ROADWAYS AND STORM DRAINS

CLARKS GLEN NORTH

LOTS 1 - 42

5th ELECTION DISTRICT

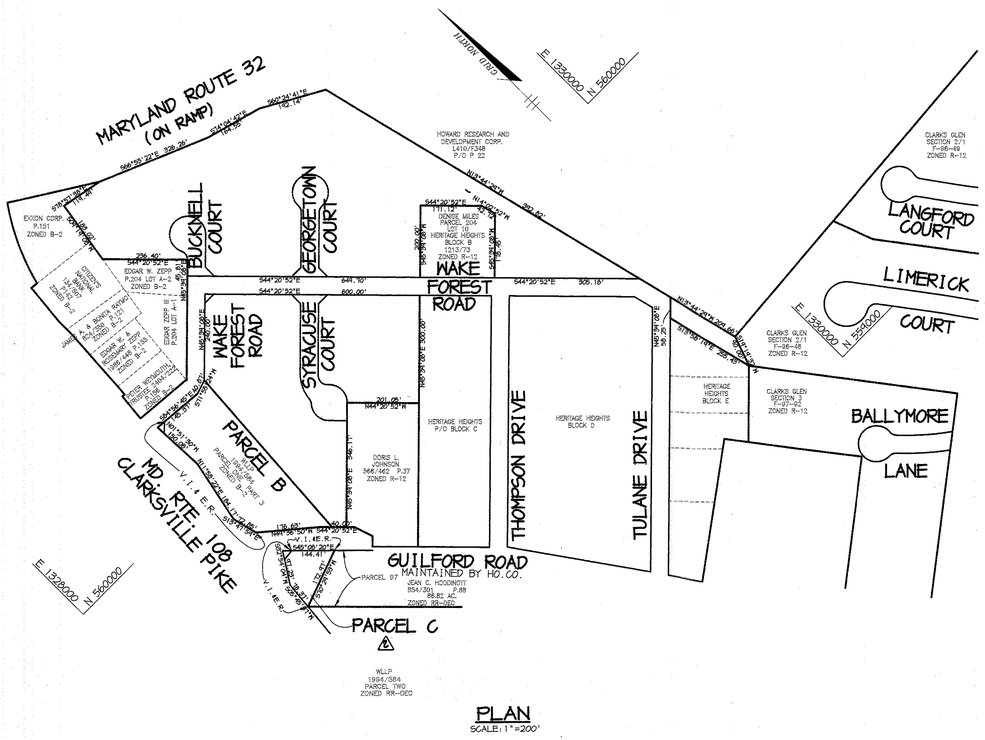
HOWARD COUNTY, MARYLAND

SHEET INDEX

GENERAL NOTES

1. 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.
2. 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.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
4. 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.
5. 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.
6. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL SURVEY MAPS WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY WINGS MAPPING, INC. IN JANUARY 1997.
7. 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. 41 6A AND 41 6C WERE USED FOR THIS PROJECT.
8. WATER IS PUBLIC. CONTRACT NO. 34-3669-D.
9. SEWER IS PUBLIC. SEWER DRAINAGE AREA: MIDDLE PATUXENT CONTRACT NO. 34-3669-D & 30-3718-D
10. THE STORMWATER MANAGEMENT FOR THIS SITE IS TO BE PROVIDED WITHIN AN EXISTING MSHA FACILITY VIA AN AGREEMENT BETWEEN THE DEVELOPER AND MSHA.
11. 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.
12. THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED NOVEMBER 1996.
13. THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC. DATED MARCH 1997.
14. THE NOISE STUDY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED MAY 1998.
15. THE BOUNDARY SURVEY FOR THIS PROJECT WAS PREPARED BY RIEMER MUEGGE & ASSOCIATES DATED JULY 1997.
16. SUBJECT PROPERTY ZONED R-12, B-2 & RR-DEO PER 10-18-93 COMPREHENSIVE ZONING PLAN.
17. ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
18. SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S.: S-97-15, P-98-20.
19. THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
20. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
21. 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.
22. NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
23. ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME I OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
24. ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
25. ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
26. 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, LATEST AMENDMENTS.
27. PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
28. DESIGNED TRAFFIC SPEED IN ACCORDANCE WITH THE AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIAL STANDARD:
    ALL 50' RIGHT OF WAYS 25 AND 30 M.P.H.
29. ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T180.
30. ALL STREET CURB RETURNS SHALL HAVE 25' RADII UNLESS OTHERWISE NOTED.
31. ALL STREET LIGHTS SHALL BE LOCATED BETWEEN 2'-0" AND 4'-0" BEHIND FACE OF CURB.
32. STREET TREES (34) 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 TREES MAY VARY TO ACCOMODATE 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.



PLAN

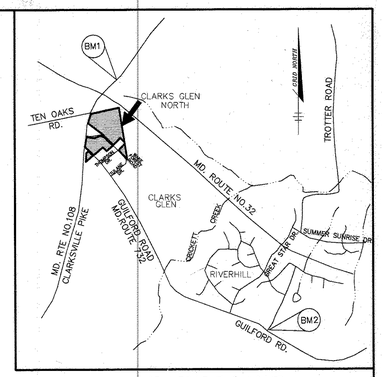
SCALE: 1"=200'

NOTE: NO ROADS WILL BE CLOSED EITHER TEMPORARILY OR LONG TERM DURING THE CONSTRUCTION OF THIS PROJECT.

DRIVEWAY CULVERT CHART

LOT NO.	PIPE SIZE
18	12"
19	12"
20	12"

* TO BE INSTALLED UNDER SDP



VICINITY MAP

SCALE : 1" = 2000'

BENCHMARKS

BM#1
HOWARD COUNTY SURVEY CONTROL STATION: 416C
N 543,260.643 E 1,331,691.895

BM#2
HOWARD COUNTY SURVEY CONTROL STATION: 416A
N 541,399.046 E 1,333,808.252

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
6/07/17	4	REMOVE POE FROM PARCEL 'C'
8-13-99	1	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT CLARKS GLEN NORTH
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 41 AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-40) & RESIDUE OF LIBER 1994 FOLIO 384

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE TITLE SHEET

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND ARTHUR E. MUEGGE JR. NO. 8707 REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

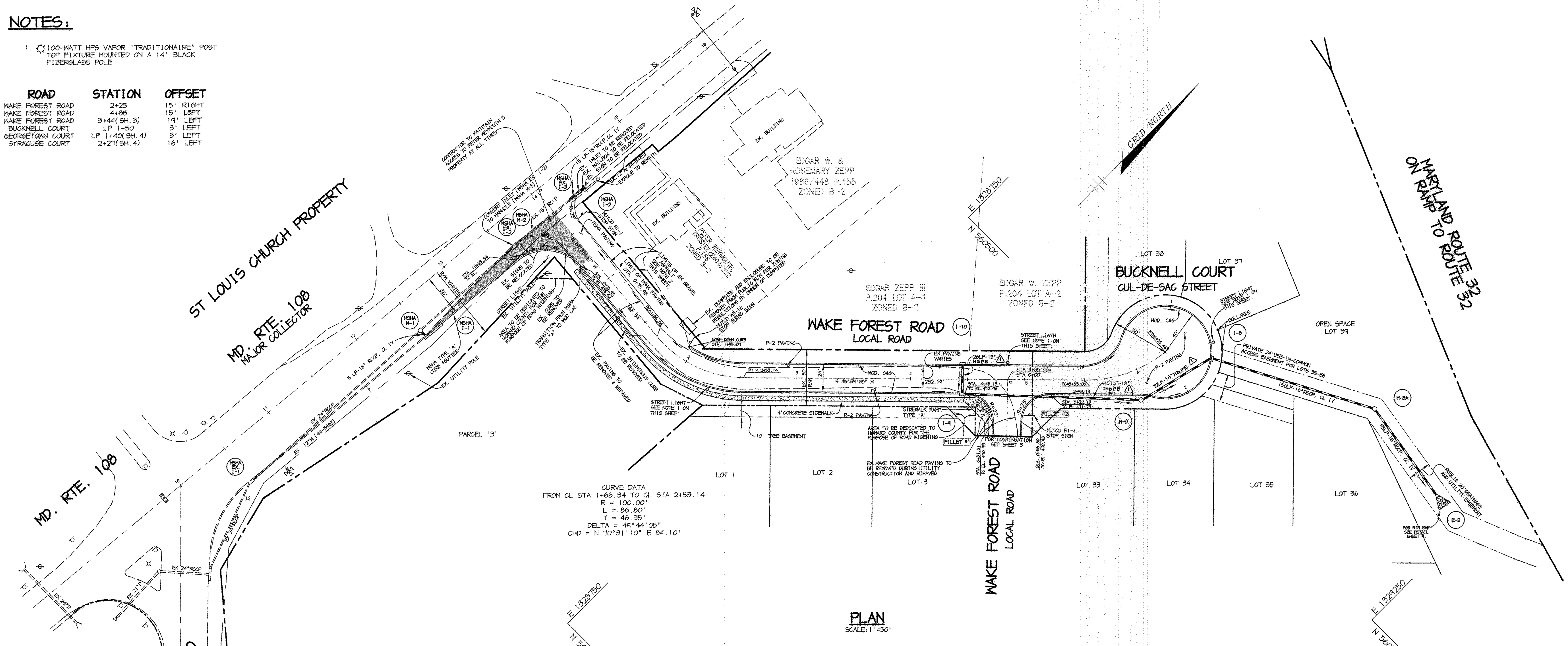
DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO	97016/FINALS \RD1.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	1 OF 15

F-99-52

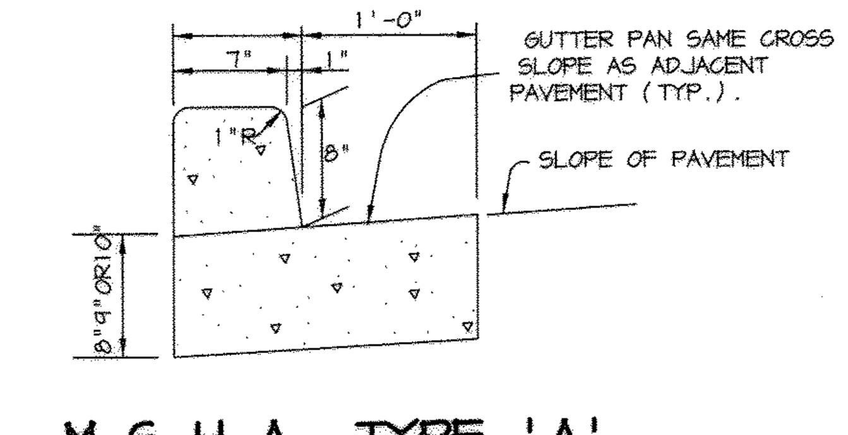
NOTES:

1. ☼ 100-WATT HPS VAPOR "TRADITIONAIRE" POST TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE.

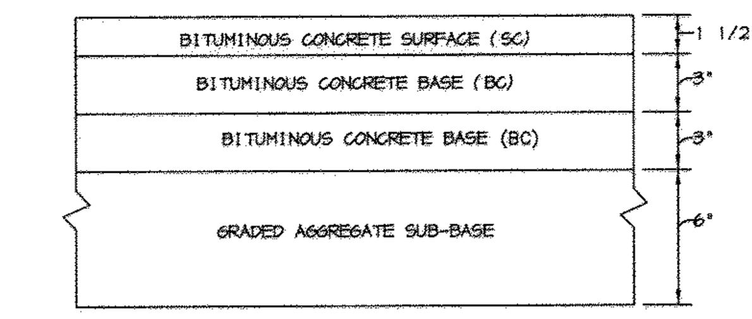
ROAD	STATION	OFFSET
WAKE FOREST ROAD	2+25	15' RIGHT
WAKE FOREST ROAD	4+85	15' LEFT
WAKE FOREST ROAD	3+44(SH.3)	19' LEFT
BUCKNELL COURT	LP 1+50	3' LEFT
GEORGETOWN COURT	LP 1+40(SH.4)	3' LEFT
SYRACUSE COURT	2+27(SH.4)	16' LEFT



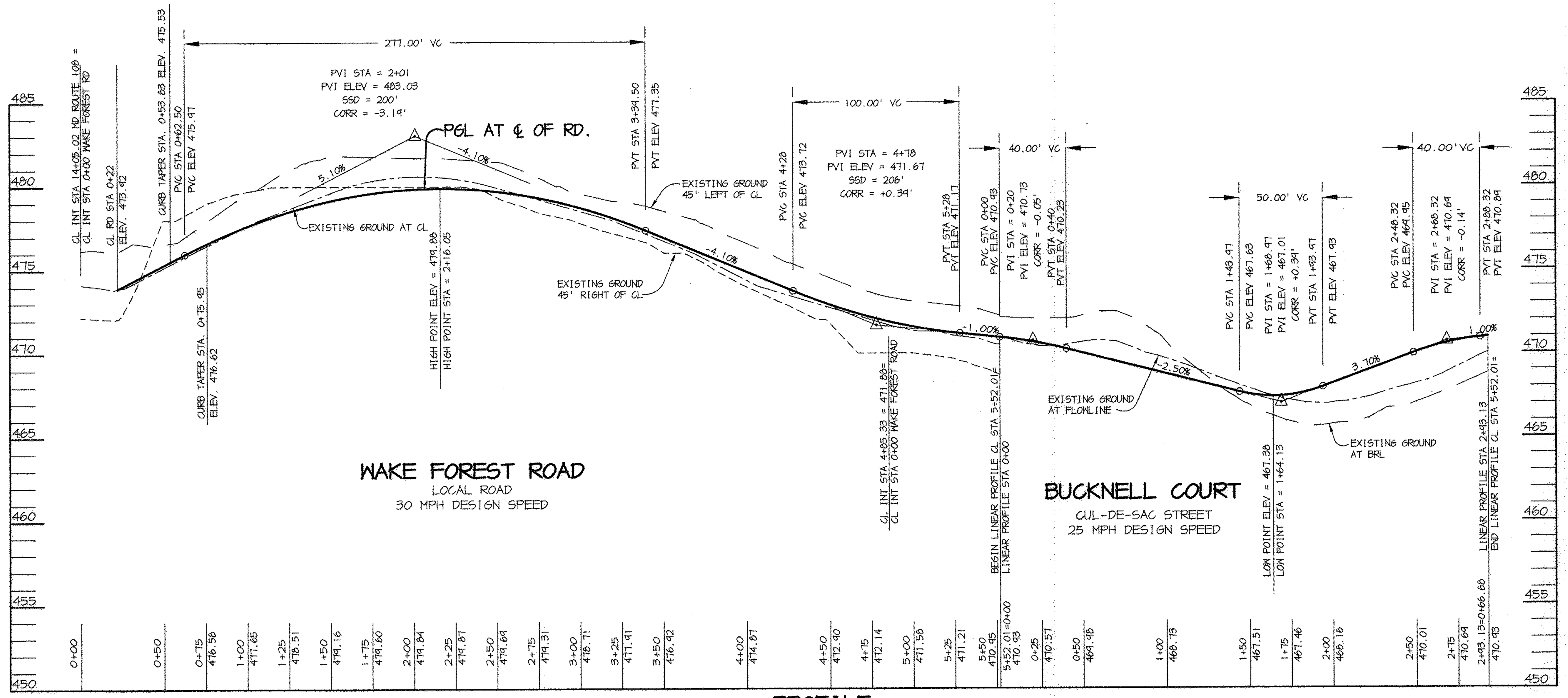
PLAN
SCALE: 1"=50'



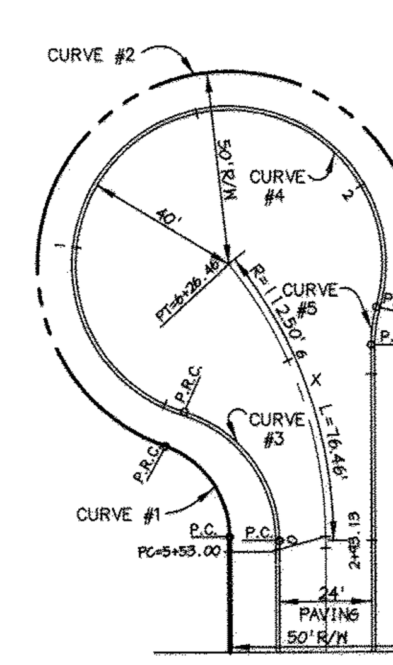
M.S.H.A. TYPE 'A' CURB AND GUTTER
NO SCALE



M.S.H.A. PAVING SECTION
NO SCALE

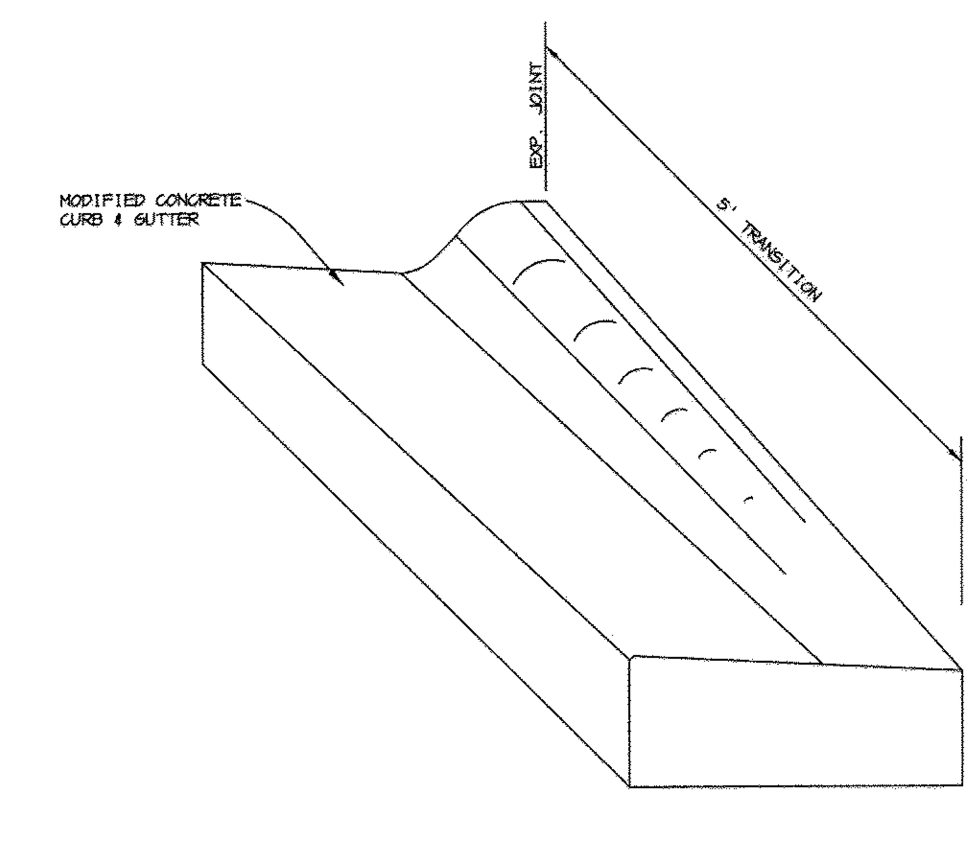


PROFILE
SCALE: HOR. 1"=50' VERT. 1"=5'



CURVE DATA					
RESIDENTIAL (24' APPROACH) X=77.45', L.P.=293.13'					
	CURVE 1	2	3	4	5
Δ	70°31'44"	250°31'44"	72°56'33"	269°12'09"	16°15'37"
R	25.00'	50.00'	35.00'	40.00'	35.00'
L	30.77'	218.63'	44.46'	187.94'	9.93'
T	17.68'	70.71'	25.87'	40.56'	5.00'
L.C.	28.87'	86.65'	41.61'	56.96'	9.90'

CUL-DE-SAC DETAIL BUCKNELL COURT
NO SCALE



NOSE DOWN CURB DETAIL
NO SCALE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.
CHIEF, BUREAU OF HIGHWAYS 3-26-99 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
CHIEF, DIVISION OF LAND DEVELOPMENT 5/4/99 DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION 5/4/99 DATE

DATE	NO.	REVISION
8.13.99	1	ADDED SHEET 15 / REVISED TYPE OF STORM DRAINAGE TO HDPE

OWNER / DEVELOPER
WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 9) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1994 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

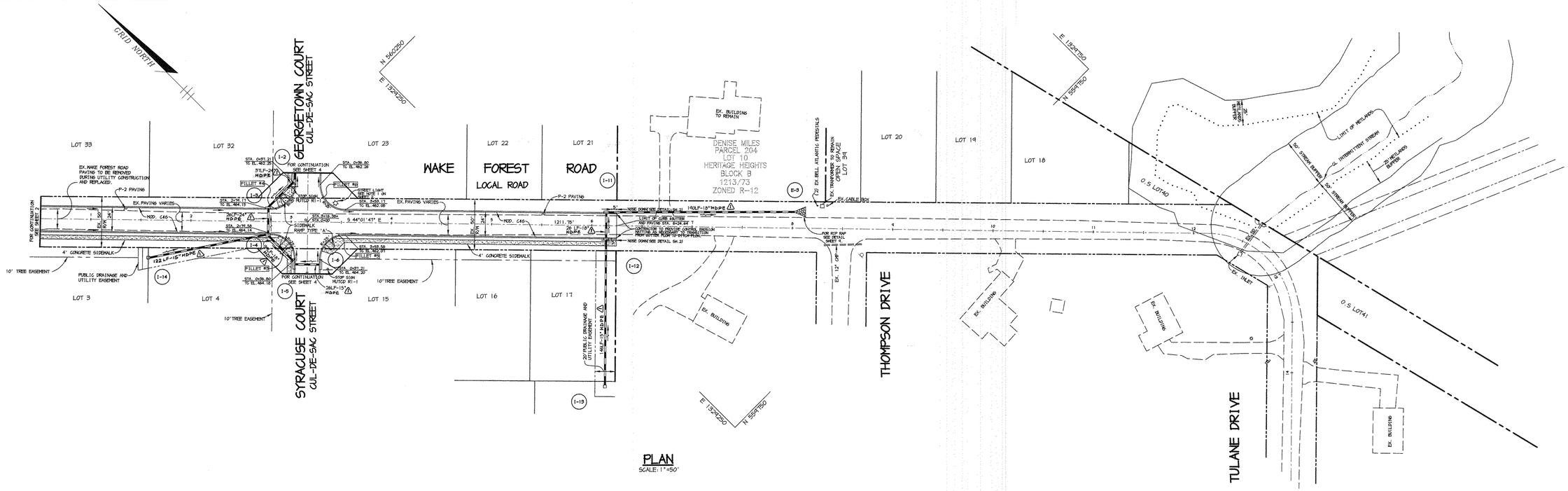
TITLE **PLAN AND PROFILE**
WAKE FOREST ROAD & BUCKNELL COURT

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

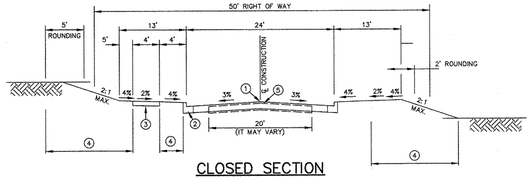
DATE
STATE OF MARYLAND — ARTHUR E. MUEGGE III — NO. 8707 REGISTERED PROFESSIONAL ENGINEER
ARTHUR E. MUEGGE #8707

DESIGNED BY : CJR
DRAWN BY: DAM
PROJECT NO : 97016/FINALS RD2.DWG
DATE : MARCH 11, 1999
SCALE : AS SHOWN
DRAWING NO. 2 OF 15 ⚠1

F-99-52



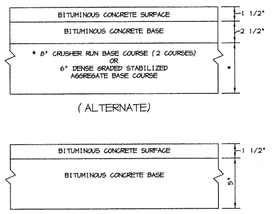
PLAN
SCALE: 1"=50'



CLOSED SECTION

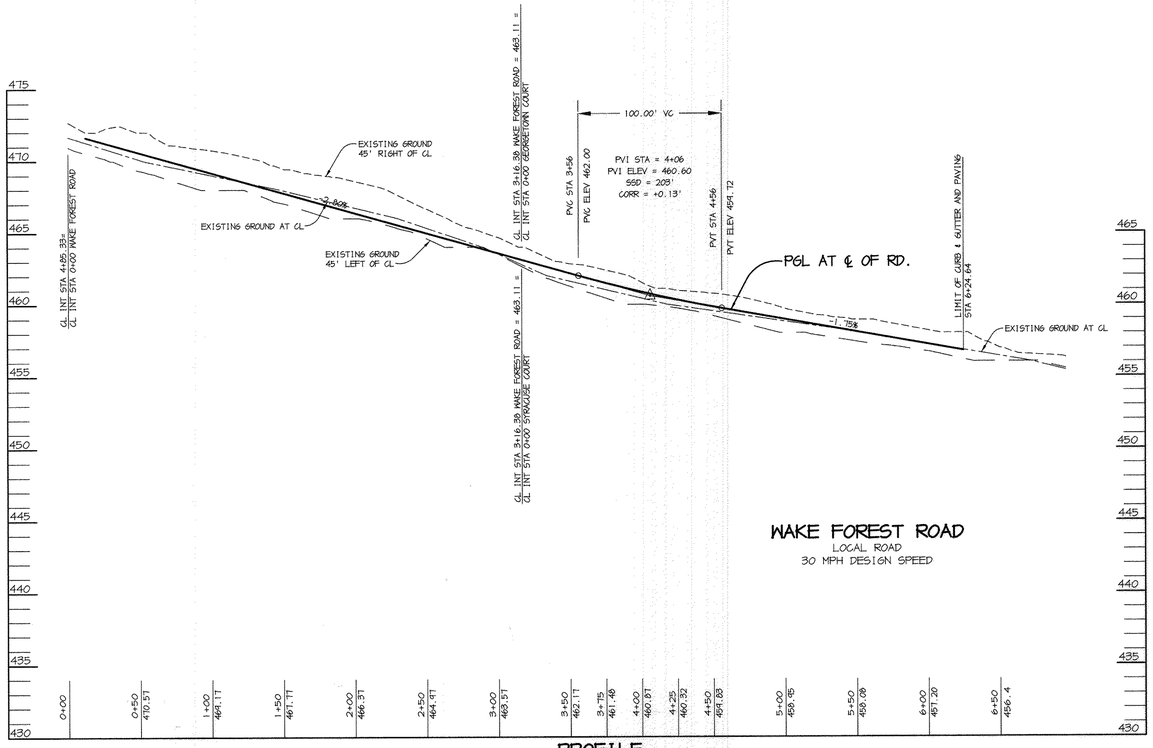
TYPICAL SECTION LOCAL ROAD
NO SCALE

WAKE FOREST ROAD FROM STA. 0+75.95 TO 4+48.13
WAKE FOREST ROAD FROM STA. 0+36.80 TO 2+79.17
WAKE FOREST ROAD FROM STA. 3+53.17 TO 6+24.64



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

P-2 PAVING
NO SCALE



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

WAKE FOREST ROAD
LOCAL ROAD
30 MPH DESIGN SPEED

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8-13-99	⚠	ADDED SHEET 15 REVISED TYPE OF STORM DRAINAGE TO HDPE

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-8, 41) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1494 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **PLAN AND PROFILE WAKE FOREST ROAD**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

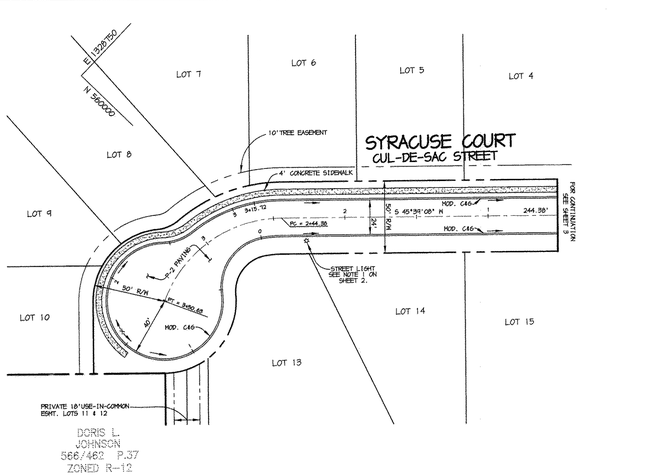
STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

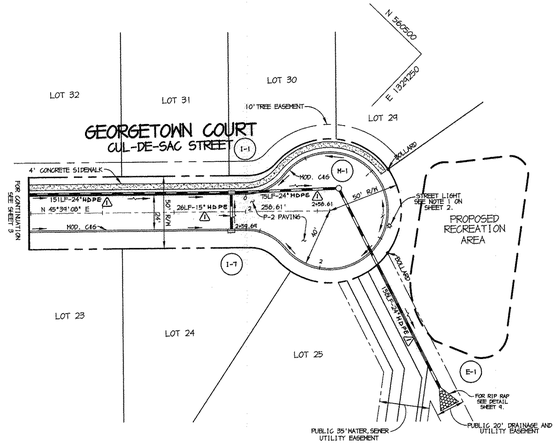
ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO :	97016/FINALS RD3.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	3 OF 15 ⚠

F-99-52

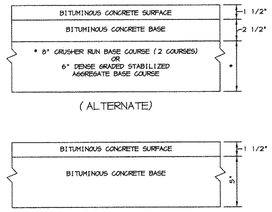
M:\PROJECT\97016\FINALS\RD3 Thu Mar 11 08:08:40 1999 RIEMER MUEGGE & ASSOCIATES, INC.





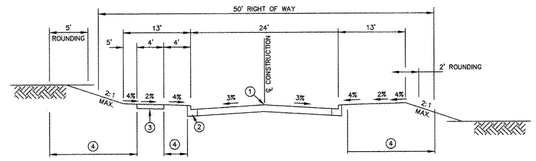
GRID NORTH

PLAN
SCALE: 1"=50'



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

P-2 PAVING
NO SCALE

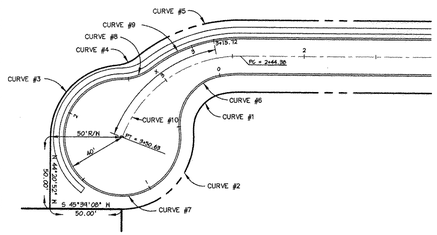


CLOSED SECTION

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

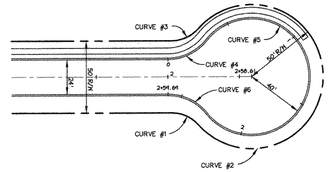
TYPICAL SECTION CUL-DE-SAC STREET
NO SCALE

BUCKNELL COURT FROM STA. 5+22.13 TO STA. 5+52.01
GEORGETOWN COURT FROM STA. 0+36.80 TO STA. 2+00.17
SYRACUSE COURT FROM STA. 0+36.80 TO STA. 2+61.00



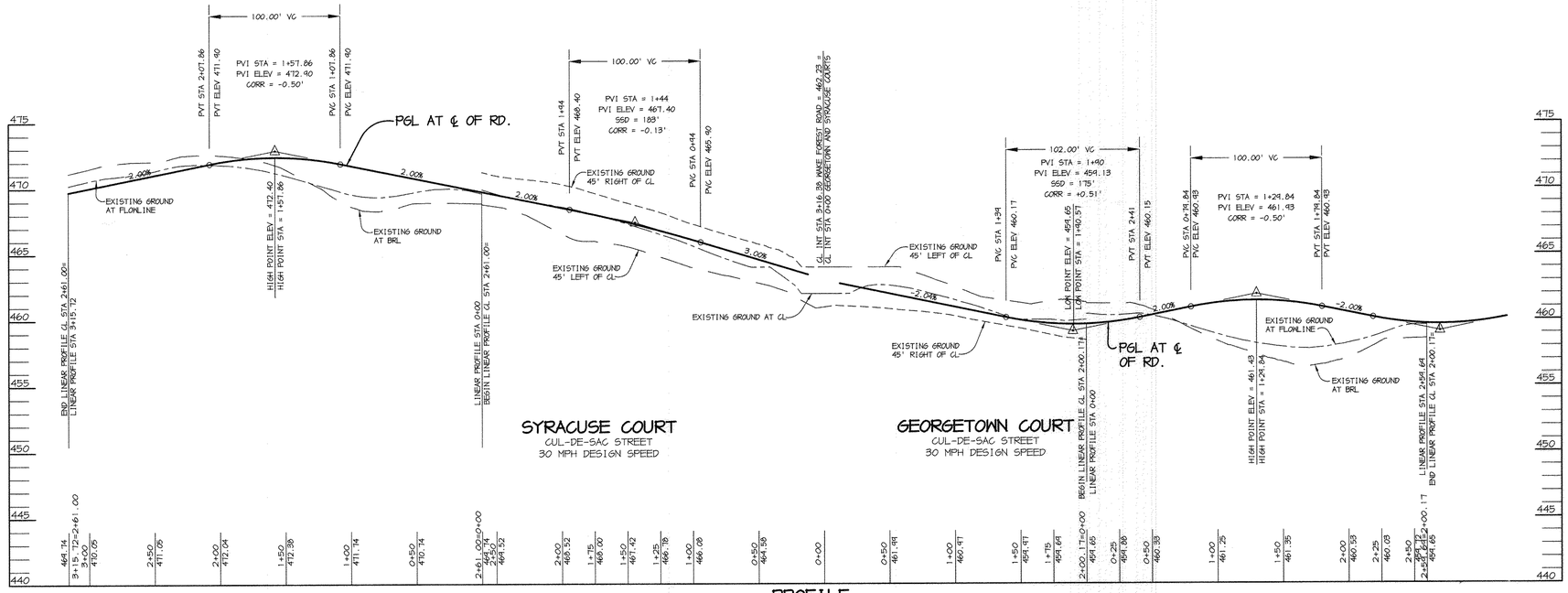
CURVE DATA										
RESIDENTIAL (24' APPROACH) X=89.63', LP=315.72'										
	CURVE 1	2	3	4	5	6	7	8	9	10
Δ	83°25'59"	94°41'17"	85°11'11"	35°07'18"	39°56'06"	86°08'05"	276°03'24"	37°16'40"	27°21'21"	69°23'56"
R	25.00'	50.00'	50.00'	25.00'	112.72'	35.00'	40.00'	35.00'	99.72'	87.72'
L	36.40'	82.63'	74.34'	15.32'	78.57'	52.62'	192.72'	22.77'	47.61'	106.25'
T	22.29'	54.27'	45.97'	7.91'	40.95'	32.72'	35.98'	11.81'	24.27'	60.74'
LC	33.27'	73.59'	67.69'	15.09'	76.99'	47.80'	53.50'	22.37'	47.16'	99.87'

CUL-DE-SAC DETAIL SYRACUSE COURT
NO SCALE



CURVE DATA						
RESIDENTIAL (24' APPROACH) X=64.06', LP=259.69'						
	CURVE 1	2	3	4	5	6
Δ	48°11'23"	276°22'46"	48°11'23"	51°11'43"	282°23'27"	51°11'43"
R	25.00'	50.00'	25.00'	35.00'	40.00'	35.00'
L	21.03'	241.19'	21.03'	31.27'	197.15'	31.27'
T	11.18'	44.72'	11.18'	16.77'	32.13'	16.77'
LC	20.41'	68.67'	20.41'	30.24'	50.13'	30.24'

CUL-DE-SAC DETAIL GEORGETOWN COURT
NO SCALE



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

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8-13-99	1	ADDED SHEET 15 REVISED TYPE OF STORM DRAINAGE TO HDPE

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 41 AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1444 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **PLAN AND PROFILE**
SYRACUSE COURT AND GEORGETOWN COURT

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO :	97016/FINALS RD4.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	4 OF 15

F-99-52

M:\PROJECTS\97016\FINALS\RD4 Thu Mar 11 08:09:29 1999 RIEMER MUEGGE & ASSOCIATES, INC.

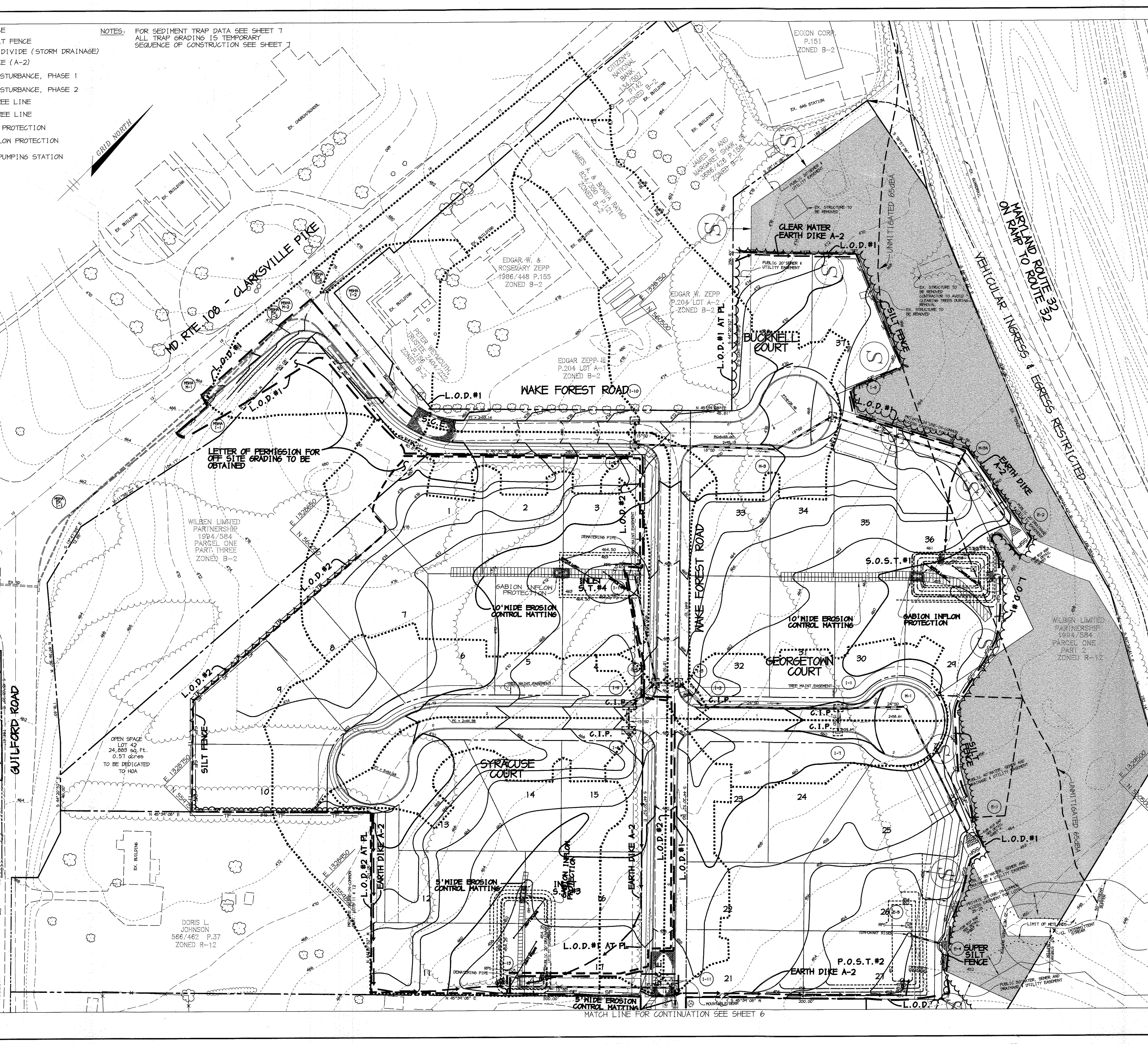
LEGEND

- SILT FENCE
- SUPER SILT FENCE
- DRAINAGE DIVIDE (STORM DRAINAGE)
- EARTH DIKE (A-2)
- L.O.D.#1 — LIMIT OF DISTURBANCE, PHASE 1
- L.O.D.#2 — LIMIT OF DISTURBANCE, PHASE 2
- PROPOSED TREE LINE
- EXISTING TREE LINE
- C.I.P. — CURB INLET PROTECTION
- GABION INFLOW PROTECTION
- RPS — REMOVABLE PUMPING STATION

NOTES: FOR SEDIMENT TRAP DATA SEE SHEET 7
ALL TRAP GRADING IS TEMPORARY
SEQUENCE OF CONSTRUCTION SEE SHEET 7

INLET DRAINAGE AREA DATA

INLET NO.	AREA SIZE	"C" FACTOR	% IMP.
1	0.48 AC.	0.50	27 %
2	0.03 AC.	0.69	66 %
3	0.16 AC.	0.61	50 %
4	0.22 AC.	0.63	55 %
5	0.91 AC.	0.45	18 %
6	0.45 AC.	0.53	33 %
7	0.37 AC.	0.52	32 %
8	1.50 AC.	0.43	13 %
9	0.32 AC.	0.50	28 %
11	1.01 AC.	0.40	9 %
10	0.38 AC.	0.48	23 %
12	0.50 AC.	0.52	32 %
13	1.61 AC.	0.46	20%
14	1.62 AC.	0.46	20%



FOREST CONSERVATION LEGEND

- REFORESTATION/AFFORESTATION EASEMENT AREA
- FOREST CONSERVATION EASEMENT (RETENTION)
- TREE PROTECTION SIGNAGE
- TREE PROTECTION FENCE SEE NOTES & DETAILS SH. 13

BY THE DEVELOPER :

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

DEVELOPER — 3.11.99 DATE

BY THE ENGINEER :

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

ENGINEER — 3.11.99 DATE

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

NATURAL RESOURCES CONSERVATION SERVICE — 3/23/99 DATE

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

HOWARD SOIL CONSERVATION DISTRICT — 3/23/99 DATE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — 3-26-99 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — 4/4/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 5/4/99 DATE

DATE	NO.	REVISION
6/27/17	2	REMOVE FCE FROM PARCEL 'C'
8.13.99	1	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 9) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1994 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **GRADING & SEDIMENT CONTROL PLAN, DRAINAGE AREA MAP AND SOILS MAP**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE III — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO :	97016/FINALS RD5.DWG
DATE :	MARCH 11, 1999
SCALE :	1"=50'
DRAWING NO.	5 OF 15

F-99-52

M:\PROJECT\97016\FINALS\RD5 Thu Mar 11 08:11:02 1999 RIEMER MUEGGE & ASSOCIATES, INC.

MATCH LINE FOR CONTINUATION SEE SHEET 5

GRID NORTH

THOMPSON DRIVE

GUILFORD ROAD

WAKE FOREST ROAD

TULANE DRIVE

HERITAGE HEIGHTS P/O BLOCK C

HERITAGE HEIGHTS BLOCK D

HERITAGE HEIGHTS BLOCK E

DENISE MAGES PARCEL 204 LOT 10 HERITAGE HEIGHTS /BLOCK B 1213/73 ZONED R-12

HOWARD RESEARCH AND DEVELOPMENT CORP. L410/F348 P/O P 22 (FUTURE PARK LAND)

CLARKS GLEN SECTION 2 F-87-92 ZONED R-12

CLARKS GLEN SECTION 2 F-88-66 ZONED R-12

CONTRACTOR TO REPLACE /REPAIR ALL EXISTING DRIVES IN KIND

UTILITY TRENCH EXCAVATION TO BE STOCKPILED ON UPHILL SIDE OF TRENCH

L.O.D.#1

CLEAR WATER EARTH DIKE A-2

5' WIDE EROSION CONTROL MATTING

AREA TO BE GLEANED DURING SOIL PHASE THEN REFORESTED

OPEN SPACE LOT TO BE DEEDED TO RECREATION AND PARKS

25' WETLANDS BUFFER

25' STREAM BUFFER

25' INTERMITTENT STREAM

LIMIT OF WETLANDS

SEE MATCH LINE SEE SHEET 9

LEGEND

- SILT FENCE
- SUPER SILT FENCE
- DRAINAGE DIVIDE (STORM DRAINAGE)
- EARTH DIKE (A-2)
- LIMIT OF DISTURBANCE 1
- PROPOSED TREE LINE
- EXISTING TREE LINE
- C.I.P. CURB INLET PROTECTION

DRAINAGE SUMMARY TO POINT 'A' THOMPSON DRIVE/WAKE FOREST ROAD

EXISTING DRAINAGE AREA	PROPOSED DRAINAGE AREA	EXISTING Q2	PROPOSED Q2
10.3 ACRES	4.50 ACRES	11.5 CFS	5.89 CFS

FOREST CONSERVATION LEGEND

- REFORESTATION/AFFORESTATION EASEMENT AREA
- FOREST CONSERVATION EASEMENT (RETENTION)
- TREE PROTECTION SIGNAGE (S) (SR)
- TREE PROTECTION FENCE SEE NOTES & DETAILS SH. 13 TF

BY THE DEVELOPER :

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

DEVELOPER — DATE 3.11.99

BY THE ENGINEER :

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

ENGINEER — DATE 3.11.99

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/23/99

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/23/99

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8.13.99	⚠	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 41, AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-67 & RESIDUE OF LIBER 1994 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **GRADING & SEDIMENT CONTROL PLAN, DRAINAGE AREA MAP AND SOILS MAP**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE NO. 8707 — PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

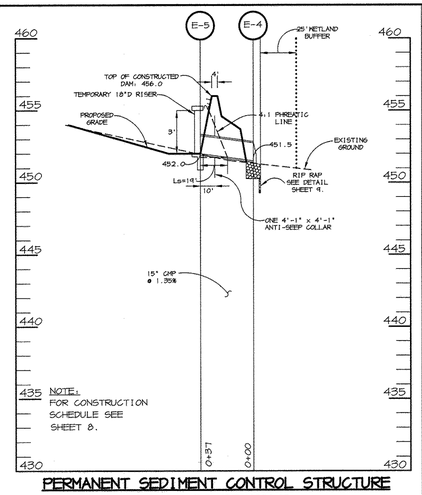
DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO :	97016/FINALS RD6.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	6 OF 15 ⚠

F-99-52

M:\PROJECT\97016\FINALS\RD6 Thu Mar 11 08:13:09 1999 RIEMER MUEGGE & ASSOCIATES, INC.

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2A. INSTAL TREE PROTECTION FENCE. SIMULTANEOUSLY BEGIN SEWER OUTFALL CONSTRUCTION AT CLARKS GLEN 2/2 SUBDIVISION THRU HOWARD RESEARCH AND DEVELOPMENT CORPORATION PROPERTY UP THRU EXTENT OF EXISTING WAKE FOREST ROAD. CONSTRUCT WATER MAIN IN TULANE DRIVE AND WAKE FOREST ROAD UP TO EXTENT OF WAKE FOREST ROAD. CONTRACTOR TO STOCKPILE ALL TRENCH EXCAVATION MATERIAL ON UPHILL SIDE OF TRENCH AND LIMIT TRENCH EXCAVATION TO THREE PIPE LENGTHS OR THAT WHICH CAN BE FILLED IN BY THE END OF THE WORKING DAY (4 WEEKS).
2B. INSTALL STABILIZED CONSTRUCTION ENTRANCE, STONE OUTLET TRAP #1 PIPE OUTLET TRAP #2, SILT FENCE, SUPER SILT FENCE, TREE PROTECTION FENCE AND EARTH DIKE ON NORTH SIDE OF WAKE FOREST ROAD (5 DAYS).
3. UPON PERMISSION OF HO.CO.DILP, SEDIMENT CONTROL INSPECTOR BEGIN GRADING NORTH SIDE OF WAKE FOREST ROAD. **L.O.D #1**
3A. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS PROVIDED ON SHEET 14.
4. INSTALL STORM DRAIN FROM E-1 TO I-14 AND E-3 TO I-13 WITH INLET PROTECTION AS SUBGRADES ARE REACHED (10 DAYS).
5. INSTALL INLET SEDIMENT TRAPS 3+4 AT INLETS I-13 AND I-14, SILT FENCE, EARTH DIKE, STABILIZED CONSTRUCTION ENTRANCE FOR SOUTH SIDE OF WAKE FOREST ROAD (5 DAYS).
6. UPON PERMISSION OF HO.CO.DILP, SEDIMENT CONTROL BEGIN GRADING OF SOUTH SIDE OF WAKE FOREST ROAD. **L.O.D. #2**
6A. CONTRACTOR TO FOLLOW DUST CONTROL SPECIFICATIONS PROVIDED ON SHEET 14.
7. UPON REACHING SUBGRADE ELEVATION COMPLETE STORM DRAINS, SEWER AND WATER CONSTRUCTION. PERFORM WIDENING OF ROUTE 108 AND CONSTRUCTION ALONG EX. WAKE FOREST ROAD. CONTRACTOR TO MAINTAIN ACCESS TO PETER WEYMOUTH PROPERTY AT ALL TIMES, USING TRAFFIC CONTROL DEVICES. (4 WEEKS)
8. INSTALL CURB AND GUTTER THEN PAVE (4 WEEKS).
9. INSTALL SIDEWALK, STREET TREE, STREET LIGHTS, LANDSCAPING AND FOREST PLANTINGS. INSTALL FENCING AND SIGNING ALONG FOREST CONSERVATION AREAS (3 WEEKS).
10. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES (3 DAYS).
11. UPON COMPLETION OF HOUSE CONSTRUCTION UNDER FUTURE SDP AND STABILIZATION OF LOTS 21-25, AND WITH PERMISSION OF HO.CO.DILP SEDIMENT CONTROL INSPECTOR REMOVE PIPE OUTLET TRAP #2, INSTALL PERMANENT DRIVEWAY CULVERT AND BEGIN HOUSE CONSTRUCTION OF LOTS 26-28 USING SUPER SILT FENCE AS CONTROL MEASURE. ALL OTHER TRAPS AND CONTROLS TO BE REMOVED UPON PERMISSION OF HO.CO.DILP INSPECTOR UPON COMPLETION OF HOUSE CONSTRUCTION.
12. STABILIZE ALL REMAINING DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES.



PERMANENT SEDIMENT CONTROL STRUCTURE POST #2 PROFILE

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

STONE OUTLET SEDIMENT TRAP #1

DRAINAGE AREA	1.54 ACRES (POST)	1.94 ACRES (PRE)
STORAGE REQUIRED	6984 CUBIC FEET =3492 DRY+3492 WET	
WET STORAGE PROVIDED	6352 CF @ 458.0	
DRY STORAGE PROVIDED	6352 CF @ 461.0	
TOP OF DAM	461.0	
TOP OF WEIR	460.0	
WEIR LENGTH	10'	
BOTTOM ELEVATION	455.0	
BOTTOM DIMENSION	25' x 62'	
CLEANOUT ELEVATION	456.5	
SIDE SLOPES	2:1	

PIPE OUTLET SEDIMENT TRAP #2

DRAINAGE AREA	1.22 ACRES (POST)	1.80 ACRES (PRE)
STORAGE REQUIRED	6480 CUBIC FEET=3240 DRY+3240 WET	
WET STORAGE PROVIDED	3550 CF @ 453.6	
DRY STORAGE PROVIDED	3550 CF @ 455.0	
TOP OF DAM	456.0	
18'Ø RISER CREST	455.0	
BOTTOM ELEVATION	452.0	
BOTTOM DIMENSION	22.5' x 80'	
CLEANOUT ELEVATION	452.75	
SIDE SLOPES	2:1	

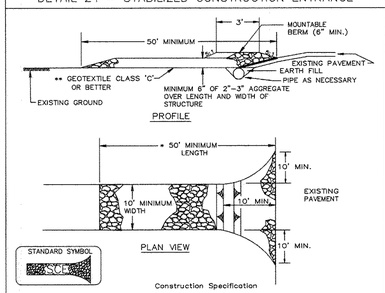
INLET SEDIMENT TRAP #3

DRAINAGE AREA	1.51 ACRES (POST)	1.60 ACRES (PRE)
STORAGE REQUIRED	5760 CUBIC FEET =2880 DRY+2880 WET	
WET STORAGE PROVIDED	2847 CF @ 454.00	
DRY STORAGE PROVIDED	2847 CF @ 455.50	
TOP OF WEIR	455.50	
BOTTOM ELEVATION	454.25	
BOTTOM DIMENSION	45' x 45'	
CLEANOUT ELEVATION	454.56	
SIDE SLOPES	2:1	
DEWATERING PIPE	454.88	
DRAWDOWN ELEVATION		

INLET SEDIMENT TRAP #4

DRAINAGE AREA	1.60 ACRES (POST)	1.60 ACRES (PRE)
STORAGE REQUIRED	5760 CUBIC FEET= 2880 DRY+2880 WET	
WET STORAGE PROVIDED	3070 CF @ 463.75	
DRY STORAGE PROVIDED	3070 CF @ 464.50	
TOP OF WEIR	464.50	
BOTTOM ELEVATION	463.0	
BOTTOM DIMENSION	45' x 45'	
CLEANOUT ELEVATION	463.38	
SIDE SLOPES	2:1	
DEWATERING PIPE	463.75	
DRAWDOWN ELEVATION		

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE

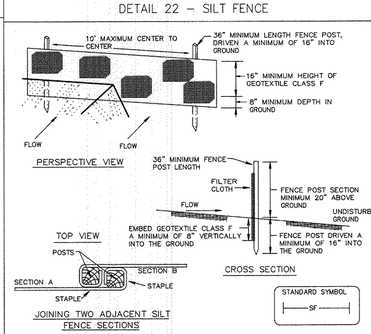


Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).
2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F – 17 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 – SILT FENCE



Construction Specifications

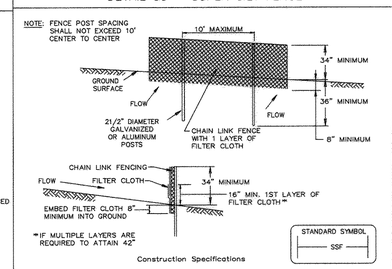
1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft ²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 15 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 – SUPER SILT FENCE



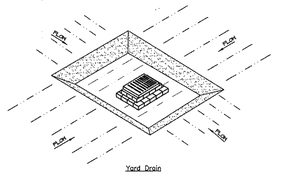
Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft ²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 26 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STORM INLET SEDIMENT TRAP ST-III



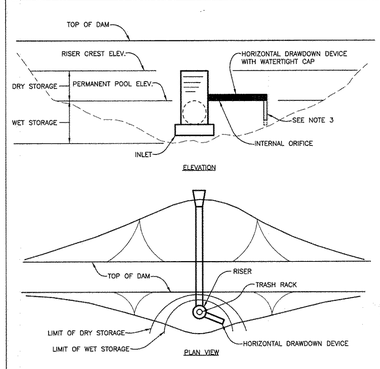
Construction Specifications For ST-III

1. Sediment shall be removed and the restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
2. The volume of sediment storage shall be 3600 cubic feet per acre of contributory drainage.
3. The structure shall be inspected after each rain and repairs made as needed.
4. Construction operations shall be carried out in such a manner that erosion and water pollution shall be minimized.
5. The sediment trap shall be removed and the area stabilized when the construction drainage area has been properly stabilized.
6. All cut slopes shall be 1:1 or flatter.

MAXIMUM DRAINAGE AREA: 3 ACRES

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	STORM INLET SEDIMENT TRAP	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATIN

SEDIMENT TRAP AND BASIN DRAWDOWN SCHEMATIC HORIZONTAL DRAW DOWN DEVICE

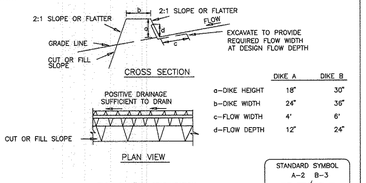


Construction Specifications

1. The total area of the perforation must be greater than 2 times the area of the internal orifice.
2. The perforated portion of the drawdown device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class E.
3. Provide support of drawdown device to prevent sagging and floatation. An acceptable preventative measure is to stake both sides of drawdown device with 1" steel angle, or 1" by 4" square or 2" round wooden posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATIION SERVICE	PAGE C – 10 – 29	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATIIN

DETAIL 1 – EARTH DIKE



FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

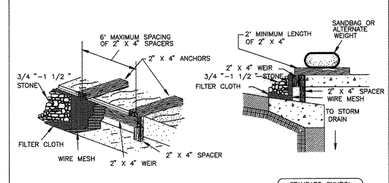
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" – 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE A – 1 – 6	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23C – CURB INLET PROTECTION

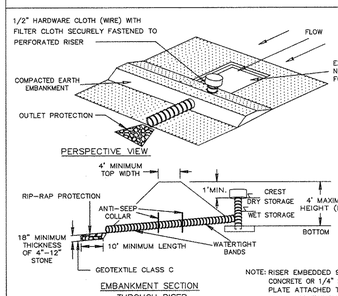


Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).
4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 16 – 58	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 8 – PIPE OUTLET SEDIMENT TRAP – ST I



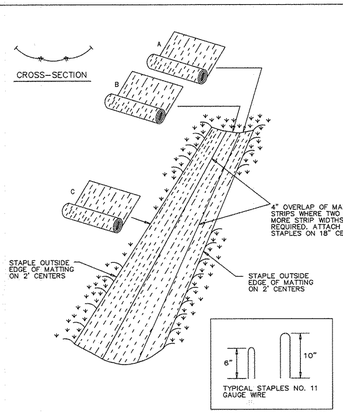
NOTE: RISER EMBEDDED 9" INTO CONCRETE OR 1/4" STEEL PLATE ATTACHED TO RISER WITH A CONTINUOUS WELD ON BOTTOM AND 2' OF STONE PLACED ON STEEL PLATE TWICE THE RISER DIAMETER (MIN.)

Construction Specifications

1. The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be 1' above the riser crest elevation.
4. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (900cf/ac). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.
5. The structure shall be inspected periodically and after each rain and repairs made as necessary.

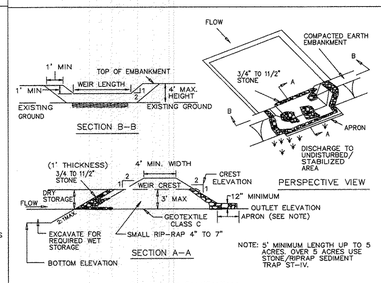
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 7	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 – EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G – 22 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 – STONE OUTLET SEDIMENT TRAP – ST II



Construction Specifications

1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1" thick layer of 3/4" to 11/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 10	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE OUTLET SEDIMENT TRAP – ST II

6. The structure shall be inspected periodically and after each rain and repairs made as needed.
7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes shall be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
8. The structure shall be dewatered by approved methods, removed and the area stabalized when the drainage area has been properly stabalized.
9. Refer to Section D for specifications concerning trap dewatering.
10. Minimum trap depth shall be measured from the weir elevation.
11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.
12. Geotextile class C shall be over the bottom sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
13. Outlet – An outlet shall be provided, including a means of conveying the discharge in an erosion free manor to an existing stable channel.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C – 9 – 10A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER :

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

DEVELOPER — DATE 3.11.99

BY THE ENGINEER :

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

ENGINEER — DATE 3.11.99

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/25/99

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 5/21/99

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8-13-99	⚠	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 – 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 41 AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1964 FOLIO 564

AREA
PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
SEDIMENT CONTROL DETAIL SHEET

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

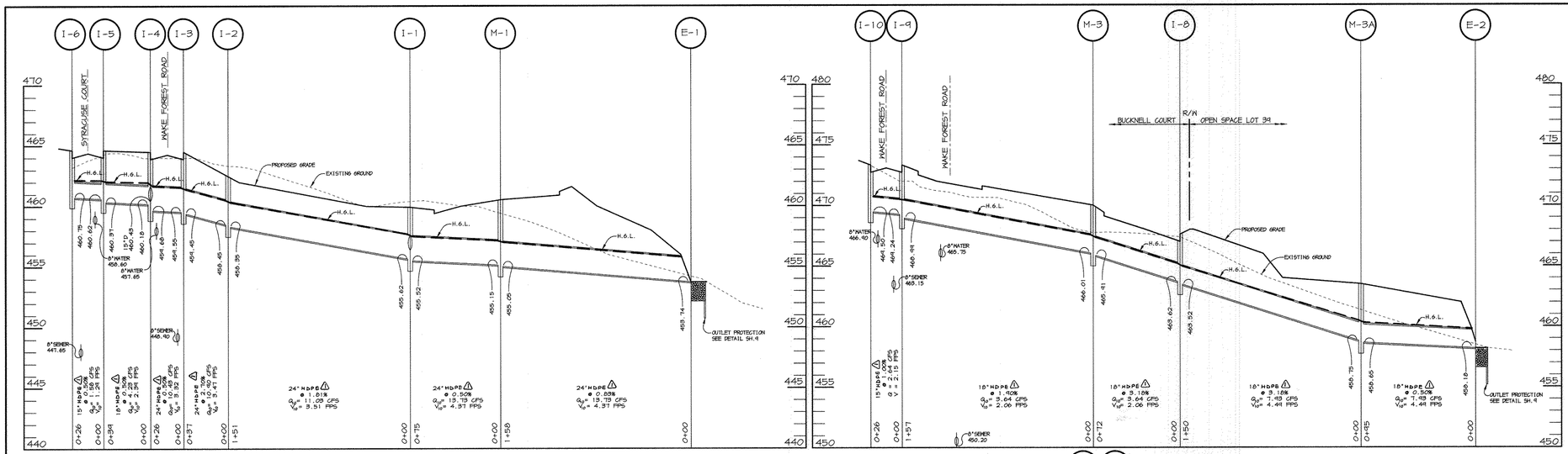
STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO :	97016/FINALS RD7.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	7 OF 15 ⚠

F-99-52

M:\PROJECT\97016\FINALS\RD7 Thu Mar 11 08:15:02 1999 RIEMER MUEGGE & ASSOCIATES, INC.

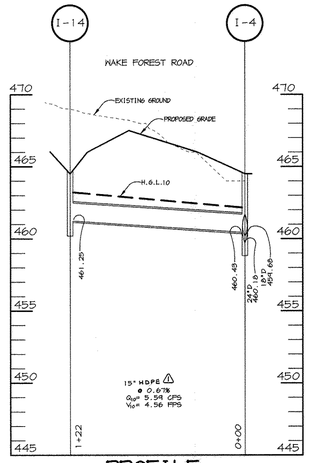


PROFILE

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

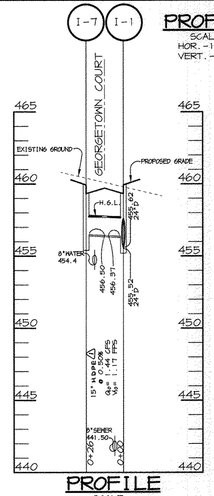
PROFILE

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



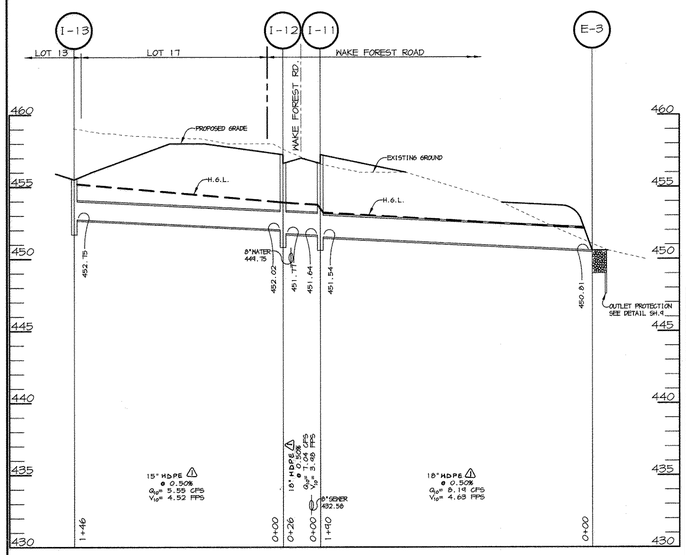
PROFILE

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



PROFILE

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



PROFILE

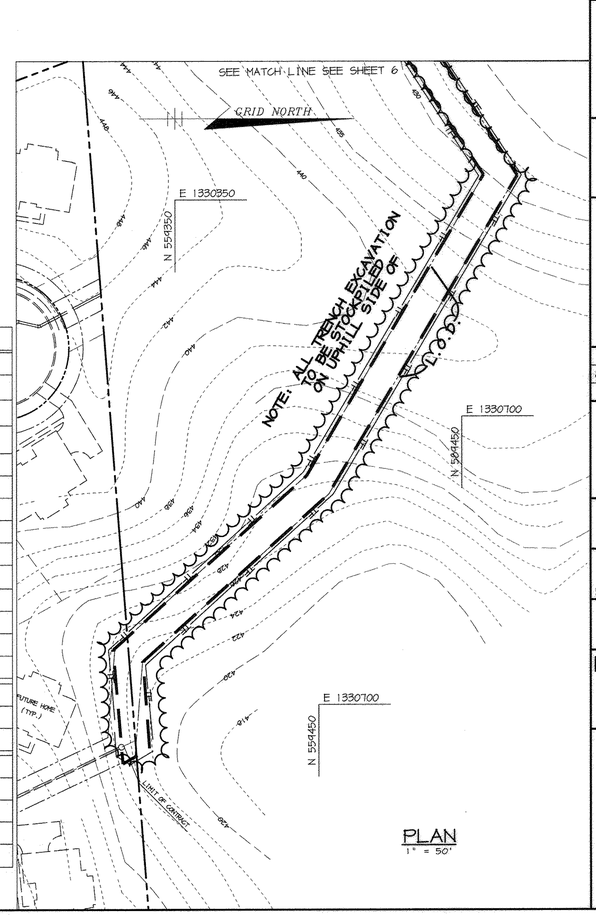
SCALE
HOR. - 1" = 50'
VERT. - 1" = 5'

STRUCTURE SCHEDULE

STRUCTURE	TYPE	INSIDE WIDTH	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-5	3'	12.52' LT OF CL STA 1+40.57 GEORGETOWN COURT (GCT)	456.37 (15") 455.62 (24")	455.52 (24")	459.48	HOCO STD. DETAIL SD 4.40
I-2	A-5	3'	12.52' LT OF CL STA 0+39.71 GCT	458.45 (24")	458.33 (24")	462.48	HOCO STD. DETAIL SD 4.40
I-3	A-5	2.5'	12.52' LT OF CL STA 2+76.67 WAKE FOREST ROAD (WFR)	459.55 (24')	459.45 (24")	464.50	HOCO STD. DETAIL SD 4.40
I-4	A-5	2.5'	12.52' LT OF CL STA 2+76.67 WFR	460.18 (18") 460.43 (15")	459.68 (24")	464.50	HOCO STD. DETAIL SD 4.40
I-5	A-10	2.5'	12.52' LT OF CL STA 0+42.21 SYRACUSE COURT (SGT)	460.62 (15")	460.37 (18")	464.63	HOCO STD. DETAIL SD 4.41
I-6	A-10	2.5'	12.52' LT OF CL STA 0+42.21 SGT	_	460.75 (15")	464.63	HOCO STD. DETAIL SD 4.41
I-7	A-5	2.5'	12.52' LT OF CL STA 1+90.57 GCT	_	456.50 (15")	459.93	HOCO STD. DETAIL SD 4.40
I-8	A-5	2.5'	LP STA 1+64.13 BUCKNELL COURT (BCT)	463.62 (18")	463.52 (18")	467.66	HOCO STD. DETAIL SD 4.40
I-9	A-5	2.5'	12.52' LT OF CL STA 4+45.63 BCT	469.24 (15")	468.99 (18")	473.33	HOCO STD. DETAIL SD 4.40
I-10	A-10	2.5'	12.52' LT OF CL STA 4+45.63 BCT	_	469.50 (15")	473.33	HOCO STD. DETAIL SD 4.41
I-11	A-5	2.5'	12.52' LT OF CL STA 6+14.29 WFR	451.64 (18")	451.54 (18")	457.23	HOCO STD. DETAIL SD 4.40
I-12	A-5	2.5'	12.52' LT OF CL STA 6+14.29 WFR	452.02 (15")	451.77 (18")	457.23	HOCO STD. DETAIL SD 4.40
I-13	S	-	N 559,870.77 E 1,329,187.32	_	452.75 (15")	455.5	HOCO STD. DETAIL SD 4.22
I-14	S	-	N 560,284.86 E 1,328,957.14	_	461.25 (15")	464.5	HOCO STD. DETAIL SD 4.22
M-1	4'-0"	-	N 560,342.78 E 1,329,272.87	455.15 (24")	455.05 (24")	460.5	HOCO STD. DETAIL 6 5.12
M-3	4'-0"	-	N 560,493.70 E 1,328,970.14	466.01 (18")	465.91 (18")	470.0	HOCO STD. DETAIL 6 5.12
M-3A	4'-0"	-	N 560,632.70 E 1,329,121.63	458.75 (18")	458.65 (18")	463.5	HOCO STD. DETAIL 6 5.12
E-1	24" CONC END SECT	-	N 560,341.07 E 1,329,422.20	_	453.74	-	HOCO STD. DETAIL SD 5.51
E-2	18" CONC END SECT	-	N 560,617.17 E 1,329,215.46	_	458.18	-	HOCO STD. DETAIL SD 5.51
E-3	18" CONC END SECT	-	N 559,856.99 E 1,329,444.59	-	450.59	-	HOCO STD. DETAIL SD 5.51
E-4*	12" CONC END SECT	-	N 560,234.28 E 1,329,486.00	-	451.50	-	HOCO STD. DETAIL SD 5.51
E-5*	12" CONC END SECT	-	N 560,217.26 E 1,329,455.62	452.00	-	-	HOCO STD. DETAIL SD 5.51

*NOTE: FOR PROFILE INFORMATION ON THESE STRUCTURES SEE SHEET 7.

PIPE SCHEDULE		
SIZE	TYPE	LENGTH
15"	HDPE Δ	346 LF
18"	HDPE Δ	724 LF
24"	HDPE Δ	447 LF



PLAN

1" = 50'

BY THE DEVELOPER :

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

DEVELOPER — DATE 3.11.99

BY THE ENGINEER :

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

ENGINEER — DATE 3.11.99

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/23/99

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/23/99

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8-13-99	Δ	ADDED SHEET 15 REVISED TYPE OF STORM DRAINAGE TO HDPE

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 9) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1964 FOLIO 584

AREA
PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
STORM DRAIN PROFILES AND SEDIMENT CONTROL PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE No. 8707 REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO :	97016/FINALS RD8.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	8 OF 15 Δ

F-99-52

M:\PROJECTS\97016\FINALS\RD8 Thu Mar 11 08:19:05 1999 RIEMER MUEGGE & ASSOCIATES, INC.

STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETERS SEDIMENT CONTROLS, STRUCTURES, DIKES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. 6). TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHED OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	18.102 ACRES
AREA DISTURBED	14.203 ACRES
AREA TO BE ROOFED OR PAVED	1.335 ACRES
AREA TO BE VEGETATIVELY STABILIZED	12.868 ACRES
TOTAL CUT	16,500 CU. YARDS
TOTAL FILL	16,500 CU. YARDS

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
12. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
13. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
14. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTTING OR REMOVAL OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

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

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

Seeding : For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual rye (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (0.07 lbs. per 1000 sq.ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

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

Soil Amendments : In lieu of soil test recommendations, use one of the following schedules :

1) Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs. per 1000 sq.ft.).

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

Seeding : For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 10 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (0.05 lbs. per 1000 sq.ft.) of weeping lovegrass. During the period October 16 thru February 28, protect site by one of the following options :

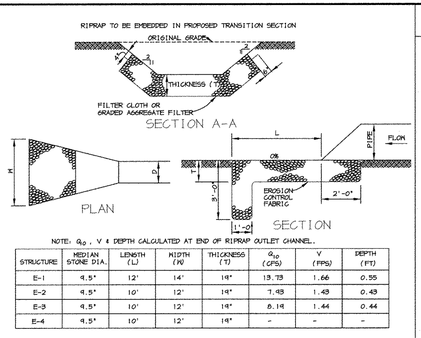
1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.

2) Use sod.

3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

Mulching : Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Maintenance : Inspect all seeded areas and make needed repairs, replacements and reseedings.



NOTE: Q_{50} , V & DEPTH CALCULATED AT END OF RIPRAP OUTLET CHANNEL.

STRUCTURE	MEDIAN STONE DIA.	LENGTH (L)	WIDTH (W)	THICKNESS (T)	Q_{50} (CFS)	V (FPS)	DEPTH (FT)
E-1	9.5"	12'	14'	18"	13.73	1.66	0.55
E-2	9.5"	10'	12'	18"	7.43	1.43	0.43
E-3	9.5"	10'	12'	18"	8.19	1.44	0.44
E-4	9.5"	10'	12'	18"	-	-	-

RIPRAP OUTLET PROTECTION DETAIL

NO SCALE

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

Definition

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

Purpose

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

Construction and Material Specifications

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimentation Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

   I. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1½" in diameter.

   II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

   III. Where subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

III. For sites having disturbed areas under 5 acres:
   I. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

IV. For sites having disturbed areas over 5 acres:

   I. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
      a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
      b. Organic content of topsoil shall be not less than 1.5 percent by weight.
      c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
      d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

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

   II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

   I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

   II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.

   III. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.

   Iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

   I. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for site having disturbed areas under 5 acres shall conform to the following requirements:
      a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
      b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
      c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
      d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding. MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

ROCK OUTLET PROTECTION

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

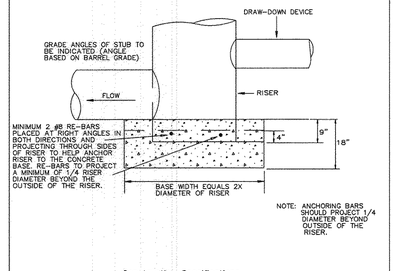
3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 18 - 8A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 15 - RISER BASE DETAIL



Construction Specifications

The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two approved bases for risers 10" or less in height are:

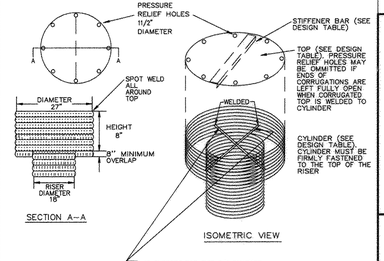
1. A concrete base 18" thick with the riser embedded 9" in the base.

2. A 1/4" minimum thickness steel plate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2' of stone, gravel, or compacted earth placed on it to prevent flotation. In either case, each side of the square base shall be twice the riser diameter.

Note: For risers greater than ten feet high computations shall be made to design a base which will prevent flotation. The minimum factor of safety shall be 1.20 (downward forces = 1.20 x upward forces).

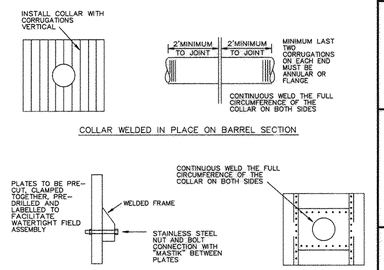
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 18 - 25	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 16 - CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 18 - 26	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 14 - TYPICAL ANTI-SEEP COLLARS



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 18 - 24	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 17 - TYPES OF COUPLERS FOR CORRUGATED STEEL PIPE

(ALL CONNECTOR BANDS REQUIRE NEOPRENE GASKETS)

NOTE: UNDER NO CIRCUMSTANCES WILL THE DIMPLE UNIVERSAL CONNECTOR BAND BE ACCEPTABLE FOR USE IN ANY SEDIMENT CONTROL OR STORMWATER MANAGEMENT STRUCTURE

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE C - 18 - 27	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER :

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

DEVELOPER — DATE 3.11.99

BY THE ENGINEER :

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

ENGINEER — DATE 3.11.99

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/22/99

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/22/99

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 4/14/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8-13-99	⚠1	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 41) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1956 FOLIO 564

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **NOTES AND DETAIL SHEET**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — No. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO	97016/FINALS RD9.DWG
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	9 OF 15 ⚠1

F-99-52

FOREST CONSERVATION LEGEND

REFORESTATION/AFFORESTATION EASEMENT AREA

FOREST CONSERVATION EASEMENT (RETENTION)

GRID NORTH

MD RTE. 108 - CLARKSVILLE PIKE
MAJOR COLLECTOR

CITIZEN'S NATIONAL BANK 134/407 P.142 ZONED B-2

JAMES A. & BONITA RAYMO 824/350 ZONED B-2

JAMES B. AND MARGARET SHAW, JR. 3686/426 P.158 ZONED B-2

EDGAR W. & ROSEMARY ZEPP 1986/448 P.155 ZONED B-2

EDGAR ZEPP III P.204 LOT A-1 ZONED B-2

PETER WEYMOUTH TRUSTEE 1258/340 ZONED B-2

PERIMETER C ±850' (DEFERED)

PERIMETER D ±330'

PERIMETER I ±1170'

PERIMETER A ±800'

WAKE FOREST ROAD
LOCAL ROAD

BUCKNELL COURT
CUL-DE-SAC STREET

LOT 38 10,818 sq.ft.

LOT 37 12,423 sq.ft.

OPEN SPACE LOT 39 DEDICATED TO THE DEPT. OF RECREATION & PARKS, HO. CO.

UNMITIGATED 65dBA

PUBLIC 20' STORM DRAIN & UTILITY EASEMENT

MARYLAND ROUTE 32 ON RAMP TO ROUTE 32

VEHICULAR INGRESS & EGRESS

PARCEL 'B' 81,874 sq.ft. 1.88 acres

WILBEN LIMITED PARTNERSHIP 1994/584 PARCEL ONE PART THREE ZONED B-2

LOT 1 12,412 sq.ft.

LOT 2 12,001 sq.ft.

LOT 3 11,688 sq.ft.

LOT 33 11,974 sq.ft.

LOT 34 9,615 sq.ft.

LOT 35 10,131 sq.ft.

LOT 36 13,518 sq.ft.

LOT 7 14,140 sq.ft.

LOT 6 10,048 sq.ft.

LOT 5 10,032 sq.ft.

LOT 4 11,725 sq.ft.

LOT 32 11,687 sq.ft.

LOT 31 9,600 sq.ft.

LOT 30 9,600 sq.ft.

LOT 29 13,236 sq.ft.

LOT 8 10,435 sq.ft.

LOT 9 12,460 sq.ft.

GEORGETOWN COURT
CUL-DE-SAC STREET

TREE MAINT. EASEMENT

WILBEN LIMITED PARTNERSHIP 1994/584 PARCEL TWO ZONED: RR-DEO

NON-DISTURBANCE PARCEL 'C' 16,099 SQ.FT. 0.231 ACRES

WILBEN LIMITED PARTNERSHIP 1994/584 PARCEL ONE PART TWO ZONED R-12

OPEN SPACE LOT 38 167,412 sq.ft. 3.84 acres DEDICATED TO THE DEPT. OF RECREATION & PARKS, HO. CO.

RECREATION OPEN SPACE 9,660 sq.ft. 0.22 acres

CUL-DE-SAC STREET
SYRACUSE COURT

LOT 14 661 sq.ft.

LOT 15 10,749 sq.ft.

LOT 10 11,304 sq.ft.

LOT 13 11,120 sq.ft.

LOT 12 13,140 sq.ft.

LOT 16 9,712 sq.ft.

LOT 11 16,467 sq.ft.

LOT 17 11,007 sq.ft.

LOT 28 11,687 sq.ft.

LOT 24 10,464 sq.ft.

LOT 25 14,142 sq.ft.

LOT 22 9,750 sq.ft.

LOT 26 11,721 sq.ft.

LOT 21 9,750 sq.ft.

LOT 27 12,534 sq.ft.

EX. FOREST TO REMAIN

PERIMETER H ±850'

P97 ZONED RR-DEO

DORIS L JOHNSON 566/482 P.37 ZONED R-12

PERIMETER G ±850'

PERIMETER E ±700'

LIMIT OF WETLANDS

WATER, SEWER AND UTILITY EASEMENT

FOR CONTINUATION SEE SHEET 11

CONTINUED NEXT PAGE

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — 4-28-99 DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — 5/4/99 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 5/4/99 DATE

DATE	NO.	REVISION
5/03/99	2	REMOVE POS FROM PARCEL 'C'
8-18-99	1	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-8, 41 AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1994 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **STREET TREE & LANDSCAPE PLAN**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

3.11.99 DATE

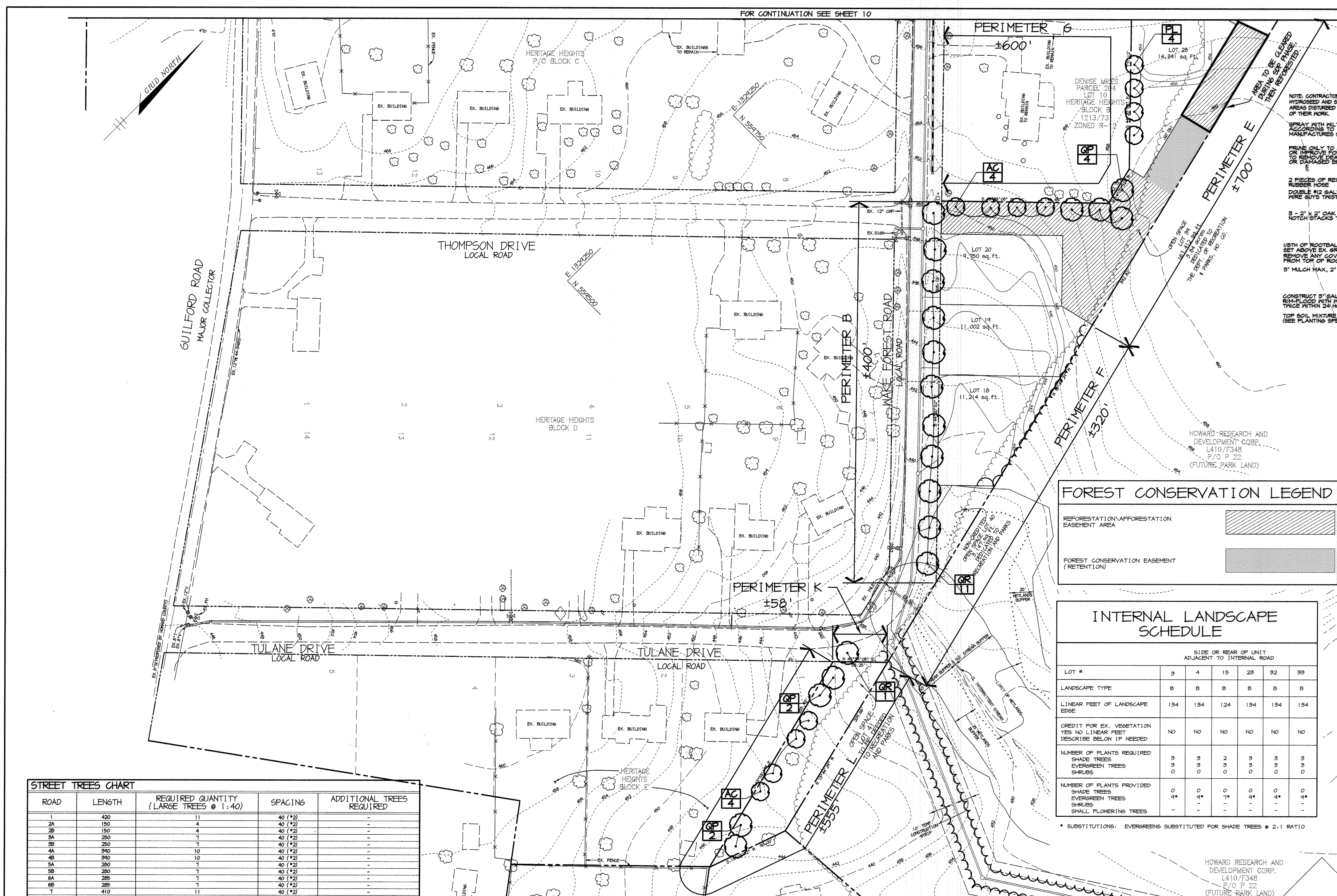
DAVID T. DOWS #830 — STATE OF MARYLAND

DESIGNED BY :	R.A.F.
DRAWN BY:	G.T.H.
PROJECT NO :	97016/FINALS LSCP-10.DWG
DATE :	MARCH 11, 1999
SCALE :	1" = 50'
DRAWING NO.	10 OF 15

F-99-52

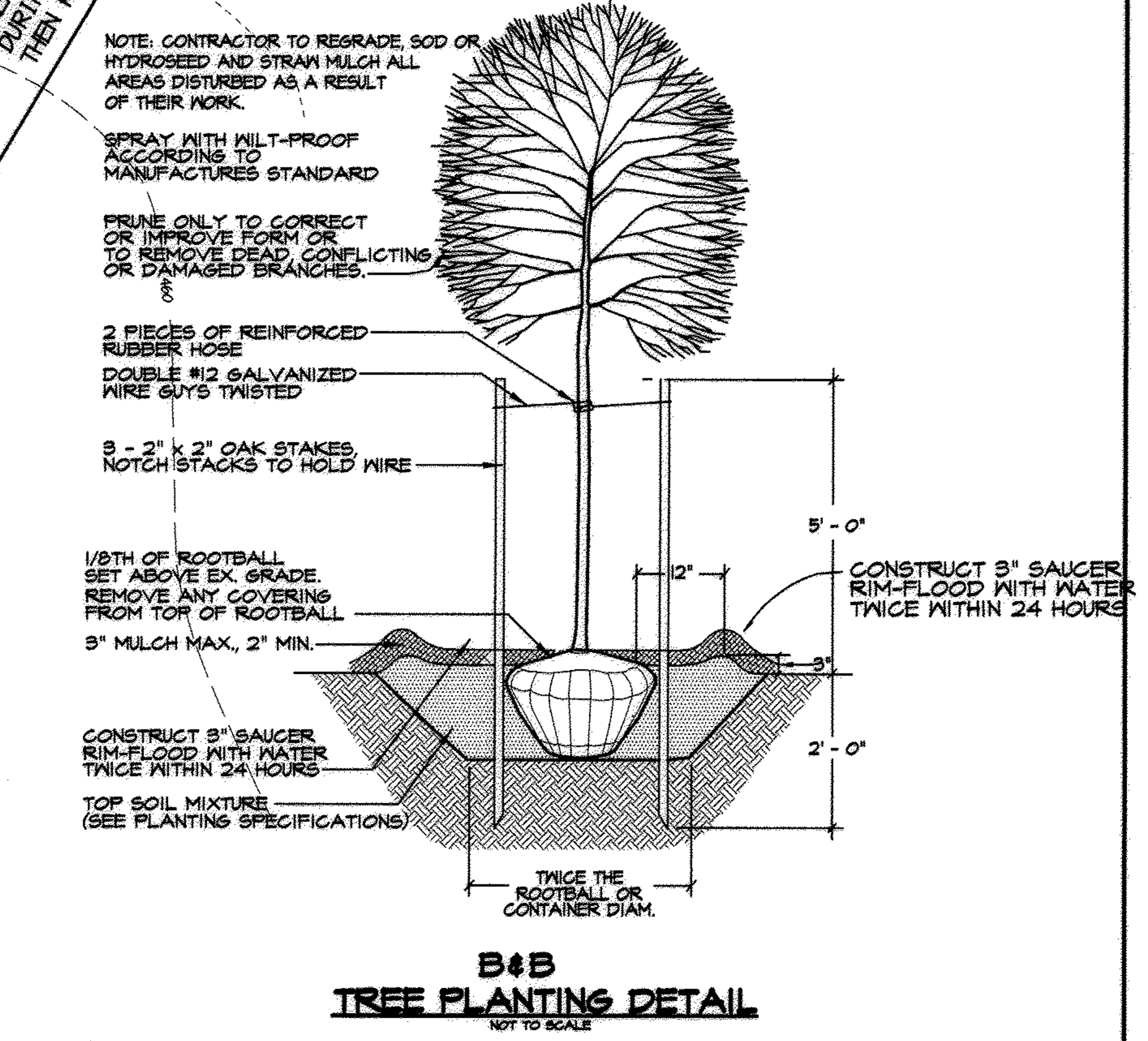
M:\PROJECT\97016\FINALS\LSCP-10 Tue Mar 9 13:42:04 1999 RIEMER MUEGGE & ASSOCIATES, INC.

FOR CONTINUATION SEE SHEET 10

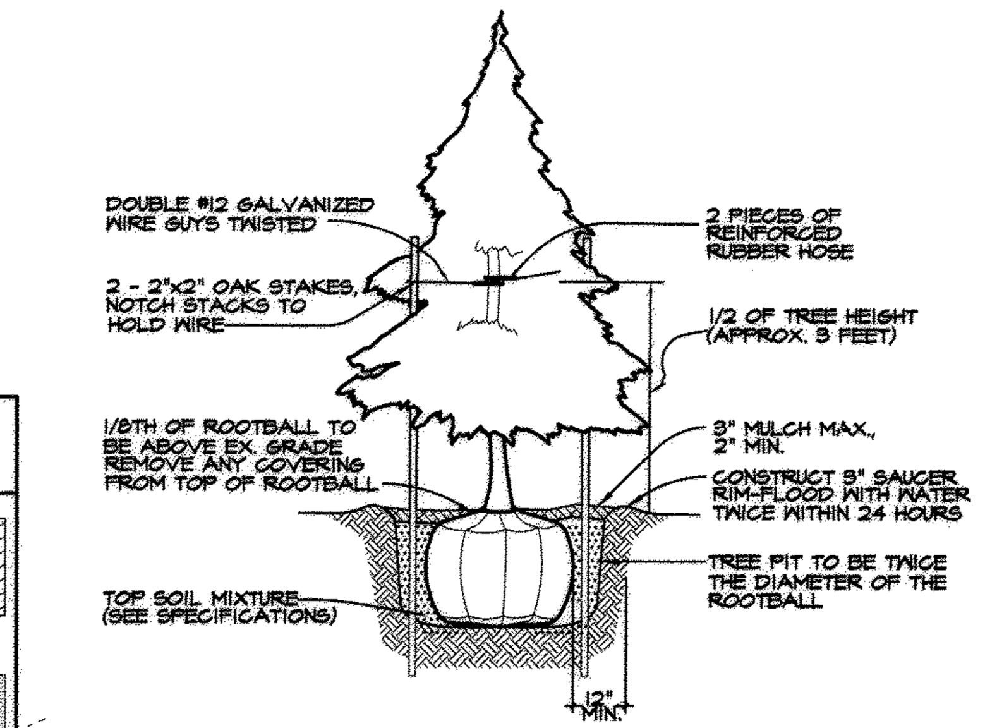


FOREST CONSERVATION LEGEND

REFORESTATION\AFFORESTATION EASEMENT AREA	(hatched)
FOREST CONSERVATION EASEMENT (RETENTION)	(shaded)



B&B
TREE PLANTING DETAIL
NOT TO SCALE



EVERGREEN PLANTING DETAIL
NOT TO SCALE

STREET TREES CHART

ROAD	LENGTH	REQUIRED QUANTITY (LARGE TREES @ 1:40)	SPACING	ADDITIONAL TREES REQUIRED
1	420	11	40 (*2)	-
2A	150	4	40 (*2)	-
2B	150	4	40 (*2)	-
3A	250	7	40 (*2)	-
3B	250	7	40 (*2)	-
4A	390	10	40 (*2)	-
4B	390	10	40 (*2)	-
5A	280	7	40 (*2)	-
5B	280	7	40 (*2)	-
6A	285	7	40 (*2)	-
6B	285	7	40 (*2)	-
7	410	11	40 (*2)	-
8	58	1	-	-

NOTES: 1. STREET TREES PLANTED ALONG ROADS 1B, 3B, 4A, 5A, AND 6B WILL BE PLANTED NO CLOSER THAN 3 FEET FROM THE SIDEWALK ON THE PRIVATE LOT SIDE OF THE WALK.
2. STREET TREES MAY HAVE MINOR LOCATIONAL ADJUSTMENTS TO ACCOMMODATE INDIVIDUAL SITE DESIGN FOR WALKS AND DRIVES.

PLANT MATERIAL LIST

KEY	QUANTITY	BOTANICAL / COMMON NAME	SIZE	REMARKS
QR	51	QUERCUS RUBRA NORTHERN RED OAK	2 1/2" - 3" B&B	FULL CROWN CENTRAL LEADER
ZS	48	ZELKOVA SERRATA 'VILLAGE GREEN' VILLAGE GREEN JAPANESE ZELKOVA	2 1/2" - 3" B&B	FULL CROWN
AC	23	ACER SACCHARUM 'GREEN MOUNTAIN' GREEN MOUNTAIN SUGAR MAPLE	2 1/2" - 3" B&B	FULL CROWN CENTRAL LEADER
PL	7	PLATANUS X ACERIFOLIA 'BLOODGOOD' BLOODGOOD LONDON PLANE	2 1/2" - 3" B&B	FULL CROWN
QP	11	QUERCUS ACUTISSIMA SAWTOOTH OAK	2 1/2" - 3" B&B	FULL CROWN CENTRAL LEADER
PS	52	PINUS STROBUS WHITE PINE	6-8' B&B	FULL FORM

NOTES:

1) "THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE.
2) "FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DEVELOPERS AGREEMENT IN THE AMOUNT OF $ 29,100 .
3) FINANCIAL SURETY FOR THE REQUIRED STREET TREES HAS BEEN INCLUDED AS PART OF THE DEVELOPER'S AGREEMENT FOR ROADS CONSTRUCTION.
4) THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY.
5) 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 EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

[signature] 3/11/99
NAME DATE

INTERNAL LANDSCAPE SCHEDULE

	SIDE OR REAR OF UNIT ADJACENT TO INTERNAL ROAD					
LOT #	3	4	15	23	32	33
LANDSCAPE TYPE	B	B	B	B	B	B
LINEAR FEET OF LANDSCAPE EDGE	134	134	124	134	134	134
CREDIT FOR EX. VEGETATION YES NO LINEAR FEET DESCRIBE BELOW IF NEEDED	NO	NO	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS	 3 3 0	 3 3 0	 2 3 0	 3 3 0	 3 3 0	 3 3 0
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES SHRUBS SMALL FLOWERING TREES	 0 9* -	 0 9* - -	 0 7* - -	 0 9* - -	 0 9* - -	 0 9* - -

* SUBSTITUTIONS: EVERGREENS SUBSTITUTED FOR SHADE TREES @ 2:1 RATIO

SCHEDULE A - PERIMETER LANDSCAPING

CATEGORY	ADJACENT TO ROADWAYS				ADJACENT TO PERIMETER PROPERTIES							
PERIMETER	A	B	C	D	E	F	G	H	I	J	K	L
LANDSCAPE TYPE REQUIRED	A	NONE	(*1)	NONE	A	A	A	A	A	A	NONE	A
LINEAR FEET	800	400	850	330	700	320	600	850	175	250	58	555
CREDIT FOR EXISTING VEGETATION	YES	NO	NO	NO	YES	NO	NO	NO	NO	YES	NO	YES
LINEAR FEET OF CREDIT	800	-	-	-	460	-	-	-	-	250	-	50
CREDIT FOR WALL, FENCE OR BERM	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
LINEAR FEET OF CREDIT	-	-	-	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS REQUIRED (STE)												
SHADE TREES	0	0	(*1)	0	4	5	10	15	3	0	0	8
EVERGREEN TREES	-	-	-	-	-	-	-	-	-	-	-	-
SHRUBS	-	-	-	-	-	-	-	-	-	-	-	-
NUMBER OF PLANTS PROVIDED (STE)												
SHADE TREES	0	0	(*1)	0	4	5	10	15	3	0	0	8
EVERGREEN TREES	-	-	-	-	-	-	-	-	-	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	-	-	-	-	-	-	-	-	-	-

NOTES: 1. PERIMETER C IS AT THE EDGE OF A COMMERCIALLY ZONED VACANT PARCEL. THE LANDSCAPE FOR THIS PARCEL WILL BE DEFERRED UNTIL A SITE DEVELOPMENT PLAN IS PREPARED FOR IT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

[signature] 4-28-99
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

[signature] 5/4/99
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[signature] 5/4/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

DATE	NO.	REVISION
8.13.99	4	ADDED SHEET 15

OWNER / DEVELOPER
WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 9) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1994 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE
STREET TREE & LANDSCAPE PLAN

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

3.11.99
DATE

BOARD OF EXAMINERS OF LANDSCAPE ARCHITECTS 830 DAVID DOWS STATE OF MARYLAND

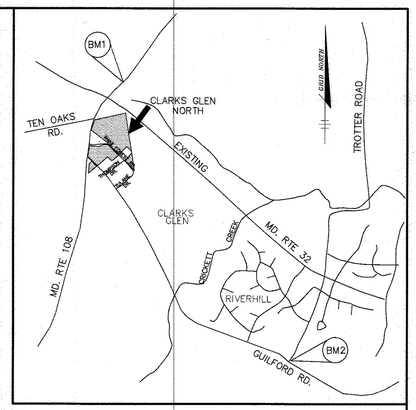
[signature]
DAVID T. DOWS #830

DESIGNED BY :	R.A.F.
DRAWN BY:	G.T.H.
PROJECT NO :	97016/FINALS LSCP11.DWG
DATE :	MARCH 11, 1999
SCALE :	1" = 50'
DRAWING NO.	11 OF 15 4

F-99-52

LEGEND

	EXISTING	PROPOSED
TREES		
TREELINE		
PROPERTY LINE		
WETLAND & 25' BUFFER		
STREAM & 75' BUFFER		
CONTOUR LINES	95 100	95 100
LIMIT OF DISTURBANCE		
FOREST CONSERVATION EASEMENT LIMITS		FC
REFORESTATION / AFFORESTATION EASEMENT AREA		REF AFF
FOREST RETENTION EASEMENT AREA		F.C.
TREE PROTECTION SIGNAGE (SEE NOTES & DETAILS SHEET)		S SR
SOILS		MIC2



VICINITY MAP
SCALE: 1" = 2000'

REQUIRED SURETY

SURETY FOR THE PROPOSED FOREST RETENTION AREA AND REFORESTATION / AFFORESTATION AREA SHALL BE REQUIRED BY HOWARD COUNTY IN THE AMOUNT OF:

123,787 SF RETENTION AREA AT $0.05/SF =	$6,189
8,851 SF 1" CAL. OR GREATER AREA AT $0.30/SF =	$2,655
9,482 SF WHIPS AREA AT $0.10/SF =	$948
6,110 SHRUB AREA AT $0.20/SF =	$1,222
TOTAL AREA* = 148,230 SF	TOTAL SURETY = $11,014

* AREA FOR SURETY CALCULATIONS EXCLUDES LANDSCAPE TREE CREDIT AND EXISTING WOODS CREDIT.

FOREST CONSERVATION TABULATIONS*

1. TOTAL FOREST RETENTION PROVIDED	123,787 SF (2.8 AC.)
2. FOREST PLANTING OBLIGATION	108,900 SF (2.5 AC.)
LESS REFORESTATION PROVIDED	19,049 SF (0.4 AC.)
2 LESS AFFORESTATION PROVIDED (REMOVED)	12,693 SF (0.3 AC.)
REQUIRED FEE-IN-LIEU AREA	77,158 SF (1.8 AC.)
3. REQUIRED FEE-IN-LIEU ($0.30/SF)	$23,147

* TABULATION REQUIREMENTS GENERATED BY FOREST CONSERVATION WORKSHEET.

REFORESTATION / AFFORESTATION PLANTING TABULATIONS

AREA #	5	6	TOTAL	
TOTAL AREA (SF)	4,128	14,921	19,049	2
LESS LANDSCAPE TREE CREDIT (400 SF/TREE)	0	-3,200	-3,200	
LESS EX. WOODS (SF)	-1,760	-2,288	-4,048	
TOTAL REQUIRED REFORESTATION/ AFFORESTATION PLANTING AREA (SF)	2,368	9,433	11,801	2

REFORESTATION / AFFORESTATION PLANT LIST

QUANTITIES AREA 4	AREA 5		QTY. TOTAL	SCIENTIFIC/ COMMON NAME	SIZE	ROOT	REMARKS	
3	6	-	9	LIRIODENDRON TULIPIFERA / TULIP TREE	1" CAL.	CONT.	FULL CROWN PLANT 15' O.C.	
3	6	-	9	LIQUIDAMBAR STYRACIFLUA / SWEET GUM				
3	7	-	10	ACER RUBRUM / RED MAPLE				
-	7	-	7	QUERCUS ALBA / WHITE OAK				
-	7	-	7	FAGUS GRANDIFOLIA / AMERICAN BEECH				
-	-	-	-					
-	-	-	-					
-	-	-	-					
-	-	-	-					
-	-	-	-					2
2	9	13	24	VIBURNUM PRUNIFOLIUM / BLACKHAW VIBURNUM	18" - 24"	CONT.	FULL FORM PLANT 8' O.C.	
3	10	13	26	VIBURNUM ACERIFOLIUM / MAPLELEAF VIBURNUM				

REFORESTATION / AFFORESTATION PLANT INSTALLATIONS NOTES

A. RANDOMLY SPACE NEW TREE & SHRUB INSTALLATIONS TO ALLOW NO MORE THAN (5) 1" CALIPER OR (7) 1/4" - 1/2" CAL. TREE WHIPS OR (4) SHRUBS OF ANY PARTICULAR SPECIES TO BE PLANTED IN SUCCESSION. USE SUGGESTED SPACING AS A GENERAL GUIDE. TAKE CARE NOT TO PLANT IN PERFECT ROWS OR GRIDS.

B. LANDSCAPE PLANT LOCATIONS TAKE PRECEDENCE OVER REFORESTATION PLANTINGS. REFORESTATION PLANT MATERIAL SHOULD BE USED TO INFILL AREAS AROUND THE LANDSCAPE PLANT MATERIAL. SEE LANDSCAPE PLANS, SHEETS 10 & 11.

NOTES:

1. FOREST RETENTION & REFORESTATION / AFFORESTATION AREAS PROTECTED WITH A FOREST CONSERVATION EASEMENT AND A LIMIT OF DISTURBANCE (LOD) SHOWN SHALL BE PROTECTED WITH APPROVED TREE PROTECTION FENCE AS SHOWN ON GRADING PLANS. FIELD LOCATION OF LOD SHOULD BE VERIFIED AND ANY ADJUSTMENTS MADE BY THE ENVIRONMENTAL CONSULTANT UNDER SUPERVISION OF THE HOWARD COUNTY DPZ.
2. SEE ALSO NOTES & DETAILS SHEET 13 OF 14.
3. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN.
4. THE HOWARD COUNTY FOREST CONSERVATION MANUAL SUPERCEDES ANY DISCREPANCIES BETWEEN THESE PLANS AND THE MANUAL.

FOREST CONSERVATION WORKSHEET (REVISED 2/11/99)

Howard County Forest Conservation Worksheet

	B-2 AREA	R-12 AREA	RC AREA
SITE DATA			
A. Total site area	1.90	15.90	0.29
B. Areas in 100 year floodplain	0.00	0.00	0.00
Areas in agriculture use and preservation parcels	0.00	0.00	0.00
C. Net Tract Area (total site less the 100 yr floodplain)	1.90	15.90	0.29
D. Forest Cover on net tract area	0.80	9.60	0.00
E. Conservation requirement percent by land use category	15%	20%	20%
F. Afforestation requirement percent by land use category	15%	15%	20%
REFORESTATION CALCULATIONS			
A. Net Tract Area	1.90	15.90	N/A
B. Total forest within Net Tract Area	0.80	9.6	N/A
C. Net Tract Area forests to be cleared by site dev. plan	0.80	6.8	N/A
D. Forest area remaining	0.00	2.8	N/A
E. Conservation threshold in acres	0.29	3.2	N/A
F. Reforestation Debt			
above threshold	0.13	0.9	N/A
below threshold	0.57	0.8	N/A
G. Reforestation credit	0.00	0.0	N/A
H. REFORESTATION OBLIGATION	0.7	1.7	N/A
AFFORESTATION CALCULATIONS			
A. Net Tract Area	N/A	N/A	0.3
B. Total forest within Net Tract Area	N/A	N/A	0.0
C. Afforestation requirement in acres	N/A	N/A	0.1
D. AFFORESTATION OBLIGATION	N/A	N/A	0.1
TOTAL REFORESTATION + AFFORESTATION OBLIGATION	0.7	1.7	0.1
SUM OF FOREST REQUIREMENTS			2.5

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
6/20/11	2	REMOVE FOR FROM PARCEL 'C'
8-13-99	1	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREN L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK D (LOTS 1-6, 10) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-6) & RESIDUE OF LIBER 1444 FOLIO 564

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **FOREST CONSERVATION AND REFORESTATION / AFFORESTATION PLAN**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

3.11.99

DAVID T. DOWS #830 — STATE OF MARYLAND

DESIGNED BY :	R.A.F.
DRAWN BY:	G.T.H.
PROJECT NO :	97016/FINALS FRCON1.DWG
DATE :	MARCH 11, 1999
SCALE :	1"=100'
DRAWING NO.	12 OF 15 2

F-99-52

SEQUENCE OF OPERATIONS

PRE-CONSTRUCTION SITE PREPARATION

All construction activities, practices, techniques, etc. shall be in conformance with Howard County Forest Conservation Program as specified in the Forest Conservation Manual. (The Howard County Forest Conservation Manual supercedes any discrepancies between these plans and the Manual.)

1. Install tree protection fence and implement tree protection methods as shown.
2. Mow or brush hog the site within the limits of the proposed reforestation area. Do not remove or damage any existing trees or saplings unless otherwise indicated.

   There shall be no staging, storage or stockpiling of material within the nontidal wetlands or 25' nontidal wetlands buffer.
3. Remove or treat with an acceptable method, noxious plant material such as Multiflora Rose, Tearthumb, and Johnson Grass before installing reforestation plants.
4. Install tree protection signage.
5. Stabilize any disturbed areas using the specified stabilization mixture which allows for natural revegetation of forest communities.

FOREST CONSERVATION SEQUENCE OF OPERATIONS

All construction activities, practices, techniques, etc. shall be in conformance with Howard County Forest Conservation Program as specified in the Forest Conservation Manual. (The Howard County Forest Conservation Manual supercedes any discrepancies between these plans and the Manual.)

1. 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).
2. 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.
3. All forest retention areas shall be protected by highly visible, wall anchored temporary protection devices (see detail), which shall be securely in place prior to any clearing or grading operations.
4. 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.
5. 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.
6. 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 examined within a period of two (2) days from the date of observance 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.
7. 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 and egress 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.
8. 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.

AFFORESTATION/REFORESTATION PLANTING SEQUENCE OF OPERATIONS

All construction activities, practices, techniques, etc. shall be in conformance with Howard County Forest Conservation Program as specified in the Forest Conservation Manual. (The Howard County Forest Conservation Manual supercedes any discrepancies between these plans and the Manual.)

1. The Contractor(s) shall inform the Howard County Department of Planning and Zoning (DPZ) when planting operations are to begin.
2. Determine storage areas for materials and equipment. Obtain approval of location from Owner and the DPZ.
3. Prior to beginning any planting, the soils within the area(s) designated for Afforestation or Reforestation shall be analyzed regarding the following features: nutrient content, organic matter, structure, pH and cation exchange capacity. Soils that have been actively farmed may require evaluation for pesticide or herbicide contamination. Such analysis may be performed by the local Soil Conservation Service or Agricultural Extension Service. A minimum of three random samples should be collected for the analysis. An assessment of soil moisture should also be made at this time. Corrective measures shall be made in accordance with analysis results and recommendations.
4. The Contractor, assisted by a Representative of Riemer Muegge & Associates, shall stake (or wire-flag) planting area limits and plant locations in accordance with the plan and details.
5. Provide and plant all trees of the species and sizes specified and in accordance with the detail(s) shown on the Forest Conservation Plans, unless otherwise directed by the Howard County DPZ. Any species substitutions shall be approved by Riemer Muegge & Associates or the Howard County DPZ. The Contractor is urged to seek such approval prior to ordering or planting.
6. At the completion of planting, remove all excess materials and miscellaneous debris from the respective area(s) of work.
7. Protection Devices - to prevent damage within planted areas, all reforestation and/or afforestation sites must be posted with appropriate signs and the area(s) delineated with appropriate protective fencing. No construction equipment nor storage of materials shall be permitted within the planted areas. Details are shown on the Forest Conservation Plans regarding typical sign size and wording. No pedestrian traffic shall be allowed within the protected areas.
8. Attachment of signs or any other objects to trees within the protected areas is prohibited.

FOREST CONSERVATION PROGRAM

I. OBJECTIVE:

IT IS THE OBJECTIVE OF THE FOREST RETENTION AND THE REFORESTATION PORTION OF THE CLARKS GLEN NORTH SUBDIVISION TO RETAIN ENVIRONMENTAL INTEGRITY BY PRESERVING AND ENHANCING EXISTING WOODED AREAS AND BY REFORESTING OPEN AREAS.

II. PRESERVATION:

FOREST PRESERVATION AND CREATION AREAS SHALL BE PERMANENTLY PROTECTED BY FOREST CONSERVATION EASEMENTS.

III. GENERAL CONSTRUCTION NOTES:

1. THERE WILL BE NO STAGING OR STORING OF EQUIPMENT WITHIN THE LIMIT OF THE NONTIDAL WETLANDS OR THE 25' BUFFER.
2. PLANTING OF REFORESTATION MATERIAL SHALL BE CONDUCTED IN A MANNER AS TO LIMIT DISTURBANCE TO EXISTING TREES, SAPLINGS OR SIGNIFICANT SHRUBS.

IV. POST CONSTRUCTION MANAGEMENT PRACTICE:

A TWO (2) YEAR POST-CONSTRUCTION AND MANAGEMENT PROGRAM IN CONFORMANCE WITH THE HOWARD COUNTY FOREST CONSERVATION MANUAL IS REQUIRED. THE PURPOSE OF THE PROGRAM IS TO ENSURE THE PROBABILITY OF A HIGH SURVIVAL RATE AND INCLUDES, BUT IS NOT LIMITED TO, 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.

PLANTING SPECIFICATIONS

AFFORESTATION OR REFORESTATION MAINTENANCE AND REPLACEMENT REQUIREMENTS

A two year (24) month maintenance and replacement warranty period is required for all newly planted materials. The maintenance and replacement warranty period shall commence upon the date of the written acceptance by the Owner of the planted areas. A written warranty will be delivered to the Owner upon acceptance of the planted areas. Maintenance and replacement shall be provided by the Contractor responsible for the initial planting operations and related work. All landscape plant material included as forest conservation credits shall be covered under this maintenance and replacement warranty period.

I. MAINTENANCE:
The Contractor shall field check the newly planted area(s) and shall provide the following maintenance items in accordance with the following schedule which shall begin after the completion and acceptance of the initial Afforestation or Reforestation planting.

II. MAINTENANCE ITEMS:

1. Watering: Watering of all newly planted materials once per week as weather permits during the entire initial growing season. Following the initial growing season, watering shall be done on an "as needed" basis depending on the frequency of rainfall. During the months of July and August and periods of severe drought, all newly planted materials shall be watered thoroughly once every week. Watering shall be done deeply and slowly using an open end hose or watering probe, at low pressure, allowing the water to be absorbed into the soil until thoroughly saturated. The watered area shall include the whole root zone as the tree becomes more established.
2. Fertilizing: Fertilizing shall be applied only after the soil has been tested to determine its needs. Organic fertilizer should be applied in accordance with the amounts recommended in the soil analysis report. No fertilizing of newly planted trees shall be done within the first growing season after initial planting. Following the first growing season, apply fertilizer as recommended either in late fall or early spring.
3. Supplemental Mulch: To control undesirable vegetation adjacent to the newly planted materials and to prevent tree roots from drying out, additional mulch shall be placed over the existing mulch field where required. Carefully remove any invasive plants (including the root system) within the mulch fields. Do not damage trees in any way during removal of invasive plants or remulching operations.
4. Pruning: Remove dead, diseased, dying and broken branches from all plant materials. Pruning shall be done cleanly leaving no flagged ends.

III. REPLACEMENT OF DEAD OR DYING MATERIALS:

1. Replacement: Any plant materials which are 25% dead or more shall be replaced during the appropriate spring or fall planting seasons in accordance with the methods indicated in the Planting Specifications. A tree shall be considered dead when the main leader has died back.
2. All replacements shall be plants of the same genus, species and size as specified on the plant list.
3. Contractor shall schedule an inspection of the Afforestation or Reforestation area(s) by a qualified representative of the DPZ and by the qualified professional who prepared the plan, at the beginning and at the end of the growing season to observe, prune, monitor survival rate and specify necessary remedial actions needed to correct existing problems. The inspection should focus on the following items when determining survival potential:
   (a) Vigor and threat of competing vegetation
   (b) Plant structure
   (c) Growth rate
   (d) Crown development
   (e) Trunk condition and health

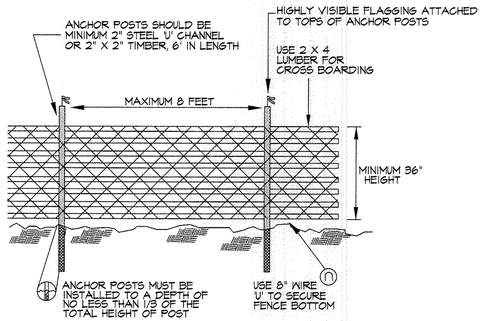
IV. PLANT CONDITION CHECK SHEETS
The Contractor shall maintain accurate records on appropriate field data check sheets which shall include all conditions observed relative to the health and potential survival of the plant materials. Such check sheets shall be completed during each scheduled maintenance session during the 24 month management and maintenance program. One copy of the check sheets shall be sent to the Client, one copy to RMA, and one copy shall be sent to the Howard County Department of Planning and Zoning.

V. SURVIVAL REQUIREMENT:
The survival rate for Afforestation and Reforestation areas shall be a minimum of seventy-five percent (75%) of the total number of trees required to be planted per acre under the approved plan.

VI. INSPECTION/CERTIFICATION SCHEDULE:
The Contractor shall submit with his bid, a schedule for the work which shall include inspections by RMA at the conclusion of installation and at the start and conclusion of each growing season during the two-year warranty period.

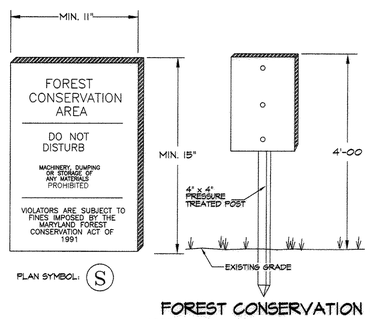
VII. PENALTY FOR VIOLATION:
A site inspection by the Contractor and a representative of RMA shall take place at the end of the 24 month management and maintenance agreement period. The Contractor shall contact RMA at least one (1) month in advance of such inspection for coordination. If the survival rate of the Afforestation or Reforestation area(s) falls below the established survival requirements by the end of the 24-month management and maintenance agreement, the remaining amount of the cash bond or other surety may be subject to forfeiture, or other penalties may be imposed.

TREE PROTECTION SIGNAGE & FENCING



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

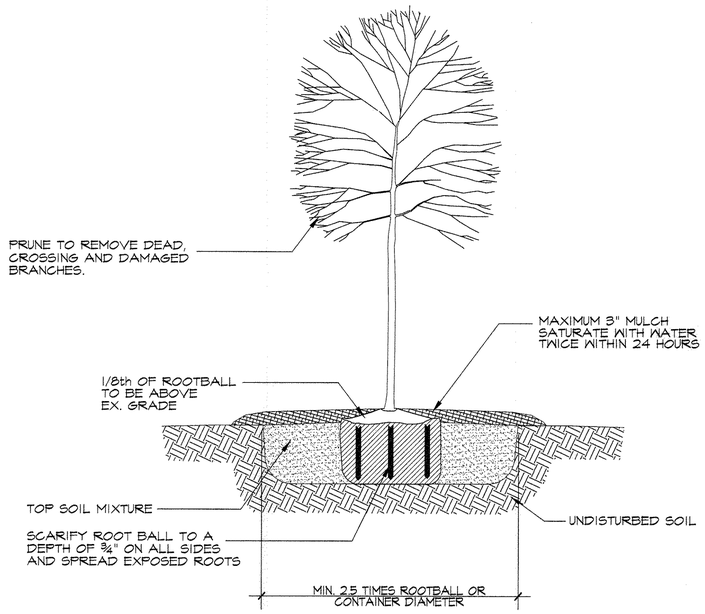
TREE PROTECTION FENCING
NOT TO SCALE



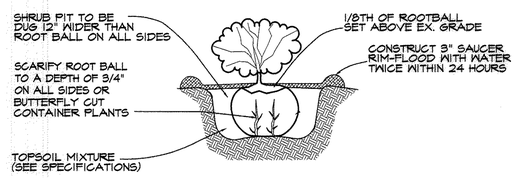
FOREST CONSERVATION & REFORESTATION SIGN DETAIL
NOT TO SCALE

NOTES:
1. SIGNAGE SHALL BE LOCATED ON FOREST CONSERVATION / REFORESTATION / AFFORESTATION EASEMENT BORDER.
2. SEE PLAN FOR SPACING.

PLANTING DETAILS

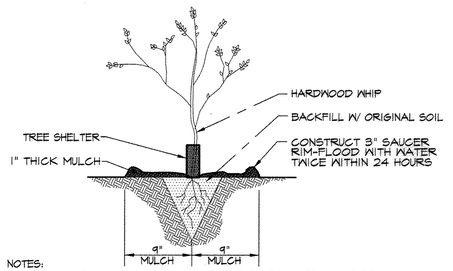


CONTAINERIZED TREE PLANTING DETAIL
NOT TO SCALE



NOTE: ALL CONTAINERS OR BURLAP SHALL BE REMOVED BEFORE INSTALLATION.

SHRUB PLANTING DETAIL
NOT TO SCALE



NOTES:
1. EXTREME CARE SHALL BE TAKEN TO INSURE RETAINED MOISTURE OF THE ROOTS. A MOIST CARRYING CONTAINER SHALL BE USED WHEN TRANSPORTING WHIPS TO THE FIELD.
2. DO NOT SUBMERGE ROOTS OF WHIPS IN WATER OVERNIGHT.

WHIP PLANTING W/ TREE SHELTER DETAIL
NOT TO SCALE

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/4/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 5/4/99

DATE	NO.	REVISION
8-13-99	1	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 9) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-8) & RESIDUE OF LIBER 1964 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE FOREST CONSERVATION AND REFORESTATION / AFFORESTATION NOTES & DETAILS

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

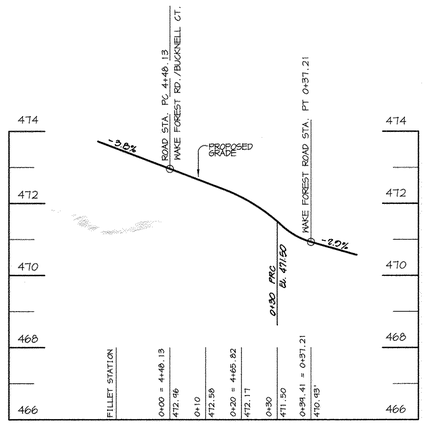
3.11.99
DATE

STATE OF MARYLAND — DAVID DOWS — 830

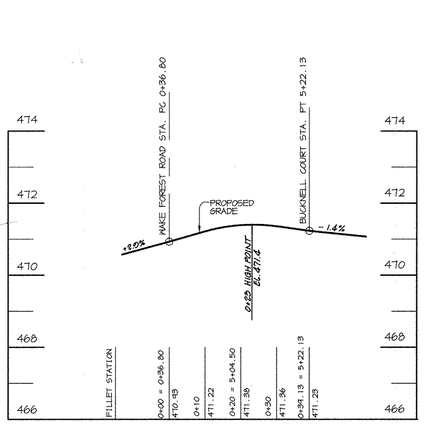
DAVID T. DOWS #830

DESIGNED BY :	R.A.F.
DRAWN BY:	G.T.H.
PROJECT NO :	97016/FINALS FRCON2.DWG
DATE :	MARCH 11, 1999
SCALE :	NO SCALE
DRAWING NO.	13 OF 15

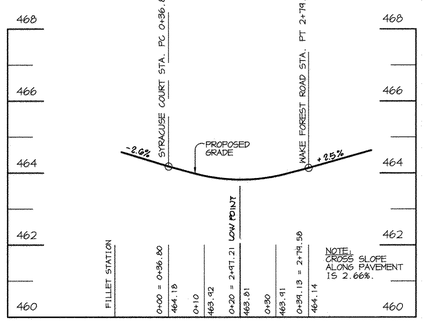
F-99-52



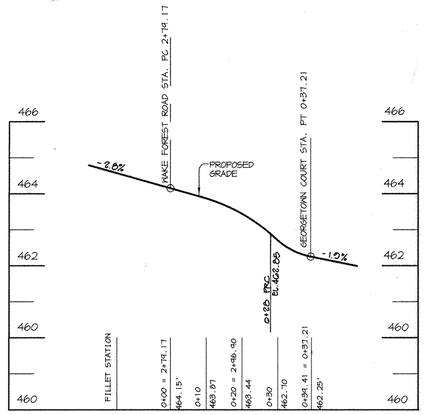
FILLET PROFILE #1
MAKE FOREST RD.
SCALE :
HOR. -1"=20'
VERT. -1"=2'



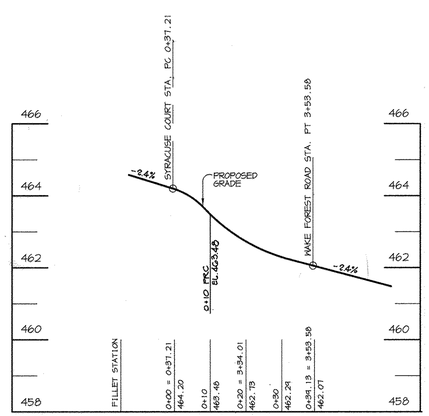
FILLET PROFILE #2
MAKE FOREST RD. & BUCKNELL CT.
SCALE :
HOR. -1"=20'
VERT. -1"=2'



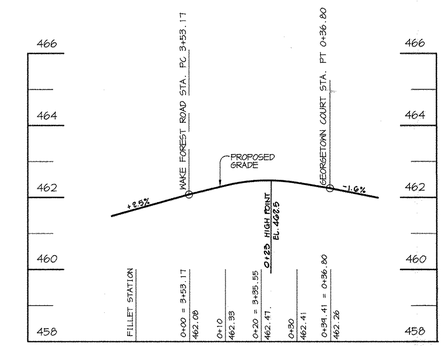
FILLET PROFILE #3
MAKE FOREST RD. & SYRACUSE COURT
SCALE :
HOR. -1"=20'
VERT. -1"=2'



FILLET PROFILE #4
MAKE FOREST RD. & GEORGETOWN COURT
SCALE :
HOR. -1"=20'
VERT. -1"=2'



FILLET PROFILE #5
MAKE FOREST RD. & SYRACUSE CT.
SCALE :
HOR. -1"=20'
VERT. -1"=2'



FILLET PROFILE #6
MAKE FOREST RD. & GEORGETOWN CT.
SCALE :
HOR. -1"=20'
VERT. -1"=2'

30.0 – DUST CONTROL

DEFINITION

CONTROLLING DUST BLOWING AND MOVEMENT ON CONSTRUCTION SITES AND ROADS.

PURPOSE

TO PREVENT BLOWING AND MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, REDUCE ON AND OFF-SITE DAMAGE, HEALTH HAZARDS, AND IMPROVE TRAFFIC SAFETY.

CONDITIONS WHERE PRACTICE APPLIES

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO DUST BLOWING AND MOVEMENT WHERE ON OFF-SITE DAMAGE IS LIKELY WITHOUT TREATMENT.

SPECIFICATIONS

TEMPORARY METHODS

1. MULCHES – SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
2. VEGATATIVE COVER – SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
3. TILLAGE – TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12" APART, SPRING-TOOTHED HARROWS, AND SIMILIAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
4. IRRIGATION – THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THAT RUNOFF BEGINS TO FLOW.
5. BARRIERS – SOLID BOARD FENCES, SILT FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
6. CALCIUM CHLORIDE – APPLY AT RATES THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

PERMANENT METHODS

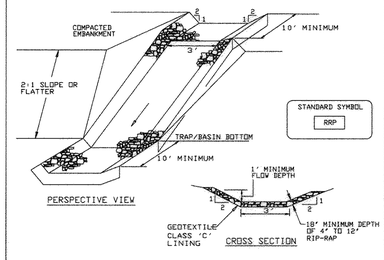
1. PERMANENT VEGETATION – SEE STANDARDS FOR PERMANENT VEGETATIVE COVER. AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
2. TOPSOILING – COVERING WITH LESS EROSIVE SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
3. STONE – COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

REFERENCES

1. AGRICULTURE HANDBOOK 346. WIND EROSION FORCES IN THE UNITED STATES AND THEIR USES IN PREDICTING SOIL LOSS.
2. AGRICULTURE INFORMATION BULLETIN 354. HOW TO CONTROL WIND EROSION, USDA-ARS.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 30 – 1	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 5 – RIP-RAP INFLOW PROTECTION

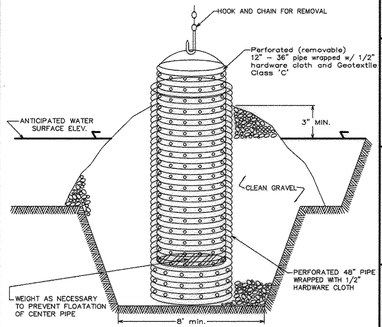


Construction Specifications

1. Rip-rap lined inflow channels shall be 1' in depth, have a trapezoidal cross section with 2:1 or flatter side slopes and 3' (min.) bottom width. The channel shall be lined with 4" to 12" rip- rap to a depth of 18".
2. Filter cloth shall be installed under all rip-rap. Filter cloth shall be Geotextile Class C.
3. Entrance and exit sections shall be installed as shown on the detail section.
4. Rip-rap used for the lining may be recycled for permanent outlet protection if the basin is to be converted to a stormwater nonagement facility.
5. Gabion Inflow Protection may be used in lieu of Rip-rap Inflow Protection.
6. Rip-rap should blend into existing ground.
7. Rip-rap Inflow Protection shall be used where the slope is between 4:1 and 10:1, for slopes flatter than 10:1 use Earth Dike or Temporary Swale lining criteria.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 6 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 20A – REMOVABLE PUMPING STATION

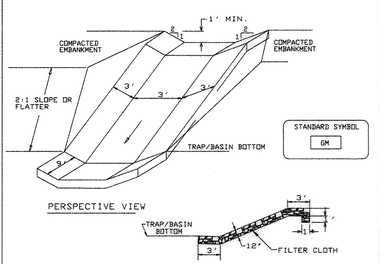


Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.
2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.
4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE D – 12 – 4	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 6 – GABION INFLOW PROTECTION



Construction Specifications

1. Gabion inflow protection shall be constructed of 9' x 3' x 9' gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
2. Geotextile Class C shall be installed under all gabion baskets.
3. The stone used to fill the gabion baskets shall be 4" - 7".
4. Gabions shall be installed in accordance with manufacturers recommendations.
5. Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE B – 7 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

BY THE DEVELOPER :

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

DEVELOPER — DATE 3.11.99

BY THE ENGINEER :

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

ENGINEER — DATE 3.11.99

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

NATURAL RESOURCES CONSERVATION SERVICE — DATE 3/23/99

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

HOWARD SOIL CONSERVATION DISTRICT — DATE 3/23/99

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 3-26-99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 5/1/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 6/4/99

DATE	NO.	REVISION
8-13-99	⚠	ADDED SHEET 15

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 – 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B (LOTS 1-6, 41) AND HERITAGE HEIGHTS, BLOCK C (LOTS 1-8) & RESIDUE OF LIBER 1966 FOLIO 584

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **CURB PROFILES AND SEDIMENT CONTROL DETAILS**

RIEMER MUEGGE & ASSOCIATES, INC.
ENGINEERING ● ENVIRONMENTAL SERVICES ● PLANNING ● SURVEYING
8818 Centre Park Drive, Columbia, Maryland 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	DAM
PROJECT NO	97016/FINALS 'RD14.DNS
DATE :	MARCH 11, 1999
SCALE :	AS SHOWN
DRAWING NO.	14 OF 15⚠

F-99-52

M:\PROJECT\97016\FINALS\RD14 Thu Mar 11 08:22:07 1999 RIEMER MUEGGE & ASSOCIATES, INC.

NOTES:
1. NOTIFY 911, BOARD OF EDUCATION AND POST OFFICE 7 DAYS PRIOR TO CLOSING.
2. ALL LOCATIONS FOR TRAFFIC CONTROL SIGNS FOR DETOUR MUST BE APPROVED BY TRAFFIC ENGINEERING (HOWARD COUNTY) PRIOR TO INSTALLING ANY SIGNS.

(7) (2) HIGH INTENSITY FLASHING LIGHTS TYPE III 4'-0" MIN. WHITE/ORANGE

(8A) ROAD CLOSED AHEAD / LOCAL TRAFFIC ONLY / DETOUR — R 11-3 60" x 30" BLACK/WHITE; M 4-10(L) 48" x 18" BLACK/ORANGE — MOUNT ON TYPE III BARRICADE

(9) ROAD CLOSED — R 11-2 48" x 30" BLACK/WHITE

(10) ROAD CLOSED 500 FT — W 20-3 48" x 48" BLACK/ORANGE

LOT 36, LOT 29, LOT 35, LOT 30, LOT 37, LOT 34, LOT 31, LOT 38, LOT 33, LOT 32, LOT 28, LOT 25, LOT 26, LOT 27, LOT 24, LOT 22, LOT 21, LOT 23, LOT 20, LOT 19, LOT 18, LOT 3, LOT 4, LOT 15, LOT 16, LOT 17, LOT 2, LOT 5, LOT 14, LOT 6, LOT 13, LOT 12, LOT 11, LOT 1, LOT 7, LOT 8, LOT 9, LOT 10

BUCKNELL COURT
GEORGETOWN COURT
STRAGUSE COURT
TULANE DRIVE
THOMPSON DRIVE
WAKE FOREST ROAD
GUILFORD ROAD
MD. RTE. 108 - CLARKSVILLE PIKE

DENISE MILES PARCEL 204 LOT 10 HERITAGE HEIGHTS BLOCK B 1213/73 ZONED R-12

EDGAR W. ZEPP P.204 LOT A-2 ZONED B-2

EDGAR ZEPP III P.204 LOT A-1 ZONED B-2

EDGAR W. & ROSEMARY ZEPP 1988/448 P.195 ZONED B-2

PETER WEYMOUTH, TRUSTEE 2404/222 P.156 ZONED B-2

DORIS L. JOHNSON 566/462 P.37 ZONED R-12

WILBEN LIMITED PARTNERSHIP 1994/584 PARCEL ONE PART THREE ZONED B-2

PARCEL 'B' 81,874 sq.ft. 1.88 acres

HERITAGE HEIGHTS P/O BLOCK C

HERITAGE HEIGHTS BLOCK D

ROAD CLOSED WITH TYPE III BARRICADES (7)(9)

TYPE III BARRICADES ROAD CLOSED AHEAD DETOUR (8A)(7)

DETOUR TO WAKEFOREST ROAD (1A)

WAKEFOREST ROAD END DETOUR (3)

ROAD CLOSED AHEAD 500 FEET (10)

TYPE III BARRICADES ROAD CLOSED AHEAD DETOUR (8B)(7)

WAKEFOREST ROAD END DETOUR (3)

DETOUR TO WAKEFOREST ROAD (4)

DETOUR TO WAKEFOREST ROAD (1)

COVER OR REMOVE EXISTING W 2-2 SIGNS ALONG MD. ROUTE 108 (*)

DETOUR TO WAKEFOREST ROAD (1B)

DETOUR TO WAKEFOREST ROAD (2A)

DETOUR TO WAKEFOREST ROAD (1B)

DETOUR TO WAKEFOREST ROAD (2B)

DETOUR TO WAKEFOREST ROAD (1B)

DETOUR TO WAKEFOREST ROAD (1A)

DETOUR TO WAKEFOREST ROAD (2A)

750'

(4) WAKE FOREST RD. / DETOUR — 30" X 10" 4" CAPITAL LETTERS BLACK/WHITE; M 4-9(MOD.) 30" x 24" BLACK/ORANGE

(3) WAKE FOREST RD. / END DETOUR — 30" X 10" 4" CAPITAL LETTERS; M 4-8a 30" x 24"

(8B) ROAD CLOSED AHEAD / LOCAL TRAFFIC ONLY / DETOUR — R 11-3 60" x 30" BLACK/WHITE; M 4-10(R) 48" x 18" BLACK/ORANGE — MOUNT ON TYPE III BARRICADE

(2A) WAKE FOREST RD. / DETOUR — 30" X 10" 4" CAPITAL LETTERS BLACK/WHITE; M 4-9(R)MOD. 30" x 24" BLACK/ORANGE

(2B) WAKE FOREST RD. / DETOUR — 30" X 10" 4" CAPITAL LETTERS BLACK/WHITE; M 4-9(L)MOD. 30" x 24" BLACK/ORANGE

(*) WAKE FOREST RD. — NORTHBOUND 108

(*) WAKE FOREST RD. — NORTH OF WAKEFOREST ROAD

(1A) WAKE FOREST RD. / DETOUR — 30" X 10" 4" CAPITAL LETTERS BLACK/WHITE; M 4-9(L) 30" x 24" BLACK/ORANGE

(1B) WAKE FOREST RD. / DETOUR — 30" X 10" 4" CAPITAL LETTERS BLACK/WHITE; M 4-9(R) 30" x 24" BLACK/ORANGE

PLAN
SCALE: 1" = 60'

AS BUILT CERTIFICATE

DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.

CHIEF, BUREAU OF HIGHWAYS — DATE 8/31/99

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/7/99

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/2/99

DATE	NO.	REVISION

OWNER / DEVELOPER

WILBEN LLLP
c/o ANDREW L. ISAACSON
5450 WHITLEY PARK TERRACE SUITE 410
BETHESDA, MARYLAND 20814

PROJECT **CLARKS GLEN NORTH**
LOTS 1 - 42 & PARCEL B & C
A RESUBDIVISION OF HERITAGE HEIGHTS, BLOCK B / LOTS 1-6, 41 AND HERITAGE HEIGHTS, BLOCK C / LOTS 1-61 & RESIDUE OF LIBER 1694 FOLIO 564

AREA PARCEL 205 & P/O 204
TAX MAP 34 ZONED R-12, B-2 & RC
5th ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

TITLE **ROAD CLOSING PLAN**

RIEMER MUEGGE & ASSOCIATES INC
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING
8818 Centre Park Drive, Columbia, MD 21045
tel 410.997.8900 fax 410.997.9282

DATE

STATE OF MARYLAND — ARTHUR E. MUEGGE — NO. 8707 — REGISTERED PROFESSIONAL ENGINEER

ARTHUR E. MUEGGE #8707

DESIGNED BY :	CJR
DRAWN BY:	K.E.V.
PROJECT NO :	97016/FINALS RDCLSNG.DWG
DATE :	AUGUST 20, 1999
SCALE :	AS SHOWN
DRAWING NO.	15 OF 15

F-99-52

M:\PROJECTS\97016\FINALS\RDCLSNG.DWG Fri Aug 20 11:27:20 1999 RIEMER MUEGGE & ASSOCIATES, INC.