

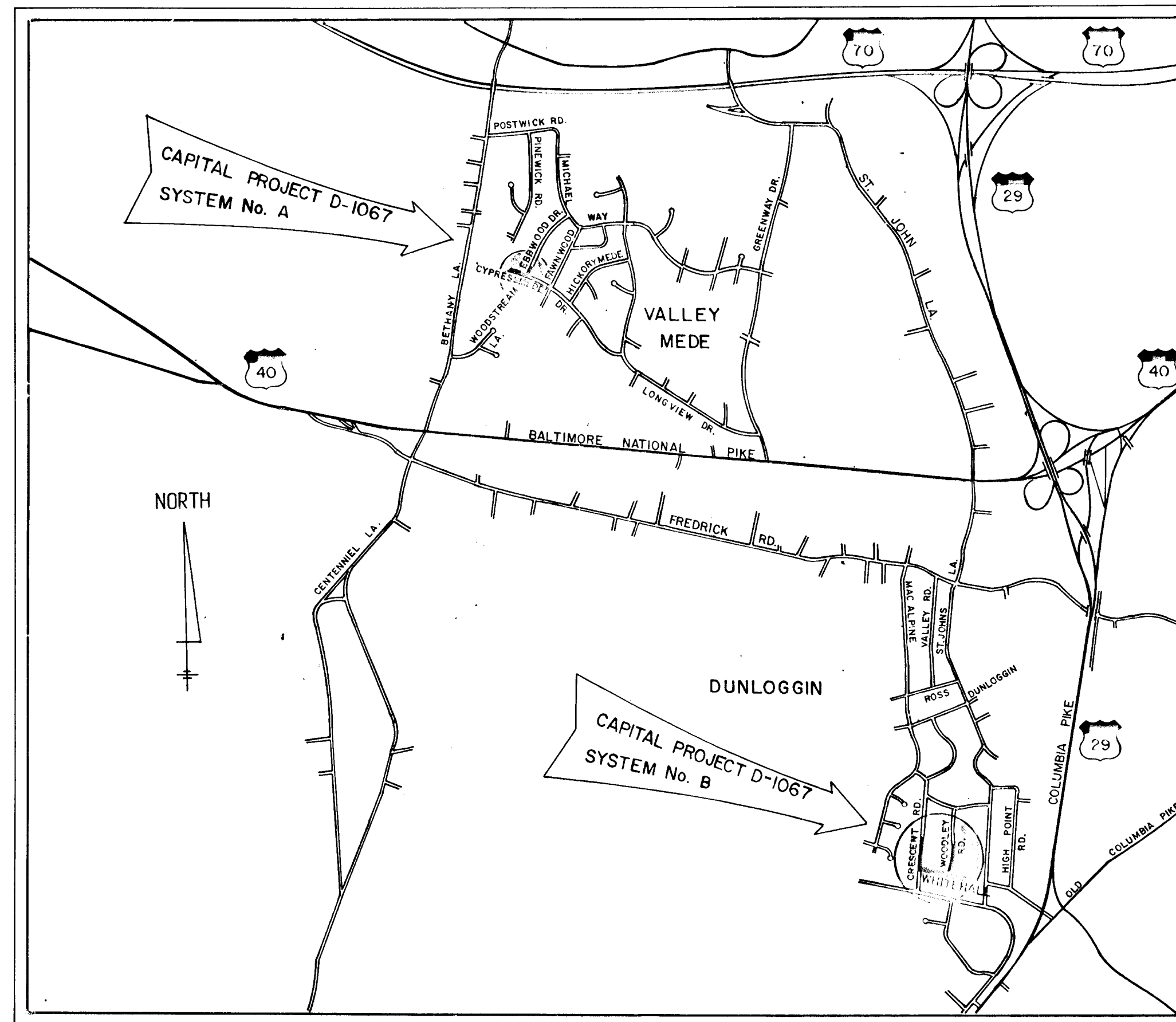
# HOWARD COUNTY MARYLAND

## DEPARTMENT OF PUBLIC WORKS

REVIEW FOR HOWARD COUNTY, S.C.S. AND MEETS TECHNICAL REQUIREMENTS.  
 U.S. SOIL CONSERVATION SERVICE  
 DATE: 10/25/85  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.  
 APPROVED: [Signature] DATE: 10/25/85  
 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: 10/25/85  
 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:



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]

SAVE  
 C2176B#1

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND [Signature] DATE: 10/25/85 CHIEF - DIVISION OF ROADS, BRIDGES AND STORM DRAINS	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST. PAUL ST. BALTIMORE, MARYLAND	DES: [ ] DRN: [ ] CHK: [ ] DATE: [ ]	PLUMTREE CAPITAL PROJECT D-1067	STORM DRAINAGE IMPROVEMENTS FOR THE PLUMTREE DRAINAGE AREA	SCALE AS SHOWN SHEET 1 OF 5
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-- 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.

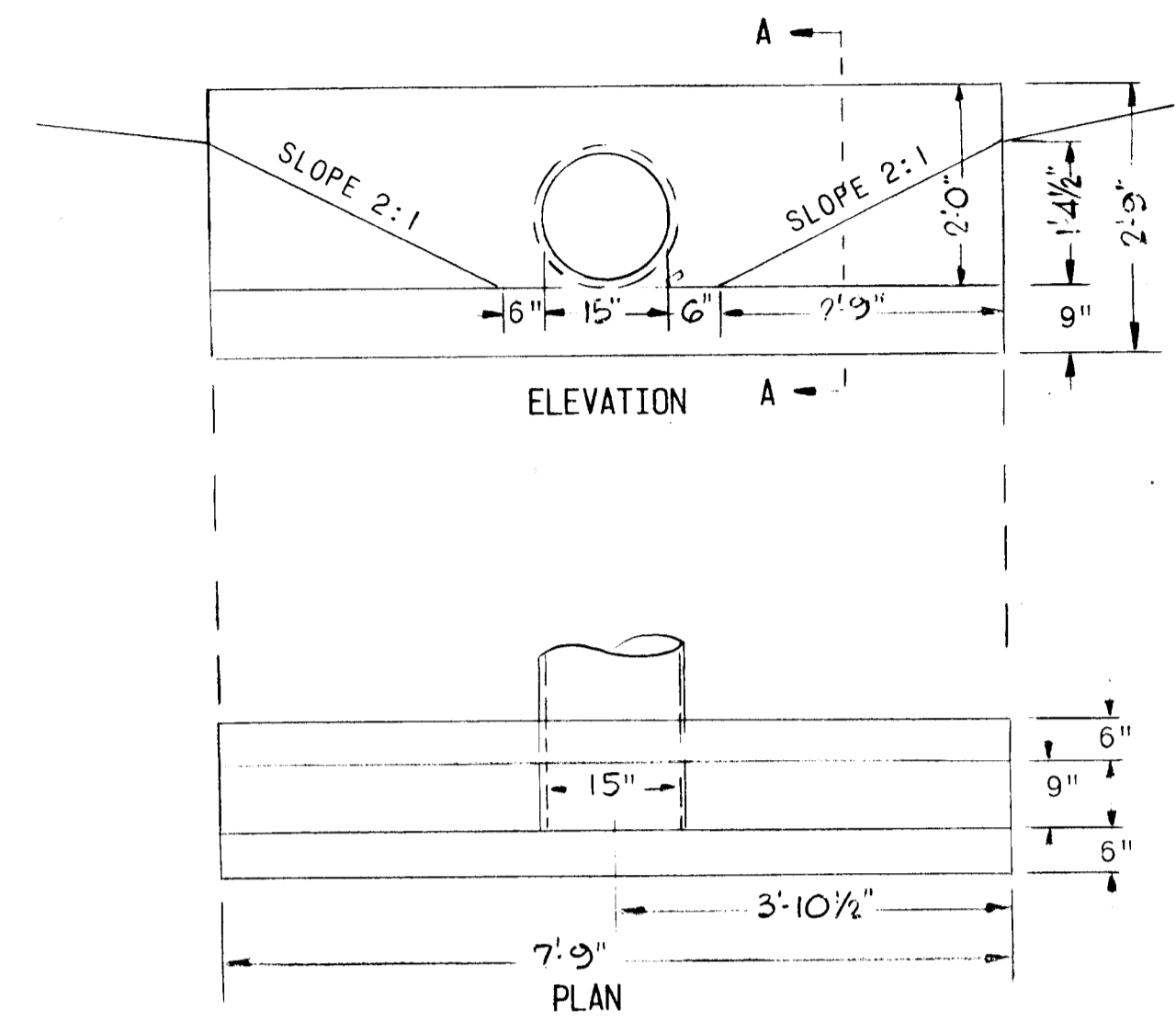
-- MAINTENANCE OF TRAFFIC --

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*

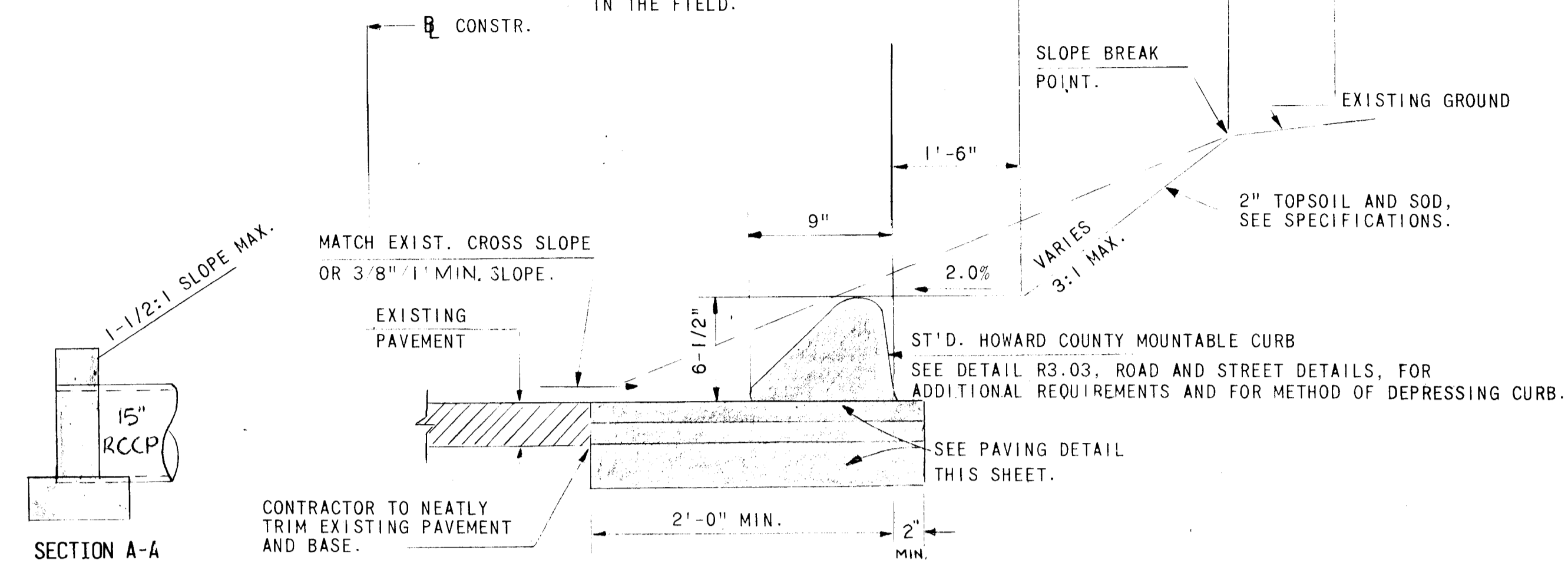


NOTE: VARY CUT SLOPE TO TIE-IN AT EXISTING SLOPE BREAK, WITHIN EXISTING R/W, AS DIRECTED BY THE ENGINEER IN THE FIELD.

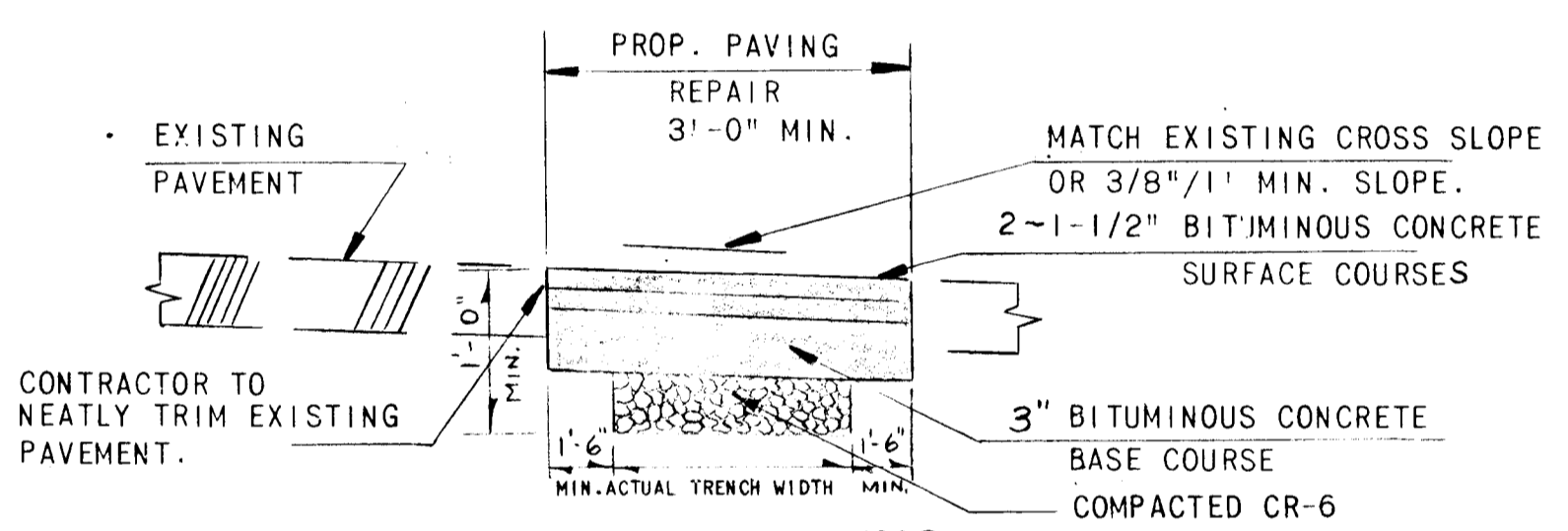


**TYPE "C" ENDWALL**  
NOT TO SCALE

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

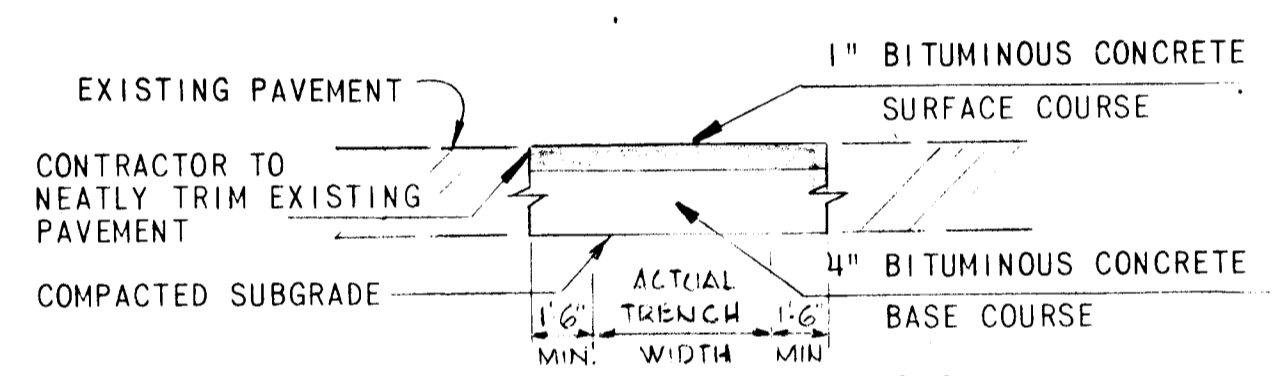


**PAVING EXTENSION/REPAIR WITH MOUNTABLE CURB DETAIL**  
NOT TO SCALE



**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

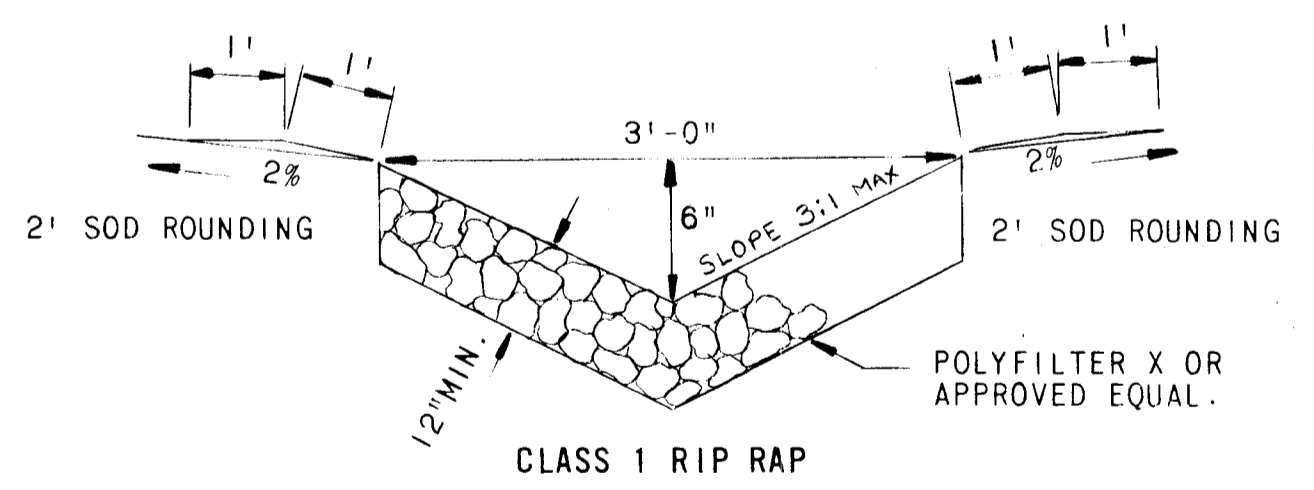
**CONSTRUCTION SEQUENCE**

**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.

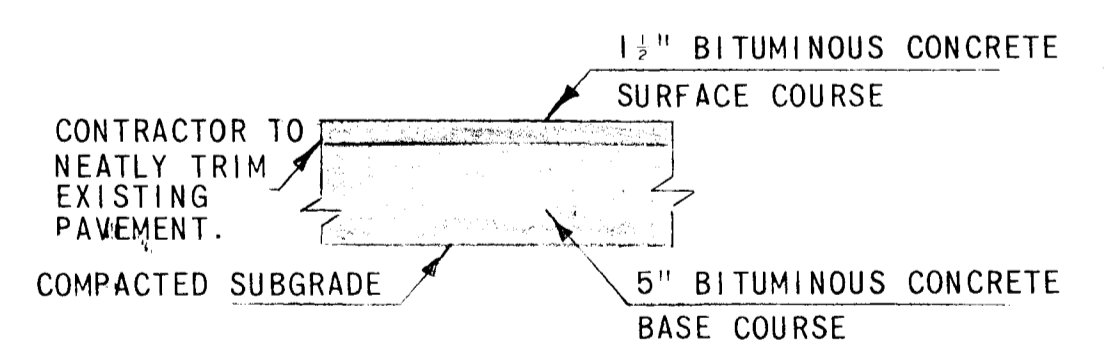
**SYSTEM B**

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

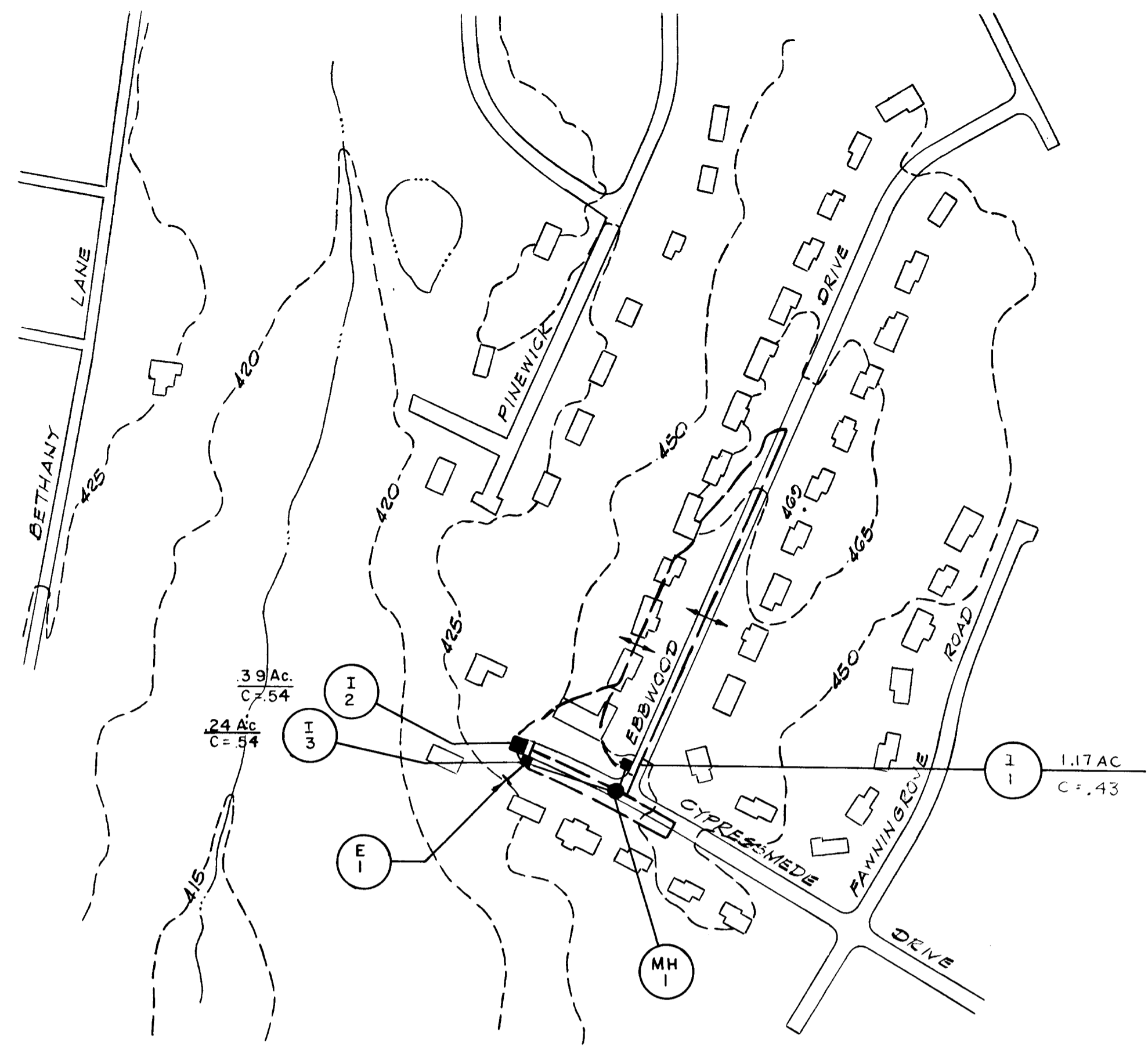
WHITMAN, REQUARDT  
AND ASSOCIATES  
ENGINEERS  
2315 ST PAUL ST.  
BALTIMORE, MARYLAND

PLUMTREE  
CAPITAL PROJECT D-1067

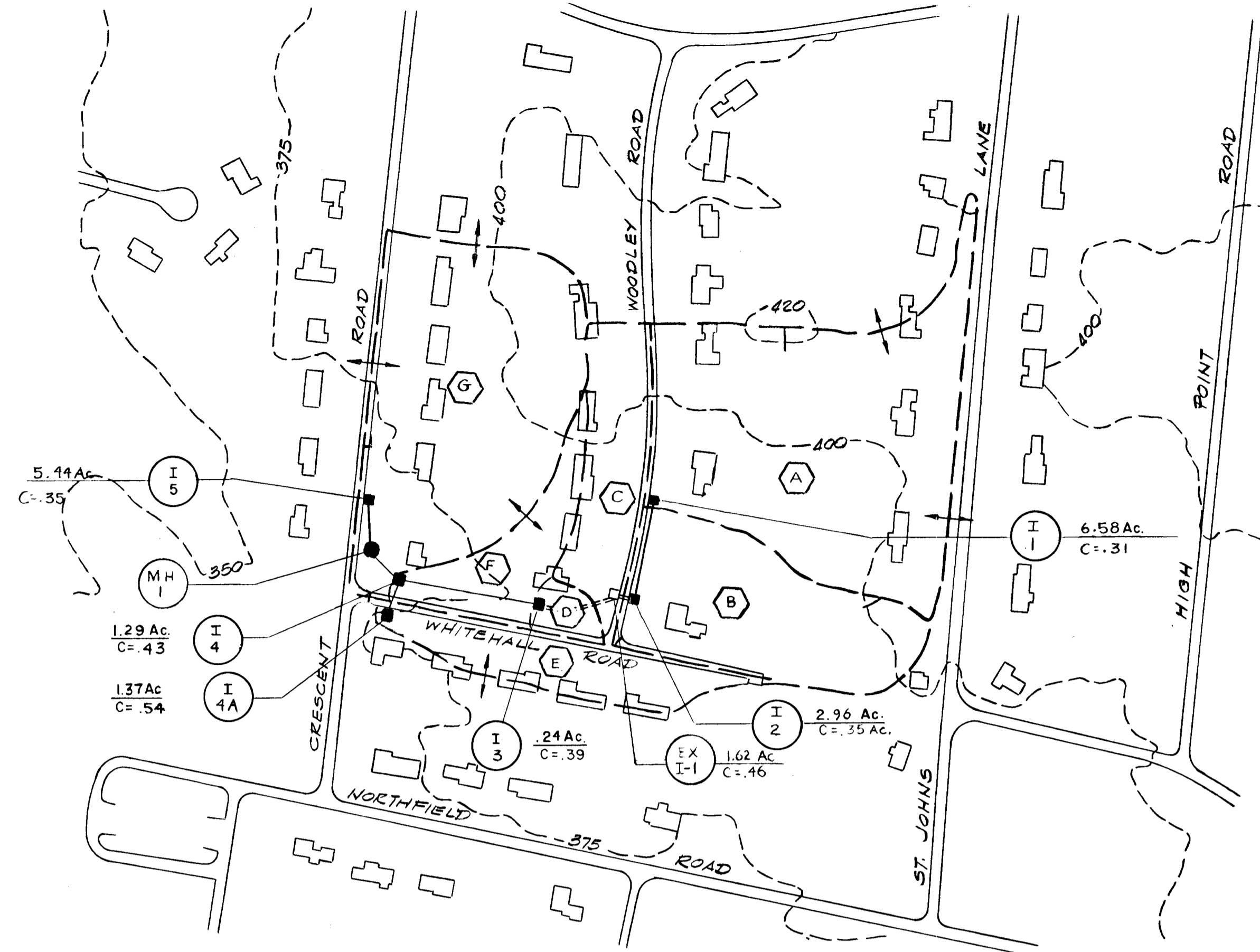
STORM DRAINAGE IMPROVEMENTS  
VALLEY MEDE & DUNLOGGIN  
STANDARD DETAILS  
ELECTION DISTRICT ELLICOTT CITY NO. 2

SCALE  
AS  
SHOWN  
SHEET  
2 OF 5





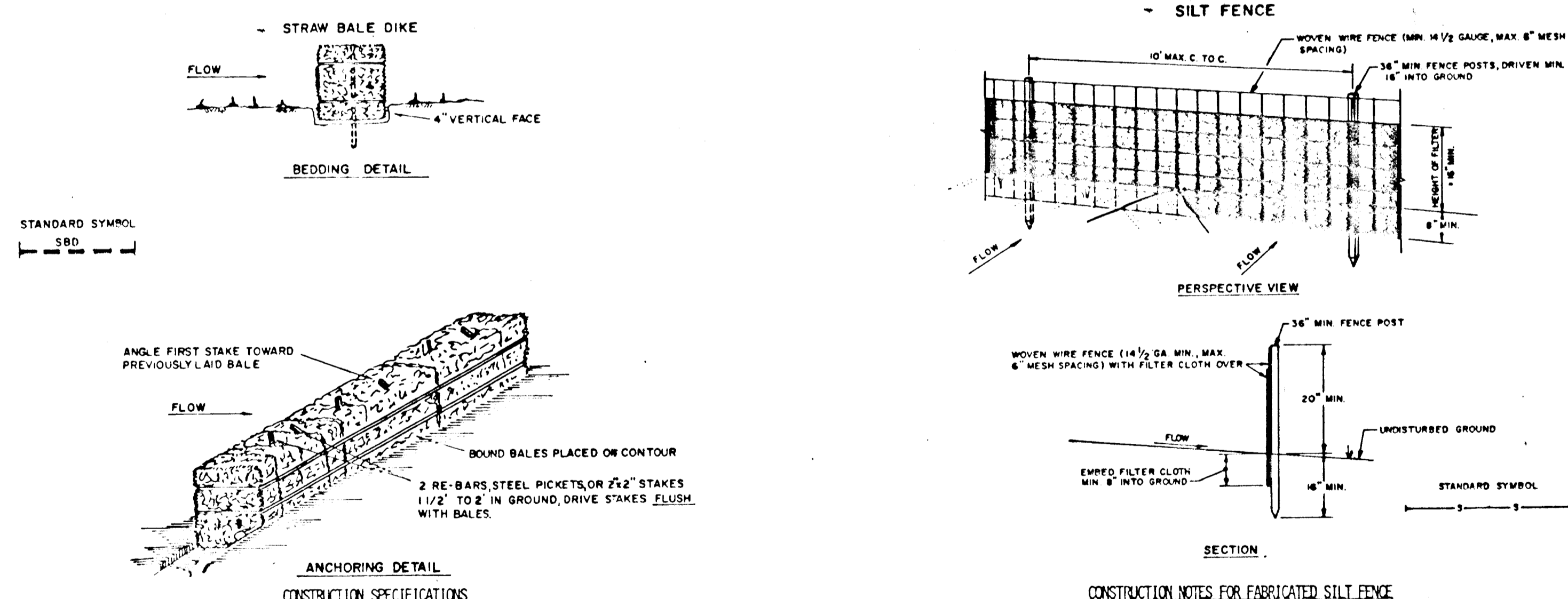
SYSTEM A



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.

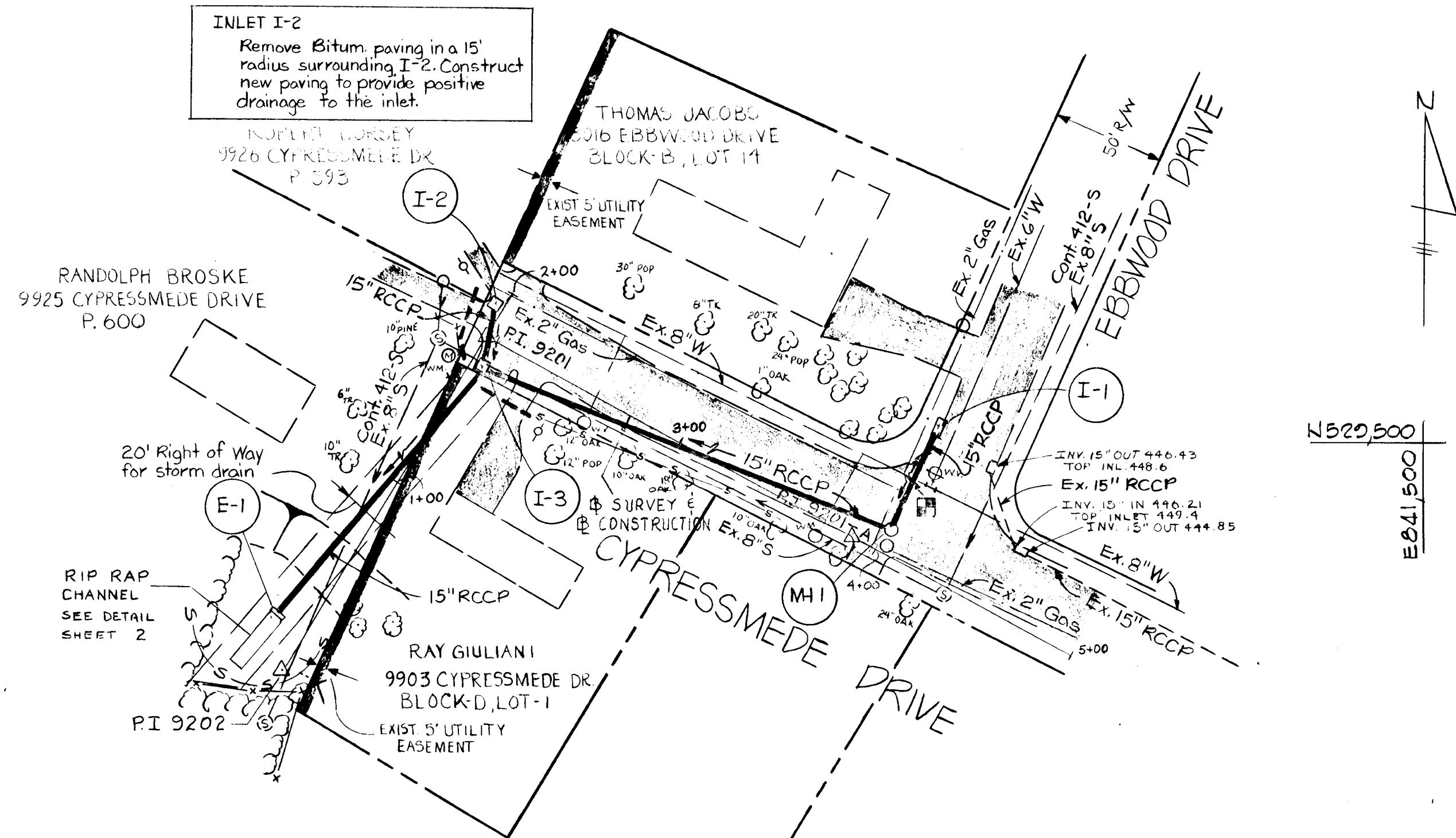


1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
  2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
  3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES 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.
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" AT TOP AND MID SECTION.
  3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
  4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BALES" DEVELOP IN THE SILT FENCE.
- POSTS: STEEL EITHER T OR U TYPE OR 2" HARDWOOD  
 FENCE: WOVEN WIRE, 14-GA. 6" MAX. MESH OPENING  
 FILTER CLOTH: FILTER X, MURFLOY, STABILINKA LIGN OR APPROVED EQUAL  
 PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.

SEDIMENT CONTROL DETAILS

Not to Scale

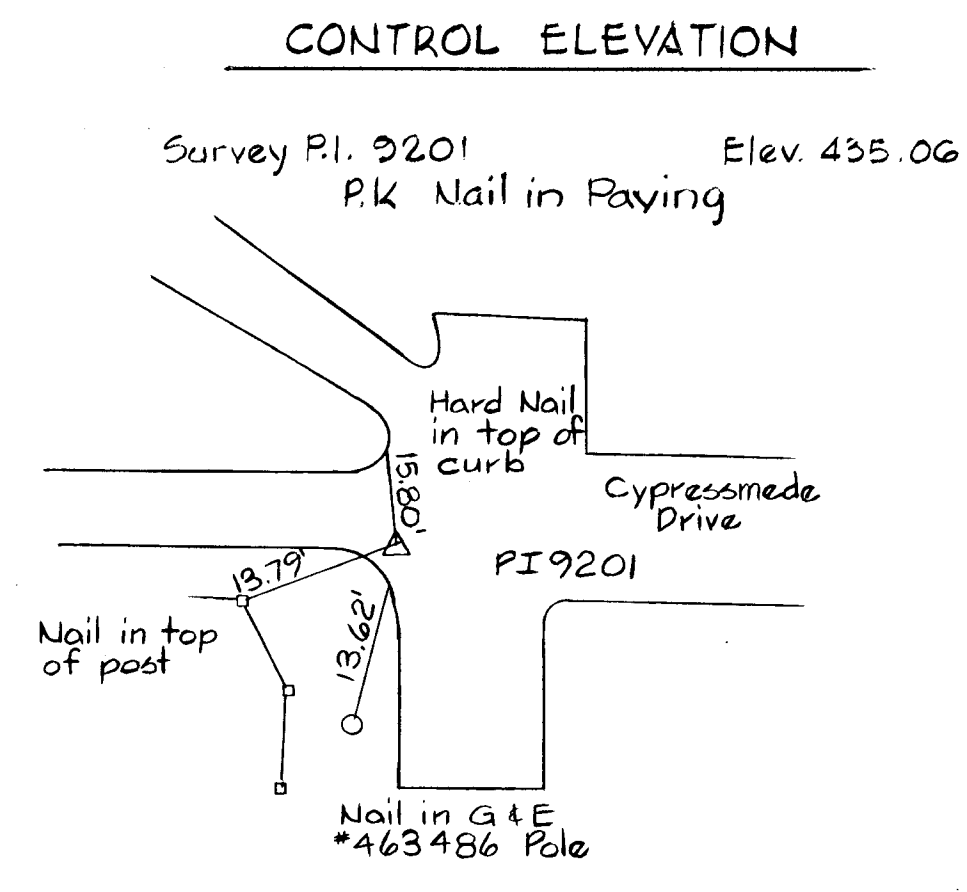
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS - DATE Elizabeth A. Pavia 10/7/05 CHIEF-DIVISION OF ROADS, BRIDGES AND STORM DRAINS - DATE	WHITMAN, REQUARDT AND ASSOCIATES ENGINEERS 2315 ST PAUL ST. BALTIMORE, MARYLAND	PLUMTREE CAPITAL PROJECT D-1067 600 SCALE MAP NO. 17 & 24	STORM DRAINAGE IMPROVEMENTS DRAINAGE AREA MAP ELECTION DISTRICT: ELLICOTT CITY NO. 2	SCALE 1" = 200' SHEET 3 OF 5
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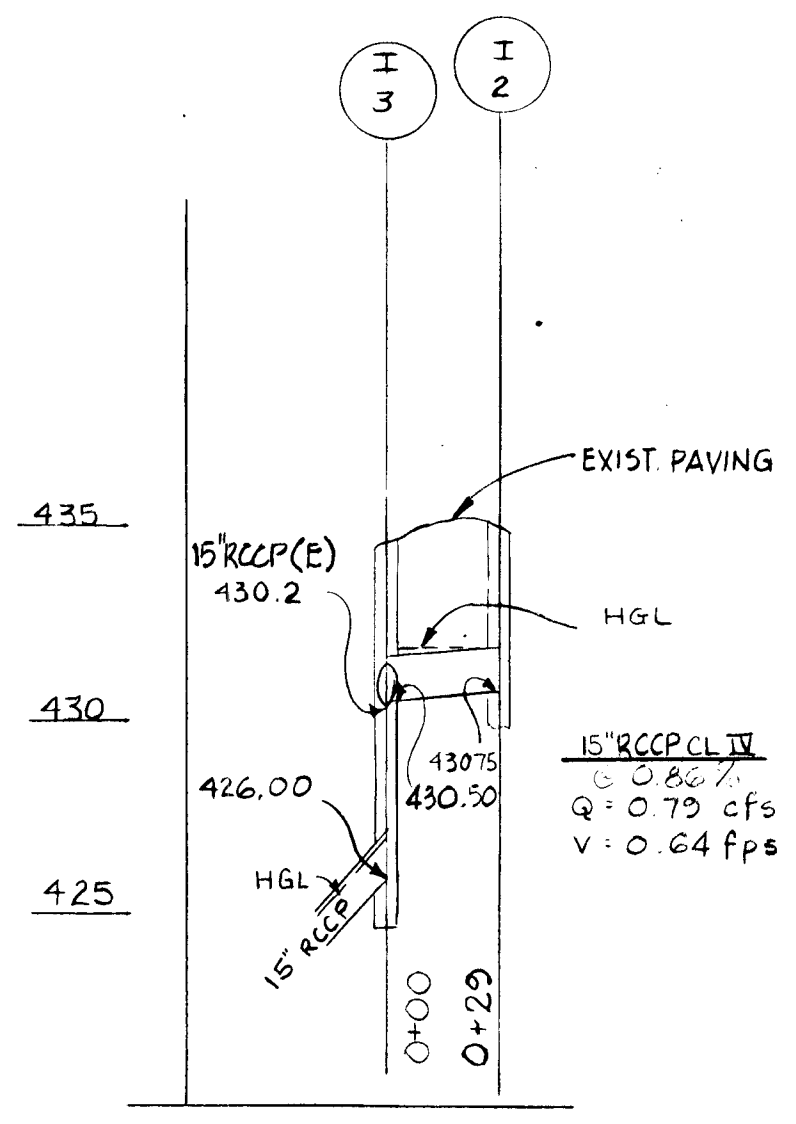
**INLET I-2**  
Remove Bitum paving in a 15' radius surrounding I-2. Construct new paving to provide positive drainage to the inlet.

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

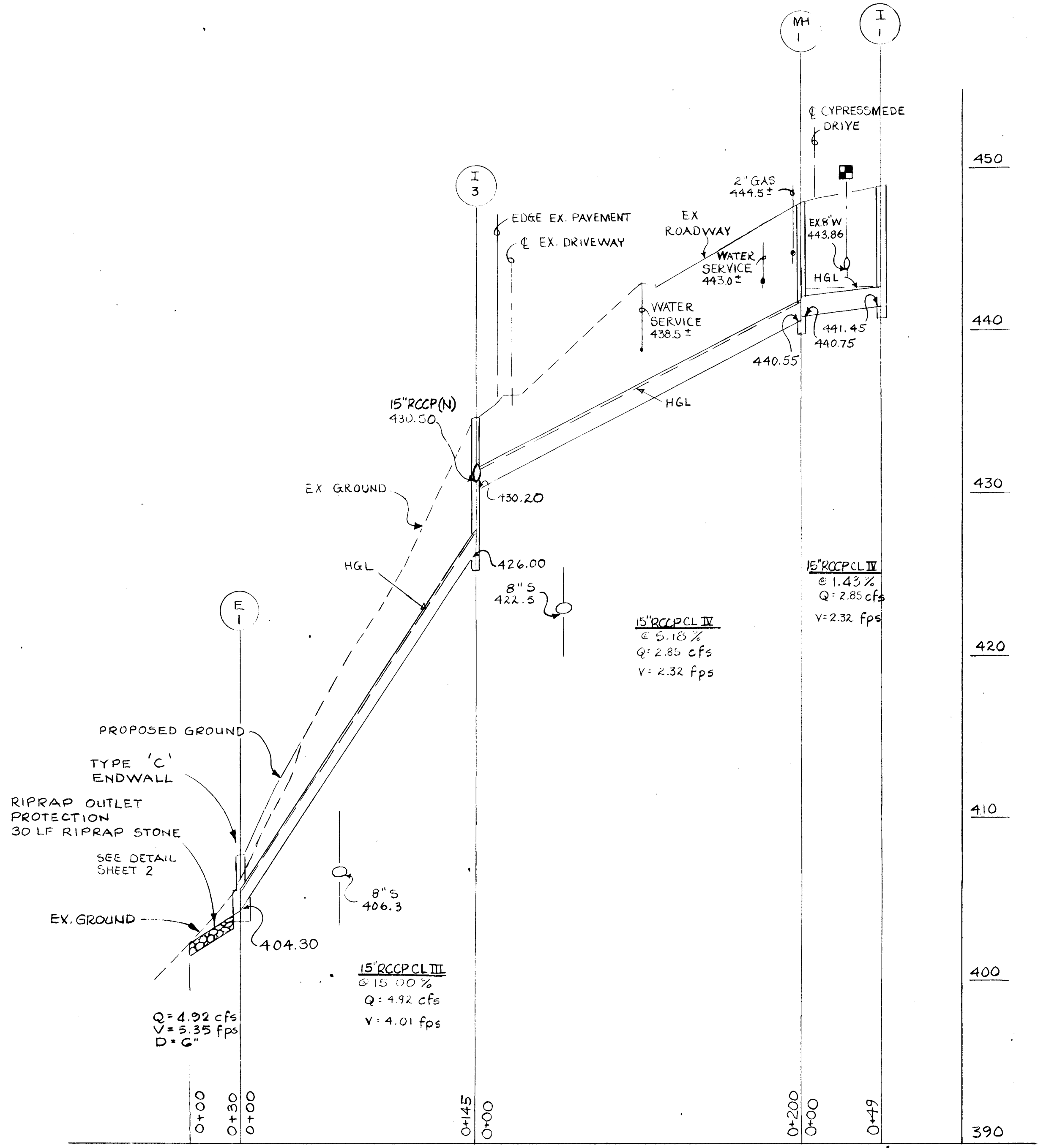
**PLAN**  
Scale: 1" = 50'



**CONTROL ELEVATION**



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



**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

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. Relocated E-1, Lowered Inv. Out at I-3 12-6-85  
REVISION DATE

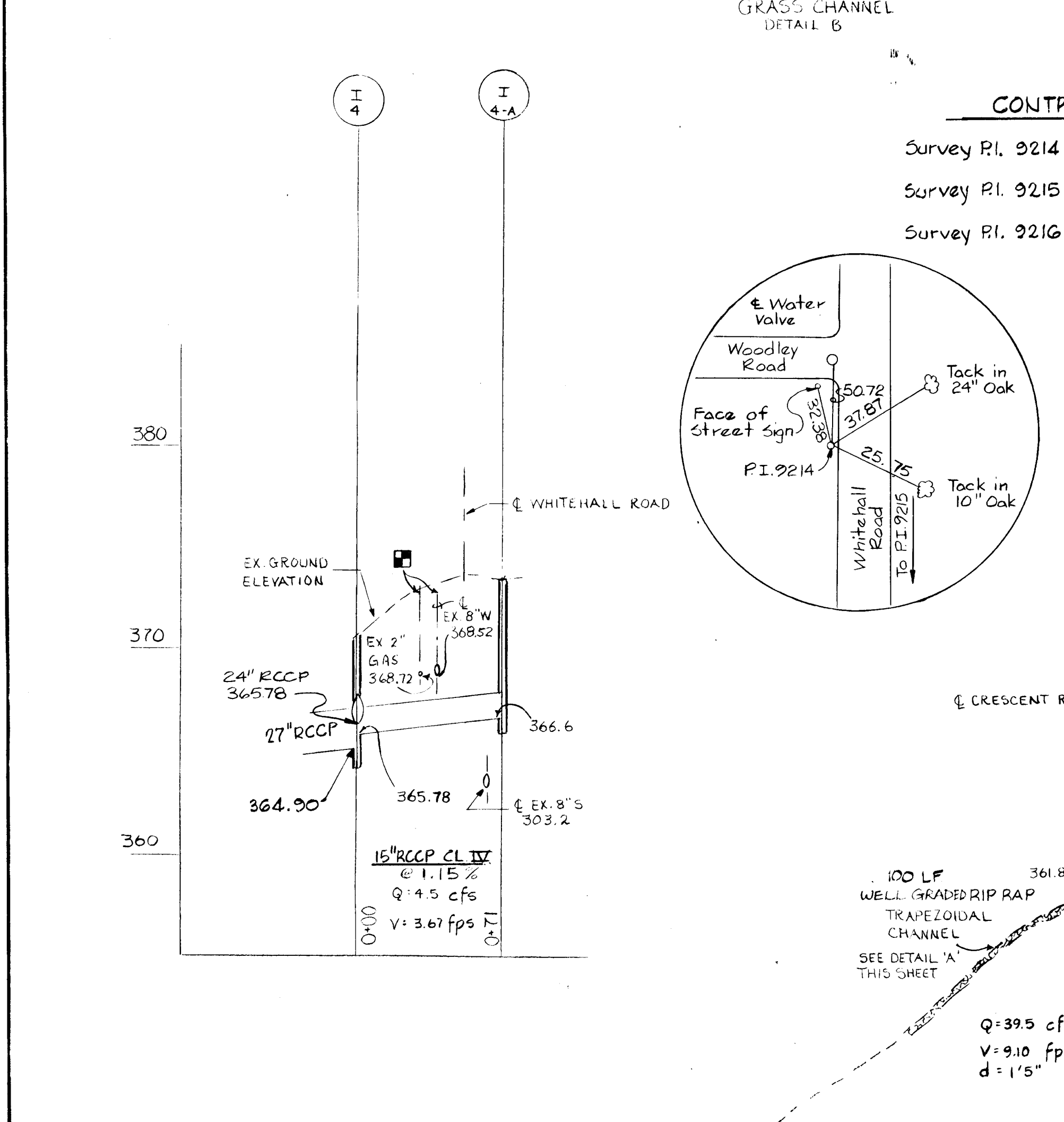
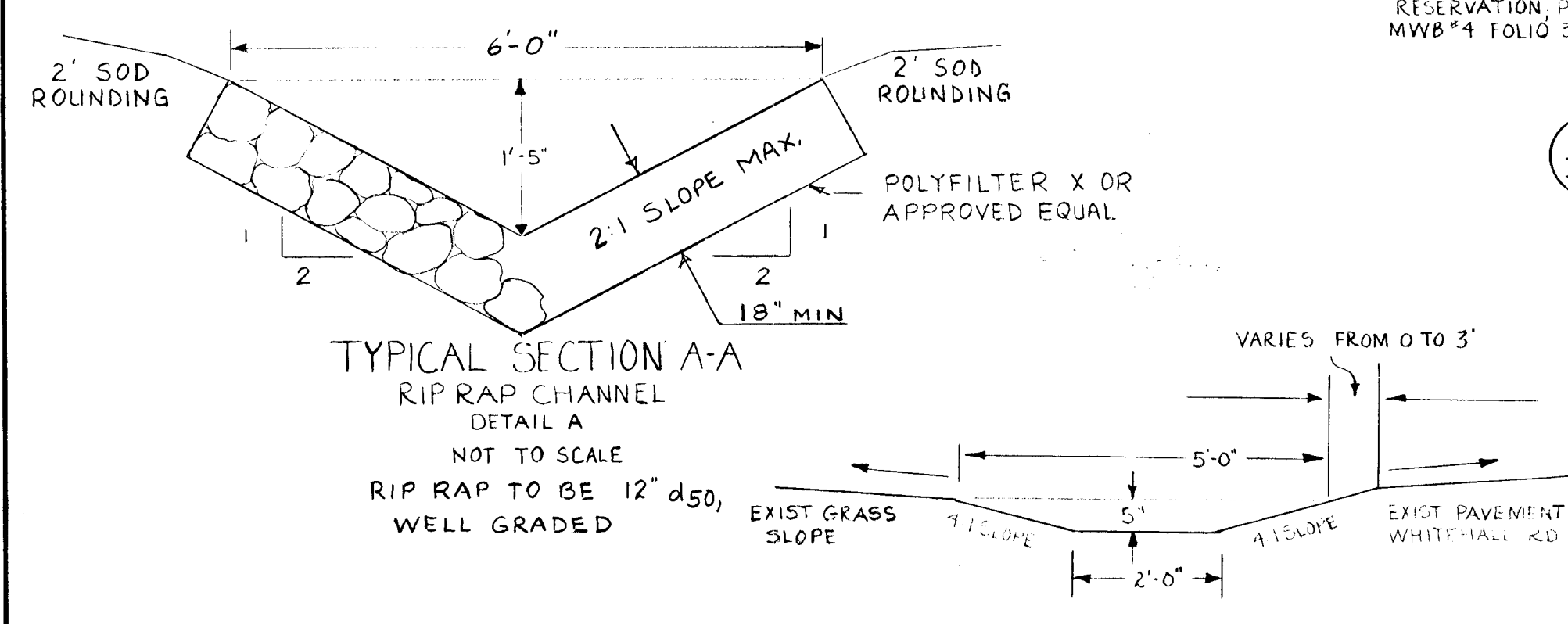
PLUMTREE  
CAPITAL PROJECT D-1067  
600' SCALE MAP NO. 17

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

SCALE AS SHOWN  
SHEET 4 OF 5

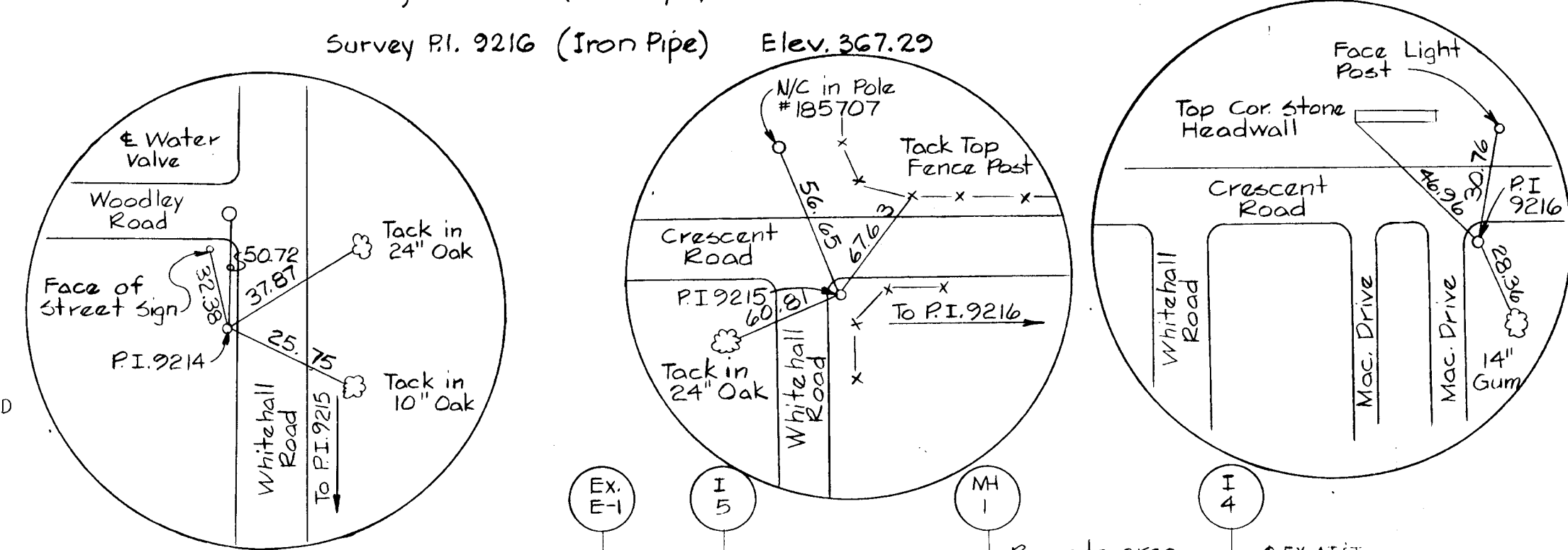


STRUCTURE SCHEDULE						
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TO ELEV.	REMARKS
I-1	STD "D"	Sta. 10+34.04, 2811	279.13	284.30		How Co. Std. SD 4.11
I-2	"	Sta. 3+82.50, 18.5RT	376.94	376.71	380.45	"
I-3	"	Sta. 7+68.04, 4311	374.30	382.10	377.33	"
I-4	"	Sta. 5+10.04, 3711	365.78	364.90	370.00	"
I-4A	"	Sta. 5+01.94, 33RT	366.60	365.50		"
I-5	"	Sta. 2+63.94, 651T	362.61	362.59	366.66	"
MH-1	Shallow Brick	Sta. 3+67.29, 1711	364.00	363.50	368.50	How Co. Std. G 5.05

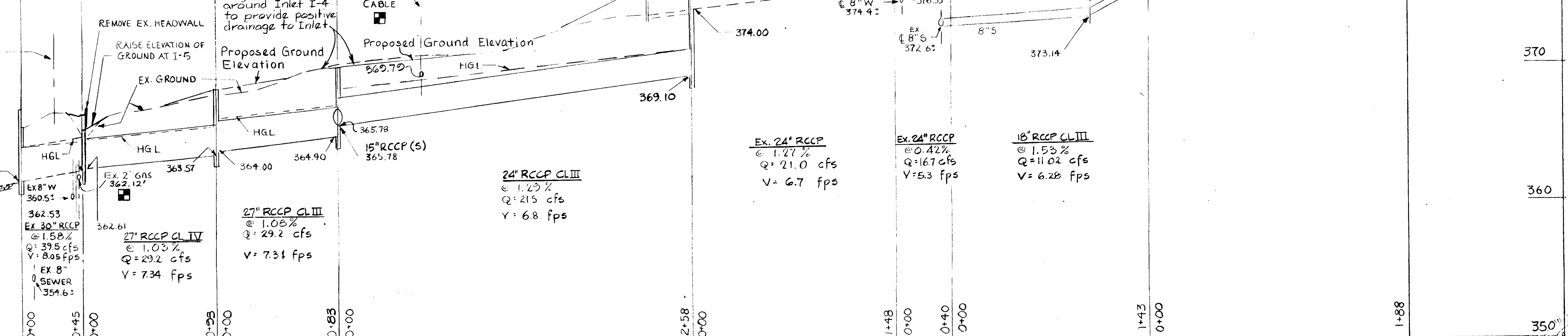


**CONTROL ELEVATIONS**

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



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



**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