

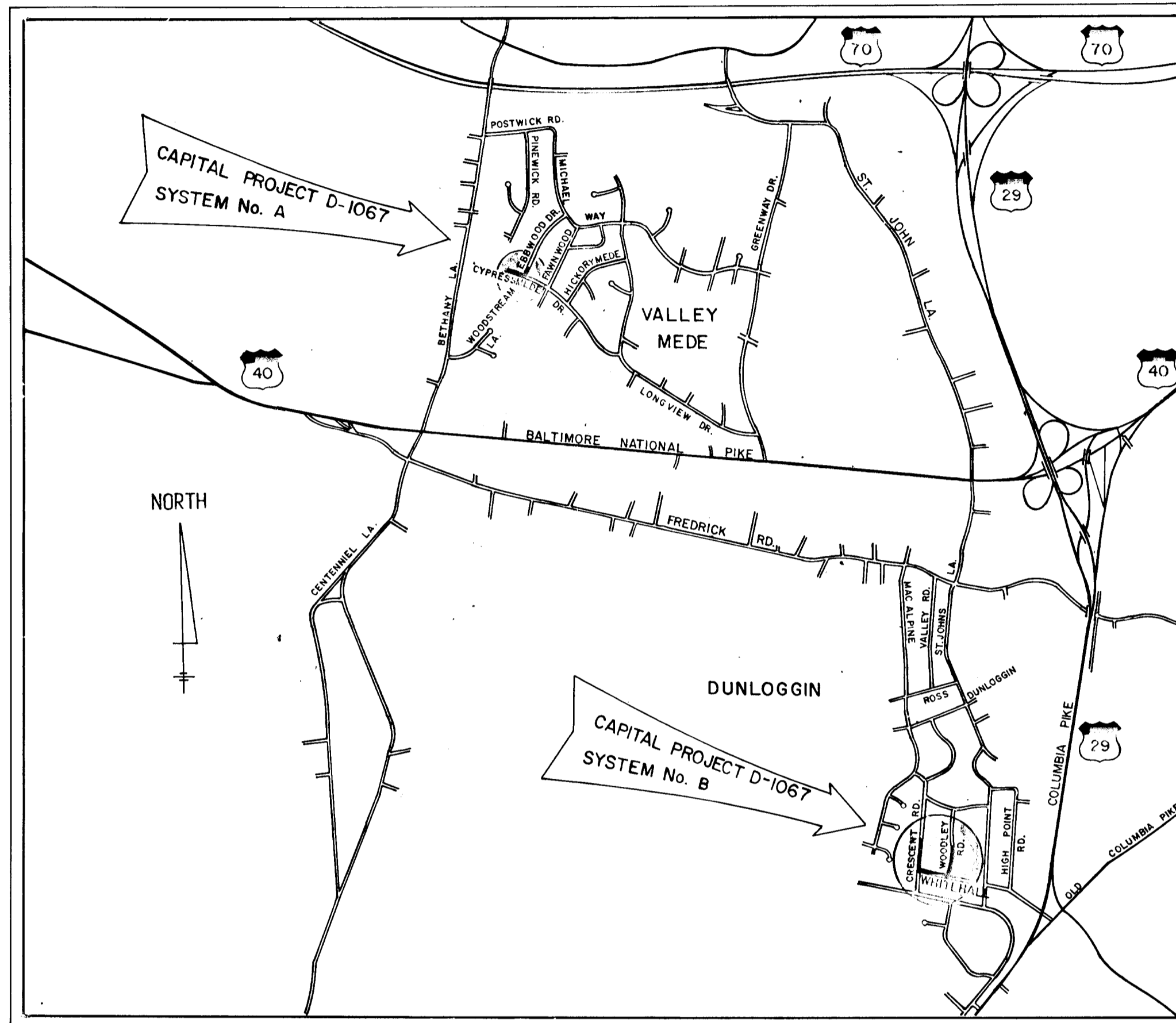
# HOWARD COUNTY MARYLAND

## DEPARTMENT OF PUBLIC WORKS

REVIEW FOR HOWARD COUNTY, S.C.S. AND MEETS TECHNICAL REQUIREMENTS.  
 U.S. SOIL CONSERVATION SERVICE  
 DATE: 10/25/05  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 APPROVED: [Signature] DATE: 10/25/05  
 HOWARD COUNTY S.C.S.

ENGINEER'S CERTIFICATION  
 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 COUNTY SOIL CONSERVATION DISTRICT.  
 [Signature] DATE: 10/25/05  
 WHITMAN, REQUARDT AND ASSOCIATES  
 2315 ST. PAUL STREET  
 BALTIMORE, MD. 21218

DEVELOPER'S CERTIFICATION  
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN OF DEVELOPMENT AND PLAN FOR EROSION AND SEDIMENT CONTROL AND THAT ALL 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 INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS, AS ARE DEEMED NECESSARY."  
 DATE: 10/25/05



VICINITY MAP  
 SCALE : 1" = 2000'

| INDEX OF SHEETS                 |                   |                   |
|---------------------------------|-------------------|-------------------|
| SHEET NO.                       | DESCRIPTION       | LOCATION          |
| PLUMTREE CAPITAL PROJECT D-1067 |                   |                   |
| 1                               | TITLE SHEET       |                   |
| 2                               | STANDARD DETAILS  |                   |
| 3                               | DRAINAGE AREA MAP |                   |
| 4                               | SYSTEM No. A      | CYPRESSMEDE DRIVE |
| 5                               | SYSTEM No. B      | CRESCENT ROAD     |

# STORM DRAINAGE IMPROVEMENTS

## PLUMTREE DRAINAGE AREA

### VALLEY MEDE AND DUNLOGGIN


#### ELECTION DISTRICT : ELLICOTT CITY NO. 2

[Signature]

C281CZΦ1

|  |  |   |  |                                |
|--|--|---|--|--------------------------------|
| DEPARTMENT OF PUBLIC WORKS<br>HOWARD COUNTY, MARYLAND<br>[Signature] DATE: 10/25/05<br>CHIEF - DIVISION OF ROADS, BRIDGES AND STORM DRAINS | WHITMAN, REQUARDT AND ASSOCIATES<br>ENGINEERS<br>2315 ST. PAUL ST.<br>BALTIMORE, MARYLAND<br>[Signature] DATE: 10/25/05<br>CHIEF - BUREAU OF ENGINEERING | DES: [ ]<br>DRN: [ ]<br>CHK: [ ]<br>DATE: [ ]<br>BY NO. [ ] REVISION [ ] DATE [ ] | PLUMTREE<br>CAPITAL PROJECT D-1067<br>600' SCALE MAP NO. 17 E 21 | SCALE AS SHOWN<br>SHEET 1 OF 5 |
|--|--|---|--|--------------------------------|

-- GENERAL NOTES --

1. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-559-0100 FOR UNDERGROUND UTILITY LOCATIONS, AT LEAST FIVE DAYS PRIOR TO COMMENCING WORK SHOWN ON THE PLANS.
2. ALL TOP ELEVATIONS FOR THE PROPOSED INLETS AND MANHOLES ARE APPROXIMATE, AND ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR AND THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF ALL EXISTING DRIVEWAYS DAMAGED DURING CONSTRUCTION. SEE MEASUREMENT AND PAYMENT IN SPECIAL PROVISIONS. EXISTING BITUMINOUS CONCRETE DRIVEWAYS SHALL BE RESTORED AS FOLLOWS:  
(1) A 4 INCH DEPTH OF BITUMINOUS CONCRETE BASE COURSE.  
(2) A 1 INCH DEPTH OF BITUMINOUS CONCRETE SURFACE COURSE.
4. TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
5. CONTRACTOR TO GRADE AROUND THE TOP OF THE PROPOSED INLETS IN ORDER TO PROVIDE POSITIVE DRAINAGE TO THE INLETS. LINING SHALL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
6. COORDINATES ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM, 1957 DATUM, PROJECTED BY THE PLANNING AND ZONING COMMISSION OF HOWARD COUNTY, MARYLAND.
7. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ON THE PLANS ARE FROM THE BEST AVAILABLE RECORDS AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION. NEITHER THE ENGINEER NOR THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS WARRANT TO GUARANTEE THE COMPLETENESS OR CORRECTNESS OF THE INFORMATION SHOWN.
8. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES. ANY DAMAGE TO THE UTILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. CLEAR ALL UTILITIES BY A MINIMUM OF 6".
9. TEST PITS SHALL BE DUG AT ALL UTILITY CROSSINGS TO DETERMINE EXISTING HORIZONTAL AND VERTICAL ALIGNMENT OF UTILITIES. TEST PITS SHALL BE DUG A SUFFICIENT AMOUNT OF TIME IN ADVANCE OF THE CONSTRUCTION OR TRENCHING OPERATION, IN ORDER TO ALLOW FOR NECESSARY ADJUSTMENTS.
10. WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES THEY ARE NOTED BY THE SYMBOL . THE RESULTS OF THE TEST PITS ARE INCLUDED ON THE STORM DRAIN PROFILES.
11. ALL UTILITY POLES MUST BE CLEARED BY 2'-0", OR THE PROPOSED STORM DRAIN SHALL BE PLACED BY TUNNELING. ALL COSTS FOR TUNNELING ARE TO BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING THE PIPE STORM DRAINS.
12. ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM OF 1929.
13. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
14. CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR FURNISHING AND LAYING PIPE STORM DRAINS.
15. PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATIONS.
16. EXISTING WATER HOUSE SERVICES, THAT ARE IN CONFLICT WITH THE PROPOSED STORM DRAINAGE FACILITIES, SHALL BE ADJUSTED BY THE CONTRACTOR.
17. FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, THE CONTRACTOR SHALL ABIDE BY THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION." AND THE SPECIAL PROVISIONS IN THE EVENT OF ANY DISCREPANCY BETWEEN THESE TWO SOURCES THE LATER SHALL GOVERN.

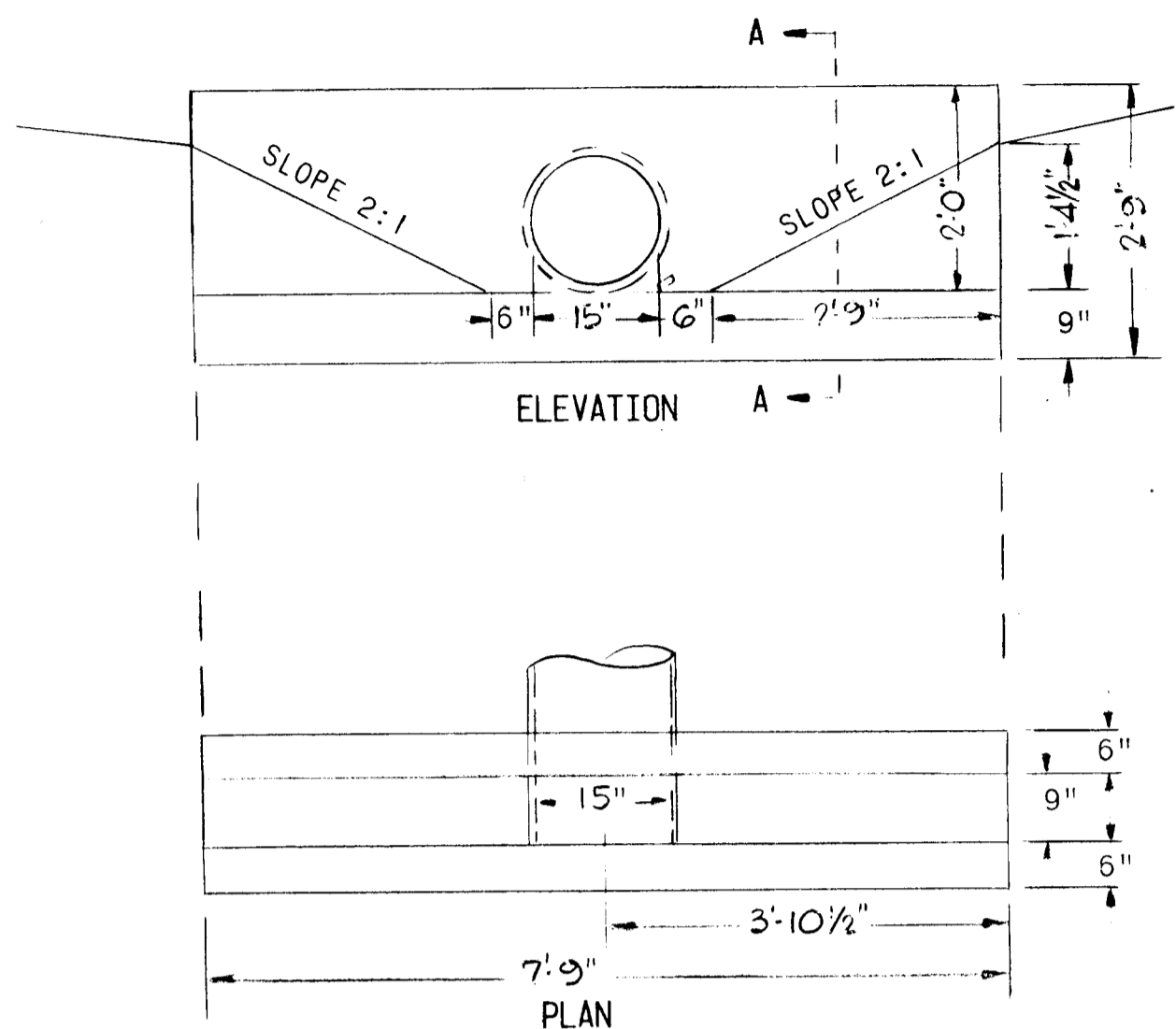
-- MAINTENANCE OF TRAFFIC --

1. CYPRESSMEDE DRIVE: THE CONTRACTOR SHALL PROVIDE 1 LANE OF TRAFFIC ON CYPRESSMEDE AND EBBWOOD DRIVES AT ALL TIMES, USING BARRICADES WITH FLASHERS TO BLOCK OFF CONSTRUCTION AND MAINTAIN SAFETY.
2. CRESCENT ROAD: WITHOUT PREVENTING LOCAL OR EMERGENCY VEHICULAR ACCESS TO THE SURROUNDING PROPERTIES, THE CONTRACTOR MAY BLOCK OFF THROUGH TRAFFIC ON WHITEHALL ROAD DURING THE CONSTRUCTION OF THE PROPOSED I-4. ALSO, THE CONTRACTOR SHALL PROVIDE SUFFICIENT BARRICADES WITH FLASHERS FOR THE DURATION OF THE CONSTRUCTION OF I-1, I-2, AND I-5.

*Handwritten signature*

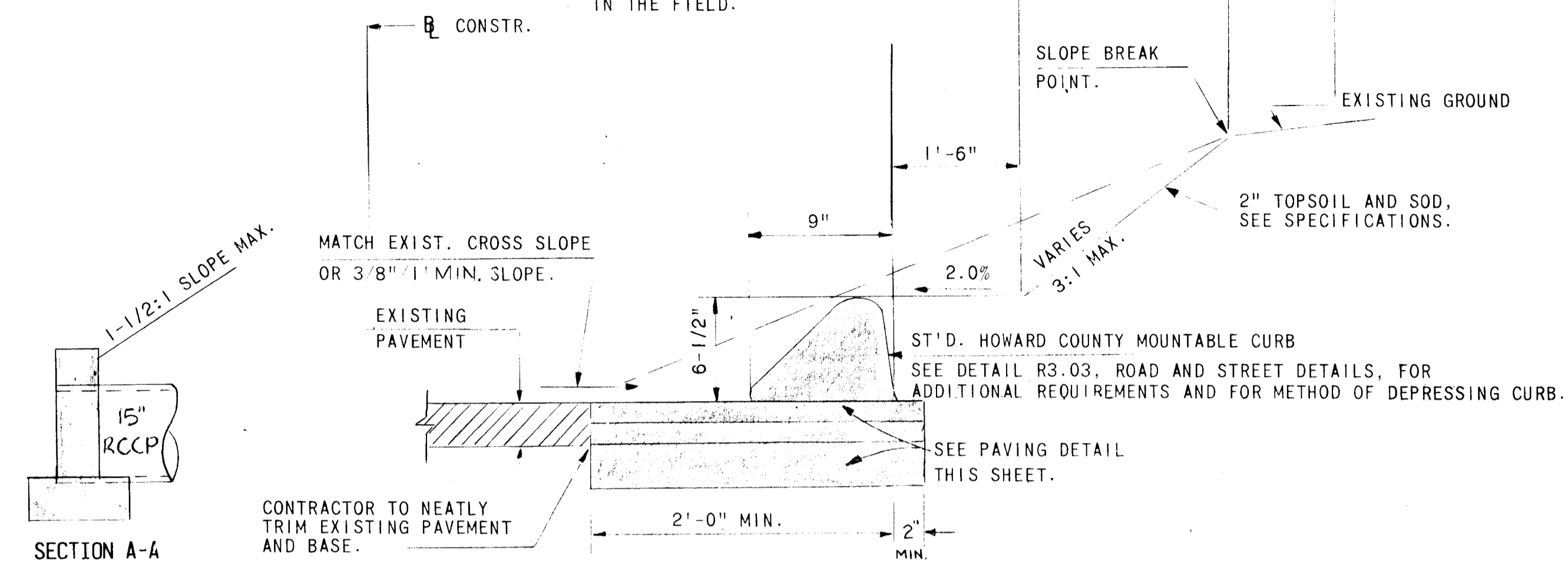


NOTE: VARY CUT SLOPE TO TIE-IN AT EXISTING SLOPE BREAK, WITHIN EXISTING R/W, AS DIRECTED BY THE ENGINEER IN THE FIELD.

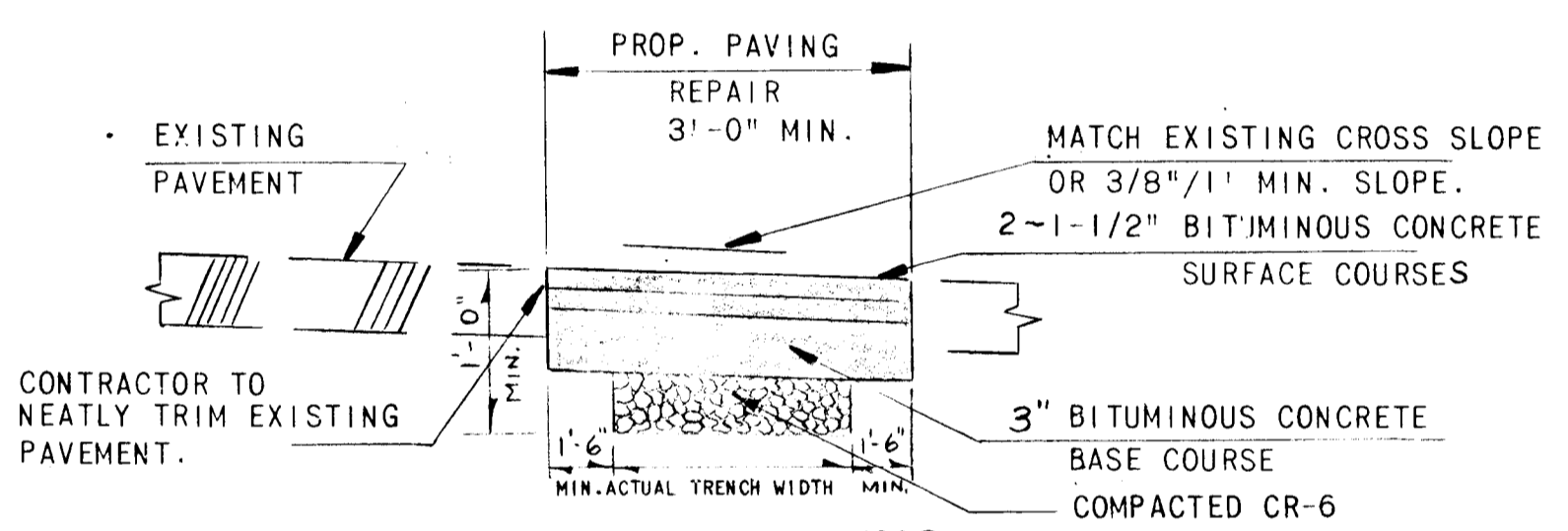


**TYPE "C" ENDWALL**  
NOT TO SCALE

NOTE: SEE HOWARD COUNTY DETAIL SD-5.21 FOR SIZE AND PLACEMENT OF REINFORCING STEEL.

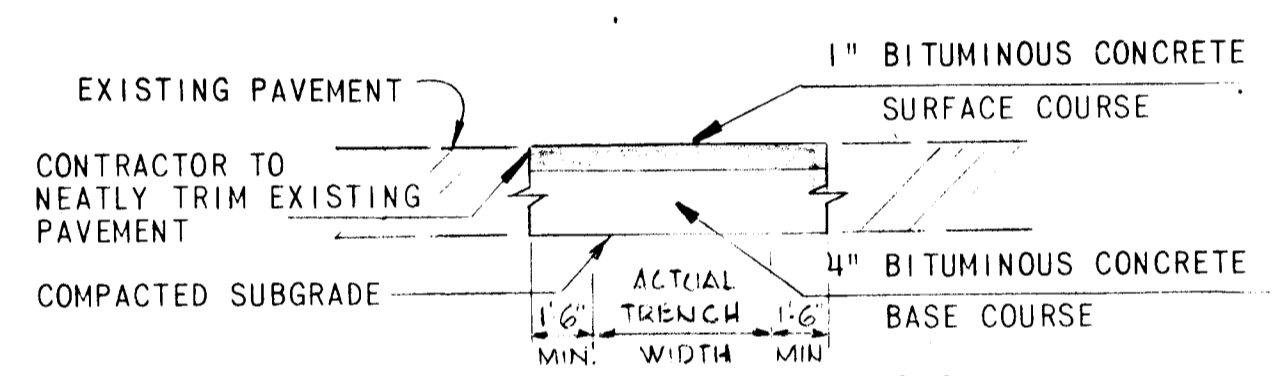


**PAVING EXTENSION/REPAIR WITH MOUNTABLE CURB DETAIL**  
NOT TO SCALE



**TYPICAL PAVING REPAIR SECTION**  
NOT TO SCALE

SEE HOWARD COUNTY STANDARD DETAIL G4.01 FOR ADDITIONAL REQUIREMENTS



**TYPICAL DRIVEWAY PAVING SECTION**  
NOT TO SCALE

SEE HOWARD COUNTY STANDARD DETAIL G4.01 FOR ADDITIONAL REQUIREMENTS

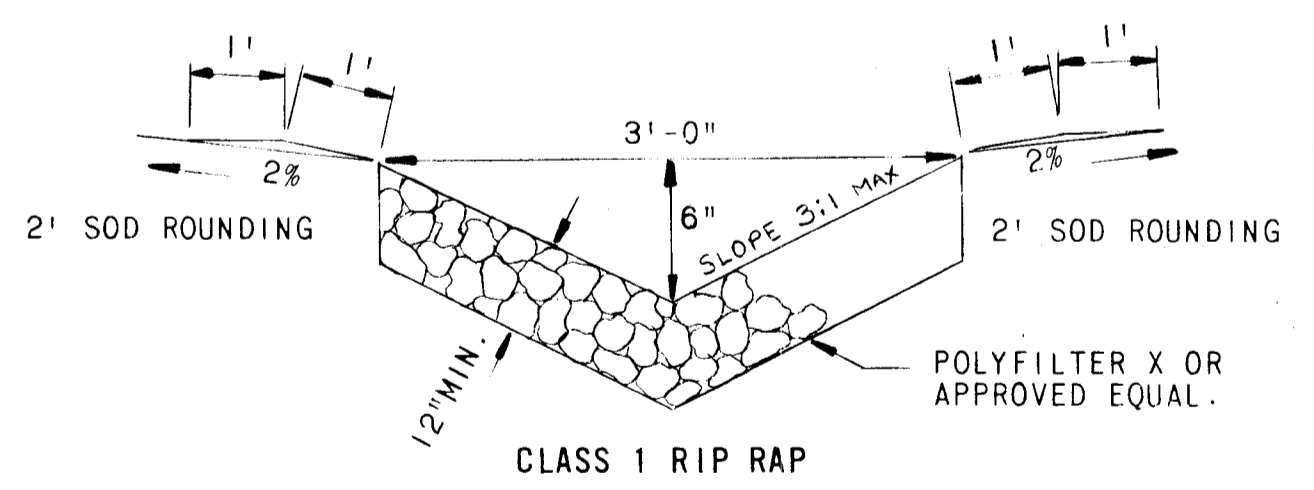
**CONSTRUCTION SEQUENCE**

**SYSTEM A**

1. TEST PIT UTILITIES WHERE NECESSARY.
2. ESTABLISH SEDIMENT CONTROL.
3. CONSTRUCT RIP RAP CHANNEL AND END STRUCTURE E-1.
4. WORKING FROM DOWNSTREAM TO THE UPSTREAM END, CONSTRUCT THE 15 INCH STORM DRAIN LINE AND RELATED STRUCTURES.
5. PERFORM ALL REQUIRED BACKFILLING AND PAVING, CURB, AND DRIVEWAY REPAIRS.
6. COMPLETE RESTORATION OF ALL DISTURBED LAWN AREAS.
7. REMOVE SEDIMENT CONTROL DEVICES.

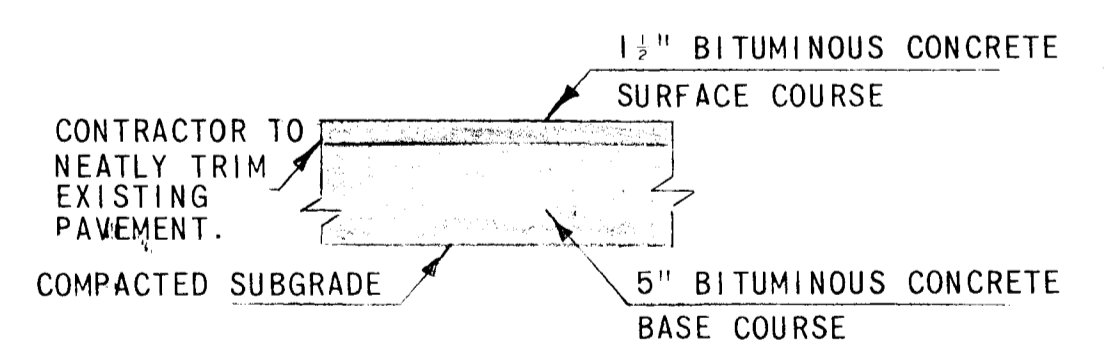
**SYSTEM B**

1. SAME AS A-1 (GAS COMPANY TO RELOCATE 2" GAS LINE AT INLET I-5)
2. SAME AS A-2
3. CONSTRUCT RIP RAP CHANNEL AND RECONSTRUCT INLET I-5.
4. WORKING FROM DOWNSTREAM TO THE UPSTREAM END, CONSTRUCT THE 27", 24", 18", AND 15" STORM DRAIN LINE AND RELATED STRUCTURES.
5. CONSTRUCT THE GRASS SWALES LEADING INTO INLETS I-1 AND I-4A.
6. SAME AS A-5.
7. SAME AS A-6.
8. SAME AS A-7.



**TYPICAL RIP RAP CHANNEL SECTION**

STATION 0+46, LEFT 12.50'  
CONSTRUCTION BASE LINE SHEET 4 OF 5.



**TYPICAL ROAD PAVING SECTION**  
NOT TO SCALE

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

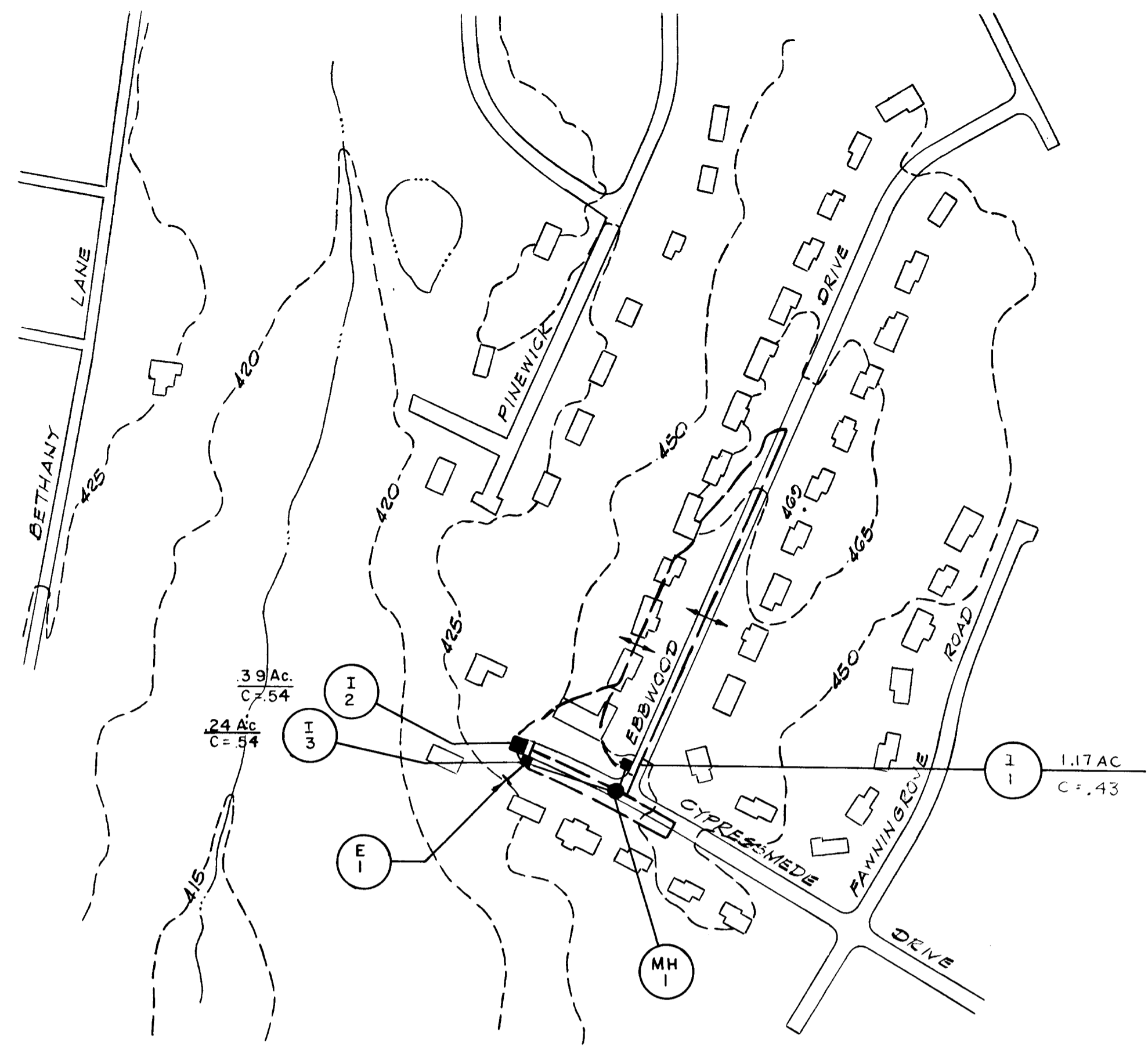
WHITMAN, REQUARDT  
AND ASSOCIATES  
ENGINEERS  
2315 ST PAUL ST.  
BALTIMORE, MARYLAND

PLUMTREE  
CAPITAL PROJECT D-1067

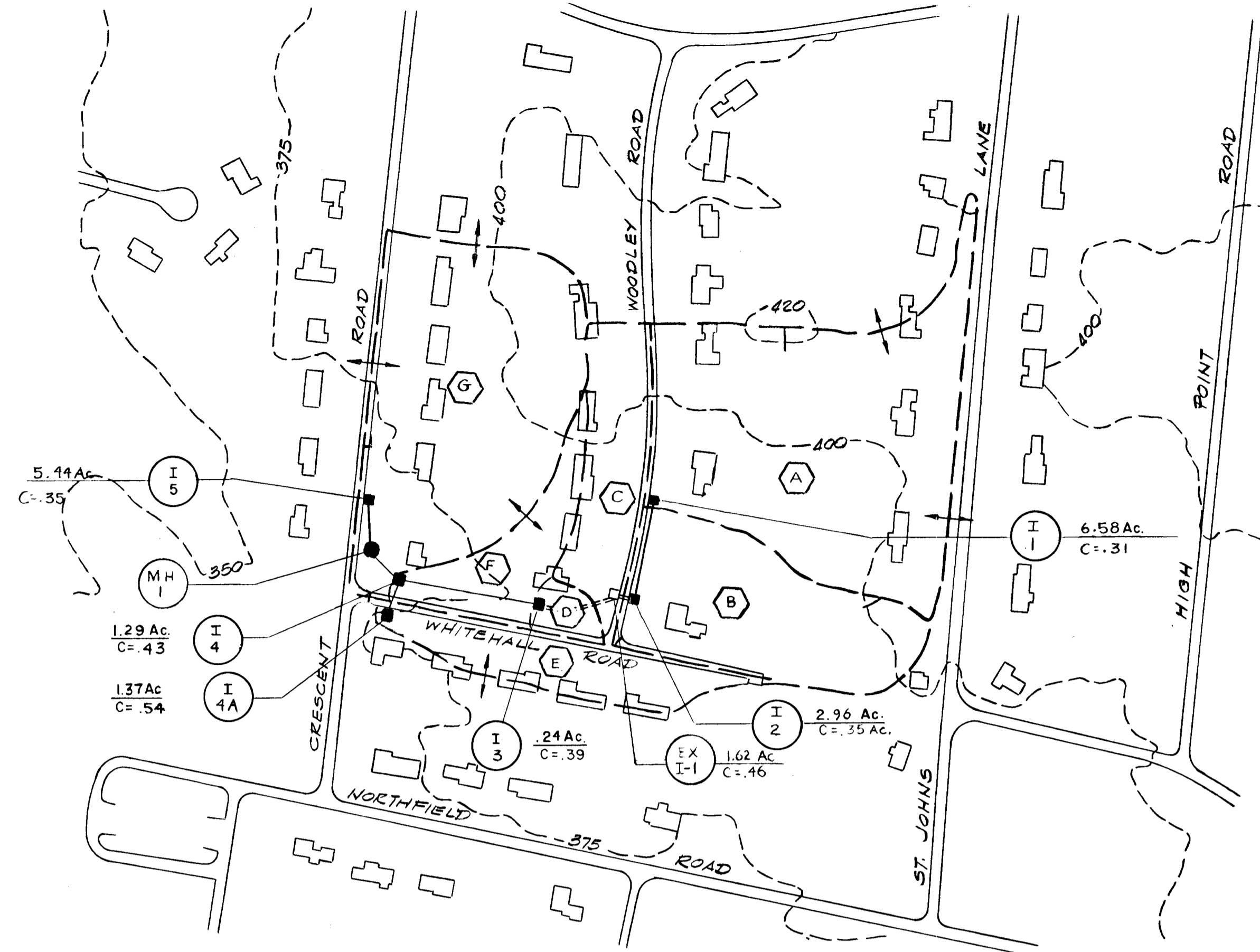
STORM DRAINAGE IMPROVEMENTS  
VALLEY MEDE & DUNLOGGIN  
STANDARD DETAILS  
ELECTION DISTRICT ELLICOTT CITY NO. 2

SCALE  
AS  
SHOWN  
SHEET  
2 OF 5





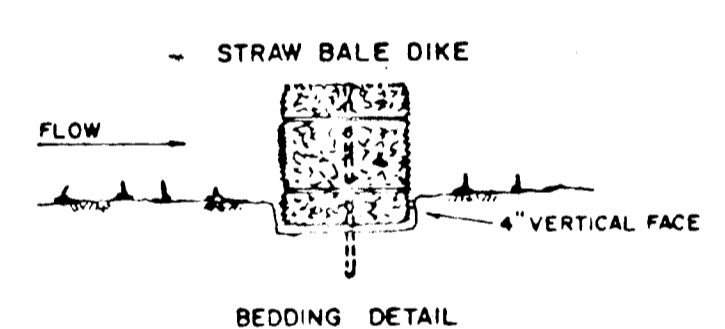
SYSTEM A



SYSTEM B

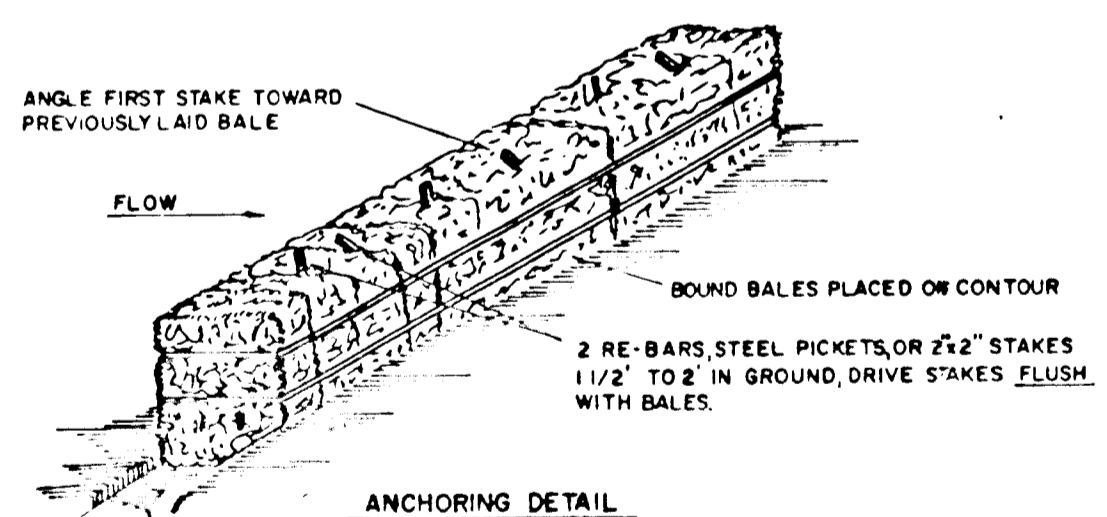
-- SOIL EROSION AND SEDIMENT CONTROL NOTES --

1. THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL SET FORTH IN THE CONTRACT DRAWINGS, THE 1983 MARYLAND "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," AND VOLUME IV - ARTICLE 15 OF THE HOWARD COUNTY DESIGN MANUAL VOLUME IV.
2. ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH WHENEVER POSSIBLE, AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OF DRAINAGE COURSES.
3. ALL SWALES SHALL BE EQUIPPED WITH A SEDIMENT RETENTION DEVICE TO TRAP SEDIMENT AND FILTER WATER LEAVING THE RIGHT-OF-WAY PRIOR TO ENTERING THE STORM DRAINAGE SYSTEM OR ANY RUNNING STREAMS.
4. THE HOWARD COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING BY THE CONTRACTOR AS TO WHERE EXCESS MATERIAL WILL BE DISPOSED OR BORROW MATERIAL WILL BE OBTAINED. PRIOR TO BEGINNING ANY WORK ON THIS PROJECT COPIES SHALL BE PROVIDED TO THE ENGINEER.
5. THE CONTRACTOR SHALL NOTIFY IN WRITING, A HOWARD COUNTY SEDIMENT CONTROL DIVISION REPRESENTATIVE AT LEAST THREE (3) DAYS PRIOR TO STARTING WORK. PLEASE CONTACT HOWARD COUNTY - 992-2436. COPIES SHALL BE PROVIDED TO THE ENGINEER.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - A. SEVEN CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL.
  - B. FOURTEEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.



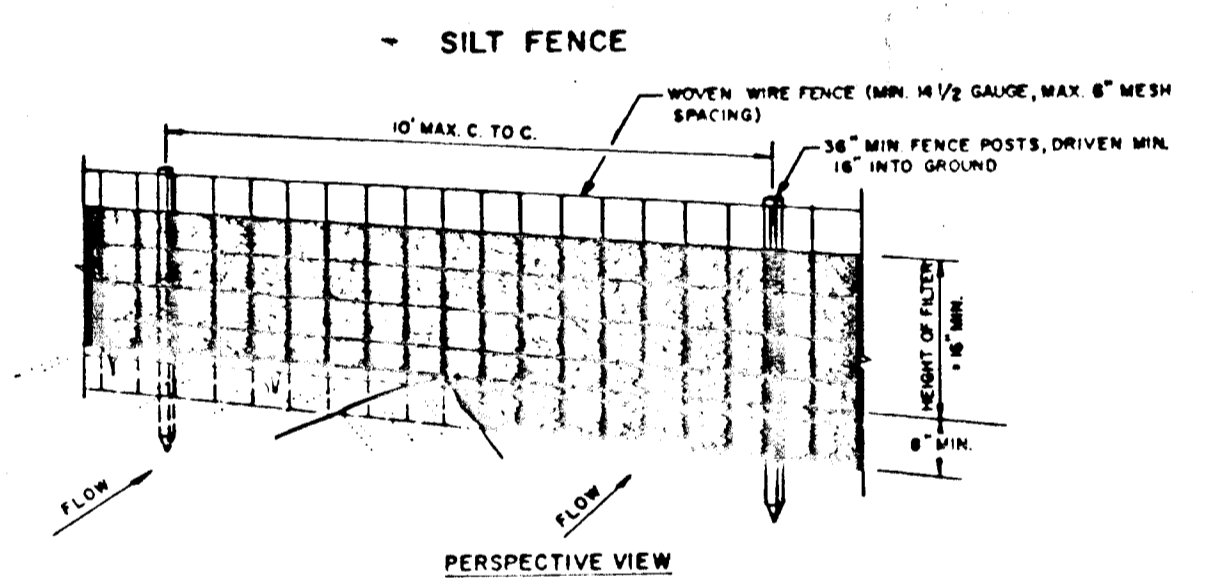
BEDDING DETAIL

STANDARD SYMBOL  
SBD

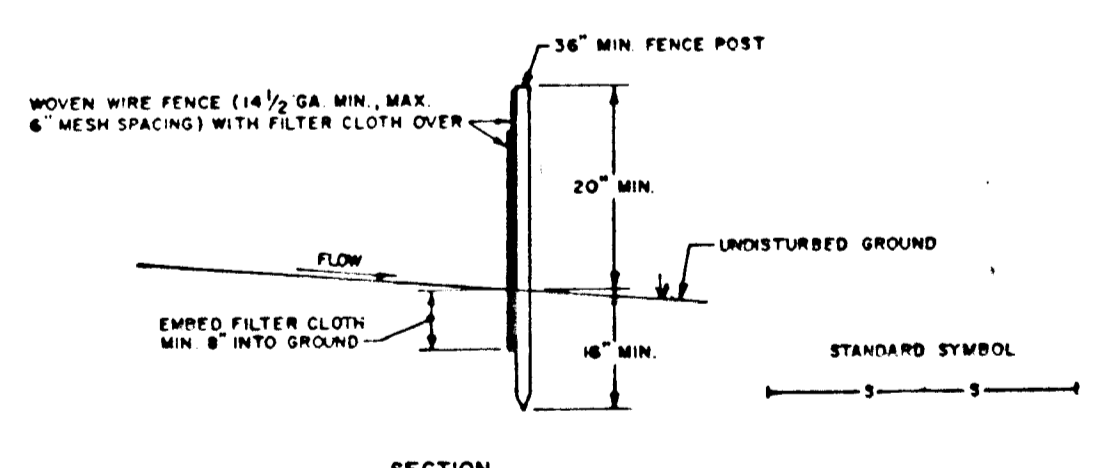


ANCHORING DETAIL  
CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMPLOYED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPED STORM FLOW OR DRAINAGE.



PERSPECTIVE VIEW



SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24\"/>

POSTS: STEEL EITHER T OR U TYPE OR 2\"/>

FENCE: WOVEN WIRE, 14 1/2 GA, 6\"/>

FILTER CLOTH: FILTER X, MURFLOY, STABILINKA LIGN OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

SEDIMENT CONTROL DETAILS

Not to Scale

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works - Date  
*Elisabeth A. Pavia* 10/7/05

WHITMAN, REQUARDT  
AND ASSOCIATES  
ENGINEERS

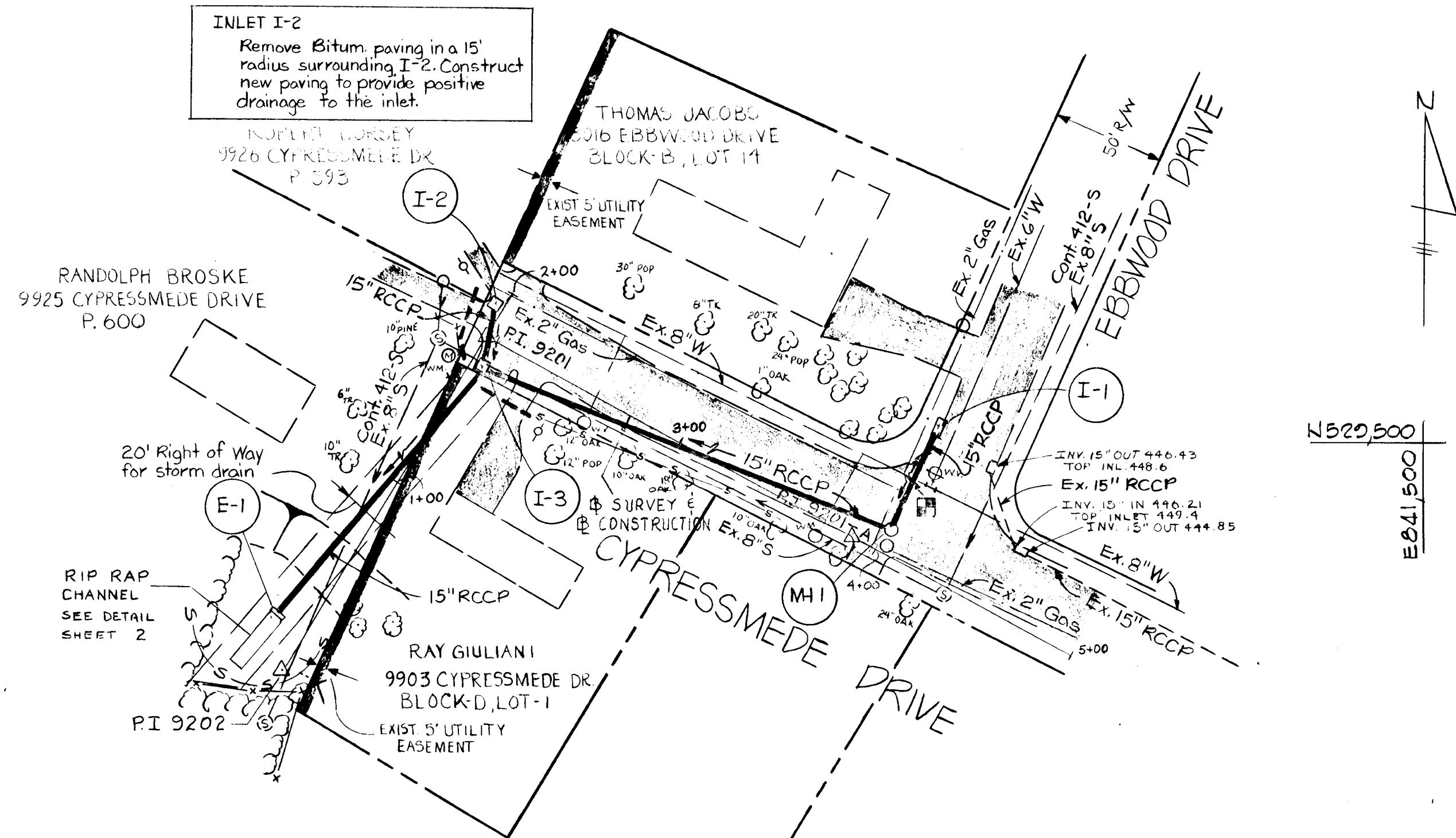
2315 ST PAUL ST.  
BALTIMORE, MARYLAND

PLUMTREE  
CAPITAL PROJECT D-1067

600 SCALE MAP NO. 17 1 24

STORM DRAINAGE IMPROVEMENTS  
DRAINAGE AREA MAP  
ELECTION DISTRICT: ELLICOTT CITY NO. 2

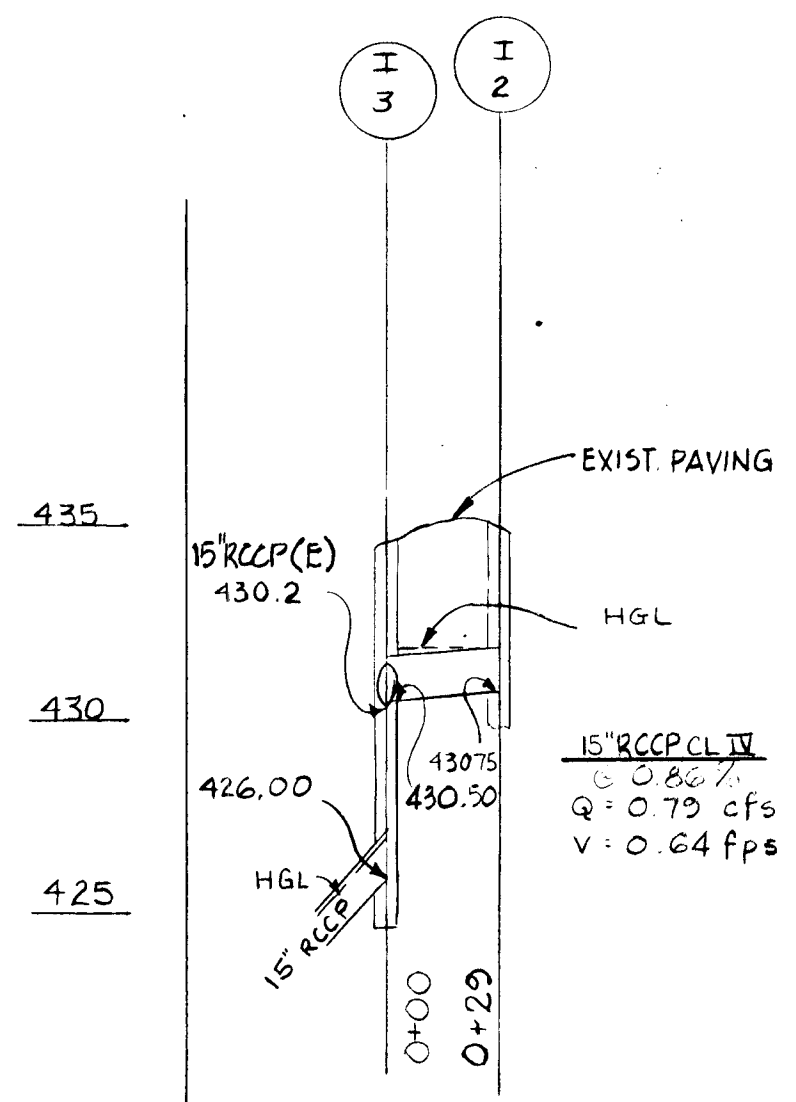
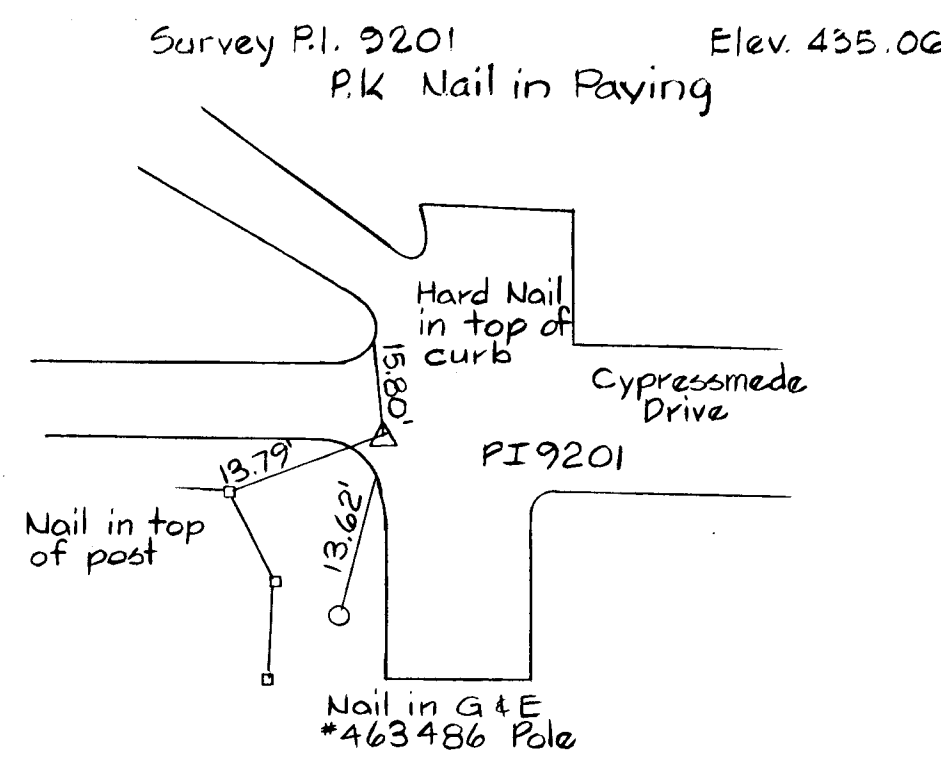
SCALE  
1" = 200'  
SHEET  
3 OF 5



**INLET I-3**  
 Reconstruct Howard Co Standard  
 Continuous, Movable  
 Curb both sides I-3 and  
 along Cypressmeade Drive  
 where disturbed, see Detail,  
 Sheet No. 2.

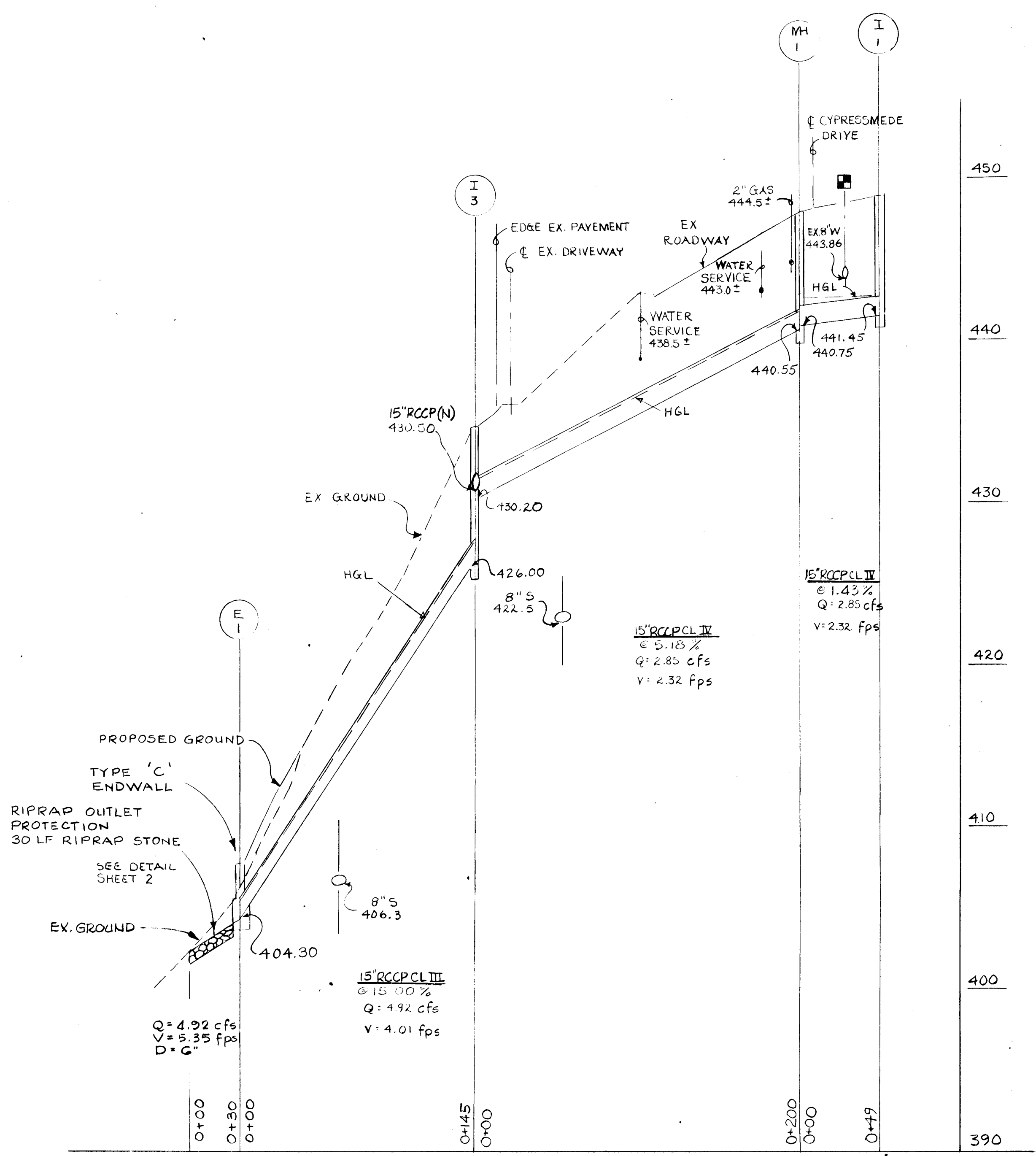
**PLAN**  
 Scale: 1" = 50'

**CONTROL ELEVATION**



**PROFILE**  
 Scale: Horiz.: 1" = 50'  
 Vert.: 1" = 5'

| STRUCTURE SCHEDULE |             |                       |         |          |         |                       |
|--------------------|-------------|-----------------------|---------|----------|---------|-----------------------|
| NO.                | TYPE        | LOCATION              | INV. IN | INV. OUT | TOP EL. | REMARKS               |
| I-1                | E-COMB      | STA 3+38.10, 53.00 LT | 441.45  | 448.80   |         | HOW. CO. STD. SD-4.31 |
| I-2                | S-SINGLE    | STA 1+92.10, 4.00 LT  | 430.75  | 435.00   |         | SD-4.22               |
| I-3                | "           | STA 1+63.50, 5.00 RT  | 430.20  | 426.00   | 435.00  | " " " " " "           |
| E-1                | C-HEADWALL  | STA 0+21.60, 16.00 LT | 404.33  |          |         | SD-5.21               |
| MH-1               | STD BRK. MH | STA 2+02.30, 11.30 LT | 440.75  | 440.55   | 447.9   | G-5.01                |



**PROFILE**  
 Scale: Horiz.: 1" = 50'  
 Vert.: 1" = 5'

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works - DATE  
 Chief - Bureau of Engineering - DATE  
 Chief - Division of Roads, Bridges and Storm Drains - DATE

WHITMAN, REQUARDT  
 AND ASSOCIATES  
 ENGINEERS  
 2315 ST PAUL ST.  
 BALTIMORE, MARYLAND

| WRD BY | NO. | REVISION                               | DATE    |
|--------|-----|--|---------|
|        |     | Relocated E-1, Lowered Inv. Out at I-3 | 12-6-85 |

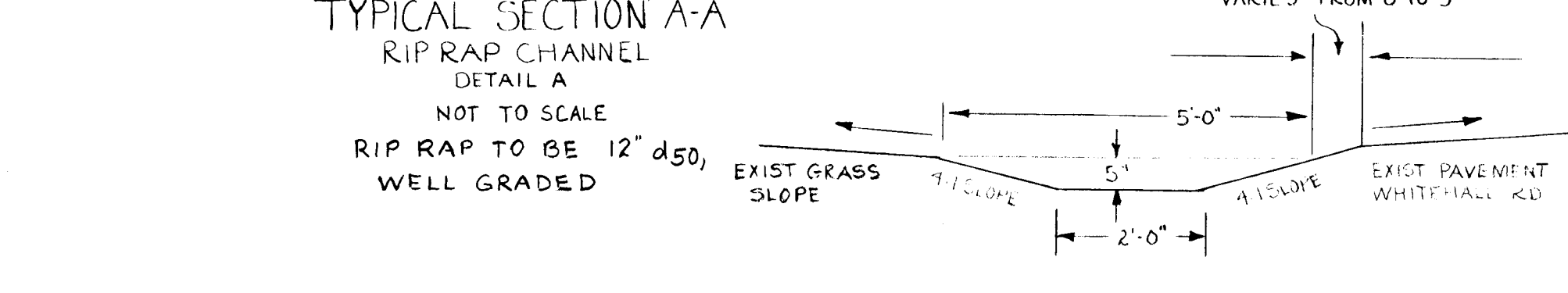
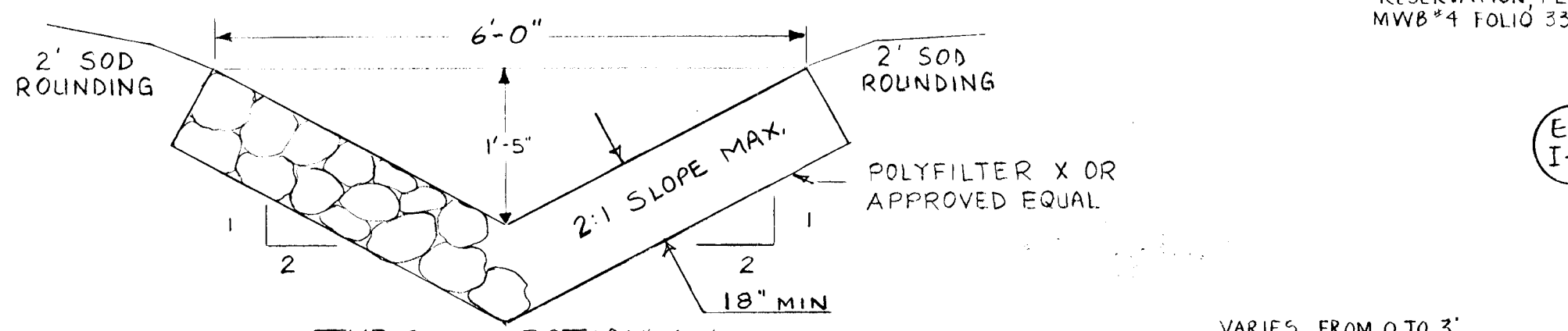
PLUMTREE  
 CAPITAL PROJECT D-1067  
 600' SCALE MAP NO. 17

STORM DRAINAGE IMPROVEMENTS  
 SYSTEM NO. A  
**CYPRESSMEADE DRIVE**  
 ELECTION DISTRICT: ELLICOTT CITY NO. 2

SCALE AS SHOWN  
 SHEET 4 OF 5

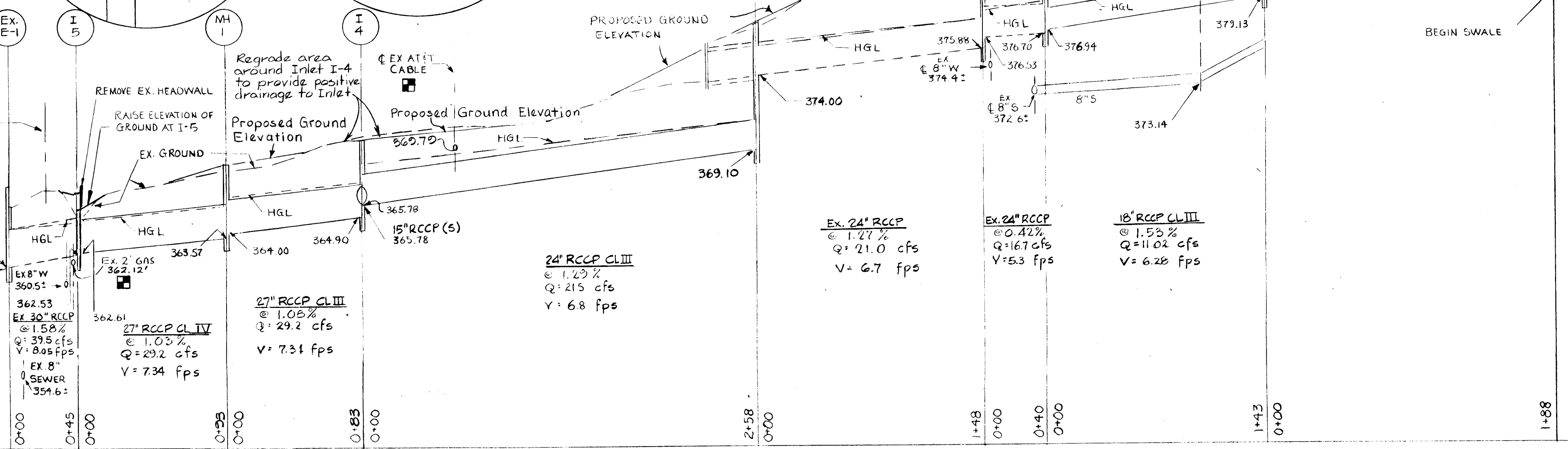
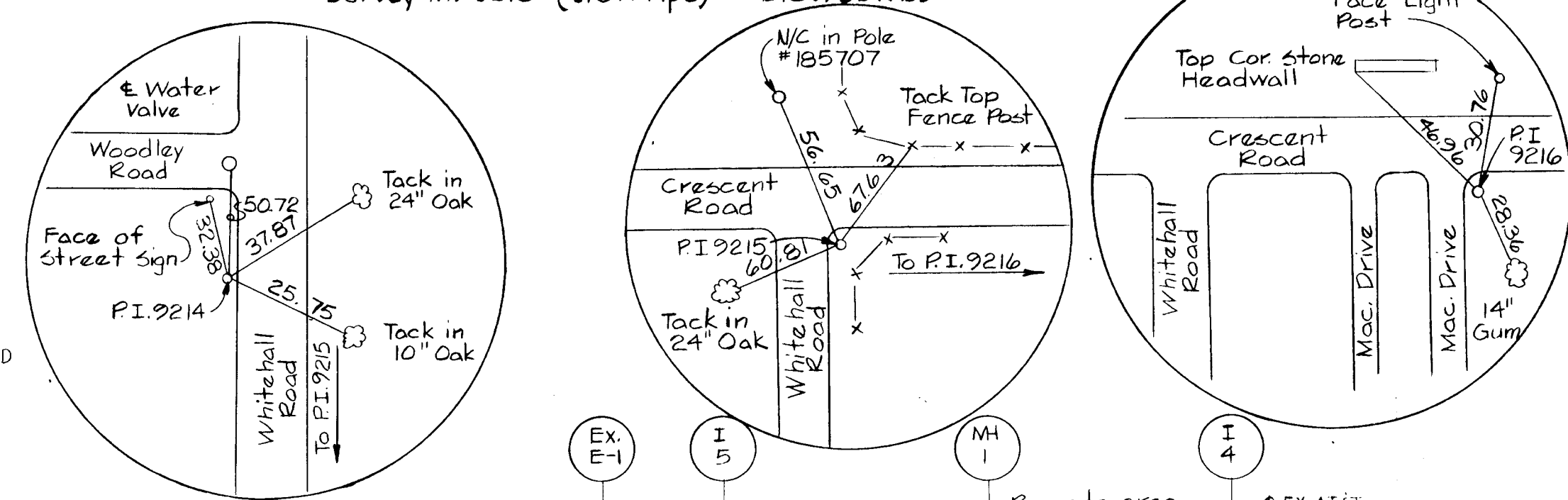


| STRUCTURE SCHEDULE |               |                      |         |          |          |                      |
|--------------------|---------------|----------------------|---------|----------|----------|----------------------|
| NO.                | TYPE          | LOCATION             | INV. IN | INV. OUT | TO ELEV. | REMARKS              |
| I-1                | STD "D"       | Sta. 10+34.04, 2811  | 279.13  | 284.30   |          | How Co. Std. SD 4.11 |
| I-2                | "             | Sta. 2+82.50, 18.5RT | 276.94  | 276.71   | 380.45   | "                    |
| I-3                | "             | Sta. 7+68.04, 4311   | 274.50  | 282.10   | 277.25   | "                    |
| I-4                | "             | Sta. 5+10.24, 3711   | 265.78  | 264.90   | 270.00   | "                    |
| I-4A               | "             | Sta. 5+01.94, 33RT   | 366.60  | 365.50   |          | "                    |
| I-5                | "             | Sta. 2+63.94, 651T   | 262.61  | 262.59   | 266.66   | "                    |
| MH-1               | Shallow Brick | Sta. 3+67.29, 1711   | 264.00  | 263.50   | 268.50   | How Co. Std. G 5.05  |



**CONTROL ELEVATIONS**

- Survey PI. 9214 (Iron Pipe) Elev. 380.48
- Survey PI. 9215 (Iron Pipe) Elev. 370.69
- Survey PI. 9216 (Iron Pipe) Elev. 367.29



**PROFILE**

Scale: Horiz.: 1" = 50'  
Vert.: 1" = 5'

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND  
Director of Public Works - DATE  
Chief - Bureau of Engineering - DATE  
Chief - Division of Roads, Bridges and Storm Drains - DATE

WHITMAN, REQUARDT  
AND ASSOCIATES  
ENGINEERS  
2315 ST PAUL ST.  
BALTIMORE, MARYLAND

PLUMTREE  
CAPITAL PROJECT D-1067

STORM DRAINAGE IMPROVEMENTS  
SYSTEM NO. B  
CRESCENT ROAD  
ELECTION DISTRICT: ELLICOTT CITY NO.2

SCALE AS SHOWN  
SHEET 5 OF 5