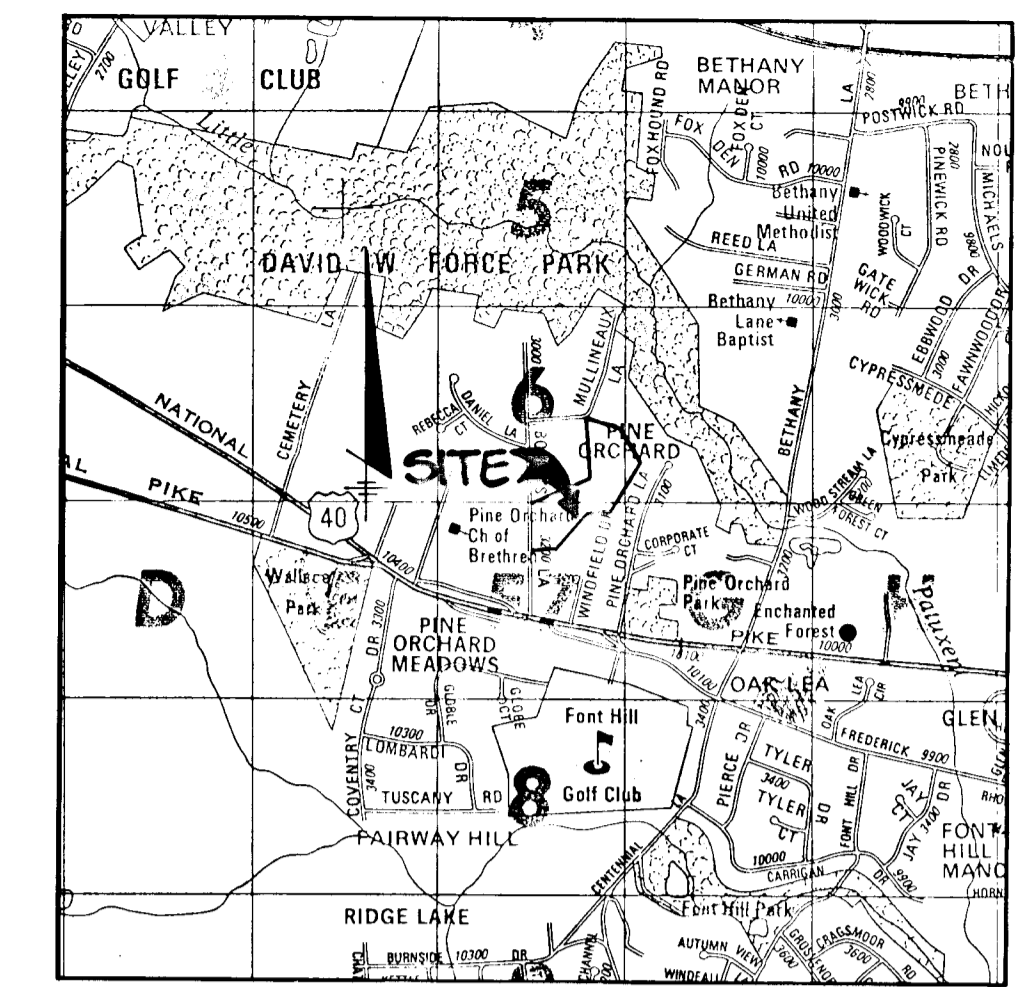


SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE OF BOONES LANE
3	PLAN AND PROFILE OF PINE BLUFFS DRIVE
4	DRAINAGE AREA MAP
5	SEDIMENT CONTROL AND GRADING PLAN
6	SEDIMENT CONTROL AND GRADING PLAN
7	PROFILES
8	DETAILS
9	STORM WATER MANAGEMENT AND SEDIMENT CONTROL DETAILS
10	PLAN AND PROFILE OF MULLINEAUX LANE

# ROADS, STORM DRAINS & STORMWATER MANAGEMENT

## THE BLUFFS AT PINE ORCHARD

### 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP  
SCALE 1"=2000'

#### 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, 1987 AMENDMENTS.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE 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 ON 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	393-3669
LONG DISTANCE CABLE DIVISION	393-3553 or 3554
BALTIMORE GAS AND ELECTRIC CO.	539-8000, ext. 691
HOWARD COUNTY BUREAU OF UTILITIES	992-2366
HOWARD COUNTY CONSTRUCTION/INSPECTION SURVEY DIVISION (24 HOURS NOTICE PRIOR TO COMMENCEMENT OF WORK)	792-7272
COLONIAL PIPELINE	795-1390
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 35.0' 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, 1984 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 G.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 R-20 PER COMPREHENSIVE ZONING PLAN.
- TOPO TAKEN FROM FIELD RUN SURVEY DATED MAY 1988 BY RIEMER MUEGGE & ASSOCIATES
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- SEE OFFICE OF PLANNING AND ZONING FILE Nos. 5-88-90, P-89-14, WP-88-122
- WP-88-122 IS A WAIVER FOR EXCEEDING THE ALLOWABLE 1200 FEET LENGTH FOR A CUL-DE-SAC STREET.

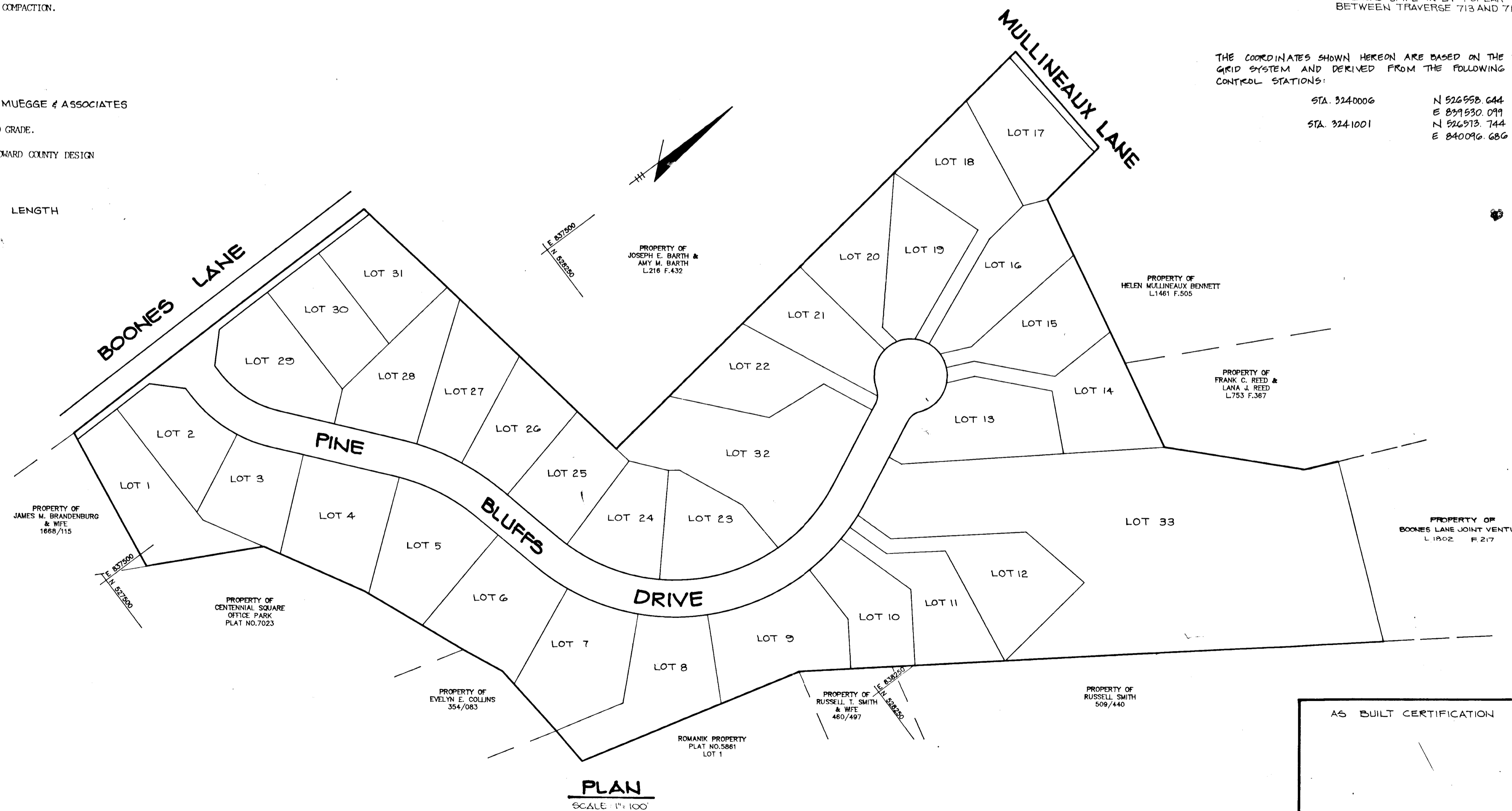
#### BENCH MARKS

BM #1 ELEV. 373.48  
RAILROAD SPIKE IN 14" POPLAR TREE BETWEEN TRAVERSE 713 AND 714

BM #2 ELEV. 373.69  
RAILROAD SPIKE IN 24" POPLAR TREE BETWEEN TRAVERSE 713 AND 714

THE COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE GRID SYSTEM AND DERIVED FROM THE FOLLOWING HOWARD COUNTY CONTROL STATIONS:

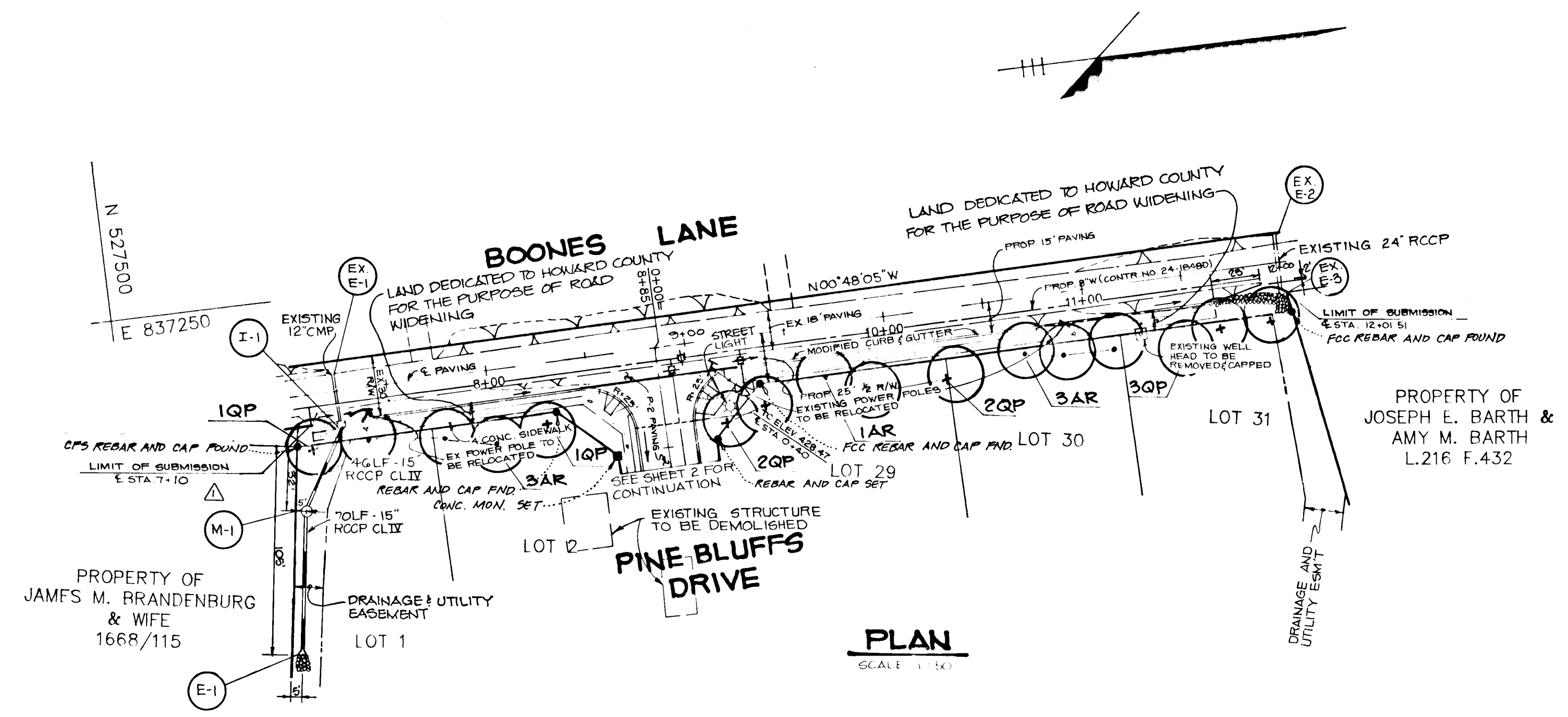
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	E 899830.099
STA. 3241001	N 926913.744
	E 840096.686



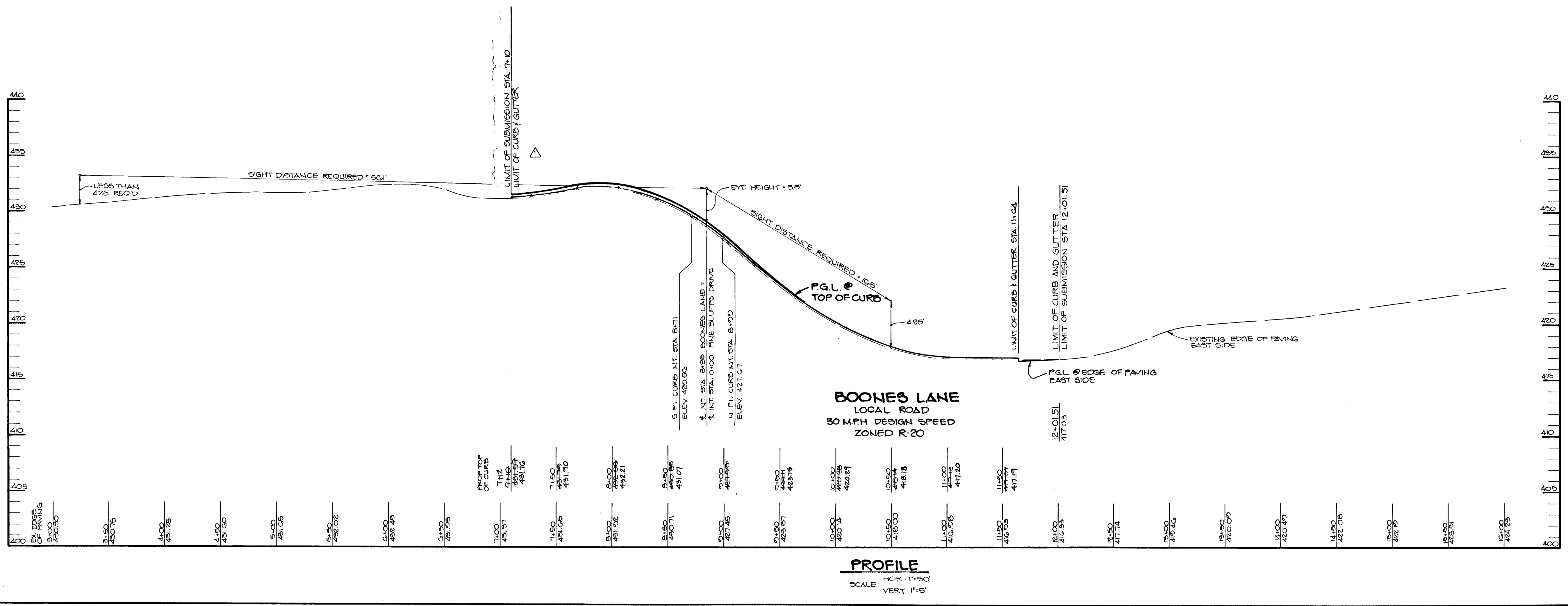
AS BUILT CERTIFICATION

ENGINEER \_\_\_\_\_  
PE # \_\_\_\_\_  
DATE \_\_\_\_\_

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	
<i>Frank V. J. Cangelosi</i>	9/3/90 DATE
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	
<i>Paul J. O'Leary</i>	1/25/90 DATE
CHIEF, LAND DEVELOPMENT DIVISION	
<i>Francis W. Welland</i>	1/24/90 DATE
CHIEF, BUREAU OF HIGHWAYS	
<i>William S. Roy</i>	1-26-90 DATE
CHIEF, BUREAU OF ENGINEERING	
DATE	NO. REVISION
OWNER/DEVELOPER	
BOONES LANE JOINT VENTURE 8707 MAIN STREET ELlicOTT CITY, MARYLAND 21043	
PROJECT	
THE BLUFFS AT PINE ORCHARD	
AREA TAX MAP 17424 ZONE R-20 PARCEL G 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
TITLE SHEET	
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	
5-15-89 DATE	5-88-90, P-89-14, WP-88-122
DESIGNED BY: D.A.M.	
DRAWN BY: G.D.H.	
PROJECT NO: 8104	
DATE: MAY 15, 1989	
SCALE: AS SHOWN	
DRAWING NO. 1 OF 10	



QTY	KEY	PLANT LIST	NAME	SIZE
52	AR	●	ACER RUBRUM 'OCTOBER GLORY' 'October Glory Red Maple	2-2 1/2" Cal. Full Crown B & B
31	QP	+	QUERCUS PALAISTRIS Pin Oak	2-2 1/2" Cal. Full Crown B & B



AS-BUILT CERTIFICATION

ENGINEER \_\_\_\_\_  
PE # \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Danish J. DeCayle* 2/15/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul H. Mason* 1/25/90  
CHIEF, LAND DEVELOPMENT DIVISION

*Granville W. Winkland* 1/24/90  
CHIEF, BUREAU OF HIGHWAYS

*William B. Reay* 1-26-90  
CHIEF, BUREAU OF ENGINEERING

11-2-00	Δ	REVISE LIMIT OF SUBMISSION
DATE	NO	REVISION

OWNER/DEVELOPER  
BOONES LANE JOINT VENTURE  
8307 MAIN STREET  
ELLCOTT CITY, MARYLAND 21043

PROJECT:  
**THE BLUFFS AT PINE ORCHARD**

AREA TAX MAP 11E 84 ZONE R-20 PARCEL G  
2ND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE:  
**PLAN AND PROFILE OF BOONES LANE**

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: 2/15/90  
DESIGNED BY: D.A.M.  
DRAWN BY: M.A.D.  
PROJECT NO: 51104  
DATE: MAY 15, 1989  
SCALE: AS SHOWN  
DRAWING NO. 2 OF 10

DATE: 5-88-90 P. 80-14  
WF 88-122  
ARTHUR E. MUEGGE # 81071

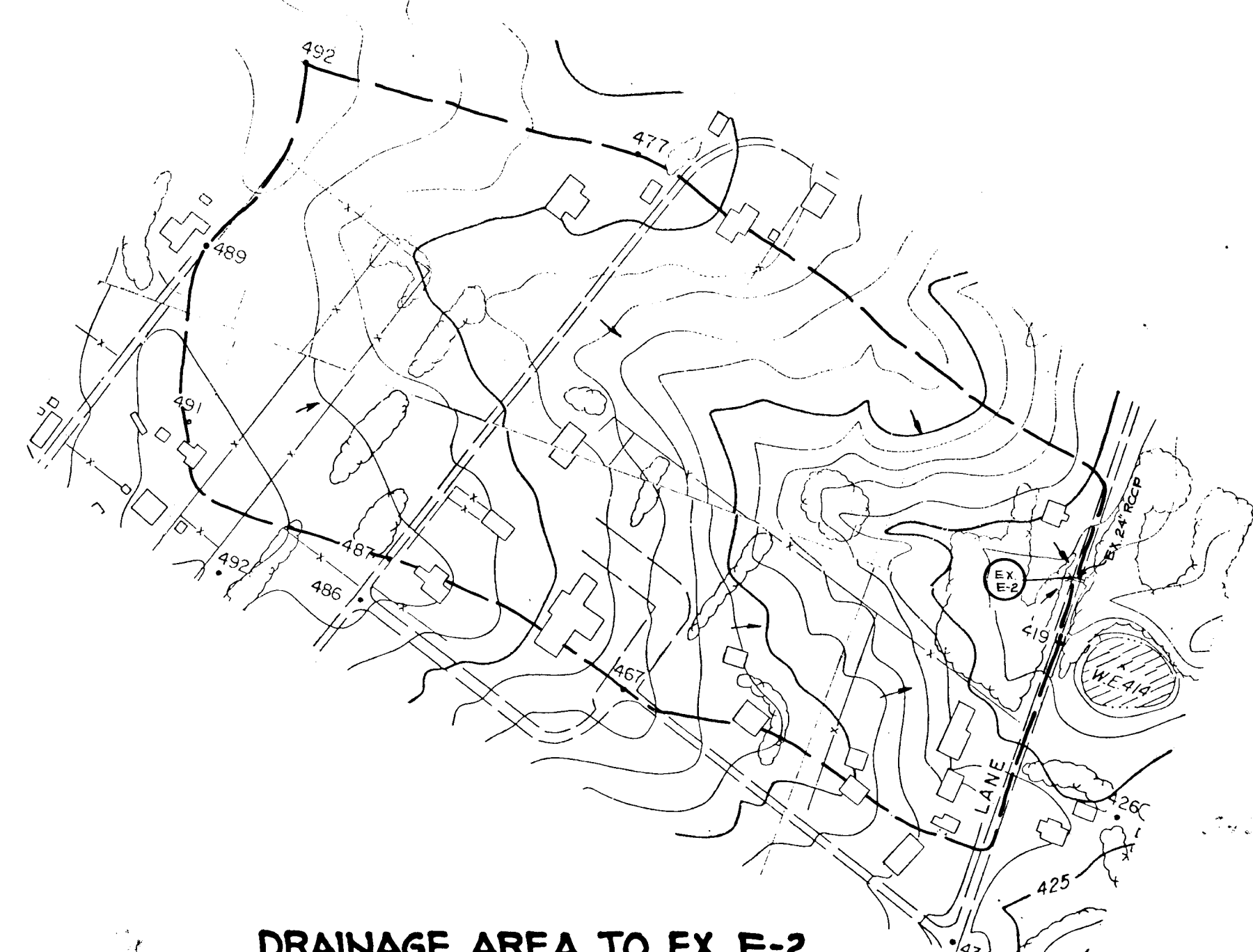
1536



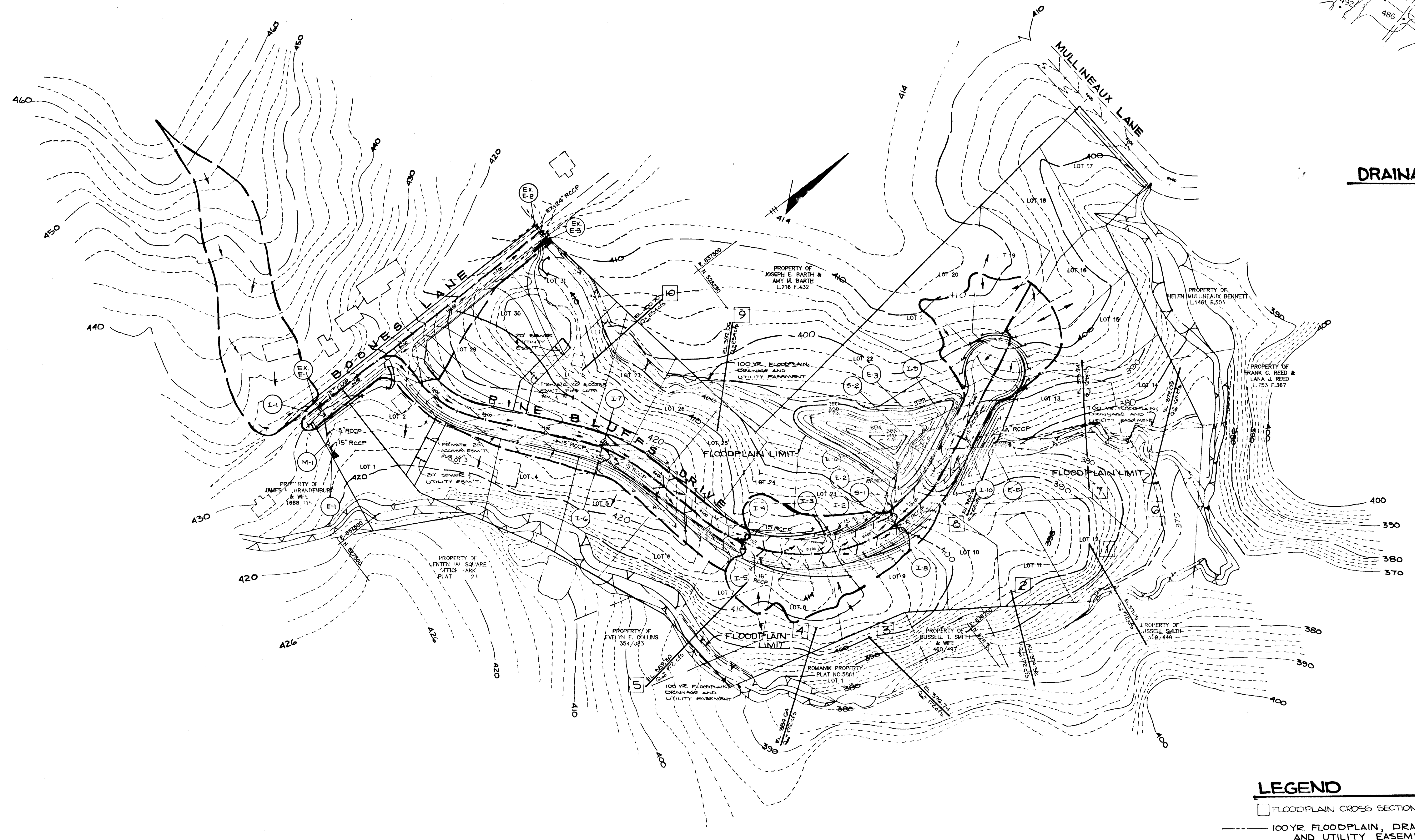
DRAINAGE AREA CHART				
STRUCTURE	D. A.	% IMP	C	ZONING
I-1	0.049 Ac.	76	0.69	R-20
I-2	0.126 Ac.	51	0.55	R-20
I-3	0.236 Ac.	44	0.50	R-20
I-4	0.171 Ac.	65	0.64	R-20
I-5	0.264 Ac.	62	0.62	R-20
I-6	0.326 Ac.	73	0.66	R-20
I-7	0.203 Ac.	72	0.64	R-20
I-8	0.592 Ac.	47	0.50	R-20
I-9	0.581 Ac.	44	0.51	R-20
I-10	0.439 Ac.	51	0.53	R-20
EX-E-1	1.079 Ac.	19	0.30	R-20
EX-E-2	21.488 Ac.	2	0.24	R-20

**STRUCTURE SCHEDULE**

NO.	TYPE	LOCATION	INVERT IN	INVERT OUT	TOP OF CURB OR RM ELEV.	REMARKS	M-1	M-2	M-3	M-4	M-5	M-6
I-1	A-5 Inlet	15' RT of C/L STA 4+00 Boones Lane	428.67	425.45	431.74	Ho. Co. Std. Detail SD-4.01	421.56	421.53	425.05	365.90	394.94	Ho. Co. Std. Detail G-5.12
I-2	A-10 Inlet	14' LT of C/L STA 4+00 Pine Bluffs Drive	391.00	391.75	396.50	Ho. Co. Std. Detail SD-4.02	389.80	380.54	386.84			See Sheet 8
I-3	A-10 Inlet w/Def	14' LT of C/L STA 8+28 Pine Bluffs Drive	399.85	399.75	403.66	Ho. Co. Std. Detail SD-4.02 & SD-4.83				442.40		Ho. Co. Std. Detail SD-5.51
I-4	A-5 Inlet w/Def	14' RT of C/L STA 6+82 Pine Bluffs Drive	405.17	405.16	412.64	Ho. Co. Std. Detail SD-4.01 & SD-4.83						Ho. Co. Std. Detail SD-5.51
I-5	A-10 Inlet w/Def	14' RT of C/L STA 6+82 Pine Bluffs Drive	405.62	405.44	412.75	Ho. Co. Std. Detail SD-4.02 & SD-4.83						Ho. Co. Std. Detail SD-5.51
I-6	A-10 Inlet	14' RT of C/L STA 4+00 Pine Bluffs Drive	418.46	418.09	422.52	Ho. Co. Std. Detail SD-4.02						Ho. Co. Std. Detail SD-5.51
I-7	A-5 Inlet w/Def	14' LT of C/L STA 4+00 Pine Bluffs Drive		418.91	422.53	Ho. Co. Std. Detail SD-4.01 & SD-4.83						Ho. Co. Std. Detail SD-5.51
I-8	A-10 Inlet w/Def	14' LT of C/L STA 9+51 Pine Bluffs Drive		392.41	396.27	Ho. Co. Std. Detail SD-4.02 & SD-4.83	381.00					Ho. Co. Std. Detail SD-5.51
I-9	Water Quality Control Inlet 5' Throat	14' LT of C/L STA 11+33.12 Pine Bluffs Drive	387.65	384.47	391.75	See Sheet 8						
I-10	A-5 Inlet	14' RT of C/L STA 11+33.12 Pine Bluffs Drive		388.95	392.08	Ho. Co. Std. Detail SD-4.01						



**DRAINAGE AREA TO EX. E-2**  
SCALE: 1"=200'



**PLAN**  
SCALE: 1"=100'

- LEGEND**
- FLOODPLAIN CROSS SECTION
  - 100 YR. FLOODPLAIN, DRAINAGE AND UTILITY EASEMENT
  - FLOODPLAIN LIMIT

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Mark J. J. [Signature]* 2/9/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul Wagon* 1/25/90  
 CHIEF, LAND DEVELOPMENT DIVISION

*Araville W. Weiland* 1/24/90  
 CHIEF, BUREAU OF HIGHWAYS

*Richard S. P. [Signature]* 1-26-90  
 CHIEF, BUREAU OF ENGINEERING

OWNER/DEVELOPER  
 BOONES LANE JOINT VENTURE  
 8307 MAIN STREET  
 ELLICOTT CITY, MARYLAND 21043

PROJECT  
**THE BLUFFS AT PINE ORCHARD**  
 AREA TAX MAP 17424 ZONE R-20 PARCEL G  
 2nd ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE:  
**DRAINAGE AREA MAP**

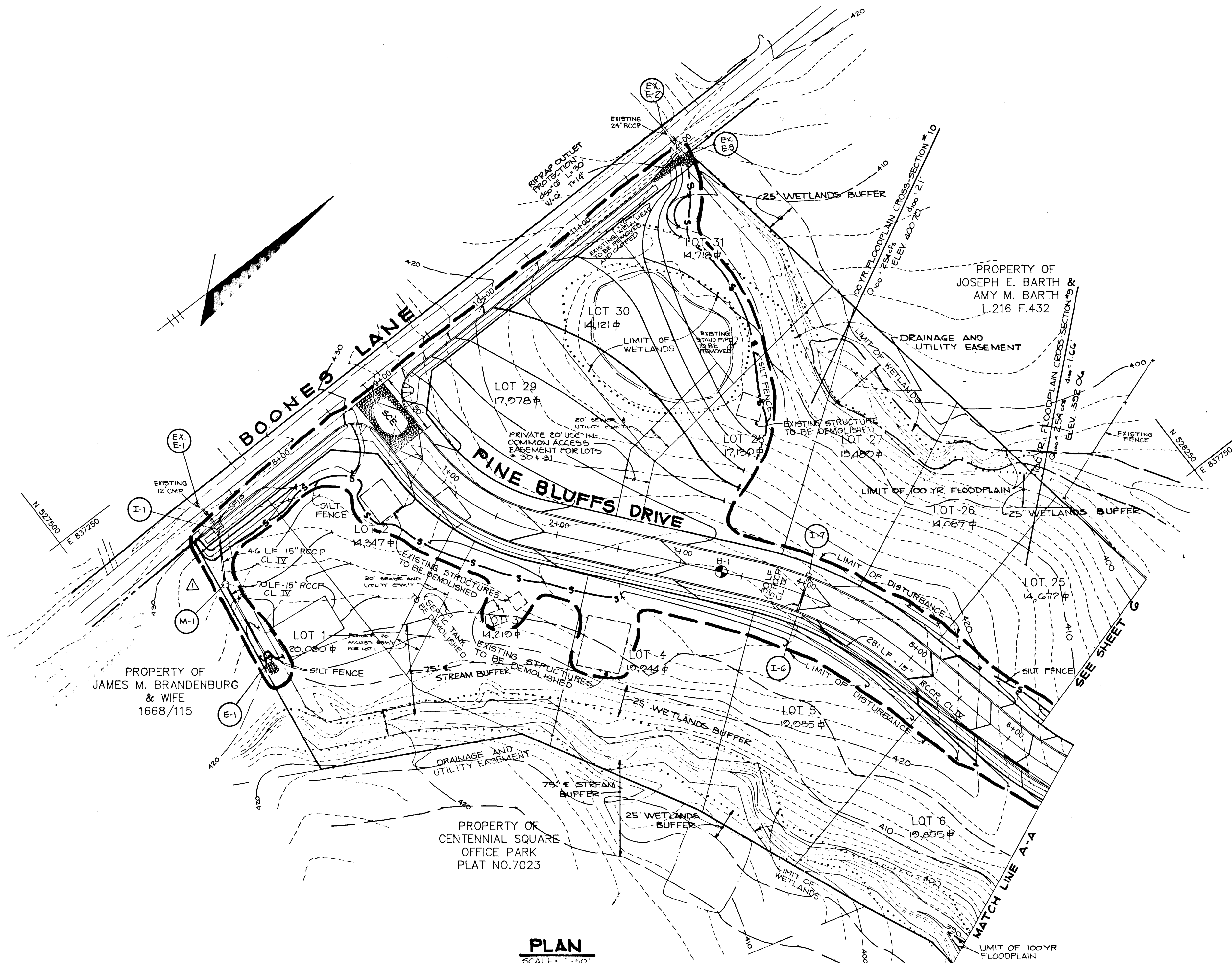
RIEMER MUEGGE & ASSOCIATES, INC.  
 A Land Planning, Engineering and Consulting Firm  
 3105 North Ridge Road Ellicott City, Maryland 21043  
 301-461-2690 FAX: 301-750-3176

AS BUILT CERTIFICATION  
 ENGINEER: \_\_\_\_\_  
 PE # \_\_\_\_\_ DATE \_\_\_\_\_

DESIGNED BY: D.A.M.  
 DRAWN BY: G.D.H.  
 PROJECT NO: 51104  
 DATE: MAY 15, 1989  
 SCALE: AS SHOWN  
 DRAWING NO: 4 OF 10

1536

MARYLAND BLUEPRINT CO. INC. 100007



**PLAN**  
SCALE: 1" = 60'

NOTE: CONCEPT GRADING SHOWN FOR LOTS ABOVE 20,000 SQ. FT. ARE NOT UNDER THIS CONTRACT.

BY THE DEVELOPER:  
 "I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*Christine A. Richards* 9-26-89  
 DEVELOPER DATE

BY THE ENGINEER:  
 "I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."  
*Arthur E. Muegge* 5-15-89  
 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
*James M. Helm* 10/9/89  
 SOIL CONSERVATION DISTRICT DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 APPROVED: *Robert W. Ziehn* 10/9/89  
 HOWARD COUNTY DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Paul J. Cayle* 2/5/90  
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul J. Cayle* 1/25/90  
 CHIEF, LAND DEVELOPMENT DIVISION DATE

*Francisco W. Walscheid* 1/24/90  
 CHIEF, BUREAU OF HIGHWAYS DATE

*William E. Roney* 1-26-90  
 CHIEF, BUREAU OF ENGINEERING DATE

OWNER/DEVELOPER:  
 BOONES LANE JOINT VENTURE  
 8307 MAIN STREET  
 ELLICOTT CITY, MARYLAND 21043

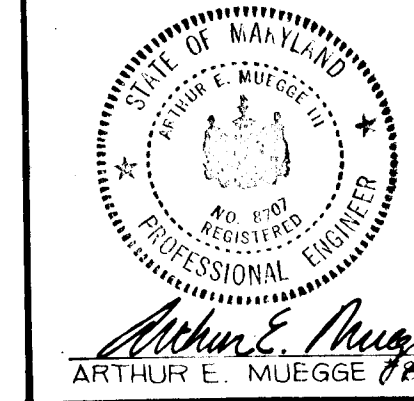
PROJECT:  
**THE BLUFFS AT PINE ORCHARD**

AREA TAX MAP 17424 ZONED-R PARCEL 6  
 2<sup>ND</sup> ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

TITLE:  
**SEDIMENT CONTROL AND GRADING PLAN**

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

5-15-89 DATE	5-88-90 WP-88-122 DESIGNED BY: D.A.M.
	DRAWN BY: G.D.H.
	PROJECT NO: 51104
	DATE: MAY 15, 1989
	SCALE: AS SHOWN
	DRAWING NO. 5 OF 10

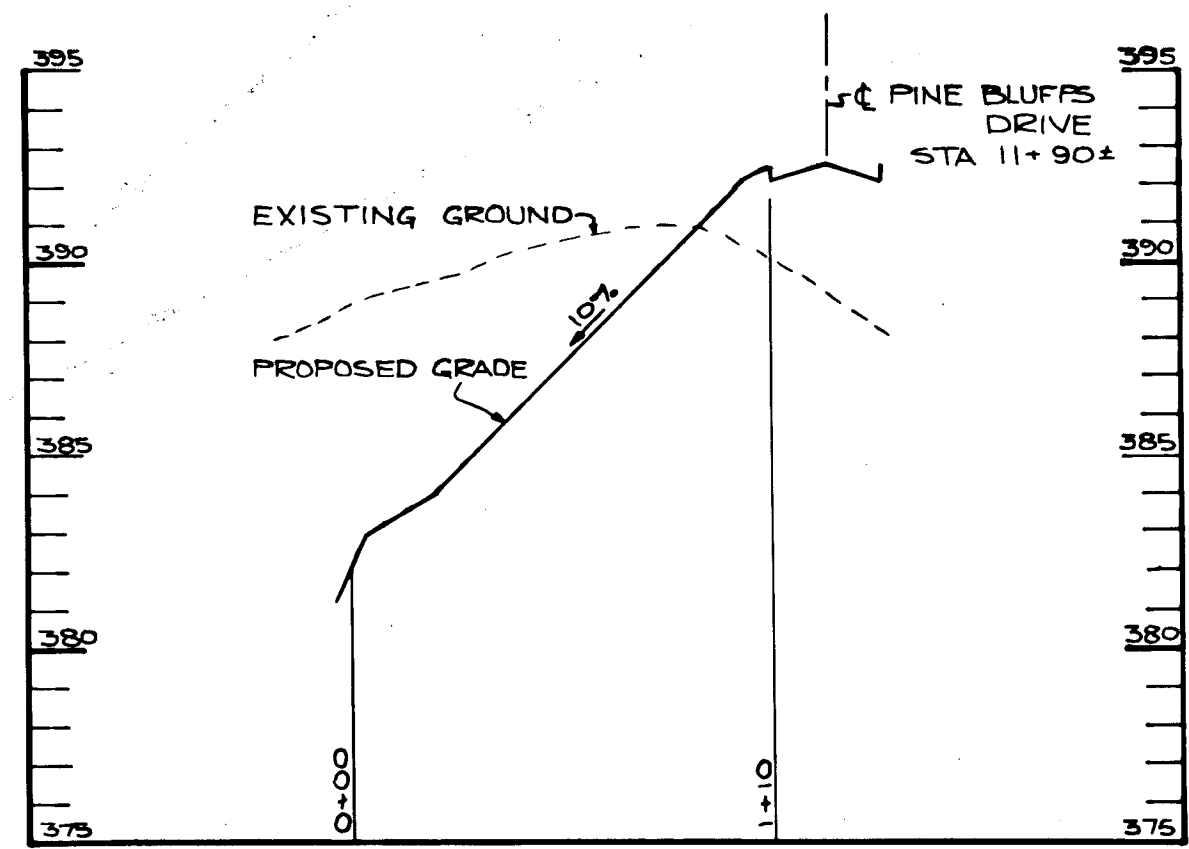


AS-BUILT CERTIFICATION

ENGINEER \_\_\_\_\_  
 P.E. # \_\_\_\_\_ DATE \_\_\_\_\_

1536

MARYLAND BLUEPRINT CO. INC. 702007



**PROFILE OF ACCESS TO SWMF**

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

**GRADING CONTOUR DIMENSION**  
NO SCALE

**SEDIMENT BASIN #1**

DRAINAGE AREA	42.52 Acres
STORAGE REQUIRED	76536 cu yds.
STORAGE PROVIDED	3037 cu yds.
BOTTOM ELEVATION	384.0
CREST ELEVATION	390.0
CLEANOUT ELEVATION	386.0

NOTE: CONCEPT GRADING SHOWN FOR LOTS ABOVE 20,000 SQ. FT. ARE NOT UNDER THIS CONTRACT.

**SEQUENCE OF CONSTRUCTION**

1. Obtain Grading Permit. Army Corps, MD 201 and 404 Wetlands Permits must be obtained prior to any site grading.
2. OBTAIN LETTER OF PROVISION FOR OFF-SITE GRADING FROM ADJOINING PROPERTY OWNERS.
3. Install stabilized construction entrance----- (1 day)
4. Grade for and install sediment basin. Install control structure and temporary dewatering device. GRADE BASIN TO BOTTOM ELEVATION 384.0 ----- (1 week)
5. Install silt fence and earth dike----- (2 days)
6. Perform widening of Boones Lane. Contractor must maintain one lane of traffic at all times during construction----- (3 weeks)
7. Perform clearing to allow for onsite road grading----- (1 week)
8. Perform grading and install all utilities. Install stone filter inlet protection as necessary----- (3 weeks)
9. Stabilize all disturbed areas in accordance with temporary seeding notes----- (2 days)
10. Complete construction activities including curb and gutter, paving and sidewalk----- (2 weeks)
11. Install street trees, street lights and stabilize all disturbed areas in accordance with the permanent seeding notes----- (1 week)
12. Upon approval of the Howard County Department of Public Works Sediment Control Inspector remove all sediment controls and convert sediment basin to storm water management facility as follows:
  - a) Flush storm drain systems----- (1/2 day)
  - b) Pump out impounded water----- (1 day)
  - c) Remove sediment and place as directed by the Howard County Department of Public Works Sediment Control Inspector AND ASSESS SOIL TO CONTROLS AS SHOWN ON SHEET A OF 3 ----- (1/2 day)
  - d) REPLACE DEWATERING DEVICE WITH THE 24" REVERSE SQUARE PIPE. SEE SERIAL DE 5-2 FOR METHOD OF CONNECTION OF 24" PIPE TO STRUCTURE ----- (1 1/2 day)
  - e) STABILIZE THE REMAINING DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES ----- (1/2 day)

**BY THE DEVELOPER:**

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Christine A. Richards* 9-26-89  
DEVELOPER DATE

**BY THE ENGINEER:**

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

*Arthur E. Muegge* 5-15-89  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

*James M. Helm* 10/19/89  
S.O.C. SOIL CONSERVATION DISTRICT DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED *Robert W. Zehm* 10/19/89  
HOWARD S.O.C. DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Mark S. Ziegler* 2/5/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE JB

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Paul J. Jagan* 1/25/90  
CHIEF, LAND DEVELOPMENT DIVISION DATE

*Franklin W. Waldland* 1/24/90  
CHIEF, BUREAU OF HIGHWAYS DATE

*William S. Rong* 1-26-90  
CHIEF, BUREAU OF ENGINEERING DATE

**STONE OUTLET SEDIMENT TRAP #2**

DRAINAGE AREA	0.14 Ac.
STORAGE REQUIRED	250 CF
STORAGE PROVIDED	424 CF
BOTTOM ELEVATION	378.0
BOTTOM DIMENSION	20' x 5'
CREST ELEVATION	381.0
CLEANOUT ELEVATION	379.5
CREST WIDTH	5

NOTE: THE WETLANDS MITIGATION AREA IS LOCATED WITHIN THE SWMF, DRAINAGE, 100 YR FLOODPLAIN AND UTILITY EASEMENT.

- LEGEND**
- - - - - LIMIT OF DISTURBANCE
  - - - - - EARTH DIKE
  - - - - - SILT FENCE

**STONE OUTLET SEDIMENT TRAP #1**

DRAINAGE AREA	0.75 Ac.
STORAGE REQUIRED	1350 CF
STORAGE PROVIDED	1550 CF
BOTTOM ELEVATION	378.0
BOTTOM DIMENSION	28' x 20'
CREST ELEVATION	381.0
CLEANOUT ELEVATION	379.5
CREST WIDTH	5

NOTE: SEDIMENT TRAP CONTOURS ARE TEMPORARY

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

1536

**THE BLUFFS AT PINE ORCHARD**

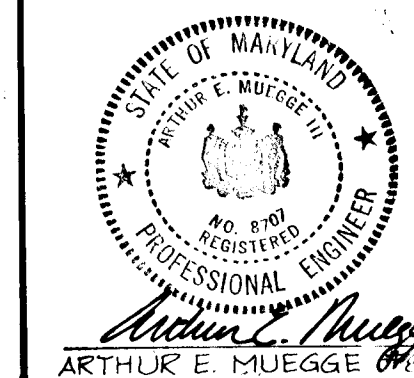
AREA: TAX MAP 17 & 24 ZONE R-20 PARCEL G  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

**SEDIMENT CONTROL AND GRADING PLAN**

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

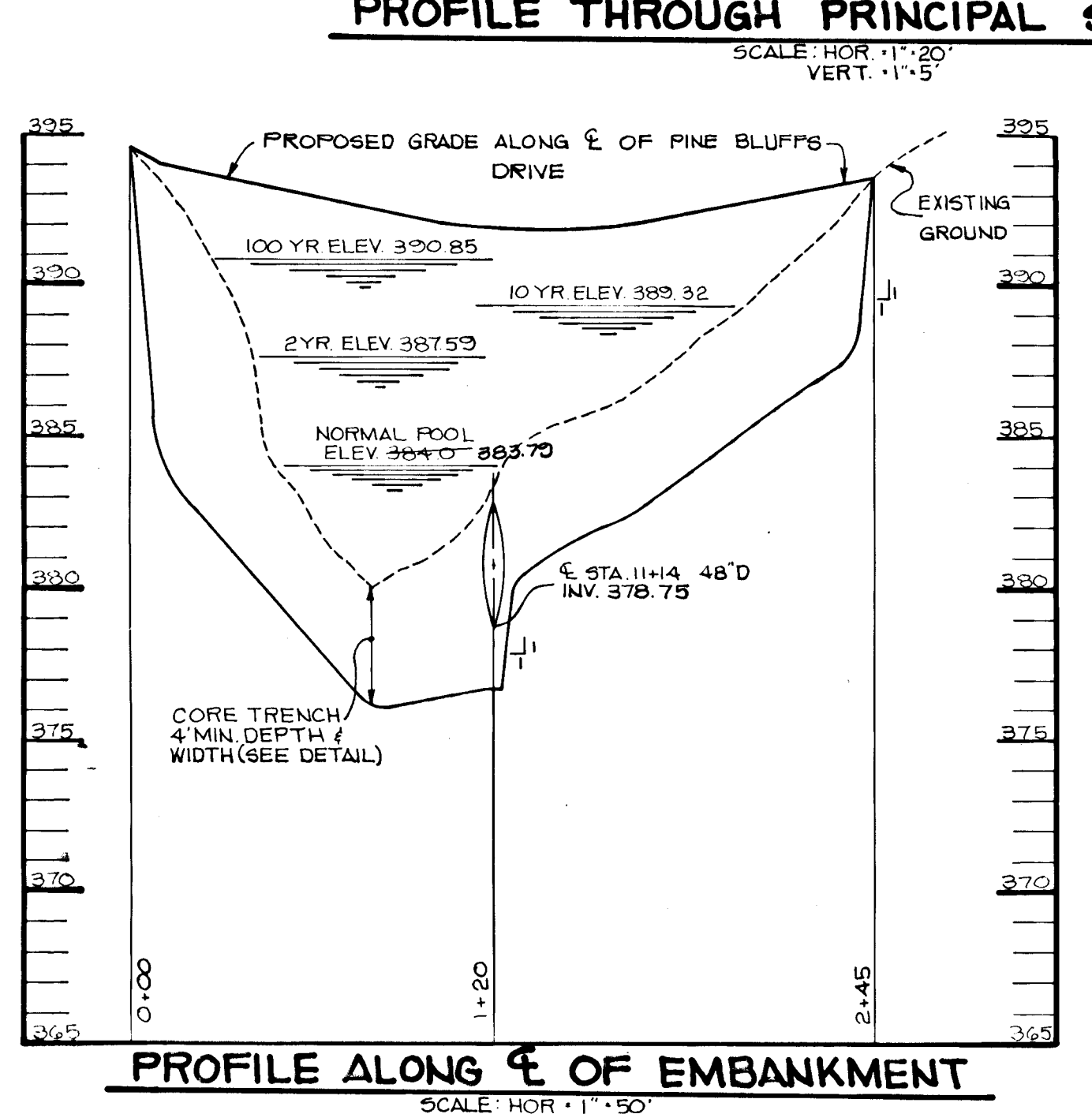
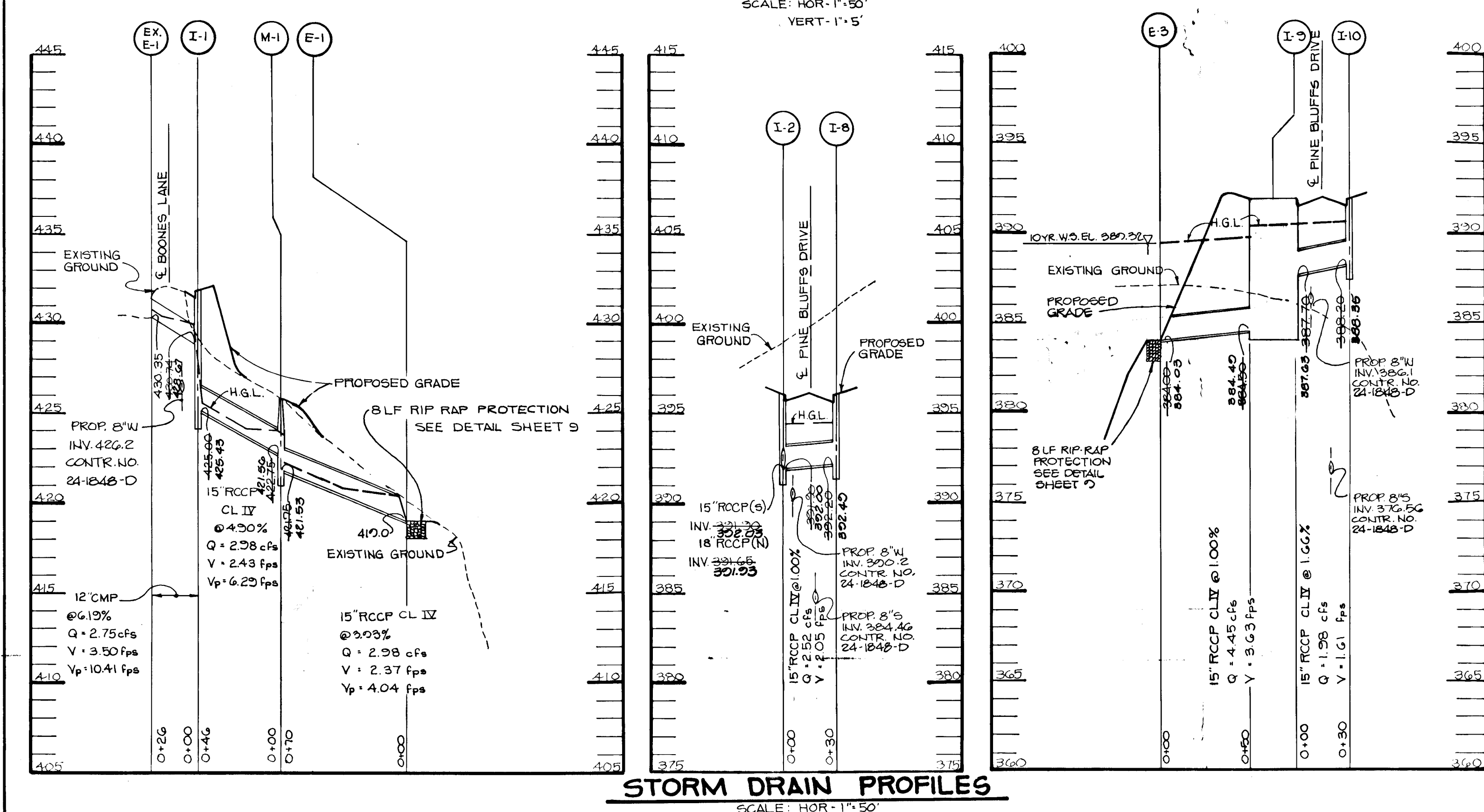
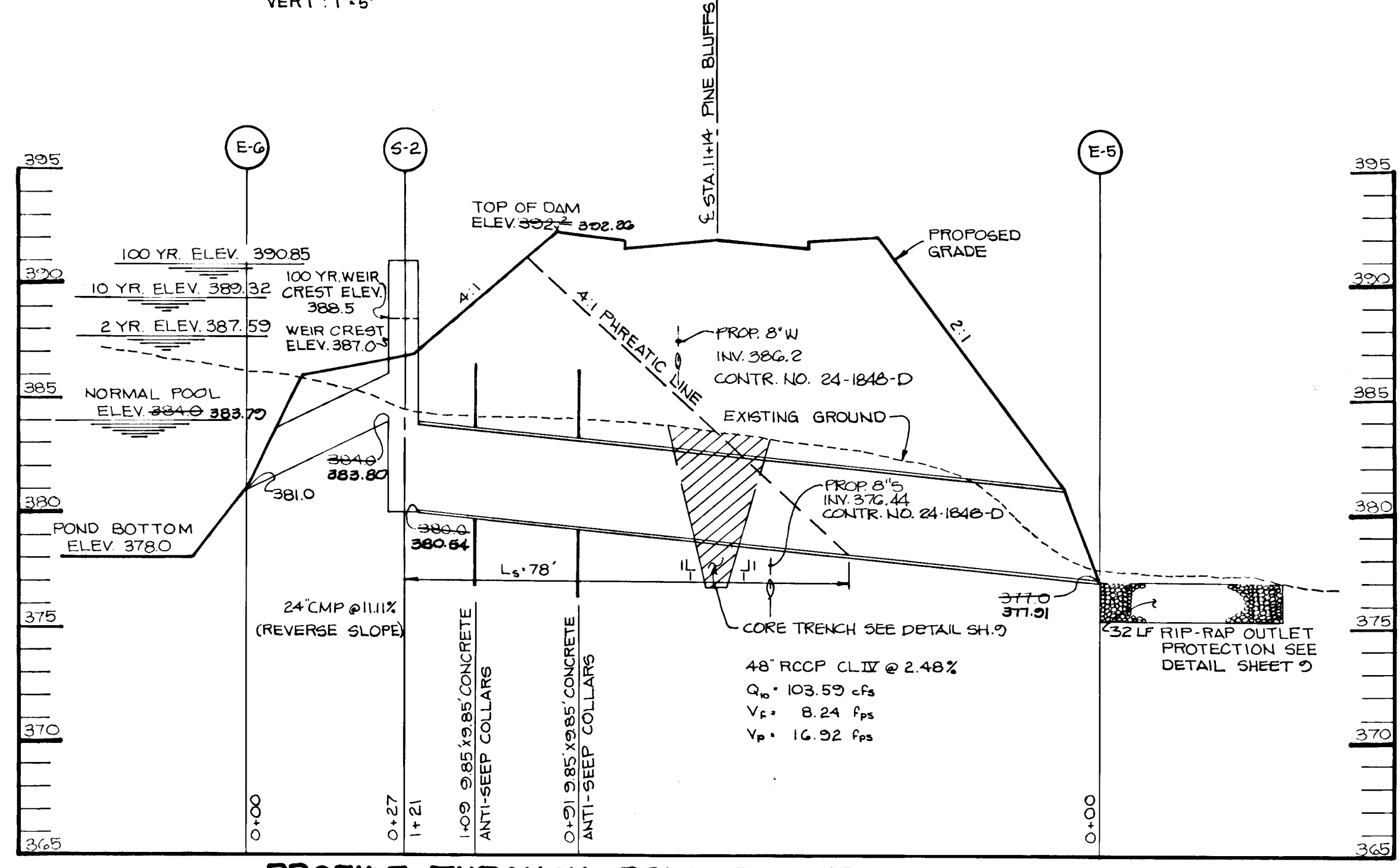
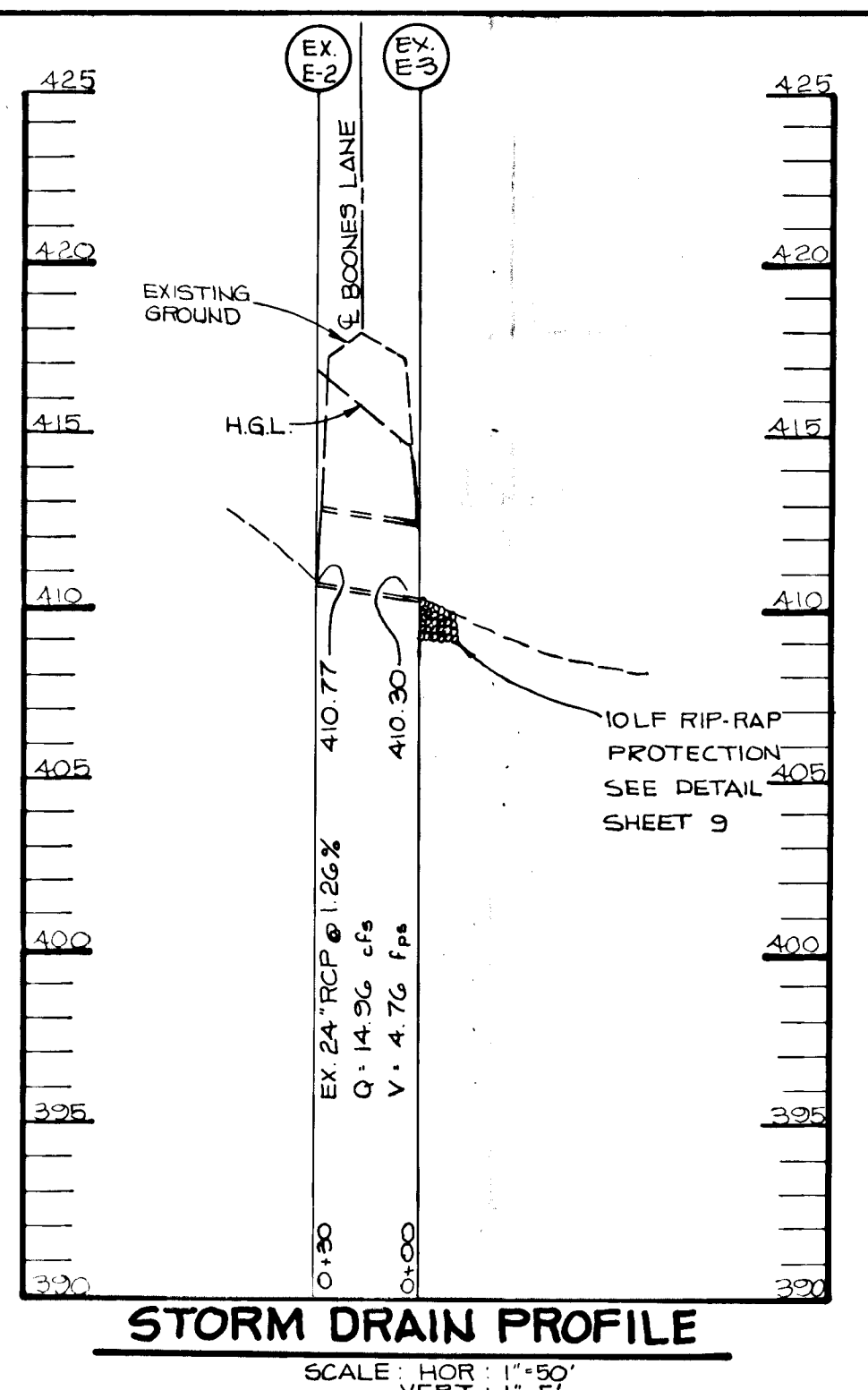
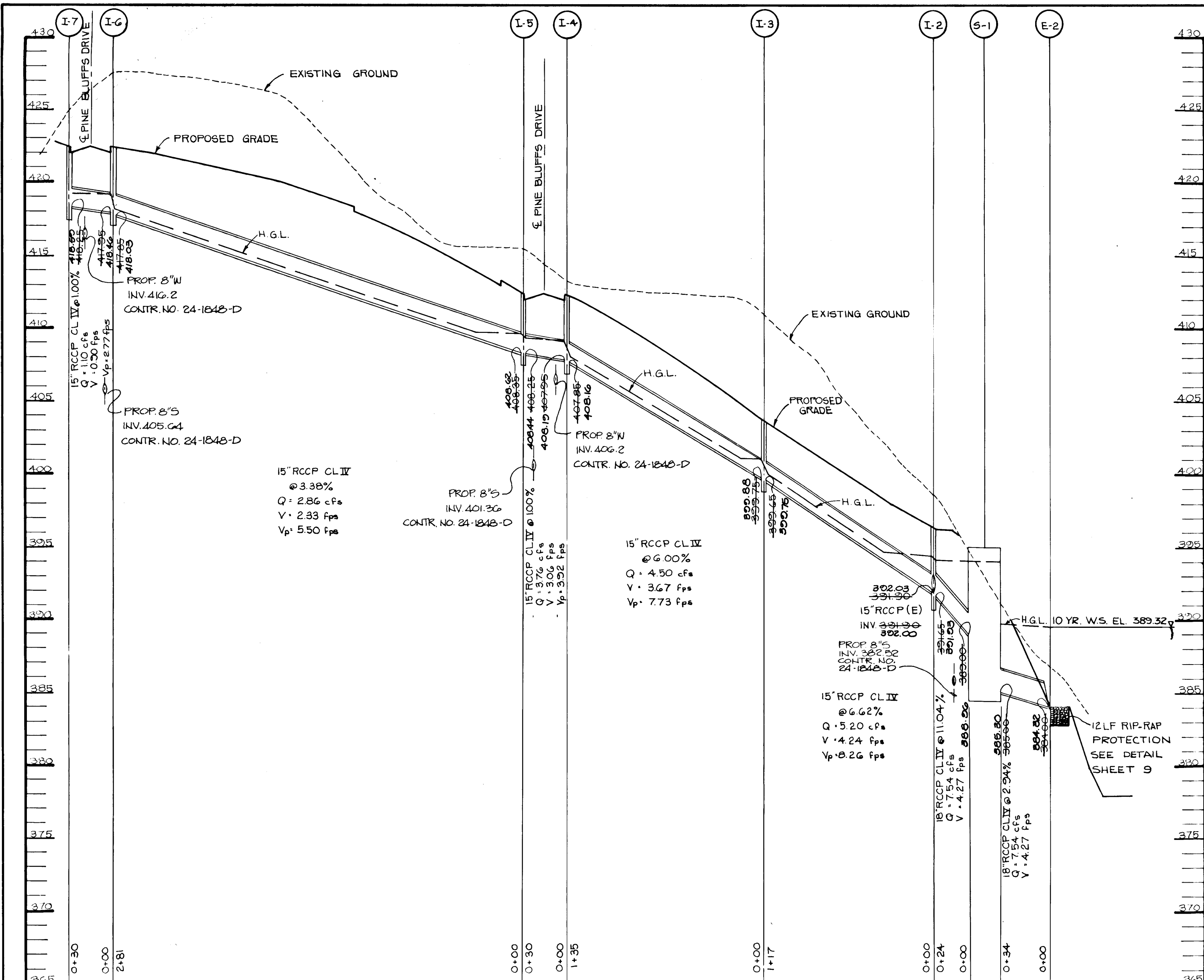
5-5-89 DATE  
5-28-90, P-89-14, WP-88-122 DATE

DESIGNED BY: D.A.M.
DRAWN BY: G.D.H.
PROJECT NO: 51104
DATE: MAY 15, 1989
SCALE: AS SHOWN
DRAWING NO. 6 OF 10



AS BUILT CERTIFICATION

ENGINEER \_\_\_\_\_  
PE # \_\_\_\_\_  
DATE \_\_\_\_\_



BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

*Christina A. Richards*  
DEVELOPER  
9-26-89  
DATE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

*Arthur E. Muegge*  
ENGINEER  
5-15-89  
DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

*James M. Nelson*  
HOWARD SOIL CONSERVATION DISTRICT  
10/19/89  
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

APPROVED *Robert W. Ziehm*  
HOWARD SOIL CONSERVATION DISTRICT  
10/19/89  
DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Frank J. P. Kaylor*  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT  
2/25/90  
DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Robert J. Kaylor*  
CHIEF, LAND DEVELOPMENT DIVISION  
1/25/90  
DATE

*Frank W. W. W. W.*  
CHIEF, BUREAU OF HIGHWAYS  
1/24/90  
DATE

*William D. R. R.*  
CHIEF, BUREAU OF ENGINEERING  
1-24-90  
DATE

DATE	NO.	REVISION

OWNER/DEVELOPER  
BOONES LANE JOINT VENTURE  
8307 MAIN STREET  
ELLCOTT, CITY, MARYLAND 21043

PROJECT:  
**THE BLUFFS AT PINE ORCHARD**

AREA TAX MAP 17134 ZONE R-20 PARCEL G  
2<sup>ND</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE:  
**PROFILES**

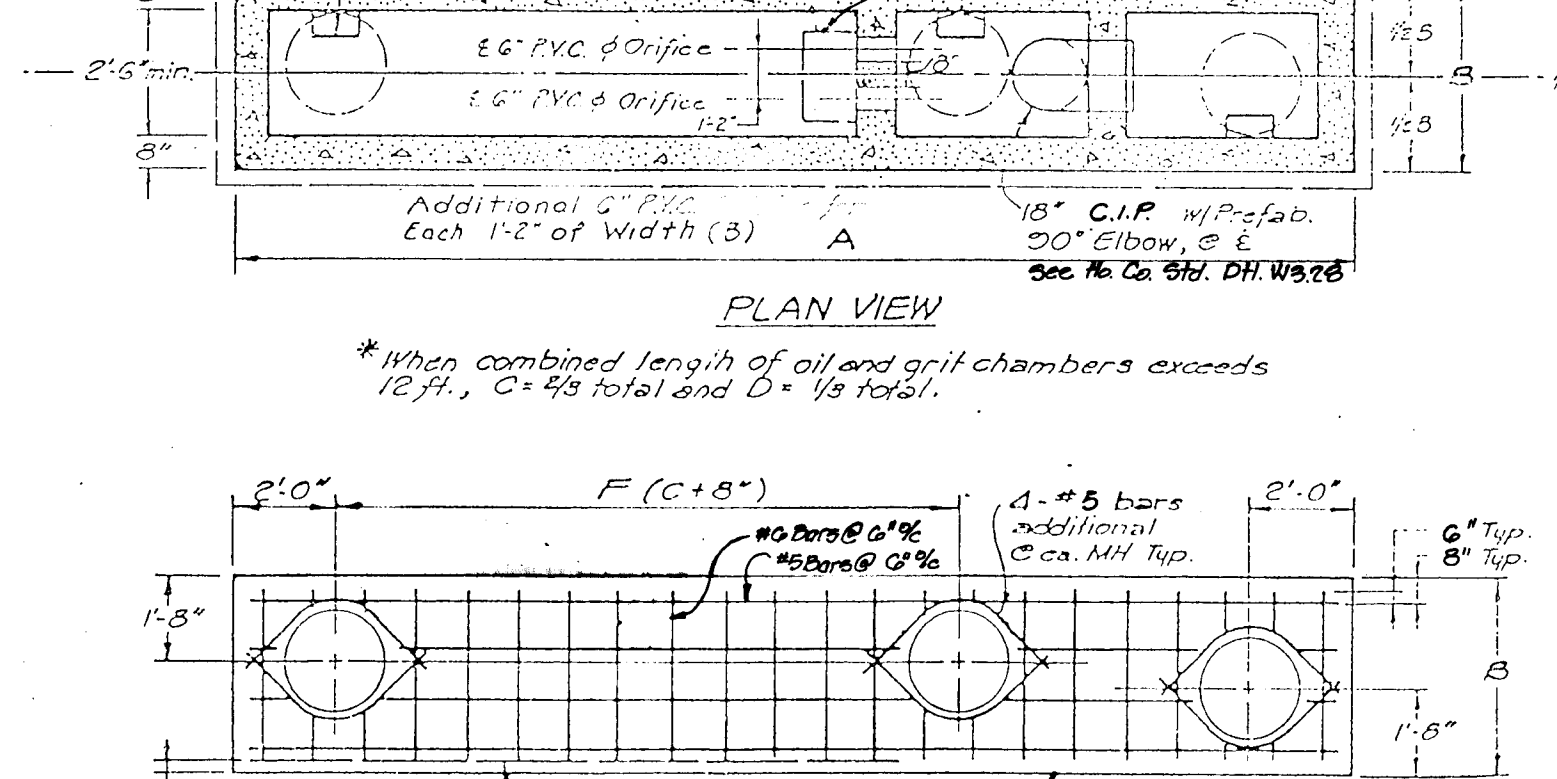
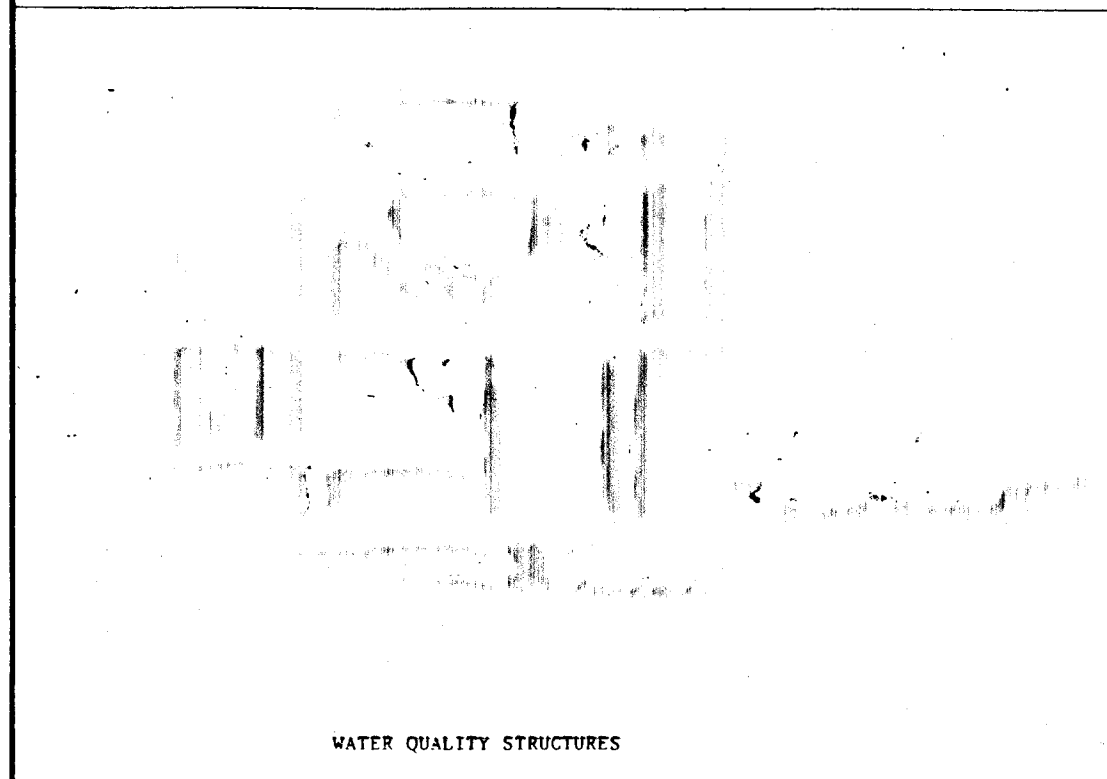
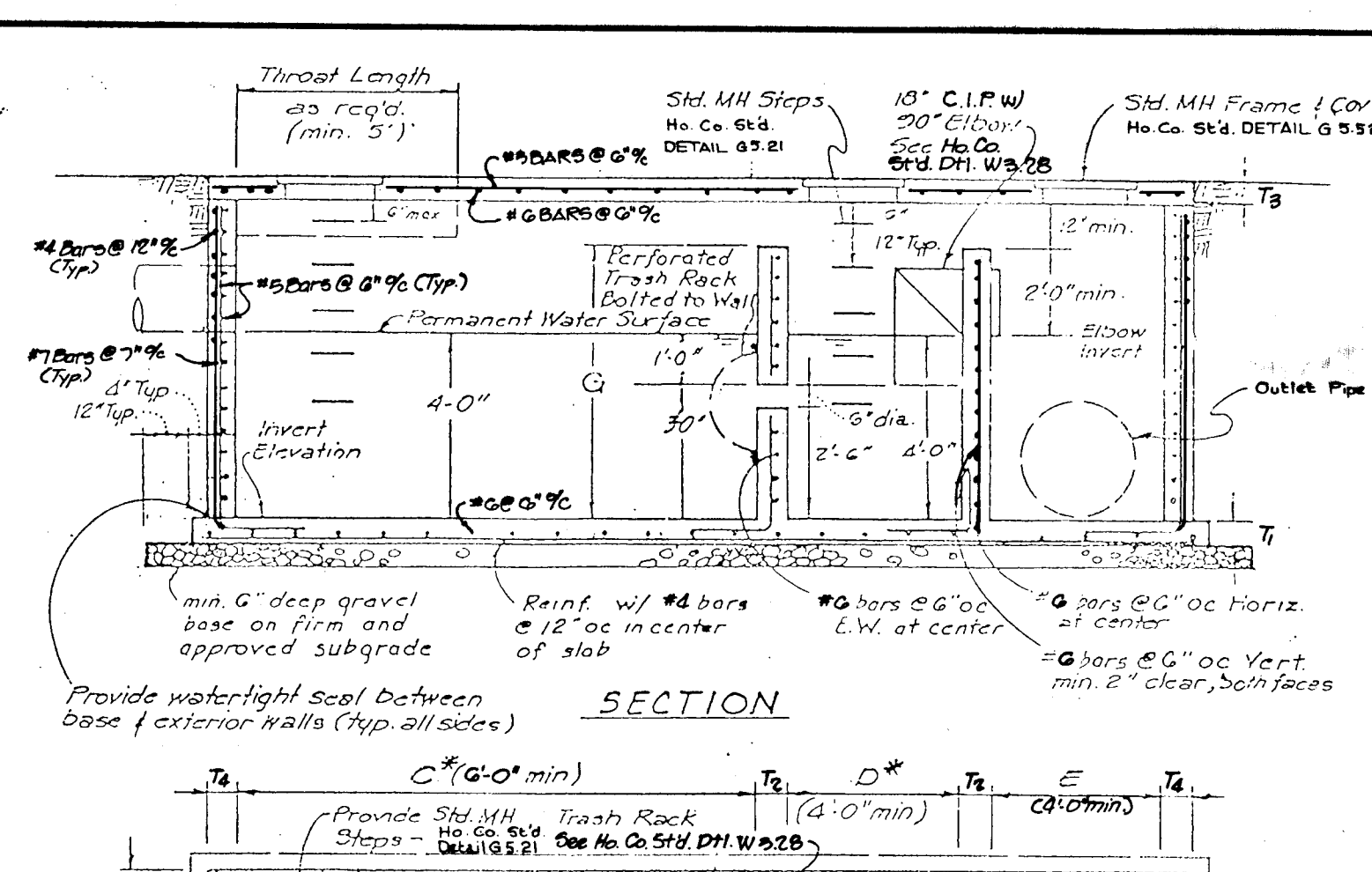
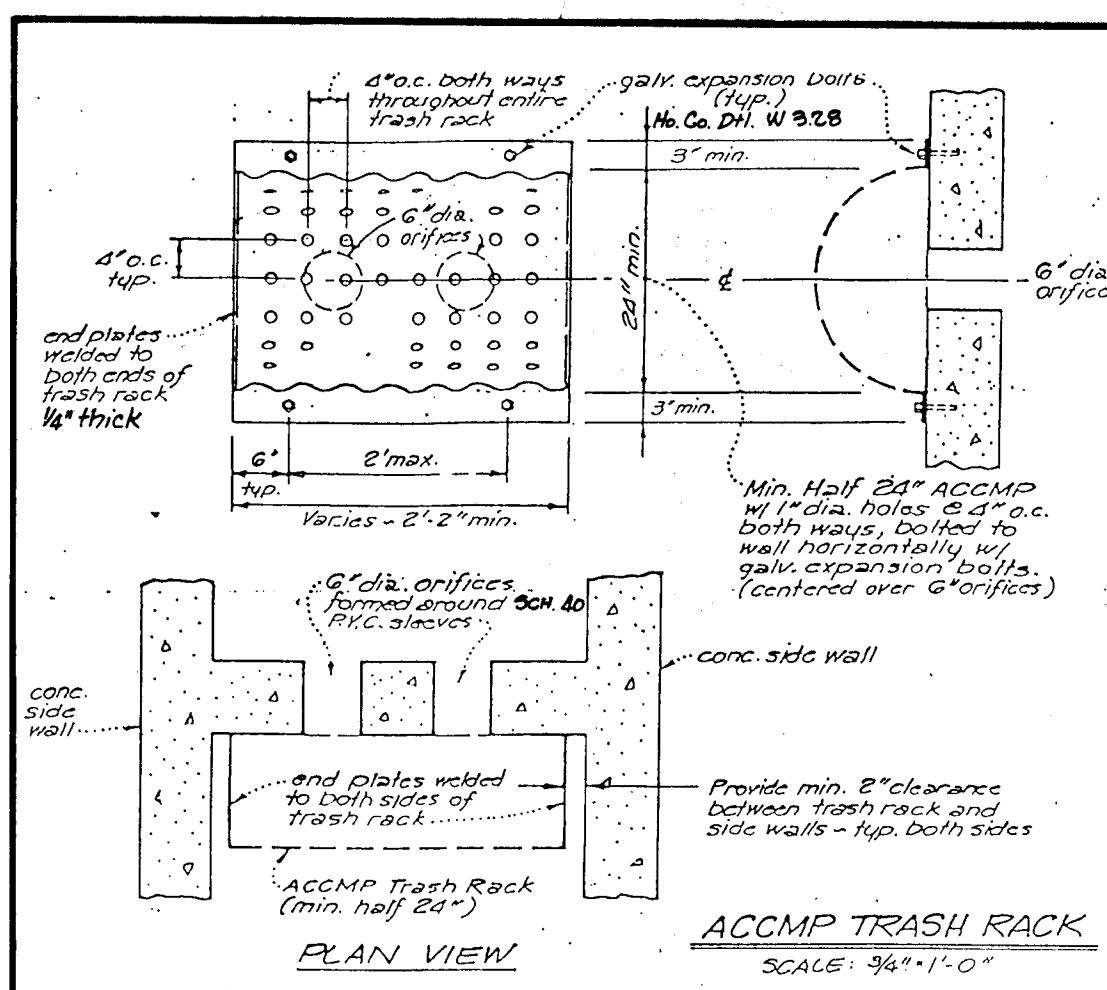
RIEMER MUEGGE & ASSOCIATES, INC.  
A Land Planning, Engineering and Consulting Firm  
3105 North Ridge Road Ellicott City, Maryland 21043  
301-461-2690 FAX: 301-750-3176

5-15-89  
DATE

AS BUILT CERTIFICATION

ENGINEER \_\_\_\_\_  
P.E. # \_\_\_\_\_  
DATE \_\_\_\_\_

5-88-90, P-89-14, WP-88-122  
DESIGNED BY: D.A.M.  
DRAWN BY: G.D.H.  
PROJECT NO: 5104  
DATE: MAY 15, 1989  
SCALE: AS SHOWN  
DRAWING NO. 7 OF 10

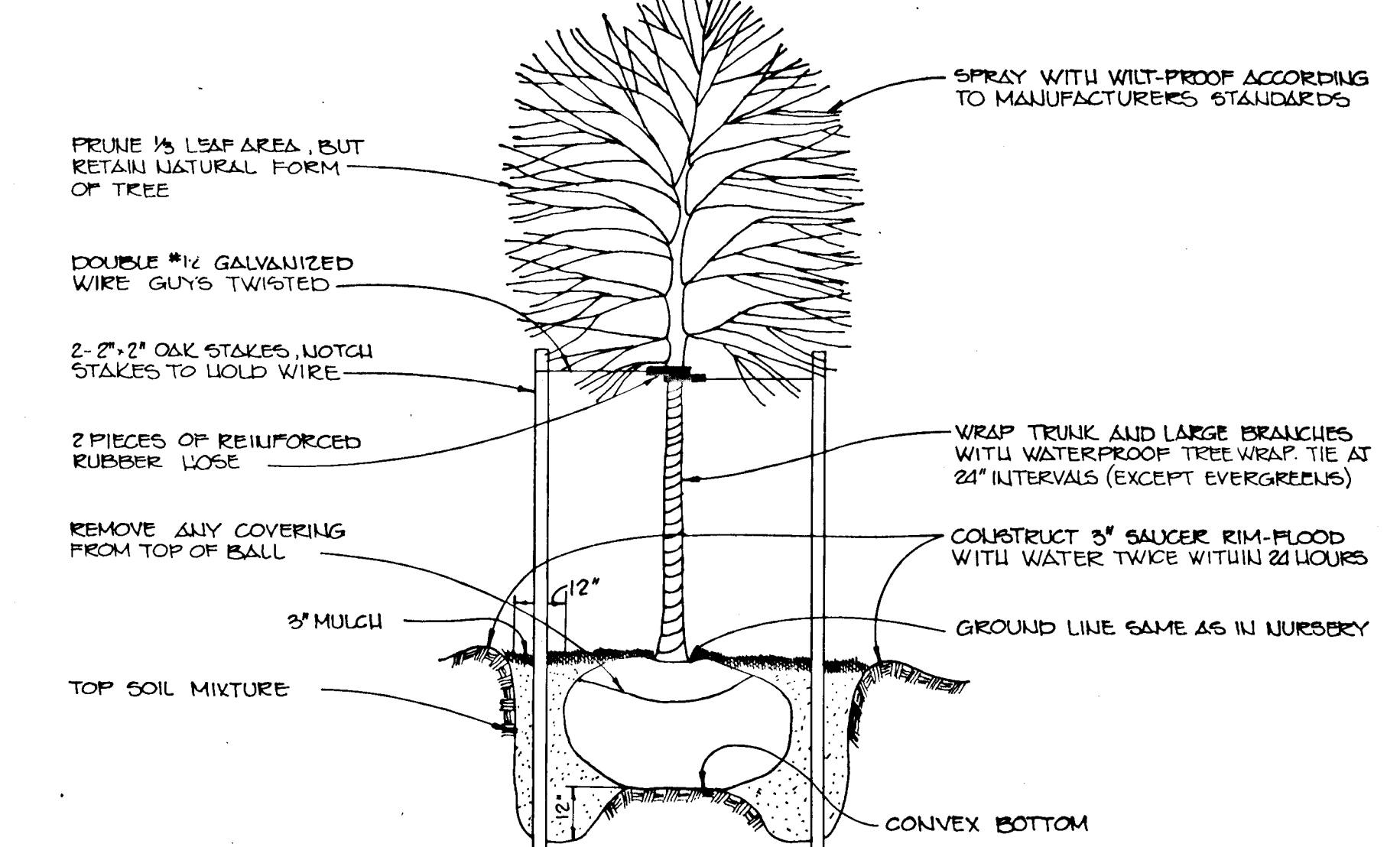
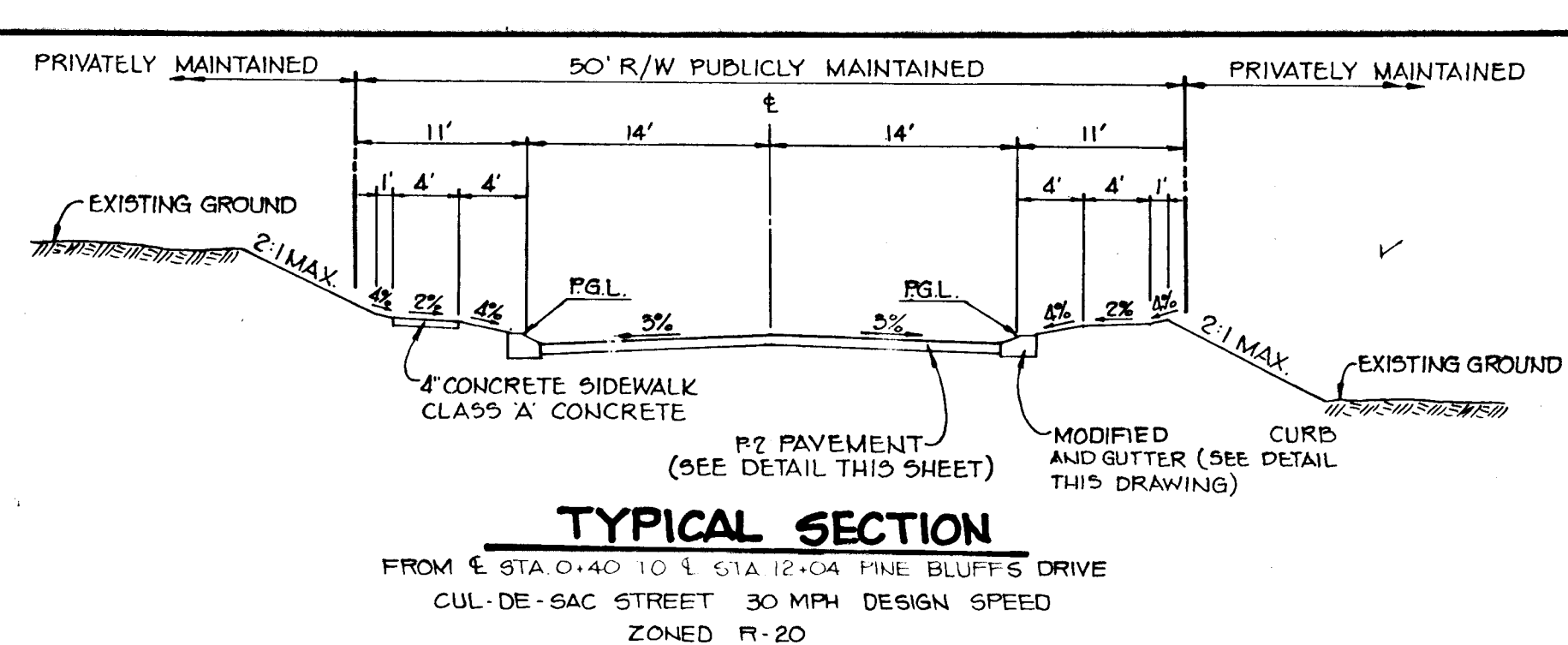


DESIGN AND GENERAL NOTES:

- Use poured-in place concrete for the entire structure.
- Refer to Maryland State Highway Administration for materials and methods of construction.
- Wall thickness shall be as follows:  
Minimum 8 inches thick for the first 8'-0" of depth, 12 inch thick walls between 8'-0" and 12'-0" of depth and 18 inch thick walls for depth greater than 12'-0". Depth to be measured from top of top slab to crown of outgoing pipe.
- $f'c = 3,500$  psi at 28 days.
- All reinforcing steel to be ASTM A635, GR. 60.
- For details concerning throat openings, refer to Howard County Standard Detail SD-4.01.
- For details not noted in this standard, refer to Howard County Standard Detail SD-4.01.
- The top 4 inches of walls may be brick masonry for leveling, if required. Brick masonry shall comply with the latest SMA specification.
- When grate opening is used, refer to the appropriate SMA Standard for details. Details shall be shown on the plans.
- When inside width of structure is greater than 4'-0", reinforcing shall be revised as needed.
- When structure is subject to traffic loading, reinforcing shall be designed for the appropriate traffic loads. Design loads shall be indicated on the plan.
- All inlets and incoming pipes shall be checked for possible backwater or tailwater problems.

CONSTRUCTION NOTES:

- Silt and debris shall not be allowed to enter the structures until contributing drainage areas have been permanently stabilized.
- All openings to structures shall be protected with the appropriate sediment control measures during construction.
- Prior to start of construction on water quality structures, the Howard County Department of Public Works Inspector must be called 48 hours in advance at 792-2630.
- The Howard County Department of Public Works Inspector must be notified (792-2630) at each of the following stages:  
A. Approval of subgrade for footings.  
B. Footing formed and steel set prior to pouring.  
C. Structure sides formed and steel set prior to pouring.  
D. Prior to top slab and manholes being set, Howard County Department of Public Works Inspector must check structure and all debris and silt in structure removed.  
E. When site is permanently stabilized and sediment control measures to protect inlet are to be removed.



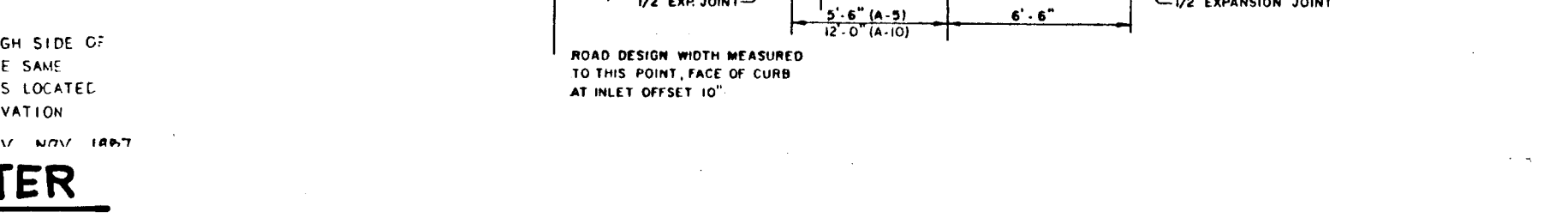
TREE PLANTING DETAIL  
NO SCALE

MAINTENANCE NOTES (WATER QUALITY STRUCTURE MAINT):

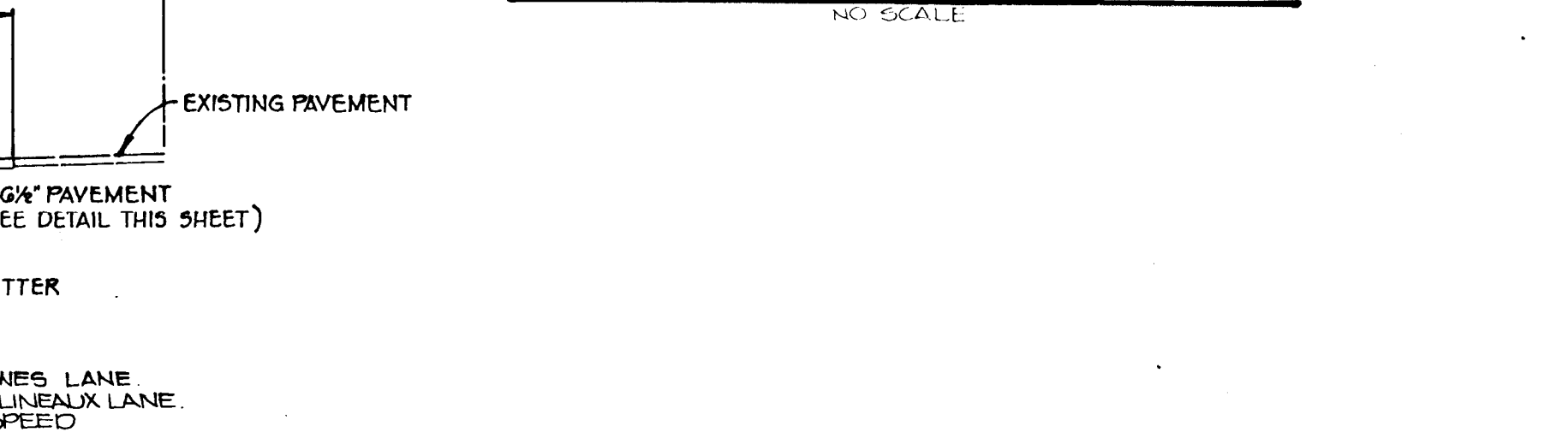
- Water Quality Structures will require periodical cleaning. Owners of these facilities will have to clean them as needed or on a frequency that the County determines is appropriate. Owners of water quality structures will be notified by the County of the frequency of maintenance. **The water quality structures shall be maintained by the Home Owners Association.**
- Maintenance of these facilities will consist of cleaning out the separator and disposal of the waste and the repair of the facility as needed. Periodic inspections of these facilities will be made by the County Stormwater Management Group.
- The disposal of the liquid and solid matter should be as follows:  
A. All liquid material in the separator inlet shall be pumped into a suitable tank truck and disposed of at an approved sanitary district discharge manhole or be taken to an approved sewage treatment plant for discharge.  
B. The solid material shall be landfilled in an approved sanitary landfill.
- The inlet pipes, trash racks, grates, and structural parts shall be repaired as needed.

WATER QUALITY STRUCTURE DIMENSIONS  
NO SCALE

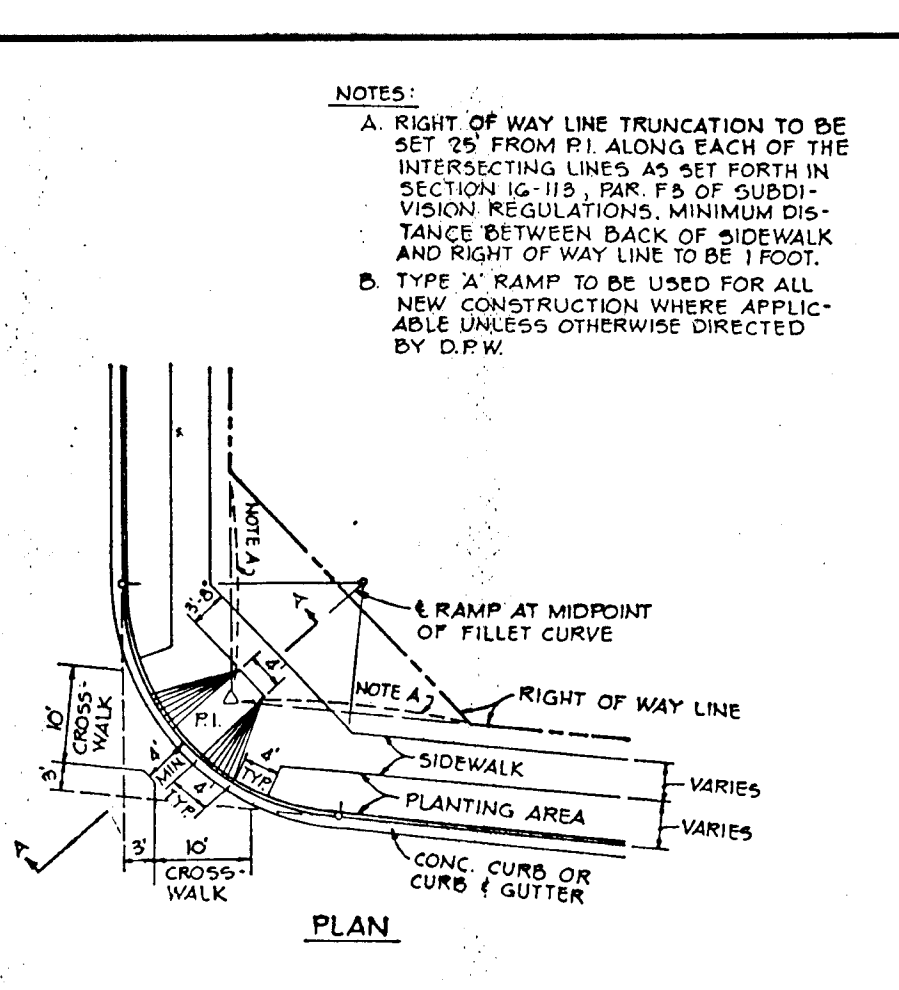
STRUCT. NUMBER	DRAIN AREA	VOL. REQ'D	VOL. PROV.	DIMENSIONS							FLOOR SLAB ELEV.	18" CIP ELBOW INV.	THROAT LENGTH if req'd	TOP SLAB ELEV.	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>
				A	B	C*	D*	E	F	G								
5-1	1.018Ac	767.20	700.50	23.5'	8'	10.5'	5'	4'	11.17'	8.5'	385.0	389.0	3.05.0	5'	8'	8'	8'	8'
I-9	1.02Ac	408.0	442.0	25.0'	5.34'	11.5'	5.5'	4'	12.17'	6.5'	383.7	387.7	5'	8'	8'	8'	8'	



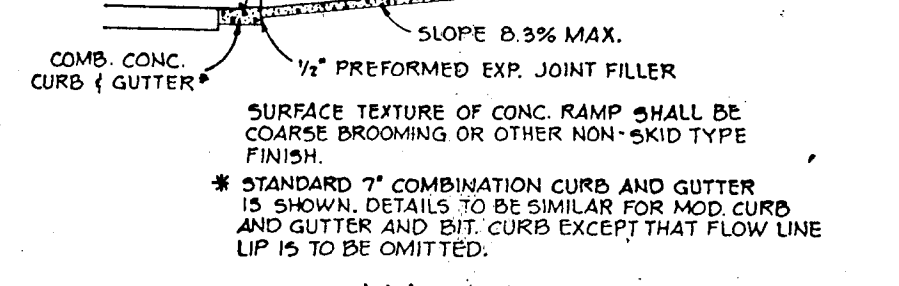
MODIFIED CURB AND GUTTER  
NO SCALE



ROAD WIDENING  
NO SCALE



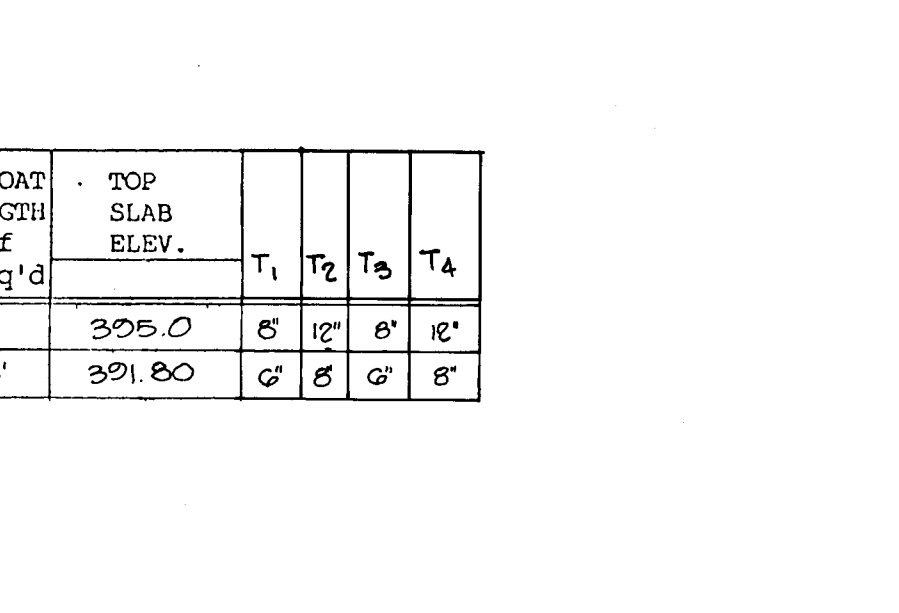
TYPICAL HANDICAP RAMP  
NO SCALE



SECTION A-A  
NO SCALE



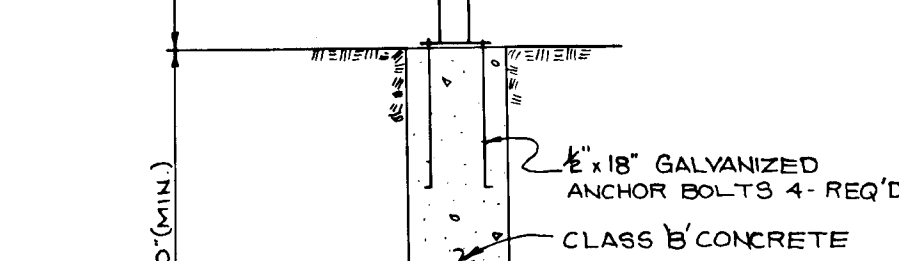
DETAIL - LIGHTING FIXTURE  
NO SCALE



TYPICAL CURB AND GUTTER  
NO SCALE

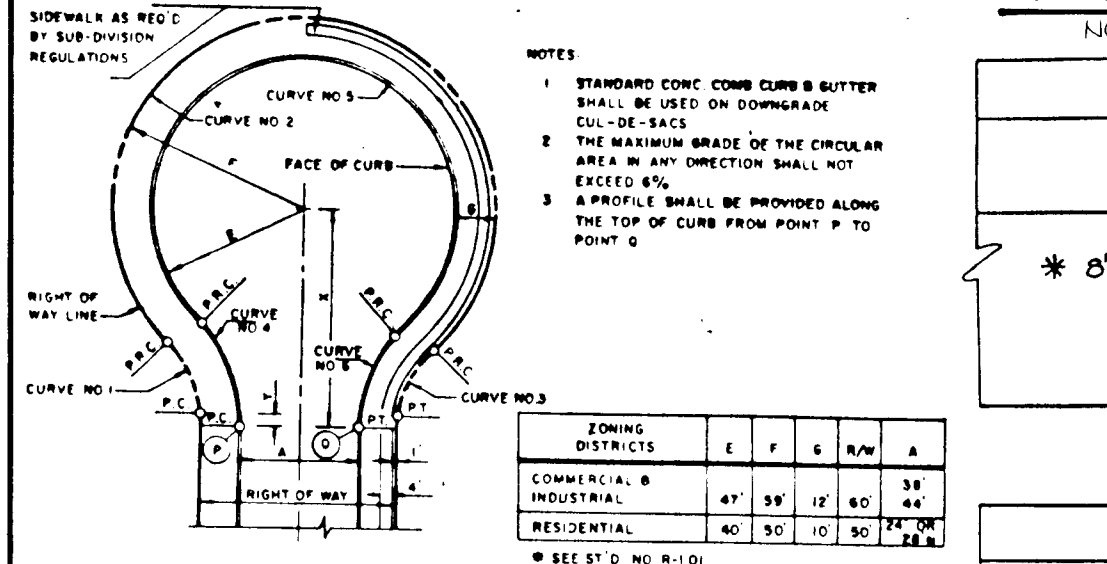
NOTES:

- ALL LIGHT FIXTURES TO BE SINGLE LUMINAIRE 100 WATT SODIUM TYPED 14 HIGH WITH BLACK FIBERGLASS POLES AND TRADITIONAL HEAD DIRECTED DOWNWARD.
- LOCATION OF THE LIGHT FIXTURES ARE ON THE PLAN AND ARE SHOWN THUS.
- POLE AND FIXTURE TO BE BLACK FIBERGLASS
- POLE TO BE LOCATED 3' BACK FROM BACK OF CURB



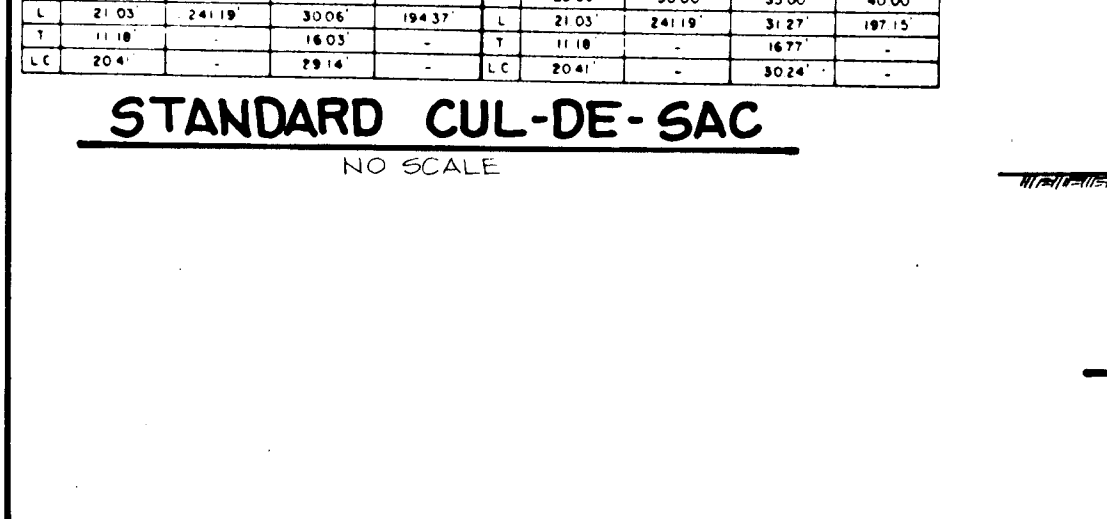
STREET LIGHT DETAIL  
NO SCALE

**WATER QUALITY CONTROL STRUCTURE AND NOTES**  
NO SCALE



CURVE DATA	COMMERCIAL-INDUSTRIAL (20 APPROACH)				COMMERCIAL-INDUSTRIAL (20 APPROACH)			
	1	2	3	4	1	2	3	4
C	25.00	30.00	35.00	40.00	25.00	30.00	35.00	40.00
L	25.00	30.00	35.00	40.00	25.00	30.00	35.00	40.00
LC	25.00	30.00	35.00	40.00	25.00	30.00	35.00	40.00

STANDARD CUL-DE-SAC  
NO SCALE



SIDEWALK DETAIL  
NO SCALE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*David J. Taylor* 1/25/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul Johnson* 1/25/90  
CHIEF, LAND DEVELOPMENT DIVISION

*Drumville W. Weiland* 1/24/90  
CHIEF, BUREAU OF HIGHWAYS

*William B. Riley* 1-26-90  
CHIEF, BUREAU OF ENGINEERING

DATE NO REVISION  
OWNER/DEVELOPER  
BOONES LANE JOINT VENTURE  
8307 MAIN STREET  
ELLCOTT CITY, MARYLAND 21043

PROJECT  
**THE BLUFFS AT PINE ORCHARD**  
AREA TAX MAP 17434 ZONED R-20 PARCEL G  
2<sup>ND</sup> ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
**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

5-15-89  
DATE  
DESIGNED BY: D.A.M.  
DRAWN BY: G.D.H.  
PROJECT NO: 51104  
DATE: MAY 15, 1989  
SCALE: AS SHOWN  
DRAWING NO. 8 OF 10

F-89-229

1536



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

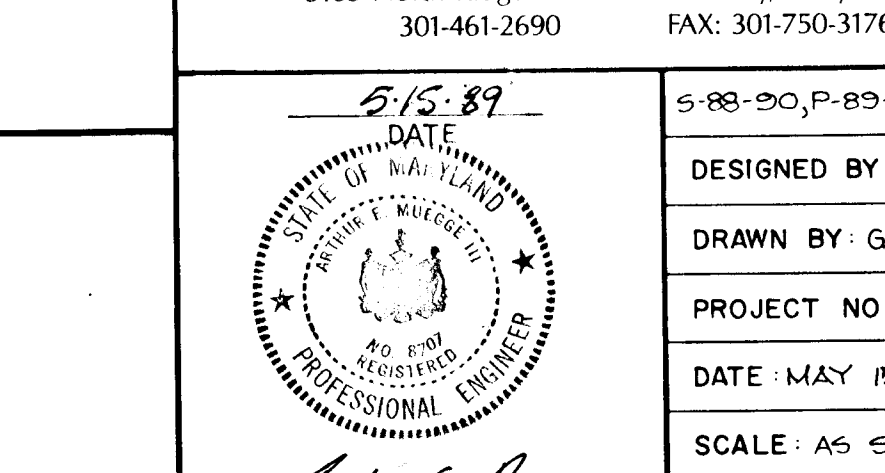
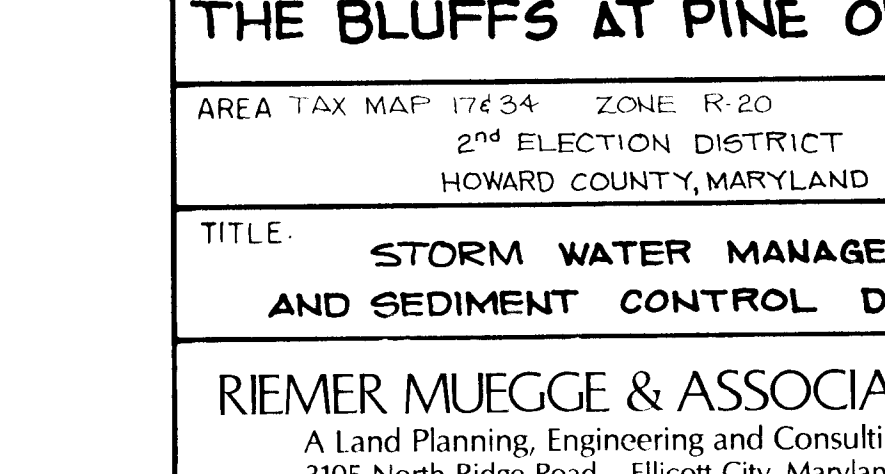
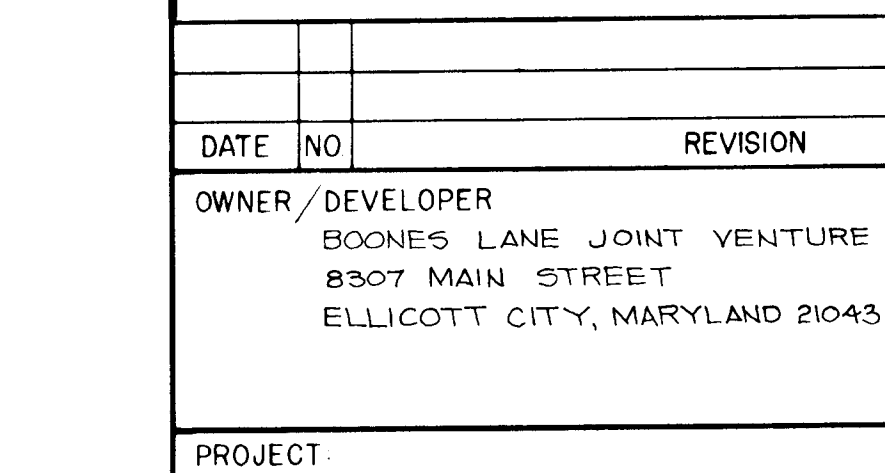
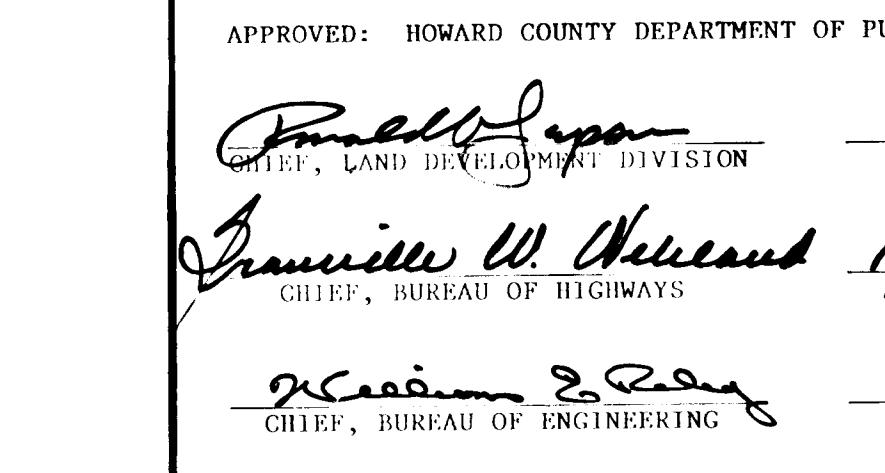
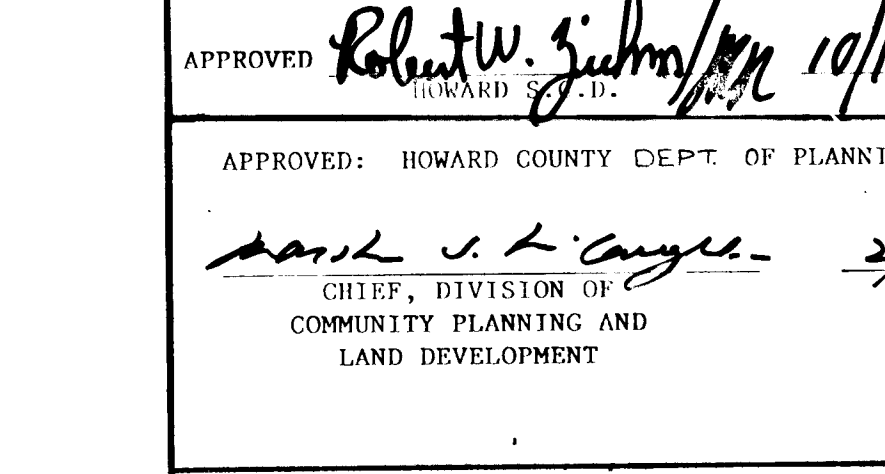
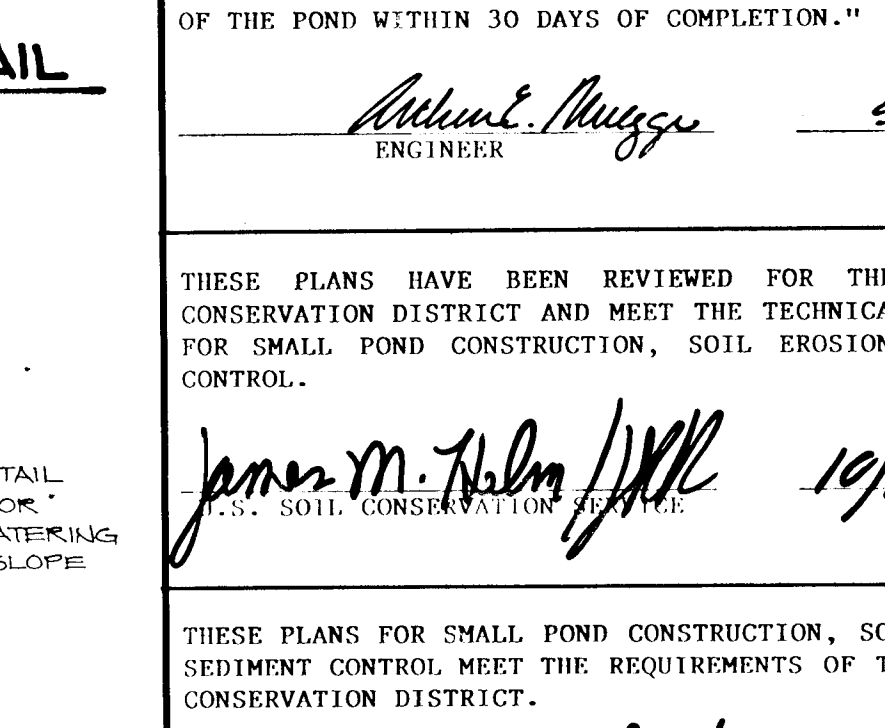
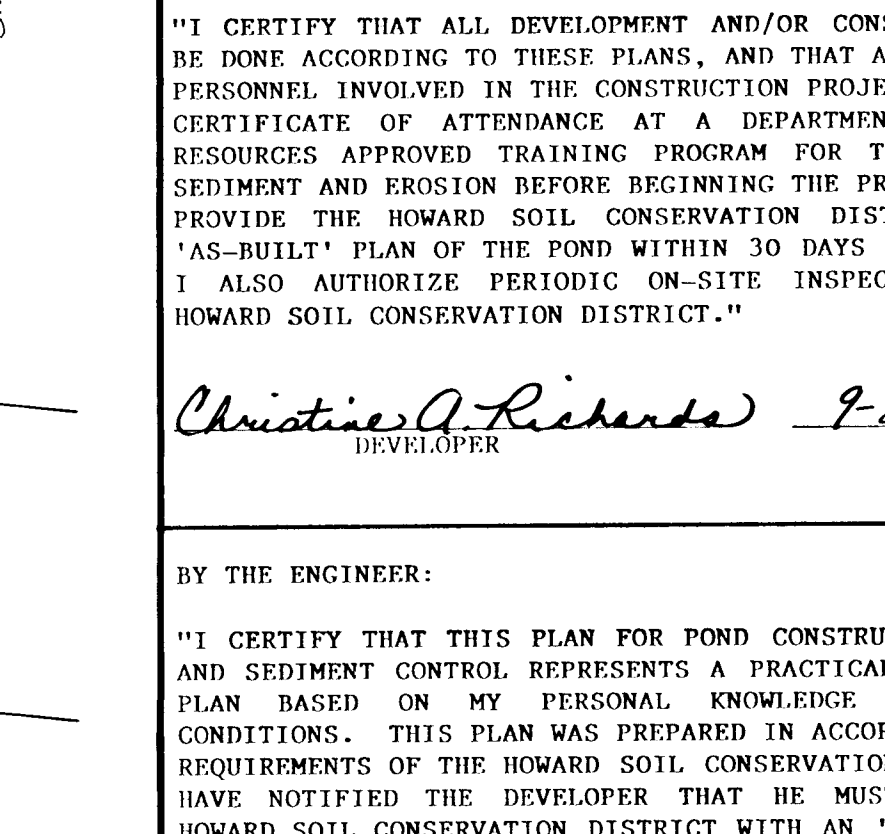
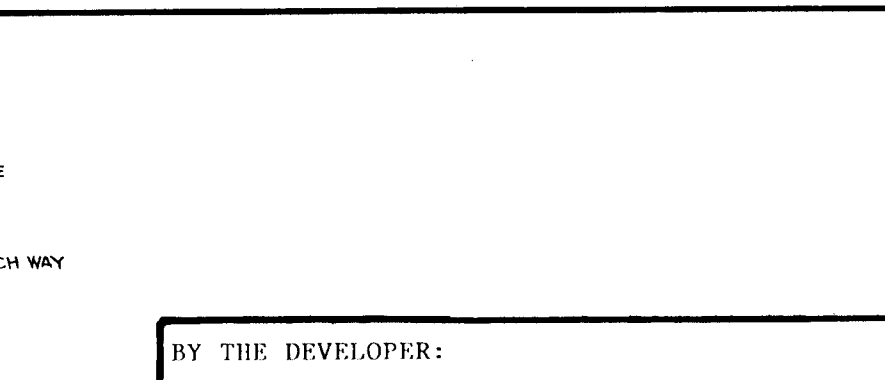
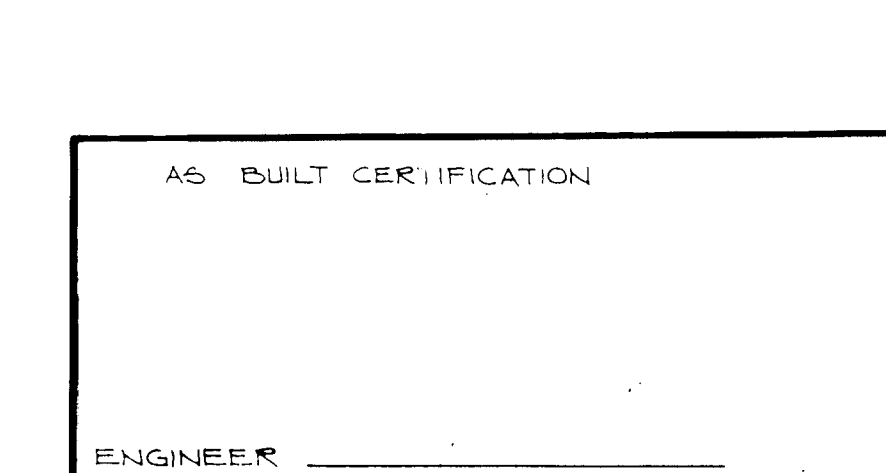
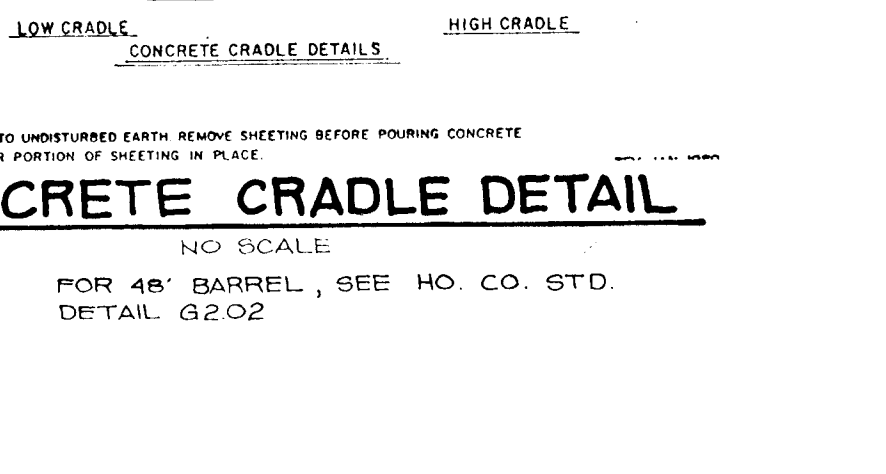
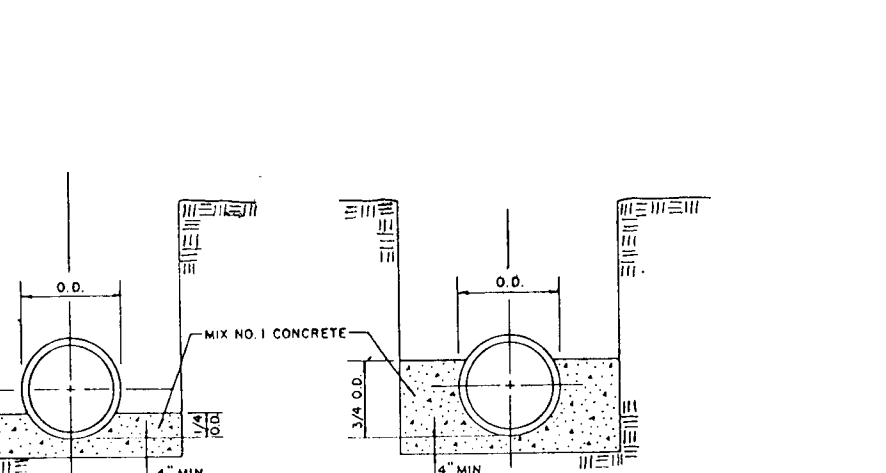
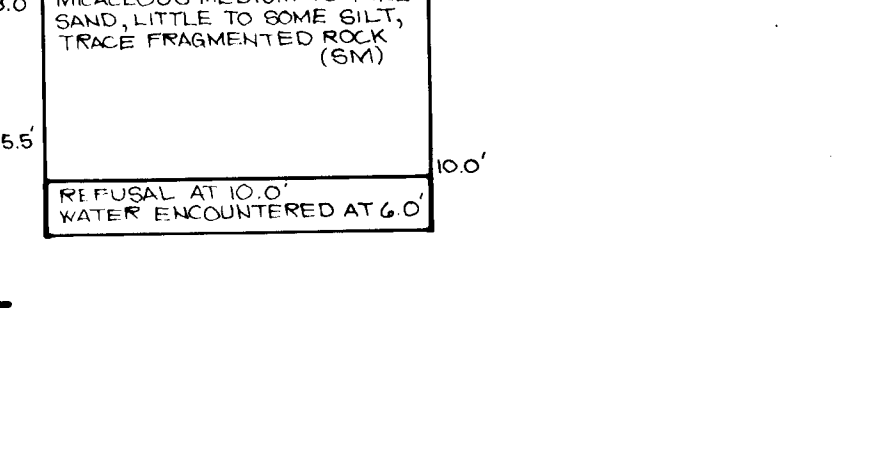
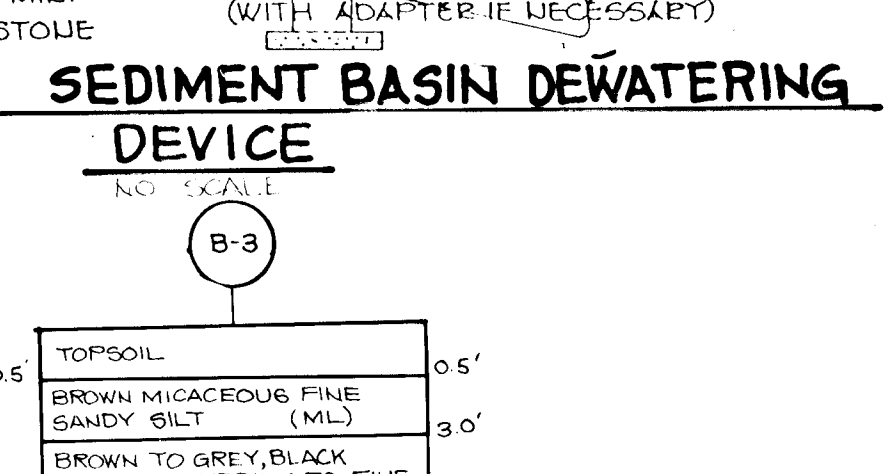
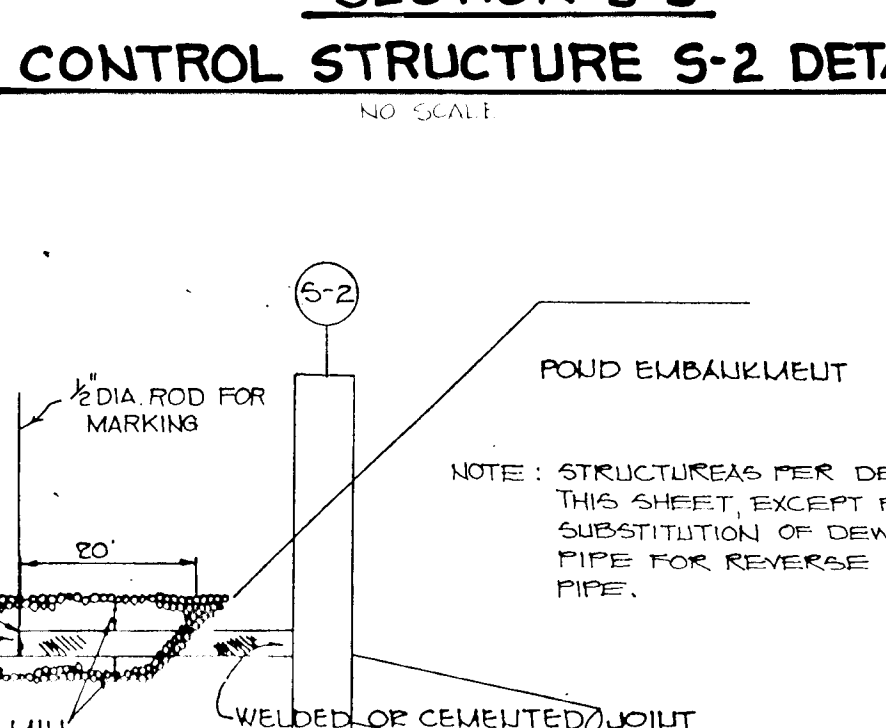
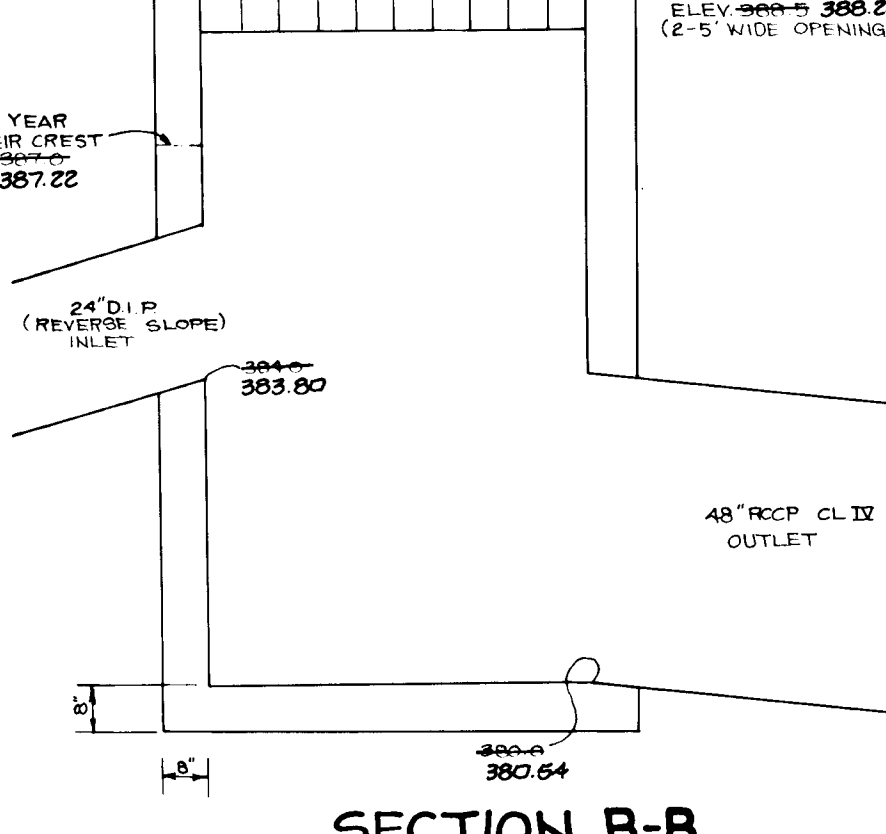
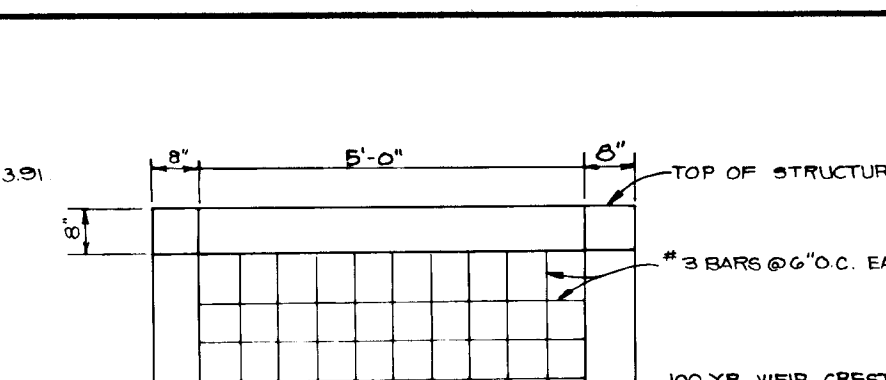
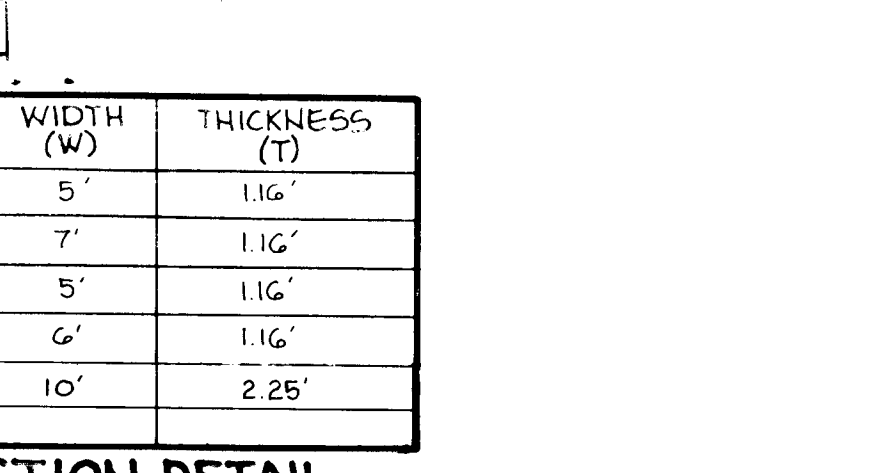
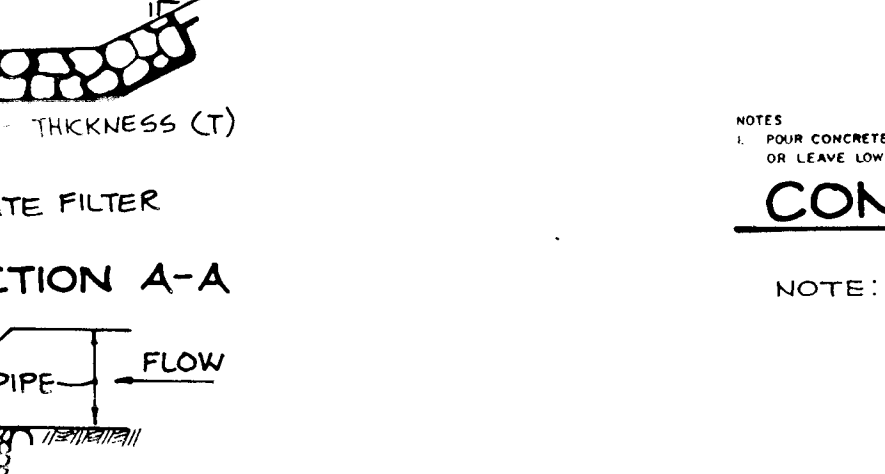
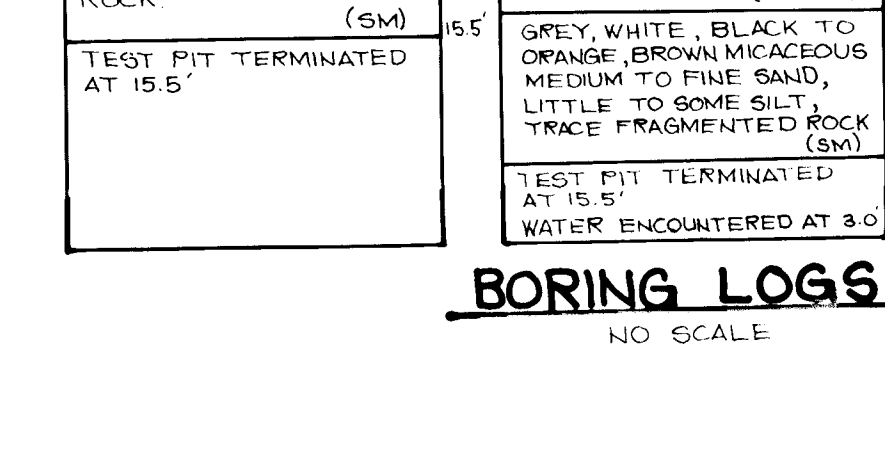
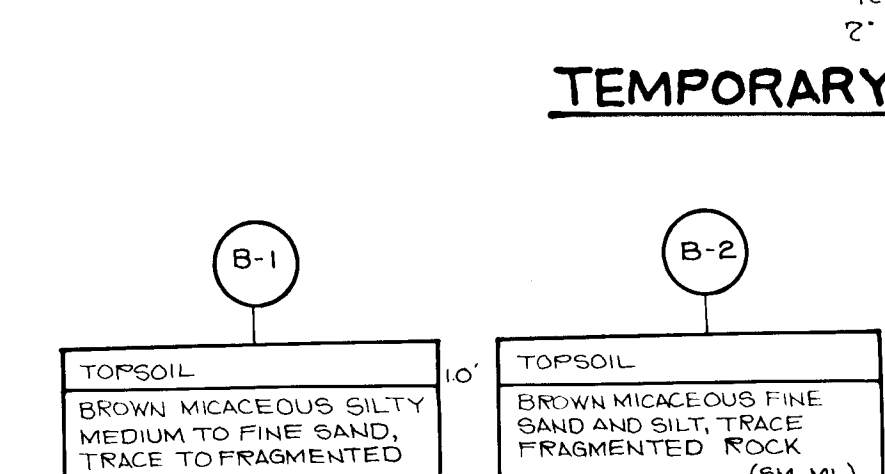
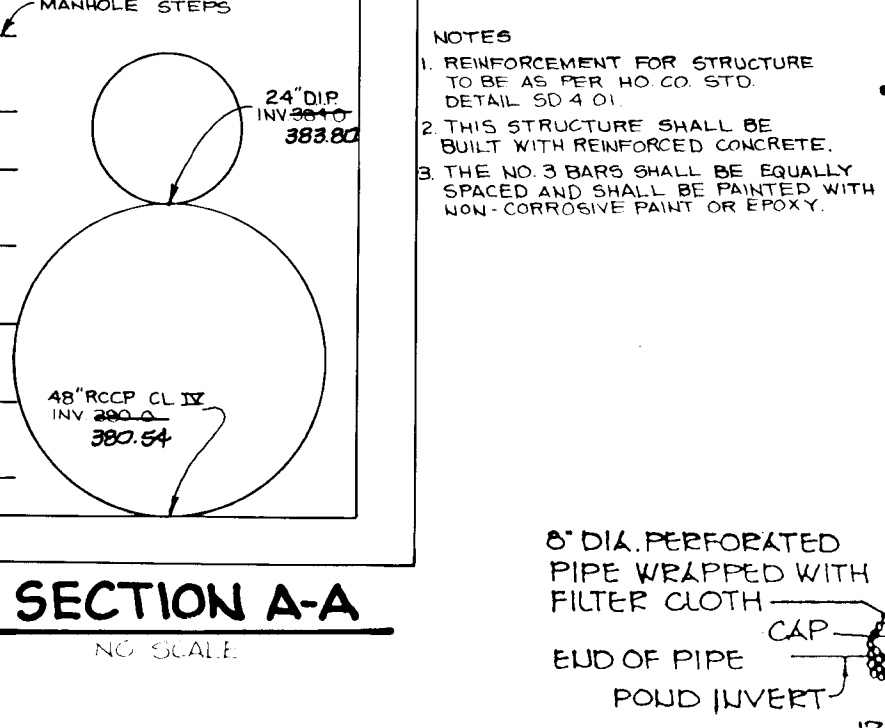
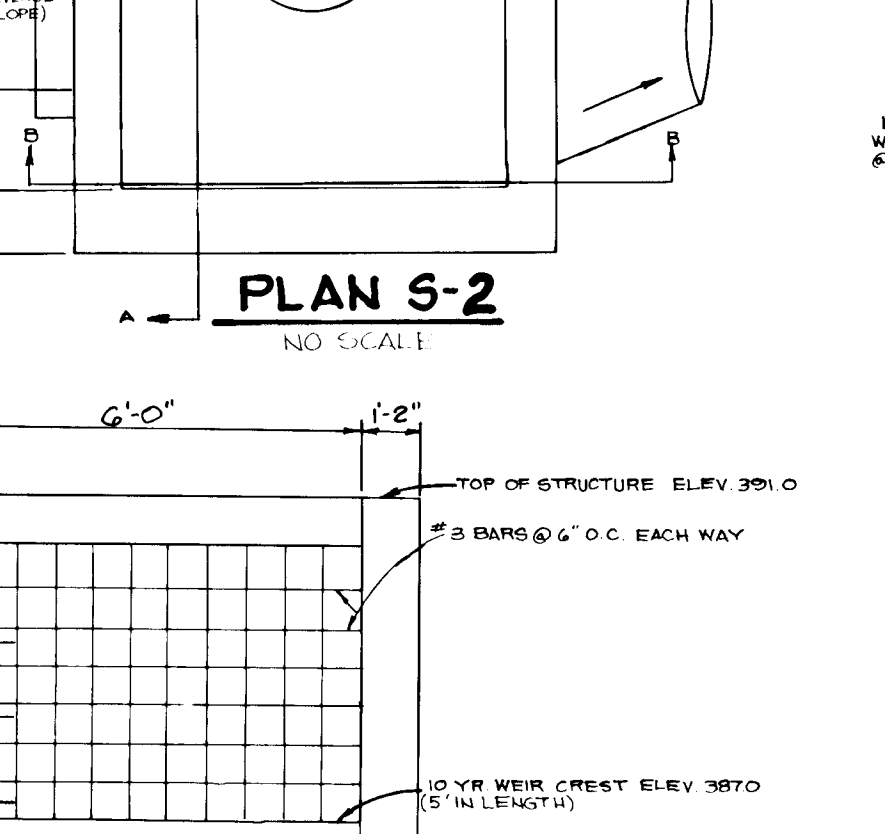
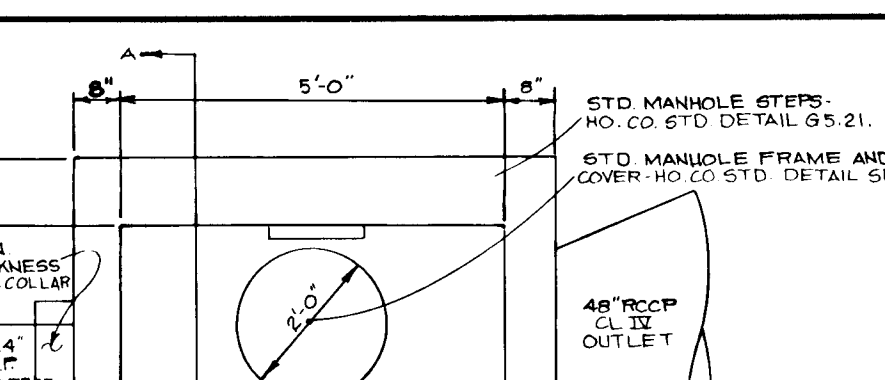
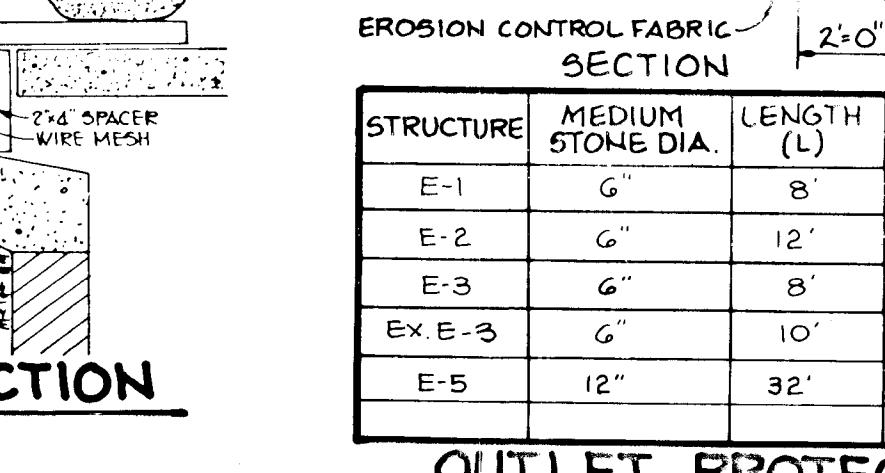
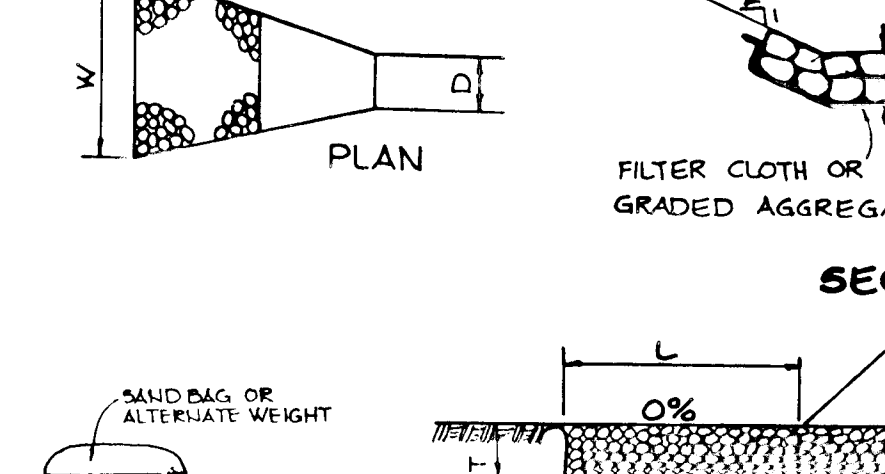
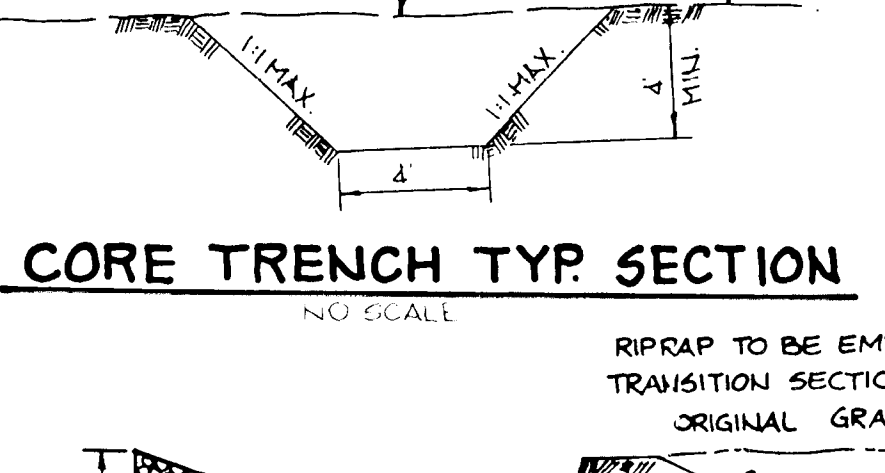
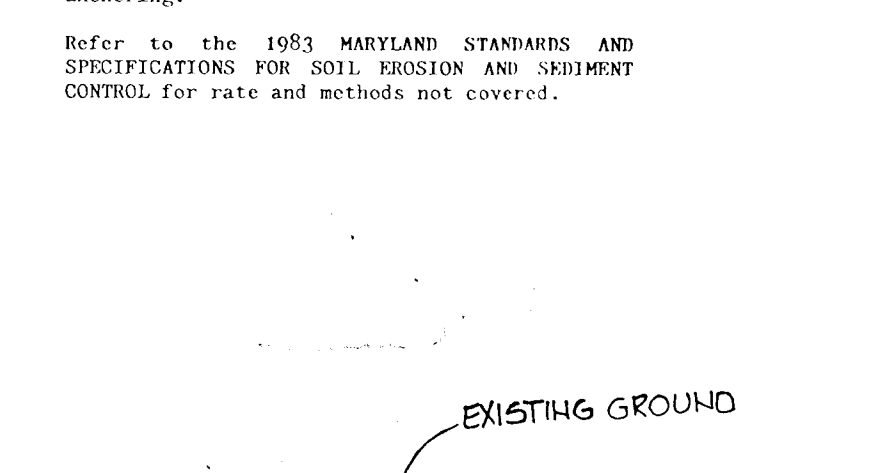
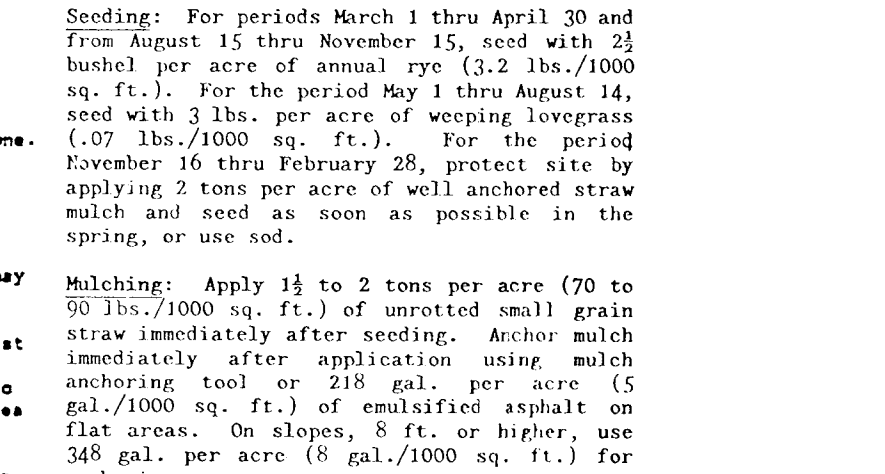
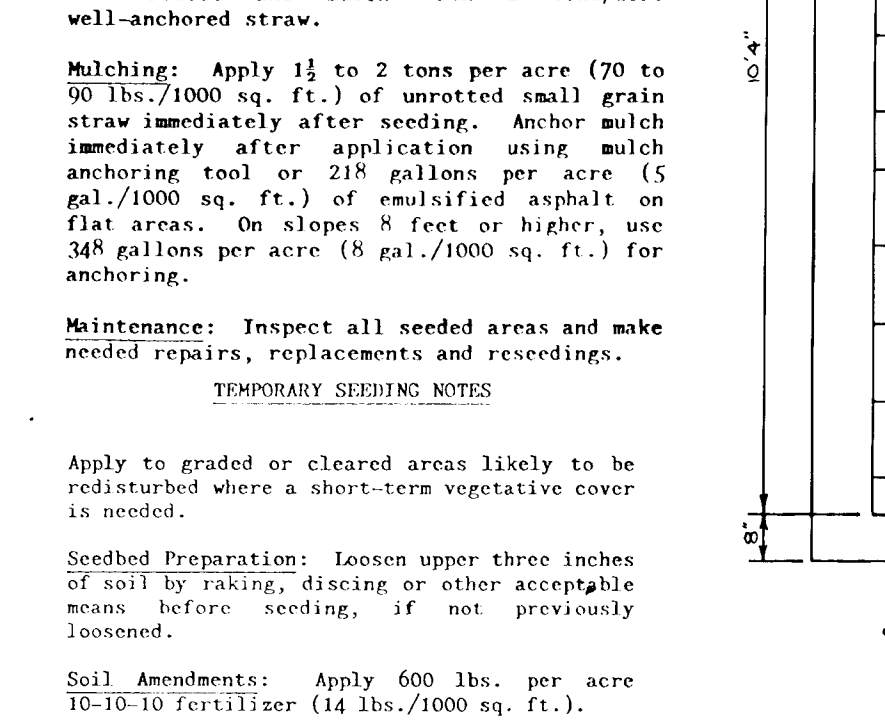
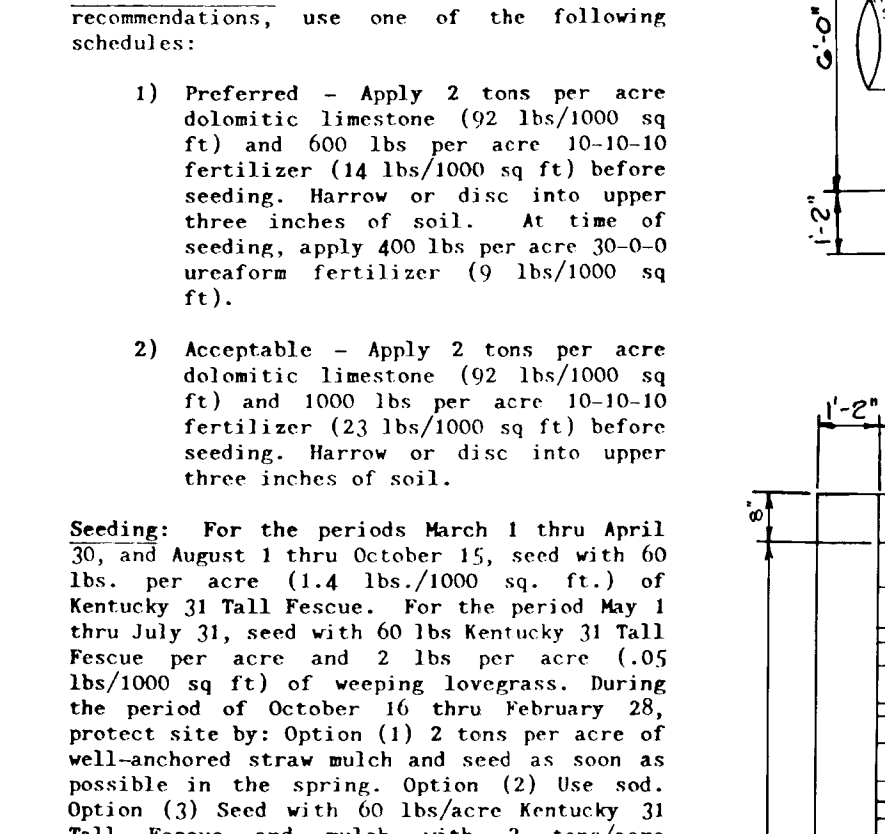
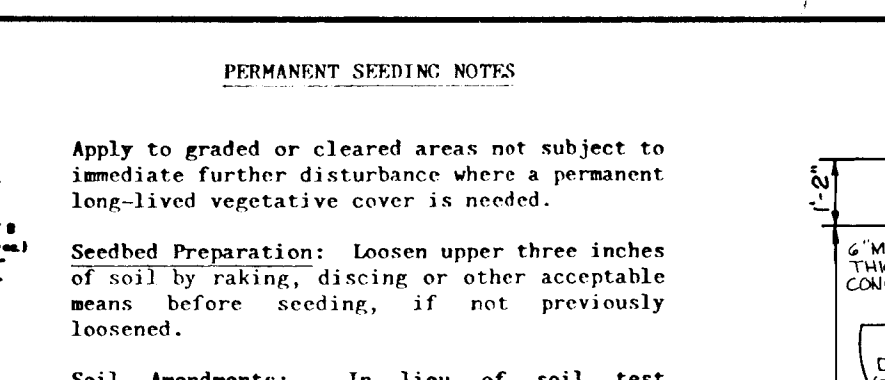
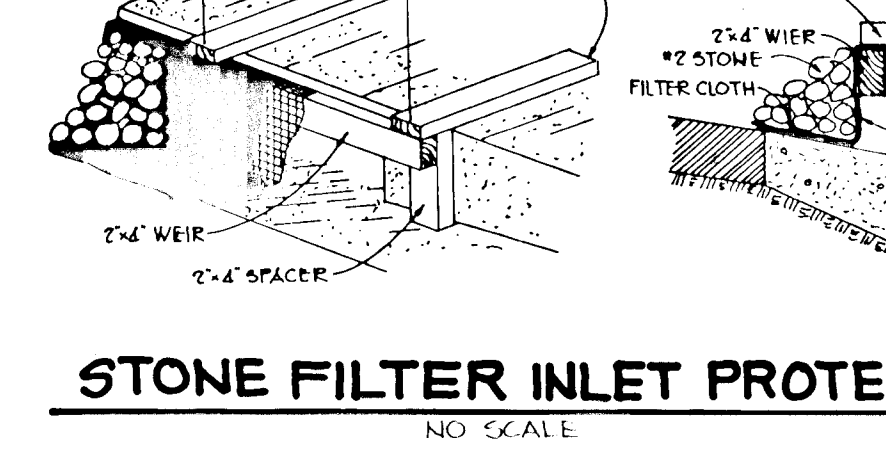
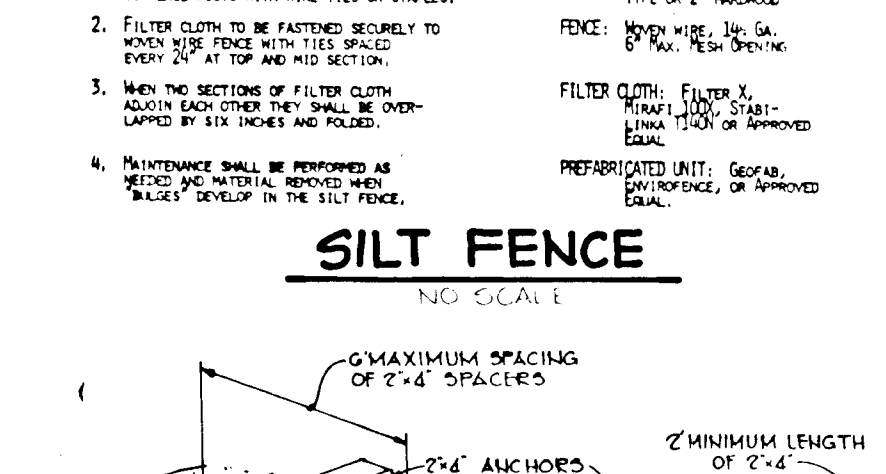
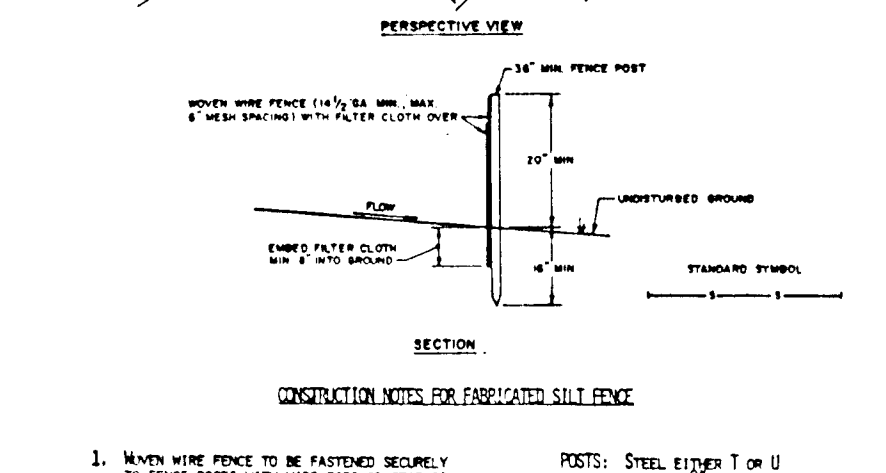
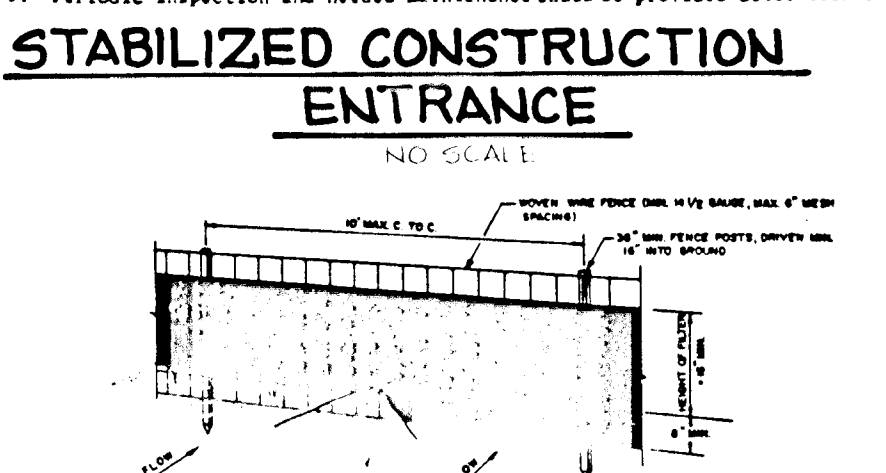
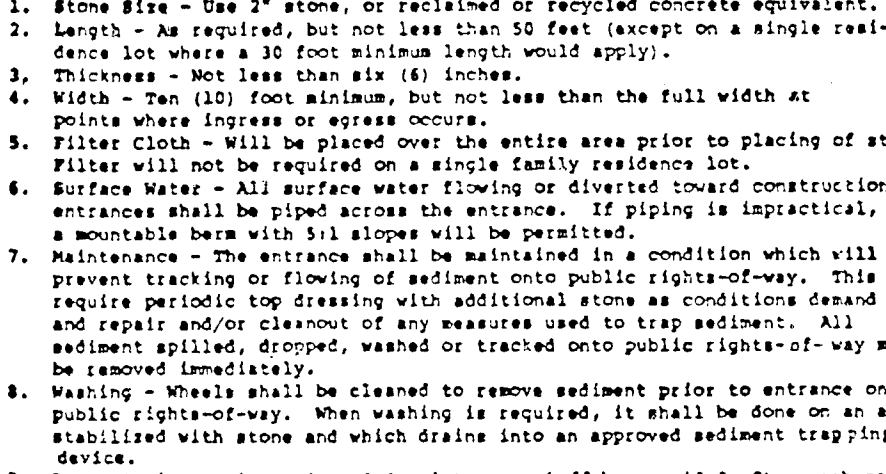
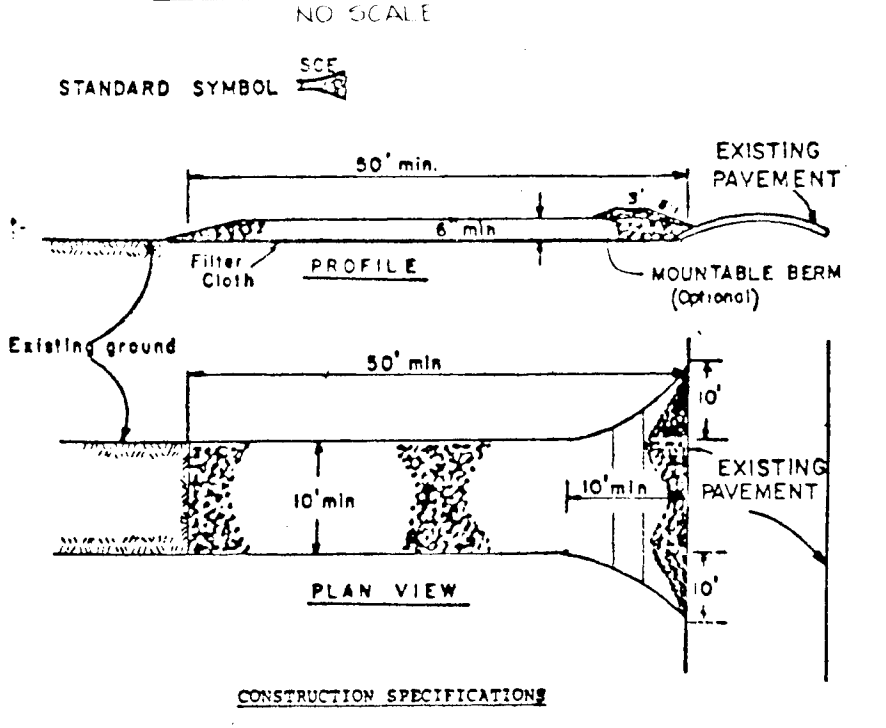
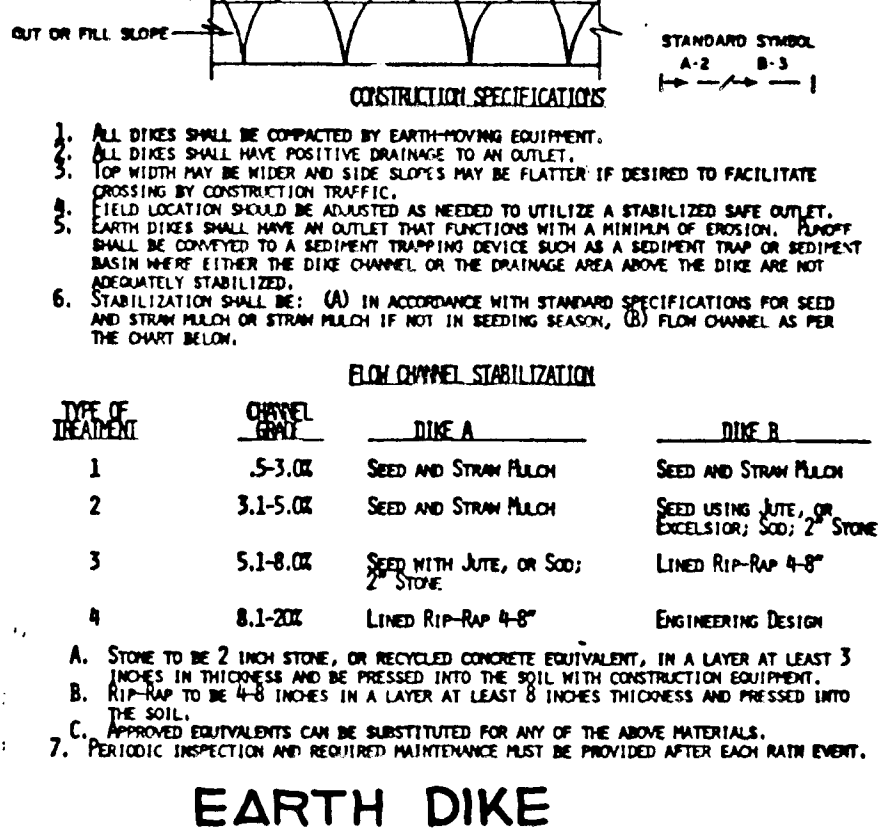
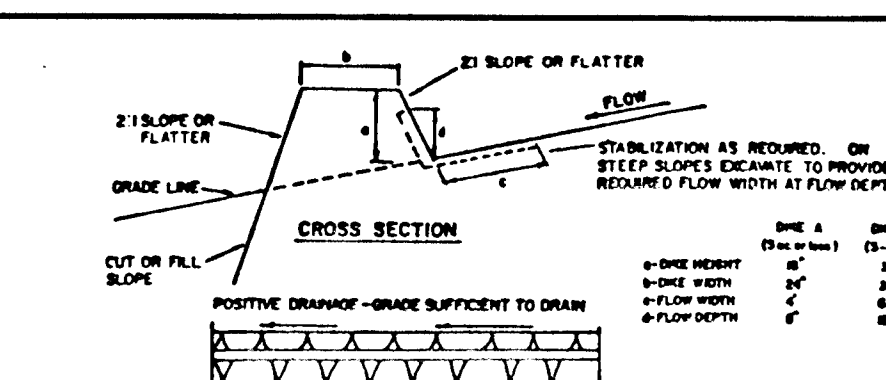
- II. Procedure**
- Excavate completely around inlet to a depth of 18" below notch elevation.
  - Drive 2 x 4 post 1' into ground at four corners of inlet. Place nail strips between posts on ends of inlet. Assemble top portion of 2 x 4 frame using overlap joint shown. Top of frame (weir) must be 6" below edge of roadway adjacent to inlet.
  - Stretch wire mesh tightly around frame and fasten securely. Ends must meet at post.
  - Stretch filter cloth tightly over wire mesh, the cloth must extend from top of frame to 18" below inlet notch elev. Fasten securely to frame. Ends must meet at post, be overlapped and folded, then fastened down.
  - Backfill around inlet in elevation of 6" layers until layer of earth is even with notch elevation on ends and top elevation on sides.
  - If the inlet is not in a low point, construct a compacted earth dike to the dike below it. The top of this dike is to be at least 6" higher than the top of frame (weir).
  - This structure must be inspected frequently and the filter fabric replaced when clogged.
  - Curb Inlet Protection.
    - 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.
    - 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.
    - Securely nail the 2" x 4" weir to 9" long vertical spacers to be located between the weir and inlet face (max. 6" apart).
    - 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 ramming or alternate weight.
    - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
    - 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.
    - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
    - Assure that storm flow does not bypass inlet by installing temporary earth or asphalt dikes directing flow into inlet.

- III. STRUCTURAL BACKFILL**
- Backfill material shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other compaction equipment. The material shall be filled completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall any equipment be allowed to operate closer than 10' to the structure. The backfill shall be placed in layers not to exceed 4" in thickness. Under no circumstances shall the contractor use equipment under any part of a concrete structure or pipe unless there is a compacted fill of twenty-four inches or greater over the structure or pipe.
- IV. CORRUGATED METAL PIPE**
- Material:** (Steel Pipe)-This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of ASTM Specification M-190 Type A with wafer-coupling bands. Any bituminous coating removed shall be replaced with cold applied bituminous coating compound.
- Form:** The forms shall have sufficient strength and rigidity to hold the concrete and in with stand the necessary pressure, tamping, and vibration without deflection from the true position. They shall be airtight and constructed so that they can be removed without hammering or prying against the concrete.
- The inside of forms shall be oiled with a non-staining mineral oil or thoroughly wetted before concrete is placed.
- Forms may be removed 24 hours after the placement of concrete. All wire ties and other devices used shall be removed from the surface of the concrete.
- Reinforcing Steel:** All reinforcing material shall be free of dirt, rust, scale, oil, paint, or other coatings. The steel shall be accurately placed and securely tied and blocked into position so that no movement of it or steel will occur during placement of concrete.
- Condemnations:** Concrete shall be consolidated with internal type mechanical vibrators. Vibration shall be supplemented by tamping and hand tamping in necessary to insure smooth and dense concrete along line surfaces, in corners, and around embedded items.
- Finishing:** Defective concrete, honeycombed areas, voids left by the removal of the rods, ridges on all concrete surfaces permanently exposed to view or exposed to water on the finished structure shall be repaired immediately after the removal of forms. All voids shall be repaired and completely filled with dry-patching mortar.
- Protection and Curing:** Exposed surfaces of concrete shall be protected from the direct action of the sun for at least the first three (3) days after placement. The concrete shall be kept continuously moist for at least ten (10) days after being placed. Moisture may be applied by spraying or sprinkling as necessary to prevent the concrete from drying. Concrete shall not be exposed to freezing during the curing period. Curing compounds may also be used.
- Placing Temperature:** Concrete may not be placed at temperatures below 32° F with the temperature falling or 80° with the temperature rising.
- STABILIZATION**
- All borrow areas shall be graded to provide proper drainage and left in a slightly convex condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized with seeding, fertilizing and mulching (if required) in accordance with the vegetative treatment specifications shown on or accompanying the drawing.
- Connections:** All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands shall be used at all joints. Antisiphon collars shall be connected to the pipe in such a manner as to be completely watertight.
- Bedding:** The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- CONCRETE**
- Material:**
- Cement - Normal Portland cement shall conform to the latest ASTM Specification C-150.
  - Water - The water used in concrete shall be clean, free from oil, acid, alkali, scales, organic matter or other objectionable substances.
  - Sand - The sand used in concrete shall be clean, hard, strong and durable, and shall be well graded with 100 percent passing a one-quarter inch sieve. Limestone sand shall not be used.
  - Coarse Aggregate - The coarse aggregate shall be clean, hard, strong and durable, and free from clay or dirt. It shall be well graded with a minimum size of one and one-half (1-1/2) inches.
  - Reinforcing Steel - The reinforcing steel shall be of the deformed bars of intermediate grade billet steel or rail steel conforming to ASTM Specification A-63.
- The concrete shall be mixed in the following proportions, measured by weight. The water-cement ratio shall be 0.5. The proportion of materials for the total mix shall be as follows: The proportion of aggregate may be adjusted to produce a plastic and workable mix that will not produce harshness in placing or honeycombing in the structure.
- Mixing:** The concrete ingredients shall be mixed in batch mixers until the mixture is homogeneous and of uniform consistency. The mixing of each batch shall continue for not less than one and one-half minutes after all the ingredients, except the full amount of water, are in the mixer. The minimum mixing time is predicted on proper control of the speed of rotation of the mixer and of the introduction of the material, including water, into the mixer. Water shall be added prior to, during, and following the mixer-charging operations. Excessive overmixing requiring the addition of water to prevent the required concrete consistency shall not be permitted. Truck cause no violation of any applicable provisions of the specifications given here.

- 1. SITE PREPARATION**
- Areas under the borrow areas, embankment, and structural works shall be cleared, grubbed and the topsoil stripped to remove all trees, vegetation, stumps or other objectionable material. Channel banks and steep banks shall be sloped to no steeper than 1:1.
- Areas covered by the pond or reservoir will be cleared of all trees, brush, logs, fence, rubbish and other objectionable material unless otherwise indicated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface.
- All cleared and grubbed material shall be disposed of outside the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

- 2. EARTH FILL**
- Material:** The fill material shall be taken from approved designated borrow areas or pits. It shall be free of roots, stumps, wood, rubbish, muck, mud, stones, iron or other objectionable materials. The embankment shall be constructed on a level surface and provide for anticipated settlement to the design elevation. The fill height shall be all along the length of the embankment shall be increased above the design elevation (including freeboard) as shown on the plans.
- Placement:** Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in 8-inch maximum thickness layers (before compaction) layers which are to be continuous over the entire length of the fill. The most porous borrow material shall be placed in the downstream portions of the embankment.
- Compaction:** The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall not be covered by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. The fill material shall contain sufficient moisture such that the required degree of compaction can be obtained with the equipment used.
- Cutoff Trench:** Where specified, a cutoff trench shall be excavated along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill material for the cutoff trench shall be the most impervious material available and shall be compacted with equipment or rollers to assure maximum density and minimum permeability.

- 3. EARTH DIKE**
- NO SCALE**
- STANDARD SYMBOL**
- CONSTRUCTION SPECIFICATIONS**
- 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 six (6) inches.
  - Width - Two (2) foot minimum, but not less than the full width at points where ingress or egress occurs.
  - Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a portable berm with six (6) inches will be permitted.
  - Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediments onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleaning of any measures used to trap sediment. All sediment applied, dropped, washed or tracked onto public rights-of-way must be removed immediately and 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 trapping device.
  - Periodic inspection and needed maintenance shall be provided after each rain.



BY THE DEVELOPER:

"I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, 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 WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

Christina A. Richards 9-26-89 DEVELOPER DATE

BY THE ENGINEER:

"I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN 'AS-BUILT' PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION."

Arthur E. Muegge 5-15-89 ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

James M. Nelson 10/19/89 DEVELOPER DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Robert W. Johnson 10/19/89 DEVELOPER DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Mark J. Taylor 2/2/90 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

James M. Nelson 1/25/90 CHIEF, LAND DEVELOPMENT DIVISION DATE

James M. Nelson 1/24/90 CHIEF, BUREAU OF HIGHWAYS DATE

Arthur E. Muegge 1-26-90 CHIEF, BUREAU OF ENGINEERING DATE

DATE NO REVISION

OWNER/DEVELOPER BOONES LANE JOINT VENTURE 8507 MAIN STREET ELLICOTT CITY, MARYLAND 21043

PROJECT THE BLUFFS AT PINE ORCHARD

AREA TAX MAP 17434 ZONE R-20 PARCEL G 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE STORM WATER MANAGEMENT, AND SEDIMENT CONTROL DETAILS

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

5-15-89 DATE

S-88-30-P-89-4, WP 88-122

DESIGNED BY: D.A.M.

DRAWN BY: G.O.H.

PROJECT NO: 51104

DATE: MAY 15, 1989

SCALE: AS SHOWN

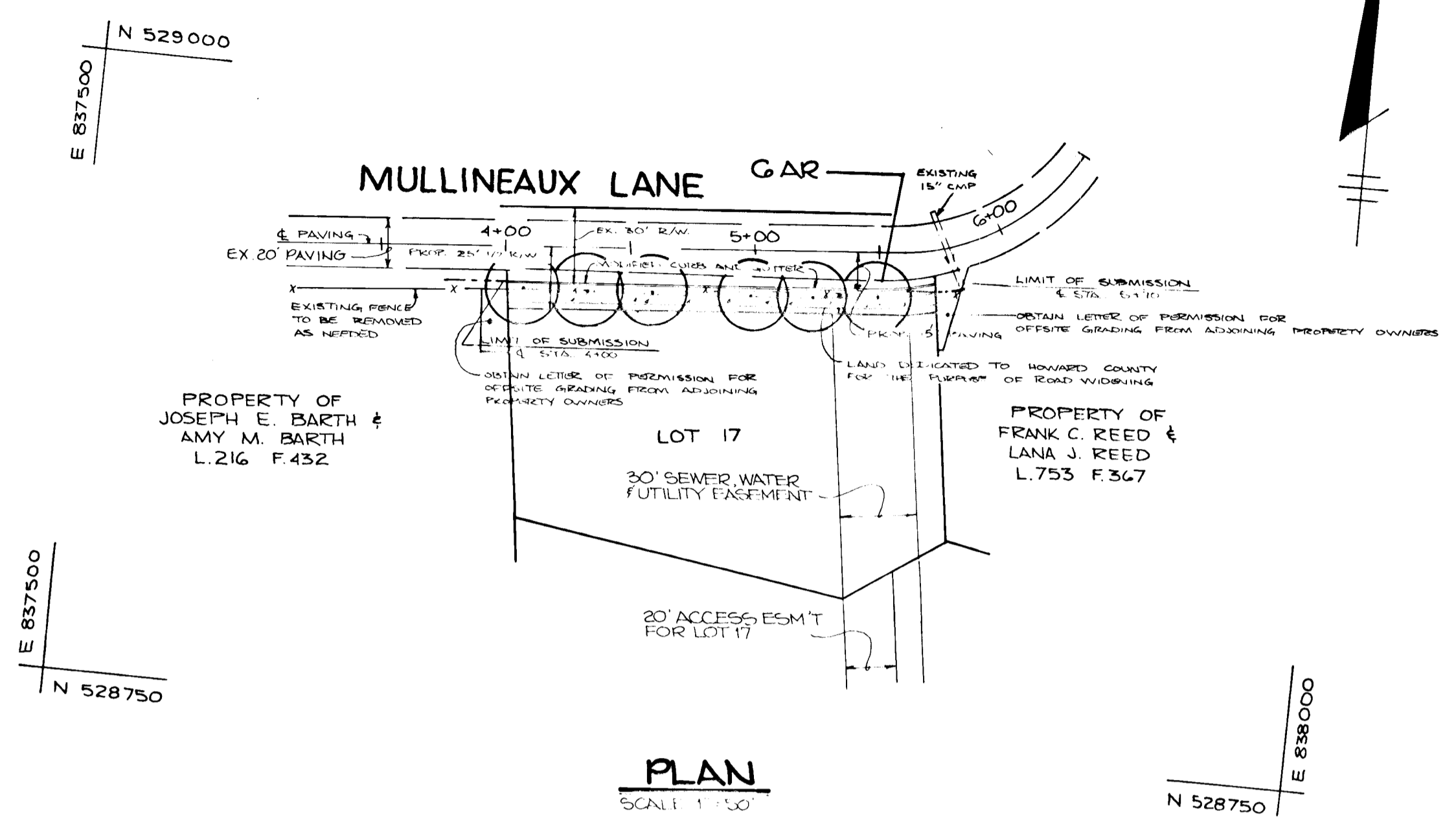
DRAWING NO. 3 OF 10

AS BUILT CERTIFICATION ENGINEER DATE

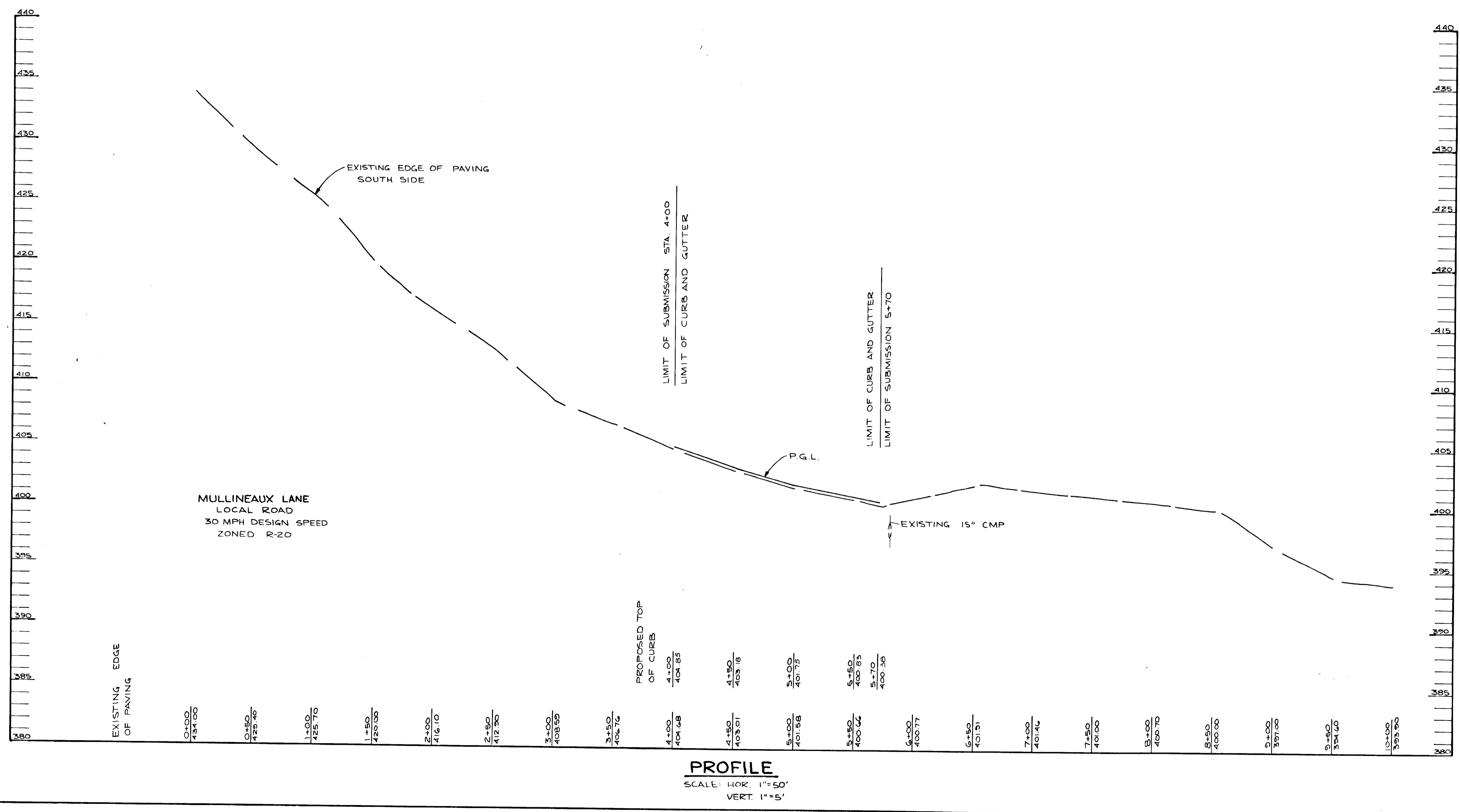
Arthur E. Muegge DATE

F-89-229 10-BUILT 9-17-90

1536



PLAN  
SCALE: 1"=50'



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

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
*Mark S. Anylis* 2/21/90  
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Paul W. Lapan* 1/25/90  
CHIEF, LAND DEVELOPMENT DIVISION  
*Granville W. Weiland* 1/24/90  
CHIEF, BUREAU OF HIGHWAYS  
*William E. Reid* 1-26-90  
CHIEF, BUREAU OF ENGINEERING

DATE	NO.	REVISION

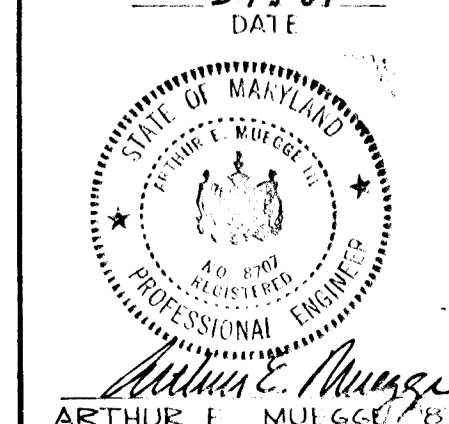
OWNER / DEVELOPER  
BOONES LANE JOINT VENTURE  
8307 MAIN STREET  
ELLCOTT CITY, MARYLAND 21043

PROJECT  
**THE BLUFFS AT PINE ORCHARD**  
AREA TAX MAP 17 & 24 ZONE R-20 PARCEL 6  
2nd ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

TITLE  
PLAN AND PROFILE  
OF MULLINEAUX LANE

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

5-15-89 DATE  
5-88-90, P.88-14, WP-88-122  
DESIGNED BY: C.J.R.  
DRAWN BY: D.J.E.  
PROJECT NO: 51104  
DATE: JULY 28, 1989  
SCALE AS SHOWN  
DRAWING NO. 10 OF 10



ARTHUR E. MUEGGE 78107

F-89-229