

INDEX OF SHEETS	
NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILE - FLORENCE ROAD (0+00 TO 9+57)
3	PLAN & PROFILE - HORIZON RIDGE ROAD (0+00 TO 12+18.46)
4	ROAD PROFILE AND DETAILS
5	GRADING, SEDIMENT CONTROL PLAN & STORM DRAIN PROFILES
6	GRADING, SEDIMENT CONTROL PLAN & DETAILS
7	DRAINAGE AREA MAP & STORM DRAIN PROFILES
8	SEDIMENT CONTROL DETAILS
9	PROFILES & DETAILS

# ROADS AND STORM DRAINS

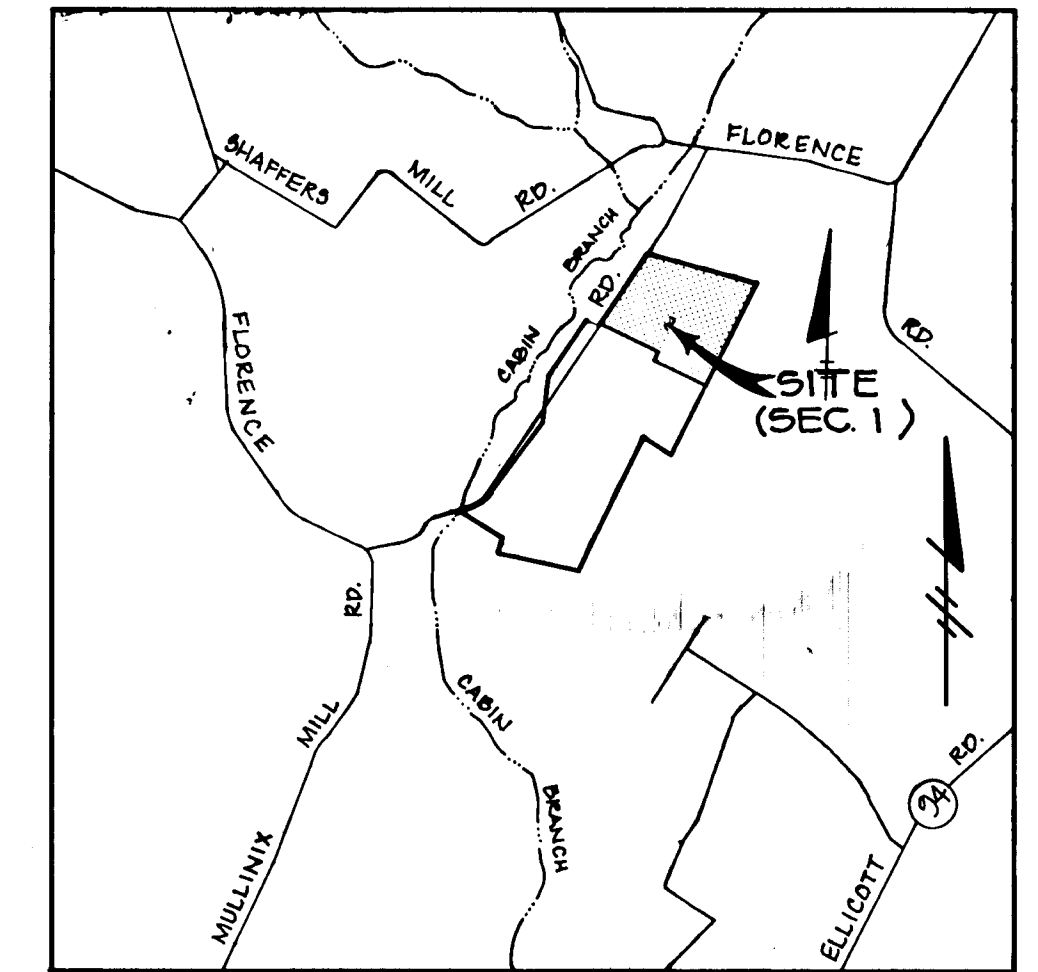
## SECTION ONE

# BRIDLE BROOK ESTATES

## LOTS 1-7

### 4th ELECTION DISTRICT

## HOWARD COUNTY, MARYLAND



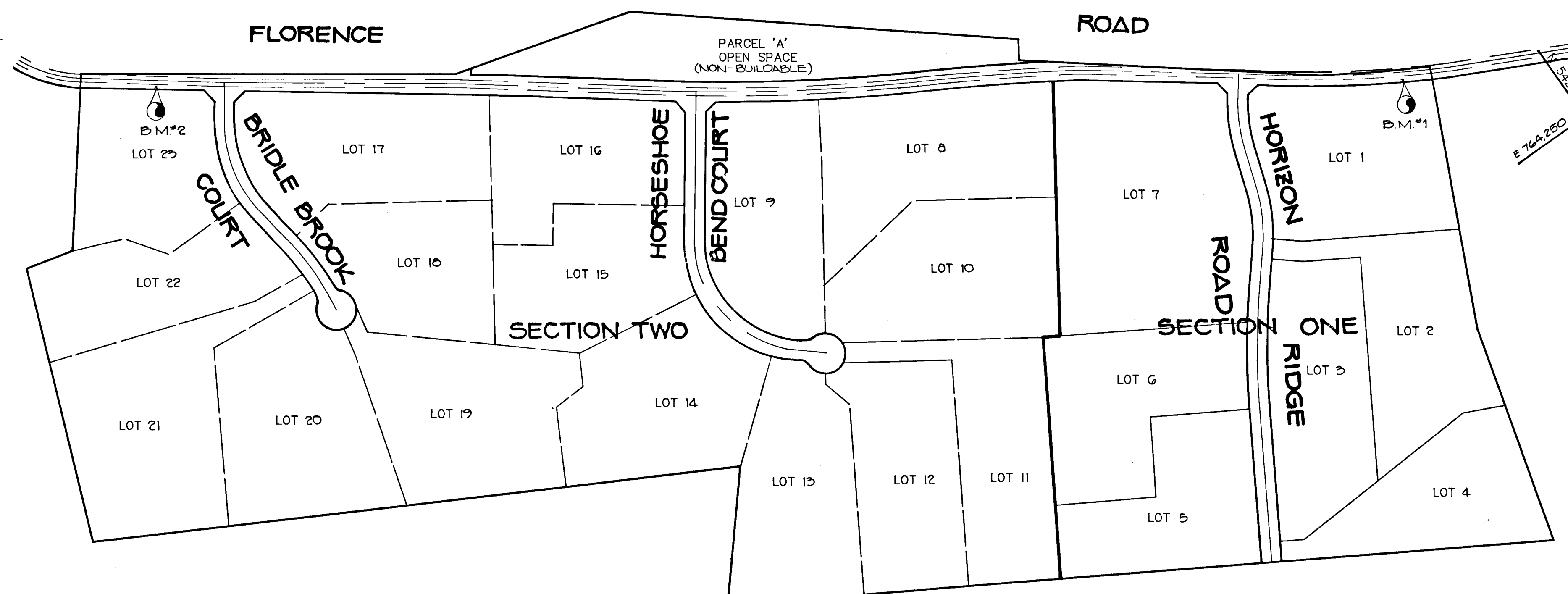
**VICINITY MAP**

SCALE: 1"=200'

**BENCH MARKS**

- B.M.#1 ELEV. 620.21  
R.R. SPIKE SET IN EX. PAVING  
OPPOSITE E. STA. 0+52.5 FLORENCE  
ROAD (TRAVERSE STA. #206)
- B.M.#2 ELEV. 608.97  
R.R. SPIKE SET IN EX. PAVING  
OPPOSITE E. STA. 31+70.5 FLORENCE  
ROAD (TRAVERSE STA. #201)

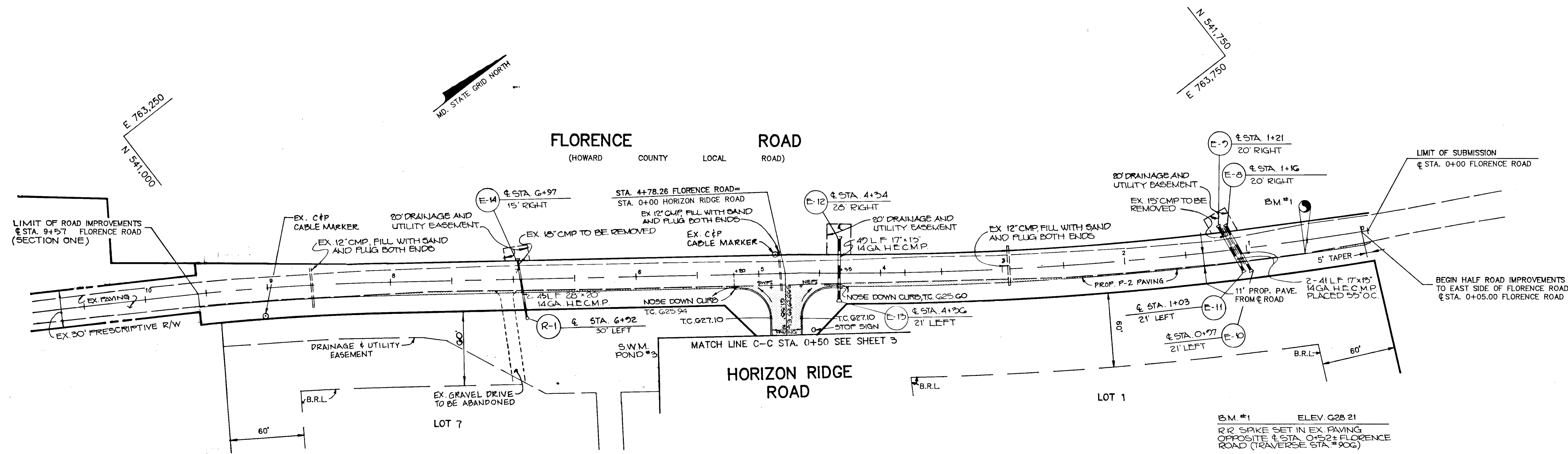
- GENERAL NOTES**
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1989 EDITION.
  - INTERFERING UTILITIES OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED HERE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
  - THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK SHOWN IN THESE DRAWINGS.
  - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES AT LEAST FIVE (5) DAYS BEFORE STARTING WORK ON THESE DRAWINGS:
    - MISS UTILITY 1-800-257-7777
    - BELL TELEPHONE SYSTEM 393-3649
    - LONG DISTANCE CABLE DIVISION 393-3553 or 3554
    - MARYLAND GAS AND ELECTRIC CO. 398-8000, ext. 491
    - HOWARD COUNTY BUREAU OF UTILITIES 992-2366
    - HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK) 792-7272
    - CENTRAL PIPELINE 795-1370
  - ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
  - ALL STREET CURB RETURNS SHALL HAVE 35' RADIUS UNLESS OTHERWISE NOTED.
  - STORM DRAIN TRENCHES WITHIN ROAD RIGHT-OF-WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION.
  - INSTALLATION OF TRAFFIC CONTROL DEVICES, MARKING, AND SIGNING SHALL BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 1988 REVISED EDITION.
  - PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
  - DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARDS:
    - ALL 50' RIGHT-OF-WAYS 30 M.P.H.
  - ALL ELEVATIONS SHOWN ARE BASED ON U.S.C. AND C.S. MEAN SEA LEVEL DATUM, 1929.
  - ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION.
  - ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
  - PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
  - SUBJECT PROPERTY ZONED PER 6-2-85 COMPREHENSIVE ZONING PLAN.
  - TOPD TAKEN FROM FIELD SURVEY DATED MAR, 1989 BY RIEMER MUEGGE & ASSOC., INC.
  - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
  - ALL STORM DRAIN PIPE BEHIND SHALL BE CLASS "C" AS SHOWN IN FIG. 11.6, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
  - SEE OFFICE OF PLANNING AND ZONING FILE NO. 8-88-118, P. 60-62
  - PROVIDE DRIVEWAY CULVERTS AS FOLLOWS:
    - LOT 6 & 7 24" Ø CMF, 14 GA. COMMON DRIVEWAY
  - ALL CMF PIPES CONTAINED ON THESE PLANS TO BE BITUMINOUS COATED.



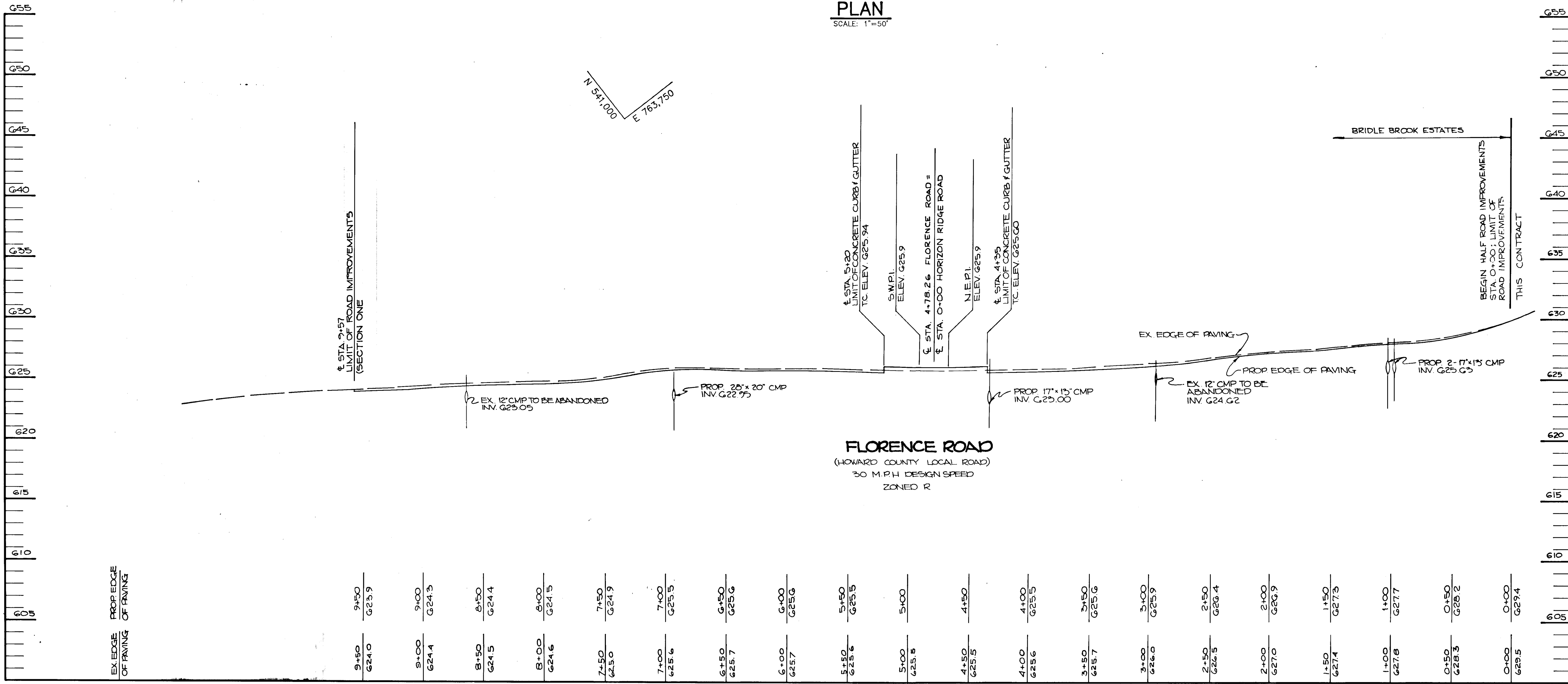
**PLAN**  
SCALE: 1"=200'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING	
<i>Joseph J. Tangle</i> CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	11/8/90 DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Al M. Timpane</i> CHIEF, LAND DEVELOPMENT DIVISION	10/17/90 DATE
<i>Stanville W. W. W. W.</i> CHIEF, BUREAU OF HIGHWAYS	10/16/90 DATE
<i>William D. Reddy</i> CHIEF, BUREAU OF ENGINEERING	10-18-90 DATE
DATE	NO. REVISION
OWNER/DEVELOPER GREGG McCARRON POTOMAC DEVELOPMENT CO. 2404 FLORENCE RD 1015 COPPERSTONE COURT MT. AIRY, MARYLAND ROCKVILLE, MARYLAND 21171 20852	
PROJECT: 888-118 SECTION ONE P-89-02 <b>BRIDLE BROOK ESTATES</b> LOTS 1-7	
AREA TAX MAP 12 ZONED R PARCELS 13 & 25 4TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE: <b>TITLE SHEET</b>	
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 3105 North Ridge Road Ellicott City, Maryland 21043 301-461-2690 FAX: 301-750-3176	
DATE 9-30-90	DESIGNED BY: DBS
DRAWN BY: CADDO/	PROJECT NO: 52205
DATE:	SCALE: AS SHOWN
DRAWING NO. 1 OF 2	DATE
	ARTHUR E. MUEGGE #8107

1604



**PLAN**  
SCALE: 1"=50'



**PROFILE**  
SCALE: HOR: 1"=50'  
VER: 1"=5'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*David J. Taylor* 10/15/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John M. Taylor* 10/16/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*David W. Weiland* 10/16/90  
 CHIEF, BUREAU OF HIGHWAYS

*Gregory P. Ryan* 10-18-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

OWNER/DEVELOPER  
 GREGG McCARRON POTOMAC DEVELOPMENT CO.  
 2404 FLORENCE RD. 1015 COPPERSTONE COURT  
 MT. AIRY, MARYLAND ROCKVILLE, MARYLAND  
 21171 20852

PROJECT: 9008-110 SECTION ONE P89-G2  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7

AREA TAX MAP 12 ZONED R PARCELS 15 & 25  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **PLAN & PROFILE**  
**FLORENCE ROAD**  
 STA 0+00 TO STA. 1+00

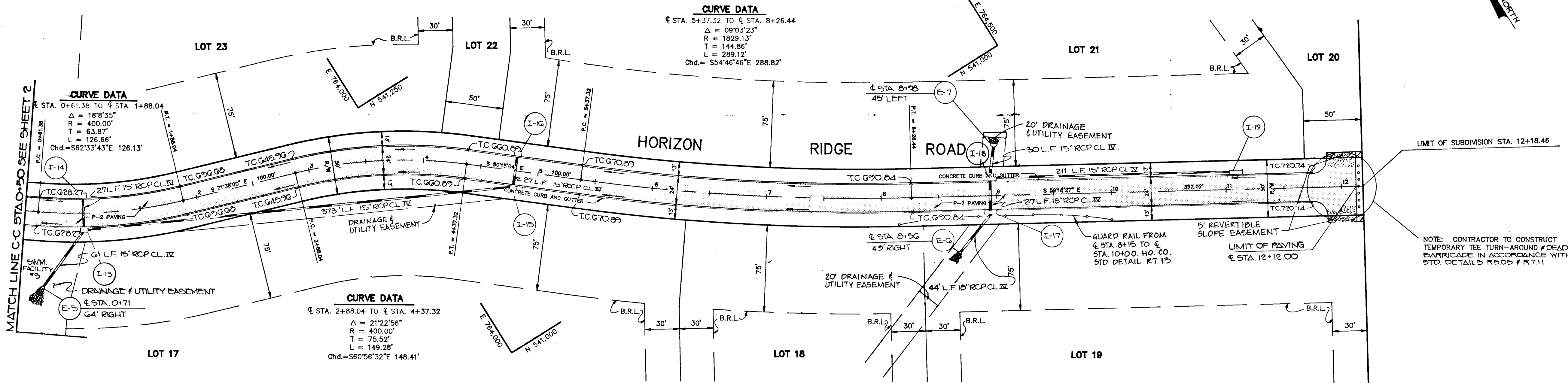
**RIEMER MUEGGE & ASSOCIATES, INC.**  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 10-20-90  
 DESIGNED BY: DDB  
 DRAWN BY: CADD/  
 PROJECT NO: 52905  
 DATE: AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 2 OF 2

1604  
 LAND DEVELOPMENT CO., INC.

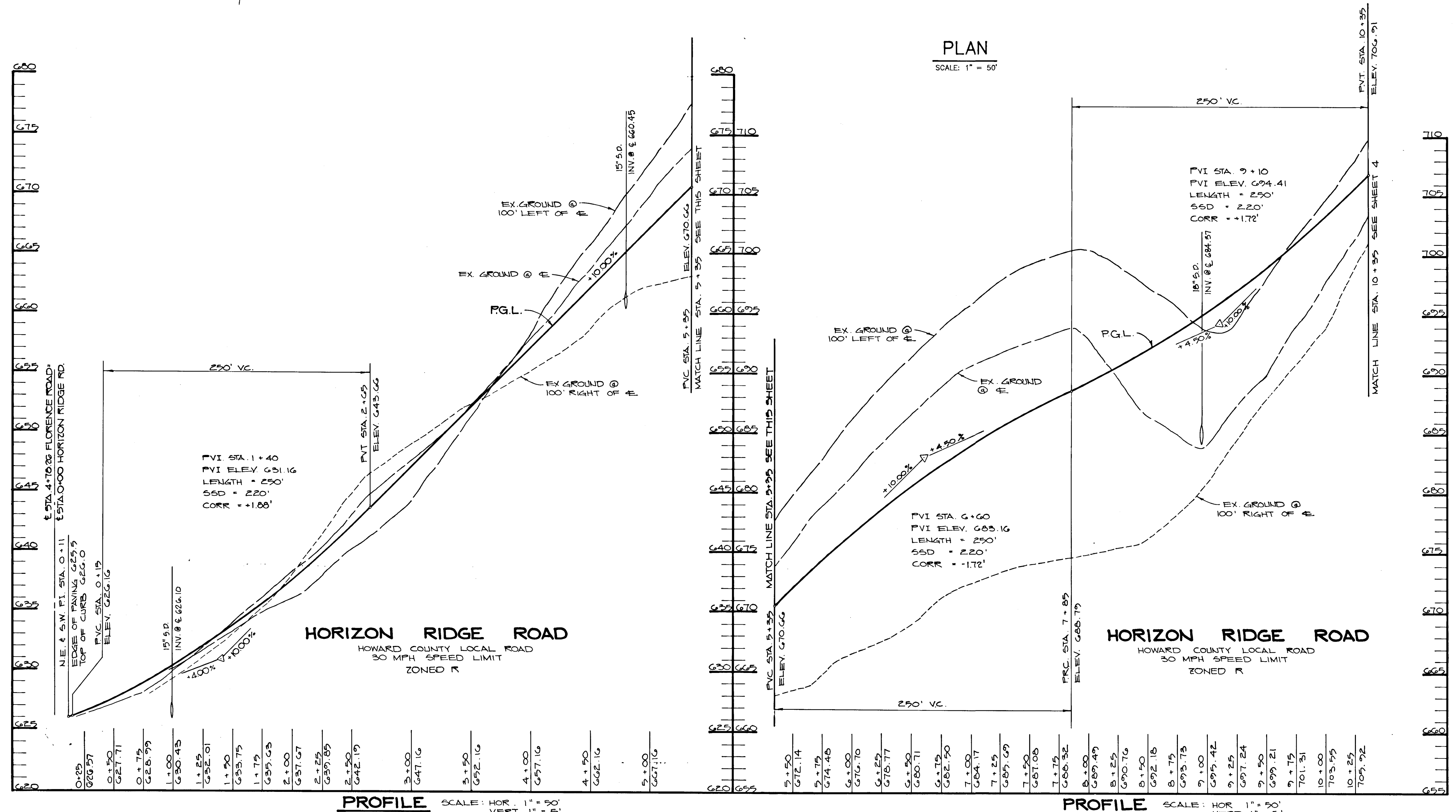
1607

MARYLAND BLUEPRINT CO. INC. 15200



**PLAN**

SCALE: 1" = 50'



APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Frank V. ...*  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Alan M. ...*  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Francis W. ...*  
 CHIEF, BUREAU OF HIGHWAYS  
*...*  
 CHIEF, BUREAU OF ENGINEERING

DATE NO REVISION

OWNER/DEVELOPER  
 GREGG MCCARRON POTOMAC DEVELOPMENT CO.  
 2484 FLORENCE ROAD 1015 COPPERSTONE COURT  
 MT. AIRY, MARYLAND 21771 ROCKVILLE, MARYLAND 20852

PROJECT 588-118 SECTION ONE P.07-02  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7

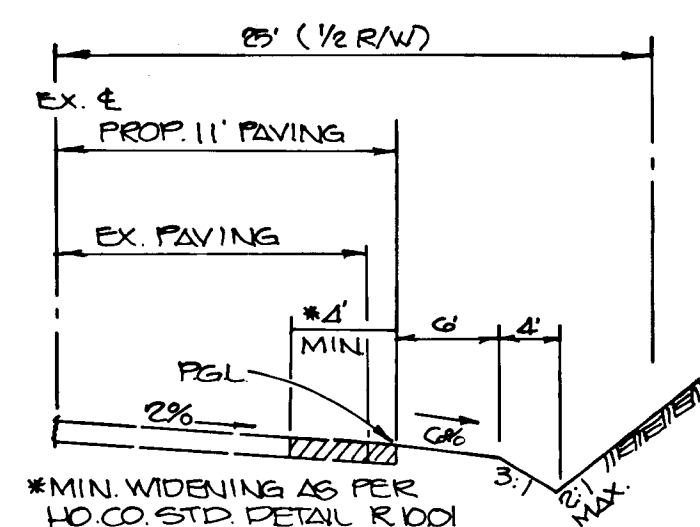
AREA TAX MAP 12 ZONED R PARCELS 13 & 25  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **PLAN & PROFILE**  
**HORIZON RIDGE ROAD**  
 STA. 0+00 TO STA. 12+18.46

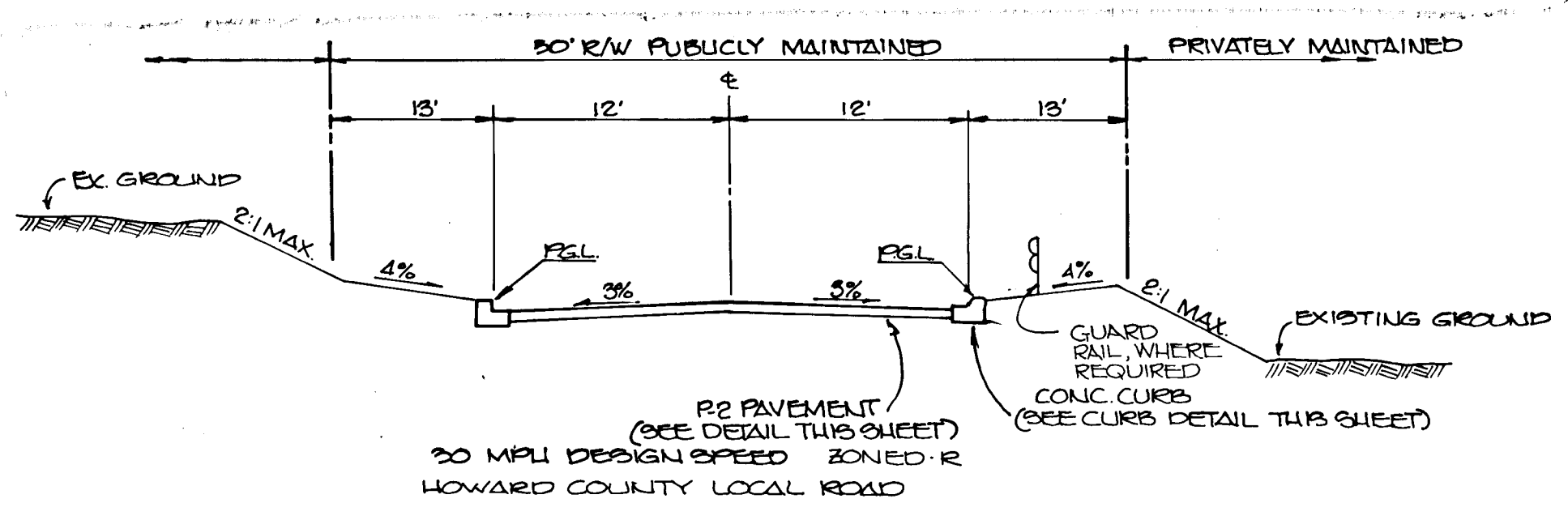
**RIEMER MUEGGE & ASSOCIATES, INC.**  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE 1-12-90  
 DESIGNED BY: DBS  
 DRAWN BY: CAD/DOS  
 PROJECT NO: 52905  
 DATE: AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 3 OF 3

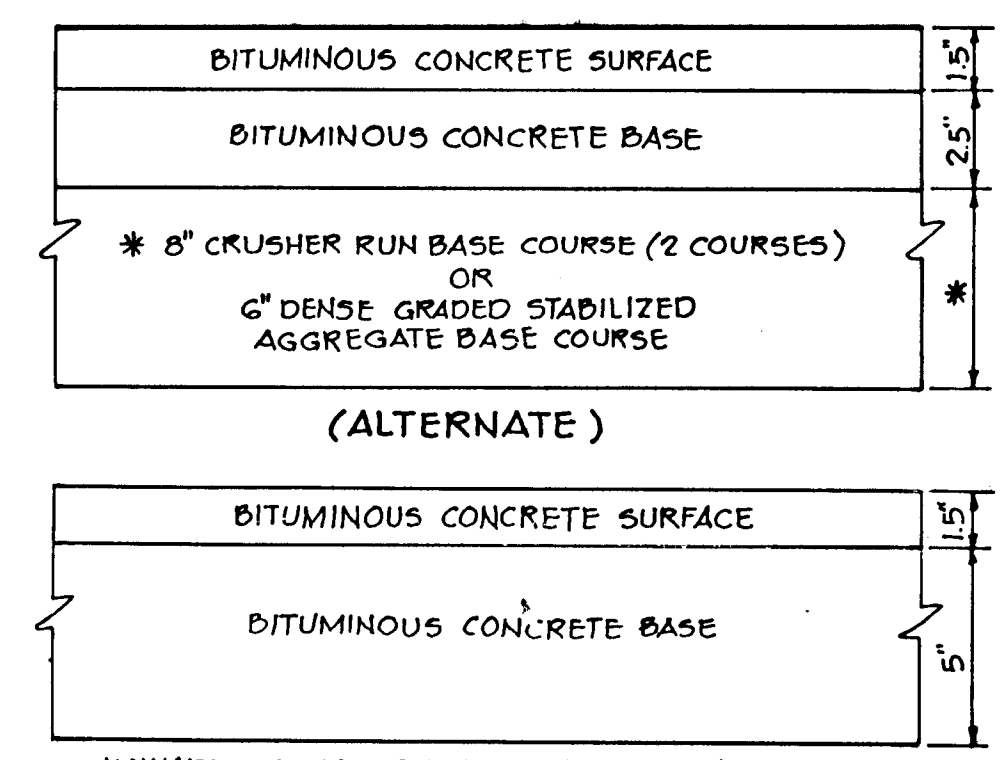




**TYPICAL SECTION - FLORENCE ROAD**  
 ± STA. 0+05 TO ± STA. 9+57  
 HOWARD COUNTY LOCAL ROAD - 30 MPH DESIGN SPEED  
 ZONED - R  
 NO SCALE



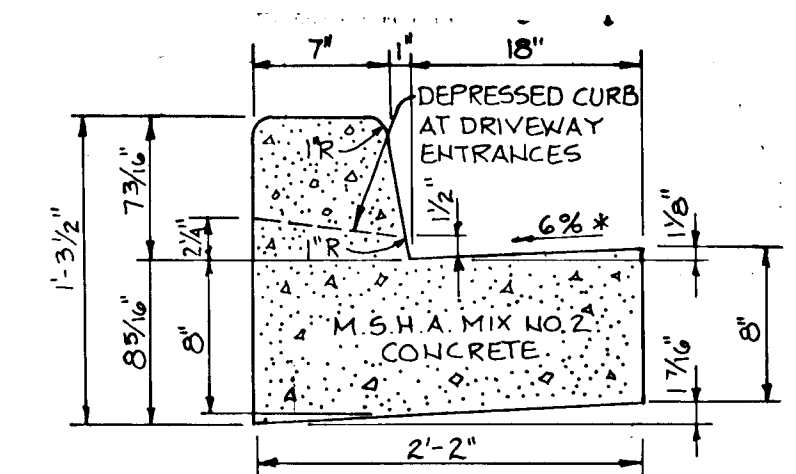
**TYPICAL ROAD SECTION**  
 STA. 0+00 TO STA. 12+18.46 HORIZON RIDGE RD.  
 NO SCALE



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

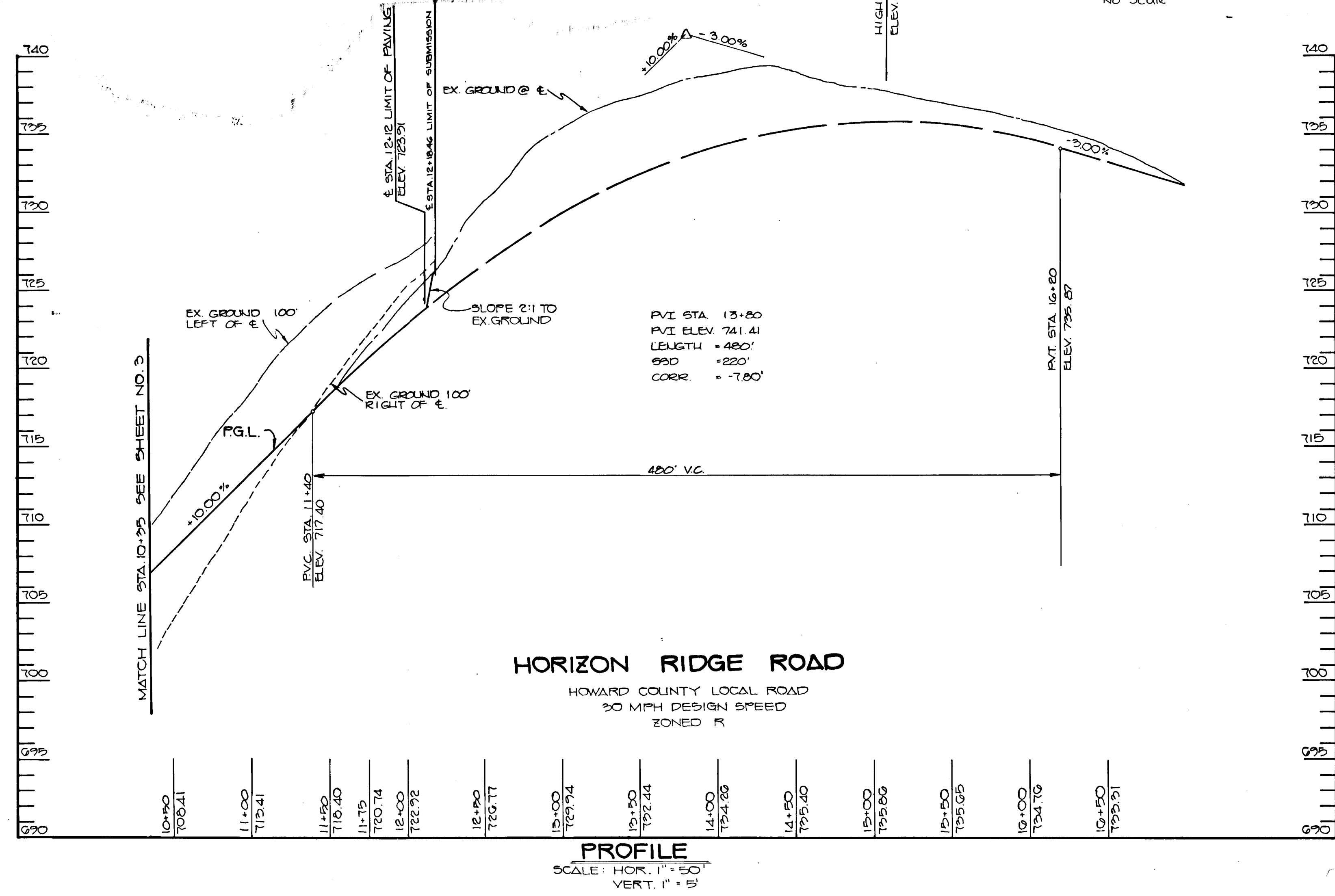
(6 1/2" PAVING, P-2)

**P-2 PAVING DETAIL**  
 NO SCALE



HOWARD COUNTY DESIGN MANUAL VOLUME IV - STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01)

**STANDARD 7" COMBINATION CURB AND GUTTER**  
 No Scale



**HORIZON RIDGE ROAD**  
 HOWARD COUNTY LOCAL ROAD  
 30 MPH DESIGN SPEED  
 ZONED R

**PROFILE**  
 SCALE: HOR. 1" = 50'  
 VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Frank J. Langle* 11/15/90  
 CHIEF, DIVISION OF COMMUNITY AND LAND DEVELOPMENT  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John J. ...* 10/11/90  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Lawrence W. Weiland* 10/16/90  
 CHIEF, BUREAU OF HIGHWAYS  
*William B. ...* 10-18-90  
 CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

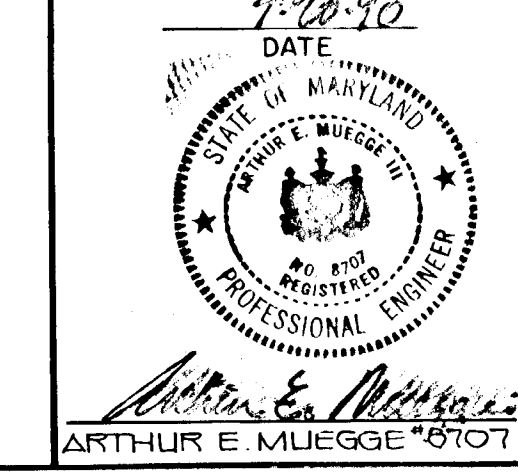
OWNER/DEVELOPER  
 GREGG McCARRON 2484 FLORENCE ROAD MT. AIRY, MARYLAND 21771  
 POTOMAC DEVELOPMENT CO. 1015 COPPERSTONE COURT ROCKVILLE, MARYLAND 20852

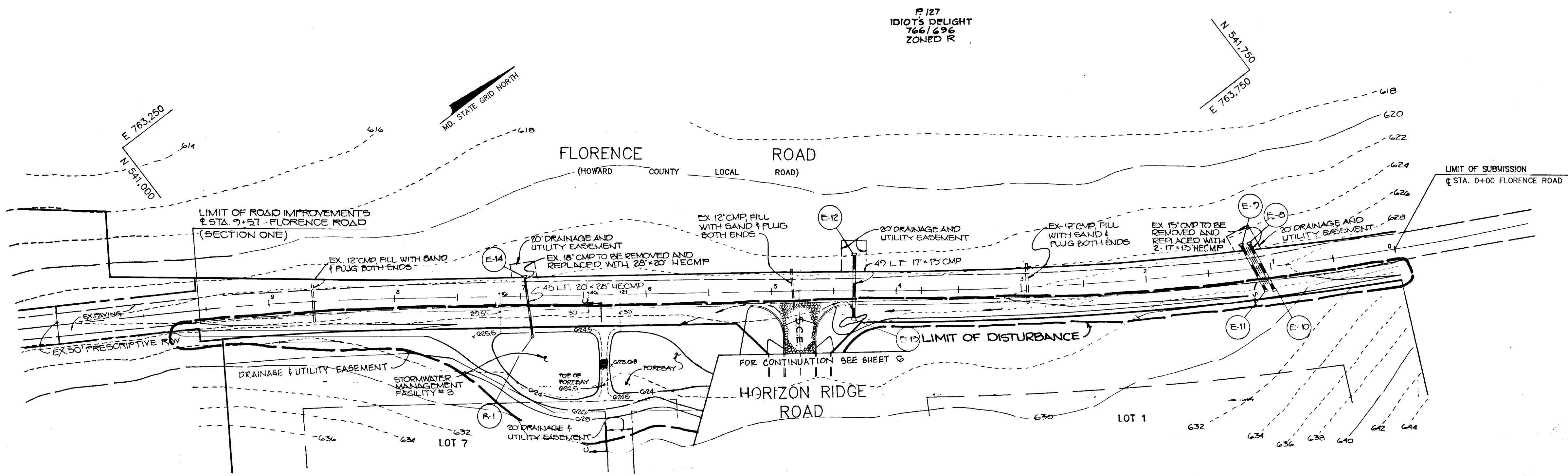
PROJECT: 508-118 SECTION ONE P89-G2  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7  
 AREA TAX MAP 12 ZONED R PARCELS 13 & 25  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE:  
**ROAD PROFILE & DETAILS**

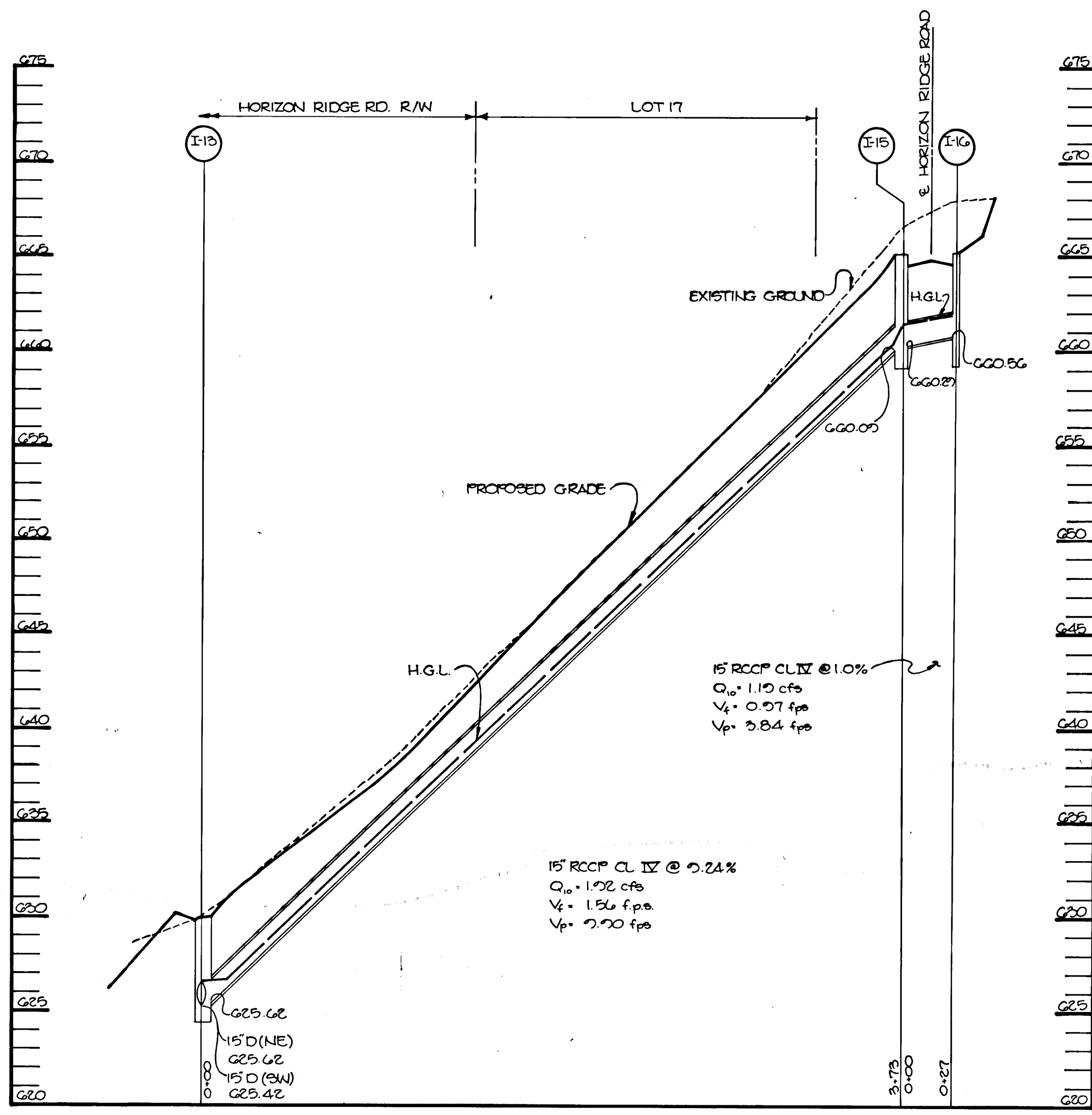
RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 7-28-90  
 DESIGNED BY: D.B.S.  
 DRAWN BY: M.D.  
 PROJECT NO: 82905  
 DATE: AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 4 OF 9





**PLAN**  
SCALE: 1"=50'



**PROFILE**  
HOR. 1"=50'  
VERT. 1"=5'

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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Gregory B. Powell* 9-19-90  
DEVELOPER 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."

*Arthur E. Muegge* 9-20-90  
ENGINEER DATE

REVIEWED FOR NAME S.C.D.  
AND MEETS TECHNICAL REQUIREMENTS

*John H. ...* 9/20/90  
U.S. SOIL CONSERVATION SERVICE DATE

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

*John H. ...* 9/20/90  
HOWARD S.C.D. DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*Janet S. ...* 10/16/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Alvin ...* 10/17/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Draville W. ...* 10/16/90  
CHIEF, BUREAU OF HIGHWAYS DATE

*William ...* 10-18-90  
CHIEF, BUREAU OF ENGINEERING DATE

DATE	NO	REVISION

OWNER/DEVELOPER

GREGG MCCARRON POTOMAC DEVELOPMENT CO.  
2404 FLORENCE RD 1015 COPPERSTONE COLI RT  
MT. AIRY, MARYLAND ROCKVILLE, MARYLAND  
21771 20852

PROJECT: 500-118 SECTION ONE P87-02  
**BRIDLE BROOK ESTATES**  
LOTS 1-7

AREA TAX MAP 12 ZONED R PARCELS 19/25  
4TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT CONTROL  
PLAN AND STORM DRAIN PROFILES

RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

DATE 9/20/90

DESIGNED BY: D.B.S.

DRAWN BY: CADD/DE.

PROJECT NO: 52905

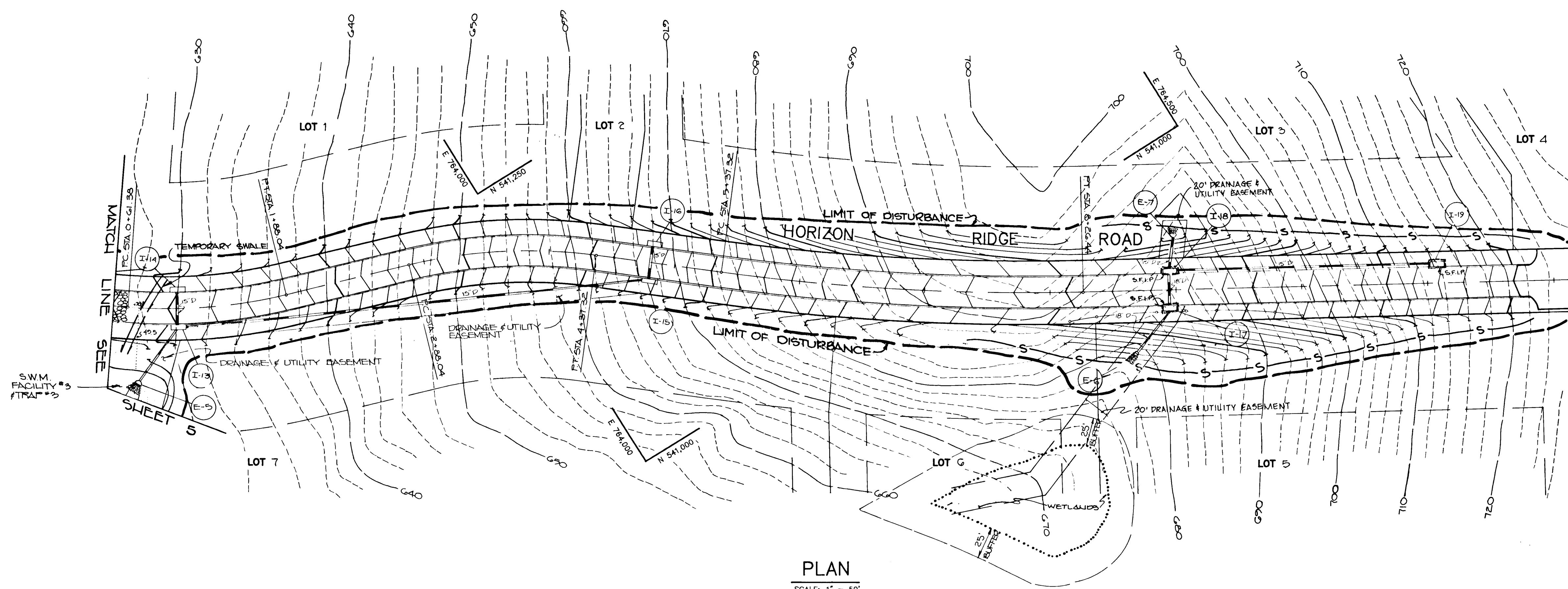
DATE AUGUST 24, 1990

SCALE: AS SHOWN

DRAWING NO. 5 OF 7

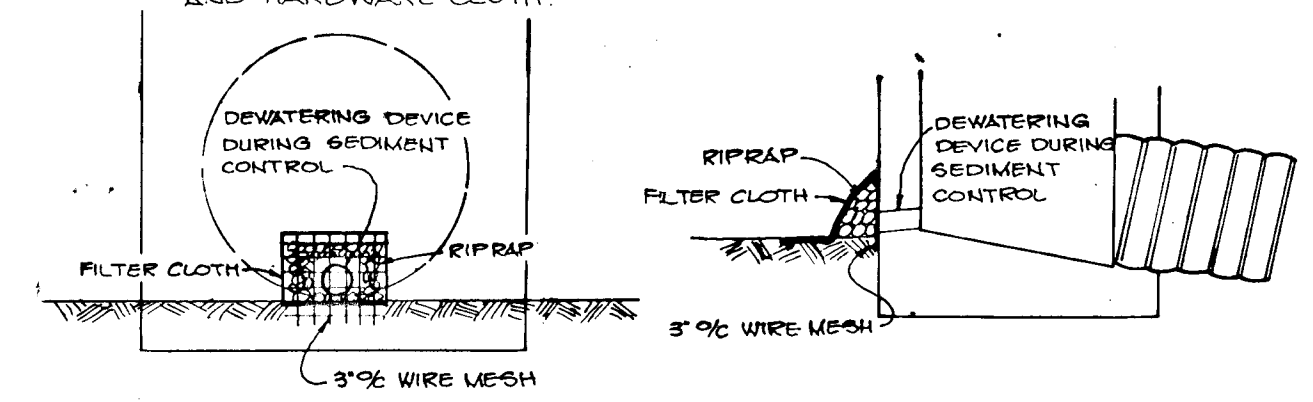
*Arthur E. Muegge*  
ARTHUR E. MUEGGE P.E. PLOT

11007

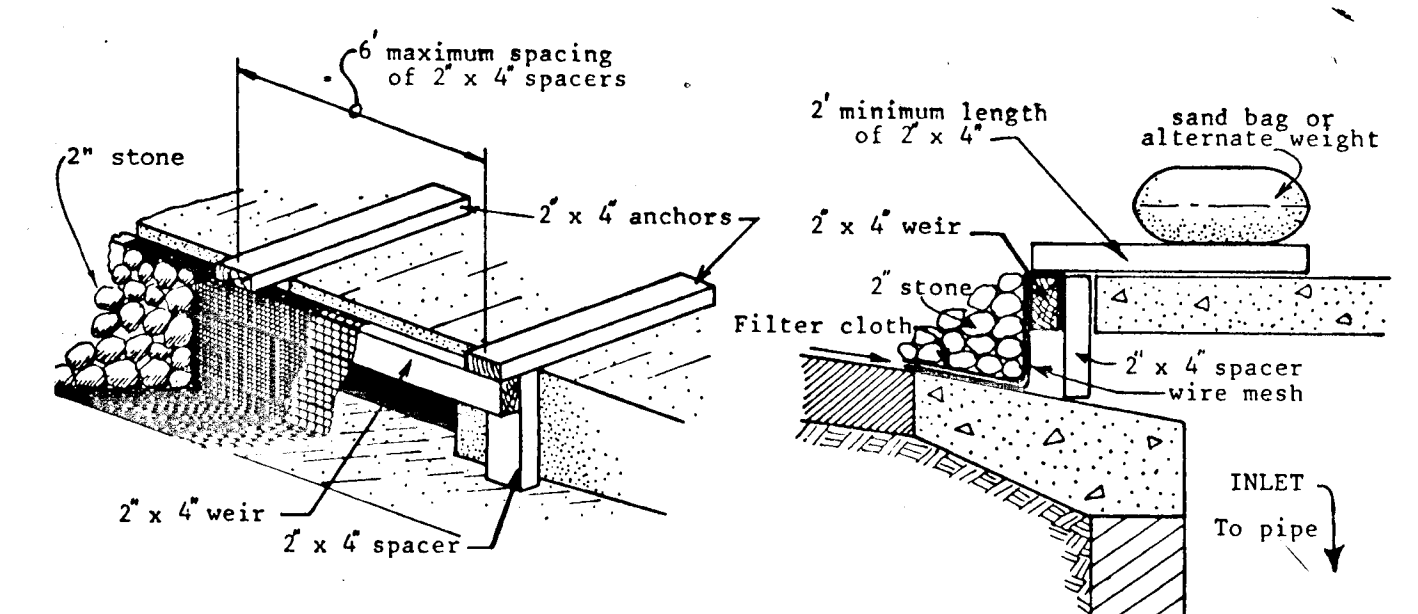


PLAN  
SCALE: 1" = 50'

NOTE: FILTER CLOTH TO BE INSTALLED OVER THE TOP OF HARDWARE CLOTH, METAL BAND TO BE INSTALLED TO SECURE FILTER CLOTH AND HARDWARE CLOTH.



ORIFICE BLOCKING DETAIL FOR STRUCTURE R-1  
NO SCALE



STONE FILTER INLET PROTECTION  
NO SCALE

Construction Specifications

- I. Materials
  - A. Wooden frame is to be constructed of 2" x 4" construction grade lumber.
  - B. Wire mesh must be of sufficient strength to support filter fabric, and stone for curb inlets, with water fully impounded against it.
  - C. Filter cloth must be of a type approved for this purpose; resistant to sunlight with sieve size: 80, 40-85, to allow sufficient passage of water and removal of sediment.
  - D. Stone is to be 2" in size and clean, since fines would clog the cloth.
- II. Procedure

B. Curb Inlet Protection.

1. Attach a continuous piece of wire mesh (30" min. width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
2. Place a piece of approved filter cloth (40-85 sieve) of the same dimensions as the wire mesh over the wire mesh and securely attach to the 2" x 4" weir.
3. Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the wire mesh and filter cloth to the concrete gutter and against the face of curb on both sides of the inlet. Place clean 2" stone over the wire mesh and filter fabric in such a manner as to prevent water from entering the inlet under or around the filter cloth.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

SEDIMENT TRAP SCHEDULE

TYPE OF TRAP	TRAP NO.	DRAINAGE AREA	STORAGE VOL. RES. D. (CF)	STORAGE VOL. PROVID. (CF)	CREST ELEV.	CREST WIDTH	BOTTOM ELEV.	BOTTOM DIMENSIONS	CLEANOUT ELEV.	SIDE SLOPES
PIPE OUTLET	3	3.50 AC.	6300	6600	624.80		622.5	SEE PLAN	624.5	3:1

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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 Signature: *Gregory B. Powell* DATE: 9-17-90  
 DEVELOPER

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."  
 Signature: *William E. Muegge* DATE: 9-20-90  
 ENGINEER

REVIEWED FOR: *William E. Muegge* NAME: S.C.D.  
 AND MEETS TECHNICAL REQUIREMENTS  
 Signature: *William E. Muegge* DATE: 9/20/90  
 U.S. SOIL CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: *Robert L. P. J.* DATE: 9/20/90  
 HOWARD S.C.D.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 Signature: *David J. Sample* DATE: 10/15/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Signature: *John J. Johnson* DATE: 10/19/90  
 CHIEF, LAND DEVELOPMENT DIVISION

Signature: *Francis W. Weiland* DATE: 10/16/90  
 CHIEF, BUREAU OF HIGHWAYS

Signature: *William E. Muegge* DATE: 10-18-90  
 CHIEF, BUREAU OF ENGINEERING

OWNER/DEVELOPER  
 GREGG McCARRON POTOMAC DEVELOPMENT CO.  
 2424 FLORENCE ROAD 1015 COPPERSTONE COURT  
 MT. AIRY, MARYLAND 21111 ROCKVILLE, MARYLAND 20852

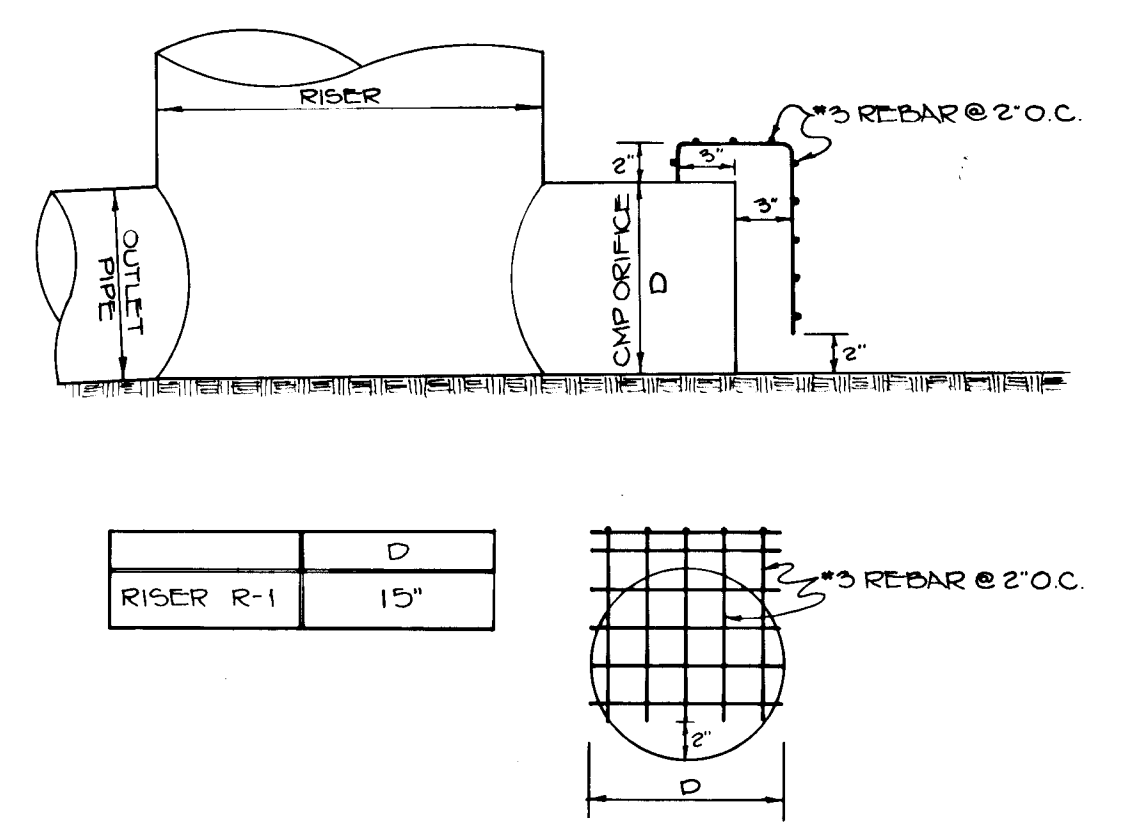
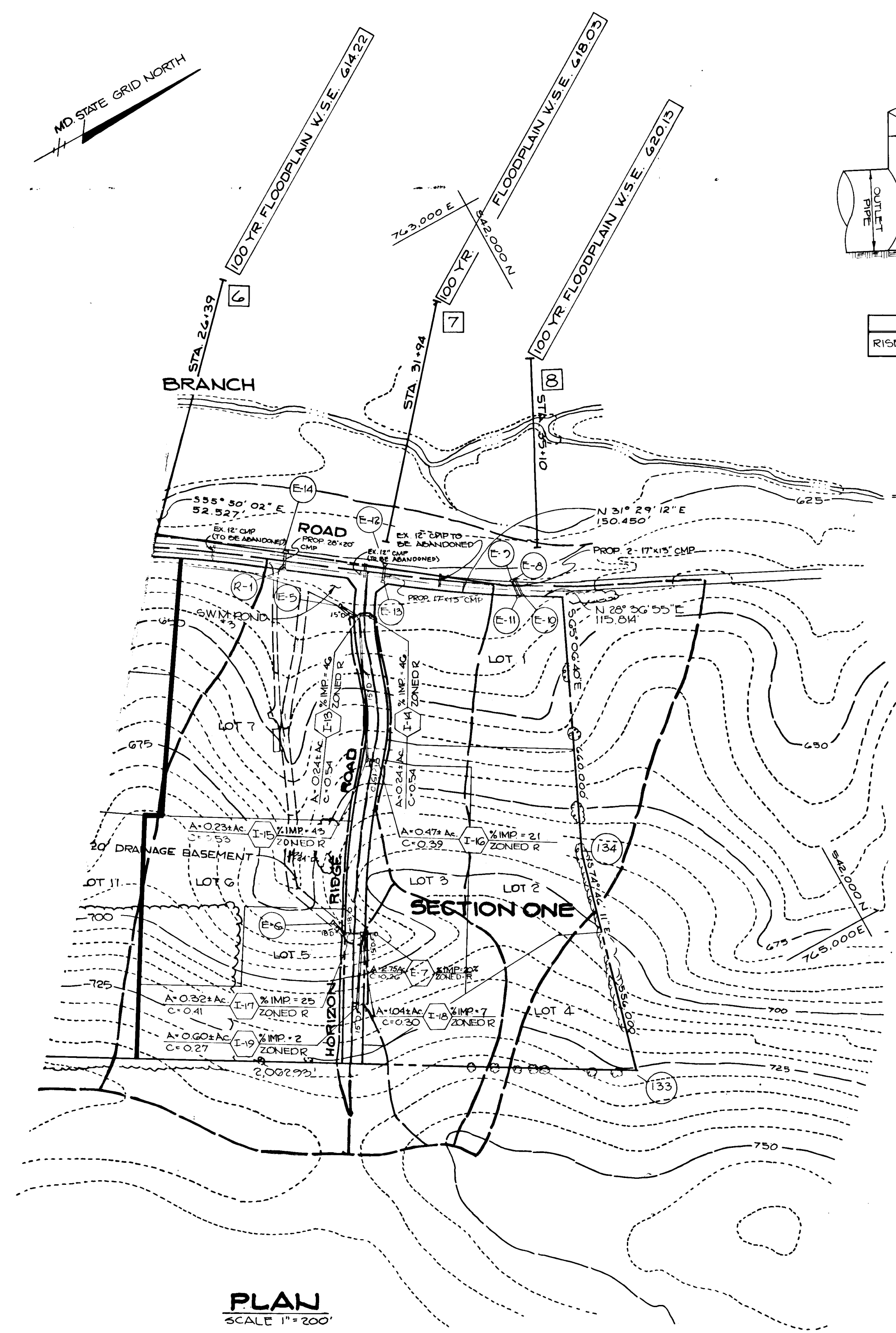
PROJECT: 588-110 SECTION ONE P07-02  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7  
 AREA TAX MAP 12 ZONED R PARCELS 13 AND 25  
 4 TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **GRADING, SEDIMENT CONTROL PLAN & DETAILS**

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 9-20-90  
 DESIGNED BY: D.B.S.  
 DRAWN BY: CAD  
 PROJECT NO: 52905  
 DATE: AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 6 OF 9





ORIFICE PROTECTION DETAIL FOR R-1  
NO. SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
*Frank S. Kangle* 4/15/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
*Frank S. Kangle* 4/15/90  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Alvin J. Tomlin* 10/19/90  
 CHIEF, LAND DEVELOPMENT DIVISION  
*Francis W. Wallace* 10/19/90  
 CHIEF, BUREAU OF HIGHWAYS  
*James E. Ryan* 10-18-90  
 CHIEF, BUREAU OF ENGINEERING

OWNER/DEVELOPER  
 GREGG MCCARRON POTOMAC DEVELOPMENT CO.  
 2404 FLORENCE RD. 1015 COPPERSTONE COURT  
 MT. AIRY MD. 21771 ROCKVILLE, MD. 20852

PROJECT: 588-118 SECTION ONE P09-02  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7  
 AREA TAX MAP 12 ZONED R PARCELS 13+25  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE **DRAINAGE AREA MAP & STORM DRAIN PROFILES**

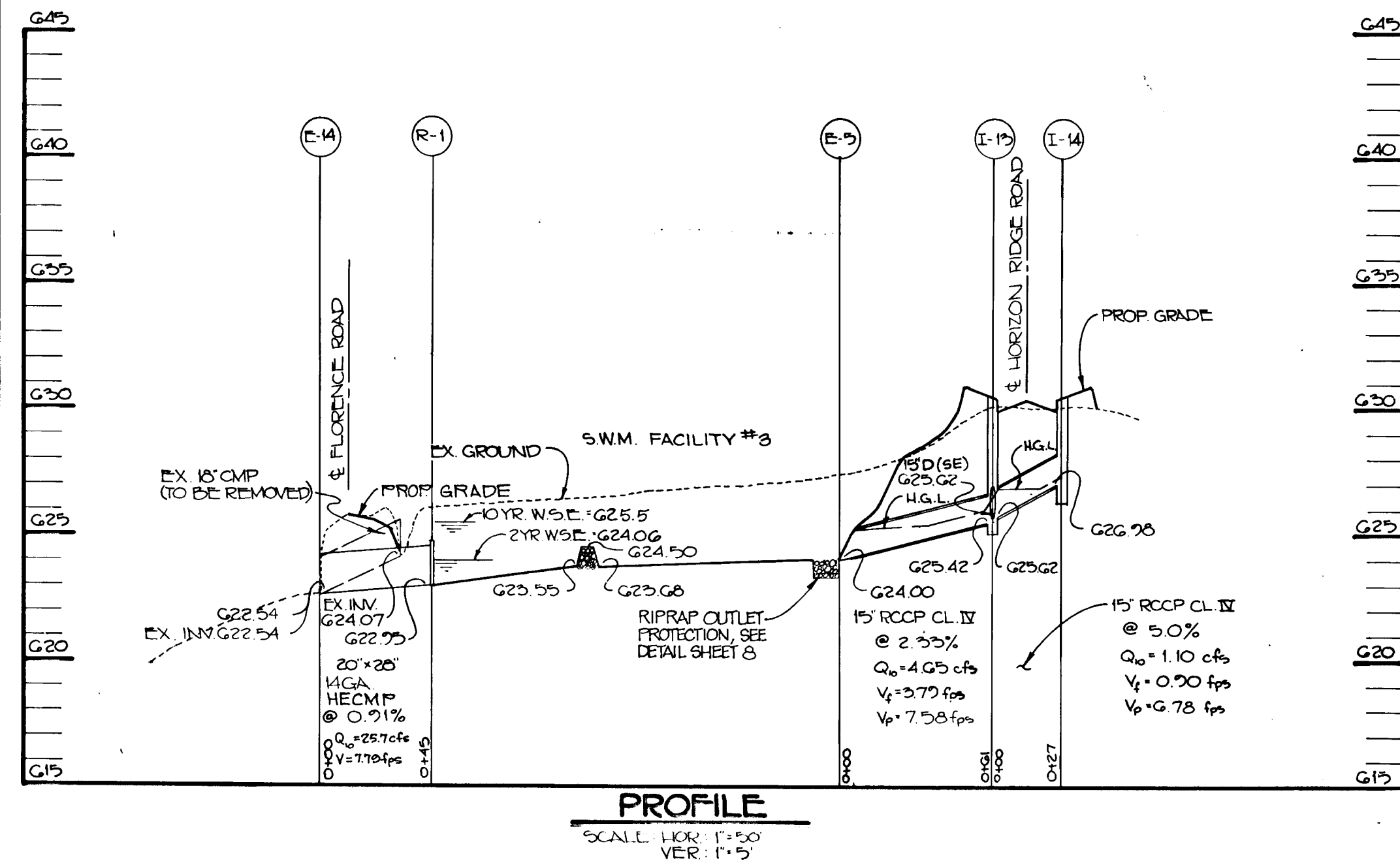
RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 8/24/90  
 DESIGNED BY: C.B.B. / D.B.S.  
 DRAWN BY: C.B.B.  
 PROJECT NO: 52909  
 DATE: AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 7 OF 9

PLAN SCALE 1"=200'

- LEGEND**
- DRAINAGE AREA LIMITS ————
  - PROPERTY LIMITS - - - - -
  - INLET (I)
  - END SECTION (E)
  - MANHOLE (M)
  - 100 YEAR WATER SURFACE ELEVATION [Symbol]
  - FLOODPLAIN X-SECTION NO. [Symbol]

NOTE: 100 YR. FLOODPLAIN WATER SURFACE ELEVATIONS BASED ON HEC-2 STUDY BY RIEMER, MUEGGE & ASSOCIATES, INC. DATED FEBRUARY, 1989



PROFILE SCALE: HORIZ. 1"=50' VER. 1"=5'

1307

SEQUENCE OF CONSTRUCTION

- OBTAIN A GRADING PERMIT.
- INSTALL STABILIZED CONSTRUCTION ENTRANCES.
- INSTALL SILT FENCE, EARTHDIKES AND SEDIMENT CONTROL DEVICES.
- GRADE FOR SWM FACILITIES AND SEDIMENT TRAPS.
- GRADE ROADS WITHOUT DISTURBING SEDIMENT CONTROL DEVICES.
- INSTALL STORM DRAIN SYSTEMS AND STONE FILTER INLET PROTECTIONS.
- COMPLETE ROAD CONSTRUCTION.
- FLUSH CLEAN NEW STORM DRAIN SYSTEMS AND CONVERT SEDIMENT TRAP #3 TO SWM FACILITY #3, RESPECTIVELY.
- STABILIZE IN ACCORDANCE WITH PERMANENT SEEDING NOTES.
- UPON APPROVAL OF THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES, AND STABILIZE ALL AREAS DISTURBED BY THEIR REMOVAL IN ACCORDANCE WITH PERMANENT SEEDING NOTES.

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, discing 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 per acre dolomitic limestone (92 lbs/1000 sq ft) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

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

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

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

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

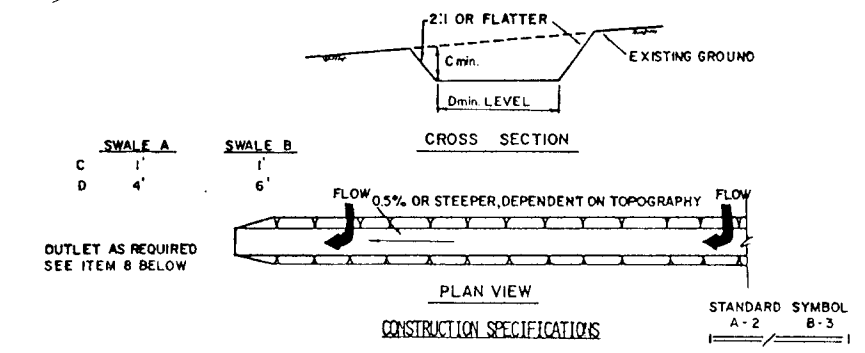
Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

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

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2 1/2 bushels per acre of annual ryegrass (3.2 lbs./1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per 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 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 gal. per acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 348 gal. per acre (8 gal./1000 sq. ft.) for anchoring.

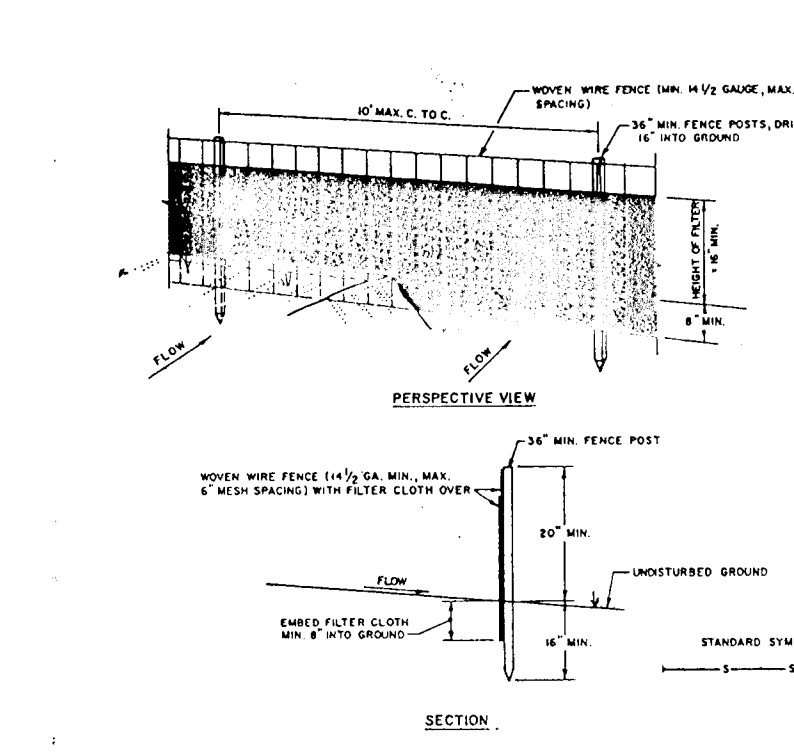
Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR rate and methods not covered.



- All temporary swales shall have unobstructed positive grade to an outlet.
- Inverted sumps from a disturbed area shall be converted to a sediment trapping device.
- Inverted sumps from an undisturbed area shall outlet directly into an undisturbed stabilized area at non-erosive velocity.
- All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
- The swale shall be excavated or shaped to line, grade, and cross section and required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
- Fills shall be compacted by earth moving equipment.
- All earth removal and any method in construction shall be placed so that it will not interfere with the functioning of the swale.
- Stabilization shall be as per the chart below:

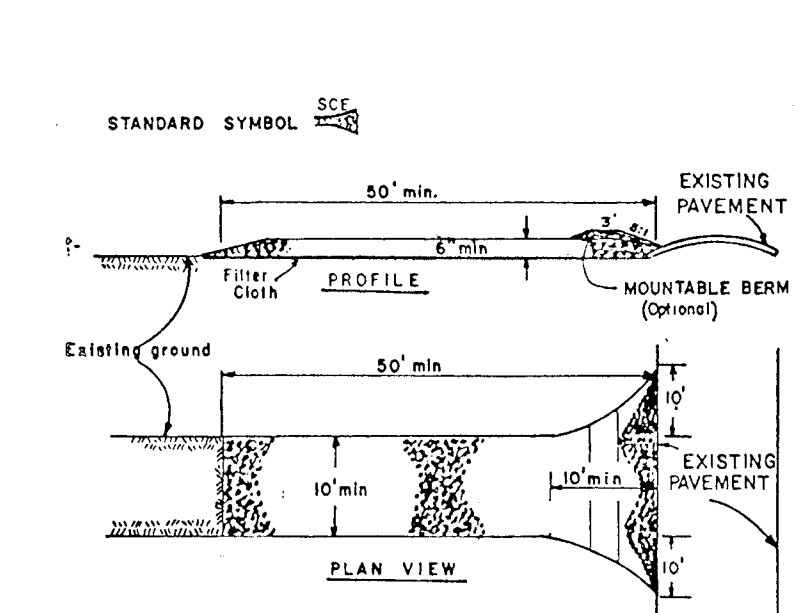
TYPE OF TREATMENT	CHANNEL WIDTH	A (5 AC OR LESS)	B (5 AC - 10 AC)
1	0.5-3.0'	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0'	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELLENT SOG
3	5.1-8.0'	SEED WITH JUTE OR EXCELLENT SOG	LINED RIP-RAP 4-8" RECYCLED CONCRETE EQUIVALENT
4	8.1-20'	LINED RIP-RAP	ENGINEERED DESIGN

TEMPORARY SWALE NO SCALE



- When wire fence to be fastened securely to fence posts with wire ties or staples.
- Filter cloth to be fastened securely to wire mesh fence with ties or staples every 2' at top and mid section.
- When two sections of filter cloth abut, each end shall be overlapped by six inches and folded over.
- Maintenance shall be performed as needed to prevent erosion and debris buildup in the silt fence.

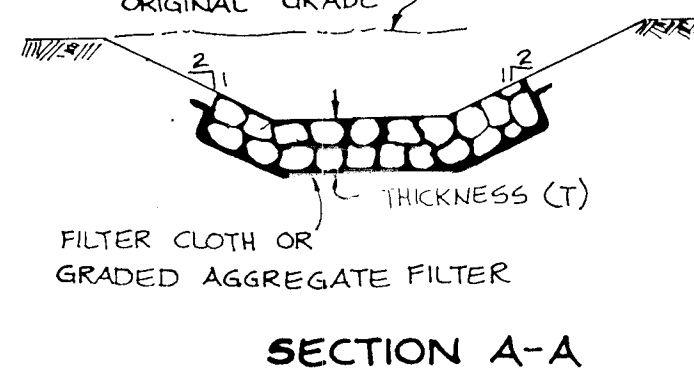
SILT FENCE NO SCALE



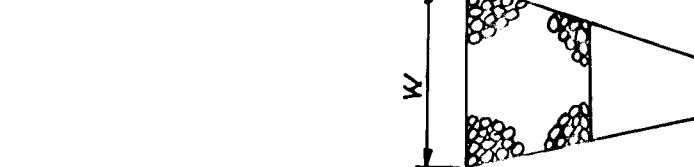
- Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
- Length - As required, but not less than 50 feet except on a single residence lot where a 30 foot minimum length would apply.
- Thickness - Not less than 18" (18" inches).
- Width - Ten (10) foot minimum, but not less than the full width at points where proposed or existing.
- Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
- Surface Matter - All surface matter flowing or directed toward construction entrances shall be piped across the entrance, if piping is impractical, a mountable beam with silt screen will be provided.
- Maintenance - The entrance shall be maintained in a condition which will prevent tracking onto driveway or roadway. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any material used to trap sediment. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trap/pits device.
- Periodic inspection and needed maintenance shall be provided after each rain.

STABILIZED CONSTRUCTION ENTRANCE NO SCALE

RIPRAP TO BE EMBEDDED IN PROPOSED TRANSITION SECTION ORIGINAL GRADE 2'



SECTION A-A



PLAN



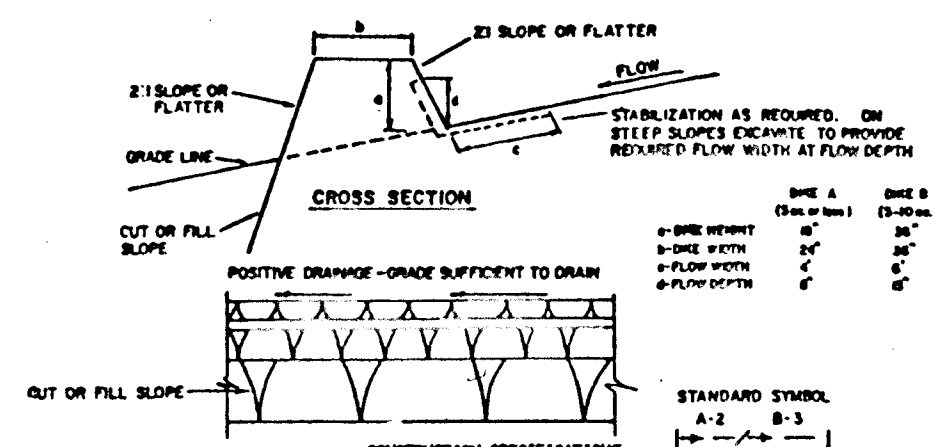
SECTION

STRUCTURE	MEDIAN STONE DIAMETER	LENGTH L	WIDTH W	THICKNESS T
E-5	6"	10'	11.25'	9"
E-6	6"	10'	11.25'	9"
E-7	6"	10'	11.25'	9"

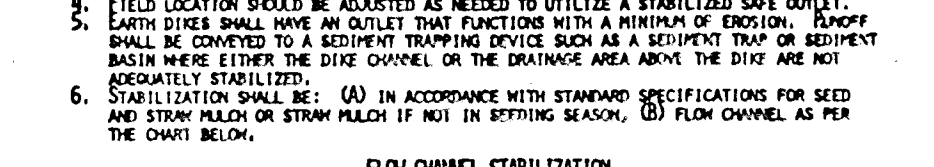
OUTLET PROTECTION DETAIL NO SCALE



SECTION



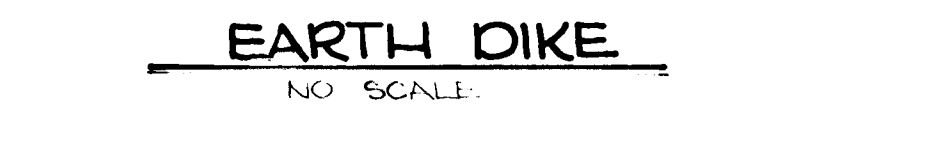
CROSS SECTION



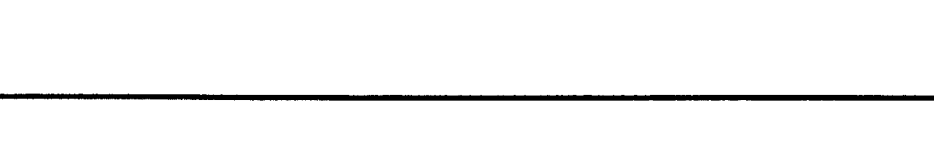
PLAN

TYPE OF TREATMENT	CHANNEL WIDTH	DIKE A	DIKE B
1	5-3.0'	SEED AND STRAW MULCH	SEED AND STRAW MULCH
2	3.1-5.0'	SEED AND STRAW MULCH	SEED USING JUTE OR EXCELLENT SOG 2" STONE
3	5.1-8.0'	SEED WITH JUTE OR EXCELLENT SOG 2" STONE	LINED RIP-RAP 4-8"
4	8.1-20'	LINED RIP-RAP 4-8"	ENGINEERED DESIGN

EARTH DIKE NO SCALE



CROSS SECTION



PLAN

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 NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 Signature: *Gregg McCarron*  
 DEVELOPER DATE: 9/20/90

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."  
 Signature: *Arthur E. Muegge*  
 ENGINEER DATE: 9/20/90

REVIEWED FOR: *[Signature]* S.C.D. NAME: *[Signature]*  
 AND MEETS TECHNICAL REQUIREMENTS: *[Signature]*  
 U.S. SOIL CONSERVATION SERVICE DATE: 9/20/90

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 Signature: *[Signature]*  
 HOWARD S.C.D. DATE: 9/20/90

APPROVED: HOWARD COUNTY DEPT OF PLANNING AND ZONING  
 Signature: *[Signature]*  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE: 10/16/90

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
 Signature: *[Signature]*  
 CHIEF, LAND DEVELOPMENT DIVISION DATE: 10/16/90  
 Signature: *[Signature]*  
 CHIEF, BUREAU OF HIGHWAYS DATE: 10-18-90  
 Signature: *[Signature]*  
 CHIEF, BUREAU OF ENGINEERING DATE: 10-18-90

DATE	NO	REVISION

OWNER/DEVELOPER  
 GREGG MCCARRON POTOMAC DEVELOPMENT CO.  
 2434 FLORENCE ROAD 1015 COPPERSTONE COURT  
 MT. AIRY, MARYLAND 21771 ROCKVILLE, MARYLAND 20852

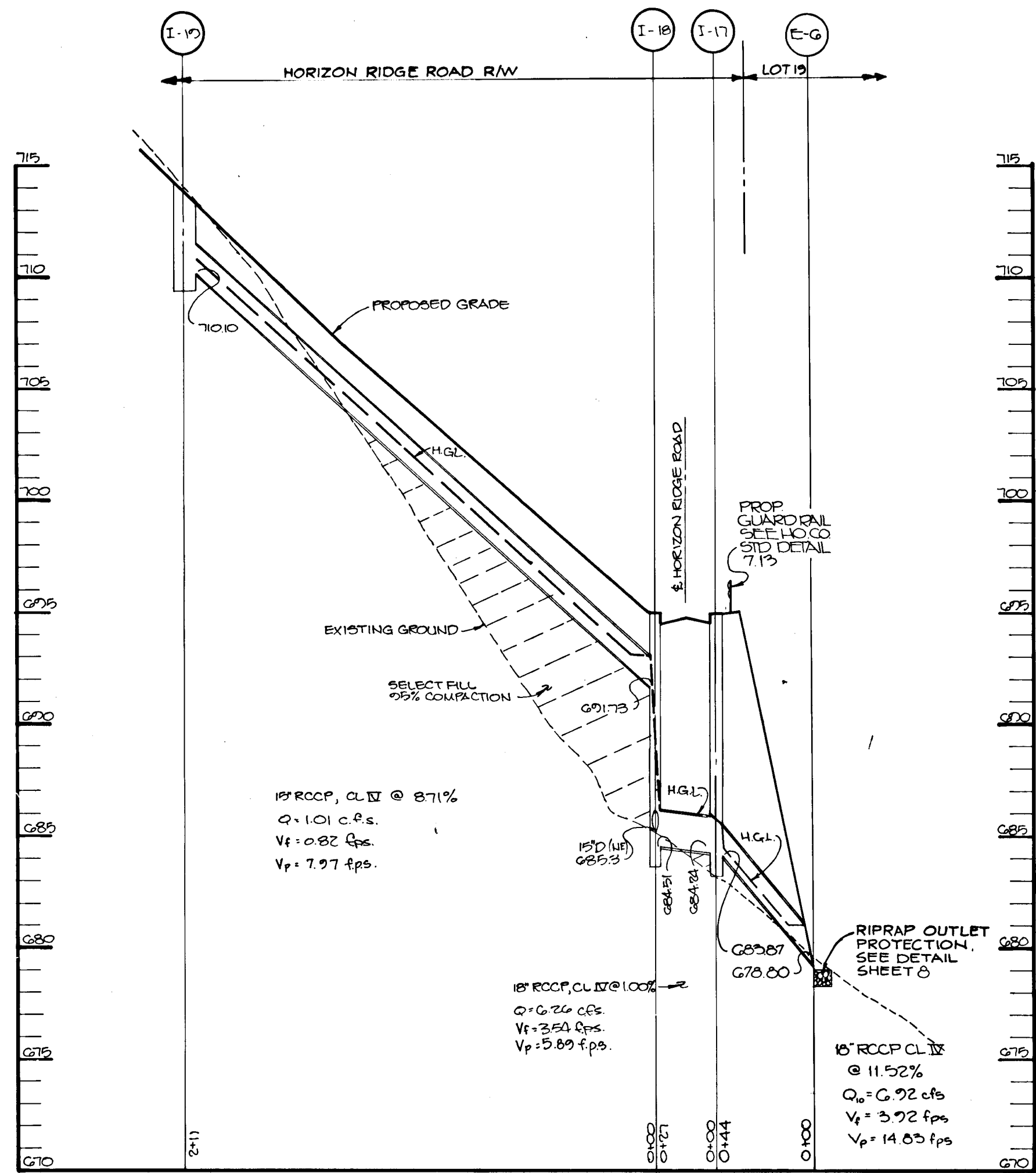
PROJECT 500-110 SECTION ONE P89-02  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7  
 AREA TAX MAP 12 ZONED R PARCELS 12 & 25  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: GRADING, SEDIMENT CONTROL PLAN & DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

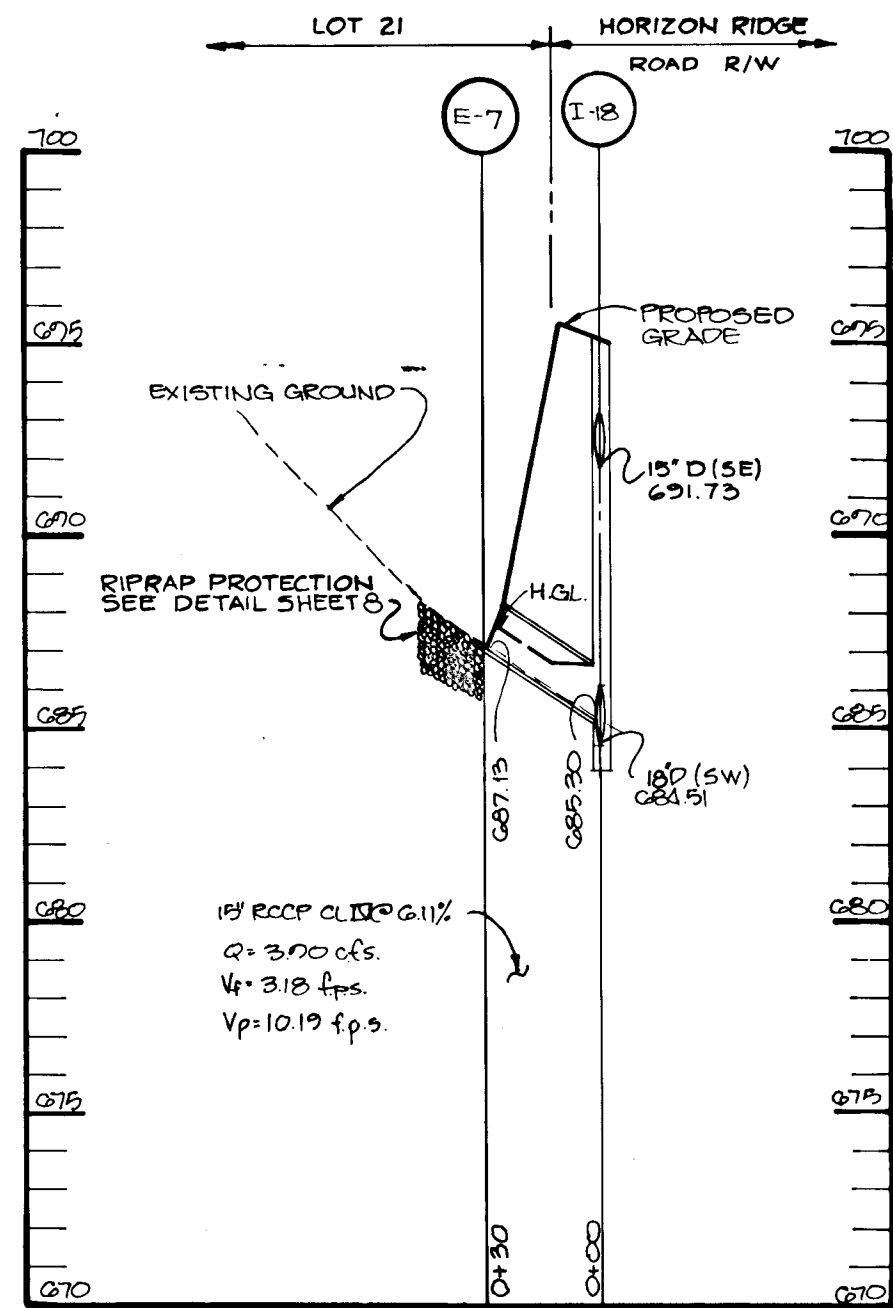
DATE: \_\_\_\_\_  
 DESIGNED BY: D.B.S.  
 DRAWN BY: CADD/  
 PROJECT NO: 52905  
 DATE AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 8 OF 9  
 Signature: *Arthur E. Muegge*  
 ARTHUR E. MUEGGE, P.E. EIT





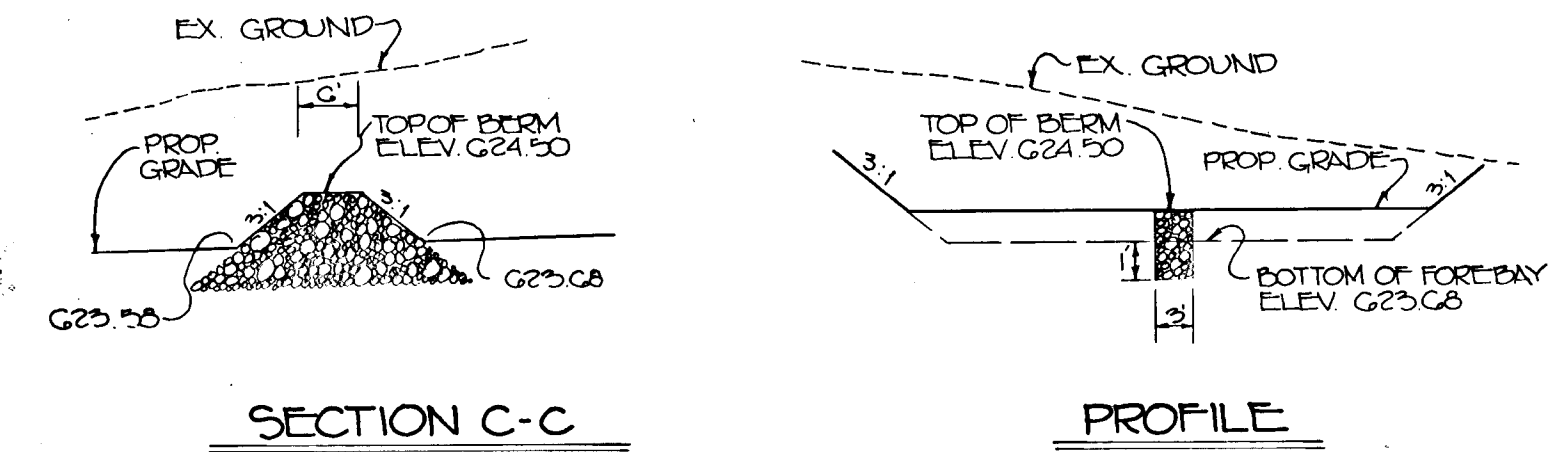
**STORM DRAIN PROFILE**

SCALE: HOR: 1"=50'  
VERT: 1"=5'



**STORM DRAIN PROFILE**

SCALE: HOR: 1"=50'  
VERT: 1"=5'

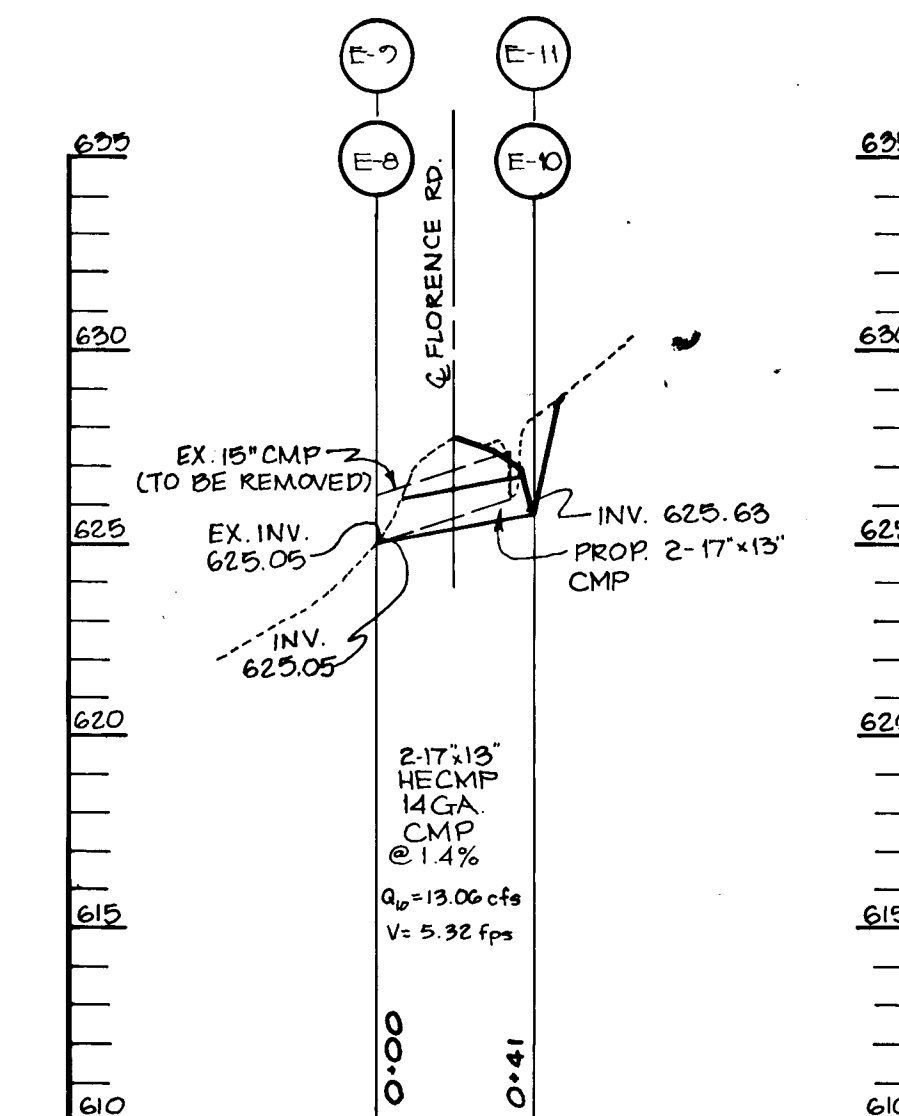


**S.W.M. FACILITY #3  
FOREBAY BERM DETAIL**

NO SCALE

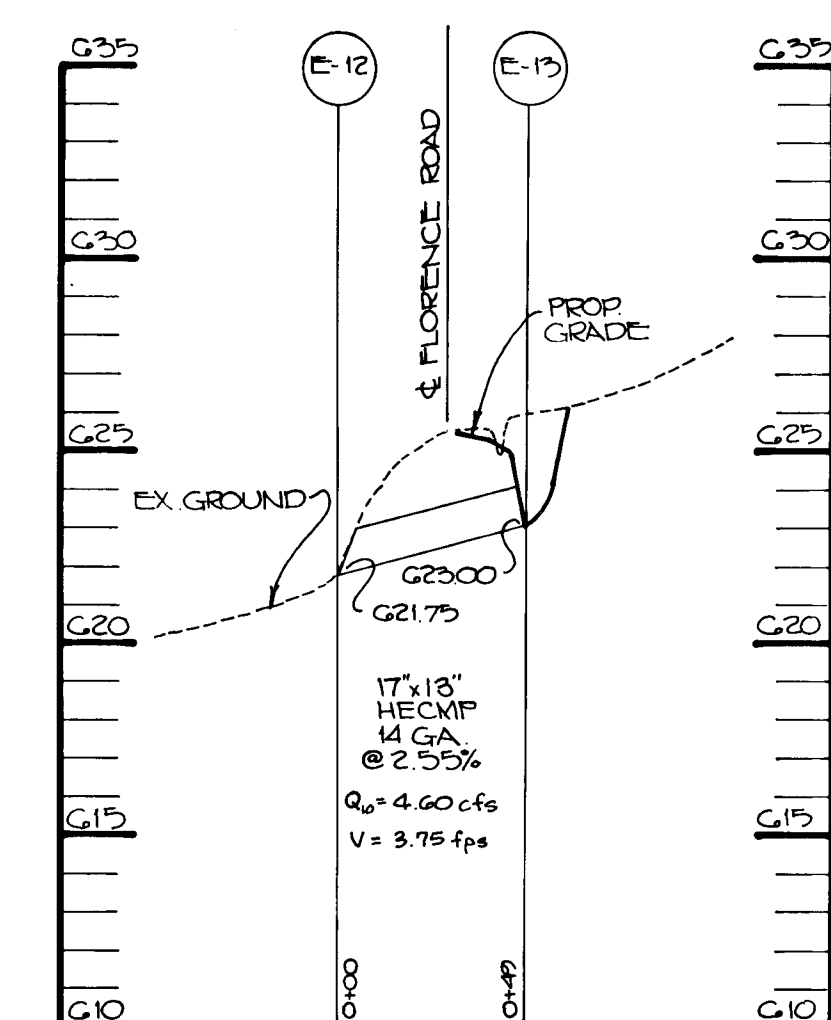
**STRUCTURE SCHEDULE**

NO.	TYPE	LOCATION	INV. IN.	INV. OUT.	TOP OF CURB OR RIM ELEV.	REMARKS
E-5	15" Conc. End Section	C/L Sta. 0+71 Horizon Ridge Rd. 60' Rt.	--	624.00	--	No. Co. Std. Detail SD 5.51
E-6	18" Conc. End Section	C/L Sta. 8+56 Horizon Ridge Rd. 59' Rt.	--	678.80	--	No. Co. Std. Detail SD 5.51
E-7	15" Conc. End Section	C/L Sta. 8+98 Horizon Ridge Rd. 45' Lt.	687.13	--	--	No. Co. Std. Detail SD 5.51
E-8	Metal End Section	C/L Sta. 1+16 Florence Rd. 20' Rt.	--	625.05	--	No. Co. Std. Detail SD 5.63
E-9	Metal End Section	C/L Sta. 1+21 Florence Rd. 20' Rt.	--	625.05	--	No. Co. Std. Detail SD 5.63
E-10	Metal End Section	C/L Sta. 0+97 Florence Rd. 21' Lt.	625.63	--	--	No. Co. Std. Detail SD 5.63
E-11	Metal End Section	C/L Sta. 1+03 Florence Rd. 21' Lt.	625.63	--	--	No. Co. Std. Detail SD 5.63
E-12	Metal End Section	C/L Sta. 4+34 Florence Rd. 28' Rt.	--	621.75	--	No. Co. Std. Detail SD 5.63
E-13	Metal End Section	C/L Sta. 4+36 Florence Rd. 21' Lt.	623.00	--	--	No. Co. Std. Detail SD 5.63
E-14	Metal End Section	C/L Sta. 6+97 Florence Rd. 15' Rt.	--	622.54	--	No. Co. Std. Detail SD 5.63
R-1	36" CMP Riser	C/L Sta. 6+92 Florence Rd. 30' Rt.	--	622.95	624.80	See Detail Sheet
I-13	A-10	C/L Sta. 1+00 Horizon Ridge Rd. 12' Rt.	625.62	625.62	630.43	No. Co. Std. Detail SD 4.02
I-14	A-10	C/L Sta. 1+00 Horizon Ridge Rd. 12' Lt.	--	626.98	630.43	No. Co. Std. Detail SD 4.02
I-15	A-10	C/L Sta. 4+80 Horizon Ridge Rd. 12' Rt.	660.29	660.09	665.16	No. Co. Std. Detail SD 4.02
I-16	A-10	C/L Sta. 4+80 Horizon Ridge Rd. 12' Lt.	--	660.56	665.16	No. Co. Std. Detail SD 4.02
I-17	A-10	C/L Sta. 8+95 Horizon Ridge Rd. 12' Rt.	684.24	683.87	695.00	No. Co. Std. Detail SD 4.02
I-18	A-10	C/L Sta. 8+95 Horizon Ridge Rd. 12' Lt.	691.73	684.51	695.00	No. Co. Std. Detail SD 4.02
I-19	A-10	C/L Sta. 11+10 Horizon Ridge Rd. 12' Lt.	--	710.10	714.41	No. Co. Std. Detail SD 4.02



**PROFILE**

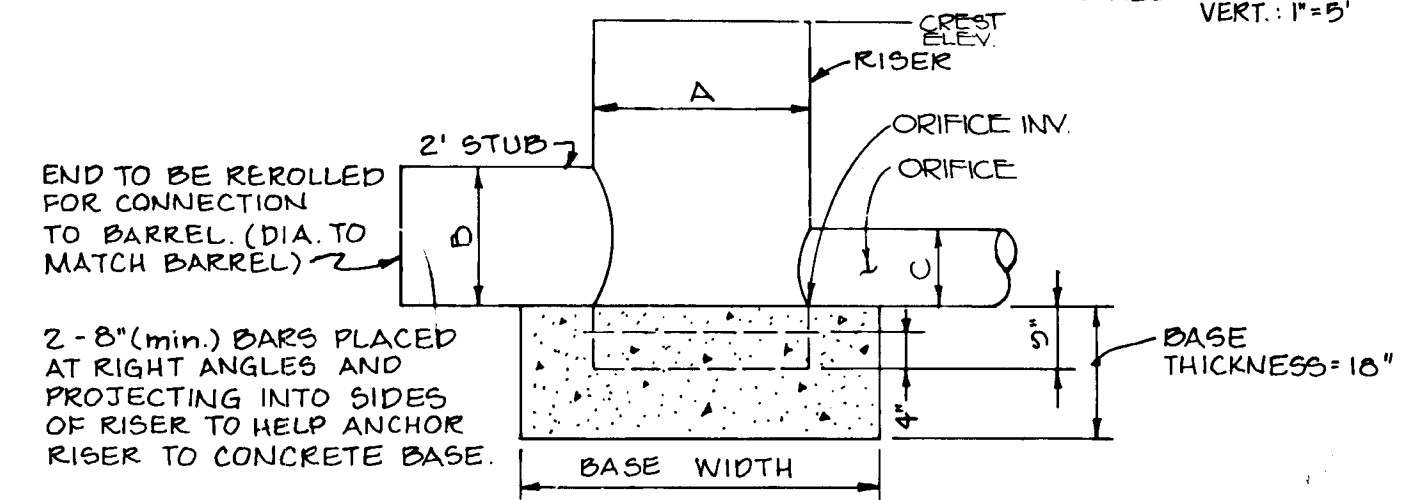
SCALE: HOR: 1"=50'  
VERT: 1"=5'



**PROFILE**

SCALE: HOR: 1"=50'  
VERT: 1"=5'

	R-1
A	36" CMP
B	28" x 20" CMP
C	15"
CREST ELEV	624.80
ORIFICE INV.	622.75
RISER BASE DIMENSION	6' x 6'

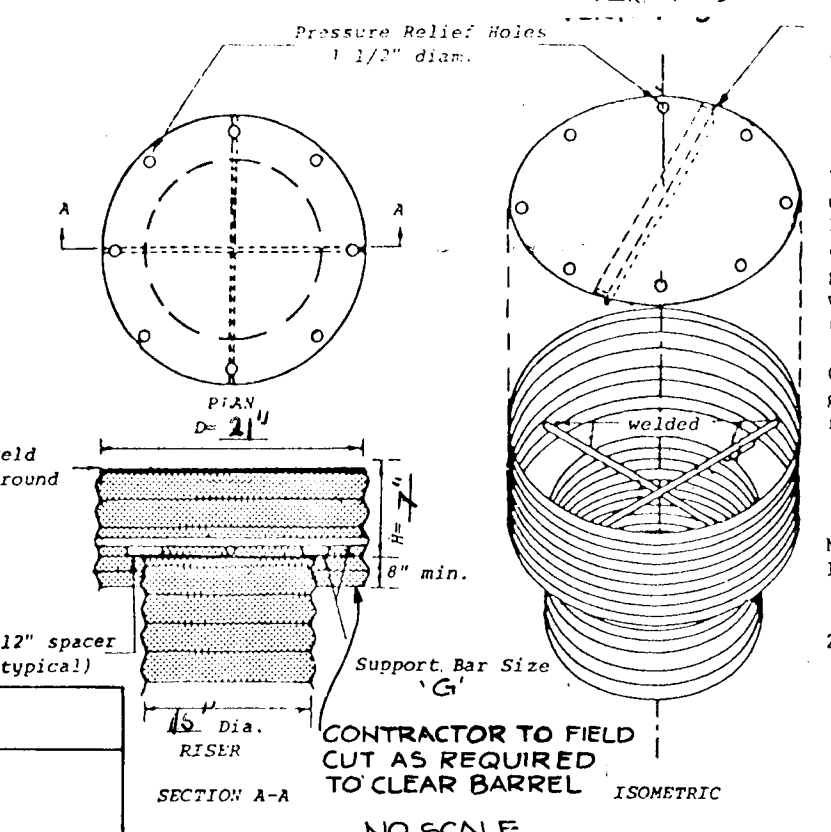


NOTE:  
THE CONCRETE BASE SHALL BE POURED IN SUCH A MANNER TO INSURE THAT THE CONCRETE FILLS THE BOTTOM OF THE RISER TO THE INVERT OF THE OUTLET PIPE TO PREVENT THE RISER FROM BREAKING AWAY FROM THE BASE.

**RISER DETAIL**

NO SCALE

RISER NO.	RISER DIA.	D	E	H	F	G (SUPPORT BAR SIZE)
R-1	36"	54"	46"	17"	26"	#2 RFBAR



**CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE**

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Franklin D. Sample* 11/19/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*John P. Payne* 11/19/90  
 CHIEF, LAND DEVELOPMENT DIVISION  
 DATE

*Francis W. Weiland* 10/16/90  
 CHIEF, BUREAU OF HIGHWAYS  
 DATE

*William B. Ray* 10/18/90  
 CHIEF, BUREAU OF ENGINEERING  
 DATE

DATE	NO.	REVISION

OWNER/DEVELOPER  
 GREGG MCCARRON POTOMAC DEVELOPMENT CO.  
 2484 FLORENCE RD. 1015 COPPERSTONE CT.  
 Wt. AIRY, MD. 21771 ROCKVILLE, MD. 20852

PROJECT: S-28-1B SECTION ONE P09-92  
**BRIDLE BROOK ESTATES**  
 LOTS 1-7

AREA TAX MAP 12 ZONED R PARCELS 13425  
 4TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE: **PROFILE & DETAILS**

RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

DATE: 11/19/90  
 DESIGNED BY: D.F.  
 DRAWN BY: M.A.D./M.K.  
 PROJECT NO: 87003  
 DATE: AUGUST 24, 1990  
 SCALE: AS SHOWN  
 DRAWING NO. 2 OF 2