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ROADS, STORM DRAINS & SWM PLANS

EMERSON

SECTION ONE AREA ONE

LOTS 1 - 39 & PARCEL A

6th ELECTION DISTRICT

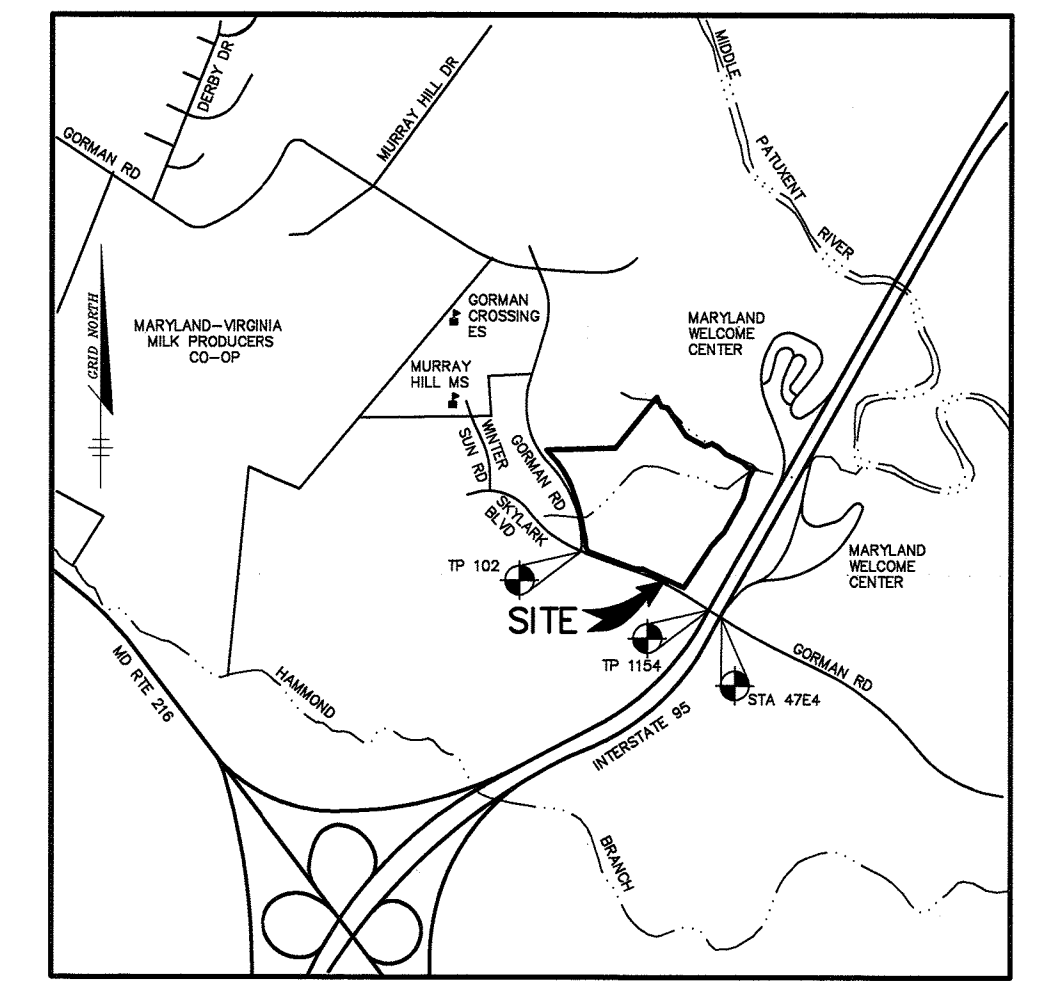
HOWARD COUNTY, MARYLAND

BENCHMARKS

TRAVERSE POINT 102
ELEVATION 346.19
N 536,499.165
E 1,353,974.017
LOCATED NEAR THE
INTERSECTION OF GORMAN
ROAD AND SKYLARK BLVD.

TRAVERSE POINT 1154
ELEVATION 347.45
N 536,018.069
E 1,355,129.333
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

CONTROL STATION 47E4
ELEVATION 339.00
N 535,846.16
E 1,355,431.23
LOCATED NEAR THE
I-95 BRIDGE ALONG
GORMAN ROAD

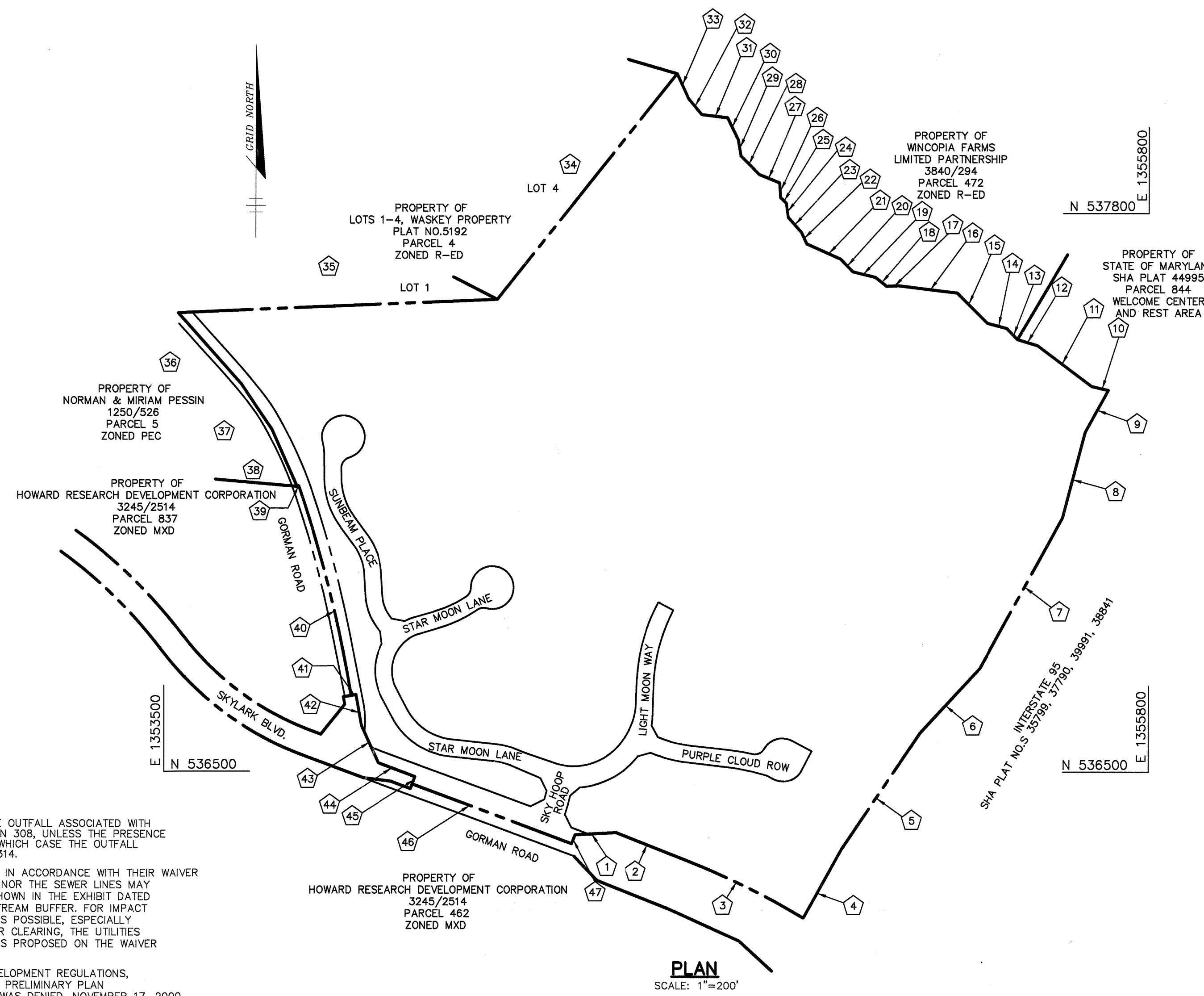


VICINITY MAP
SCALE: 1"=2000'

GENERAL NOTES

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOL. IV "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" PLUS MSHA STANDARDS AND SPECIFICATIONS, IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION 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 BEING DONE.
- 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.
- STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SHALL BE IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS, (JANUARY 1998)". A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY MAPS WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY AIR SURVEY CORP. FLOWN IN APRIL 1998.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 47 E4 ALONG WITH 2 TRAVERSE POINTS WERE USED FOR THIS PROJECT.
- WATER IS PUBLIC. CONTRACT NO. 34-3832-D
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT CONTRACT NO. 34-3832-D
- STORMWATER MANAGEMENT FOR THIS DEVELOPMENT INCLUDING FUTURE DEVELOPMENT OF PARCEL A IS PROVIDED IN ACCORDANCE WITH THE 2000 MDE STORMWATER MANAGEMENT MANUAL. PORTIONS OF OPEN SPACE LOTS 35, 36 & 39 ARE BEING USED AS NATURAL AREA CONSERVATION CREDIT AREAS. A CENTRAL PRIVATELY MAINTAINED STORMWATER WET POND IS BEING USED TO PROVIDE THE WATER QUALITY AND CHANNEL PROTECTION VOLUMES FOR THIS DEVELOPMENT.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY DAFT MCCUNE & WALKER, INC.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY WELLS & ASSOCIATES DATED FEBRUARY 2000.
- THE NOISE STUDY FOR THIS PROJECT WAS PREPARED BY CENTURY ENGINEERING DATED MARCH 1999.
- THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY DAFT, MCCUNE & WALKER, INC. JULY 2000.
- SUBJECT PROPERTY ZONED R-ED PER 10-18-93 COMPREHENSIVE ZONING PLAN. DATED JUNE 1999.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S: S-00-12, WP-00-87, WP-01-39, WP-01-99, WP-02-15
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- 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.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- 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, AMENDMENTS.
- PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL VOL. III. ALL 40' AND 50' RIGHT OF WAYS 20 TO 25 M.P.H.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
- ALL STREET CURB RETURNS SHALL HAVE 25' RADI UNLESS OTHERWISE NOTED.
- ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
- STREET TREES (122) LOCATION, TYPE AND NUMBER OF TREES SHOWN ON THIS PLAN ARE TENTATIVE AND ARE USED FOR BOND PURPOSES ONLY. THE FINAL LOCATION AND VARIETY OF LOCATION AND VARIETY OF TREES MAY VARY TO ACCOMMODATE FIELD CONDITIONS INCLUDING 20' CLEARANCE OF ANY STREET LIGHT AND SHALL BE IN ACCORDANCE WITH THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. BOND RELEASE IS CONTINGENT UPON SECTION 16.124 OF THE HOWARD COUNTY SUBDIVISION REGULATIONS, AS APPROVED BY THE DEPARTMENT OF PLANNING AND ZONING.
- WP-00-87 - A WAIVER OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.116(a)(2)(ii), WHICH PROHIBITED GRADING, REMOVAL OF VEGETATION WITHIN 75 FEET OF A STREAM, DATED JULY 21, 2000. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE GRADING AND CLEARING ASSOCIATED WITH IMPACT AREA #1, FOR SUNBEAM PLACE TO CROSS THE STREAM, SHALL BE MINIMIZED AND COMPLY WITH THE FINAL ROAD PLANS AS REVIEWED AND APPROVED BY THE SRC. AS PROPOSED BY THE DEVELOPER WITH THIS WAIVER PETITION, THE UTILITY CROSSING OF THE STREAM MUST BE COINCIDENTAL WITH THE ROAD CROSSING. AS POSSIBLE, THE DEVELOPER SHALL COMPLY WITH COMMENT #1 OF THE JUNE 1, 2000, REVIEW COMMENTS FROM THE SOIL CONSERVATION DISTRICT (SCD) REGARDING ROAD DESIGN AND LOCATION, AND SHALL CONFIGURE THE ROAD SO THAT ANY REQUIRED CALMING FEATURE ALIGNS WITH THE STREAM CROSSING, AND THEREBY LESSENS THE ASSOCIATED GRADING/CLEARING.

- AS INDICATED IN THE COMMENTS FROM THE SCD, THE OUTFALL ASSOCIATED WITH IMPACT AREA #2 IS TO OUTFALL AT GRADE ELEVATION 308, UNLESS THE PRESENCE OF ROCK IS FOUND DURING FIELD INVESTIGATION, IN WHICH CASE THE OUTFALL MAY BE SHIFTED TO OUTFALL AT GRADE ELEVATION 314.
- THE L.O.D. FOR IMPACT AREAS #3 AND #4 SHALL BE IN ACCORDANCE WITH THEIR WAIVER EXHIBIT DATED MARCH 17, 2000. NEITHER THE WATER NOR THE SEWER LINES MAY BE EXTENDED BEHIND PROPOSED LOTS 34-40 (AS SHOWN IN THE EXHIBIT DATED MAY 8, 2000), DUE TO ADDITIONAL IMPACT TO THE STREAM BUFFER. FOR IMPACT AREAS #3 AND #4, LIMIT TREE CLEARING AS MUCH AS POSSIBLE, ESPECIALLY SPECIMEN TREES, TO FURTHER DECREASE GRADING OR CLEARING, THE UTILITIES MUST BE CONSOLIDATED INTO A SINGLE EASEMENT, AS PROPOSED ON THE WAIVER EXHIBIT, REVISED BY WP-01-99.
- WP-01-99 - A WAIVER OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.115.(2) TO ALLOW GRADING AND CLEARING IN A FLOODPLAIN AREA, AND AFTER A SKETCH PLAN HAD BEEN SIGNED. THE WAIVER WAS DENIED, NOVEMBER 17, 2000.
- THERE ARE 55 TENTATIVE HOUSING UNIT ALLOCATIONS RESERVED FOR THE SFA UNITS ON BULK PARCEL A, AS SHOWN ON S-00-12, AND IN ACCORDANCE WITH SECTION 16.110b.2(ii) OF THE SUBDIVISION REGULATIONS, THE DEADLINE TO SUBMIT A PRELIMINARY PLAN FOR THAT PARCEL WILL BE ESTABLISHED WHEN IT IS RECORDED ON A PLAN.
- THERE ARE NO EXISTING PERMANENT STRUCTURES ON-SITE.
- WP-01-99 - A WAIVER OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.115.(2) TO ALLOW GRADING AND CLEARING IN A FLOODPLAIN AREA, AND SECTION 16.116.g.2(ii) TO ALLOW GRADING AND CLEARING IN A STREAM BUFFER, FOR WORK ASSOCIATED WITH THE INSTALLATION OF THE WATER AND SEWER EXTENSIONS FROM THE ADJOINING SFA REST AREA PROPERTY.
- FOREST CONSERVATION EASEMENT AREAS E, F & G ARE FUTURE POSSIBLE REFORESTATION AREAS THAT CAN BE UTILIZED AT A LATER DATE TO SATISFY OFFSITE REQUIREMENTS.
- WP-02-15 - A WAIVER OF SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, SECTION 16.116.(c)(2)(ii), TO ALLOW GRADING AND CLEARING WITH 75' STREAM BUFFER, AND SECTION 16.115.(c) TO ALLOW WORK IN A FLOODPLAIN AREA IN ORDER TO CONSTRUCT A PEDESTRIAN PATHWAY SYSTEM AS SHOWN ON THE WAIVER EXHIBIT. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
 - THE DISTURBANCE SHALL BE LIMITED TO WORK ASSOCIATED WITH THE CONSTRUCTION OF THE PEDESTRIAN PATHWAY ONLY.
 - THE ROAD CONSTRUCTION DRAWINGS FOR F-01-140 WILL HAVE TO BE REPLINED TO REFLECT THE LOCATION OF THE PATHWAY AND ALL ASSOCIATED GRADING AND CLEARING.



BOUNDARY CHART

1	S 86°49'15" W	95.82'
2	N 68°30'18" W	177.86'
3	R = 1969.86' L = 302.16'	
4	S 29°01'05" W	325.62'
5	S 34°06'42" W	325.62'
6	S 42°51'42" W	206.16'
7	S 28°49'32" W	400.00'
8	S 14°47'22" W	206.16'
9	S 28°49'32" W	111.29'
10	S 76°50'06" E	39.79'
11	S 53°11'44" E	158.71'
12	S 73°06'29" E	48.46'
13	S 43°54'39" E	35.46'
14	S 74°53'28" E	48.51'
15	S 44°49'31" E	98.51'
16	S 82°58'48" E	137.82'
17	N 88°04'21" E	28.92'
18	S 51°06'14" E	32.58'
19	S 76°15'13" E	55.01'
20	S 43°55'10" E	40.88'
21	S 65°52'50" E	86.51'
22	S 25°16'19" E	29.59'
23	S 41°30'55" E	46.49'
24	S 07°33'07" E	33.12'
25	S 46°49'26" E	18.70'
26	S 03°01'44" E	33.78'
27	S 68°17'36" E	50.72'
28	S 44°47'14" E	61.16'
29	S 09°32'59" E	37.57'
30	S 25°40'03" E	57.56'
31	S 83°15'33" E	61.16'
32	S 39°26'43" E	47.94'
33	S 24°42'01" E	64.18'
34	S 38°36'06" E	672.75'
35	N 87°37'38" E	745.82'
36	S 41°37'56" W	221.00'
37	N 34°03'35" W	129.47'
38	N 23°44'06" W	144.31'
39	S 71°05'08" W	4.28'
40	R = 3003.89' L = 503.76'	
41	S 80°41'39" W	11.60'
42	N 09°55'02" W	72.81'
43	S 24°33'43" W	95.27'
44	S 69°33'43" W	92.00'
45	N 20°26'17" E	18.36'
46	S 69°33'20" E	397.89'
47	S 21°29'42" W	22.17'

PLAN
SCALE: 1"=200'

THE PATHWAY SHALL BE LOCATED AS SHOWN ON THE WAIVER EXHIBIT (EXHIBIT 1) THE ROAD PLANS SHALL ALSO INCLUDE A FOOTBRIDGE DETAIL.

3. THE PETITIONER SHALL COMPLY WITH THE COMMENTS ISSUED BY THE SOIL CONSERVATION DISTRICT (SCD), DATED 8/29/01.

39. A PLAT OF REVISION (F20-017) HAS BEEN RECORDED TO ESTABLISH A 10' MAINTENANCE ACCESS EASEMENT FOR THE NEW PATHWAY.

AS BUILT CERTIFICATE

DATE	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
<i>Andrew M. Daniels</i> 7-6-01 CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>Chris Harvath</i> 7/10/01 CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>Chris Harvath</i> 7/10/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE

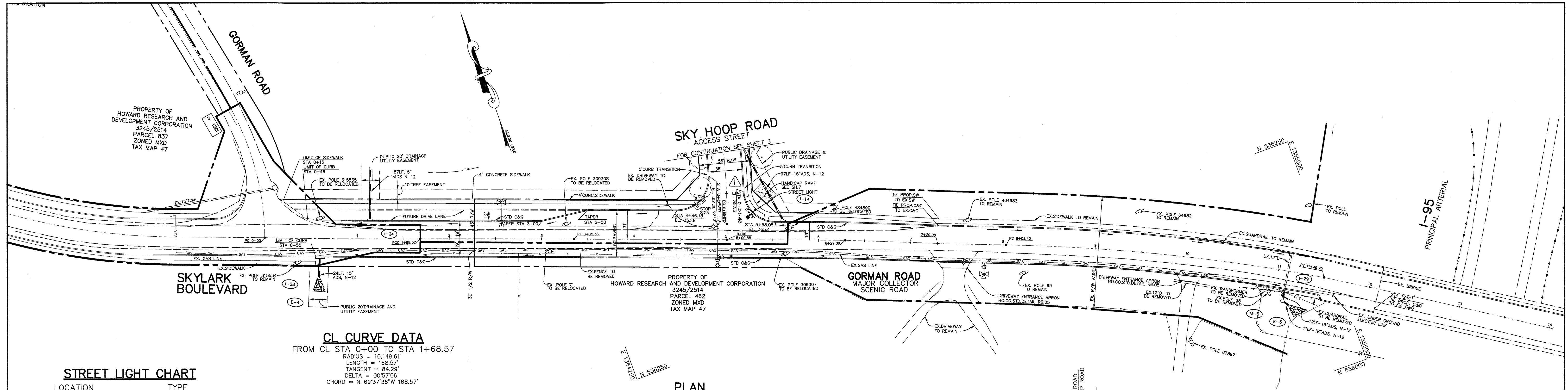
16-20 2 ADDING PATHWAY TO WALDEN WOODS SUBDV. 10.30.01 REV. GENERAL NOTES.

DATE	NO.	REVISION
OWNER / DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE HOUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000		
PROJECT	EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	TAX MAP 47 BLOCK 3.8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	TITLE SHEET	

RIEMER MUEGGE

Patton Harris Rust & Associates, pc
ENGINEERS & SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

DATE	DESIGNED BY:
6.26.01	CJR
DATE	DRAWN BY: DAM
DATE	PROJECT NO. 99212/FINALS RD1.DWG
DATE	DATE: JUNE 19, 2001
DATE	SCALE: AS SHOWN
DATE	DRAWING NO. 1 OF 26



STREET LIGHT CHART

LOCATION	TYPE
31' RIGHT OF STA 0+32 SKY HOOP ROAD ANGLE TO CENTER OF INTERSECTION	250 WATT HPS VAPOR PENDANT (SAG) FIXTURE MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE WITH 12' ARM

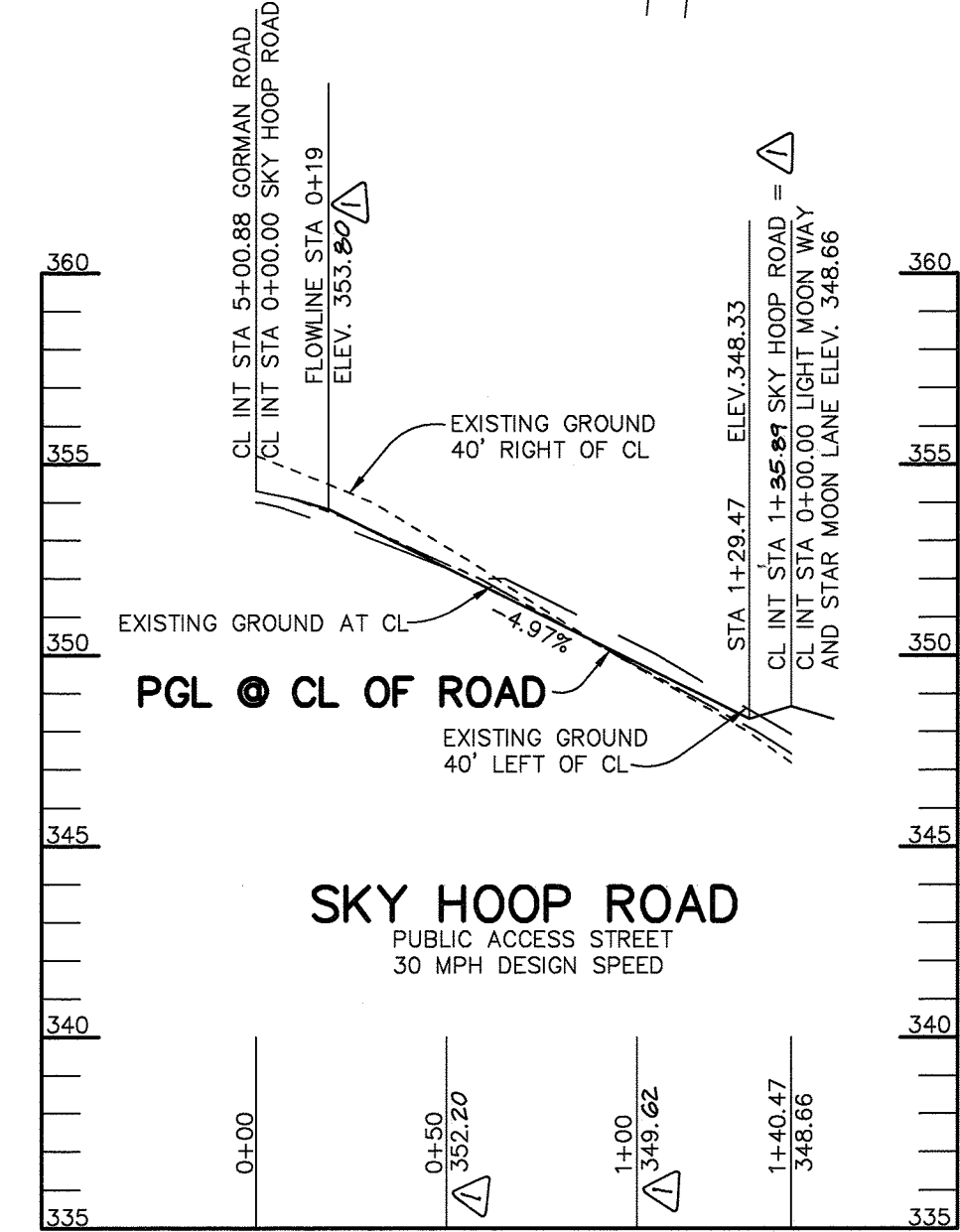
CL CURVE DATA
FROM CL STA 0+00 TO STA 1+68.57
RADIUS = 10,149.61'
LENGTH = 168.57'
TANGENT = 84.29'
DELTA = 00°57'08"
CHORD = N 69°37'36" W 168.57'

CL CURVE DATA
FROM CL STA 1+68 TO STA 3+35.36
RADIUS = 21,190.97'
LENGTH = 166.79'
TANGENT = 83.39'
DELTA = 00°27'03"
CHORD = N 69°52'37" W 166.79'

CL CURVE DATA
FROM CL STA 8+03.42 TO STA 11+49.70
RADIUS = 2086.04'
LENGTH = 348.28'
TANGENT = 173.54'
DELTA = 09°30'40"
CHORD = S 64°08'17" E 348.88'

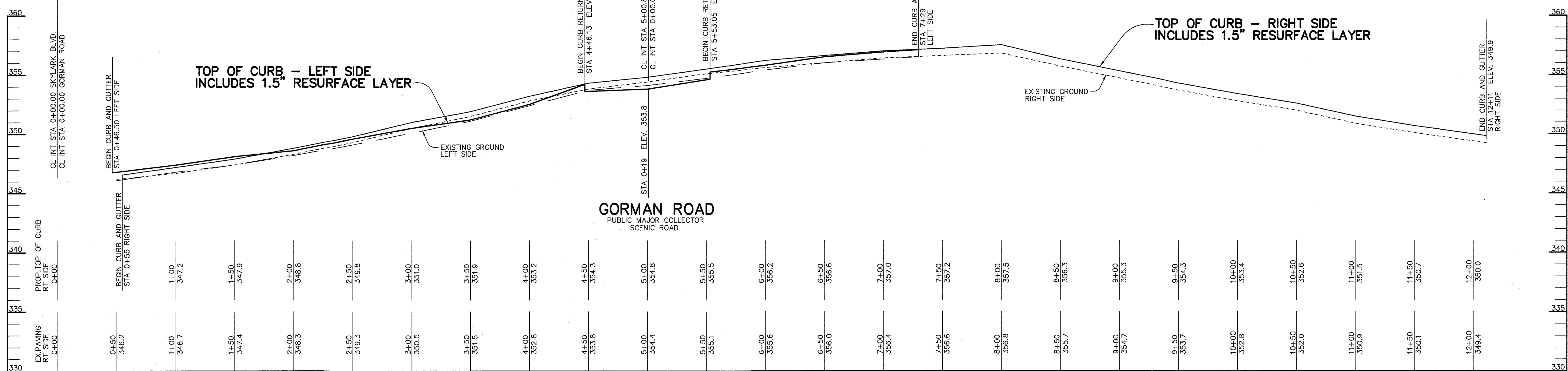
CL CURVE DATA
FROM CL STA 0+16.89 TO STA 1+35.89
RADIUS = 700.00'
LENGTH = 119.00'
TANGENT = 59.64'
DELTA = 09°44'25"
CHORD = N 15°34'28" W 118.86'

PLAN
SCALE: 1" = 50'



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

EXPANING LT SIDE 0+00	PROP. TOP OF CURB LT SIDE 0+00
0+50 346.1	0+50 346.8
1+00 346.8	1+00 347.4
1+50 347.4	1+50 348.1
2+00 346.2	2+00 346.6
2+50 349.1	2+50 349.6
3+00 350.1	3+00 350.9
3+50 351.1	3+50 351.2
4+00 352.4	4+00 352.5
4+50 353.7	4+50 353.7
5+00 354.1	5+00 354.1
5+50 354.7	5+50 354.7
6+00 355.4	6+00 355.8
6+50 356.0	6+50 356.5
7+00 356.3	7+00 356.9



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

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Dwyer 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Chris Hunter 7/12/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Hunter 7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10-30-01 2 ADDING PATHWAY CONNECTION TO WIDEN ROADS
REV. PLAN, CURVE DATA & PROFILE OF SKY HOOP RD.

DATE	NO.	REVISION

OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION ONE AREA ONE
LOTS 1 - 39 & PARCEL A

AREA
TAX MAP 47 BLOCK 3,8 & 9
ZONED: R-ED PARCEL: P/O 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
PLAN AND PROFILE OF GORMAN ROAD AND SKY HOOP ROAD

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

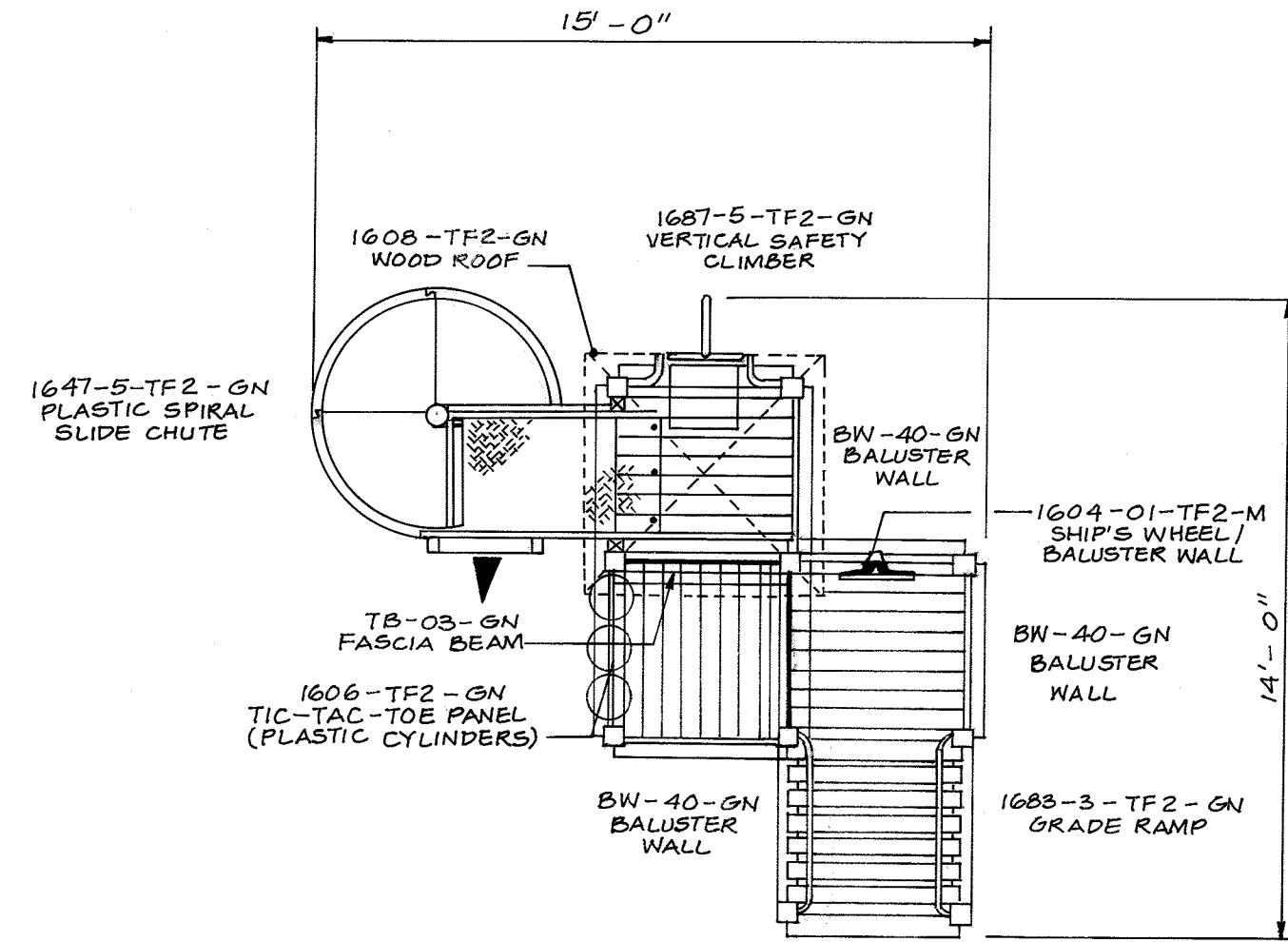
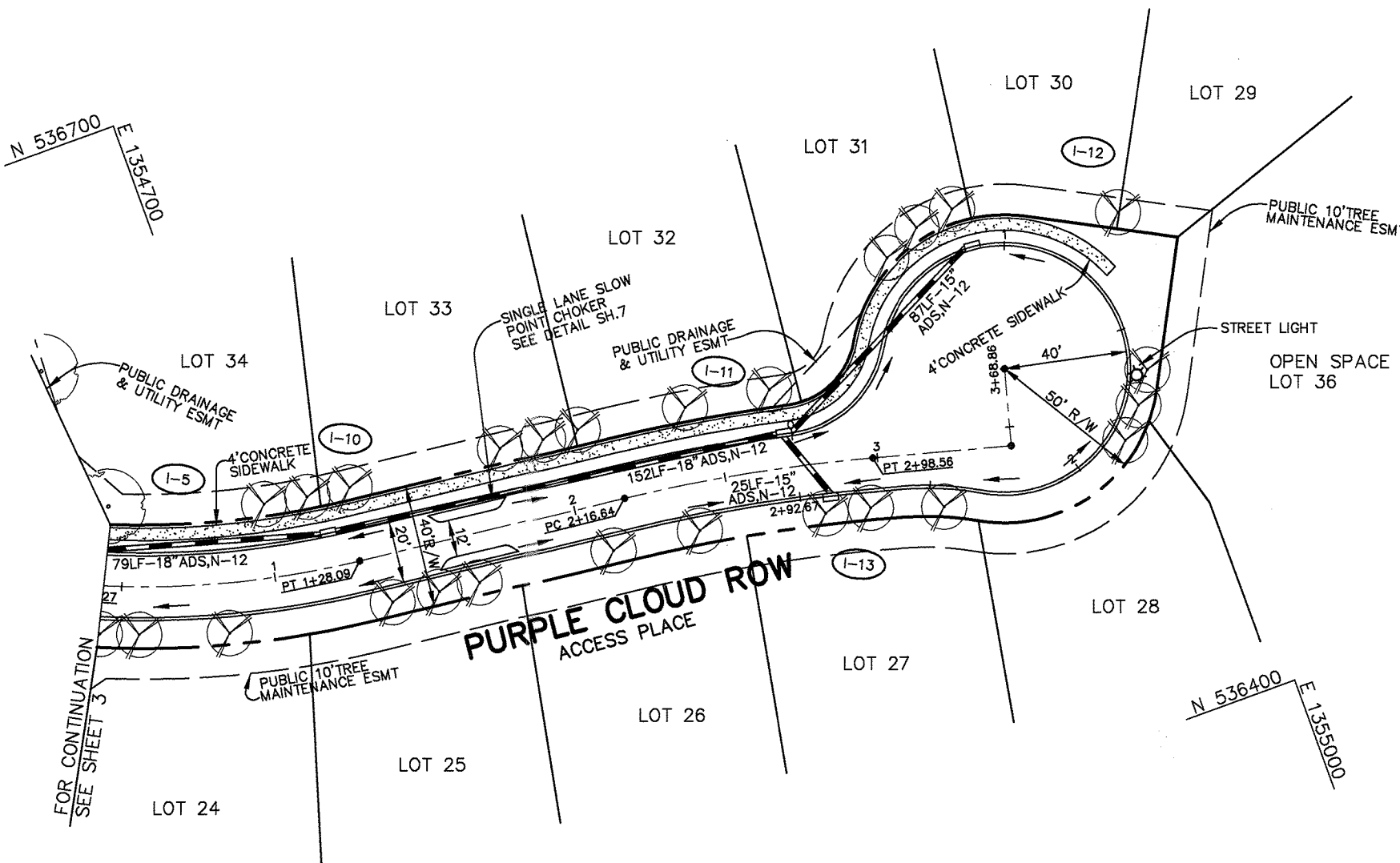
DATE 6-26-01
DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO: 99212/FINALS RD2.DWG
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 2 OF 26

CHRISTOPHER J. REID #10040

P:\project\99212\FINALS\RD2.DWG Fri Jun 22 09:30:42 2001 Riemer Muegge, a division of PHRS&

STREET LIGHT CHART

LOCATION TYPE
 3' LEFT OF LINEAR PROFILE STA 1+65 100 WATT HPS VAPOR COLONIAL
 PURPLE CLOUD ROW POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE
 IN CUL-DE-SAC

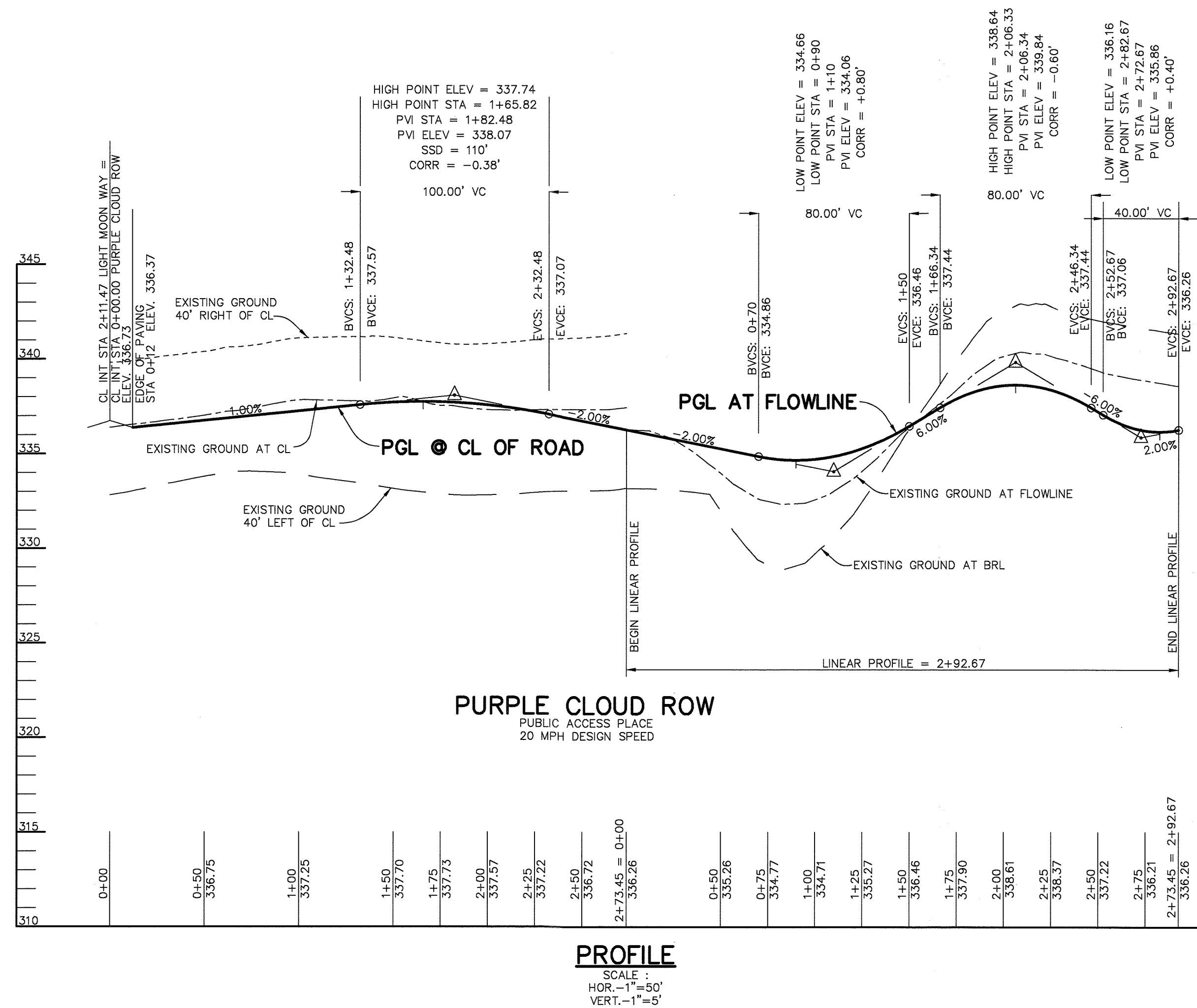


TOT LOT DETAIL
NO SCALE

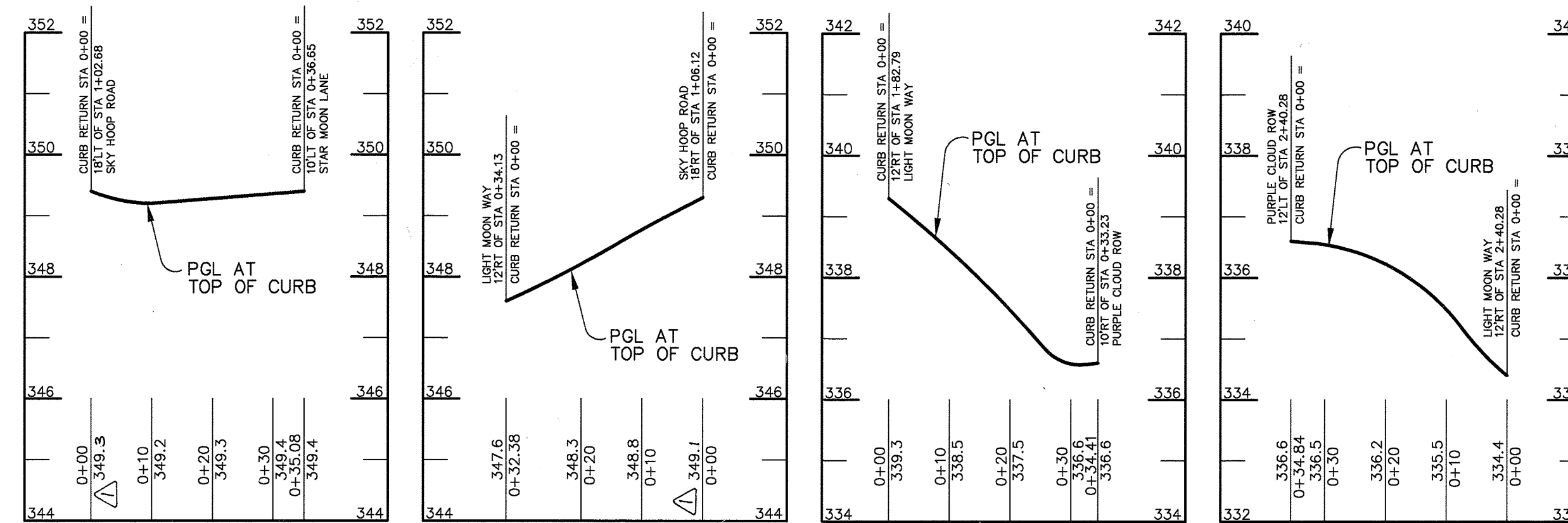
CL CURVE DATA
 FROM CL STA 0+27 TO STA 1+28.09
 RADIUS = 300.00'
 LENGTH = 101.09'
 TANGENT = 51.03'
 DELTA = 19°18'27"
 CHORD = S 73°52'47"E 100.62'

PLAN
 SCALE: 1" = 50'

CL CURVE DATA
 FROM CL STA 2+16.64 TO STA 2+98.56
 RADIUS = 550.00'
 LENGTH = 81.92'
 TANGENT = 41.03'
 DELTA = 08°32'00"
 CHORD = N 79°16'00"W 81.84'



PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=5'

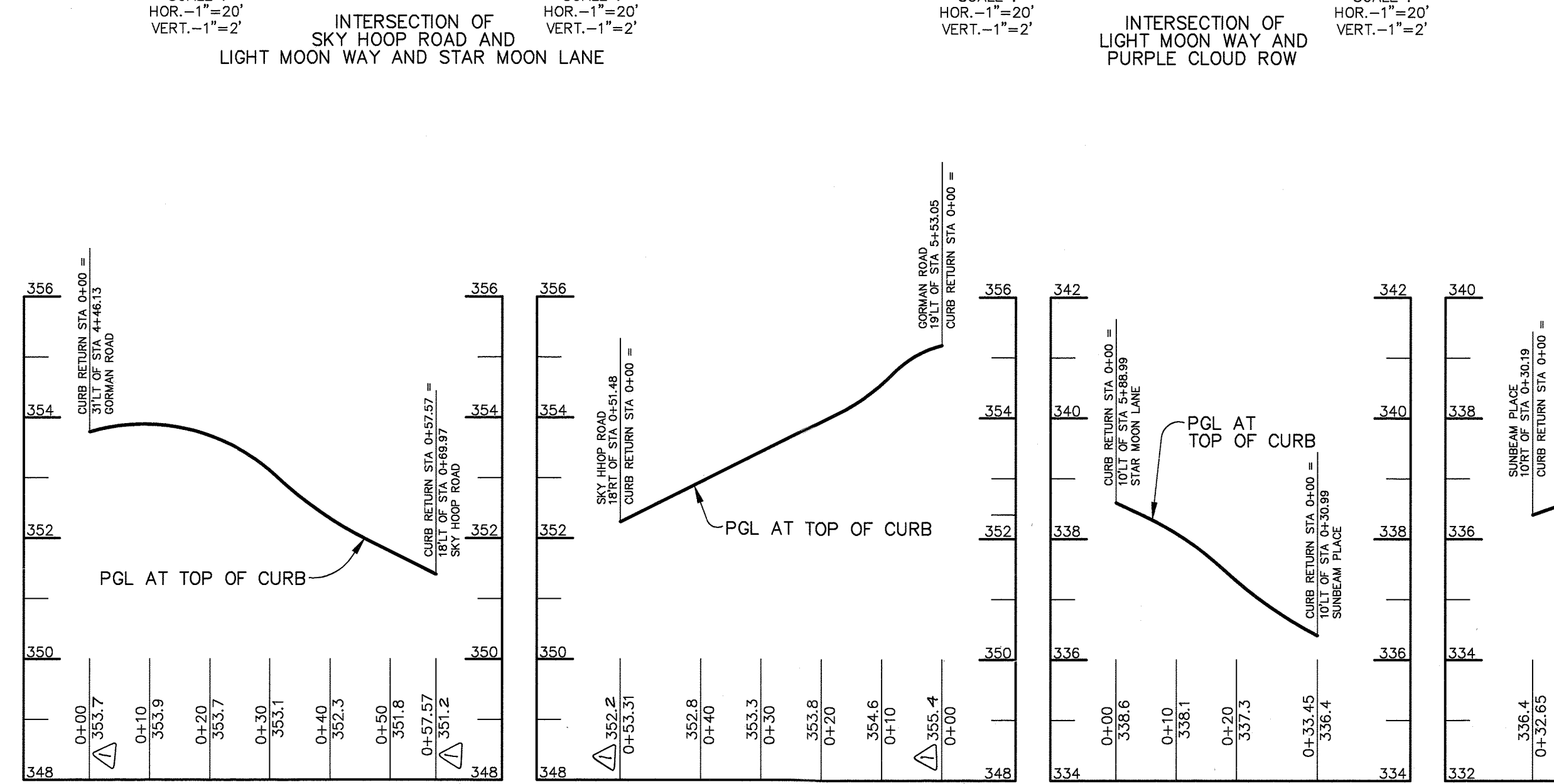


PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'

PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'

PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'

PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'



PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'

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PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'

PROFILE
 SCALE: HOR.-1"=20' VERT.-1"=2'

AS BUILT CERTIFICATE

DATE: 7-6-01

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Richard M. Daniels 7-6-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
David Hanft 7/10/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Christopher J. Reid 7/10/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

7-6-20 2 ADDING PATHWAY CONNECTION TO WALDEN WOODS
 10-30-01 2 REV. PROFILES, ADDED TOT LOT DETAIL

DATE NO. REVISION

OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT EMERSON
 SECTION ONE AREA ONE
 LOTS 1 - 39 & PARCEL A

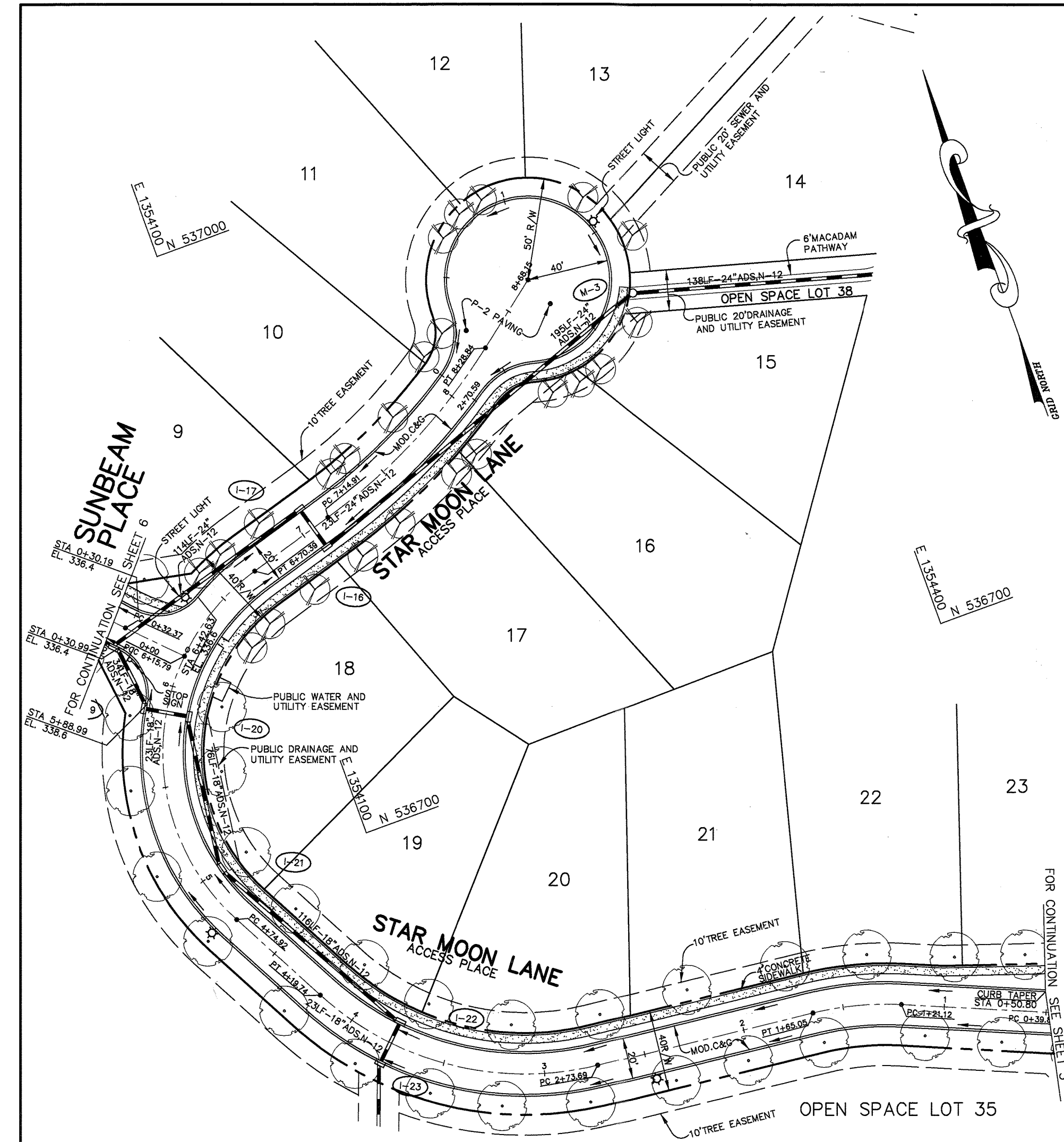
AREA TAX MAP 47 BLOCK 3.8 & 9
 ZONED: R-ED PARCEL: P/O 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE PLAN AND PROFILE OF PURPLE CLOUD ROW AND CURB RETURN PROFILES

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6.26.01 DATE
 DESIGNED BY: CJR
 DRAWN BY: DAM
 PROJECT NO: 99212/FINALS/RD4.DWG
 DATE: JUNE 19, 2001
 SCALE: AS SHOWN
 DRAWING NO. 4 OF 26

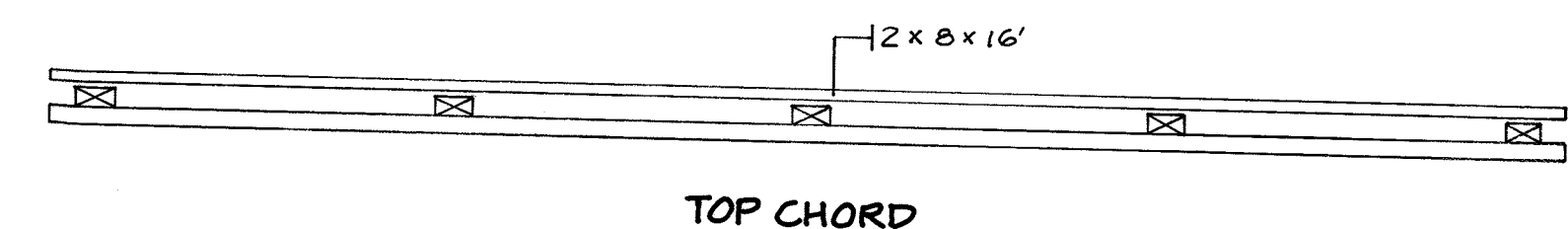
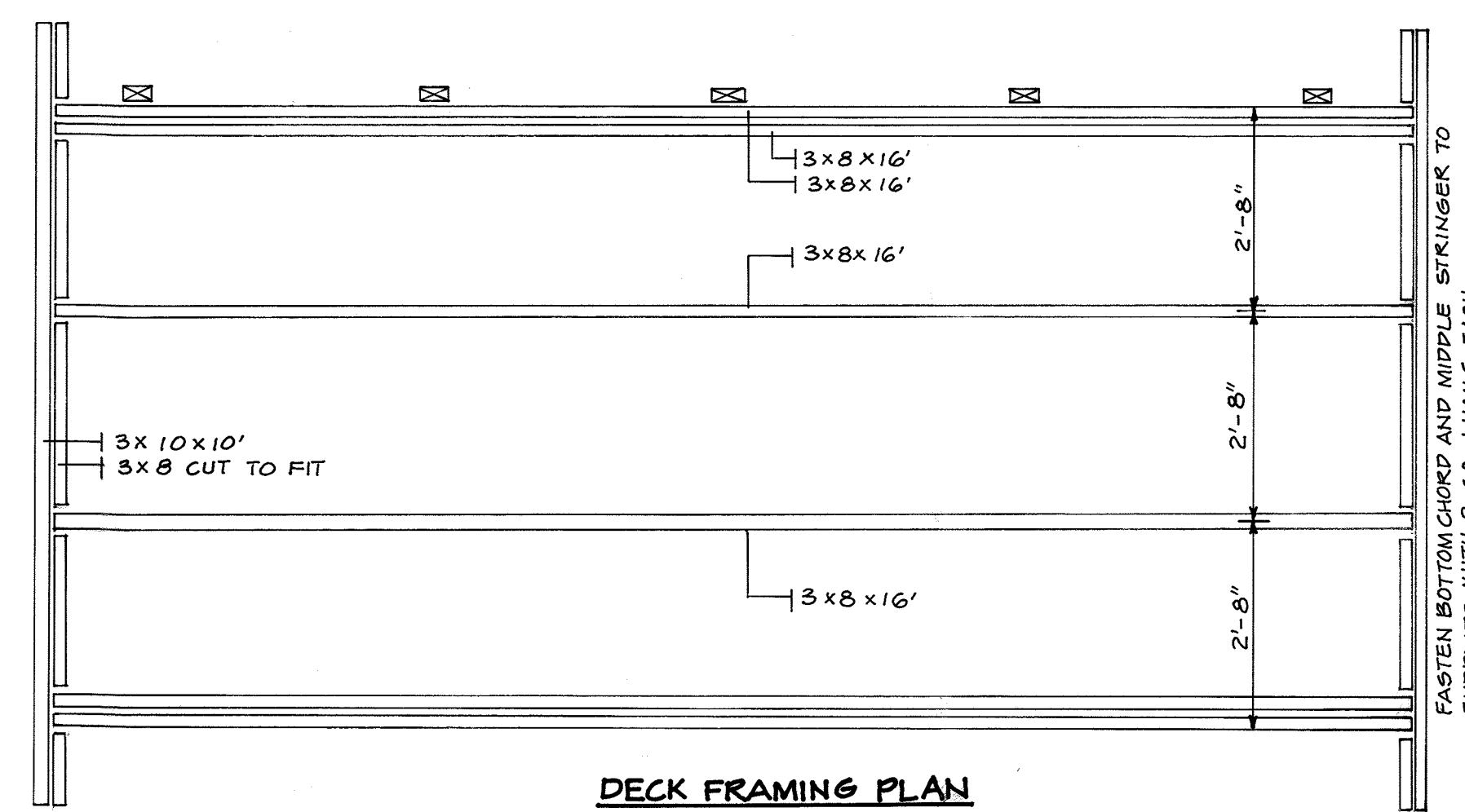
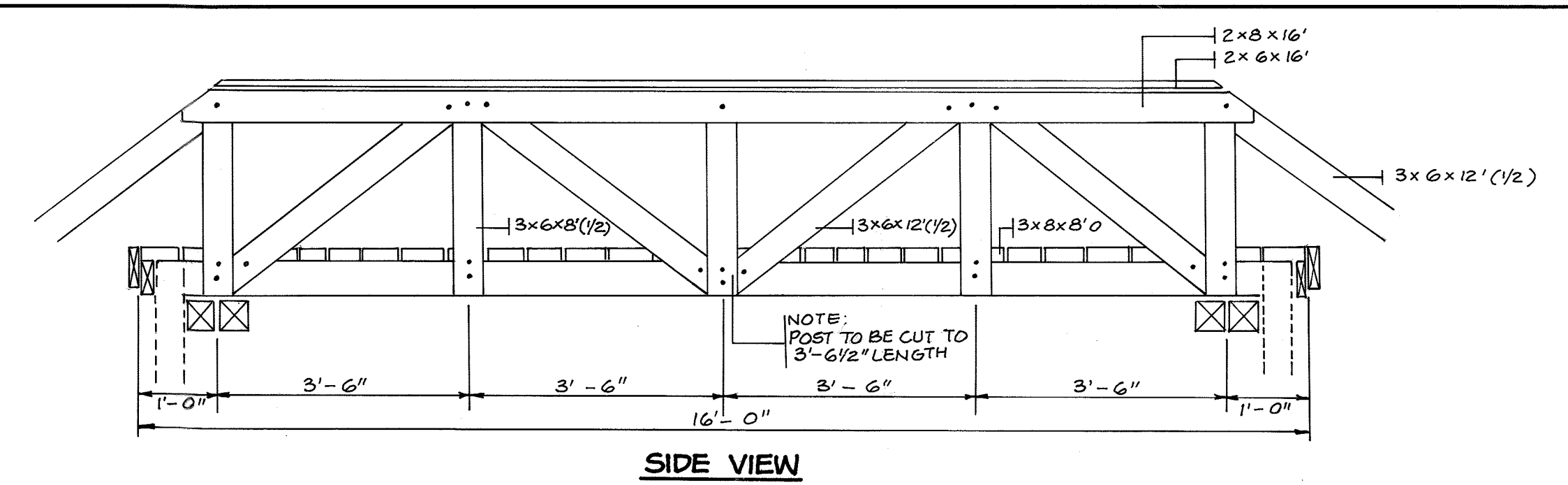
CHRISTOPHER J. REID #19949



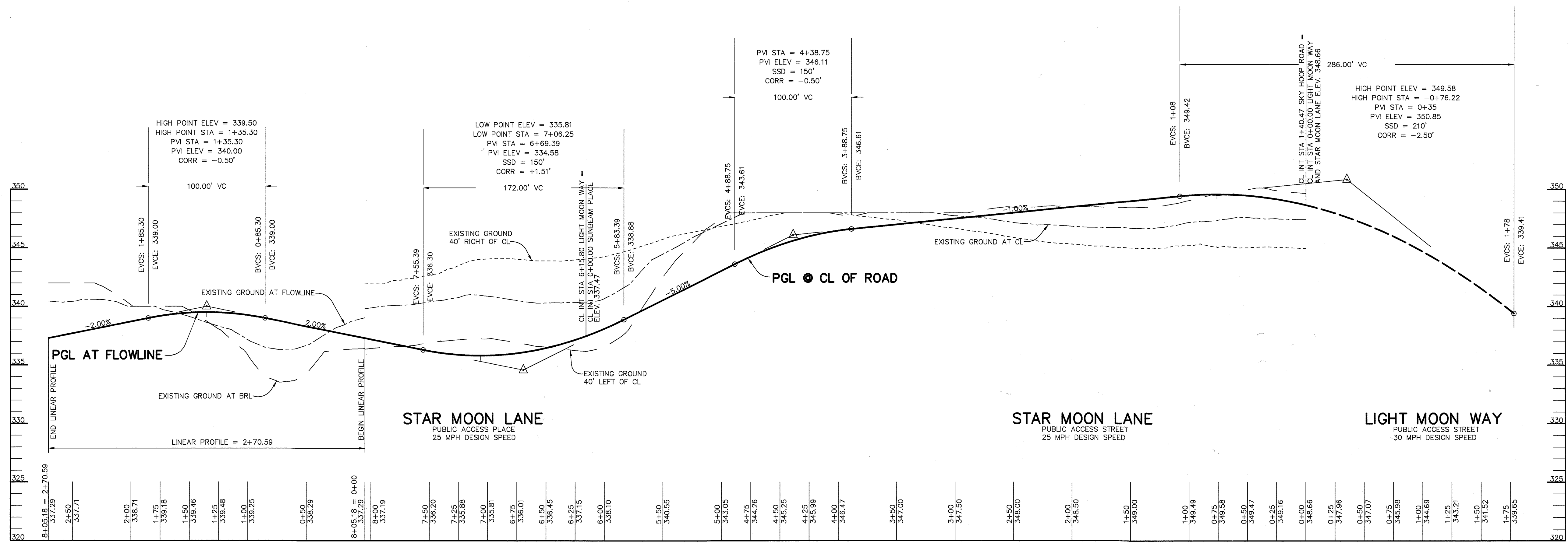
STREET LIGHT CHART

LOCATION	TYPE
13' LEFT OF STA 2+57 STAR MOON WAY	100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE
13' LEFT OF STA 4+79 STAR MOON WAY	100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE
15' LEFT OF STA 6+39 STAR MOON WAY	100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE
3' LEFT OF LINEAR PROFILE STA 1+45 STAR MOON WAY IN CUL-DE-SAC	100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE

CL CURVE DATA		CL CURVE DATA	
FROM CL STA 0+00 TO STA 0+39.83	RADIUS = 165.00' LENGTH = 39.83' TANGENT = -20.01' DELTA = 13°49'49" CHORD = N 73°52'46"W	FROM CL STA 4+74.92 TO STA 6+70.39	RADIUS = 110.00' LENGTH = 140.87' TANGENT = 81.96' DELTA = 73°22'39" CHORD = N 08°43'59"E 131.44'
CL CURVE DATA		CL CURVE DATA	
FROM CL STA 1+21.12 TO STA 1+65.05	RADIUS = 150.00' LENGTH = 43.93' TANGENT = 22.12' DELTA = 16°46'48" CHORD = N 73°21'15"W 43.77'	FROM CL STA 7+14.91 TO STA 8+28.84	RADIUS = 300.00' LENGTH = 113.93' TANGENT = 57.66' DELTA = 21°45'34" CHORD = S 62°58'57"W 113.25'
CL CURVE DATA		CURB TRANSITION DATA	
FROM CL STA 2+73.69 TO STA 4+19.74	RADIUS = 150.00' LENGTH = 146.05' TANGENT = 79.40' DELTA = 53°47'19" CHORD = N 55°51'00"W 140.35'	FROM CL STA 0+50.80 STAR MOON LANE TO CL STA 0+19.70 LIGHT MOON WAY	RADIUS = 184.07' LENGTH = 66.40' TANGENT = 33.57' DELTA = 20°40'12" CHORD = N 77°17'57"W 66.05'



TYPICAL 16' FOOTBRIDGE DETAIL
SCALE: 1/2" = 1'-0"



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

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Richard M. Danks 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Chris Christa 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Chris Christa 7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

7-6-20-2 ADDING PATHWAY CONNECTION TO WALDENWOODS
10-30-01 ADDED TYPICAL 16' FOOTBRIDGE DETAIL

DATE	NO.	REVISION

OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION ONE AREA ONE
LOTS 1 - 39 & PARCEL A

AREA
TAX MAP 47 BLOCK 3,8 & 9
ZONED: R-ED PARCEL: P/O 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

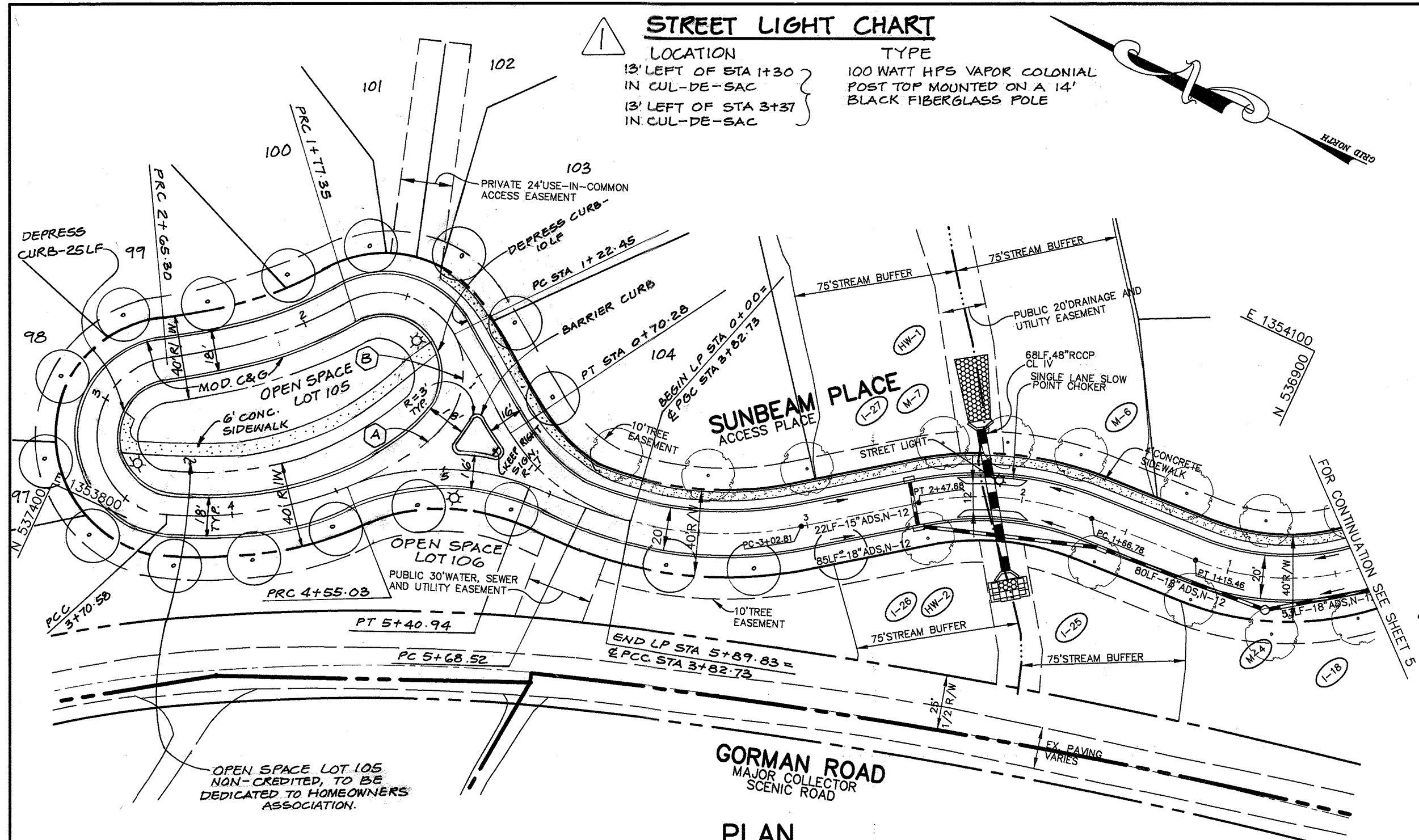
TITLE
PLAN AND PROFILE OF STAR MOON LANE

RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

DATE 6-26-01

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO. 99212/FINALS
RDS.DWG
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 5 OF 26

Christopher J. Reid
CHRISTOPHER J. REID #19949



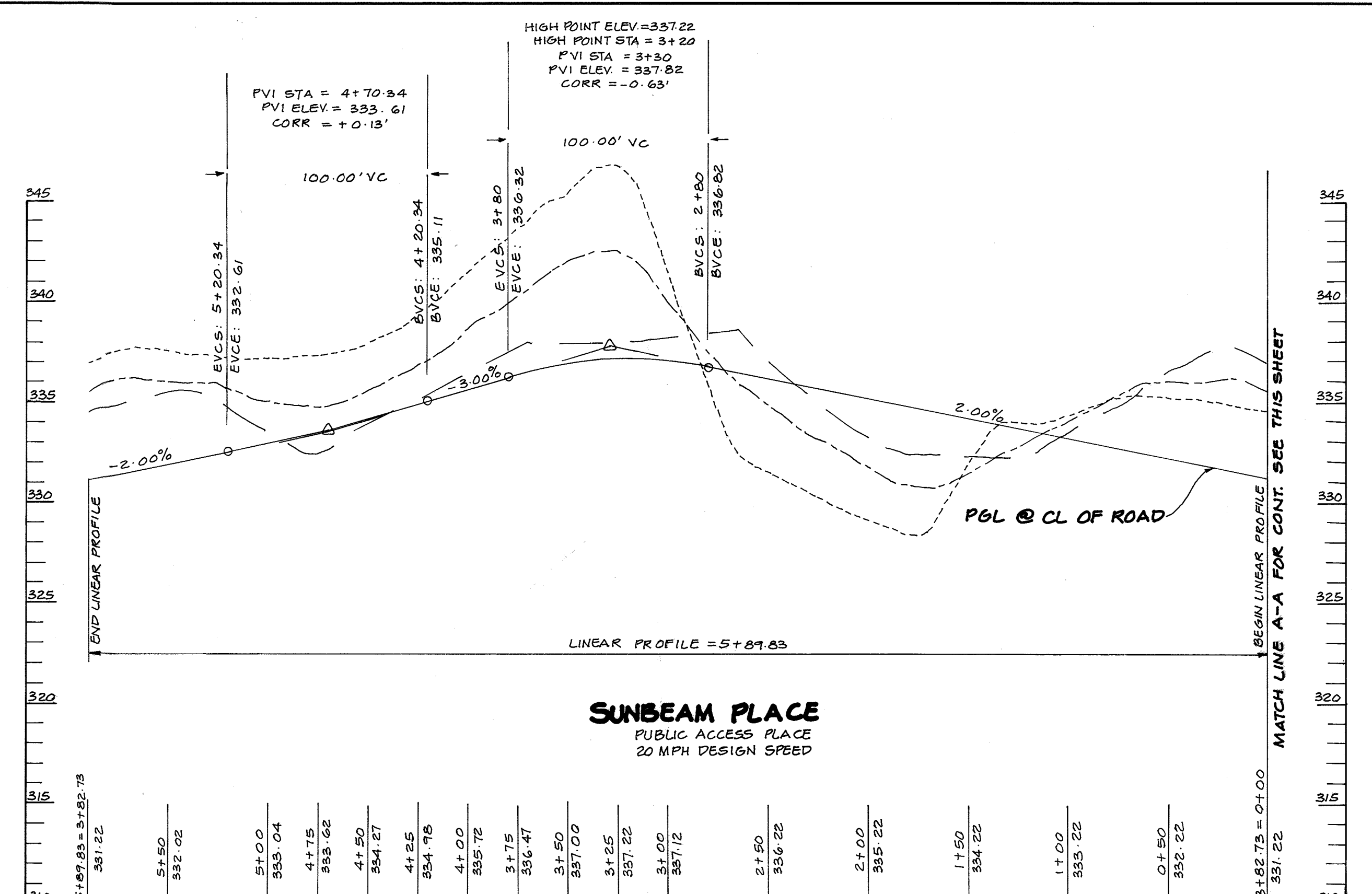
PLAN
SCALE: 1" = 50'

STREET LIGHT CHART

LOCATION	TYPE
10' RIGHT OF STA 2+11 SUNBEAM PLACE IN CUL-DE-SAC	100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE
13' RIGHT OF LP 5+03 SUNBEAM PLACE IN CUL-DE-SAC	100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE

CL CURVE DATA

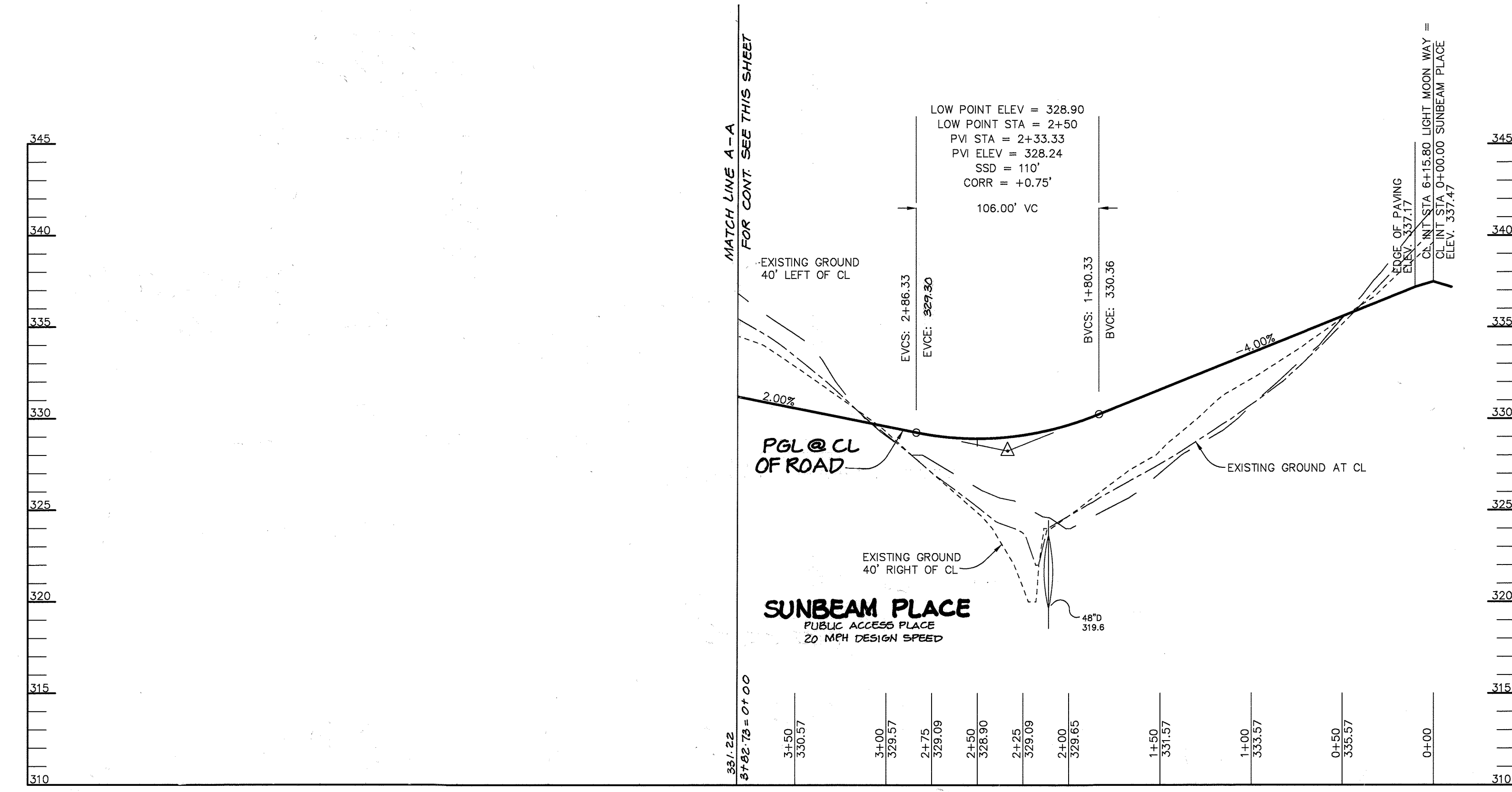
FROM CL STA 0+32.37 TO STA 1+15.46	RADIUS = 115.00' LENGTH = 83.09' TANGENT = 43.45' DELTA = 41°23'48" CHORD = N 23°52'47" W 81.29'
FROM CL STA 1+66.78 TO STA 2+47.68	RADIUS = 140.00' LENGTH = 80.90' TANGENT = 41.63' DELTA = 33°06'36" CHORD = S 19°44'11" E 79.78'
FROM CL STA 3+02.81 TO STA 3+82.73	RADIUS = 175.00' LENGTH = 79.92' TANGENT = 40.67' DELTA = 28°10'02" CHORD = N 25°12'28" W 79.28'



SUNBEAM PLACE
PUBLIC ACCESS PLACE
20 MPH DESIGN SPEED

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

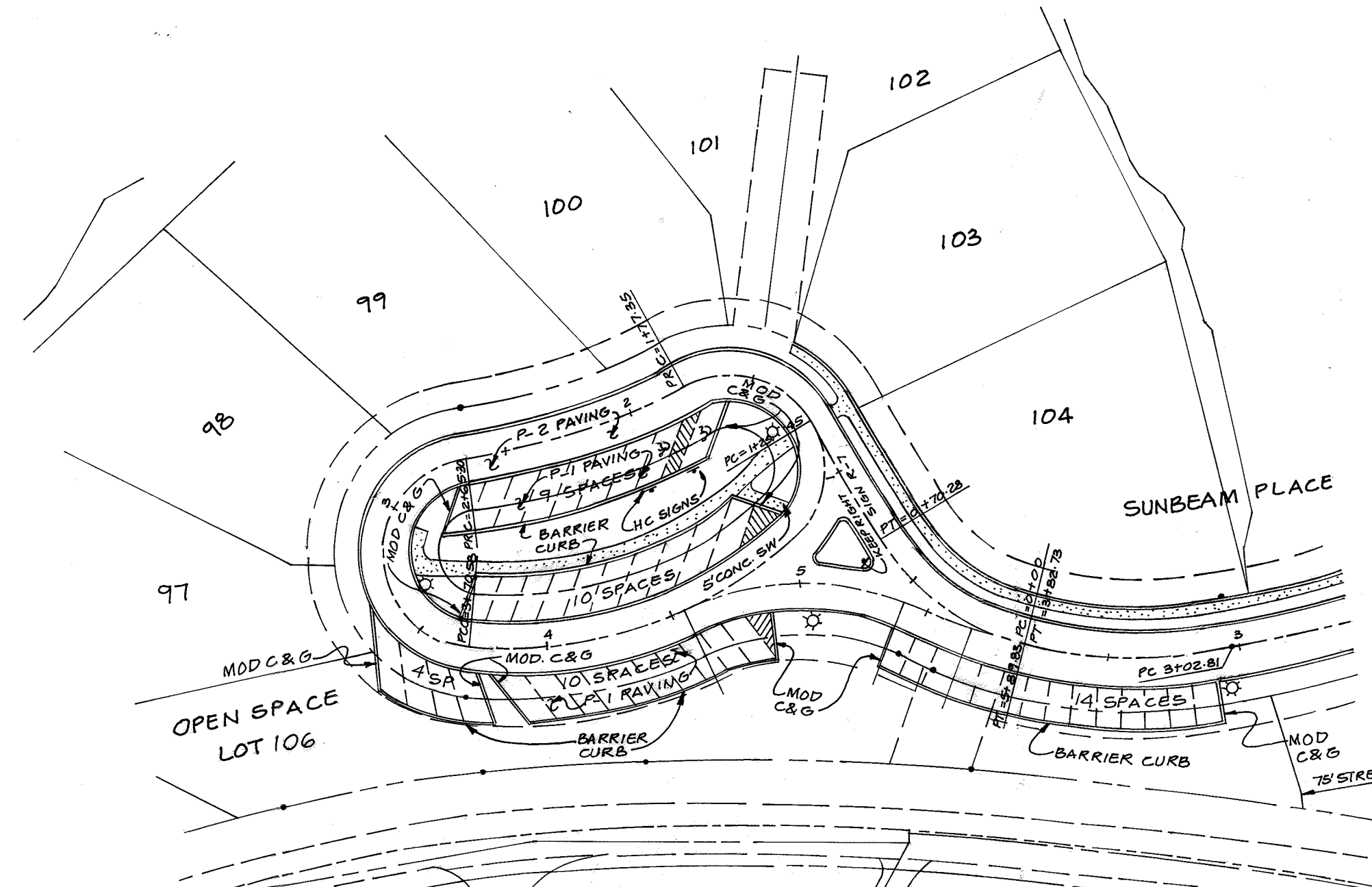
CL CURVE DATA FROM CL STA 0+00 TO STA 0+70.28 RADIUS = 70.00' LENGTH = 70.28' TANGENT = 31.04' DELTA = 44°44'21" CHORD = N 12°14'43" E 68.50'	CL CURVE DATA FROM CL STA 1+22.45 TO STA 1+77.55 RADIUS = 36.00' LENGTH = 54.90' TANGENT = 34.37' DELTA = 87°22'38" CHORD = N 08°43'51" W 49.75'	CL CURVE DATA FROM CL STA 1+77.55 TO STA 2+65.30 RADIUS = 240.00' LENGTH = 87.75' TANGENT = 44.47' DELTA = 20°59'48" CHORD = N 41°54'56" W 87.46'	CL CURVE DATA FROM CL STA 2+65.30 TO STA 3+70.58 RADIUS = 36.00' LENGTH = 105.28' TANGENT = 35.015' DELTA = 167°33'14" CHORD = S 64°48'22" W 71.58'	CL CURVE DATA FROM CL STA 3+70.58 TO STA 4+55.03 RADIUS = 165.00' LENGTH = 84.45' TANGENT = 45.18' DELTA = 27°19'39" CHORD = S 33°35'05" E 85.54'
CL CURVE DATA FROM CL STA 4+55.03 TO STA 5+40.94 RADIUS = 107.00' LENGTH = 85.91' TANGENT = 37.04' DELTA = 45°07'15" CHORD = S 25°43'17" E 83.70'	CL CURVE DATA FROM CL STA 5+40.94 TO STA 5+87.83 RADIUS = 175.00' LENGTH = 21.31' TANGENT = 10.67' DELTA = 06°58'34" CHORD = S 06°38'10" E 21.21'	CL CURVE DATA FROM CL STA 5+87.83 TO STA 6+15.80 RADIUS = 175.00' LENGTH = 23.97' TANGENT = 15.45' DELTA = 08°10'36" CHORD = S 50°24'45" E 47.53'	CL CURVE DATA FROM CL STA 6+15.80 TO STA 6+50.00 RADIUS = 36.00' LENGTH = 30.30' TANGENT = 30.30' DELTA = 80°10'36" CHORD = N 75°08'06" E 46.57'	



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

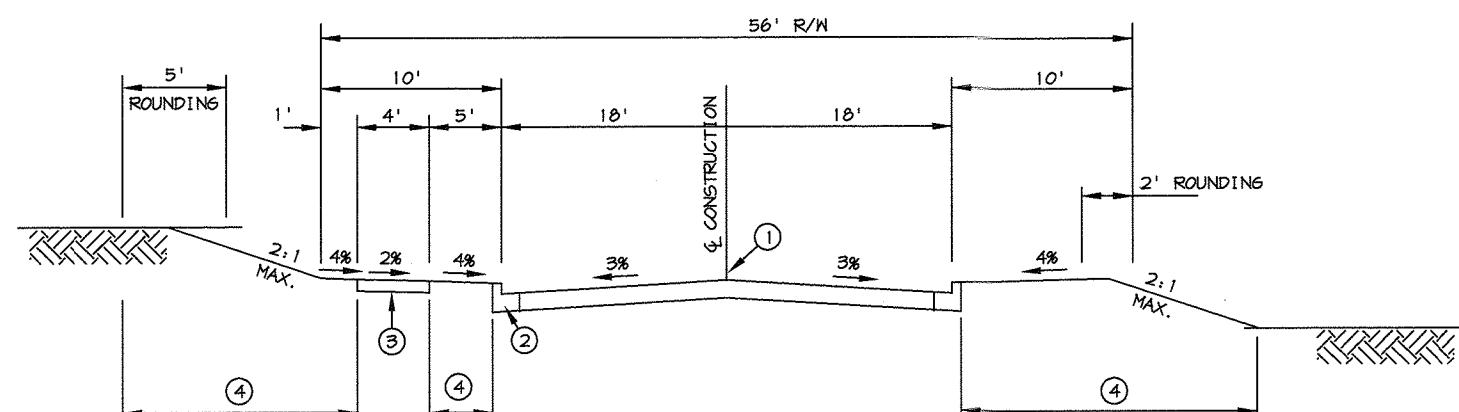
TEMPORARY STREET LIGHT CHART

LOCATION	TYPE
14' LEFT OF STA 3+04 SUNBEAM PLACE	100 WATT HPS VAPOR COLONIAL POST TOP MTD ON A 14' BLACK FIBERGLASS POLE



INTERIM LAYOUT
SCALE: 1" = 50'

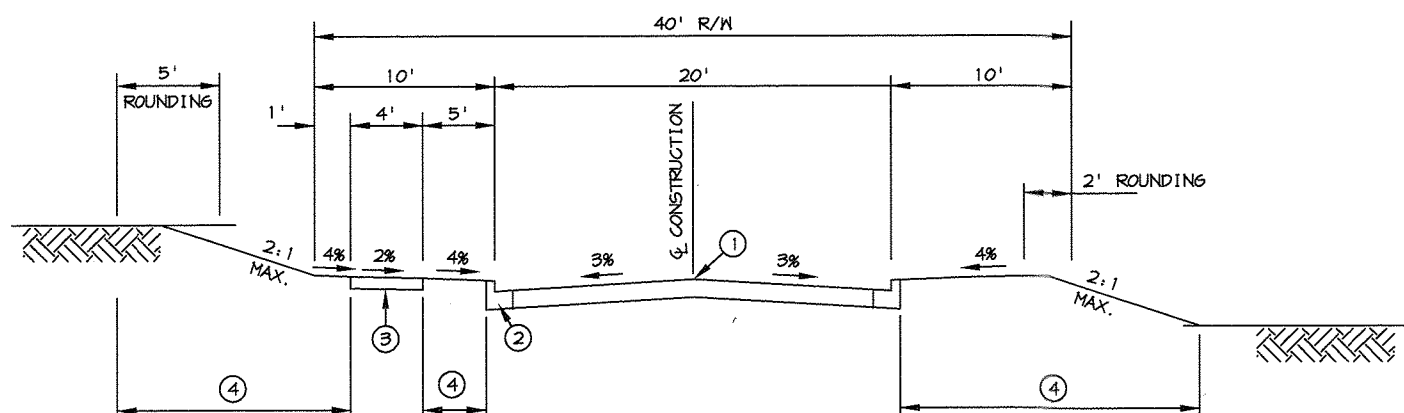
AS BUILT CERTIFICATE		
DATE		
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.		
<i>Andrew M. Daniels</i> 7-6-01 CHIEF, BUREAU OF HIGHWAYS	DATE	
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>Andy Henrich</i> 7/10/01 CHIEF, DIVISION OF LAND DEVELOPMENT	DATE	
<i>Chris Muegge</i> 7/10/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE	
7-6-20 2 ADDING PATHWAY CONNECTION TO WARDENWOODS		
01-02-02 MODIFIED SUNBEAM PLACE CUL-DE-SAC.		
DATE	NO.	REVISION
OWNER / DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000		
PROJECT		
EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A		
AREA		
TAX MAP 47 BLOCK 3.8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
PLAN AND PROFILE OF SUNBEAM PLACE		
RIEMER MUEGGE a division of:		
Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282		
DATE		
6.26.01		
DESIGNED BY: CJR		
DRAWN BY: DAM		
PROJECT NO. 99212/FINALS RD6.DWG		
DATE: JUNE 19, 2001		
SCALE: AS SHOWN		
DRAWING NO. 6 OF 26		
CHRISTOPHER J. REID #19949		



- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (MOD. COMB. CURB & GUTTER) SEE DESIGN MANUAL.
- ③ 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- ④ INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION ACCESS STREET
NO SCALE

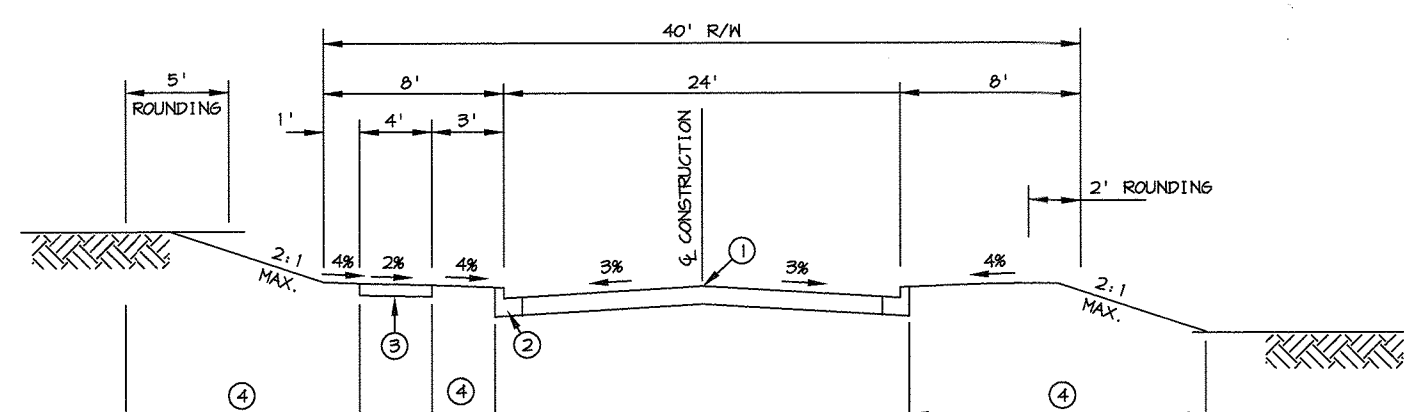
SKY HOOP ROAD FROM STA 0+19 TO STA 1+29 - 30 MPH DESIGN SPEED



- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (MOD. COMB. CURB & GUTTER) SEE DESIGN MANUAL.
- ③ 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- ④ INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION ACCESS PLACE
NO SCALE

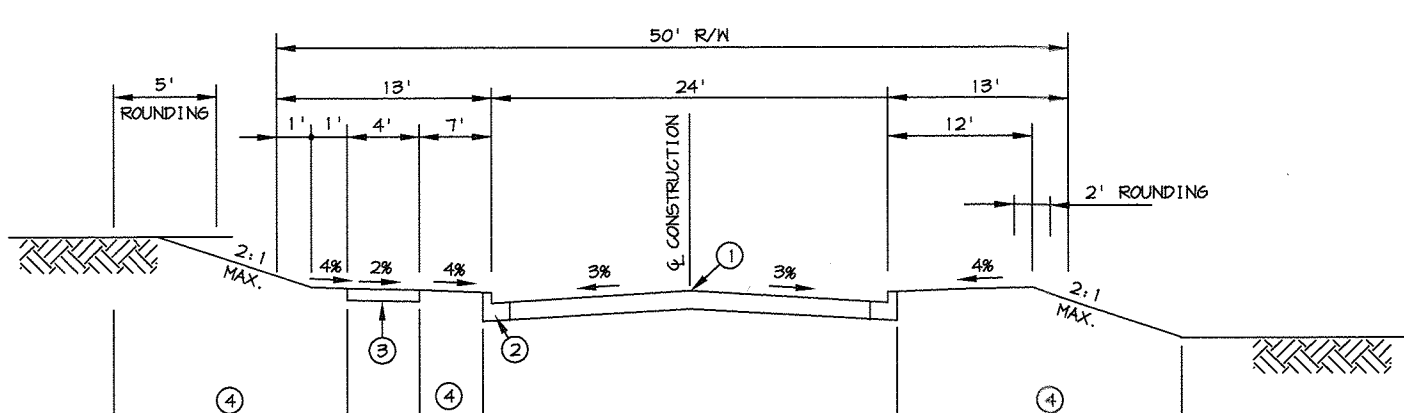
PURPLE CLOUD ROW FROM STA 0+00 TO STA 2+73 - 20 MPH DESIGN SPEED
STAR MOON LANE FROM STA 6+16 TO STA 8+05 - 25 MPH DESIGN SPEED
SUNBEAM PLACE FROM STA 0+00 TO STA 3+82 - 20 MPH DESIGN SPEED



- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (MOD. COMB. CURB & GUTTER) SEE DESIGN MANUAL.
- ③ 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- ④ INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION ACCESS STREET
NO SCALE

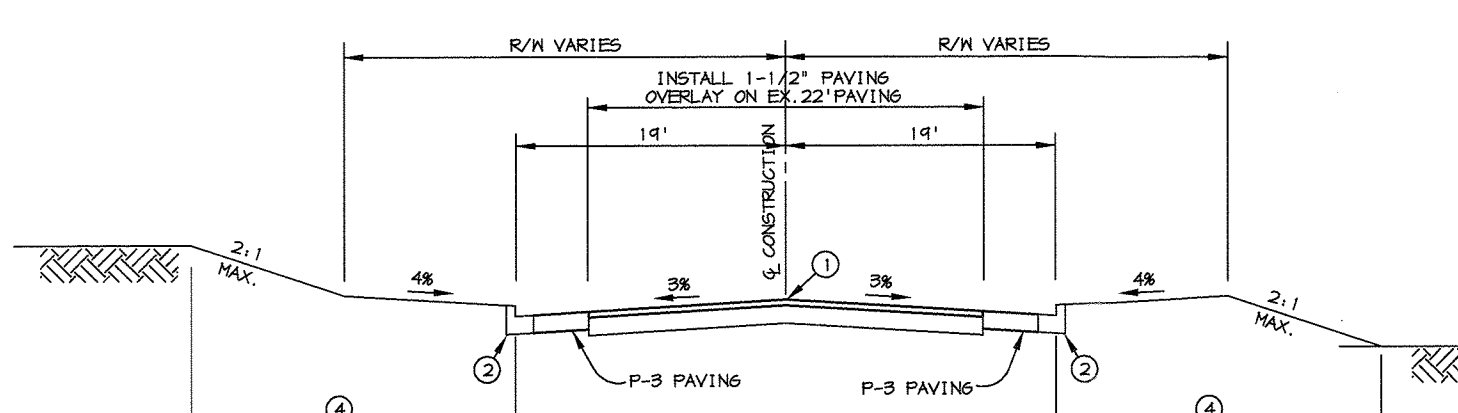
LIGHT MOON WAY FROM STA 2+11 TO STA 5+26 - 25 MPH DESIGN SPEED
STAR MOON LANE FROM STA 0+00 TO STA 6+16 - 25 MPH DESIGN SPEED



- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (MOD. COMB. CURB & GUTTER) SEE DESIGN MANUAL.
- ③ 4" CONCRETE SIDEWALK AS REQUIRED BY SUBDIVISION REGULATIONS.
- ④ INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION ACCESS STREET
NO SCALE

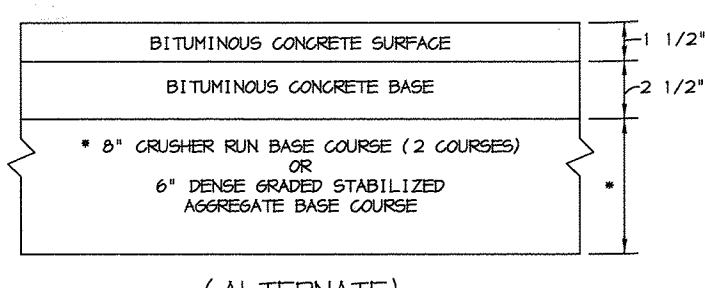
LIGHT MOON WAY FROM STA 0+00 TO STA 2+11 - 30 MPH DESIGN SPEED



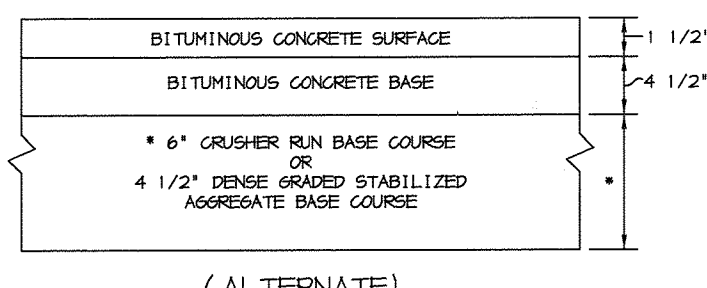
- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (STD. CURB & GUTTER) SEE DESIGN MANUAL.
- ③ INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION GORMAN ROAD
NO SCALE

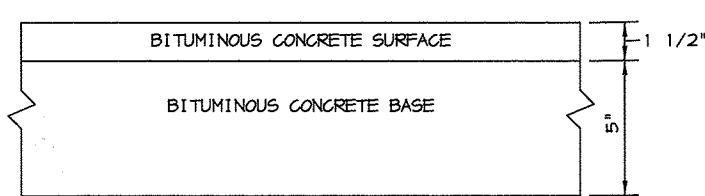
FROM STA 0+00 TO STA 12+00



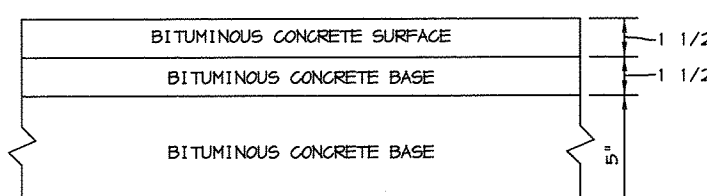
P-2 PAVING
NO SCALE



P-3 PAVING
NO SCALE



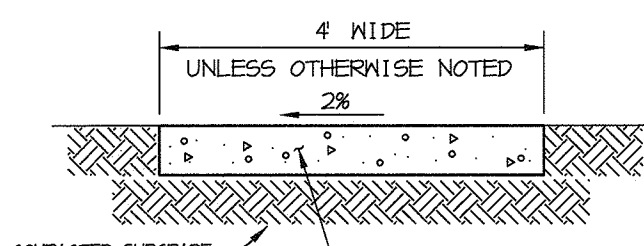
P-2 PAVING
NO SCALE



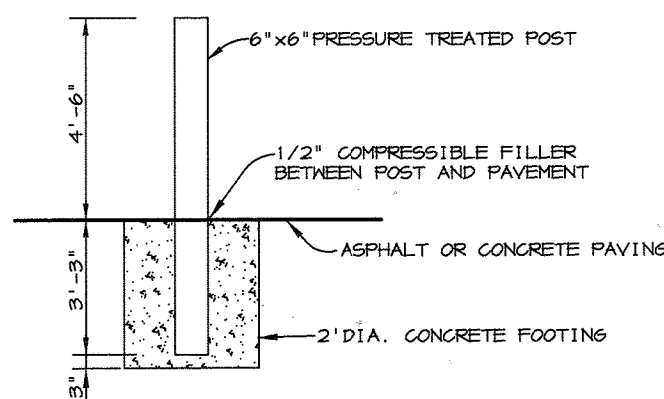
P-3 PAVING
NO SCALE

HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

HOWARD COUNTY DESIGN MANUAL VOLUME IV- STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-2.01)

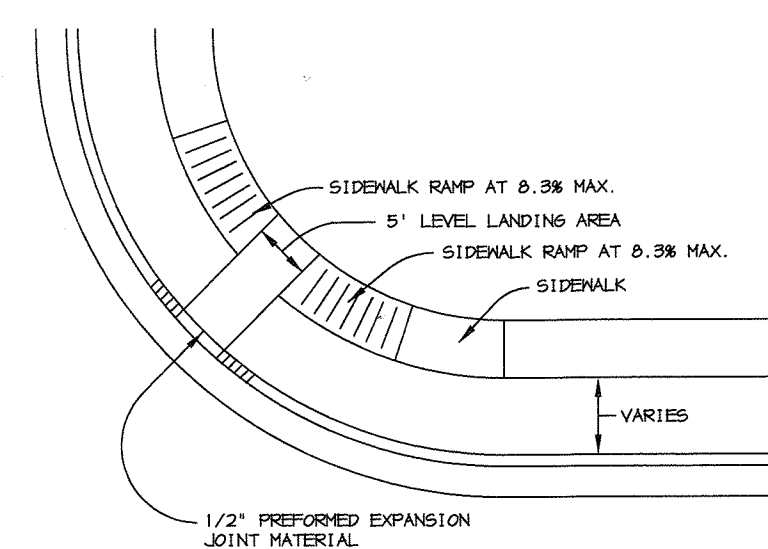


SIDEWALK DETAIL
NO SCALE

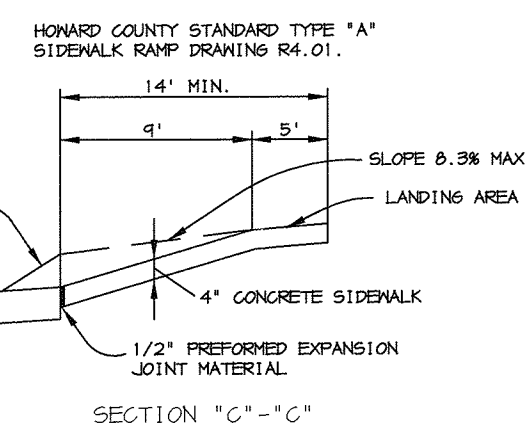


BOLLARD DETAIL
NO SCALE

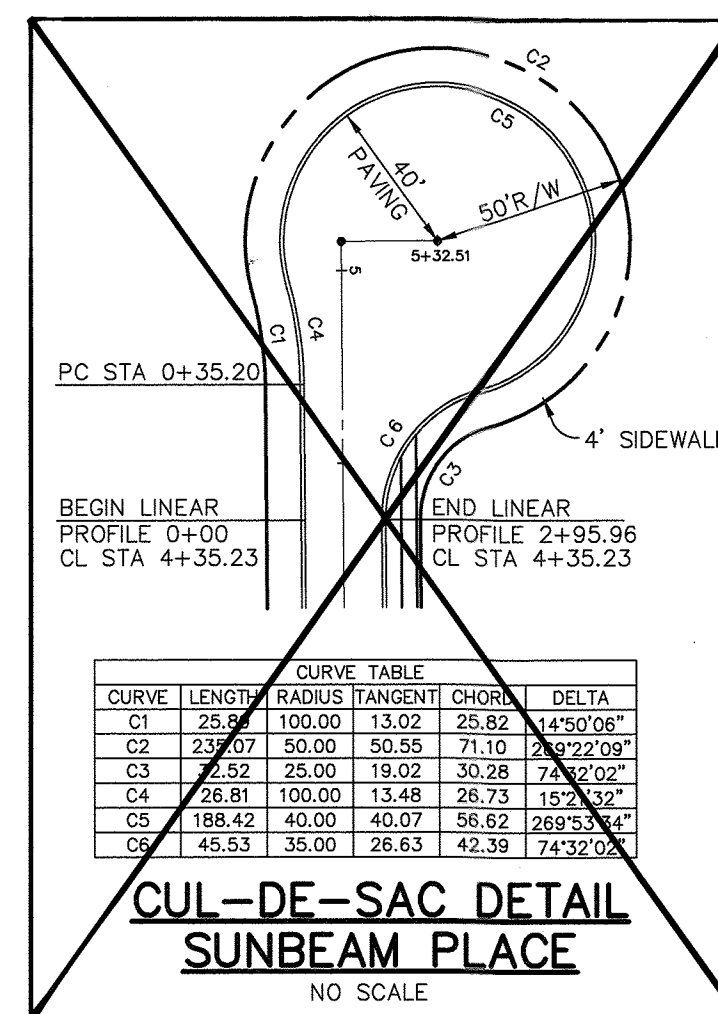
NOTES:
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.) PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5\"/>



HANDICAP RAMP DETAIL
NO SCALE

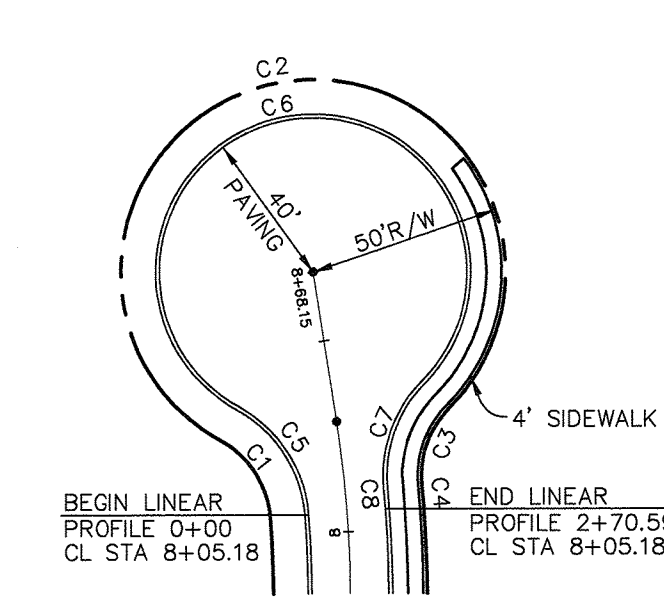


HANDICAP RAMP DETAIL
NO SCALE



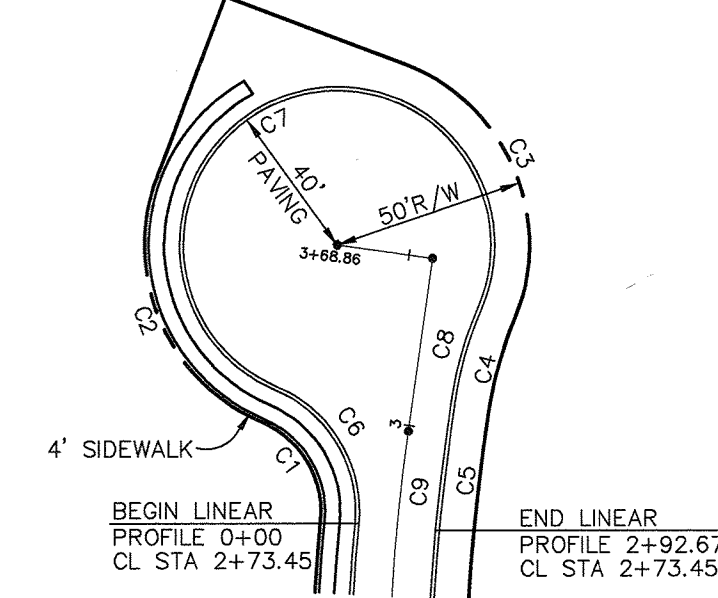
CUL-DE-SAC DETAIL
SUNBEAM PLACE
NO SCALE

HO. CO. STD. COMB. CURB & GUTTER R-3.01



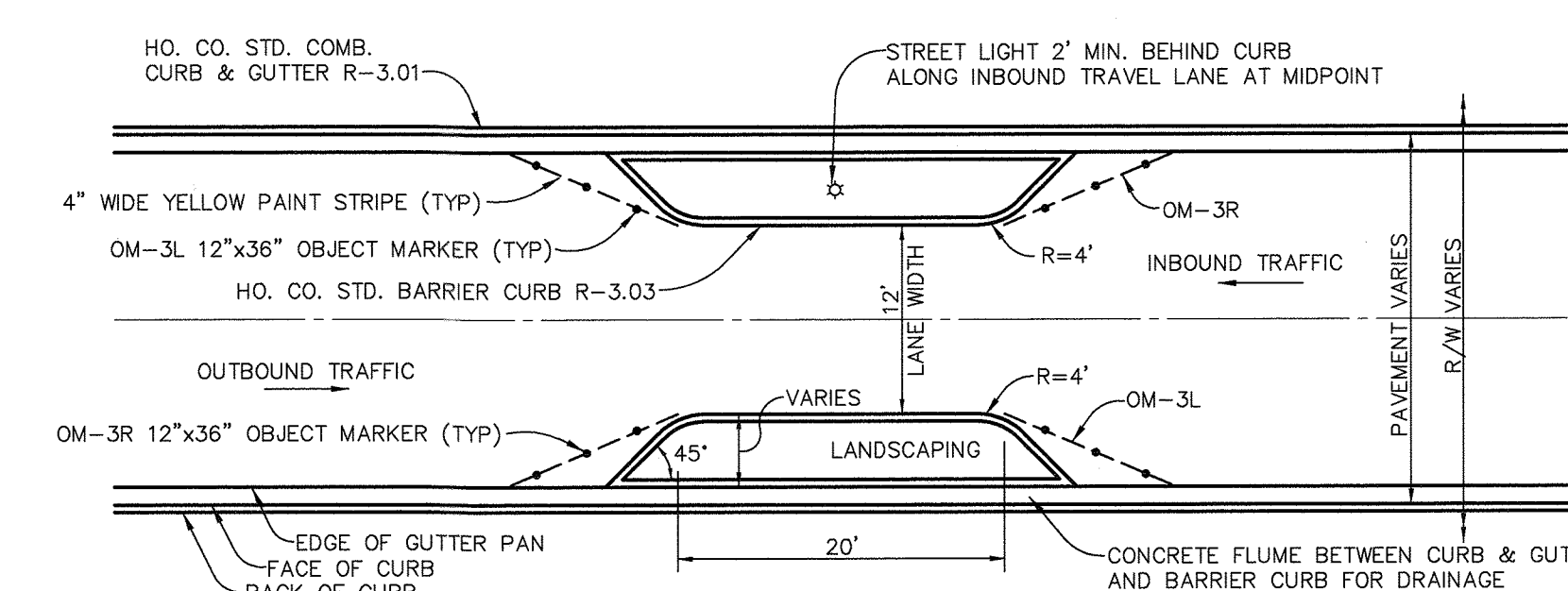
CURVE	LENGTH	RADIUS	TANGENT	CHORD	DELTA
C1	24.82	25.00	13.54	23.82	56°53'21"
C2	249.69	50.00	37.60	60.10	286°07'05"
C3	21.92	25.00	11.72	21.22	50°13'44"
C4	5.59	320.00	2.79	5.59	1°00'00"
C5	34.75	35.00	18.96	33.34	56°53'21"
C6	199.75	40.00	30.08	48.08	286°07'05"
C7	30.68	35.00	16.41	29.71	50°13'44"
C8	5.41	310.00	2.71	5.41	1°00'00"

CUL-DE-SAC DETAIL
STAR MOON LANE
NO SCALE

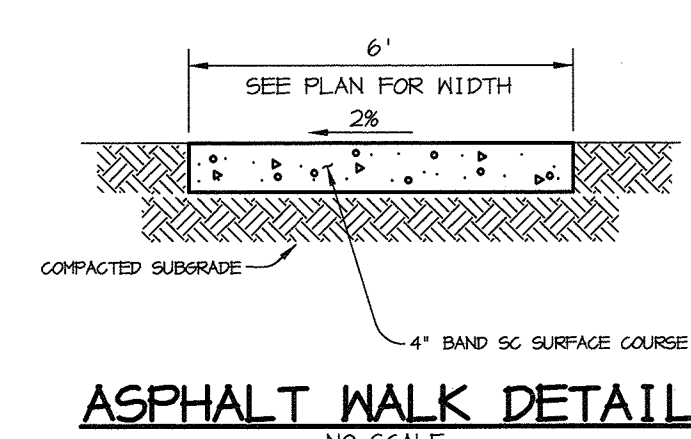


CURVE	LENGTH	RADIUS	TANGENT	CHORD	DELTA
C1	31.59	25.00	18.30	29.53	72°24'34"
C2	76.57	50.00	48.07	69.31	87°44'46"
C3	80.31	50.00	51.80	71.95	92°01'31"
C4	24.08	100.00	12.10	24.02	13°47'51"
C5	32.97	530.00	16.49	32.97	3°33'51"
C6	44.23	35.00	25.62	41.35	72°24'34"
C7	188.76	40.00	39.73	56.38	270°23'00"
C8	26.81	100.00	13.48	26.73	15°21'32"
C9	24.65	540.00	12.32	24.64	2°36'54"

CUL-DE-SAC DETAIL
PURPLE CLOUD ROW
NO SCALE



SINGLE LANE SLOW POINT (CHOKER)
NO SCALE



ASPHALT WALK DETAIL
NO SCALE

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
Richard M. Danville 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Andy Hunter 7/7/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Tom Danville 7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

7-6-20 2 ADDING PATHWAY CONNECTION TO WALDEN WOODS
01-02-02 DELETED CUL-DE-SAC DETAIL OF SUNBEAM PLACE, ADDED BARRIER CURB DETAIL.

DATE NO. REVISION

OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION ONE AREA ONE
LOTS 1 - 39 & PARCEL A

AREA
TAX MAP 47 BLOCK 3,8 & 9
ZONED: R-ED PARCEL: P0 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

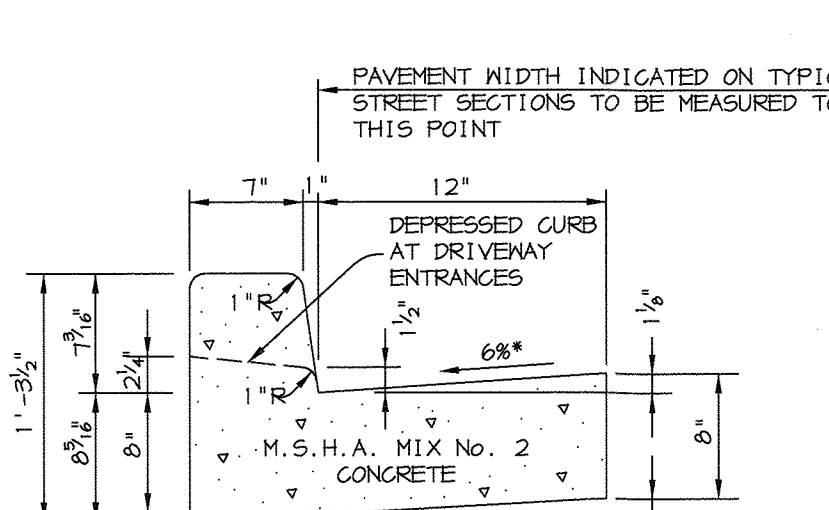
TITLE
ROAD DETAILS

RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8800 fax 410.997.8282

DATE 6-26-01

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO. 99212/FINALS RD7.DWG
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 7 OF 26

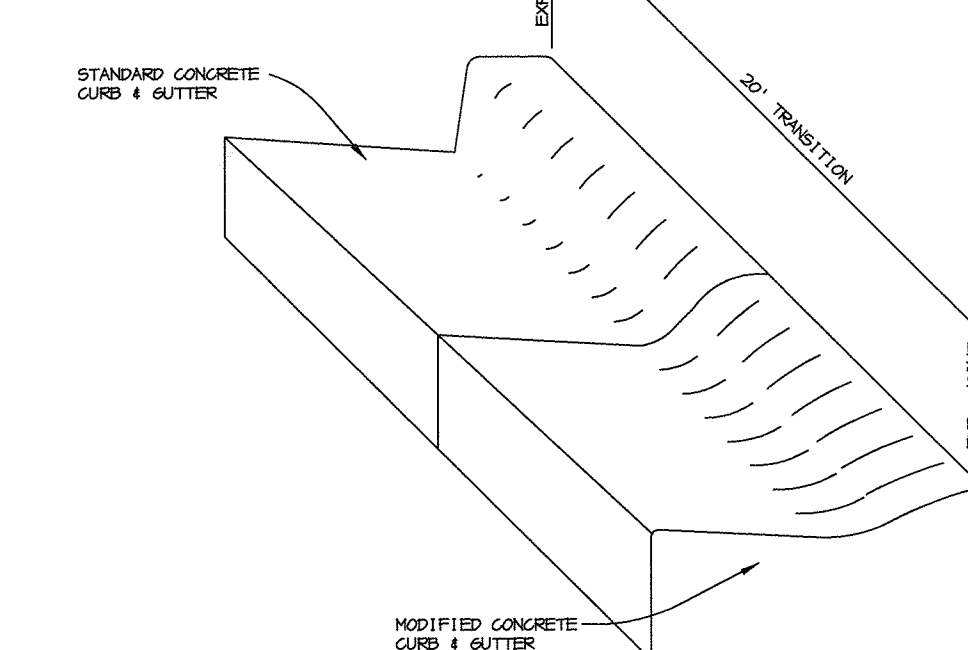
CHRISTOPHER J. REID #19949



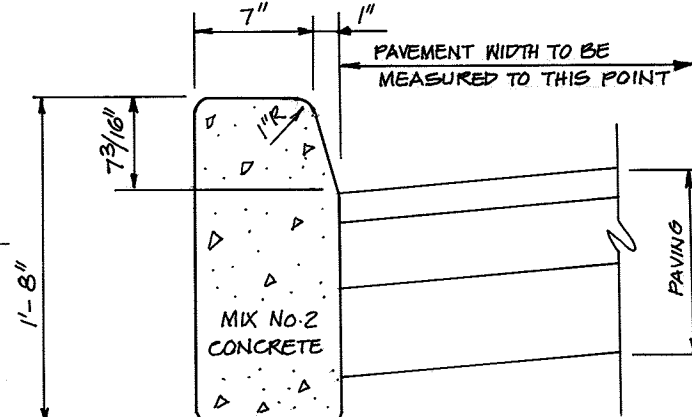
STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE

HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (DRAWING R-3.01).

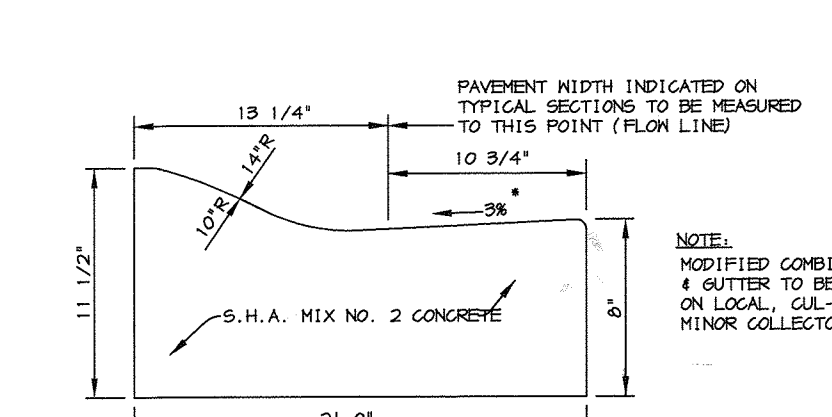
* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS THE PAVEMENT.



CONCRETE CURB AND GUTTER TRANSITION
NO SCALE

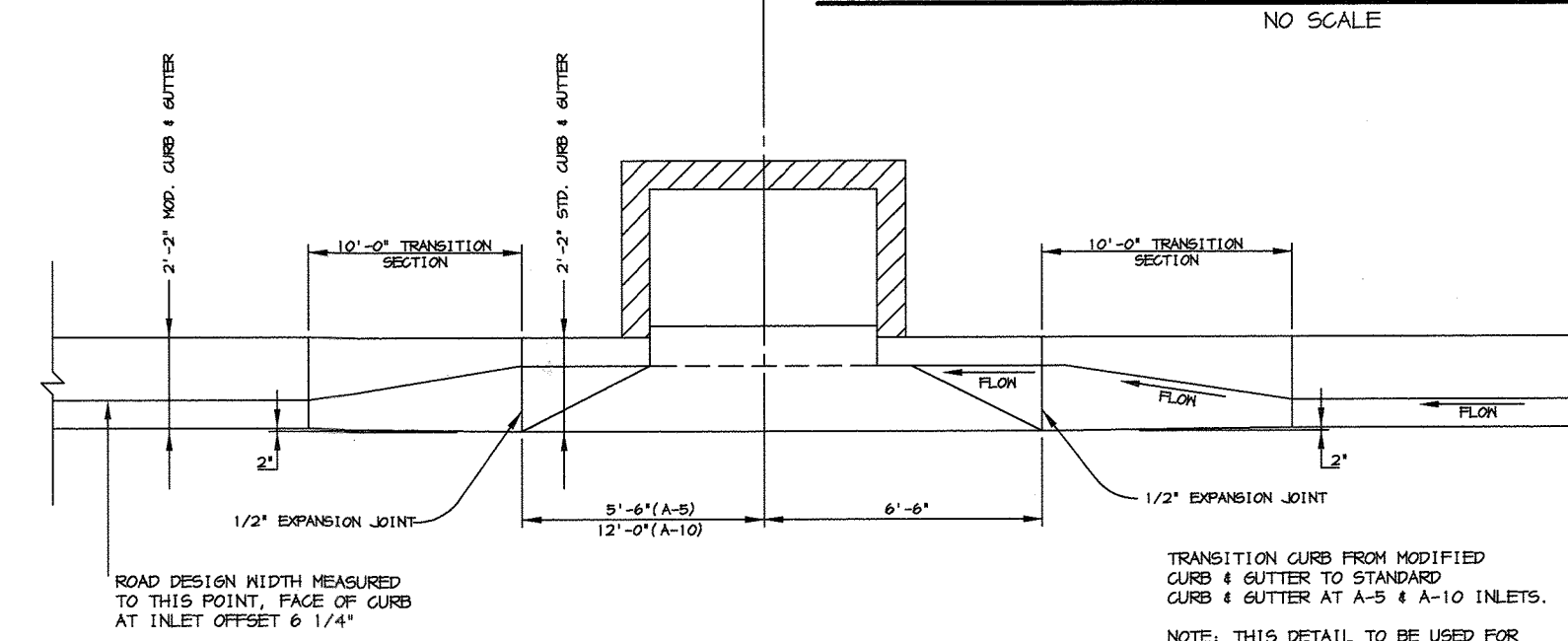


STANDARD BARRIER CURB
NO SCALE



MODIFIED COMBINATION CURB AND GUTTER

* GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB AND GUTTER.



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

STRUCTURE SCHEDULE

PIPE SCHEDULE

STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-5 4" WIDE	12.52 LT OF CL STA 3+05.00 LIGHT MOON WAY	312.70 (30")	312.60 (30")	329.47	HOCO STD. DETAIL SD-4.40
I-2	A-5 4" WIDE	12.52 LT OF CL STA 4+00.00 LIGHT MOON WAY	313.49 (30")	313.39 (30")	323.81	HOCO STD. DETAIL SD-4.40
I-3	A-5 4" WIDE	12.52 LT OF CL STA 4+94.22 LIGHT MOON WAY	314.27 (30")	314.17 (30")	321.62	HOCO STD. DETAIL SD-4.40
I-4	A-5 4" WIDE	12.52 LT OF CL STA 5+05.00 LIGHT MOON WAY	314.87 (30") 312.85 (30")	312.85 (30")	329.47	HOCO STD. DETAIL SD-4.40
I-5	A-5 2.5" WIDE	10.52 LT OF CL STA 0+10.43 PURPLE CLOUD ROW	333.48 (18") 329.55 (18")	329.05 (24")	337.21	HOCO STD. DETAIL SD-4.40
I-6	A-5 2.5" WIDE	12.52 RT OF CL STA 1+80.46 LIGHT MOON WAY	334.10 (18")	334.00 (18")	339.49	HOCO STD. DETAIL SD-4.40
I-7	A-5 2.5" WIDE	12.52 RT OF CL STA 1+00.00 LIGHT MOON WAY	341.10 (18")	341.00 (18")	344.94	HOCO STD. DETAIL SD-4.40
I-8	A-5 2.5" WIDE	18.52 RT OF CL STA 1+3.68 SKY HOOP ROAD	346.25 (15") 346.25 (15")	346.00 (18")	349.71	HOCO STD. DETAIL SD-4.40
I-9	A-5 2.5" WIDE	18.52 LT OF CL STA 1+00.12 SKY HOOP ROAD	-	346.64 (15")	349.70	HOCO STD. DETAIL SD-4.40
I-10	A-5 2.5" WIDE	10.52 LT OF CL STA 1+20.00 PURPLE CLOUD ROW	330.05 (18")	329.95 (18")	337.73	HOCO STD. DETAIL SD-4.40
I-11	A-5 2.5" WIDE	10.52 LT OF CL STA 2+42.62 PURPLE CLOUD ROW	331.06 (15") 332.75 (15")	330.81 (18")	336.60	HOCO STD. DETAIL SD-4.40
I-12	A-5 2.5" WIDE	LP STA 0+89.80 PURPLE CLOUD ROW	-	331.50 (15")	335.24	HOCO STD. DETAIL SD-4.40
I-13	A-5 2.5" WIDE	10.52 RT OF CL STA 2+83.48 PURPLE CLOUD ROW	-	333.00 (15")	336.74	HOCO STD. DETAIL SD-4.40
I-14	A-5 2.5" WIDE	19.00 LT OF CL STA 5+61.67 GORMAN ROAD	-	351.10 (15")	355.18	HOCO STD. DETAIL SD-4.40
I-15	A-5 2.5" WIDE	12.52 RT OF CL STA 4+94.22 LIGHT MOON WAY	314.04 (30")	313.94 (30")	321.62	HOCO STD. DETAIL SD-4.40
I-16	A-5 4" WIDE	10.52 RT OF CL STA 7+06.00 STAR MOON LANE	322.67 (24")	322.57 (24")	336.09	HOCO STD. DETAIL SD-4.40
I-17	A-5 4" WIDE	10.52 LT OF CL STA 7+06.00 STAR MOON LANE	322.88 (24")	322.78 (24")	336.09	HOCO STD. DETAIL SD-4.40
I-18	A-5 2.5" WIDE	10.52 LT OF CL STA 0+33.40 SUNBEAM PLACE	333.50 (18") 323.95 (18")	323.45 (24")	336.57	HOCO STD. DETAIL SD-4.40
I-19	A-5 2.5" WIDE	10.52 LT OF CL STA 5+86.70 STAR MOON LANE	334.27 (18")	334.17 (18")	338.01	HOCO STD. DETAIL SD-4.40
I-20	A-5 2.5" WIDE	10.52 RT OF CL STA 5+86.70 STAR MOON LANE	334.60 (18")	334.50 (18")	338.01	HOCO STD. DETAIL SD-4.40
I-21	A-5 2.5" WIDE	10.52 RT OF CL STA 5+00.00 STAR MOON LANE	340.10 (18")	340.00 (18")	343.33	HOCO STD. DETAIL SD-4.40
I-22	A-5 2.5" WIDE	10.52 RT OF CL STA 3+78.16 STAR MOON LANE	343.17 (18")	343.07 (18")	347.00	HOCO STD. DETAIL SD-4.40
I-23	A-5 2.5" WIDE	10.52 LT OF CL STA 3+78.16 STAR MOON LANE	343.50 (18")	343.40 (18")	347.00	HOCO STD. DETAIL SD-4.40
I-24	A-5 2.5" WIDE	19.00 LT OF CL STA 1+13.88 GORMAN ROAD	-	344.37 (18")	347.39	HOCO STD. DETAIL SD-4.40
I-25	A-5 2.5" WIDE	10.52 LT OF CL STA 1+58.00 SUNBEAM PLACE	324.82 (18")	324.72 (18")	331.53	HOCO STD. DETAIL SD-4.40
I-26	A-5 2.5" WIDE	10.52 LT OF CL STA 2+50.00 SUNBEAM PLACE	325.49 (18")	325.24 (18")	329.18	HOCO STD. DETAIL SD-4.40
I-27	A-5 2.5" WIDE	10.52 RT OF CL STA 2+50.00 SUNBEAM PLACE	-	325.60 (15")	329.18	HOCO STD. DETAIL SD-4.40
I-28	A-10 2.5" WIDE	19.00 RT OF CL STA 0+60.07 GORMAN ROAD	-	342.75 (15")	346.50	HOCO STD. DETAIL SD-4.41
I-29	A-10 2.5" WIDE	19.00 RT OF CL STA 11+09.56 GORMAN ROAD	347.95 (12")	347.70 (15")	351.20	HOCO STD. DETAIL SD-4.41
M-1	4"-0" DIA	25.00 LT OF CL STA 3+5.00 LIGHT MOON WAY	312.54 (30")	312.49 (30")	327.89	HOCO STD. DETAIL G-5.11
M-2	4"-0" DIA	N 536,867.00 E 1,354,446.00	320.80 (24")	320.70 (24")	332.45	HOCO STD. DETAIL G-5.11
M-3	4"-0" DIA	11.68 RT STA 1+79.28 STAR MOON LANE	321.59 (24")	321.49 (24")	339.91	HOCO STD. DETAIL G-5.11
M-4	4"-0" DIA	15.00 LT OF CL STA 0+81.29 SUNBEAM PLACE	324.32 (18")	324.22 (18")	334.50	HOCO STD. DETAIL G-5.11
M-5	4"-0" DIA	32.60 RT OF CL STA 11+9.44 GORMAN ROAD	347.60 (15")	347.35 (18")	351.90	HOCO STD. DETAIL G-5.11
E-1	30" ASTM END SECTION	N 536,741.00 E 1,354,545.00	312.00 (30")	-	-	HOCO STD. DETAIL SD-5.51
E-2	24" ASTM END SECTION	N 536,791.00 E 1,354,512.00	312.00 (24")	-	-	HOCO STD. DETAIL SD-5.51
E-3	36" ASTM END SECTION	N 536,810.00 E 1,354,697.00	308.00 (36")	-	-	HOCO STD. DETAIL SD-5.51
E-4	15" ADS END SECTION	44.23 RT OF CL STA 0+58.80 GORMAN ROAD	342.00 (15")	-	-	ADS, N-12
E-5	18" ADS END SECTION	37.90 RT OF CL STA 11+19.71 GORMAN ROAD	346.95 (18")	-	-	ADS, N-12
S-1	MODIFIED STRUCTURE	N 536,832.00 E 1,354,574.00	312.00 (8")	308.63 (36")	324.00	SEE SHEET 14
HW-1	TYPE "A" HEADWALL	34.74 RT OF CL STA 2+19.62 SUNBEAM PLACE	319.50 (48")	-	-	HOCO STD. DETAIL SD-5.11
HW-2	TYPE "A" HEADWALL	33.33 RT OF CL STA 2+03.45 SUNBEAM PLACE	-	319.84 (48")	-	HOCO STD. DETAIL SD-5.11

PIPE LENGTH	SIZE	TYPE
306	15"	ADS, N-12
1074	18"	ADS, N-12
592	24"	ADS, N-12
255	30"	ADS, N-12
99	24"	ASTM
88	30"	ASTM
118	36"	ASTM
64	48"	RCCP

GEOTECHNICAL CONSIDERATIONS by Robert B. Balter Co. 1/14/2000

Earthwork:

All fill placed for the core trench, access roadway, embankments, utility backfill, or any other location requiring stable support or minimal settlement shall be constructed as controlled compacted fill. Controlled compacted fill shall meet the following requirements:

a) Within the described construction areas, in which new fill is to be placed, strip the vegetation, topsoil, and any organic, contaminated, or otherwise unsuitable materials to expose clean soils. The subject area shall extend outward from the exterior edges of the proposed construction a minimum of 5 feet plus 1 additional foot horizontally for every foot of new fill to be placed.

b) Proofroll the stripped soil surface with a fully loaded, tandem-axle dump truck, or other approved equipment, under the observation of a geotechnical engineer or highly qualified senior level soils technician, to verify and establish a uniform, dense and stable condition. Any soft, yielding, organic, contaminated or otherwise unacceptable spots detected shall be cut out and replaced with controlled compacted fill.

c) Compacted fill should be placed in relatively horizontal 8-inch loose lifts. Each lift should be uniformly and evenly blade mixed during spreading to ensure uniformity of the material in each layer. Each layer should be compacted to a minimum of 95 percent of the standard proctor maximum dry density as determined by ASTM D-698 (AASHTO T-99). The moisture content of the materials shall be maintained in order to attain the required degree of compaction.

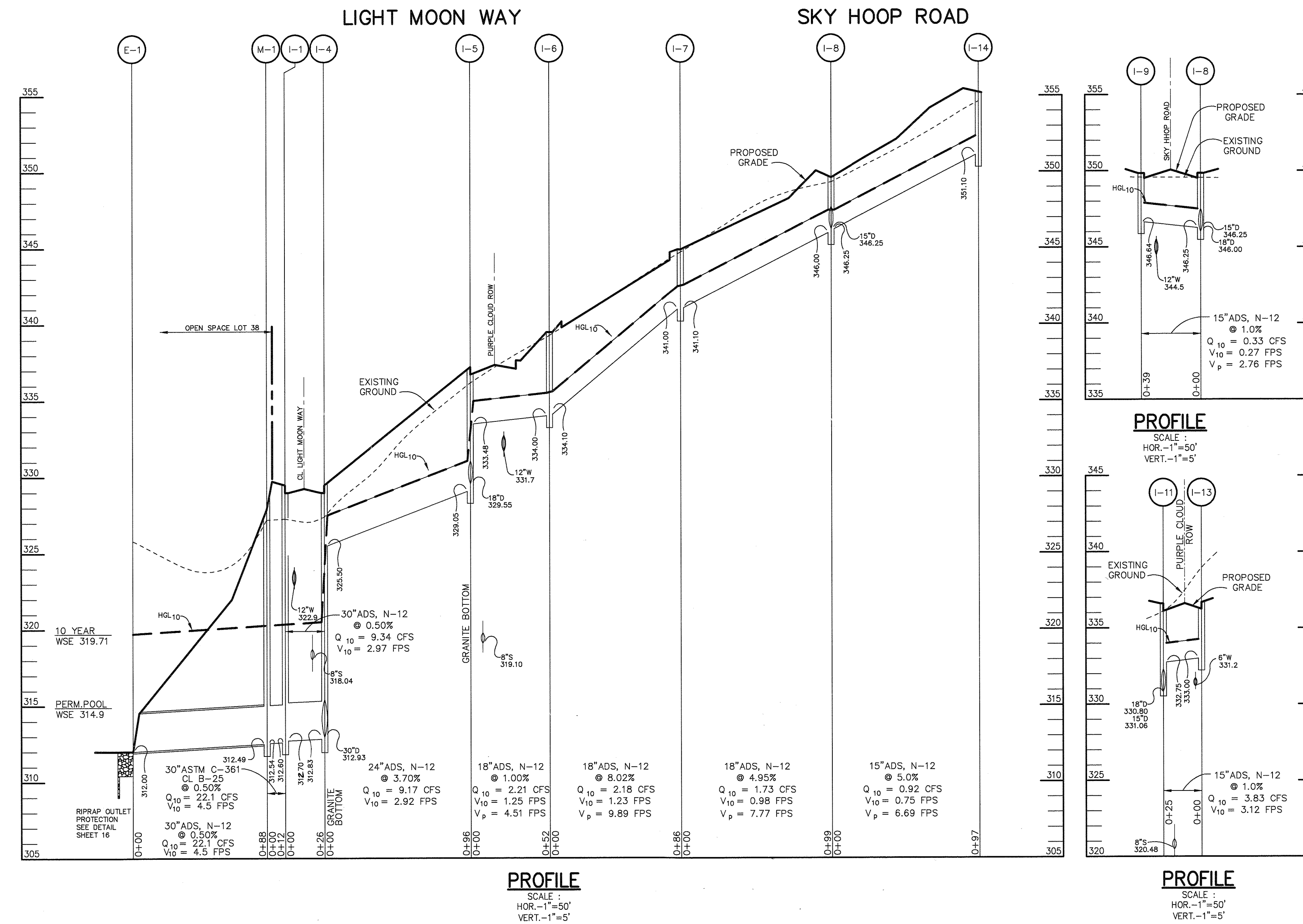
d) Where fills are to be placed on slopes the original ground should be deeply scarified or where slopes are steeper than 5 horizontal to 1 vertical the slope should be stepped or benched, when considered necessary by the Engineer, in order that the placement of fill may be accomplished in horizontal lifts.

It is noted that this methodology is recommended both as preparation for areas to receive new fill, as well as locations where cut is required to establish the proposed grades. In cut areas, the proofrolling and selective undercutting shall be accomplished after excavation down to the proposed grades has been completed.

Provided that the on-site materials are placed and compacted as specified in the previous requirements, these materials should be acceptable for use as controlled fill. However, as previously stated, the on-site materials are not acceptable for re-use as core-trench materials.

It is noted that the natural moisture contents vary with respect to the optimum moisture values for most efficient compaction. Accordingly, some wetting or drying of these soils may be required in order to achieve the specified degree of compaction. Also, the usage of any soil as fill must be closely monitored and tested to assure that the embankment is free of deleterious contamination and is being rolled to the required density.

NOTE: MINIMUM 1' VERTICAL CLEARANCE TO BE PROVIDED BETWEEN UTILITIES.



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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *[Signature]* DATE: 6/26/01

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

ENGINEER: *[Signature]* DATE: 6-26-01

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.

NATURAL RESOURCES CONSERVATION SERVICE: *[Signature]* DATE: 7/6/01

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

HOWARD SOIL CONSERVATION DISTRICT: *[Signature]* DATE: 7/6/01

AS BUILT CERTIFICATE

DATE: _____

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
CHIEF, BUREAU OF HIGHWAYS: *[Signature]* DATE: 7-6-01

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/17/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 7/10/01

7-6-2002 ADDING PATHWAY CONNECTION TO WALDEN WOODS
REV. STRUCTURE SCHEDULE

DATE NO. REVISION
OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

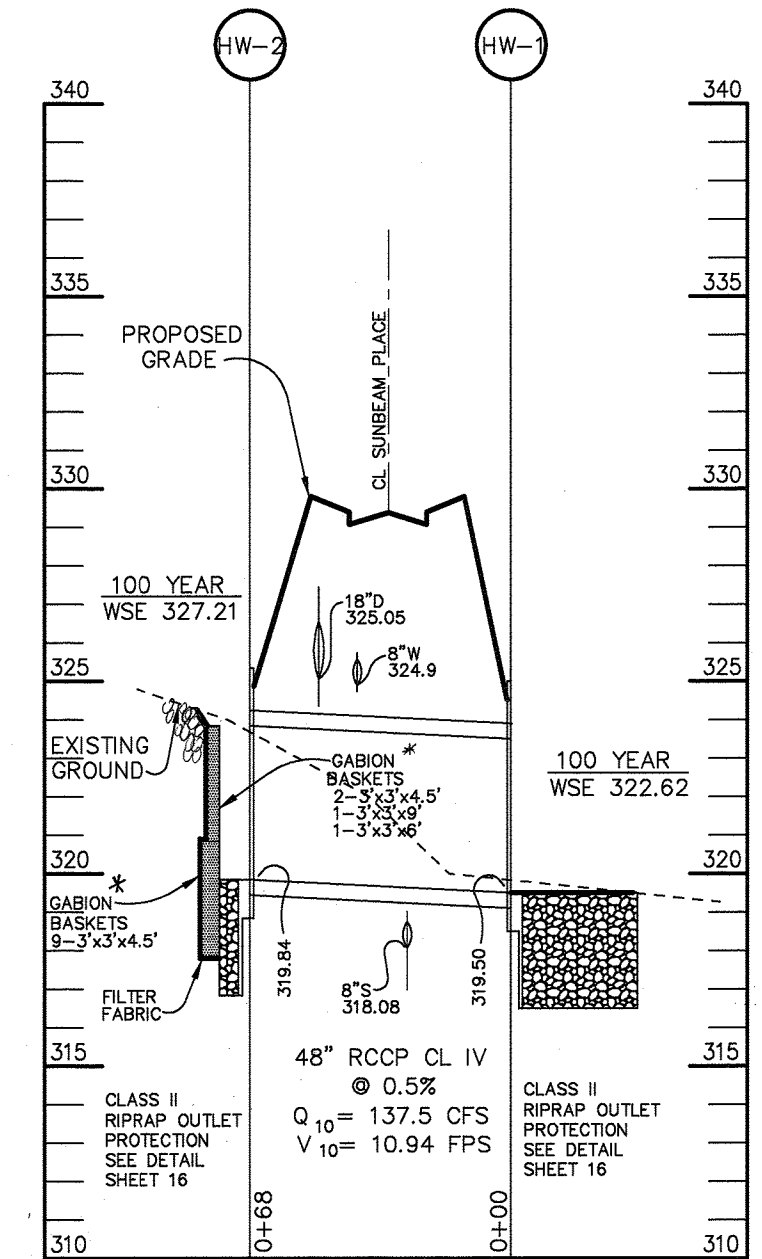
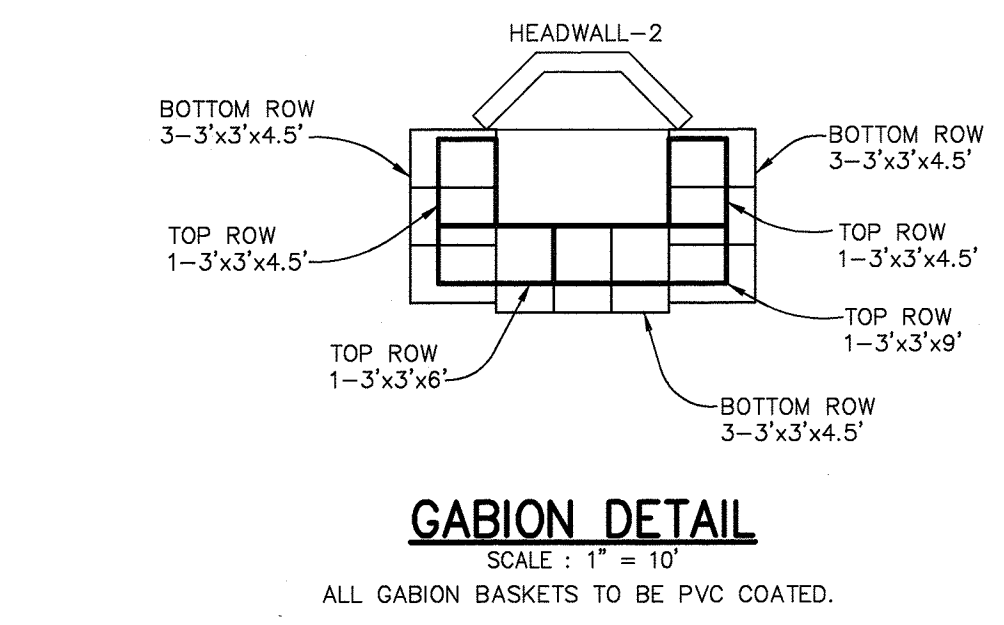
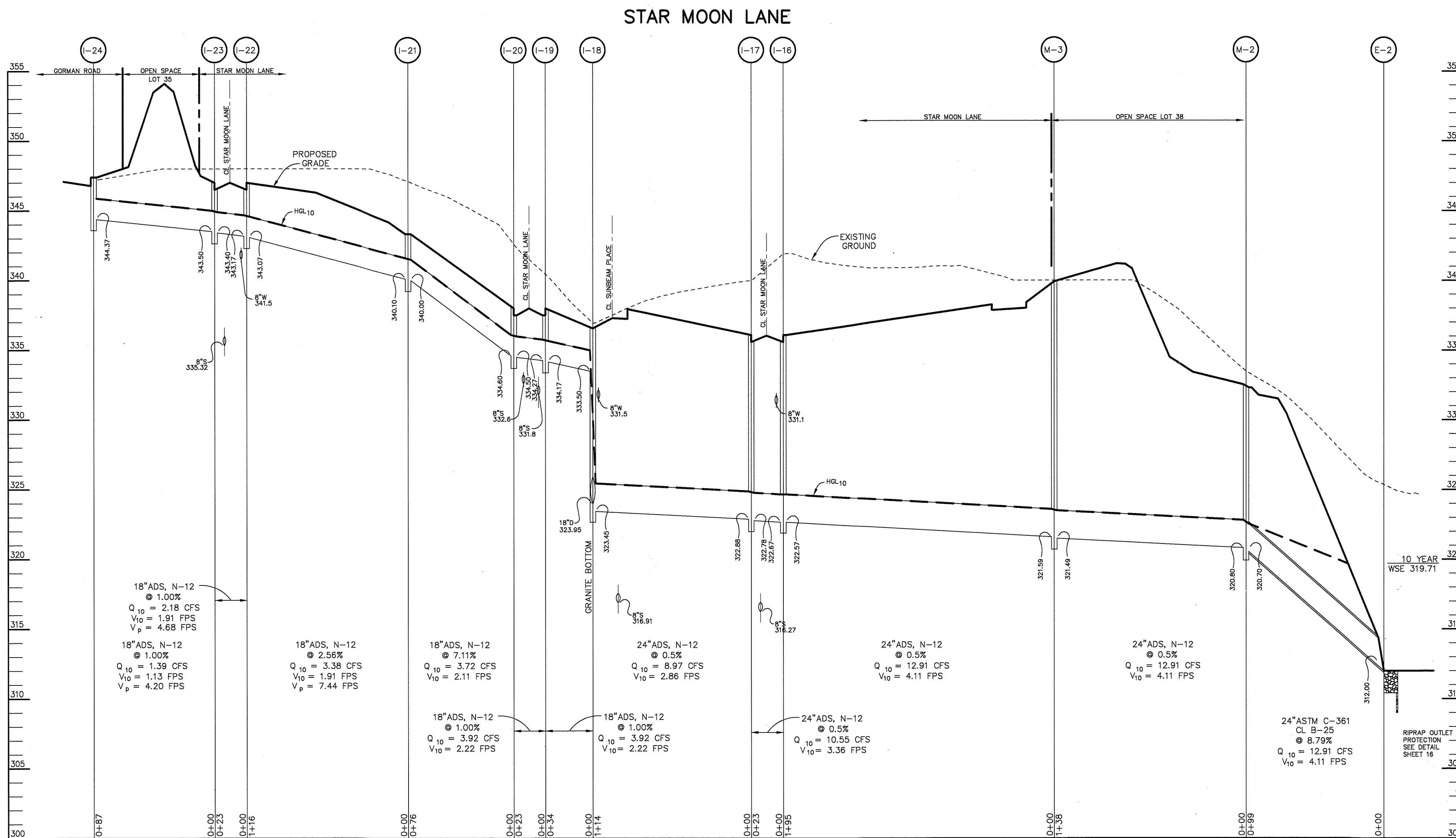
PROJECT: EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A
AREA: TAX MAP 47 BLOCK 3,8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES AND STRUCTURE SCHEDULE

RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

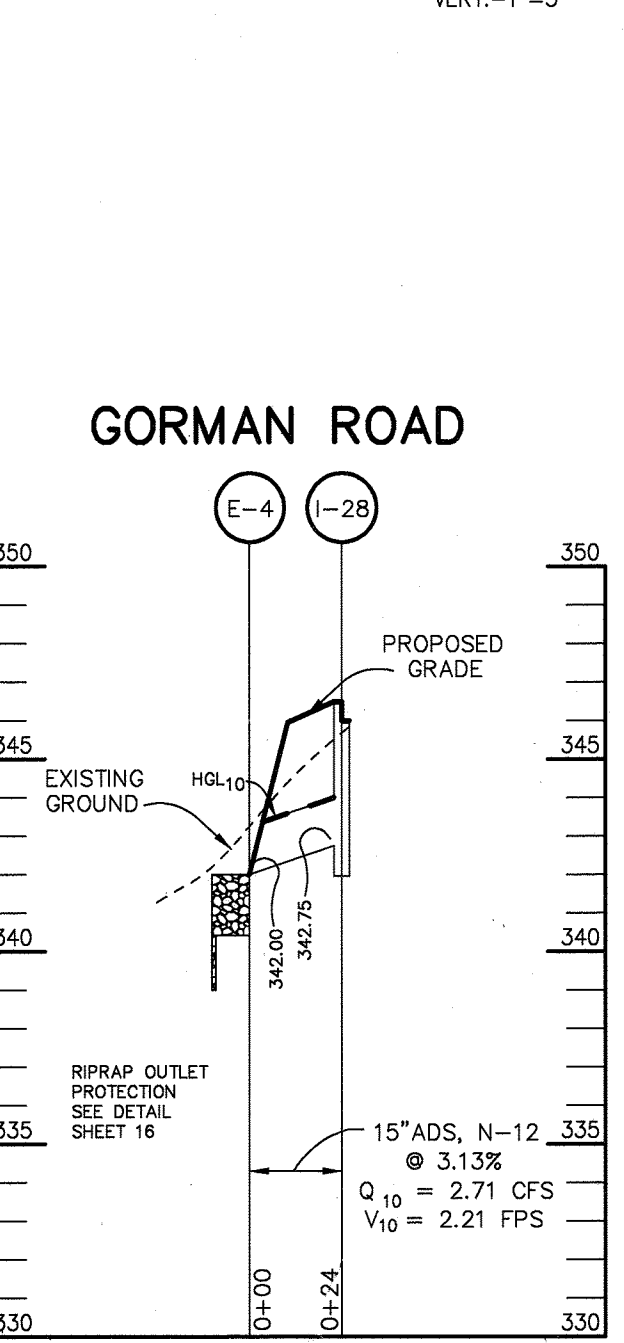
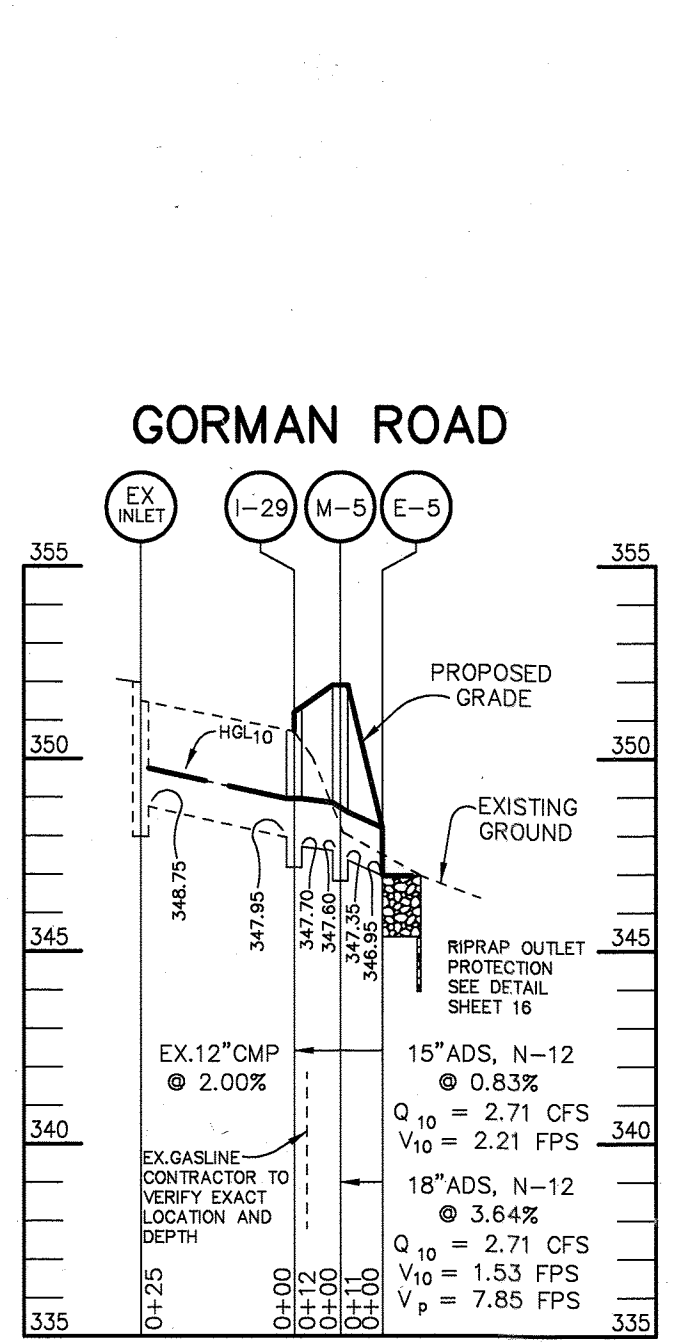
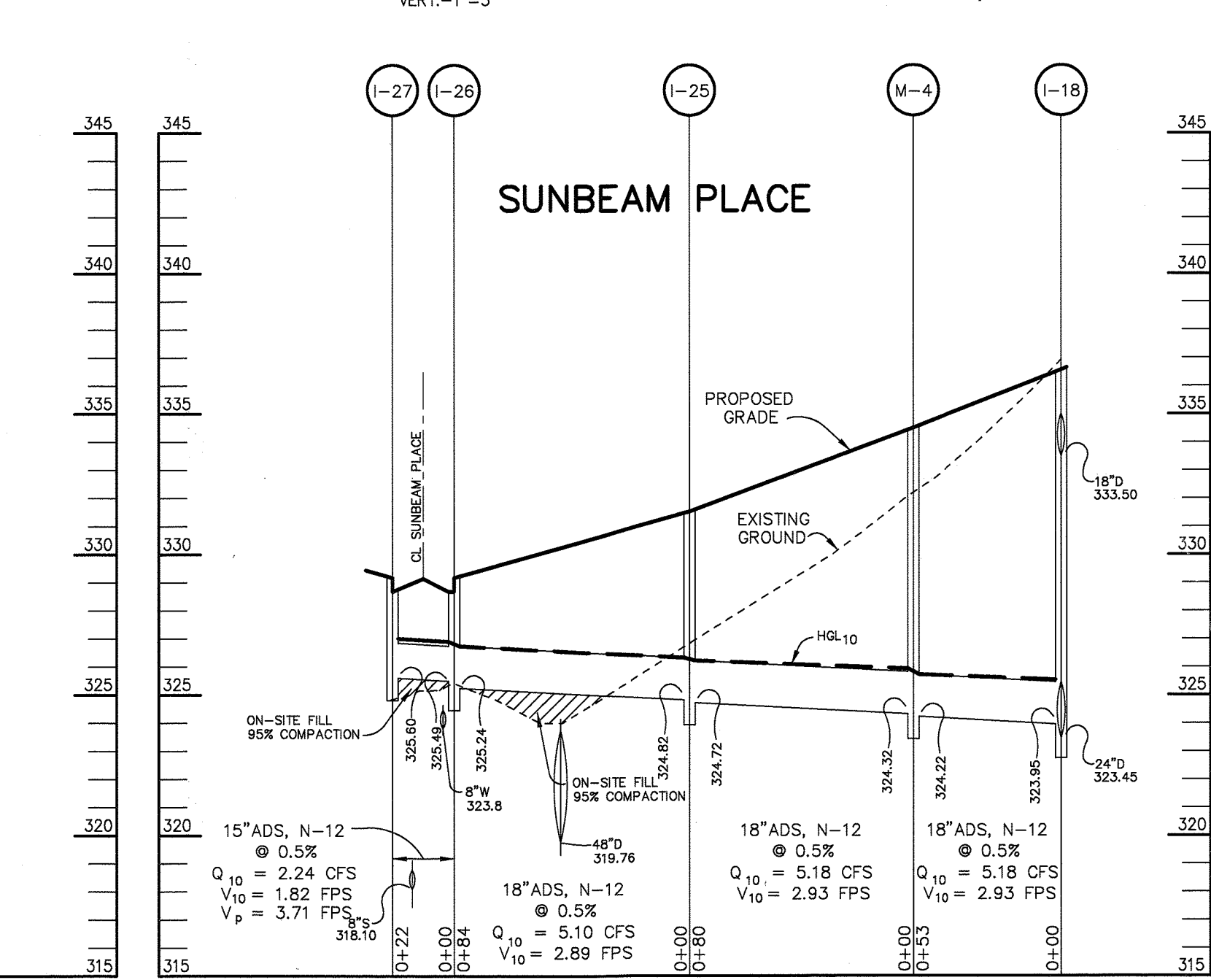
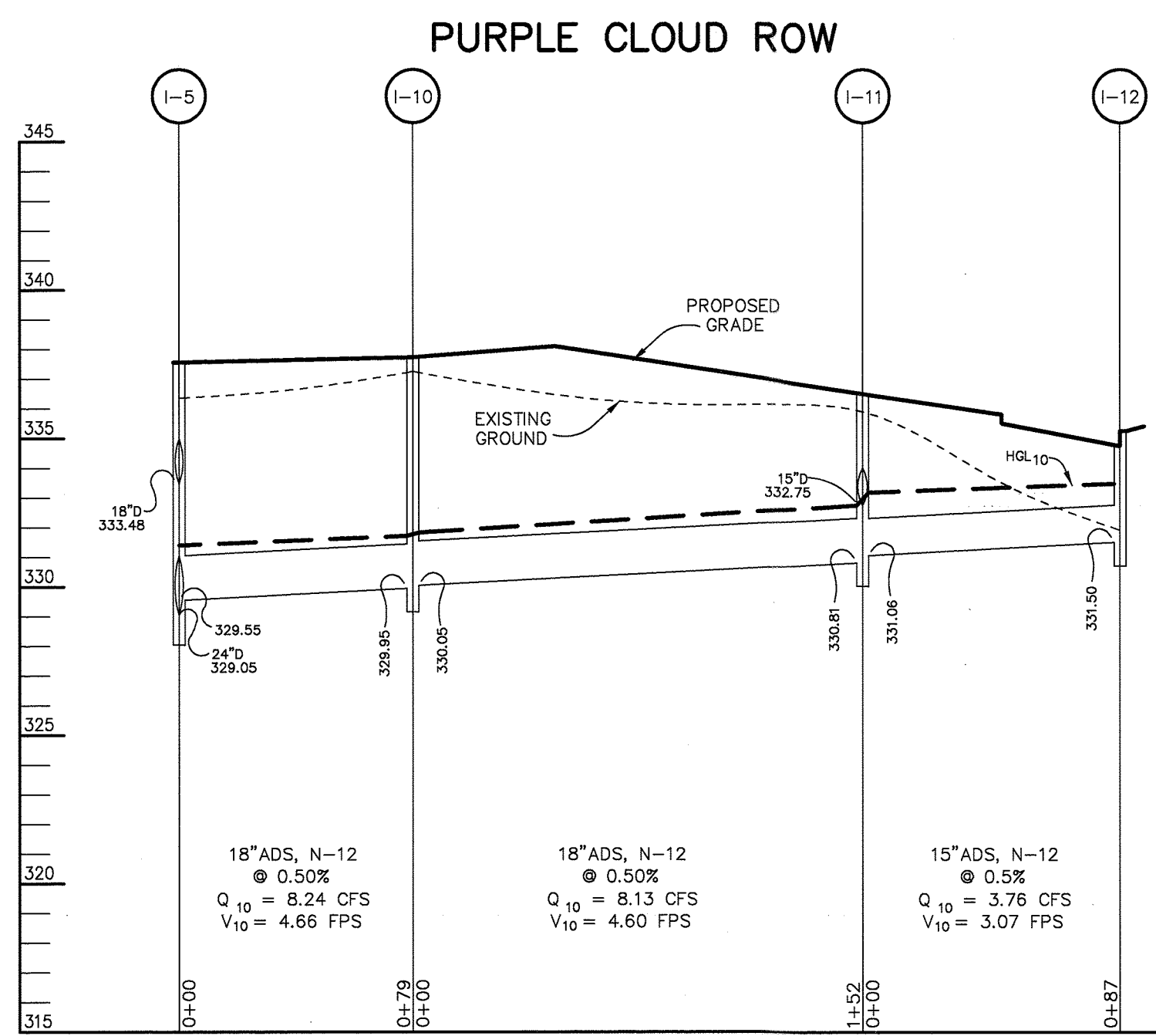
DATE: 6-26-01
DESIGNED BY : CJR
DRAWN BY: DAM
PROJECT NO : 99212/FINALS SD1.DWG
DATE : JUNE 19, 2001
SCALE : AS SHOWN
DRAWING NO. 8 OF 26





*REFER TO THE 5/30/01 GEOTECH REPORT BY THE ROBERT B. BALTER COMPANY FOR FURTHER REQUIREMENTS AND RECOMMENDATIONS.

AS BUILT CERTIFICATE	
APPROVED:	DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	7-6-01
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	7/12/01
APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT	7/10/01
APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE



7-6-2012	ADDING PATHWAY CONNECTION TO WARDEN WOODS
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	
EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	
TAX MAP 47 BLOCK 3, 8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
STORM DRAIN PROFILES	
RIEMER MUEGGE a division of: Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282	
6-26-01	DATE
DESIGNED BY:	CJR
DRAWN BY:	DAM
PROJECT NO:	99212/FINALS SD1.DWG
DATE:	JUNE 19, 2001
SCALE:	AS SHOWN
CHRISTOPHER J. REID #19949	DRAWING NO. 9 OF 26

LEGEND

EXISTING 2' CONTOUR	---	300
EXISTING 10' CONTOUR	---	300
PROPOSED 2' CONTOUR	---	300
PROPOSED 10' CONTOUR	---	300
PROPERTY LINE AND RIGHT OF WAY	---	
EASEMENT	---	
FENCE	---	
GUARDRAIL	---	
STORM DRAIN	---	15" D
OVERHEAD WIRES	---	OH
EXISTING TREELINE	---	
PROPOSED TREELINE	---	
DRAINAGE AREA LINES	---	L.O.D.
LIMIT OF DISTURBANCE	---	
CURB INLET PROTECTION	---	CIP
EARTH DIKE	---	
SUPER SILT FENCE	---	SSF
SILT FENCE	---	SF
EROSION CONTROL MATTING	---	
STABILIZED CONSTRUCTION ENTRANCE	---	
TREE PROTECTION FENCE	---	
FOREST RETENTION SIGN	---	Ⓢ

CL OF DAM DATA

Ⓢ	N 536.693.09	E 1,354.591.02	D.A. = 16.44'
Ⓢ	R = 1031.38'	L = 22.37'	
Ⓢ	N 08°50'56"	E 41.08'	
Ⓢ	R = 664.12'	L = 38.14'	
Ⓢ	N 12°08'23"	E 35.28'	
Ⓢ	R = 46.00'	L = 36.97'	
Ⓢ	R = 153.13'	L = 38.41'	
Ⓢ	N 536.891.95	E 1,354.583.40	

SEDIMENT BASIN #1

WET STORAGE REQ'D	= 29520 CF
DRY STORAGE REQ'D	= 29520 CF
WET STORAGE PROV.	= 29825 CF @ 316.40
DRY STORAGE PROV.	= 48240 CF @ 320.00
CREST ELEV.	= 320.00
TOP OF DAM	= 323.00
BOTTOM ELEV.	= 312.00
CLEANOUT ELEV.	= 315.05
Q2 EX	= 3.03 CFS
Q2 PROP	= 2.63 CFS



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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 6/22/01
DEVELOPER DATE

BY THE ENGINEER :

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

[Signature] 6.26.01
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.

[Signature] 7/2/01
NATURAL RESOURCES CONSERVATION SERVICE DATE

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

[Signature] 7/2/01
HOWARD SOIL CONSERVATION DISTRICT DATE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[Signature] 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[Signature] 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 7/16/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

7-6-20 2 ADDING PATHWAY CONNECTION TO WALDEN WOODS
10-30-01 ADDED BY 20" WATER ESMIT, ADDED TOT LOT LOCATION, CHANGED PATHWAY LOCATION, MODIFIED PUB. & PRIV. SWM ESMITS.

OWNER / DEVELOPER	THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000
-------------------	--

PROJECT	EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A
AREA	TAX MAP 47 BLOCK 3,8 & 9 ZONED: R-ED PARCEL: P/O B37 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
GRADING AND SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP
RIEMER MUEGGE

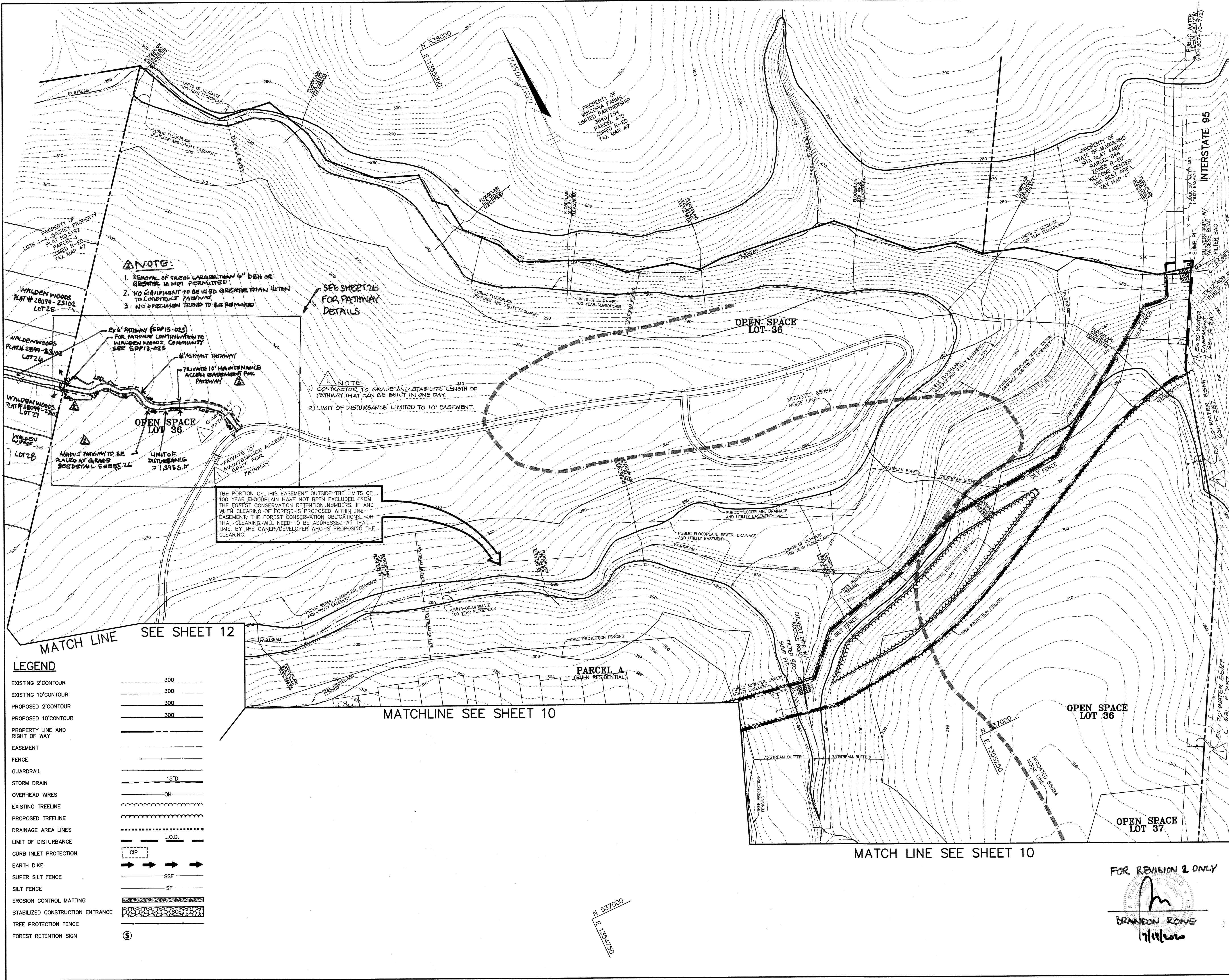
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

6-26-01
DATE

DESIGNED BY : CJR
DRAWN BY : DAM
PROJECT NO : 99212/FINALS
DATE : JUNE 19, 2001
SCALE : 1" = 50'
DRAWING NO. 10 OF 26

[Signature]
CHRISTOPHER J. REID #19949

NOTE: GRADING OF EXISTING GORMAN ROAD INDICATES ADDITION OF 1.5" PAVING OVERLAY.



NOTE:

1. REMOVAL OF TREES LARGER THAN 6" DBH OR GREATER IS NOT PERMITTED
2. NO EQUIPMENT TO BE USED GREATER THAN 1/2 TON TO CONSTRUCT PATHWAY
3. NO SPECIMEN TREES TO BE REMOVED

SEE SHEET 26 FOR PATHWAY DETAILS

NOTE:

- 1) CONTRACTOR TO GRADE AND STABILIZE LENGTH OF PATHWAY THAT CAN BE BUILT IN ONE DAY.
- 2) LIMIT OF DISTURBANCE LIMITED TO 10' EASEMENT.

THE PORTION OF THIS EASEMENT OUTSIDE THE LIMITS OF 100 YEAR FLOODPLAIN HAVE NOT BEEN EXCLUDED FROM THE FOREST CONSERVATION RESTRICTIONS. IF AND WHEN CLEARING OF FOREST IS PROPOSED WITHIN THE EASEMENT, THE FOREST CONSERVATION OBLIGATIONS FOR THAT CLEARING WILL NEED TO BE ADDRESSED AT THAT TIME, BY THE OWNER/DEVELOPER WHO IS PROPOSING THE CLEARING.

LEGEND

EXISTING 2' CONTOUR	---	300
EXISTING 10' CONTOUR	---	300
PROPOSED 2' CONTOUR	---	300
PROPOSED 10' CONTOUR	---	300
PROPERTY LINE AND RIGHT OF WAY	---	
EASEMENT	---	
FENCE	---	
GUARDRAIL	---	
STORM DRAIN	---	
OVERHEAD WIRES	---	15'D
EXISTING TREELINE	---	
PROPOSED TREELINE	---	
DRAINAGE AREA LINES	---	L.O.D.
LIMIT OF DISTURBANCE	---	
CURB INLET PROTECTION	---	
EARTH DIKE	---	
SUPER SILT FENCE	---	SSF
SILT FENCE	---	SF
EROSION CONTROL MATTING	---	
STABILIZED CONSTRUCTION ENTRANCE	---	
TREE PROTECTION FENCE	---	
FOREST RETENTION SIGN	---	

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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *[Signature]* DATE: 6/22/01

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

ENGINEER: *[Signature]* DATE: 6.22.01

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.

NATURAL RESOURCES CONSERVATION SERVICE: *[Signature]* DATE: 7/2/01

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

HOWARD SOIL CONSERVATION DISTRICT: *[Signature]* DATE: 7/2/01

AS BUILT CERTIFICATE

DATE: _____

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
 CHIEF, BUREAU OF HIGHWAYS: *[Signature]* DATE: 7-6-01

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 7/7/01

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 7/10/01

10-30-01: ADDED EX. 20' WATER EASEMENT, ADDED 6' ASPHALT PATHWAY AND PKIV. 10' MAINT. ACCESS ESMT FOR PATHWAY.
 7-6-01: 2. ADDING PATHWAY TO WALDEN WOODS 608 DIV.

DATE NO. REVISION

OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT: EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A

AREA: TAX MAP 47 BLOCK 3, 8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: GRADING AND SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

RIEMER MUEGGE
 a division of:
 Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 2818 Centre Park Drive, Columbia, MD 21045 • Tel 410.997.8600 Fax 410.997.8282

DATE: 6.26.01
 DESIGNED BY: CJR
 DRAWN BY: DAM
 PROJECT NO: 99212/FINALS/SEC2.DWG
 DATE: JUNE 19, 2001
 SCALE: 1" = 50'
 DRAWING NO. 11 OF 26

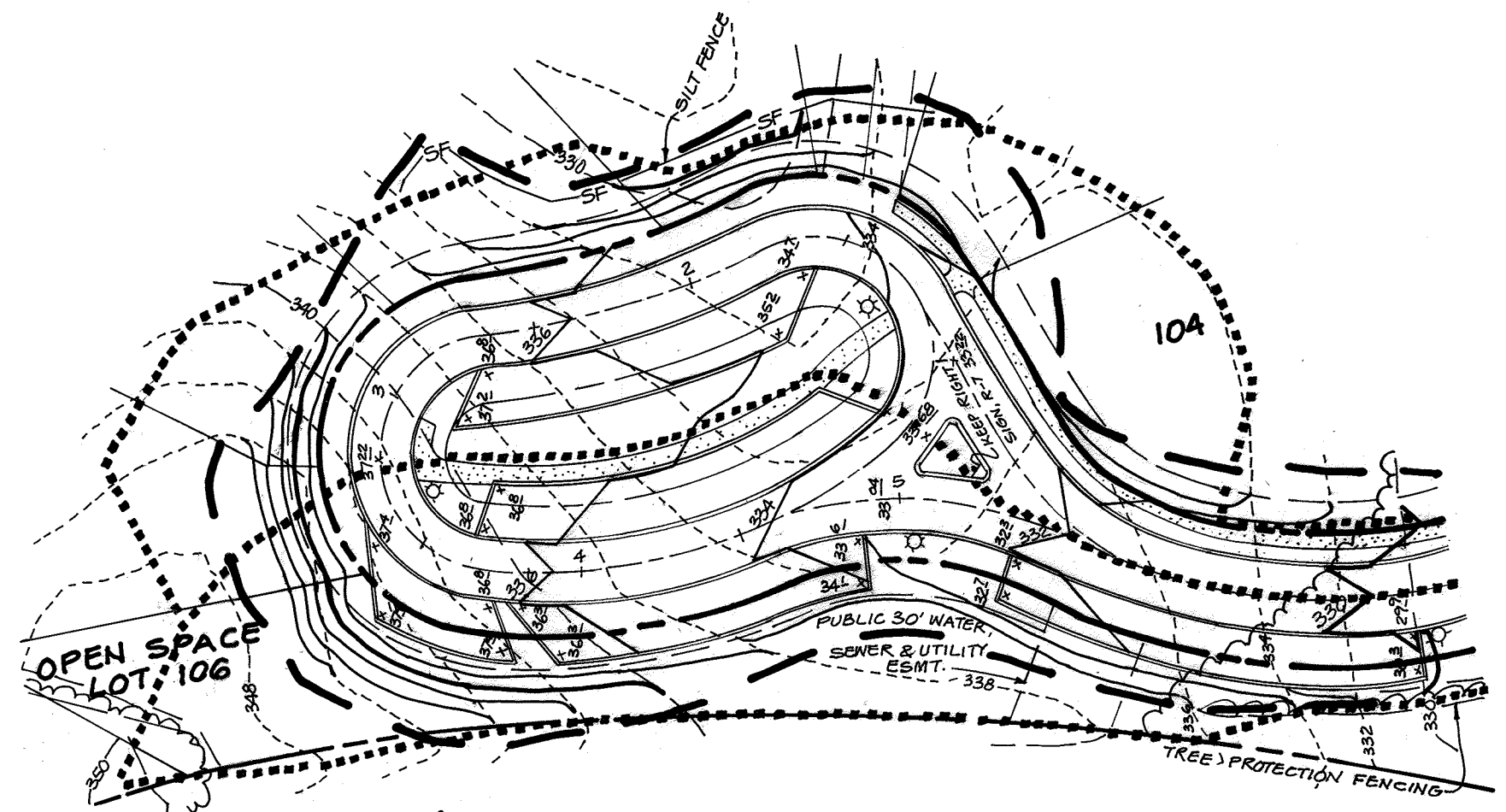
FOR REVISION 2 ONLY
[Signature]
 BRANDON ROWE
 7/14/01

CHRISTOPHER J. REID #19949



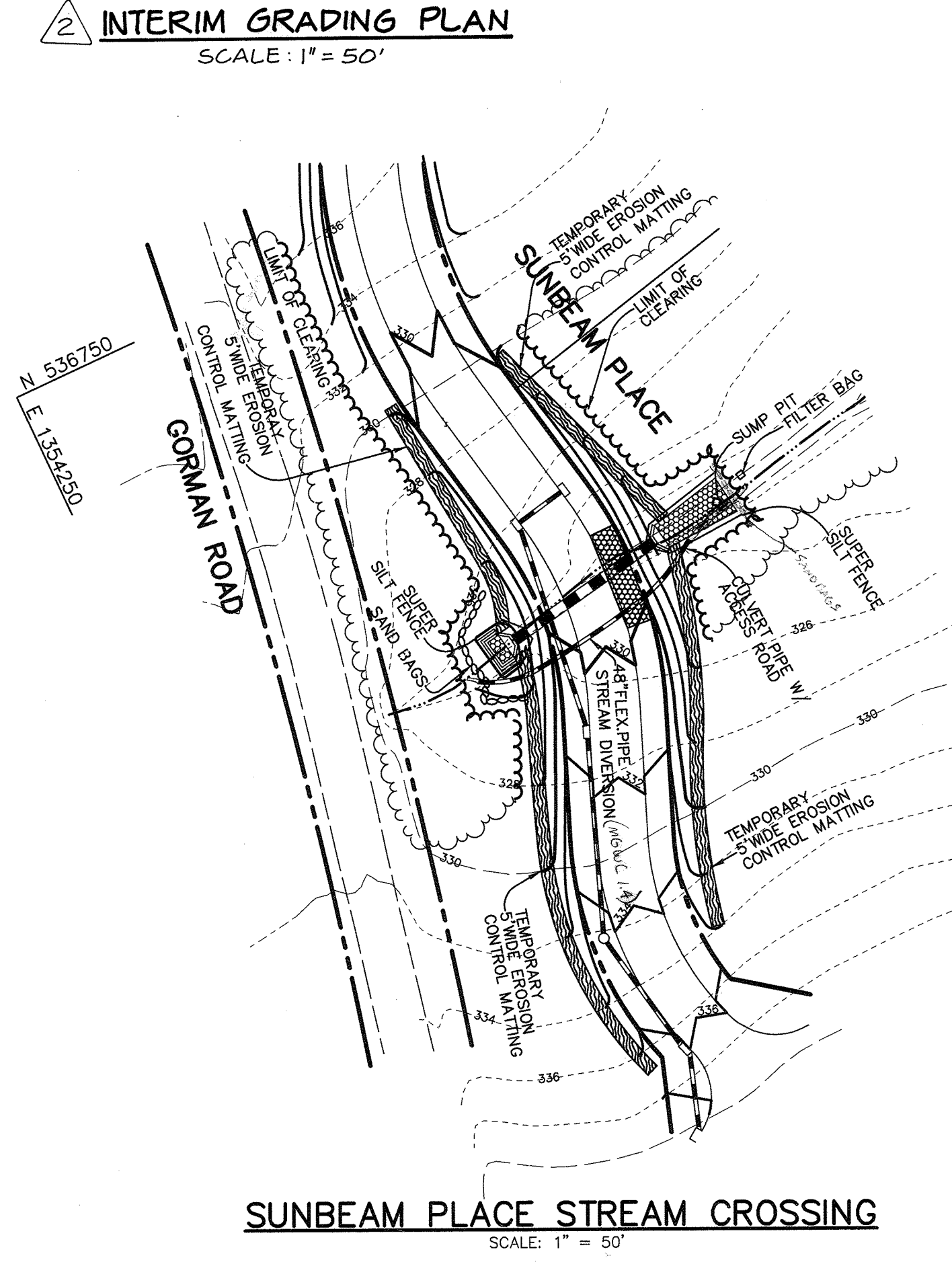
LEGEND

EXISTING 2' CONTOUR	---	300
EXISTING 10' CONTOUR	---	300
PROPOSED 2' CONTOUR	---	300
PROPOSED 10' CONTOUR	---	300
PROPERTY LINE AND RIGHT OF WAY	---	
EASEMENT	---	
FENCE	---	
GUARDRAIL	---	
STORM DRAIN	---	15"D
OVERHEAD WIRES	---	OH
EXISTING TREELINE	---	
PROPOSED TREELINE	---	
DRAINAGE AREA LINES	---	L.O.D.
LIMIT OF DISTURBANCE	---	
CURB INLET PROTECTION	---	
EARTH DIKE	---	
SUPER SILT FENCE	---	SSF
SILT FENCE	---	SF
EROSION CONTROL MATTING	---	
STABILIZED CONSTRUCTION ENTRANCE	---	
TREE PROTECTION FENCE	---	
FOREST RETENTION SIGN	---	



DRAINAGE AREA DATA

INLET NO.	DRAINAGE AREA (AC)	'C' FACTOR	PERCENT IMPERVIOUS
I-1	0.24	0.62	63
I-2	0.05	0.74	80
I-3	0.05	0.74	80
I-4	0.09	0.65	66
I-5	0.01	0.87	100
I-6	0.05	0.47	40
I-7	0.24	0.43	33
I-8	0.22	0.45	36
I-9	0.10	0.47	40
I-10	0.10	0.54	50
I-11	0.23	0.50	43
I-12	1.31	0.38	26
I-13	1.52	0.33	19
I-14	0.30	0.45	37
I-15	0.09	0.72	78
I-16	0.76	0.49	42
I-17	0.58	0.46	38
I-18	0.02	0.54	50
I-19	0.22	0.36	23
I-20	0.10	0.54	50
I-21	0.18	0.50	44
I-22	0.40	0.51	45
I-23	0.43	0.32	16
I-24	0.48	0.44	22
I-25	0.06	0.58	58
I-26	0.70	0.26	10
I-27	0.83	0.61	61
I-28	0.70	0.59	57
I-29	0.70	0.59	57
A	3.60	0.60	60



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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *[Signature]* DATE: 6/22/01

BY THE ENGINEER :

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

ENGINEER: *[Signature]* DATE: 6.26.01

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.

NATURAL RESOURCES CONSERVATION SERVICE DATE: 7/6/01

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 7/6/01

AS BUILT CERTIFICATE

DATE: _____

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
[Signature] DATE: 7-6-01
 CHIEF, BUREAU OF HIGHWAYS

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
[Signature] DATE: 7/17/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] DATE: 7/10/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

01.02.02/2 MODIFIED SUNBEAM PLACE GRADING, INLET DATA
 10.30.01/1 ADDED 6" ASPHALT PATHWAY AND PRIVATE 10' MAINTENANCE AND ACCESS EASEMENT FOR PATHWAY.

DATE NO. REVISION

OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT

EMERSON
 SECTION ONE AREA ONE
 LOTS 1 - 39 & PARCEL A

AREA

TAX MAP 47 BLOCK 3.8 & 9
 ZONED: R-ED PARCEL: P/O 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

GRADING AND SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP

RIEMER MUEGGE
 a division of:
Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

6.26.01 DATE

DESIGNED BY : CJR

DRAWN BY: DAM

PROJECT NO : 99212/FINALS SEDCONT3.DWG

DATE : JUNE 19, 2001

SCALE : 1" = 50'

DRAWING NO. 12 OF 26

CHRISTOPHER J. REID #19949



Summary

The results of the pond stage storage and routing are presented below along with a summary of the required volumes to be stored within the stormwater management facility.

Storm	Required	Provided	Elevation	Remarks
WQv	0.87 Ac-ft.*	0.45 Ac-ft.	315.65	Natural Area Credit
Cpv	0.82 Ac-ft.	0.82 Ac-ft.	318.86	Weir Crest set at Elev. 318.86
Rev	0.22 Ac-ft.	N/A	N/A	Contained within WQv

* This project is employing the Natural Area Conservation Credit, which gives a credit based on the amount of open space that is being preserved (25.84 acres). This credit was used to reduce the WQv required from 0.86 ac-ft to 0.43 ac-ft.

Storm Event (yr)	Proposed Discharge (cfs)	Pond Elevation (ft)	Storage Above WQv (ac-ft)
1	40.41	318.87	0.82
10	80.22	319.70	1.125
100		320.29	1.353

A wet pond (P-2) is being used as the Best Management Practice (BMP) to manage the required volumes. A forebay sized for 0.1 inch of runoff per impervious acre is provided. A central permanent pool will provide the recharge and water quality volume with a non-clogging reverse-slope, low flow pipe designed to provide extended detention control for the channel protection volume. The 100 year storm will be safely conveyed through the principal spillway with two feet of freeboard. Computations for the wet pond are included in the stormwater management report. No 10-year or 100-year storage volumes are required for this development.

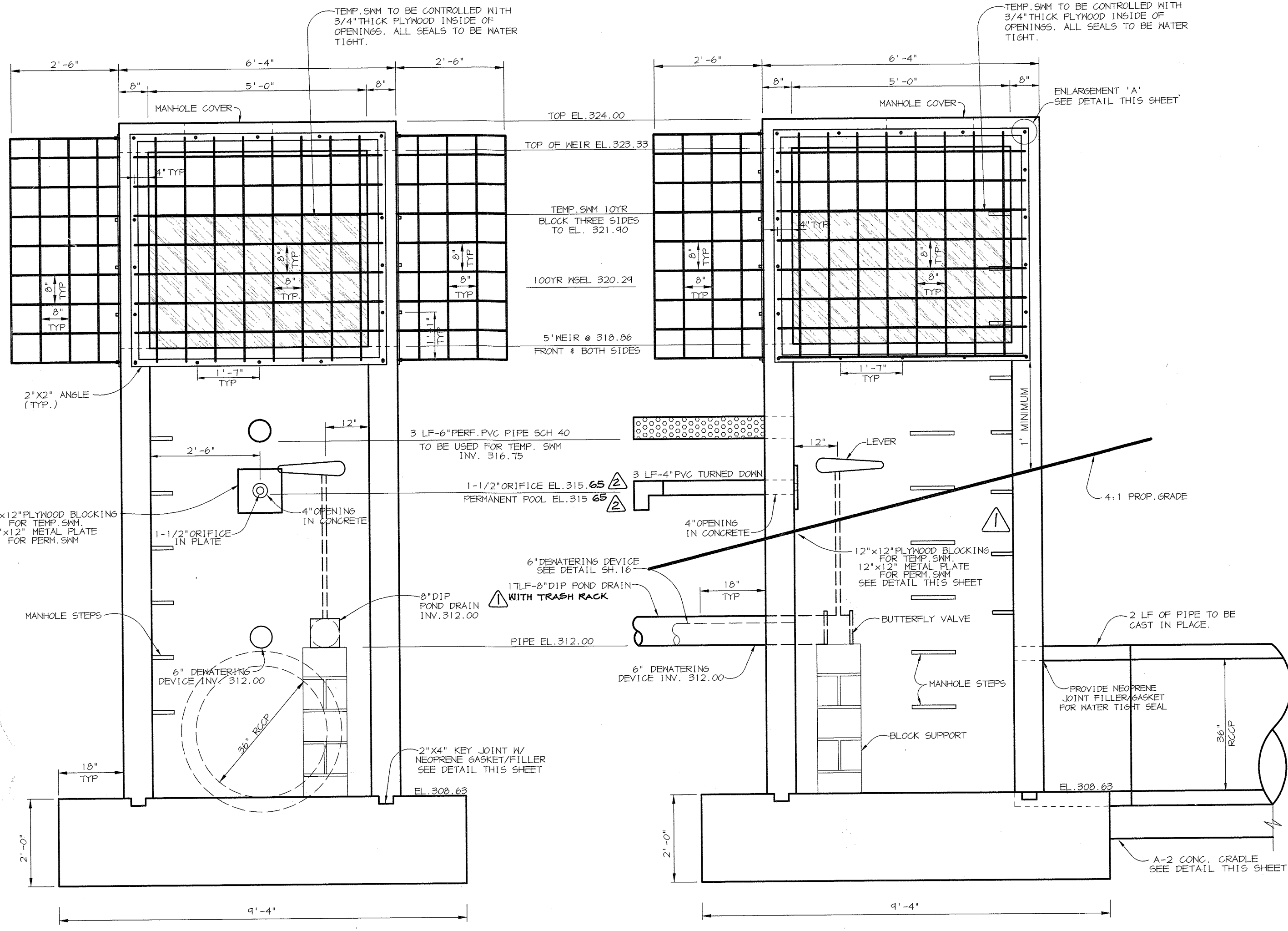
The pond is a low hazard class "A" facility, as any breach of the embankment would impact only open space and floodplain.

NATURAL AREA CONSERVATION CREDIT
= 25.84 ACRES TOTAL

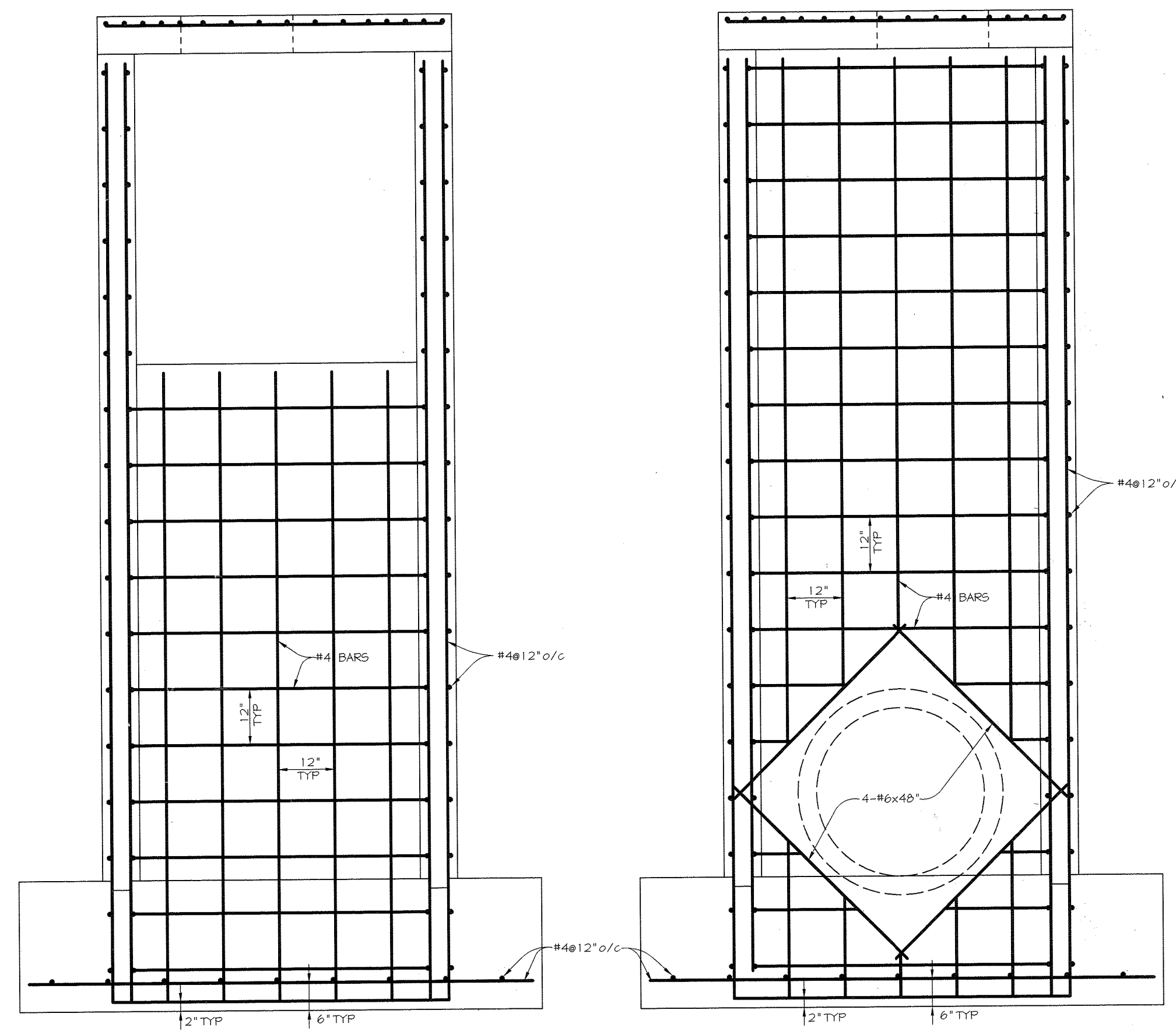
E 1353200 N 5357500

7-6-01	3	ADDING PATHWAY TO WALDEN MOORS SUBDIV.
DATE	NO	REVISION
AS BUILT CERTIFICATE		
DATE		
APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.		
<i>Howard M. Quaker</i>		7-6-01
CHIEF, BUREAU OF HIGHWAYS		DATE
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.		
<i>Chris Starnes</i>		7/10/01
CHIEF, DIVISION OF LAND DEVELOPMENT		DATE
<i>Chris Dammann</i>		7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION		DATE
01-02-02/23 REVISED SWM SUMMARY & SUNBEAM PLACE		
10-30-01/1 ADDED TOT LOT LOCATION, CHANGED LOCATION OF PATHWAY, MODIFIED PUB. EMBT & PREL. SWM EMBT.		
DATE	NO	REVISION
OWNER / DEVELOPER		
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000		
PROJECT		
EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A		
AREA		
TAX MAP 47 BLOCK 3, 8 & 9 ZONED: R-ED PARCEL: P/O B37 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE		
PROPOSED SWM DRAINAGE AREA MAP		
RIEMER MUEGGE a division of: Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.9900 fax 410.997.9282		
6-26-01		DATE
<i>Brandon Rowe</i>		DESIGNED BY: CJR
DRAWN BY: DAM		PROJECT NO: 98212/FINALS PRDA.DWG
DATE: JUNE 19, 2001		SCALE: 1"=100'
DRAWING NO. 13 OF 26		CHRISTOPHER J. REID #19949

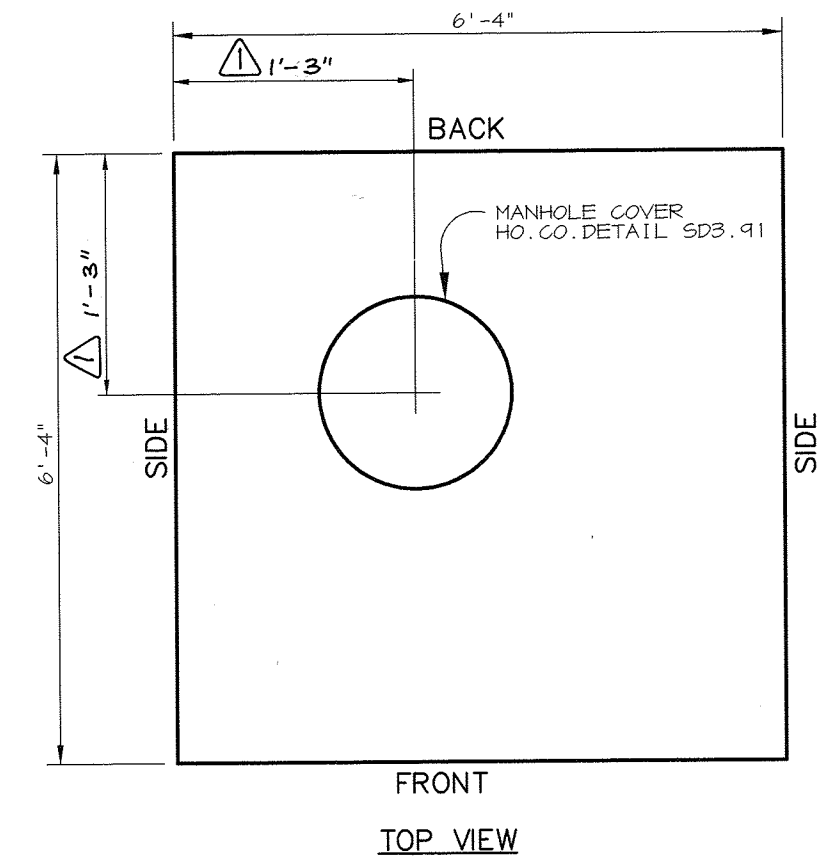
P:\project\198212\FINALS\PRDA.DWG Tue Jun 19 11:37:22 2001 Riemer Muegge, a division of PHRDA



S-1 DETAILS
SCALE 1"=2'



S-1 REBAR LAYOUT
SCALE 1"=2'

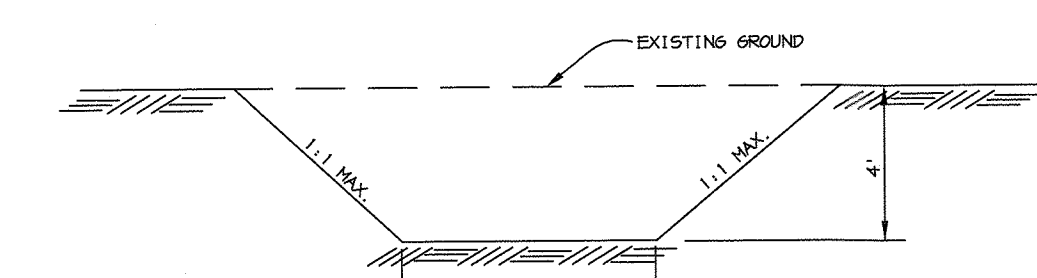


RISER STRUCTURE NOTES FOR S-1

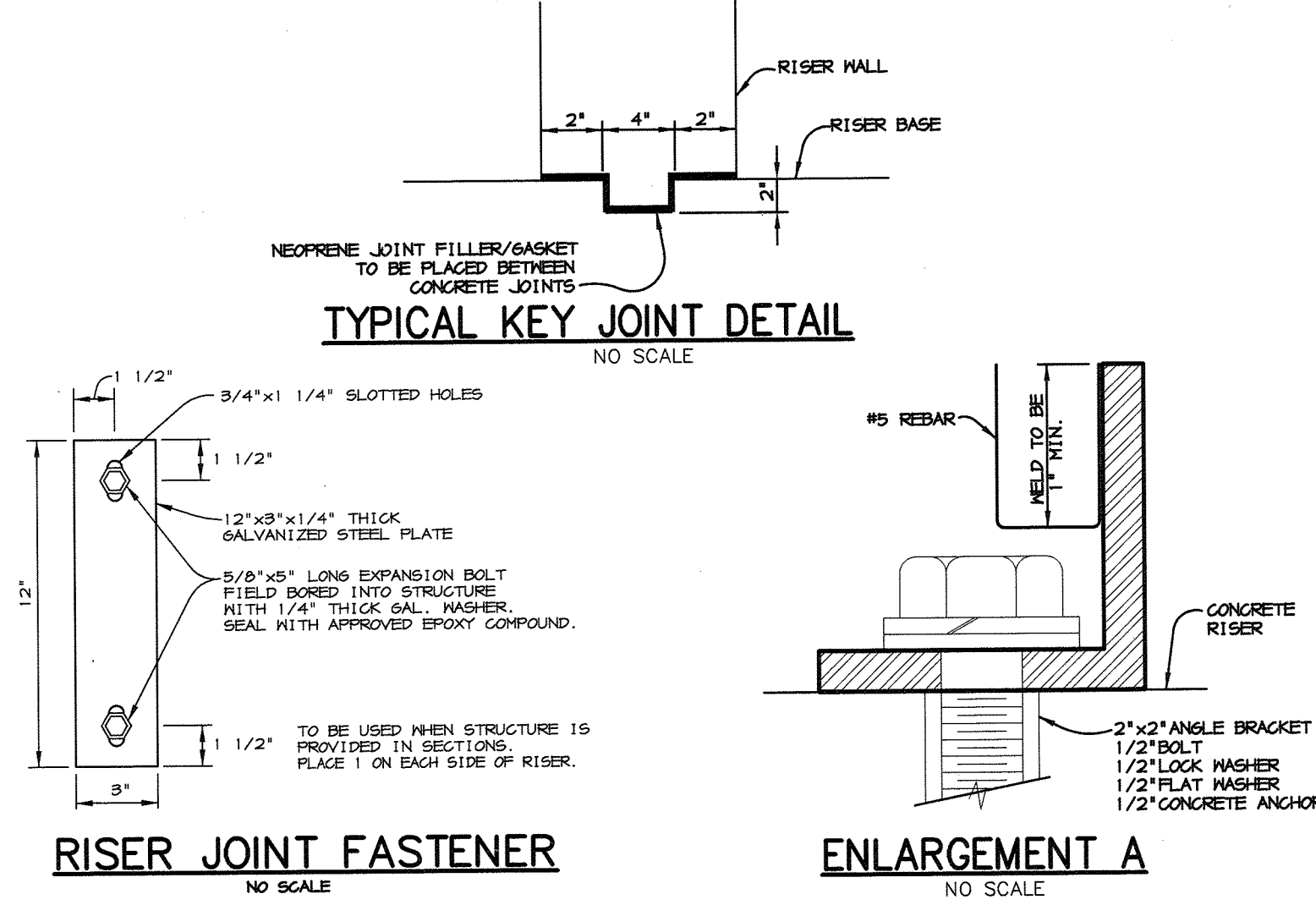
- RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
- SEE THIS SHEET FOR REINFORCEMENT DETAILS.
- CONCRETE SHALL BE MSHA MIX NO. 3 (F_c=3,500 psi MINIMUM)
- WHEN POND IS CONVERTED INTO A PERMANENT FACILITY, THE DRAIN/DRY DEVICE HOLE SHALL BE REMOVED.
- REFER TO HOWARD COUNTY STD. 6-5.21 FOR MANHOLE STEP DETAILS.
- RISER JOINTS SHALL BE WATERTIGHT USING NEOPRENE GASKETS.
- ALL PIPE CONNECTIONS SHALL PROVIDE RUBBER GASKET FOR WATERTIGHTNESS.
- RISER SHALL BE PLACED ON A FIRMLY COMPACTED SUBGRADE AND SHALL BE APPROVED BY A GEOTECHNICAL ENGINEER.
- A 8" OPEN LEFT GATE VALVE (ANNA C-155 CL. 350) SHALL BE CONNECTED TO THE RISER WALL WITH ALL-THREADED ROD AND A FLANGE JOINT. PROVIDE A STEM EXTENSION ON THE GATE VALVE AND FIRMLY SECURE TO RISER WALL WITH BRACKET(S). PROVIDE A STANDARD VALVE BOX AND COVER IN THE TOP SLAB DIRECTLY OVER THE GATE VALVE.

REMOVABLE TRASH RACK NOTES:

- STEEL TO CONFORM TO ASTM A-36. #5 BARS TO BE SMOOTH. SEE DETAIL FOR SPACING.
- ALL REBAR TO BE WELDED AT ALL INTERSECTIONS.
- ALL BENDS TO BE 2" RADIUS. 2" x 2" ANGLE IRON AND 1/2" DIAMETER ANCHOR BOLTS TO BE USED FOR TRASH RACK FRAME.
- GALVANIZE TRASH RACK AFTER FABRICATION AND PAINT BATTLESHIP GRAY.

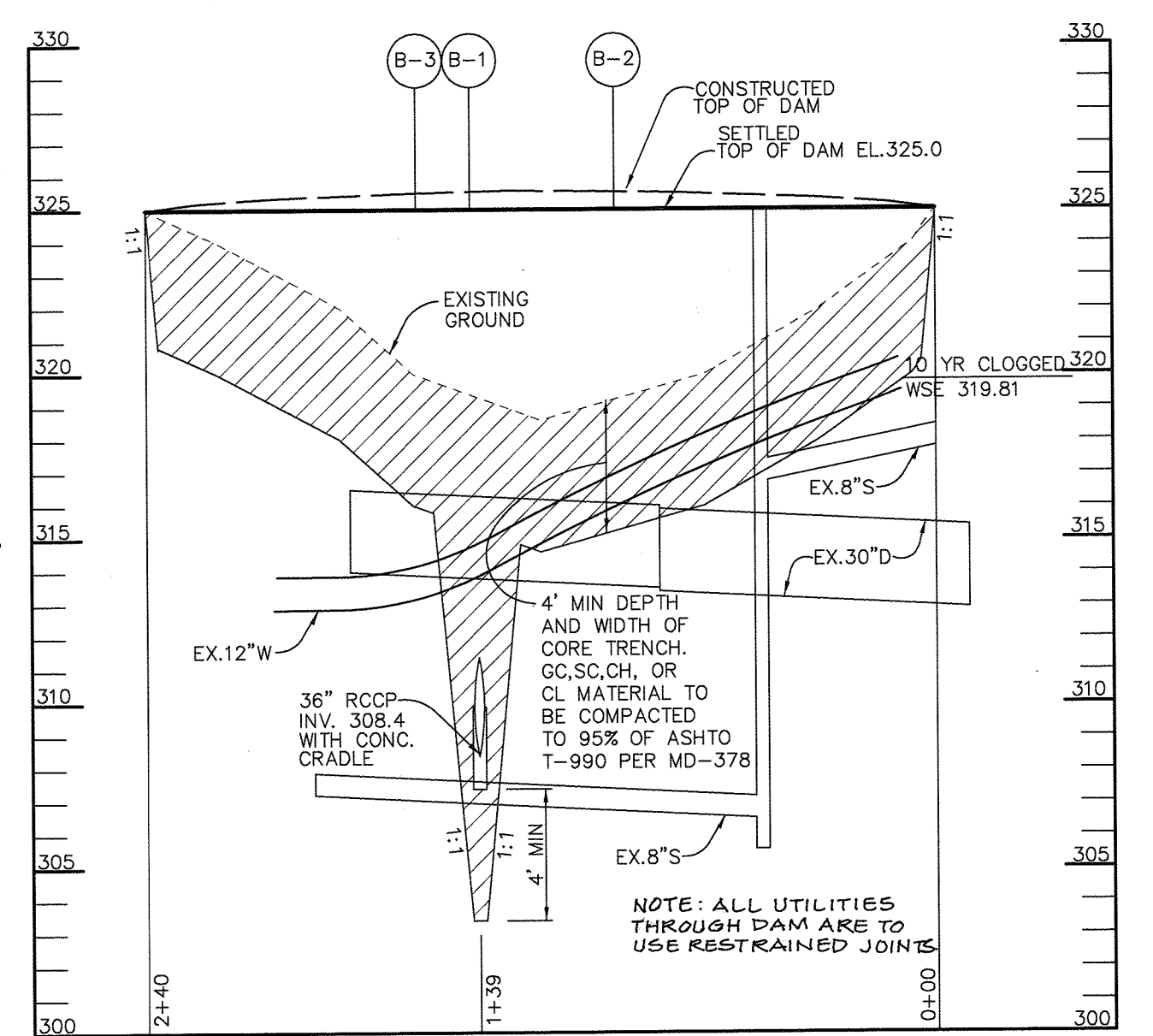


CORE TRENCH DETAIL
NO SCALE

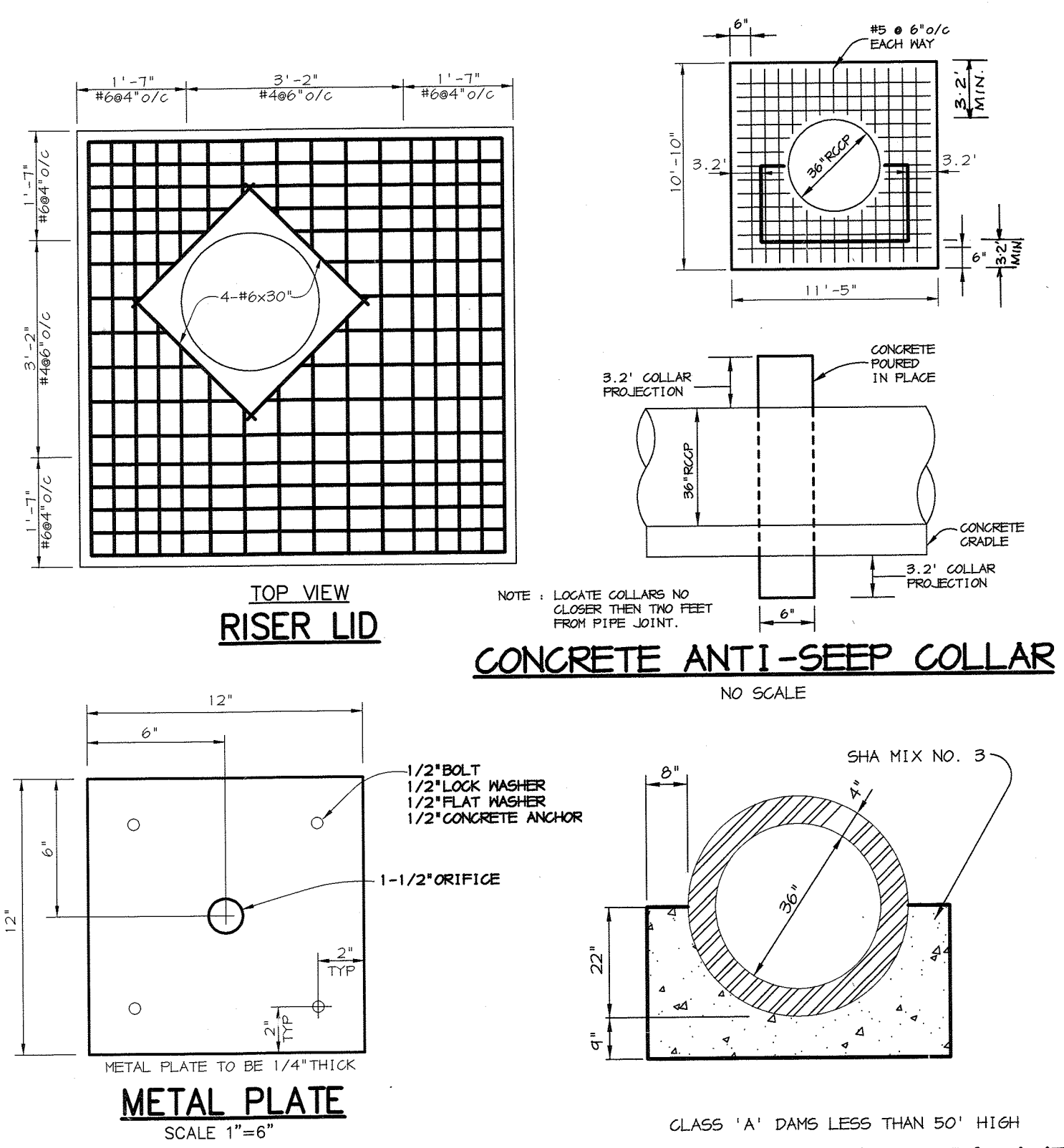


RISER JOINT FASTENER
NO SCALE

ENLARGEMENT A
NO SCALE



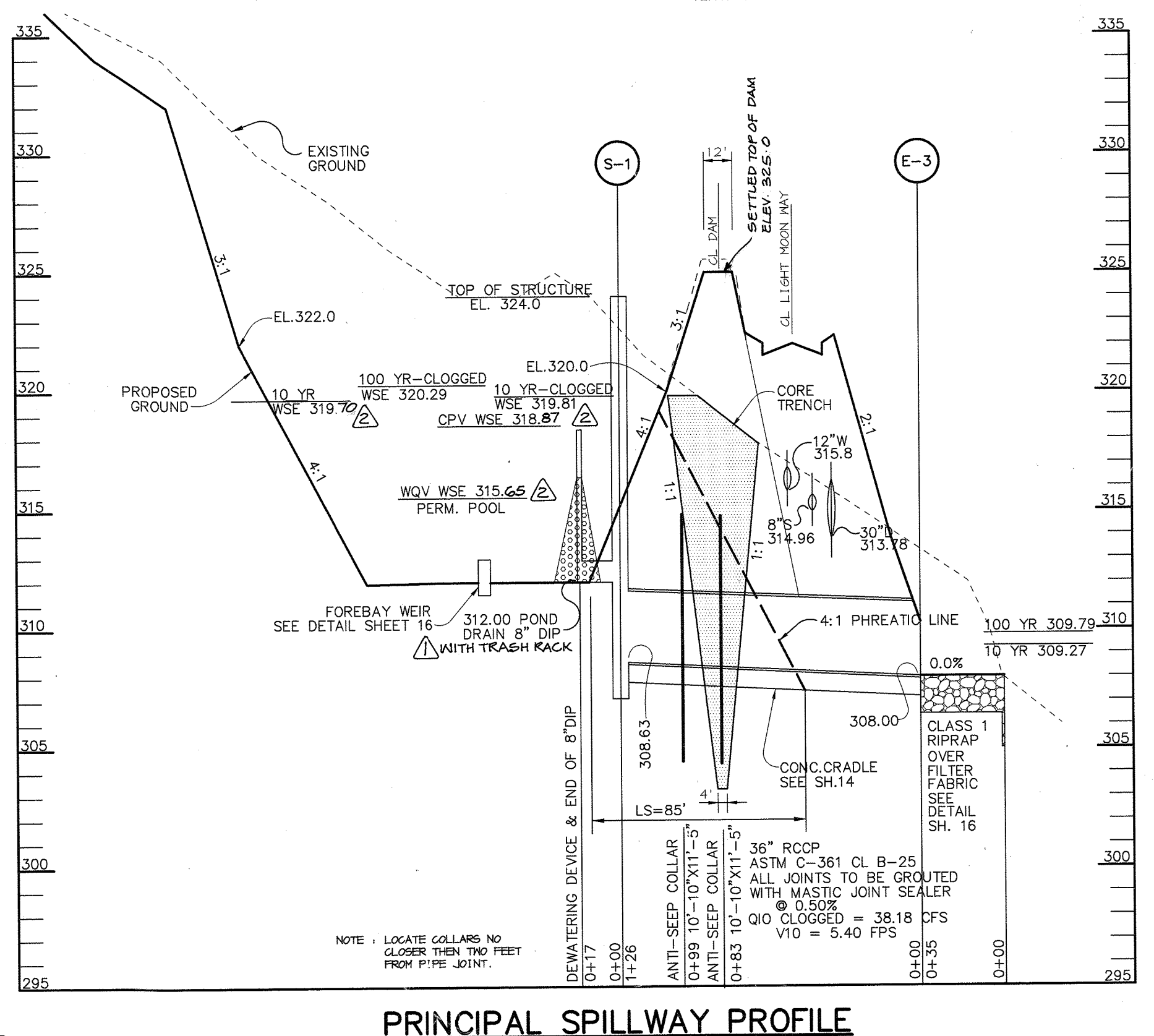
CENTERLINE OF EMBANKMENT PROFILE
SCALE: HOR.-1"=50' VERT.-1"=5'



CONCRETE ANTI-SEEP COLLAR
NO SCALE

METAL PLATE
SCALE 1"=6"

A-2 CONCRETE CRADLE
NO SCALE



PRINCIPAL SPILLWAY PROFILE
SCALE: HOR.-1"=50' VERT.-1"=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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *Chris J. Reid* DATE: 6/22/01

BY THE ENGINEER :

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

ENGINEER: *Chris J. Reid* DATE: 6/26/01

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.

NATURAL RESOURCES CONSERVATION SERVICE: *Jim Reynolds* DATE: 7/6/01

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

HOWARD SOIL CONSERVATION DISTRICT: *Yvette W. Hill* DATE: 7/6/01

AS BUILT CERTIFICATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Daniels CHIEF, BUREAU OF HIGHWAYS DATE: 7/6/01

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Chris Hamilton CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 7/17/01

Chris Hamilton CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 7/10/01

01-02-02 REVISOR DRIFICE ON S-1
 10-30-01 ADDED STEPS IN S-1, TRASH RACK ON DRAIN.

DATE NO. REVISION

OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT

EMERSON
 SECTION ONE AREA ONE
 LOTS 1 - 39 & PARCEL A

AREA

TAX MAP 47 BLOCK 3,8 & 9
 ZONED: R-ED PARCEL: P/O 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE

STORMWATER MANAGEMENT
 NOTES AND DETAILS

RIEMER MUEGGE
 a division of:
 Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8800 fax 410.997.9282

DATE: 6-26-01

DESIGNED BY : CJR
 DRAWN BY: DAM
 PROJECT NO : 99212/FINALS
 DATE : JUNE 19, 2001
 SCALE : AS SHOWN
 DRAWING NO. 14 OF 26

STATE OF MARYLAND
 CHRISTOPHER J. REID #19949

MD-37B STANDARDS AND SPECIFICATIONS

SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-37B. All references to ASTM and ASHRAE specifications apply to the most recent version.

SITE PREPARATION

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut, skid, piled and removed from the ground surface.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, mud, rubbish, stones greater than 6" frozen or other objectionable materials.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick layers (before compaction) layers which are to be continuous over the entire length of the fill.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tire or vibratory roller.

When required by the reviewing agency the minimum required density shall not be less than 98% of maximum dry density with a maximum of 2% over the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction.

Cutoff Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for the excavation, with the minimum width being four feet.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be not less than 26 feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter.

STRUCTURE BACKFILL

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material.

Structure Backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Specifications for Construction and Materials, Section 315 as modified.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term erosion control is required.

Seeded Preparation - Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.

Soil Amendments - Apply 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq. ft.).

Mulching - Apply 1 1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq. ft.) of untreated soil grain straw immediately after seeding.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1978.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND SHOWN HEREON SHALL BE PERFORMED AT LEAST ONCE ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN THESE STANDARDS AND SPECIFICATION FOR PONDS.

ROUTINE MAINTENANCE

1. Facility shall be inspected annually and after major storms. Inspections should be performed during wet weather to determine if the pond is functioning properly.

2. Top and side slopes of the embankment shall be mowed a minimum of two (2) times a year, once in June and once in September.

3. Debris and litter next to the outlet structure shall be removed during regular mowing operations and as needed.

4. Visible signs of erosion in the pond as well as riprap outlet area shall be repaired as soon as it is noticed.

NON-ROUTINE MAINTENANCE

1. Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The contractor should be inspected during routine maintenance operations.

2. Sediment should be removed when its accumulation significantly reduces the design storage. Interfere with the function of the riser, when designed, and/or the outlet structure, or when deemed necessary by the Howard County's Department of Public Works.

REINFORCED CONCRETE PIPE

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-501.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length.

3. Backfilling shall conform to "Structure Backfill".

4. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

1. Removal of silt when accumulation exceeds six (6) inches in forebay.

2. Removal of accumulated paper, trash and debris as necessary.

3. Vegetation growing on the embankment top and faces of the forebay or basin is not allowed to exceed 12 inches in height at any time.

4. Annual inspection and repair of the structure.

5. Corrective maintenance is required any time a forebay does not drain within 60 hours (ie, no standing water is allowed unless designed for).

6. BORING B-1 NO SCALE

6. BORING B-2 NO SCALE

6. BORING B-3 NO SCALE

DATE 6.26.01

DESIGNED BY: CJR

DRAWN BY: DAM

PROJECT NO: 99212/FINALS 'SEDDT2.DWG

DATE: JUNE 19, 2001

SCALE: AS SHOWN

DRAWING NO. 15 OF 36

CHRISTOPHER J. REID #19949

F-01-140

STATE OF MARYLAND DEPARTMENT OF THE ENVIRONMENT

HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS

EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A

TAX MAP 47 BLOCK 3.8 & 9 ZONED: R-E PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000

EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A

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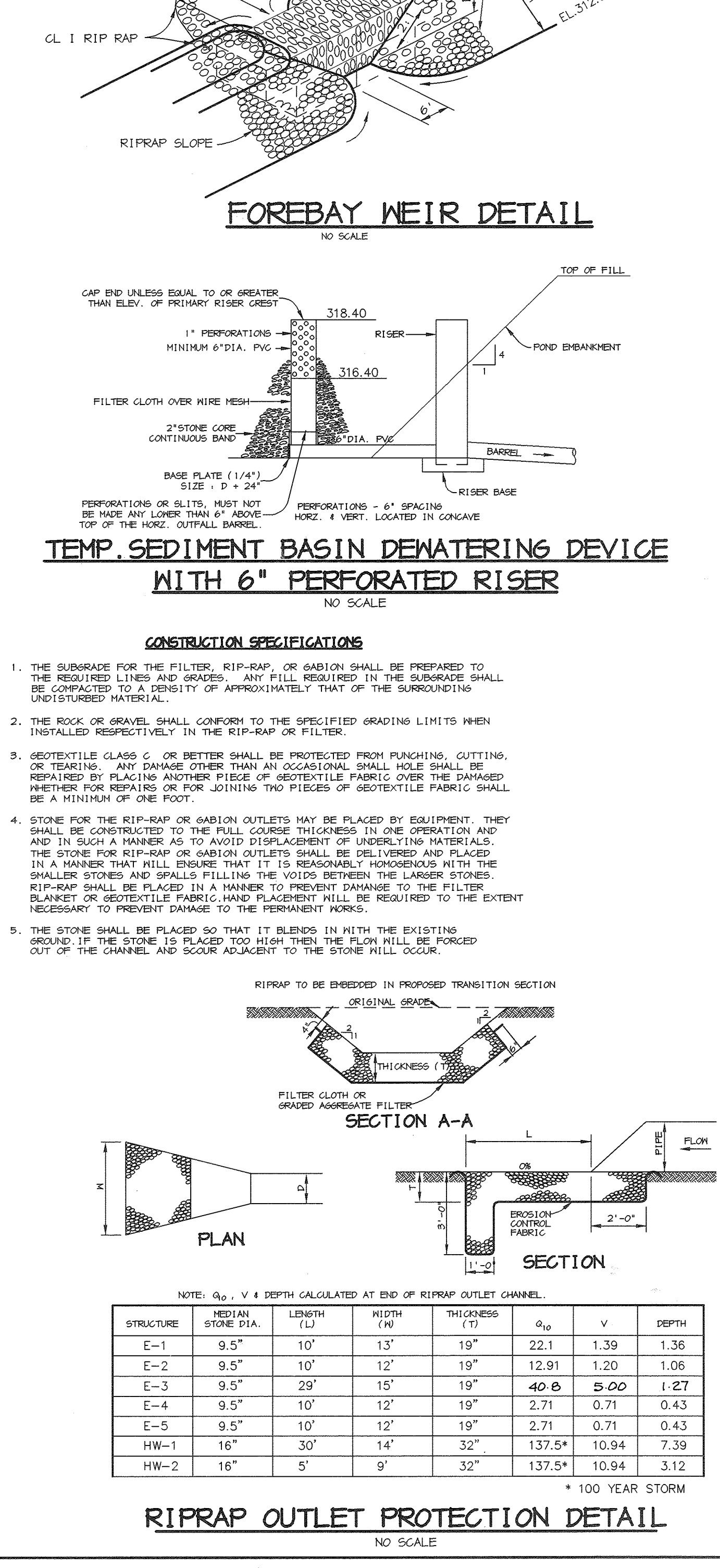
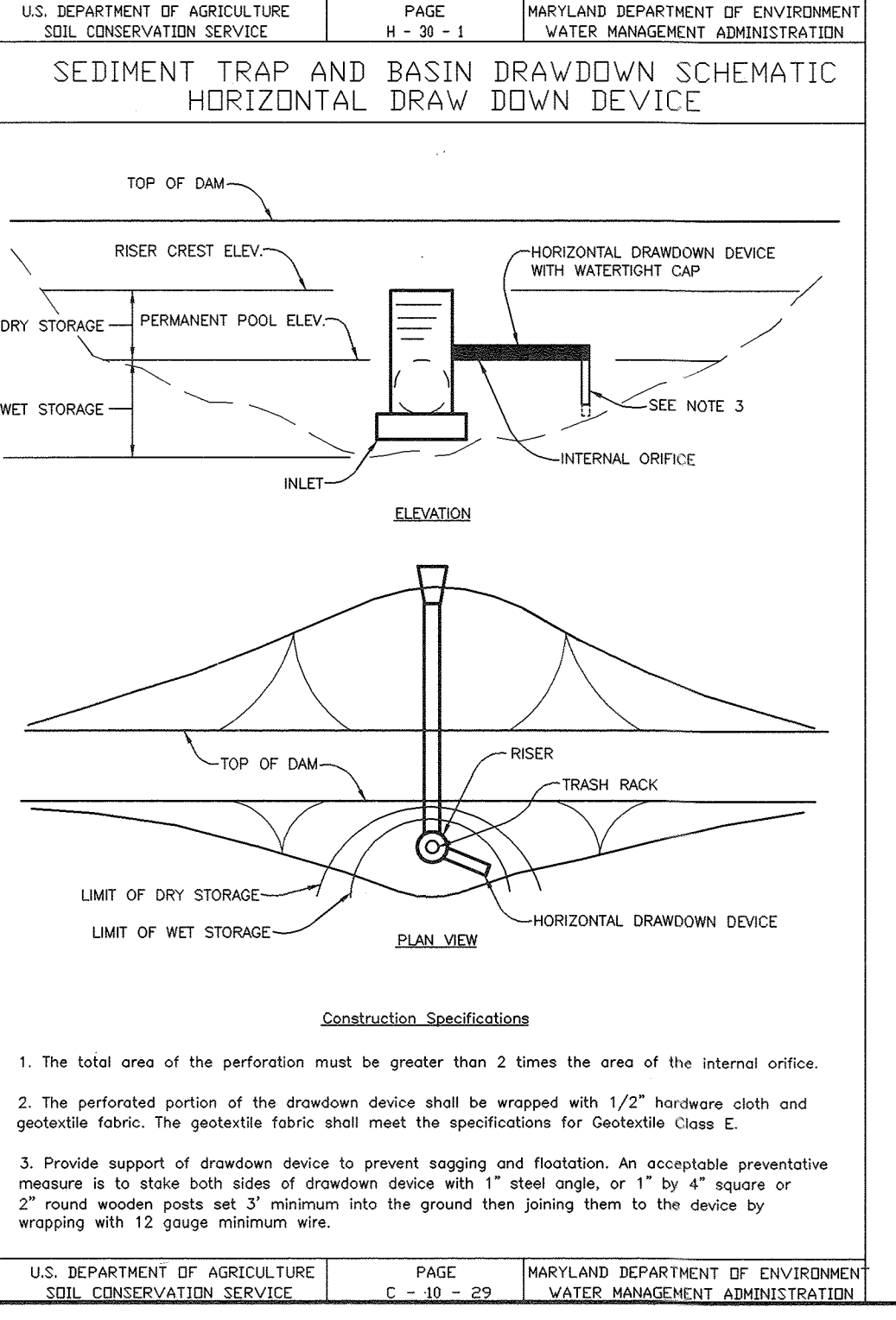
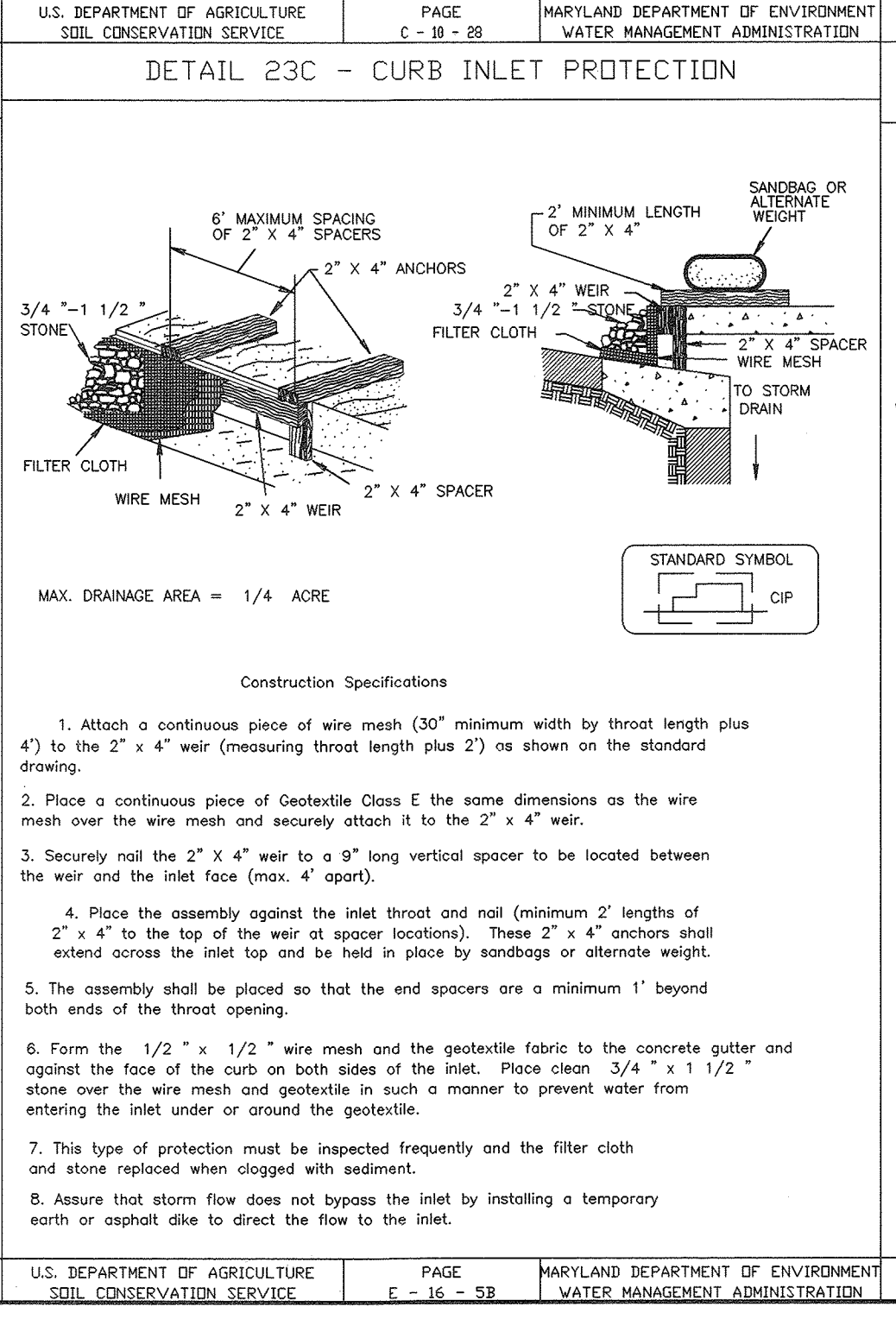
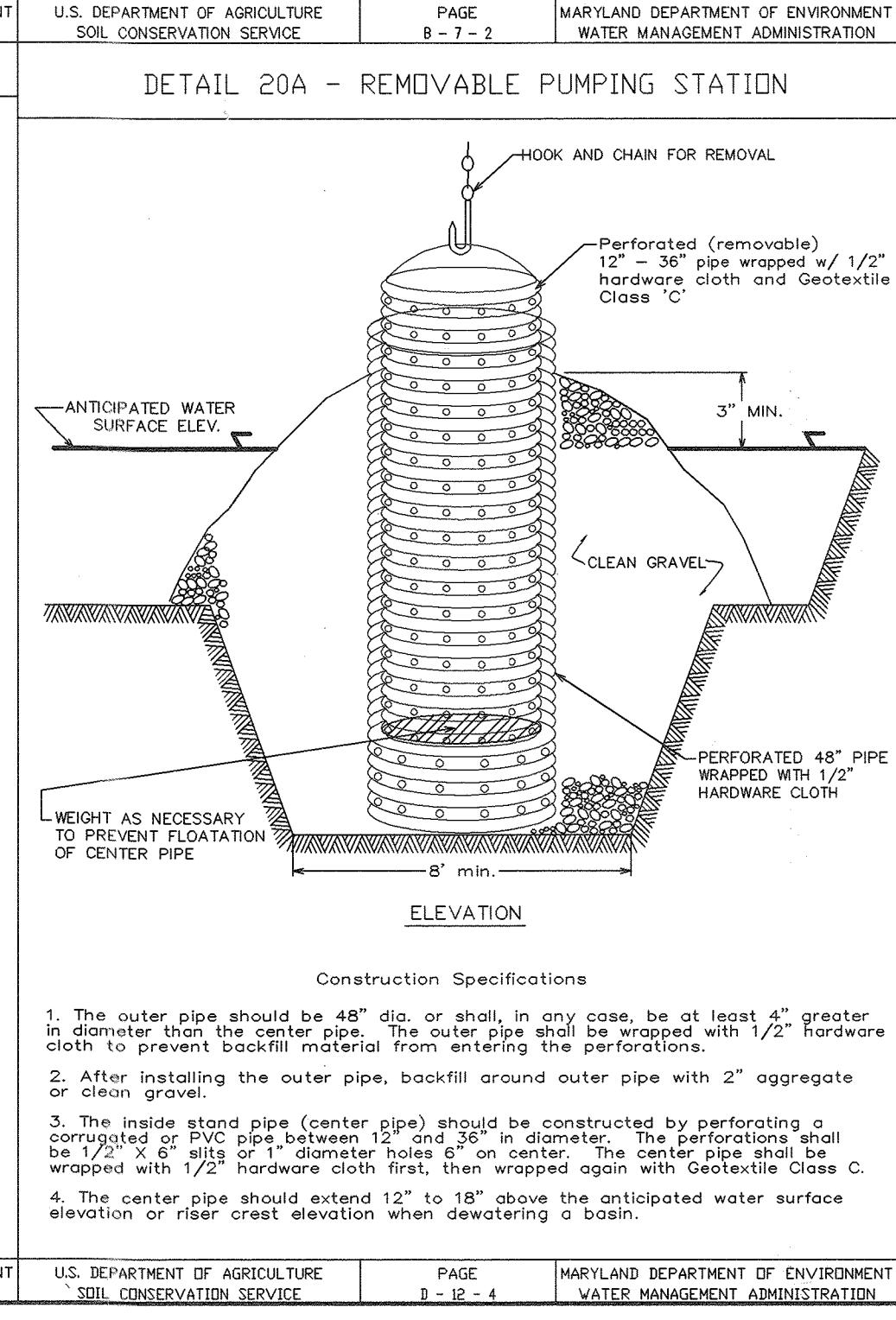
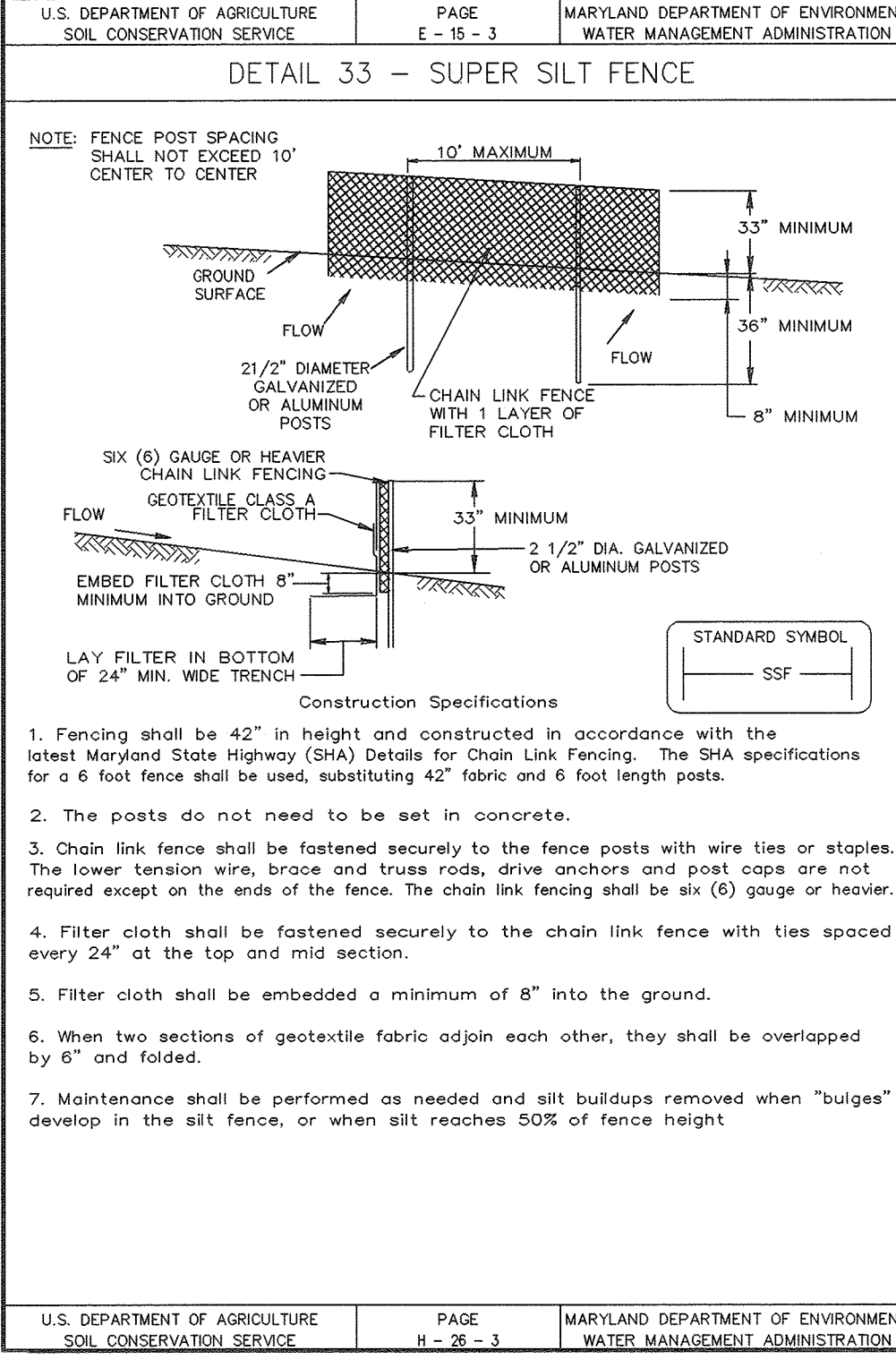
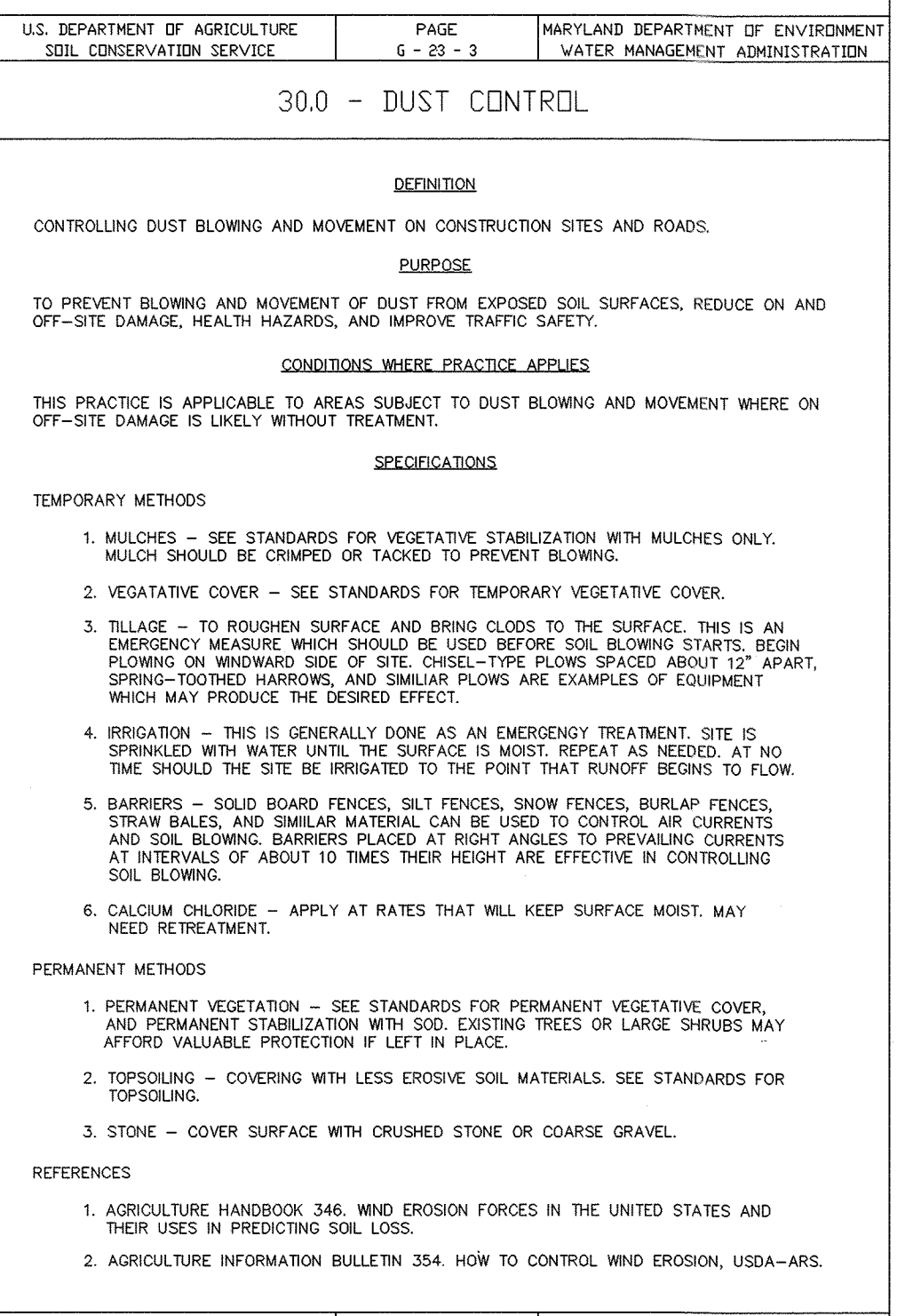
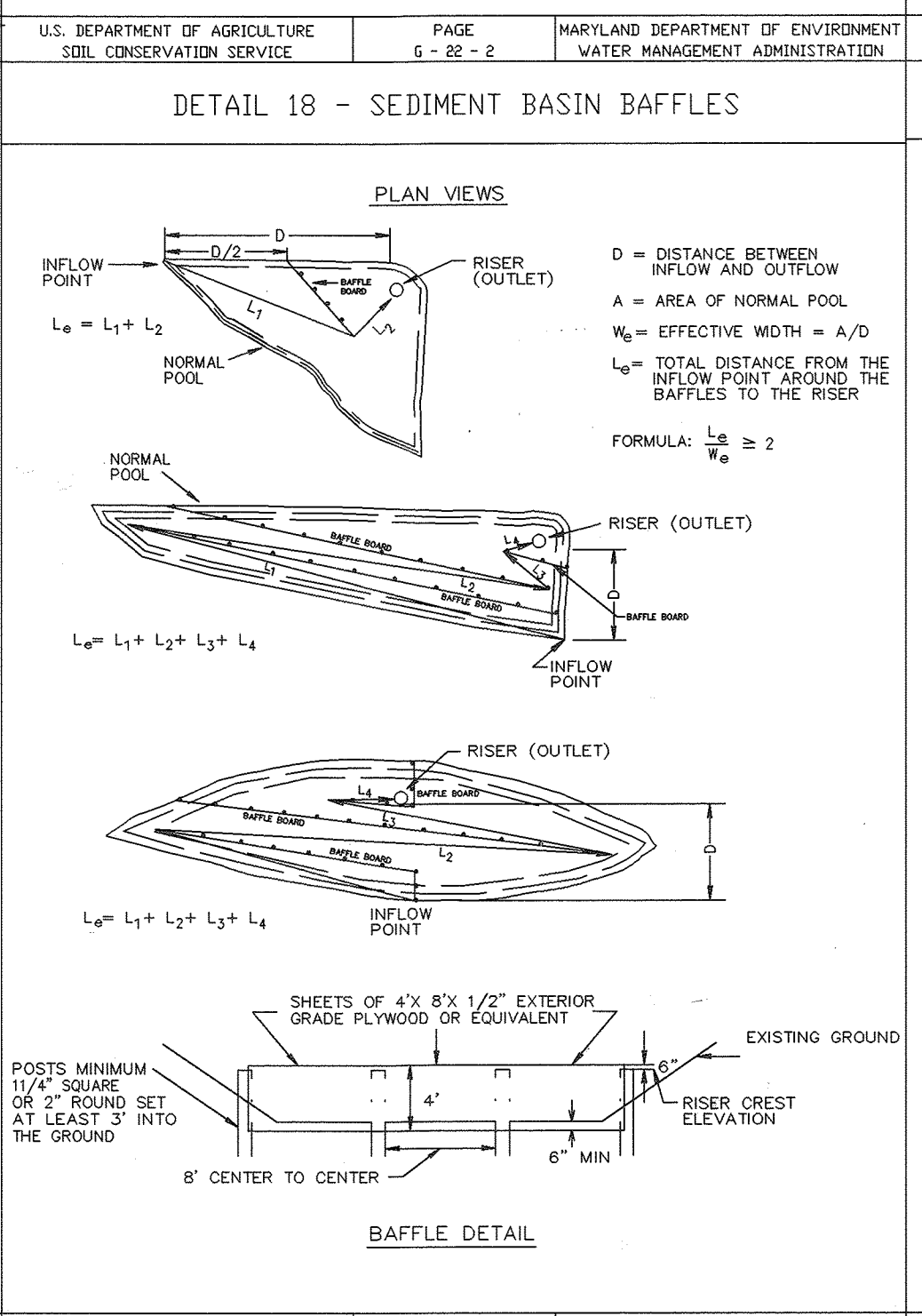
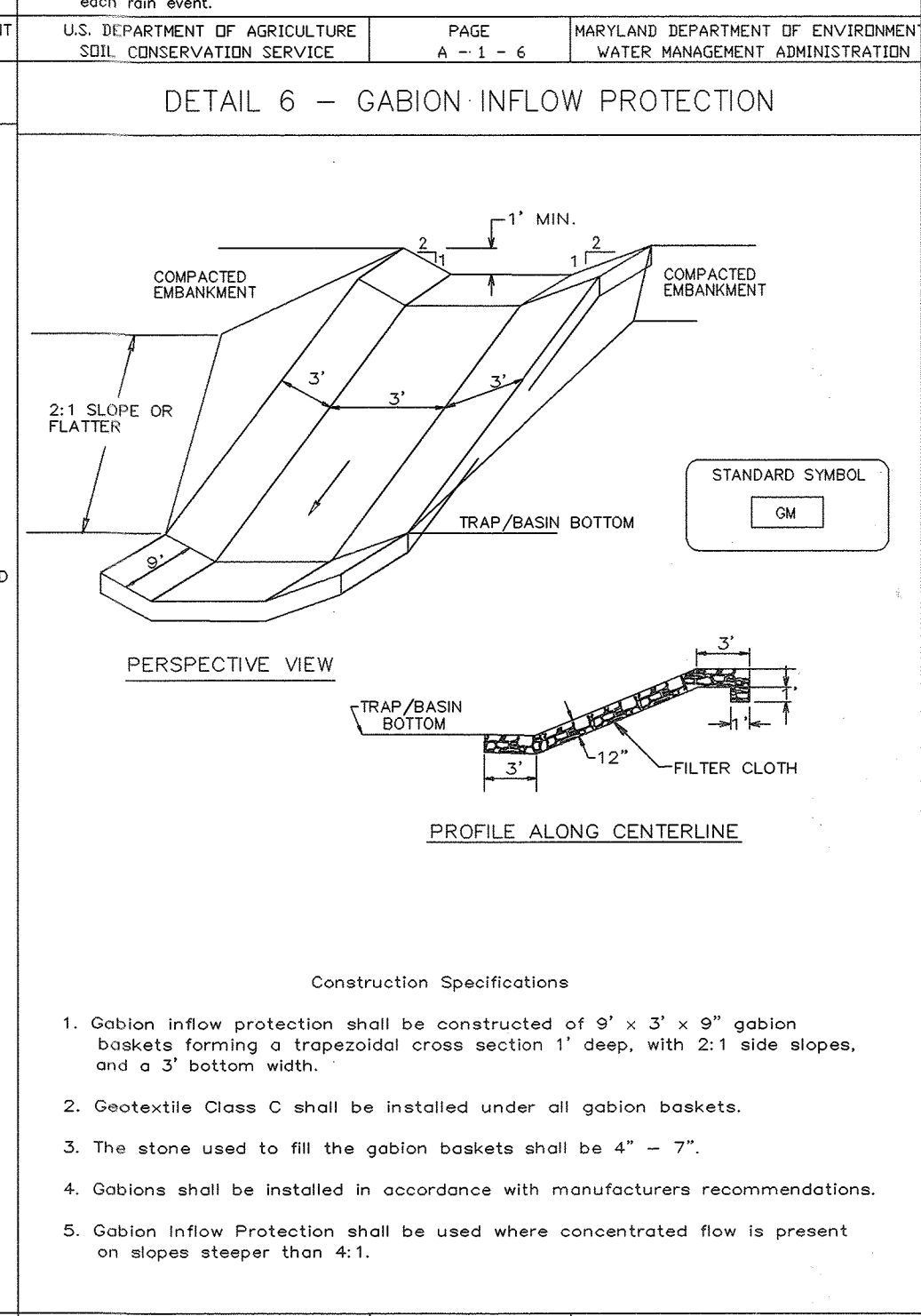
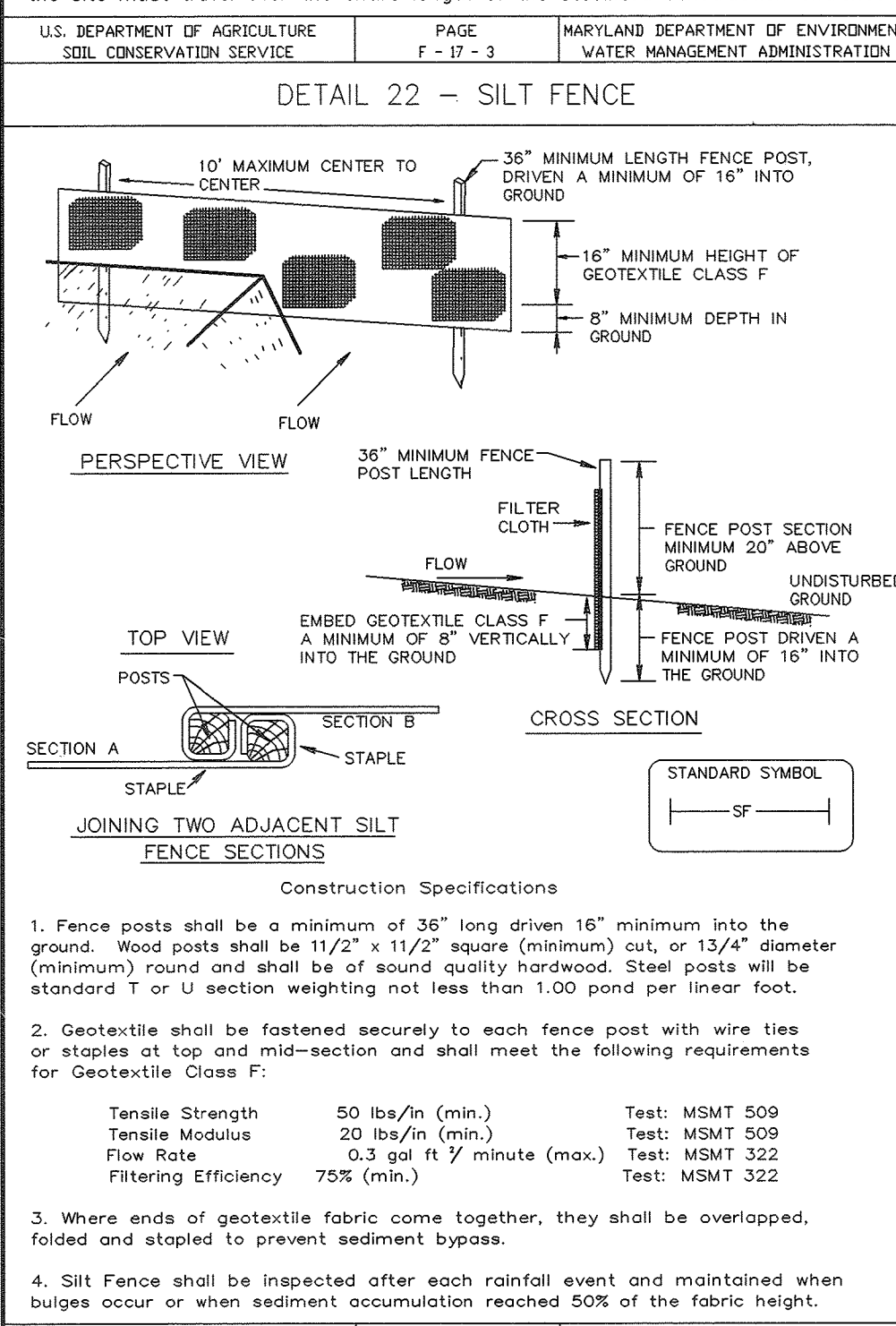
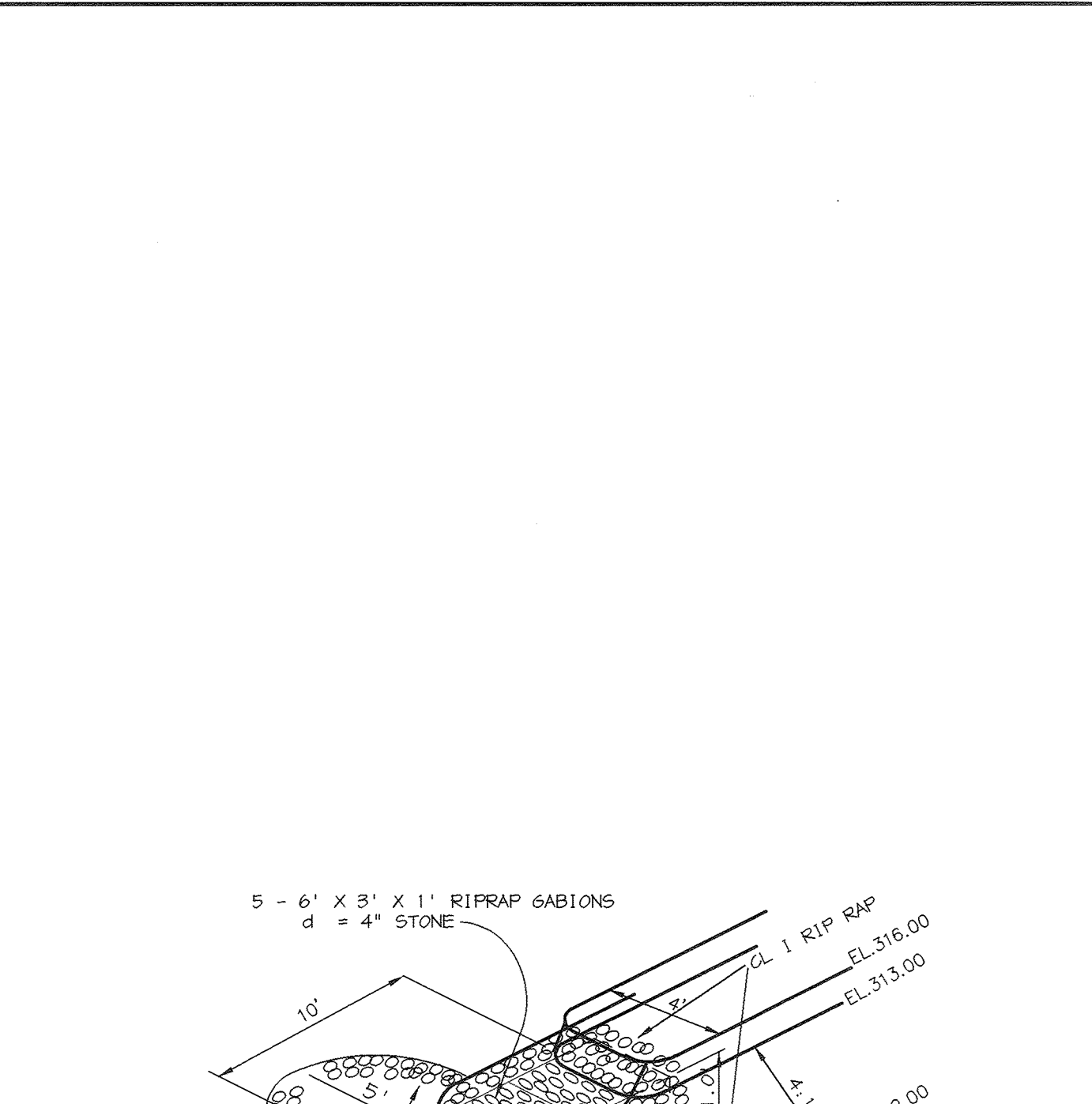
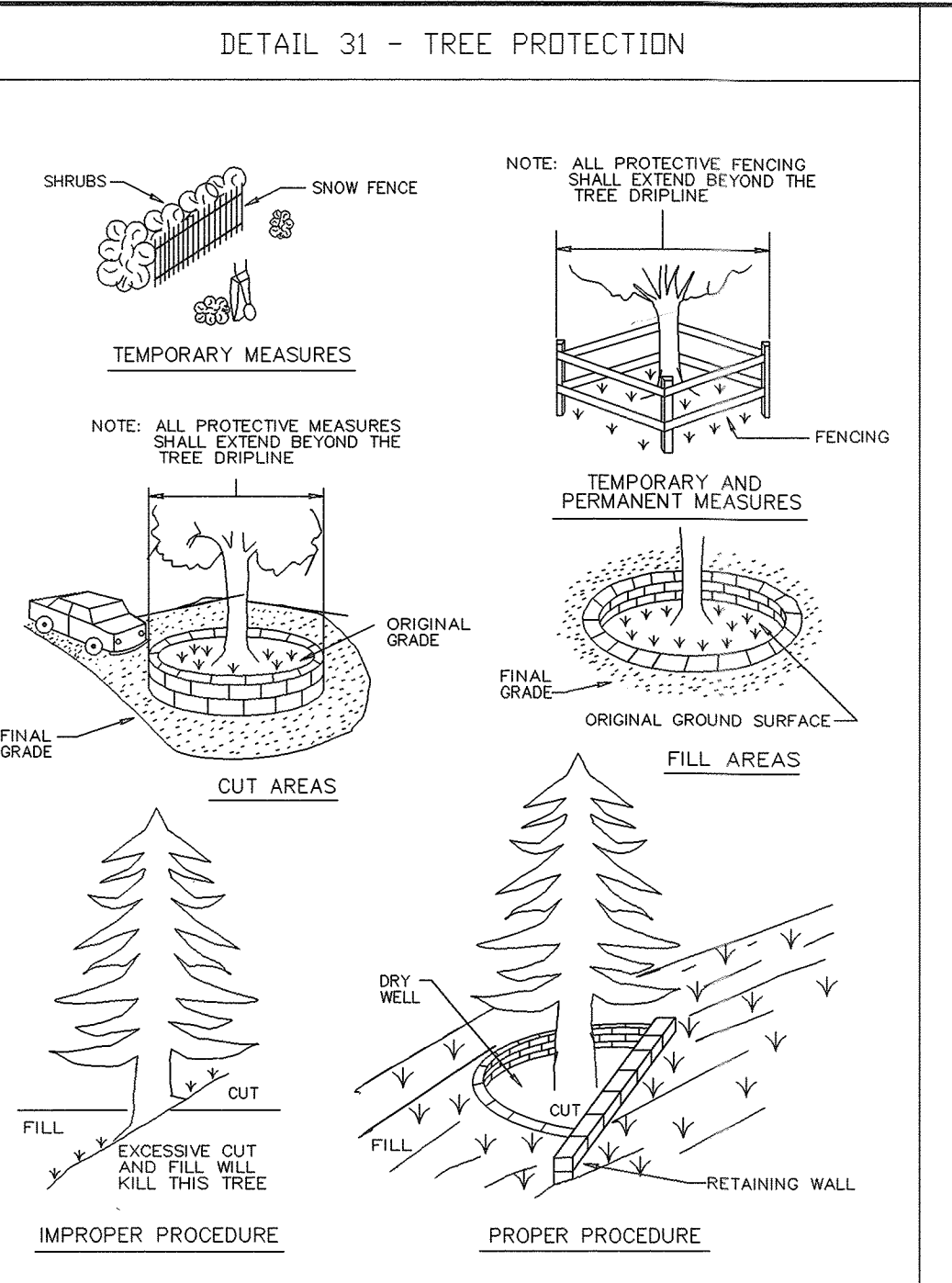
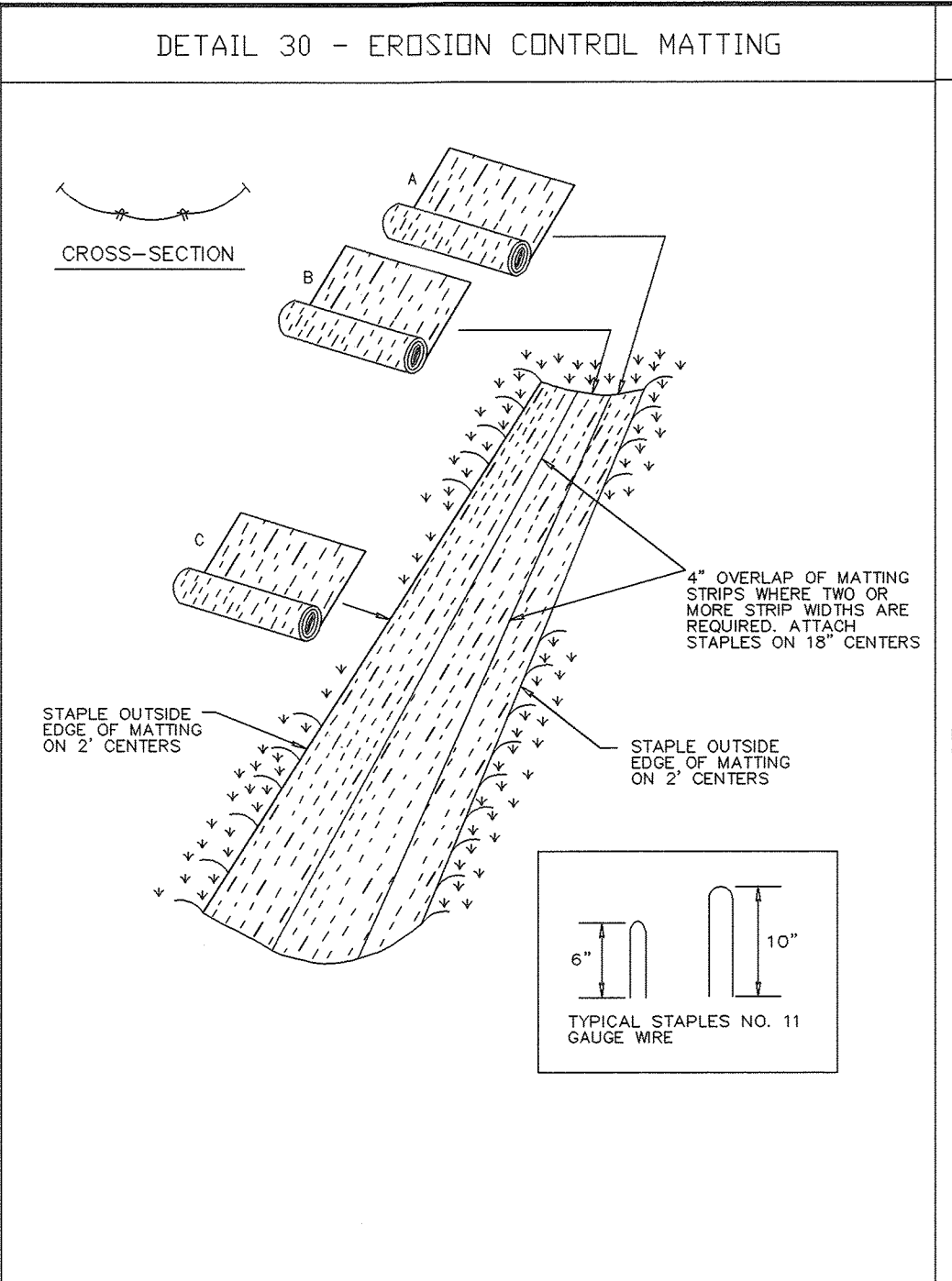
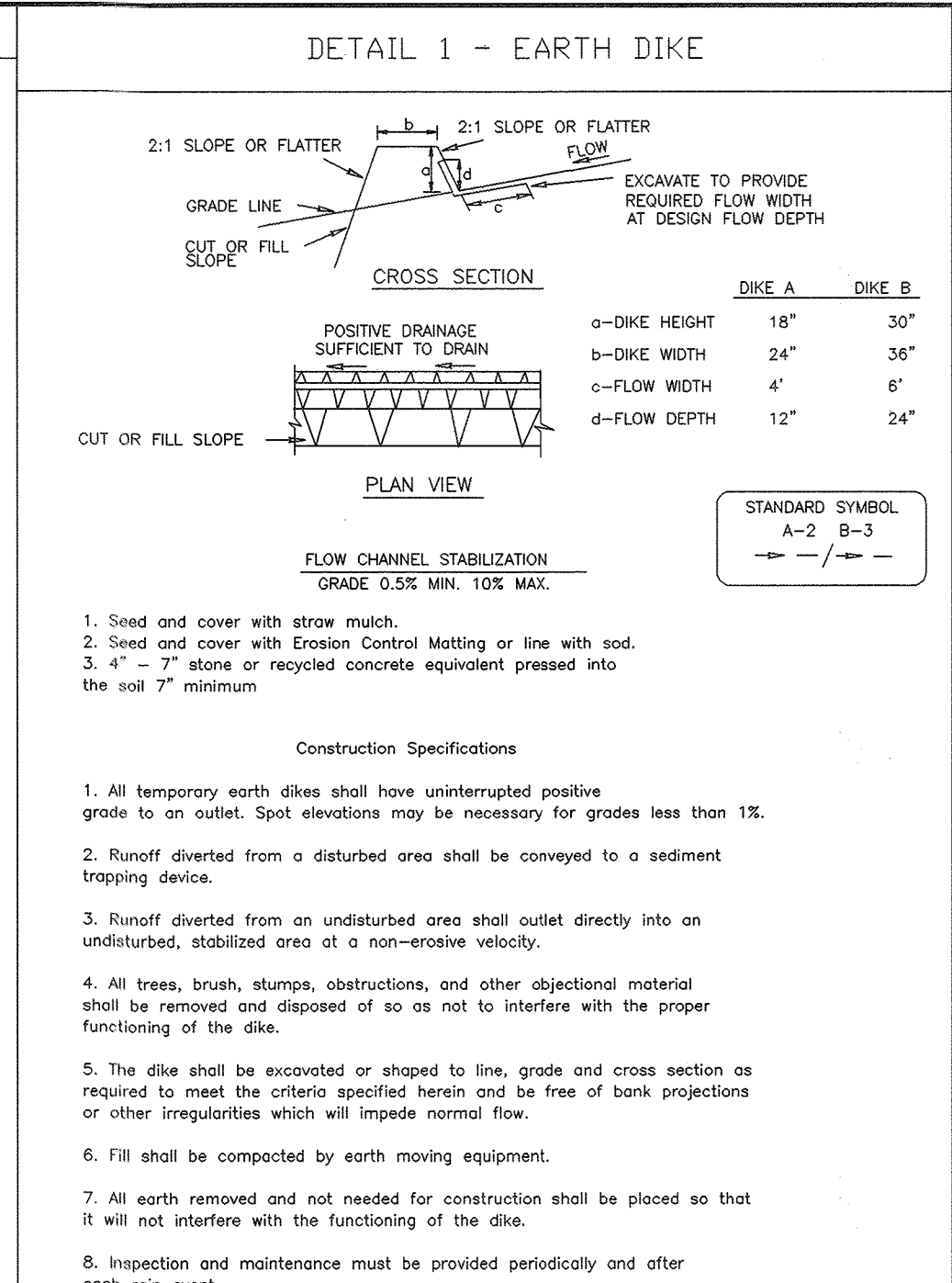
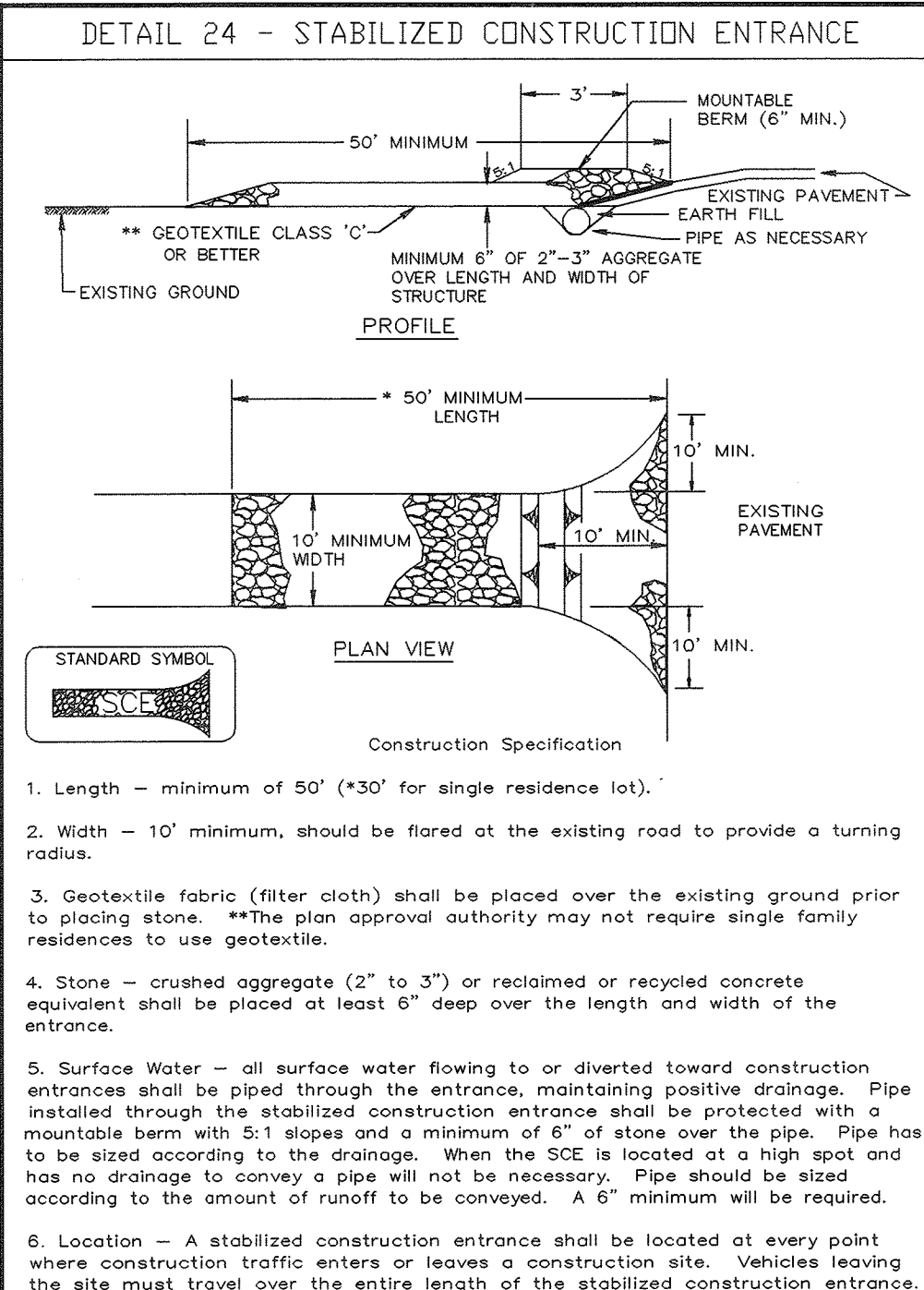
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NOTE: $Q_p \leq V \times \text{DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL}$

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q_{10}	V	DEPTH
E-1	9.5"	10'	13'	19"	22.1	1.39	1.36
E-2	9.5"	10'	12'	19"	12.91	1.20	1.06
E-3	9.5"	29'	15'	19"	40.8	5.00	1.27
E-4	9.5"	10'	12'	19"	2.71	0.71	0.43
E-5	9.5"	10'	12'	19"	2.71	0.71	0.43
HW-1	16"	30'	14'	32"	137.5*	10.94	7.39
HW-2	16"	5'	9'	32"	137.5*	10.94	3.12

* 100 YEAR STORM

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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *John N. G.* DATE: 6/22/01

BY THE ENGINEER :

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

ENGINEER: *Chris J. Lee* DATE: 6-26-01

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.

NATURAL RESOURCES CONSERVATION SERVICE DATE: 7/2/01

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 7/2/01

AS BUILT CERTIFICATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. DATE: 7-6-01

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. DATE: 7/10/01

DATE NO. REVISION

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, THE ROUSE BUILDING, 10275 LITTLE PATUXENT PARKWAY, COLUMBIA, MARYLAND 21044, 410-932-6000

PROJECT: EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A

AREA: TAX MAP 47 BLOCK 3.8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL DETAILS

RIEMER MUEGGE
Patton Harris Rust & Associates, pc
ENGINEERS & SURVEYORS & PLANNERS
LANDSCAPE ARCHITECTS & ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • TEL 410.997.8900 FAX 410.997.9282

DATE: 6-26-01

DESIGNED BY: CJR

DRAWN BY: DAM

PROJECT NO: 99212/FINALS/SEDDET1.DWG

DATE: JUNE 19, 2001

SCALE: AS SHOWN

DRAWING NO. 16 OF 36

CHRISTOPHER J. REID #19949

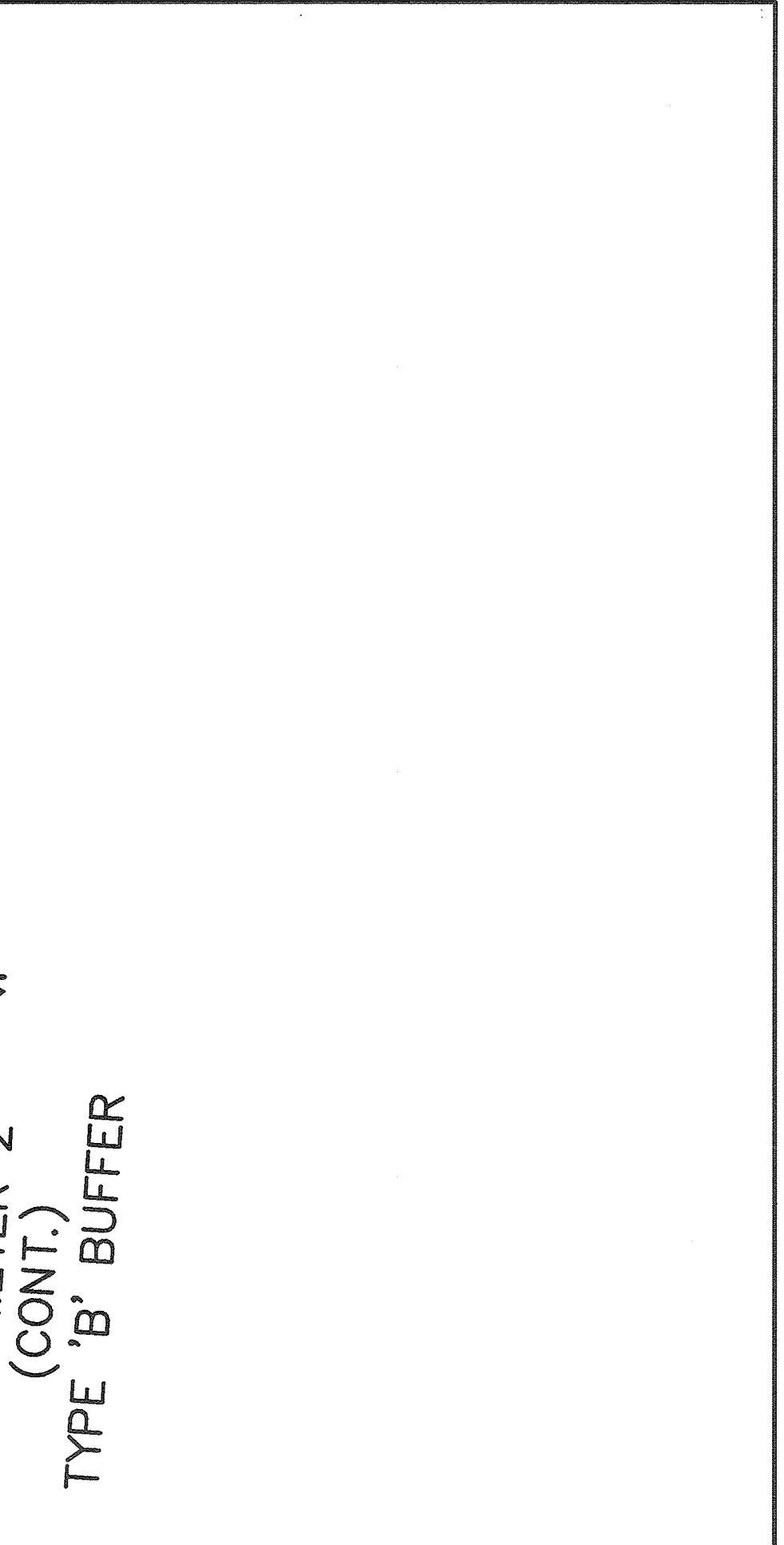
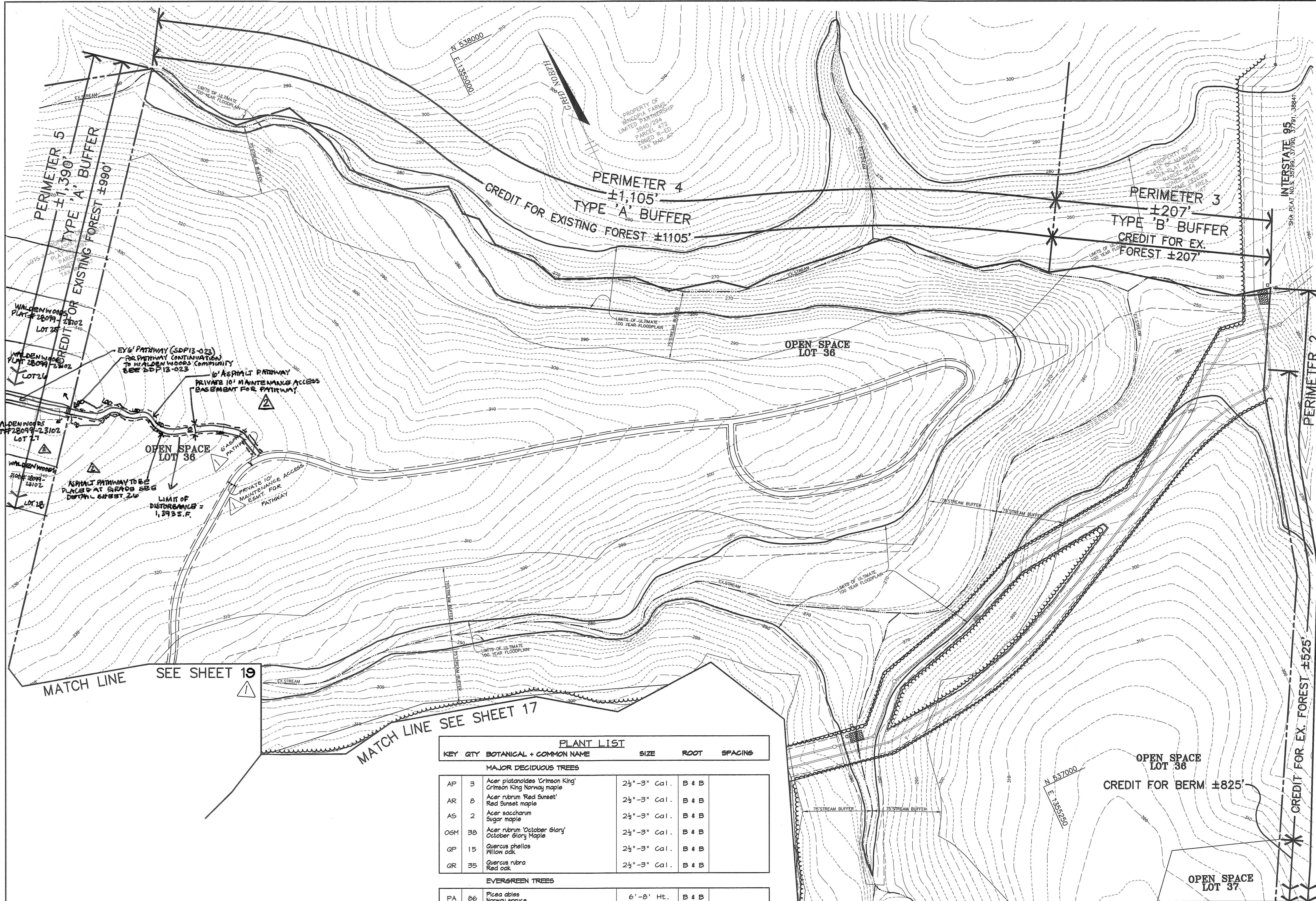
NOTES:

1. THIS PLAN IS FOR LANDSCAPE INSTALLATION ONLY.
2. SEE ROAD PLAN SHEETS 2-6 FOR STREET TREES.
3. INDIVIDUAL LOT LANDSCAPING WILL BE PROVIDED AT SITE DEVELOPMENT PLAN STAGE.



AS BUILT CERTIFICATE	
APPROVED :	DATE
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	7-6-01
<i>Andrew M. Daniels</i> CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED :	DATE
HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	7/17/01
<i>David T. Dows</i> CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>David T. Dows</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/10/01
10-30-01	ADDED LOT LOCATION, CHANGED PATHWAY LOCATION, MODIFIED PUB. & PRIV. SWM BASINS, MODIFIED LANDSCAPING
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	
EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	
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TITLE	
LANDSCAPE PLAN	
RIEMER MUEGGE a division of: Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282	
6-22-01	DATE
DESIGNED BY :	CJR
DRAWN BY :	DAM
PROJECT NO :	99212/FINALS LSCP/FINAL.DWG
DATE :	JUNE 19, 2001
SCALE :	1" = 50'
DRAWING NO. 17 OF 26	

P:\proj\99212\FINALS\LSCP\FINAL.DWG Fri Jun 22 09:24:35 2001 Riemer Muegge, a division of PHRA



AS BUILT CERTIFICATE	
APPROVED :	HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
<i>Andrew M. Quake</i>	7-6-01
CHIEF, BUREAU OF HIGHWAYS	DATE
APPROVED :	HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
<i>David Hamilton</i>	7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>David D. Dows</i>	7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE

DATE	NO.	REVISION
7-6-20	2	ADDED PATHWAY CONNECTION TO WALDEN WOODS SUBDIVISION
10-30-01	1	ADDED 6' ASPHALT PATHWAY, MODIFIED EX. ESMIT TO PRIV. 10' MAINTENANCE & ACCESS ESMIT FOR PATHWAY.
OWNER / DEVELOPER	THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	TAX MAP 47 BLOCK 3, 8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	LANDSCAPE PLAN	

PLANT LIST					
KEY	QTY	BOTANICAL + COMMON NAME	SIZE	ROOT	SPACING
MAJOR DECIDUOUS TREES					
AP	3	Acer platanoides 'Crimson King' Crimson King Norway maple	2 1/2" - 3" Cal.	B & B	
AR	8	Acer rubrum 'Red Sunset' Red Sunset maple	2 1/2" - 3" Cal.	B & B	
AS	2	Acer saccharum Sugar maple	2 1/2" - 3" Cal.	B & B	
OGM	38	Acer rubrum 'October Glory' October Glory Maple	2 1/2" - 3" Cal.	B & B	
QP	15	Quercus phellos Willow oak	2 1/2" - 3" Cal.	B & B	
QR	35	Quercus rubra Red oak	2 1/2" - 3" Cal.	B & B	
EVERGREEN TREES					
PA	86	Picea abies Norway spruce	6' - 8' Ht.	B & B	
PAS	10	Picea abies Norway spruce	10' - 12' Ht.	B & B	
PS	106	Pinus strobus Eastern white pine	6' - 8' Ht.	B & B	
PT	10	Pinus thunbergiana Japanese black pine	6' - 8' Ht.	B & B	
MINOR DECIDUOUS TREES					
PC	2	Prunus cerasifera atropurpurea 'Thundercloud' Thundercloud purpleleaf plum	1 1/2" - 2" Cal.	B & B	
PSK	6	Prunus serrulata 'Kwanzan' Kwanzan cherry	1 1/2" - 2" Cal.	B & B	
SHRUBS					
TMD	50	Taxus media densiformis Densiformis Yew	18" - 24"	B & B	

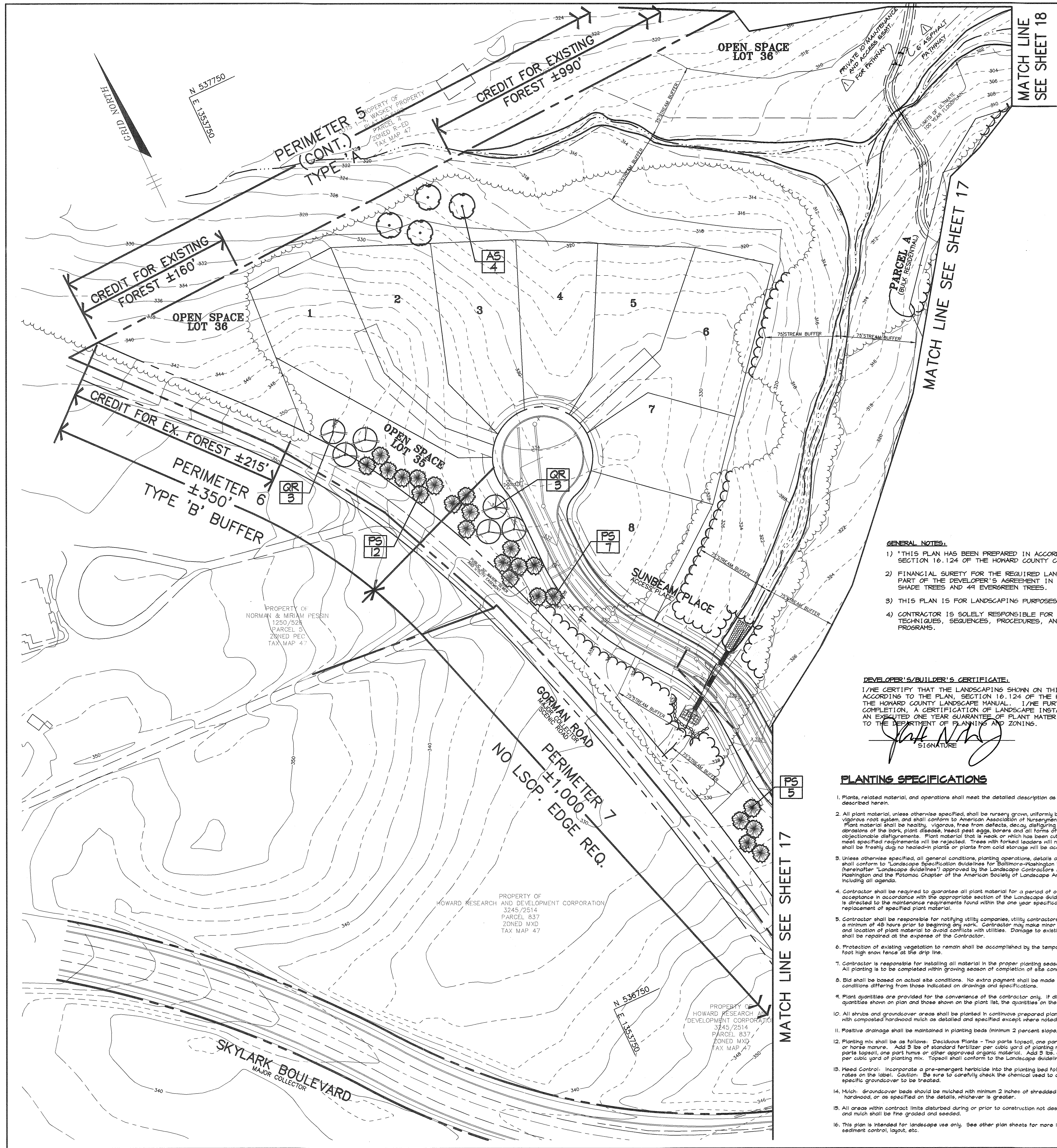
RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

6-22-01
DATE

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO: 99212/FINALS
LSCP2FINAL.DWG
DATE: JUNE 19, 2001
SCALE: 1" = 50'
DRAWING NO. 18 OF 26

BRANDON ROWE
DAVID T. DOWS

P:\projects\99212\FINALS\LSCP2\FINAL.Dwg Fri Jun 22 09:25:43 2001 Riemer Muegge, a division of PHRSA



PERIMETER	ADJACENT TO PERIMETER PROPERTIES			ADJACENT TO ROADWAYS				
	3	4	5	1	2	6	7	8
LANDSCAPE TYPE	B	A	A	B	B	B	NA	NA
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	±207'	±1,105'	±1,390'	±610'	±1,575'	±350'	±1000'	±395'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES ±207'	YES ±1,105'	YES ±1,150'	NO	YES ±525'	YES ±215'	NA	NA
CREDIT FOR WALL, FENCE, BERM OR DRIVE AISLE (YES/NO) (LINEAR FEET)	NO	NO	NO	YES ±610'	YES ±825'	NO	NA	NA
LINEAR FEET REMAINING	0'	0'	240'	610'	1,050'	135'	NA	NA
SHADE TREES	0'	0'	NA	0'	225'	135'	NA	NA
EVERGREEN TREES	-	-	0	0	0	0	0	0
NUMBER OF PLANTS REQUIRED	-	-	0	0	0	0	0	0
SHADE TREES	-	-	0	0	0	0	0	0
EVERGREEN TREES	-	-	0	0	0	0	0	0
SMALL FLOWERING TREES	-	-	0	0	0	0	0	0

SCHEDULE 'A' NOTES:
 * NO LANDSCAPE EDGE REQUIRED.
 ** NON-LOT TO ROADWAY, NO REQUIREMENT NECESSARY.
 *** SUBSTITUTION 2:1 FLOWERING TREES FOR SHADE TREES.

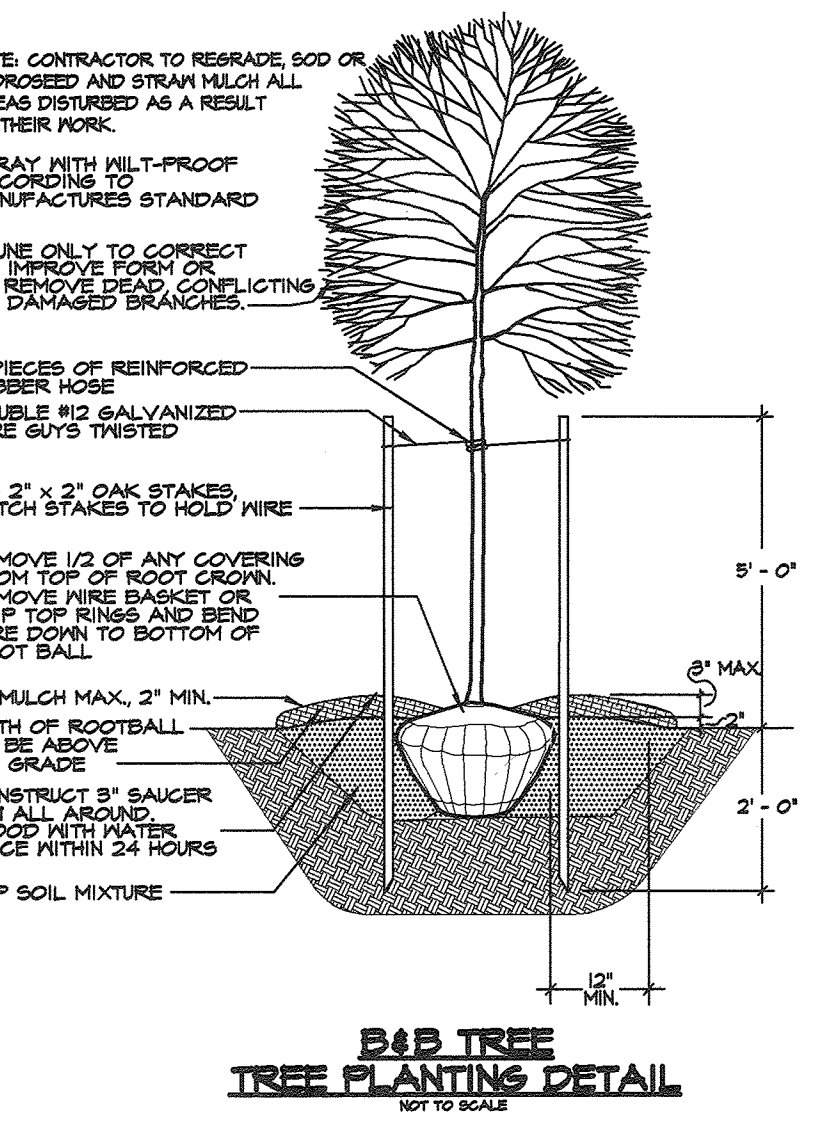
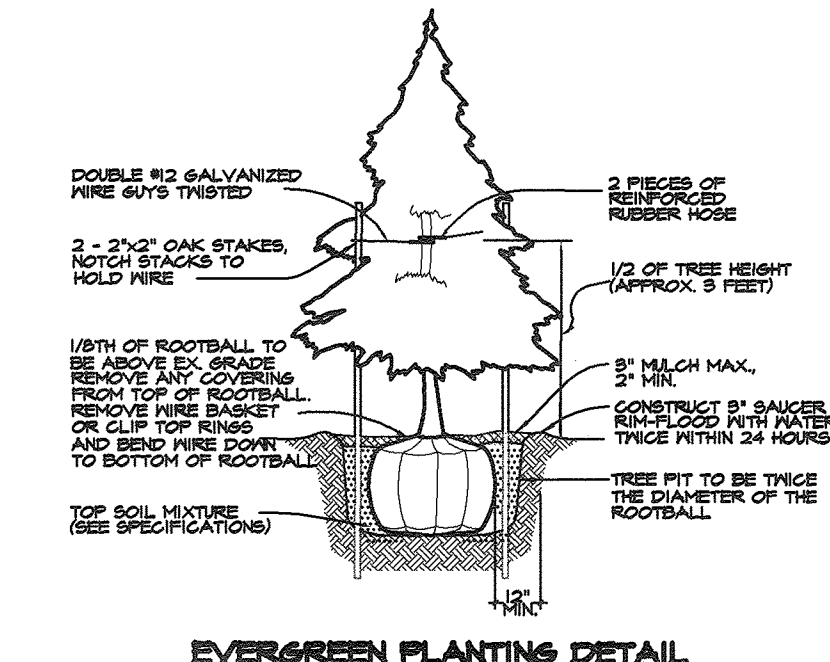
SCHEDULE D - STORMWATER MANAGEMENT AREA LANDSCAPING	
S.W.M. PERIMETER	9
LANDSCAPE TYPE	B
LINEAR FEET OF TOTAL PERIMETER	±1,580'
CREDIT FOR LINEAR FEET SHARED ALONG PERIMETER EDGE	N/A
CREDIT FOR EX. VEGETATION (NO OR YES & %)	NO
CREDIT FOR OTHER LANDSCAPING (NO OR YES & %)	NO
LINEAR FEET OF REMAINING PERIMETER	±1,580'
NUMBER OF TREES REQUIRED:	
SHADE TREES (@ 1 S.T. / 50')	32
EVERGREEN TREES (@ 1 E.T. / 40')	40
NUMBER OF PLANTS PROVIDED:	
SHADE TREES	28*
EVERGREEN TREES (2:1 SUBSTITUTION, 50% MAX.)	40
OTHER TREES (2:1 SUBSTITUTION, 50% MAX.)	8*

* SUBSTITUTION 2:1 FLOWERING TREES FOR SHADE TREES.

GENERAL NOTES:
 1) THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
 2) FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF \$28,282 FOR 12 SHADE TREES AND 44 EVERGREEN TREES.
 3) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 4) CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

DEVELOPER'S/BUILDER'S CERTIFICATE:
 I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE HOWARD COUNTY LANDSCAPE MANUAL. I/WE FURTHER CERTIFY THAT UPON COMPLETION, A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXHAUSTIVE ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.
 J. M. [Signature] 6/22/01
 SIGNATURE DATE

- PLANTING SPECIFICATIONS**
- Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.
 - All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, unsound injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug or field-grown plants or plants from cold storage will be accepted.
 - Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Area", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architects, latest edition, including all addenda.
 - Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines. Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.
 - Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.
 - Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence at the drip line.
 - Contractor is responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within growing season of completion of site construction.
 - Bid shall be based on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications.
 - Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence.
 - All shrubs and groundcover areas shall be planted in continuous prepared planting beds mulched with composted hardwood or as detailed and specified except where noted on plans.
 - Positive drainage shall be maintained in planting beds (minimum 2 percent slope).
 - Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure, and 3 lbs of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.
 - Head Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific groundcover to be treated.
 - Mulch: Groundcover beds should be mulched with minimum 2 inches of shredded composted hardwood, or as specified on the details, whichever is greater.
 - All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be free graded and seeded.
 - This plan is intended for landscape use only. See other plan sheets for more information on grading, sediment control, layout, etc.



AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Dwyer 7-6-01
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Wendy Hamilton 7/17/01
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David T. Dows 7/10/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10:30:01 / ADDED 6' ASPHALT PATHWAY

DATE NO. REVISION

OWNER / DEVELOPER
 THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
 THE ROUSE BUILDING
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 410-992-6000

PROJECT
 EMERSON
 SECTION ONE AREA ONE
 LOTS 1 - 39 & PARCEL A

AREA
 TAX MAP 47 BLOCK 3.8 & 9
 ZONED: R-ED PARCEL: P/O 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

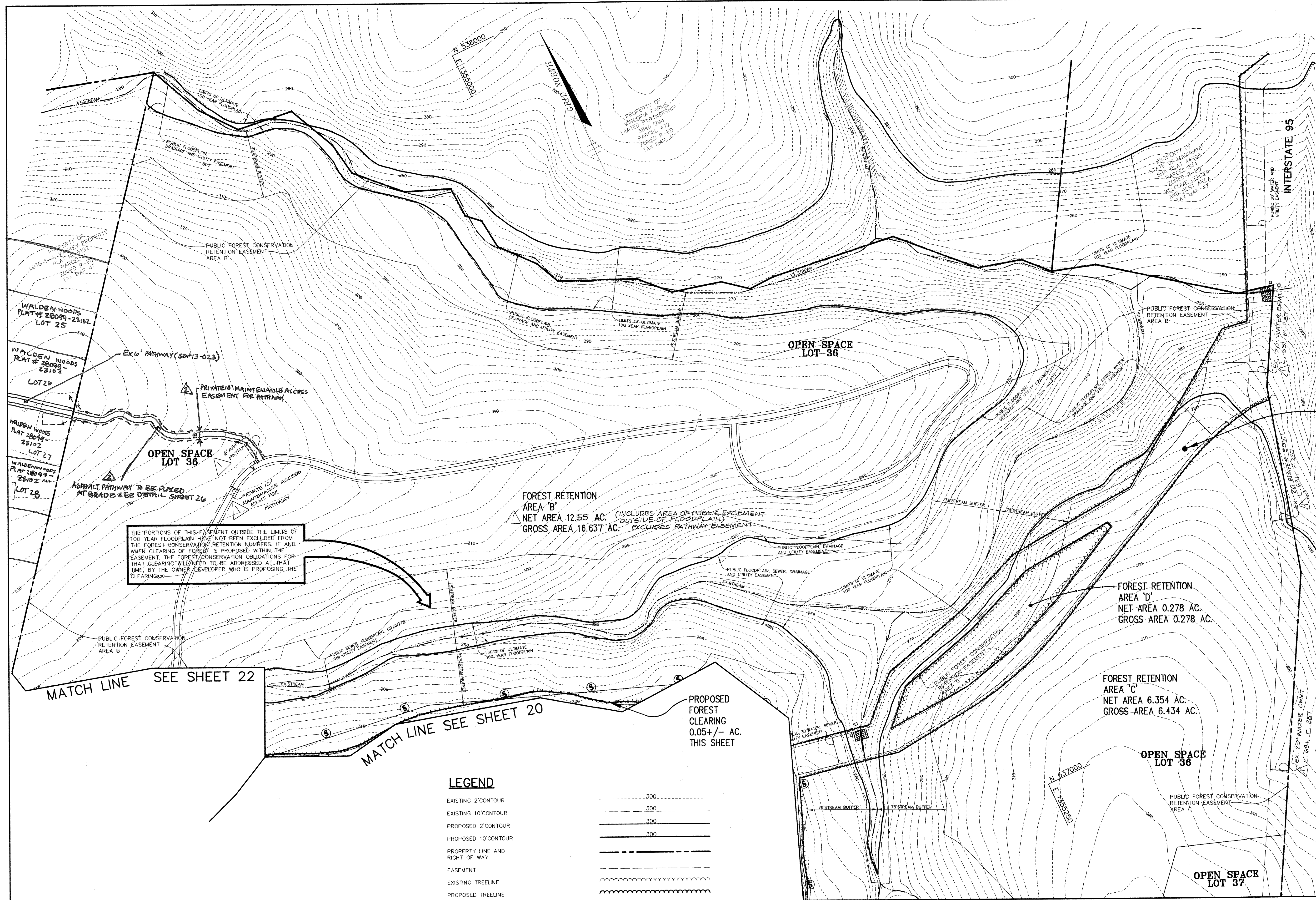
TITLE
 LANDSCAPE PLAN

RIEMER MUEGGE
 a division of
 Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

6-22-01
 DATE

DESIGNED BY: CJR
 DRAWN BY: DAM
 PROJECT NO: 99212/FINALS
 [SCP3FINAL.DWG]
 DATE: JUNE 19, 2001
 SCALE: 1" = 50'
 DRAWING NO. 19 OF 26

DAVID T. DOWS



THE PORTIONS OF THIS EASEMENT OUTSIDE THE LIMITS OF 100 YEAR FLOODPLAIN HAVE NOT BEEN EXCLUDED FROM THE FOREST CONSERVATION RETENTION NUMBERS. IF AND WHEN CLEARING OF FOREST IS PROPOSED WITHIN THE EASEMENT, THE FOREST CONSERVATION OBLIGATIONS FOR THAT CLEARING WILL NEED TO BE ADDRESSED AT THAT TIME, BY THE OWNER/DEVELOPER WHO IS PROPOSING THE CLEARING.

FOREST RETENTION AREA 'B'
NET AREA 12.55 AC. (INCLUDES AREA OF PUBLIC EASEMENT OUTSIDE OF FLOODPLAIN)
GROSS AREA 16.637 AC. EXCLUDES PATHWAY EASEMENT

FOREST RETENTION AREA 'D'
NET AREA 0.278 AC.
GROSS AREA 0.278 AC.

FOREST RETENTION AREA 'C'
NET AREA 6.354 AC.
GROSS AREA 6.434 AC.

PROPOSED FOREST CLEARING
0.05+/- AC.
THIS SHEET

LEGEND

- EXISTING 2' CONTOUR ---
- EXISTING 10' CONTOUR ---
- PROPOSED 2' CONTOUR ---
- PROPOSED 10' CONTOUR ---
- PROPERTY LINE AND RIGHT OF WAY ---
- EASEMENT ---
- EXISTING TREELINE ~~~~~
- PROPOSED TREELINE ~~~~~
- TREE PROTECTION FENCE ~~~~~
- FOREST RETENTION SIGN Ⓢ

PROPOSED FOREST CLEARING
0.72+/- AC.

AS BUILT CERTIFICATE	
APPROVED :	DATE
<i>Andrew M. Quaker</i> CHIEF, BUREAU OF HIGHWAYS	7-6-01
APPROVED :	DATE
<i>Chris Hunter</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/17/01
<i>John Dammann</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/10/01
7-6-20 2	ADDITIONAL PATHWAY CONNECTING TO WALDEN WOODS SUBDIVISION
10-30-01	ADDED EX 20' WATER EVENT, ADDED 6' PATHWAY & PATHWAY EASMT, REV. NET AREA FOR FOREST RET. AREA 'B'
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	
EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	
TAX MAP 47 BLOCK 3.8 & 9 ZONED: R-ED PARCEL P/O B37 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
FOREST CONSERVATION PLAN	

DMW
Duff McCune Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax: 296-4705

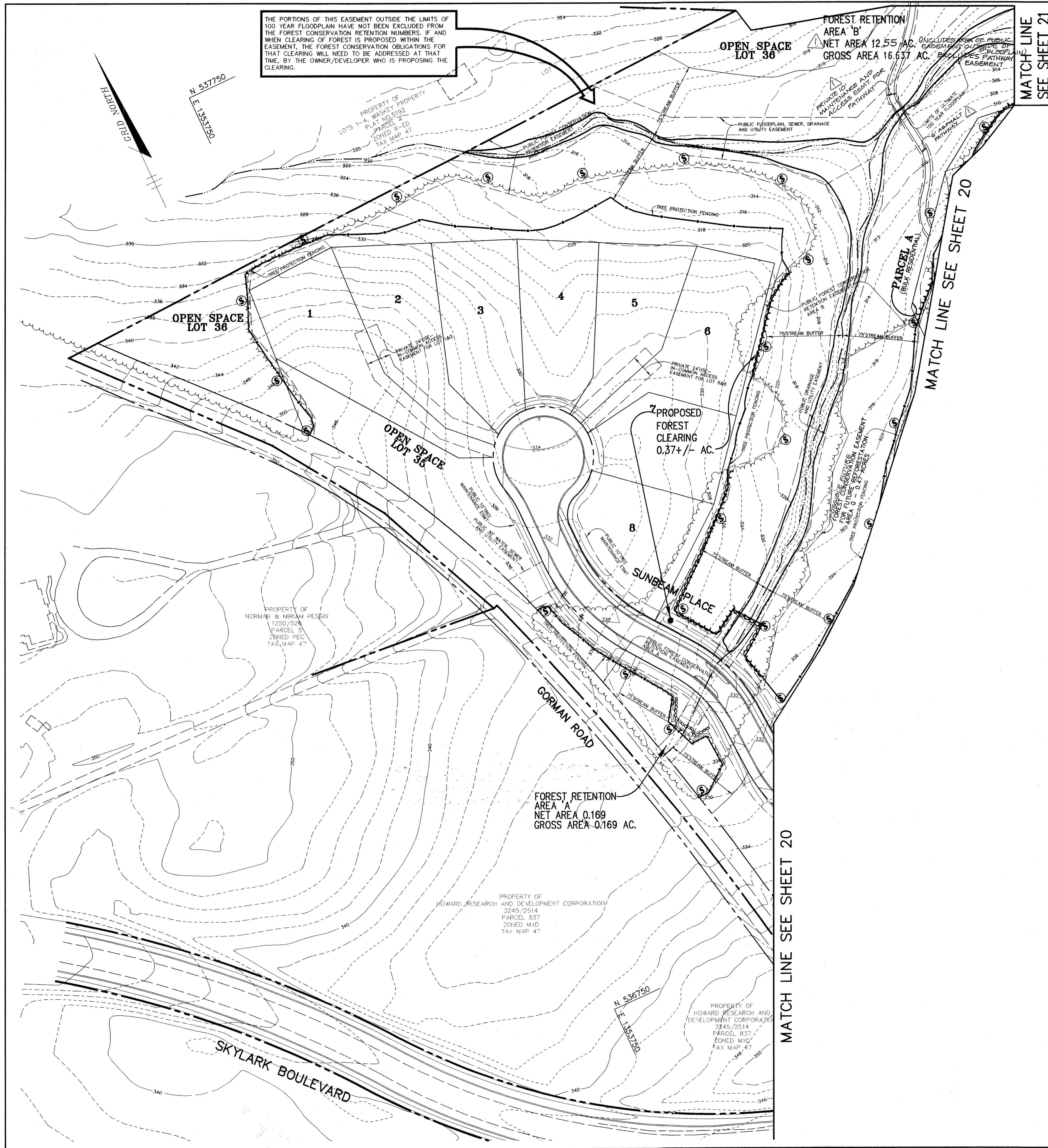
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

DATE: 6-20-01

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO: .99212/FINALS/FOREST2.DWG
DATE: JUNE 19, 2001
SCALE: 1" = 50'
DRAWING NO. 21 OF 26

FOR REVISION 2 ONLY
BRANDON ROWE
7/14/2001





THE PORTIONS OF THIS EASEMENT OUTSIDE THE LIMITS OF 100 YEAR FLOODPLAIN HAVE NOT BEEN EXCLUDED FROM THE FOREST CONSERVATION RETENTION NUMBERS. IF AND WHEN CLEARING OF FOREST IS PROPOSED WITHIN THE EASEMENT, THE FOREST CONSERVATION OBLIGATIONS FOR THAT CLEARING WILL NEED TO BE ADDRESSED AT THAT TIME, BY THE OWNER/DEVELOPER WHO IS PROPOSING THE CLEARING.

LEGEND

- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPERTY LINE AND RIGHT OF WAY
- EASEMENT
- EXISTING TREELINE
- PROPOSED TREELINE
- TREE PROTECTION FENCE
- FOREST RETENTION SIGN

AS BUILT CERTIFICATE	
DATE	
APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	
	7-6-01 DATE
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
	7/17/01 DATE
APPROVED :	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/10/01 DATE
7-6-20 2 ADDING PATHWAY TO WALDEN WOODS SUBDIV. 10-30-01 1 ASBESTOS ASPHALT PATHWAY AND PRIVATE TO MAINTENANCE AND ACCESS EASEMENT FOR PATHWAY.	
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	
EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	TAX MAP 47 BLOCK 3,8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE	
FOREST CONSERVATION PLAN	
DMW Daft-McCune-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3333 Fax 296-4705	
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
10-20-01 	
DESIGNED BY : CJR	
DRAWN BY : DAM	
PROJECT NO : 99212/FINALS FOREST3.DWG	
DATE : JUNE 19, 2001	
SCALE : 1" = 50'	
DRAWING NO. 22 OF 26	

FOREST CONSERVATION PROGRAM

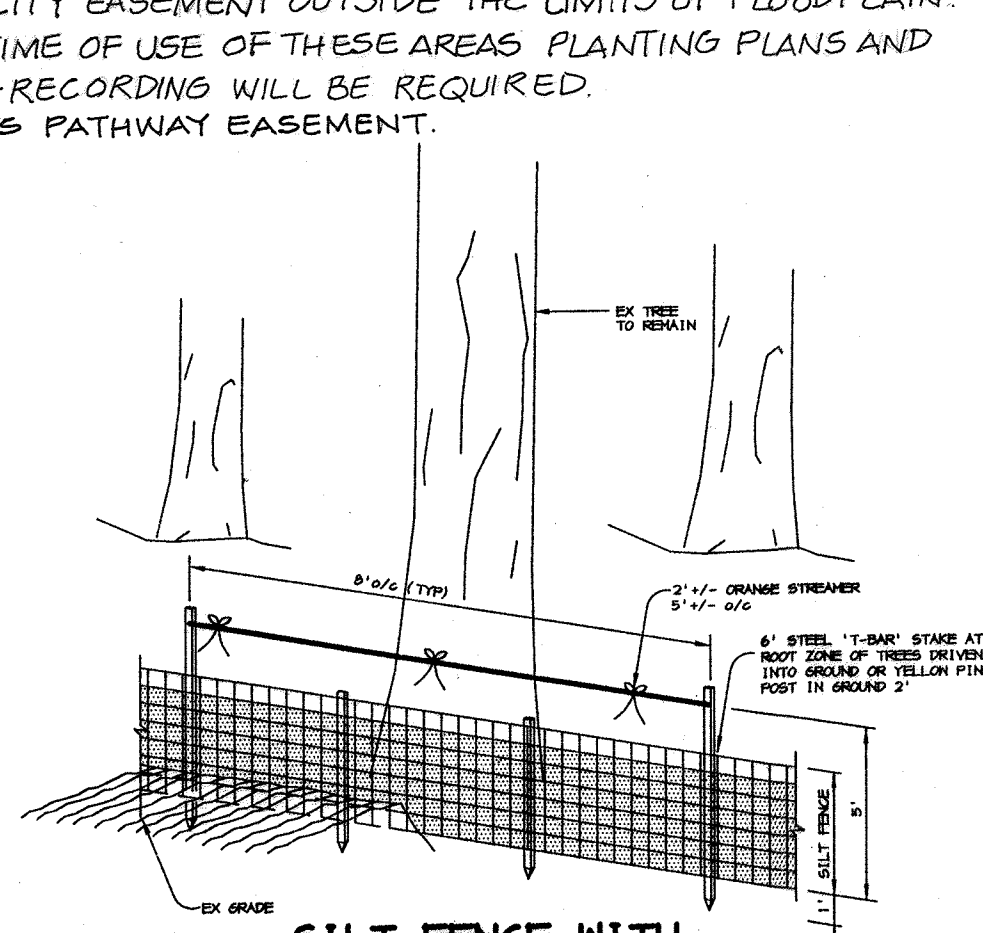
- I. OBJECTIVE.**
IT IS THE OBJECTIVE OF THE FOREST RETENTION PORTION OF THE EMERSON SUBDIVISION TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING AND ENHANCING EXISTING WOODED AREAS.
- II. PRESERVATION.**
FOREST PRESERVATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.
- III. GENERAL CONSTRUCTION NOTES.**
I. THERE WILL BE NO STAGING OR STORING OF EQUIPMENT WITHIN 75' OF THE STREAM.
- IV. POST CONSTRUCTION MANAGEMENT PRACTICE.**
A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM TO ENSURE PROBABILITY OF A HIGH SURVIVAL RATE INCLUDES THE FOLLOWING:
- MAINTENANCE OF SIGNS, FENCES AND TREE PROTECTION DEVICES TO PREVENT UNWARRANTED INTRUSIONS AND DAMAGE.
- CAREFUL REMOVAL OF ALL TEMPORARY STRUCTURES AFTER CONSTRUCTION.
- ROUTINE INSPECTIONS OF FOREST CONSERVATION EASEMENTS.
- PROVIDE SUITABLE THINNING, WATERING AND FERTILIZING TO ENSURE PROPER GROWTH AND SURVIVAL.

FOREST CONSERVATION WORKSHEET

NET TRACT AREA		
A. TOTAL TRACT AREA		51.83
B. AREA WITHIN 100 YEAR FLOODPLAIN		4.04
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION		0.00
D. NET TRACT AREA		47.79
LAND USE CATEGORY (FROM TABLE 3.2.1, PAGE 40, MANUAL)		
INPUT THE NUMBER '1' UNDER THE APPROPRIATE LAND USE ZONING AND LIMIT TO ONLY ONE ENTRY.		
ARA	MDR	IDA
0	0	0
		HDR
		1
		MPD
		0
		CIA
		0
E. AFFORESTATION THRESHOLD	15%	x D = 7.17
F. CONSERVATION THRESHOLD	20%	x D = 9.56
EXISTING FOREST COVER		
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)		23.11
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD		15.94
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD		13.55
BREAK EVEN POINT		
J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION		12.27
K. CLEARING PERMITTED WITHOUT MITIGATION		10.84
PROPOSED FOREST CLEARING		
L. TOTAL AREA OF FOREST TO BE CLEARED		3.76
M. TOTAL AREA OF FOREST TO BE RETAINED		19.35
PLANTING REQUIREMENTS		
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD		0.94
P. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD		0.00
Q. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD		9.79
R. TOTAL REFORESTATION REQUIRED		0.00
S. TOTAL AFFORESTATION REQUIRED		0.00
T. TOTAL REFORESTATION AND AFFORESTATION REQUIRED		0.00
U. FOREST CONSERVATION EASEMENT FOR FUTURE REFORESTATION		0.00

AREA	GROSS AREA	FLOODPLAIN*	NET AREA**
A	0.169 AC.	0 AC.	0.169 AC.
B	16.637 AC.	3.707 AC.	12.93 AC. ^Δ
C	6.434 AC.	0.080 AC.	6.354 AC.
D	0.278 AC.	0 AC.	0.278 AC.
***E	1.258 AC.	0 AC.	1.258 AC.
***F	0.467 AC.	0 AC.	0.467 AC.
***G	0.467 AC.	0 AC.	0.467 AC.
TOTAL	25.71 AC.	3.787 AC.	21.923 AC. ^Δ

* FLOODPLAIN CONTAINED WITHIN FOREST CONSERVATION EASEMENTS
** INCLUDES THE AREA OF THE FLOODPLAIN, SEWER, DRAINAGE, AND UTILITY EASEMENT OUTSIDE THE LIMITS OF FLOODPLAIN.
*** AT THE TIME OF USE OF THESE AREAS PLANTING PLANS AND PLAT RE-RECORDING WILL BE REQUIRED.
^Δ ** EXCLUDES PATHWAY EASEMENT.



- SILT FENCE WITH TREE PROTECTION**
NO SCALE
- SILT FENCE TO BE HEeled INTO THE SOIL.
 - WIRE, SNOW FENCE, ETC. FOR TREE PROTECTION ONLY.
 - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - AVOID ROOT DAMAGE WHEN PLACING ANCHOR POSTS.
 - DEVICE SHOULD BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION.
 - PROTECTION SIGNS ARE ALSO REQUIRED. SEE FOREST CONSERVATION PLAN FOR DETAIL AND LOCATION.
 - LOCATE FENCE OUTSIDE THE CRITICAL ROOT ZONE.

FOREST CONSERVATION SEQUENCE OF OPERATIONS

- Prior to beginning any grading operations on this site or on a respective lot, there shall be a preconstruction meeting held at the site which is to include the Contractor and representatives from Riemer Muegge & Associates, Inc. (RMA). The Howard County Department of Planning and Zoning (DPZ) and the owner will be notified by the Contractor as to the time and place of the field meeting, should they wish to send a representative. The purpose of this meeting will be to review the approved FCP and to field verify the correct Limits of Disturbance (LOD).
- The Limits of Disturbance (LOD) pertinent to the preservation of wooded areas shall be staked in the field with final adjustments being made as necessary to insure adequate protection of the Critical Root Zone of trees designated for retention. Stakes to be used shall be those specified for the "TREE PROTECTION DEVICE" to which approved protective material will be attached. Alternate means of defining the LOD may be used if approved by the DPZ.
- All forest retention areas shall be protected by highly visible, well anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.
- Grading operations or other construction operations which could dislodge or otherwise damage the protective devices shall be avoided along the edges of the LOD lines if possible. Any protective devices which are damaged during site construction operations shall be properly repaired immediately by the Contractor.
- After site grading, utility access road, and driveway construction have been completed, all trees adjacent to the LOD line shall be inspected for indications of crown die-back (summer indicator), damage within respective critical root zones or any dead wood or other conditions which might be hazardous to pedestrians, buildings, utility lines, vehicular access ways or parked vehicles.
- Should there be evidence of any damage to tree trunks, branches or the critical root zone of trees within the protected areas, or to isolated specimen trees to be preserved, the damage shall be excised within a period of two (2) days from the date of observation by a licensed tree care professional. Exposed roots should be covered immediately to a depth of 6 - 8 inches with soil, preferably mixed with 50% peat moss or leaf mold.
- Remove damaged, dead or dying trees or limbs only if the trees or limbs pose an immediate safety hazard to buildings, utility lines, vehicles, or access drives or pedestrian areas. Trees designated for pruning or removal shall be pruned or removed using equipment and methods which will not damage or destroy adjacent large trees or understory trees or shrubs designated for retention.
- All temporary forest protection devices will be carefully removed after all general construction, necessary tree surgery, removal of debris, etc. regrading and reseeding of sediment and erosion control disturbance have been completed and acceptance and approval of the work and site conditions have been given by the DPZ.

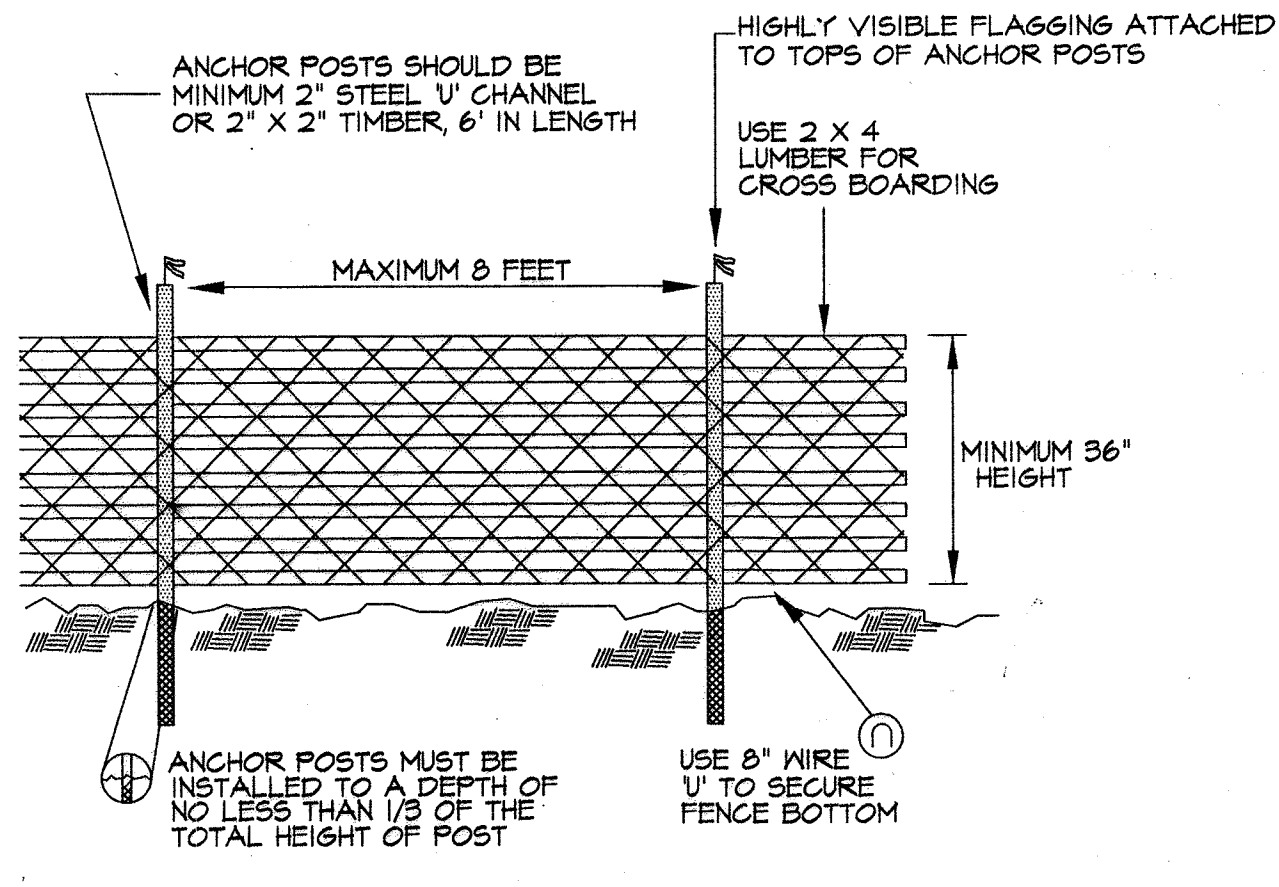
GOALS AND OBJECTIVES

DEVELOPMENT OF EMERSON SECTION I UNDER THE CURRENT FOREST CONSERVATION ACT REQUIRES THE CLEARING OF APPROXIMATELY 5.76 ACRES OF EXISTING FOREST. CREDIT FOR RETENTION OF FORESTS ABOVE THE CONSERVATION THRESHOLD WILL OFFSET ANY REFORESTATION REQUIREMENT; AS SUCH, NO REFORESTATION WILL BE REQUIRED. THIS PLAN PROPOSES RETENTION OF APPROXIMATELY 19.95 ACRES OF FOREST; THIS AMOUNT IS 7.08 ACRES IN EXCESS OF THE AMOUNT OF REQUIRED RETENTION. THE ADDITIONAL RETENTION ACREAGE WILL BE USED TO PARTIALLY DEFRAY REFORESTATION OBLIGATIONS ASSOCIATED WITH DEVELOPMENT OF THE STONE LAKE PROJECT. (P-01-15)

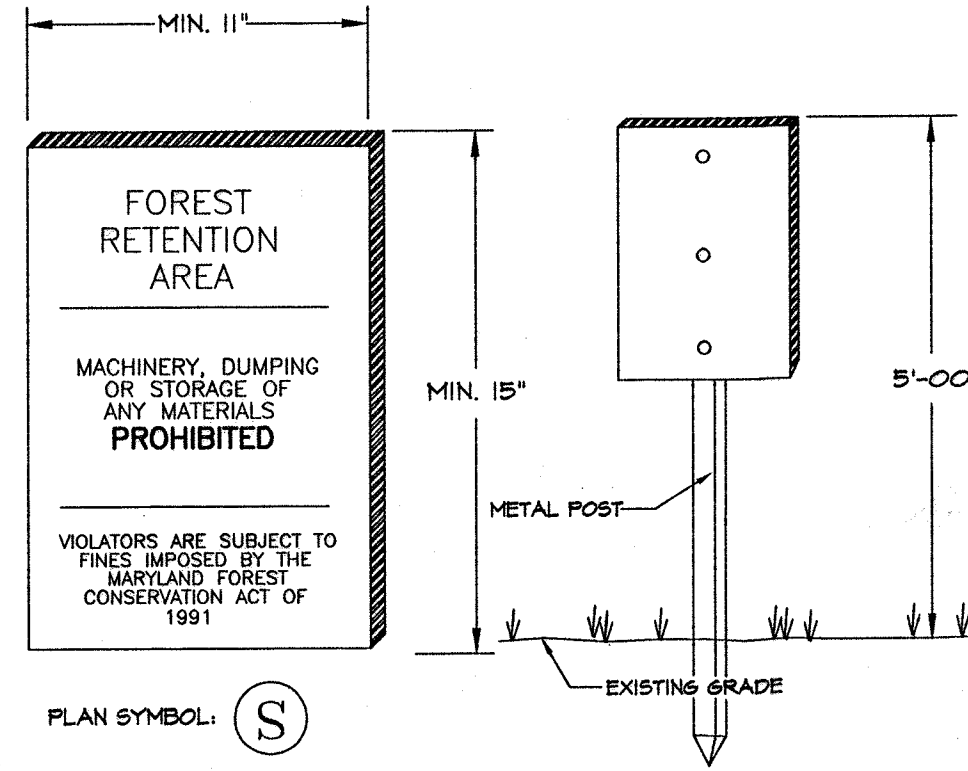
THE GOALS AND OBJECTIVES OF THIS FOREST CONSERVATION PLAN ARE TO PROVIDE FOR SHORT TERM FOREST RETENTION AREA PROTECTION BY IDENTIFYING THOSE AREAS AND INDICATING THE LOCATIONS OF FOREST PROTECTION FENCING AND SIGNAGE, ESTABLISHING THESE SHORT TERM PROTECTION MEASURES PRIOR TO ANY EARTH MOVING ACTIVITIES WILL HELP ENSURE THAT THESE AREAS WILL NOT BE DISTURBED DURING CONSTRUCTION ACTIVITIES.

SEQUENCE OF OPERATIONS

- PRE-CONSTRUCTION SITE PREPARATION**
- INSTALL TREE PROTECTION FENCE AND IMPLEMENT TREE PROTECTION METHODS AS SHOWN.
 - INSTALL TREE PROTECTION SIGNAGE.
 - STABILIZE ANY DISTURBED AREAS USING THE SPECIFIED STABILIZATION MIXTURE WHICH ALLOWS FOR NATURAL REVEGETATION OF FOREST COMMUNITIES.



- TREE PROTECTION FENCING**
NOT TO SCALE
- NOTES:**
- BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY.
 - SUPER SILT FENCE MAY BE SUBSTITUTED FOR TREE PROTECTION FENCING.
 - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
 - AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
 - PROTECTION SIGNS ARE REQUIRED. SEE SIGN DETAIL.
 - FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.



- FOREST RETENTION AREA SIGN DETAIL**
NOT TO SCALE
- NOTES:**
- SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
 - SEE PLAN FOR SPACING.
 - SIGNS TO BE PLACED ON METAL POSTS 5' +/- ABOVE FINISH GRADE. PLACE SIGNS EVERY 100' AROUND PERIMETER OF FOREST RETENTION AREA.

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
Andrew M. Sankle 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
Chris Hunter 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mike Damman 7/12/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

7-6-20-2 ADDING PATHWAY TO WALDEN WOODS SUBD.
10-30-01 REV. FOREST CONSERVATION WORKSHEET, REV. GOALS AND OBJECTIVES, REV. EASEMENT TABULATION.

DATE	NO.	REVISION

OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

PROJECT
EMERSON
SECTION ONE AREA ONE
LOTS 1 - 39 & PARCEL A

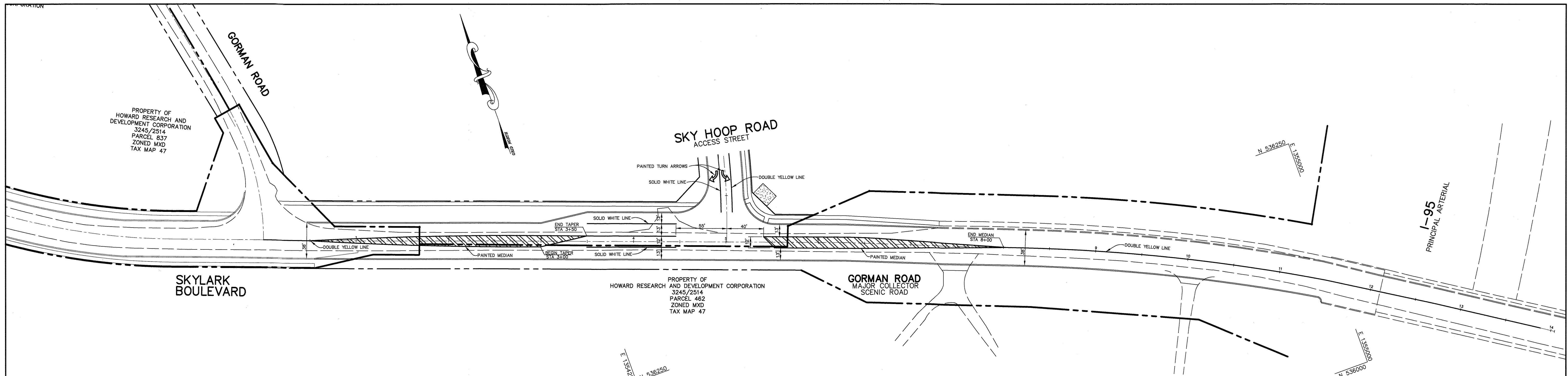
AREA
TAX MAP 47 BLOCK 3,8 & 9
ZONED: R-ED PARCEL: P/O 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
FOREST CONSERVATION DETAILS AND NOTES

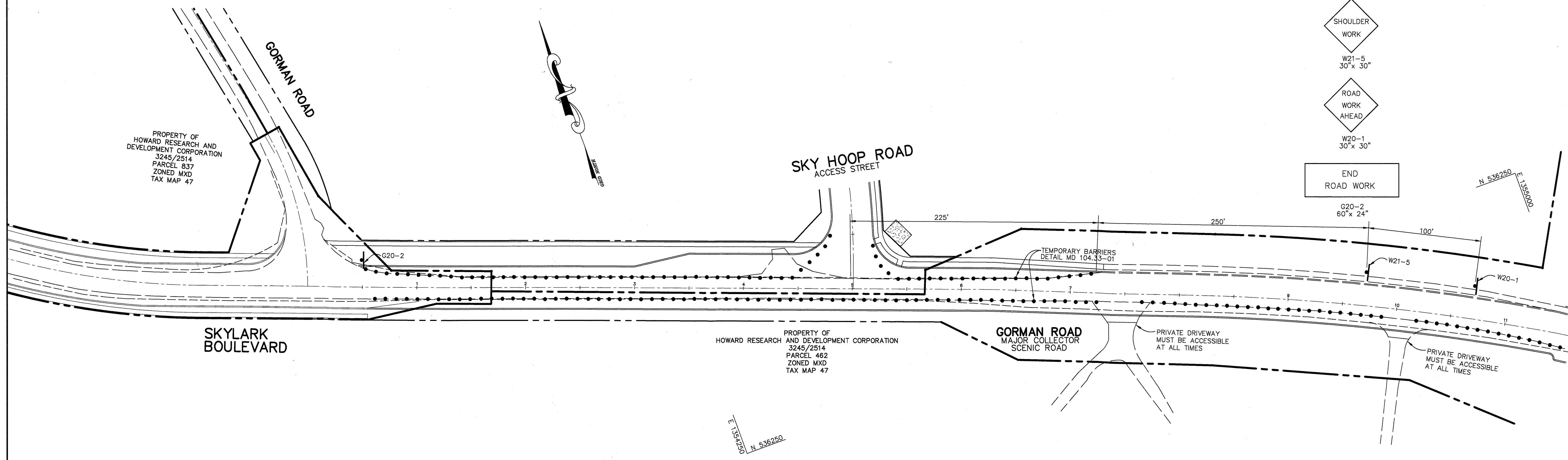
DMW
Duff-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

6-20-01

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO: 99212/FINALS
"FOREST4.DWG"
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 23 OF 26 ^Δ



STRIPING PLAN
SCALE: 1" = 50'



TRAFFIC CONTROL PLAN
SCALE: 1" = 50'

TRAFFIC CONTROL SIGNAGE LEGEND

- SIGN
- TEMPORARY BARRIER
- ◇ SHOULDER WORK
W21-5
30" x 30"
- ◇ ROAD WORK AHEAD
W20-1
30" x 30"
- ▭ END ROAD WORK
G20-2
60" x 24"

AS BUILT CERTIFICATE	
DATE	
APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.	DATE
<i>Robert M. Rucko</i> CHIEF, BUREAU OF HIGHWAYS	7-6-01
APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	DATE
<i>Chris Hamner</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/17/01
<i>Chris Muegge</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/10/01
7-6-20	ADDITIONAL PATHWAY TO WIDEN WORKS SUBDIV.
DATE NO.	REVISION
OWNER / DEVELOPER	
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044 410-992-6000	
PROJECT	
EMERSON SECTION ONE - AREA ONE LOTS 1 - 39 & PARCEL A	
AREA	
TAX MAP 47 BLOCK 3,8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
TITLE	
GORMAN ROAD TRAFFIC CONTROL PLAN AND STRIPING PLAN	
RIEMER MUEGGE a division of: Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.8282	
6-26-01 DATE	DESIGNED BY : CJR
	DRAWN BY: DAM
	PROJECT NO : 99212/FINALS TRAFFIC1.DWG
	DATE : JUNE 19, 2001
	SCALE : AS SHOWN
CHRISTOPHER J. REID #19949	DRAWING NO. 24 OF 26

P:\Project\99212\FINALS\Traffic1.dwg Fri Jun 22 10:57:29 2001 Riemer Muegge, a division of PH&A

DETAIL 5.2: UTILITY CROSSING

Description
The work shall consist of installing erosion control devices in and adjacent to the construction of utility crossings.

Material Specifications
Materials for sandbag and stone stream diversions shall meet the following requirements:

- Riprap: Riprap shall be washed and have a minimum diameter of 6 inches (15 centimeters).
- Sandbags: Sandbags shall consist of materials which are resistant to ultraviolet radiation, tearing, and puncture and shall be woven tightly enough to prevent leakage of the fill material (clean sand, fine gravel, etc.).

Installation Guidelines
All erosion and sediment control devices, including dewatering basins, shall be implemented as the first order of business according to a plan approved by the Water Management Administration (WMA). (See Maryland Standards and Specifications for Sediment Control). The proposed construction sequence is as follows (refer to the attached figures):

- The contractor shall insure that a continuous perimeter control barrier is in place to minimize the amount of pollutants entering the flow.
- Excavated topsoil and subsoil shall be kept separate, placed on the upland side of the excavation, and replaced in their natural order.
- All construction shall take place during stream low flows. The length of construction time shall be limited to a maximum of 5 days for each crossing.
- All utility crossings shall be placed a minimum of 3 feet (1 meter) beneath the streambed unless an alternative section is specifically approved by the WMA. (For instances where a 3-foot cover is not viable, two alternate stabilization options are given in the attached detail.)
- The stream shall be diverted by an approved temporary stream diversion, the construction area shall be dewatered, and any disturbed banks shall be stabilized. (The contractor may elect to construct the utility crossing in two stages. In this case, a WMA approved flow barrier may be constructed to keep the construction area dry.)
- Once the crossing is completed, the diversion shall be removed from upstream to downstream. Sediment control devices, including perimeter erosion controls, are to remain in place until all disturbed areas are stabilized in accordance with an approved sediment and erosion control plan and the inspection authority approves their removal.

TEMPORARY STREAM CONSTRUCTION	PAGE 76	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 5.2(a): UTILITY CROSSING

PLAN VIEW

SECTION A-A

SECTION B-B

STREAM CROSSING	PAGE 77	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 5.2(b): UTILITY CROSSING (Continued)

SECTION VIEW ALTERNATE OPTION 1

SECTION VIEW ALTERNATE OPTION 2

STREAM CROSSING	PAGE 78	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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STAKE THROUGH CONSTRUCTION FENCE TO RESTRAIN, IF SLOPE IS GREATER THAN 5 PERCENT.

NOTES:

- FILTER BAG SHALL BE PLACED ON A SLOPING OR LEVEL WELL GRADED VEGETATED SITE SUCH THAT WATER WILL FLOW AWAY FROM DEVICE AND ANY WORK AREA.
- WIDTH AND LENGTH SHALL BE AS SHOWN.
- THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
- FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
- DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
- FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS FOR GEOTEXTILE CLASS F:

MINIMUM STRENGTH	30 LBS/IN (MAX)	TEST METHOD 508
TENSILE STRENGTH	20 LBS/IN (MAX)	TEST METHOD 508
FLOW RATE	0.3 GAL/FT ² /MINUTE (MAX)	TEST METHOD 502
FILTER EFFICIENCY	75% (MIN)	TEST METHOD 502

FILTER BAG (FB)
 TEMPORARY EROSION CONTROL MEASURE

DRAWN BY: C.B.
CHECKED BY: NONE
SCALE: FB

DETAIL 2.1A: CULVERT PIPE W/ACCESS ROAD NOTES

Description
The work shall consist of installing a culvert pipe and associated access road for the purpose of erosion control when construction activities occur within the stream corridor.

Material Specifications
Materials for culverts with temporary access roads shall meet the following requirements:

- Riprap: Riprap shall be sized to resist a stream's baseflow if the duration of the project is less than one month. Otherwise, the riprap shall be designed to resist bankfull discharge.
- Sandbags/Sandbags shall consist of materials are resistant to ultraviolet radiation, tearing, and puncture and shall be woven tightly enough to prevent leakage of fill material (clean sand, fine gravel, etc.).
- Sheeting: Sheeting shall consist of polyethylene or other material which is impervious and resistant to puncture and tearing.

Installation Guidelines
All erosion and sediment control devices (including mandatory dewatering basins) shall be installed as the first order of business according to a plan approved by the Water Management Administration (WMA). Additionally, all excavated material shall be disposed of in an approved area outside the 100-year floodplain unless otherwise authorized by the WMA. A culvert pipe with a temporary access road shall be constructed as follows (refer to the attached figures):

- Culverts shall have a minimum capacity sufficient to convey the stream's base flow for projects with duration of 2 weeks or less. For projects of longer duration, culverts shall have a capacity sufficient to convey bankfull flow.
- Sandbag or stone flow barriers shall be sized and installed as detailed in the installation guidelines. The materials shall be sized to withstand normal streamflow velocities.
- Temporary culvert crossings shall be constructed in accordance with Standard Detail (TAC-1), 1990 Maryland Standards and Specifications for Sediment Control and erosion control.
- Sediment control devices shall remain in place until all disturbed areas have been stabilized in accordance with an approved sediment and erosion control plan and the inspecting authority approves their removal.

TEMPORARY STREAM DIVERSION	PAGE 7-8	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 2.1: CULVERT PIPE W/ACCESS ROAD

TEMPORARY STREAM

PROFILE VIEW

TEMPORARY STREAM DIVERSION	PAGE 9	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 20B - SUMP PIT

CROSS SECTION

Construction Specifications

- Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.
- The standpipe should be constructed by perforating a 12" to 24" diameter corrugated or PVC pipe. Then wrapping with 1/2" hardware cloth and Geotextile Class E. The perforations shall be 1/2" x 6" slits or 1" diameter holes.
- A base of filter material consisting of clean gravel or #57 stone should be placed in the pit to a depth of 12". After installing the standpipe, the pit surrounding the standpipe should then be backfilled with the same filter material.
- The standpipe should extend 12" to 18" above the lip of the pit or the riser crest elevation (basin dewatering only) and the filter material should extend 3" minimum above the anticipated standing water elevation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 0 - 13 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 36 - TEMPORARY ACCESS CULVERT

CROSS SECTION

CONSTRUCTION SPECIFICATIONS

- Aggregate fill shall be placed in the culvert to a depth of 12" above the top of the filter cloth.
- High flow areas shall be protected with aggregate fill and filter cloth.
- Multiple pipes shall be used for high flow areas.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE 11 - 29 - 18	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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NOTE: SEE DETAIL 1.4: DIVERSION PIPE OF THE MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION FOR PROPER INSTALLATION OF DIVERSION PIPE, AVAILABLE FROM THE ENGINEER.

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 SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER: *John Reid* DATE: 6/22/01

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

ENGINEER: *Christopher J. Reid* DATE: 6/26/01

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.

NATURAL RESOURCES CONSERVATION SERVICE DATE: 7/2/01

HOWARD SOIL CONSERVATION DISTRICT DATE: 7/2/01

AS BUILT CERTIFICATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. DATE: 7-6-01

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. DATE: 7/17/01

APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT. DATE: 7/10/01

7-6-20: ADDING PATHWAY TO WILDEN WOODS SUBDIVISION

DATE NO. REVISION

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION, THE ROUSE BUILDING, 10275 LITTLE PATUXENT PARKWAY, COLUMBIA, MARYLAND 21044, 410-992-6000

PROJECT: EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A

AREA: TAX MAP 47 BLOCK 3,8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT CONTROL DETAILS

RIEMER MUEGGE
 a division of:
Patton Harris Rust & Associates, pc
 ENGINEERS • SURVEYORS • PLANNERS
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

DATE: 6/26/01

DESIGNED BY: CJR

DRAWN BY: DAM

PROJECT NO: 99212/FINALS SEDDET1A.DWG

DATE: JUNE 19, 2001

SCALE: AS SHOWN

DRAWING NO. 25 OF 26

STATE OF MARYLAND
 CHRISTOPHER J. REID #19949