

| SHEET INDEX | |
|-------------|---|
| NO | DESCRIPTION |
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ROADS, STORM DRAINS & SWM PLANS

EMERSON

SECTION ONE AREA ONE

LOTS 1 - 39 & PARCEL A

6th ELECTION DISTRICT

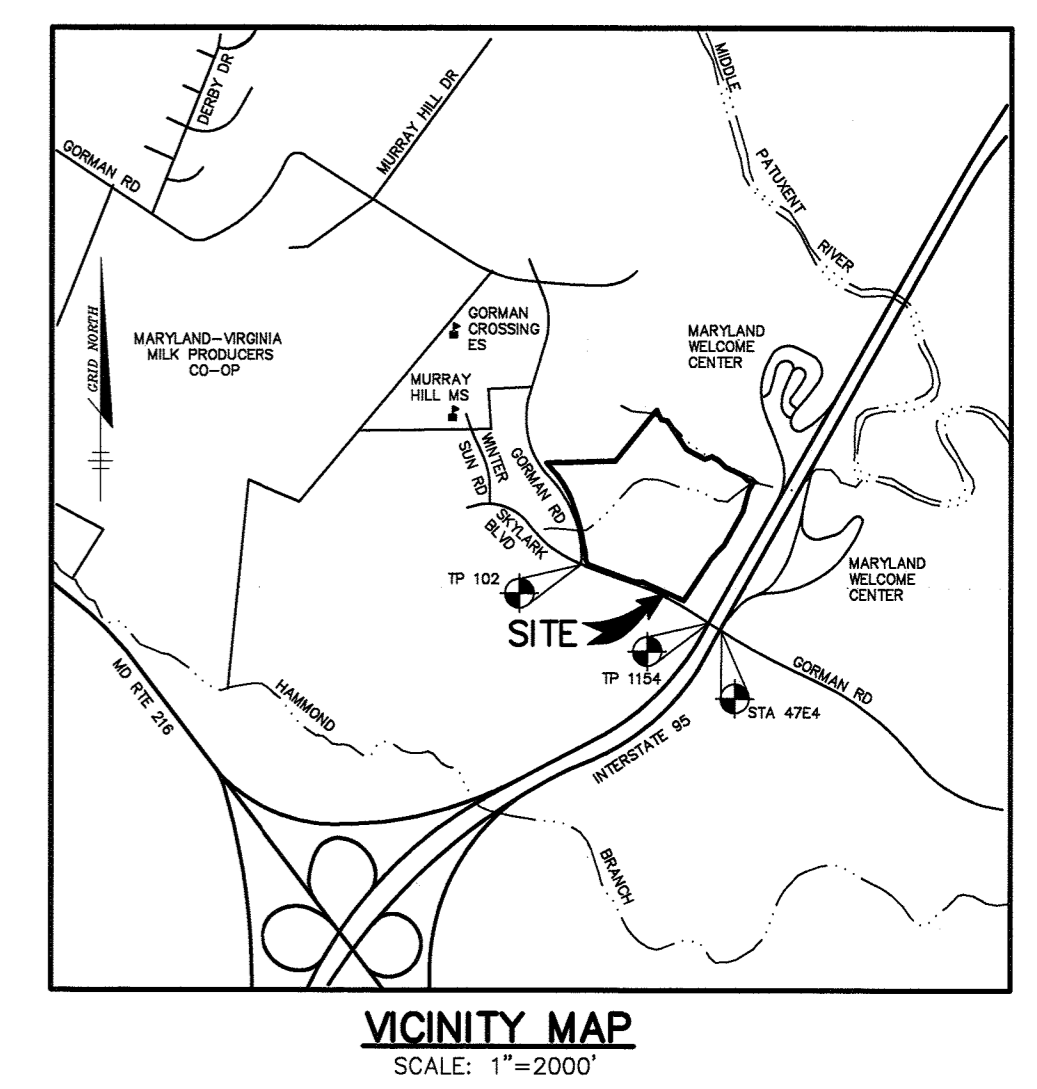
HOWARD COUNTY, MARYLAND

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

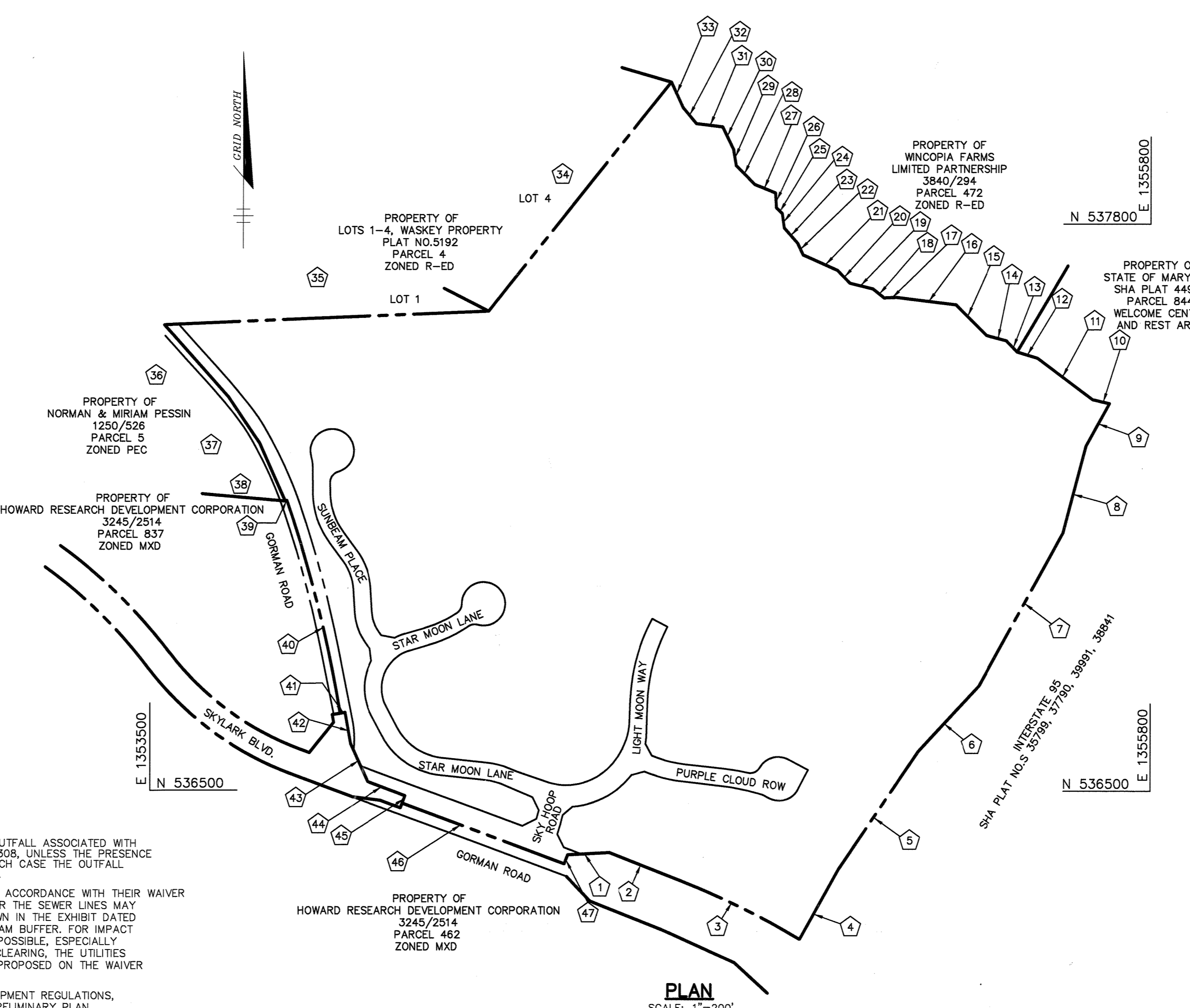
CONTROL STATION 47E4
ELEVATION 339.00
N 535,846.16
E 1,355,431.23
LOCATED NEAR THE I-95 BRIDGE ALONG GORMAN ROAD



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.
- 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 TO BE REVIEWED AND APPROVED BY THE SRC. AS PROPOSED BY THE DEVELOPER WITH THIS WAIVER PETITION, THE UTILITY CROSSING OF THE STREAM MUST BE CONCURRENT 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 16.116, WHICH REQUIRES THE SUBMISSION OF A PRELIMINARY PLAN 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.



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

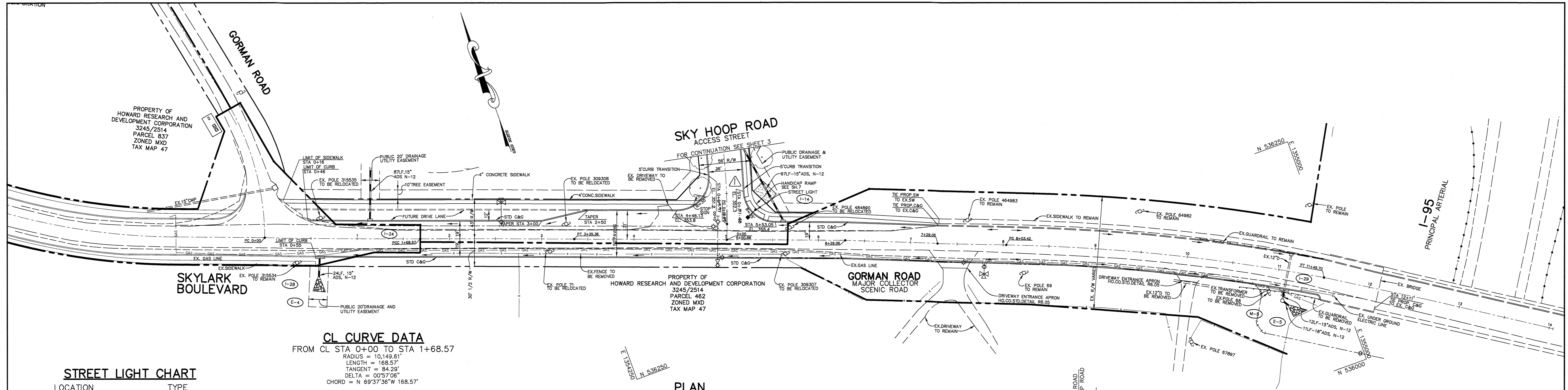
3. THE PETITIONER SHALL COMPLY WITH THE COMMENTS ISSUED BY THE SOIL CONSERVATION DISTRICT (SCD), DATED 8/29/01.

39. A PLAT OF REVISION (F20-067) HAS BEEN RECORDED TO ESTABLISH A 10' MAINTENANCE ACCESS EASEMENT FOR THE NEW PATHWAY

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 | 48.61' |
| 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" E | 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 | N 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' |

| 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>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 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 | | |
| FOR REVISION 2 ONLY | | |
| | | |
| DESIGNED BY : CJR DRAWN BY : DAM PROJECT NO : 99212/FINALS DATE : JUNE 19, 2001 SCALE : AS SHOWN 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) FITTURE MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE WITH 12' ARM |

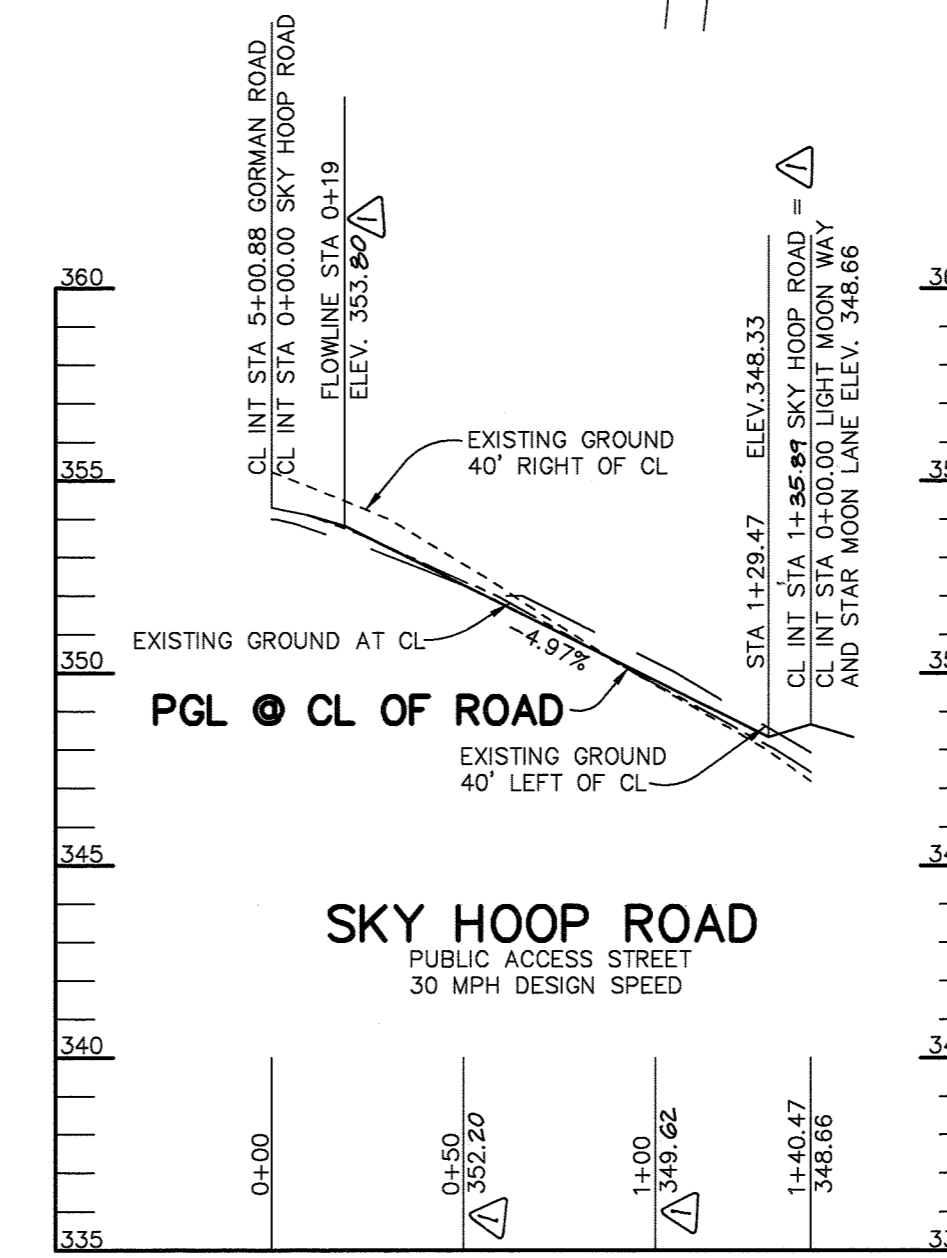
CL CURVE DATA
FROM CL STA 0+00 TO STA 1+68.57
RADIUS = 10,149.61'
LENGTH = 168.57'
TANGENT = 84.29'
DELTA = 00°57'08"
CHORD = N 69°37'36" W 168.57'

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'

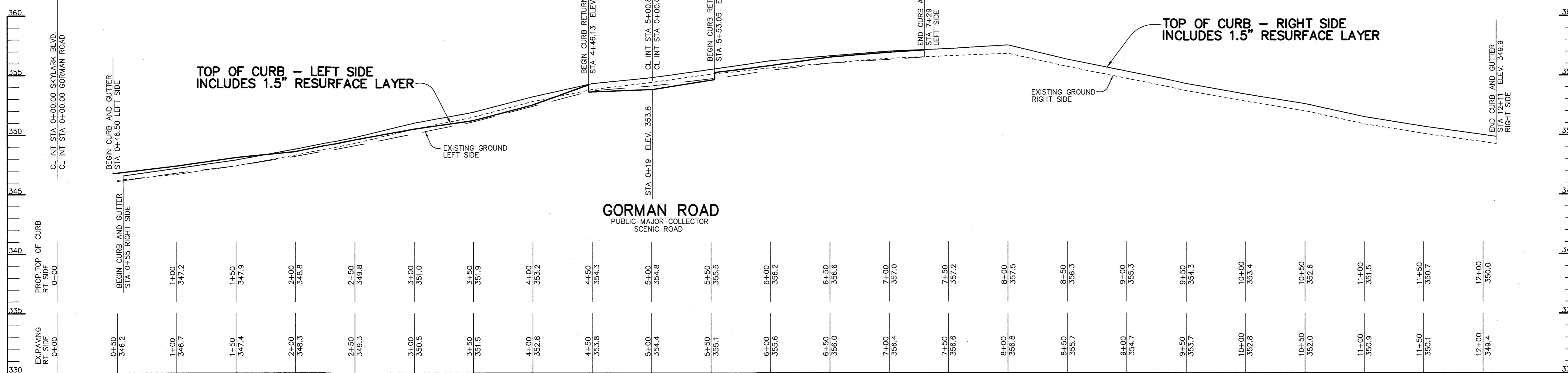
CL CURVE DATA
FROM CL STA 0+16.89 TO STA 1+35.89
RADIUS = 700.00'
LENGTH = 119.00'
TANGENT = 59.64'
DELTA = 09°44'25"
CHORD = N 15°34'28" W 118.86'

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 |
| 1+00 | 346.8 |
| 1+50 | 347.4 |
| 2+00 | 348.1 |
| 2+50 | 348.8 |
| 3+00 | 349.5 |
| 3+50 | 350.2 |
| 4+00 | 350.9 |
| 4+50 | 351.6 |
| 5+00 | 352.3 |
| 5+50 | 353.0 |
| 6+00 | 353.7 |
| 6+50 | 354.4 |
| 7+00 | 355.1 |
| 7+50 | 355.8 |
| 8+00 | 356.5 |
| 8+50 | 357.2 |
| 9+00 | 357.9 |
| 9+50 | 358.6 |
| 10+00 | 359.3 |
| 10+50 | 360.0 |



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 HOOPS
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

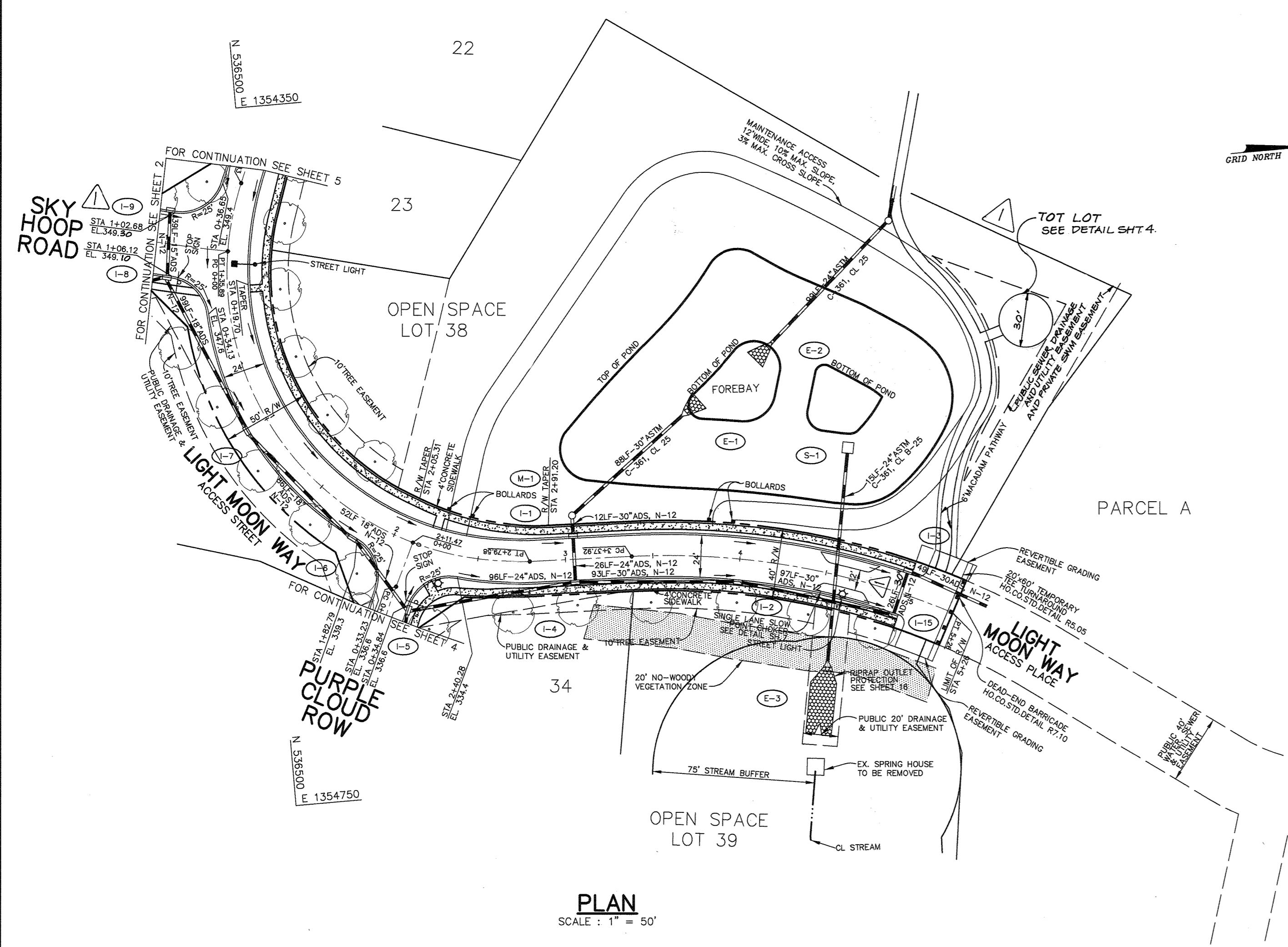
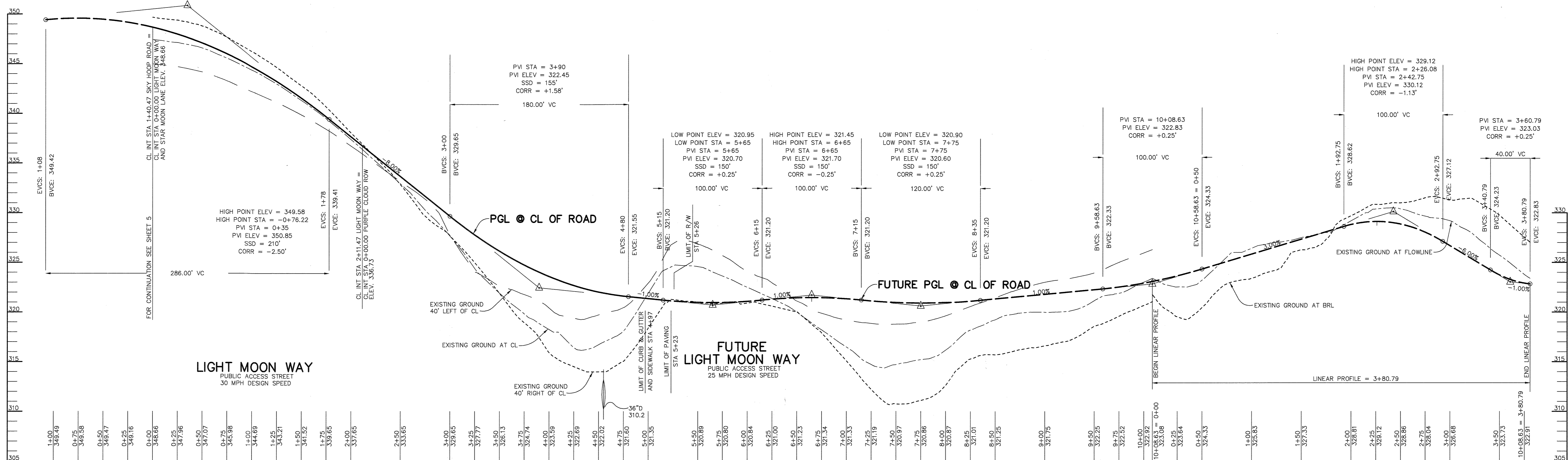
AREA
TAX MAP 47 BLOCK 3,8 & 9
ZONED: R-ED PARCEL: P/O 837
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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
CHRISTOPHER J. REID #10040



PROFILE

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

CL CURVE DATA

FROM CL STA 0+00 TO STA 2+79.50
RADIUS = 165.00'
LENGTH = 279.58'
TANGENT = 186.77'
DELTA = 97°03'00"
CHORD = S 50°39'50"W 247.31'

CL CURVE DATA

FROM CL STA 3+37.92 TO STA 5+26
RADIUS = 420.00'
LENGTH = 188.08'
TANGENT = 95.64'
DELTA = 25°39'27"
CHORD = S 14°57'03"W 186.51'

CURB TRANSITION DATA

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'

R/W TRANSITION DATA

FROM CL STA 2+05.31 TO STA 2+91.20
RADIUS = 150.00'
LENGTH = 75.80'
TANGENT = 38.73'
DELTA = 28°57'18"
CHORD = N 16°35'59"W 75.00'

STREET LIGHT CHART

| LOCATION | TYPE |
|--|--|
| 7' LEFT OF STA 0+07 LIGHT MOON WAY | 150 WATT HPS VAPOR PENDANT MOUNTED AT 30' ON A BRONZE FIBERGLASS POLE WITH 12' ARM |
| 18' RIGHT OF STA 2+31 LIGHT MOON WAY | 100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE |
| 10' RIGHT OF STA 4+62 LIGHT MOON WAY AT CHOKER | 100 WATT HPS VAPOR COLONIAL POST TOP MOUNTED ON A 14' BLACK FIBERGLASS POLE |

AS BUILT CERTIFICATE

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

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

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

10-30-01 ADDED TOT LOT LOCATION, CHANGED LOCATION OF PATHWAY, MODIFIED PUBLIC BSMT. & PRIV SWM BSMT. REV ELEV. ON PLAN - SKY HOOP ROAD. REV I-5 TO I-15 PIPE SIZE.

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 LIGHT MOON WAY**

RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
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8816 Centre Park Drive, Columbia, MD 21045 • tel 410-997-5800 fax 410-997-9282

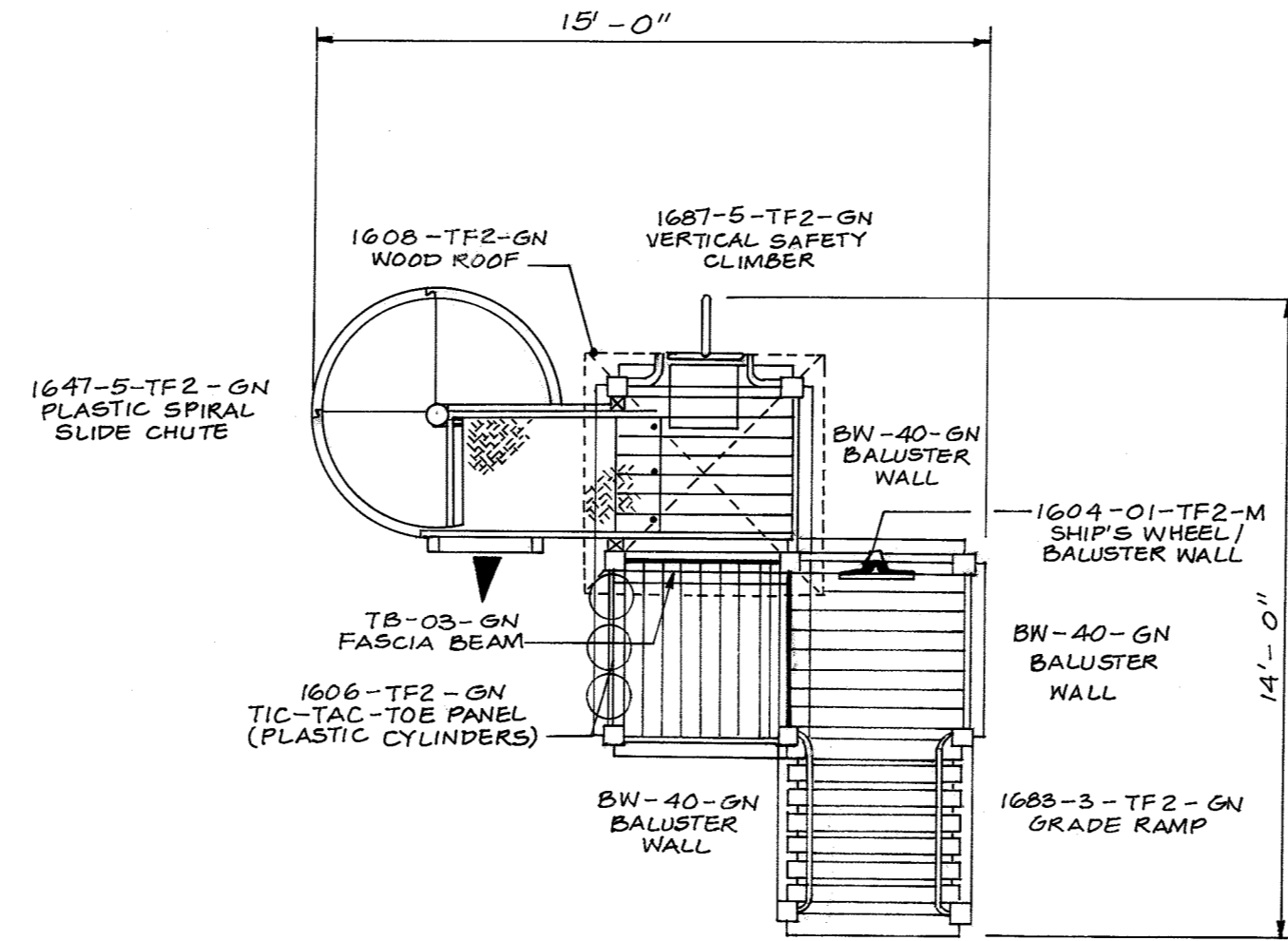
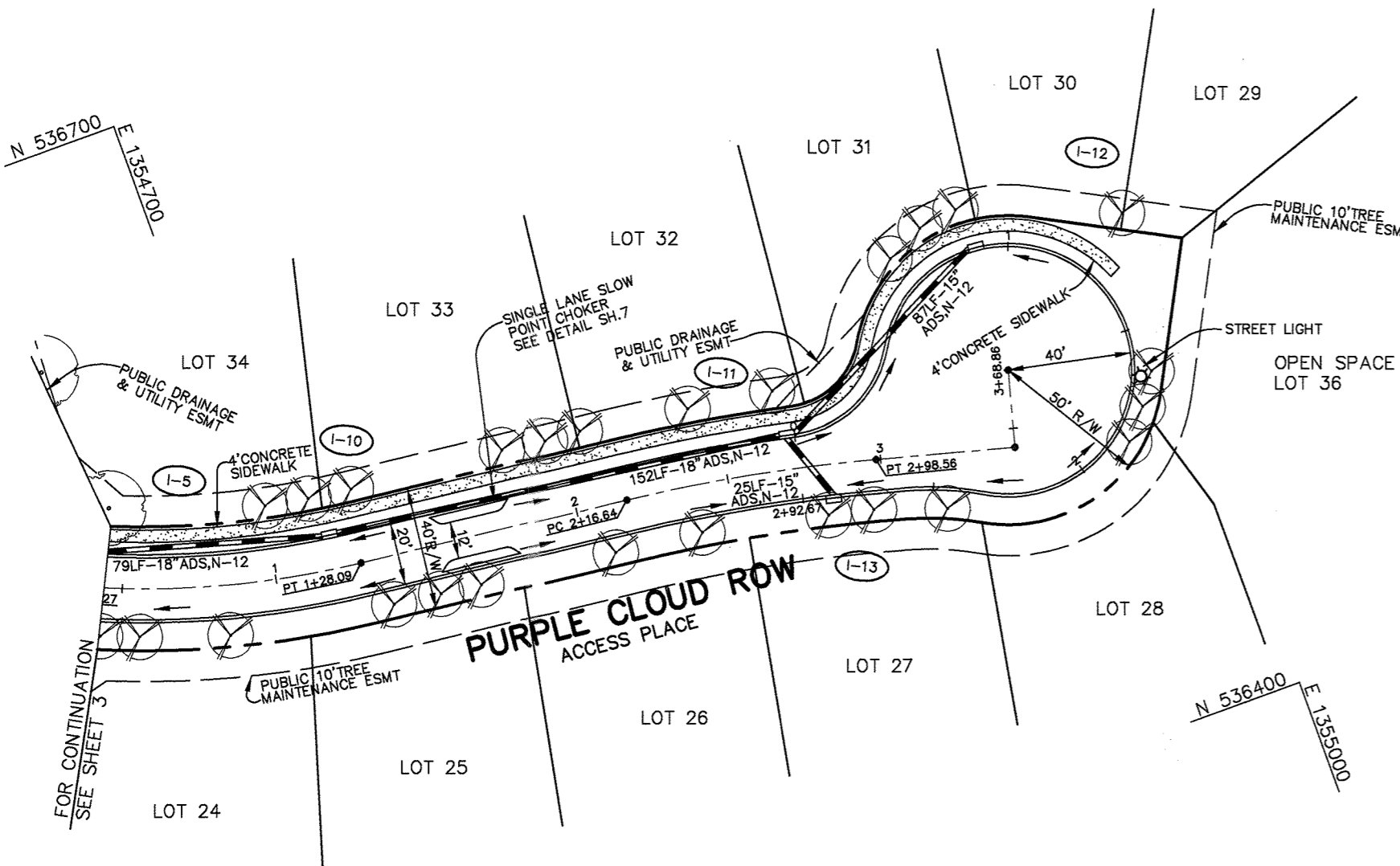
DATE 6.26.01
DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO. 99212/FINALS
RD3.DWG
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 3 OF 26

CHRISTOPHER J. REID #19949

P:\projects\99212\FINALS\RD3.DWG Tue Jun 26 13:58:54 2001 RIEMER MUEGGE, A DIVISION OF PHRGA

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

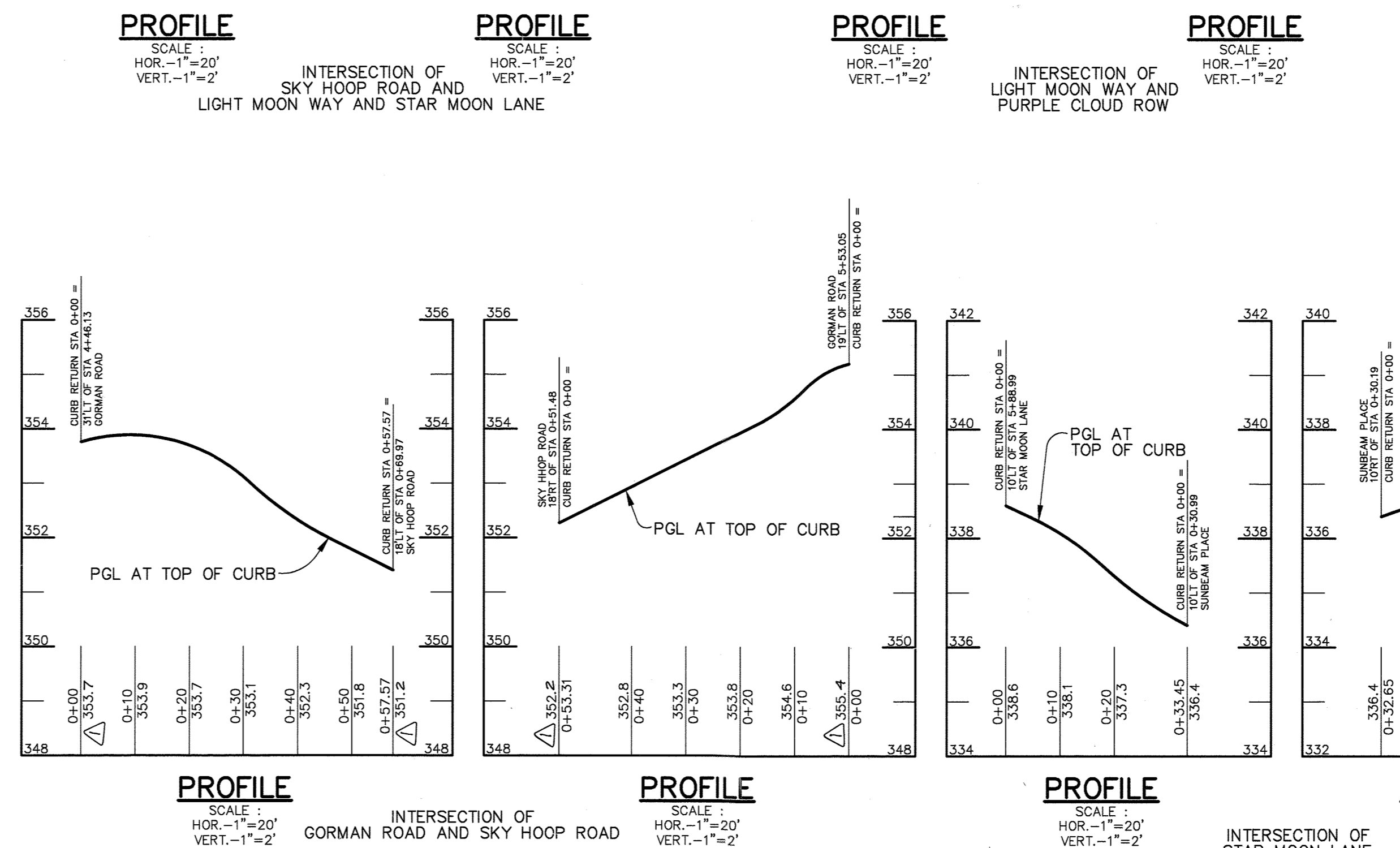
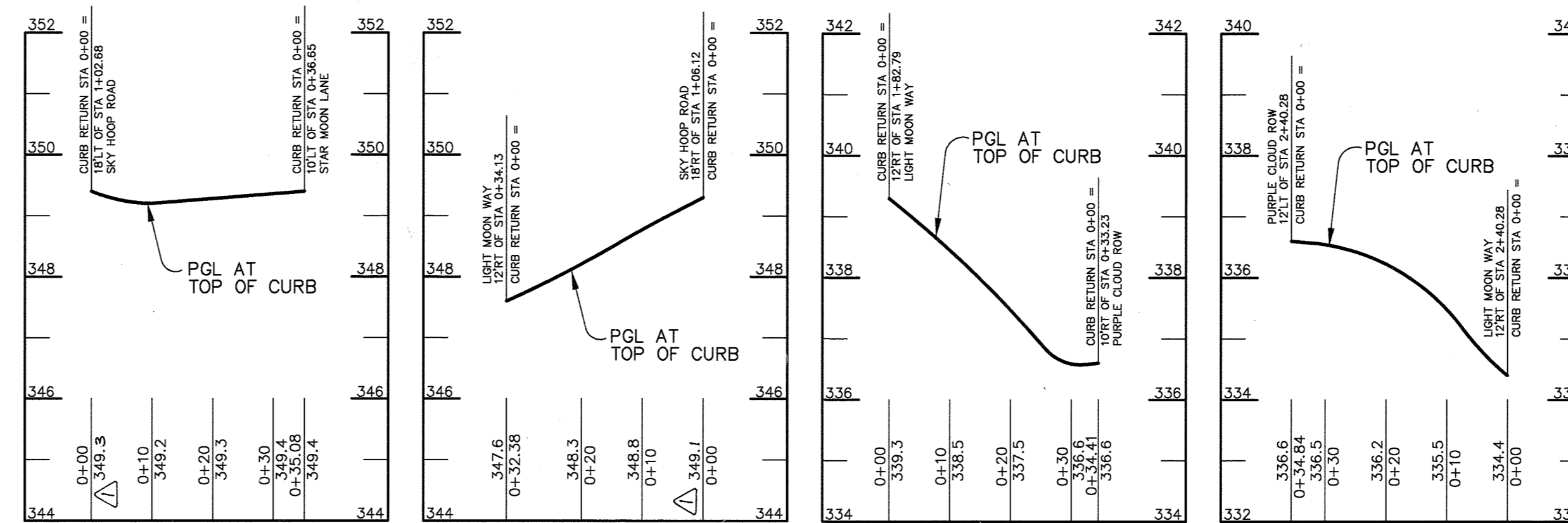
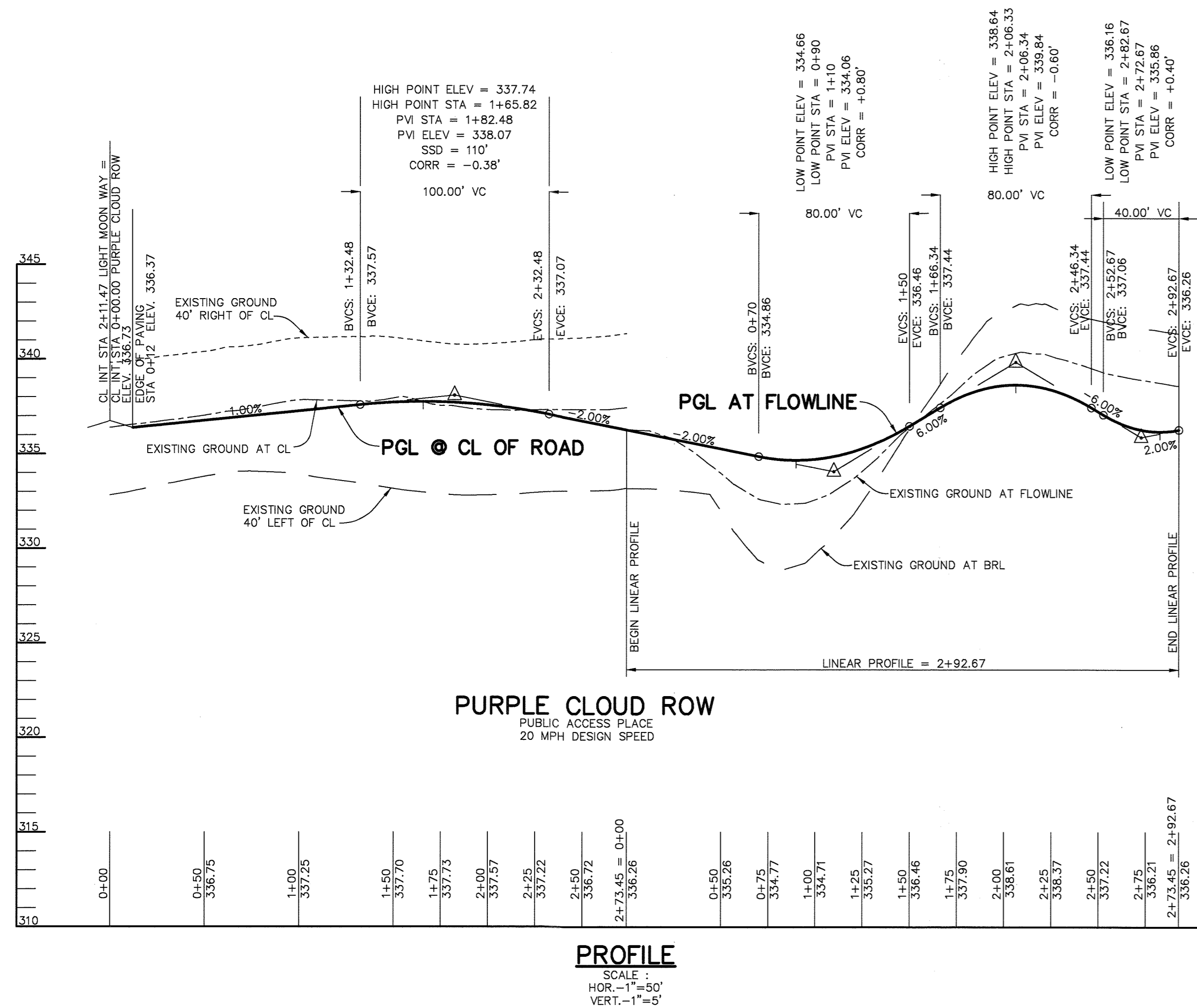


TOT LOT DETAIL
NO SCALE

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'



AS BUILT CERTIFICATE

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

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

7-6-20 2 ADDING PATHWAY CONNECTION TO WALDEN WOODS
 10-30-01 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

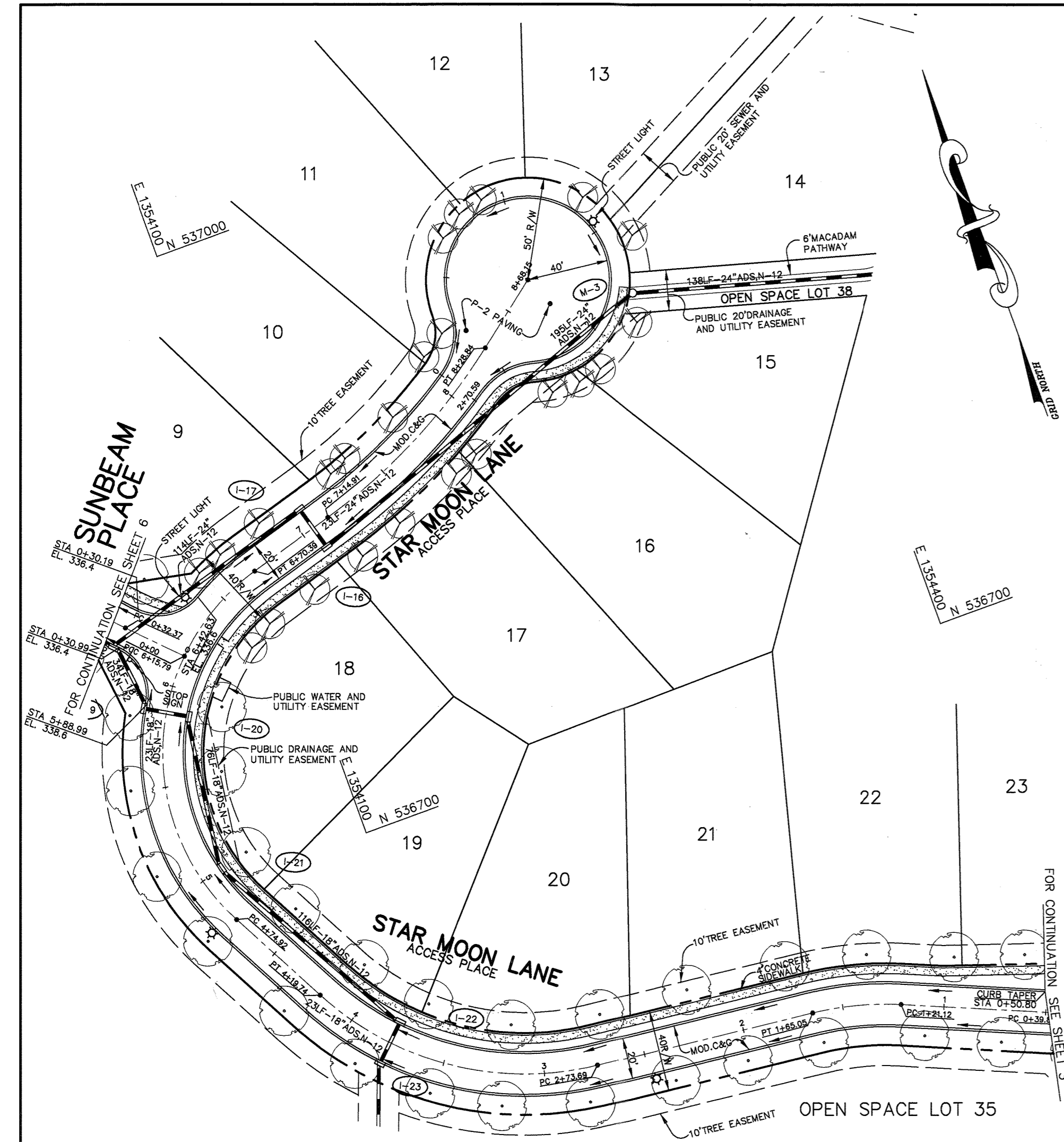
AREA TAX MAP 47 BLOCK 3.8 & 9
 ZONED: R-ED PARCEL: P/O 837
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

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

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/RD4.DWG
 DATE: JUNE 19, 2001
 SCALE: AS SHOWN
 DRAWING NO. 4 OF 26

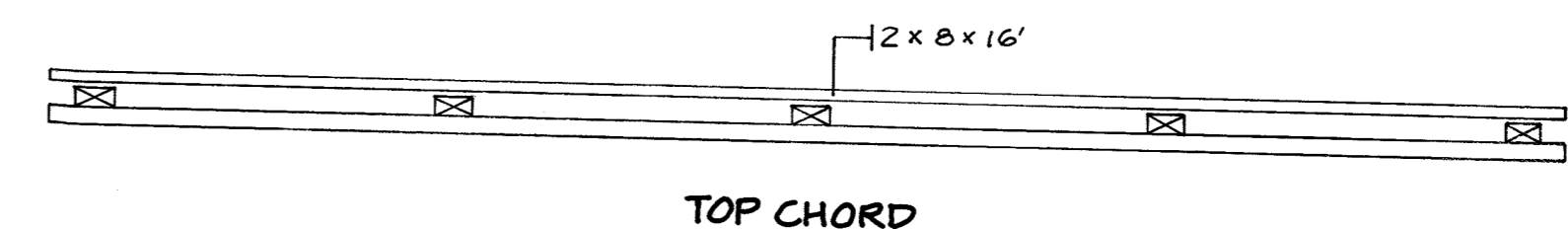
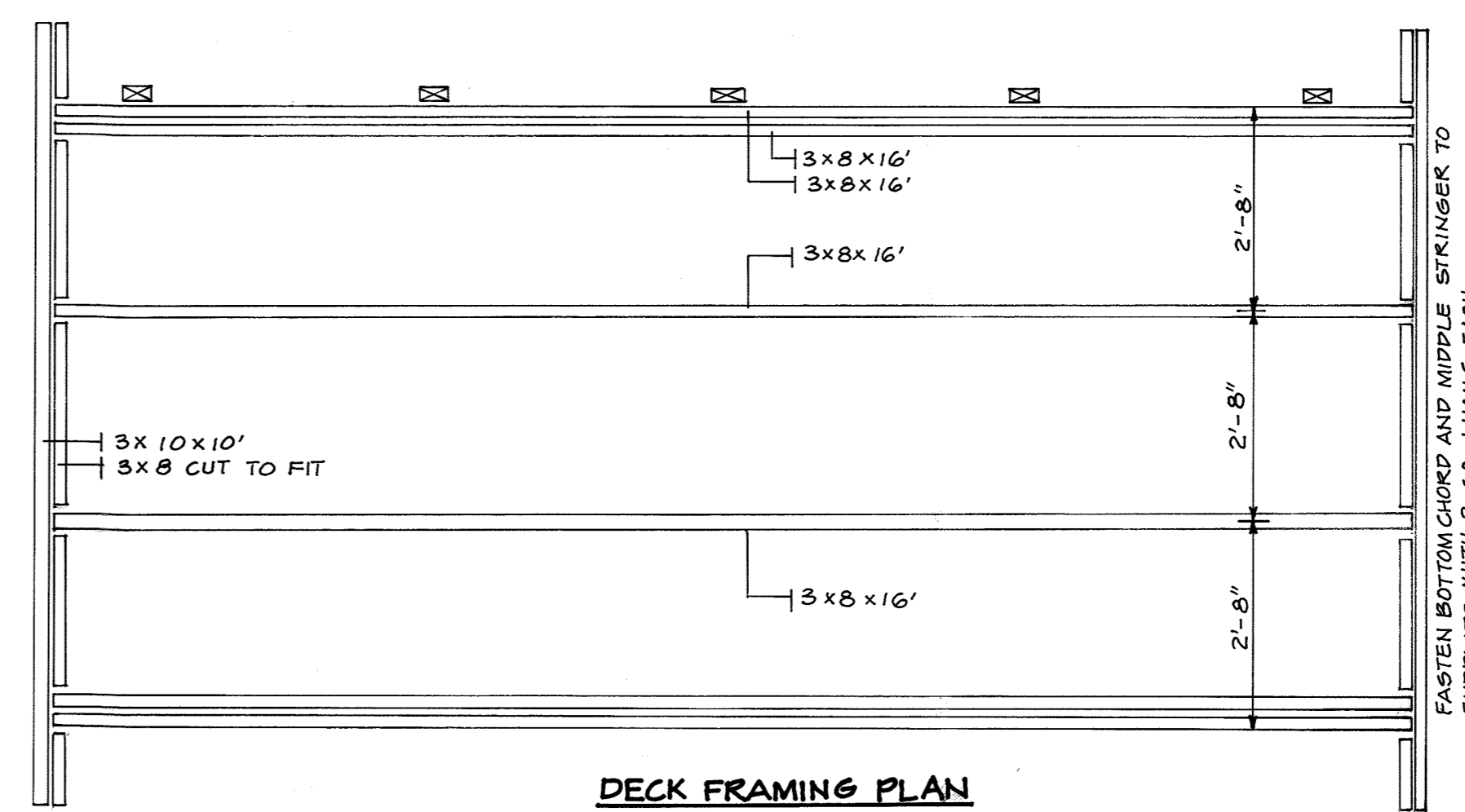
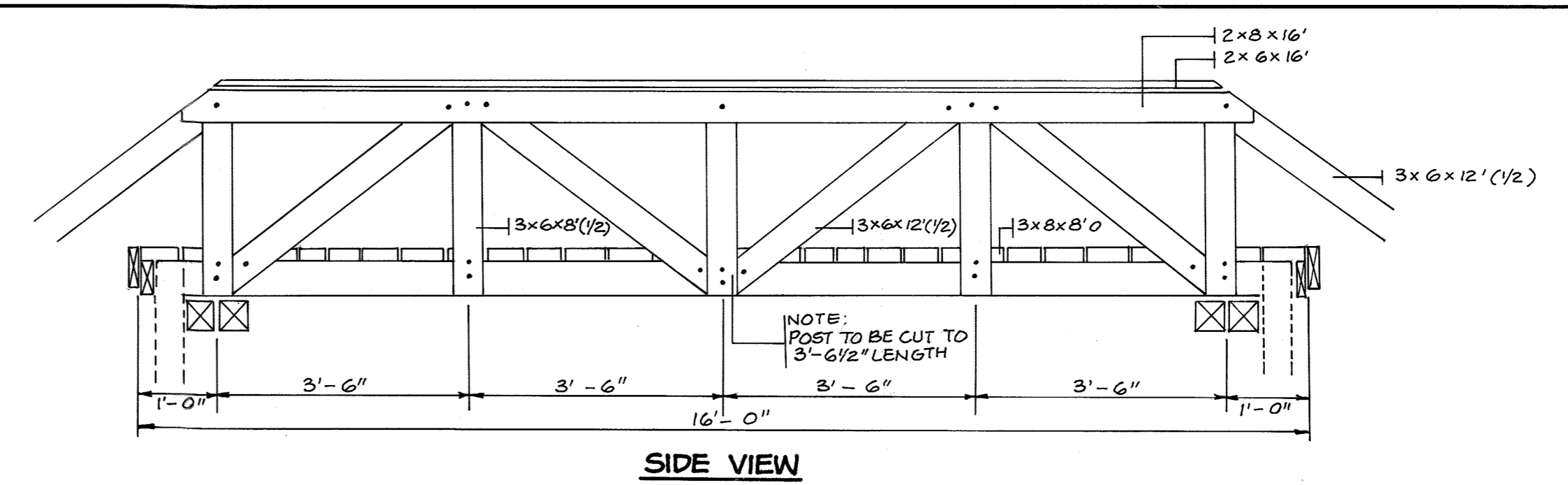
CHRISTOPHER J. REID #19949



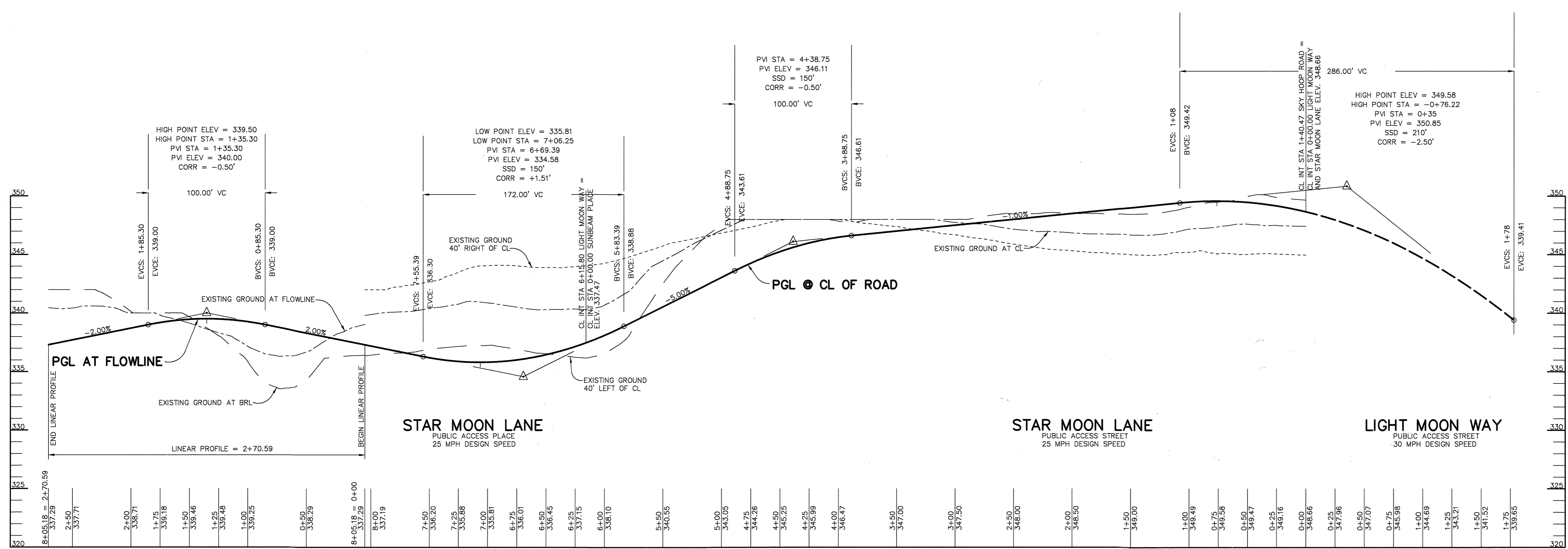
STREET LIGHT CHART

| 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

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

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

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

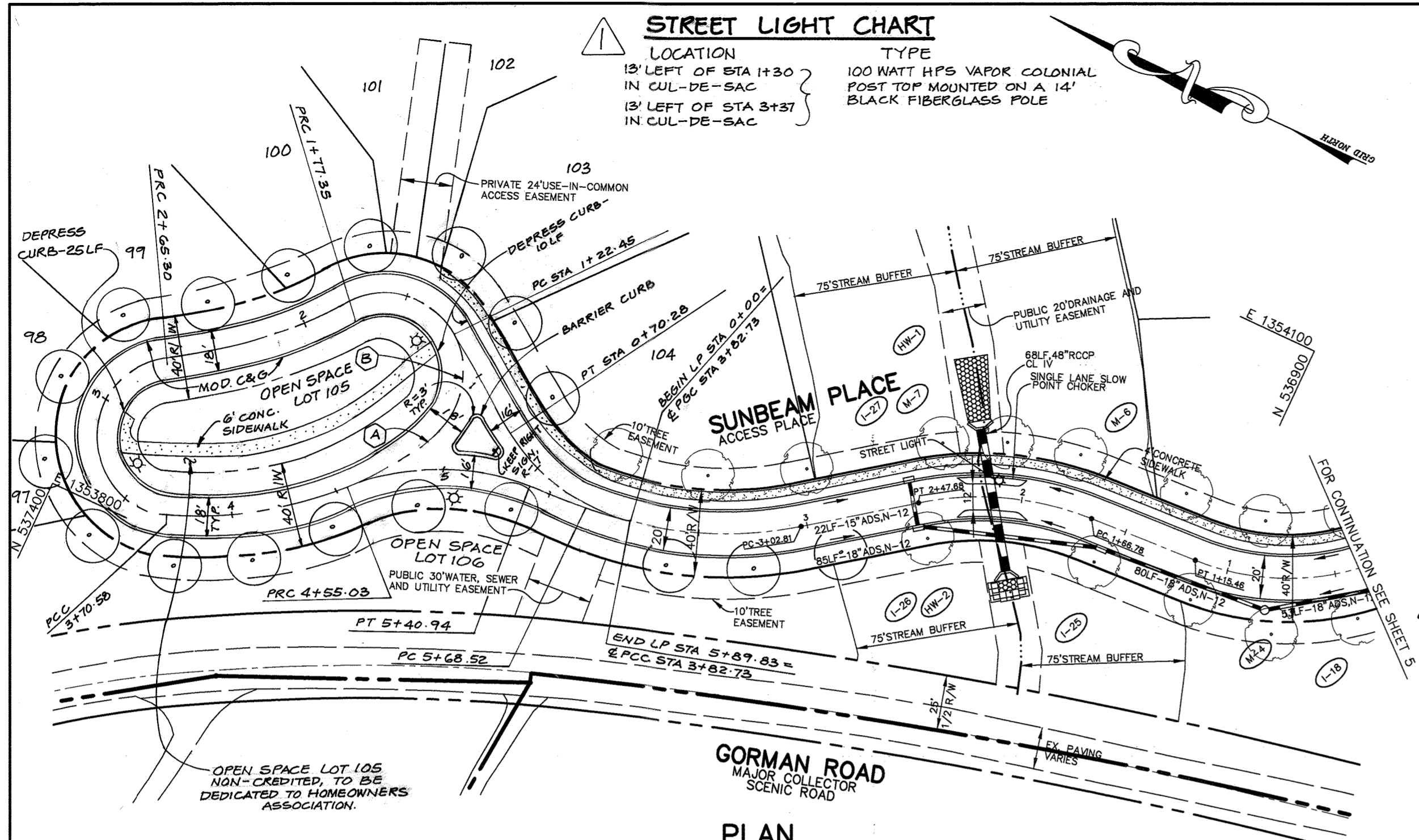
TITLE
PLAN AND PROFILE OF STAR MOON LANE

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



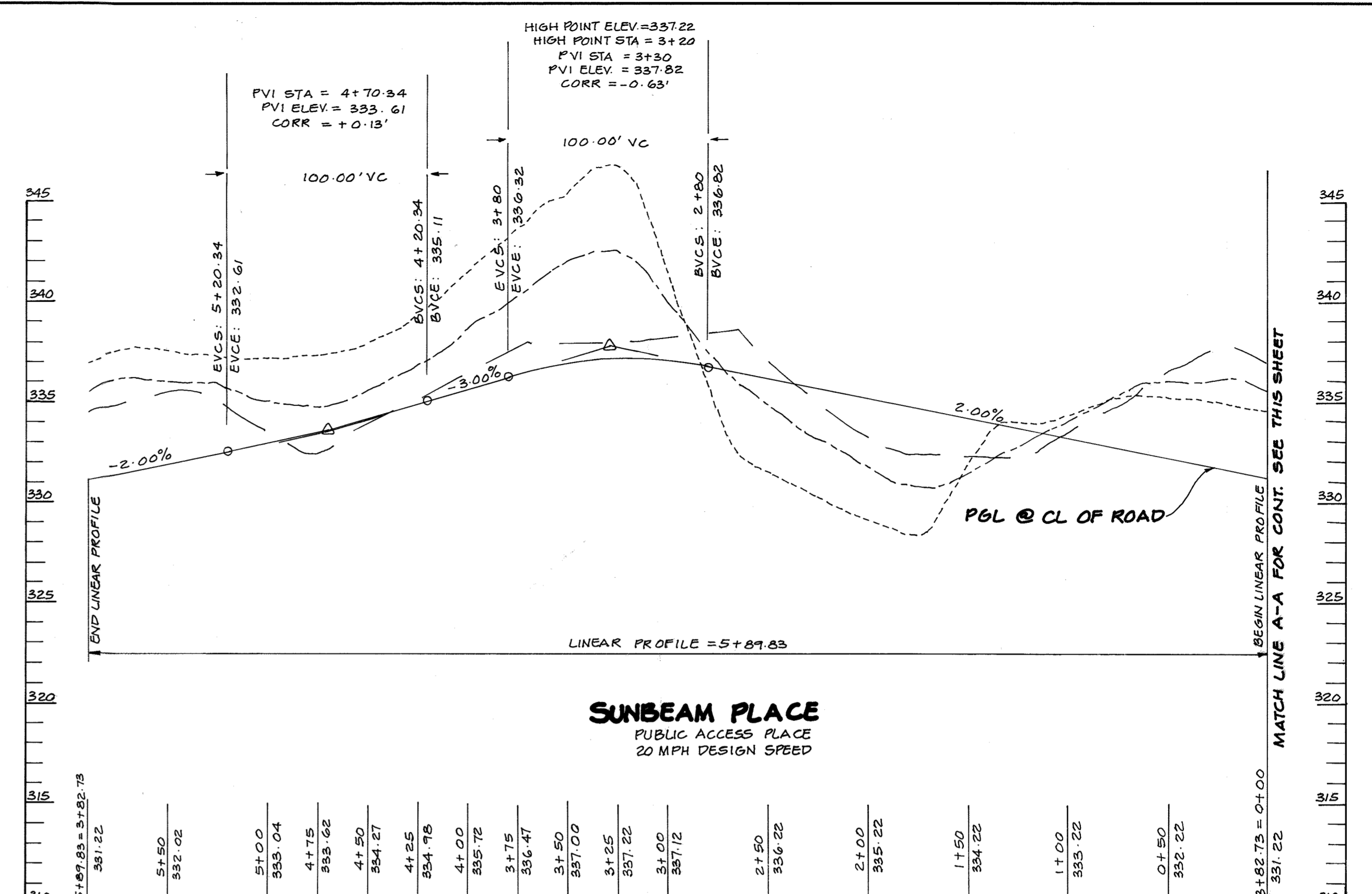
PLAN
SCALE: 1" = 50'

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

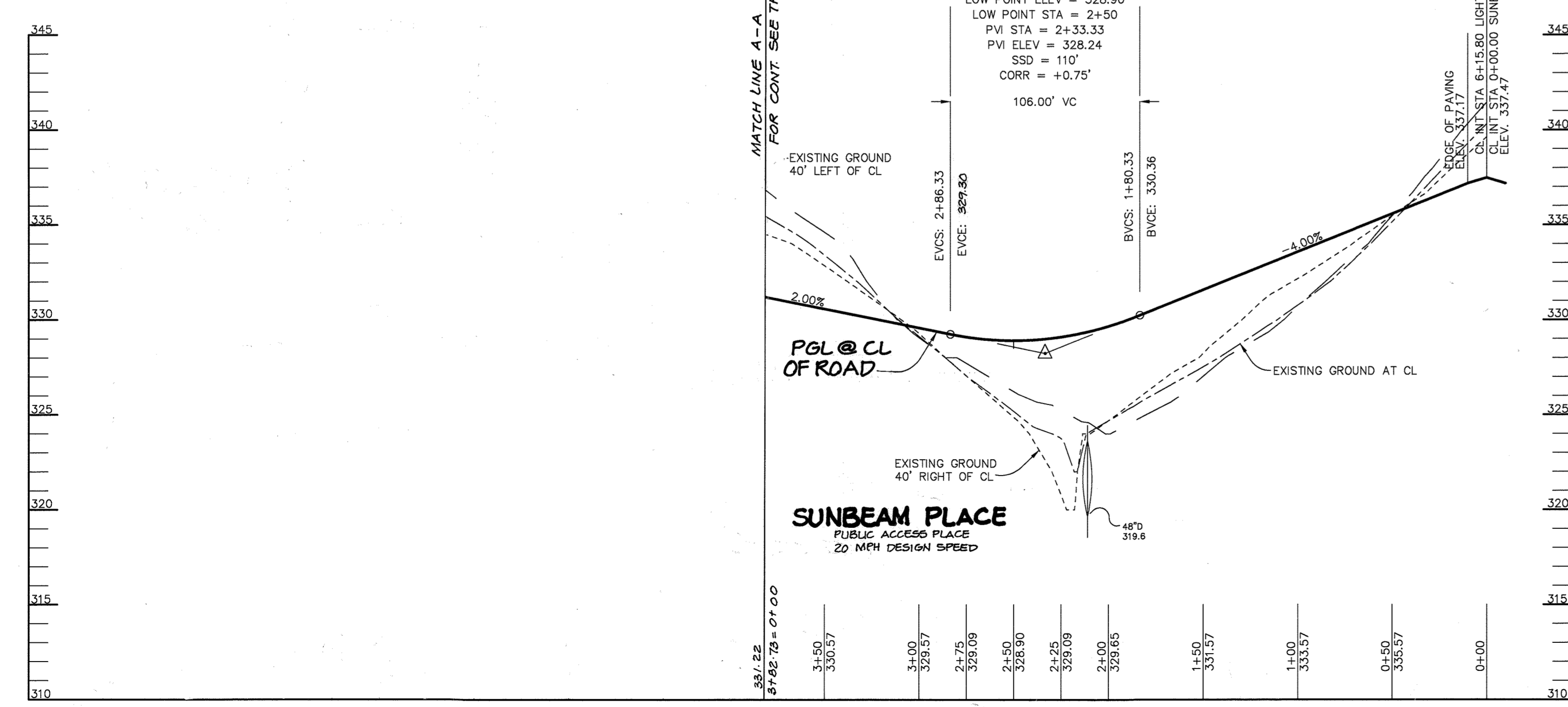
| | |
|------------------------------------|--|
| FROM CL STA 0+32.37 TO STA 1+15.46 | RADIUS = 115.00' LENGTH = 83.09' TANGENT = 43.45' DELTA = 41°23'48" CHORD = N 23°52'47" W 81.29' |
| FROM CL STA 1+66.78 TO STA 2+47.68 | RADIUS = 140.00' LENGTH = 80.90' TANGENT = 41.63' DELTA = 33°06'36" CHORD = 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'

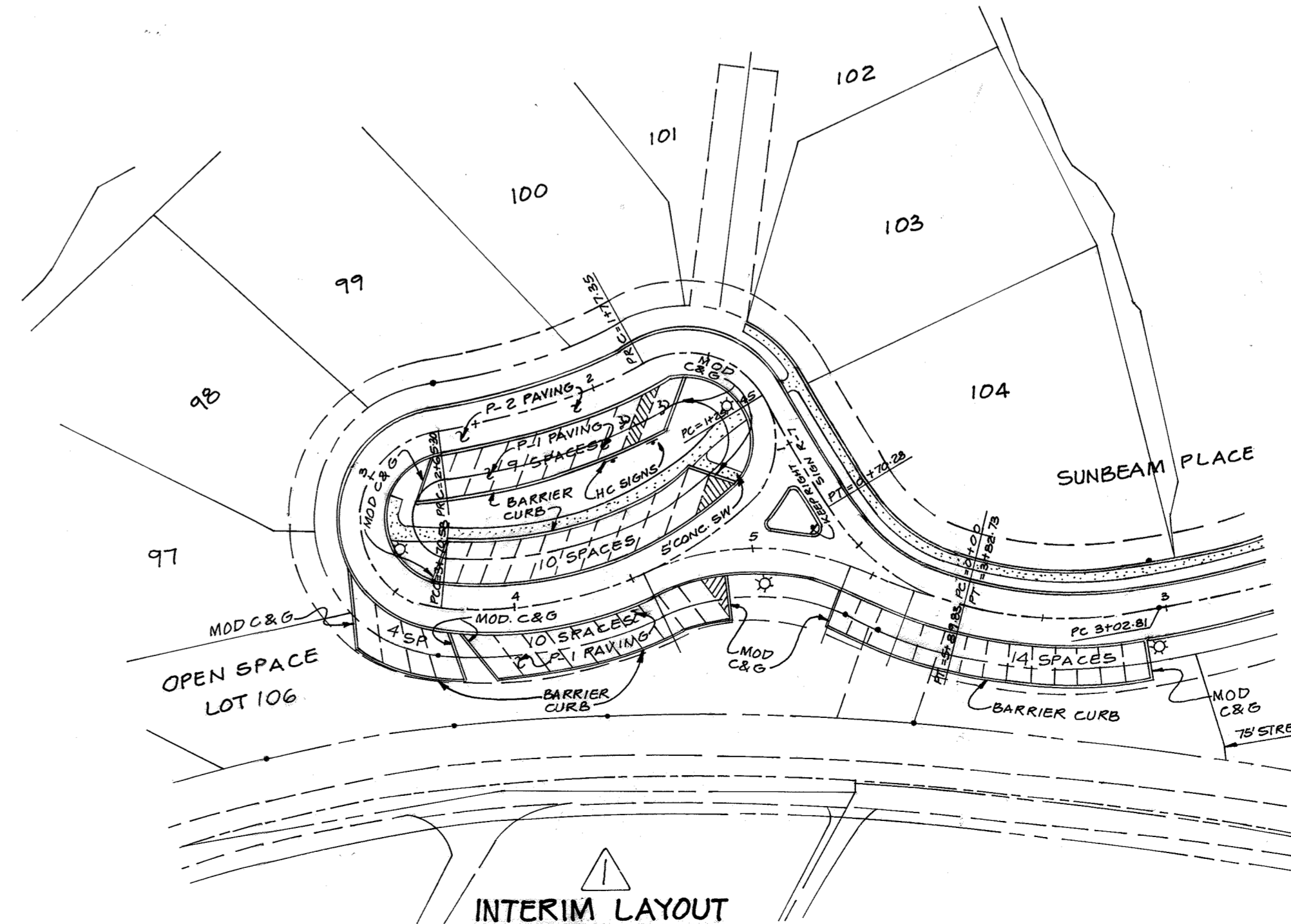
| | | | | |
|--|--|--|--|--|
| CL CURVE DATA FROM CL STA 0+00 TO STA 0+70.28 RADIUS = 70.00' LENGTH = 70.28' TANGENT = 31.04' DELTA = 44°44'21" CHORD = N 12°14'43" E 68.50' | CL CURVE DATA FROM CL STA 1+22.45 TO STA 1+77.55 RADIUS = 36.00' LENGTH = 54.90' TANGENT = 34.37' DELTA = 87°22'38" CHORD = N 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 RADIUS = 175.00' LENGTH = 21.31' TANGENT = 10.67' DELTA = 06°58'34" CHORD = S 06°38'10" E 21.21' | CL CURVE DATA RADIUS = 36.00' LENGTH = 30.30' TANGENT = 30.30' DELTA = 80°10'36" CHORD = N 75°02'06" E 46.57' | |



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

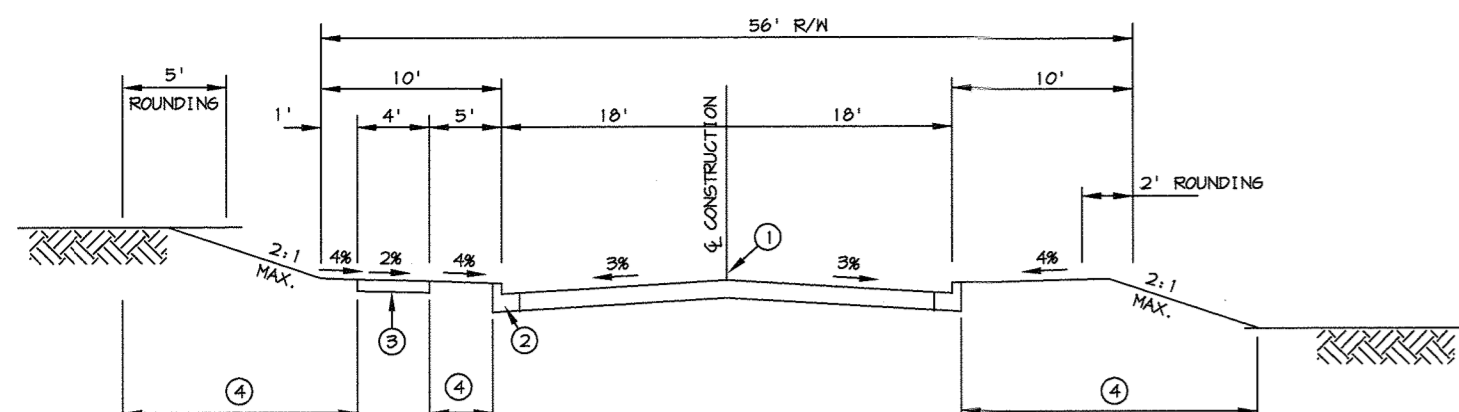
TEMPORARY STREET LIGHT CHART

| 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'

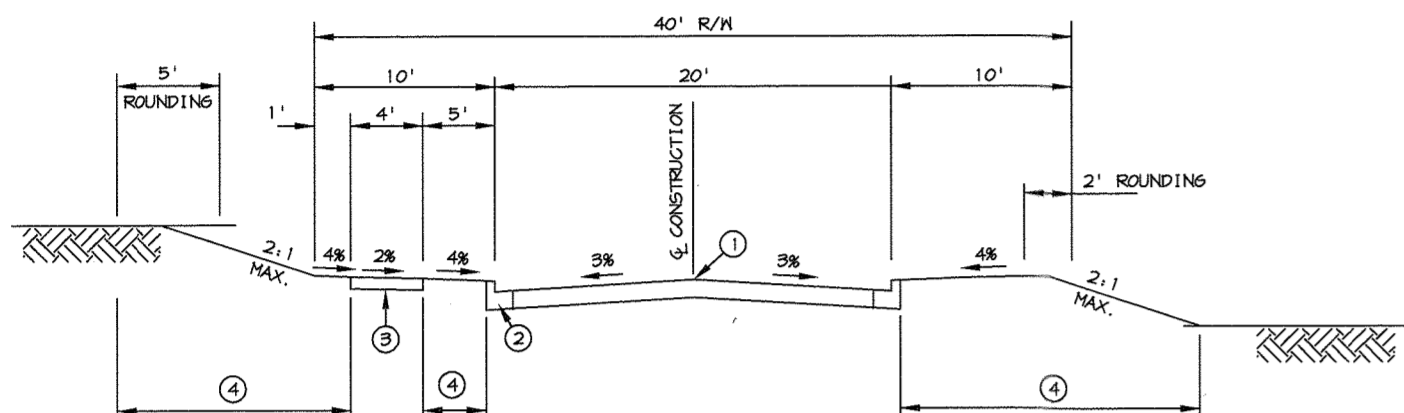
| AS BUILT CERTIFICATE | | |
|---|------|----------|
| DATE | | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | | |
| <i>Richard M. Daniels</i> 7-6-01 CHIEF, BUREAU OF HIGHWAYS | DATE | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | | |
| <i>Andy Henrich</i> 7/10/01 CHIEF, 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

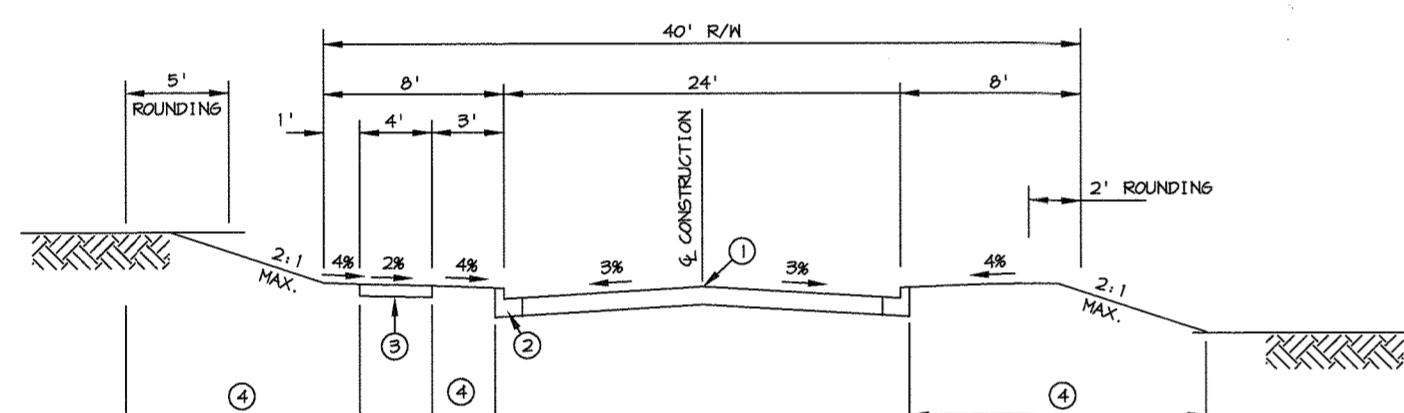
SKY HOOP ROAD FROM STA 0+19 TO STA 1+29 - 30 MPH DESIGN SPEED



- 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

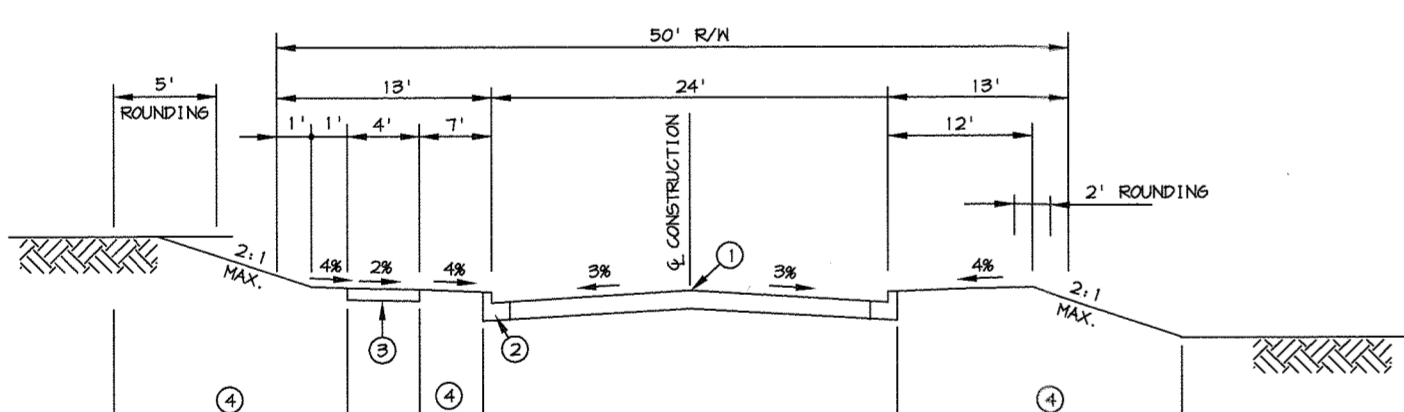
PURPLE CLOUD ROW FROM STA 0+00 TO STA 2+73 - 20 MPH DESIGN SPEED
STAR MOON LANE FROM STA 6+16 TO STA 8+05 - 25 MPH DESIGN SPEED
SUNBEAM PLACE FROM STA 0+00 TO STA 3+82 - 20 MPH DESIGN SPEED



- 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

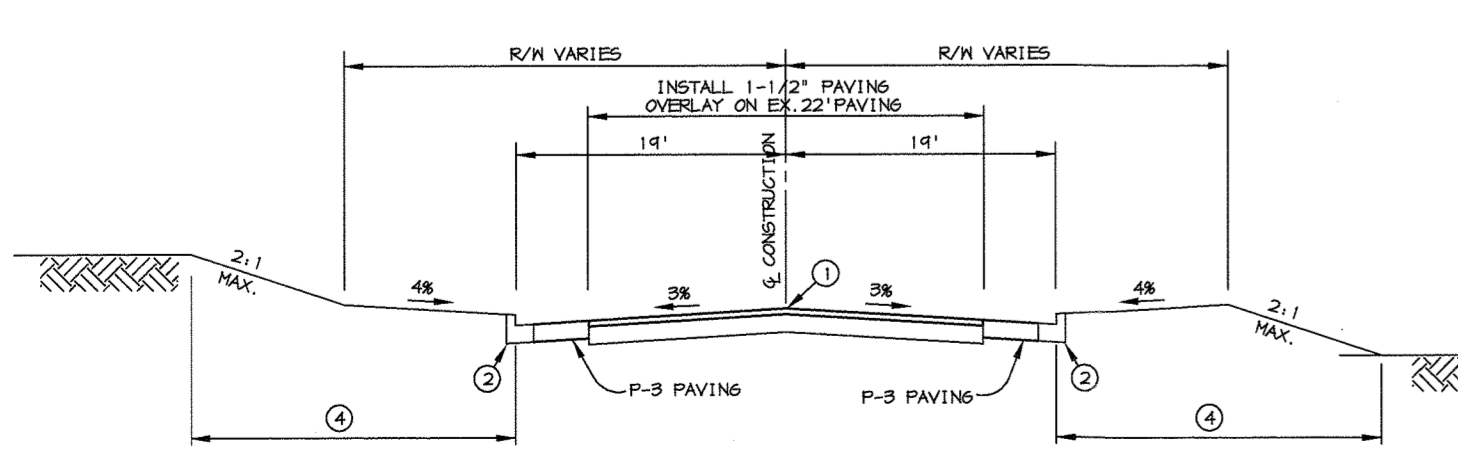
LIGHT MOON WAY FROM STA 2+11 TO STA 5+26 - 25 MPH DESIGN SPEED
STAR MOON LANE FROM STA 0+00 TO STA 6+16 - 25 MPH DESIGN SPEED



- 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

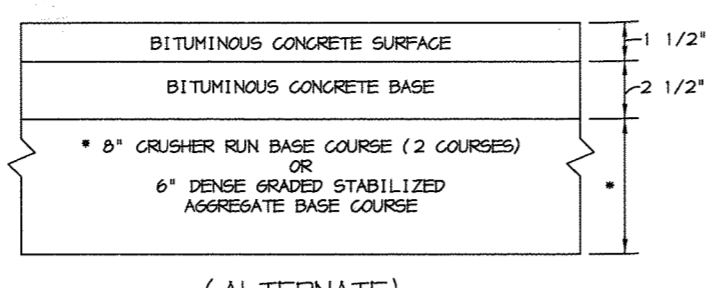
LIGHT MOON WAY FROM STA 0+00 TO STA 2+11 - 30 MPH DESIGN SPEED



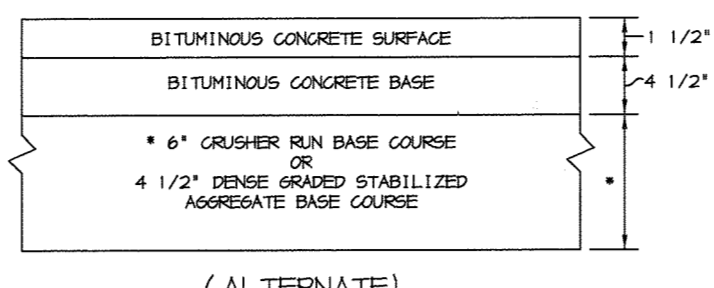
- ① PROFILE GRADE LINE (PGL), SEE DESIGN MANUAL.
- ② TYPE OF CURB (STD. CURB & GUTTER) SEE DESIGN MANUAL.
- ③ INDICATES 2" TOPSOIL, SEED AND MULCH.

TYPICAL SECTION GORMAN ROAD
NO SCALE

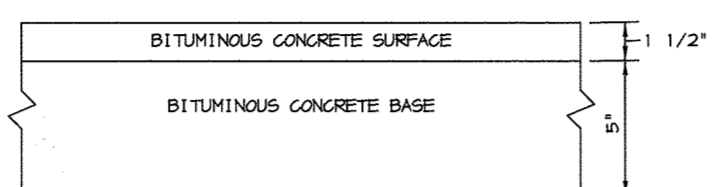
FROM STA 0+00 TO STA 12+00



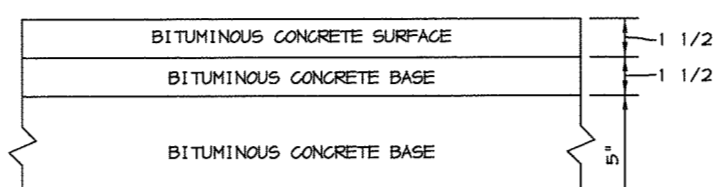
P-2 PAVING
NO SCALE



P-3 PAVING
NO SCALE



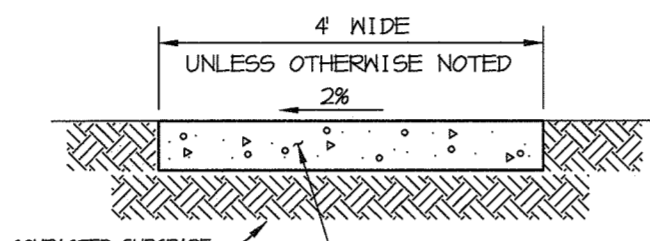
P-2 PAVING
NO SCALE



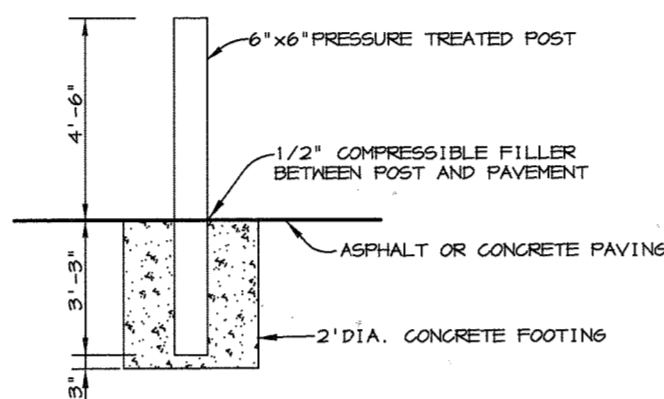
P-3 PAVING
NO SCALE

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)

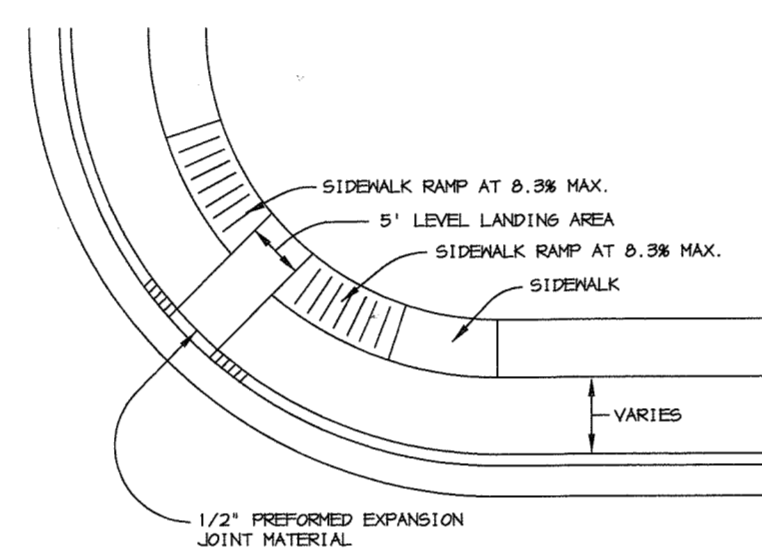


SIDEWALK DETAIL
NO SCALE

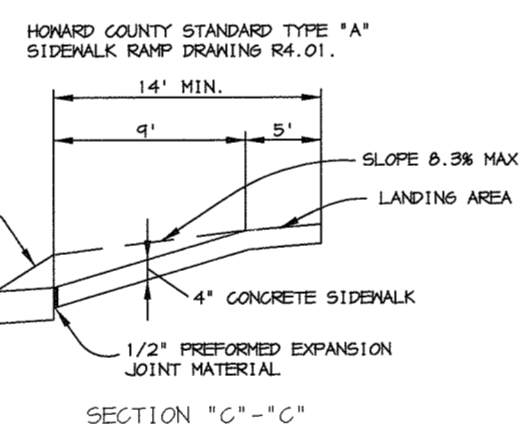


BOLLARD DETAIL
NO SCALE

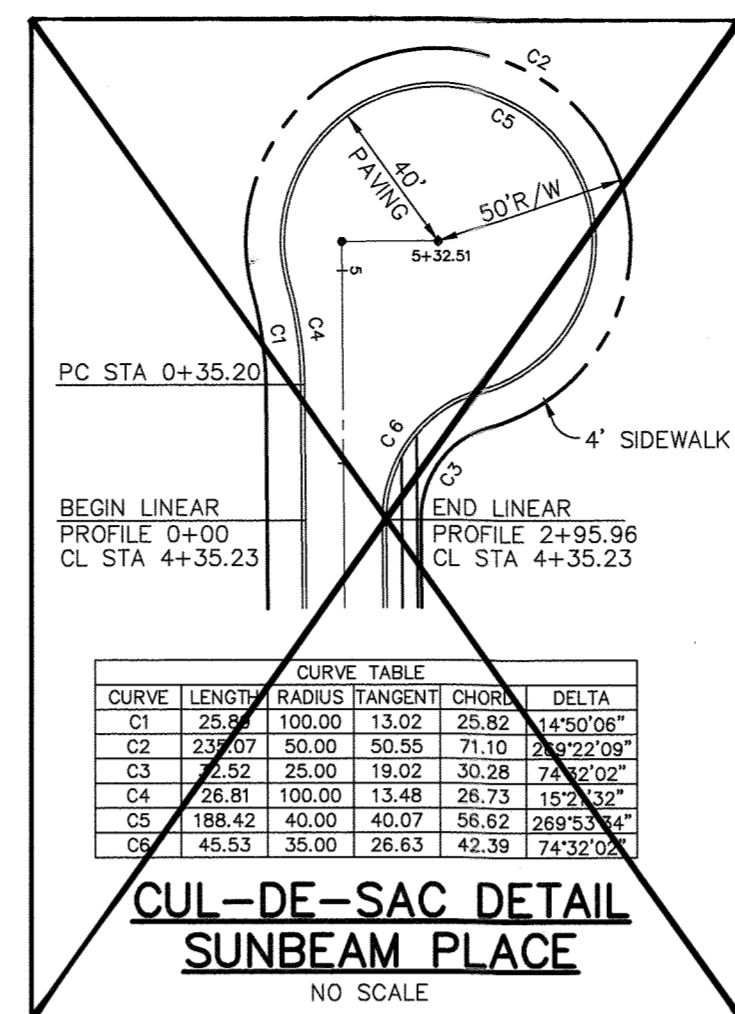
NOTES:
PROVIDE LATITUDINAL EXPANSION JOINTS AT 15' O.C. (MAX.) PROVIDE CONTRACTION (DUMMY) JOINT AT 5' O.C. INTERVALS BETWEEN EXPANSION JOINTS. SIDEWALK TO BE SCRIBED IN 5\"/>



HANDICAP RAMP DETAIL
NO SCALE

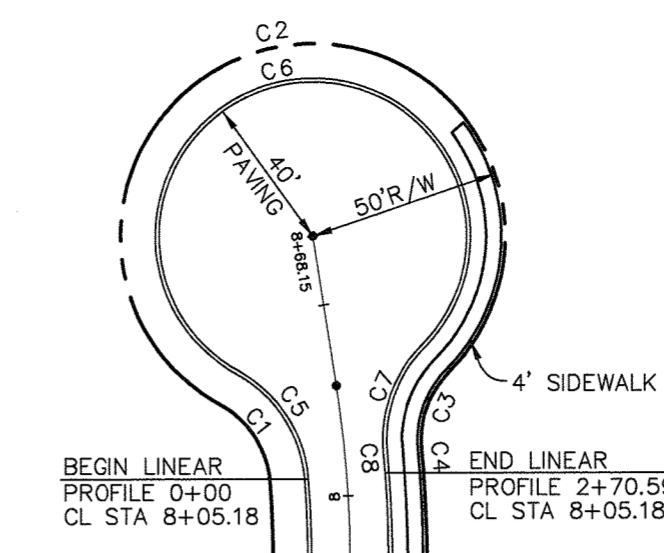


HANDICAP RAMP DETAIL
NO SCALE



CUL-DE-SAC DETAIL
SUNBEAM PLACE
NO SCALE

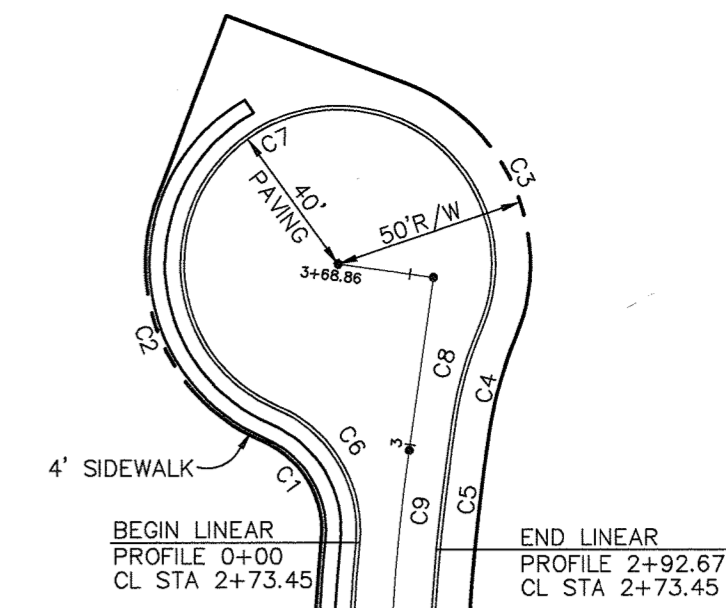
NO SCALE



| 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

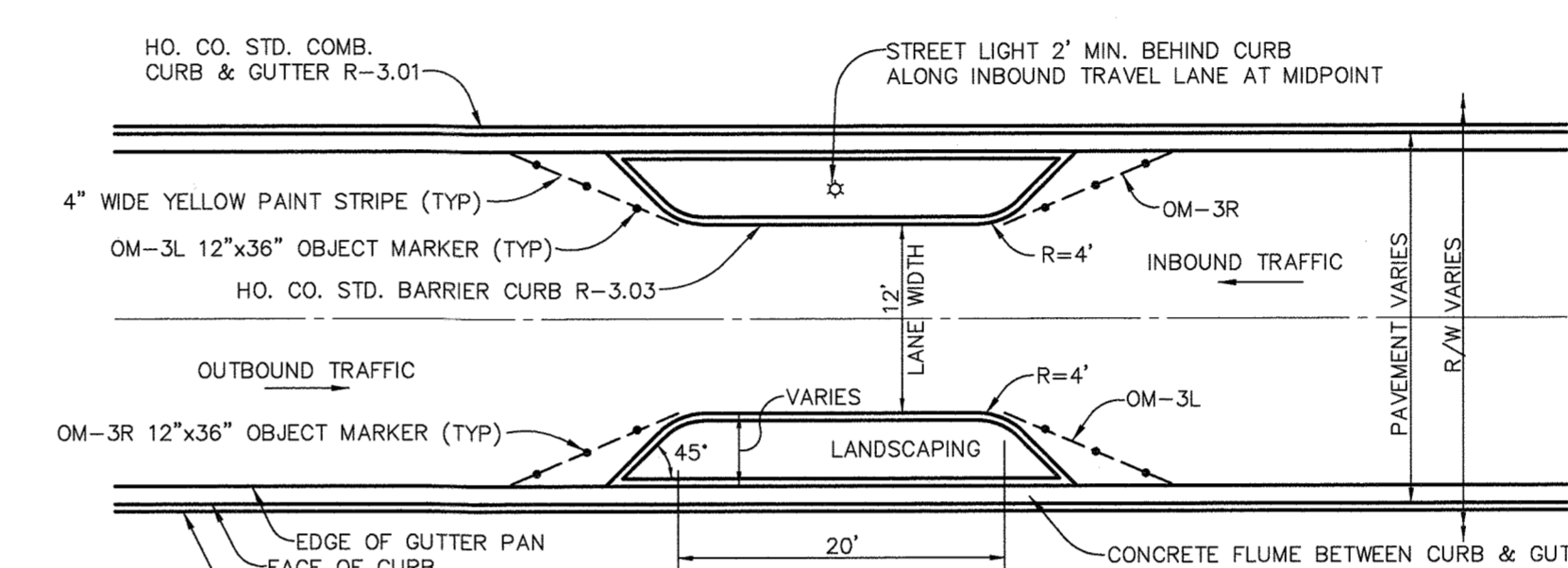
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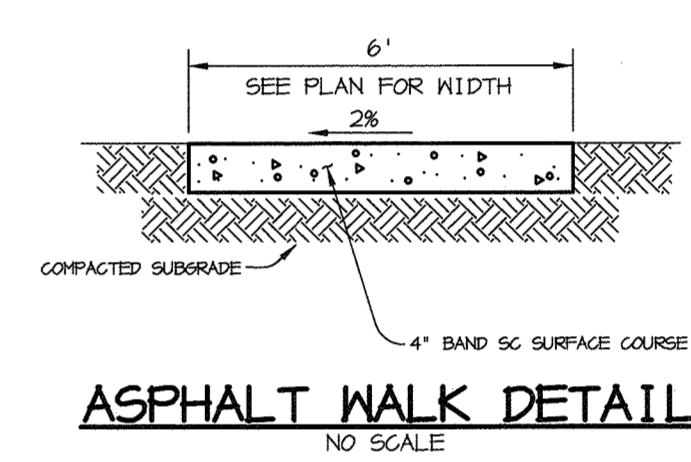
| CURVE | LENGTH | RADIUS | TANGENT | CHORD | DELTA |
|-------|--------|--------|---------|-------|------------|
| C1 | 31.59 | 25.00 | 18.30 | 29.53 | 72°24'34" |
| C2 | 76.57 | 50.00 | 48.07 | 69.31 | 87°44'46" |
| C3 | 80.31 | 50.00 | 51.80 | 71.95 | 92°01'31" |
| C4 | 24.08 | 100.00 | 12.10 | 24.02 | 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

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

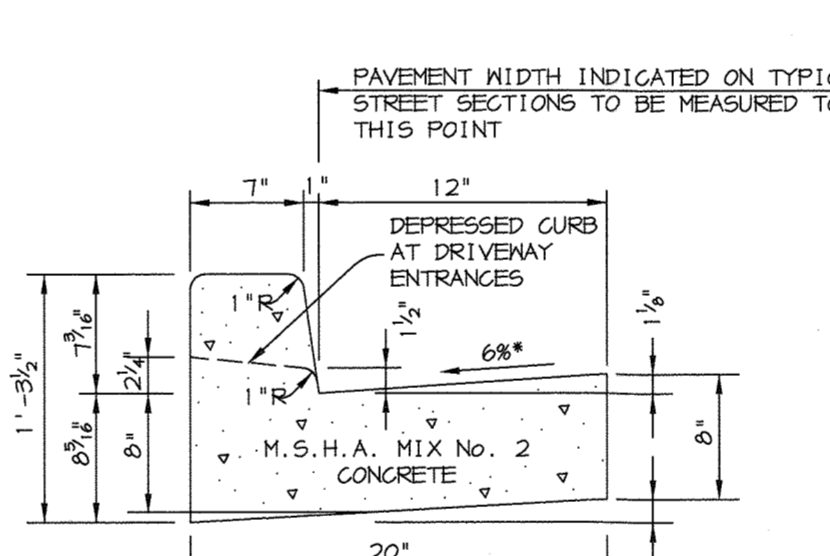
TITLE **ROAD DETAILS**

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

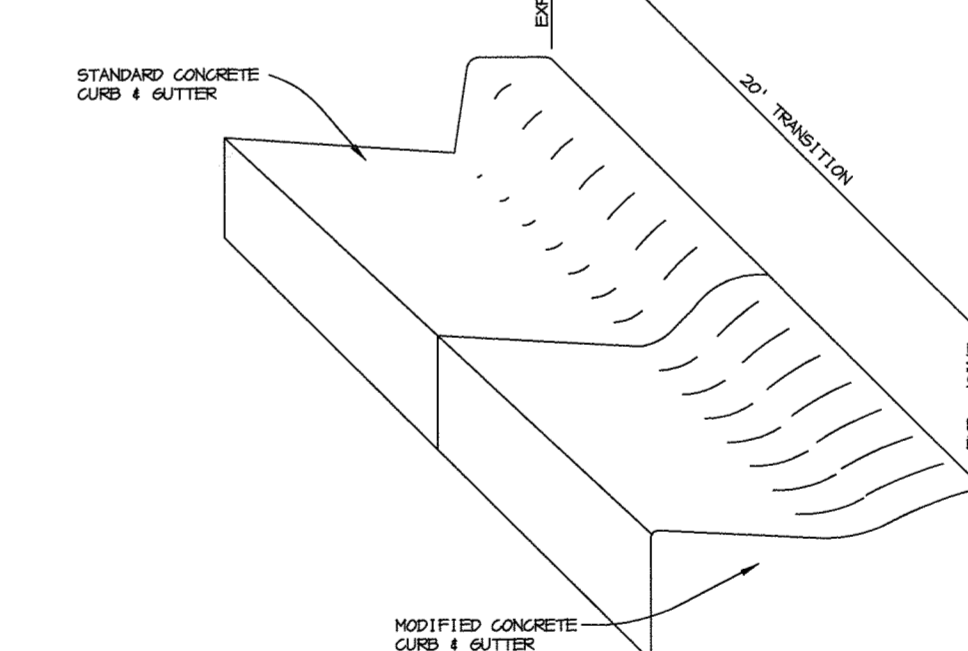
DATE 6-26-01

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

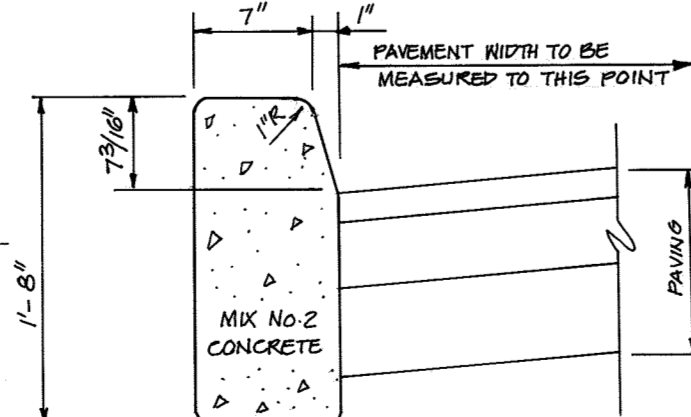
CHRISTOPHER J. REID #19949



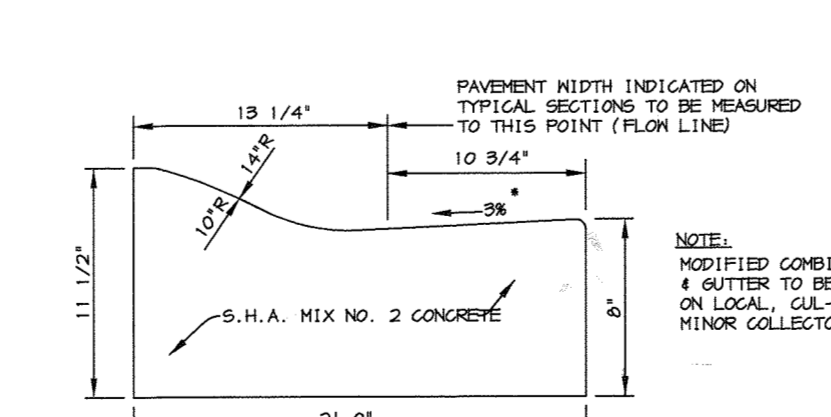
STANDARD 7" COMBINATION CURB AND GUTTER
NO SCALE



CONCRETE CURB AND GUTTER TRANSITION
NO SCALE

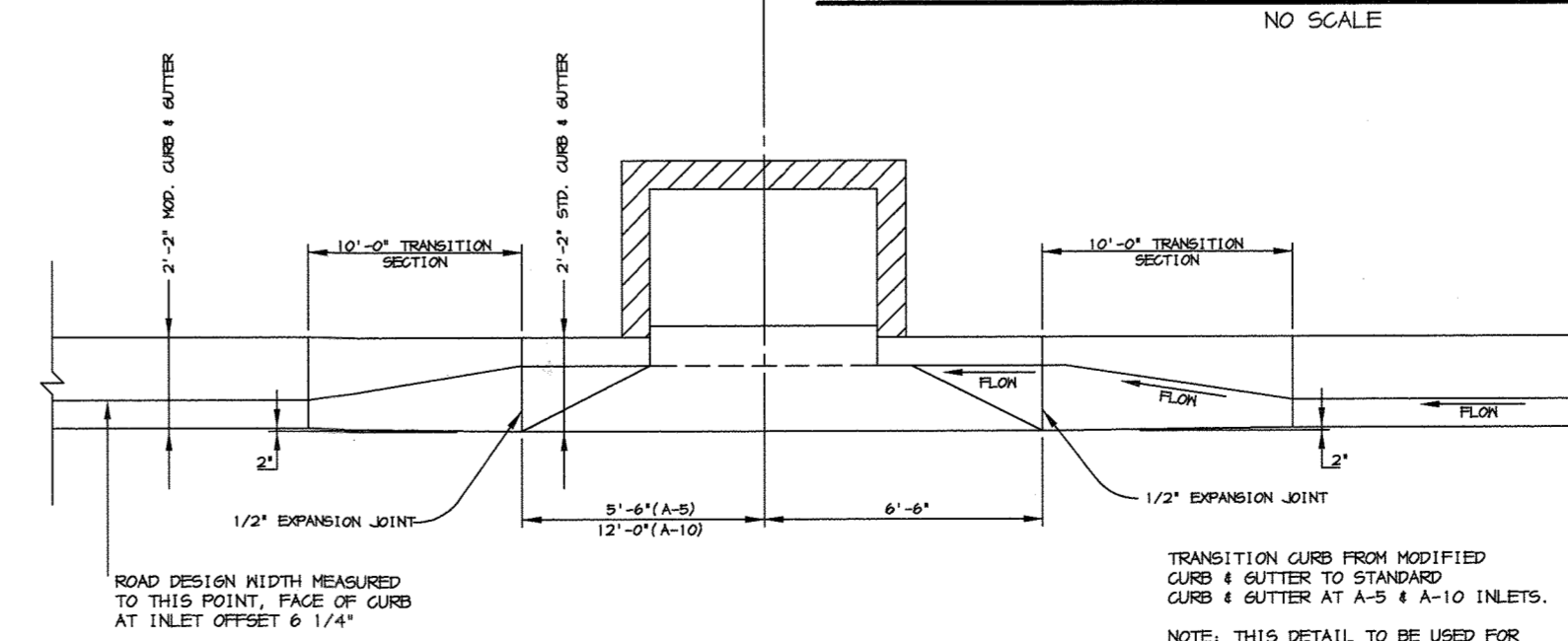


STANDARD BARRIER CURB
NO SCALE



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") | 349.90 | 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 LT 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.

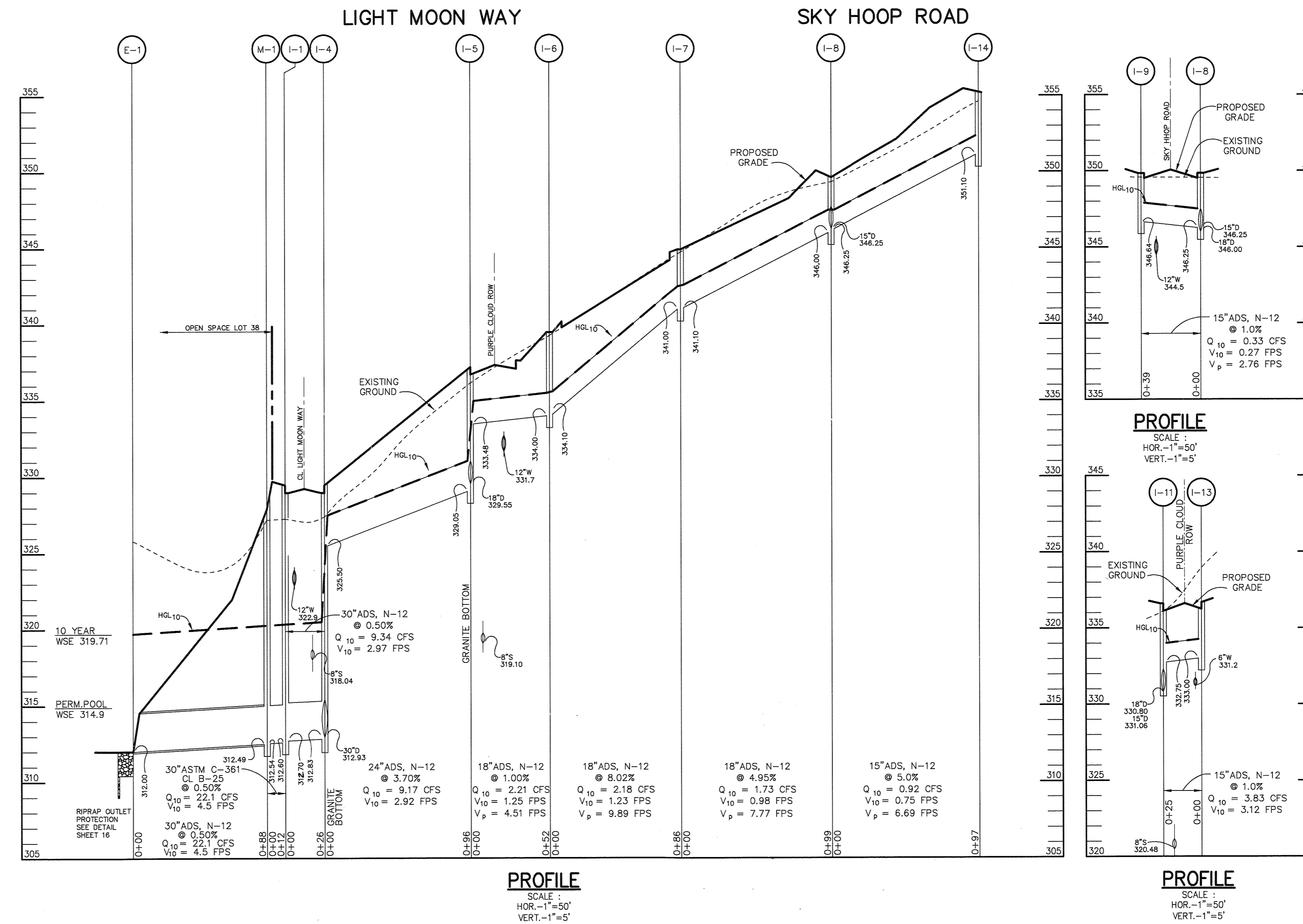
d) Where fills are to be placed on slopes the original ground should be deeply scarified or where slopes are steeper than 5 horizontal to 1 vertical the slope should be stepped or benched, when considered necessary by the Engineer, in order that the placement of fill may be accomplished in horizontal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

7-6-2012 ADDING PATHWAY CONNECTION TO WALDEN WOODS
10-30-01 REV. STRUCTURE SCHEDULE

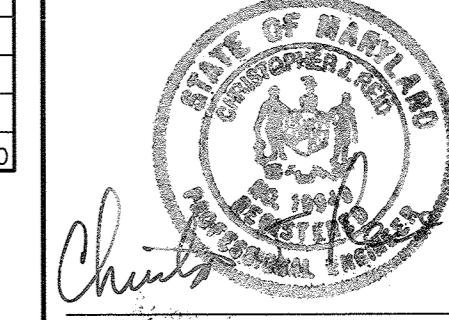
DATE NO. REVISION
OWNER / DEVELOPER
THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
410-992-6000

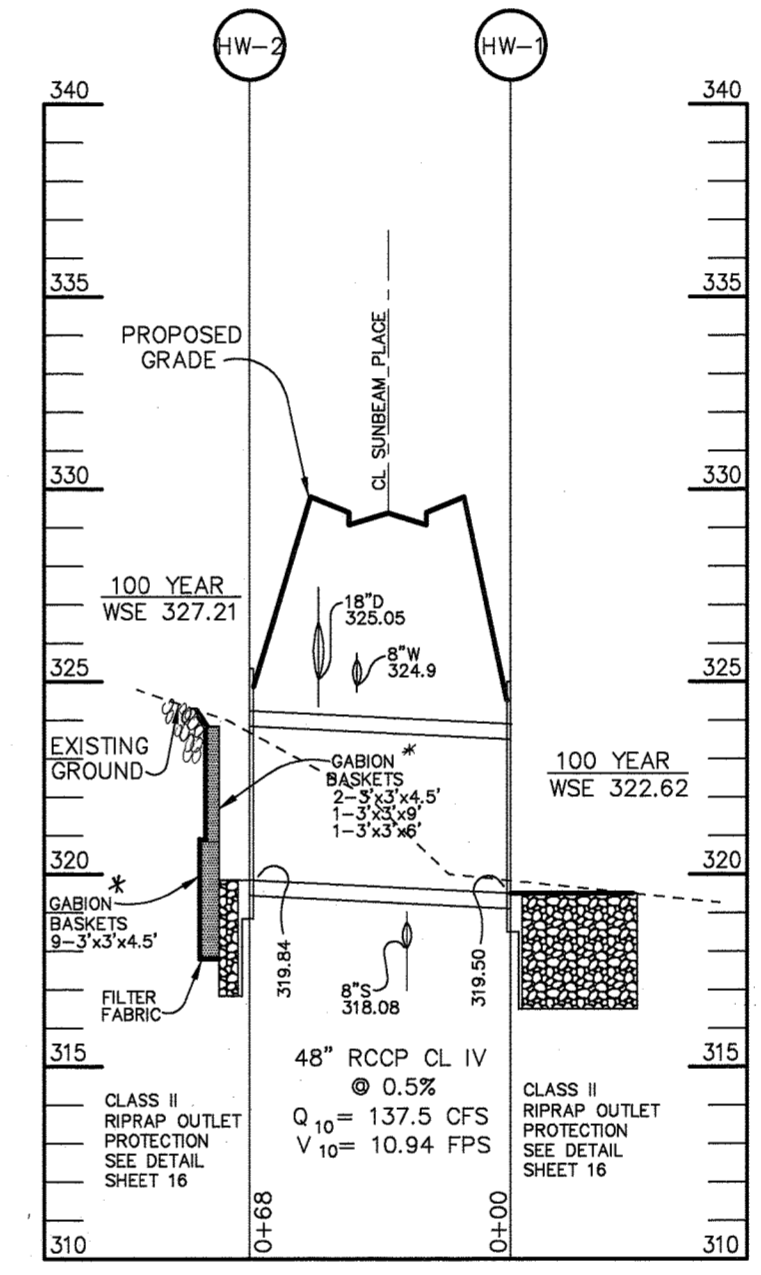
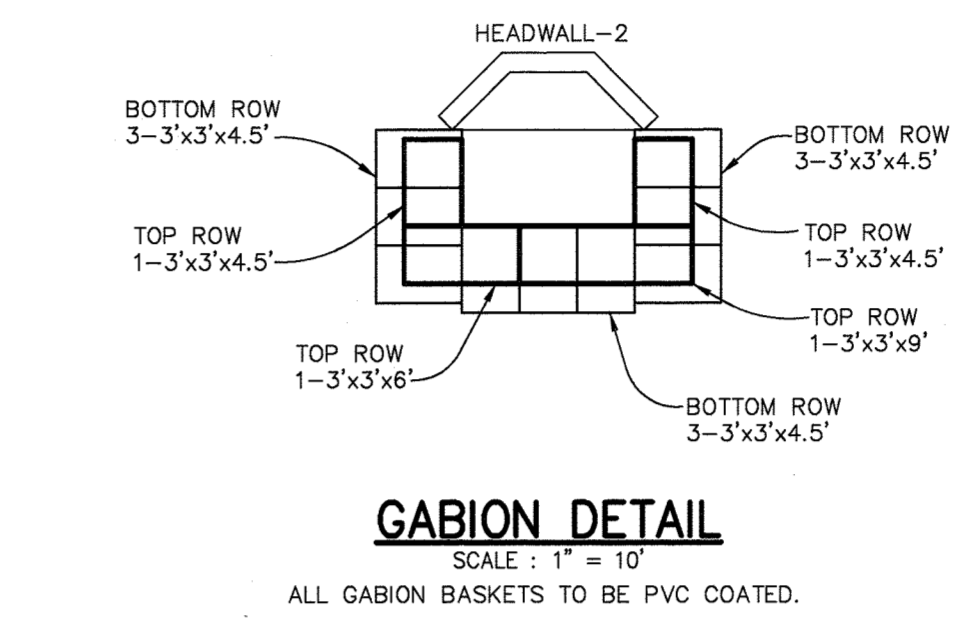
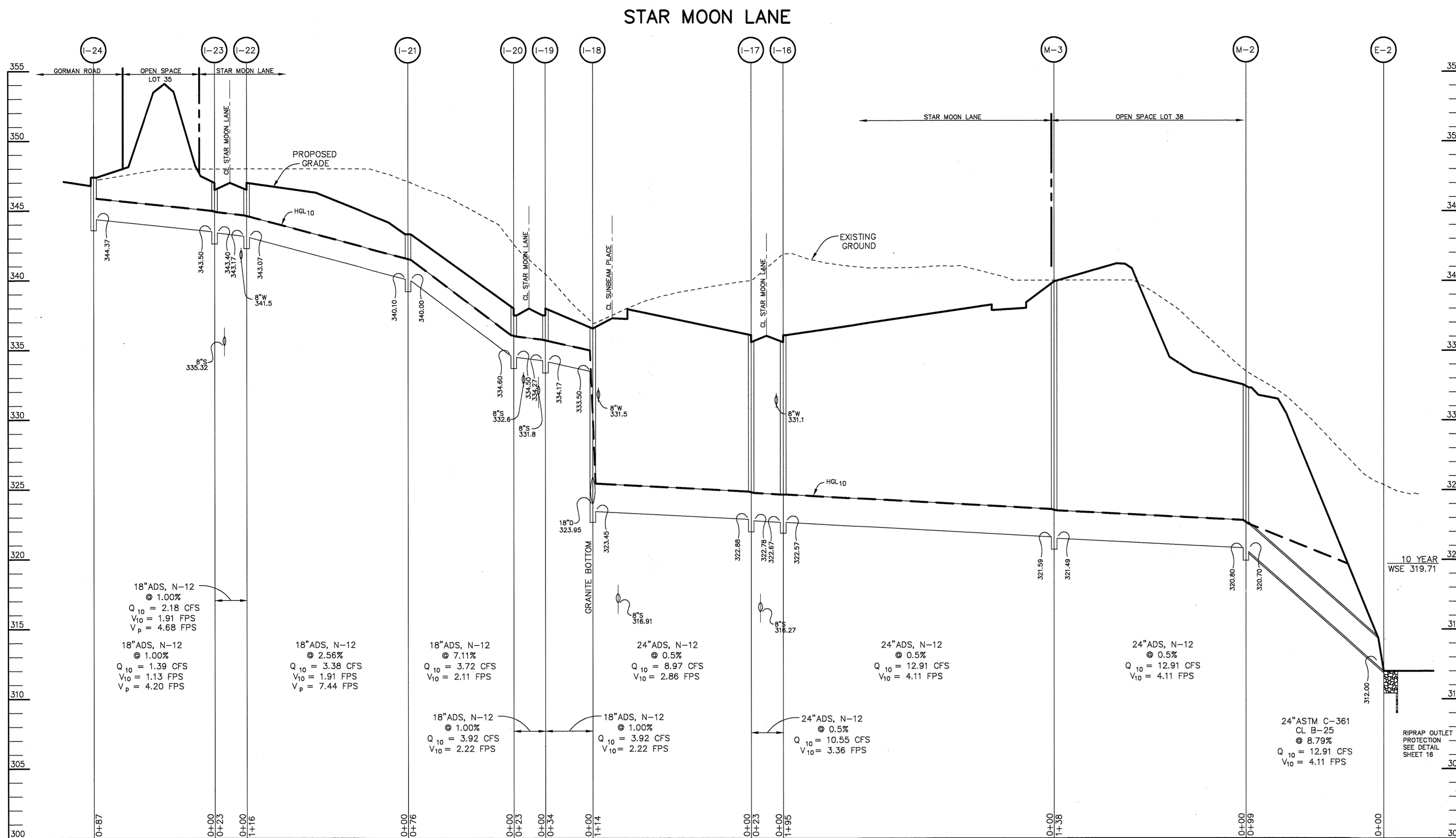
PROJECT: EMERSON SECTION ONE AREA ONE LOTS 1 - 39 & PARCEL A
AREA: TAX MAP 47 BLOCK 3, 8 & 9 ZONED: R-ED PARCEL: P/O 837 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES AND STRUCTURE SCHEDULE

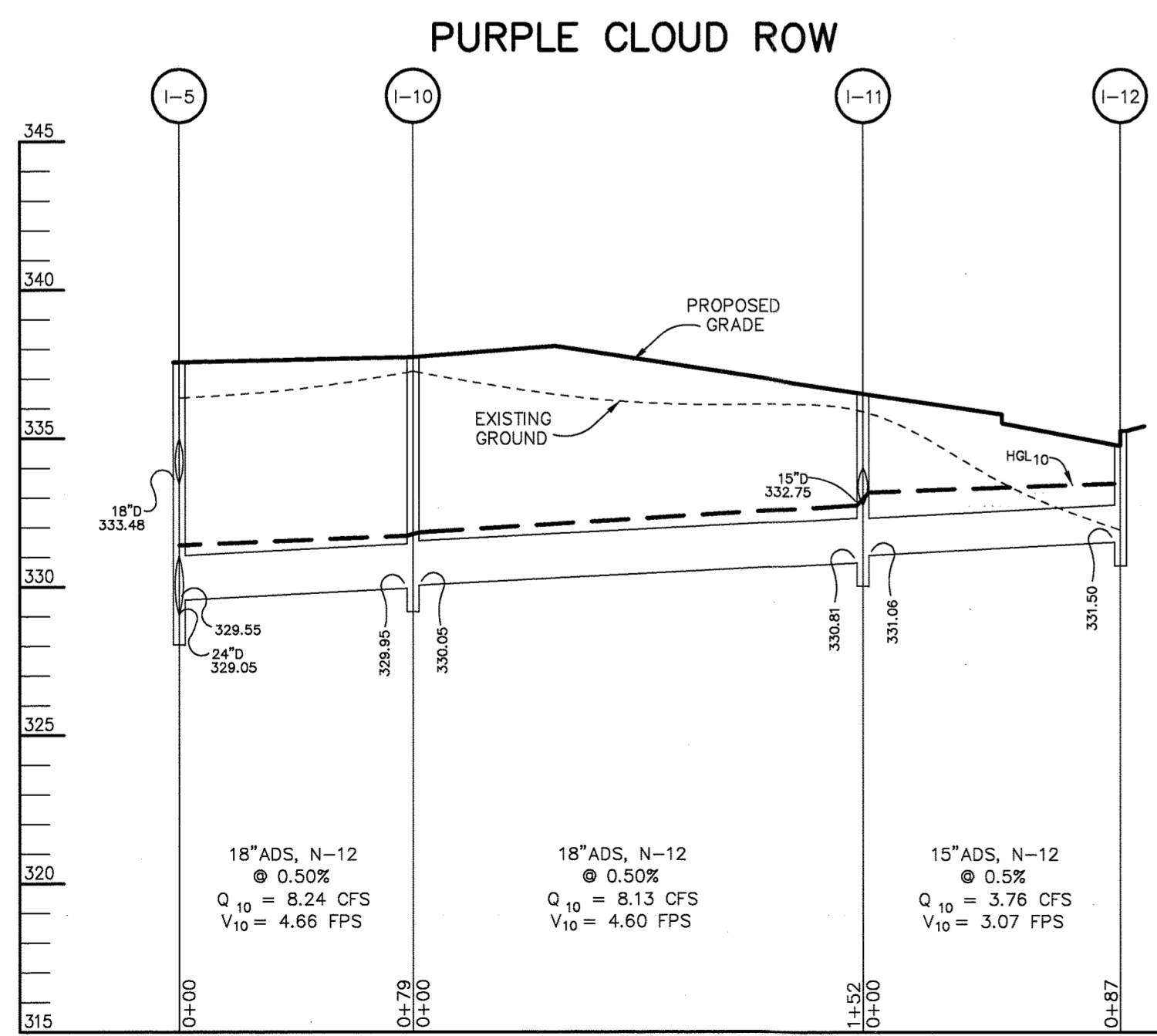
RIEMER MUEGGE
a division of
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8900 fax 410.997.9282

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

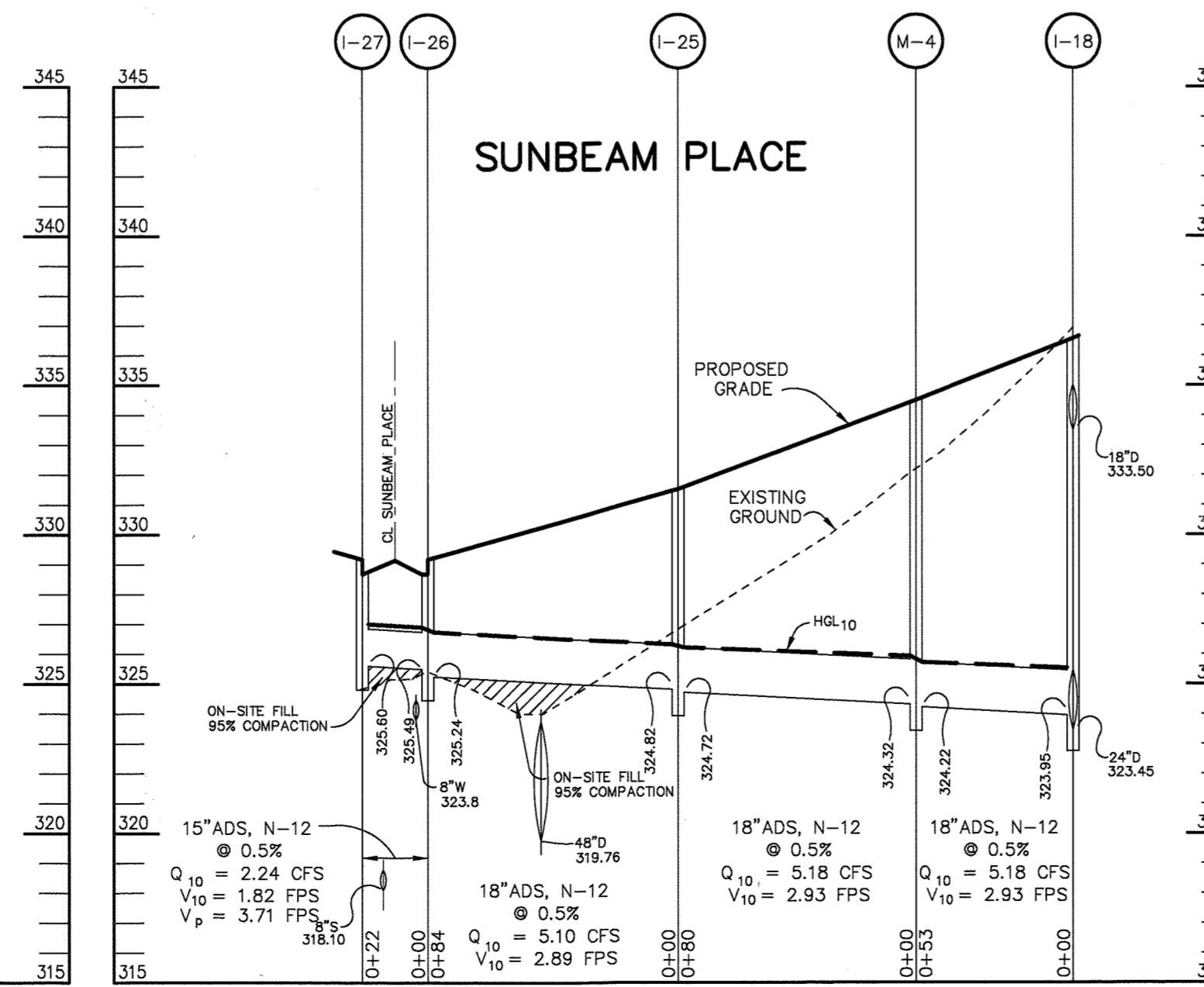




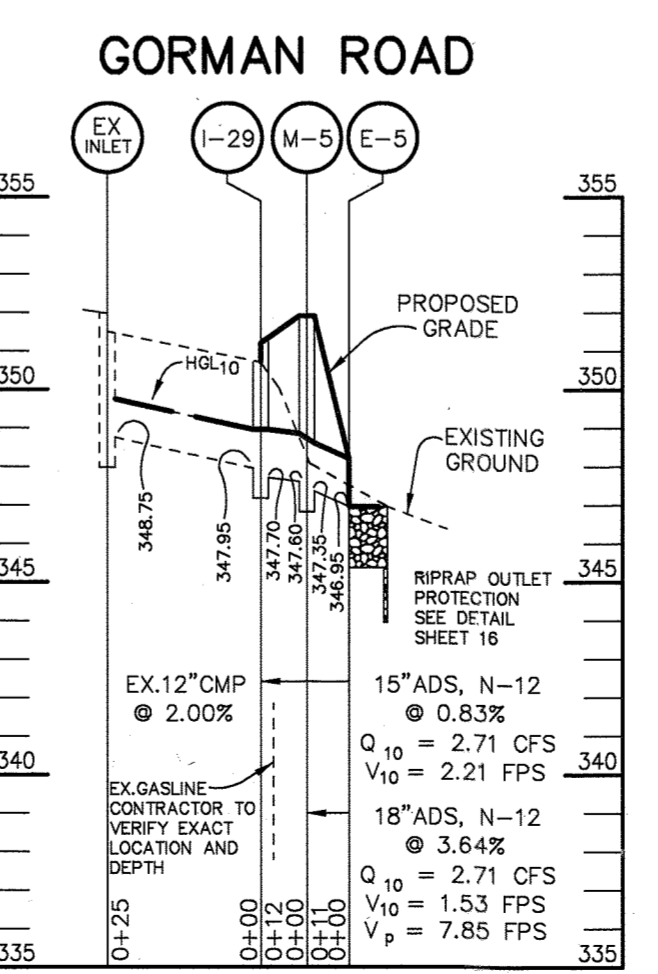
*REFER TO THE 5/30/01 GEOTECH REPORT BY THE ROBERT B. BALTER COMPANY FOR FURTHER REQUIREMENTS AND RECOMMENDATIONS.



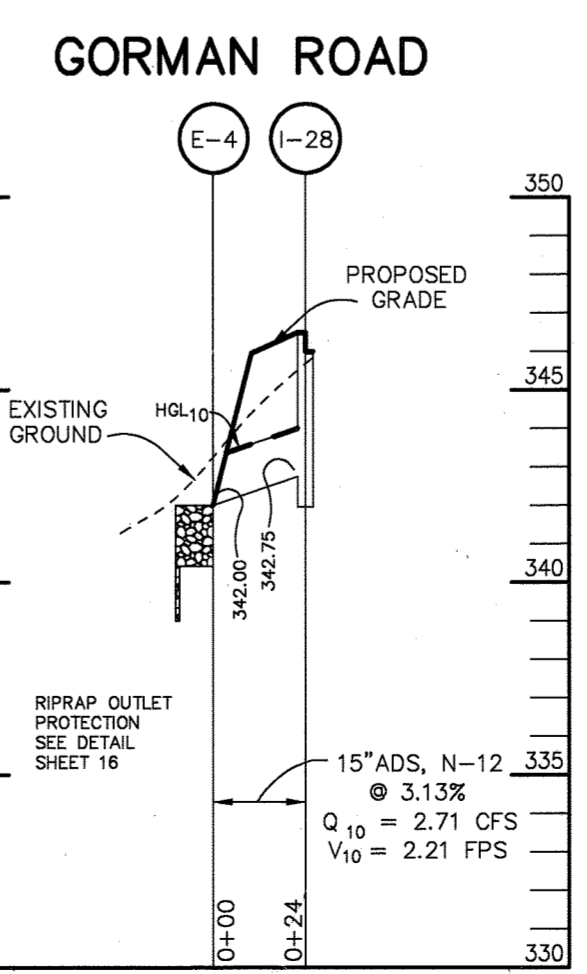
PROFILE
 SCALE:
 HOR.-1"=50'
 VERT.-1"=5'



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



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



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

| | |
|--|---|
| AS BUILT CERTIFICATE | |
| DATE | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | |
| <i>Robert M. Daniels</i> | 7-6-01 |
| CHIEF, BUREAU OF HIGHWAYS | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | |
| <i>Chris Hunter</i> | 7/12/01 |
| CHIEF, DIVISION OF LAND DEVELOPMENT | |
| <i>Chris Hunter</i> | 7/10/01 |
| CHIEF, DEVELOPMENT ENGINEERING DIVISION | |
| 7-6-2002 | 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

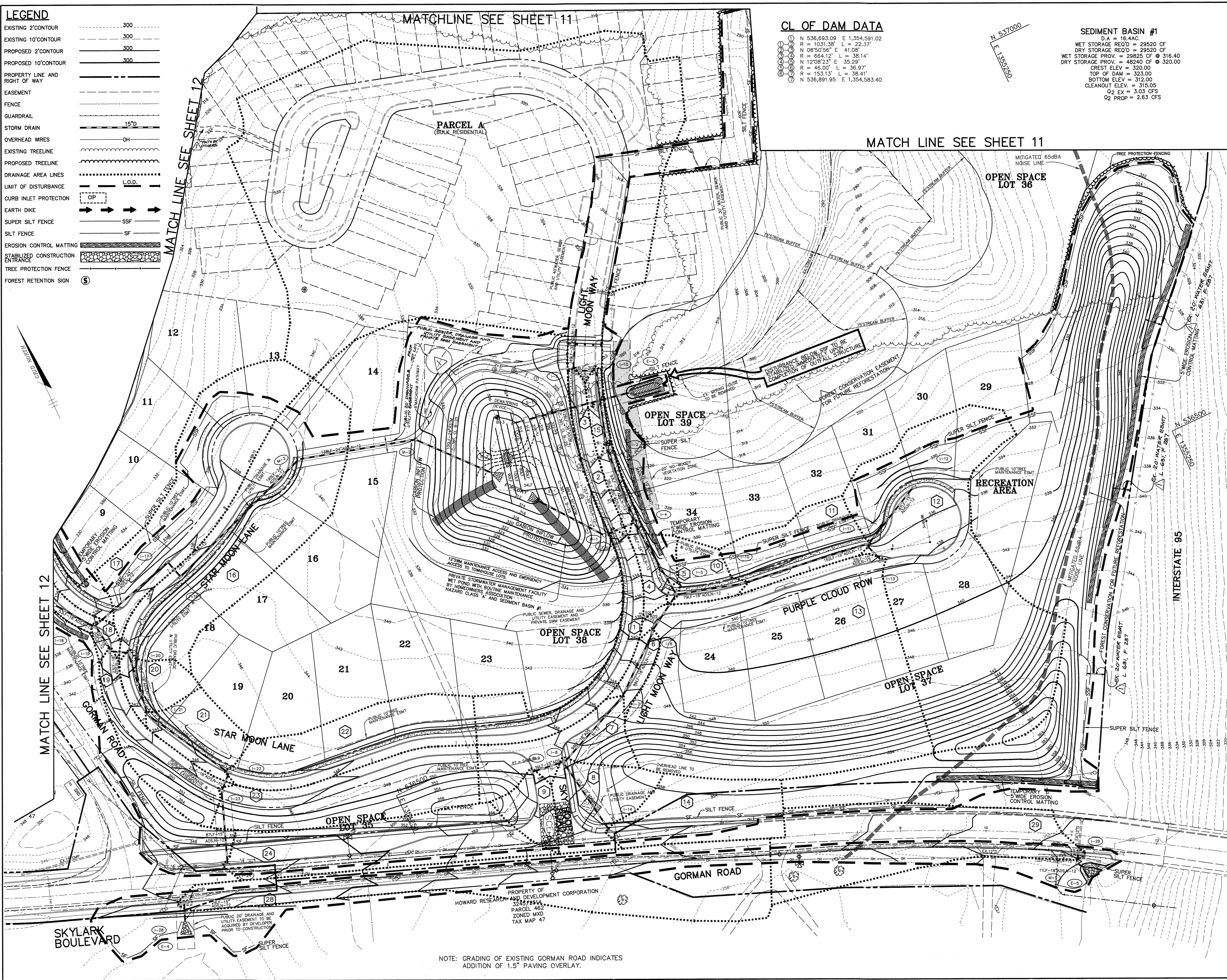
| | |
|----------------------------------|--------|
| EXISTING 2' CONTOUR | 300 |
| EXISTING 10' CONTOUR | 300 |
| PROPOSED 2' CONTOUR | 300 |
| PROPOSED 10' CONTOUR | 300 |
| PROPERTY LINE AND RIGHT OF WAY | |
| EASEMENT | |
| FENCE | |
| GUARDRAIL | |
| STORM DRAIN | 15" D |
| OVERHEAD WIRES | OH |
| 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

| | | |
|---|--------------|----------------|
| 1 | N 536.693.09 | E 1,354.591.02 |
| 2 | R = 1031.38' | L = 22.37' |
| 3 | N 08°50'56" | E 41.08' |
| 4 | R = 664.12' | L = 38.14' |
| 5 | N 12°08'23" | E 35.28' |
| 6 | R = 46.00' | L = 36.97' |
| 7 | R = 153.13' | L = 38.41' |
| 8 | 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.

John N. [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.

Christopher J. Reid 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.

Jim [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.

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

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

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

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

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

Chris [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

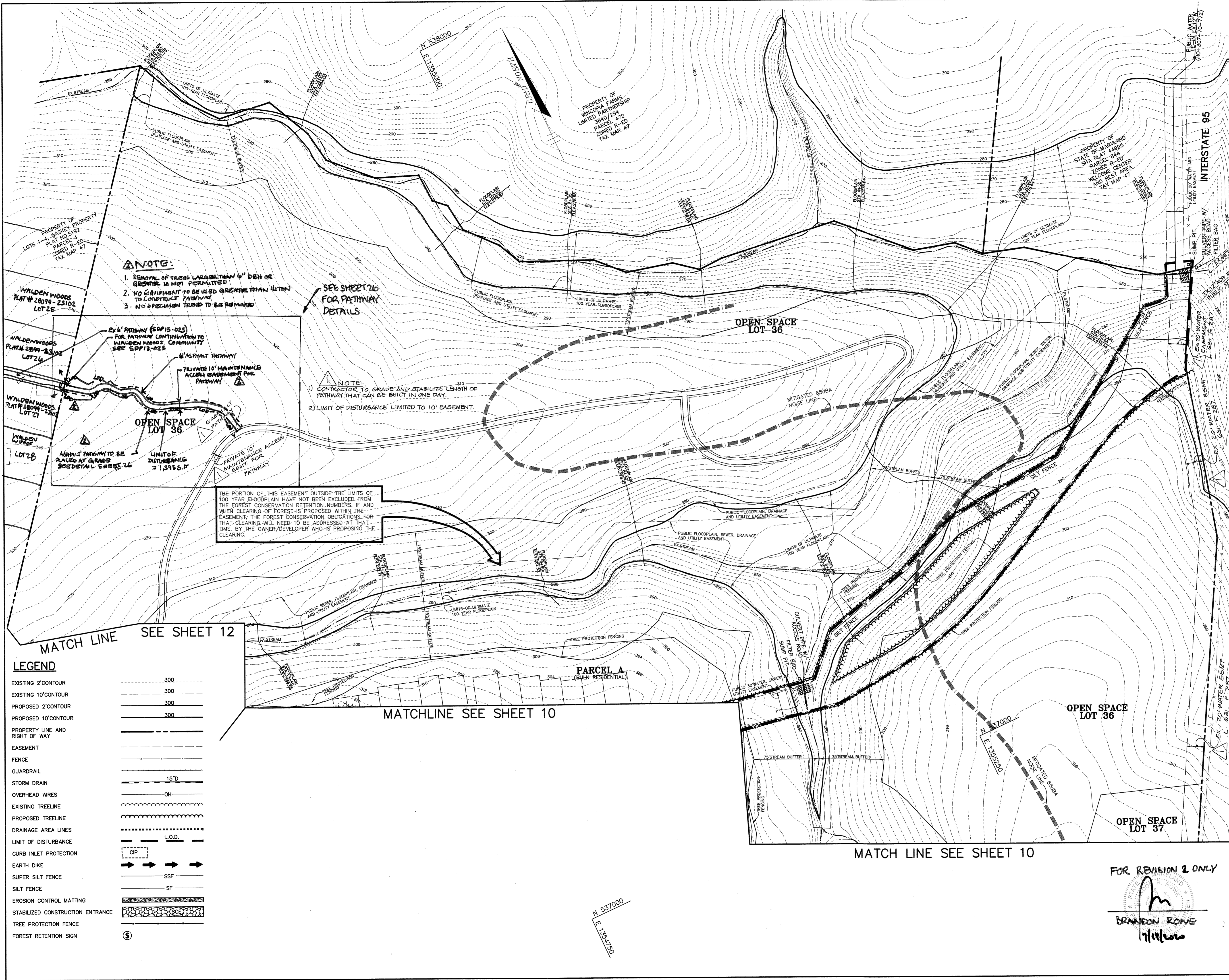
RIEMER MUEGGE

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

Christopher J. Reid
CHRISTOPHER J. REID #19949



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 | --- | |
| EXISTING TREELINE | --- | |
| PROPOSED TREELINE | --- | |
| DRAINAGE AREA LINES | --- | |
| LIMIT OF DISTURBANCE | --- | |
| CURB INLET PROTECTION | --- | |
| EARTH DIKE | --- | |
| SUPER SILT FENCE | --- | |
| SILT FENCE | --- | |
| EROSION CONTROL MATTING | --- | |
| STABILIZED CONSTRUCTION ENTRANCE | --- | |
| TREE PROTECTION FENCING | --- | |
| 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: 6.26.01

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: 7/3/01

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

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

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

CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION. 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.

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

6.26.01 DATE
 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

THE PORTION 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.



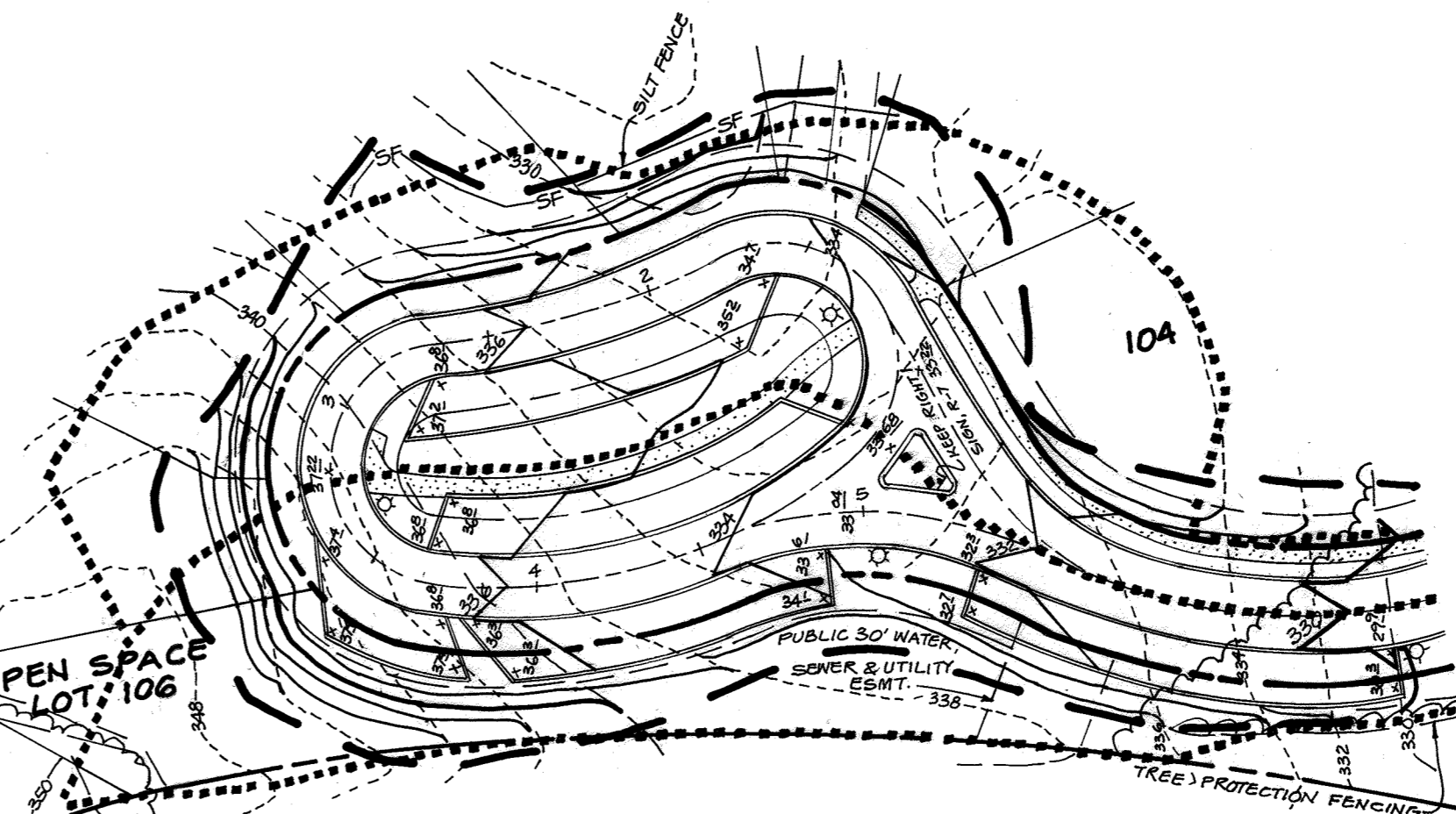
MATCH LINE SEE SHEET 11

MATCH LINE SEE SHEET 10

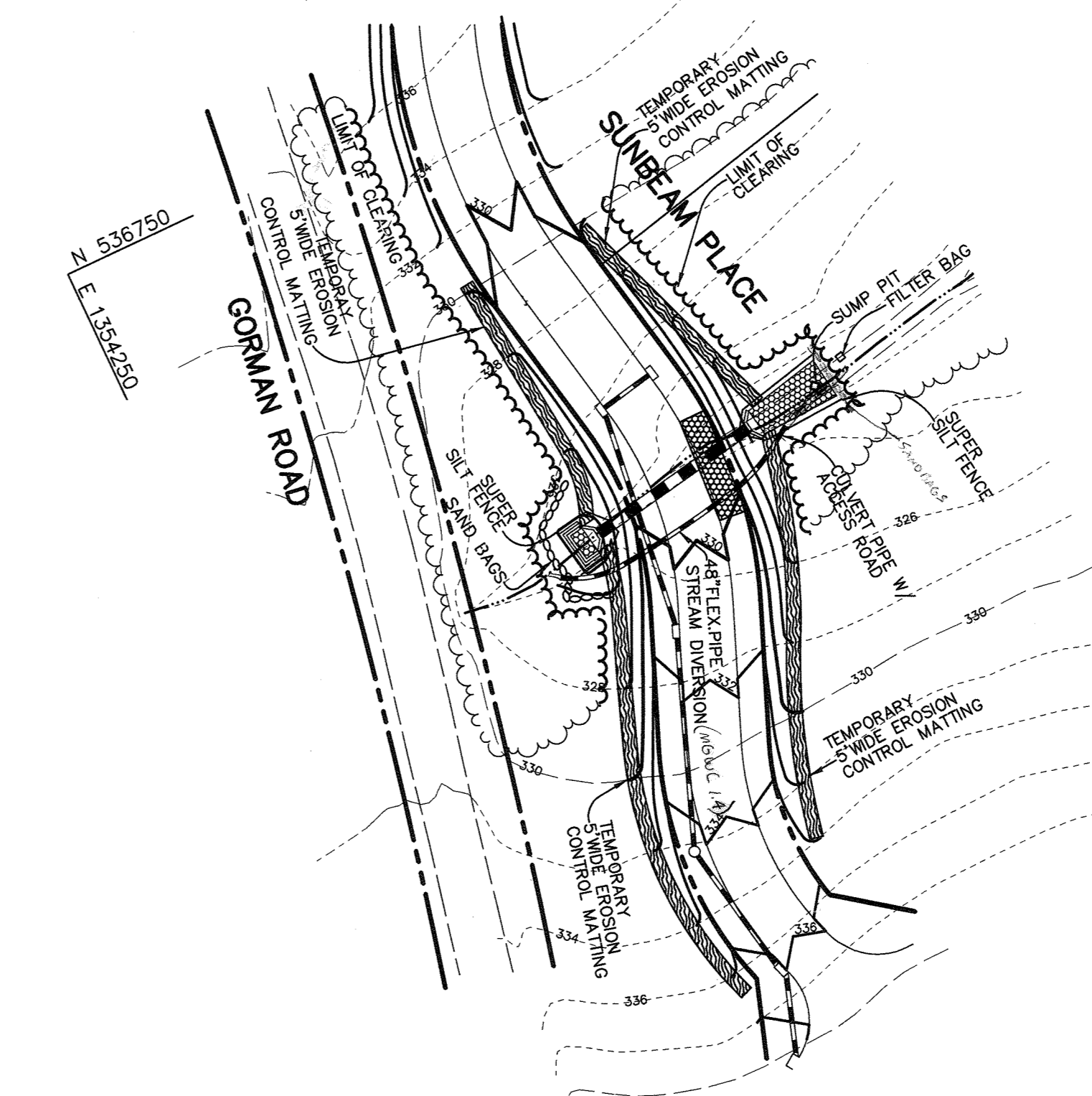
MATCH LINE SEE SHEET 10

LEGEND

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



INTERIM GRADING PLAN
SCALE: 1" = 50'



SUNBEAM PLACE STREAM CROSSING
SCALE: 1" = 50'

DRAINAGE AREA DATA

| INLET NO. | DRAINAGE AREA (AC) | 'C' FACTOR | PERCENT IMPERVIOUS |
|-----------|--------------------|------------|--------------------|
| 1-1 | 0.24 | 0.62 | 63 |
| 1-2 | 0.05 | 0.74 | 80 |
| 1-3 | 0.05 | 0.74 | 80 |
| 1-4 | 0.09 | 0.65 | 66 |
| 1-5 | 0.01 | 0.87 | 100 |
| 1-6 | 0.05 | 0.47 | 40 |
| 1-7 | 0.24 | 0.43 | 33 |
| 1-8 | 0.22 | 0.45 | 36 |
| 1-9 | 0.10 | 0.47 | 40 |
| 1-10 | 0.10 | 0.54 | 50 |
| 1-11 | 0.23 | 0.50 | 43 |
| 1-12 | 1.31 | 0.38 | 26 |
| 1-13 | 1.52 | 0.33 | 19 |
| 1-14 | 0.30 | 0.45 | 37 |
| 1-15 | 0.09 | 0.72 | 78 |
| 1-16 | 0.76 | 0.49 | 42 |
| 1-17 | 0.58 | 0.46 | 38 |
| 1-18 | 0.02 | 0.54 | 50 |
| 1-19 | 0.22 | 0.36 | 23 |
| 1-20 | 0.10 | 0.54 | 50 |
| 1-21 | 0.16 | 0.50 | 44 |
| 1-22 | 0.40 | 0.51 | 46 |
| 1-23 | 0.43 | 0.32 | 16 |
| 1-24 | 0.48 | 0.44 | 22 |
| 1-25 | 0.06 | 0.58 | 58 |
| 1-26 | 0.70 | 0.26 | 10 |
| 1-27 | 0.83 | 0.61 | 61 |
| 1-28 | 0.70 | 0.59 | 57 |
| 1-29 | 0.70 | 0.59 | 57 |
| A | 3.60 | 0.60 | 58 |

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] 7/6/01
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] 7/6/01
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] 7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

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.

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

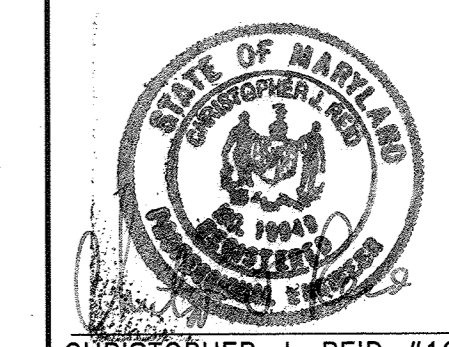
TITLE

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



P:\proj\99212\FINALS\SEDCONT3.DWG Tue Jun 26 14:13:26 2001 RIEMER MUEGGE A DIVISION OF PHRGA



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 |
|-------|--------------|-------------|-----------|--------------------------------|
| Δ 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 | Δ 0.31 | 318.87 | 0.82 |
| 10 | 40.41 | 319.70 | 1.125 |
| 100 | 80.22 | 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.

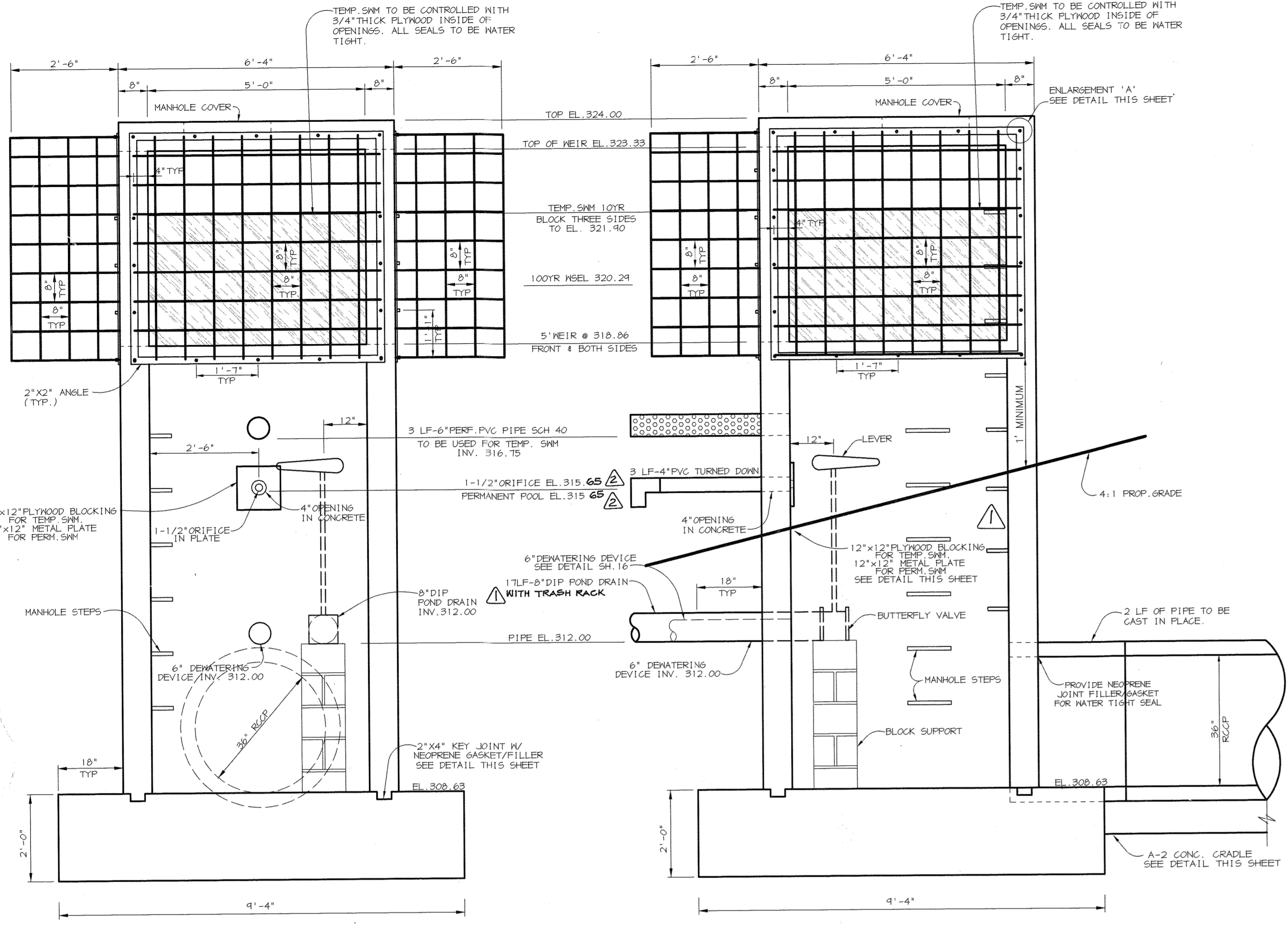
The pond is a low hazard class "A" facility, as any breach of the embankment would impact only open space and floodplain.

NATURAL AREA CONSERVATION CREDIT
= 25.84 ACRES TOTAL

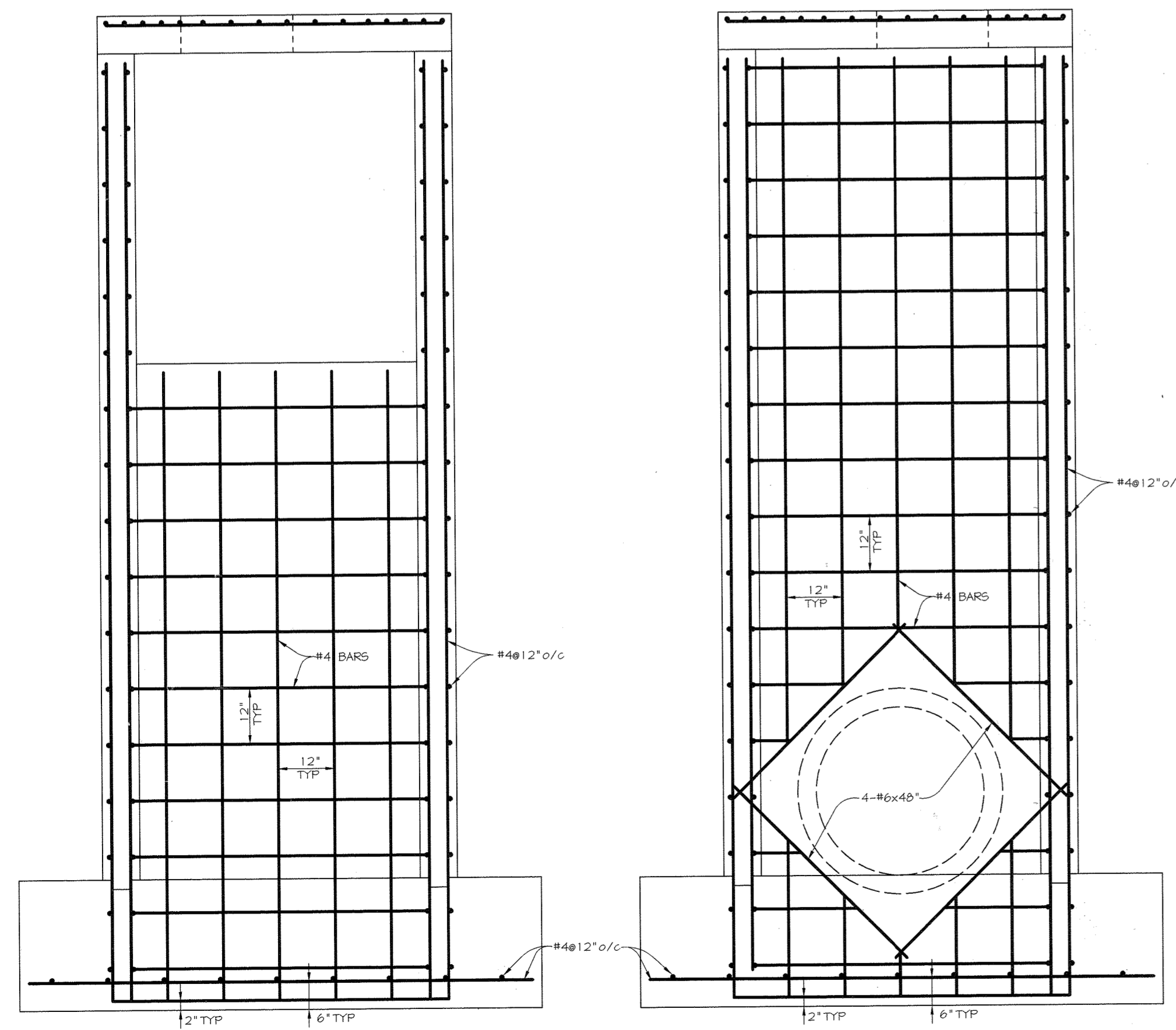
E 1353200 N 5357500

| | | |
|--|---------|---|
| 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 | DATE |
| CHIEF, BUREAU OF HIGHWAYS | | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | | |
| <i>Chris Starnes</i> | 7/10/01 | DATE |
| CHIEF, DIVISION OF LAND DEVELOPMENT | | |
| <i>Chris Dammann</i> | 7/10/01 | DATE |
| CHIEF, DEVELOPMENT ENGINEERING DIVISION | | |
| 01-02-02/2 | 1 | REVISED SWM SUMMARY & SUNBEAM PLACE |
| 10-30-01/1 | 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 | DESIGNED BY: CJR |
| <i>Brandon Rowe</i> | DATE | DRAWN BY: DAM |
| BRANDON ROWE 7/19/01 | DATE | PROJECT NO: 98212/FINALS PRDA.DWG |
| | DATE | DATE: JUNE 19, 2001 |
| CHRISTOPHER J. REID #19949 | DATE | SCALE: 1"=100' |
| DATE | DATE | DRAWING NO. 13 OF 26 |

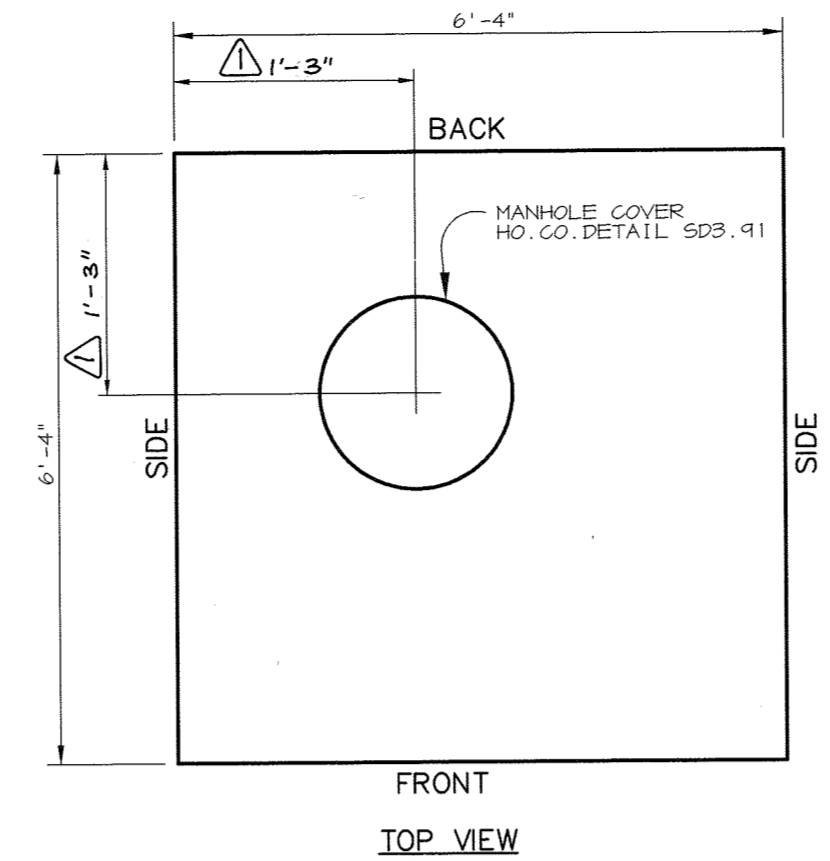
P:\project\198212\FINALS\PRDA.DWG Tue Jun 19 11:37:22 2001 Riemer Muegge, a division of PHRDA



S-1 DETAILS
SCALE 1"=2'



S-1 REBAR LAYOUT
SCALE 1"=2'

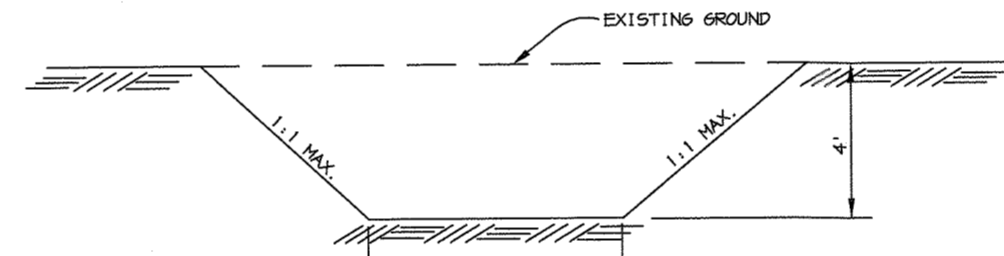


RISER STRUCTURE NOTES FOR S-1

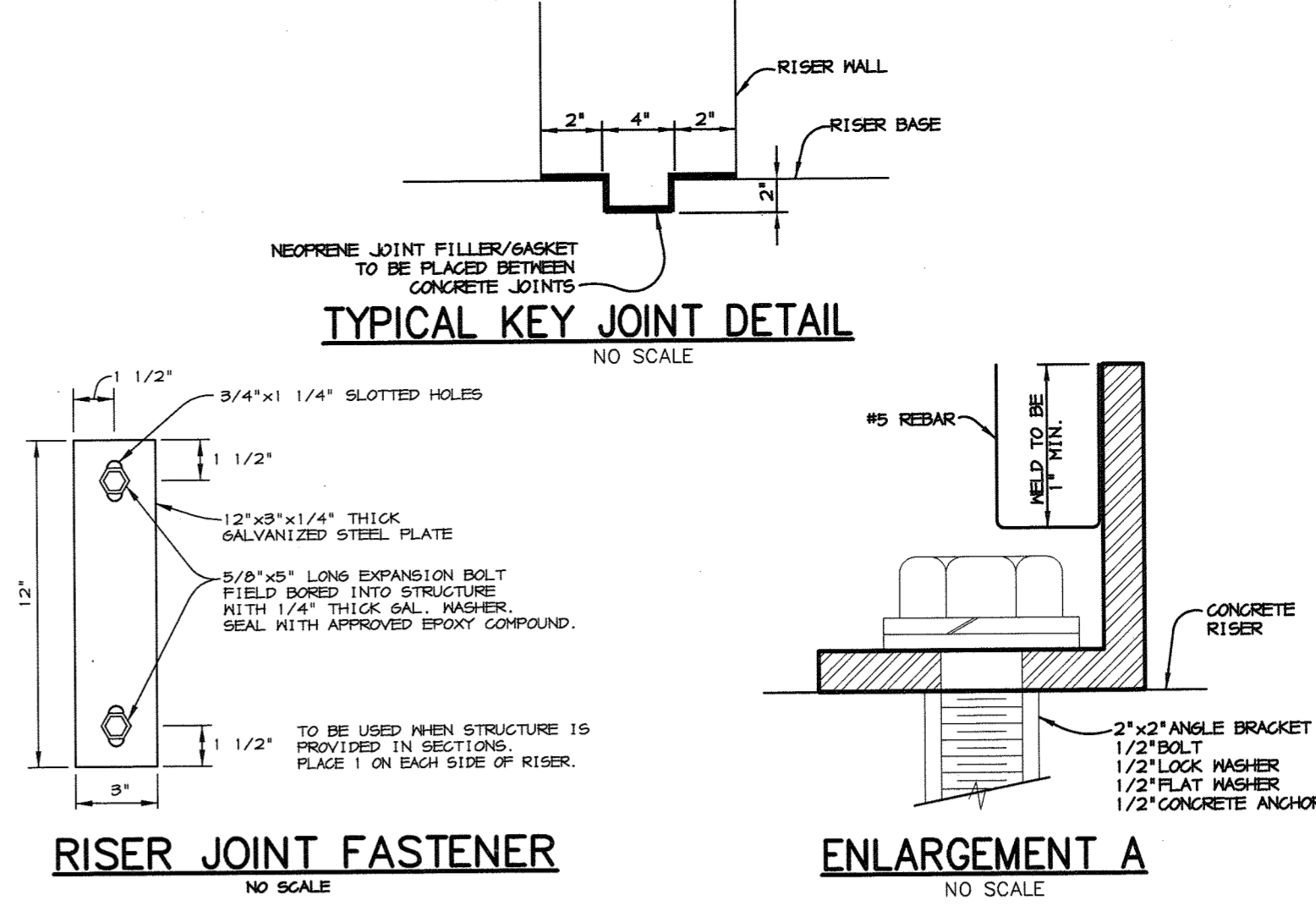
- RISER TO BE CAST IN PLACE. SHOP DRAWINGS FOR THIS CONCRETE STRUCTURE SHALL MEET THE MINIMUM ASTM REQUIREMENTS FOR CAST IN PLACE STRUCTURES. A SHOP DRAWING SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER.
- SEE THIS 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 DRAINDOWN 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.

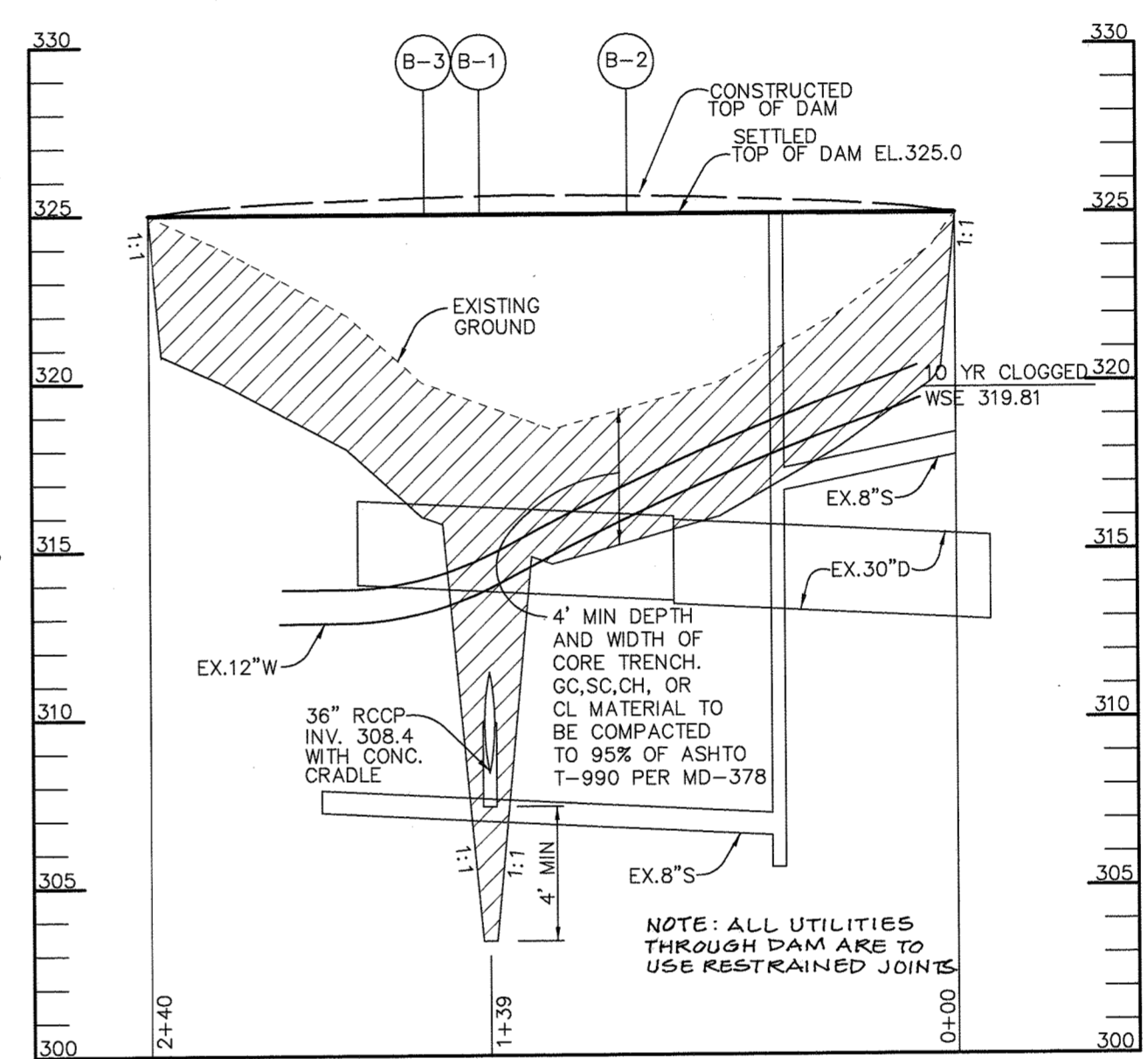


CORE TRENCH DETAIL
NO SCALE

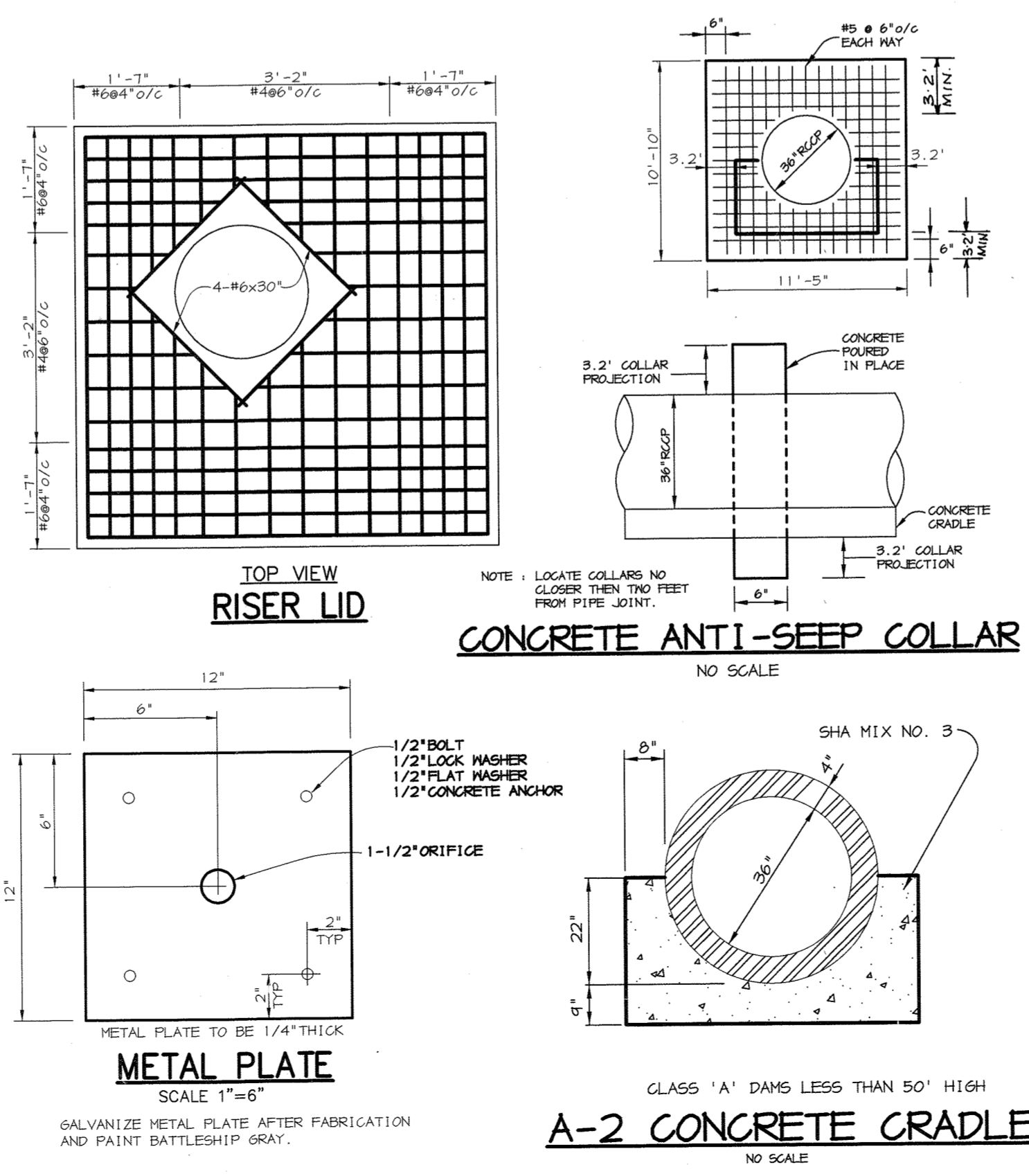


RISER JOINT FASTENER
NO SCALE

ENLARGEMENT A
NO SCALE



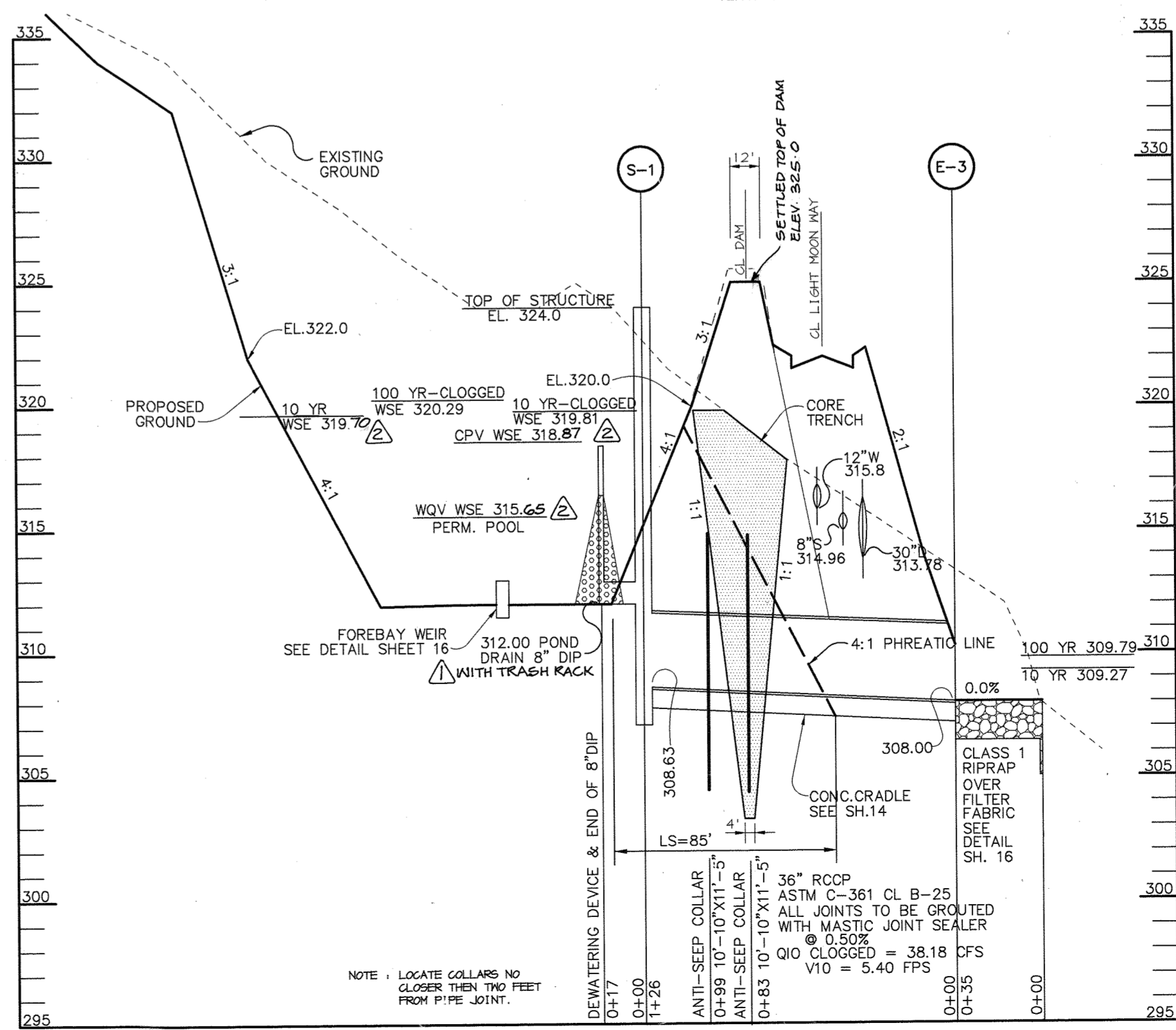
CENTERLINE OF EMBANKMENT PROFILE
SCALE: HOR.-1"=50' VERT.-1"=5'



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.

Jeff N. H. J. 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.

Chris J. Reid 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.

Jim Reynolds 7/6/01
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.

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

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Daniels 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Chris Hamilton 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

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

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

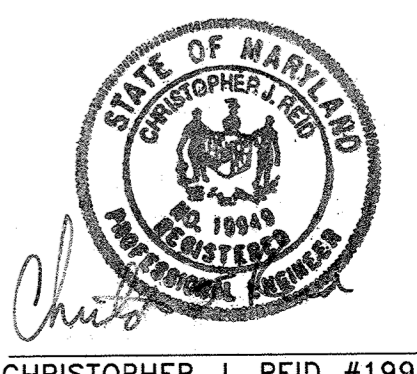
RIEMER MUEGGE
a division of:
Patton Harris Rust & Associates, pc
ENGINEERS • SURVEYORS • PLANNERS
LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS
8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.8800 fax 410.997.9282

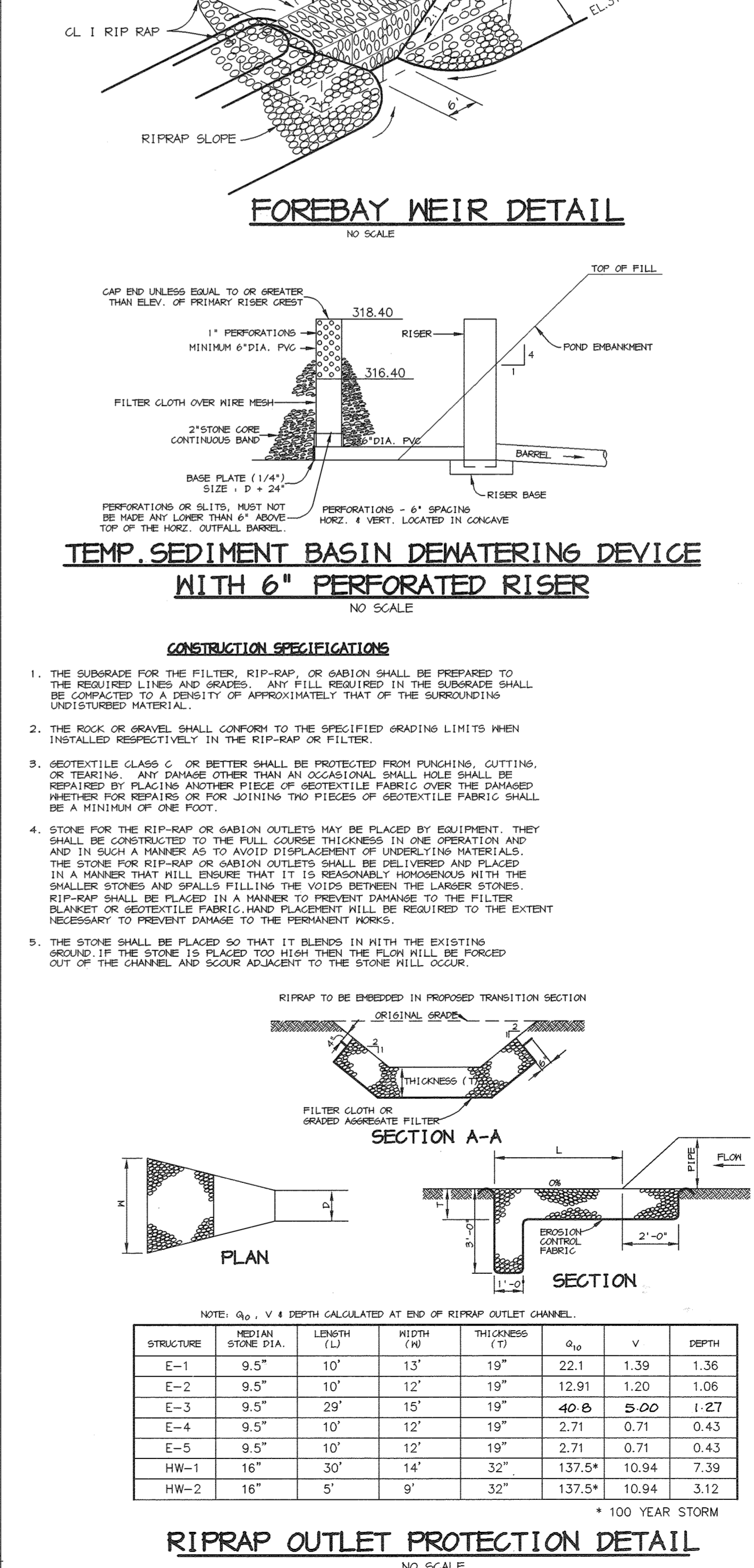
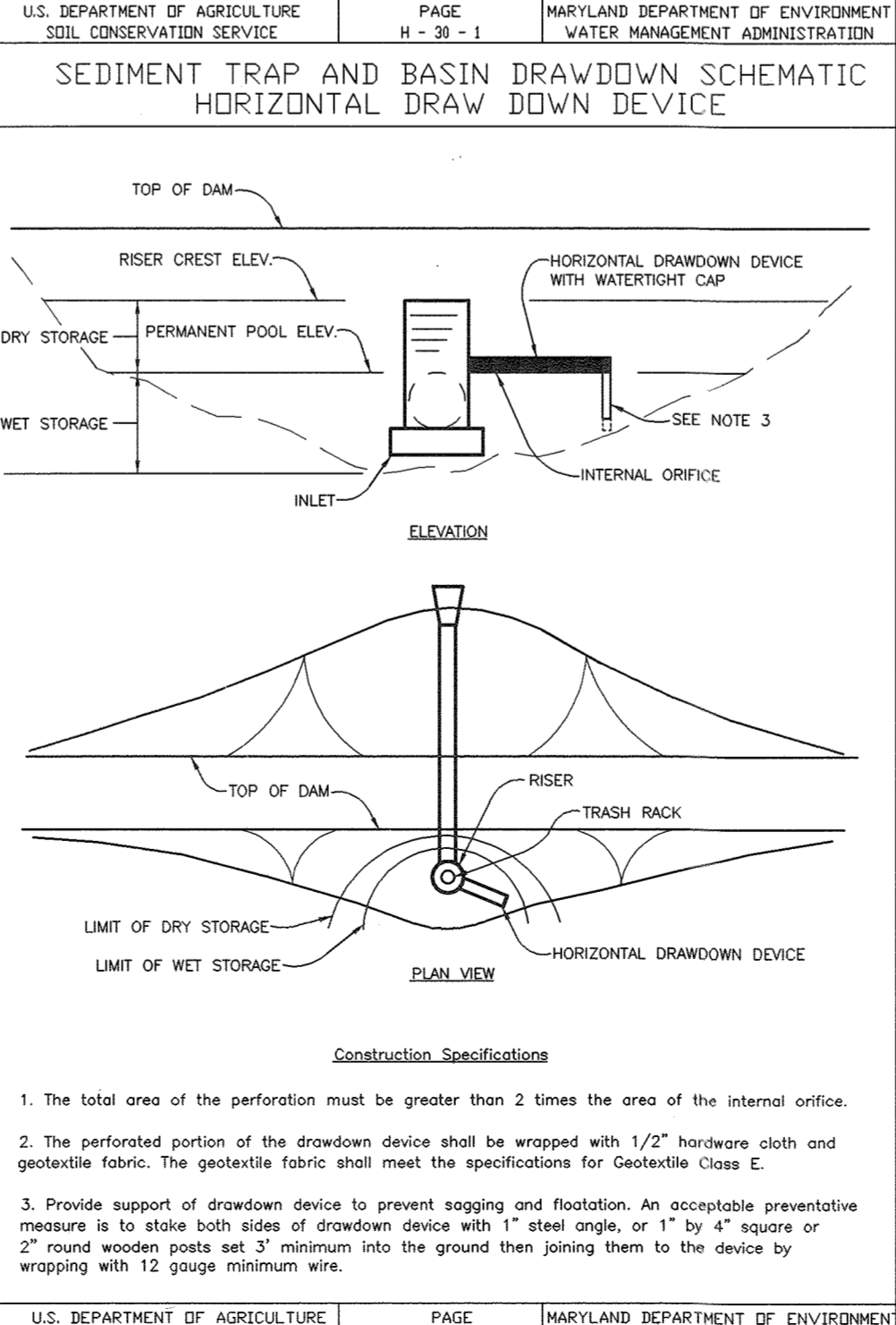
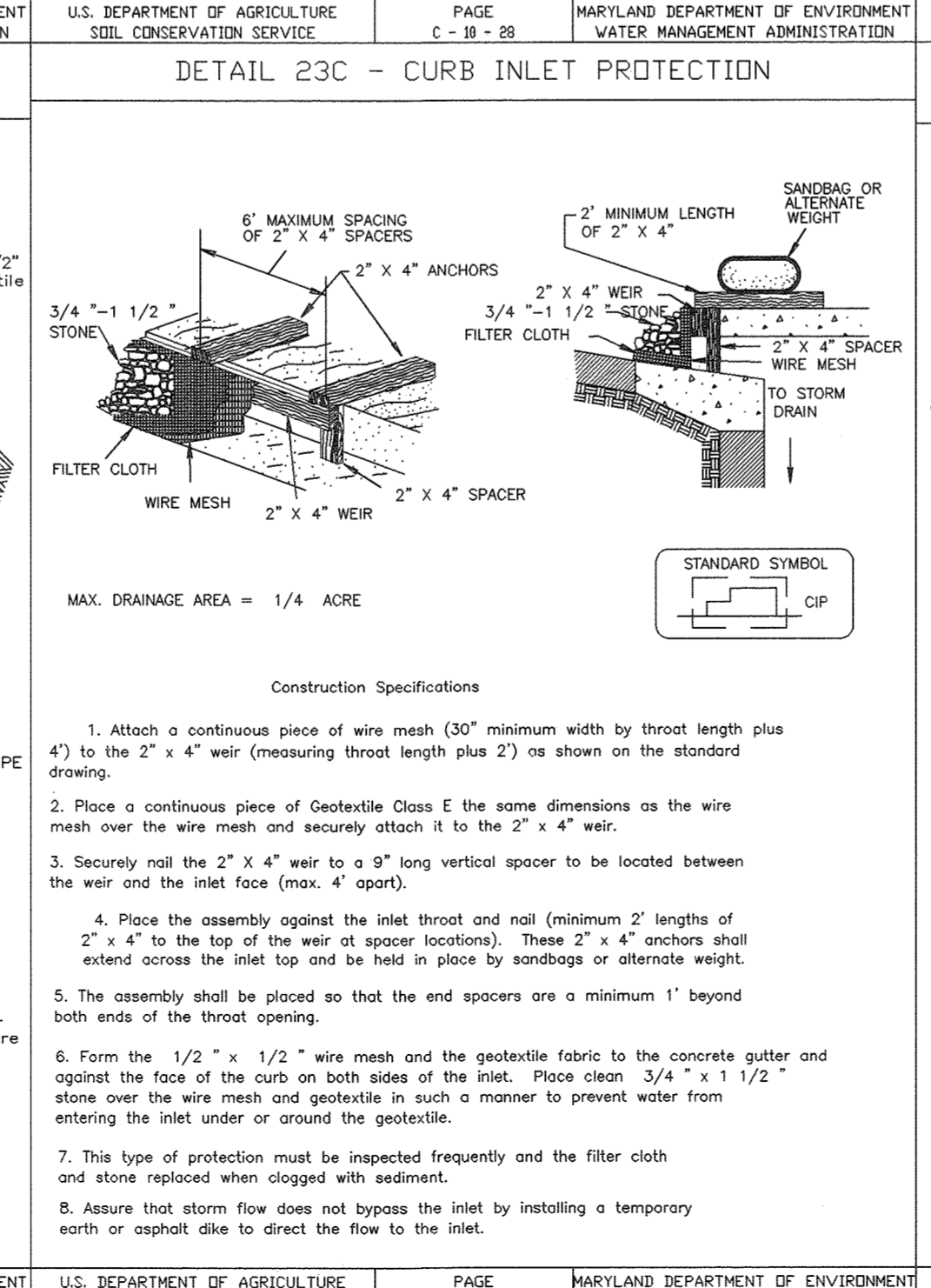
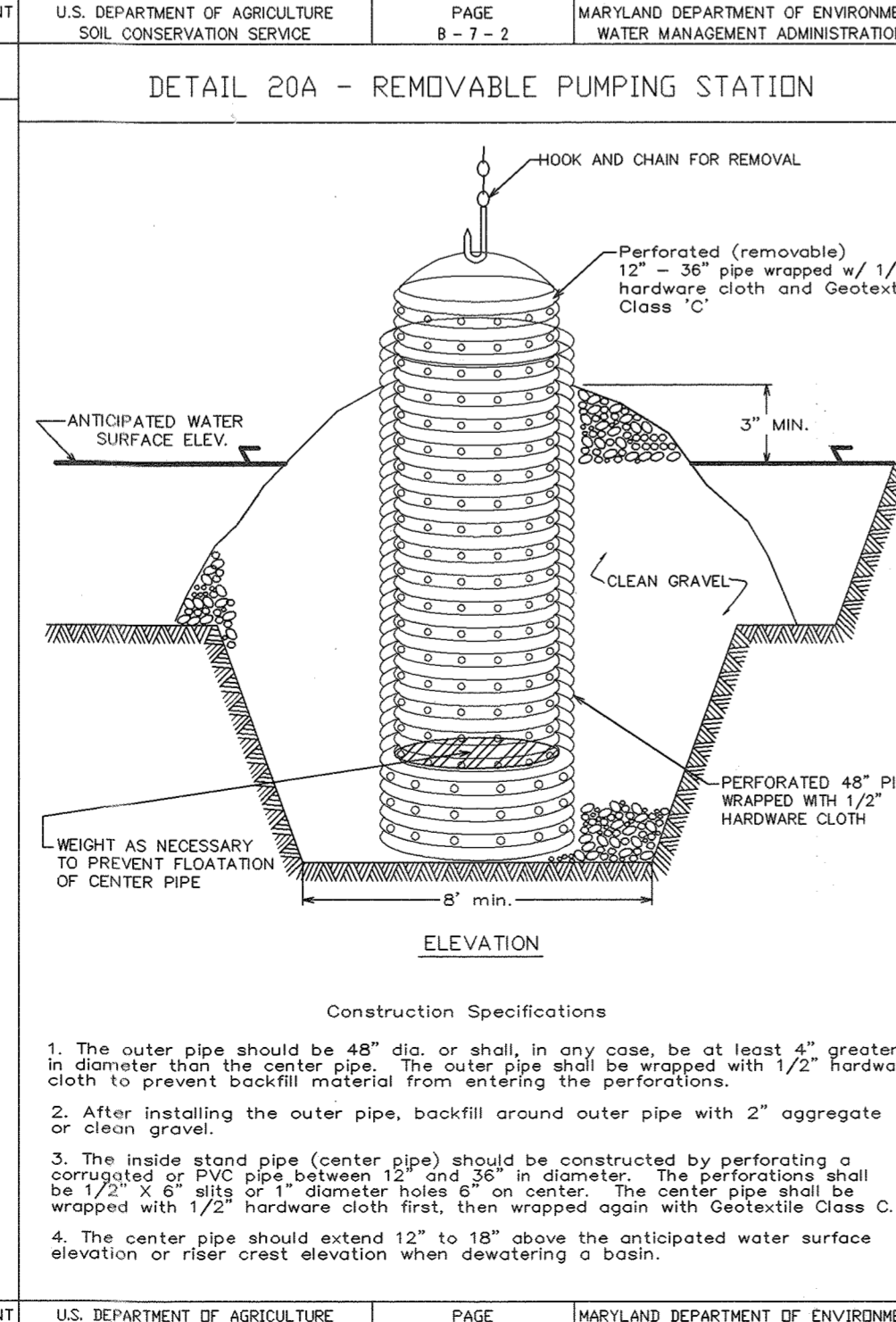
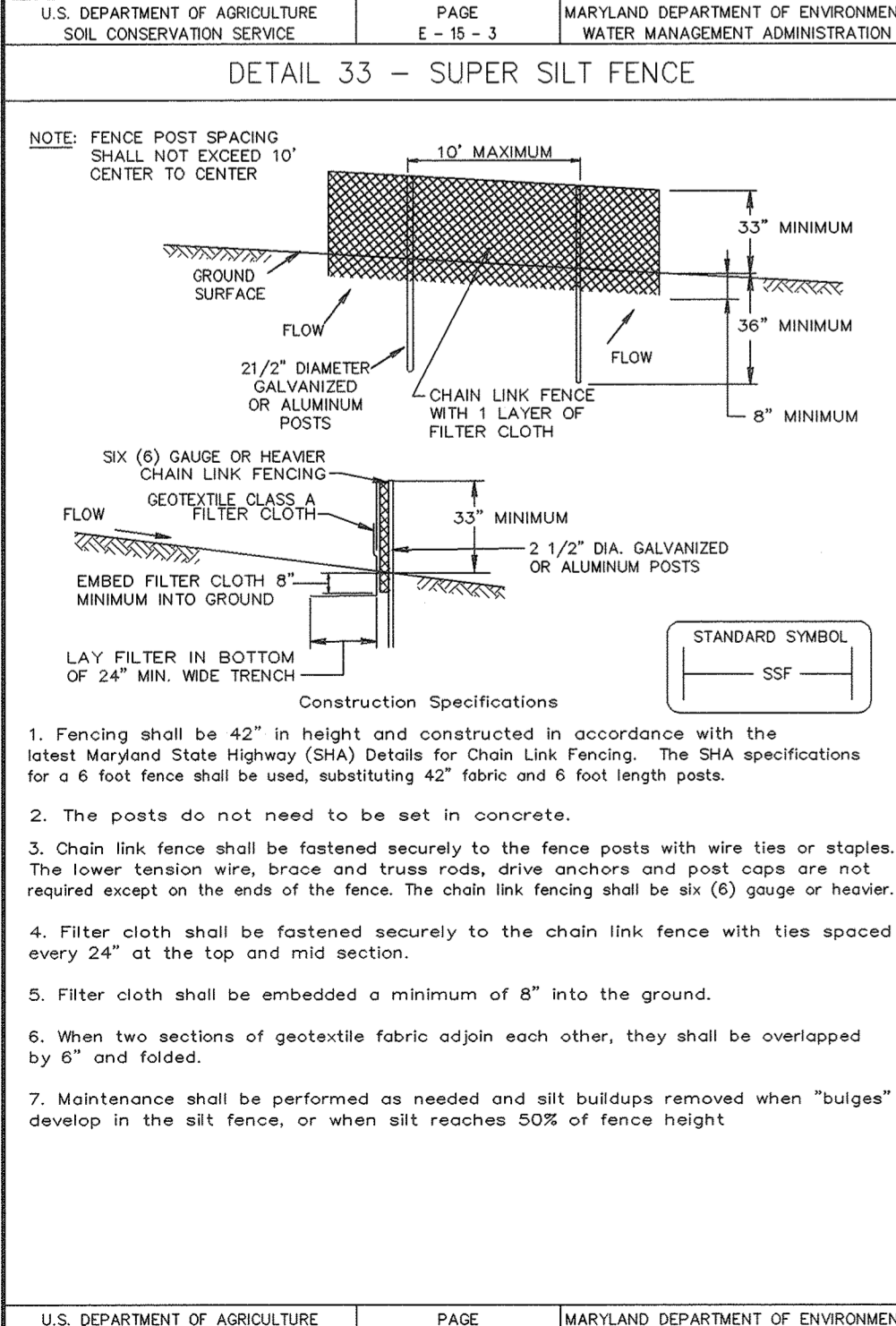
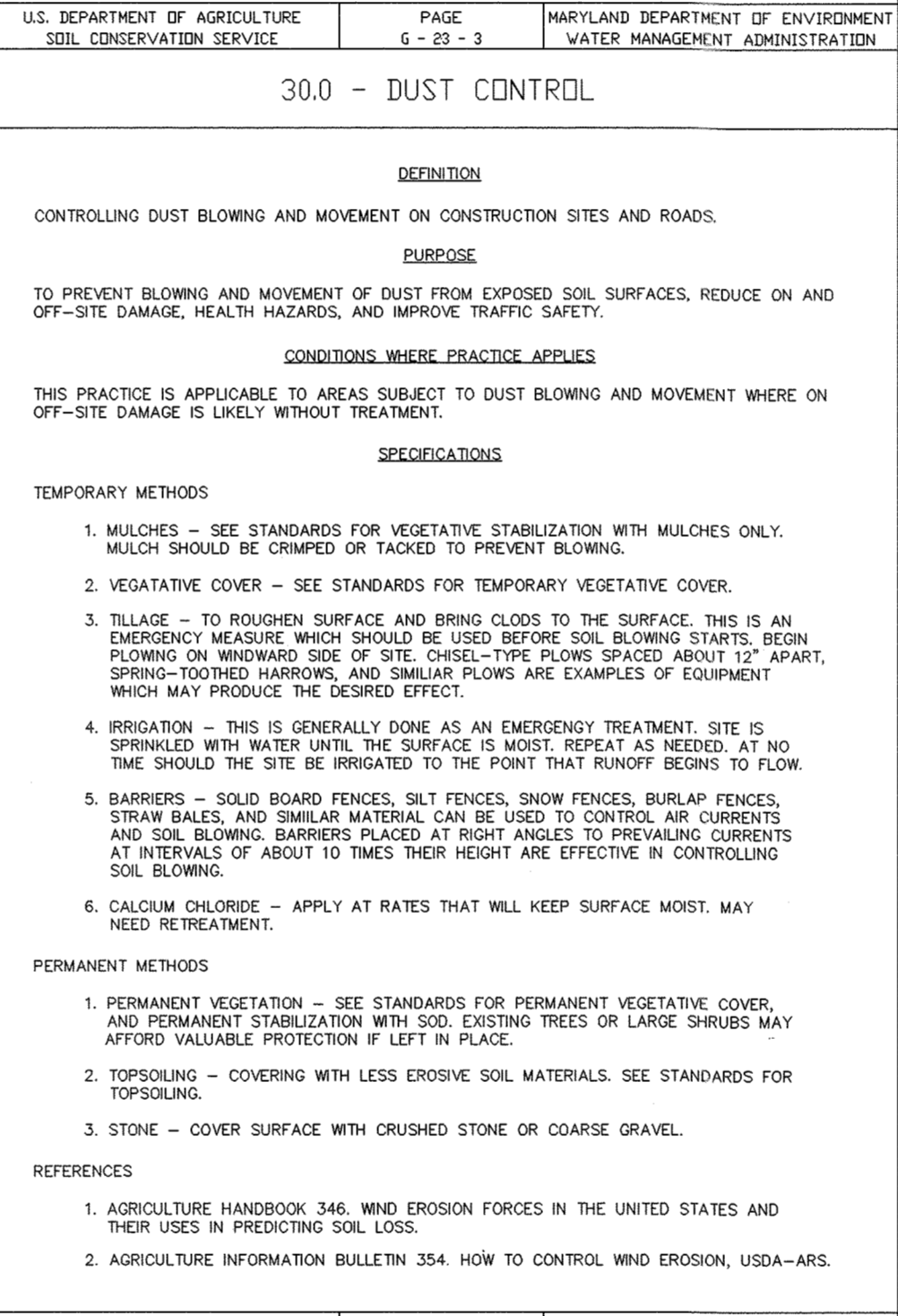
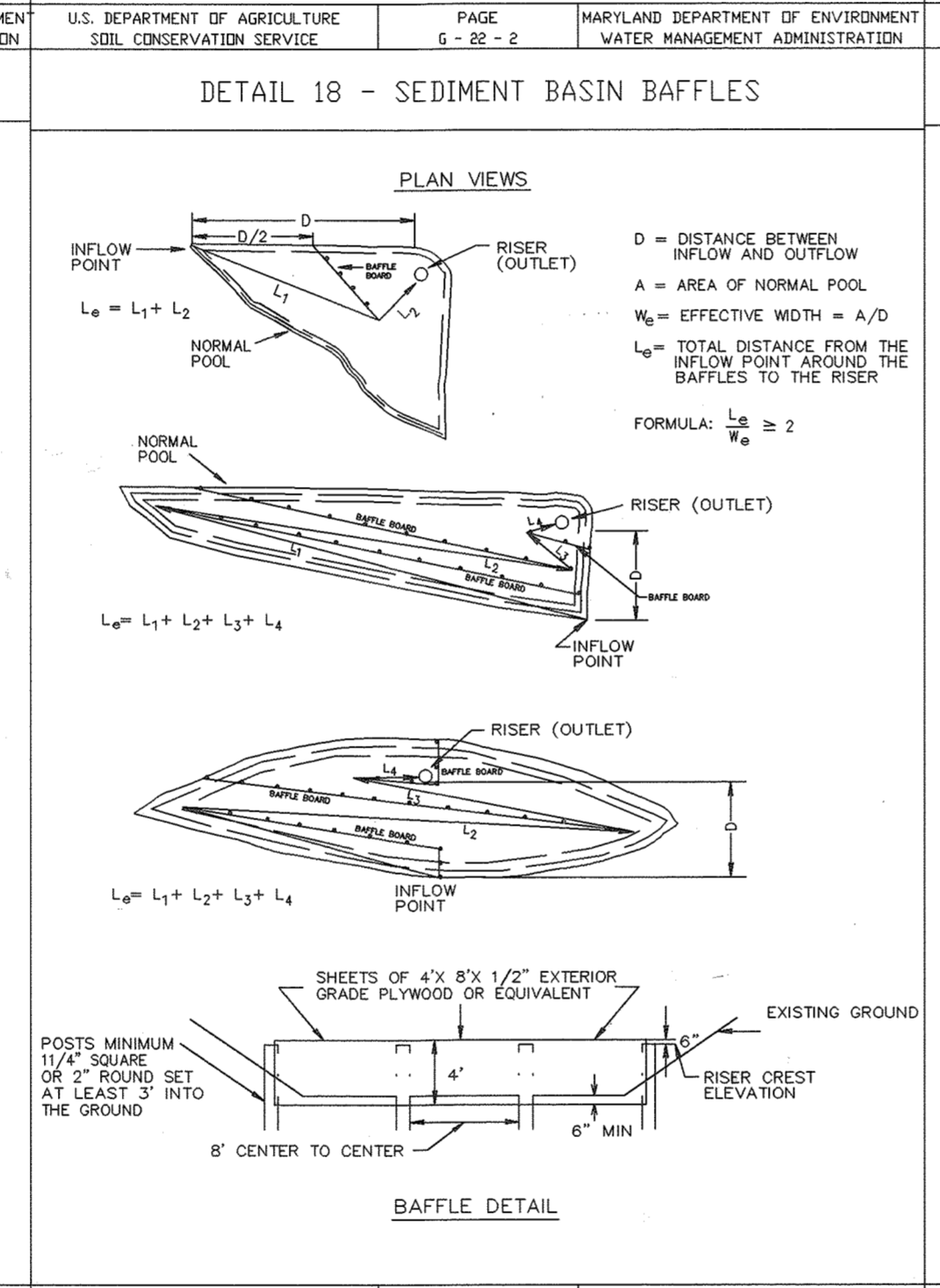
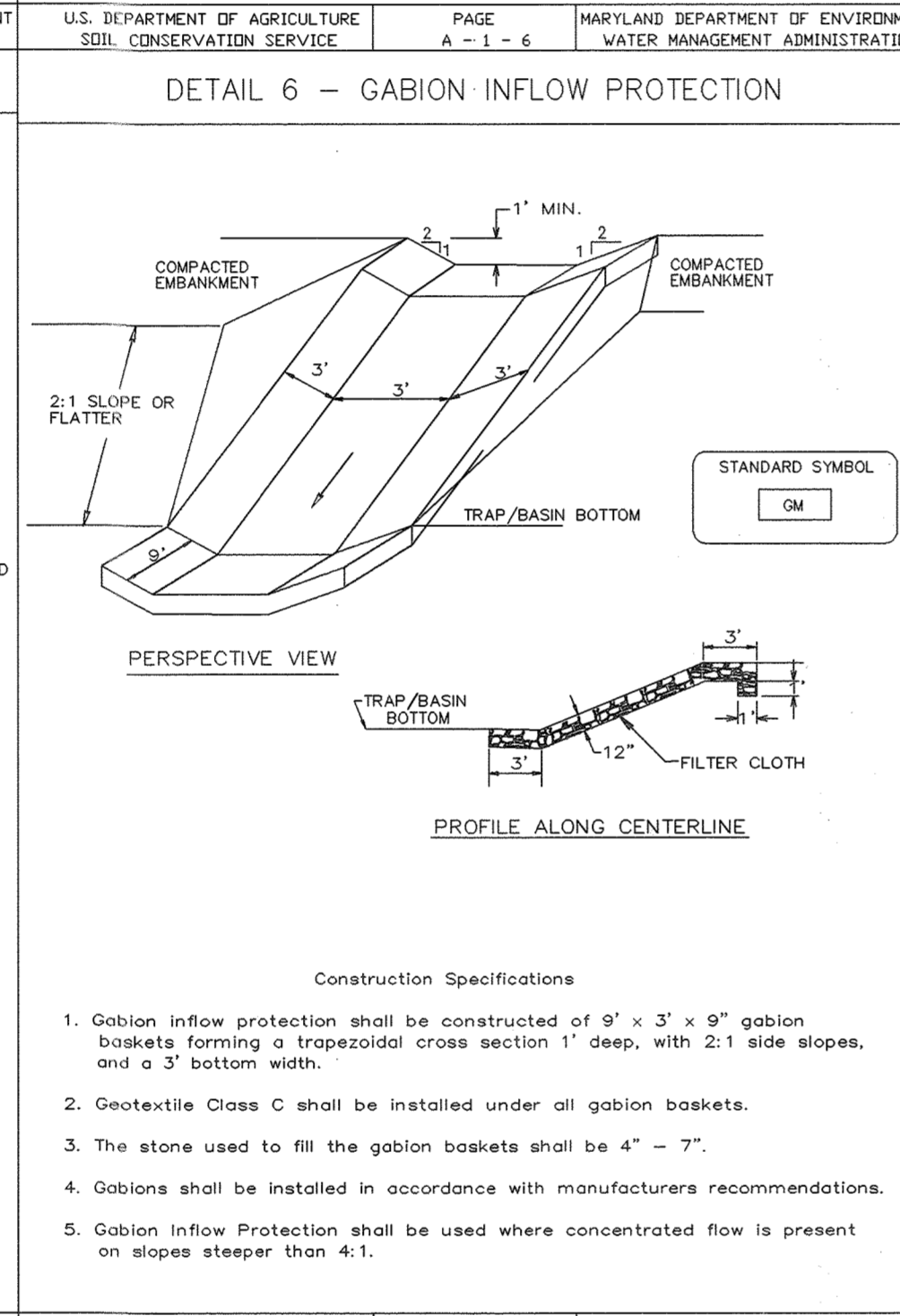
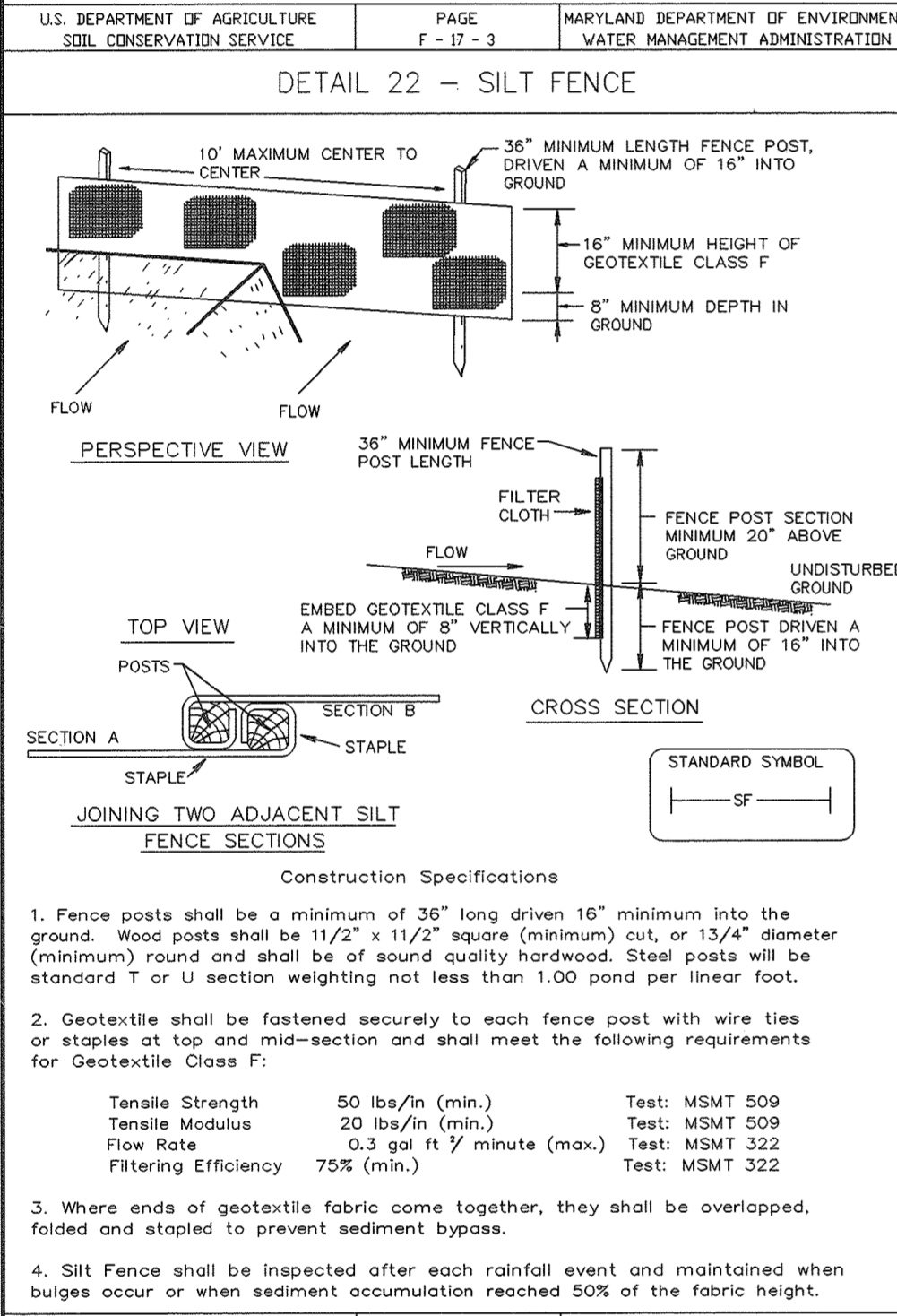
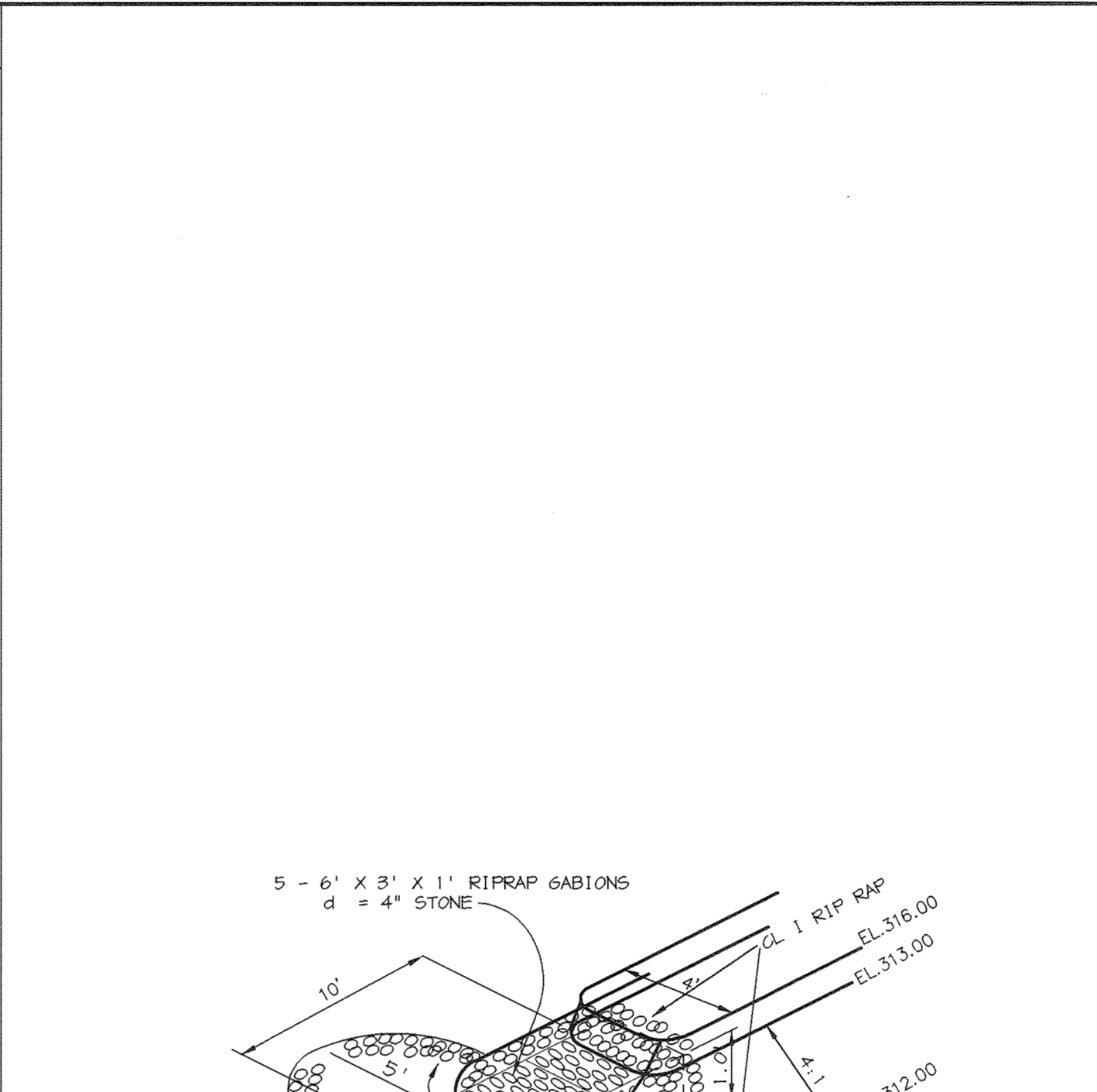
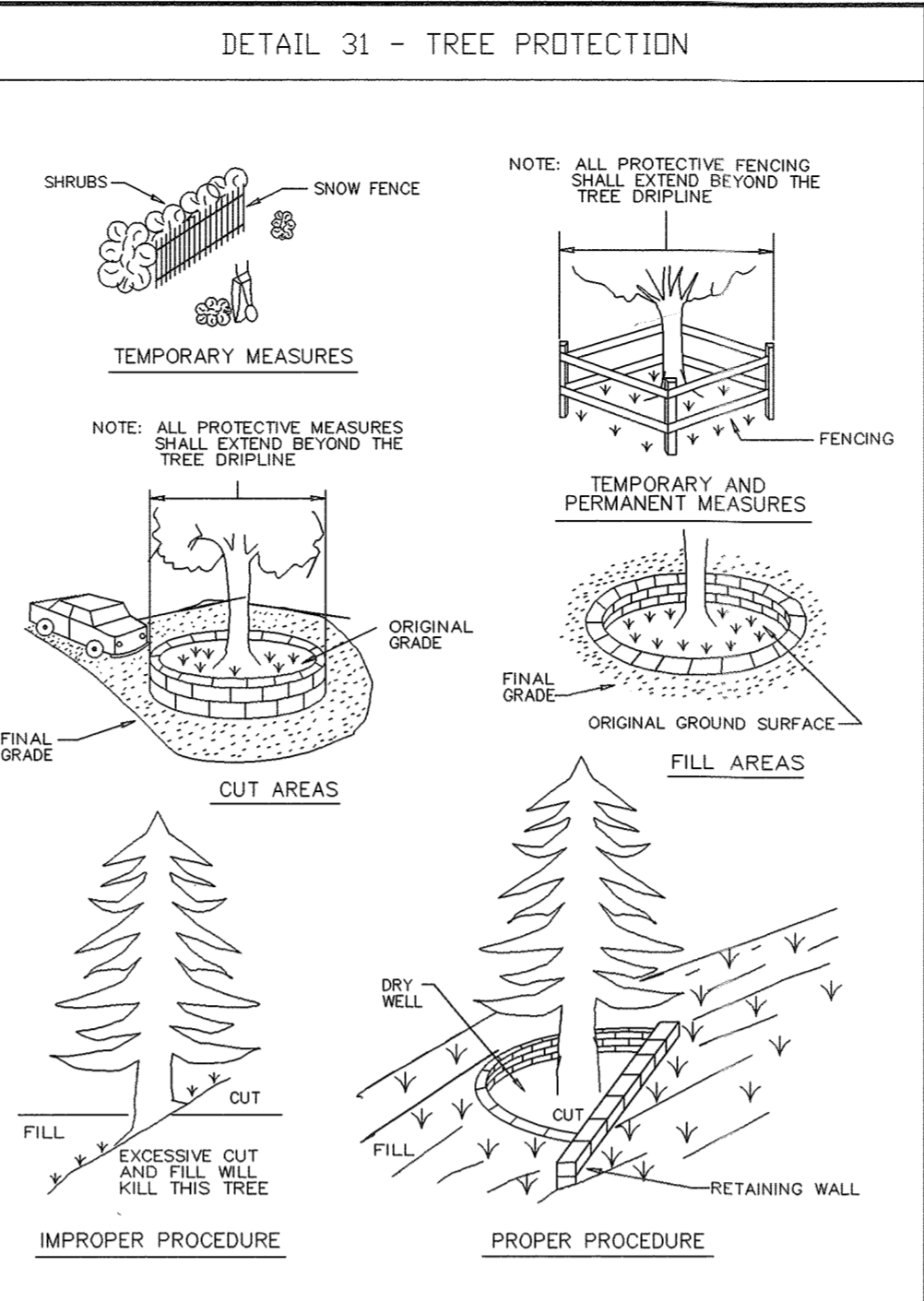
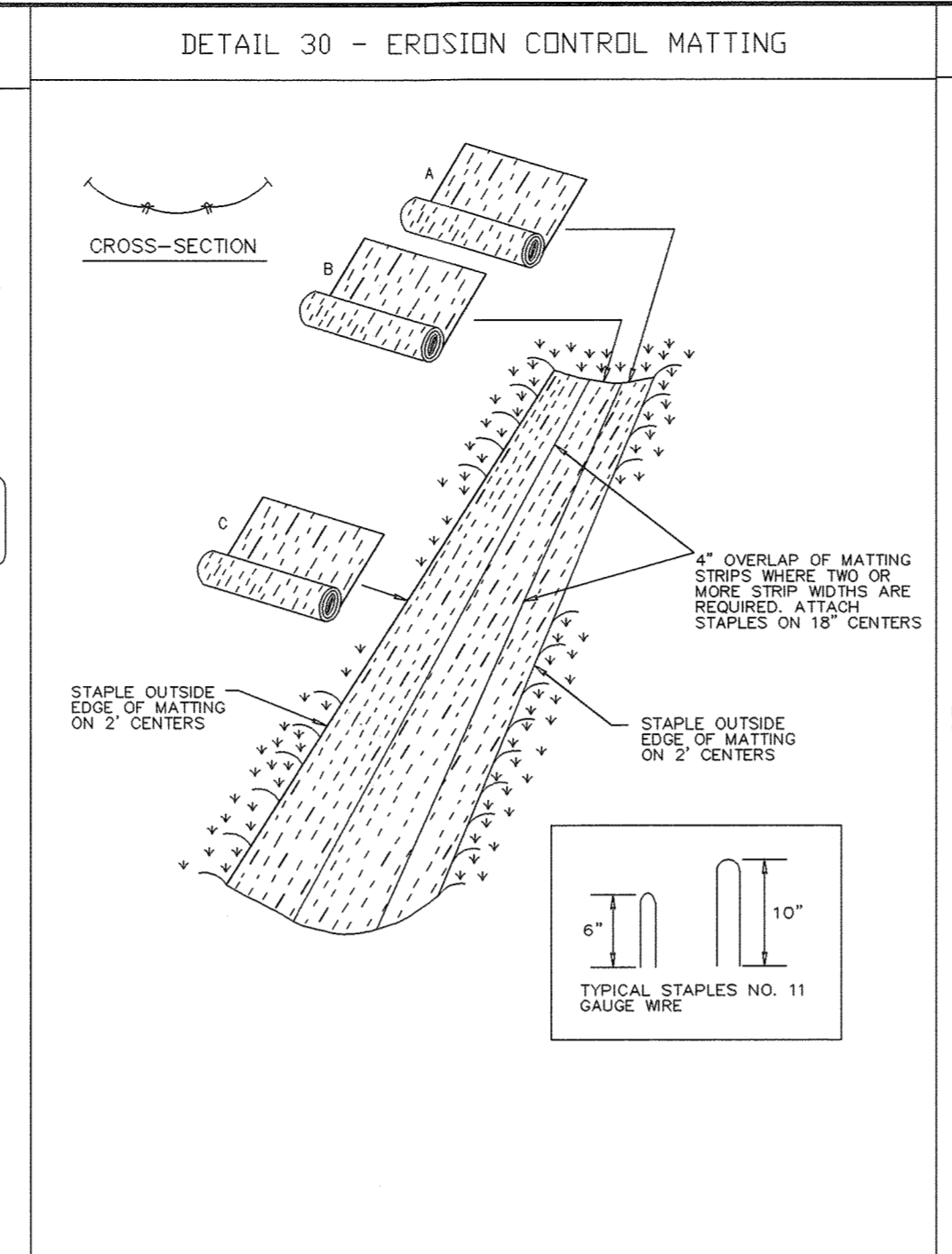
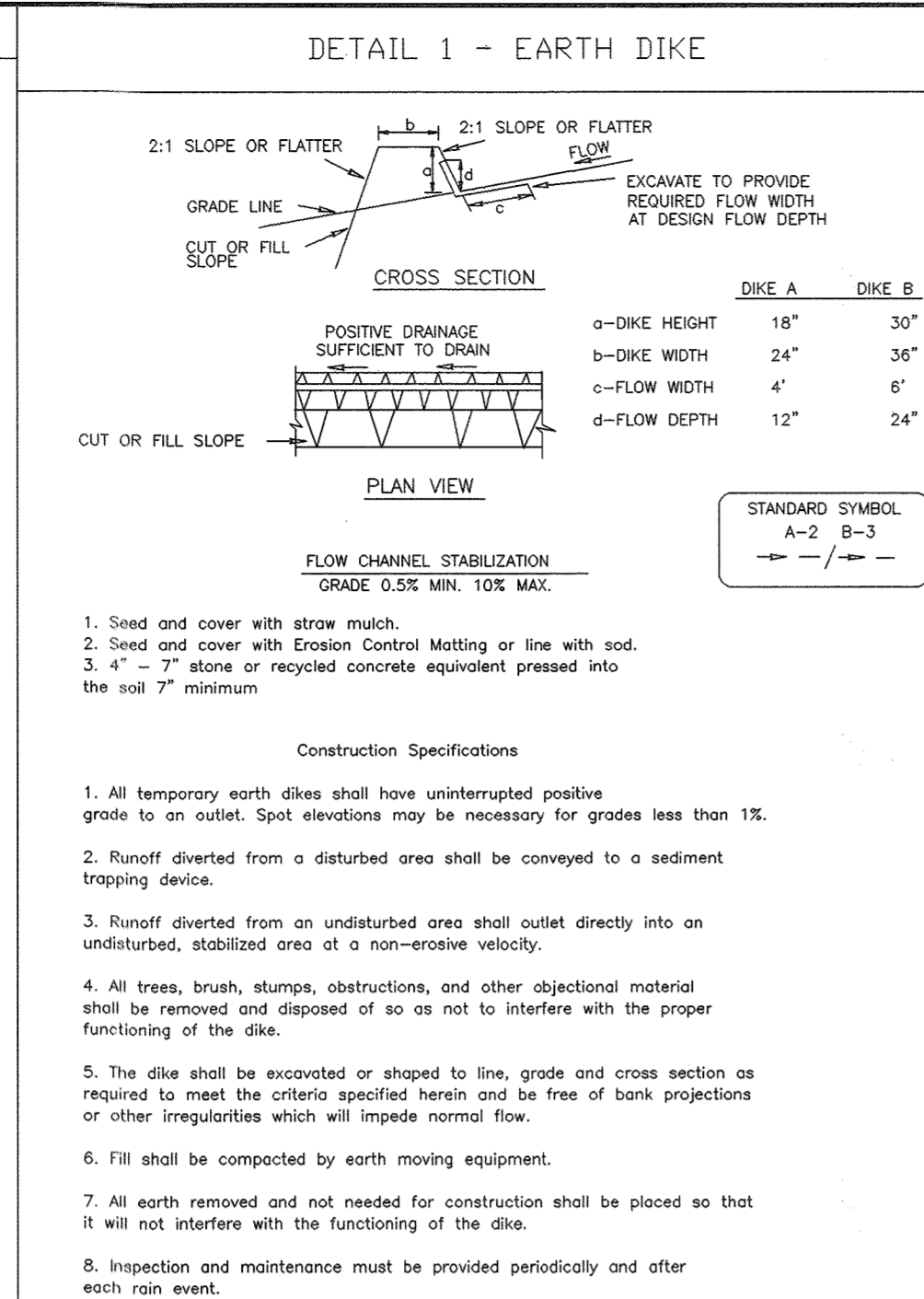
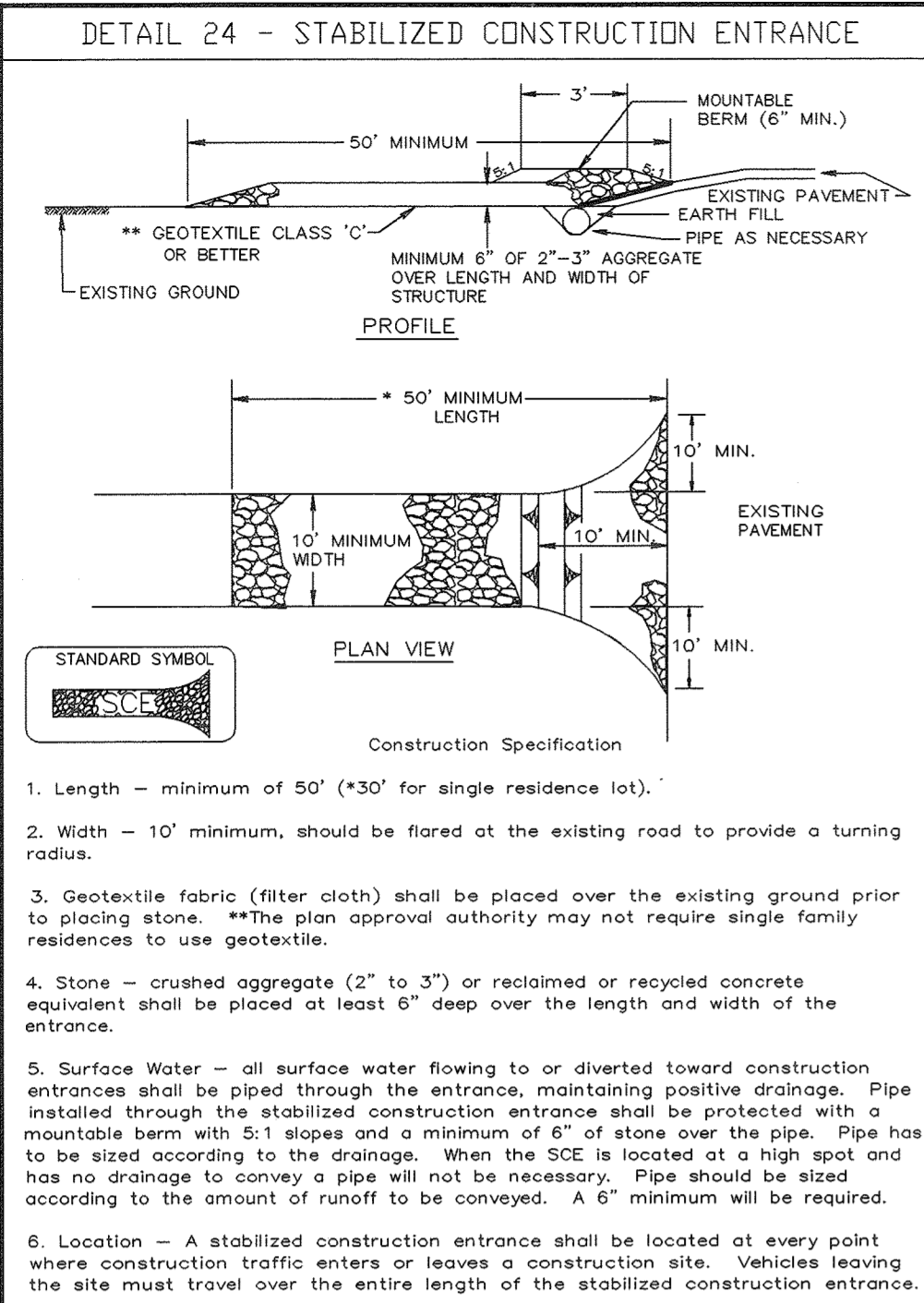
DATE

6.26.01

DESIGNED BY: CJR
DRAWN BY: DAM
PROJECT NO: 99212/FINALS/SEDDT3.DWG
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 14 OF 26

Chris J. Reid
CHRISTOPHER J. REID #19949





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 26

CHRISTOPHER J. REID #19949

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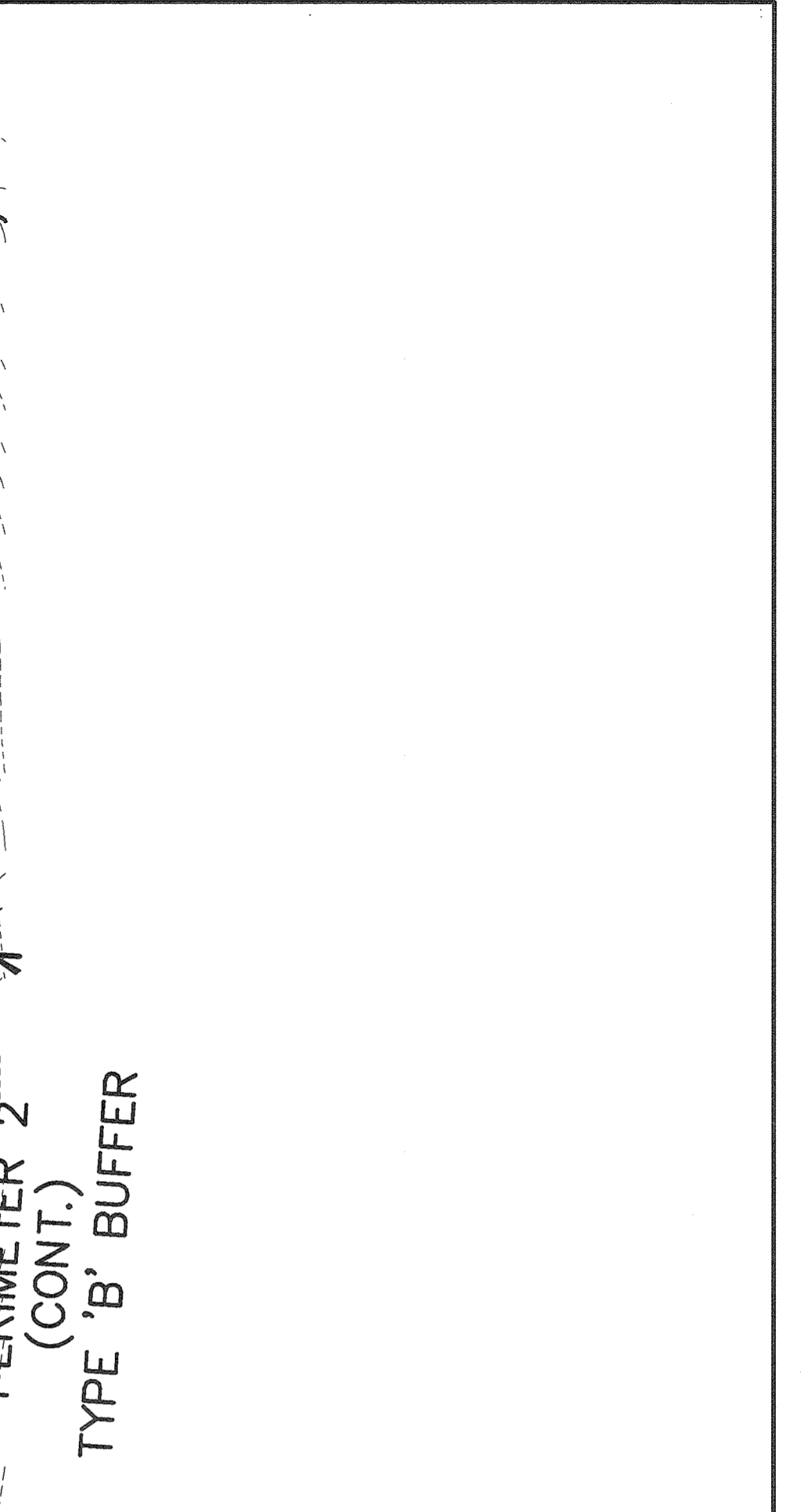
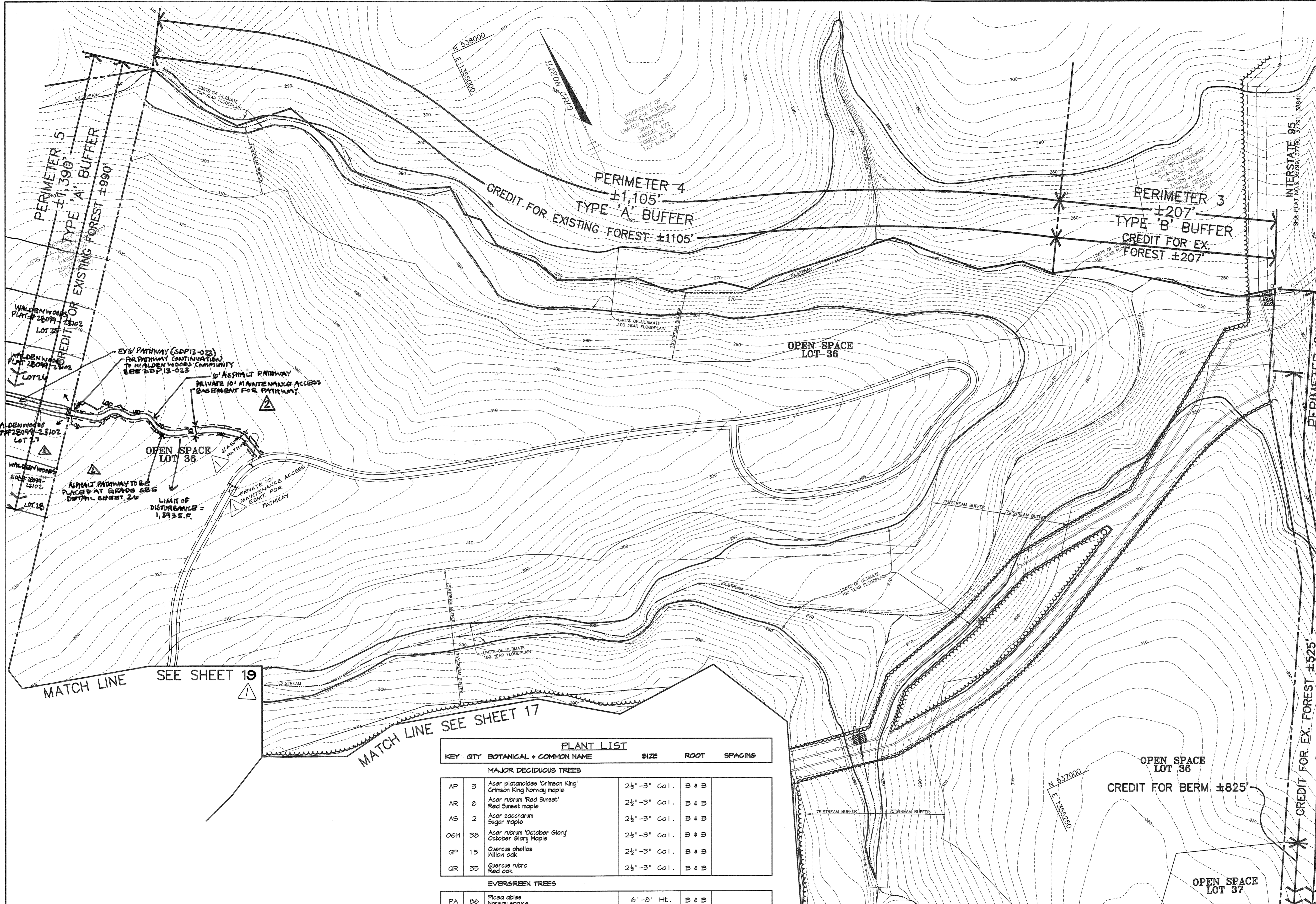
NOTES:

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 | |
| TAX MAP 47 BLOCK 3,8 & 9 ZONED: R-ED PARCEL: P/O B37 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 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 T. 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 | |

FOR REVISION 2 ONLY

BRANDON ROWE

DAVID T. DOWS

DATE 6-22-01

DESIGNED BY: CJR

DRAWN BY: DAM

PROJECT NO: 99212/FINALS
LSCP2FINAL.DWG

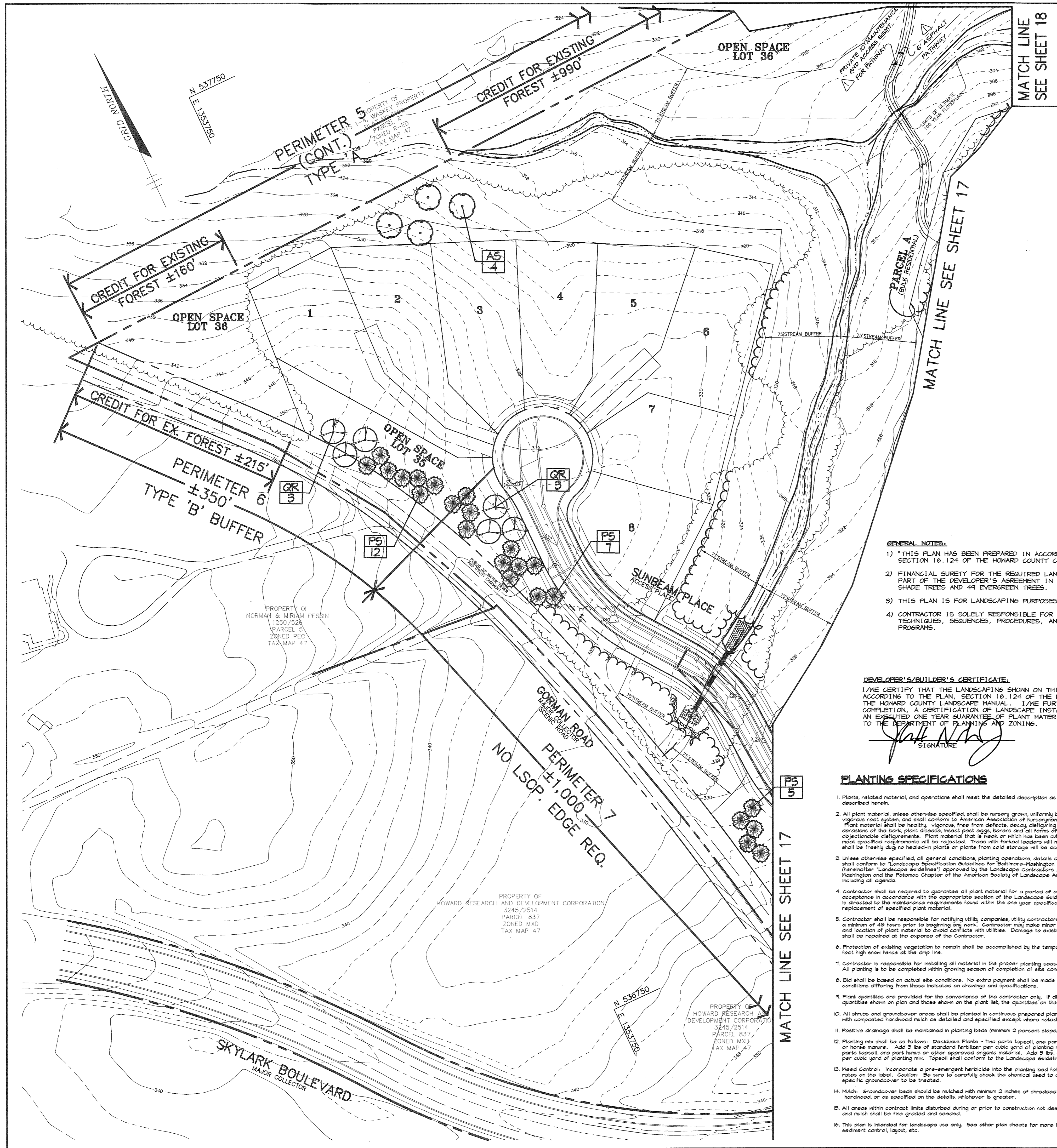
DATE: JUNE 19, 2001

SCALE: 1" = 50'

DRAWING NO. 18 OF 26

F-01-140

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| 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:**
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
 - 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.
 - THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
 - CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.

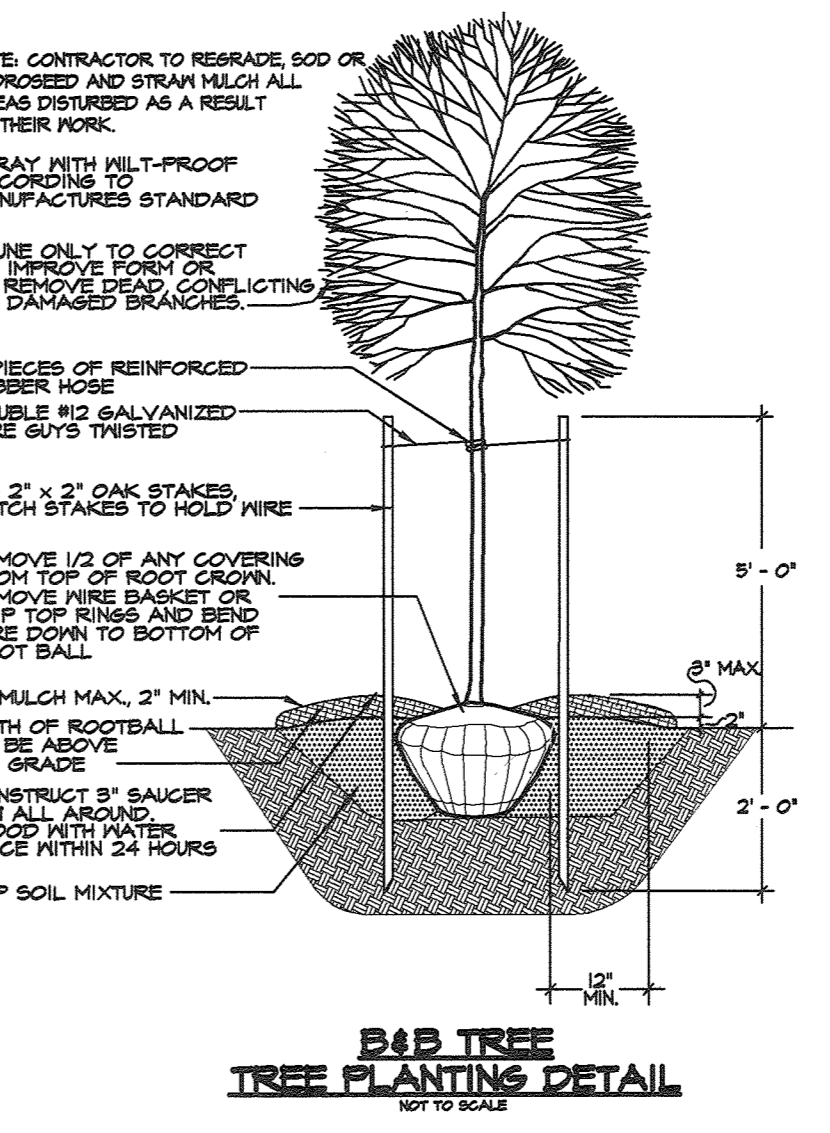
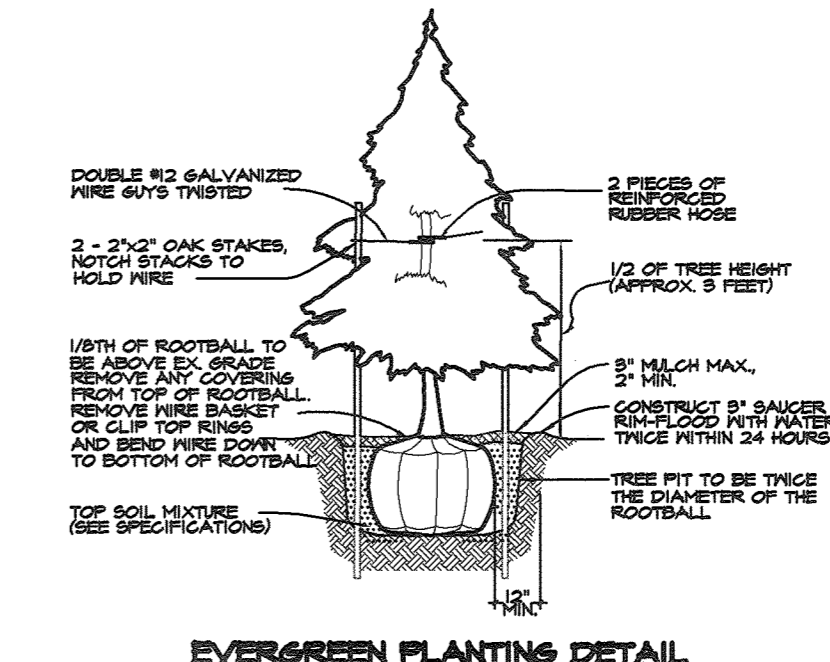
DEVELOPER'S/BUILDER'S CERTIFICATE:

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.

John N. [Signature]
 SIGNATURE
 6/22/01
 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 (A.A.N.) 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 plant list 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, one part 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. [Signature] 7-6-01
 CHIEF, BUREAU OF HIGHWAYS DATE

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

David T. [Signature] 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
 [SCP3/FINAL.DWG]
 DATE: JUNE 19, 2001
 SCALE: 1" = 50'
 DRAWING NO. 19 OF 26

DAVID T. DOWS

LEGEND

| | | |
|--------------------------------|-------|-----|
| EXISTING 2' CONTOUR | ----- | 300 |
| EXISTING 10' CONTOUR | ----- | 300 |
| PROPOSED 2' CONTOUR | ----- | 300 |
| PROPOSED 10' CONTOUR | ----- | 300 |
| PROPERTY LINE AND RIGHT OF WAY | ----- | |
| EASEMENT | ----- | |
| EXISTING TREELINE | ----- | |
| PROPOSED TREELINE | ----- | |
| TREE PROTECTION FENCE | ----- | |
| FOREST RETENTION SIGN | ----- | |



PROPOSED FOREST CLEARING 0.46 +/- AC. THIS SHEET

AS BUILT CERTIFICATE

DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

Andrew M. Dander 7-6-01
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

Wanda Hunter 7/17/01
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DMW 7/10/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10-30-01 ADDED EX. 20' WATER EASEMENT AND PATH.

DATE NO. REVISION

OWNER / DEVELOPER

THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION
THE ROUSE BUILDING
10275 LITTLE PATIENT 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
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 DATE

DESIGNED BY: CJR

DRAWN BY: DAM

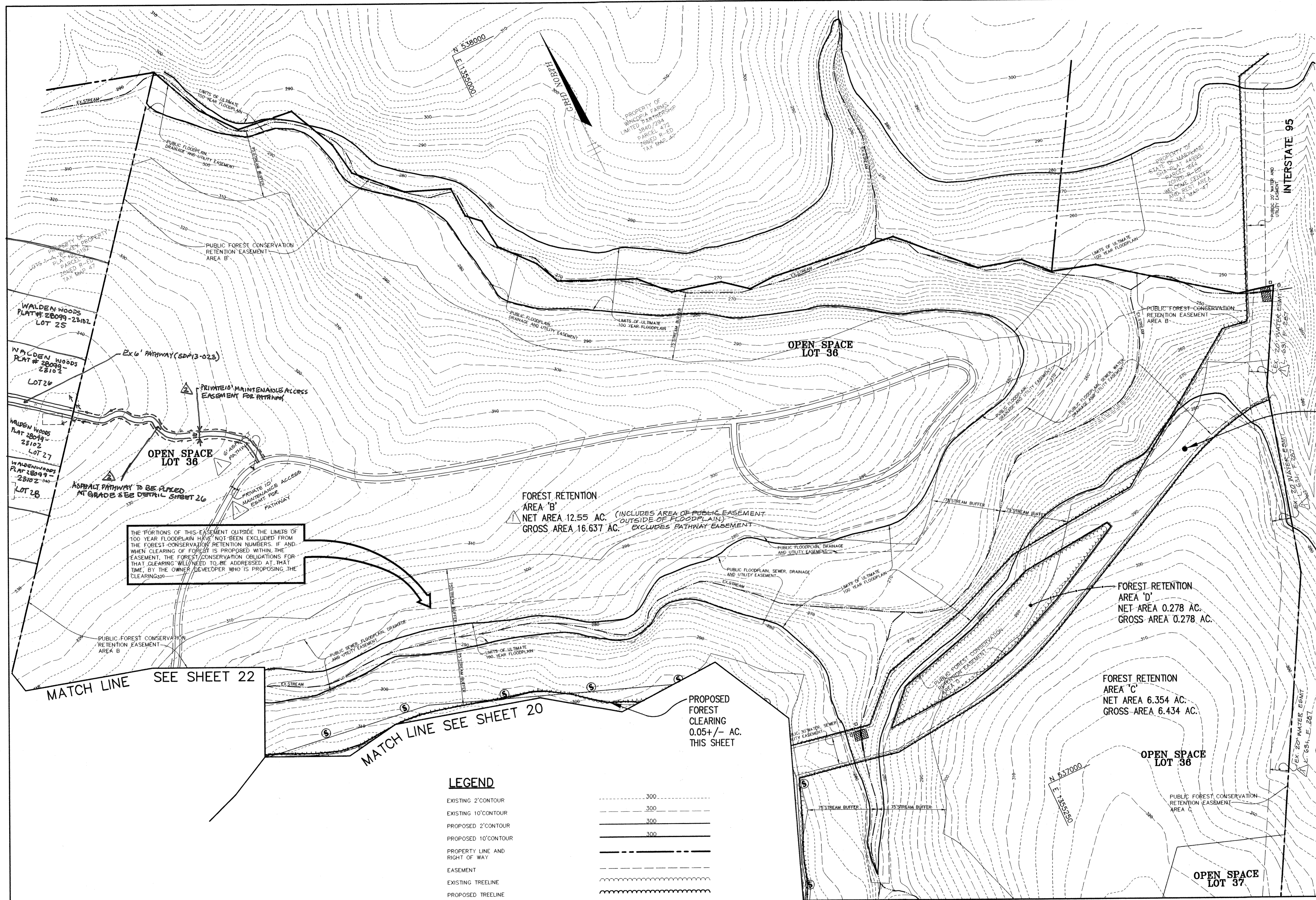
PROJECT NO: 99212/FINALS FOREST1.DWG

DATE: JUNE 19, 2001

SCALE: 1" = 50'

DRAWING NO. 20 OF 20

p:\project\99212\FINALS\Forest1.dwg Tue Jun 19 12:46:05 2001 Riemer Muegge, a division of DMW



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 | |
| | DATE |
| APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | |
| <i>Andrew M. Quaker</i> | 7-6-01 |
| CHIEF, BUREAU OF HIGHWAYS | DATE |
| APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | |
| <i>Chris Hunter</i> | 7/17/01 |
| CHIEF, DIVISION OF LAND DEVELOPMENT | DATE |
| <i>John Dammann</i> | 7/10/01 |
| CHIEF, DEVELOPMENT ENGINEERING DIVISION | DATE |
| 7-6-20 2 ADDING PATHWAY CONNECTING TO WALDEN WOODS SUBDIVISION | |
| 10-30-01 1 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

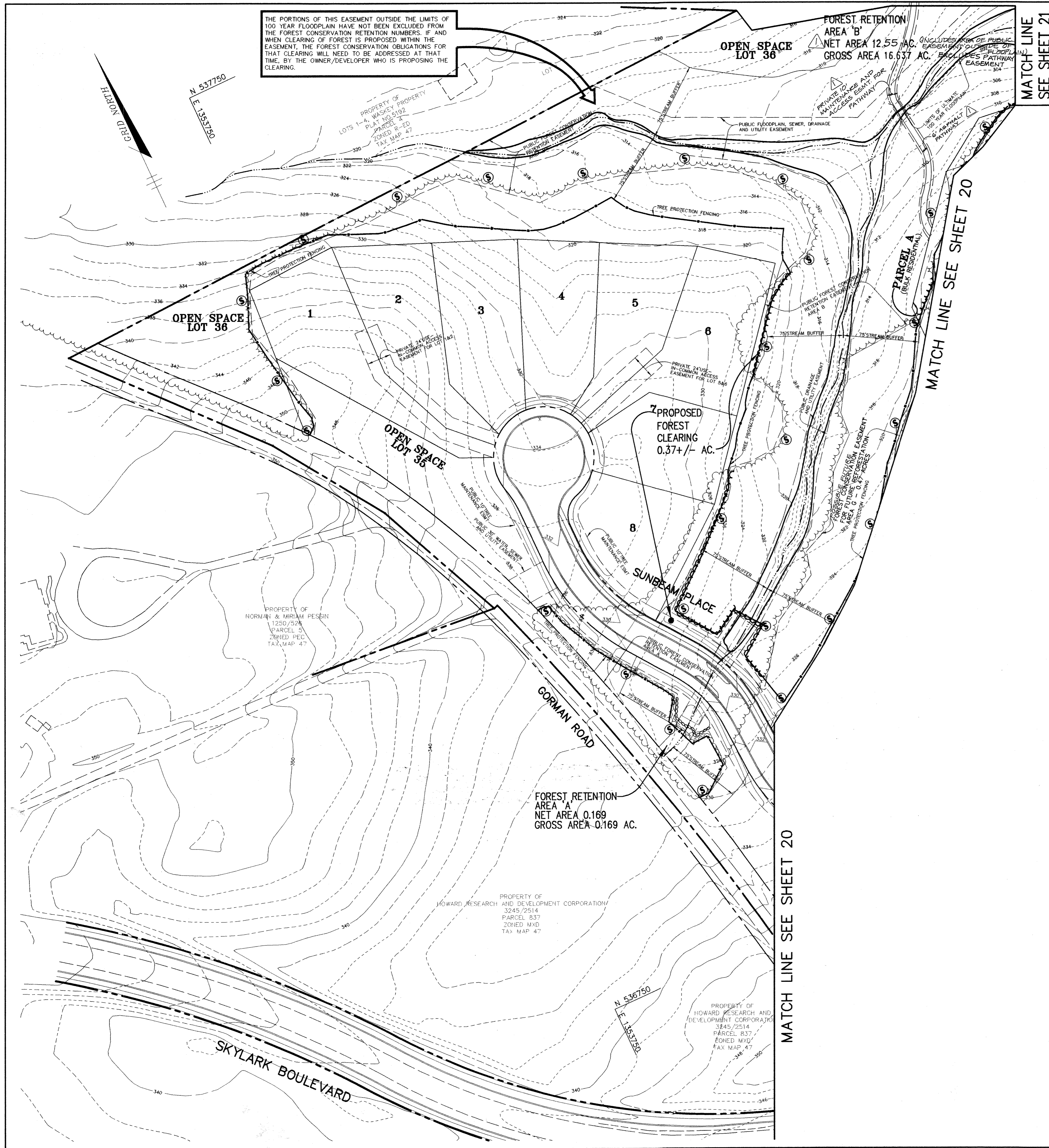
DATE: 6-20-01

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 ASBUILT 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 | |
| | |
| 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 | HDR | MPD | CIA |
| 0 | 0 | 0 | 1 | 0 | 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 |

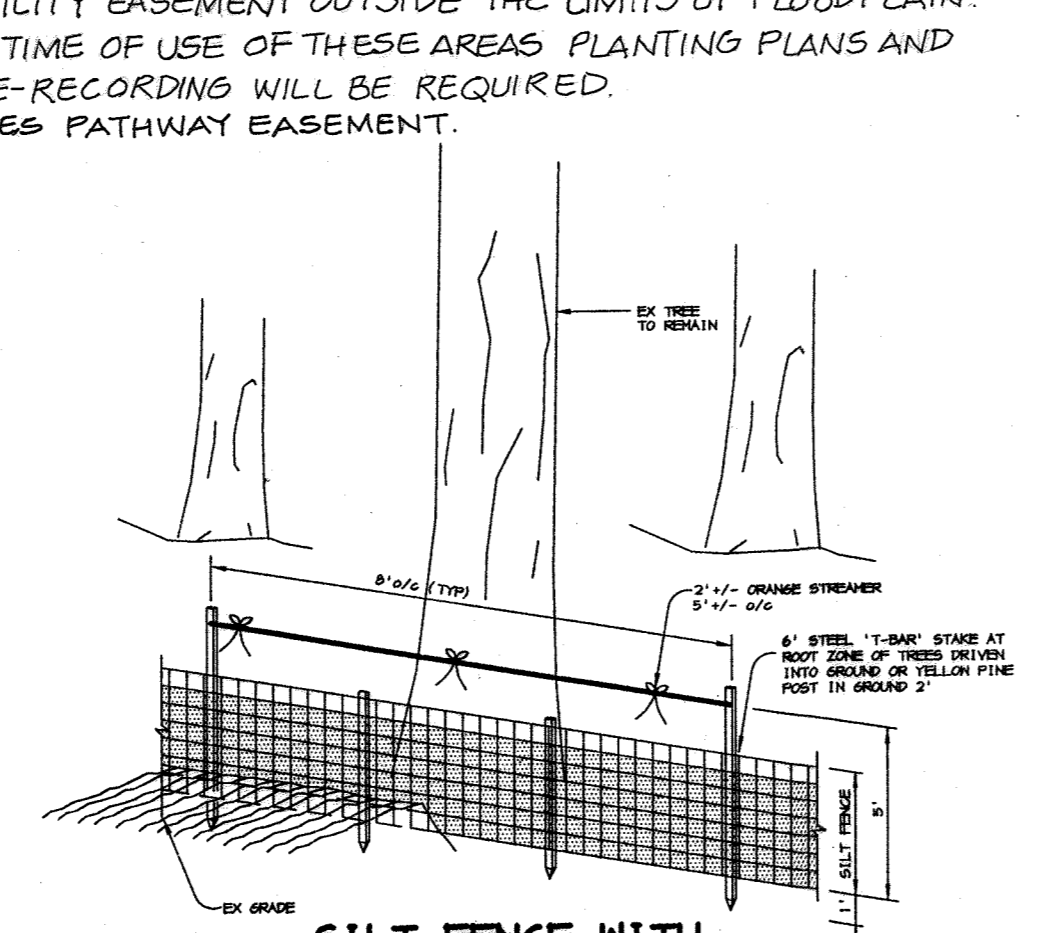
| BREAK EVEN POINT | |
|--|-------|
| J. FOREST RETENTION ABOVE THRESHOLD WITH NO MITIGATION | 12.27 |
| K. CLEARING PERMITTED WITHOUT MITIGATION | 10.84 |

| 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 |

| FOREST CONSERVATION EASEMENT TABULATION | | | |
|---|------------|-------------|------------|
| 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. |
| 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. |

- * 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.
- *** EXCLUDES PATHWAY EASEMENT.



- NOTES:**
- SILT FENCE TO BE HEHELED 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.

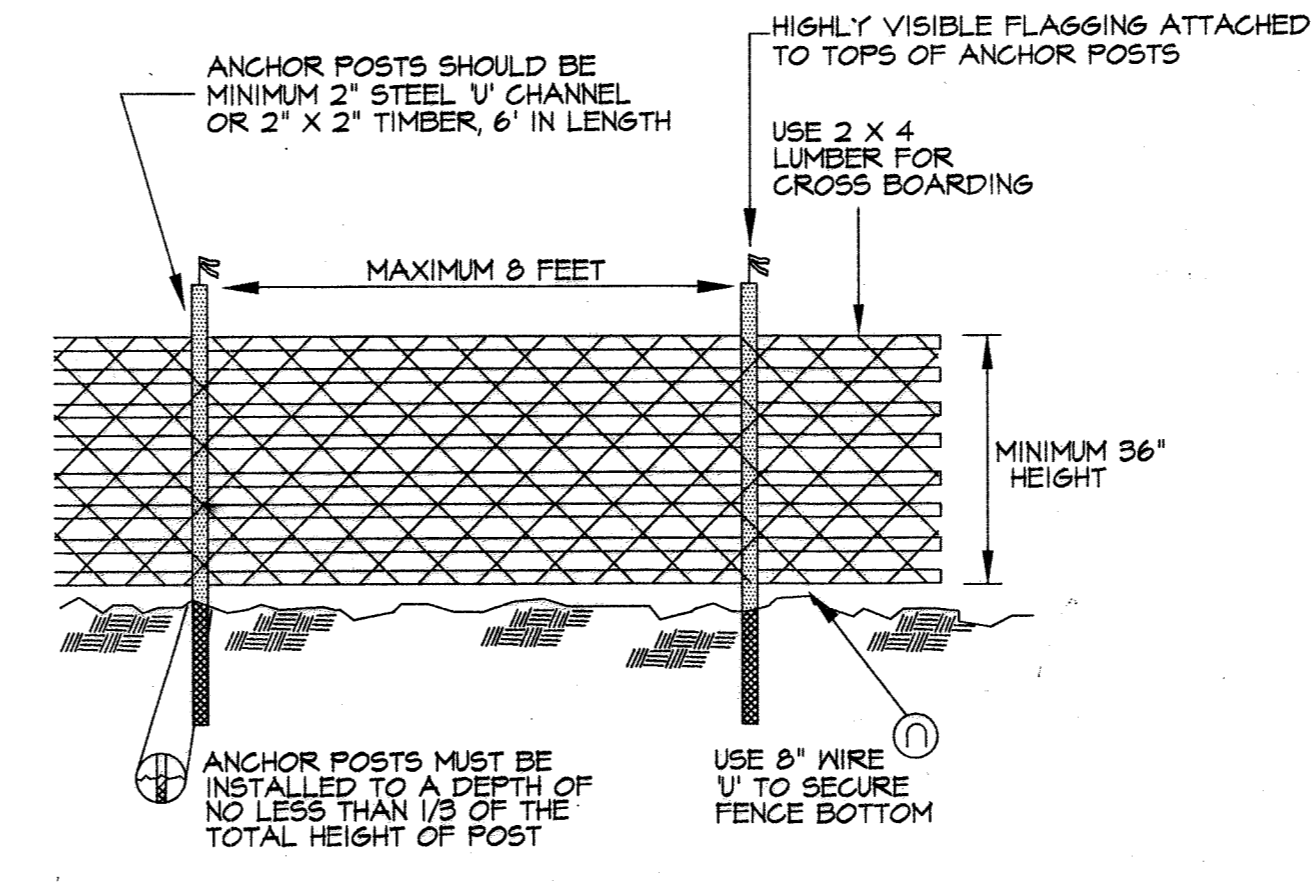
GOALS AND OBJECTIVES

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)

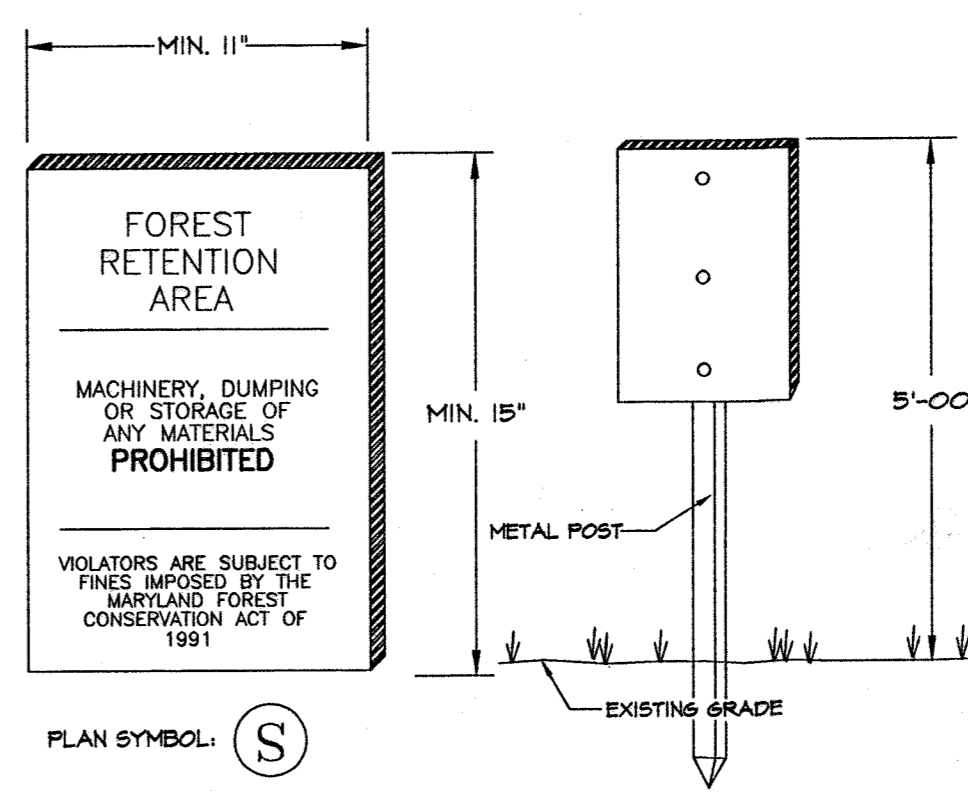
THE GOALS AND OBJECTIVES OF THIS FOREST CONSERVATION PLAN ARE TO PROVIDE FOR SHORT TERM FOREST RETENTION AREA PROTECTION BY IDENTIFYING THOSE AREAS AND INDICATING THE LOCATIONS OF FOREST PROTECTION FENCING AND SIGNAGE, ESTABLISHING THESE SHORT TERM PROTECTION MEASURES PRIOR TO ANY EARTH MOVING ACTIVITIES 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.

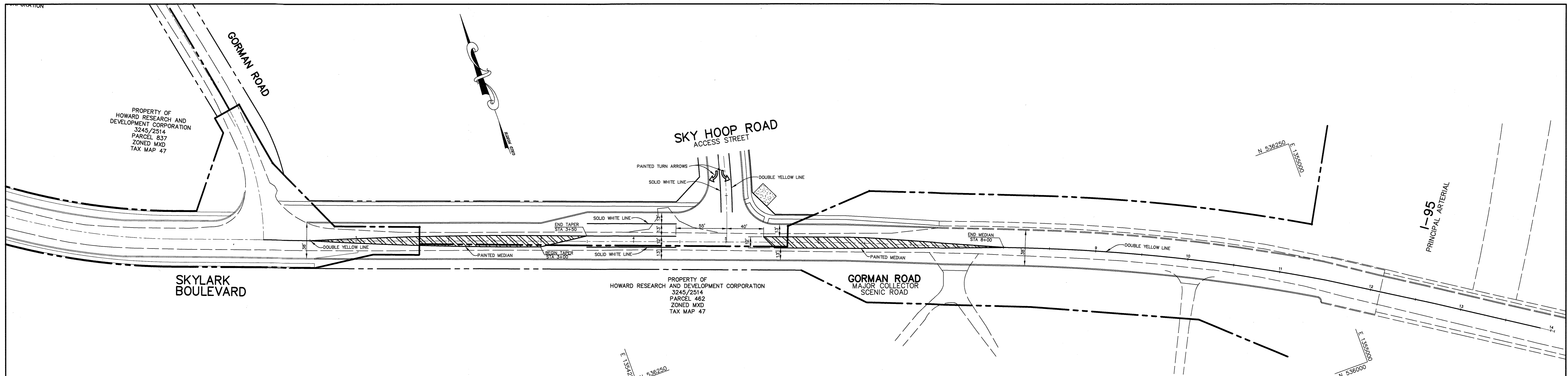


- NOTES:**
- BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY.
 - SUPER SILT FENCE MAY BE SUBSTITUTED FOR TREE PROTECTION FENCING.
 - BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
 - BOUNDARIES OF RETENTION AREA SHOULD 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.

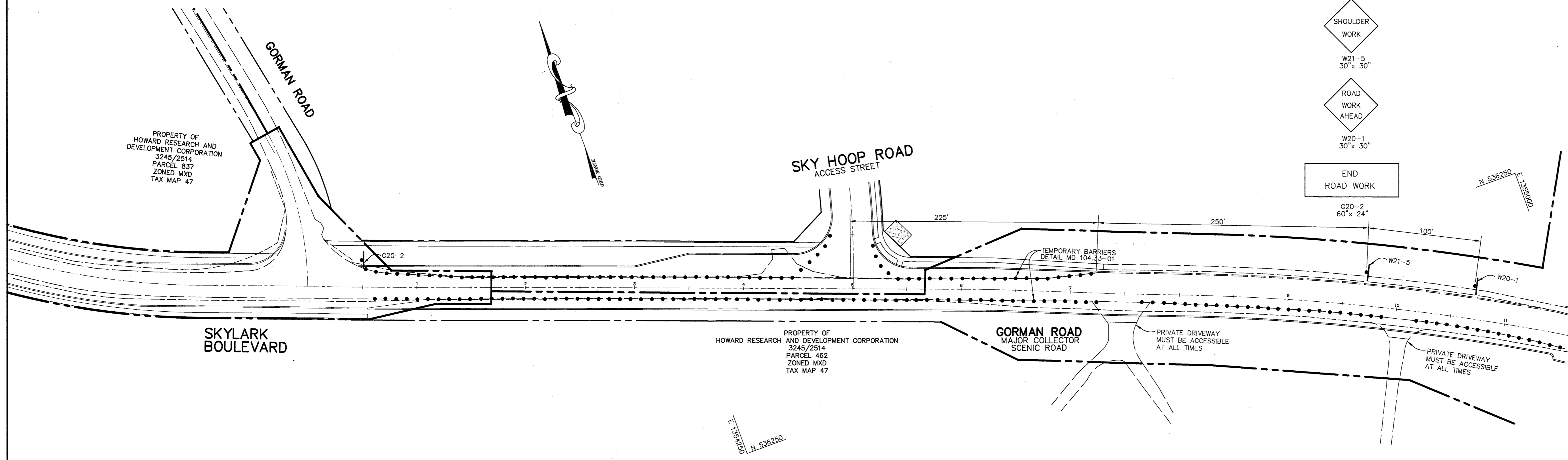


- NOTES:**
- SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
 - SEE PLAN FOR SPACING.
 - SIGNS TO BE PLACED ON METAL POSTS 5' +/- ABOVE FINISH GRADE. PLACE SIGNS EVERY 100' AROUND PERIMETER OF FOREST RETENTION AREA.

| AS BUILT CERTIFICATE | |
|--|--|
| DATE | |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. | |
| <i>Andrew M. Dangle</i> | 7-6-01 |
| CHIEF, BUREAU OF HIGHWAYS | DATE |
| APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | |
| <i>Cindy Hamilton</i> | 7/17/01 |
| CHIEF, DIVISION OF LAND DEVELOPMENT | DATE |
| <i>Mike Dammann</i> | 7/10/01 |
| 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 | 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 |
| | |
| Designed by: CJR Drawn by: DAM Project No: 99212/FINALS Date: June 19, 2001 Scale: AS SHOWN Drawing No. 23 OF 26 | |



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. | <i>Robert M. Rucko</i> 7-6-01 CHIEF, BUREAU OF HIGHWAYS DATE |
| APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING. | <i>Chris Hamner</i> 7/17/01 CHIEF, DIVISION OF LAND DEVELOPMENT DATE |
| | <i>Chris Muegge</i> 7/10/01 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE |
| 7-6-20 | 1 ADDING 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 |

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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 |
|-------------------------------|---------|--|

DETAIL 5.2(a): UTILITY CROSSING

PLAN VIEW
utility pipe access, FILTER BAG, SUMP PIT, flow, stream bed, utility pipe, utility centerline, utility pipe access, limits of disturbance, stream bed, utility pipe, 3-ft (1-m) minimum, bank protection, utility pipe

SECTION A-A
utility pipe, 3-ft (1-m) minimum, utility pipe

SECTION B-B
stream bed, utility pipe

| | | |
|-----------------|---------|--|
| STREAM CROSSING | PAGE 77 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|-----------------|---------|--|

DETAIL 5.2(b): UTILITY CROSSING (Continued)

SECTION VIEW ALTERNATE OPTION 1
Flow, 6 ft (2 m), 15 to 24-in (38 to 61-cm) riprap, cutoff wall, concrete encasement, fabric, 18 in (46 cm)

SECTION VIEW ALTERNATE OPTION 2
12-in (30-cm) riprap, 18 in (46 cm), 6 in (15 cm), compacted fill, washed gravel

| | | |
|-----------------|---------|--|
| STREAM CROSSING | PAGE 78 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|-----------------|---------|--|

STAKE THROUGH CONSTRUCTION FENCE TO RESTRAIN, IF SLOPE IS GREATER THAN 5 PERCENT.
2x2 STAKES, 2.5' MAX, 15', CUT OPEN CORNER OF BAG AND CLAMP ON DEWATERING HOSE

SECTION
STAKE @ 2.5' C.C. TO HOLD ON SLOPES, CONSTRUCTION FENCE FOR RESTRAINT AND AID IN LIFTING USED BAG, 0 TO 10% SLOPE, 5', FILTER FABRIC (GEOTEXTILE F)

NOTES:
1. 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.
2. WIDTH AND LENGTH SHALL BE AS SHOWN.
3. THE FILTER BAG MUST BE STAKED IN PLACE AND SECURED TO THE PUMP DISCHARGE LINE.
4. FILTER BAG SHALL NOT BE USED FOR DISCHARGE FLOWS GREATER THAN 300 GPM.
5. DEVICE SHALL BE REMOVED AND DISPOSED OF AFTER BAG IS FILLED WITH SEDIMENT. SEDIMENT FROM BAG SHALL BE SPREAD IN AN UPLAND AREA.
6. 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 | SCALE: NONE |
| DATE | 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 Sheetting 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.

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| TEMPORARY STREAM DIVERSION | PAGE 7-8 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|----------------------------|----------|--|

DETAIL 2.1: CULVERT PIPE W/ACCESS ROAD

TEMPORARY STREAM
area of disturbance, flow, diversion pipe 24" diameter (min), flow barrier, temporary culvert crossing constructed according to standard detail TAC-1, dewatering basin

PROFILE VIEW
stream bank, area of disturbance, design flow level, diversion pipe 24" diameter (min), flow

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| TEMPORARY STREAM DIVERSION | PAGE 9 | MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION |
|----------------------------|--------|--|

DETAIL 20B - SUMP PIT

CROSS SECTION
CLEAN WATER DISCHARGE, SUCTION LINE TO PUMP, 3" MINIMUM, EXISTING GROUND LINE, STANDPIPE WRAPPED IN 1/2" HARDWARE CLOTH AND GEOTEXTILE CLASS E, SIDE SLOPE (VARIES), 12" - 36" DIAMETER PERFORATED CORRUGATED METAL OR PVC PIPE, WATERTIGHT CAP OR PLATE, CLEAN GRAVEL OR AASHTO M-43 # 57 AGGREGATE FILL, PLACE 12" BASE OF M-43 # 57 STONE BEFORE INSTALLING STANDPIPE.

Construction Specifications
1. Pit dimensions are variable, with the minimum diameter being 2 times the standpipe diameter.
2. 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.
3. 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.
4. 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.

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| 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
AGGREGATE FILL, FILTER CLOTH, MINIMUM 12", HIGH FLOW AREAS, AGGREGATE FILL, FILTER CLOTH, HIGH FLOW AREA, AGGREGATE FILL, FILTER CLOTH, HIGH FLOW AREAS, AGGREGATE FILL, FILTER CLOTH, MULTIPLE PIPES, MULTIPLE PIPES

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| 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.

TEMPORARY STREAM DIVERSION

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

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/SEDDETA.DWG
DATE: JUNE 19, 2001
SCALE: AS SHOWN
DRAWING NO. 25 OF 26

STATE OF MARYLAND
CHRISTOPHER J. REID #19949

REVISIONS

| REV | DATE | COMMENT | DRAWN BY | CHECKED BY |
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Know what's below.
 Call before you dig.
 ALWAYS CALL 811
 It's fast. It's free. It's the law.

THIS DRAWING IS INTENDED FOR MUNICIPAL AND/OR AGENCY REVIEW AND APPROVAL. IT IS NOT DESIGNED AS A CONSTRUCTION DOCUMENT UNLESS INDICATED OTHERWISE.

PROJECT No.: MD142149.5
 DRAWN BY: AVG
 CHECKED BY: BRR
 DATE: 06/17/2020
 CAD I.D.: EX-04

PROJECT:
**ROAD
 CONSTRUCTION
 PLAN - REVISION**
 FOR

EMERSON

SECTION ONE - AREA ONE
 LOTS 1-38 & PARCEL A
 TAX MAP 47 BLK 3, 8 & 9
 ZONED R-ED PARCEL P/O 837
 6TH ELEC. DIST.
 HOWARD COUNTY, MD

BOHLER //

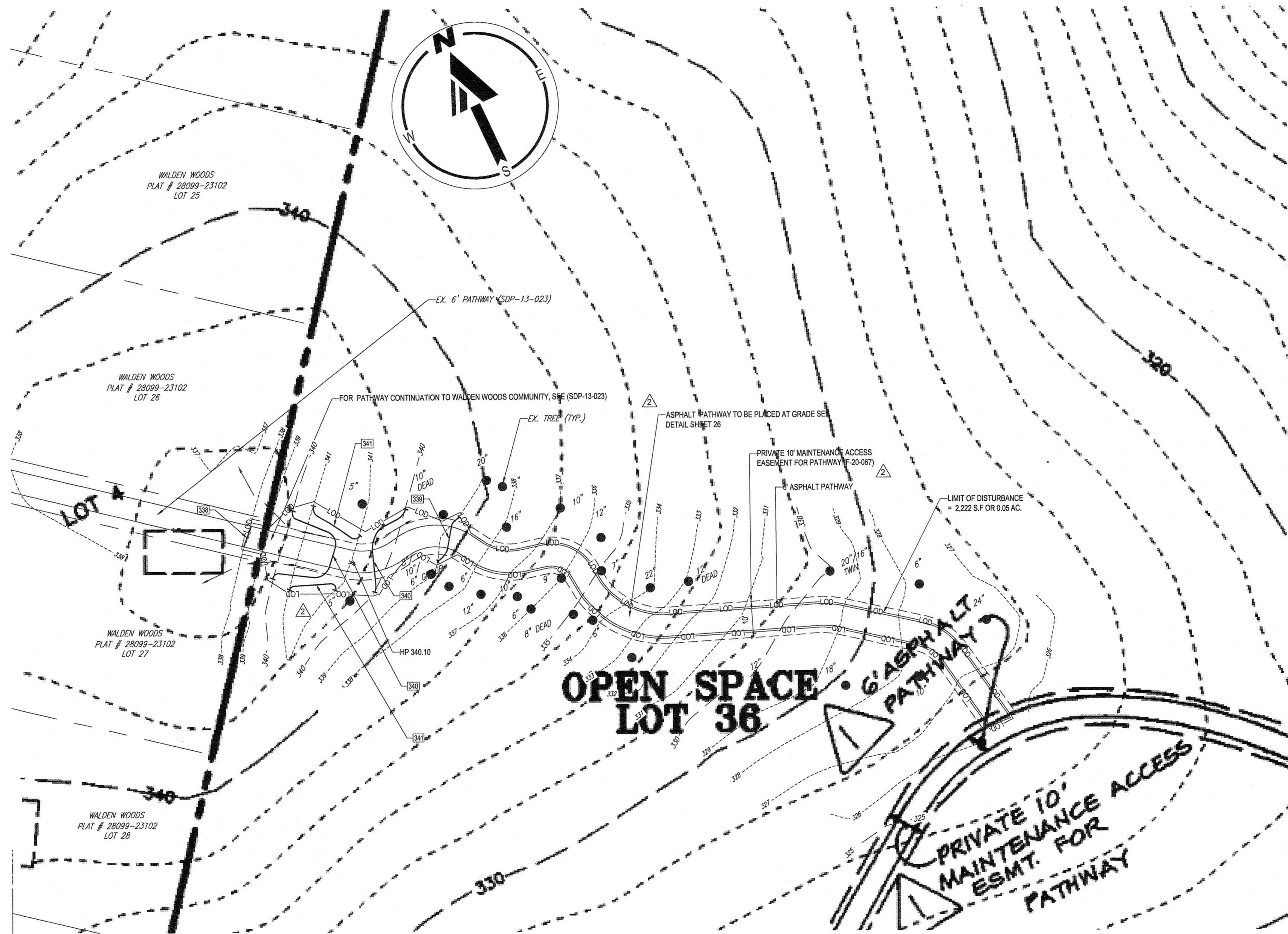
901 DULANEY VALLEY ROAD, SUITE 801
 TOWSON, MARYLAND 21204
 Phone: (410) 821-7900
 Fax: (410) 821-7967
MD@BohlerEng.com

B. R. ROWE
 PROFESSIONAL ENGINEER
 MARYLAND LICENSE NO. 40808
Brandon R. Rowe

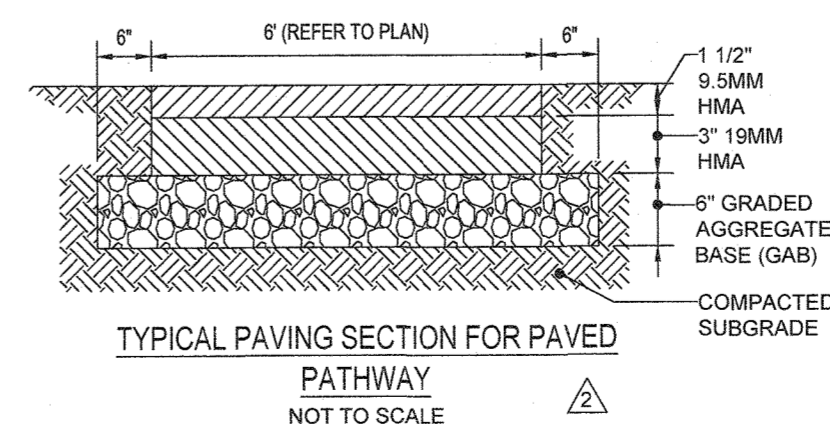
SHEET TITLE:
**PATHWAY
 DETAIL SHEET**
 (ADDITIONAL SHEET)

SHEET NUMBER:
26 OF 26

ORG. DATE - 06/17/2020



INSET PLAN
 SCALE: 1" = 20'



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

APPROVED: DEPARTMENT OF PUBLIC WORKS
[Signature] DATE: 9/16/2020
 CHIEF, BUREAU OF HIGHWAYS MK
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] DATE: 9/28/2020
 CHIEF, DIVISION OF LAND DEVELOPMENT MK
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 9/23/20

PROFESSIONAL CERTIFICATION
 I, BRANDON R. ROWE, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 40808, EXPIRATION DATE: 7/3/2021