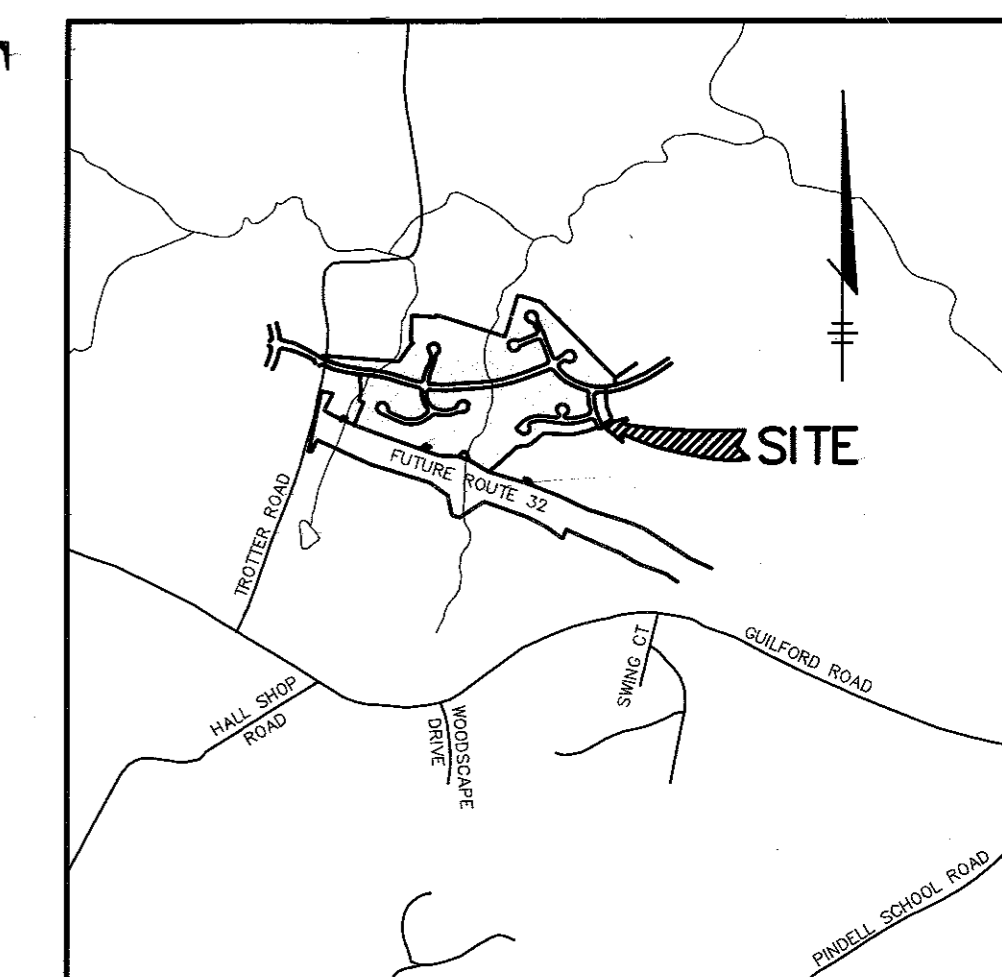


ROADWAYS, STORM DRAINS AND STORMWATER MANAGEMENT

VILLAGE OF RIVER HILL

SECTION 2 AREA 1

5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 2000'

BENCHMARKS

BM #1 RAILROAD SPIKE IN POLE # 825080
(TROTTER ROAD) ELEV. 302.81
N 820207.02
E 820206.81

SHEET INDEX	
NO	DESCRIPTION
1	TITLE SHEET
2	PLAN AND PROFILE SUMMER SUNRISE DRIVE FROM TROTTER ROAD TO STA 17+00
3	PLAN AND PROFILE SUMMER SUNRISE DRIVE FROM STA 17+00 TO END
4	PLAN AND PROFILE ENCHANTED SOLITUDE PLACE AND RIVER RUN FROM STA 0+00 TO CUL-DE-SAC
5	PLAN AND PROFILE RIVER RUN FROM STA 0+00 TO STA 10+50
6	PLAN AND PROFILE EMPTY SONG ROAD AND VELVET PATH
7	PLAN AND PROFILE OLD ROMANCE ROW AND FAIREST DREAM LANE
8	PLAN AND PROFILE ANGEL ROSE COURT AND DARING PRINCE WAY
9	DETAIL SHEET
10	GRADING AND SEDIMENT CONTROL PLAN
11	GRADING AND SEDIMENT CONTROL PLAN
12	GRADING AND SEDIMENT CONTROL PLAN
13	DRAINAGE AREA MAP
14	DRAINAGE AREA MAP
15	STORM DRAIN PROFILES
16	STORM DRAIN PROFILES
17	STORM DRAIN PROFILES AND STRUCTURE SCHEDULE
18	STORM DRAIN PROFILES
19	S.W.M./SEDIMENT CONTROL NOTES AND DETAILS
20	S.W.M. PROFILED AND DETAILS
21	GRADING AND SEDIMENT CONTROL PLAN AND DETAILS

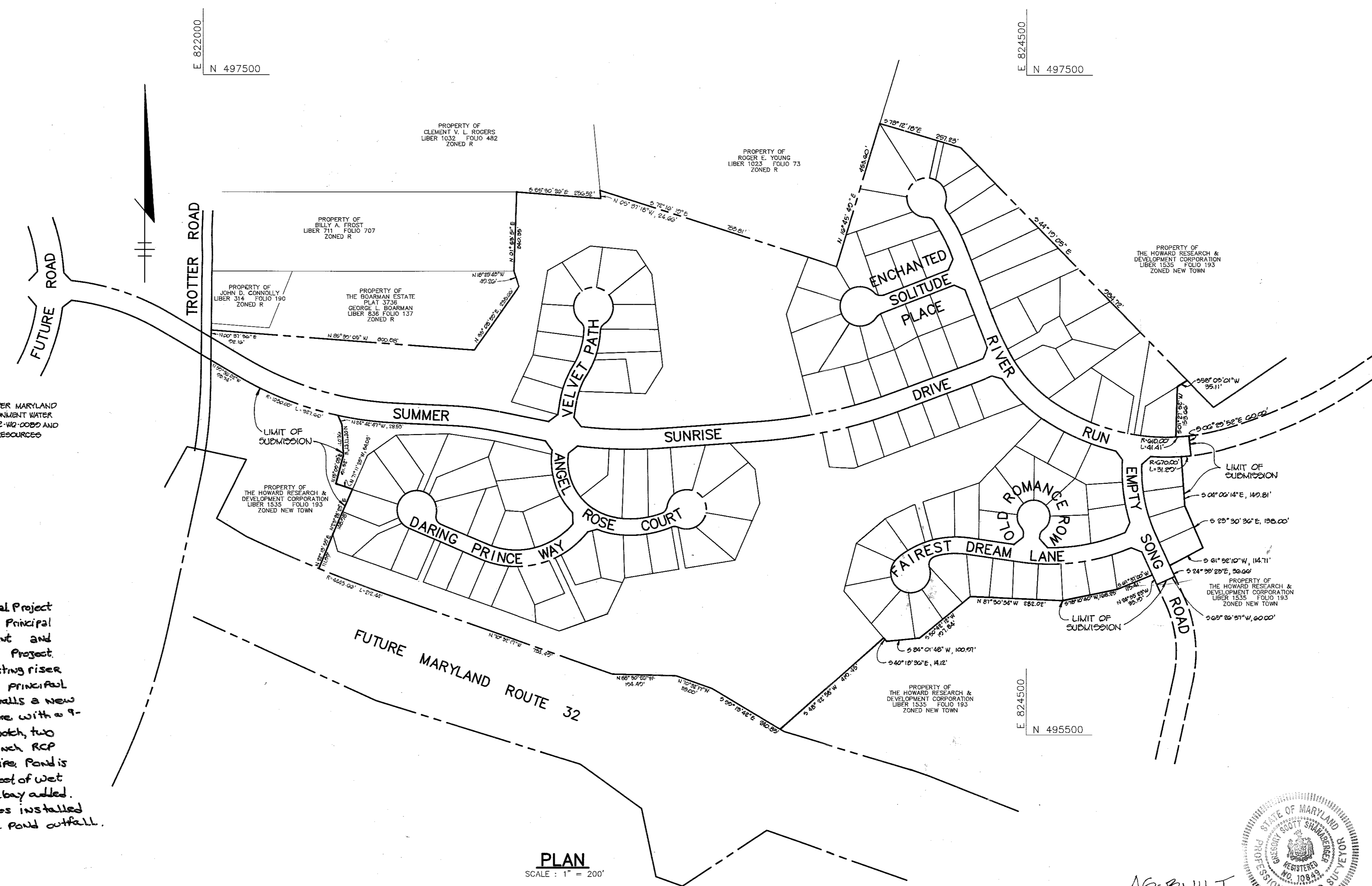
GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUMBING STANDARDS AND SPECIFICATIONS.
- 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 THE CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF CONSTRUCTION INSPECTION AT (410) 313-1880 AT LEAST FIVE (5) WORKING 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.
 - BELL TELEPHONE SYSTEM 393-3649
 - LONG DISTANCE CABLE DIVISION 393-3553 OR 3554
 - BALTIMORE GAS AND ELECTRIC CO. 539-8000
 - HOWARD COUNTY BUREAU OF UTILITIES 313-4900
 - COLONIAL PIPELINE 795-1390
- 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.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADI UNLESS OTHERWISE NOTED.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.e., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, 1992 AMENDMENTS.
- 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 25 AND 30 M.P.H.
 - ALL 60' RIGHT OF WAYS 35 M.P.H.
- ALL ELEVATIONS SHOWN ARE BASED ON THE 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.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- SUBJECT PROPERTY ZONED NT PER 8-20-85 COMPREHENSIVE ZONING PLAN.
- NO PIPE SHALL BE LAD 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 DEPT. OF PLANNING AND ZONING FILE NO'S. 0-21-05, P-02-10 AND W-02-10.
- LIGHT POLES AND FIXTURES FOR STREET LIGHTS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOLUME II - ROAD AND BRIDGES, PAGE 44-28.
- THE STORMWATER MANAGEMENT FACILITY PROPOSED FOR THIS SITE ARE CLASS "A" HAZARD FACILITIES. IN THE EVENT OF A FAILURE OF THE EMBANKMENT, DAMAGE WILL BE LIMITED TO FLOODPLAIN AND COUNTY ROADS.
- THE PAVEMENT DETAILS SHOWN ON THESE PLANS REFLECT THE HOWARD COUNTY MINIMUM STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS.

~~THE PAVEMENT SECTIONS SHOWN ON THESE PLANS ARE CLASS "A" HAZARD FACILITIES. IN THE EVENT OF A FAILURE OF THE EMBANKMENT, DAMAGE WILL BE LIMITED TO FLOODPLAIN AND COUNTY ROADS.~~
- WP-02-13 IS A WAIVER TO ALLOW CUL-DE-SAC STREETS TO EXCEED 1200 FEET IN LENGTH AND EXCEED 1000 ADT'S.
- AN APPROXIMATELY SEVEN FOOT HIGH EARTH BERM IS LOCATED ALONG THE ROUTE 32 RIGHT OF WAY TO THE SOUTH OF LOTS 111 - 114.
- AT A MEETING WITH THE DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS, WAIVERS TO PERMIT A 200' RADIUS ON ANGEL ROSE COURT AND A 500' RADIUS ON EMPTY SONG ROAD WERE APPROVED ON JUNE 15, 1992.
- A WAIVER TO ALLOW WATER QUALITY BASIN #9 TO IMPACT EXISTING WETLANDS AND WETLAND BUFFERS WAS APPROVED BY THE DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS ON JUNE 8, 1992.
- STREET TREES (300 TOTAL) THE LOCATION OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS AND BUILDERS LANDSCAPE PROGRAM. BOND RELEASE IS CONTINGENT UPON SECTION 15.131 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- ALL STREET LIGHTS WILL CONSIST OF A 14' BRONZE FERRUGLASS POLE WITH 150 WATT MODERN HP SCODUM FIXTURES EXCEPT STREET LIGHTS ALONG SUMMER SUNRISE DRIVE WHICH WILL CONSIST OF A 30' BRONZE ALUMINUM POLE WITH 250 WATT MODERN HP SCODUM FIXTURE.
- TOPOGRAPHY SHOWN HEREON IS FROM AERIAL MAPS FLOWN IN 1989 BY MAPPING ASSOCIATES, INC.
- PUBLIC WATER AND SEWER SYSTEMS (CONTRACT NO'S 34-3204-D AND 34-3206-D) ARE TO BE UTILIZED FOR THIS SITE.
- STORMWATER MANAGEMENT FOR THIS DEVELOPMENT WILL BE DETENTION FACILITIES CREATED BY ROAD FILLS. WATER QUALITY IS PROVIDED BY EXTENDED DETENTION BASINS.
- THE 100-YEAR FLOODPLAIN STUDY HAS BEEN PREPARED BY WHITMAN REGARDANT AND ASSOCIATES.
- WETLANDS DELINEATION IS PROVIDED BY GEO-TECHNOLOGY ASSOC., INC.
- TRAFFIC STUDY WAS PREPARED BY GOROVE/SLADE ASSOCIATES.
- NOISE STUDY WAS PREPARED BY SOUND ENGINEERING, INC.
- GEOTECHNICAL STUDY FOR STORMWATER MANAGEMENT IS PROVIDED BY THE ROBERT BALTER COMPANY.
- BOUNDARY SURVEY WAS PREPARED BY KGL, INC.
- A WAIVER OF SECTION 10.2.6.6 OF DESIGN MANUAL VOLUME I FOR THE SUMMER SUNRISE DRIVE ROAD CROSSING WAS APPROVED BY THE DIRECTOR OF PUBLIC WORKS ON OCTOBER 22, 1992. THE WAIVED SECTION PERTAINS TO MAXIMUM SIDE SLOPES ALLOWED IN PONDS. THE DIRECTOR ALSO APPROVED A WAIVER OF SECTIONS 10.2.6.5A AND 10.2.6.6 FOR WATER QUALITY BASIN #9 AND #10 TO ALLOW LESS THAN TWELVE FEET WIDE LEVEL AREA AROUND POND AND ALLOW THE MAXIMUM SIDE SLOPES TO BE EXCEEDED.
- LOW MAINTENANCE GRASS COVER (E.G. CROWN VETCH) TO BE PROVIDED IN ALL S.W.M. BASINS FOR SLOPES STEEPER THAN 4:1.

40. WETLAND WORK TO BE AS PER MARYLAND DEPARTMENT OF THE ENVIRONMENT WATER QUALITY CERTIFICATION #02-WQ-0080 AND DEPARTMENT OF NATURAL RESOURCES #02-02010.

Note: 08/02/16 Capital Project D-1159 Fairest Dream Principal Spillway Replacement and Channel Stabilization Project replaces existing riser and 15-inch RCP principal spillway pipe and installs a new concrete riser structure with a 9-inch wide low flow notch, two weirs, and a 42-inch RCP principal spillway pipe. Pond is graded to provide 2 feet of wet storage and a forebay added. In-stream structures installed downstream of the pond outfall.

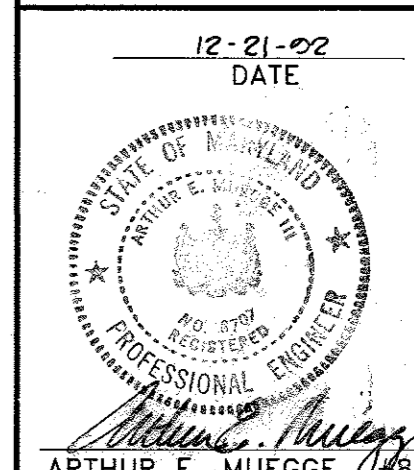


PLAN
SCALE: 1" = 200'

AS BUILT CERTIFICATE	
DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING	DATE 4/21/93
<i>James Island</i>	
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT	
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS	DATE 1/1/93
<i>Chris Danner</i>	
CHIEF, LAND DEVELOPMENT DIVISION	
<i>John M. Torgans</i>	DATE 1/6/93
CHIEF, BUREAU OF HIGHWAYS	
<i>William R. Reed</i>	DATE 1-20-93
CHIEF, BUREAU OF ENGINEERING	
06/14/16 1. Add Riser and replace main notes to plan. (See Note) CE	
08/02/16 2. Install new concrete riser w/ 9" wide low flow notch, 2 weirs	
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 2 AREA 1 LOTS 1 THRU 130
AREA	TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	TITLE SHEET
RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centen Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282	
DATE 12-21-92	DESIGNED BY: C.J.R.
DATE 5-91-93 P-92-13 W-92-13	DRAWN BY: DAM
	PROJECT NO.: 80804
	DATE: DECEMBER 21, 1992
	SCALE: AS SHOWN
	DRAWING NO. 1 OF 21

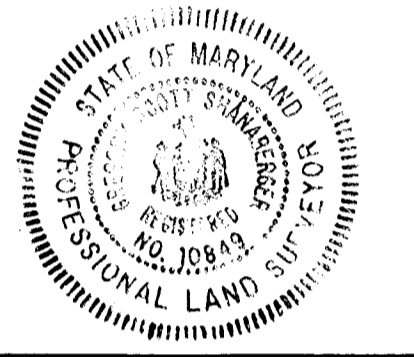
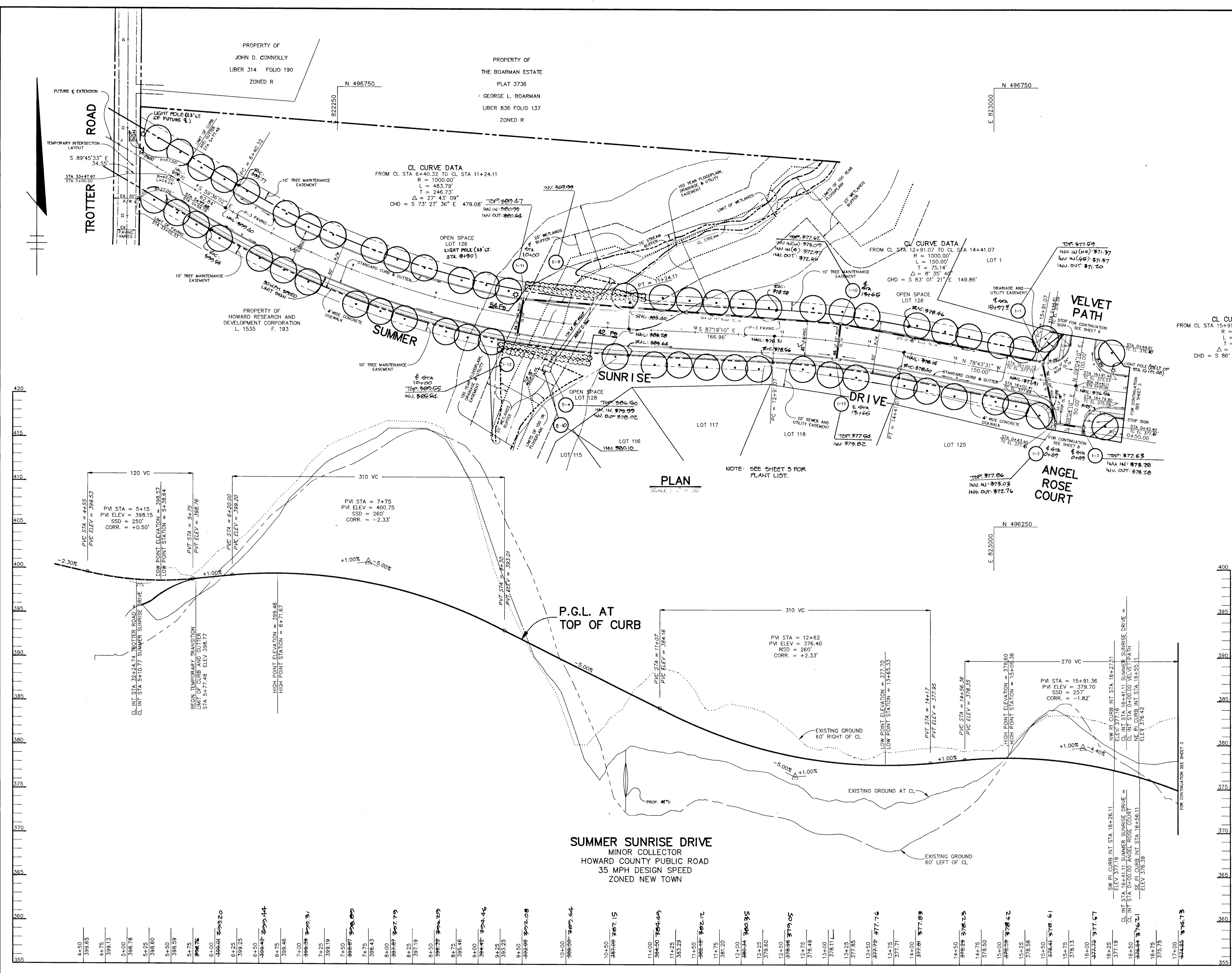
AS-BUILT
Arthur E. Muegge
G. SCOTT SHANAHANBERGER
PROF. LG. #10849
DATE

SHANABERGER & LANE
8720 TOWN & COUNTRY BLVD.
SUITE 104
ELLICOTT CITY, MARYLAND 21043



1487

1487



AS BUILT CERTIFICATE

SHANBERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
ELLCOTT CITY, MARYLAND 21043

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Elmuna Holman 1/27/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John D. Johnson 1/19/93
John M. Ferguson 1/6/93
Maclean & Ryan 1-20-93
 CHIEF, BUREAU OF HIGHWAYS
 CHIEF, BUREAU OF ENGINEERING

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 2 AREA 1
 LOTS 1 THRU 130

AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **PLAN AND PROFILE**
SUMMER SUNRISE DRIVE
FROM TROTTER ROAD TO STA 17+00

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

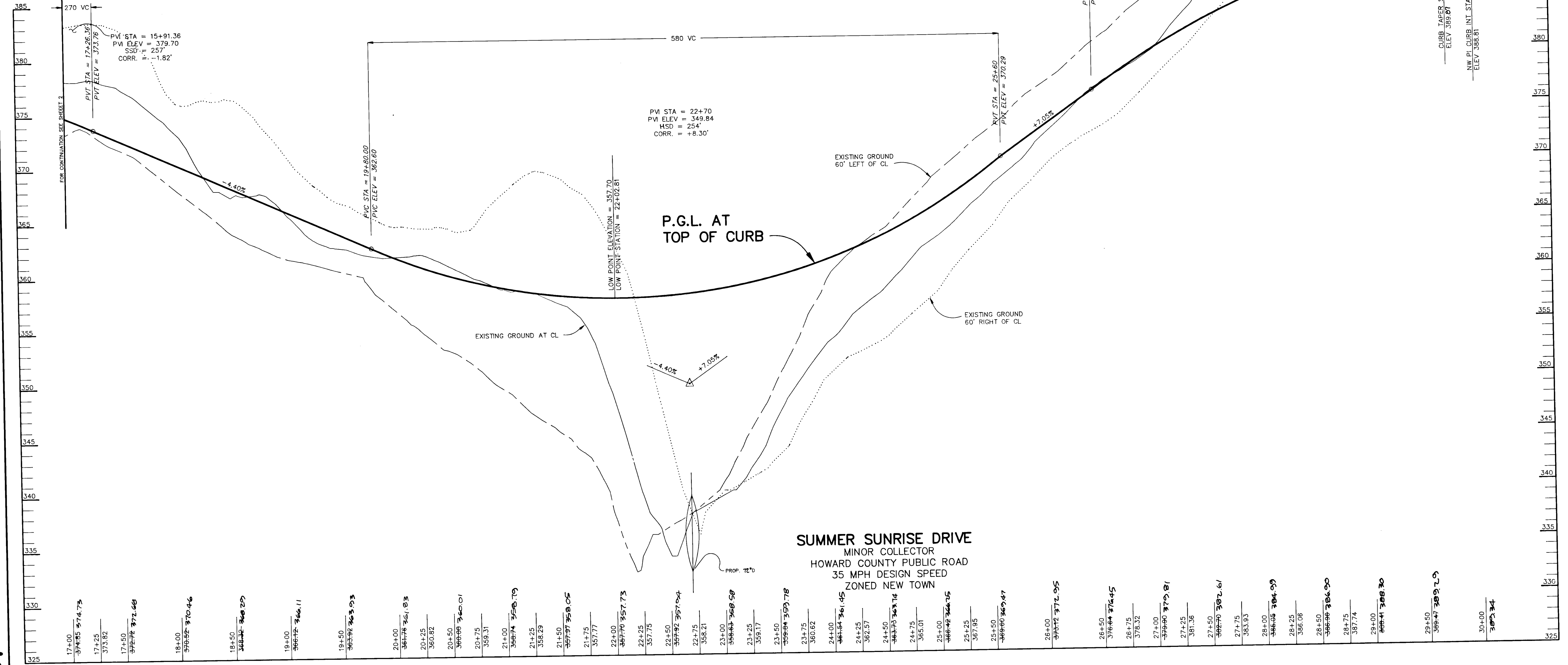
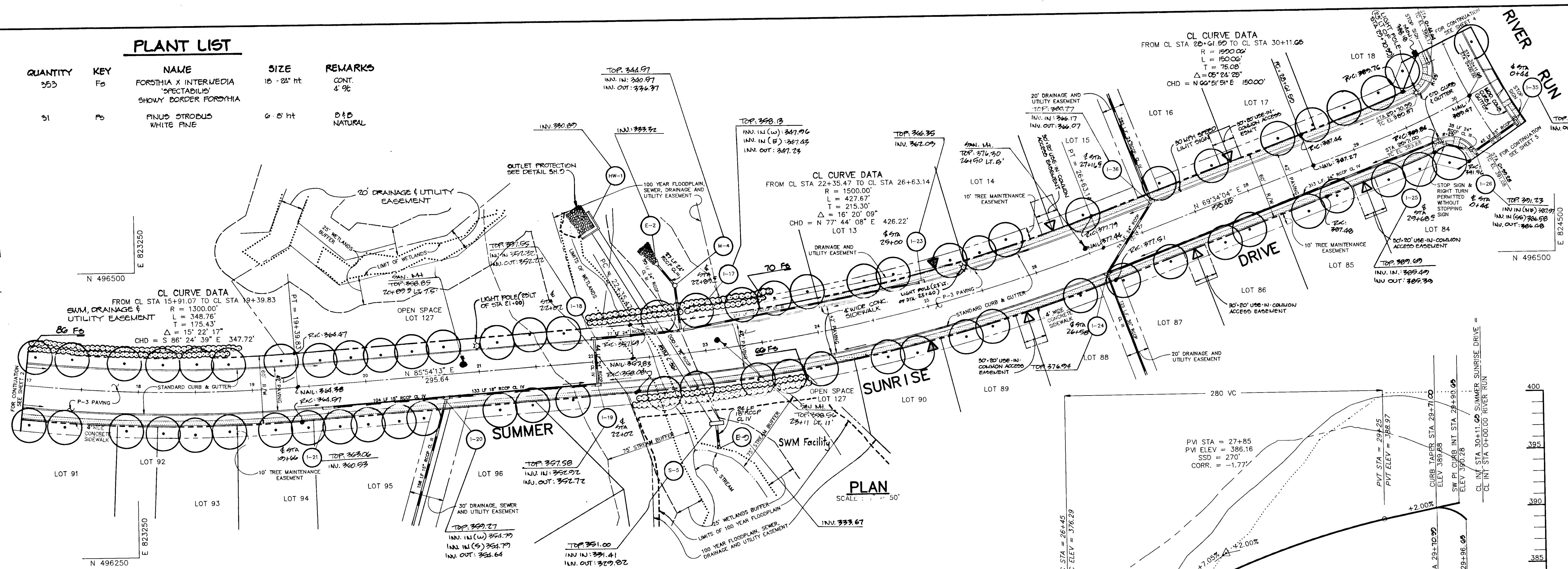
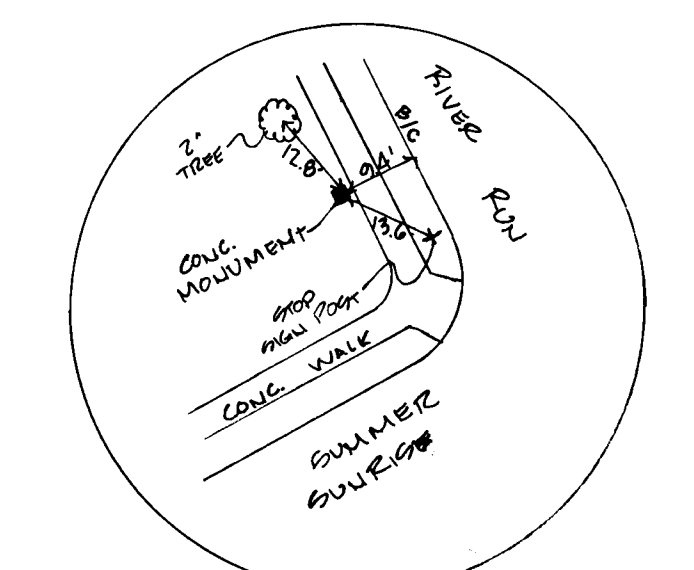
DATE 12-21-92
 DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO.: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 2 OF 21

PLANT LIST

QUANTITY	KEY	NAME	SIZE	REMARKS
353	F5	FORSYTHIA X INTERMEDIA 'SPECTABILIS'	18" - 24" ht.	CONT. 4.9%
		SHOWY BOKOR FORSYTHIA		
51	F5	FINUS STROBUS WHITE PINE	6" - 8" ht.	O & D NATURAL

NOTE: LOT 18 WILL BE DEVELOPED WITH DRIVEWAY ACCESS ON TO RIVER RUN. LOTS 14-17 AND 84-89 WILL UTILIZE SHARED DRIVEWAYS EACH SERVING A GROUP OF TWO ADJACENT LOTS. LOTS 13 AND 90 WILL HAVE INDIVIDUAL DRIVEWAYS.

▲ PROPOSED LOCATION OF SHARED DRIVEWAYS
 ▲ PROPOSED LOCATION OF SINGLE DRIVEWAYS



AS BUILT CERTIFICATE

SHANADERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 104
 ELLICOTT CITY, MARYLAND 21043

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 Chief: *Emma S. Blonard* 1/27/93 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
 Chief: *William S. Rine* 1-20-93 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 2 AREA 1
 LOTS 1 THRU 130

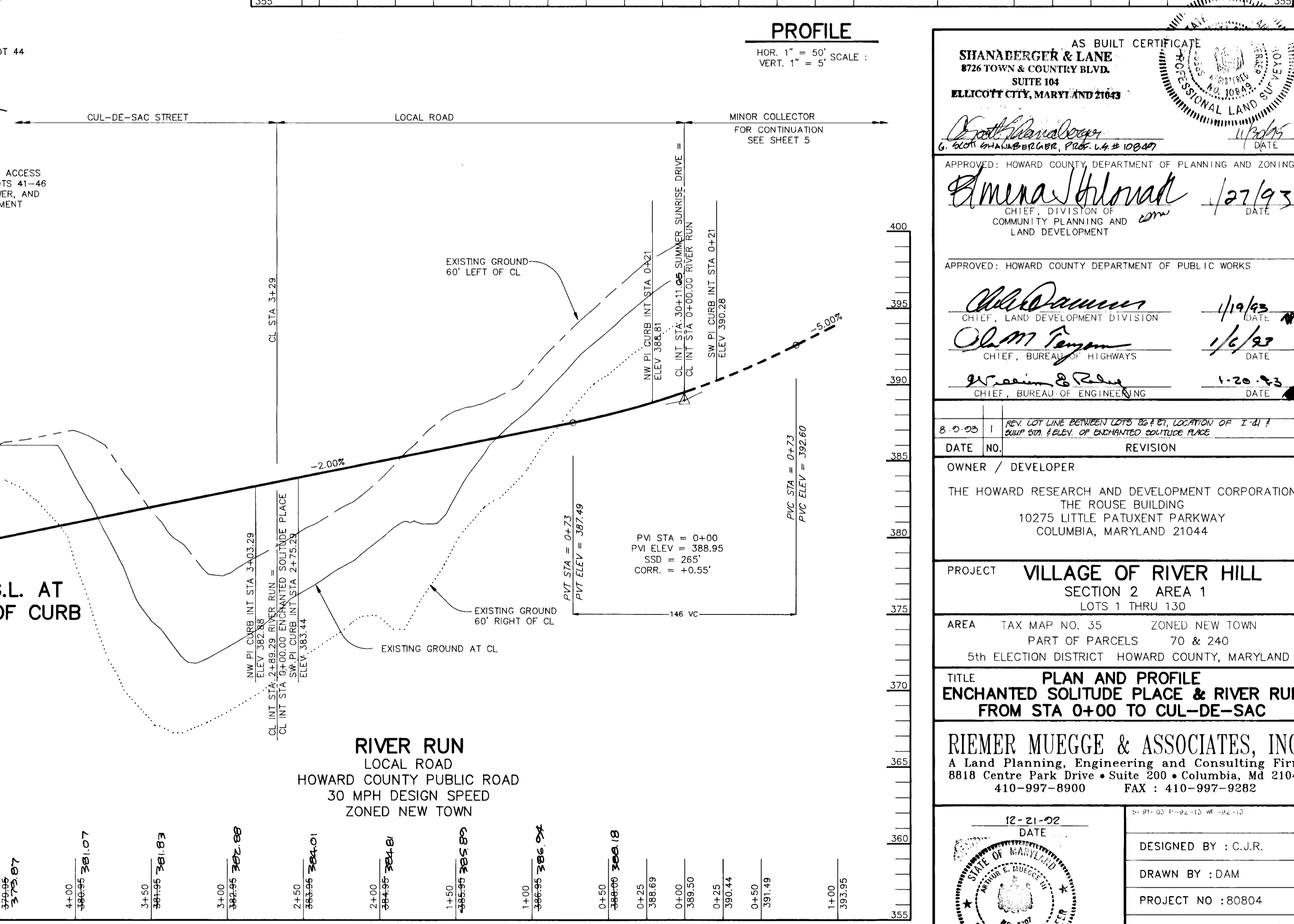
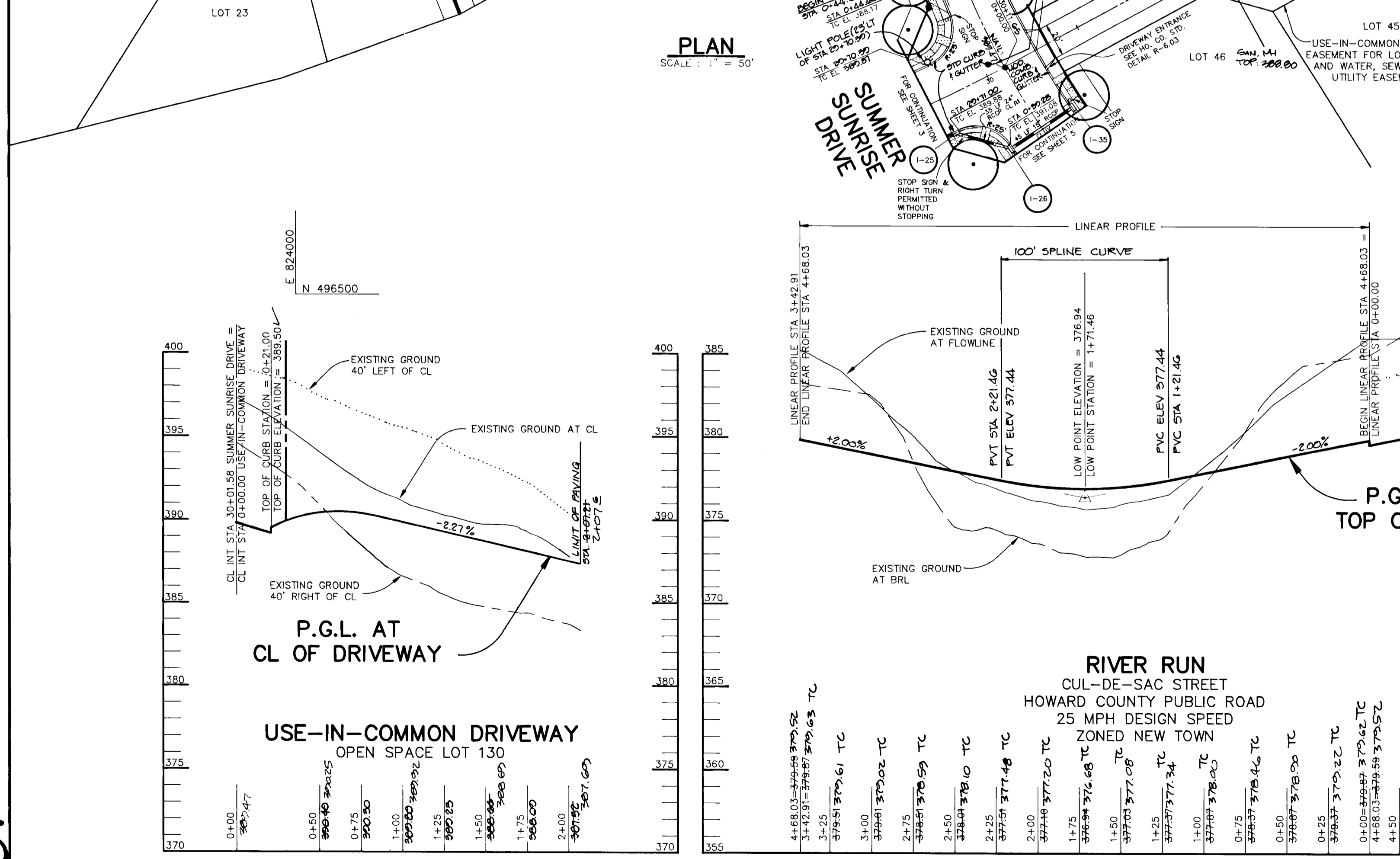
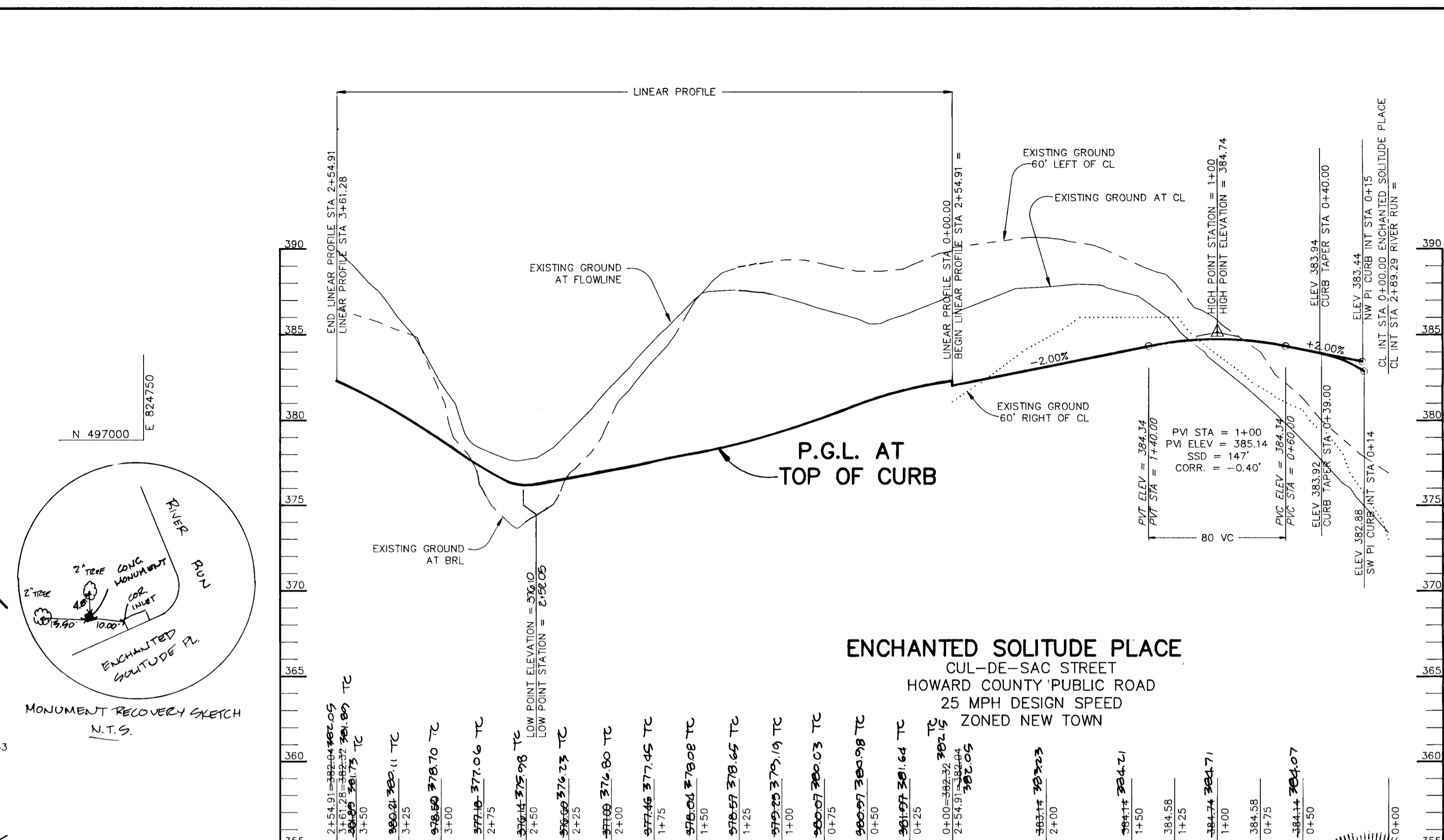
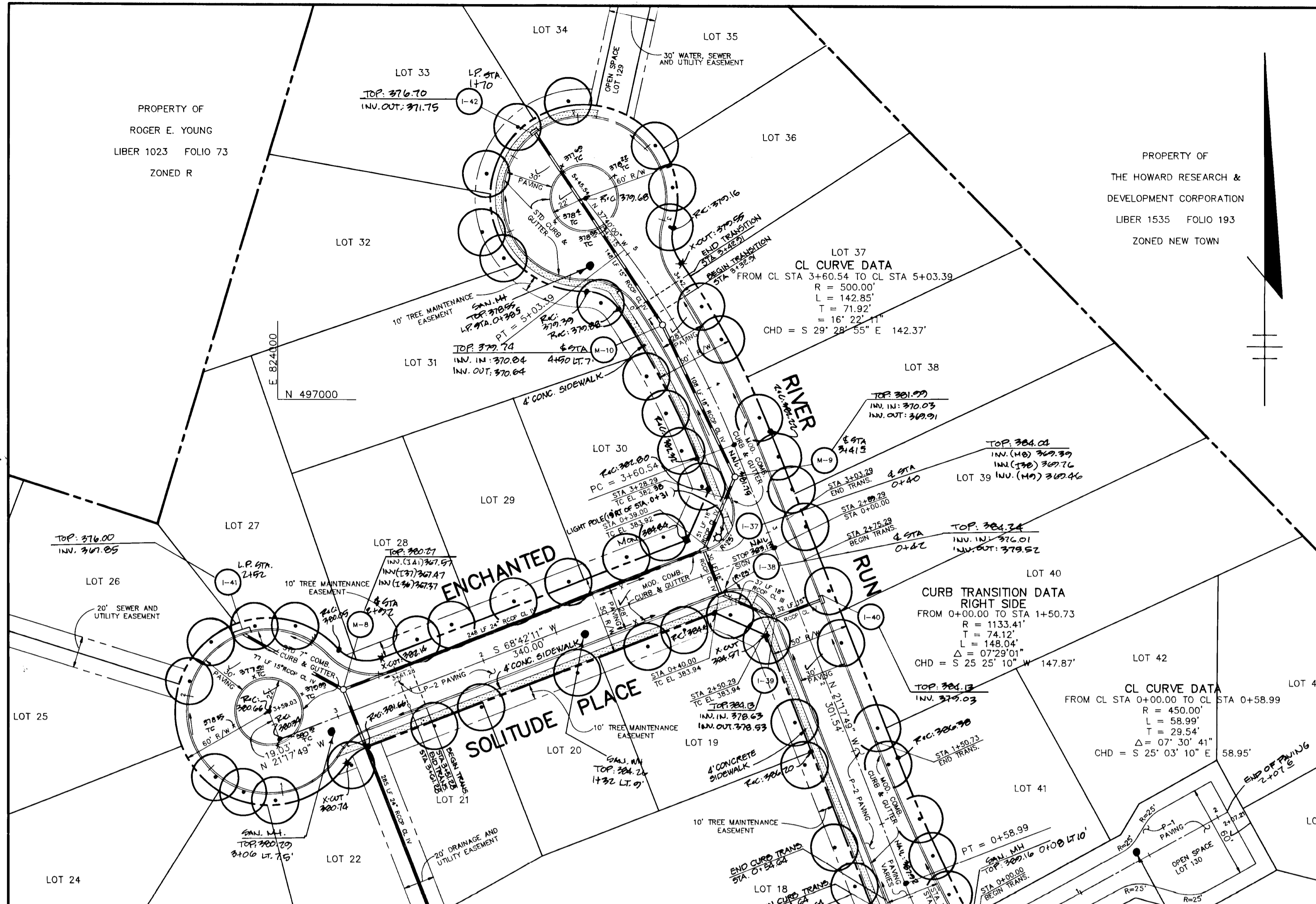
AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **PLAN AND PROFILE**
SUMMER SUNRISE DRIVE
FROM STA 17+00 TO END

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 3 OF 21

1487



1487

AS BUILT CERTIFICATE
SIHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 104
 ELLICOTT CITY, MARYLAND 21043

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Elmira Hironaka 1/27/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Bill Danner 1/19/93
 CHIEF, LAND DEVELOPMENT DIVISION

Oliver Ferguson 1/6/93
 CHIEF, BUREAU OF HIGHWAYS

James R. Ridd 1-20-93
 CHIEF, BUREAU OF ENGINEERING

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 2 AREA 1
 LOTS 1 THRU 130

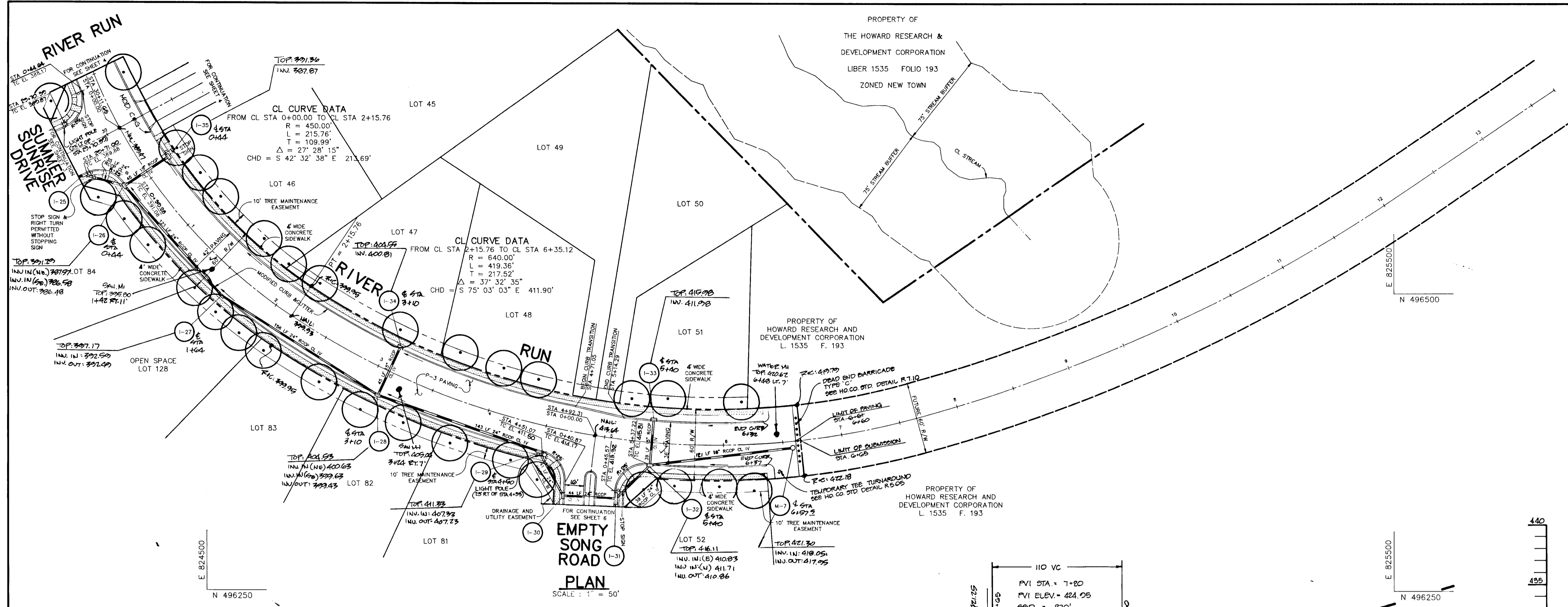
AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **PLAN AND PROFILE**
ENCHANTED SOLITUDE PLACE & RIVER RUN
FROM STA 0+00 TO CUL-DE-SAC

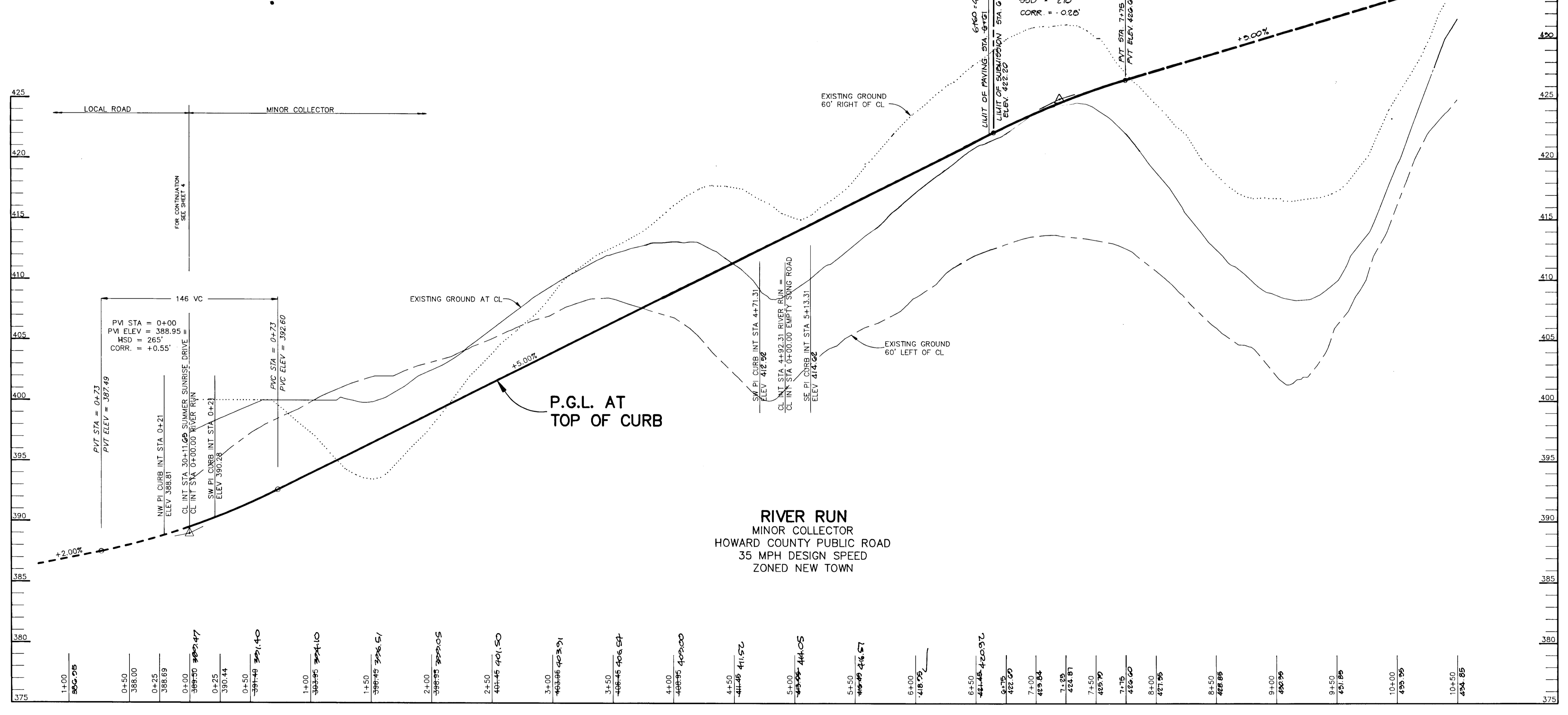
RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

12-21-92 DATE
 DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 4 OF 21

ARTHUR E. MUEGGE #8707



PLAN
SCALE: 1" = 50'

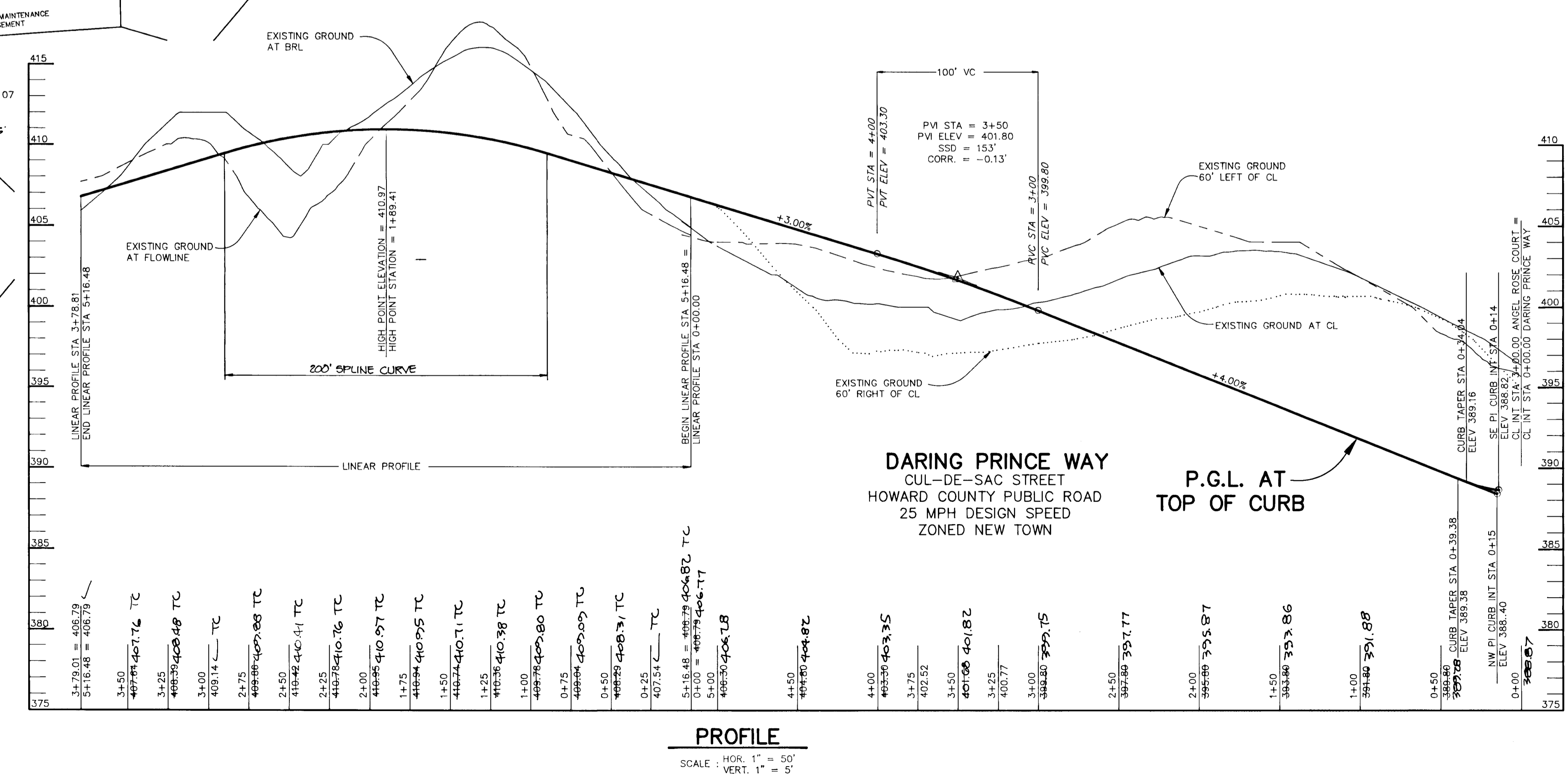
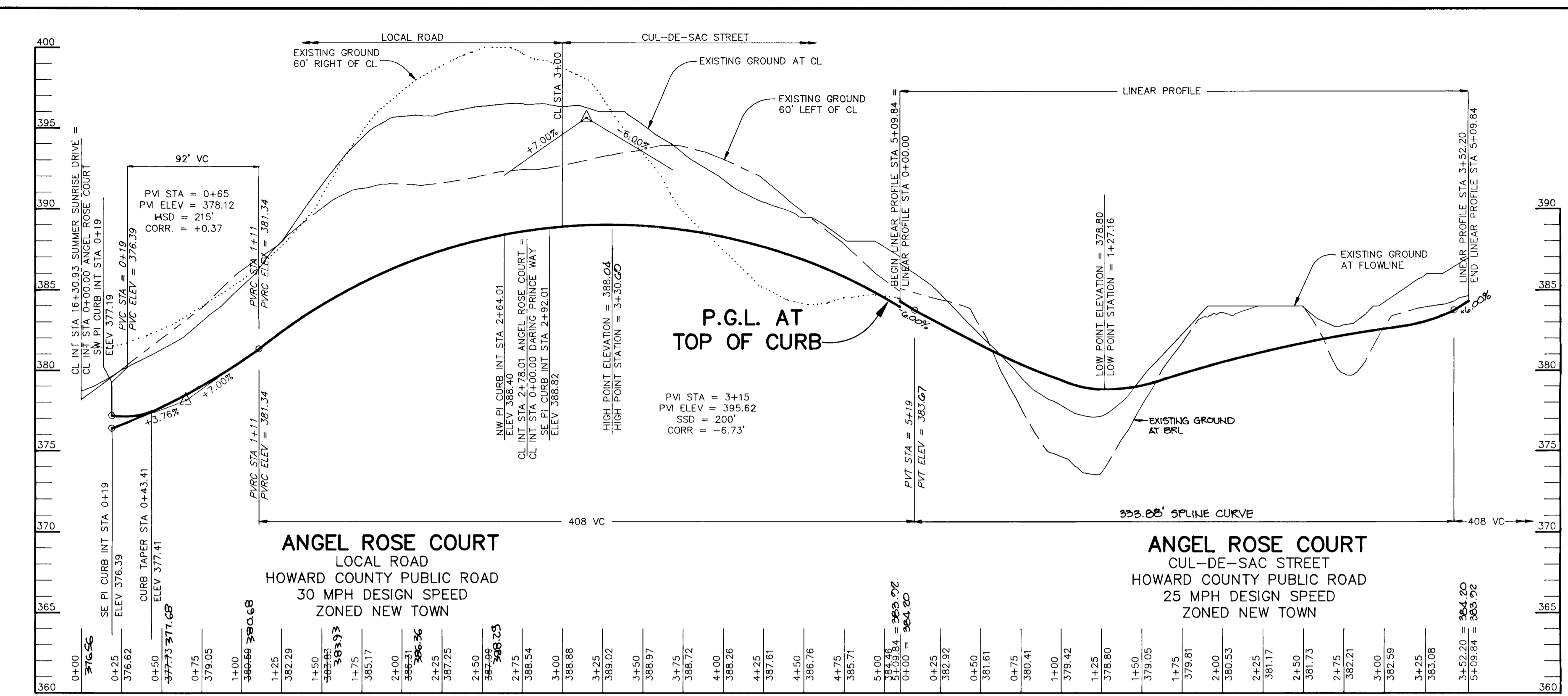
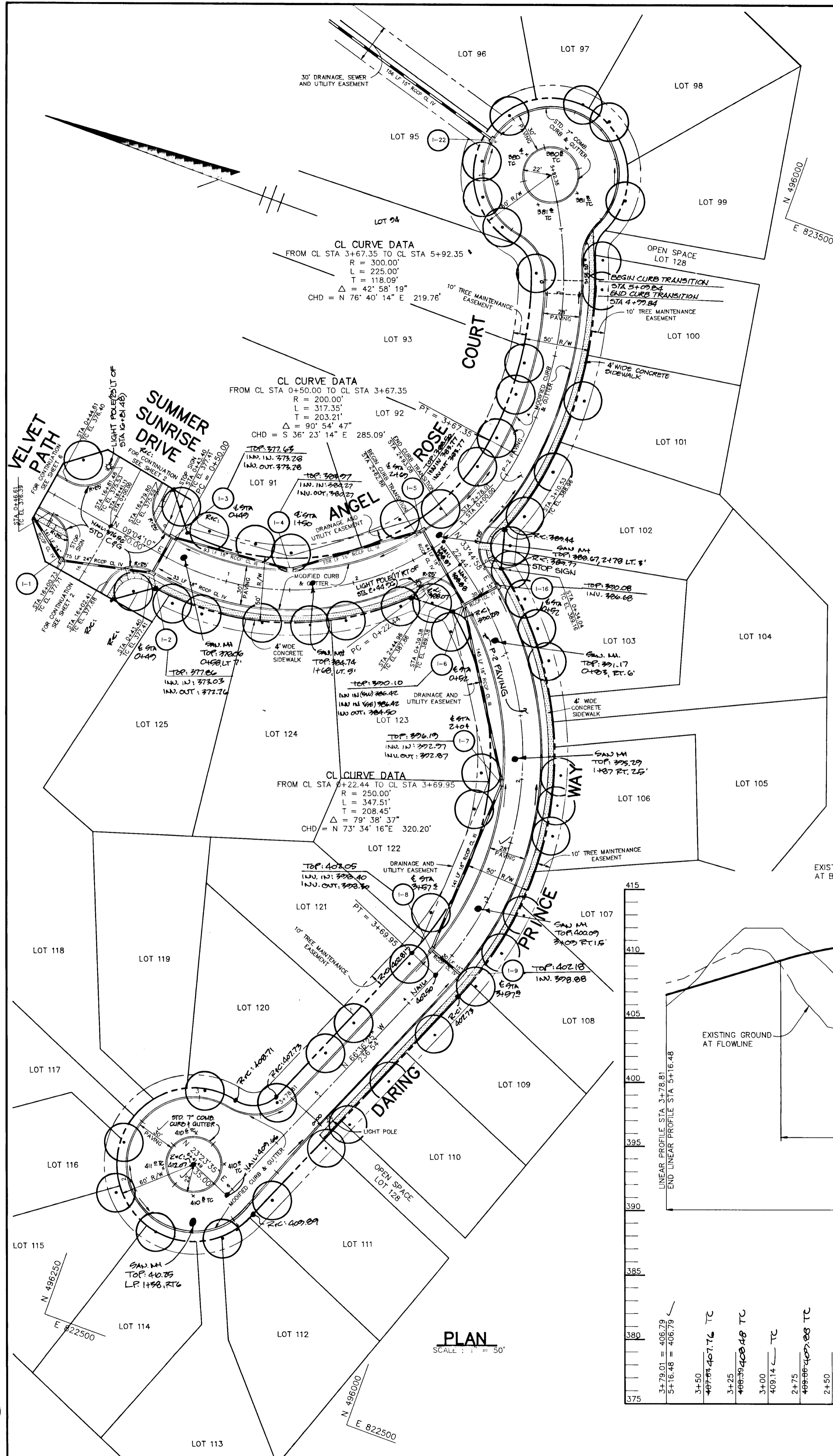


PROFILE
SCALE: HOR. 1" = 50'
VERT. 1" = 5'



AS BUILT CERTIFICATE SHANBERGER & LANE 8726 TOWN & COUNTRY BLVD. SUITE 104 ELLICOTT CITY, MARYLAND 21043	
APPROVED: <i>[Signature]</i> DATE: 1/27/93	APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT
APPROVED: <i>[Signature]</i> DATE: 1/27/93	APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CHIEF, LAND DEVELOPMENT DIVISION
APPROVED: <i>[Signature]</i> DATE: 1/6/93	APPROVED: <i>[Signature]</i> DATE: 1-20-93
APPROVED: <i>[Signature]</i> DATE: 1-20-93	APPROVED: <i>[Signature]</i> DATE: 1-20-93
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 2 AREA 1 LOTS 1 THRU 130	AREA TAX MAP NO. 35 ZONED NEW TOWN PART OF PARCELS 70 & 240 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE PLAN AND PROFILE RIVER RUN FROM STA 0+00 TO STA 10+50	RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045 410-997-8900 FAX: 410-997-9282
DATE: 12-21-02	DESIGNED BY: C.J.R. DRAWN BY: DAM PROJECT NO: 80804 DATE: DECEMBER 21, 2002 SCALE: AS SHOWN DRAWING NO. 5 OF 21

1487



AS BUILT CERTIFICATE
SHANABERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 104
 ELLICOTT CITY, MARYLAND 21043

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Anuna Hdonald 1/27/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John Danner 1/19/93
John M. Penney 1/6/93
William B. Riley 1-26-93
 CHIEF, LAND DEVELOPMENT DIVISION
 CHIEF, BUREAU OF HIGHWAYS
 CHIEF, BUREAU OF ENGINEERING

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 2 AREA 1
 LOTS 1 THRU 130

AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

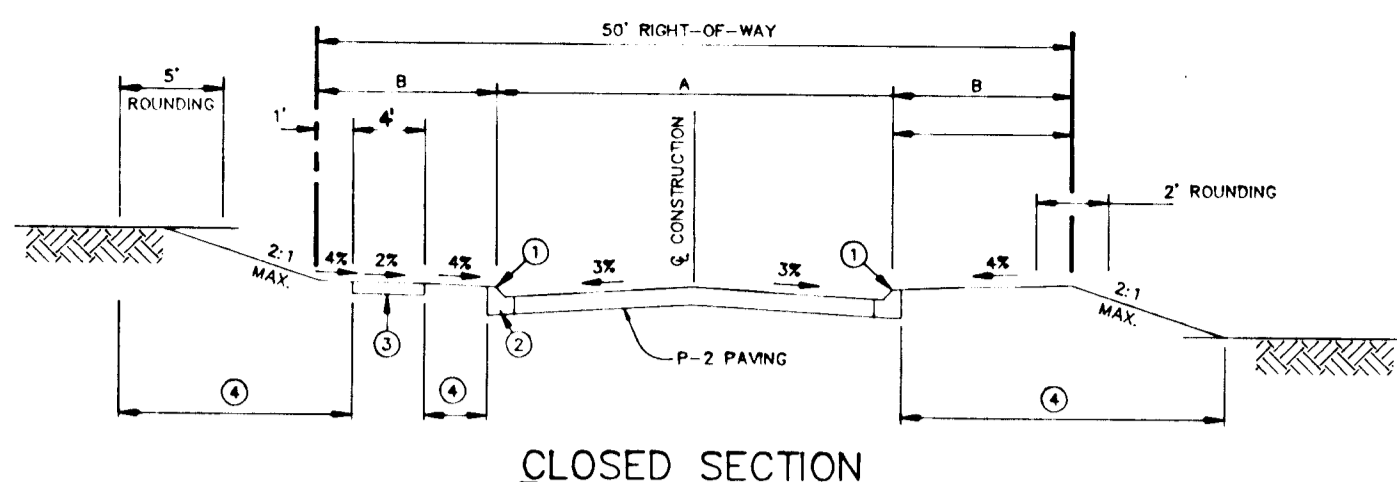
TITLE **PLAN AND PROFILE**
ANGEL ROSE COURT
AND DARING PRINCE COURT

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

DATE 12-21-92
 DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 8 OF 21

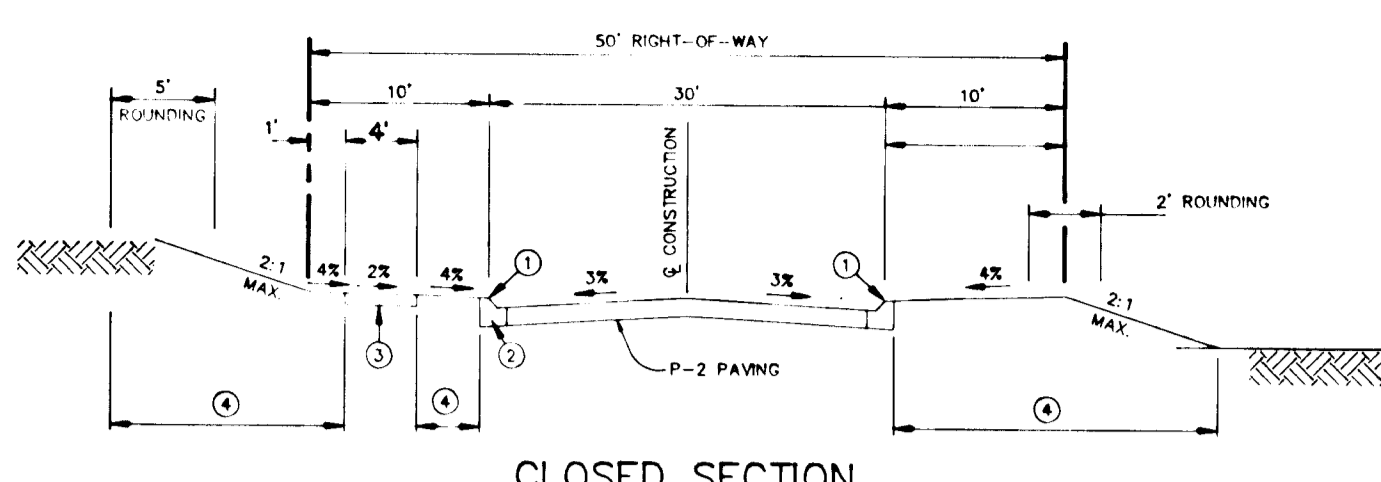
ARTHUR E. MUEGGE 46707

1487



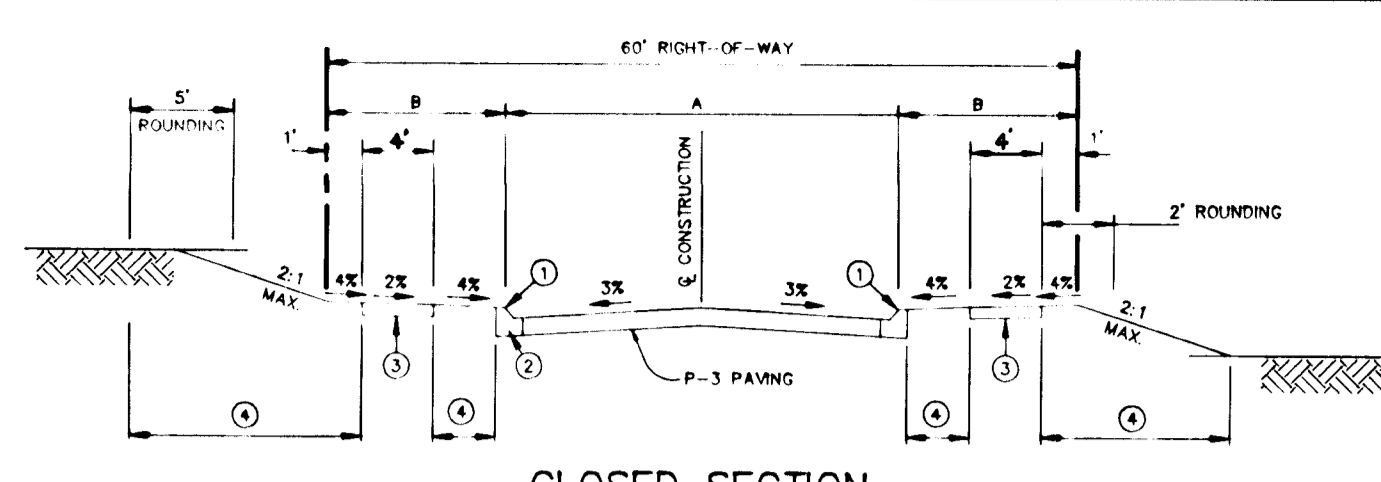
CLOSED SECTION

- 1. PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- 2. TYPE OF CURB VARIES (BITUMINOUS CURB OR MOD. CONC. CURB & GUTTER OR STANDARD CONC. CURB & GUTTER - SEE ROAD PLAN).
- 3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- 4. INDICATES 2" TOPSOIL, SEED AND MULCH.
- 5. DESIGN SPEED = 25 M.P.H.



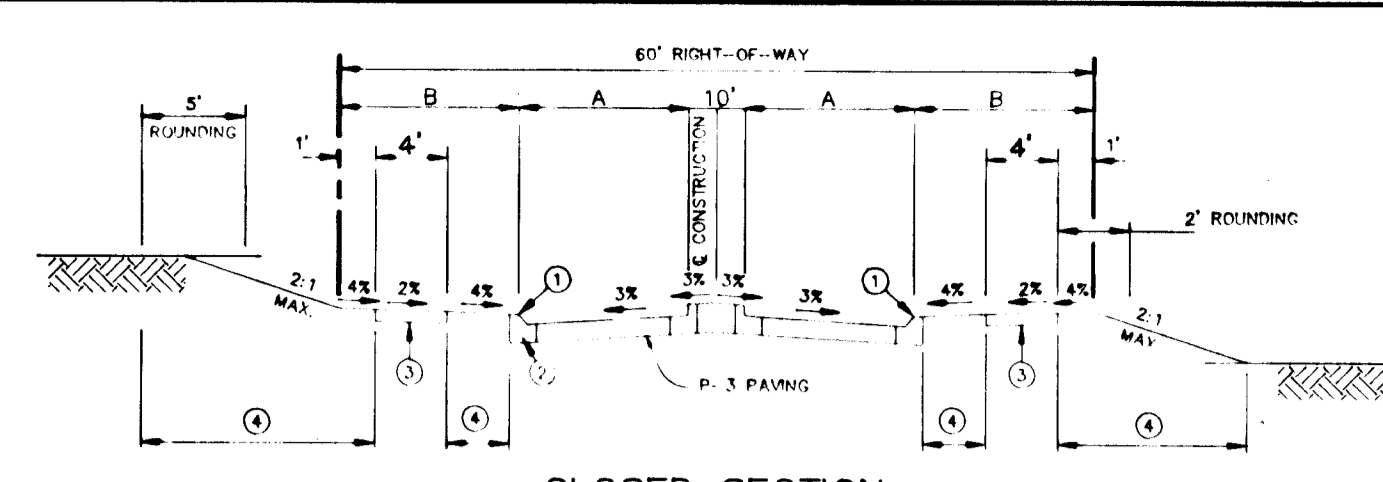
CLOSED SECTION

- 1. PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- 2. TYPE OF CURB VARIES (BITUMINOUS CURB OR MOD. CONC. CURB & GUTTER OR STANDARD CONC. CURB & GUTTER - SEE DESIGN MANUAL).
- 3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS (ONE SIDE ONLY).
- 4. INDICATES 2" TOPSOIL, SEED AND MULCH.
- 5. DESIGN SPEED = 30 M.P.H.



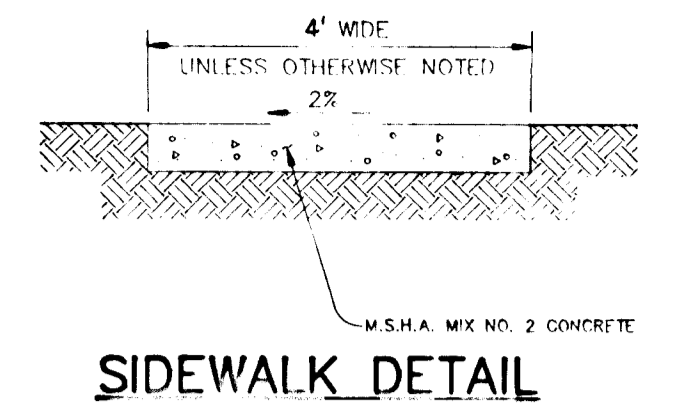
CLOSED SECTION

- 1. PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- 2. TYPE OF CURB VARIES (BITUMINOUS CURB OR MOD. CONC. CURB & GUTTER OR STANDARD CONC. CURB & GUTTER - SEE DESIGN MANUAL).
- 3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- 4. INDICATES 2" TOPSOIL, SEED AND MULCH.
- 5. DESIGN SPEED = 35 M.P.H.



CLOSED SECTION

- 1. PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- 2. TYPE OF CURB VARIES (BITUMINOUS CURB OR MOD. CONC. CURB & GUTTER OR STANDARD CONC. CURB & GUTTER - SEE DESIGN MANUAL).
- 3. 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- 4. INDICATES 2" TOPSOIL, SEED AND MULCH.
- 5. DESIGN SPEED = 35 M.P.H.



SIDEWALK DETAIL

TYPICAL SECTION CUL-DE-SAC STREET

VELVET PATH FROM CL STA 0+46.61 TO CL STA 3+26.00 A = 28' B = 11'	FAIREST DREAM LANE FROM CL STA 3+97.87 TO CL STA 6+88.85 A = 28' B = 11'
ENCHANTED SOLITUDE PLACE FROM CL STA 0+40.00 TO CL STA 2+54.91 A = 28' B = 11'	OLD ROMANCE ROW FROM CL STA 0+41.22 TO CL STA 0+58.67 A = 24' B = 13'
RIVER RUN FROM CL STA 3+28.29 TO CL STA 4+68.03 A = 28' B = 11'	ANGEL ROSE COURT FROM CL STA 5+10.53 TO CL STA 5+09.84 A = 28' B = 11'
	DARING PRINCE WAY FROM CL STA 0+39.38 TO CL STA 5+16.48 A = 28' B = 11'

TYPICAL SECTION LOCAL ROAD

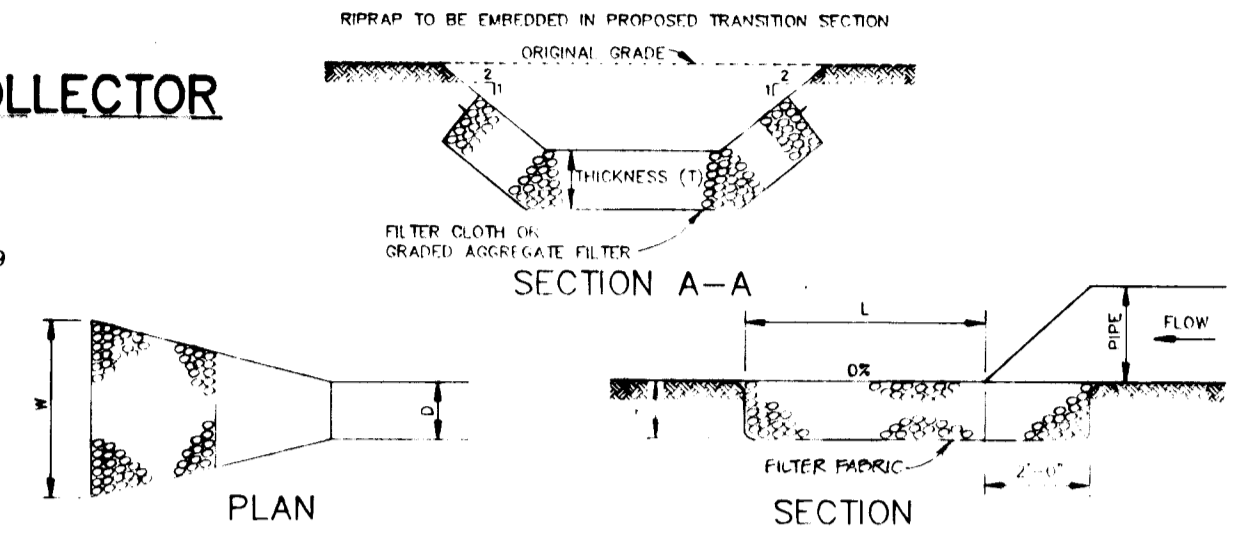
RIVER RUN FROM CL STA 1+50.73 TO CL STA 2+50.29	SUMMER SUNRISE DRIVE FROM CL STA 5+77.48 TO CL STA 24+07.82
FAIREST DREAM LANE FROM CL STA 0+41.91 TO CL STA 3+19.62	SUMMER SUNRISE DRIVE FROM CL STA 6+77.48 TO CL STA 29+70.50 A = 42' B = 9'
ANGEL ROSE COURT FROM CL STA 0+43.40 TO CL STA 2+44.96	RIVER RUN FROM CL STA 0+40.44 TO CL STA 4+51.07 A = 38' B = 9'
	RIVER RUN FROM CL STA 5+37.22 TO CL STA 6+32.00 A = 36' B = 12'
	EMPTY SONG ROAD FROM CL STA 2+00.00 TO CL STA 4+03.00 A = 36' B = 9'

TYPICAL SECTION MINOR COLLECTOR

RIVER RUN FROM CL STA 0+40.44 TO CL STA 4+51.07 A = 38' B = 9'	RIVER RUN FROM CL STA 5+37.22 TO CL STA 6+32.00 A = 36' B = 12'
EMPTY SONG ROAD FROM CL STA 2+00.00 TO CL STA 4+03.00 A = 36' B = 9'	

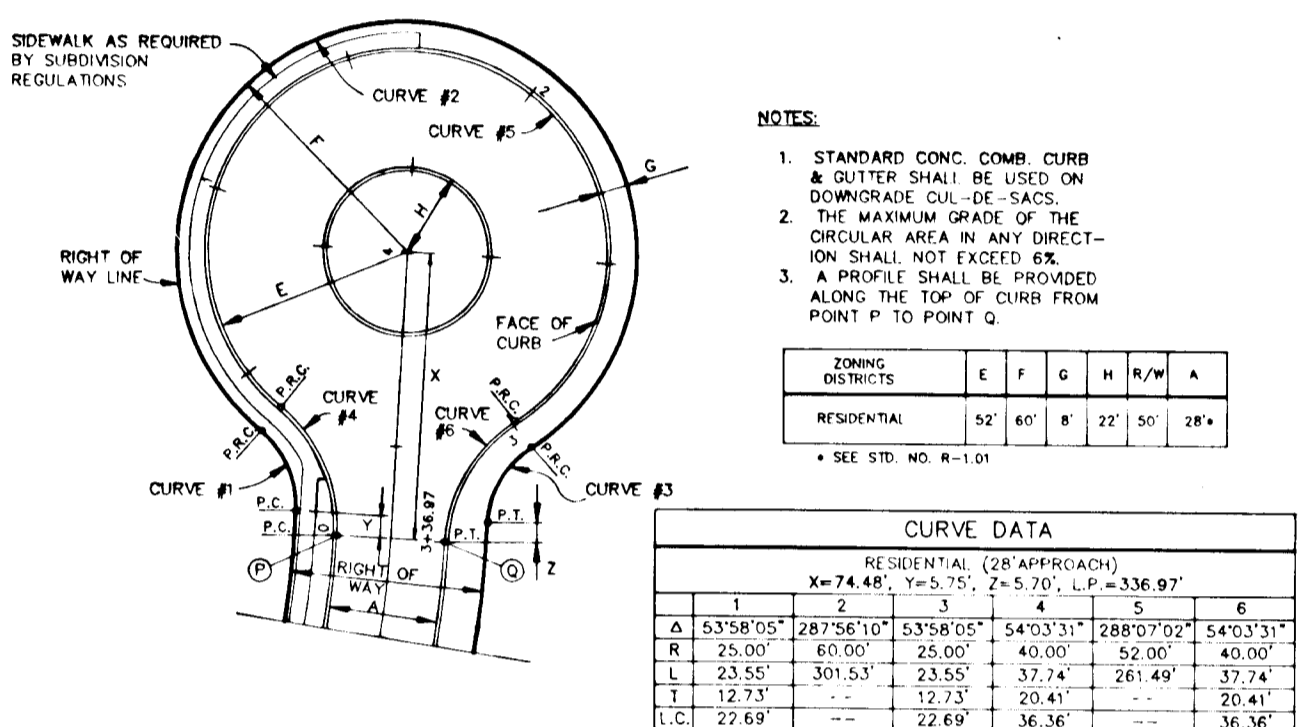
TYPICAL SECTION MINOR COLLECTOR WITH MINOR

EMPTY SONG ROAD FROM CL STA 0+45.57 TO CL STA 1+21.59 A = 16' B = VARIES
--

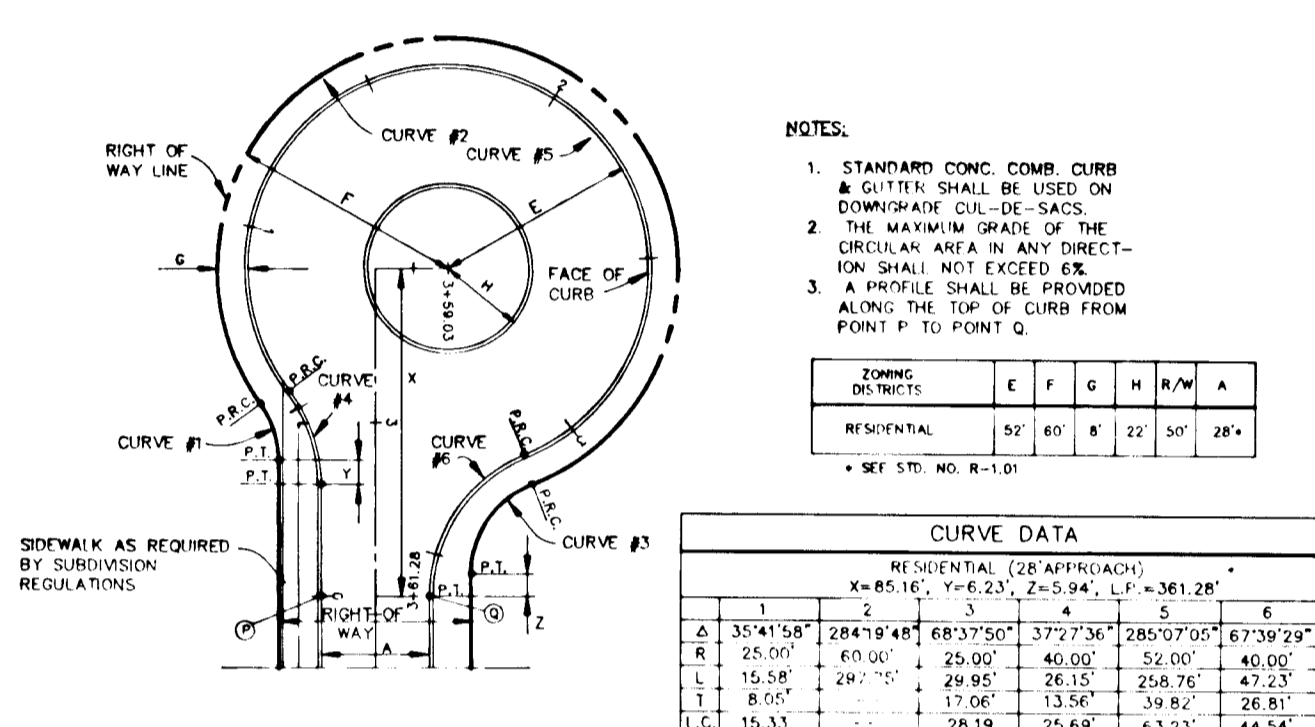


STRUCTURE	MEDIUM STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)
E-1	6"	12'	18"	14"
E-2	6"	22'	18"	14"
E-3	9"	40'	26.5"	20"
E-4	6"	10'	18"	14"
E-5	9"	12'	13.25"	20"
E-6	9"	10'	7.25"	20"
E-7	6"	20'	20"	14"
E-8	9"	27'	17"	20"
HW-1	15"	40'	17"	32"

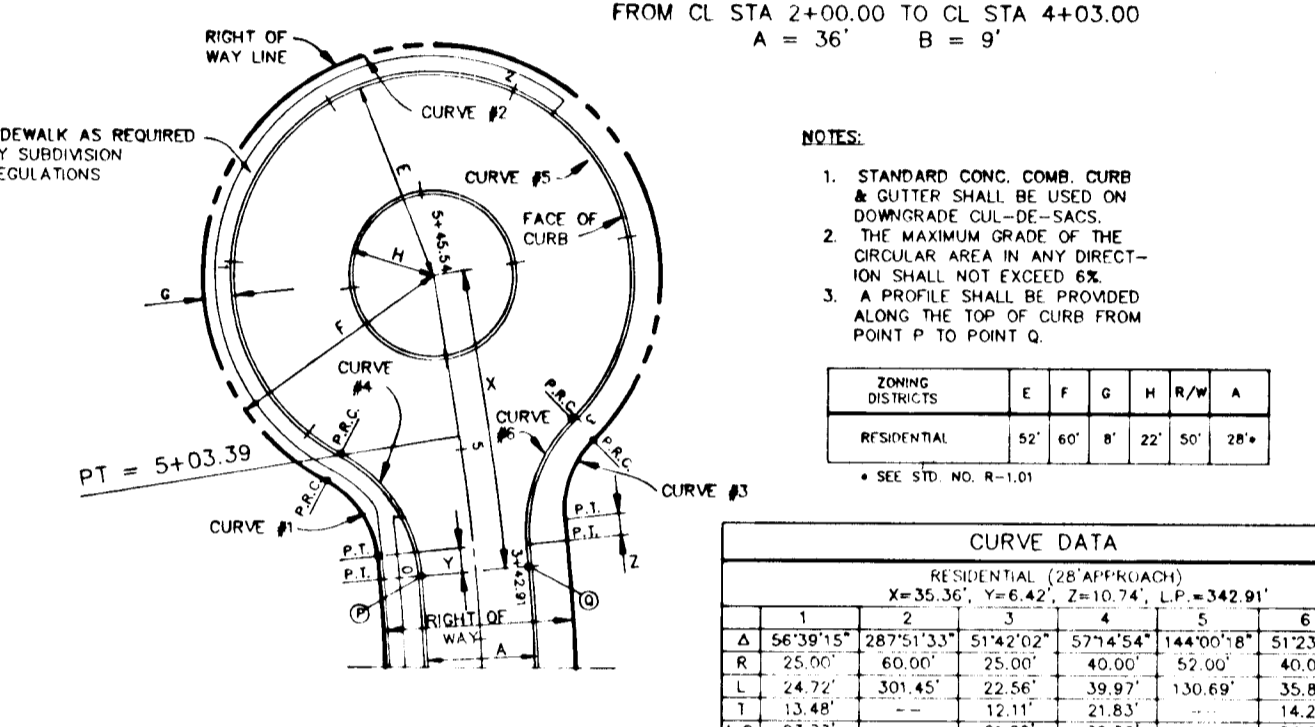
RIPRAP OUTLET PROTECTION DETAIL



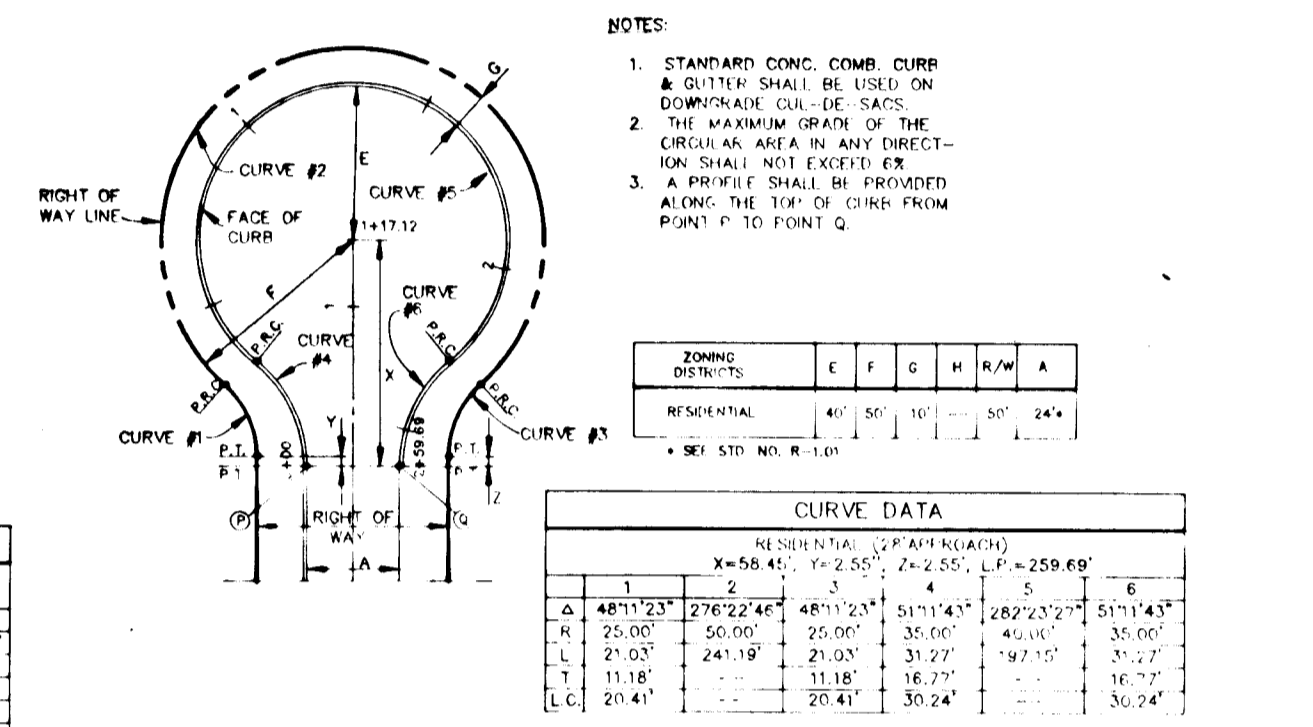
VELVET PATH CUL-DE-SAC DETAIL



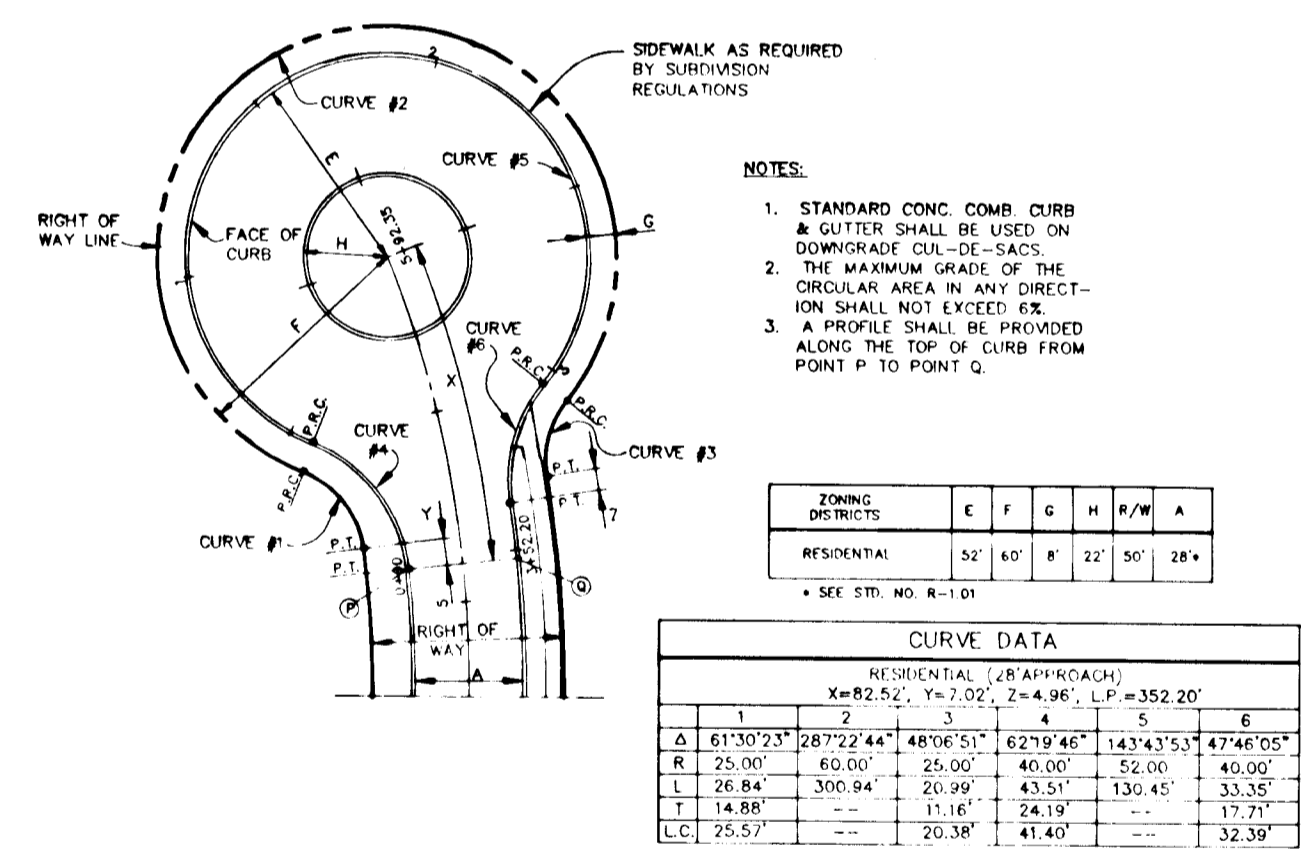
ENCHANTED SOLITUDE COURT CUL-DE-SAC DETAIL



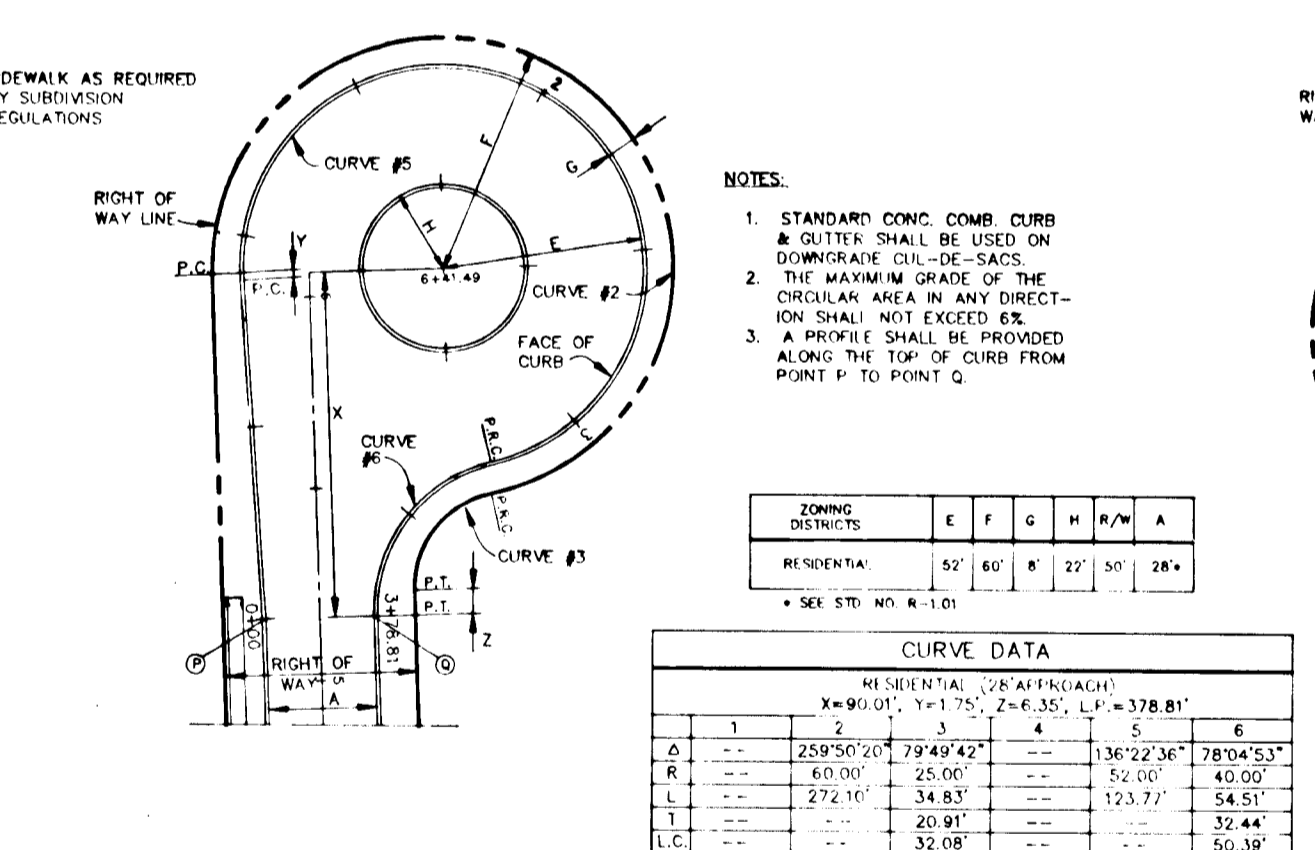
RIVER RUN CUL-DE-SAC DETAIL



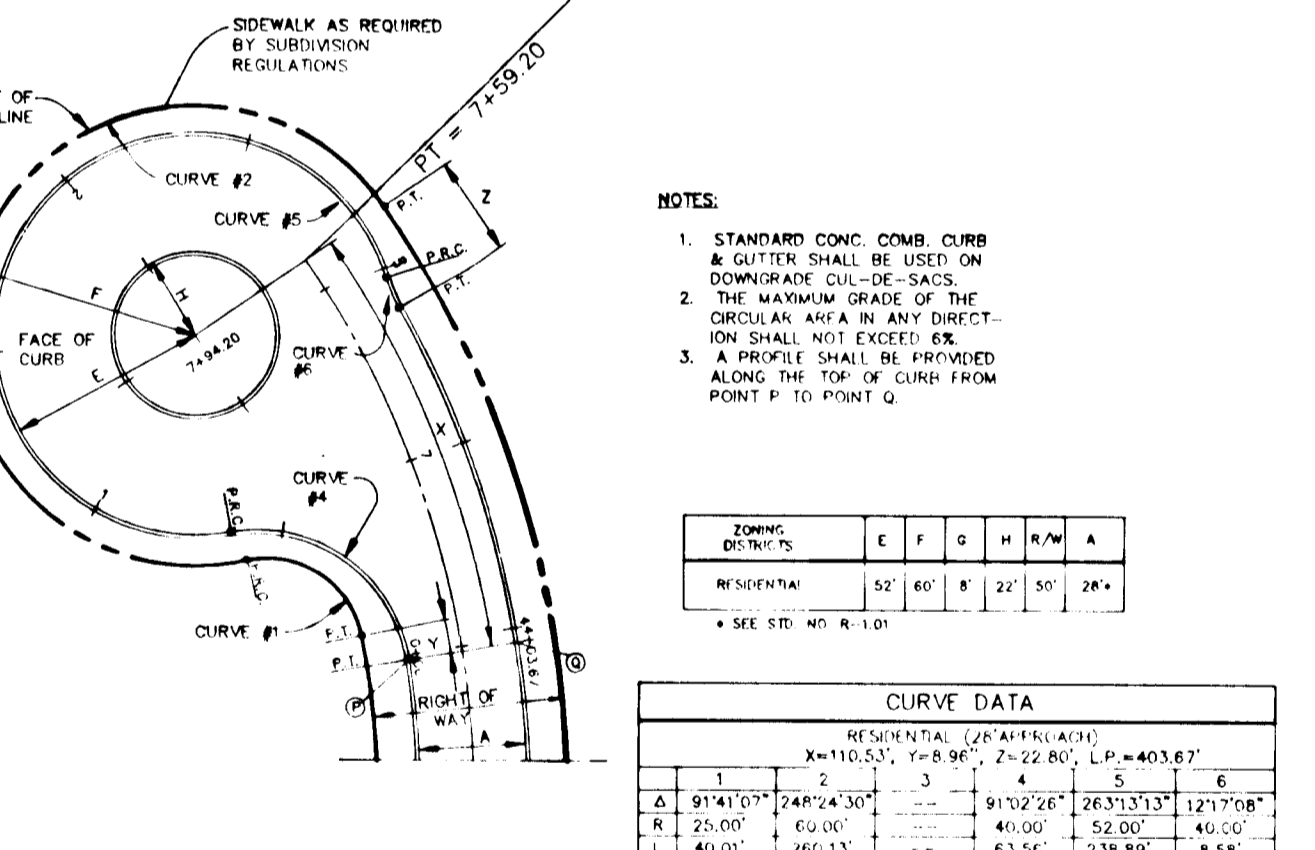
OLD ROMANCE ROW CUL-DE-SAC DETAIL



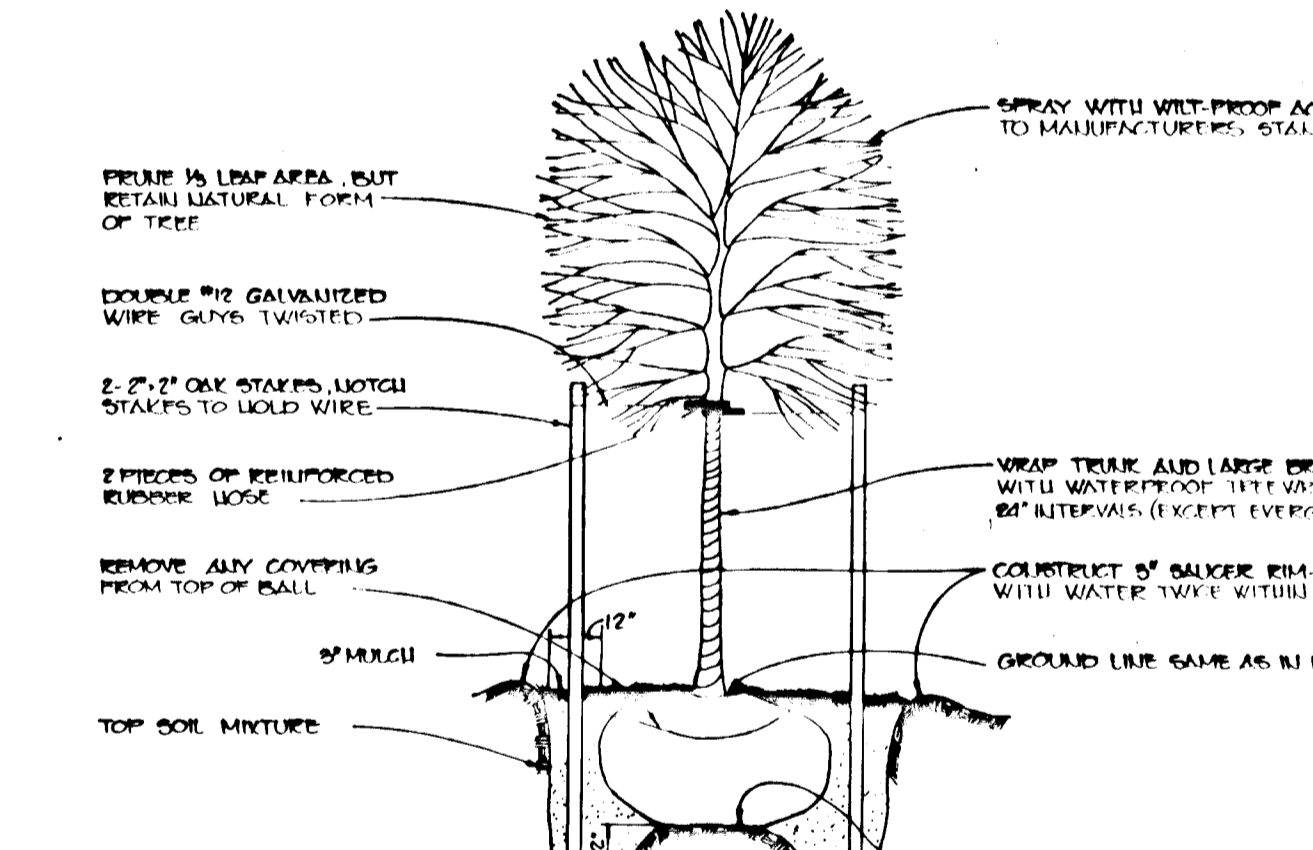
ANGEL ROSE COURT CUL-DE-SAC DETAIL



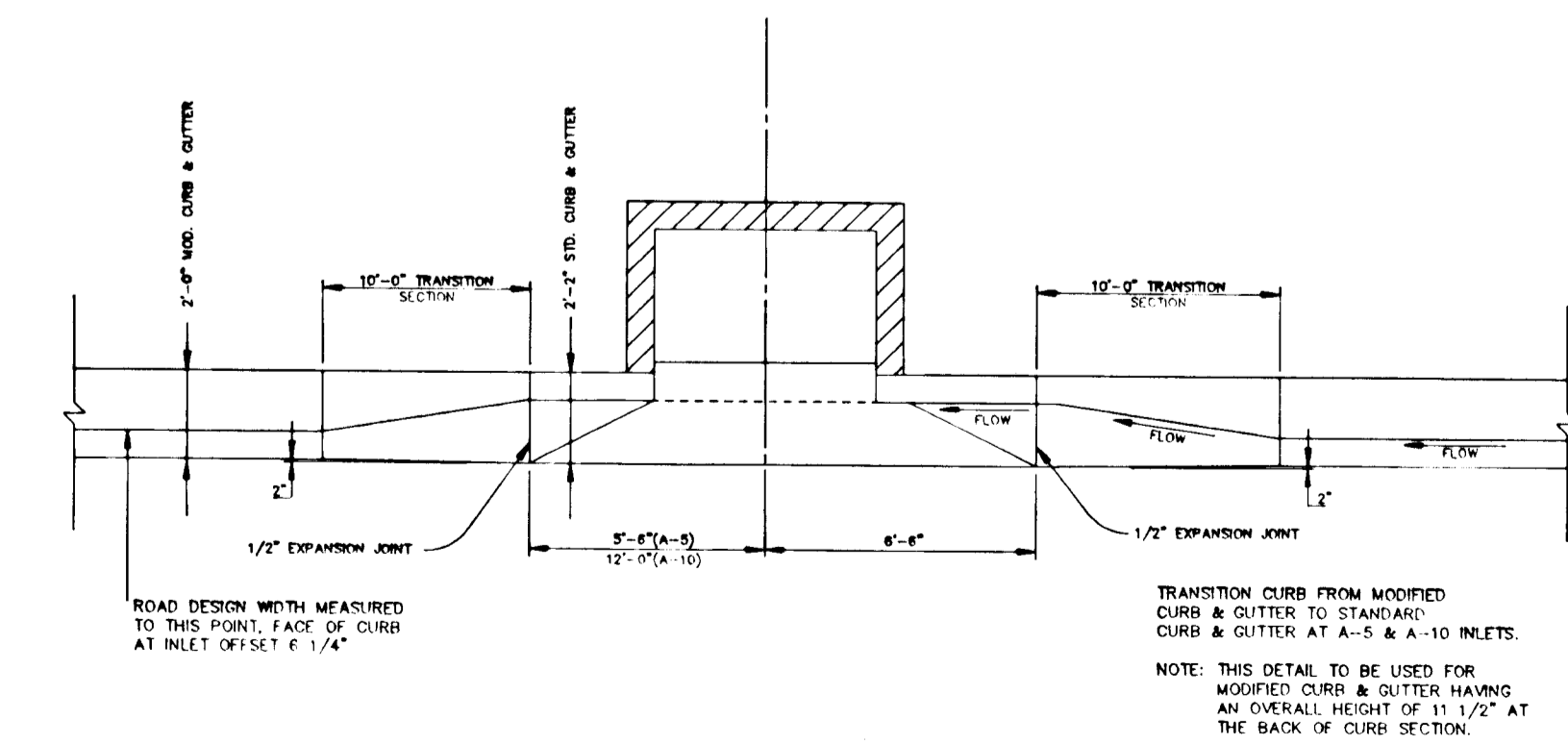
DARING PRINCE WAY CUL-DE-SAC DETAIL



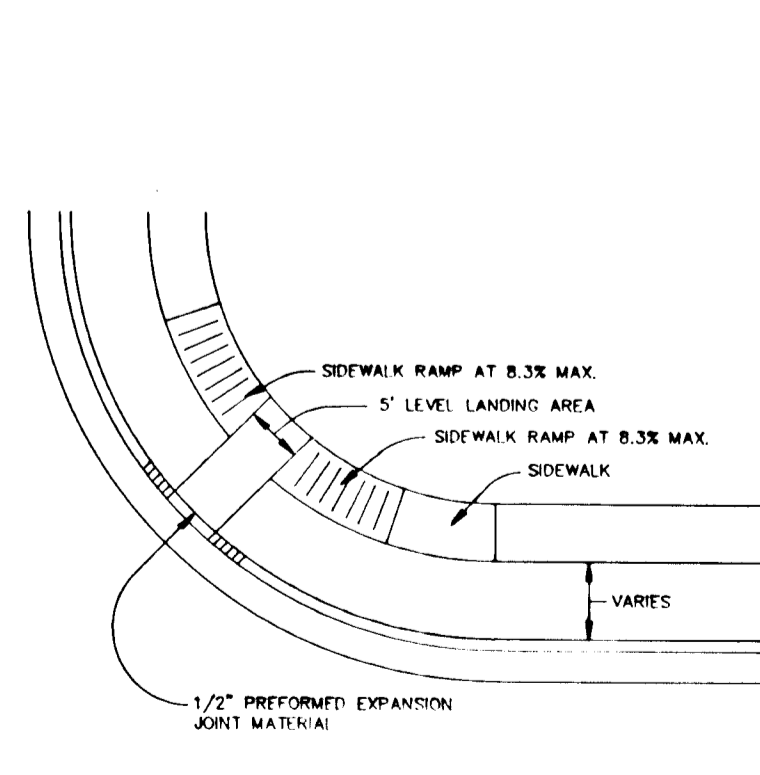
FAIREST DREAM LANE CUL-DE-SAC DETAIL



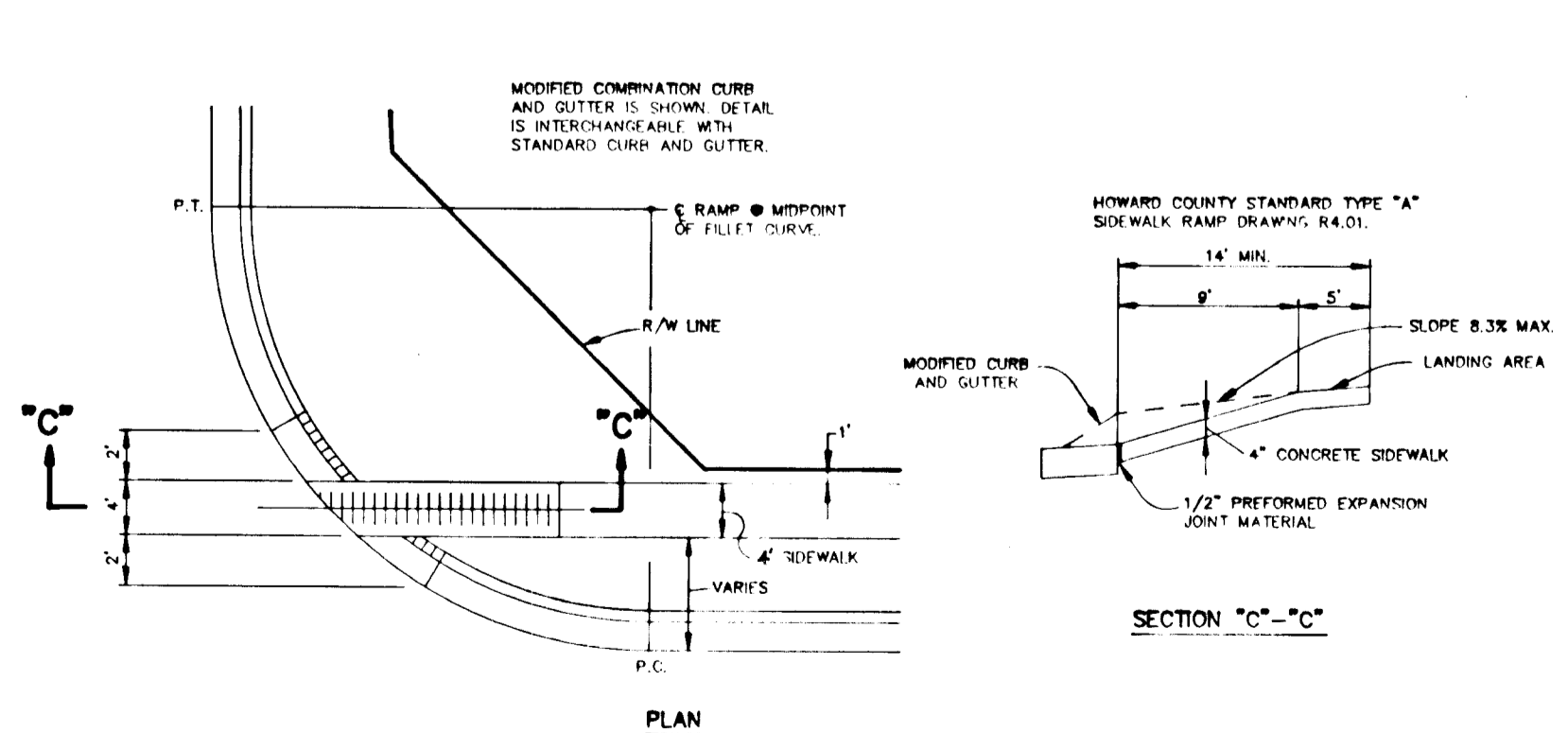
TREE PLANTING DETAIL



MODIFIED COMBINATION CURB AND GUTTER TRANSITION CURB SECTION AT "A" TYPE INLETS



HANDICAP RAMP DETAIL *



HANDICAP RAMP DETAIL *

AS BUILT CERTIFICATE

DATE: 1/27/93

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

DATE NO: 1/27/93

REVISION: 1/20/93

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION

PROJECT: VILLAGE OF RIVER HILL SECTION 2 AREA 1

AREA: 70 & 240 PART OF PARCELS 70 & 240

TITLE: DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES, INC. A Land Planning, Engineering and Consulting Firm

12-21-02 DATE

DESIGNED BY: C.J.R.

DRAWN BY: DAM

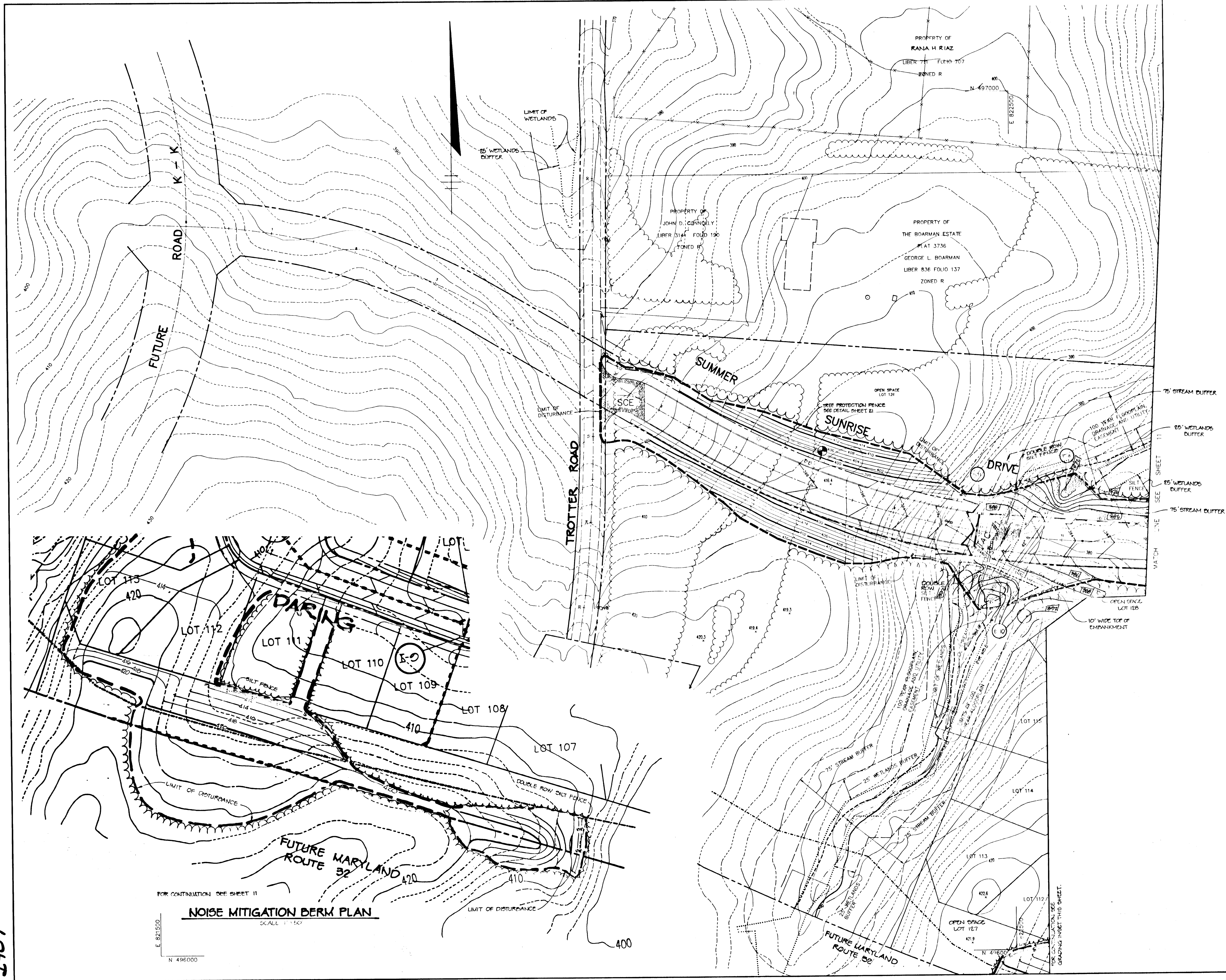
PROJECT NO: 80704

DATE: DECEMBER 21, 2002

SCALE: AS SHOWN

DRAWING NO. 9 OF 21

1487



BY THE DEVELOPER:
 I/WE 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 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.

George R. Riaz 12-21-92
 DEVELOPER DATE

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

Arthur E. Muegge 12-21-92
 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. Helms 12/28/92
 SOIL CONSERVATION DISTRICT

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

John R. Robertson 12/28/92
 SOIL CONSERVATION DISTRICT

AS BUILT CERTIFICATE
STANBERGER & LANE
 8726 YOUNG & COUNTRY BLVD.
 SUITE 104
 BELTSVILLE CITY, MARYLAND 21048

John Stanberger 1/27/93
 COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

John Dammann 1/16/93
 CHIEF ENGINEER

Ch. M. Payne 1/6/93
 CHIEF ENGINEER

W. S. R. & P. R. 1-20-93
 CHIEF ENGINEER

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 2 AREA 1
 LOTS 1 THRU 130

AREA: TAX MAP 107-108-109-110-111-112-113-114-115
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

12-21-92
 DATE

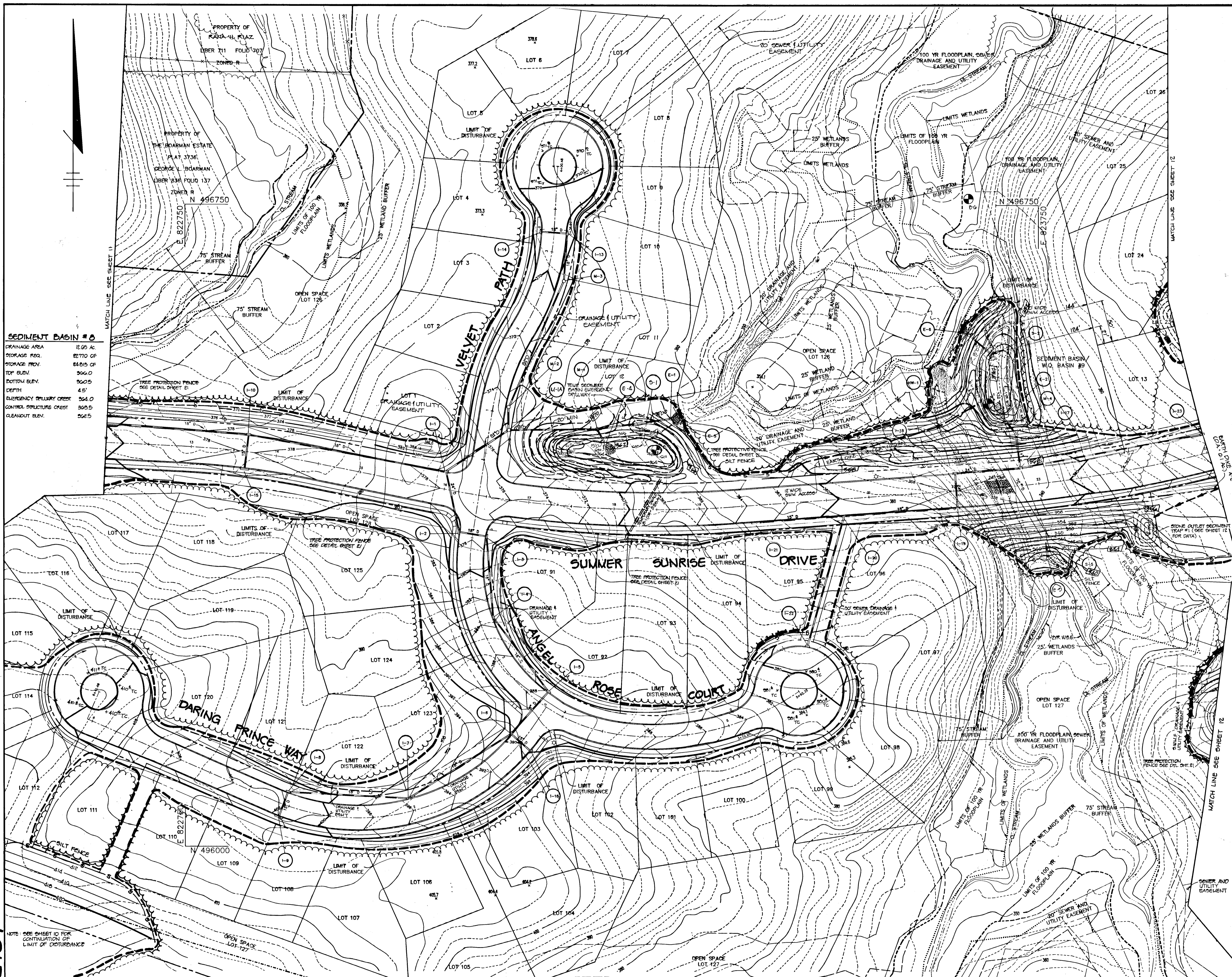
Arthur E. Muegge
 ARTHUR E. MUEGGE, P.E.

DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: 1" = 50'
 DRAWING NO. 10 OF 21

NOISE MITIGATION BERM PLAN
 SCALE: 1" = 50'

FOR CONTINUATION SEE SHEET 11
 E 821500
 N 496000

1487



SEDIMENT BASIN # 8

DRAINAGE AREA	12.05 AC
STORAGE REQ.	82770 CF
STORAGE PROV.	84815 CF
TOP ELEV.	366.0
BOTTOM ELEV.	364.0
DEPTH	4.5'
EMERGENCY SPILLWAY CREST	364.0
CONTROL STRUCTURE CREST	365.5
CLEANDOUT ELEV.	366.5

BY THE DEVELOPER:
 I/WE 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 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. Har 12-21-92
 DEVELOPER DATE

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

Arthur E. Muegge 12-21-92
 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 12/21/92
 S. SOIL CONSERVATION SERVICE DATE

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

John K. Robinson 12/21/92
 HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE
SHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 104
 ELLICOTT CITY, MARYLAND 21043

Scott Shanberger 1/27/93
 DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Anna Shinnell 1/27/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John D. Danner 1/19/93
 CHIEF, LAND DEVELOPMENT DIVISION DATE

John M. Roman 1/6/93
 CHIEF, BUREAU OF HIGHWAYS DATE

William S. Red 1-20-93
 CHIEF, BUREAU OF ENGINEERING DATE

7-27-92	2	REV. WQ BASIN # 25 GRADING
6-18-92	1	REV. SED. BASIN # 12, PROX. BRN. LAYOUT & LOT LINES

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 2 AREA 1
 LOTS 1 THRU 130

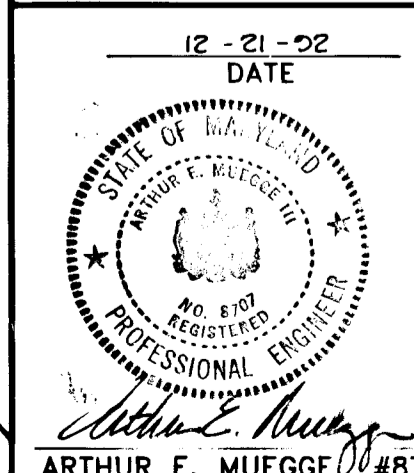
AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-6900 FAX: 410-997-9282

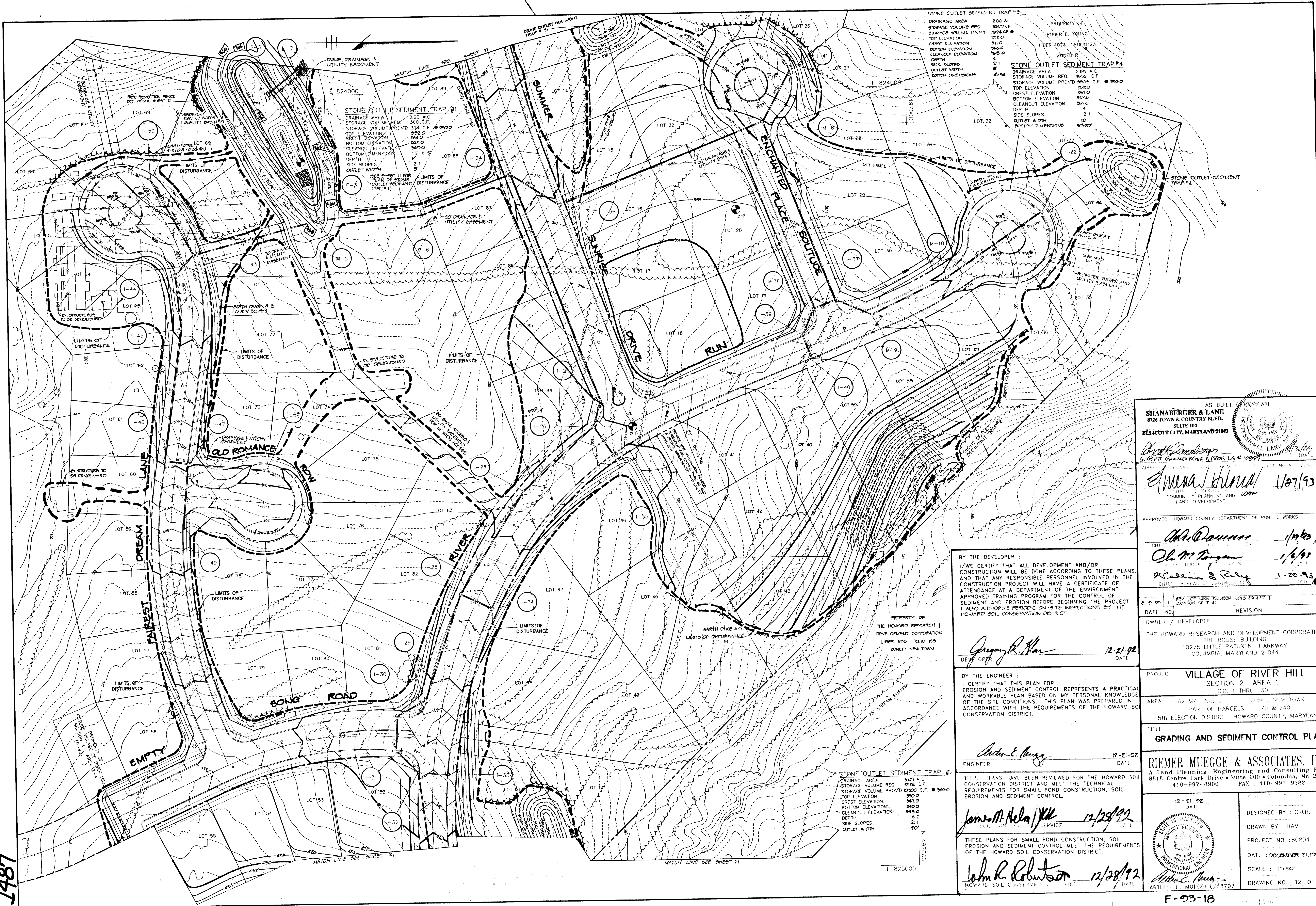
DATE 12-21-92
 DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 11 OF 21

Arthur E. Muegge #8707



1487

1487



AS BUILT
SHANBERGER & LANE
 8726 TOWN & COUNTRY BLVD.
 SUITE 104
 ELICOTT CITY, MARYLAND 21043

Shan Berger
 G. SHANBERGER, P.E., P.L.C. # 1004

Anna Bernd 1/27/93
 COMMUNITY PLANNING AND
 LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

Ch. M. Pagan 1/6/93
 CHIEF, BUREAU OF CONSTRUCTION

William E. Rely 1-20-93
 CHIEF, BUREAU OF CONSTRUCTION

BY THE DEVELOPER:
 I/WE 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 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. Khan 12-21-92
 DEVELOPER DATE

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

Arthur E. Muegge 12-21-92
 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 12/28/92
 SOIL CONSERVATION SERVICE DATE

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

John R. Robertson 12/28/92
 HOWARD SOIL CONSERVATION DISTRICT DATE

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

PROJECT **VILLAGE OF RIVER HILL**
 SECTION 2 AREA 1
 LOTS 1 THRU 130

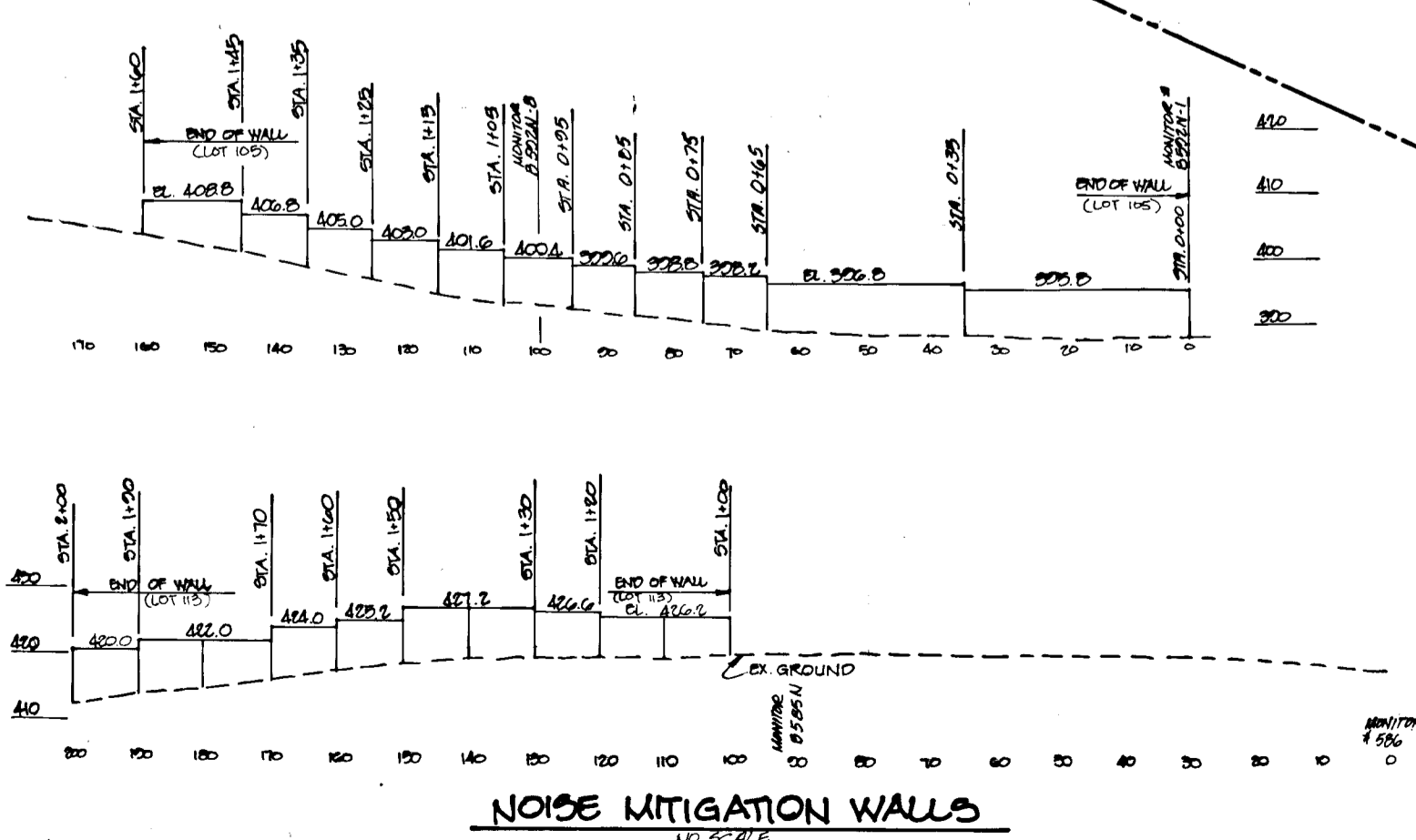
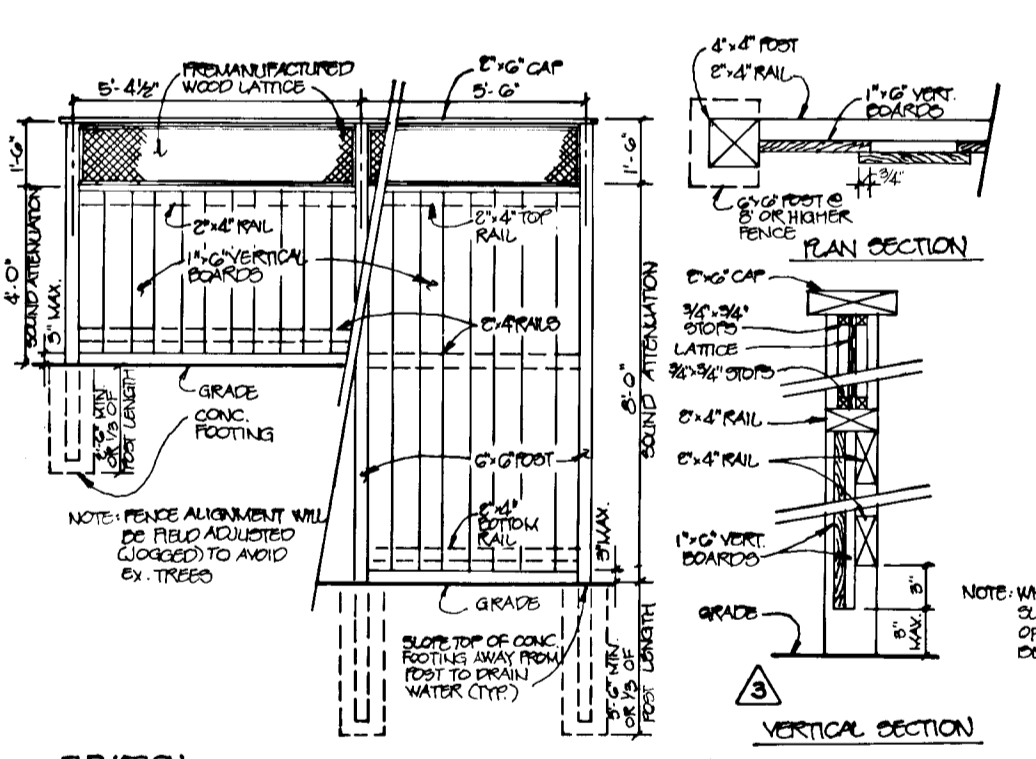
AREA TAX MAP NO. 25 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
GRADING AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21044
 410-997-8900 FAX : 410-997-9282

12-21-92
 12/21/92
 DESIGNED BY : C.J.R.
 DRAWN BY : DAM
 PROJECT NO : R0R04
 DATE : DECEMBER 21, 1992
 SCALE : 1" = 50'
 DRAWING NO. 12 OF 21

DRAINAGE AREA DATA			
NO.	DRAINAGE AREA (Ac.)	% IMPERVIOUS	'C' FACTOR
1-1	0.085	45	0.50
1-2	0.406	54	0.56
1-3	0.152	48	0.53
1-4	0.165	47	0.52
1-5	0.069	54	0.56
1-6	0.200	46	0.51
1-7	0.193	48	0.52
1-8	1.813	30	0.41
1-9	0.574	49	0.53
1-10	0.351	70	0.67
1-11	0.595	31	0.41
1-12	0.769	50	0.54
1-13	0.964	48	0.53
1-14	0.758	52	0.55
1-15	2.822	34	0.43
1-16	0.792	40	0.47
1-20	0.356	41	0.48
1-21	1.217	42	0.51
1-22	1.309	48	0.53
BASIN # 8	14.0	C = 0.22 hrs.	RCN = 75



PLAN
SCALE: 1"=100'

AS BUILT CERTIFICATE

DATE: 1/27/93

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Emma Sturua
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Roman
 CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPARTMENT OF ENGINEERING
John E. Roman
 CHIEF, BUREAU OF ENGINEERING

8-12-92 2 ADD NOISE MITIGATION WALLS
 6-18-93 1 REV. STORM DRAIN & LOT LAYOUT - VELVET PATH

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 2 AREA 1
 LOTS 1 THRU 130

AREA: TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: DRAINAGE AREA MAP

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

DESIGNED BY: C.J.R.
 DRAWN BY: DAM
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 13 OF 21

1487

MATCH LINE SEE SHEET 18



PLAN
SCALE: 1"=100'

DRAINAGE AREA DATA			
NO.	DRAINAGE AREA (Ac.)	% IMPERVIOUS	'C' FACTOR
I-17	0.236	66	0.64
I-18	0.479	83	0.75
I-19	0.634	67	0.65
I-23	0.709	39	0.46
I-24	0.615	50	0.54
I-25	0.046	89	0.79
I-26	0.124	69	0.66
I-27	0.243	56	0.59
I-28	0.335	47	0.52
I-29	0.108	77	0.71
I-30	0.347	52	0.55
I-31	2.080	27	0.39
I-32	0.528	44	0.50
I-33	0.298	54	0.56
I-34	0.396	53	0.56
I-35	0.507	50	0.54
I-36	0.757	46	0.51
I-37	0.051	57	0.58
I-38	0.092	49	0.53
I-39	0.551	46	0.51
I-40	0.335	53	0.55
I-41	1.894	41	0.48
I-42	1.267	50	0.54
I-43	0.466	49	0.53
I-44	0.464	44	0.50
I-45	0.293	43	0.49
I-46	0.735	53	0.56
I-47	0.073	82	0.75
I-48	1.375	39	0.47
I-49	0.427	53	0.56
I-50	0.572	51	0.54
BASIN #0	0.111	Tc = 0.27 hrs	RCN = 75
BASIN #21	0.111	Tc = 0.84 hrs	RCN = 75

PROPOSED AS-BUILT CERTIFICATE

DATE _____

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Amna Johnson 1/27/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Alvin D. ... 1/19/93
 CHIEF, DEVELOPMENT DIVISION

Alan M. ... 1/6/93
 CHIEF, BUREAU OF HIGHWAYS

... 1-20-93
 CHIEF, BUREAU OF ENGINEERING

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 2 AREA 1
 LOTS 1 THRU 130

AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **DRAINAGE AREA MAP**

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX : 410-997-9282

12-21-92 DATE

DESIGNED BY : C.J.R.

DRAWN BY : DAM

PROJECT NO : 80804

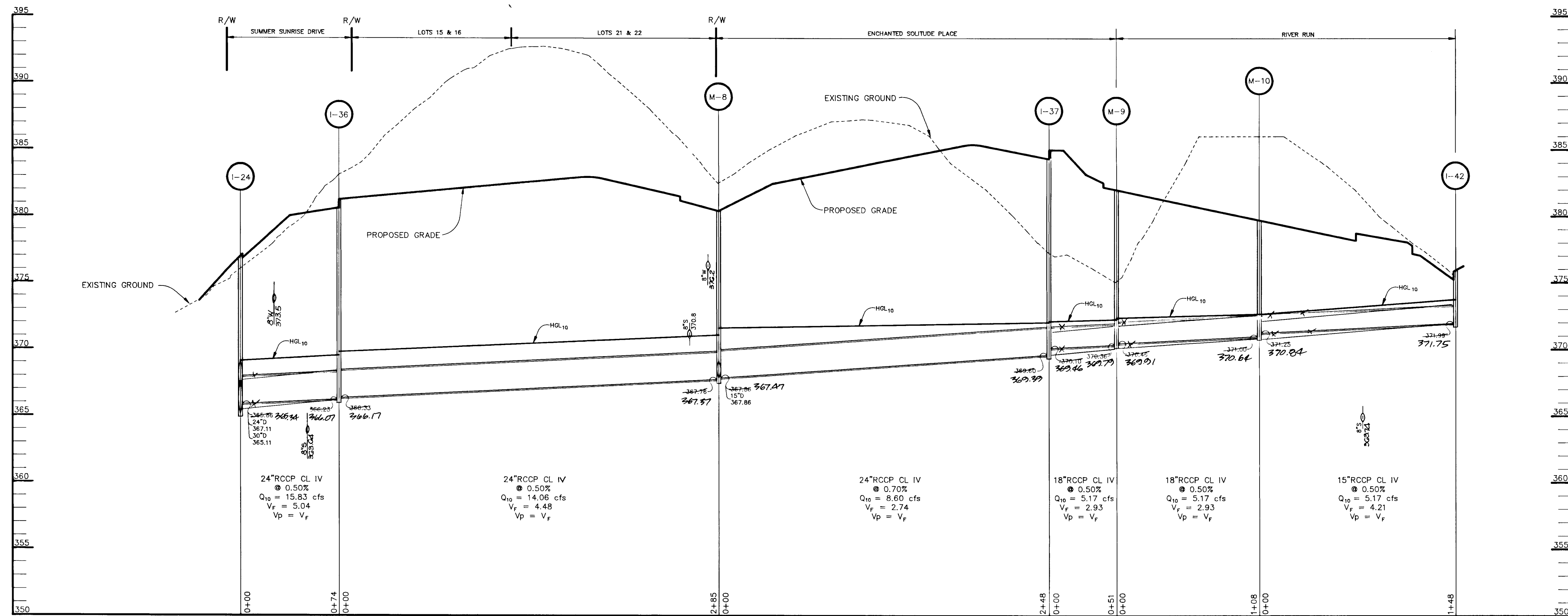
DATE : DECEMBER 21, 1992

SCALE : AS SHOWN

DRAWING NO. 14 OF 21

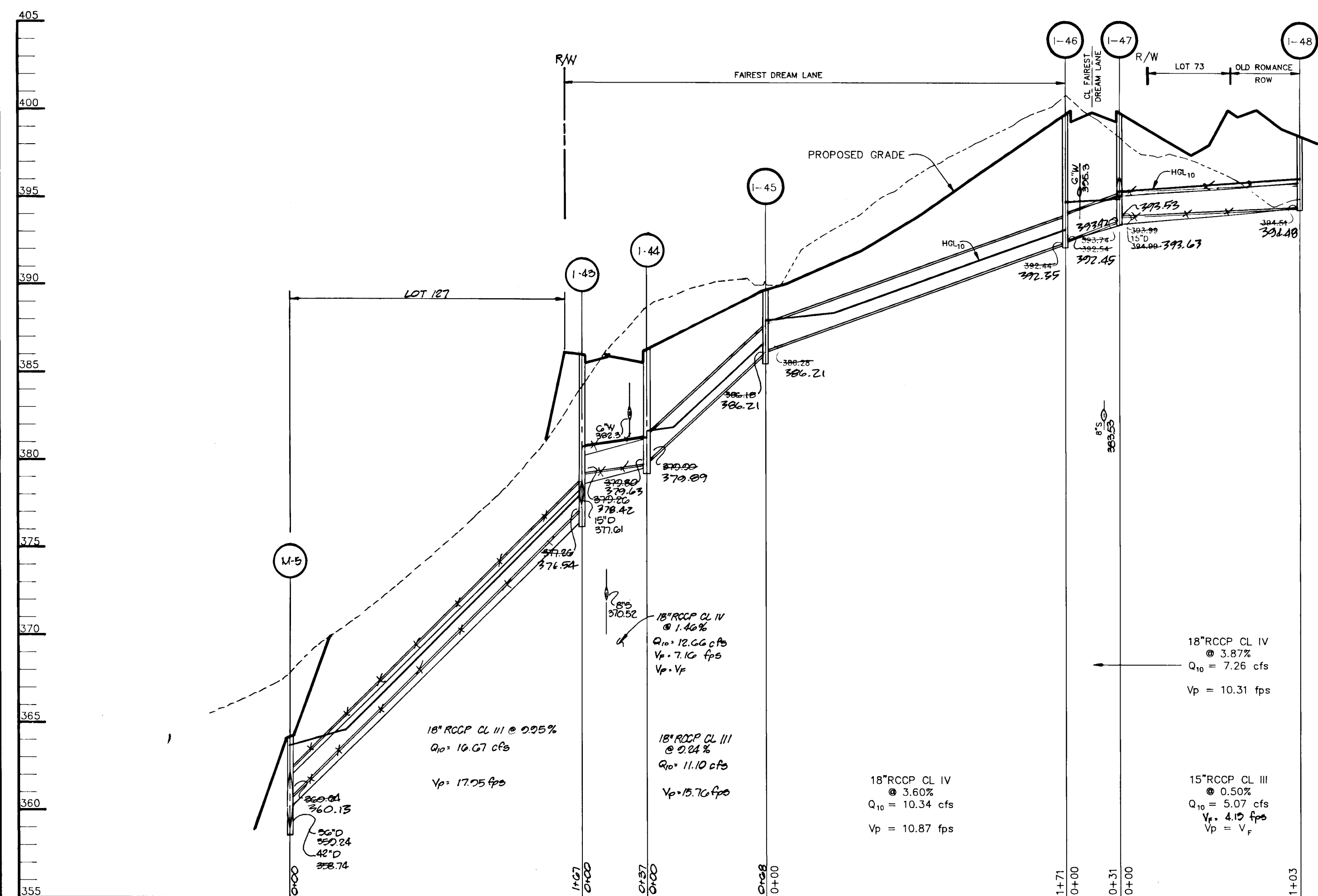
ARTHUR E. MUEGGE 18707

1487



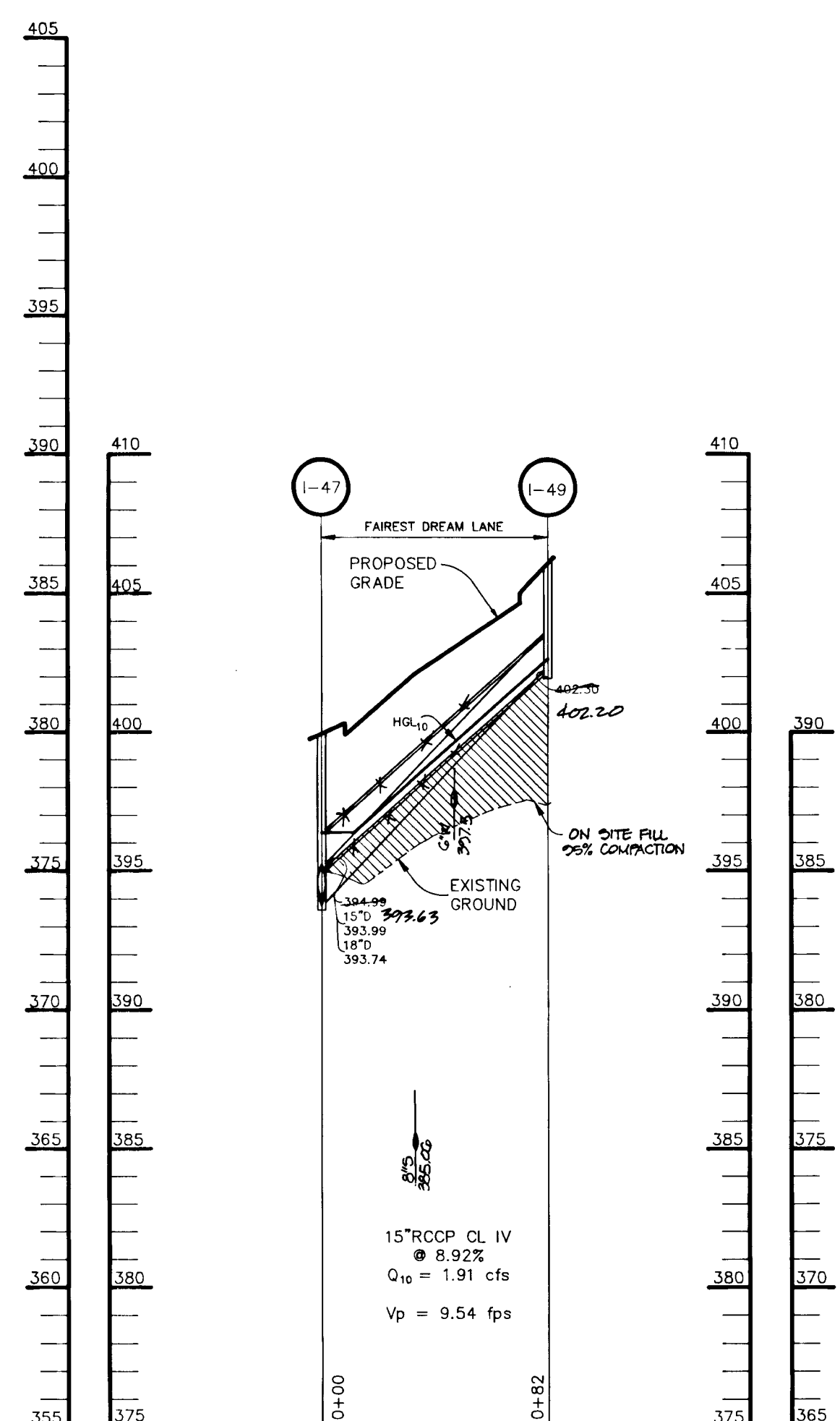
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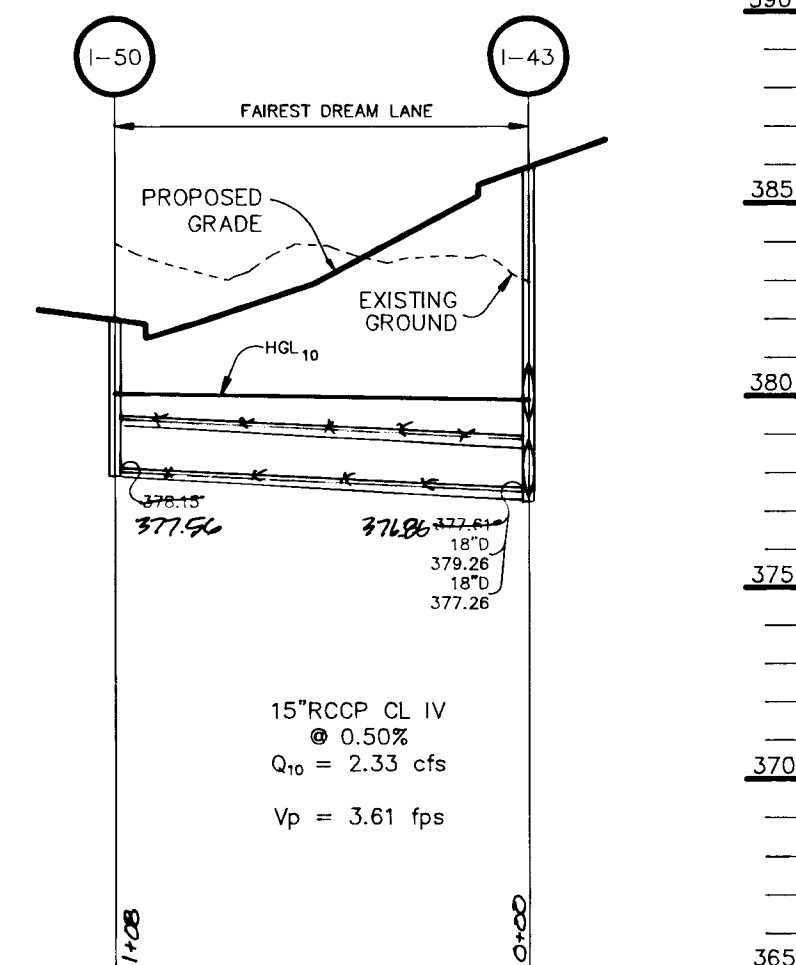
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PROFILE

SCALE: HOR. 1" = 50'
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PROFILE

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



SHANBERGER, AS-BUILT CERTIFICATE
SHANBERGER & LANE,
 8726 TOWN & COUNTRY BLVD.
 ELLICOTT CITY, MARYLAND 21043

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Emena Johnson 1/29/93
 CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Roman 1/16/93
 CHIEF, BUREAU OF HIGHWAYS

W. S. Raby 1-20-93
 CHIEF, BUREAU OF ENGINEERING

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 2 AREA 1
 LOTS 1 THRU 130

AREA TAX MAP NO. 35 ZONED NEW TOWN
 PART OF PARCELS 70 & 240
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

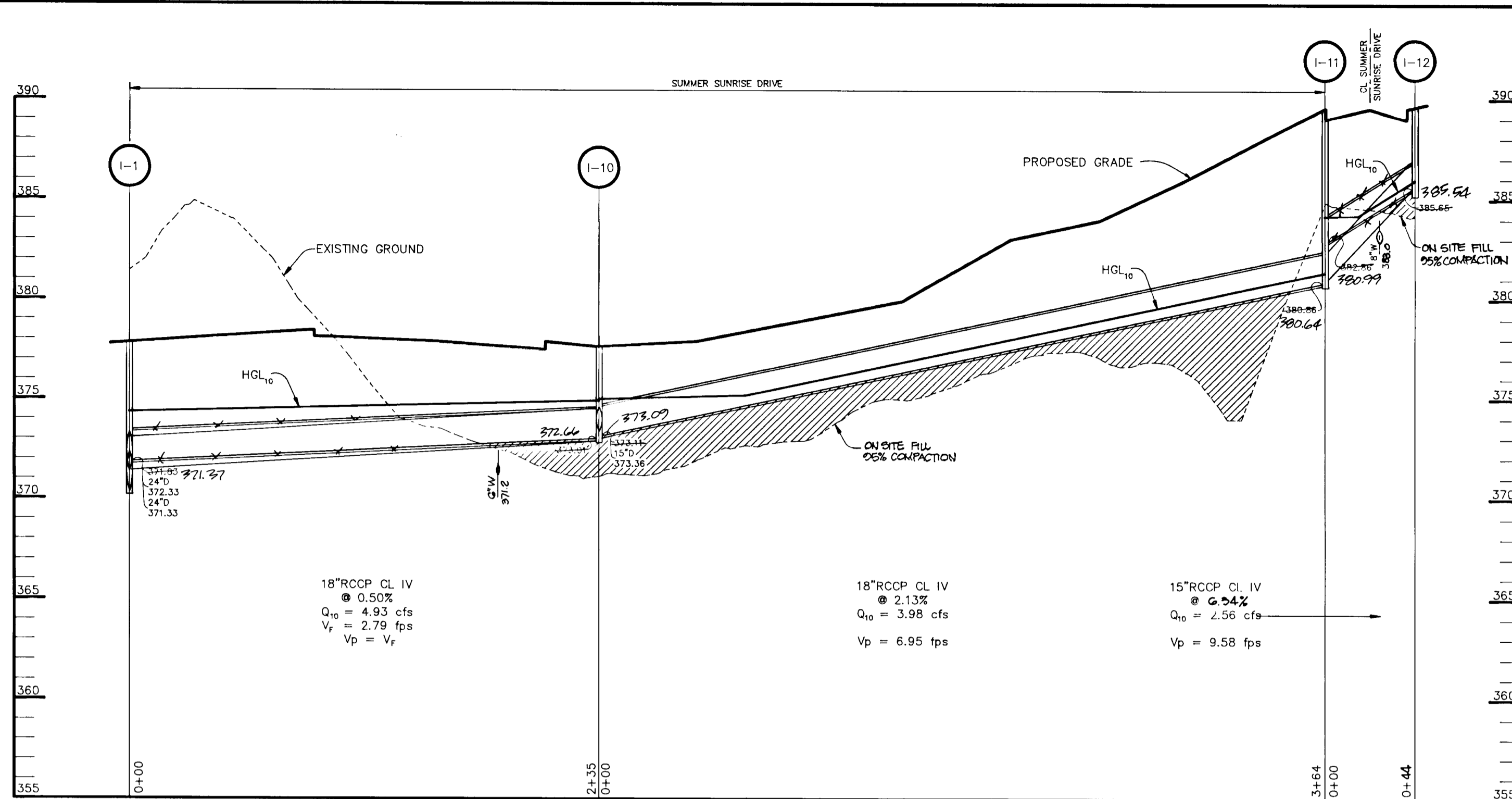
TITLE
STORM DRAIN PROFILES

RIEMER MUEGGE & ASSOCIATES, INC.
 A Land Planning, Engineering and Consulting Firm
 8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
 410-997-8900 FAX: 410-997-9282

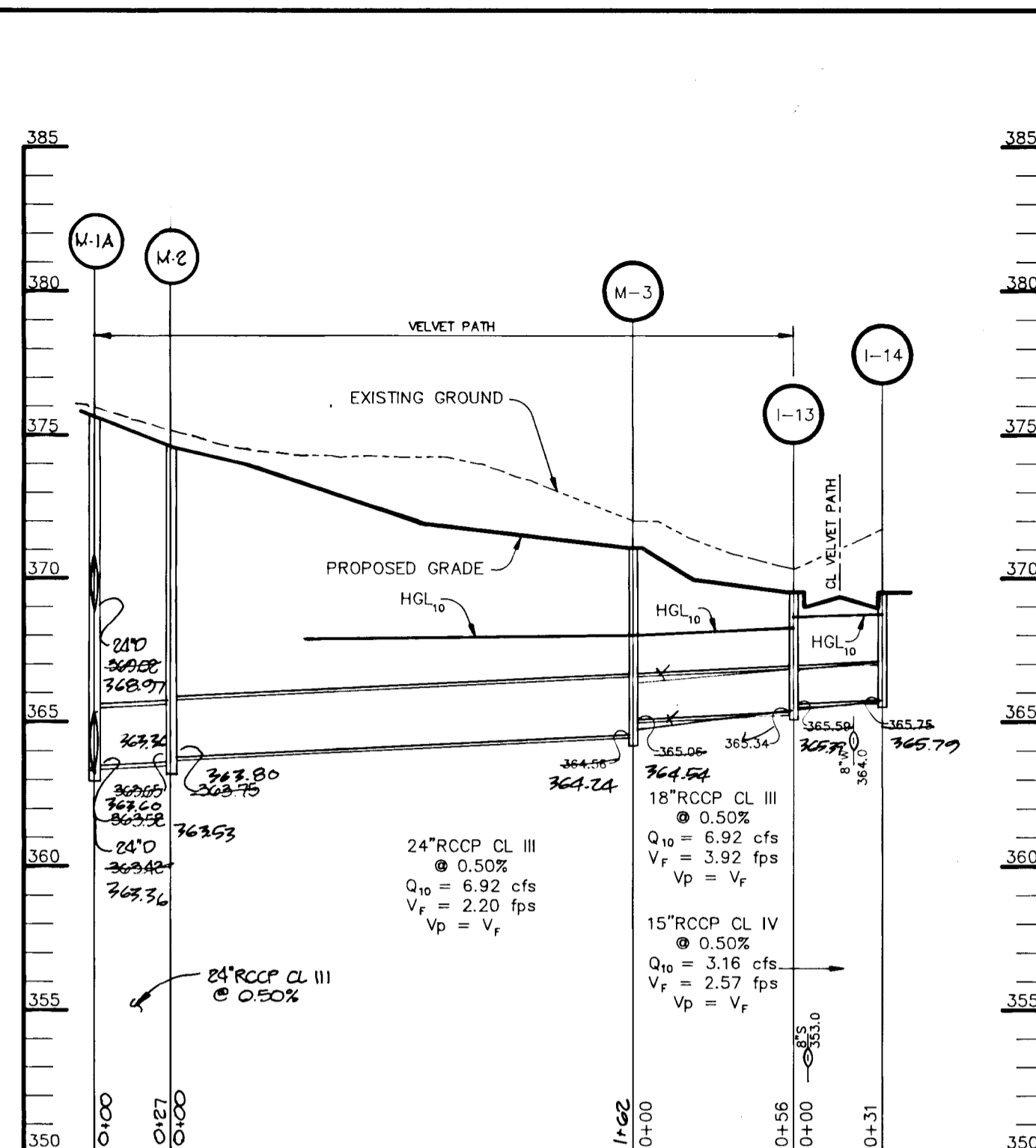
DATE 12-21-92
 DESIGNED BY: WCW
 DRAWN BY: CAD
 PROJECT NO: 80804
 DATE: DECEMBER 21, 1992
 SCALE: AS SHOWN
 DRAWING NO. 15 OF 21

ARTHUR E. MUEGGE, P.E.
 PROFESSIONAL ENGINEER
 LICENSE NO. 10845

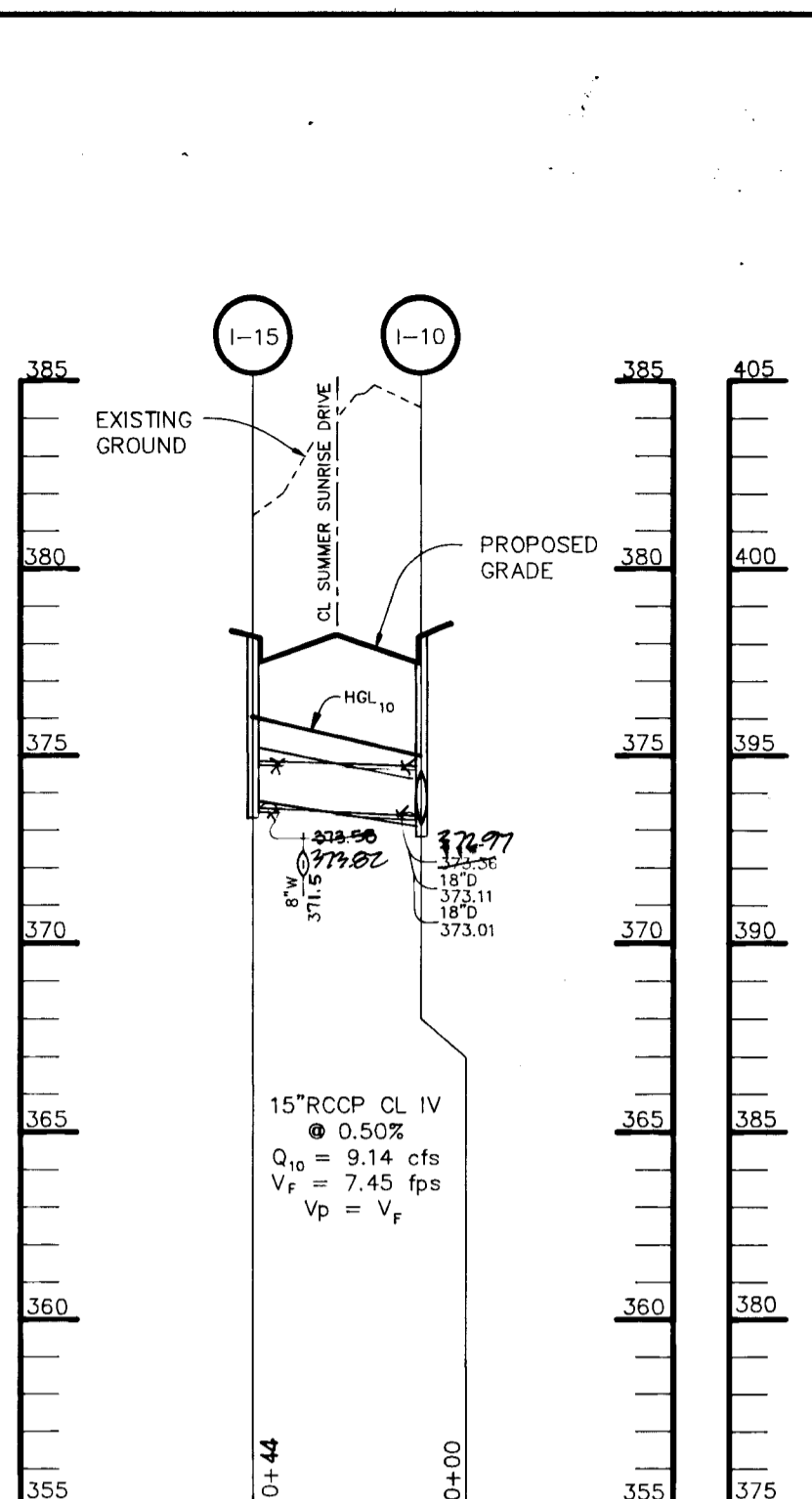
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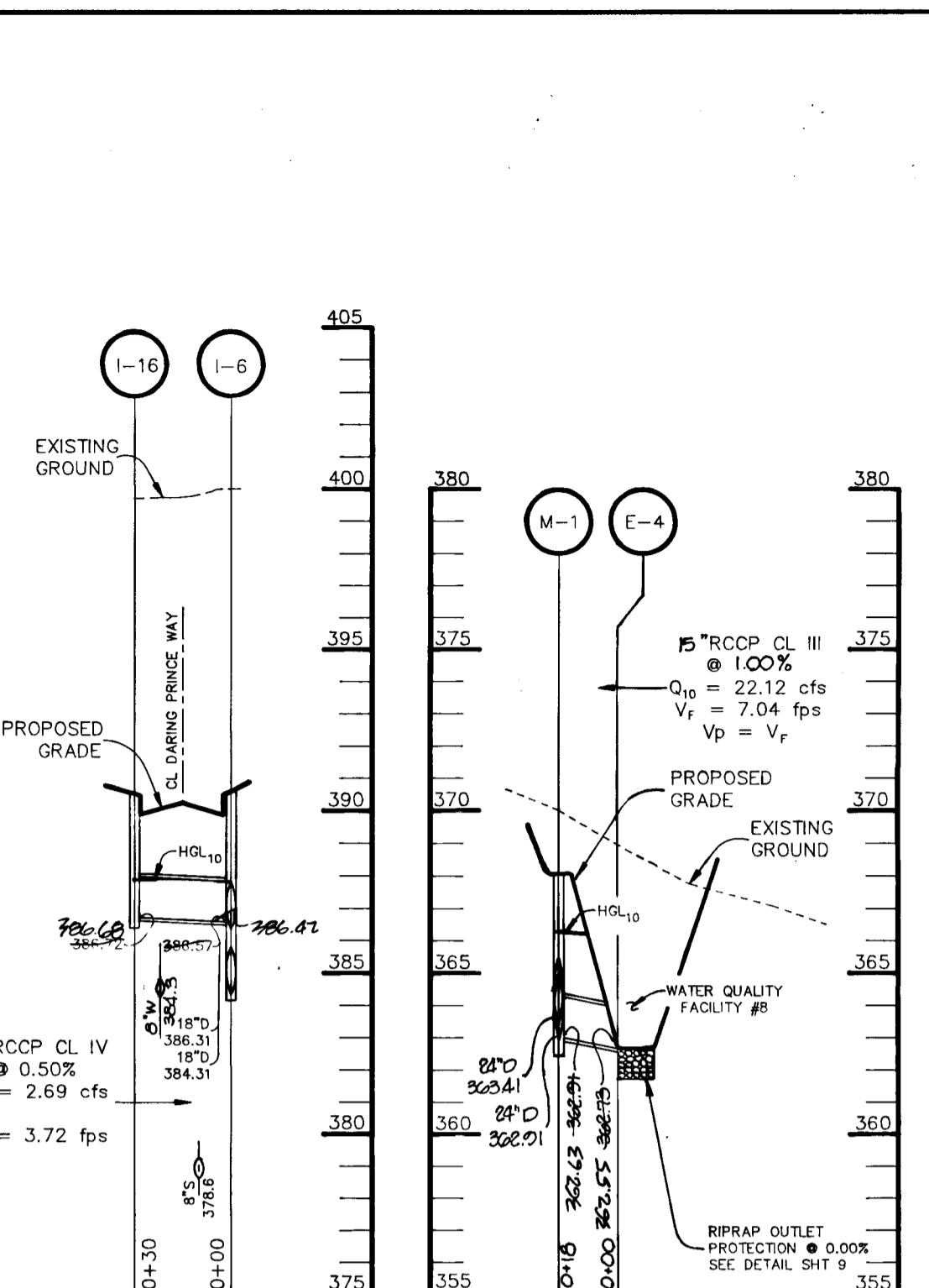
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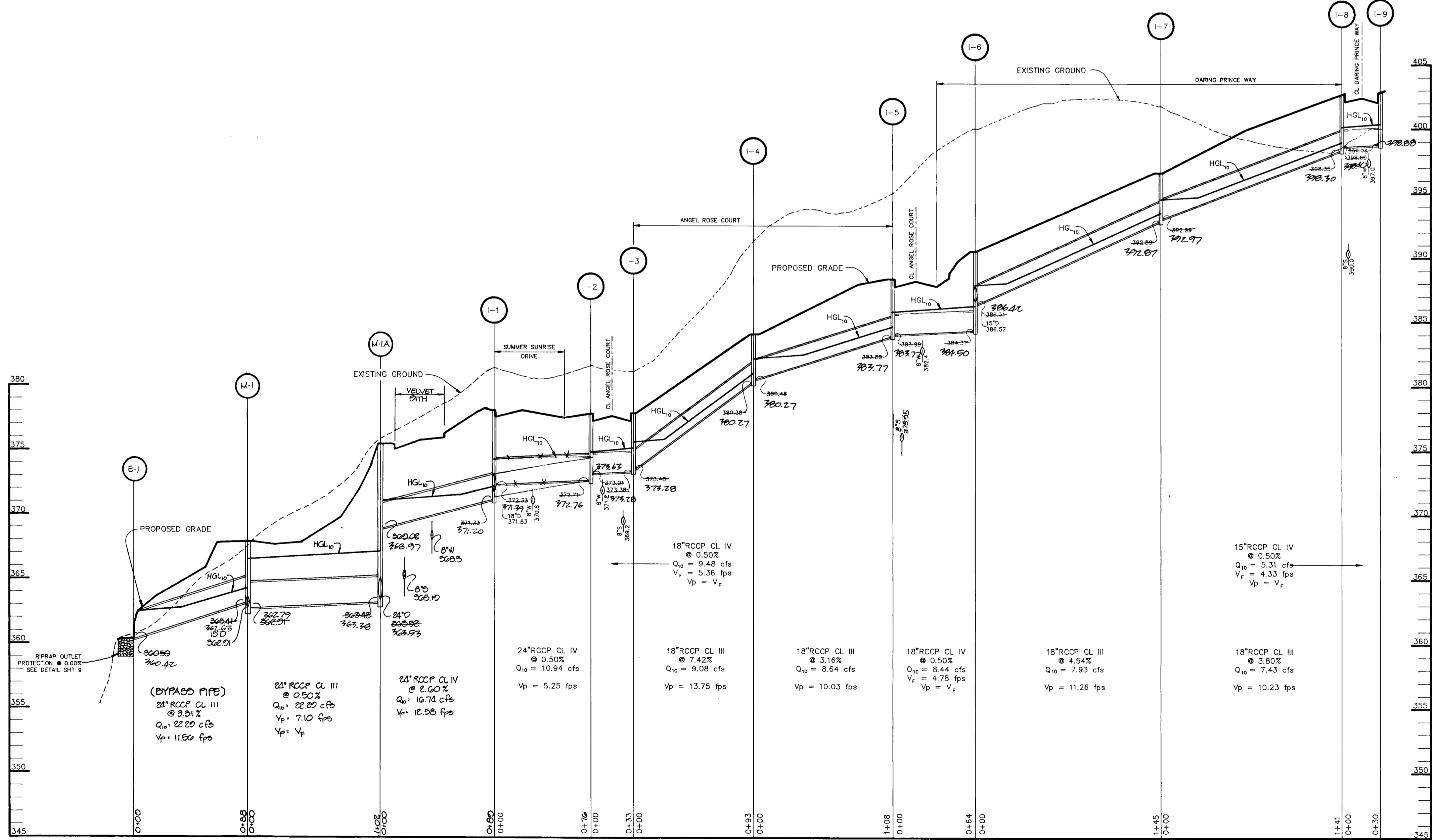


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PROFILE
SCALE: HOR. 1" = 50'
VERT. 1" = 5'

SHANNON & ASSOCIATES, INC.
REGISTERED PROFESSIONAL ENGINEERS
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

SHANNON & ASSOCIATES, INC.
14776 TOWN & COUNTRY BLVD.
SUITE 104
ELLCOTT CITY, MARYLAND 21093

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Emma H. Bond 1/27/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
John M. Roman 1/6/93
CHIEF, BUREAU OF HIGHWAYS

William S. Reilly 1-20-93
CHIEF, BUREAU OF ENGINEERING

DATE NO. REVISION

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

PROJECT **VILLAGE OF RIVER HILL**
SECTION 2 AREA 1
LOTS 1 THRU 130

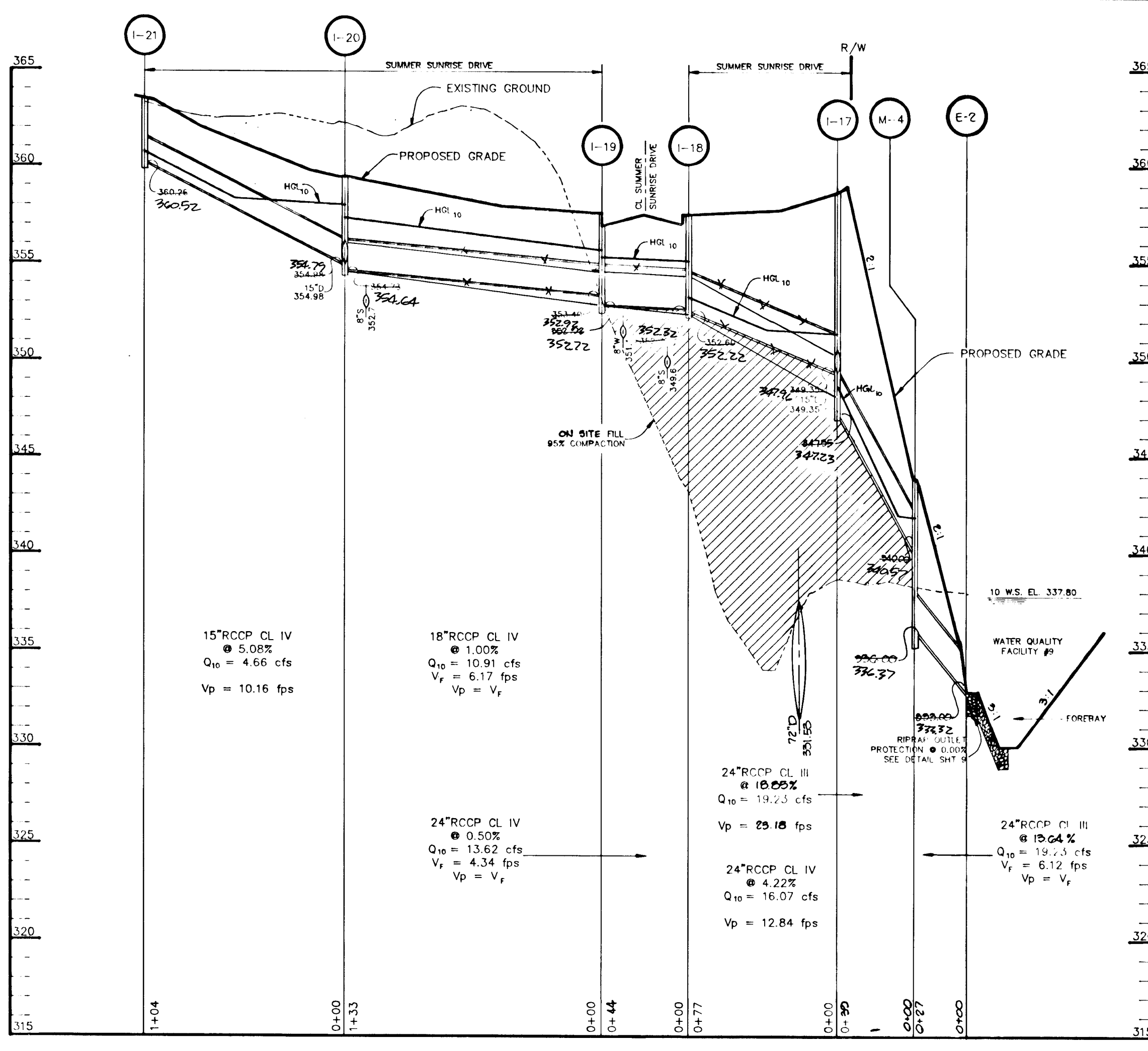
AREA TAX MAP NO. 35 ZONED NEW TOWN
PART OF PARCELS 70 & 240
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE **STORM DRAIN PROFILES**

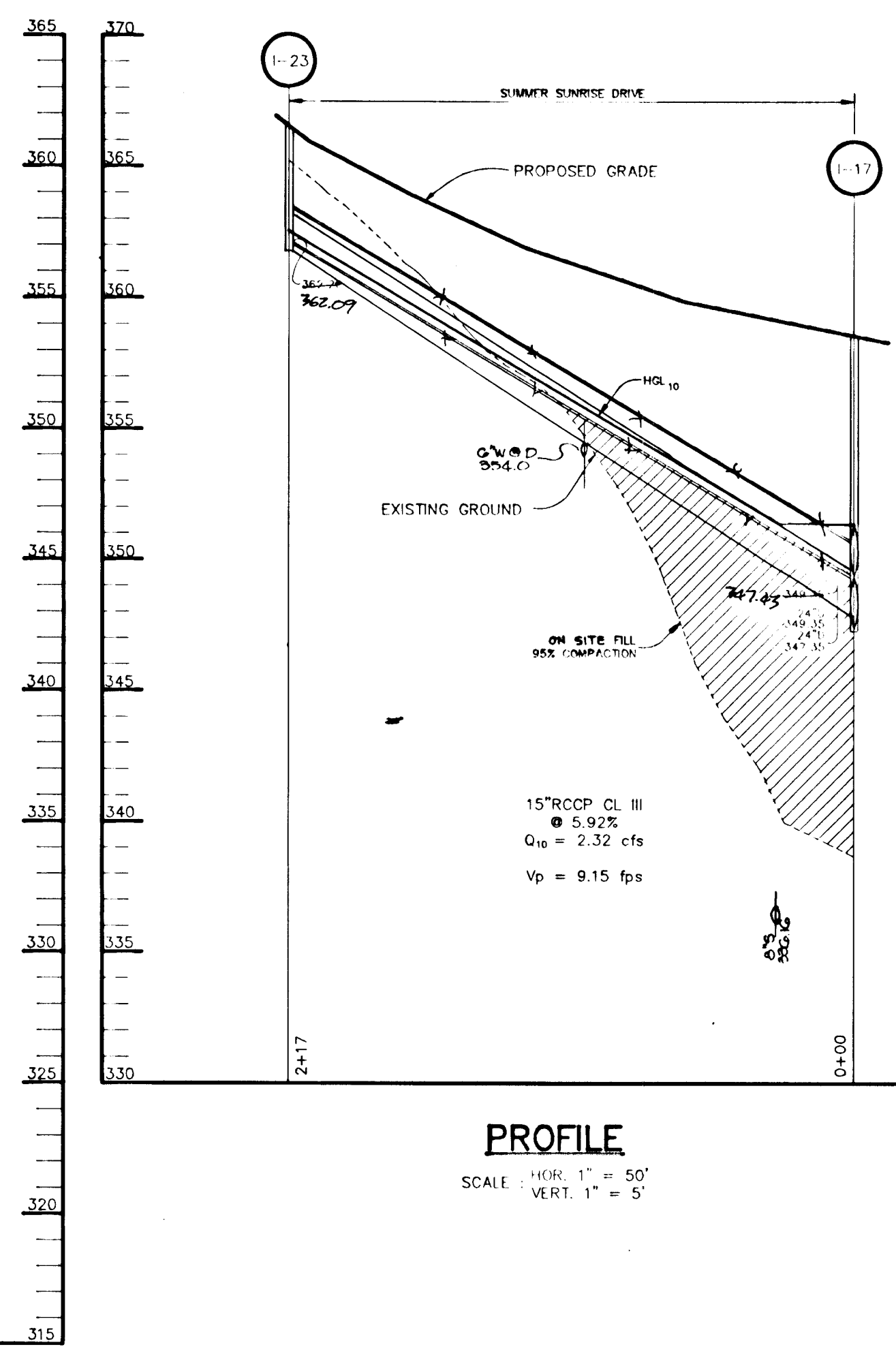
RIEMER MUEGGE & ASSOCIATES, INC.
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8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-997-8900 FAX: 410-997-9282

DESIGNED BY: WGW
DRAWN BY: CAO
PROJECT NO: 80804
DATE: DECEMBER 21, 1992
SCALE: AS SHOWN
DRAWING NO. 16 OF 21

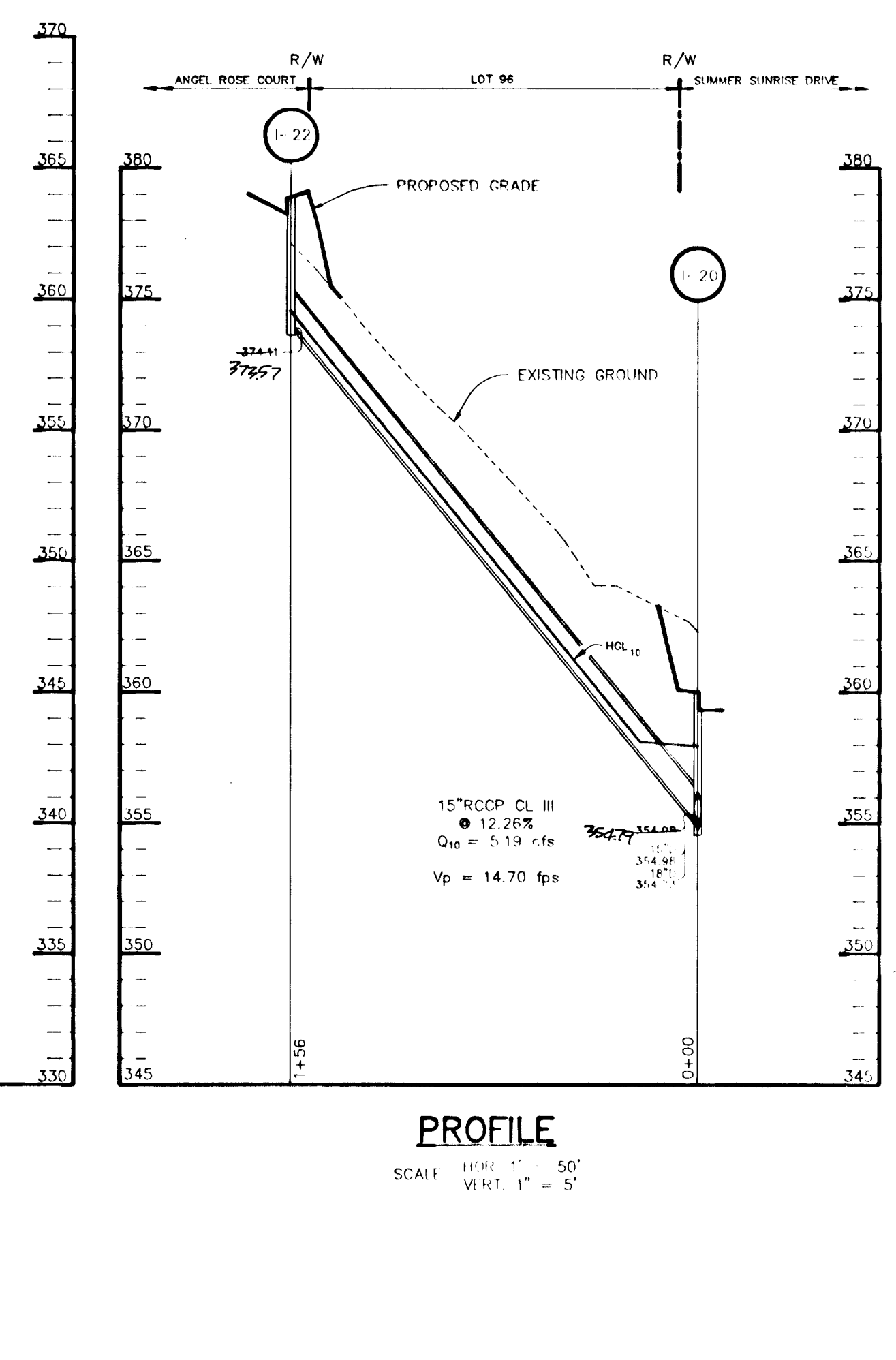
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PROFILE
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VERT. 1" = 5'



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



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

* FOR AS-BUILT STRUCTURE LOCATION SEE PLAN VIEW SHEET *

NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
1-1	A-5	61' LEFT OF C ₁ STA 15+00 SUMMER SUNRISE DRIVE	18'-371.83	371.33	377.74	SEE HO CO STD DETAIL SD 4.01
1-2	A-5 W/DEFLECTORS	15' RIGHT OF C ₁ STA 0+46 ANGEL ROSE COURT	373.21	372.71	377.41	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-3	A-5 W/DEFLECTORS	15' LEFT OF C ₁ STA 0+46 ANGEL ROSE COURT	373.48	373.38	377.41	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-4	A-5	15.52' LEFT OF C ₁ STA 1+50 ANGEL ROSE COURT	380.48	380.38	380.29	SEE HO CO STD DETAIL SD 4.01
1-5	A-5	15.52' LEFT OF C ₁ STA 2+69 ANGEL ROSE COURT	383.99	383.89	383.80	SEE HO CO STD DETAIL SD 4.01
1-6	A-5 W/DEFLECTORS	14.52' RIGHT OF C ₁ STA 0+52 DARING PRINCE WAY	15'-386.57	384.31	380.26	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-7	A-5 W/DEFLECTORS	14.52' RIGHT OF C ₁ STA 2+03 DARING PRINCE WAY	392.99	392.89	392.80	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-8	A-5 W/DEFLECTORS	14.52' RIGHT OF C ₁ STA 3+57 DARING PRINCE WAY	398.60	398.50	398.41	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-9	A-10 W/DEFLECTORS	14.52' LEFT OF C ₁ STA 3+57 DARING PRINCE WAY	398.75	401.92	398.75	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-10	A-5	21' LEFT OF C ₁ STA 13+65.33 SUMMER SUNRISE DRIVE	15'-373.36	373.01	377.70	SEE HO CO STD DETAIL SD 4.01
1-11	A-5 W/DEFLECTORS	81' LEFT OF C ₁ STA 10+00 SUMMER SUNRISE DRIVE	382.86	380.86	389.50	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-12	A-5 W/DEFLECTORS	91' RIGHT OF C ₁ STA 10+00 SUMMER SUNRISE DRIVE	385.85	389.50	389.50	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-13	A-5	14.52' RIGHT OF C ₁ STA 3+22.34 VELVET PATH	365.59	365.34	360.50	SEE HO CO STD DETAIL SD 4.01
1-14	A-5	14.52' LEFT OF C ₁ STA 3+22.34 VELVET PATH	365.75	362.50	360.50	SEE HO CO STD DETAIL SD 4.01
1-15	A-10	91' RIGHT OF C ₁ STA 13+65.33 SUMMER SUNRISE DRIVE	373.50	377.70	377.70	SEE HO CO STD DETAIL SD 4.02
1-16	A-5 W/DEFLECTORS	14.52' LEFT OF C ₁ STA 0+52 DARING PRINCE WAY	386.72	380.26	380.26	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-17	A-5	61' LEFT OF C ₁ STA 22+00 SUMMER SUNRISE DRIVE	15'-349.35	347.35	358.28	SEE HO CO STD DETAIL SD 4.01
1-18	A-5	91' LEFT OF C ₁ STA 22+02.81 SUMMER SUNRISE DRIVE	352.7	357.70	357.70	SEE HO CO STD DETAIL SD 4.01
1-19	A-5	91' RIGHT OF C ₁ STA 22+02.81 SUMMER SUNRISE DRIVE	353.40	352.92	357.70	SEE HO CO STD DETAIL SD 4.01
1-20	A-5	91' RIGHT OF C ₁ STA 20+70 SUMMER SUNRISE DRIVE	15'-354.98	354.75	359.44	SEE HO CO STD DETAIL SD 4.01
1-21	A-5 W/DEFLECTORS	LP STA 19+66 SUMMER SUNRISE DRIVE	360.26	363.22	363.22	SEE HO CO STD DETAIL SD 4.02 & SD 4.83
1-22	A-5	LP STA 1+27.16 ANGEL ROSE COURT	374.11	378.80	378.80	SEE HO CO STD DETAIL SD 4.01
1-23	A-5 W/DEFLECTORS	21' LEFT OF C ₁ STA 25+00 SUMMER SUNRISE DRIVE	362.20	366.42	366.42	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-24	A-5 W/DEFLECTORS	21' RIGHT OF C ₁ STA 26+57 SUMMER SUNRISE DRIVE	365.11	377.12	377.12	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-25	A-5	21' RIGHT OF C ₁ STA 29+68 SUMMER SUNRISE DRIVE	385.74	385.64	389.83	SEE HO CO STD DETAIL SD 4.01
1-26	A-5 W/DEFLECTORS	15' RIGHT OF C ₁ STA 0+43 RIVER RUN	15'-387.54	386.69	391.19	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-27	A-5	21.52' RIGHT OF C ₁ STA 1+60 RIVER RUN	392.56	392.46	397.05	SEE HO CO STD DETAIL SD 4.01
1-28	A-5 W/DEFLECTORS	21.52' LEFT OF C ₁ STA 0+43 RIVER RUN	15'-400.45	399.60	404.25	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-29	A-5	21.52' RIGHT OF C ₁ STA 4+48.57 RIVER RUN	407.39	407.29	411.95	SEE HO CO STD DETAIL SD 4.01
1-30	A-5 W/DEFLECTORS	21.52' RIGHT OF C ₁ STA 0+50.57 EMPTY SONG ROAD	409.55	409.45	414.48	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-31	A-10 W/DEFLECTORS	18.52' LEFT OF C ₁ STA 0+43 RIVER RUN	409.87	409.77	414.48	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-32	A-5 W/DEFLECTORS	18.52' RIGHT OF C ₁ STA 5+40 RIVER RUN	15'-411.75	411.00	416.05	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-33	A-5 W/DEFLECTORS	18.52' LEFT OF C ₁ STA 5+40 RIVER RUN	411.00	411.00	416.05	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-34	A-5 W/DEFLECTORS	21.52' LEFT OF C ₁ STA 3+10 RIVER RUN	400.88	400.88	404.45	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-35	A-5 W/DEFLECTORS	21.52' LEFT OF C ₁ STA 0+43 RIVER RUN	387.77	387.77	401.10	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-36	A-5 W/DEFLECTORS	21' LEFT OF C ₁ STA 27+17 SUMMER SUNRISE DRIVE	366.33	366.23	380.90	SEE HO CO STD DETAIL SD 4.01 & SD 4.83

NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP ELEV.	REMARKS
1-37	A-5	14.52' RIGHT OF C ₁ STA 0+41.50 ENCHANTED SOLITUDE PLACE	18'-371.4	369.6	369.07	SEE HO CO STD DETAIL SD 4.01
1-38	A-5	14.52' LEFT OF C ₁ STA 0+42.50 ENCHANTED SOLITUDE PLACE	378.39	376.39	369.07	SEE HO CO STD DETAIL SD 4.01
1-39	A-5 W/DEFLECTORS	15.52' LEFT OF C ₁ STA 2+48 RIVER RUN	378.83	378.58	369.07	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-40	A-5 W/DEFLECTORS	15.52' RIGHT OF C ₁ STA 2+48 RIVER RUN	378.99	378.99	369.07	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-41	A-10	LP STA 0+55.05 ENCHANTED SOLITUDE PLACE	369.07	376.10	376.10	SEE HO CO STD DETAIL SD 4.02
1-42	A-5	LP STA 1+71.46 RIVER RUN	371.99	376.94	376.94	SEE HO CO STD DETAIL SD 4.01
1-43	A-5 W/DEFLECTORS	LP STA 3+87 FAIRFAX DREAM LANE	15'-377.61	377.26	387.00	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-44	A-5	14.52' LEFT OF C ₁ STA 6+46 FAIRFAX DREAM LANE	390.20	390.20	387.16	SEE HO CO STD DETAIL SD 4.01
1-45	A-5 W/DEFLECTORS	14.52' LEFT OF C ₁ STA 5+74 FAIRFAX DREAM LANE	386.28	386.18	380.10	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-46	A-5 W/DEFLECTORS	14.52' LEFT OF C ₁ STA 4+00 FAIRFAX DREAM LANE	392.54	392.44	380.04	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-47	A-5	14.52' RIGHT OF C ₁ STA 4+00 FAIRFAX DREAM LANE	15'-393.99	393.74	380.04	SEE HO CO STD DETAIL SD 4.01
1-48	A-5	LP STA 0+67.80 OLD ROMANCE ROW	394.51	399.13	399.13	SEE HO CO STD DETAIL SD 4.01
1-49	A-5 W/DEFLECTORS	15.52' RIGHT OF C ₁ STA 3+17.12 FAIRFAX DREAM LANE	402.30	407.81	407.81	SEE HO CO STD DETAIL SD 4.01 & SD 4.83
1-50	A-5	LP STA 2+79.50 FAIRFAX DREAM LANE	378.15	382.99	382.99	SEE HO CO STD DETAIL SD 4.01
M-1	41" DIAMETER STD PRECAST MANHOLE	SEE PLAN SHEET 6	362.01	24' 362.01	368.00	SEE HO CO STD DETAIL G 5.12
M-2	41" DIAMETER STD PRECAST MANHOLE	17' RIGHT OF C ₁ STA 1+00 VELVET PATH	24' 362.75	362.75	376.60	SEE HO CO STD DETAIL G 5.12
M-3	41" DIAMETER STD PRECAST MANHOLE	21' RIGHT OF C ₁ STA 2+71 VELVET PATH	365.06	364.56	370.26	SEE HO CO STD DETAIL G 5.12
M-4	41" DIAMETER STD PRECAST MANHOLE	60' LEFT OF C ₁ STA 22+00 SUMMER SUNRISE DRIVE	360.00	360.00	364.00	SEE HO CO STD DETAIL G 5.12
M-5	51" DIAMETER STD PRECAST MANHOLE	SEE PLAN SHEET 7	18' 360.84	358.74	364.00	SEE HO CO STD DETAIL G 5.13
M-6	51" DIAMETER STD PRECAST MANHOLE	SEE PLAN SHEET 12	369.24	360.40	359.90	SEE HO CO STD DETAIL G 5.13
M-7	41" DIAMETER STD PRECAST MANHOLE	5' RIGHT OF C ₁ STA 6+50 RIVER RUN	360.40	359.90	369.50	SEE HO CO STD DETAIL G 5.12
M-8	41" DIAMETER STD PRECAST MANHOLE	13' RIGHT OF LP STA 3+32 ENCHANTED SOLITUDE PLACE	367.86	418.28	421.92	SEE HO CO STD DETAIL G 5.12
M-9	41" DIAMETER STD PRECAST MANHOLE	71' LEFT OF C ₁ STA 3+41 RIVER RUN	15'-367.86	367.76	380.00	SEE HO CO STD DETAIL G 5.12
M-10	41" DIAMETER STD PRECAST MANHOLE	71' LEFT OF C ₁ STA 4+50 RIVER RUN	370.46	370.36	380.00	SEE HO CO STD DETAIL G 5.12
E-1	24" CONCRETE END SECTION	SEE PLAN SHEET 6	371.25	371.00	379.84	SEE HO CO STD DETAIL SD 5.51
E-2	24" CONCRETE END SECTION	70' LEFT OF C ₁ STA 22+08 SUMMER SUNRISE DRIVE	360.50	360.50	360.50	SEE HO CO STD DETAIL SD 5.51
E-3	42" CONCRETE END SECTION	SEE PLAN SHEET 7	357.00	357.00	360.50	SEE HO CO STD DETAIL SD 5.51
E-4	18" CONCRETE END SECTION	SEE PLAN SHEET 6	362.91	362.91	360.50	SEE HO CO STD DETAIL SD 5.51
E-5	15" CONC. END SECTION TEMPORARY	SEE PLAN SHEET 6	360.40	360.40	360.50	SEE HO CO STD DETAIL SD 5.51
E-6	15" CONC. END SECTION	SEE PLAN SHEET 11	331.00	331.00	360.50	SEE HO CO STD DETAIL SD 5.51
E-7	15" CONC. END SECTION	SEE PLAN SHEET 7	356.00	356.00	360.50	SEE HO CO STD DETAIL SD 5.51
E-8	42" CONC. END SECTION	55' LEFT OF C ₁ STA 11+02 SUMMER SUNRISE DRIVE	370.00	370.00	360.50	SEE HO CO STD DETAIL SD 5.51
E-9	TYPE B HEADWALL	115' LEFT OF C ₁ STA 22+10 SUMMER SUNRISE DRIVE	331.00	331.00	360.50	SEE HO CO STD DETAIL SD 5.51
S-1	MODIFIED A-5 INLET TEMPORARY	SEE PLAN SHEET 6	362.00	361.50	366.90	SEE DETAIL SHEET 20
S-2	MODIFIED A-5 INLET	SEE PLAN SHEET 11	333.00	332.50	338.90	SEE DETAIL SHEET 20
S-3	MODIFIED A-5 INLET	SEE PLAN SHEET 7	358.00	357.50	363.90	SEE DETAIL SHEET 20
S-4	MODIFIED A-10 INLET	54' RIGHT OF C ₁ STA 10+38 SUMMER SUNRISE DRIVE	378.00	377.80	386.50	SEE DETAIL SHEET 20 & SD 4.02
S-5	MODIFIED A-10 INLET	60' RIGHT OF C ₁ STA 23+00 SUMMER SUNRISE DRIVE	387.00	387.00	392.00	SEE DETAIL SHEET 20 & SD 4.02
E-9	18" CONC. END SECTION	60' RIGHT OF C ₁ STA 23+00 SUMMER SUNRISE DRIVE	392.00	392.00	392.00	SEE HO CO STD DETAIL SD 5.51
E-10	18" CONC. END SECTION	60' RIGHT OF C ₁ STA 10+50 SUMMER SUNRISE DRIVE	360.00	360.00	360.00	SEE HO CO STD DETAIL SD 5.51

NOTE: TOP OF STD CURB & GUTTER ELEVATION PROVIDED FOR INLETS
M-1A 41" DIA STD PRECAST MANHOLE 81' 360.00 360.00 375.04 SEE HO CO STD DETAIL G 5.12
21' 362.00

AS BUILT CERTIFICATE

SHANBERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
ELICOTT CITY, MARYLAND 21043

1/20/97

1/27/93

1/16/93

1-20-93

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

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

PROJECT: VILLAGE OF RIVER HILL
SECTION 2 ARFA 1
LOTS 1 THRU 150

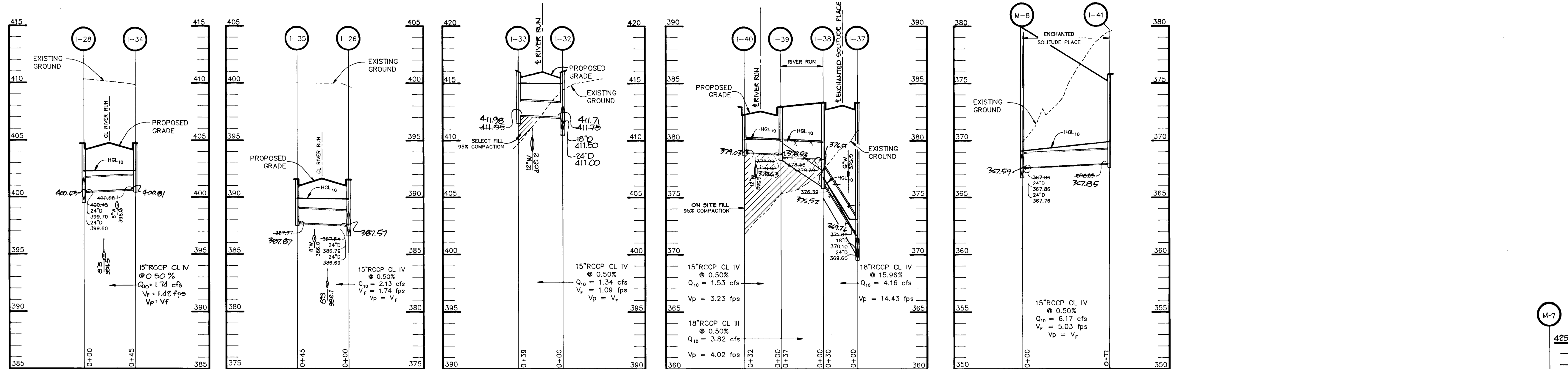
TITLE: STORM DRAIN PROFILES AND STRUCTURE SCHEDULE

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive • Suite 200 • Columbia, Md 21045
410-997-8900 FAX: 410-997-9282

DESIGNED BY: WCW
DRAWN BY: CAD
PROJECT NO: 80804
DATE: DECEMBER 21, 1992
SCALE: AS SHOWN
DRAWING NO: 17 OF 21

F-23-18

1487



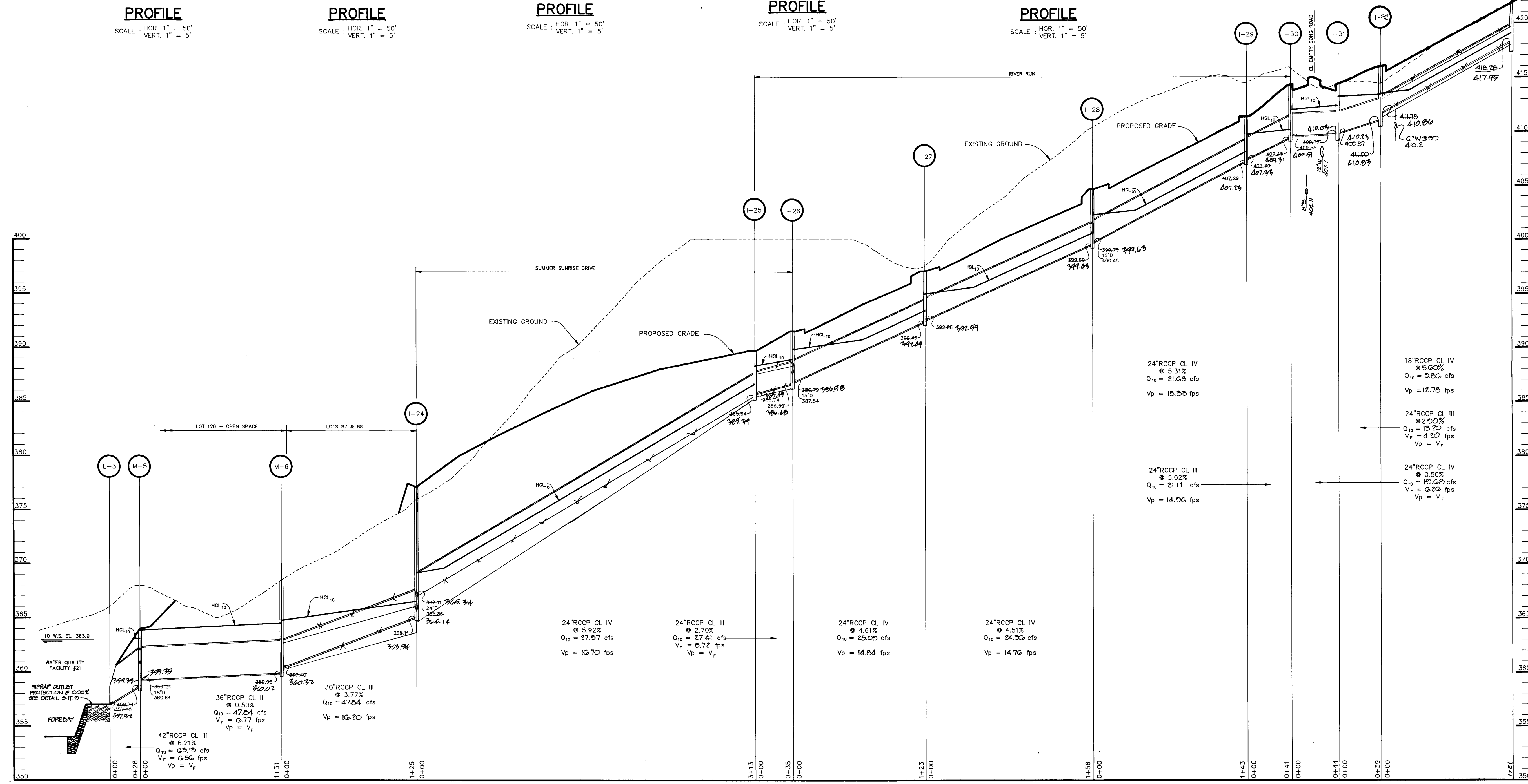
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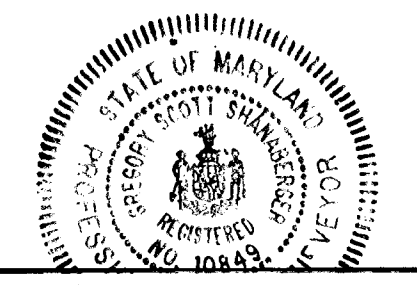
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PROFILE
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AS BUILT CERTIFICATE LAND

SHANBERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
ELLICOTT CITY, MARYLAND 21043

Orville Shanberger 1/22/93
G. GEN. ENGINEER, REG. L.G. #10007

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
Anna Howard 1/27/93
CHIEF, DIVISION OF COMMUNITY PLANNING AND LAND DEVELOPMENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Chris Demaree 1/19/93
CHIEF, LAND DEVELOPMENT DIVISION
Ch. M. Parnon 1/6/93
CHIEF, BUREAU OF HIGHWAYS
Arthur E. Muegge 1-20-93
CHIEF, BUREAU OF ENGINEERING

0-0-28 | REV. 0104V DRAIN PROFILE I-41 - M-8
DATE NO. REVISION

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

PROJECT **VILLAGE OF RIVER HILL**
SECTION 2 AREA 1
LOTS 1 THRU 130

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5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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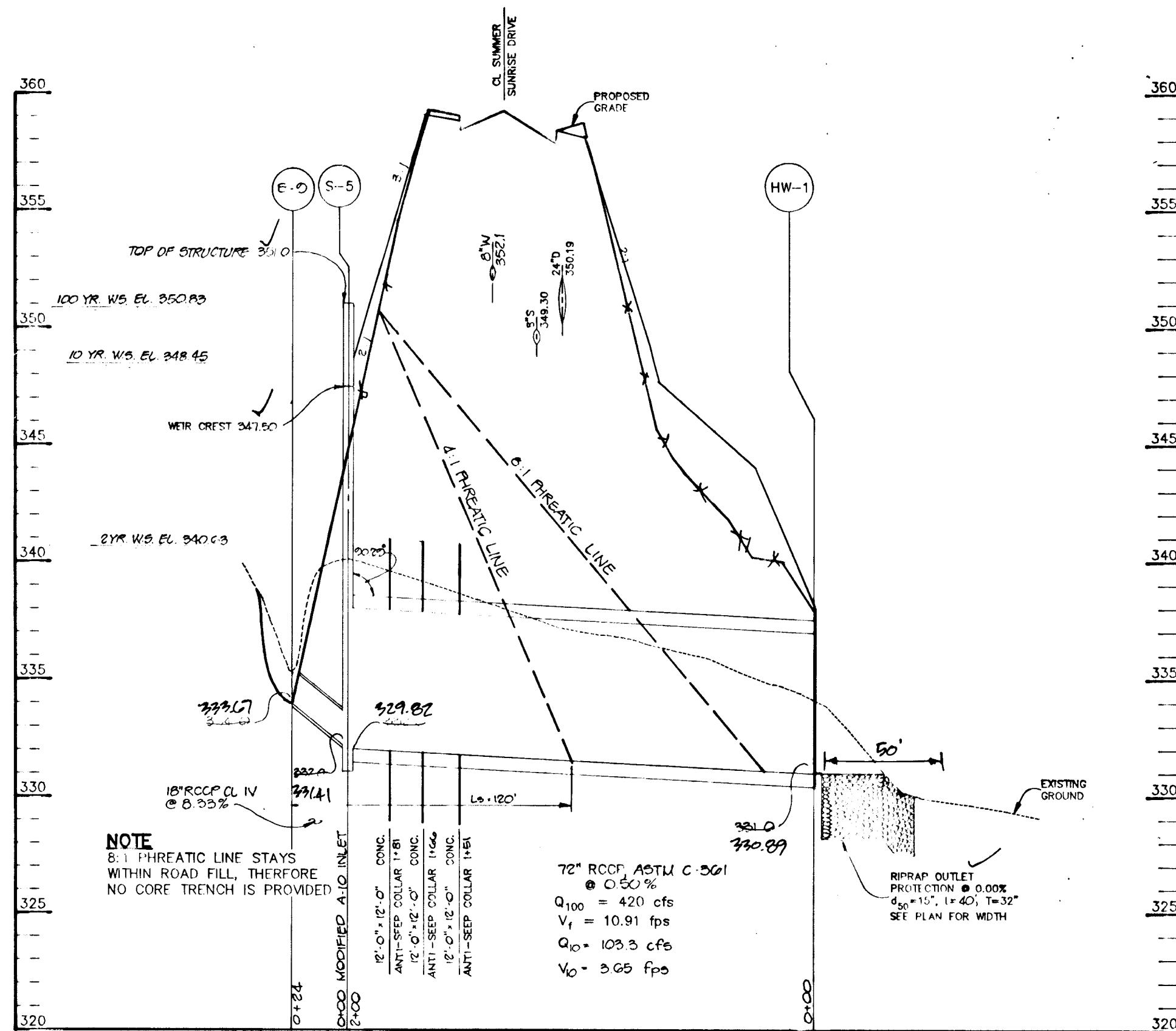
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12-21-92
DATE

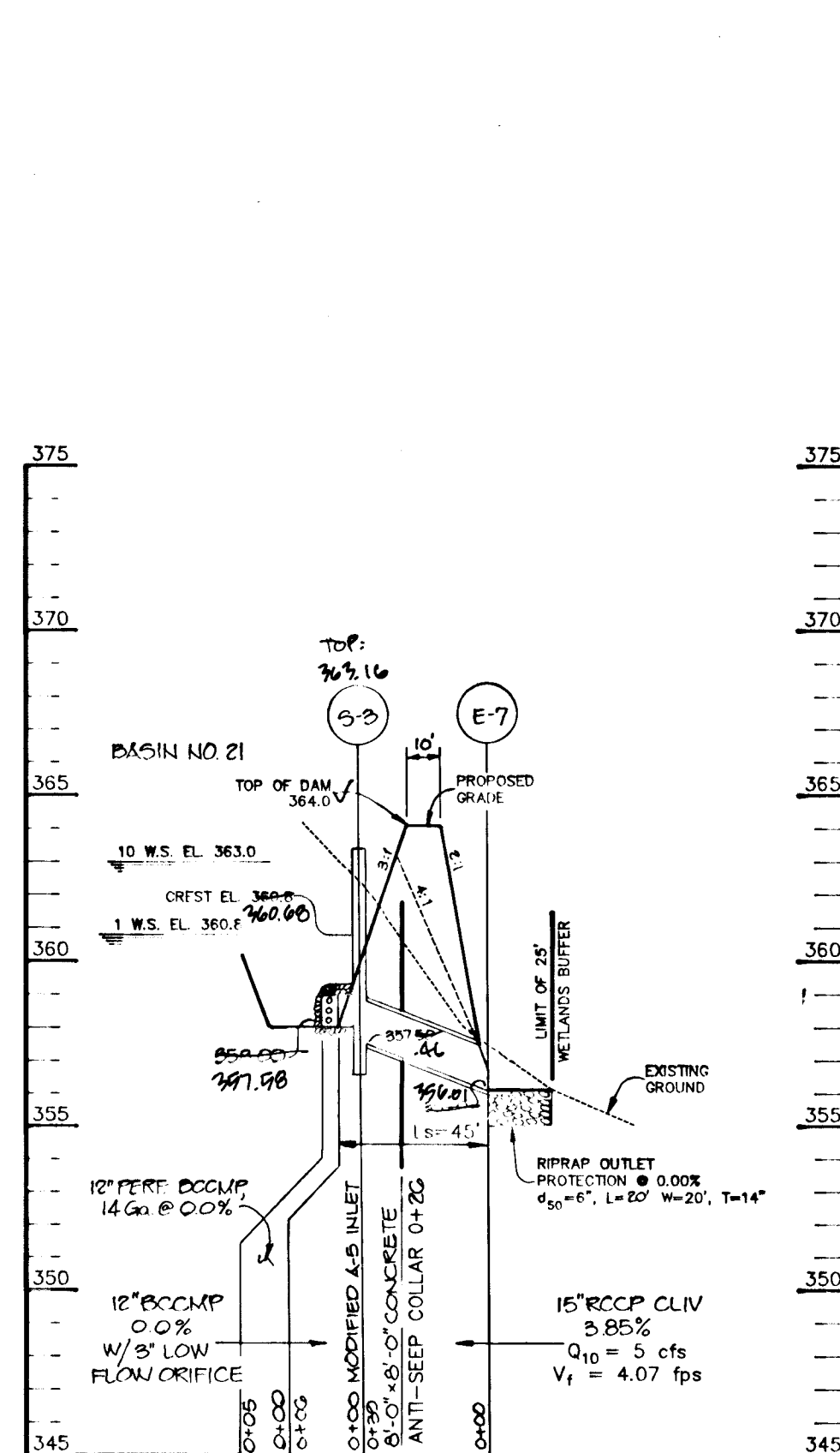
DESIGNED BY: WCW
DRAWN BY: CAD
PROJECT NO: 80804
DATE: DECEMBER 21, 1992
SCALE: AS SHOWN
DRAWING NO. 18 OF 21

ARTHUR E. MUEGGE, P.E. #10883

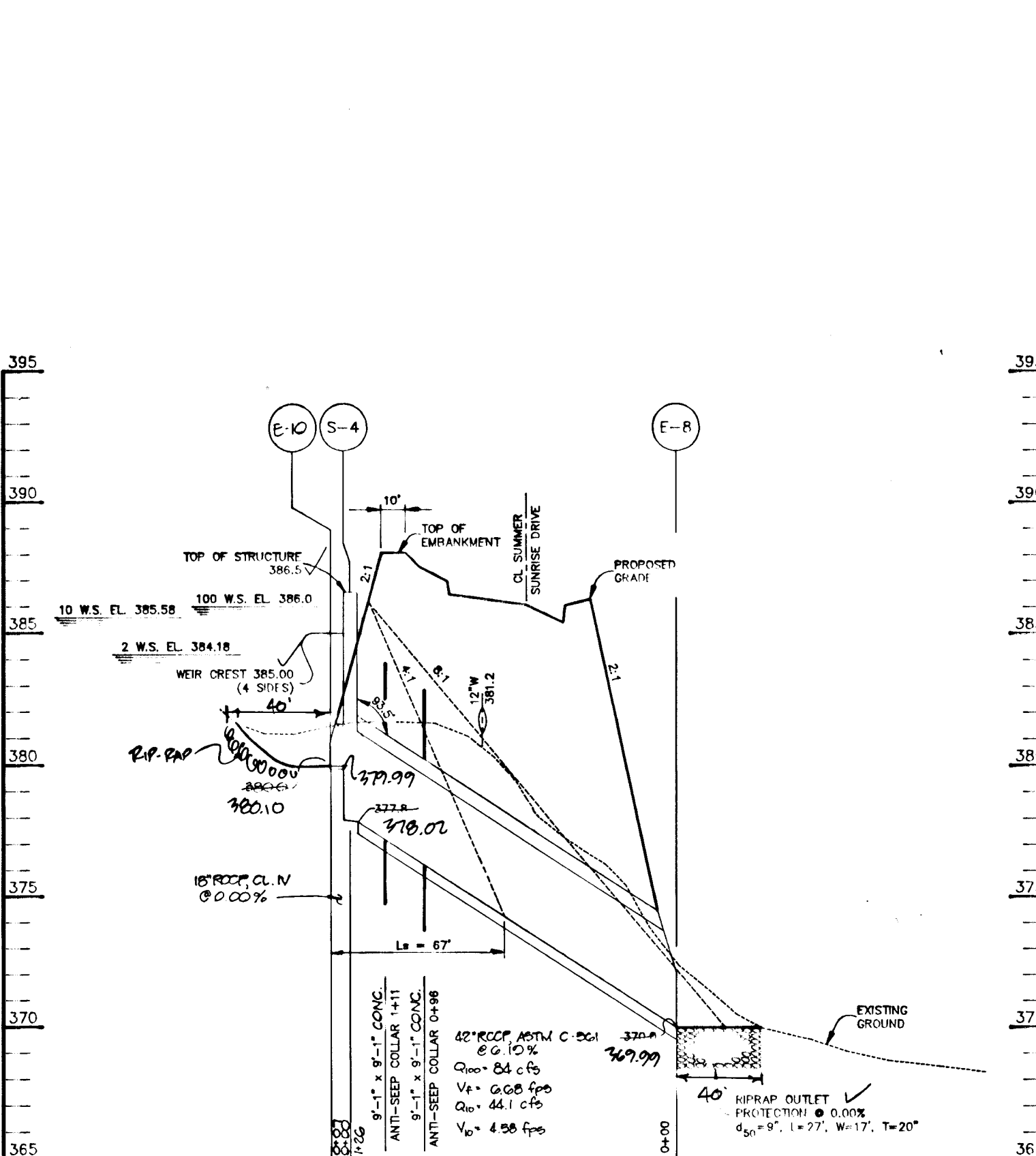
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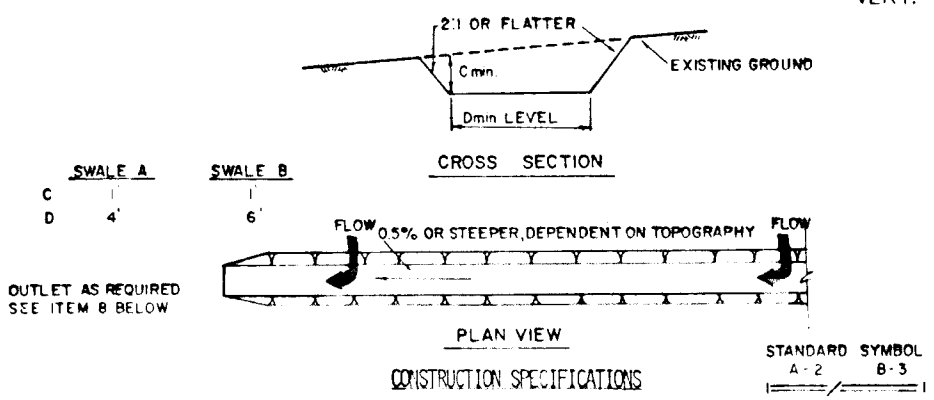
PRINCIPAL SPILLWAY PROFILE - S.W.M.F. #3



PRINCIPAL SPILLWAY PROFILE - W.Q. FACILITY #21

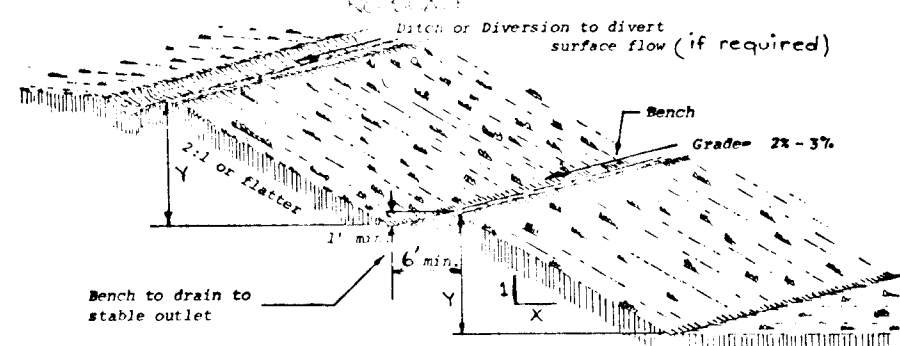


PRINCIPAL SPILLWAY PROFILE - S.W.M.F. #13



- All temporary shales shall have uninterrupted positive grade to an outlet.
 - Diverted runoff from a disturbed area shall be conveyed to a sediment trapping device.
 - Diverted runoff from an undisturbed area shall outlet directly into an undisturbed stabilized area at non-erosive velocity.
 - All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the shale.
 - The shale shall be excavated or shaped to line, grade, and cross section as required to meet the criteria specified herein and be free of sharp projections or other irregularities which will impede normal flow.
 - Fills shall be compacted by earth moving equipment.
 - All earth removal and not needed on construction shall be placed so that it will not interfere with the functioning of the shale.
 - Stabilization shall be as per the chart below:
- | TYPE OF CHANNEL | CHANNEL SIZE | A (5' AC OR LESS) | B (5' AC - 10' AC) |
|-----------------|--------------|----------------------------|--|
| 1 | 0.5-3.0' | SEED AND STRAW MULCH | SEED AND STRAW MULCH |
| 2 | 3.1-5.0' | SEED AND STRAW MULCH | SEED USING ATE OR CELLULOSE |
| 3 | 5.1-8.0' | SEED WITH ATE OR EXCEL SOD | LINED RIP-RAP 18" REINFORCED CONCRETE EQUIVALENT |
| 4 | 8.1-20' | LINED 18" RIP-RAP | ENGINEERED DESIGN |

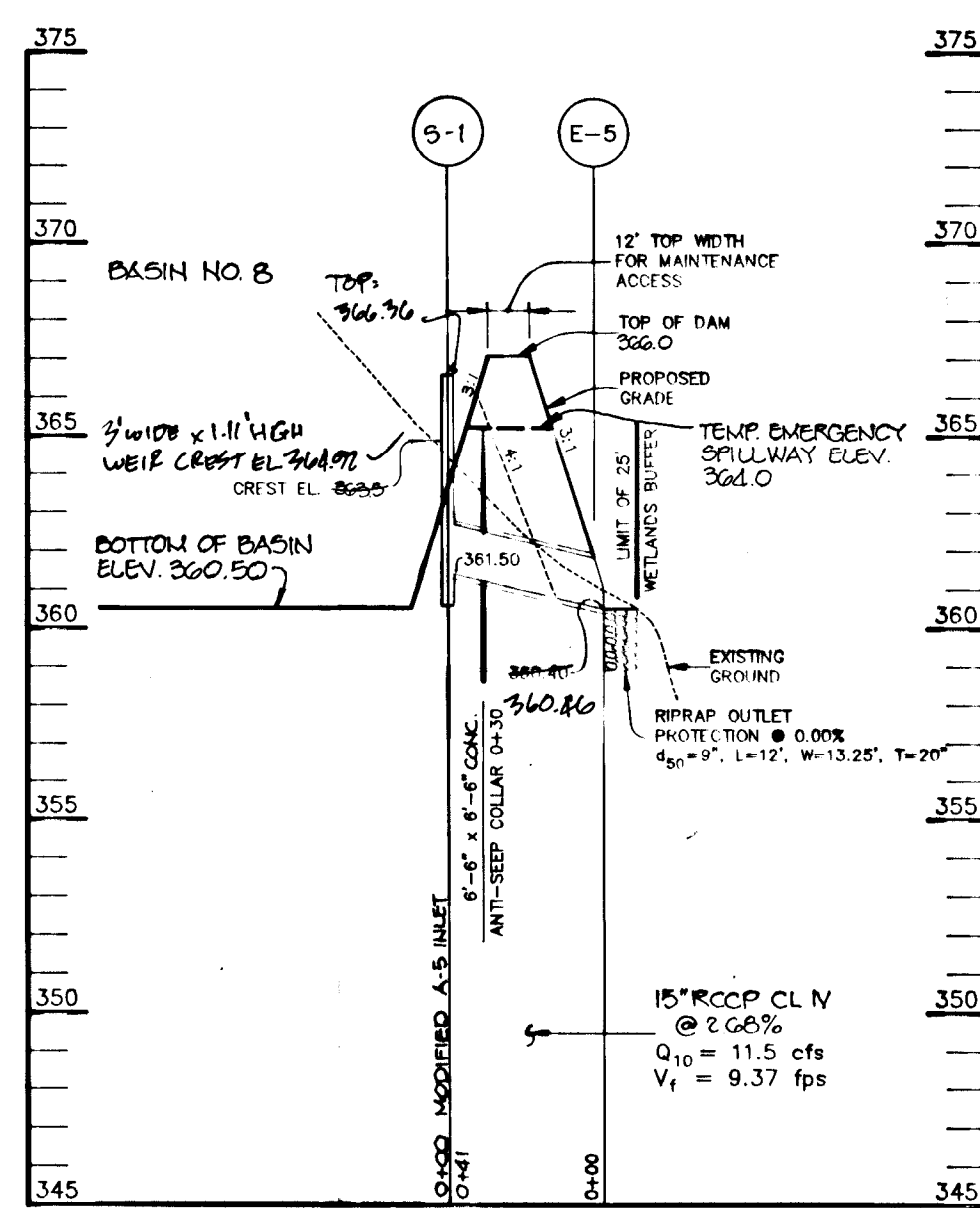
TEMPORARY SWALE



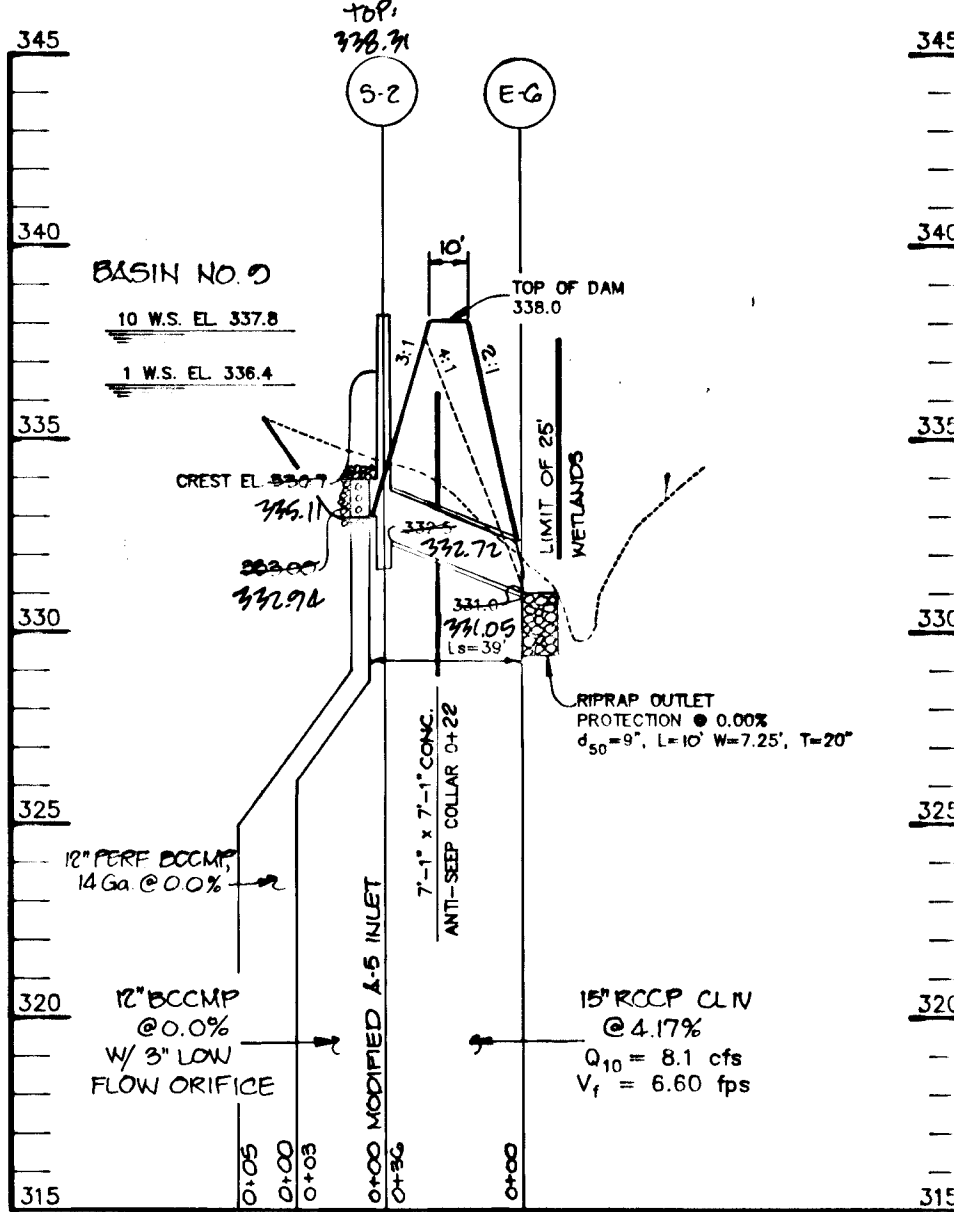
X	Y (ft)
2	20'
3	30'
4	40'

- All graded or disturbed areas including slopes shall be protected during clearing and construction in accordance with the approved sediment control plan until they are permanently stabilized.
- All sediment control practices and measures shall be constructed, applied and maintained in accordance with the approved sediment control plan and the Standards and Specifications for Soil Erosion and Sediment Control in Developing Areas.
- Topsoil required for the reestablishment of vegetation shall be accepted in amount necessary to complete the grading of all exposed areas.
- Areas to be filled shall be cleared, grubbed and stripped of topsoil to remove trees, vegetation, stumps or other objectionable materials.
- Areas which are to be topsoiled shall be stratified to a minimum depth of three inches prior to placement of topsoil.
- All fills shall be compacted as required to reduce erosion, slippage, settlement, subsidence or other related problems. Fill intended to support buildings, structures and concrete, etc., shall be compacted in accordance with local requirements or codes.
- All fills to be placed and compacted in layers not to exceed 8 inches in thickness.
- Except for approved infill, fill material shall be free of boulders, rubbish, rocks, logs, stumps, building debris and other objectionable materials that would interfere with or prevent construction of structures (fills).
- Frozen materials or soft, sticky or highly compressible materials shall not be incorporated into fills.
- Fills shall not be placed on a frozen foundation.
- All facilities shall be kept free of sediments during all phases of development.
- Berms or siltways encountered during construction shall be handled in accordance with the Standards and Specifications for Sedimentation or other approved methods.
- All graded areas shall be permanently stabilized immediately following finished grading.
- Stumps, brush, trees and spots areas shall be shown on the plan and shall be subject to the provisions of this Standard and Specifications.

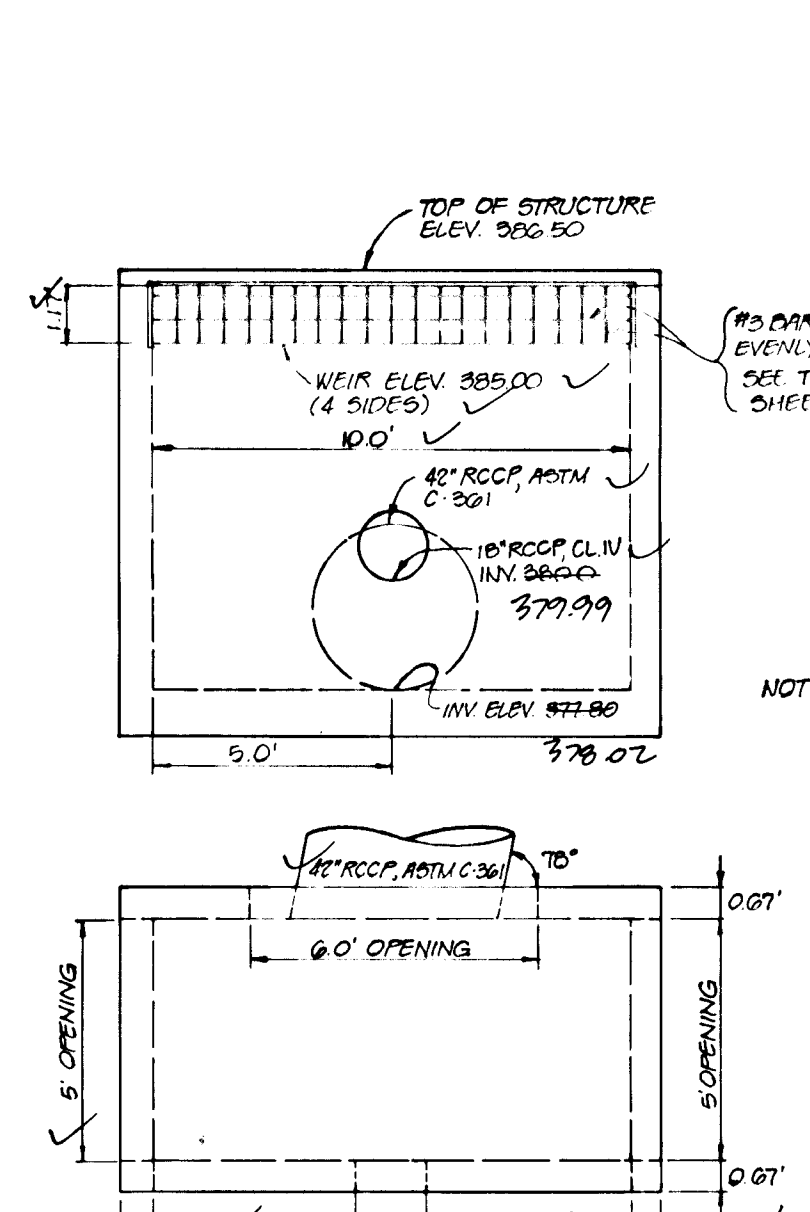
SLOPE DETAIL WITH BENCH



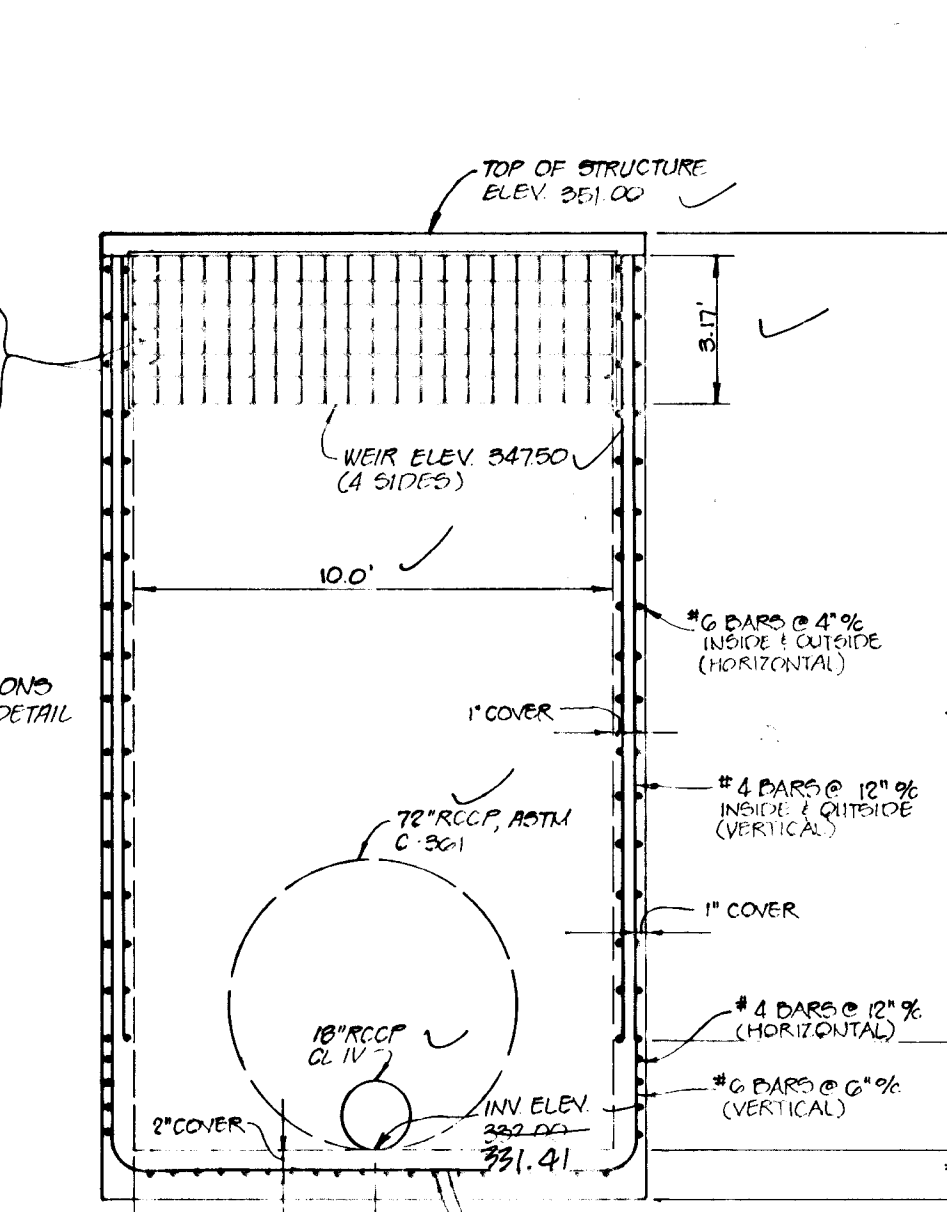
PRINCIPAL SPILLWAY PROFILE - SEDIMENT BASIN #8



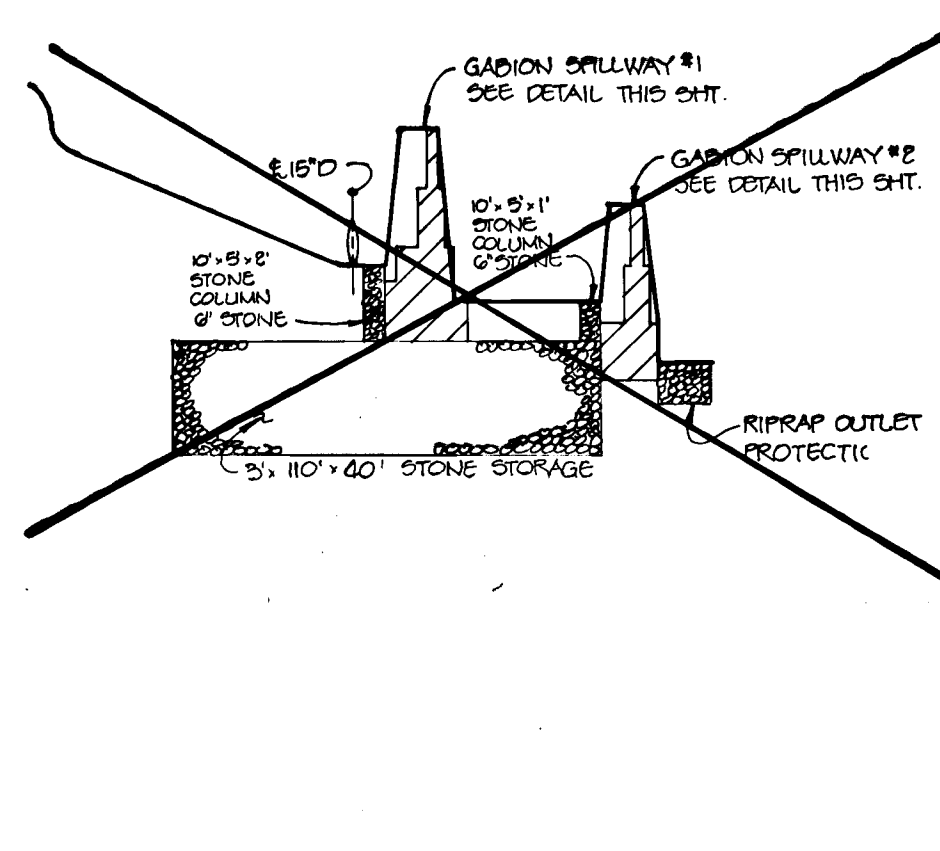
PRINCIPAL SPILLWAY PROFILE - W.Q. FACILITY #9



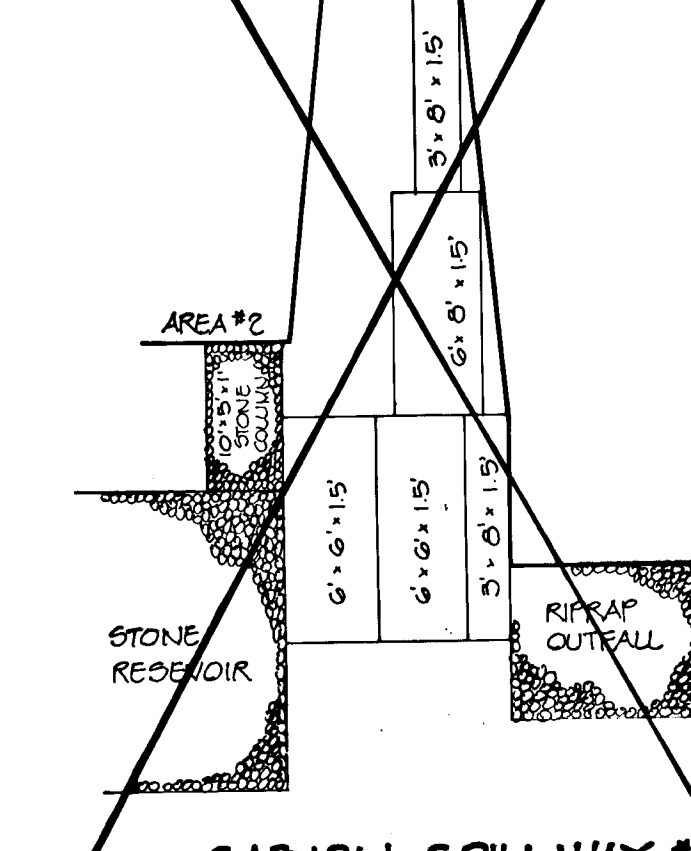
DETAIL OF STRUCTURE S-4



DETAIL OF STRUCTURE S-5



GABION SPILLWAY #1



GABION SPILLWAY #2

NOTE: This sheet supercedes the previously approved plan (Dwg. No. 20 of 21) under F-93-18.

BY THE DEVELOPER:

I/WE 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 THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE FEEDBACK CALLS BY TELEPHONE BY THE HOWARD SOIL CONSERVATION DISTRICT.

Gregory R. Han 12/21/92

BY THE ENGINEER:

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

William E. Muegg 12-21-92
ENGINEER

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

James M. Helms/JMH 2/23/93

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

Robert W. Ziehm/JRM 2/23/93

SHANNENBERGER & LANE
8726 TOWN & COUNTRY BLVD.
SUITE 104
BELLICOTT CITY, MARYLAND 21038

Robert W. Ziehm 3/12/93
CORPORATE REPRESENTATIVE AND
LICENSED PROFESSIONAL ENGINEER

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

William E. Muegg 3/12/93
ENGINEER

William E. Muegg 3/3/93
ENGINEER

William E. Muegg 3-1-93
ENGINEER

7-27-93 2 REMOVED GABION DETAILS
6-10-93 1 ADDED GABION DETAILS & REV. PROFILE OF BASIN #8

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 2 AREA 1
LOTS 1 THRU 150

AREA TAX MAP E.O. 35 PART OF 7918
PART OF PARCELS 70 & 240
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE SWM PROFILES AND DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
A Land Planning, Engineering and Consulting Firm
8818 Centre Park Drive, Suite 200 • Columbia, Md 21045
410-997-8900 FAX: 410-997-9282

12-21-92
DESIGNED BY: GJK
DRAWN BY: CAD
PROJECT NO: B0804
DATE: DECEMBER 21, 1992
SCALE: AS SHOWN
DRAWING NO. 00 OF 01

F-93-18 AS-BID Replacement sheet

1487

