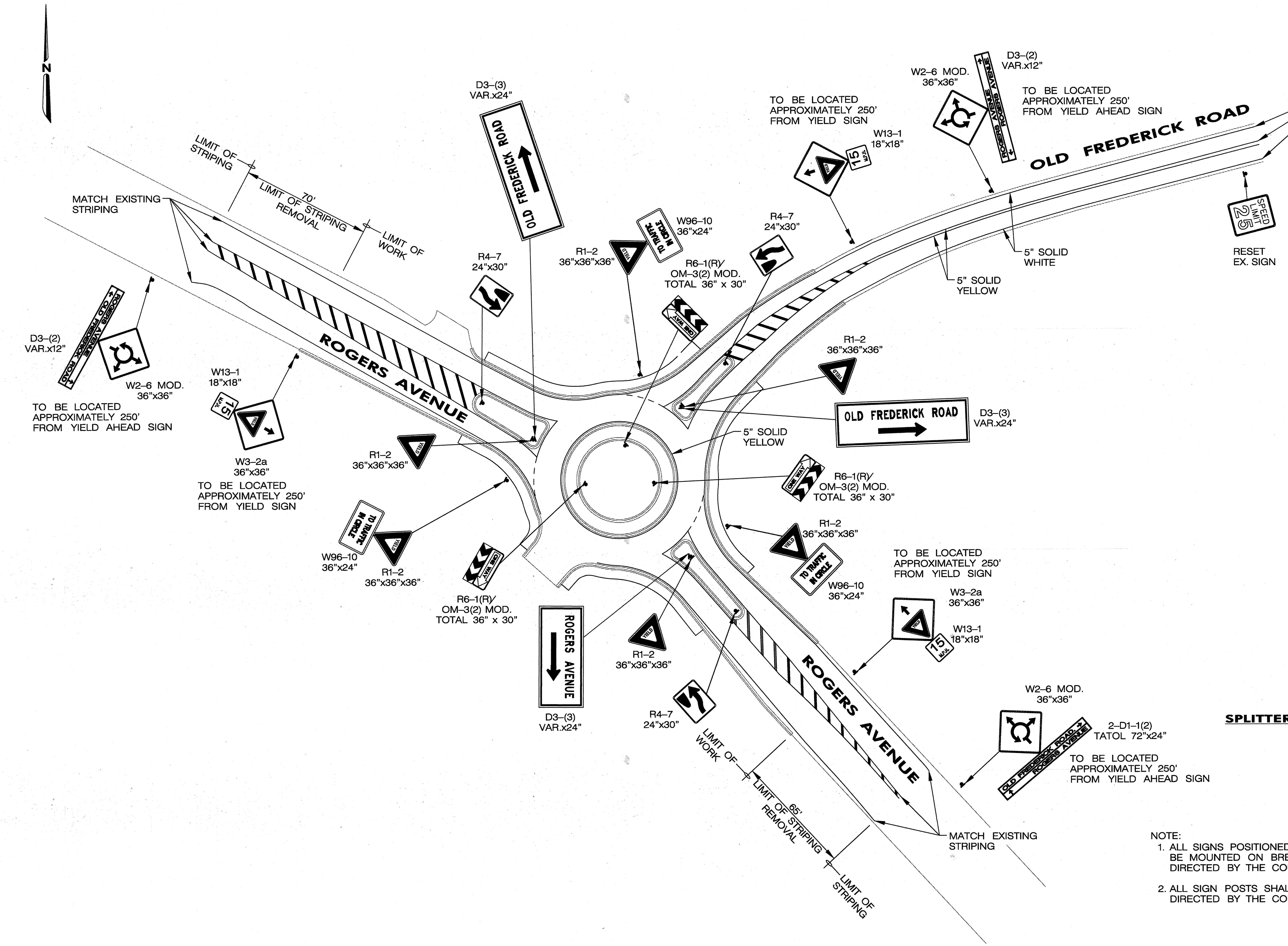
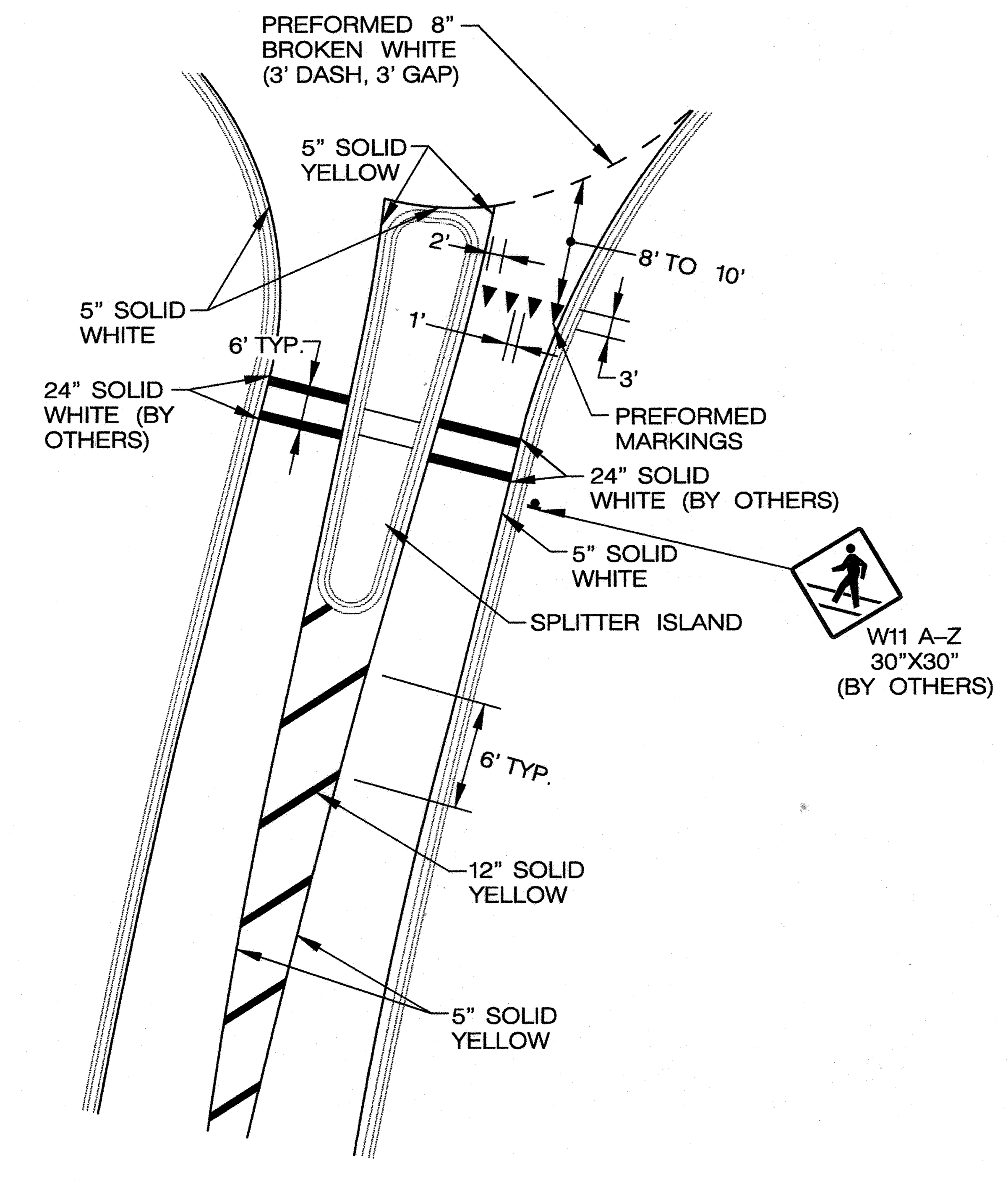


SIGNING AND MARKING PLAN

SCALE: 1" = 30'



SPLITTER ISLAND MARKING DETAIL

NOT TO SCALE

NOTE:

1. ALL SIGNS POSITIONED IN THE SPLITTER ISLANDS SHALL BE MOUNTED ON BREAK – AWAY OR FLEXABLE POSTS AS DIRECTED BY THE COUNTY.
2. ALL SIGN POSTS SHALL BE "SQUARE TUBE" TYPE UNLESS DIRECTED BY THE COUNTY.

FILE: c:\cadd_jobs\99-393.024\ustation\final\sp07rogers.dgn DATE: 16-Jun-02 19:43

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 7/2/02
CHIEF, TRAFFIC DIVISION — DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99–393.024

BOARD OF PROFESSIONAL ENGINEERS No. 23508 FREDERICK A. CARRIAN STATE OF MARYLAND 6/17/02

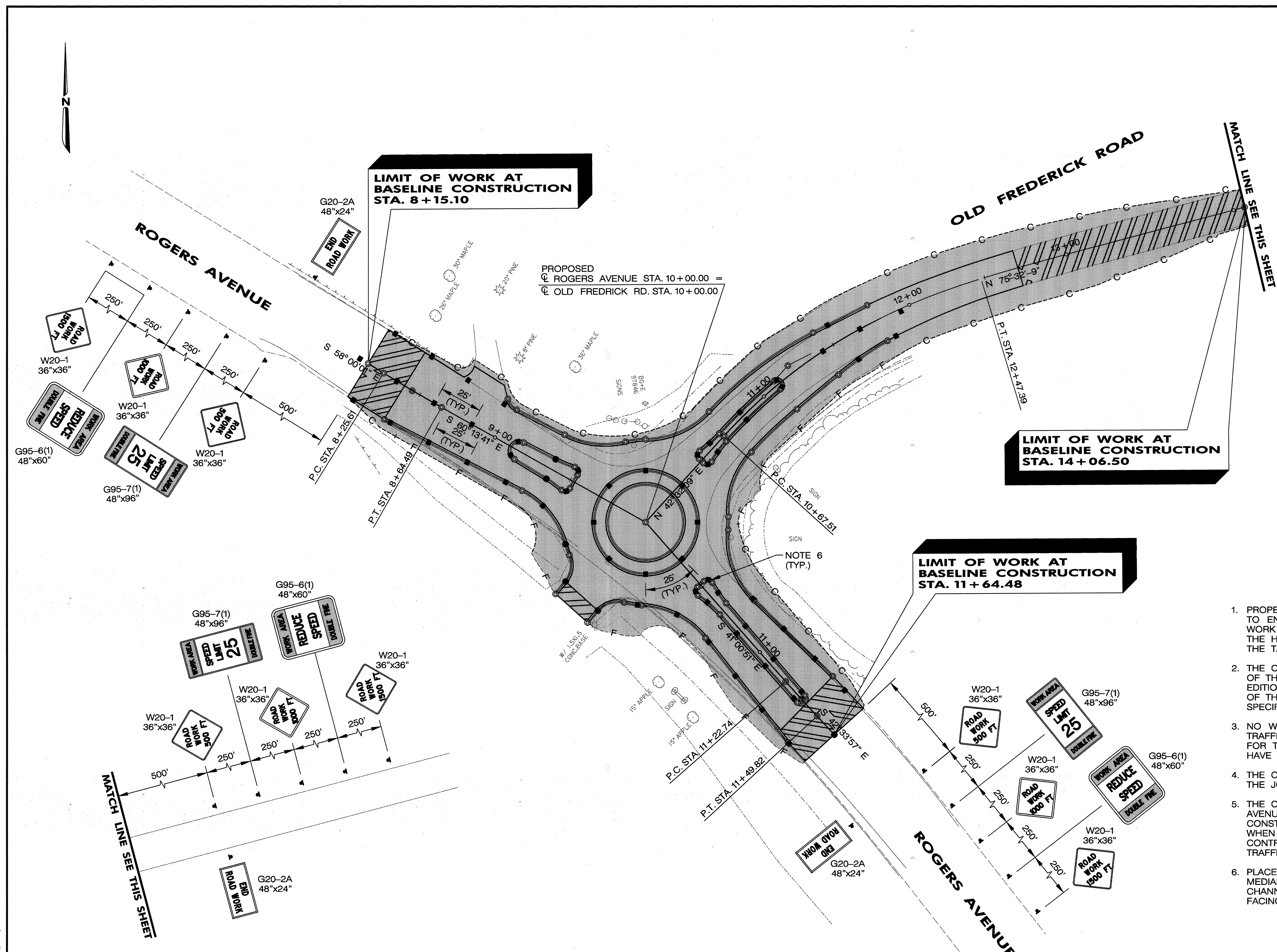
DES: F.A.C.				
DRN: S.F.N.				
CHK: F.A.C.				
DATE: 02/02	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T–7076
600' SCALE MAP NO. ______ DATE: ______

SIGNING AND MARKING PLAN
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 7 OF 14



PHASE II
TRAFFIC CONTROL PLAN
SCALE: 1" = 30'

GENERAL NOTES

1. PROPER TRAFFIC CONTROL THROUGHOUT THE WORK ZONE IS ESSENTIAL TO ENSURE THE SAFETY OF THE TRAVELING PUBLIC AND THE HIGHWAY WORK FORCE. SAFETY OF THE TRAVELING PUBLIC, PEDESTRIANS AND THE HIGHWAY WORK FORCE SHALL BE THE HIGHEST PRIORITY OF ALL THE TASKS PERFORMED UNDER THIS CONTRACT.
2. THE CONTRACTOR SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 2000 EDITION, AND ADDENDUM #1 ESPECIALLY PART VI, AND TO SECTION 104 OF THE MARYLAND DEPARTMENT OF TRANSPORTATION (DOT) STANDARD SPECIFICATIONS FOR WORK ZONE TRAFFIC CONTROL.
3. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY ARE COMPLETELY AND CORRECTLY IN PLACE AND HAVE BEEN CHECKED FOR APPROVED USAGE.
4. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SAFETY WITHIN THE JOB SITE.
5. THE CONTRACTOR SHALL MAINTAIN VEHICULAR TRAFFIC ON ROGERS AVENUE AND OLD FREDERICK ROAD AT ALL TIMES DURING CONSTRUCTION. TRAFFIC SHALL BE OPEN TO TWO LANE OPERATION WHEN PRACTICAL. WHEN ONE-LANE OPERATION IS NECESSARY, THE CONTRACTOR SHALL PERFORM ALL OPERATIONS, SUCH THAT TWO LANE TRAFFIC WILL BE OPEN AS SOON AS PRACTICAL.
6. PLACE ALL CHANNELIZATION DEVICES AT 25' ON CENTER AROUND MEDIAN ISLAND, SPLITTER ISLANDS AND ALL APPROACHES. PLACE TWO CHANNELIZATION DEVICES AT THE END OF EACH SPLITTER ISLAND FACING THE MEDIAN ISLAND AS DIRECTED BY THE COUNTY.

LEGEND

- ▒ – WORK ZONE
- ▲ – SIGN WITH SUPPORT
- ■ – CHANNELIZATION DEVICE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 7/26/02
CHIEF, TRAFFIC DIVISION — DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

DES: F.A.C.				
DRN: S.F.N.				
CHK: F.A.C.				
DATE: 02/02	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T-7076

600' SCALE MAP NO. ______ DATE: ______

TRAFFIC CONTROL PLAN
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

FILE: c:\cadd_jobs\99-393.024\ustation\final\ps08rogers.dgn
DATE: 16-Jun-02 17:50

GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT A MAINTENANCE OF TRAFFIC PLAN FOR REVIEW AND APPROVAL BY THE HOWARD COUNTY ENGINEER.

2. DURING PHASE II OF CONSTRUCTION, THE CONTRACTOR SHALL FOLLOW THE SIGNING SHOWN ON SHEET 8 OF THE CONTRACT DRAWINGS.

3. DURING PHASE I OF CONSTRUCTION, THE CONTRACTOR SHALL SIGN THE APPROACHES TO ROGERS AVENUE AND OLD FREDERICK ROAD FOLLOWING MSHA STANDARD MD 104.03-02 AS REQUIRED.

4. DURING PHASE III OF CONSTRUCTION, THE CONTRACTOR SHALL SIGN ROGERS AVENUE AND OLD FREDERICK ROAD FOLLOWING MSHA STANDARD MD 104.33-02. AS REQUIRED.

5. AT THE DIRECTION OF THE COUNTY, THE CONTRACTOR MAY LEAVE THE EXISTING PAVEMENT UNDER THE ROUND MEDIAN ISLAND IN PLACE IF IT IS RUBBLEIZED SO THAT NO PARTICLE HAS A DIAMETER GREATER THAN 6 INCHES. THE REMAINING PAVEMENT MAY BE REMOVED BUT IN NO CASE SHALL THE EXISTING GRAVEL AGGREGATE BE REMOVED. (SEE MSHA STD. SPEC 201.03.03)

PHASE I

I.1 SET UP THE SIGNING AND CHANNELING DEVICES AS SHOWN ON MSHA STANDARD MD 104.03-02. COVER OR REMOVE EXISTING SIGNS THAT DO NOT APPLY TO THE SITE.

I.2 RECONSTRUCT THE NORTHEAST AND SOUTHEAST CORNERS OF THE INTERSECTION INCLUDING NEW CONCRETE CURB AND GUTTER, MODIFIED DRAINAGE AND PLACE TWO ASPHALT CONCRETE BASE COURSES.

PHASE II

II.1 SET UP SIGNING ACCORDING TO SHEET 8 OF THE CONTRACT DRAWINGS SURROUND WORK ZONES WITH CHANNELING DEVICES AS SHOWN OR AS DIRECTED BY HOWARD COUNTY. PLACE OR UNCOVER ROUND-ABOUT APPROACH SIGNS WHEN APPLICABLE, AS DIRECTED BY THE HOWARD COUNTY ENGINEER. SEE SHEET 7 FOR NEW SIGNS AND LOCATION.

II.2 CONSTRUCT ROUND-ABOUT CENTER ISLAND FIRST, THEN CONSTRUCT SPLITTER ISLANDS. MODIFY DRAINAGE AS SHOWN ON THE PLANS.

II.3 REMOVE THE EXISTING PAVEMENT. REGRADE THE EXISTING GRAVEL AGGREGATE BASE. CREATE A SMOOTH TRANSITION BETWEEN THE EXISTING PAVEMENT AND NEW PAVEMENT. MILL TRANSITIONS ON THREE APPROACHES.

II.4 PLACE OUTSIDE CURBING OR CURB AND GUTTER

II.5 PLACE BOTH BITUMINOUS CONCRETE BASE COURSES.

II.6 THE TOP OF THE NEW PAVEMENT BASE COURSE SHOULD MATCH THE TOP OF THE MILLED APPROACH PAVEMENT.

II.7 PLACE TEMPORARY STRIPING ON MILLED PAVEMENT AND TOP OF NEW PAVEMENT BASE COURSE AS SOON AS PRACTICAL. MAINTAIIN TEMPORARY STRIPING UNTIL PAVEMENT SURFACE COURSE IS CONSTRUCTED.

PHASE III

III.1 SET UP THE SIGNING AND CHANNELING DEVICES AS SHOWN ON MSHA STANDARD 104.33-02 FOR ROGERS AVENUE AND OLD FREDERICK ROAD WHEN NECESSARY. PLACE THE BITUMINOUS CONCRETE SURFACE COURSE OVER THE ENTIRE AREA OF BASE COURSE.

III.2 PLACE FINAL STRIPING, SIGNING AND DELINEATION DEVICES.

III.3 DO FINAL GRADING, TOPSOIL AND SEEDING.

III.4 REMOVE TEMPORARY EROSION CONTROL DEVICES AND TEMPORARY SIGNING AS DIRECTED BY HOWARD COUNTY.

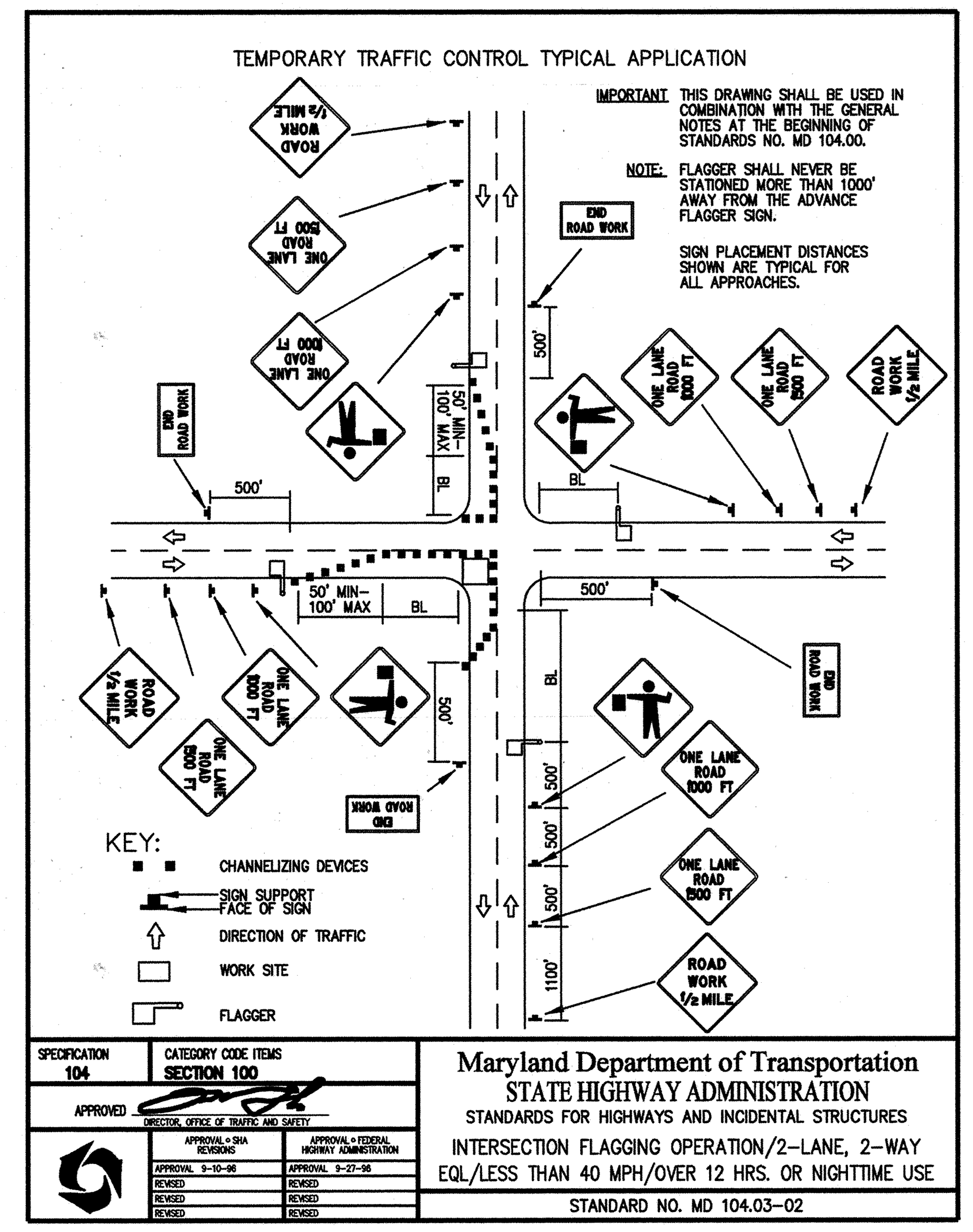
NOTES

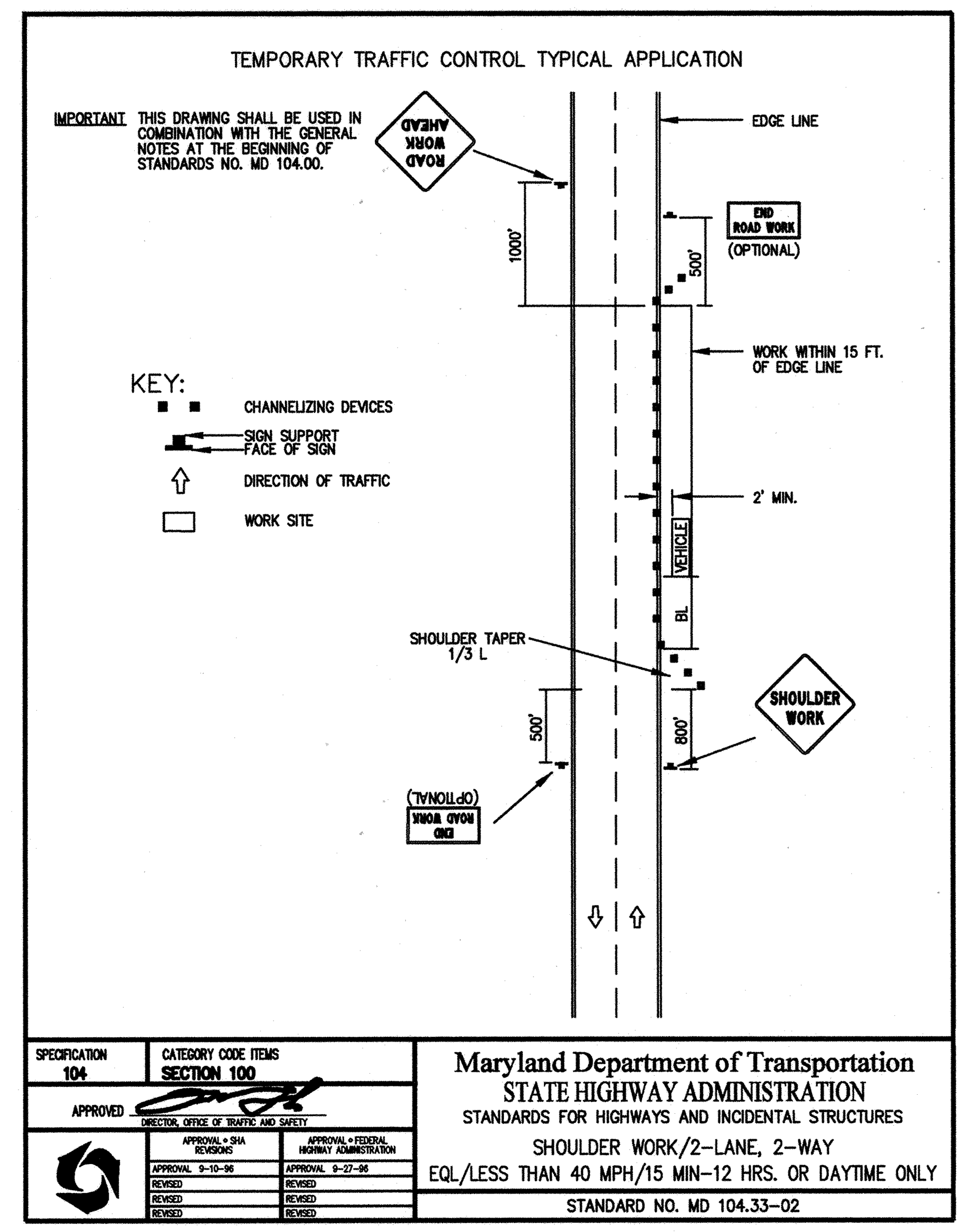
W95-3 W8-8

1. THE HOWARD COUNTY ENGINEER HAS THE OPTION OF PLACING ONE OR BOTH OF THESE SIGNS ON ROGERS AVENUE AND OLD FREDERICK ROAD WHILE THE PUBLIC IS TRAVELING ON THE GRAVEL AGGREGATE SURFACE AS A SUPPLEMENT TO STAGE I AND STAGE II TEMPORARY SIGNING.

2. THE CONTRACTOR SHALL SCHEDULE THE WORK OPERATIONS TO MINIMIZE THE TIME WHEN THE PUBLIC IS TRAVELING ON THE GRAVEL AGGREGATE SURFACE. IN NO CASE SHOULD TRAVEL ON THE GRAVEL SURFACE OCCUR OVER A HOLIDAY WEEKEND.

3. AT THE DIRECTION OF THE HOWARD COUNTY ENGINEER, THE CONTRACTOR MAY RETURN AT ANYTIME TO REAPPLY CALCIUM CHLORIDE AND/OR WATER TO THE GRAVEL AGGREGATE SURFACE IF, IN THE OPINION OF THE ENGINEER, TOO MUCH DUST IS BEING RAISED BY MOVING VEHICLES.





DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS 8/28/02 DATE

CHIEF, TRAFFIC DIVISION 7-3-02 DATE

CHIEF, BUREAU OF HIGHWAYS 7-19-02 DATE

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T-7076

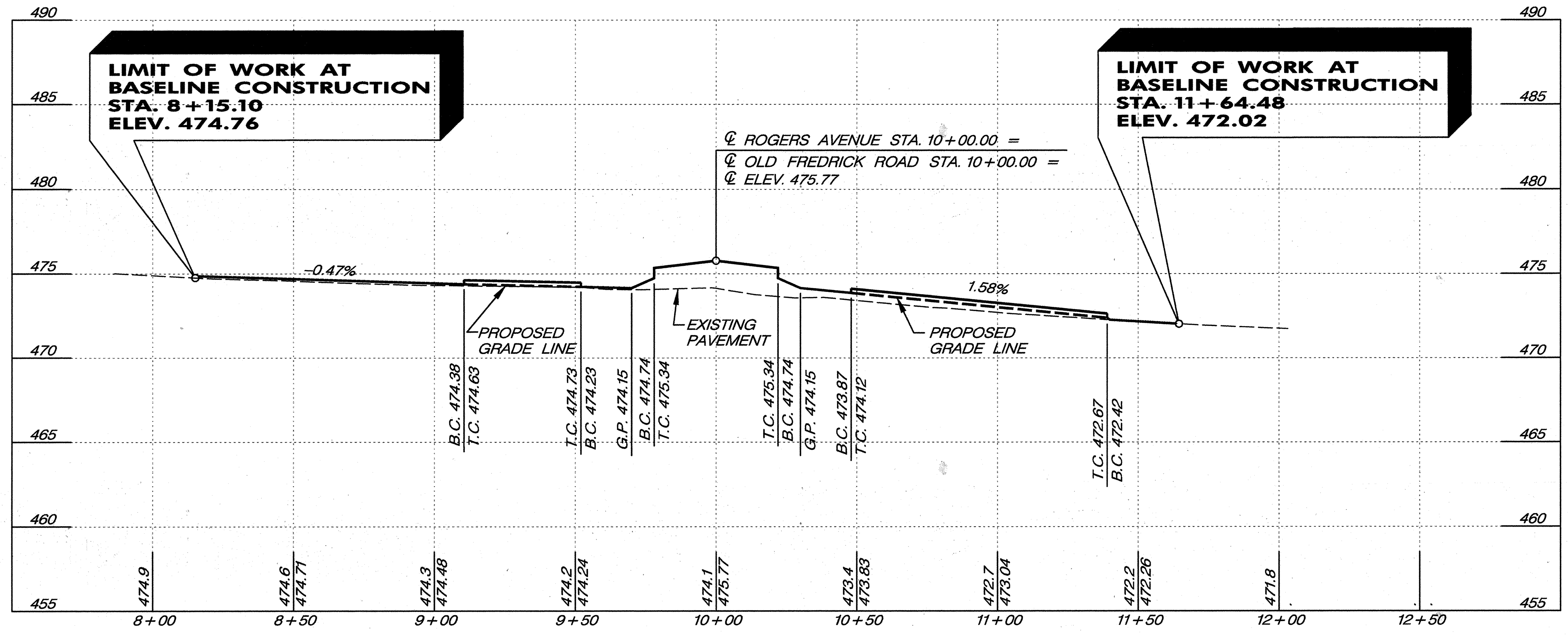
600' SCALE MAP NO. ________ DATE: ________

TRAFFIC CONTROL DETAILS AND NOTES

Rogers Avenue at Old Frederick Road

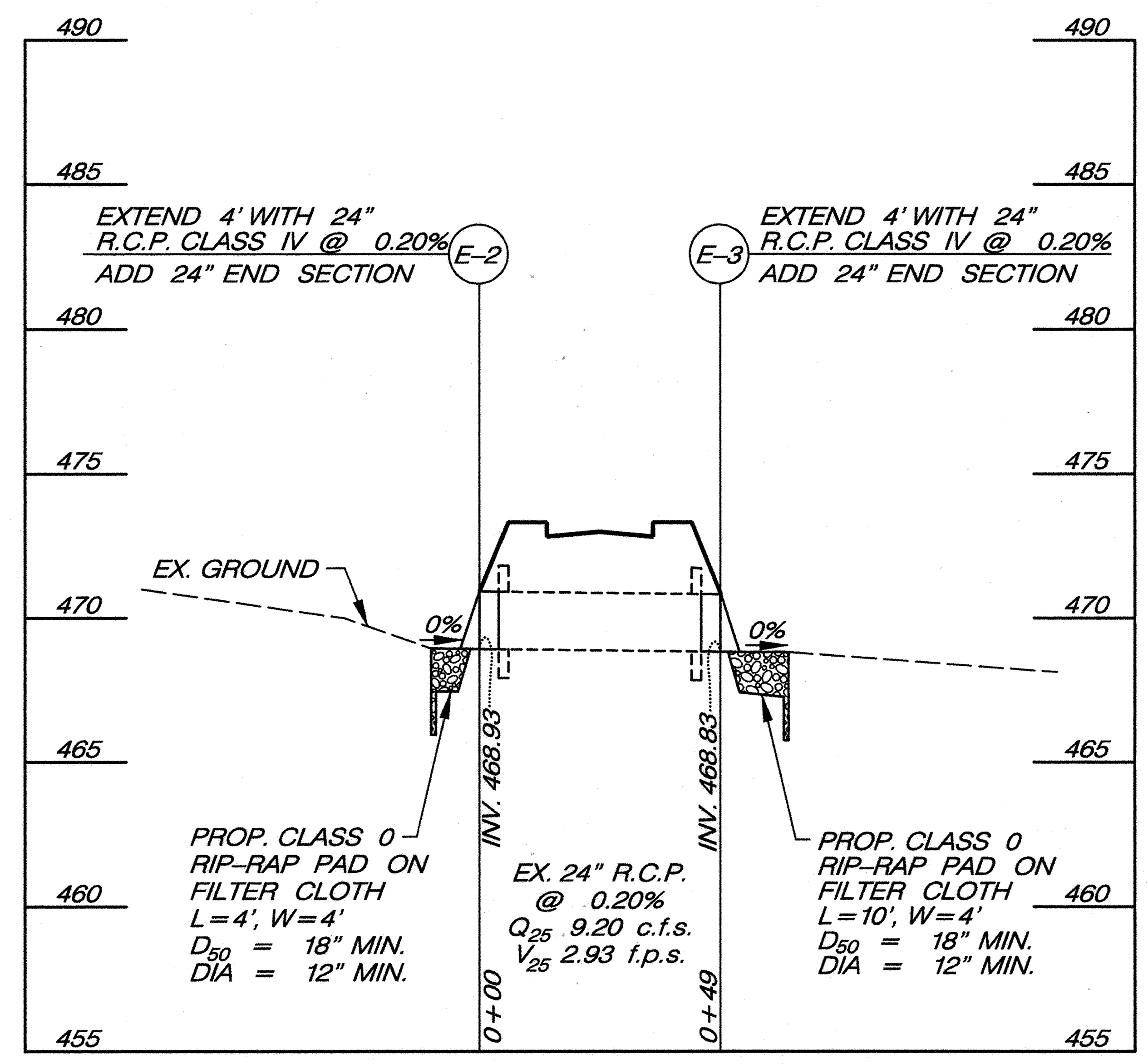
SCALE AS SHOWN

SHEET 9 OF 14



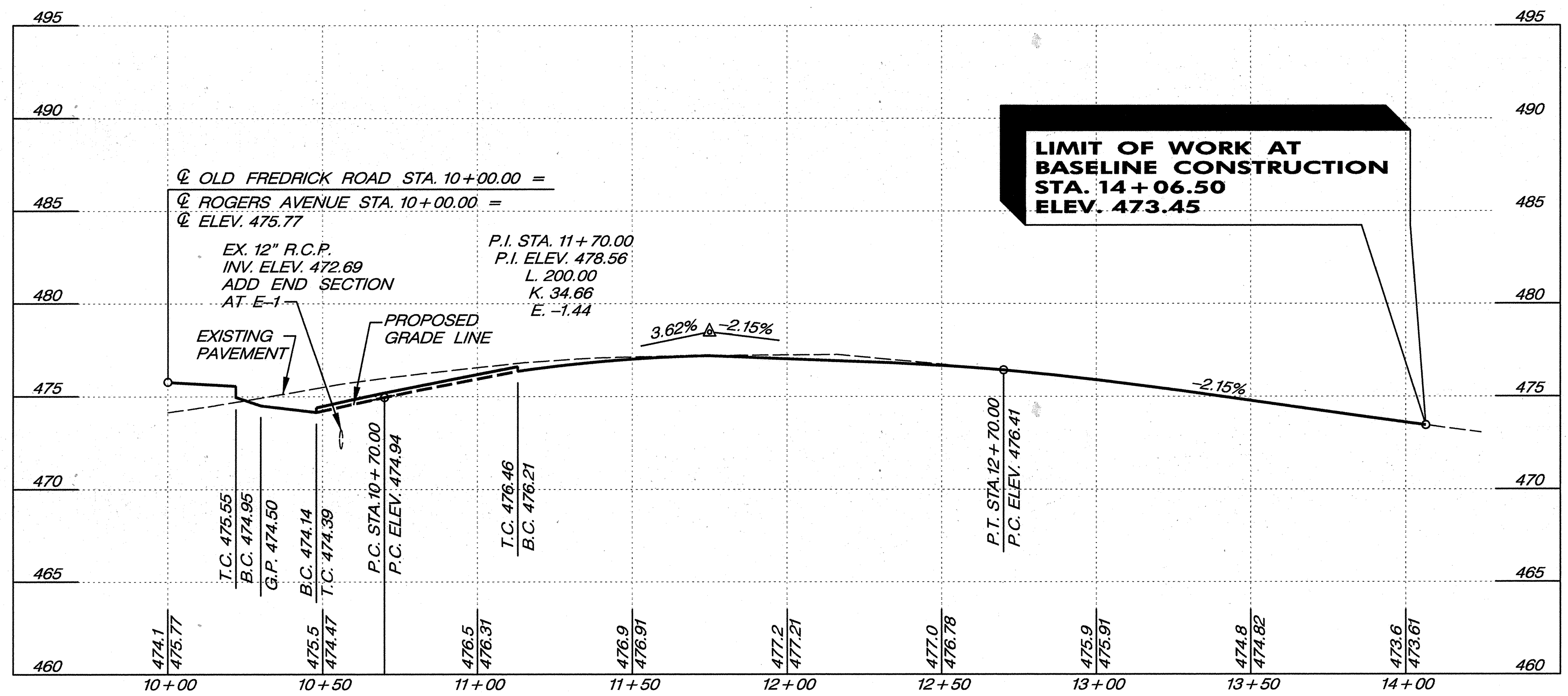
ROGERS AVENUE

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'



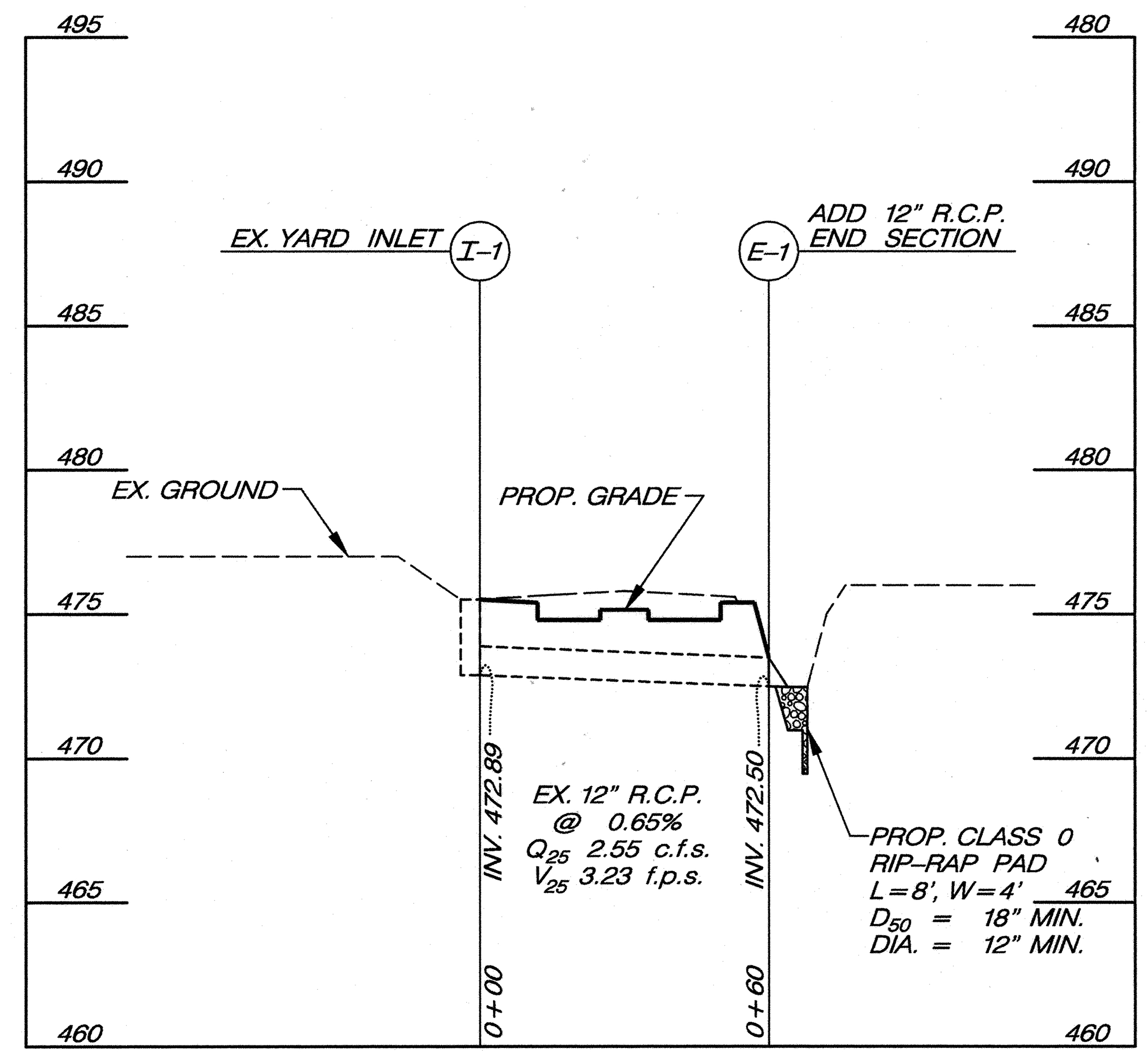
STORM DRAIN EXTENSION PROFILE

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'



OLD FREDERICK ROAD

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'



STORM DRAIN PROFILE

SCALE: HORZ. 1" = 30'
VERT. 1" = 5'

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DATE: 04-Jun-02 22:57

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/28/02
CHIEF, TRAFFIC DIVISION — DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

PROFESSIONAL ENGINEERS — STATE OF MARYLAND — FREDERICK A. CARMAN — No. 23005 — 6/7/02

DES: F.A.C.				
DRN: S.F.N.				
CHK: F.A.C.				
DATE: 02/02	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T-7076

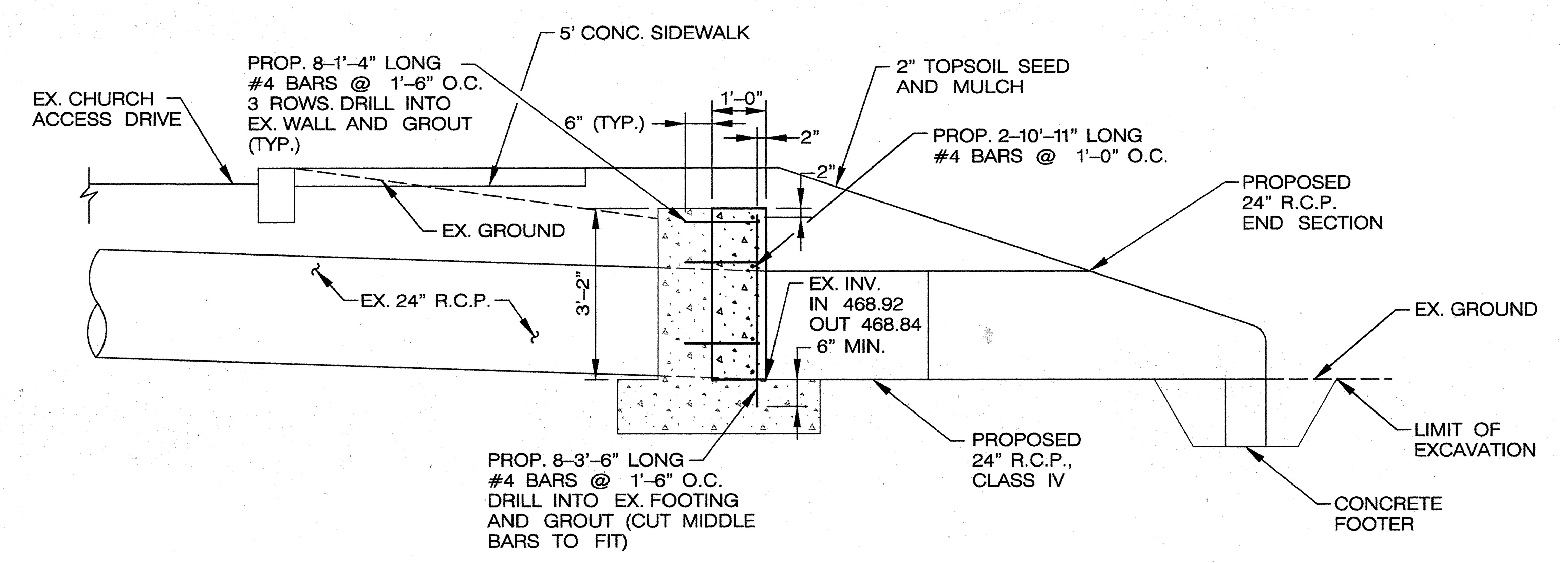
600' SCALE MAP NO. ________ DATE: ________

ROADWAY PROFILES AND DRAINAGE PROFILES

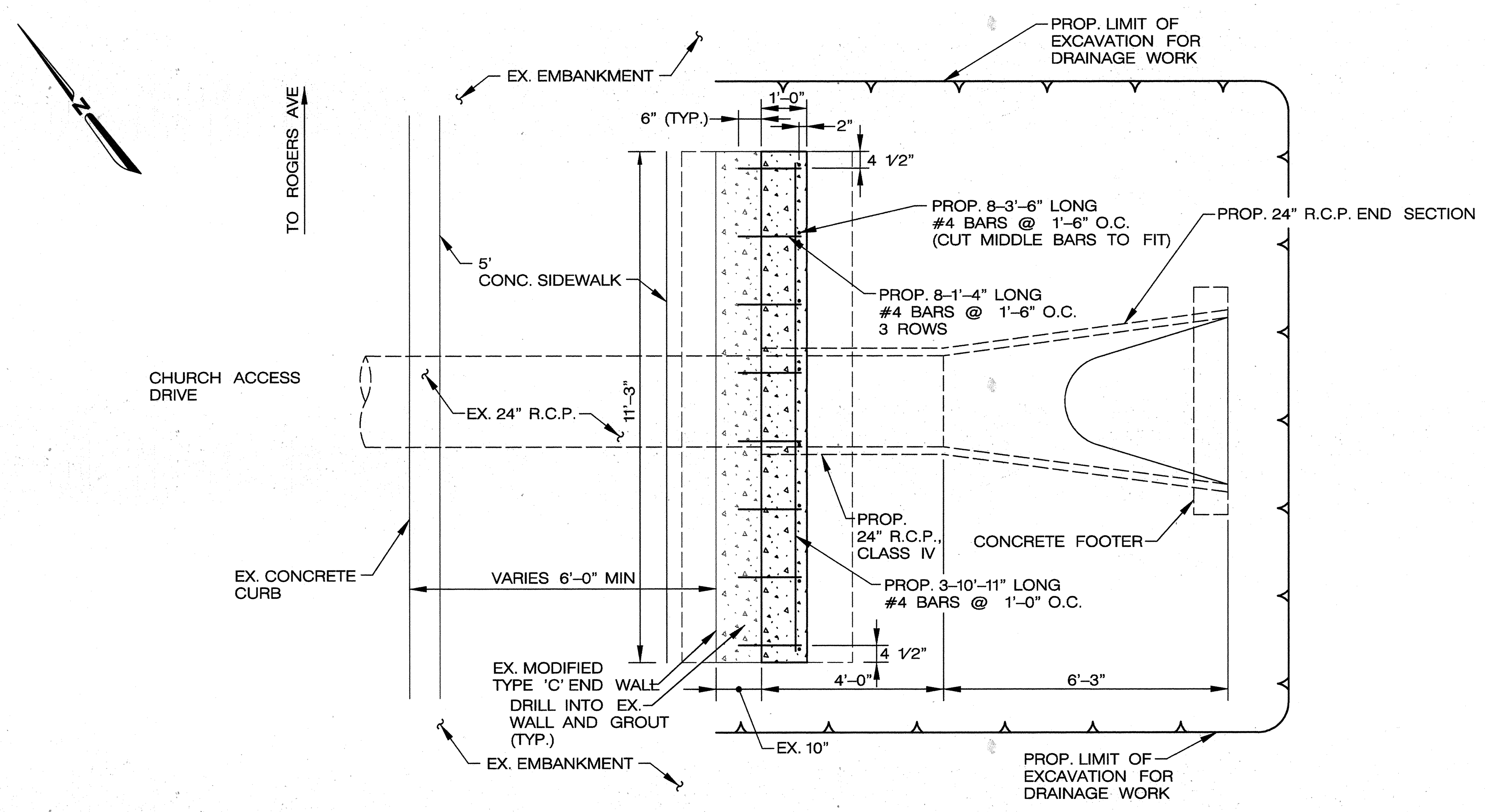
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

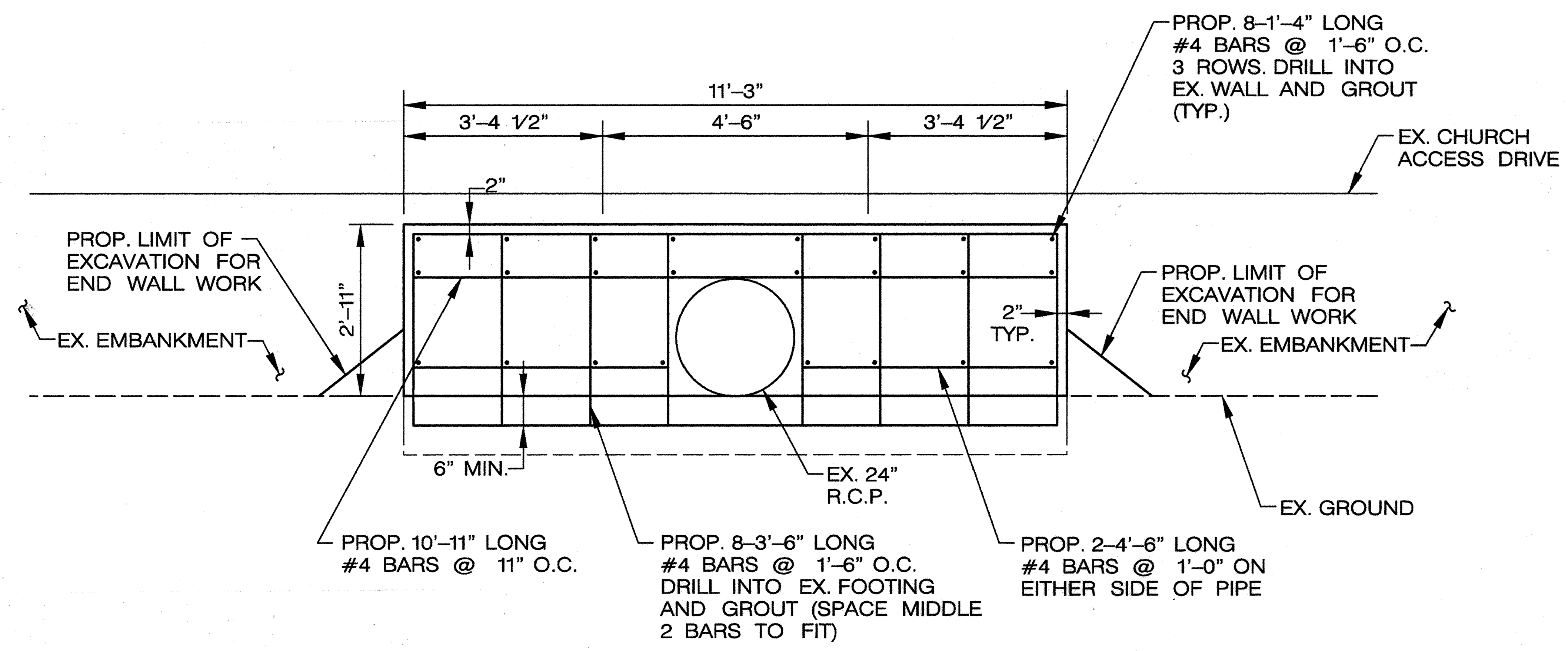
SHEET 10 OF 14



SECTION
SCALE: 1/2" = 1'–0"



PLAN
SCALE: 1/2" = 1'–0"



ELEVATION
SCALE: 1/2" = 1'–0"

EXISTING PIPE EXTENSION DETAILS
SCALE: AS SHOWN

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE
CHIEF, TRAFFIC DIVISION — 7-3-02 DATE
CHIEF, BUREAU OF HIGHWAYS — 7-19-02 DATE

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99–393.024

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.
T–7076
600' SCALE MAP NO. ______ DATE: ______

DRAINAGE DETAILS
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 11 OF 14

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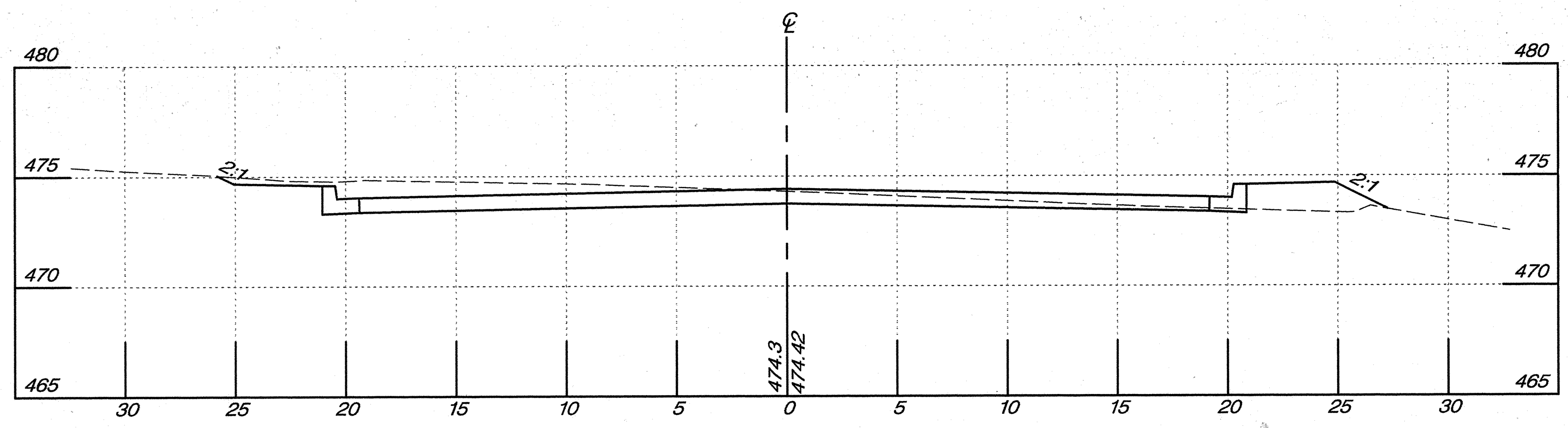
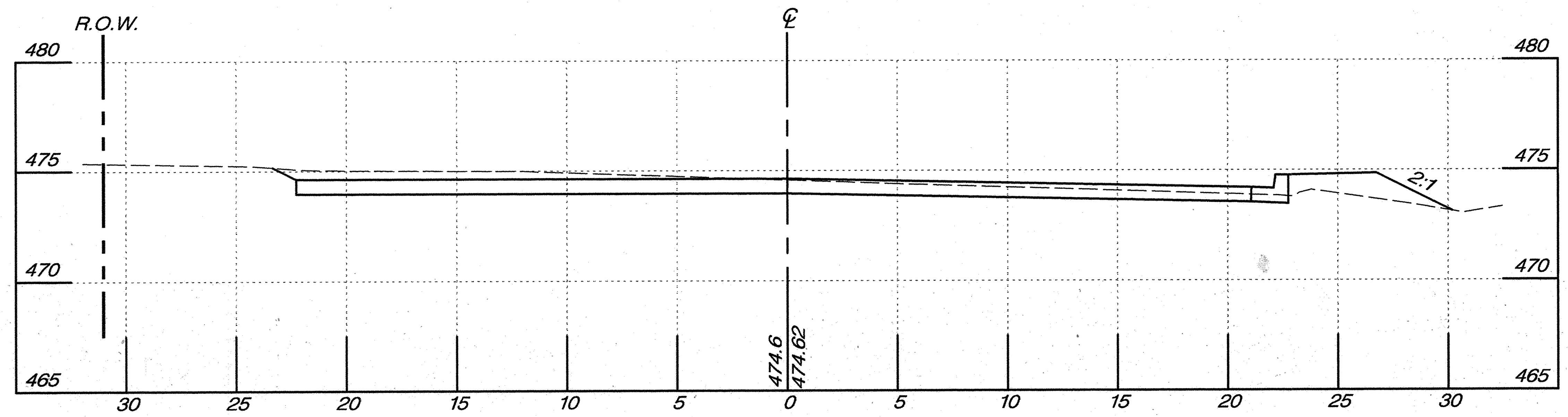
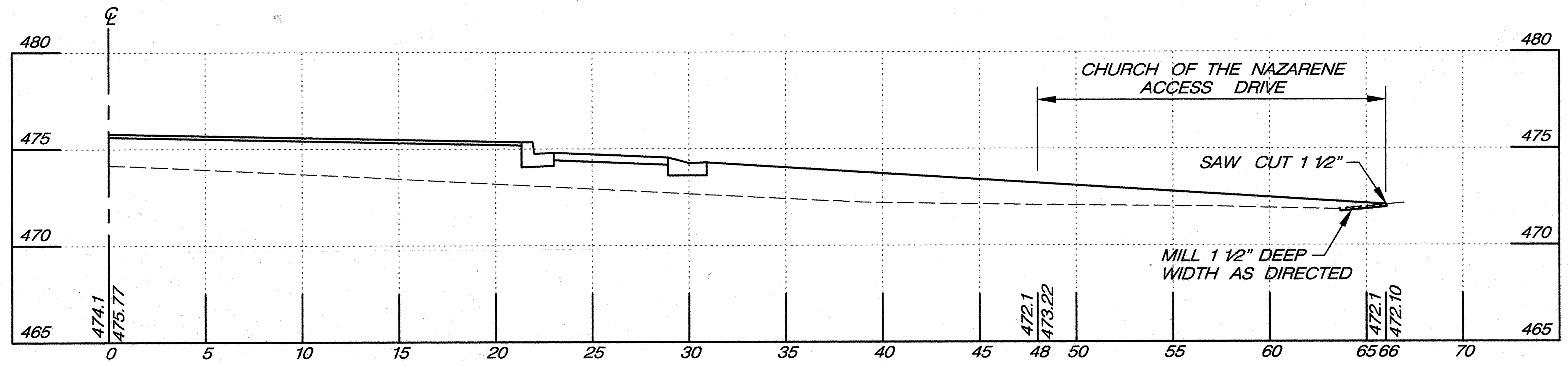


STA. 9+00

SEE SHEET 10, OLD FREDRICK ROAD PROFILE
FOR GRADING STATION 10+00, LEFT

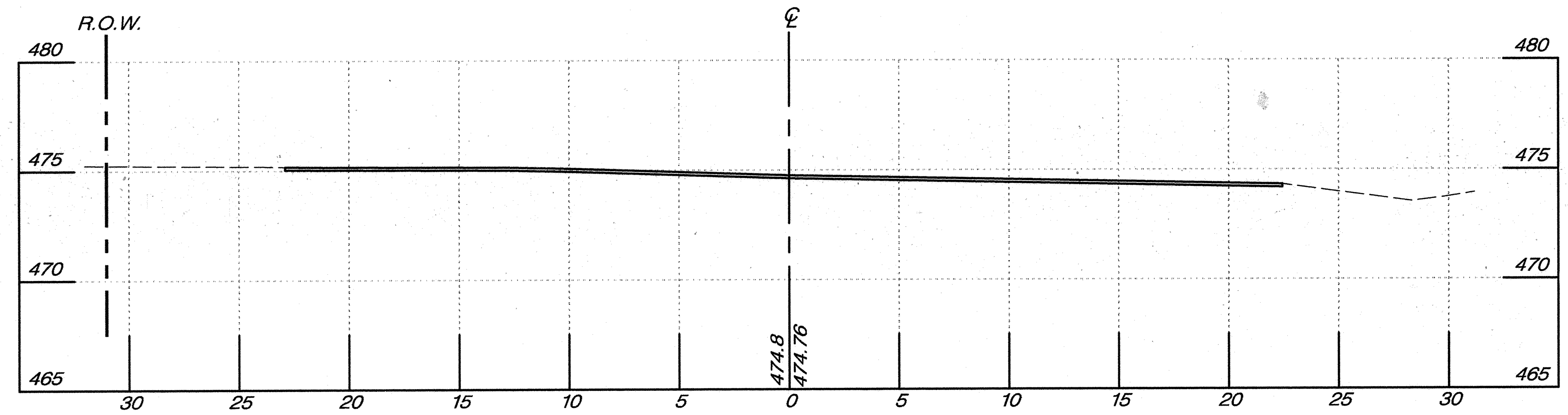


STA. 8+50

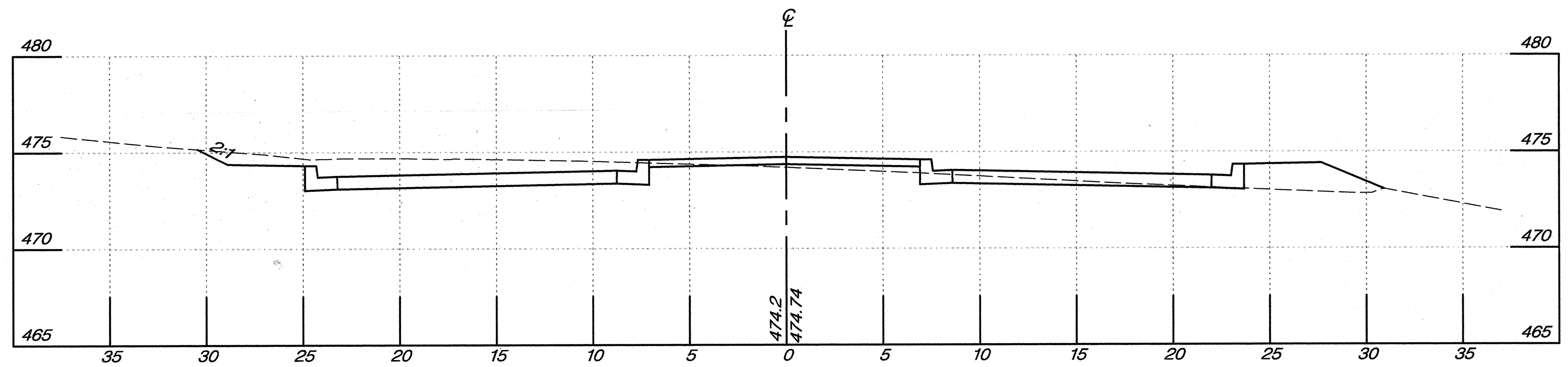


STA. 10+00 RIGHT

MAINTAIN ONE WAY ACCESS DURING DAYS WHEN WORKING ON THE ACCESS DRIVE. AT THE END OF EACH WORK DAY BOTH LANES SHALL HAVE THE SAME GRADE. THE DRIVEWAY SURFACE SHALL BE STABILIZED WITH A MINIMUM OF 3" OF BITUMINOUS PAVEMENT AT THE END OF WORK ON EACH FRIDAY.



STA. 8+15.10



STA. 9+50

ROGERS AVENUE CROSS SECTIONS

SCALE: HORZ. 1" = 5'
VERT. 1" = 5'

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DATE: 04-Jun-02 23:01

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE 8/28/02
CHIEF, TRAFFIC DIVISION — DATE 7-3-02
CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

DES: F.A.C.
DRN: S.F.N.
CHK: F.A.C.
DATE: 02/02

BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.

T–7076

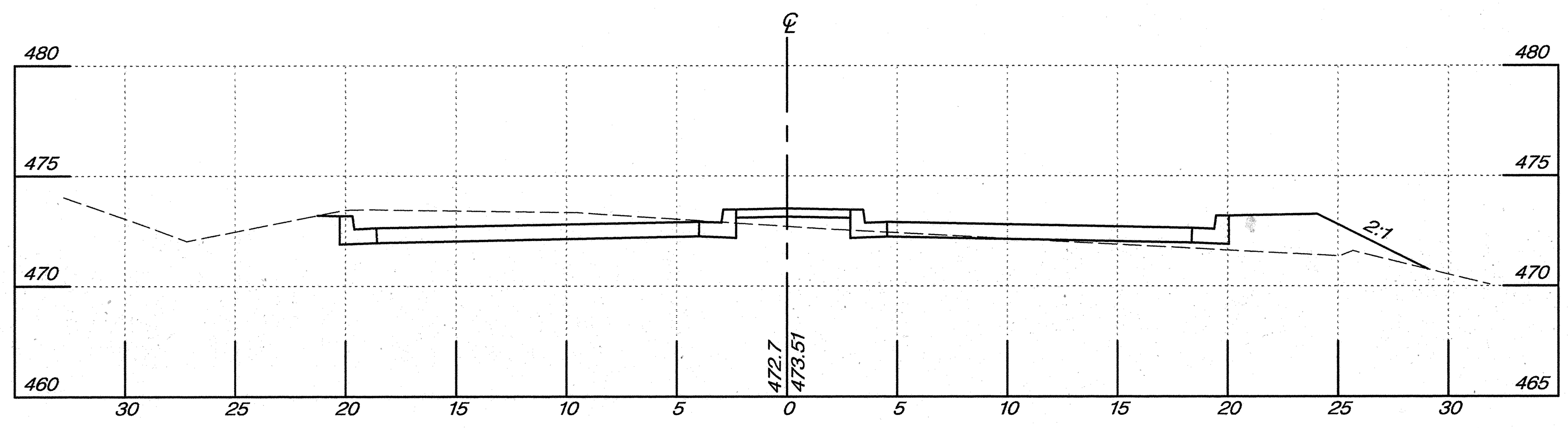
600' SCALE MAP NO. ________ DATE: ________

ROADWAY CROSS SECTIONS

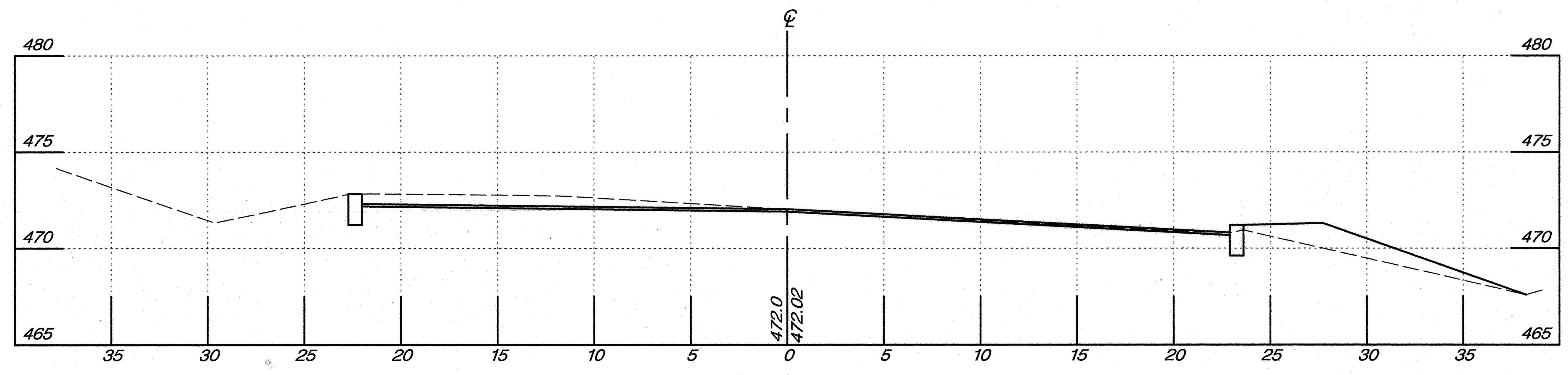
Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 12 OF 14



STA. 11+00



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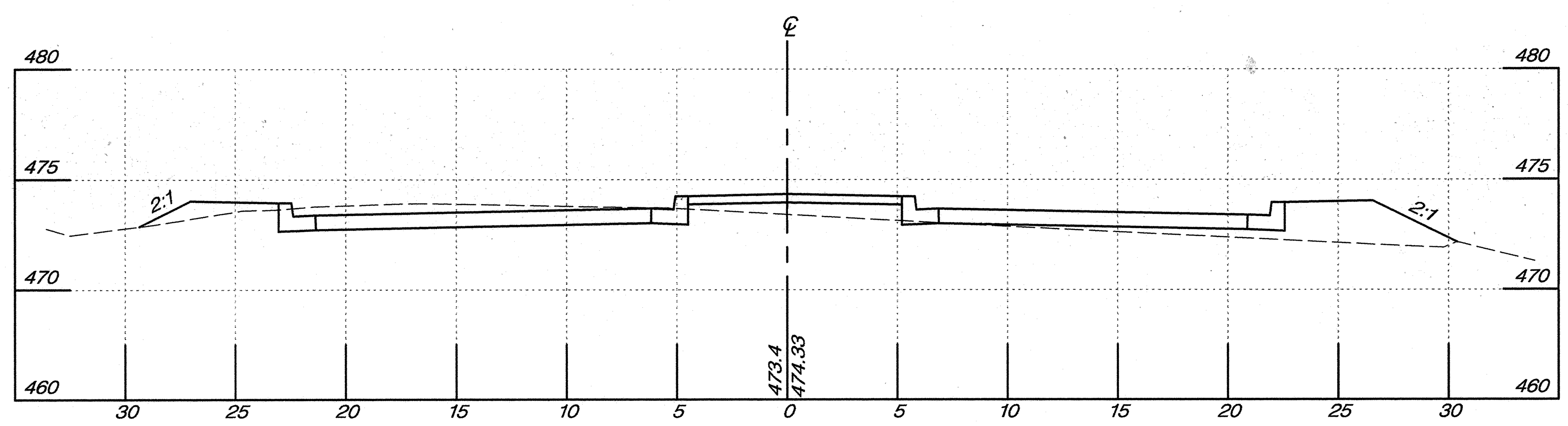

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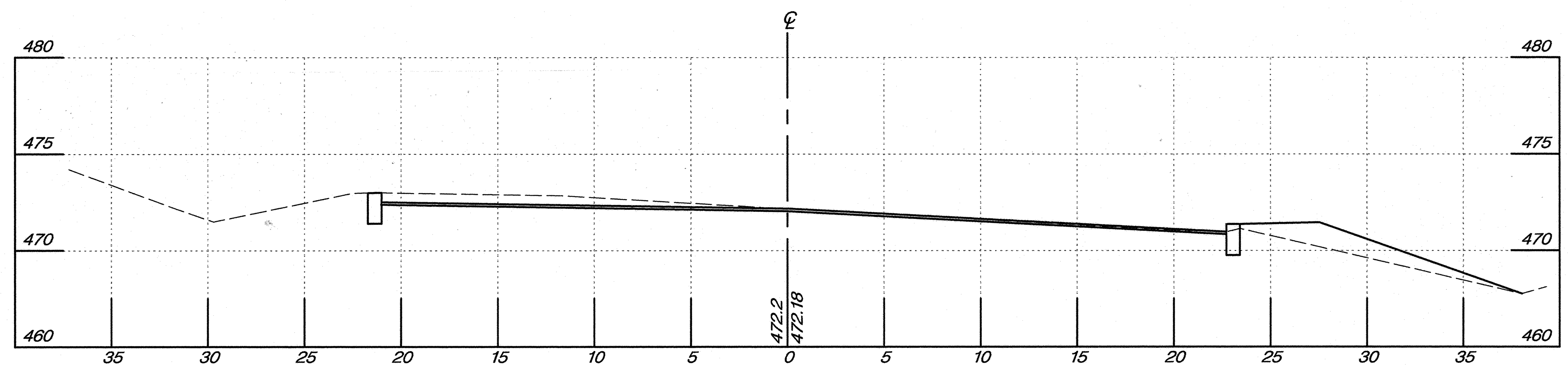

STA. 11+50

ROGERS AVENUE CROSS SECTIONS

SCALE: HORZ. 1" = 5'
VERT. 1" = 5'

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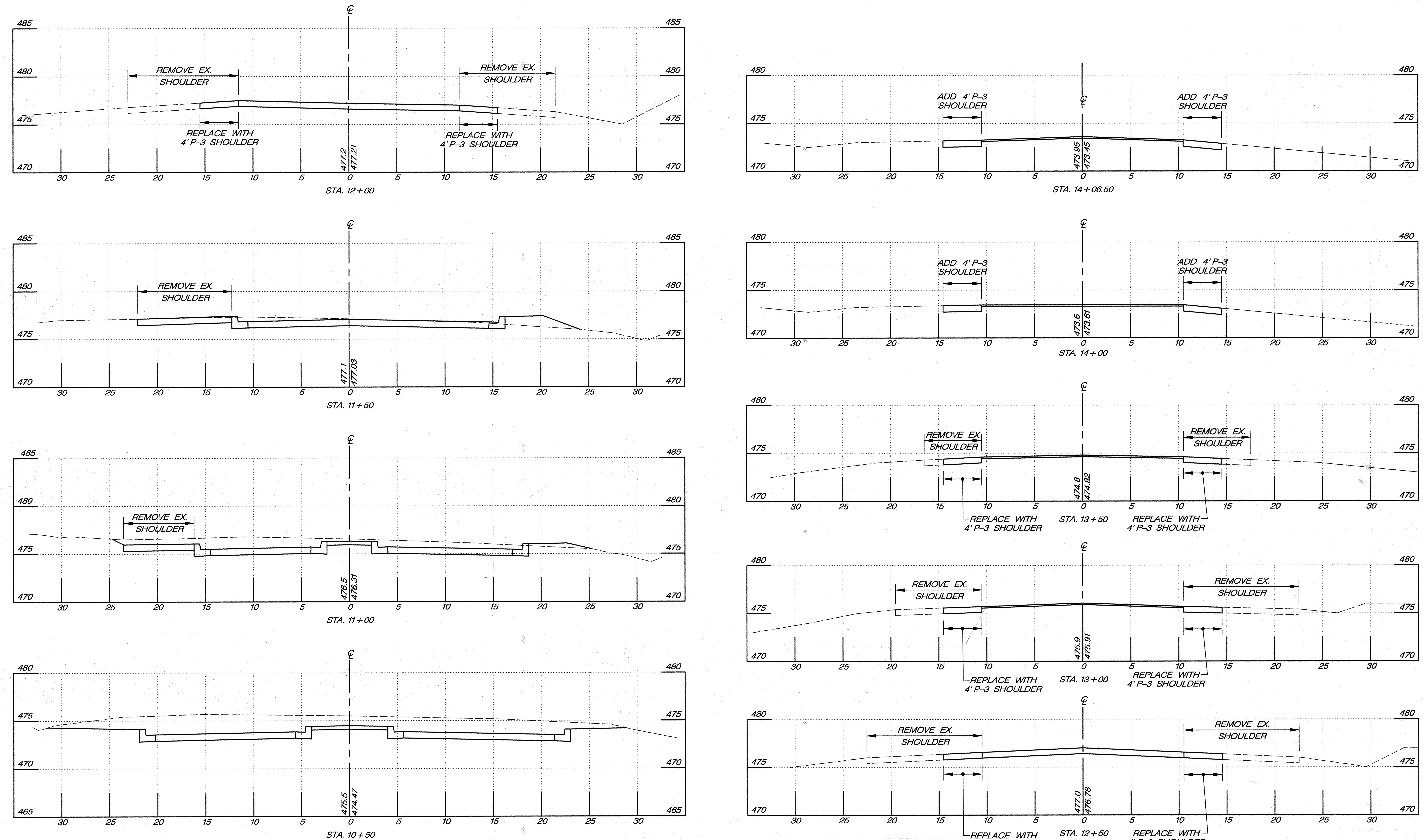
DATE: 04-Jun-02 13:03

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	A/E GROUP, INC. ENGINEERS • PLANNERS 181 E. Main Street Westminster, Maryland 21158 A/E Job No. 99-393.024	BOARD OF PROFESSIONAL ENGINEERS No. 23604 PATRICK A. CARVAN STATE OF MARYLAND 6/7/02	DES: F.A.C. DRN: C.D.F. CHK: F.A.C. DATE: 02/02	BY | NO. | REVISION | DATE	CAPITAL PROJECT NO. **T-7076** 600' SCALE MAP NO. ____ DATE: ____	ROADWAY CROSS SECTIONS **Rogers Avenue at Old Frederick Road**	SCALE AS SHOWN SHEET 13 OF 14
DIRECTOR OF PUBLIC WORKS — DATE CHIEF, TRAFFIC DIVISION — DATE 7-3-02 CHIEF, BUREAU OF HIGHWAYS — DATE 7-19-02							



OLD FREDERICK ROAD CROSS SECTIONS

SCALE: HORZ. 1" = 5'
VERT. 1" = 5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS — DATE

William F. Malone — 7-3-02
CHIEF, TRAFFIC DIVISION — DATE

7-19-02
CHIEF, BUREAU OF HIGHWAYS — DATE

A/E GROUP, INC.
ENGINEERS • PLANNERS
181 E. Main Street
Westminster, Maryland 21158
A/E Job No. 99-393.024

6/7/02

DES: F.A.C.				
DRN: S.F.N.				
CHK: F.A.C.				
DATE: 02/02	BY	NO.	REVISION	DATE

CAPITAL PROJECT NO.

T-7076

600' SCALE MAP NO. ________ DATE: ________

ROADWAY CROSS SECTIONS

Rogers Avenue at Old Frederick Road

SCALE AS SHOWN

SHEET 14 OF 14

FILE: c:\cadd\jobs\99-393.024\ustation\final\ps14rogers.dgn
DATE: 05-JUN-02 22:57