

**GENERAL NOTES**

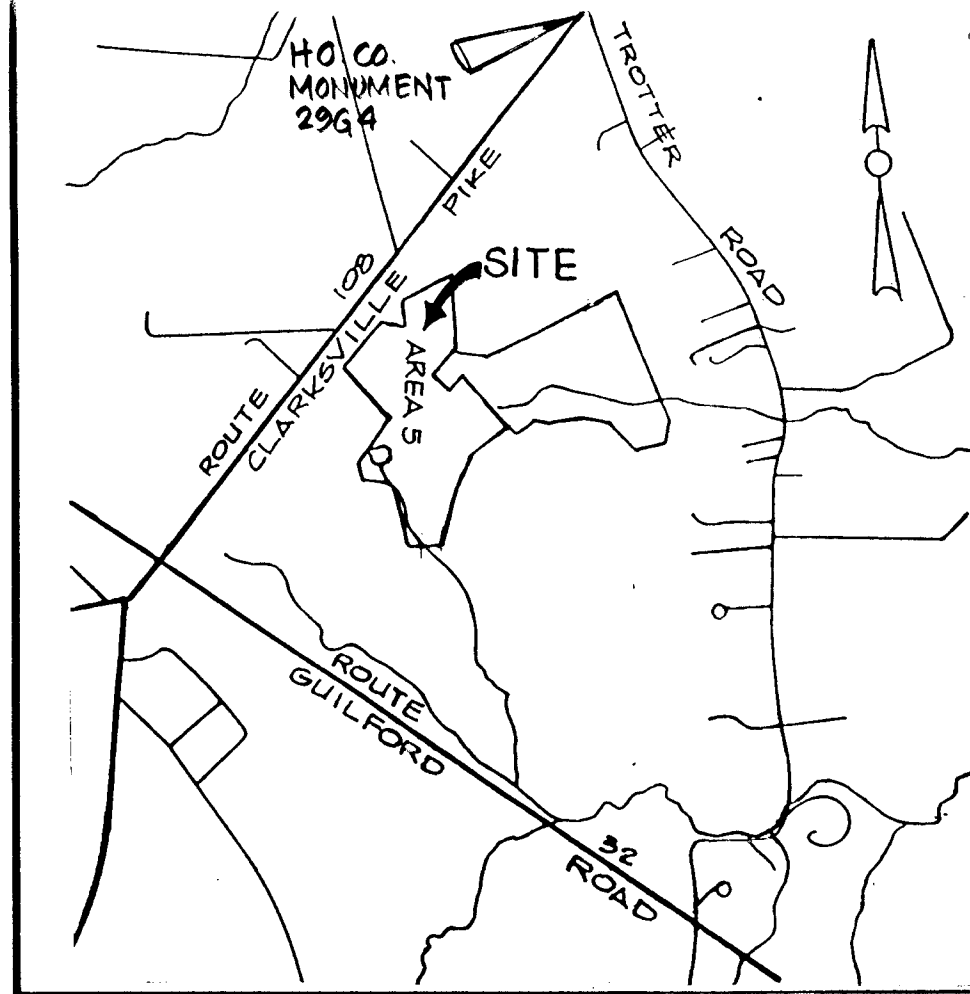
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVERS HAVE BEEN APPROVED.
- PROJECT BACKGROUND:  
 LOCATION: EAST MD. ROUTE 108  
 TAX MAP: 35  
 ZONING: NT  
 ELECTION DISTRICT: 5  
 GROSS AREA OF TRACT: 80.63 AC.  
 PRELIMINARY PLAN FILE NUMBER AND APPROVAL DATE: P-95-12, (5/21/95)
- SEE COUNTY FILE NOS. S-93-21, P-95-12, WP-95-70
- TOPOGRAPHY SHOWN HAS A 2' CONTOUR INTERVAL AND WAS PHOTOGRAPHED BY MAPPING ASSOCIATES, INC. IN 1989.
- PUBLIC WATER AND SEWER TO BE UTILIZED. (MIDDLE PATUXENT DRAINAGE AREA) SITE IS IN METROPOLITAN DISTRICT. WATER AND SEWER CONSTRUCTION FOR THIS SUBDIVISION IS TO BE IN ACCORDANCE WITH HOWARD COUNTY DPW CONTRACT NO. 34-3586-D.
- QUANTITY STORMWATER MANAGEMENT FOR SECTION 4, AREA 5 IS PROVIDED BY THREE FACILITIES; THE REPAIR/REPLACE SWM POND #1 SOUTH OF LINDEN LINTHICUM LANE (E-96-89), THE CULVERT AT GREAT STAR DRIVE (E-96-110) AND SWM POND #4 IN SECTION 4, AREA 5 (E-96-197). QUANTITY MANAGEMENT FOR THIS SECTION WILL BE PROVIDED BY THREE FACILITIES; A FIBERGLASS WALK (E-96-89), A SHALLOW MARSH FACILITY AT THE END OF WILD ORANGE GATE AND AN EXPANDED DETENTION FACILITY WITHIN POND #4 (E-96-197). THE GARDENING IS LOCATED IN THE PATUXENT RIVER AREA SUB-BASIN AND IS A STUDY APPROVED AS OF 1/20/95.
- THE FLOODPLAIN STUDY HAS BEEN PREPARED BY WHITMAN, REQUARDT AND ASSOC. CLASS E WATERHEATED STUDY APPROVED AS OF 1/20/95.
- THE WETLAND DELINEATION WAS PERFORMED BY EXPLORATION RESEARCH, INC. STUDY APPROVED AS OF 1/20/95.
- A NOISE STUDY WAS PREPARED BY STAJANO ENGINEERING, INC. STUDY APPROVED AS OF 1/20/95.
- TRAFFIC STUDY PREPARED BY WELLS & ASSOCIATES, DATED 1/20/95.
- GEOTECHNICAL REPORT PREPARED BY ROBERT B. BALTER, INC.
- HORIZONTAL AND VERTICAL CONTROL BASED ON HOWARD COUNTY CONTROL STATIONS 296A ELEV. 490.7 AND 2965, ELEV. 388.12.
- LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOL. III, ROAD AND BRIDGES.
- MINIMUM BUILDING SETBACK RESTRICTION FROM PROPERTY LINES AND THE RIGHT-OF-WAY OF ANY PUBLIC ROAD WILL BE IN ACCORDANCE WITH THE FINAL DEVELOPMENT PLAN CRITERIA PHASE 222, PART V.
- SEE SOILS MAP #23.
- NO SLOPES OF 25% OR GREATER THAT ARE A CONTIGUOUS AREA OF 20,000 S.F. EXIST ON SITE.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/DIVISION OF CONSTRUCTION INSPECTION AT (410) 313-1880 AT LEAST FIVE (5) DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- TYPES OF STORM DRAINS REFER TO THE STANDARD DETAILS OF HOWARD COUNTY AND MSHA.
- TRENCH COMPACTION FOR STORM DRAINS WITHIN ROADS AND STREET RIGHT-OF-WAYS LIMITS SHALL BE IN ACCORDANCE WITH "HOWARD COUNTY DESIGN MANUAL", VOL. IV, STANDARD G-2.01.
- EXISTING UTILITIES WERE LOCATED BY FIELD SURVEY AND AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF MAINS BY DIGGING TEST PITS, BY HAND, AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF CONSTRUCTION.
- SAC AND CREST VERTICAL CURVES WERE DESIGNED IN ACCORDANCE WITH "HOWARD COUNTY DESIGN MANUAL", VOL. III.
- CONCRETE SIDEWALK RAMPS SHALL BE PROVIDED AT ALL INTERSECTION AND AS INDICATED ON THE PLANS. THE RAMP SHALL CONFORM TO THE AMERICANS WITH DISABILITIES ACT (ADA) 1992, AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH "HOWARD COUNTY DESIGN MANUAL", VOL. IV.
- SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL".
- STREET TREES SHOWN ARE TENTATIVE AND ARE TO BE USED FOR PLANTING PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND PROVIDERS LANDSCAPE PROGRAM. STREET TREES MUST BE A MINIMUM OF 20' FROM STREET LIGHTS.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
  - A. STOP SIGNS R1-1, 30" X 30" OCTAGON
  - B. STOP AHEAD SIGNS W3-1A, 30" X 30" DIAMOND
  - C. SPEED LIMIT SIGNS R2-1, 24" X 30" RECTANGULAR
- STREET TREES SHALL BE PLANTED A MINIMUM OF FIVE (5) FEET FROM STORM DRAIN, WATERLINE OR SEWER PIPE MANHOLES; ALSO A MINIMUM OF TWENTY (20) FEET FROM STREET LIGHTS.
- BOND RELEASE FOR PERIMETER LANDSCAPE TREES IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 21 TREES IN THE AMOUNT OF \$100.00 PER TREE (\$2,100.00)
- THIS PROJECT WILL BE LANDSCAPED IN ACCORDANCE WITH THE NEW TOWN ALTERNATIVE COMPLIANCE PROVISION OF THE HOWARD COUNTY LANDSCAPE MANUAL ADOPTED MARCH 12, 1993. A TYPE 'A' BUFFER IS PROVIDED ADJACENT TO WESTERN HIGH SCHOOL.

# VILLAGE OF RIVER HILL

## SECTION 4 AREA 5

### HOWARD COUNTY, MARYLAND

HO CO MONUMENT 2964 IS AT INTERSECTION OF MD. RTE 108 AND TROTTER RD. MONUMENT 2965 IS AN ADDITIONAL 2544' ALONG RTE. 108 AWAY FROM SITE

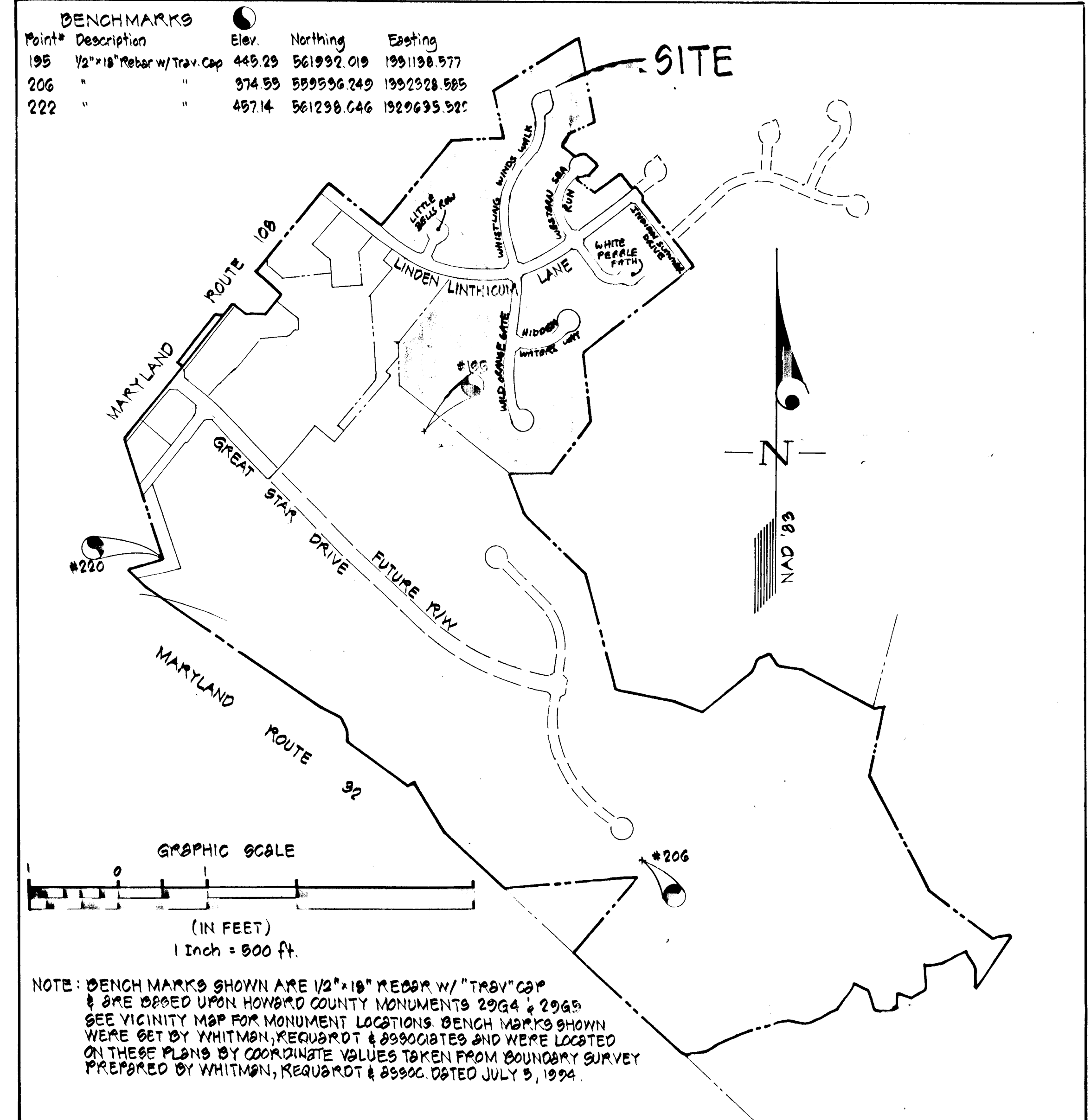


**VICINITY MAP**

SCALE: 1" = 2000'

**BENCHMARKS**

BM#1 RAILROAD SPIKE IN POLE #525680	ELEV. 393.27
TROTTER ROAD	N 456697.02 E 822026.81
BM#2 RAILROAD SPIKE IN POPLAR	ELEV. 438.92
	N 495551.90 E 820727.80



**LANDSCAPE NOTES**

- PARCEL A WILL BE TRANSFERRED TO THE ADJACENT LINDEN LINTHICUM CHURCH PROPERTY. ANY LANDSCAPE REQUIREMENTS FOR THIS PARCEL WILL BE PROVIDED WHEN THE SITE DEVELOPMENT PLAN FOR THIS PARCEL IS SUBMITTED.
- THE LANDSCAPING REQUIREMENT FOR THE PERIMETER OF OPEN SPACE LOT 193 WILL BE FULFILLED VIA THE RETENTION OF EXISTING VEGETATION.
- THE PERIMETER LANDSCAPING REQUIRED ALONG THE REAR OF LOTS 20-30 WILL BE PROVIDED BY THE HOULDER(S) IN CONJUNCTION WITH THE SITE DEVELOPMENT PLAN(S) FOR THESE LOTS.
- THE DEVELOPER WILL BE RESPONSIBLE FOR THE INSTALLATION OF LANDSCAPE PLANTINGS ALONG THE NORTH AND EAST SIDES OF OPEN SPACE LOT 140 (SEE PLAN SHEET 7).
- ALL REMAINING PERIMETERS ARE INTERNAL TO THE VILLAGE OF RIVER HILL AND THEREFORE DO NOT REQUIRE PLANTINGS IN ACCORDANCE WITH THE COUNTY'S LANDSCAPE MANUAL.

**DRAWING LIST**

NO.	TITLE	DESCRIPTION
1	TITLE SHEET	
2	PLAN & PROFILE OF LINDEN LINTHICUM LANE	
3	PLAN & PROFILE OF WESTERN SEA RUN AND WHITE PEBBLE PATH	
4	PLAN & PROFILE OF LITTLE BELLS FOUN AND HIDDEN WATERS WAY	
5	PLAN & PROFILE OF WHISTLING WINDS WALK	
6	PLAN & PROFILE FOR INDIAN SUMMER DRIVE	
7	PLAN & PROFILE OF WILD ORANGE GATE	
8	DETAIL SHEET	
9	DRAINAGE AREA MAP	
10	GRADING & SEDIMENT CONTROL PLANS ROAD ONLY	
11	GRADING & SEDIMENT CONTROL PLANS ROAD ONLY	
12	GRADING & SEDIMENT CONTROL PLANS ROAD ONLY	
13	GRADING & SEDIMENT CONTROL PLANS ROAD ONLY	
14	SEDIMENT CONTROL DETAILS & NOTES	
15	SEDIMENT CONTROL DETAILS & NOTES	
16	STORM DRAIN PROFILES & STRUCTURE SCHEDULES	
17	STORM DRAIN PROFILES & STRUCTURE SCHEDULES	
18	WATER QUALITY FACILITIES PLAN & DETAILS	

DATE	NO.	REVISION
11/11/96	2	STORM DRAIN PIPES ROUNDED TO H.D.P.E.

OWNER / DEVELOPER:  
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 THE ROUSE BUILDING  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044  
 PHONE: (410) 992-6370

PROJECT: **VILLAGE OF RIVER HILL**  
**SECTION 4, AREA 5**

AREA: TAX MAP NO. 35 ZONED: NEW TOWN  
 ELECTION DISTRICT No.5 HOWARD COUNTY, MARYLAND

TITLE: **COVER SHEET**

**MORRIS & RITCHIE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

110 WEST ROAD SUITE 105  
 TOWSON, MARYLAND 21284  
 (410) 821-1890  
 FAX (410) 821-1748

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Richard M. Daneker* 12-31-96  
 Chief, Bureau of Highways Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard Blood* 2/4/97  
 Chief, Division of Land Development and Planning Date

*William M. ...* 2/3/97  
 Chief, Development Engineering Division Date

DATE: 12/11/96 PROJECT NO.: 9927  
 SCALE: AS SHOWN  
 DATE: 1/21/96  
 DRAWN BY: T.P.D.  
 DESIGNED BY: K.A.D.  
 REVIEW BY: D.N.M.  
 DRAWING NO. 1 OF 18

**STREET LIGHT INFORMATION**

TYPE 2 - 150 WATT UPS VAPOR PENDANT FIXTURE (CUTOFF) MOUNTED ON A 30-FOOT BRONZE ALUMINUM POLE.

TYPE 3 - 100 WATT "MODERN" UPS VAPOR POST TOP FIXTURE (BRONZE) ON A 14-FOOT BRONZE FIBERGLASS POLE.

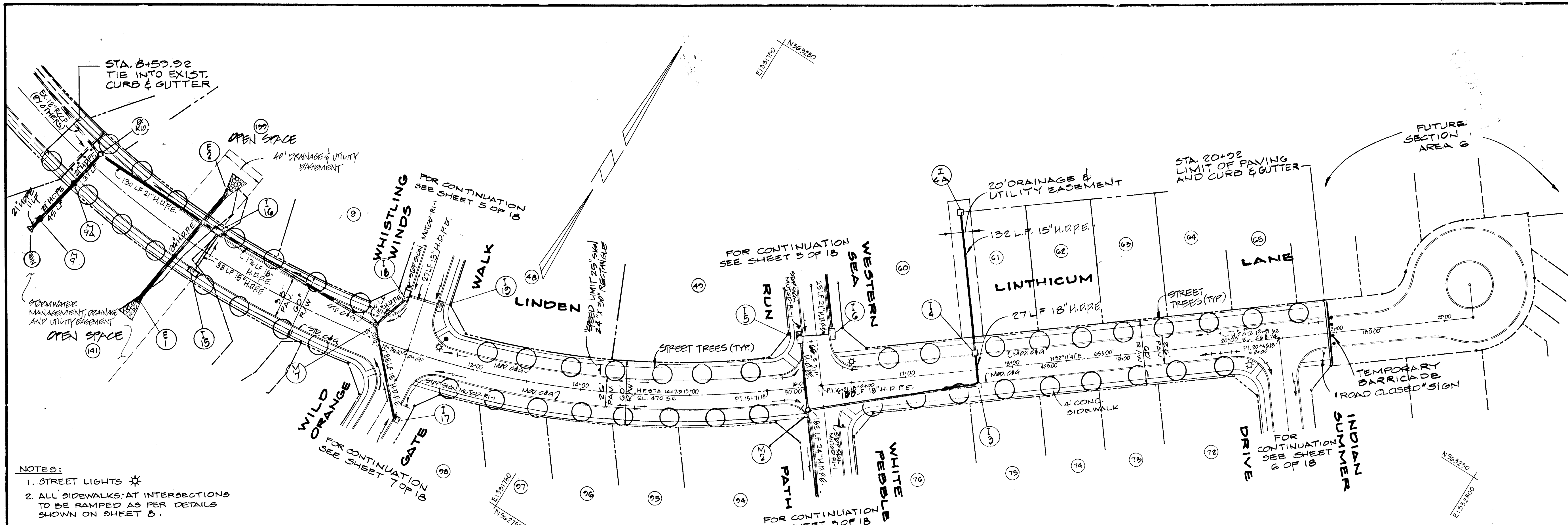
**STREET LIGHT SCHEDULE**

SHEET #	STREET NAME	LOCATION	OFFSET	TYPE
2	LINDEN LINTHICUM LANE	12+67 *	20' L	2
"	"	16+50	19' L	2
2	LINDEN LINTHICUM LANE	20+20	20' R	2
3	WHITE PEBBLE PATH	3+57	19' R	3
3	WESTERN SEA RUN	4+84 **	4' R	3
4	HIDDEN WATERS WAY	2+25	16' R	3
5	WHISTLING WINDS WALK	3+86	16' L	3
"	"	7+55	16' R	3
5	WHISTLING WINDS WALK	0+85 **	24' R	3
7	WILD ORANGE GATE	4+18	18' L	3
7	WILD ORANGE GATE	7+87	15' R	3
4	LINDEN LINTHICUM LANE	7+41	23' L	3

\* ANGLE ARM AS SHOWN \*\* IN ISLAND

1487  
1487

1487

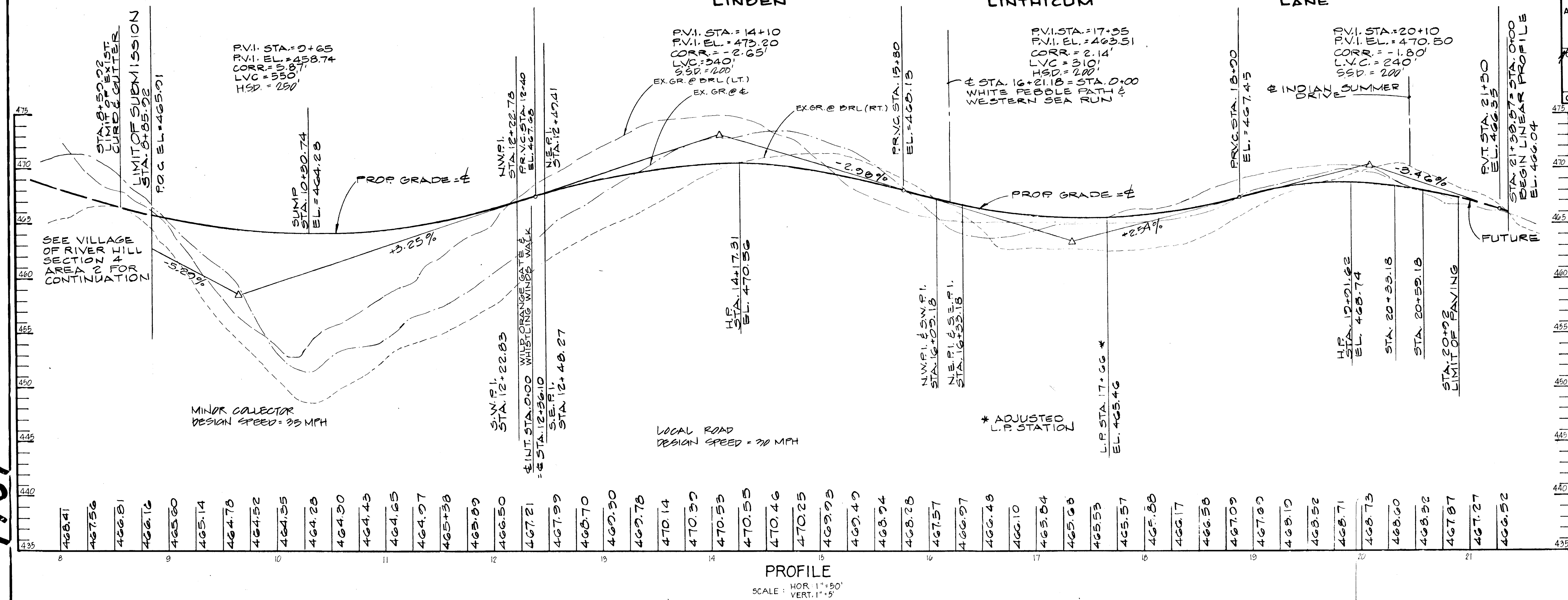


- NOTES:
1. STREET LIGHTS \*
  2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAMPED AS PER DETAILS SHOWN ON SHEET 8.

CURVE DATA TABLE  
FROM CL STA 4+25.50 TO CL STA 15+71.10

Δ	16° 49' 15"
R	500.00'
T	69.31'
L	1072.92'
CHD	589° 23' 41" E 994.06'

PLAN  
SCALE 1"=50'



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

AS BUILT CERTIFICATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Quack* 12-21-96  
 Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard Blood* 2/1/97  
 Chief, Division of Land Development and Zoning Date

*Chris Peterson* 2/1/97  
 Chief, Development Engineering Division Date

9/11/95	3	STORM DRAIN REVISED EXHIBIT TO E2
9/11/99	2	STORM DRAIN PIPES TO BE H.D.P.E.
DATE	NO.	REVISION

OWNER/DEVELOPER  
 THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 THE ROUSE BUILDING  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL  
 SECTION 4, AREA 5

AREA TAX MAP NO. 35 ZONED: NEW TOWN  
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

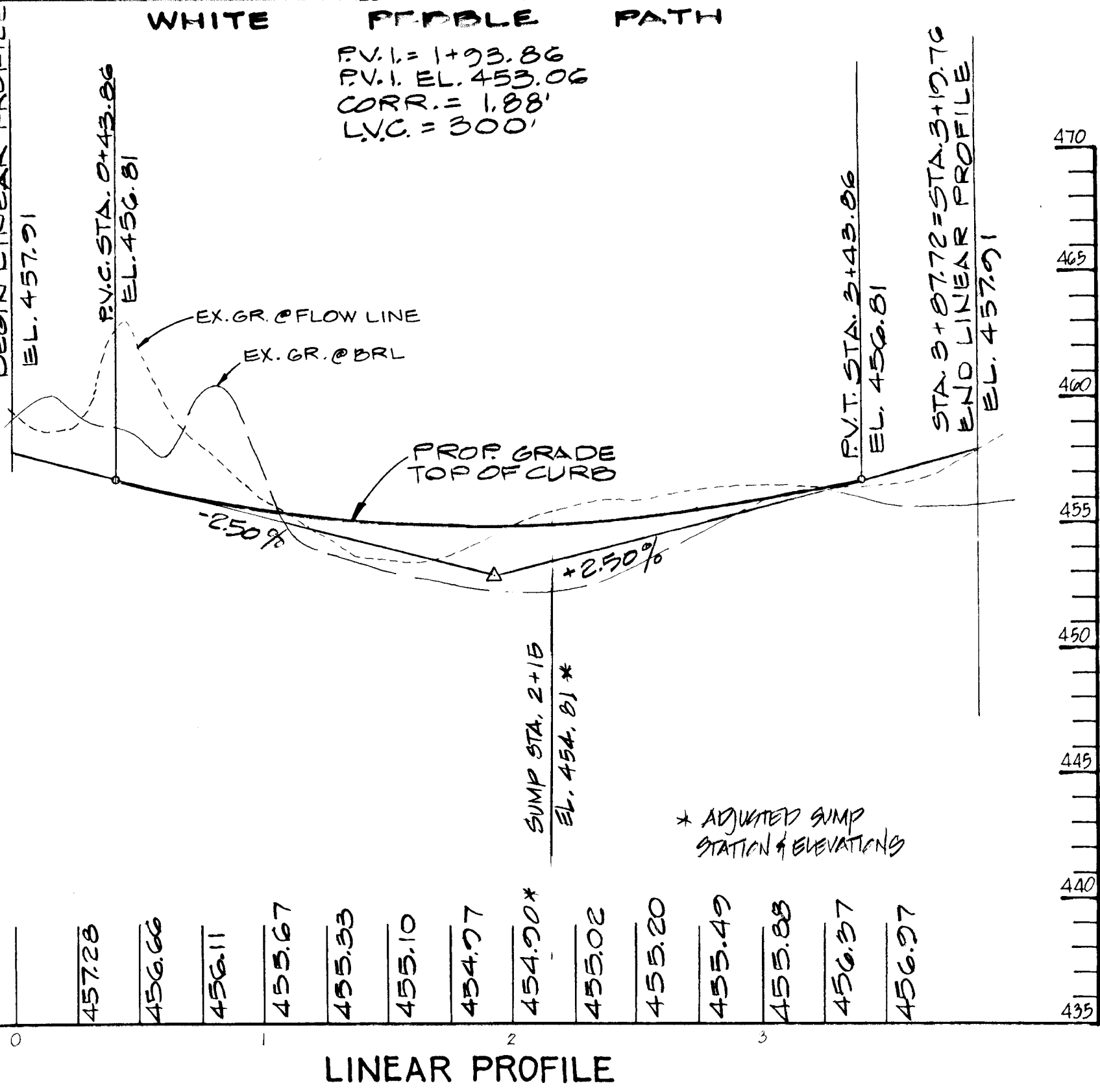
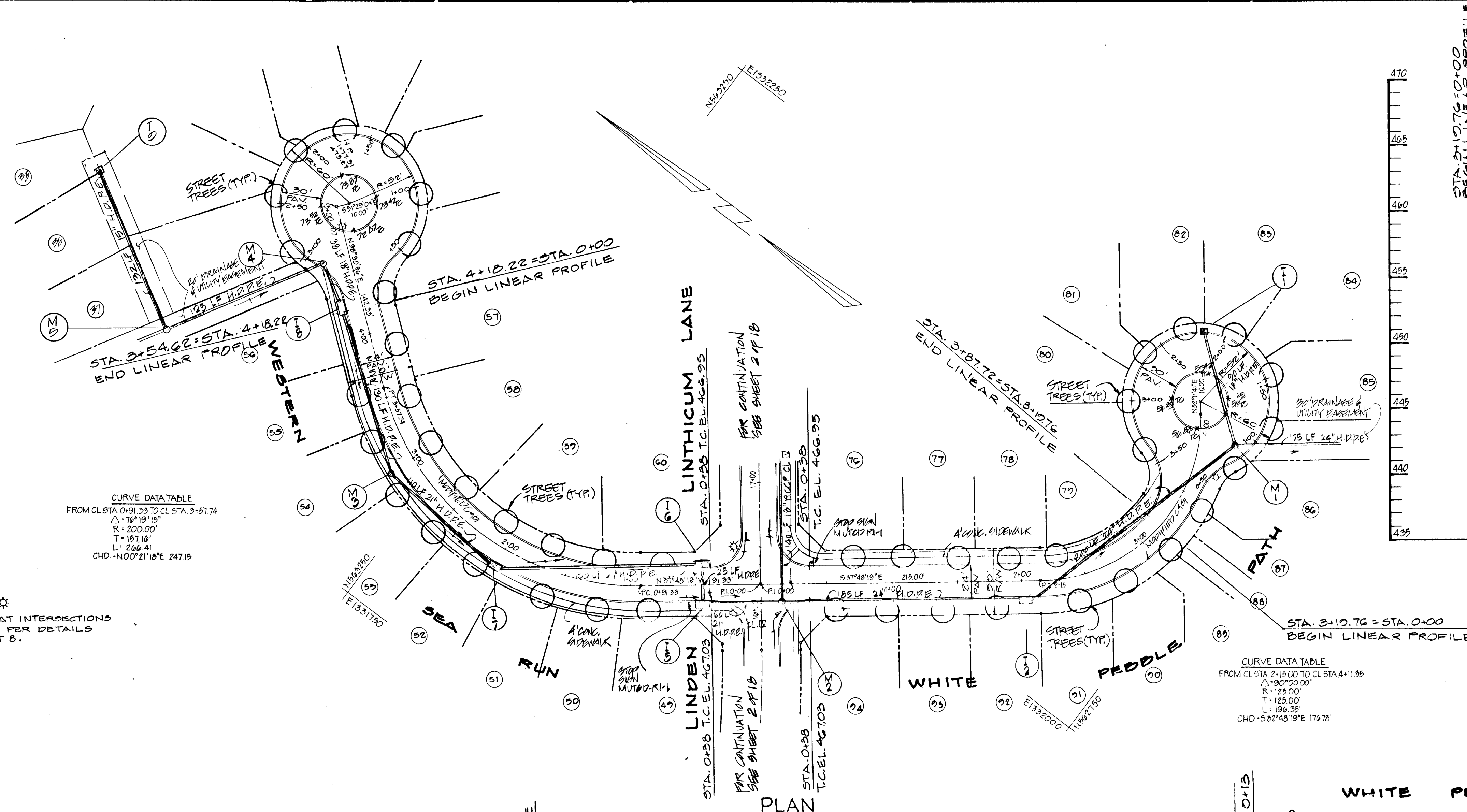
TITLE PLAN AND PROFILE OF  
 LINDEN LINTHICUM LANE  
 FROM STA. 8+50.92 TO STA. 20+92

MORRIS & MITCHELL ASSOCIATES, INC.  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 110 WEST BROAD SUITE 105  
 TOWSON, MARYLAND 21286  
 (410) 288-1355  
 FAX (410) 288-1318

12-11-96  
 DATE

DESIGNED BY: KAD  
 DRAWN BY: JAG  
 PROJECT NO.: 9927  
 DATE: JANUARY 21, 1996  
 SCALE: AS SHOWN  
 DRAWING NO. 2 OF 18



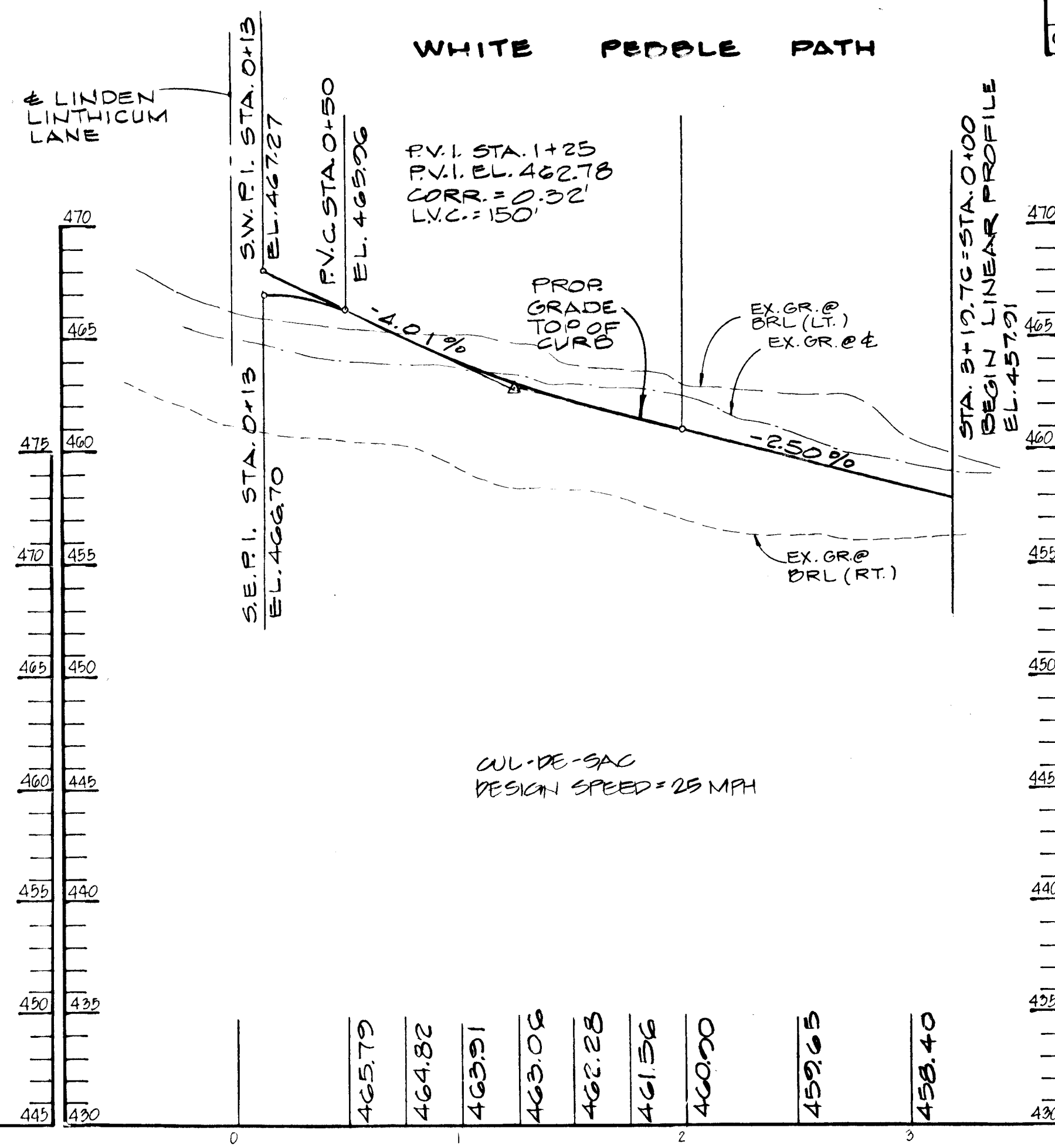
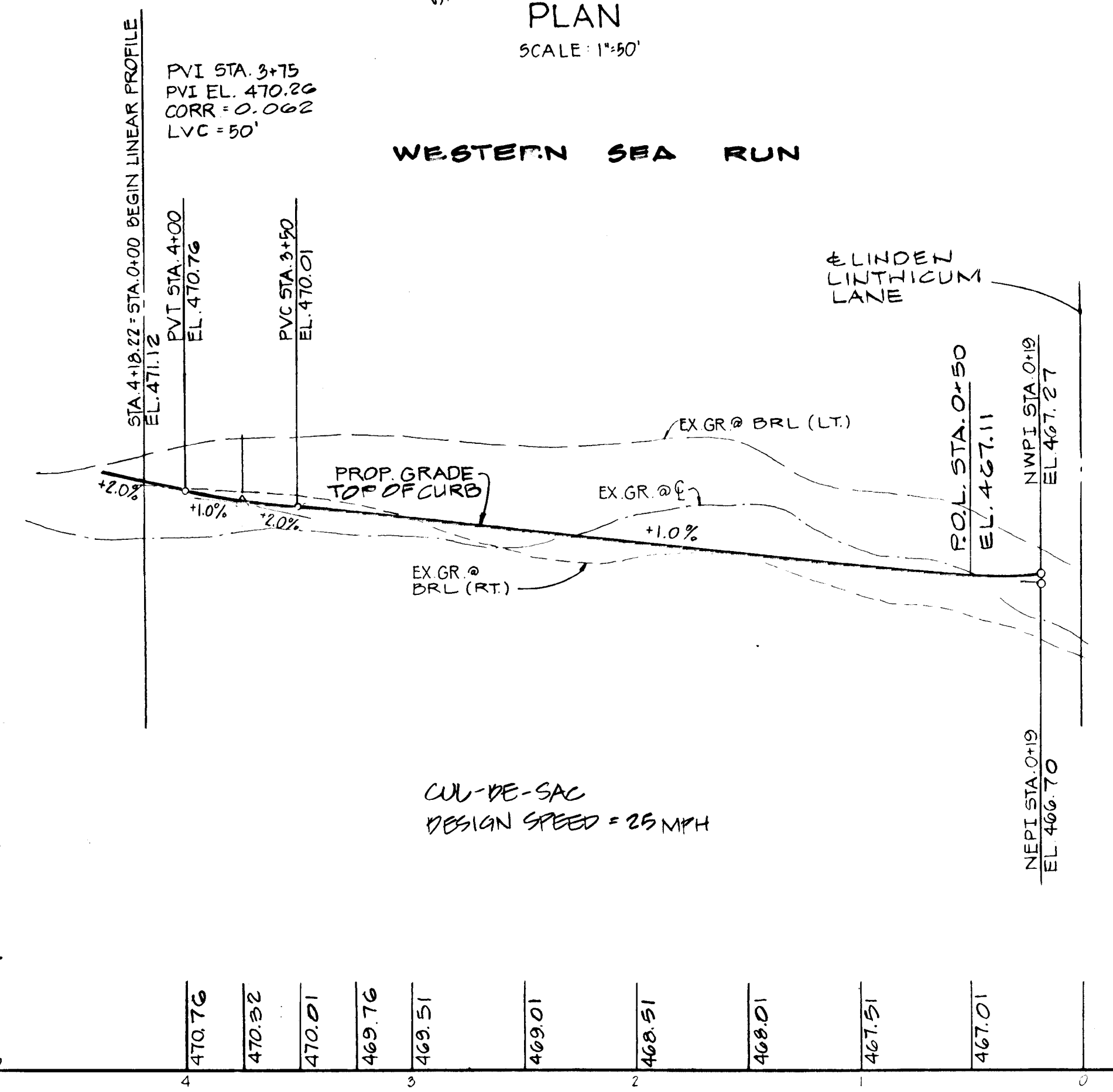
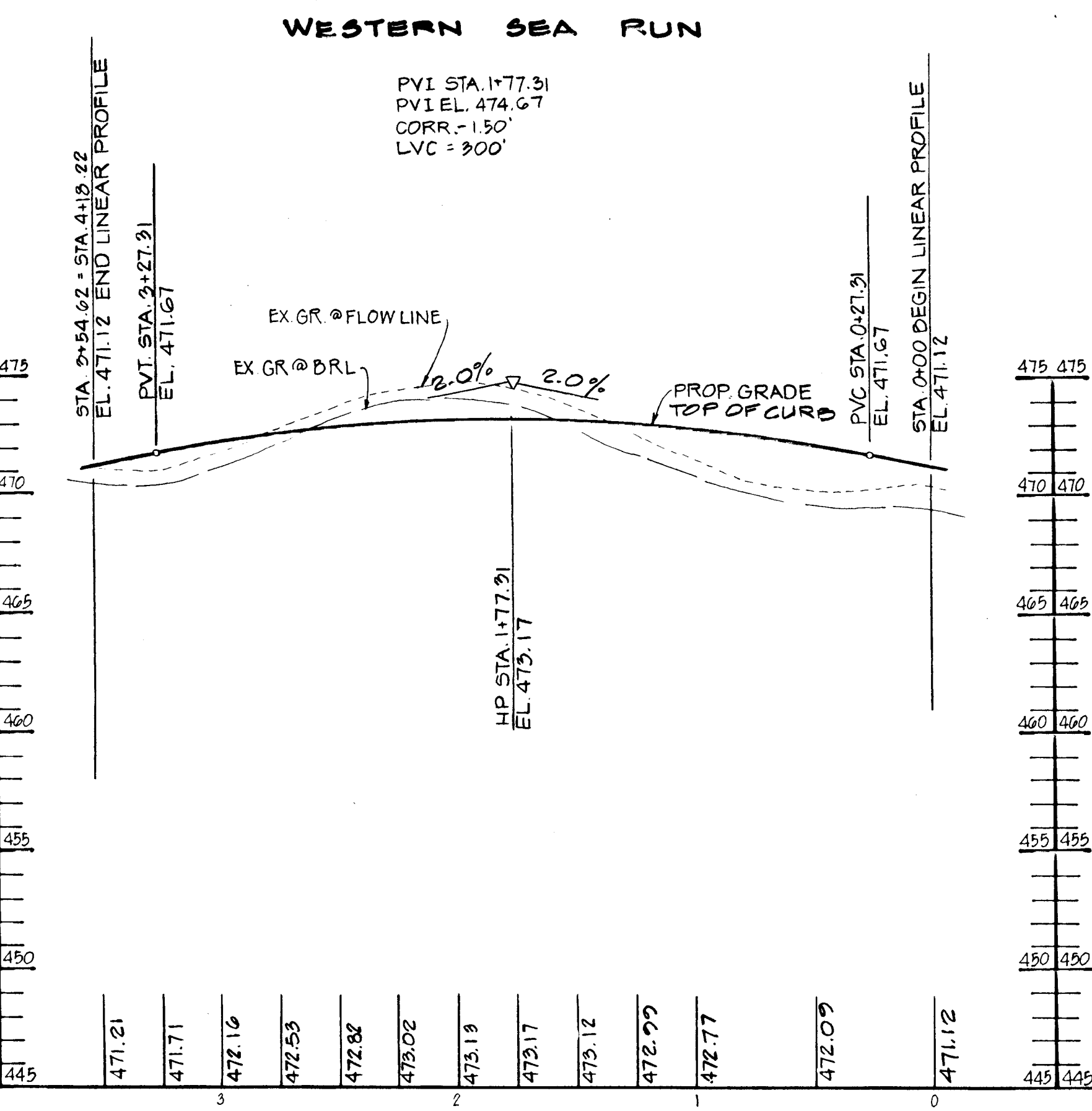


**NOTES:**  
 1. STREET LIGHTS \*  
 2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAMPED AS PER DETAILS SHOWN ON SHEET 8.

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Richard M. Dancho* 12-31-96  
 Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard Blood* 2/4/97  
 Chief, Division of Land Development and Zoning Date

*William D. ...* 2/1/97  
 Chief, Development Engineering Division Date



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

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

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

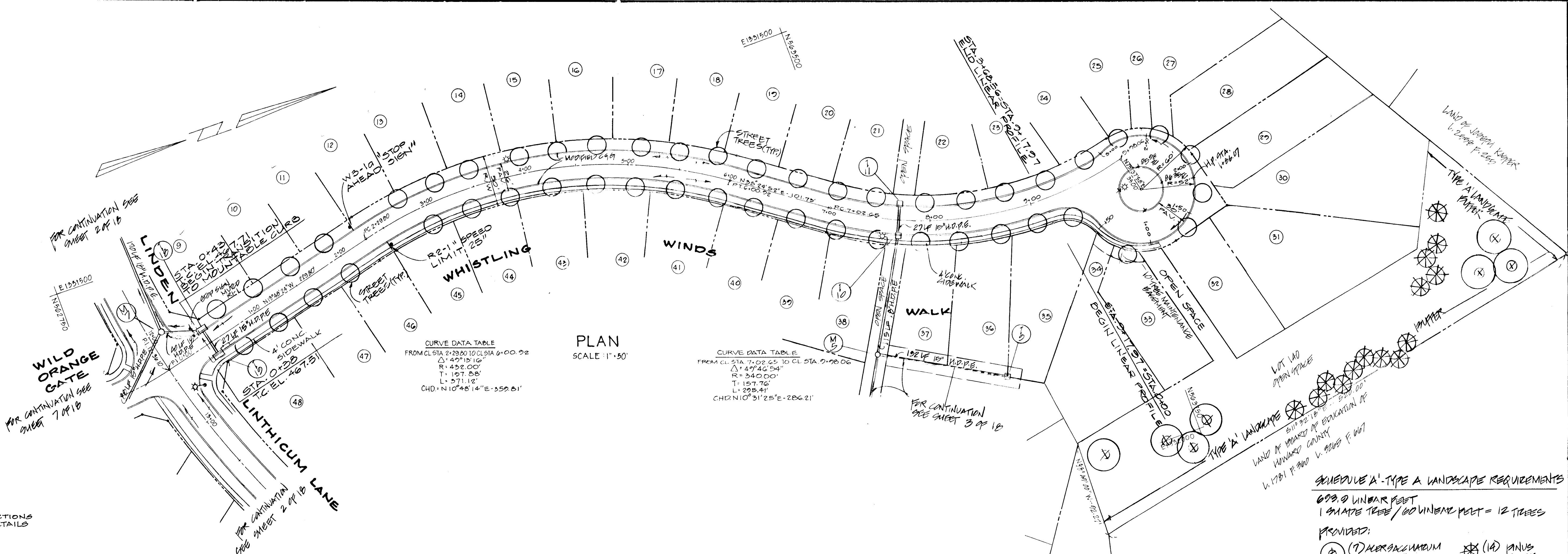
01/14/96	2	ADJUST DRAIN PIPES TO BE H.D.P.E.
DATE	NO.	REVISION
OWNER/DEVELOPER		
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT: VILLAGE OF RIVER HILL SECTION 4, AREA 5		
AREA TAX MAP NO. 35 2C.1ED. NEW TOWN		
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND		
TITLE PLAN AND PROFILE OF WESTERN SEA RUN AND WHITE PEBBLE PATH		
MORRIS & RICHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 110 WEST ROAD SUITE 105 TOWSON, MARYLAND 21284 (410) 821-1899 FAX (410) 72-1748		
12-11-96 DATE		
DESIGNED BY: KAD		
DRAWN BY: JAG		
PROJECT NO.: 9927		
DATE: JANUARY 21, 1996		
SCALE: AS SHOWN		
DRAWING NO. 3 OF 18		

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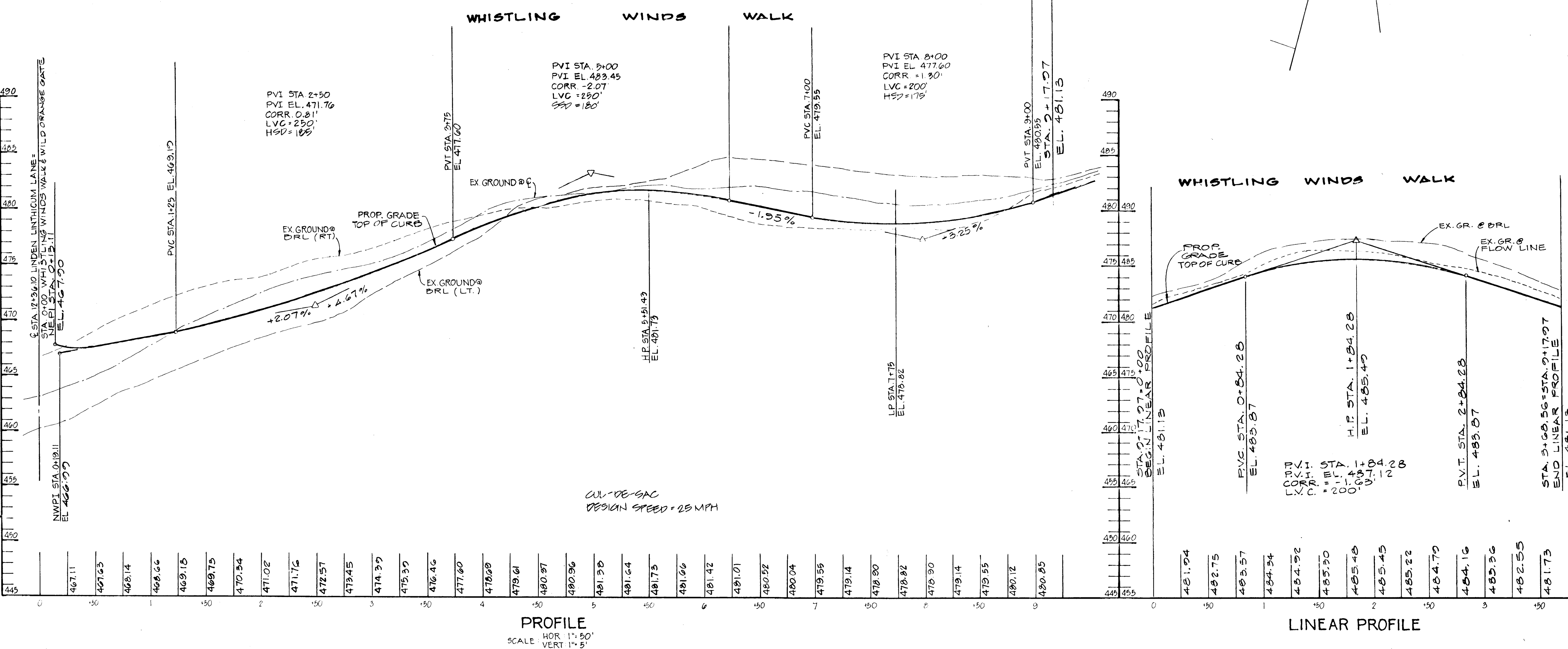




1987



- NOTES:**
1. STREET LIGHTS
  2. ALL SIDEWALKS AT INTERSECTIONS TO BE RAMMED AS PER DETAILS SHOWN ON SHEET B.



**SCHEDULE A - TYPE A LANDSCAPE REQUIREMENTS**

600.0 LINEAR FEET  
 1 SHADE TREE / 60 LINEAR FEET = 12 TREES PROVIDED:

(1) (14)   
 "VERACIOUS" "VERACIOUS"  
 2 1/2" CAL. 12' H. T. 6" - 8" DIA.  
 6" - 8" DIA.

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Panch* 12-31-96  
 Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard Blood* 2/4/97  
 Chief, Division of Land Development and Planning Date

*John Damm* 2/5/97  
 Chief, Development Engineering Division Date

DATE	01/10/97	REVISION	2. OPEN DRAIN PIPES TO BE H.D.P.E.
OWNER/DEVELOPER	THE HOWARD RESEARCH & DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT:	VILLAGE OF RIVER HILL SECTION 4, ARFA 5		
AREA	TAX MAP NO. J5 ZONE: NEW TOWN		
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND			
TITLE	PLAN AND PROFILE OF WHISTLING WINDS WALK		
MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND "NAASCAP" ARCHITECTS 110 WEST BOND SUITE 105 TOWSON, MARYLAND 21284 (410) 821-1600 FAX (410) 821-1748			

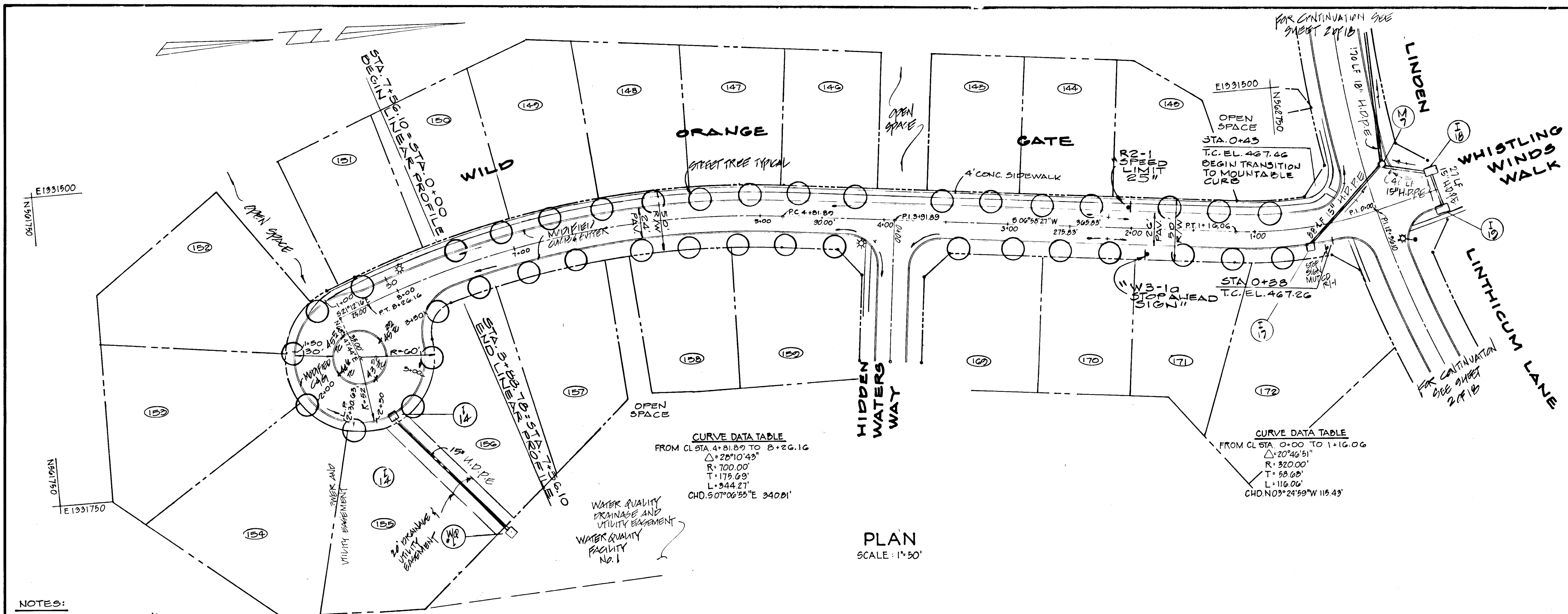
12-11-96  
 DATE

DESIGNED BY: KAD  
 DRAWN BY: JAG  
 PROJECT NO.: 9927  
 DATE: JANUARY 21, 1996  
 SCALE: AS SHOWN  
 DRAWING NO. 5 OF 18



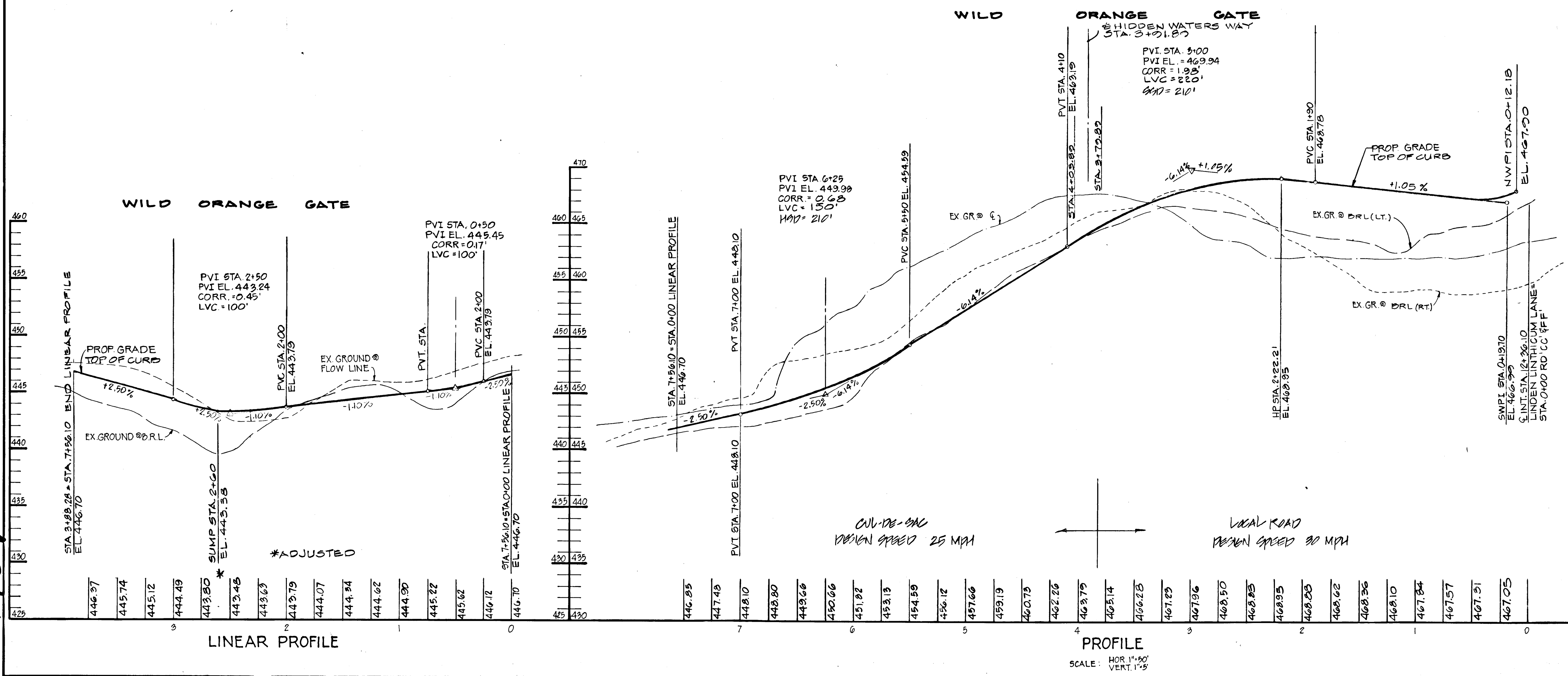






PLAN  
SCALE: 1"=50'

- NOTES:
- STREET LIGHTS ✱
  - ALL SIDEWALKS AT INTERSECTIONS TO BE RAMPED AS PER DETAILS SHOWN ON SHEET 8.



APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Packer* 12-31-96  
Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard Blood* 2/4/97  
Chief, Division of Land Development and Research Date

*John Dummer* 2/5/97  
Chief, Development Engineering Division Date

9/16/98 2 ADDED DRAIN PIPES TO BE H.D.P.E.  
8-0-98 3 REVISED LOT LINES & LOT NUMBERS

DATE NO. REVISION

OWNER/DEVELOPER  
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
THE ROUSE BUILDING  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF FIVIER HILL  
SECTION 4, ARFA 5

AREA TAX MAP NO. 35 ZONED: NEW TOWN  
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

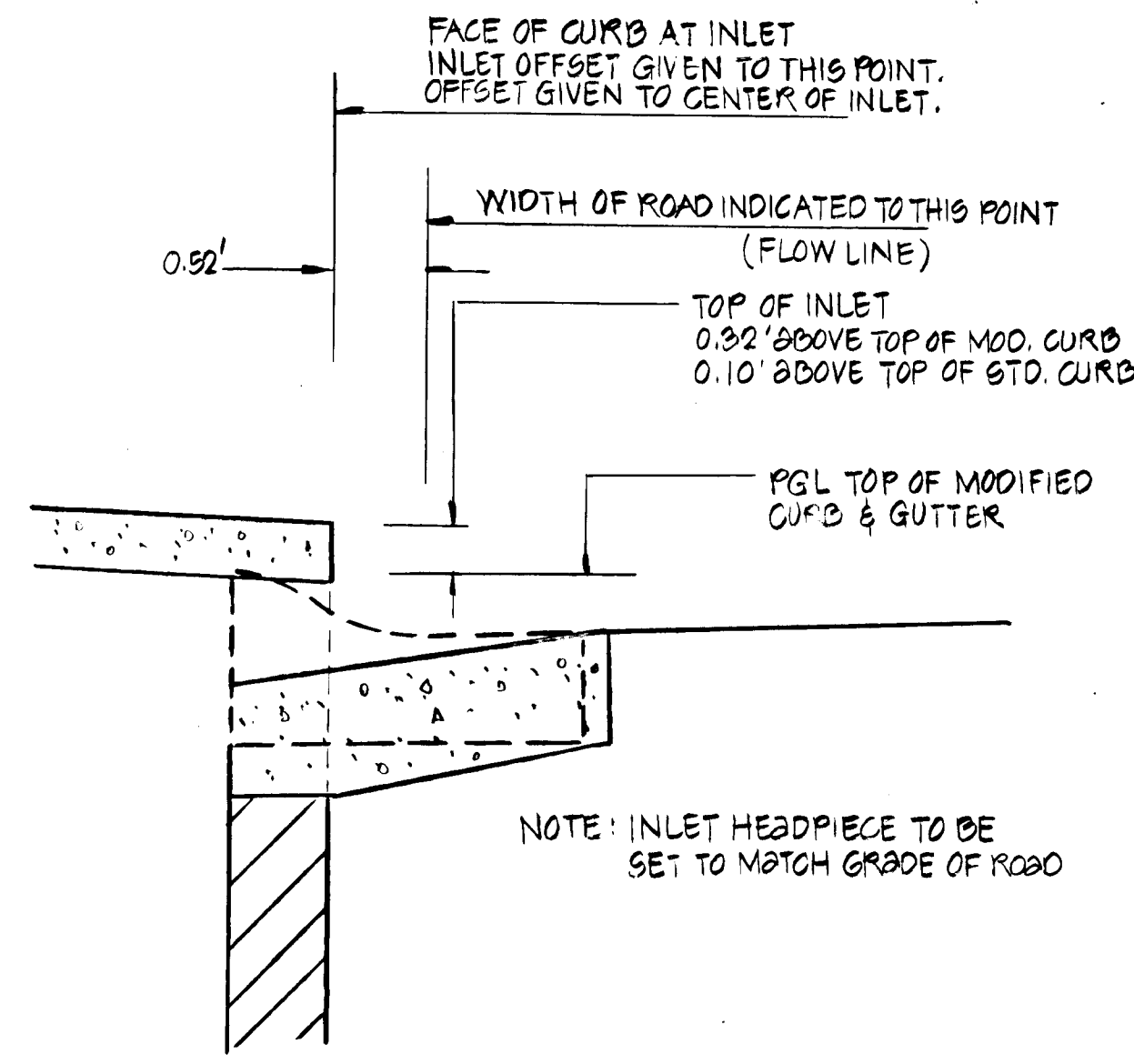
TITLE PLAN AND PROFILE OF  
WILD ORANGE GATE

MORRIS & RITCHIE ASSOCIATES, INC.  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
110 WEST ROAD SUITE 105  
TOWSON, MARYLAND 21284  
(410) 821-1690  
FAX (410) 821-1748

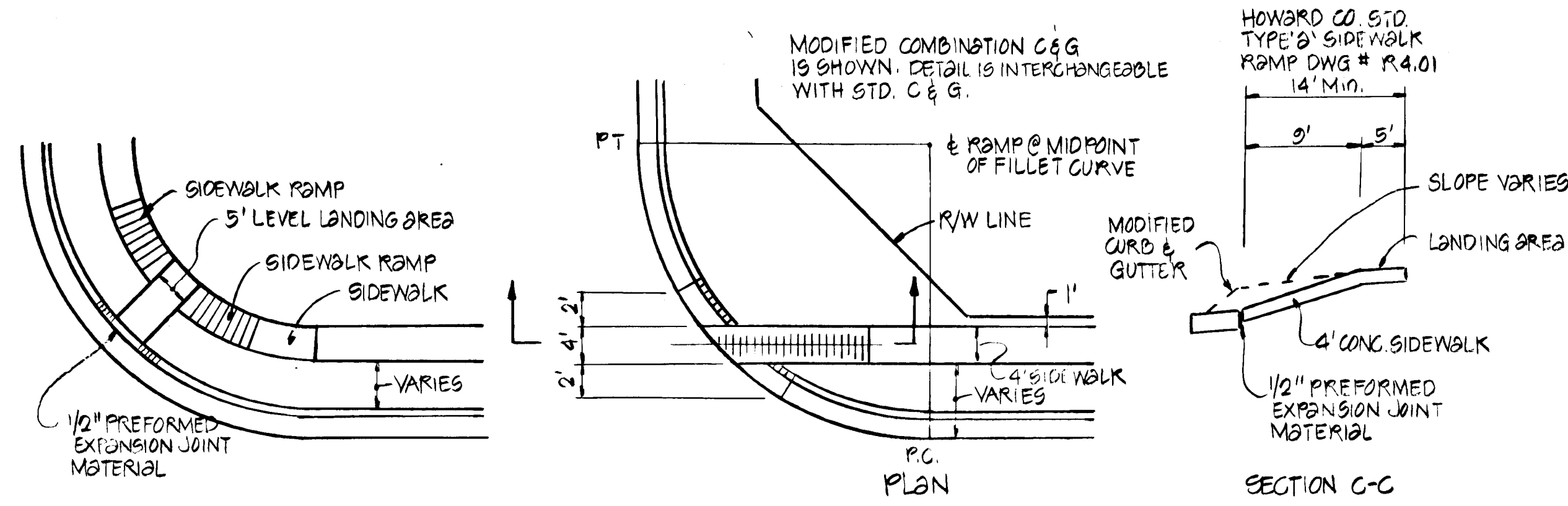
1/21/96 DATE

DESIGNED BY: K.A.D.  
DRAWN BY: J.A.G.  
PROJECT NO.: 9927  
DATE: JANUARY 21, 1996  
SCALE: AS SHOWN  
DRAWING NO. 7 OF 18

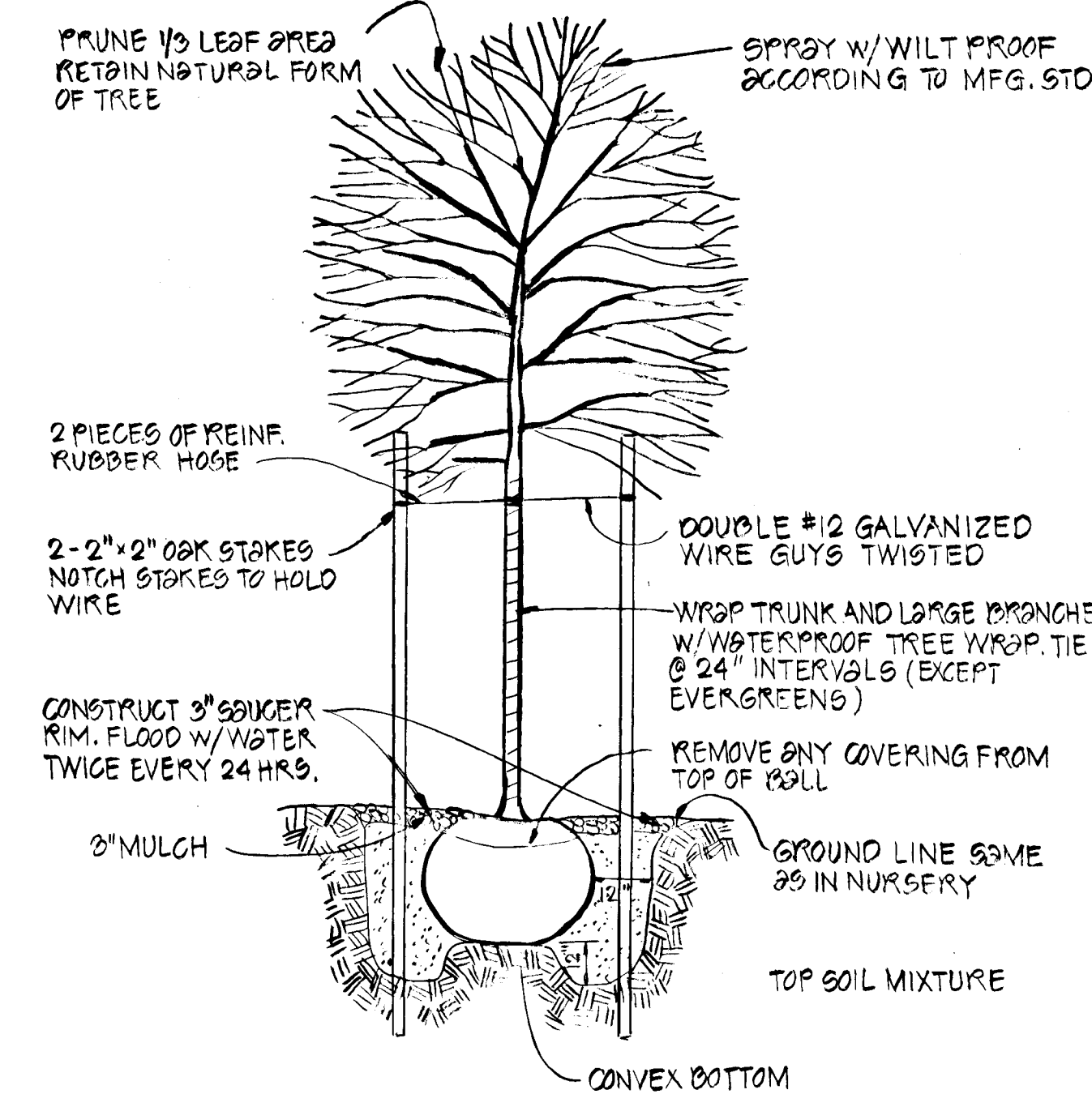
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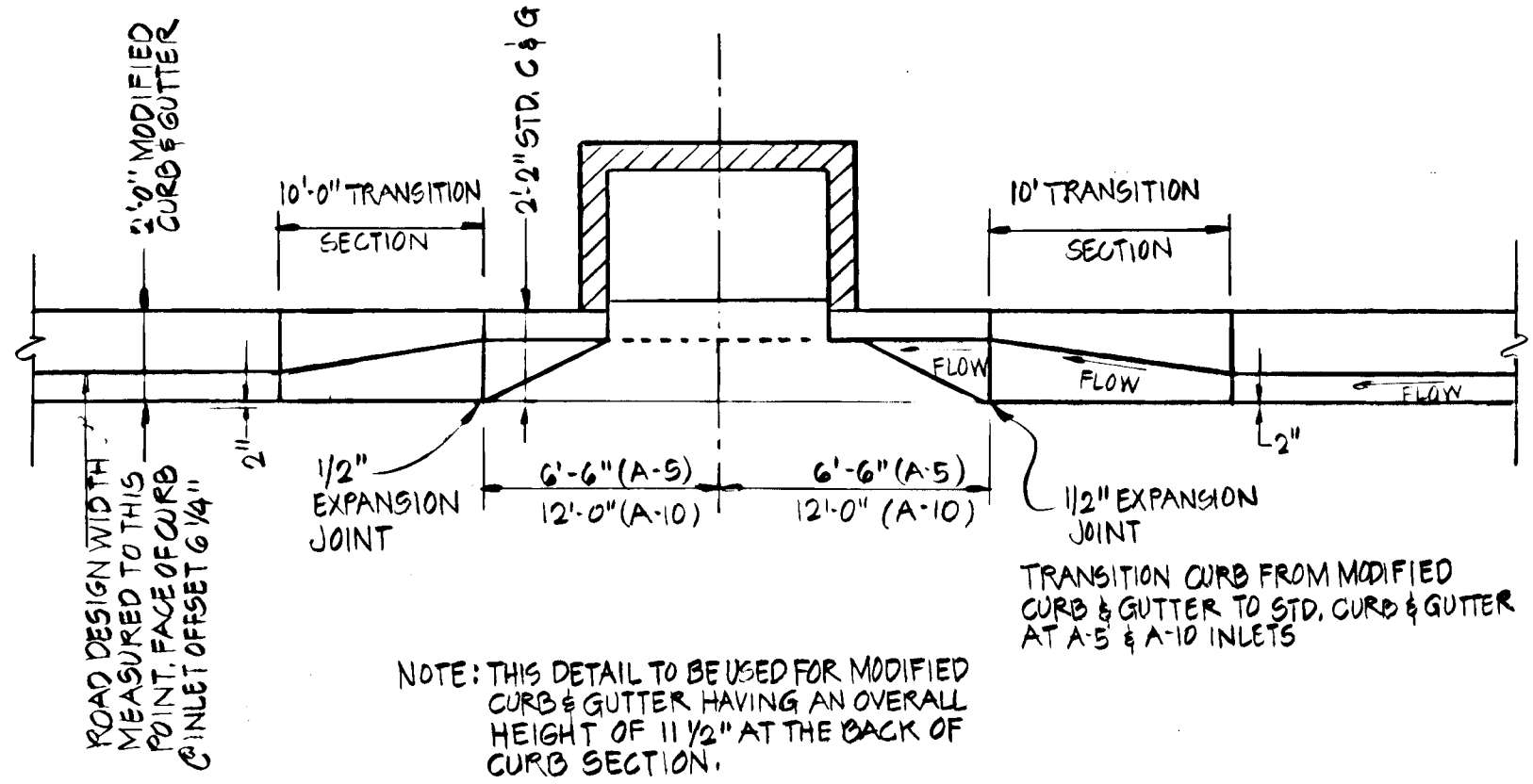
**STORM DRAIN INLET  
STAKEOUT DETAIL**  
NOT TO SCALE



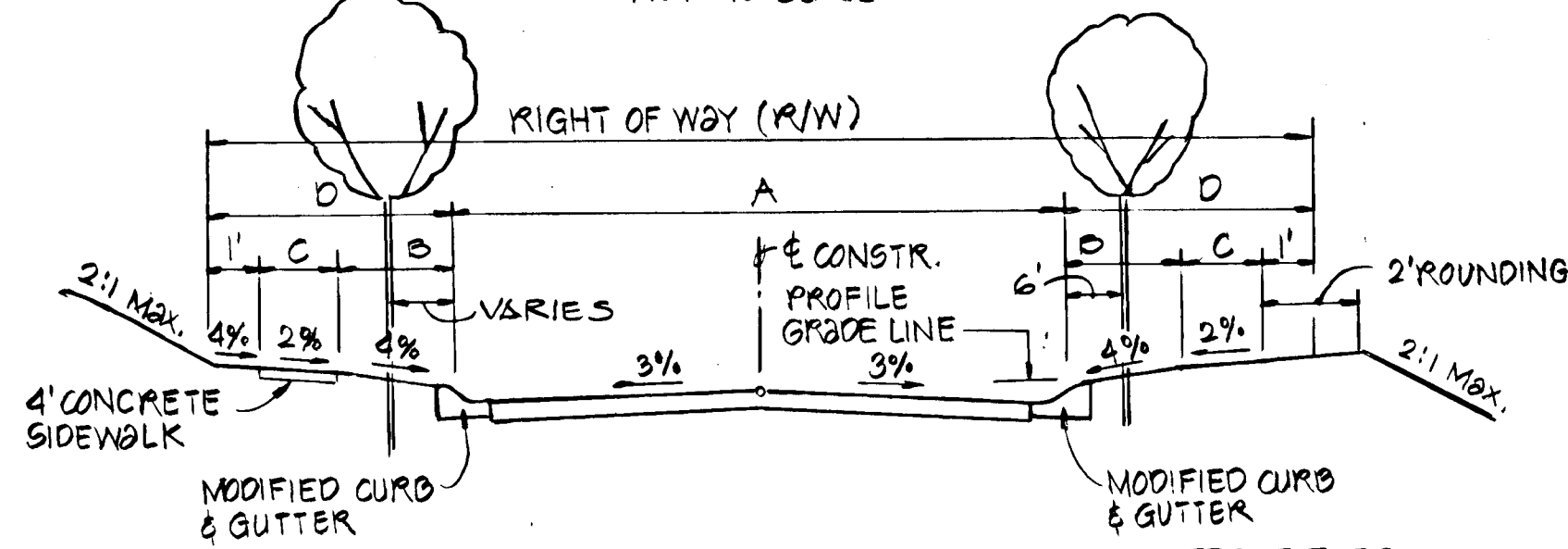
**HANDICAP RAMP DETAIL**  
NOT TO SCALE



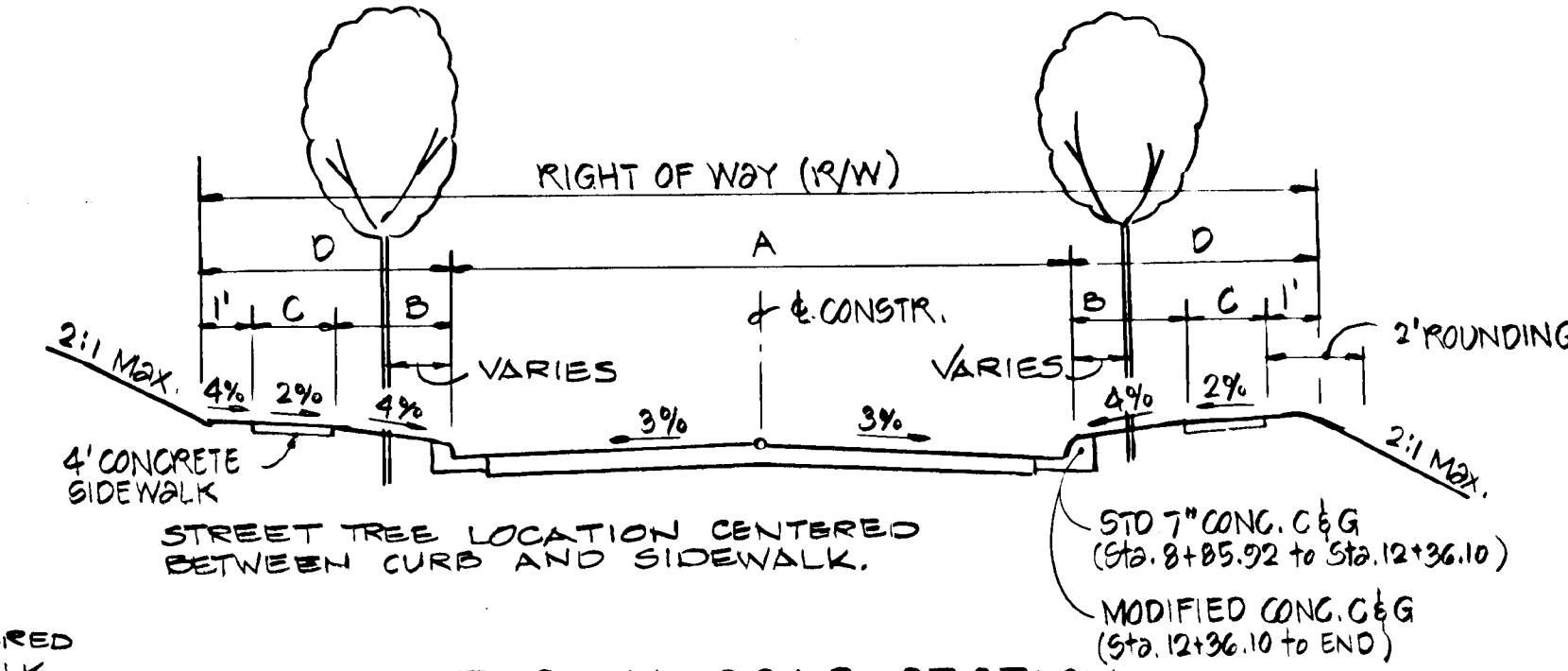
**TREE PLANTING DETAIL**  
NOT TO SCALE



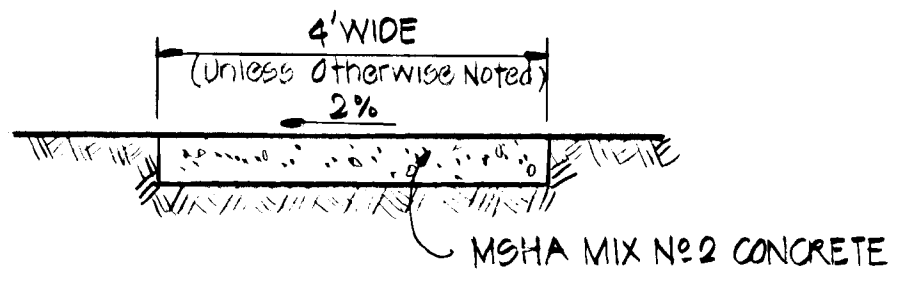
**MODIFIED COMBINATION CURB & GUTTER  
TRANSITION CURB SECTION AT "A" TYPE INLETS**  
NOT TO SCALE



**TYPICAL ROAD SECTION**  
NOT TO SCALE



**TYPICAL ROAD SECTION  
(LINDEN LINTHICUM LANE)**  
NOT TO SCALE



**SIDEWALK DETAIL \***  
NOT TO SCALE  
\* HOWARD COUNTY STANDARD  
DETAIL R-3.05

ROAD NAME	A	C	D	R/W	RD CLASSIFICATION	DESIGN SPEED	PAV. SEC.
WHISTLING WINDS WALK	24'	7'	4'	12'	50'	CUL DE SAC	30 P.2
WESTERN SEA RUN	24'	8'	4'	12'	50'	CUL DE SAC	30 P.2
WHITE PEBBLE PATH	24'	8'	4'	13'	50'	CUL DE SAC	30 P.2
WILD ORANGE GATE (0+00 to 3+51.85)	26'	7'	4'	12'	50'	LOCAL ROAD	30 P.2
WILD ORANGE GATE (3+51.85 to END)	24'	8'	4'	13'	50'	CUL DE SAC	30 P.2
HIDDEN WATERS WAY	24'	8'	4'	13'	50'	CUL DE SAC	30 P.2
INDIAN SUMMER DRIVE	26'	7'	4'	12'	50'	LOCAL ROAD	30 P.2
LINDEN LINTHICUM LANE	38'	6'	4'	11'	60'	MINOR COLLECTOR	35 P.3
LINDEN LINTHICUM LANE	26'	12'	4'	17'	60'	LOCAL ROAD	30 P.2

**STREET TREE LIST**

QUANTITY	NAME	SIZE	REMARKS
2AS	ACER SACCHARIN "LEAKY"	2 1/2" - 3" CAL	CONT. AD' 16
	ACER RUBRUM "MIDWAY"	2 1/2" - 3" CAL	CONT. AD' 16
	FRAXINUS P. "PATMORE"	2 1/2" - 3" CAL	CONT. AD' 16

\* EXACT LOCATION & SPECIES TYPE TO BE DETERMINED  
IN THE FIELD

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Richard M. ...* 12-31-96  
Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Richard Blood* 2/1/97  
Chief, Division of Land Development and Research Date

*Chris ...* 2/1/97  
Chief, Development Engineering Division Date

DATE	NO.	REVISION
OWNER/DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT		
VILLAGE OF RIVER HILL SECTION 4 AREA 5		
AREA	TAX MAP NO. 35	ZONED NEW TOWN
5th ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
TITLE		
DETAIL SHEET		
MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS		
110 WEST ROAD, SUITE 105 TOWSON, MARYLAND 21284 TEL (410) 821-1696 FAX (410) 821-1748		

DESIGNED BY: KAO  
DRAWN BY: TPO  
PROJECT NO: 9927  
D.TE: 1/21/96  
SCALE: AS SHOWN  
DRAWING NO. 8 OF 18

1487



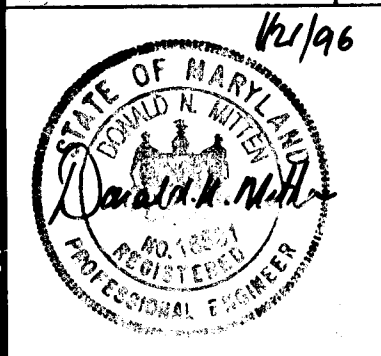
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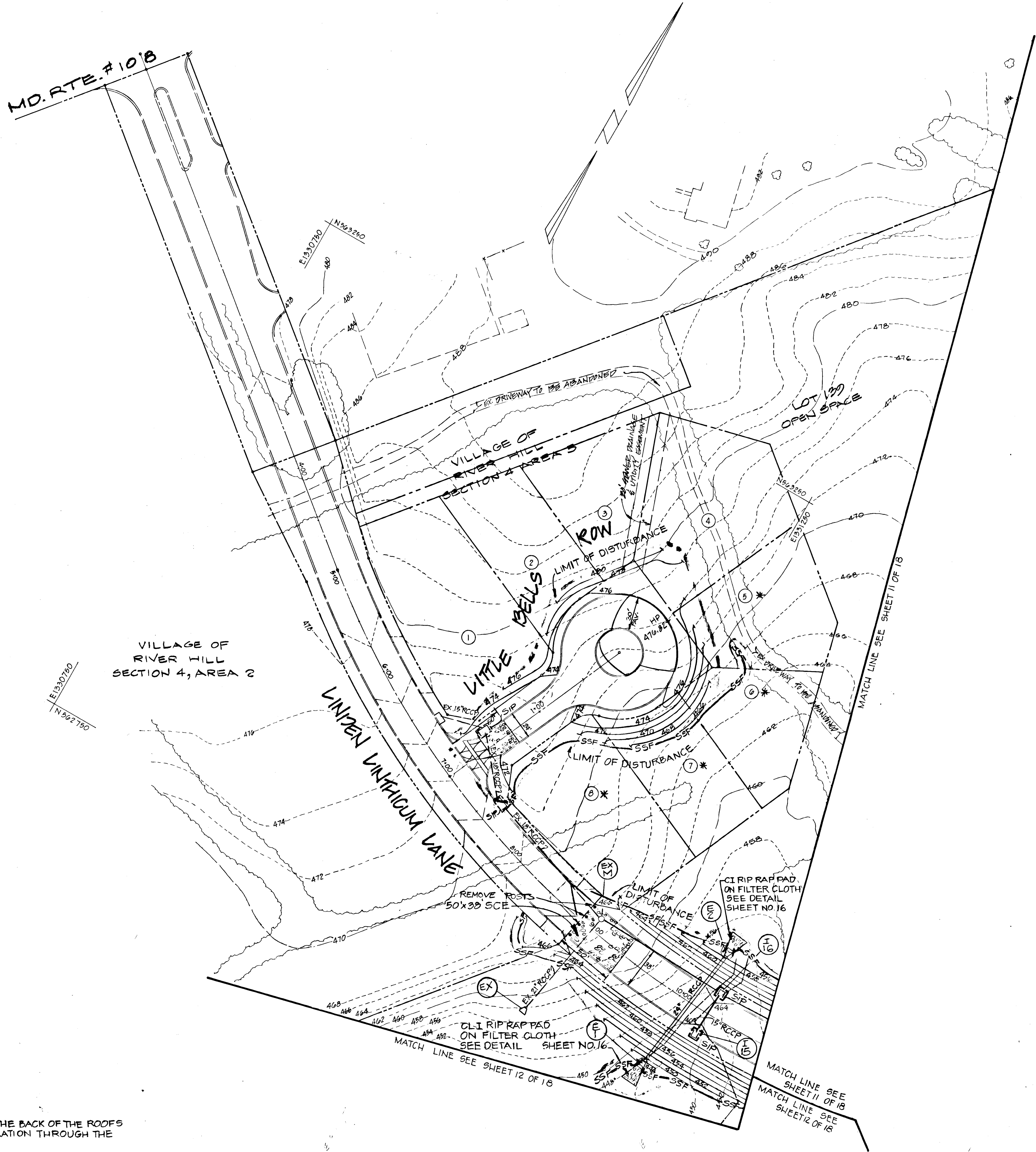
**LEGEND**

- (E-1) INLET IDENTIFICATION
- (M-1) MANHOLE IDENTIFICATION
- (DRAINAGE AREA) (BOUNDARY) 0.40 N.T.
- (E. FRACTURE) 0.40 DRAINAGE AREA IDENTIFICATION

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS		
<i>Rudolph M. Daniels</i>		12-31-96
Chief, Bureau of Highways		Date
APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING		
<i>Richard Blood</i>		2/4/97
Chief, Division of Land Development and Research		Date
<i>Mr. [Signature]</i>		2/3/97
Chief, Development Engineering Division		Date
DATE	NO.	REVISION
OWNER/DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT VILLAGE OF RIVER HILL		
AREA	TAX MAP NO. 35	ZONED NEW TOWN
5th ELECTION DISTRICT		HOWARD COUNTY, MARYLAND
TITLE DRAINAGE AREA MAP		
MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS		
110 WEST ROAD, SUITE 105 TOWSON, MARYLAND 21204 TEL (410) 821-1690 FAX (410) 821-1748		
DESIGNED BY: KAO		
DRAWN BY: EJ		
PROJECT NO: 9927		
DATE: 1/21/96		
SCALE: 1" = 100'		
DRAWING NO. 2 OF 18		



MD. RTE #1018



- LEGEND**
- 400 — EXISTING CONTOURS
  - - - - - PROPOSED CONTOURS
  - - - - - EXISTING UTILITIES
  - - - - - PROPOSED UTILITIES
  - - - - - INLET PROTECTION
  - ▭ - - - - STABILIZED CONSTRUCTION ENTRANCE (SCE)
  - A-2E0 — EARTH DIKE
  - SF — SF WOODS SILT FENCE
  - SSF — SSF SUPER SILT FENCE
  - - - - - LIMIT OF DISTURBANCE
  - ▭ - - - - EXISTING BUILDINGS

NOTE:  
\* DENOTES WATER QUALITY FOR THE BACK OF THE ROOFS THAT WILL BE HANDLED BY FILTRATION THROUGH THE LAWN AND WOODS.

BY THE DEVELOPER  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Gregory R. Allen* 1/20/96  
DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*David A. Miller* 1/21/96  
ENGINEER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Cheryl Stinson, LCS* 12/20/95  
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*John S. ...* 12/20/95  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. ...* 12-31-96  
Chief, Bureau of Highways DATE

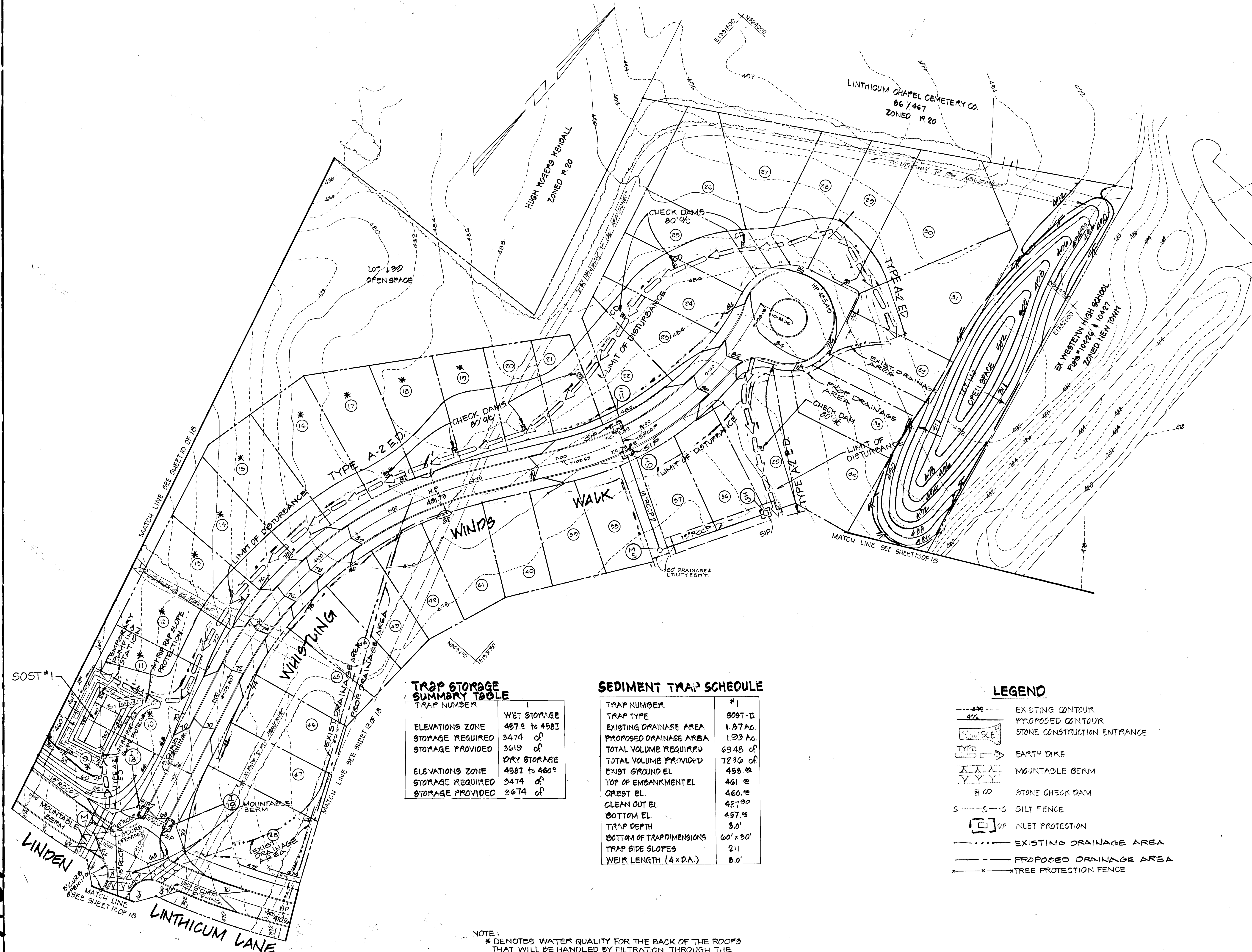
APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard ...* 2/1/97  
Chief, Division of Land Development and Research DATE

*...* 2/5/97  
Chief, Development Engineering Division DATE

DATE	NO.	REVISION
OWNER/DEVELOPER		
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION THE ROUSE BUILDING 13275 LITTLE PATRICK PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT: VILLAGE OF RIVER HILL SECTION 4, AREA 5		
AREA TAX MAP NO. 35 ZONED: NEW TOWN 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE GRADING & SEDIMENT CONTROL PLAN ROADS ONLY		
MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 117 WEST ROAD SUITE 105 TOWSON, MARYLAND 21284 (410) 821-1690 FAX (410) 821-1728		
1/21/96		DATE
		DESIGNED BY: R.L.R.
		DRAWN BY: J.A.G.
		PROJECT NO.: 9927
		DATE: JAN 21, 1996
		SCALE: 1" = 50'
		DRAWING NO. 10 OF 18

1487





**TRAP STORAGE SUMMARY TABLE**

TRAP NUMBER	WET STORAGE
ELEVATIONS ZONE	457.2 to 458.2
STORAGE REQUIRED	3474 cf
STORAGE PROVIDED	3619 cf
ELEVATIONS ZONE	458.2 to 460.2
STORAGE REQUIRED	3474 cf
STORAGE PROVIDED	3674 cf

**SEDIMENT TRAP SCHEDULE**

TRAP NUMBER	#1
TRAP TYPE	SOST-II
EXISTING DRAINAGE AREA	1.87 AC.
PROPOSED DRAINAGE AREA	1.93 AC.
TOTAL VOLUME REQUIRED	6948 cf
TOTAL VOLUME PROVIDED	7236 cf
EXIST GROUND EL.	458.02
TOP OF EMBANKMENT EL.	461.02
CREST EL.	460.02
CLEAN OUT EL.	457.90
BOTTOM EL.	457.02
TRAP DEPTH	3.0'
BOTTOM OF TRAP DIMENSIONS	60' x 30'
TRAP SIDE SLOPES	2:1
WEIR LENGTH (4 x D.A.)	8.0'

- LEGEND**
- EXISTING CONTOUR
  - - - PROPOSED CONTOUR
  - SCF --- STONE CONSTRUCTION ENTRANCE
  - TYPE --- EARTH DIKE
  - MOUNTABLE BERM
  - STONE CHECK DAM
  - SILT FENCE
  - SIP INLET PROTECTION
  - EXISTING DRAINAGE AREA
  - PROPOSED DRAINAGE AREA
  - TREE PROTECTION FENCE

NOTE:  
\* DENOTES WATER QUALITY FOR THE BACK OF THE ROOFS THAT WILL BE HANDLED BY FILTRATION THROUGH THE LAWN AND WOODS.

BY THE DEVELOPER  
I, WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Gregory R. ...* 1/20/96  
DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Donald A. Muth* 1/21/96  
ENGINEER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Cheryl ...* 12/20/95  
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*...* 1/22/96  
HOWARD SOIL CONSERVATION DISTRICT AS BUILT EXHIBIT C

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*...* 12-31-96  
Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Richard Blood* 2/4/97  
Chief, Division of Land Development and Research Date

*...* 2/3/97  
Chief, Development Engineering Division Date

DATE	NO.	REVISION
02/21/96	1	ADDED LANDSCAPE PLAN

OWNER/DEVELOPER  
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
THE ROUSE BUILDING  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL  
SECTION 4, AREA 5

ARLX TAX MAP NO. 35 ZONED: NEW TOWN

5TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**GRADING & SEDIMENT CONTROL PLAN  
ROADS ONLY**

MORRIS & ...  
110 WEST ROAD SUITE 105  
TOWSON, MARYLAND 21286  
(410) 821-1100  
(410) 821-1118

1/21/96  
DATE

DESIGNED BY: R.L.R.  
DRAWN BY: J.A.G.  
PROJECT NO.: 9927  
DATE: JAN 21, 1996  
SCALE: 1"=50'  
DRAWING NO. 11 OF 18

1487



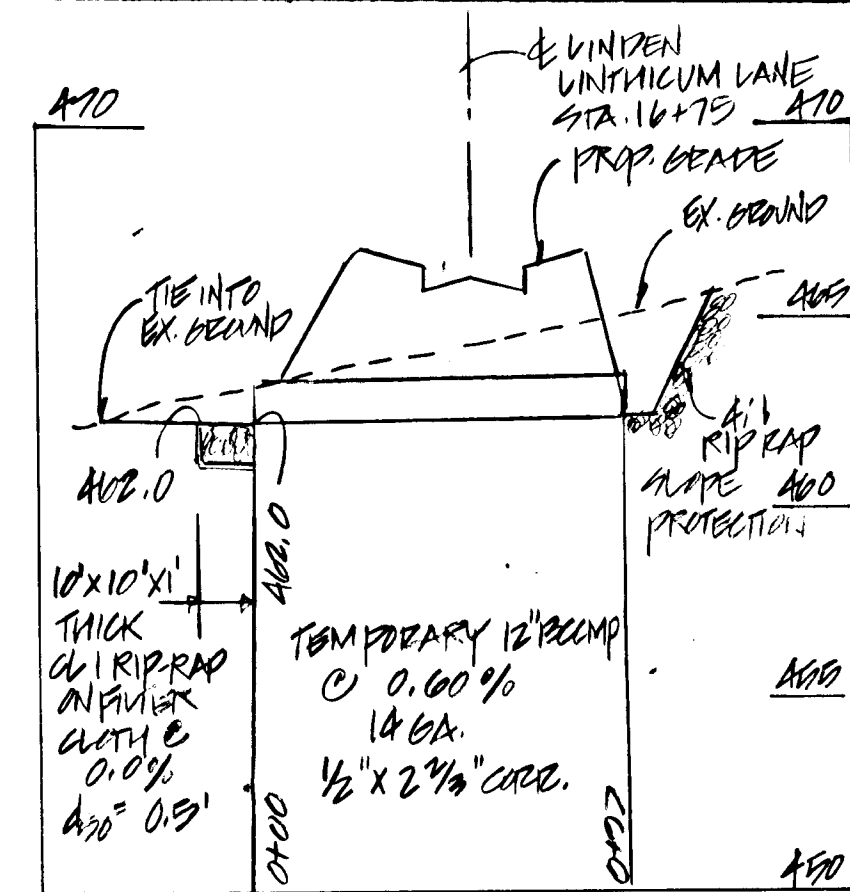




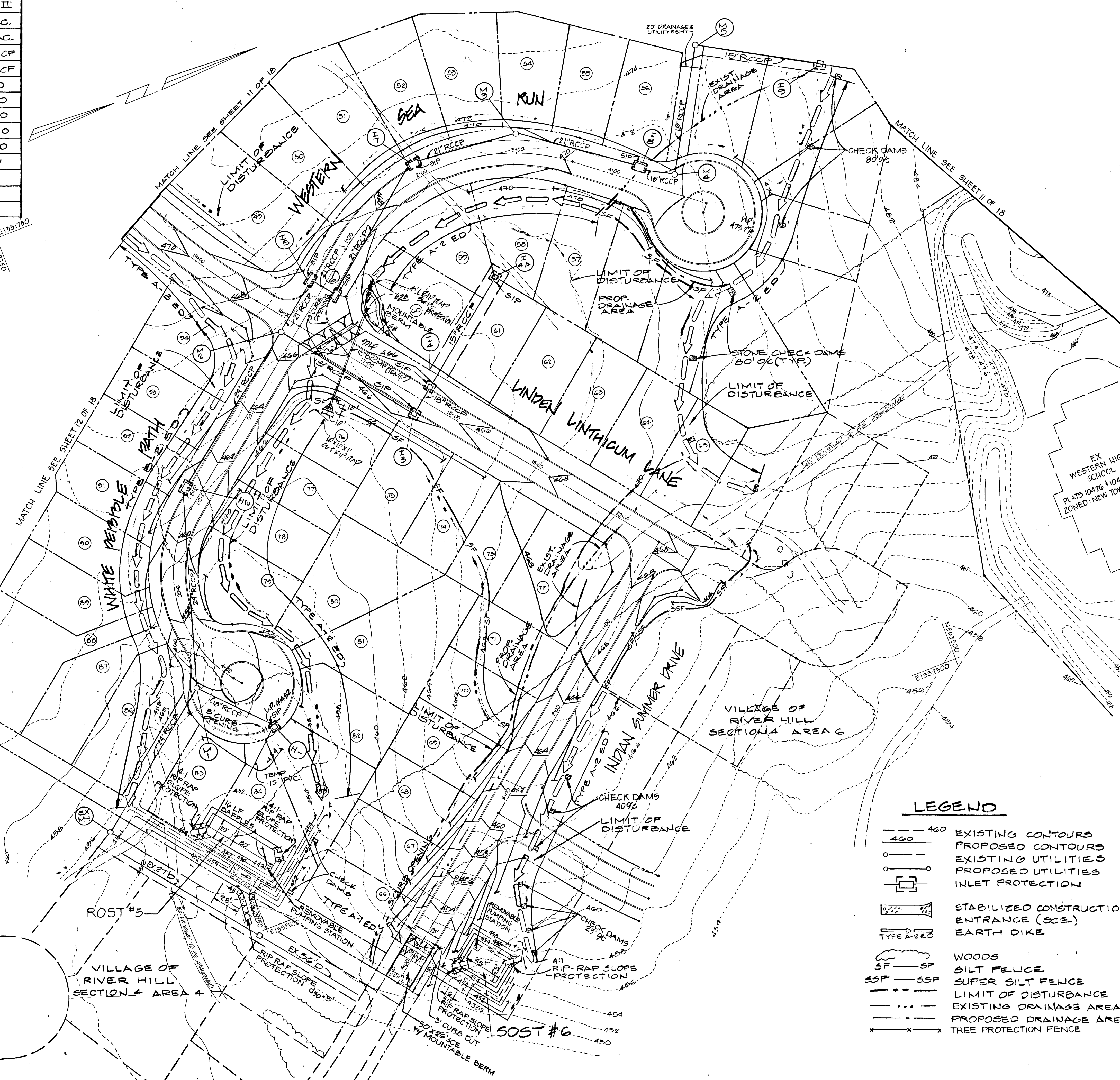
TRAP NUMBER	5	6
	ROST-III	SOST-II
EXISTING DRAINAGE AREA	6.99 AC.	0.85 AC.
PROPOSED DRAINAGE AREA	5.47 AC.	0.81 AC.
TOTAL VOLUME REQUIRED	25,164 CF	3060 CF
TOTAL VOLUME PROVIDED	35,899 CF	CF
EXISTING GROUND ELEVATION	451.00	453.00
TOP OF EMBANKMENT ELEVATION	455.00	455.00
CREST ELEVATION	454.00	454.00
CLEANOUT ELEVATION	452.80	452.50
BOTTOM ELEVATION	448.00	451.00
TRAP DEPTH	5.0'	3.0'
BOTTOM OF TRAP DIMENSIONS	80'x20'	
TRAP SIDE SLOPES	2:1	2:1
WEIR LENGTH (4X D.A.)	28.0	6'

TRAP NUMBER	5	6
WET STORAGE		
ELEVATIONS ZONE	4480 TO 452.2	451.0 TO 452.6
STORAGE REQUIRED	12,582 CF	1530 CF
STORAGE PROVIDED	17,100 CF	CF
DRY STORAGE		
ELEVATIONS ZONE	4522 TO 4540	452.6 TO 454.0
STORAGE REQUIRED	12,582 CF	1530 CF
STORAGE PROVIDED	18,709 CF	CF

TRAP STORAGE SUMMARY TABLE



PROFILE TEMPORARY 12" PUMP AT STA. 16+75.5 LINDEN LINTHICUM WANE  
SCALE: VERT. 1"=5'  
HORIZ. 1"=50'



**LEGEND**

--- 450	EXISTING CONTOURS
--- 455	PROPOSED CONTOURS
---	EXISTING UTILITIES
---	PROPOSED UTILITIES
□	INLET PROTECTION
▨	STABILIZED CONSTRUCTION ENTRANCE (SCE)
▨	EARTH DIKE
W	WOODS
SF	SILT FENCE
SSP	SUPER SILT FENCE
---	LIMIT OF DISTURBANCE
---	EXISTING DRAINAGE AREA
---	PROPOSED DRAINAGE AREA
---	TREE PROTECTION FENCE

BY THE DEVELOPER  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Gregory R. Miller* 1/20/96  
DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Donald A. Miller* 1/21/96  
ENGINEER DATE

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

*Carol Simms / GS* 12/29/95  
USDA NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*Shirley A. Smith* 1/21/96  
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

*Richard M. Daniels* 12-31-96  
Chief, Bureau of Highways DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

*Richard Blood* 2/4/97  
Chief, Division of Land Development and Research DATE

*Mr. Dammann* 2/3/97  
Chief, Development Engineering Division DATE

DATE	NO.	REVISION
OWNER/DEVELOPER		
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE FLOXENT PARKWAY COLUMBIA, MARYLAND 21044		
PROJECT: VILLAGE OF RIVER HILL SECTION 4, AREA 5		
AREA: TAX MAP NO. 35 ZONED: NEW TOWN		
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
GRADING & SEDIMENT CONTROL PLAN ROADS ONLY		
MORRIS & FORTNIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 111 WEST BROAD STREET, 25 TOWSON, MARYLAND 21286 (410) 821-1690 FAX (410) 821-1748		
1/21/96		
DATE	DESIGNED BY: R.L.R.	
	DRAWN BY: J.A.G.	
	PROJECT NO.: 9927	
	DATE: JAN 21, 1996	
	SCALE: 1"=50'	
	SHEET NO. 13 OF 13	

1487



1994 MDE STANDARD SEDIMENT & EROSION CONTROL NOTES

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION VEGETATIVE STABILIZATION METHODS AND MATERIALS

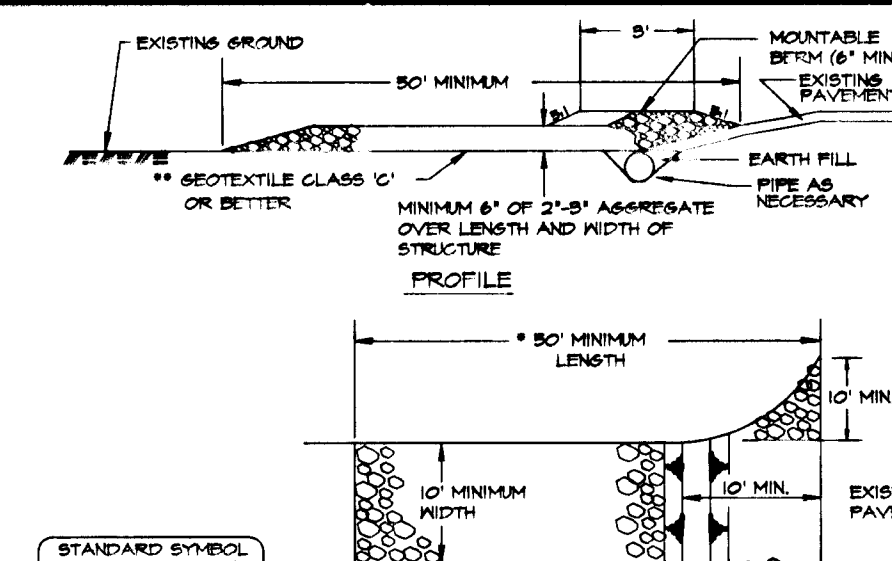
- A. SITE PREPARATION
1. INSTALL EROSION AND SEDIMENT CONTROL STRUCTURES (EITHER TEMPORARY OR PERMANENT) SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, OR SEDIMENT CONTROL BASINS.
2. PERFORM ALL GRADING OPERATIONS AT RIGHT ANGLES TO THE SLOPE. FINAL GRADING AND SHAPING IS NOT USUALLY NECESSARY FOR TEMPORARY SEEDINGS.

- F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)
1. STRAW SHALL CONSIST OF THOROUGHLY THRESHED WHEAT, RYE OR OAT STRAW, REASONABLY BRIGHT IN COLOR, AND SHALL NOT BE MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY AND SHALL BE FREE OF NOXIOUS WEEB SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW.

VILLAGE RIVER HILL SECTION 4, AREA 5

STANDARD SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (915-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERE TO.



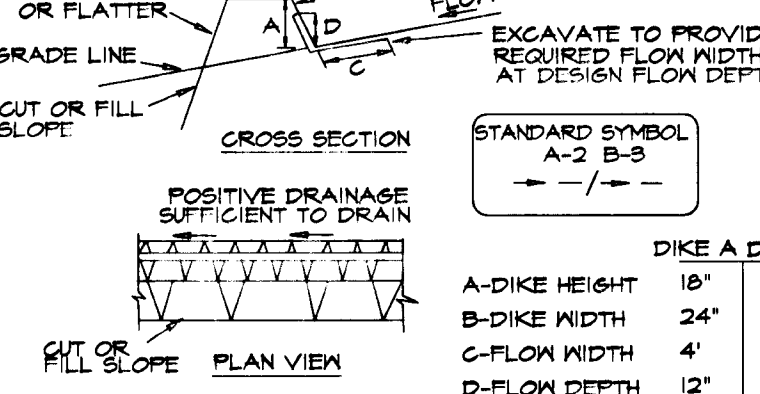
CONSTRUCTION SPECIFICATION

- 1. LENGTH - MINIMUM OF 50' (150' FOR SINGLE RESIDENCE LOT), 2' WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. GEOTEXTILE FABRIC FILTER CLOTH SHALL BE PLACED OVER THE EXISTING GROUND PRIOR TO PLACING STONE.

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE

CROSS SECTION



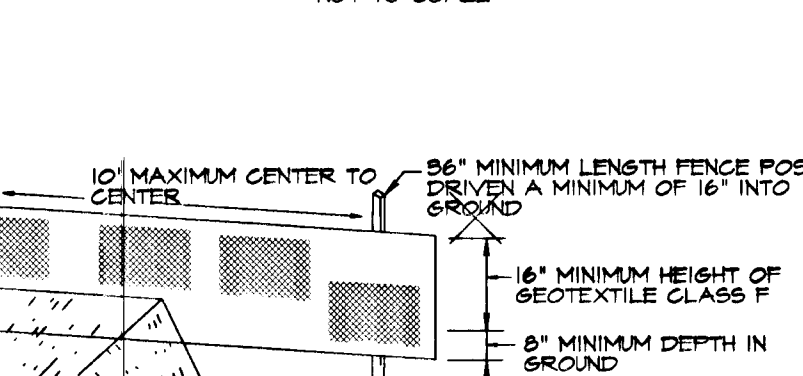
FLOW CHANNEL STABILIZATION

- 1. SEED AND COVER WITH STRAW MULCH.
2. SEED AND COVER WITH EROSION CONTROL MATTING OR LINE WITH SOD, 3' x 4' - 1" STONE OR RECYCLED CONCRETE EQUIVALENT PRESEED INTO THE SOIL TO MINIMUM.

- 1. ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 18".
2. RAINOFF DIVERGED FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.

EARTH DIKE

NOT TO SCALE



CROSS SECTION

- 1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE MINIMUM CUT OR 1 1/2" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION HEIGHTS NOT LESS THAN 100 POUND PER LINEAR FOOT.

CONSTRUCTION SPECIFICATIONS

- 1. FENCE POSTS SHALL BE A MINIMUM OF 36" LONG DRIVEN 16" MINIMUM INTO THE GROUND. WOOD POSTS SHALL BE 1 1/2" X 1 1/2" SQUARE MINIMUM CUT OR 1 1/2" DIAMETER (MINIMUM) ROUND AND SHALL BE OF SOUND QUALITY HARDWOOD. STEEL POSTS WILL BE STANDARD T OR U SECTION HEIGHTS NOT LESS THAN 100 POUND PER LINEAR FOOT.

SILT FENCE

NOT TO SCALE

- B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)
1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OVER 5 ACRES.

- D. KCFM MATERIALS SHALL BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN A UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED, FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY.

- 2. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT.

- F. KCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH TO APPROXIMATELY 10 MM, DIAMETER APPROXIMATELY 1 MM, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 18% MAXIMUM AND WATER HOLDING CAPACITY OF 40% MINIMUM.

- 3. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 80% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE).

- G. KCFM, INCLUDING DYE, SHALL CONTAIN NO GERMINATION OR GROWTH INHIBITING FACTORS.

- 4. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 - 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

- H. SECURING STRAW MULCH (MULCH ANCHORING). MULCH ANCHORING SHALL BE PERFORMED IMMEDIATELY FOLLOWING MULCH APPLICATION TO MINIMIZE LOSS BY WIND OR WATER.

- B. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

- I. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF TWO (2) INCHES.

- 2. PERMANENT SEEDINGS
A. MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT:

- 2. WHEN STRAW MULCH IS USED, IT SHALL BE SPREAD OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS/ACRE.

- 1. SOIL PH SHALL BE BETWEEN 6.0 AND 7.0
2. SOLUBLE SALTS SHALL BE LESS THAN 500 PARTS PER MILLION (PPM)

- 3. WOOD CELLULOSE FIBER USED AS A MULCH SHALL BE APPLIED AT A NET DRY WEIGHT OF 1500 LBS. PER ACRE.

- 3. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21, STANDARD AND SPECIFICATION FOR TOPSOIL.

- 4. APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS.

- B. AREAS PREVIOUSLY GRADED IN CONFORMANCE WITH THE DRAWINGS SHALL BE MAINTAINED IN A TRUE AND EVEN GRADE.

- 5. APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS.

- 3. APPLY SOIL AMENDMENTS AS PER SOIL TEST OR AS INCLUDED ON THE PLANS.

- 6. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21, STANDARD AND SPECIFICATION FOR TOPSOIL.

- D. MIX SOIL AMENDMENTS INTO THE TOP 3 - 5" OF TOPSOIL BY DISKING OR OTHER SUITABLE MEANS.

- 7. THE SOIL SHALL CONTAIN LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (< 200 SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE.

- 4. SOIL SHALL CONTAIN 15% MINIMUM ORGANIC MATTER BY WEIGHT.

- 8. APPLICATION OF LIQUID BINDERS SHOULD BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS.

- 5. SOIL MUST CONTAIN SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

- 9. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

- 6. IF THESE CONDITIONS CANNOT BE MET BY SOILS ON SITE, ADDING TOPSOIL IS REQUIRED IN ACCORDANCE WITH SECTION 21, STANDARD AND SPECIFICATION FOR TOPSOIL.

- 10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

- 7. FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROVED EQUIPMENT.

- 11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

- 8. LIME MATERIALS SHALL BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED) WHICH CONTAINS AT LEAST 80% TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE).

- 12. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.

- 9. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 - 5" OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

- 13. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DETERMINED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

- 2. DRY SEEDINGS - THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS

- 14. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING.

- 3. SEED AND FERTILIZER SHALL BE MIXED ON SITE AND SEEDINGS SHALL BE DONE IMMEDIATELY AND WITHOUT INTERRUPTION.

- 15. ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 18".

- 4. RAINOFF DIVERGED FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.

- 16. ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 18".

- 5. FILL SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.

- 17. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DIKE.

- 6. INSPECTION AND MAINTENANCE MUST BE PROVIDED PERIODICALLY AND AFTER EACH RAIN EVENT.

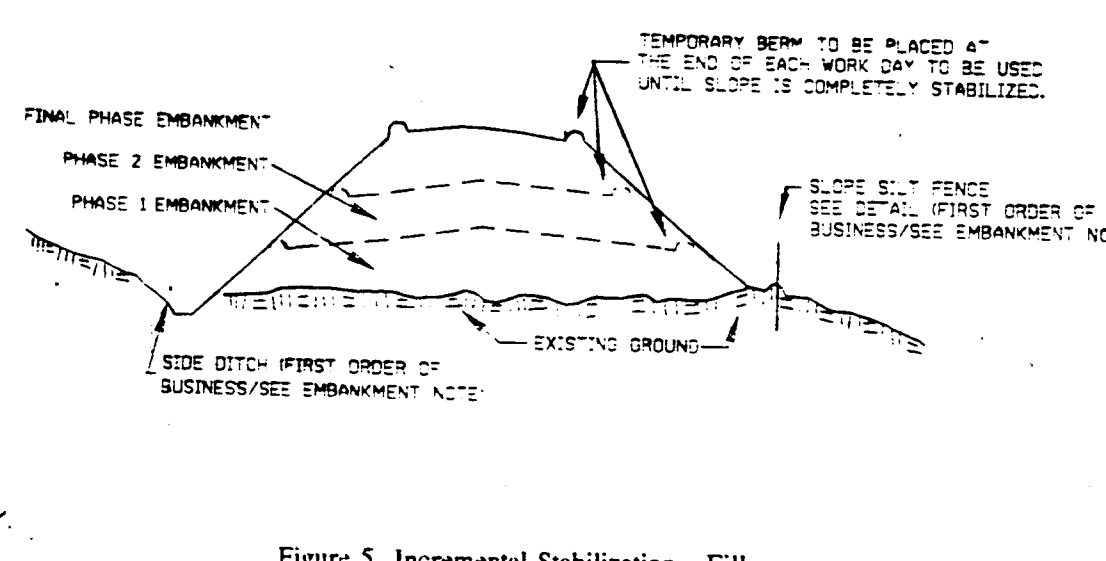


Figure 5 Incremental Stabilization - Fill

Table with 3 columns: SPECIES, PER ACRE, and SEEDING DATES. Rows include Barley, Oats, Ryegrass, and other species with their respective seeding rates and dates.

56 APPLICABLE ON SLOPES OF 3:1 OR FLATTER
57 REFER TO FIGURE A - ADOPTED FROM USDA, ARS MISCELLANEOUS PUBLICATION #147B, JANUARY 1990

58 BETWEEN FALL AND SPRING SEEDING DATES, USE MULCH ONLY IF GROUND IS FROZEN AND RESEED WHEN THAWED
59 MAY BE USED AS A NURSE CROP FOR LATE FALL/EARLY WINTER PERMANENT SEEDINGS. ADD \$6 LBS/AC TO THE PERMANENT SEEDINGS MIXTURE

60 MARYLAND STATE HIGHWAY ADMINISTRATION TEMPORARY SEED MIX
61 MAY BE USED AS NURSE CROP FOR MID-SUMMER PERMANENT SEEDINGS. ADD 2 LBS/AC TO PERMANENT SEED MIX

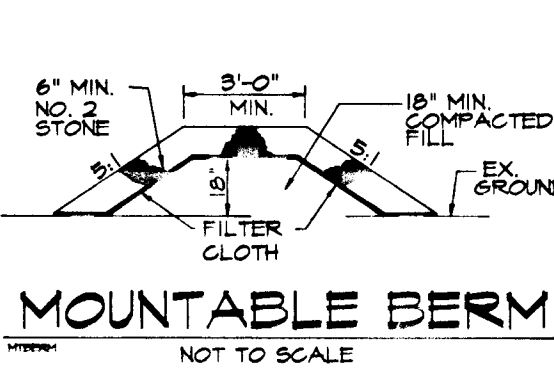
62 MAY BE USED AS NURSE CROP FOR MID-SUMMER PERMANENT SEEDINGS. ADD 10 LBS/AC TO THE PERMANENT SEEDINGS MIX

Table with 2 columns: SEED MIXTURE (HARDNESS ZONE 1A) and FERTILIZER RATE (10-20-20). Rows show species, application rate, and seeding date.

Table with 3 columns: SEED MIXTURE (HARDNESS ZONE 1A), SEEDING DATE, and FERTILIZER RATE. Rows show species, application rate, and seeding date.

Table with 2 columns: LIME RATE and SEEDING DATE. Rows show species, application rate, and seeding date.

1987



MOUNTABLE BERM

Figure 4 Incremental Stabilization - Cut

BY THE DEVELOPER
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

Signature and date for the developer.

BY THE ENGINEER
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature and date for the engineer.

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

Signature and date for the reviewer.

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE

Signature and date for the conservation service representative.

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Signature and date for the public works representative.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature and date for the planning and zoning representative.

Signature and date for the land development representative.

Signature and date for the development engineering representative.

DATE NO. REVISION

OWNER/DEVELOPER

THE HOWARD RESEARCH & DEVELOPMENT CORPORATION

THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

PROJECT: VILLAGE OF RIVER HILL SECTION 4, AREA 5

AREA TAX MAP NO. 35 ZONED: NEW TOWN

5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE SEDIMENT CONTROL DETAILS AND NOTES

MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

110 WEST ROAD SUITE 105
TOWSON, MARYLAND 21204
(410) 821-1690
FAX (410) 821-1748

DESIGNED BY: R.L.R.

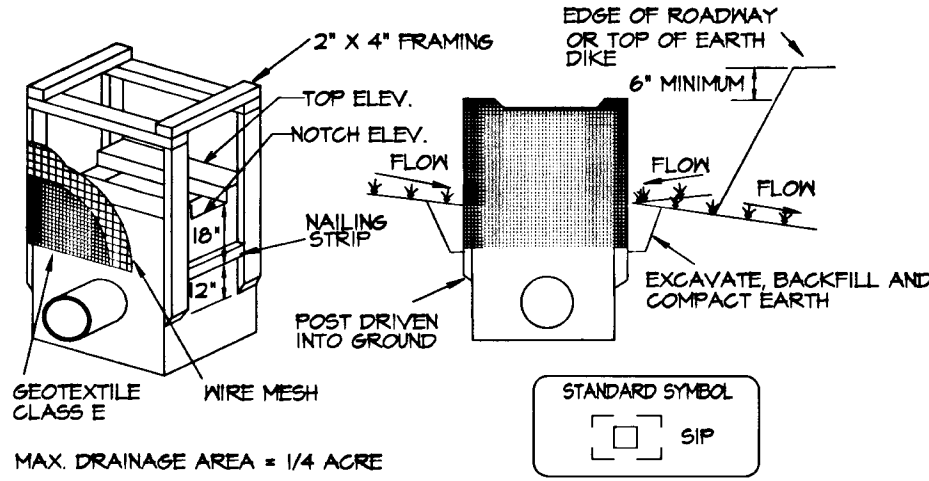
DRAWN BY: T.P.D.

PROJECT NO.: 9927

DATE: 1/21/96

SCALE: AS SHOWN
DRAWING NO. 14 OF 13





MAX DRAINAGE AREA = 1/4 ACRE

**CONSTRUCTION SPECIFICATIONS**

- EXCAVATE COMPLETELY AROUND THE INLET TO A DEPTH OF 18" BELOW THE NOTCH ELEVATION.
- DRIVE THE 2" X 4" CONSTRUCTION GRADE LUMBER POSTS 1" INTO THE GROUND AT EACH CORNER OF THE INLET. PLACE NAIL STRIPS BETWEEN THE POSTS ON THE ENDS OF THE INLET. ASSEMBLE THE TOP PORTION OF THE 2" X 4" FRAME USING THE OVERLAP JOINT SHOWN ON DETAIL 25A. THE TOP OF THE FRAME (MEIR) MUST BE 6" BELOW ADJACENT ROADWAYS WHERE FLOODING AND SAFETY ISSUES MAY ARISE.
- STRETCH THE 1/2" X 1/2" WIRE MESH TIGHTLY AROUND THE FRAME AND FASTEN SECURELY. THE ENDS MUST MEET AND OVERLAP AT A POST.
- STRETCH THE GEOTEXTILE CLASS E TIGHTLY OVER THE WIRE MESH WITH THE GEOTEXTILE EXTENDING FROM THE TOP OF THE FRAME TO 18" BELOW THE INLET NOTCH ELEVATION. FASTEN THE GEOTEXTILE FIRMLY TO THE FRAME. THE ENDS OF THE GEOTEXTILE MUST MEET AT A POST, BE OVERLAPPED AND FOLDED, THEN FASTENED TO THE FRAME.
- BACKFILL AROUND THE INLET IN COMPACTED 6" LAYERS UNTIL THE LAYER OF EARTH IS LEVEL WITH THE NOTCH ELEVATION ON THE ENDS AND TOP ELEVATION ON THE SIDES.
- IF THE INLET IS NOT IN A SUMP, CONSTRUCT A COMPACTED EARTH DIKE ACROSS THE DITCH LINE DIRECTLY BELOW IT. THE TOP OF THE EARTH DIKE SHOULD BE AT LEAST 6" HIGHER THAN THE TOP OF THE FRAME.
- THE STRUCTURE MUST BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND THE GEOTEXTILE REPLACED WHEN IT BECOMES CLOGGED.

### STANDARD INLET PROTECTION

GEOTEXTILE FABRIC MATERIAL SPECIFICATIONS  
MSMT 323

CLASS	APPERT OPENING SIZE (IN. MAX.)	GRAB TENSILE STRENGTH (LB. MIN.)	BURST STRENGTH (PSI)
A	0.30	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.60*	90	140

\* US STD. SIEVE C&W-22/25

THE PROPERTIES SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURES:

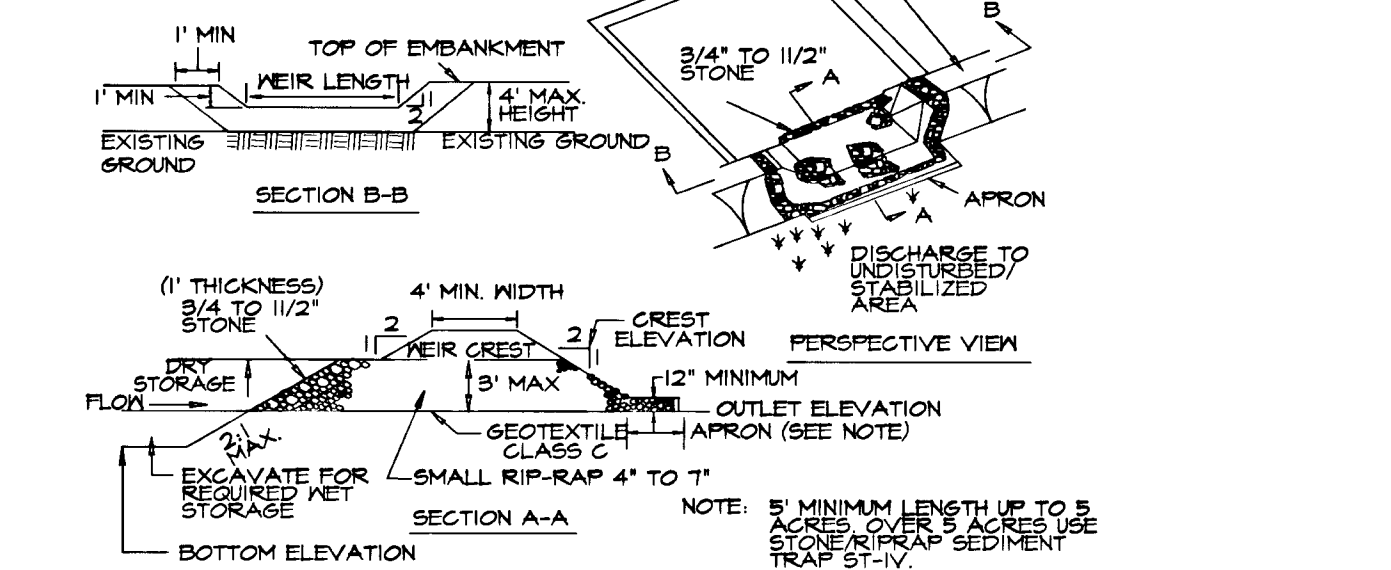
- APPERT OPENING SIZE MSMT 323
- GRAB TENSILE STRENGTH ASTM D 1682. 4X6" SPECIMEN, 12X12" CLAMPS, 12"/MIN. STRAIN RATE IN BOTH PRINCIPAL DIRECTIONS OF GEOTEXTILE FABRIC.
- BURST STRENGTH ASTM D 3786

THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, AND WILL BE ROT AND MILDEN RESISTANT. IT SHALL BE MANUFACTURED FROM FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS, AND COMPOSED OF A MINIMUM OF 85% BY WEIGHT OF POLYPROPYLENE, POLYESTERS, OR POLYAMIDES. THE GEOTEXTILE FABRIC SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE.

IN ADDITION, CLASSES A THROUGH E SHALL HAVE A 0.01 CM/SEC. MINIMUM PERMEABILITY WHEN TESTED IN ACCORDANCE WITH MSMT 507, AND AN APPERT MINIMUM ELONGATION OF 20 PERCENT (20R) WHEN TESTED IN ACCORDANCE WITH THE GRAB TENSILE STRENGTH REQUIREMENTS LISTED ABOVE.

SILT FENCE CLASS F GEOTEXTILE FABRICS FOR SILT FENCE SHALL HAVE A 30 LB./IN. MINIMUM TENSILE STRENGTH AND A 20 LB./IN. MINIMUM TENSILE MODULUS WHEN TESTED IN ACCORDANCE WITH MSMT 507. THE MATERIAL SHALL ALSO HAVE A 0.3 GAL/FT<sup>2</sup>/MIN. FLOW RATE AND SEVENTY-FIVE PERCENT (75R) MINIMUM FILTERING EFFICIENCY WHEN TESTED IN ACCORDANCE WITH MSMT 322.

GEOTEXTILE FABRICS USED IN THE CONSTRUCTION OF SILT FENCE SHALL RESIST DETERIORATION FROM ULTRAVIOLET EXPOSURE. THE FABRIC SHALL CONTAIN SUFFICIENT AMOUNTS OF ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF 12 MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 TO 120 DEGREES F.



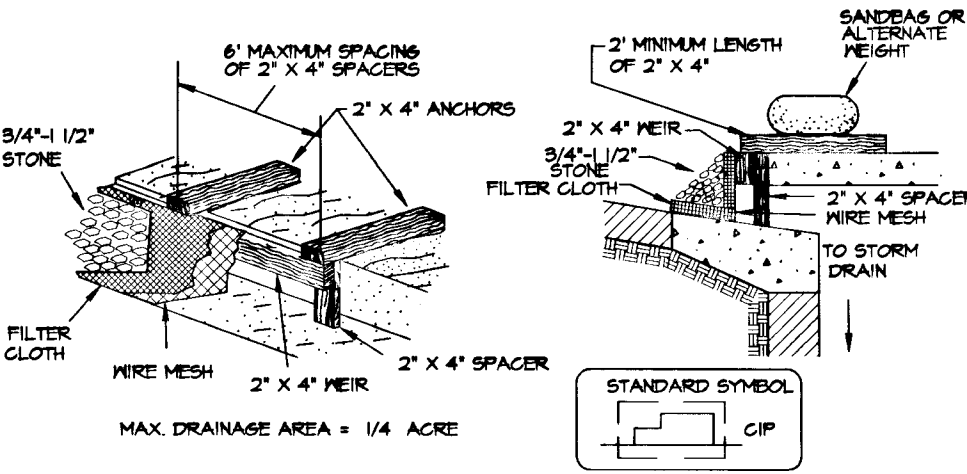
**CONSTRUCTION SPECIFICATIONS**

- AREA UNDER EMBANKMENT SHALL BE CLEARED, GRIEBED AND STRIPPED OF ANY VEGETATION AND ROOT MAT. THE POOL AREA SHALL BE CLEARED.
- THE FILL MATERIAL FOR THE EMBANKMENT SHALL BE FREE OF ROOTS AND OTHER MOODY VEGETATION AS WELL AS OVER-SIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. THE EMBANKMENT SHALL BE COMPACTED BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED.
- ALL CUT AND FILL SLOPES SHALL BE 2:1 OR FLATTER.
- THE STONE USED IN THE OUTLET SHALL BE SMALL RIP-RAP 4" TO 1" IN SIZE WITH A 1" THICK LAYER OF 3/4" TO 1/2" WASHED AGGREGATE PLACED ON THE UPPER FACE OF THE OUTLET. STONE FACINGS SHALL BE AS NECESSARY TO PREVENT CLOGGING. GEOTEXTILE CLASS C MAY BE SUBSTITUTED FOR THE STONE FACINGS BY PLACING IT ON THE INSIDE FACE OF THE STONE OUTLET.
- SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF OF THE NET STORAGE DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
- THE STRUCTURE SHALL BE INSPECTED PERIODICALLY AND AFTER EACH RAIN AND REPAIRED AS NEEDED.
- CONSTRUCTION OF TRAPS CANNOT BE CARRIED OUT IN SUCH A MANNER THAT SEDIMENT POLLUTION IS AVOIDED. ONCE CONSTRUCTED, THE TOP AND OUTSIDE FACE OF THE EMBANKMENT SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMOVAL OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED THROUGHOUT THE LIFE OF THE TRAP.
- THE STRUCTURE SHALL BE DEMATERED BY APPROVED METHODS, REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- REFER TO SECTION D FOR SPECIFICATIONS CONCERNING TRAP DEMATERING.
- MINIMUM TRAP DEPTH SHALL BE MEASURED FROM THE MEIR ELEVATION.
- THE ELEVATION OF THE TOP OF ANY DIKE DIRECTING WATER INTO TRAP MUST BE EQUAL OR EXCEED THE ELEVATION OF THE TRAP EMBANKMENT.
- GEOTEXTILE CLASS C SHALL BE PLACED OVER THE BOTTOM AND SIDES OF THE TRAP. THE GEOTEXTILE SHALL BE STABILIZED WITH SEED AND MULCH. POINTS OF CONCENTRATED INFLOW SHALL BE PROTECTED IN ACCORDANCE WITH GRADE STABILIZATION STRUCTURE CRITERIA. THE REMOVAL OF THE INTERIOR SLOPES SHOULD BE STABILIZED (ONE TIME) WITH SEED AND MULCH UPON TRAP COMPLETION AND MONITORED AND MAINTAINED THROUGHOUT THE LIFE OF THE TRAP.
- OUTLET - AN OUTLET SHALL BE PROVIDED, INCLUDING A MEANS OF CONVEYING THE DISCHARGE IN AN EROSION FREE MANNER TO AN EXISTING STABLE CHANNEL.

### STONE OUTLET SEDIMENT TRAP - ST-II

NOT TO SCALE

1487

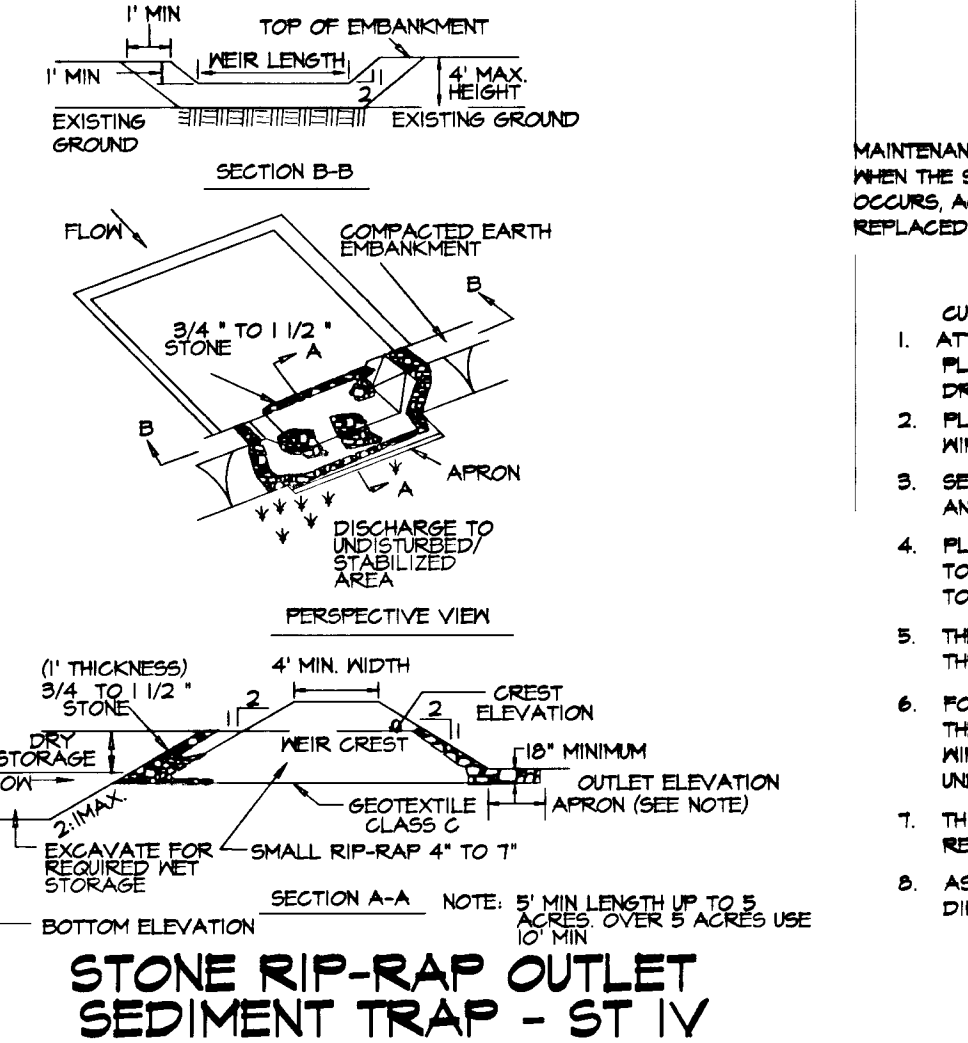


**CONSTRUCTION SPECIFICATIONS**

- ATTACH A CONTINUOUS PIECE OF WIRE MESH (50" MINIMUM WIDTH BY THROAT LENGTH PLUS 2") TO THE 2" X 4" MEIR MEASURING THROAT LENGTH PLUS 2" AS SHOWN ON THE STANDARD SYMBOL.
- PLACE A CONTINUOUS PIECE OF GEOTEXTILE CLASS E OF THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH IT TO THE 2" X 4" MEIR.
- SECURELY NAIL THE 2" X 4" MEIR TO A 4" LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE MEIR AND THE INLET FACE (MAX. 4" APART).
- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL MINIMUM 2" LENGTHS OF 2" X 4" TO THE TOP OF THE MEIR AT SPACER LOCATIONS. THESE 2" X 4" ANCHORS SHALL EXTEND ACROSS THE INLET TYP AND BE HELD IN PLACE BY SANDBAGS OR ALTERNATE HEIGHT. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
- PLACE THE 1/2" X 1/2" WIRE MESH AND THE GEOTEXTILE FABRIC TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4" X 1/2" STONE OVER THE WIRE MESH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM BYPASSING THE INLET UNDER OR AROUND THE GEOTEXTILE.
- 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 THE INLET BY INSTALLING A TEMPORARY EARTH OR ASPHALT DIKE TO DIRECT THE FLOW TO THE INLET.

### CURB INLET PROTECTION

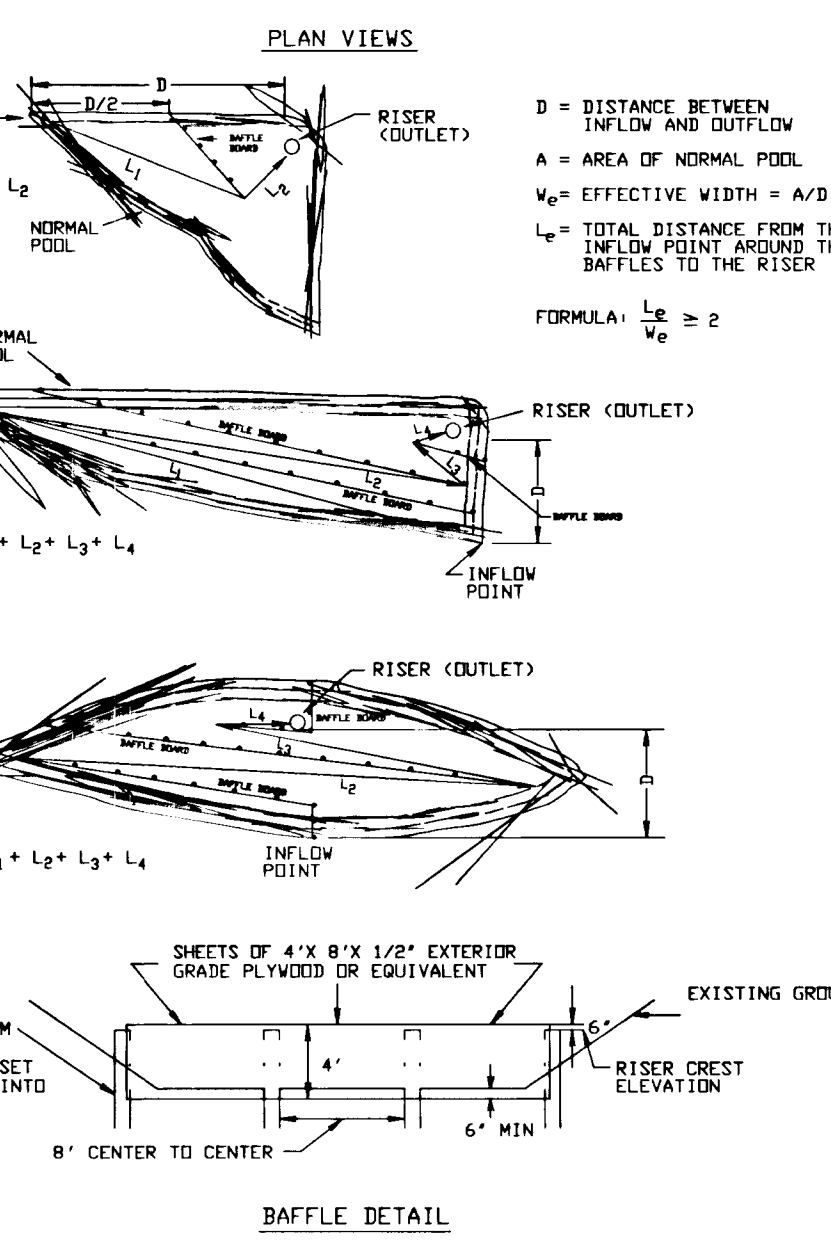
NOT TO SCALE



### STONE RIP-RAP OUTLET SEDIMENT TRAP - ST IV

NOT TO SCALE

### DETAIL 18 - SEDIMENT BASIN BAFFLES



### REMOVABLE PUMPING STATION

NOT TO SCALE

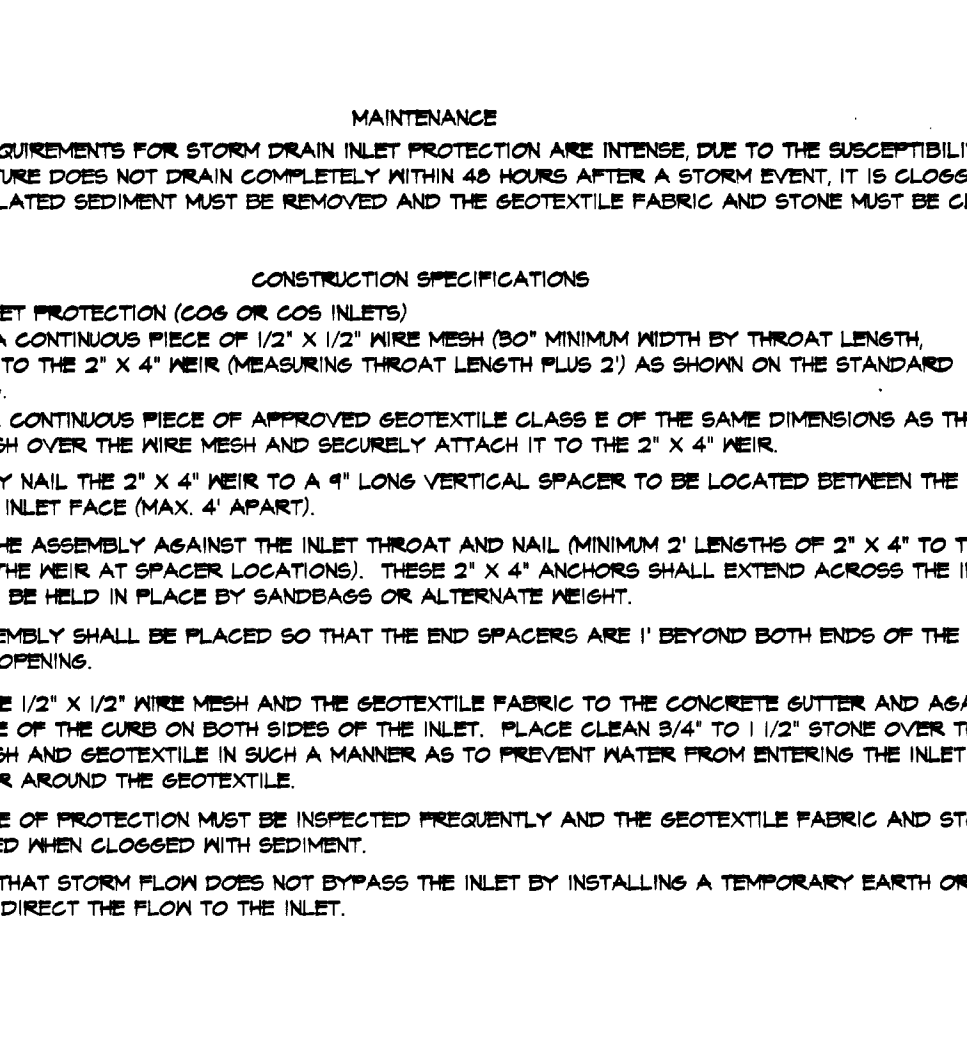


### CONSTRUCTION SPECIFICATIONS

- THE OUTER PIPE SHOULD BE 48" DIA. OR SMALL, IN ANY CASE, BE AT LEAST 4" GREATER IN DIAMETER THAN THE CENTER PIPE. THE OUTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH TO PREVENT BACKFILL MATERIAL FROM ENTERING THE PERFORATIONS.
- AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 2" AGGREGATE OR CLEAN GRAVEL.
- THE INSIDE STAND PIPE (CENTER PIPE) SHOULD BE CONSTRUCTED BY PERFORATING A CORRUGATED OR PVC PIPE BETWEEN 12" AND 36" IN DIAMETER. THE PERFORATIONS SHALL BE 1/2" X 6" SLOTS OR 1" DIAMETER HOLES 6" ON CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE CLASS C.
- THE CENTER PIPE SHOULD EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DEMATERING A BASIN.

### RIP-RAP INFLOW PROTECTION

NOT TO SCALE



### SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT AND ENVIRONMENTAL PERMITS WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR.
- INSTALL STABILIZED CONSTRUCTION ENTRANCES. INSTALL PERMANENT 24" CULVERT UNDER LINCOLN LANE RIP RAP CHANNEL PROTECTION AND SILT FENCE UPSTREAM AND DOWNSTREAM OF EMBANKMENT. WHEN FILL REACHES 3' ABOVE TOP OF PIPE, INSTALL REMAINING SEDIMENT TRAPS, EARTH DIKES, SILT FENCE AND TREE PROTECTION. USE REMOVABLE BARRING STATION TO DEMATER TRAPS. (2 WEEKS) INSTALL THREE PROTECTION FENCINGS. INSTALL TEMP 12" OR 18" SILT FENCE (DRAINAGE LUMIGUM LAKE WEEKS) PLACE TOPSOIL ON GRADED SLOPES.
- AS SUBGRADES ARE ESTABLISHED, INSTALL STORM DRAINS, WATER AND SEWER UTILITIES. ADD STONE FILTER INLET PROTECTION ON INLETS AS NECESSARY. (6 WEEKS)
- INSTALL CURB AND GUTTER AND PAVE ROADWAYS. (4 WEEKS)
- STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (8 DAYS) AND TOPSOIL SPECIFICATIONS (DRAINAGE LUMIGUM LAKE WEEKS)
- WITH APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR REMOVE ALL SEDIMENT CONTROLS. INSTALL SHALLOW MARSHES USING SILT FENCE DOWNSTREAM OF MARSH DURING CONSTRUCTION. (2 WEEKS)
- INSTALL STREET LIGHTS, STREET TREES AND SIGNS AS PLANTING FOR SHALLOW MARSH AREAS. (2 WEEKS)

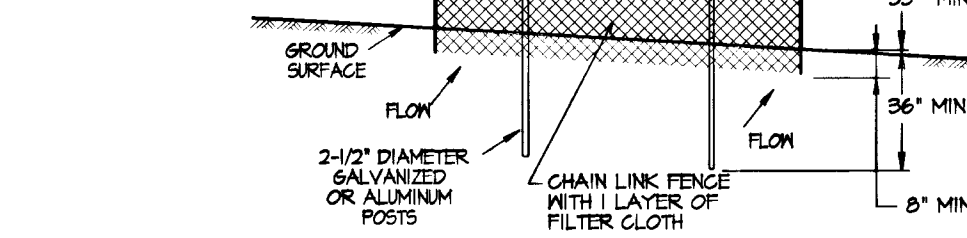
NOTE: 2 YEAR STORMWATER MANAGEMENT WILL BE COVERED BY THE FACILITY AT GREAT STAR DRIVE.

SECURE PERMISSION FROM SEDIMENT CONTROL INSPECTOR BEFORE CLEARING OR GRADING.



### STANDARD STONE CHECK DAM DESIGN

NOT TO SCALE



### DETAIL H-26-3 SUPER SILT FENCE

NOT TO SCALE

**CONSTRUCTION SPECIFICATIONS**

- FENCINGS SHALL BE 42" IN HEIGHT AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY DETAILS FOR CHAIN LINK FENCINGS. THE SPECIFICATION FOR A 6" FENCE SHALL BE USED, SUBSTITUTING 42" FABRIC AND 6" LENGTH POSTS.
- CHAIN LINK FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES. THE LOWER TENSION WIRE BRACE AND TRUSS RODS, DRIVE ANCHORS AND POST CAPS ARE NOT REQUIRED EXCEPT ON THE ENDS OF THE FENCE.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
- THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID SECTION AND SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

CLASS	APPERT OPENING SIZE (IN. MAX.)	GRAB TENSILE STRENGTH (LB. MIN.)	BURST STRENGTH (PSI)
F (SILT FENCE)	0.40-0.60*	90	140

\* US STD. SIEVE C&W-22/25

### CONSTRUCTION SPECIFICATIONS

- SHALES AND CLAYSHALS SHALL BE REMOVED IN ACCORDANCE WITH THE SPECIFICATIONS FOR SOIL REMOVAL DESCRIBED IN SECTION A-2. STANDARDS AND CRITERIA FOR SOIL REMOVAL SHALL BE AS FOLLOWS:
  - THE CHECK DAM SHALL BE CONSTRUCTED OF 4"-1" STONE. THE STONE SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT ERODE.
  - THE TOP OF THE CHECK DAM SHALL BE CONSTRUCTED SO THE CENTER IS WATER CAN FLOW ACROSS.
  - THE MAXIMUM HEIGHT OF THE CHECK DAM AT THE CENTER SHALL NOT EXCEED 2'. THE TOP ELEVATION OF THE CHECK DAM SHALL BE LINED WITH APPROXIMATELY 1" 1/2" OF CRUSHED AGGREGATE.
  - ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS BUILT UP TO 1/2 OF THE ORIGINAL HEIGHT OF THE MEIR CREST.
- THE STRUCTURE SHALL BE DEMATERED BY APPROVED METHODS, REMOVED AND THE AREA STABILIZED WHEN THE DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

BY THE DEVELOPER  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 12/11/96  
SIGNATURE: [Signature]

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

DATE: 6-27-96  
SIGNATURE: Donald N. Mills

DATE: 10/24/96  
SIGNATURE: [Signature]

DATE: 12/30/96  
SIGNATURE: [Signature]

DATE: [Blank]  
SIGNATURE: [Blank]

DATE: 12-31-96  
SIGNATURE: Andrew M. Daniels

DATE: 2/1/97  
SIGNATURE: Richard Blood

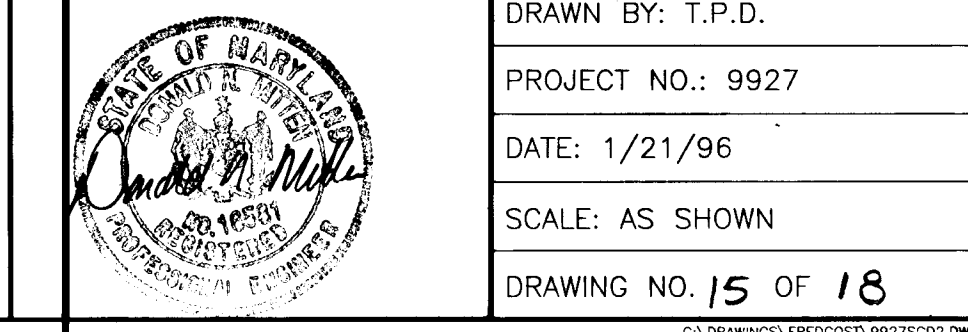
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DATE: [Blank]  
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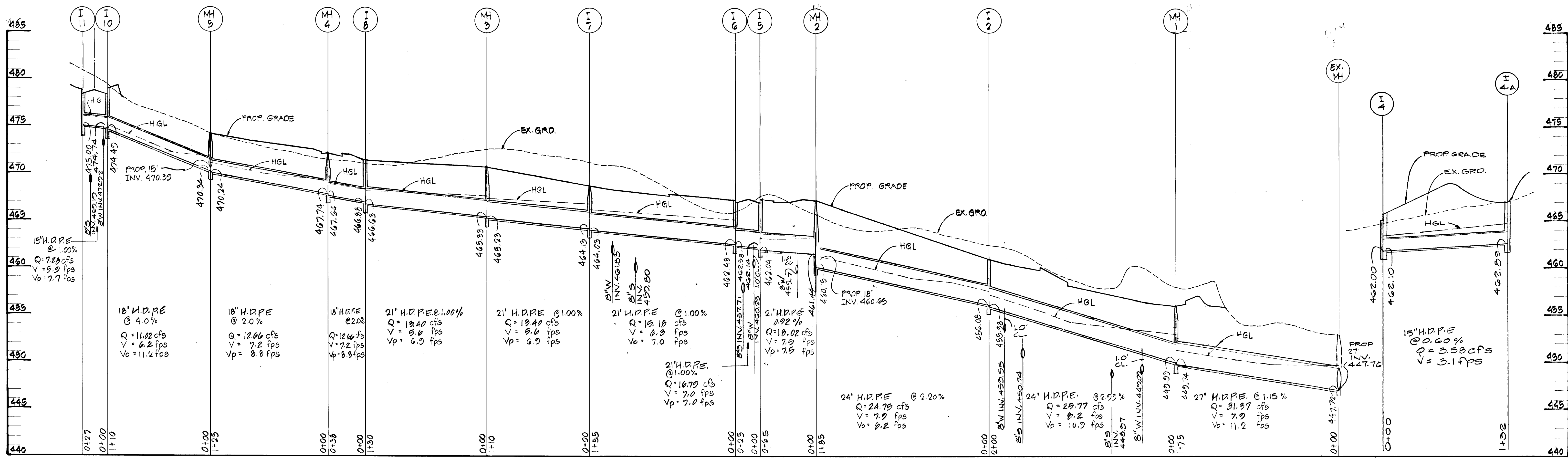
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DATE: 6-27-96  
SIGNATURE: [Signature]

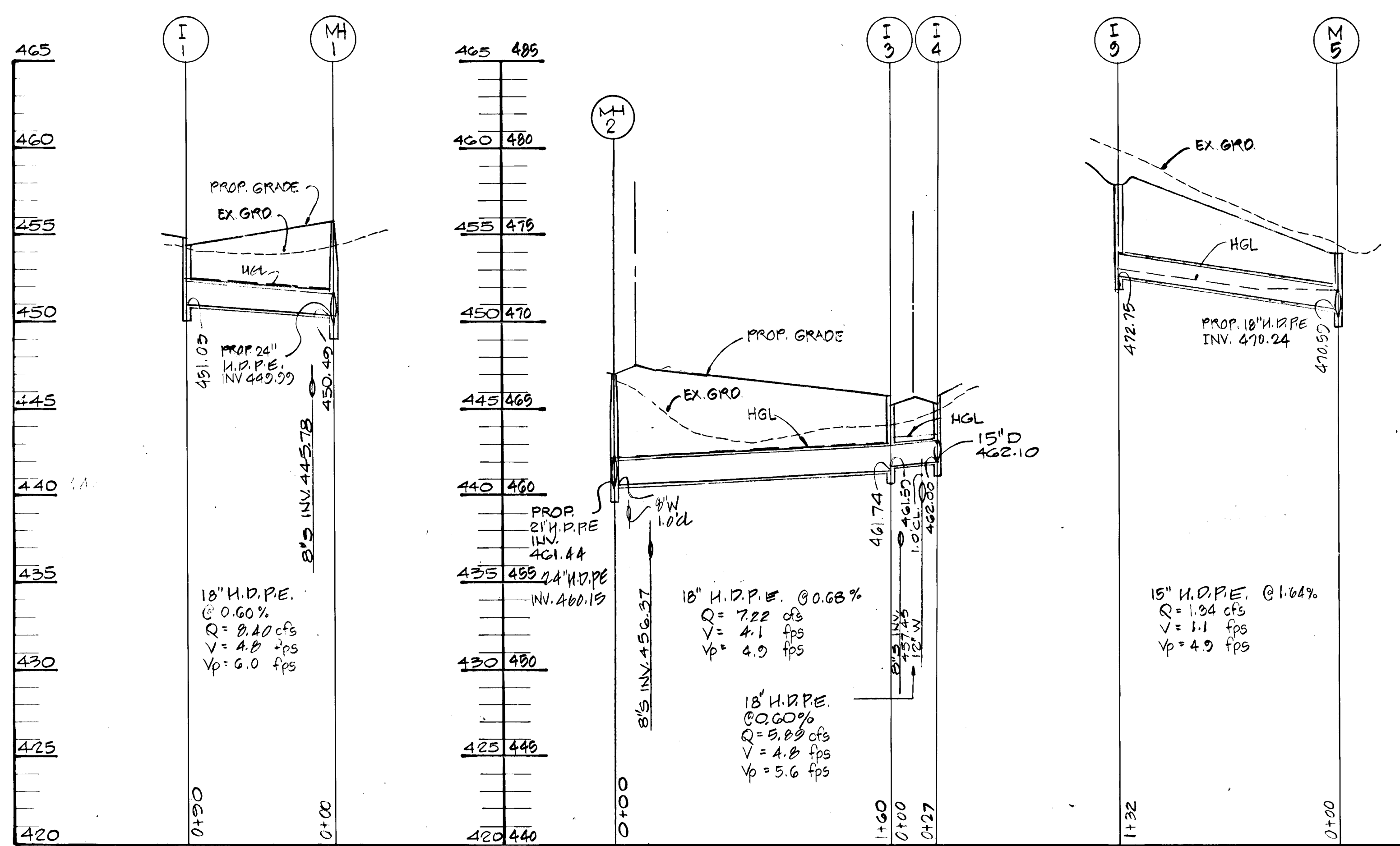
DATE: 1/21/96  
SCALE: AS SHOWN  
DRAWING NO. 15 OF 18







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



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

STRUCTURE SCHEDULE								
NO	TYPE	WIDTH	TOP ELEV. #	INVERT UPPER	INVERT LOWER	STR. DETAIL	LOCATIONS	REMARKS
I-1	A-5	3.0'	495.14	-	491.00	S.D. A. 4.0	LINEAR PROFILE STA. 2+00 WHITE POSSIBLE PATH	
I-2	A-10	3.0'	461.22	496.08	455.90	S.D. A. A. 1	& STA. 2+00 WHITE POSSIBLE PATH 1/2 SE LEFT	
I-3	A-5	3.0'	485.54	461.74	461.84	S.D. A. 4.0	& STA. 17+00 UNIDEN LINTHICUM LANE, 135' LEFT	
I-4	A-5	3.0'	485.54	462.00	462.00	S.D. A. 4.0	& STA. 17+00 UNIDEN LINTHICUM LANE, 135' LEFT	
I-5	A-10	3.0'	467.27	462.14	462.04	S.D. A. A. 1	& STA. 0+47 WESTERN SEA RUN, 152' LEFT	
I-6	A-10	3.0'	467.27	462.48	462.38	S.D. A. A. 1	& STA. 0+47 WESTERN SEA RUN, 152' LEFT	
I-7	A-10	3.0'	468.61	464.15	464.05	S.D. A. A. 1	& STA. 2+00 WESTERN SEA RUN, 152' LEFT	
I-8	A-10	3.0'	471.39	466.81	466.63	S.D. A. A. 1	& STA. 4+25 WESTERN SEA RUN, 152' LEFT	
I-9	YARD		OPEN 476.00	-	472.75	S.D.	SEE PLAN	
I-10	A-5	3.0'	478.92	474.74	474.49	S.D. A. 4.0	& STA. 7+75 WHITTING WINDS WALK, 135' LEFT	
I-11	A-5	3.0'	478.92	-	475.00	S.D. A. 4.0	& STA. 7+75 WHITTING WINDS WALK, 135' LEFT	
M-1	STR. MANHOLE	4.0'	455.90	450.40	449.89	G. 5.05	& STA. 9+02 WHITE POSSIBLE PATH, 20' LEFT	
M-2	STR. MANHOLE	4.0'	467.01	460.69	460.15	G. 5.12	& STA. 16+07 UNIDEN LINTHICUM LANE, 13' LEFT	
M-3	STR. MANHOLE	4.0'	460.69	465.39	465.25	G. 5.05	& STA. 9+02 WESTERN SEA RUN, 15' LEFT	
M-4	STR. MANHOLE	4.0'	472.11	461.74	461.64	G. 5.05	& STA. EXT. 4+62 WESTERN SEA RUN, 18' LEFT	
M-5	STR. MANHOLE	4.0'	474.00	470.59	470.24	G. 5.05	SEE PLAN	
I-4A	YARD		OPEN 467.00	-	462.89	S.O.		

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Richard M. Daulton  
 Chief, Bureau of Highways  
 Date: 12-31-96

APPROVED, HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Richard Blumel  
 Chief, Division of Land Development and Research  
 Date: 2/4/97

[Signature]  
 Chief, Development Engineering Division  
 Date: 2/3/97

12/2/96	4	I-5 TO M-12 REVISED
2/10/97	2	ADDED DEAN PIPES TO THE H.D.P.E.
DATE	NO.	REVISION

OWNER/DEVELOPER  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 THE ROUSE BUILDING  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

PROJECT  
 VILLAGE OF RIVER HILL  
 SECTION 4 AREA 5

AREA TAX MAP NO. 35 ZONED NEW TOWN  
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

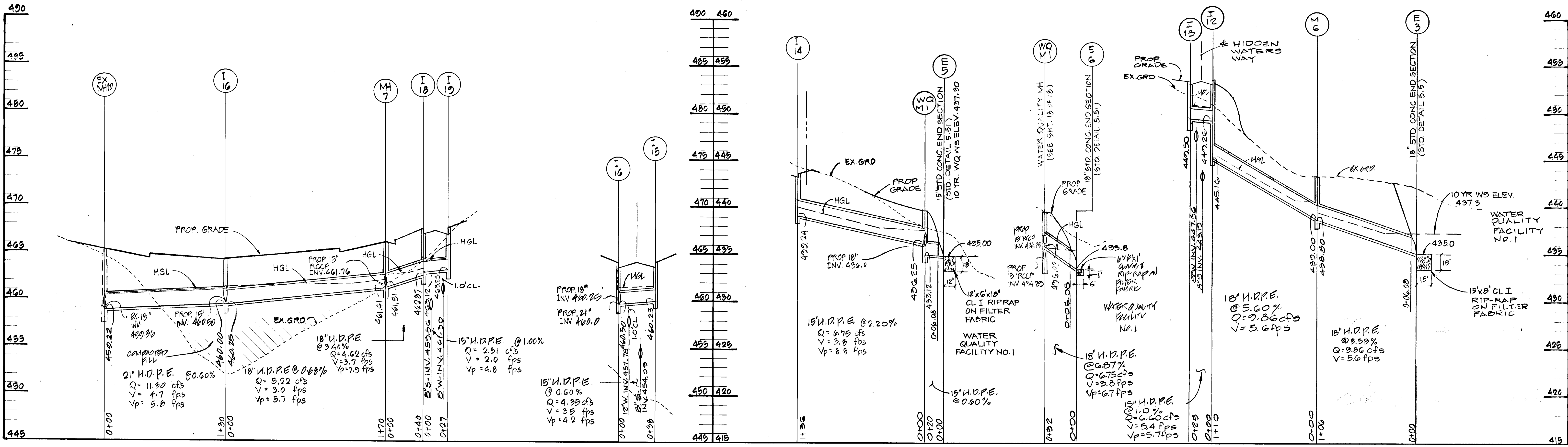
TITLE  
 STORM DRAIN PROFILES AND  
 STRUCTURE SCHEDULES

MORRIS & RITCHIE ASSOCIATES, INC.  
 ENGINEERS, PLANNERS, SURVEYORS, AND LANDSCAPE ARCHITECTS  
 110 WEST ROAD, SUITE 105  
 TOWSON, MARYLAND 21286  
 TEL (410) 821-1690  
 FAX (410) 821-1748

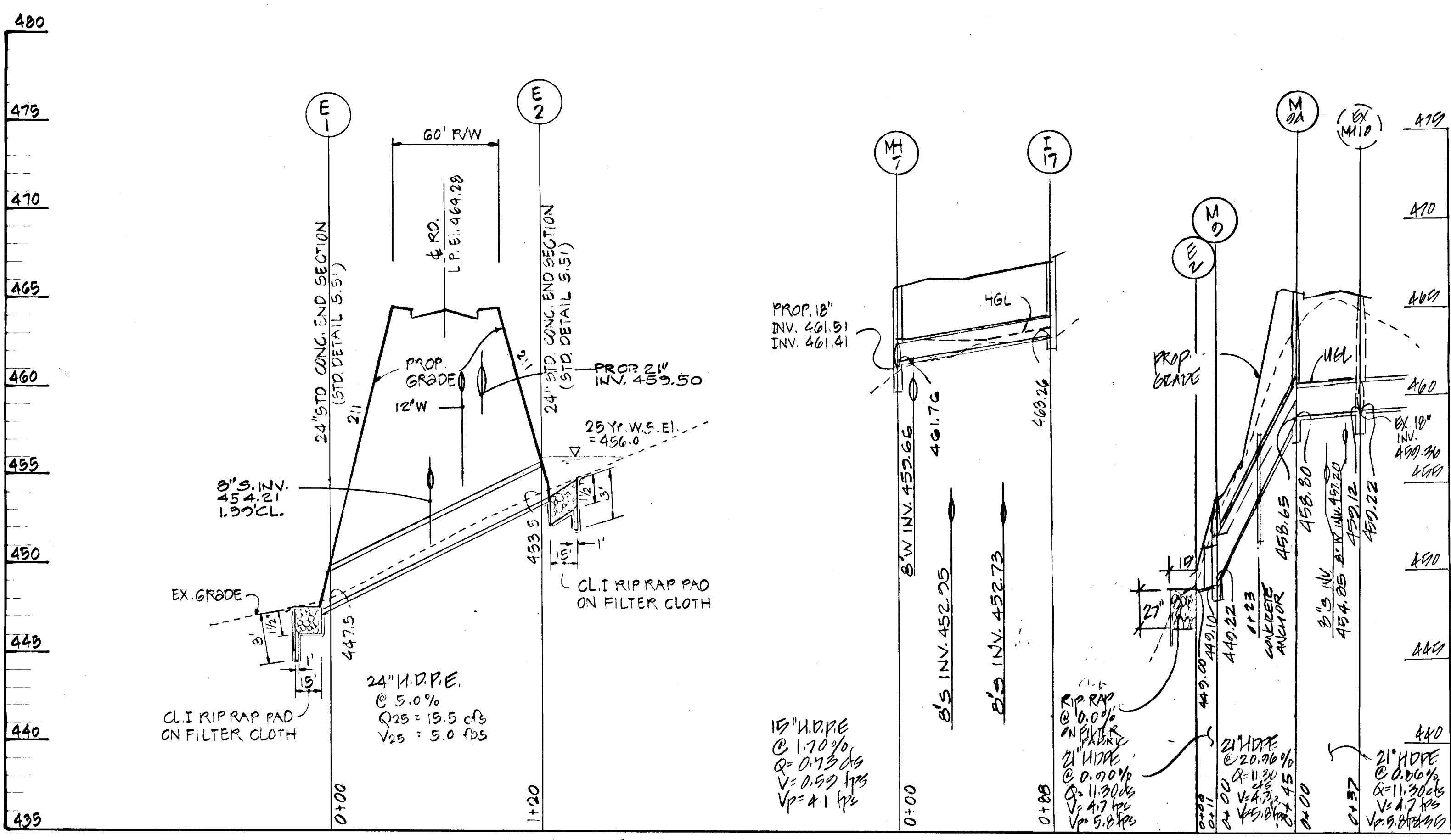
DESIGNED BY: KAO  
 DRAWN BY: TPO  
 PROJECT NO: 9927  
 DATE: 1/21/96  
 SCALE: HOR 1" = 50'  
 VERT 1" = 5'  
 DRAWING NO. 16 OF 18

1487





PROFILE  
SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.



PROFILE  
SCALE: 1" = 20' HORIZ.  
1" = 5' VERT.

STRUCTURE SCHEDULE								
NO.	TYPE	WIDTH	TOP ELEV.	INVERT ELEV.		STD. DETAIL	LOCATIONS	REMARKS
				UPPER	LOWER			
I-12	A-S	3.0'	459.70	-	449.16	S.D. A.40	& STA. 2+75, UNDEN WATERWAY, 12.52' RIGHT	
I-13	A-S	3.0'	459.70	-	449.50	S.D. A.40	& STA. 2+75, UNDEN WATERWAY, 12.52' LEFT	
I-14	A-S	3.0'	449.70	-	459.24	S.D. A.40	LINEAR PROFILE STA. 2+00 WILD ORANGE GATE	
I-15	A-S	3.0'	464.94	-	460.23	S.D. A.40	& STA. 10+30.75, UNDEN LINTHUM WANE, 10' RIGHT	
I-16	A-S	3.0'	464.30	459.24	460.05	S.D. A.40	& STA. 10+30.75, UNDEN LINTHUM WANE, 10' LEFT	
I-17	A-S	3.0'	467.73	-	463.26	S.D. A.40	& STA. 2+00, WILD ORANGE GATE, 13.52' LEFT	
I-18	A-10	3.0'	467.95	463.12	462.87	S.D. A.41	& STA. 0+50, WHISTLING WINDS WALK, 13.52' W/RT	
I-19	A-10	3.0'	467.95	-	462.25	S.D. A.41	& STA. 0+50, WHISTLING WINDS WALK, 13.52'	
M-7	STD. MANHOLE	4.0'	466.08	461.51	461.41	S.D. S.05	& STA. 12+00, UNDEN LINTHUM WANE, 11' LEFT	
M-10	STD. MANHOLE	4.0'	443.00	449.00	449.80	G.S. 12	SEE PLAN	
E-2	HDPPE END SECTION	-	-	-	449.00	G.D. S.02	SEE PLAN	
M-9	STD. MANHOLE	4.0'	453.75	447.20	447.10	G.S. 12	N 502+740.00 S 20 E 33.1273.90 C 22	
M-9A	STD. MANHOLE	4.0'	466.00	458.00	458.80	G.S. 12	N 010+724.21 B 1 E 1331270.1116	

PIPE SCHEDULE		
PIPE TYPE	CLASS	QUAN.
15" H.D.P.E.	II	625
18" H.D.P.E.	IV	1035
21" H.D.P.E.	IV	707
24" H.D.P.E.	IV	505
27" H.D.P.E.	IV	175

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
*Andrew M. Danek* 12-31-96  
 Chief, Bureau of Highways Date

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
*Richard Blomel* 2/1/97  
 Chief, Division of Land Development and Research Date

*McDermott* 2/3/97  
 Chief, Development Engineering Division Date

2/11/08 3 STORM DRAIN PLAN EX. M-10 TO E-2  
 2/16/08 2 STORM DRAIN REVISIONS H.D.P.E.  
 DATE NO. REVISION

OWNER/DEVELOPER  
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 THE ROUSE BUILDING  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MARYLAND 21044

PROJECT VILLAGE OF RIVER HILL  
 SECTION 4, AREA 5

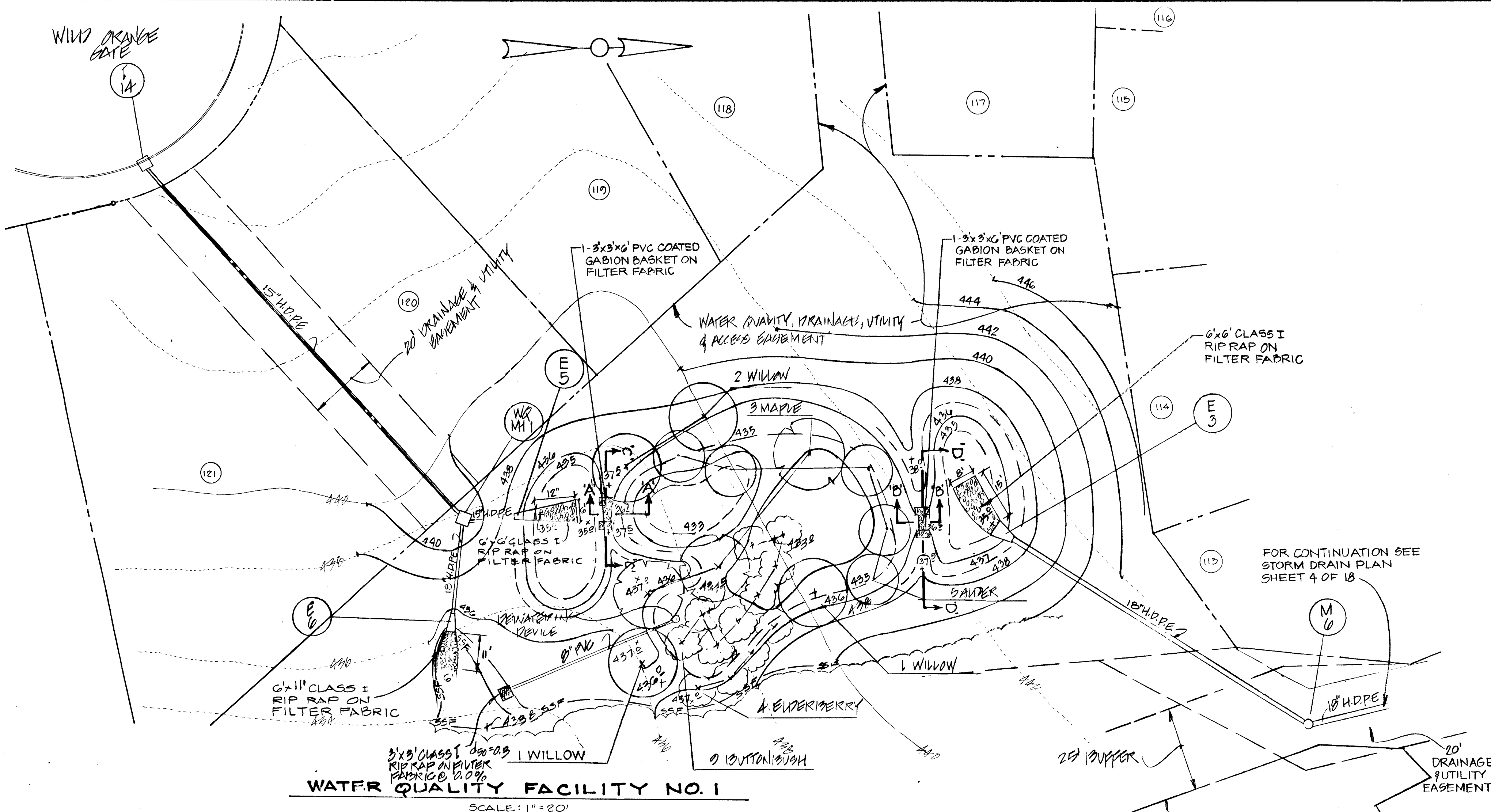
AREA TAX MAP NO. 35 ZONED NEW TOWN  
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE STORM DRAIN PROFILES AND  
 STRUCTURE SCHEDULES

MORRIS & RITCHIE ASSOCIATES, INC.  
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 TEL (410) 821-1690  
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1/21/96  
 DESIGNED BY: KAD  
 DRAWN BY: TFD  
 PROJECT NO: 9927  
 DATE: 1/21/96  
 SCALE: HORIZ 1" = 50'  
 VERT 1" = 5'  
 DRAWING NO: 17 OF 18

1487



**WATER QUALITY FACILITY NO. 1**  
SCALE: 1" = 20'

NOTE: INVERT AND CREST ELEVATIONS INDICATED ON SPECIFIC PLAN VIEWS

**SPECIFICATION FOR STABILIZATION SEEDING OPERATIONS FOR WATER QUALITY FACILITY #1**

**LIMIT OF PLANTING:**  
THIS PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH THE "NOTES ON PLANTING" AND THE FOLLOWING SPECIFICATIONS IN THE AREAS DESIGNATED ON THIS PLAN AS "SHALLOW MARSH CREATION AREAS" AND "AREAS OUTSIDE SHALLOW MARSH".

**SEEDING:**  
FOR THE PERIOD MARCH 1 THROUGH OCTOBER 31: SEED WITH THE FOLLOWING MIXTURE OF STABILIZATION SEED MIX:

STABILIZATION SEED MIX FOR SHALLOW MARSH CREATION AREA

NAME	MIN. % PURITY	MIN. % GERMINATION	LBS/ACRE
Spreading Berseem (Lotus corniculata)	95%	90%	20
Dear Tongue (Dichanthium glandulosum)	90%	80%	10
Floury (Lotus glabra)	92%	90%	20

STABILIZATION SEED MIX FOR AREAS OUTSIDE SHALLOW MARSH

NAME	MIN. % PURITY	MIN. % GERMINATION	LBS/ACRE
Annual Ryegrass (Lolium multiflorum)	95%	90%	40
Water-Rye (Secale cereale)	97%	85%	50
Red Clover (Trifolium pratense)	95%	90%	5

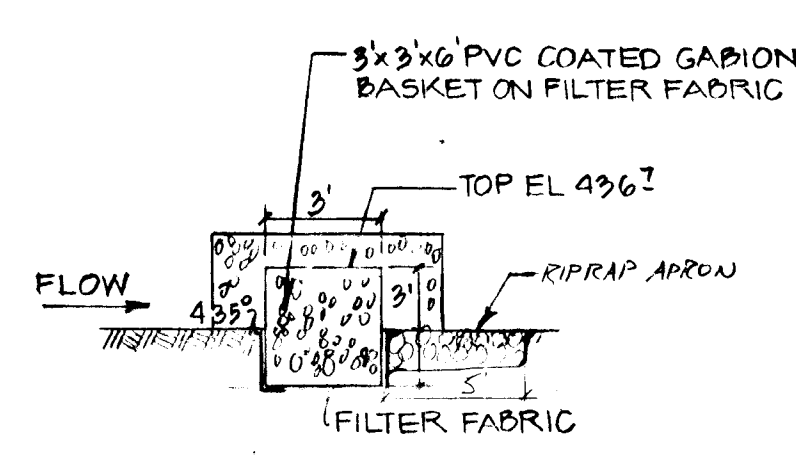
FOR THE PERIOD FROM OCTOBER 31 THROUGH FEBRUARY 28: PROTECT THE SITE BY APPLYING AND SECURELY ANCHORING STRAW MULCH AT THE RATE OF TWO TONS/ACRE; SEED AS SOON AS POSSIBLE IN THE SPRING.

**MULCHING:**  
APPLY UNROTTED SMALL GRAIN STRAW AT THE RATE OF TWO TONS/ACRE AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING EMULSIFIED ASPHALT AT THE RATE OF 348 GALLONS PER ACRE (8 GALLONS/1000 S.F.) OR AN APPROVED TACKIFIER.

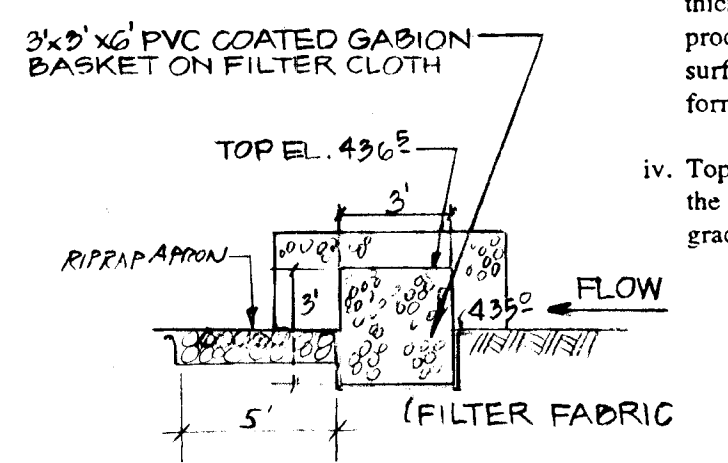
**MAINTENANCE:**  
INSPECT ALL AREAS AND MAKE REPAIRS, REPLACEMENTS, AND RESEEDINGS AS REQUIRED TO MAINTAIN AN ACCEPTABLE STABILIZED AREA. DO NOT MOW OVERALL SEED MIX AREAS AT ANY TIME AFTER THE COMPLETION OF SEEDING OR RE-SEEDING AREAS DURING THE MAINTENANCE PERIOD.

**PLANTINGS FOR WATER QUALITY MANAGEMENT FACILITY #1**

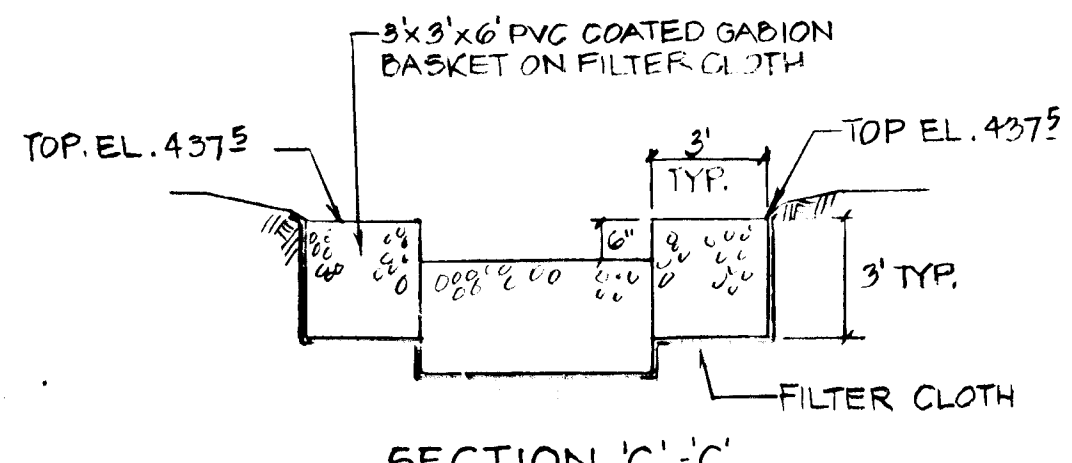
QUANTITY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	REMARKS	USFWS INDICATOR STATUS
3	Acer spicatum Red Maple	5'-6" Ht.	Container	Branched Transplant	FAC
4	Salix glauca Black Willow	5'-6" Ht.	Container	Branched Transplant	FACW
5	Amorpha canescens Smooth Alder	24"-36" Ht.	Container	Multi-Stemmed	OBL
9	Corynephorus canadensis Britton's Sandbar	24"-36" Ht.	Container	Multi-Stemmed	OBL
4	Sambucus racemosa Common Elderberry	24"-36" Ht.	Container	Multi-Stemmed	FACW



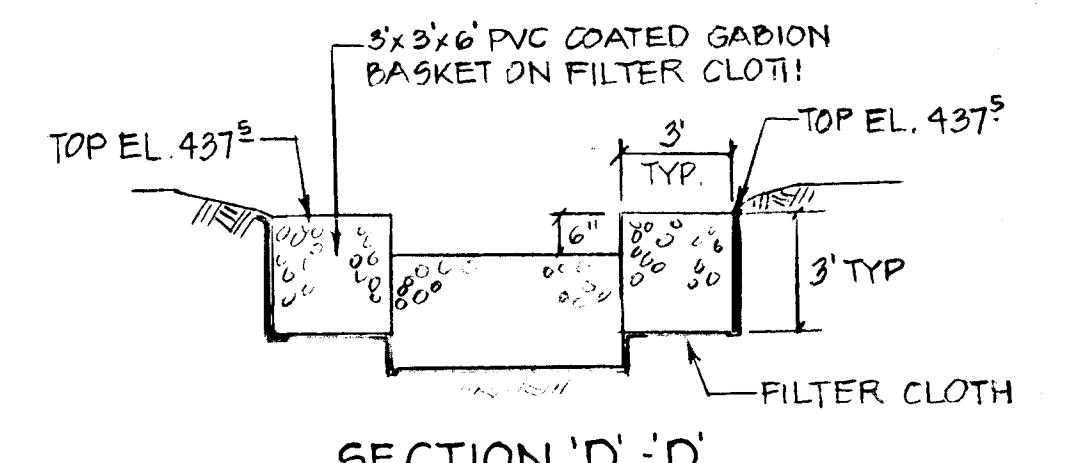
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NTS



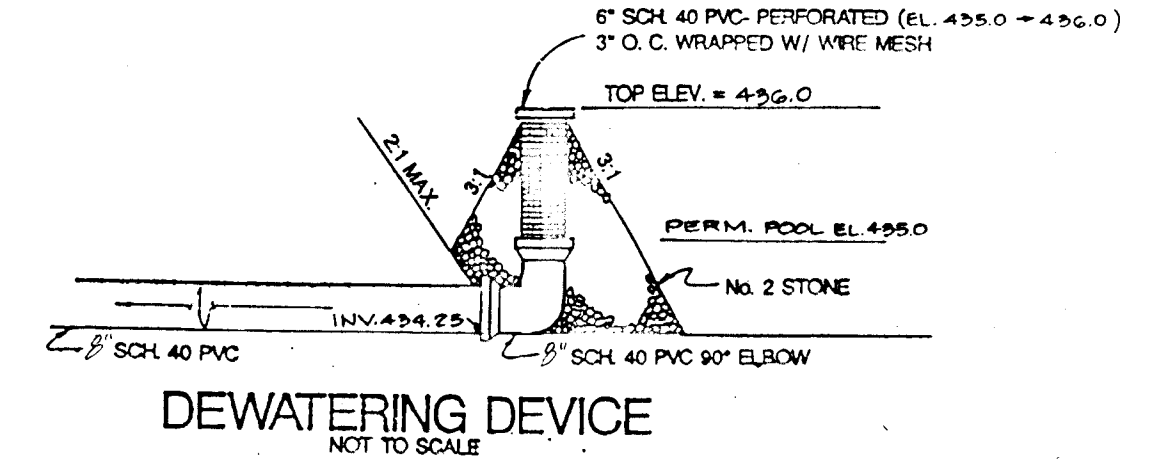
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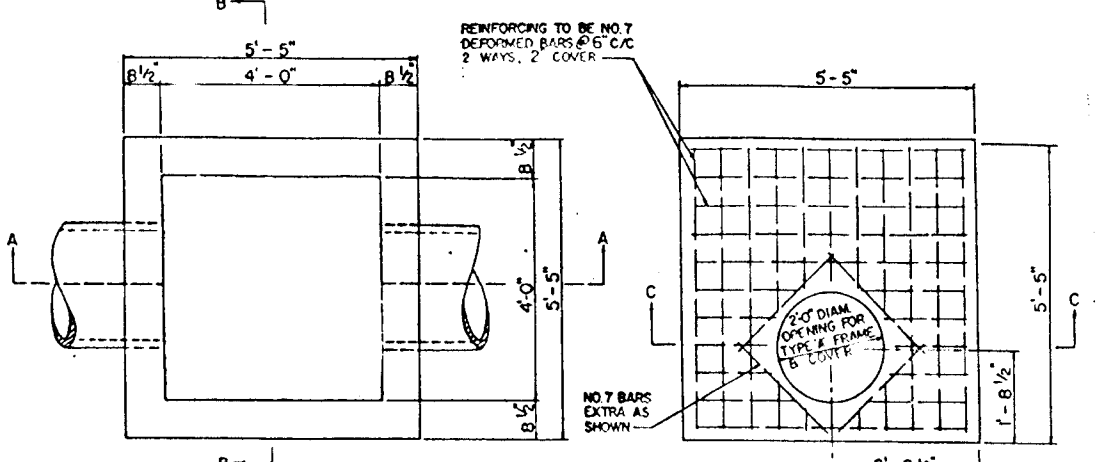
SECTION 'C'-C  
NTS



SECTION 'D'-D  
NTS



DEWATERING DEVICE  
NOT TO SCALE



MODIFIED SHALLOW M+1 DETAIL  
WQ M+1  
N.T.S.

**Operations and Maintenance Schedule**

- The forebay shall be checked in the spring (March) and fall (October) of each year for buildup at silt. Silt shall be removed when the accumulation exceeds four (4) inches.
- Accumulated paper, trash and debris shall be removed twice a year.
- Mowing and general maintenance of the facility shall be done when necessary. Vegetation must be kept below 18 inches at all times.
- Inspection of the structure shall be done once a year (March).
- Corrective measures must be taken if the forebay does not drain in 60 hours.
- Howard County, Department of Public Works will be responsible for the maintenance of the structure. The Columbia Association will be responsible for mowing, trash, debris collection and general maintenance, as well as the replacement of aquatic plants.

**21.0 STANDARD AND SPECIFICATIONS**

**FOR TOPSOIL**

**Construction and Material Specifications**

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
- For sites having disturbed areas over 5 acres:
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
    - Organic content of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
    - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
- Topsoil Application
  - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
  - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

BY THE DEVELOPER  
I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: Gregory R. Han 12/11/96  
DATE

BY THE ENGINEER:  
I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

ENGINEER: Donald A. Miller 12-11-96  
DATE

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

USDA - NATURAL RESOURCES CONSERVATION SERVICE  
Cheryl S. Sims 12/20/96  
DATE

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

HOWARD SOIL CONSERVATION DISTRICT  
Donald A. Miller 12/20/96  
DATE

AS BUILT CERTIFICATE

APPROVED HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS  
Andrew M. Duchs 12-31-96  
Chief, Bureau of Highways DATE

APPROVED HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING  
Richard Blood 2/4/97  
Chief, Division of Land Development and Planning DATE

Mark Danner 2/3/97  
Chief, Development Engineering Division DATE

DATE	NO.	REVISION
9/16/96	2	ADDED DRAW TO BE H.D.P.E.

OWNER/DEVELOPER  
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
THE ROUSE BUILDING  
10 75 LITTLE PATUXENT PARKWAY  
COLUMBIA, MARYLAND 210 4

PROJECT: VILLAGE OF RIVERS HILL  
SECTION 4 AREA 5

AREA TAX MAP IN 35 ZONED R-10  
5th ELECTION DISTRICT HOWARD COUNTY, MD.

TITLE WATER QUALITY FACILITIES  
PLAN AND DETAILS

MORRIS & FITCHE ASSOCIATES, INC.  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
110 WEST ROAD SUITE 105  
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DRAWING NO. 18 OF 18



1487