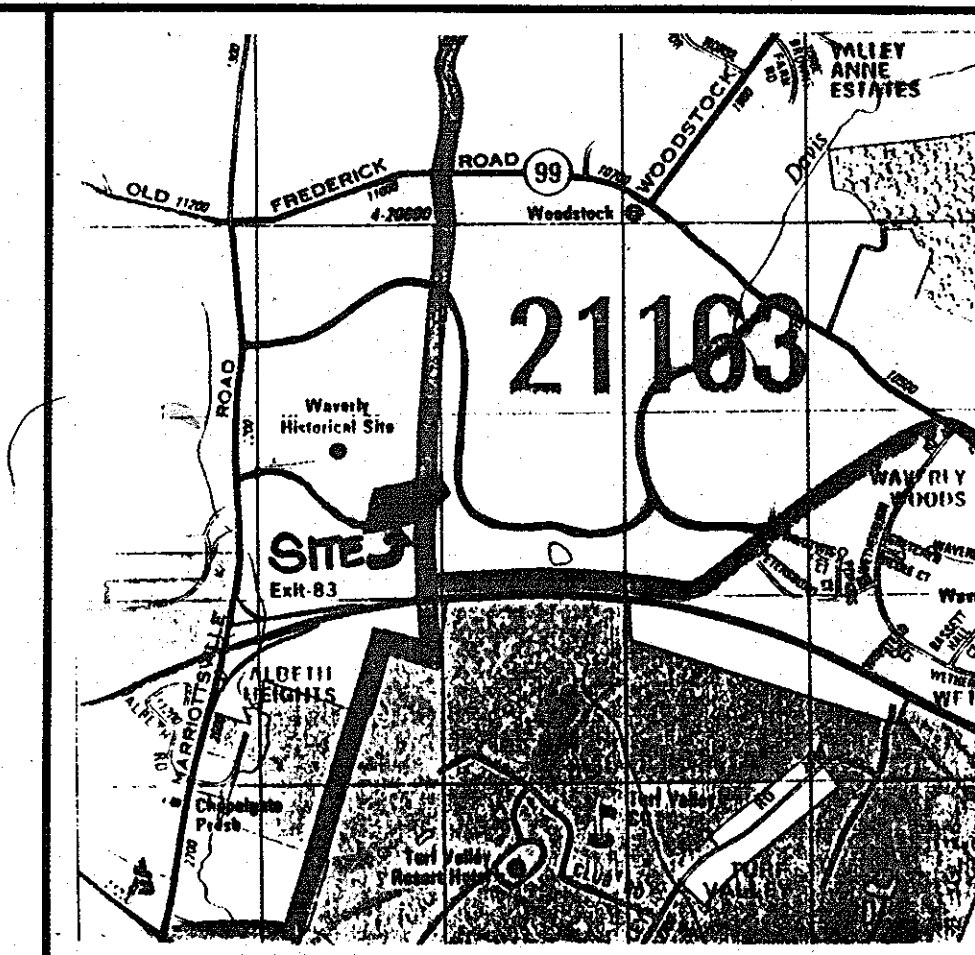


GENERAL NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY AND MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- CONTRACTOR TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS:
 M&D UTILITY 1-800-987-7777
 CAP TELEPHONE COMPANY 729-9976
 HOWARD COUNTY BUREAU OF UTILITIES 313-4900
 AT&T CABLE LOCATION DIVISION 292-3553
 BALTIMORE GAS & ELECTRIC COMPANY 685-0123
 STATE HIGHWAY ADMINISTRATION 531-5533
- PROJECT BACKGROUND:
 LOCATION: TAX MAP 16, GRID 4 & 5, PARCELS 406, ELECTION DISTRICT 3.
 ZONING: REC.
 AREA: 221 AC +/-
 DPZ FILES: S-94-007, P-95-007, P-96-16, WP-95-023, ZB 929-M, F-95-173, F-95-174, SDP-96-35, F-97-180 & BA-96-21V
- TOPOGRAPHY BASED ON GRADING PLANS FROM F-97-180.
- HORIZONTAL AND VERTICAL DATUM SHOWN ARE BASED ON THE FOLLOWING NAD 83 HOWARD COUNTY CONTROL STATIONS:
 HOWARD COUNTY MONUMENT 1012 N 601063.17, EL. 445.577
 HOWARD COUNTY MONUMENT 16E1 E 1345356.7580, EL. 509.924
 HOWARD COUNTY MONUMENT 16E1 N 932550.9322, EL. 509.924
 HOWARD COUNTY MONUMENT 16E1 E 1340192.7100, EL. 509.924
- FLOODPLAIN DELINEATION IS BASED ON FLOODPLAIN STUDY BY MILDENBERG BOENDER & ASSOCIATES INCORPORATED APPROVED MARCH 3, 1995.
- BOTH STORMWATER QUALITY AND QUANTITY MANAGEMENT FOR THIS SITE HAVE BEEN PROVIDED UNDER SDP-96-35. FOND #5 ON THE SDP-96-35 PLANS HAVE BEEN DESIGNED TO HANDLE RUNOFF PRODUCED BY THIS SITE.
- WETLAND DELINEATION IS BASED ON STUDY DATED FEBRUARY 1997.
- THE TRAFFIC STUDY PREPARED BY THE TRAFFIC GROUP WAS APPROVED ON NOVEMBER 30, 1993.
- A WAIVER TO SECTIONS 5.2.6.E AND F OF THE DESIGN MANUAL VOLUME 1 WAS APPROVED OCTOBER 19, 1995.
- WETLANDS BEARS AND DISTANCES ESTABLISHED BY FISHER, COLLINS AND CARTER, INC.
- GOLF COURSE EASEMENTS AND PARCELS ARE BASED ON PLAT TITLED "PLAT SHOWING GOLF COURSE EASEMENTS AND LEASE PARCELS OF WAVERLY WOODS GOLF CLUB, L.L.C., BY FISHER COLLINS AND CARTER, INC. DATED AUGUST 3, 1995 AND RECORDED AS FOLLOWS: GOLF COURSE EASEMENT L 3464 F 574
- APPLICATION WAS MADE TO THE BOARD OF APPEALS FOR SETBACK VARIANCE CASE #BA-96-21V, FOR GOLF COURSE ONLY AND NOT THIS SITE.
- THIS PROJECT IS SUBJECT TO WAIVER PETITION WP-95-23 FROM THE FOLLOWING SECTIONS:
 SECTION 16.115(A)(1) AND (2) WHICH RESTRICTS GRADING AND REMOVAL OF VEGETATIVE COVER FROM CERTAIN WETLAND AND STREAM BUFFERS. (APPROVED JANUARY 23, 1995.)
 SECTION 16.116(B) WHICH RESTRICTS GRADING OF CERTAIN STEEP SLOPES OF 25% OR GREATER. (APPROVED JANUARY 23, 1995.)
 SECTION 16.115(A) WHICH RESTRICTS DEVELOPMENT WITHIN CERTAIN 100 YEAR FLOODPLAIN. (APPROVED JAN. 23, 1995.)
 SECTION 1204(A) WHICH PERTAINS TO THE REQUIREMENT OF SUBMITTING AND OBTAINING CONSERVATION PLANS WITH THE SDP. (APPROVED MAY 8, 1996.)
- MOE PERMIT NUMBERS: CENAB-OP-RP-1-00921-3 AND CENAB-OP-RP-91-00921-5.
- VEHICULAR INGRESS AND EGRESS RESTRICTED ON ALL ADJOINING ROADS EXCEPT AS APPROVED BY HOWARD COUNTY ON COUNTY ROADS OR BY SHA ON STATE ROADS.
- AN AGREEMENT HAS BEEN MADE BETWEEN THE DEVELOPER AND HOWARD COUNTY TO DEER FOREST CONSERVATION FOR THIS SITE UNTIL THE GOLF COURSE HAS BEEN MASS GRADED. AT SUCH TIME THE EXISTING FOREST CONSERVATION PLAN FOR SDP-96-35 WILL BE AMENDED TO REFLECT MASS GRADING. THE EXISTING FOREST CONSERVATION PLAN WILL ALSO BE AMENDED TO REFLECT THE DEVELOPMENT OF THIS SITE.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALLS.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT TO SUBGRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE AS SHOWN IN DETAIL 02.01 (TRENCH IN ROCK OR TRENCH IN EARTH AS DETERMINED BY FIELD CONDITIONS) IN VOL. IV OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER OR AS SHOWN ON THE DRAWINGS.
- THE PAVEMENT DETAILS SHOWN ON THESE PLANS REFLECT THE HOWARD COUNTY MINIMUM STANDARD PAVEMENT SECTIONS AND ARE NOT BASED ON SITE SPECIFIC CONDITIONS. PRIOR TO PAVING THE FINAL PAVEMENT SECTIONS SHALL BE DETERMINED BY A QUALIFIED GEOTECHNICAL ENGINEER BASED ON IN-SITU TESTING OF THE FINISHED SUBGRADE. ANY PAVEMENT SECTION DETERMINED BY THE GEOTECHNICAL ENGINEER THAT IS LESS THAN THE HOWARD COUNTY MINIMUM STANDARD, SHALL FIRST BE APPROVED BY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS. THE TESTING AND GEOTECHNICAL ENGINEER SHALL BE FURNISHED BY THE OWNER.
- WATER METERS ARE TO BE LOCATED INSIDE EACH BUILDING.
- PARCELS D & E WERE RECORDED ON THE F-97-180 PLAT.
- THE TWO FUTURE BUILDING PADS ARE SHOWN FOR DESIGN PURPOSES ONLY AND ARE NOT APPROVED ON OR BY THIS PLAN.
- ANY PROPOSED POOL FACILITIES AND SWIMMING POOLS ARE SUBJECT TO PLAN REVIEW AND APPROVAL BY THE HOWARD COUNTY HEALTH DEPT. PRIOR TO CONSTRUCTION.

SITE DEVELOPMENT PLAN for WAVERLY GOLF COURSE CLUBHOUSE

THIRD ELECTION DISTRICT * HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1" = 2000'
PERMITTED USE NO. 21096446

SHEET INDEX

1	TITLE SHEET
2	GEOMETRY PLAN
3	SITE DEVELOPMENT PLAN
4	EROSION & SEDIMENT CONTROL PLAN
5	EROSION & SEDIMENT CONTROL NOTES AND DETAILS
6	UTILITY PROFILES
7	UTILITY PROFILES
8	DRAINAGE AREA MAP AND DETAILS
9	LANDSCAPE PLANS
10	RETAINING WALL PROFILES, NOTES, & DETAILS

SITE ANALYSIS

TOTAL AREA OF SITE: PARCEL D 1.846 Acres
 PARCEL E 5.479 Acres
 Total 7.325 Acres

PROPOSED USE:
 GOLF CLUBHOUSE
 GOLF CART STORAGE
 POOL CLUB

AREA OF THIS SUBMISSION: 7.325 Acres
 AREA OF DISTURBANCE: 7.50 Acres
 PRESENT ZONING: P.E.C.
 OPEN SPACE REMAINING: 3.70 Acres

48% OF SUBMISSION AREA
 BUILDING COVERAGE: 0.19 Acres
 2.5% OF SUBMISSION AREA
 BUILDING FOOTPRINT:
 GOLF CLUBHOUSE 3090 SF.
 CART BARN 3485 SF.
 POOL CLUBHOUSE 1991 SF.

PARKING SPACE TABULATIONS

- Golf Course Clubhouse - 3090 s.f. total
 Kitchen & Storage 1270 s.f. - 0 spaces
 Dining/Lounge 1120 sf + Pro Shop 700 sf = 1820 sf of useable space
 10 spaces per 1000-s.f. @ 1820 s.f. = 18 spaces +
 1 space per employee @ 5 employees = 5 spaces
 Subtotal = 23 spaces
- Cart Barn - 1 space per employee at 2 employees = 2 spaces
 - Poolhouse - 1 space per 7 people allowed in pool = 71 spaces
 1 person per 12 s.f. @ 5,950 s.f. = 496 people @ 7 = 71 spaces
 - Community Room 10 spaces per 1000-s.f. @ 460 s.f. = 5 spaces
 - Exercise Room 10 spaces per 1000 s.f. @ 460 s.f. = 5 spaces

Golf Course - 8 spaces per hole at 18 = 144 spaces
 1.5 space/tee at 30 x 1/2 = 15 Tees = 23 spaces
 Subtotal = 167 spaces

* A waiver has been granted by DPZ for the reduction of the Driving Range parking by 1/2 due to shared use with the Golf Course. This waiver was requested by the developer in a letter dated March 26, 1998

Total Spaces Required = 273
 Total Spaces Provided = 273
 Handicapped spaces required = 7
 Handicapped spaces provided = 7

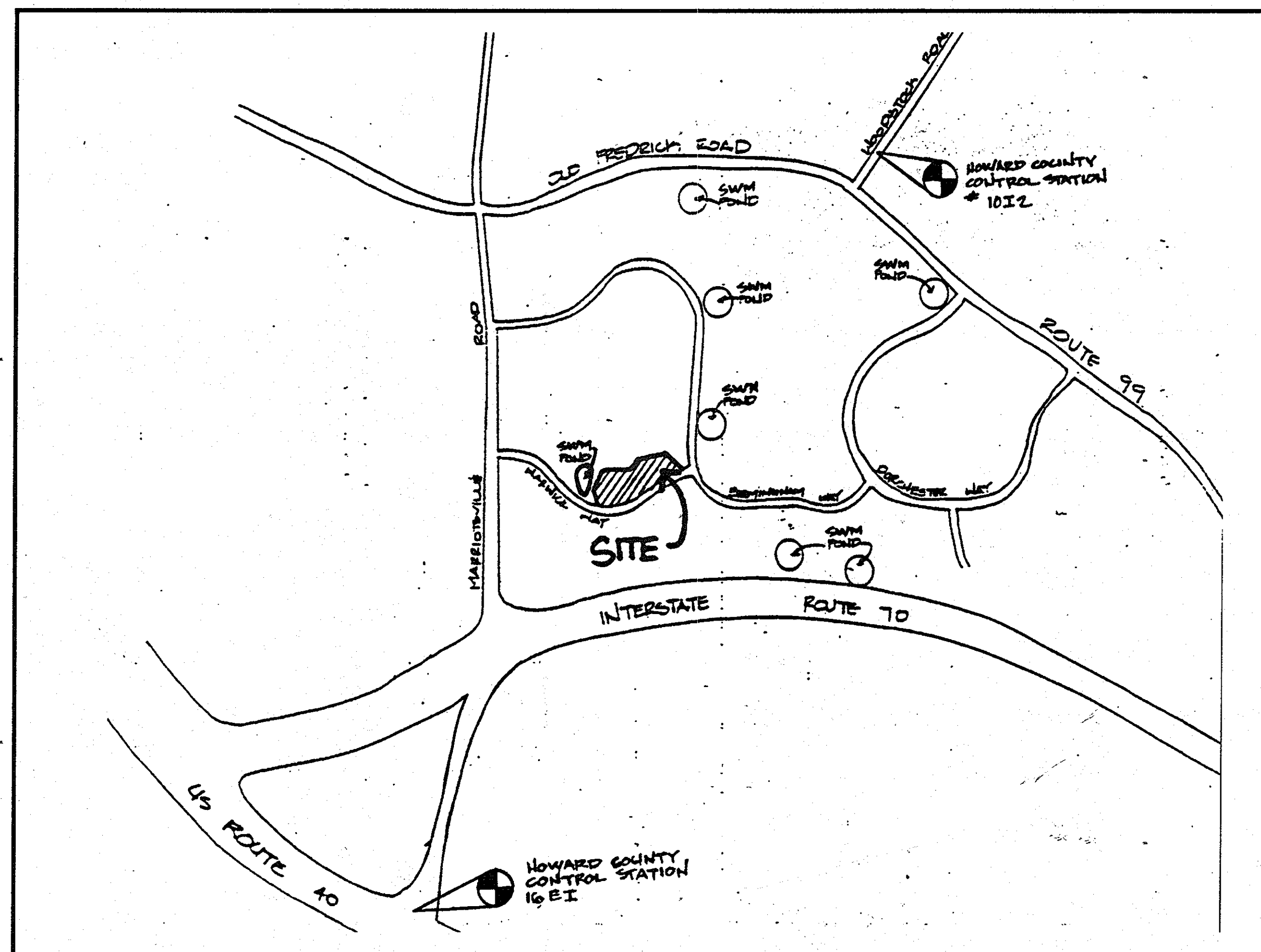
BENCH MARKS

HOWARD COUNTY CONTROL STATION #1012 (NAD'83)
 (NEAR THE INTERSECTION OF MARYLAND ROUTE 99 & WOODSTOCK ROAD)
 N 601.060.177
 E 1.345.336.758
 ELEV=445.577

HOWARD COUNTY CONTROL STATION #16E1 (NAD'83)
 (NEAR THE INTERSECTION OF U.S. ROUTE-40 & MARRIOTTSTVILLE ROAD)
 N 593.250.932
 E 1.340.192.711
 ELEV=509.924

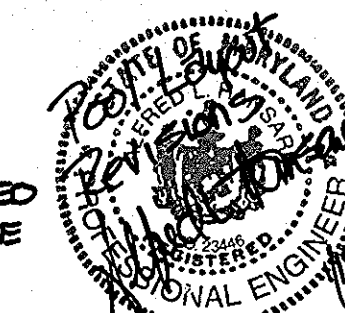
OWNER
 GJM JOINT VENTURES
 C/O LAND DESIGN AND DEVELOPMENT
 10005 HICKORY RIDGE ROAD
 COLUMBIA, MARYLAND 21044

DEVELOPER
 WAVERLY WOODS DEVELOPMENT CORP.
 10005 HICKORY RIDGE ROAD
 SUITE 215
 COLUMBIA, MARYLAND 21044



VICINITY MAP
SCALE: 1" = 1200'

ANY EXTENSIVE USE OF THE COVERED PATIOS FOR FUNCTIONS BEYOND GOLF-RELATED EVENTS OR BEYOND DINING PREDOMINANTLY BY GOLFERS MAY REQUIRE ADDITIONAL PARKING FOR THE EXPANDED USE. PARKING MAY BE REEVALUATED AT WHICH TIME ANY USE IS EXPANDED, OR WHEN PARKING AT THE CLUBHOUSE AND RELATED FACILITIES ARE FOUND TO BE INADEQUATE.



BUILDING TABULATIONS

BLDG. NO.	LEVELS	USE	GROSS AREA	USABLE AREA OPEN TO PUBLIC	COVERED OVERHANG AREA
1	ONE	GOLF COURSE CLUBHOUSE	3,090 S.F.	1,820 S.F.	756 S.F.
2	ONE	CART BARN GOLF COURSE STORAGE	3,485 S.F.	3,485 S.F.	0 S.F.
3	TWO	POOL CLUB HOUSE LEVEL 1	1,991 S.F.	1,009 S.F.	0 S.F.
		POOL CLUB HOUSE LEVEL 2	1,991 S.F.	1,602 S.F.	0 S.F.

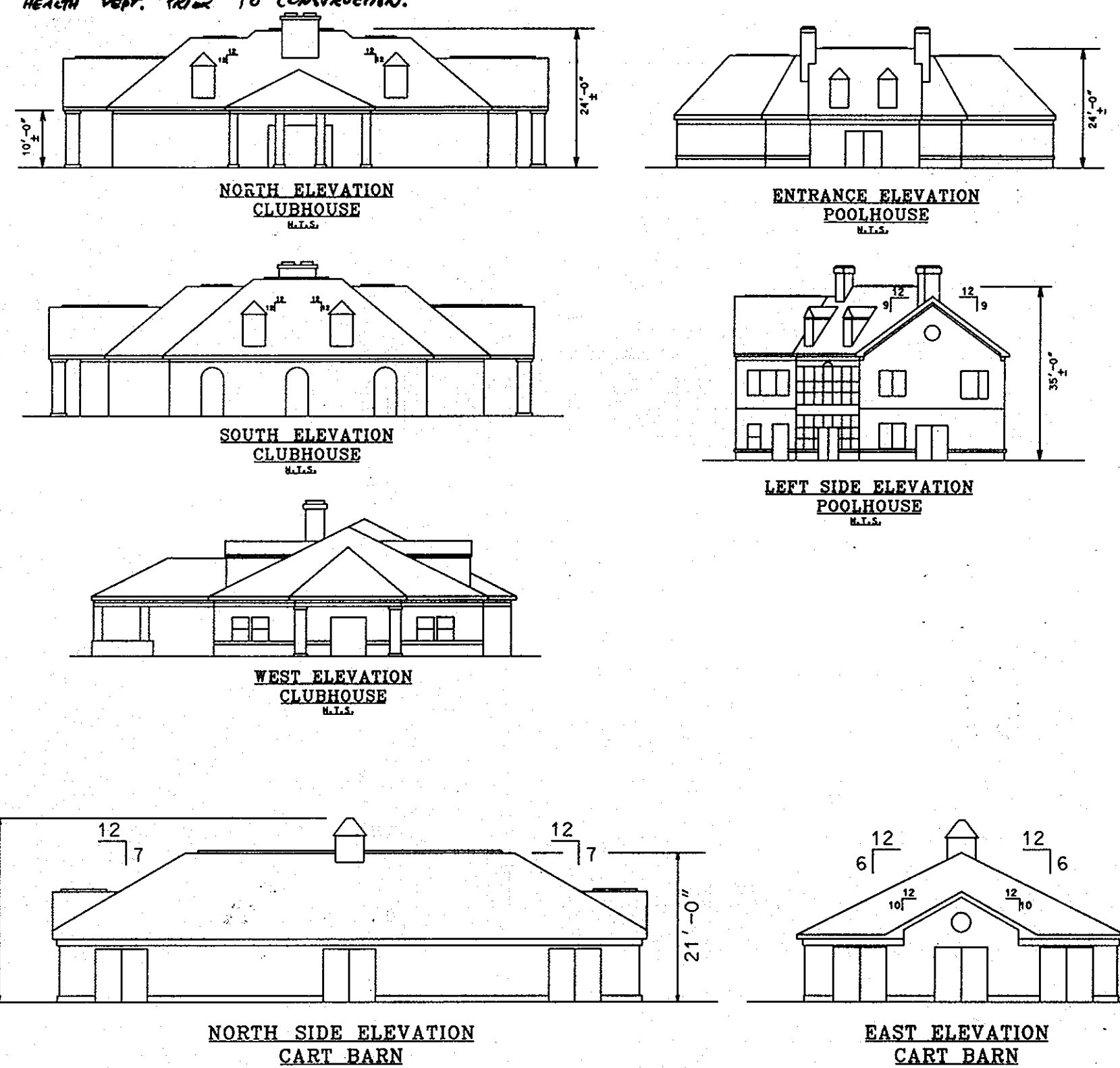
ADDRESS CHART

BUILDING #	STREET ADDRESS
BUILDING 1	2082 WARWICK WAY
BUILDING 2	2100 WARWICK WAY
BUILDING 3	2140 WARWICK WAY
BUILDING 4	2150 WARWICK WAY
BUILDING 5	2180 WARWICK WAY

INCLUDES TENNIS COURTS

PERMIT INFORMATION CHART

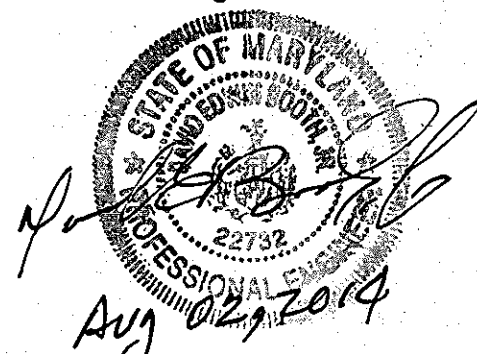
Subdivision Name	WAVERLY WOODS	Section/Area	Section 7	Lot/Parcel	PARCEL D & E
Plot #	13432-13440	Zoning	PEC	Tax Map	16
		Election Dist.	3rd	Census Tract	6030
Water Code	H05	Sewer Code	5992000		



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 22732. Expiration Date: 02/22/2014

Canopy Revision



PROJECT
WAVERLY GOLF COURSE CLUBHOUSE
 Parcel D & E F-97-180 WAVERLY WOODS SECTION 7

TITLE SHEET

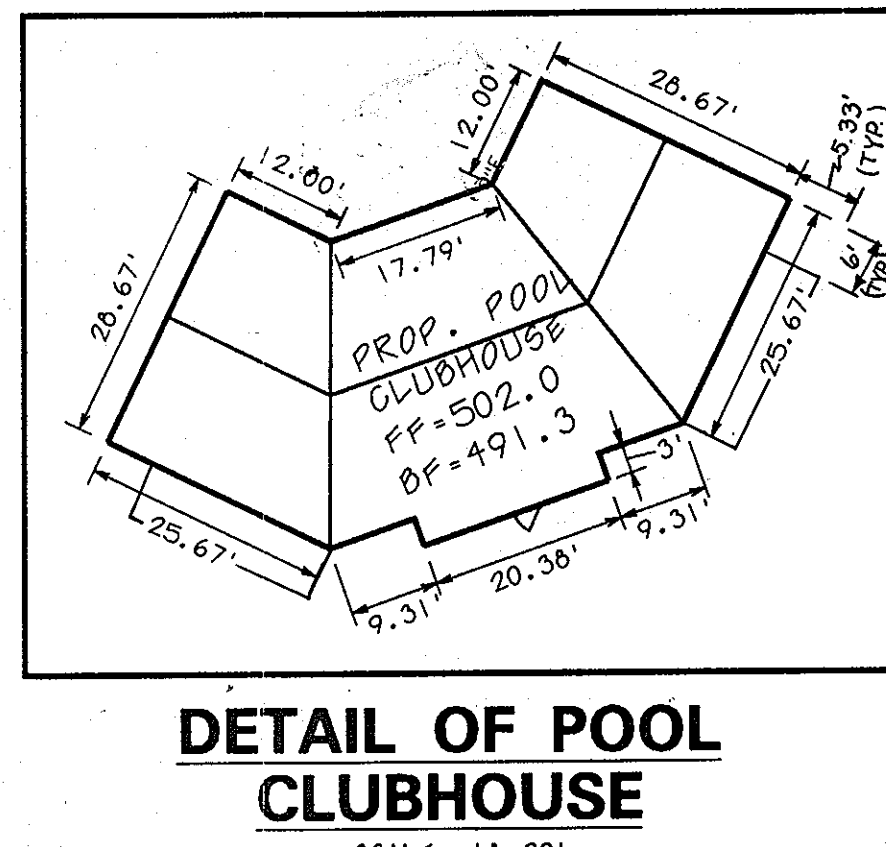
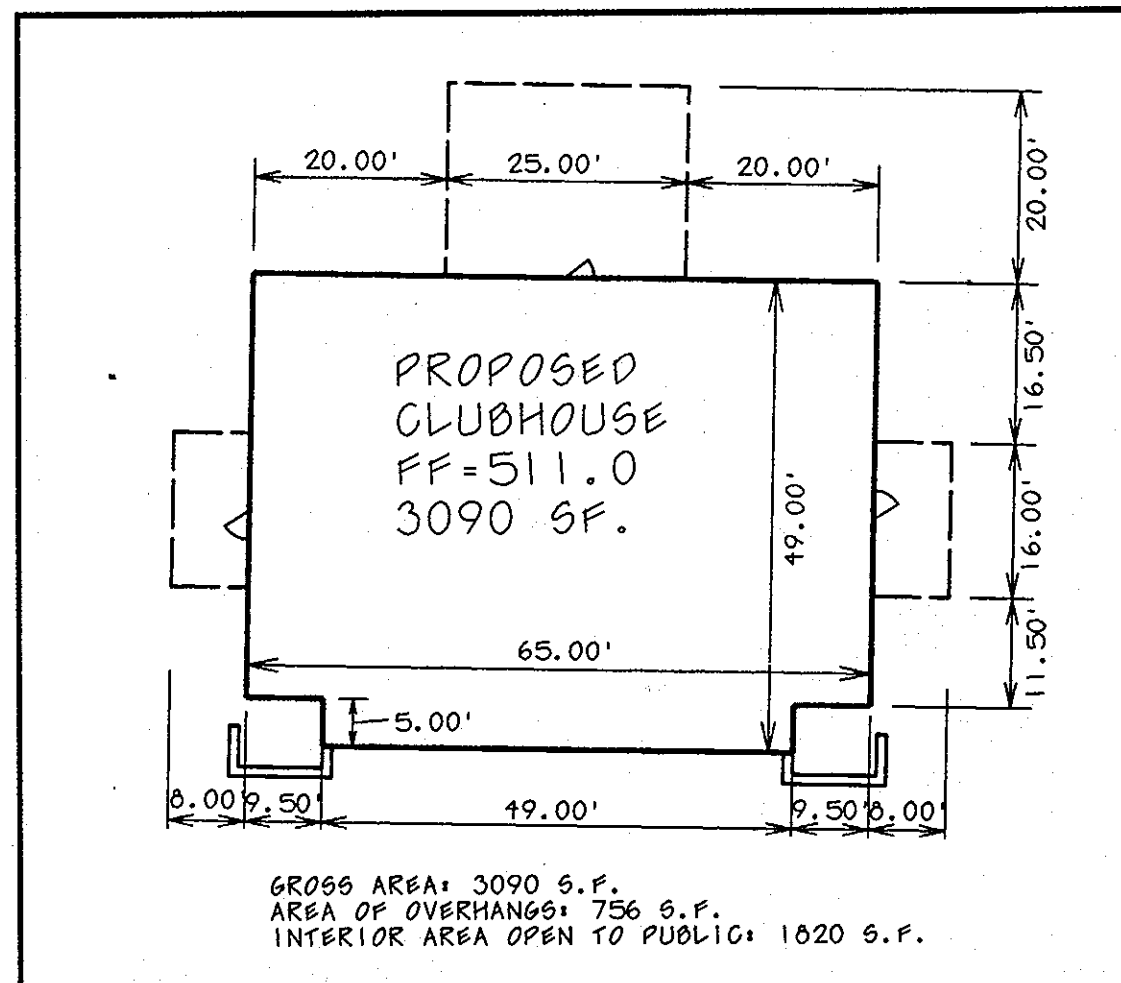
CLSI
 Carroll Land Services Incorporated
 Engineers • Surveyors • Land Development Consultants
 Landscape Architects • Environmental Specialists
 439 East Main Street Westminster, MD 21157-5539
 (410) 876-2017 FAX (410) 876-0009

DATE: 11/18/00
 REVISIONS: PARKING SPACE TABULATIONS, SHT. INDEX, SHT. NUMBER
 DESIGN BY: G.D.
 ELIMINATE TENNIS COURT, REVISE POOL LAYOUT
 REVIEW BY: J.T.D.
 DATE: 9/15/98
 SCALE: AS SHOWN
 JOB NO: 96109
 SHEET: 1 OF 10

BASELINE CURVE DATA						
CURVE	ARC	DELTA	RADIUS	CHORD LEN	CHORD BEARING	TAN LENGTH
C1	52.34	281°33'13"	105.00	51.80	N 42°03'59" W	26.72
C2	36.84	63°46'31"	87.00	91.32	N 88°13'41" W	54.13
C3	29.93	10°23'38"	165.00	29.89	S 54°41'14" W	15.01
C4	241.40	26°35'55"	920.00	239.24	S 62°47'23" W	122.92
C5	141.36	07°40'36"	1055.00	141.26	S 53°19'45" W	70.79
C6	147.28	14°32'51"	580.00	146.88	S 68°47'21" W	74.04

BASELINE LINE CHART			
LINE	BEARING	DISTANCE	
L1	N 27°46'53" W	30.47'	
L2	N 56°20'25" W	18.81'	
L3	S 59°53'03" W	80.08'	
L4	S 49°29'25" W	135.84'	
L5	S 76°05'21" W	275.69'	
L6	S 57°10'04" W	71.39'	
L7	S 49°29'26" W	127.49'	
L8	N 37°50'41" W	60.63'	
L9	N 37°25'49" W	59.75'	
L10	S 28°29'07" E	60.00'	
L11	S 76°05'21" W	52.37'	
L12	N 33°29'11" W	60.00'	
L13	S 32°04'12" E	89.81'	

BUILDING LOCATION CHART			
BUILDING	CORNER	CL STA.	STA. OFFSET
CLUBHOUSE	1	1+27.25	44.14' RT.
	2	1+60.37	40.05' RT.
CART BARN	3	3+93.42	78.98' RT.
	4	4+63.33	133.52' RT.
POOL CLUBHOUSE	5	7+94.77	132.41' RT.
	6	8+70.08	132.41' RT.



EXISTING PRACTICE TEE

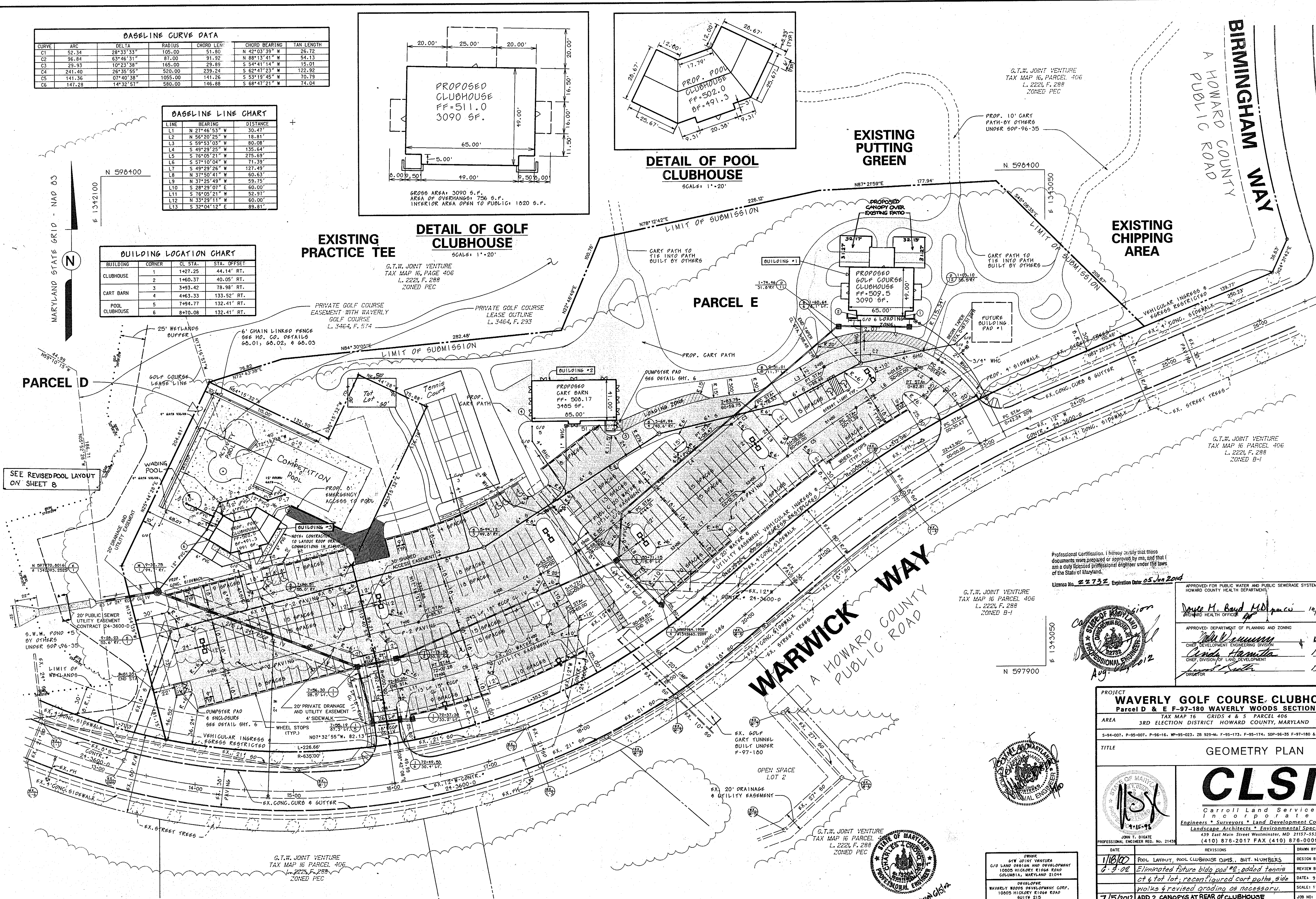
DETAIL OF GOLF CLUBHOUSE
SCALE: 1"=20'

PARCEL E

EXISTING CHIPPING AREA

PARCEL D

SEE REVISED POOL LAYOUT ON SHEET 8



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 22732, Expiration Date: 05 Jun 2014

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
James H. Boyd, M.D. 10/15/98
 HOWARD HEALTH OFFICER
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
Will D. Sweeney 10/15/98
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
Candace Hamilton 12/10/98
 CHIEF, DIVISION OF LAND DEVELOPMENT
Scott Smith 12/14/98
 DIRECTOR

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

G.T.W. JOINT VENTURE TAX MAP 16 PARCEL 406 L. 2224 F. 288 ZONED B-1

PROJECT
WAVERLY GOLF COURSE CLUBHOUSE
 Parcel D & E F-97-180 WAVERLY WOODS SECTION 7

AREA
 TAX MAP 16 GRIDS 4 & 5 PARCEL 406
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
 GEOMETRY PLAN

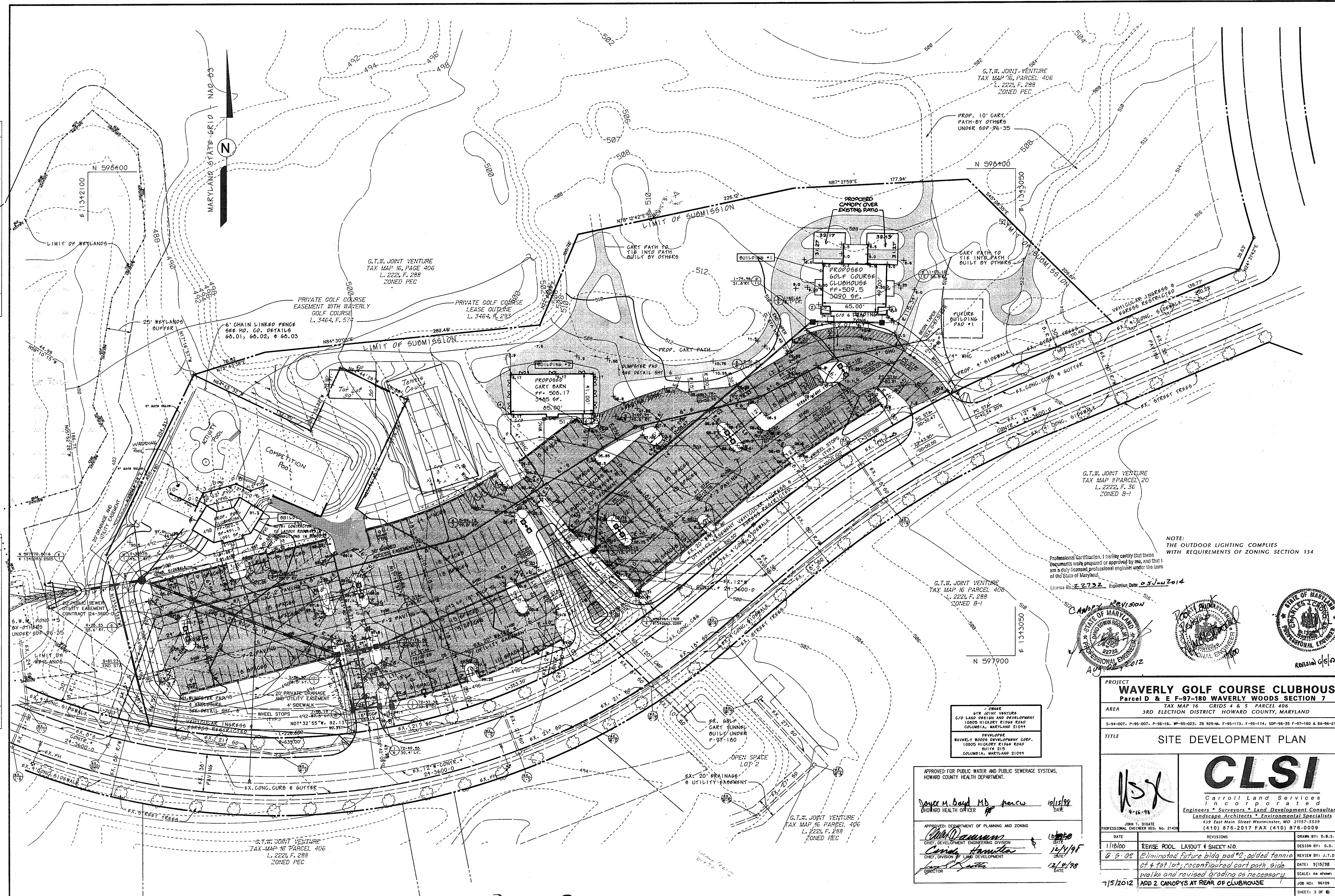
CLSI
 Carroll Land Services Incorporated
 Engineers • Surveyors • Land Development Consultants
 Landscape Architects • Environmental Specialists
 439 East Main Street Westminster, MD 21157-5539
 (410) 876-2017 FAX (410) 876-0008

DATE
 1/18/02
 6-8-02
 7/15/02

REVISIONS

NO.	DATE	DESCRIPTION
1	1/18/02	POOL LAYOUT, POOL CLUBHOUSE DIMS., SHT. NUMBERS
2	6-8-02	Eliminated future bldg pod #2, added tennis at & tot lot, reconfigured cart paths, side walks & revised grading as necessary.
3	7/15/02	ADD 2 CANOPIES AT REAR OF CLUBHOUSE

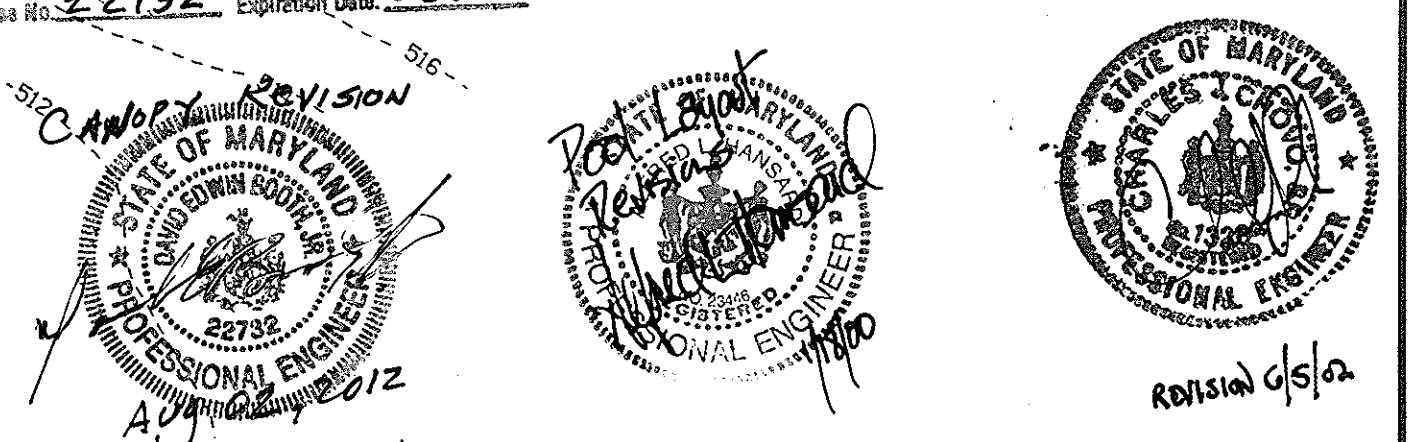
DRAWN BY: D.B.S.
DESIGN BY: G.D.
REVIEW BY: J.T.D.
DATE: 9/15/08
SCALE: 1"=40'
JOB NO: 96109
SHEET: 2 OF 10



NOTE:
THE OUTDOOR LIGHTING COMPLIES
WITH REQUIREMENTS OF ZONING SECTION 134

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.


License No. 22732 Expiration Date: 05 Jun 2014

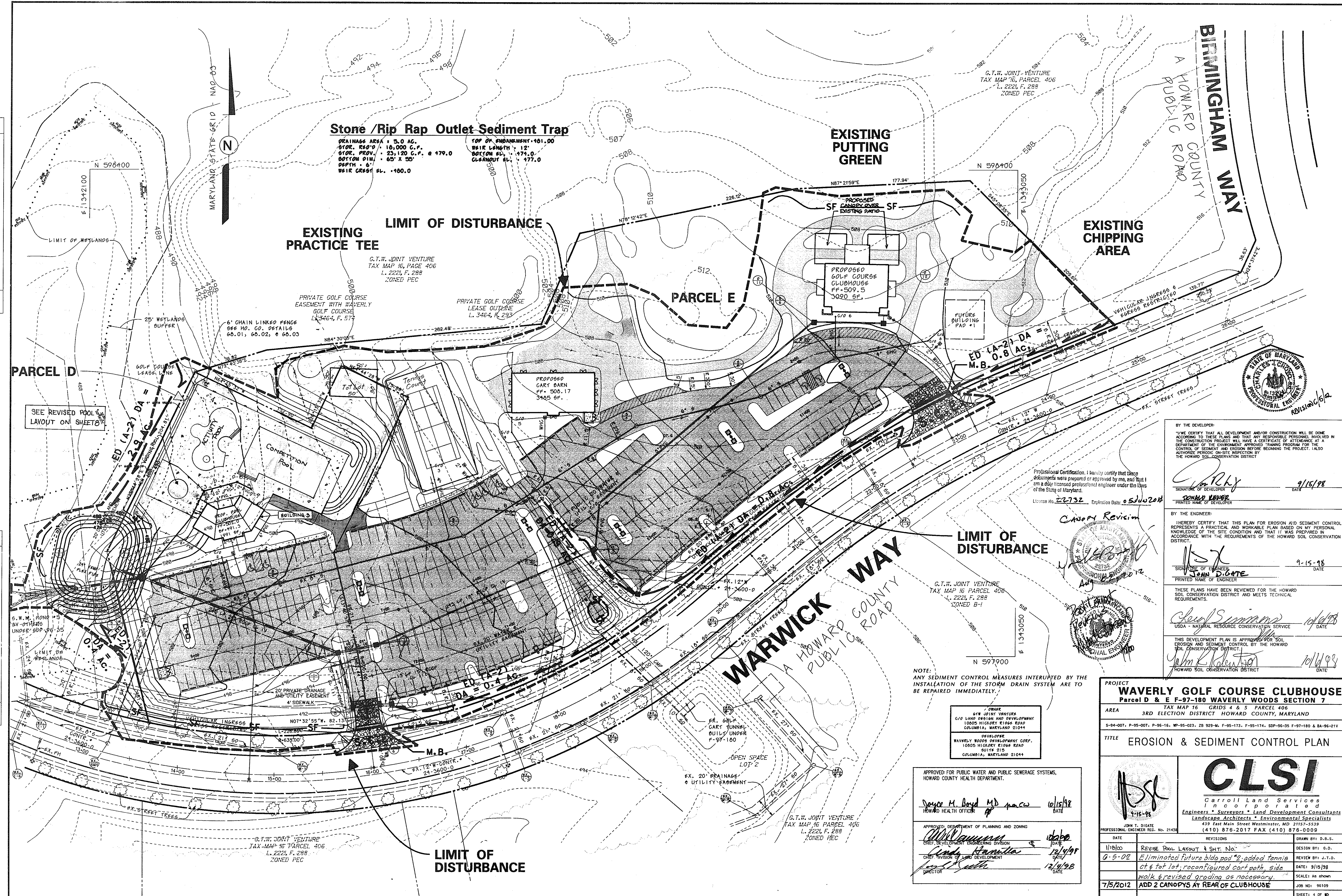


APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.

James M. Gaud MD, MHC
HOWARD HEALTH OFFICER 10/15/98 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Conrad Hamster 12/4/98 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT
John T. Digate 12/4/98 DATE
DIRECTOR

PROJECT WAVERLY GOLF COURSE CLUBHOUSE Parcel D & E F-97-180 WAVERLY WOODS SECTION 7		
AREA 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
TITLE SITE DEVELOPMENT PLAN		
 CLSI Carroll Land Services Incorporated Engineers • Surveyors • Land Development Consultants Landscape Architects • Environmental Specialists 439 East Main Street Westminster, MD 21157-5539 (410) 876-2017 FAX (410) 876-0009		
DATE	REVISIONS	DRAWN BY: D.B.S.
11/8/00	REVISE POOL LAYOUT & SHEET NO.	DESIGN BY: G.D.
6-3-02	Eliminated future bldg pad #2, added fence at & tot lot; reconfigured cart path, side walks and revised grading as necessary.	REVIEW BY: J.T.D.
7/5/2012	ADD 2 CANOPIES AT REAR OF CLUBHOUSE	DATE: 9/15/98
		SCALE: AS SHOWN
		JOB NO: 96109
		SHEET: 3 OF 10



Stone / Rip Rap Outlet Sediment Trap
 DRAINAGE AREA = 5.0 AC.
 STOR. RES'D = 10,000 G.P.
 STOR. PROV. = 23,120 G.P. @ 179.0
 BOTTOM DIM. = 65' X 55'
 DEPTH = 6'
 BSIR CRASH SL. = +100.0
 TOP OF EMBANKMENT = +101.00
 BSIR LENGTH = 12'
 BOTTOM SL. = +171.0
 CLEANOUT SL. = +177.0

EXISTING PRACTICE TEE
 G.T.W. JOINT VENTURE
 TAX MAP 16, PAGE 406
 L. 2221, F. 288
 ZONED PEC

EXISTING PUTTING GREEN

EXISTING CHIPPING AREA

PARCEL E

PARCEL D

SEE REVISED POOL LAYOUT ON SHEET 8

BY THE DEVELOPER:
 "I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION OF THIS 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/ASO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 22732 Expiration Date: 05/30/2014
 Signature of Developer: *Donald Weaver* DATE: 9/15/98
 PRINTED NAME OF DEVELOPER: DONALD WEAVER

BY THE ENGINEER:
 I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature of Engineer: *John Digate* DATE: 9-15-98
 PRINTED NAME OF ENGINEER: JOHN DIGATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.
 Signature: *Clayton Summers* DATE: 10/6/98
 USDA - NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 Signature: *John Digate* DATE: 10/6/98
 HOWARD SOIL CONSERVATION DISTRICT

NOTE:
 ANY SEDIMENT CONTROL MEASURES INTERRUPTED BY THE INSTALLATION OF THE STORM DRAIN SYSTEM ARE TO BE REPAIRED IMMEDIATELY.

OWNER: G.T.W. JOINT VENTURE
 C/O LAND DESIGN AND DEVELOPMENT
 10005 HICKORY RIDGE ROAD
 COLUMBIA, MARYLAND 21044
 DEVELOPER: WAVERLY WOODS DEVELOPMENT CORP.
 10005 HICKORY RIDGE ROAD
 SUITE 215
 COLUMBIA, MARYLAND 21044

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.
 Signature: *Wayne M. Boyd MD* DATE: 10/15/98
 HOWARD HEALTH OFFICER

APPROVED DEPARTMENT OF PLANNING AND ZONING
 CHIEF DEVELOPMENT ENGINEERING DIVISION
 Signature: *Clayton Summers* DATE: 10/15/98
 Signature: *Linda Hamilton* DATE: 12/14/98
 Signature: *Paul J. Gault* DATE: 12/14/98

PROJECT: **WAVERLY GOLF COURSE CLUBHOUSE**
 Parcel D & E F-97-180 WAVERLY WOODS SECTION 7
 AREA: 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND
 S-94-007, P-95-007, P-95-16, W-95-023, 2B 923-M, P-95-173, P-95-174, SDP-96-35 F-97-180 & BA-96-21V

TITLE: **EROSION & SEDIMENT CONTROL PLAN**
CLSI
 Carroll Land Services Incorporated
 Engineers • Surveyors • Land Development Consultants
 Landscape Architects • Environmental Specialists
 439 EAST MAIN STREET WESTMINSTER, MD 21157-5538
 (410) 876-2017 FAX (410) 876-0009

DATE	REVISIONS	DRAWN BY: D.B.S.
11/8/00	REVISE POOL LAYOUT & SHIT. NO.	DESIGN BY: G.O.
0-5-02	Eliminated future bldg pad #2, added tennis ct & tot lot; reconfigured cart path, side walk & revised grading as necessary	REVIEW BY: J.T.O.
7/5/2012	ADD 2 CANOPY'S AT REAR OF CLUBHOUSE	DATE: 9/15/98
		SCALE: As shown
		JOB NO: 96109
		SHEET: 4 OF 10

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING 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/1000 SQ. FT.) AND 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREA/FORM FERTILIZER (9 LBS/1000 SQ. FT.)
2. ACCEPTABLE: APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ. FT.) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (14 LBS/1000 SQ. FT.) OF KENTUCKY 31ST FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 60 LBS PER ACRE (14 LBS/1000 SQ. FT.) OF KENTUCKY 31ST FESCUE, FOR THE PERIOD AUGUST 15 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (14 LBS/1000 SQ. FT.) OF WEeping LOVEGRASS. DURING THE PERIOD OF SEEDING, PROTECT SITE BY OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS/ACRE KENTUCKY 31ST TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW MULCH.

MULCHING: APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS/1000 SQ. FT.) OF UNROTATED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES OF 8 FEET OR HIGHER, USE 348 GAL PER ACRE (18 GAL/1000 SQ. FT.) FOR ANCHORING.

REFER TO THE 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.

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, DISKING, OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ. FT.)

SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH OCTOBER 15, SEED WITH 3-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ. FT.) FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEeping LOVEGRASS (0.7 LBS/1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 THROUGH NOVEMBER 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/1000 SQ. FT.) OF UNROTATED WEED FREE SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES OF 8 FEET OR HIGHER, USE 348 GAL PER ACRE (18 GAL/1000 SQ. FT.) FOR ANCHORING.

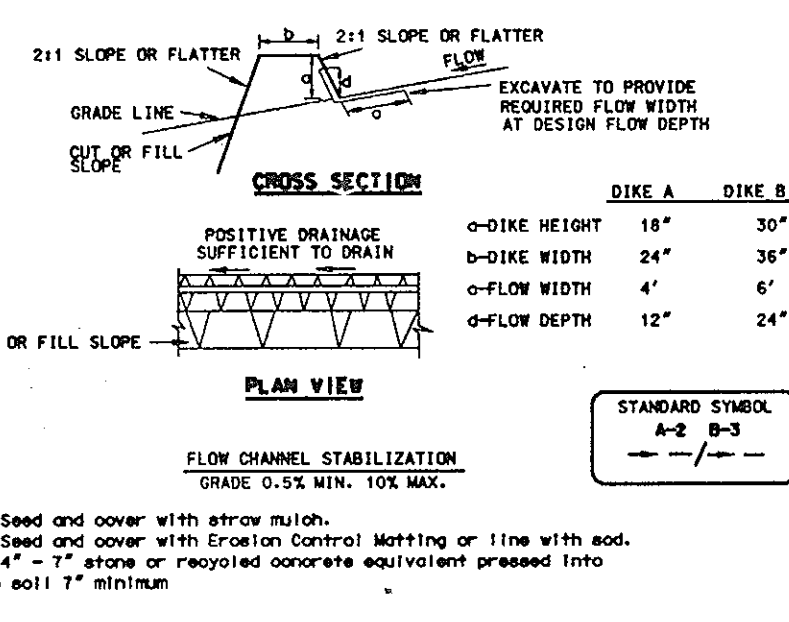
HOWARD SOIL CONSERVATION DISTRICT

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 MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERE TO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, BY 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 THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, 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 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 52), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT 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: 7.68 AC.
 - AREA DISTURBED: 7.50 AC.
 - AREA TO BE ROOFED OR PAVED: 3.98 AC.
 - AREA TO BE VEGETATIVELY STABILIZED: 3.52 AC.
 - TOTAL CUT: 40,194 CU. YDS.
 - TOTAL FILL: 20,008 CU. YDS.
 - TOTAL EXCESS: 20,186 CU. YDS.

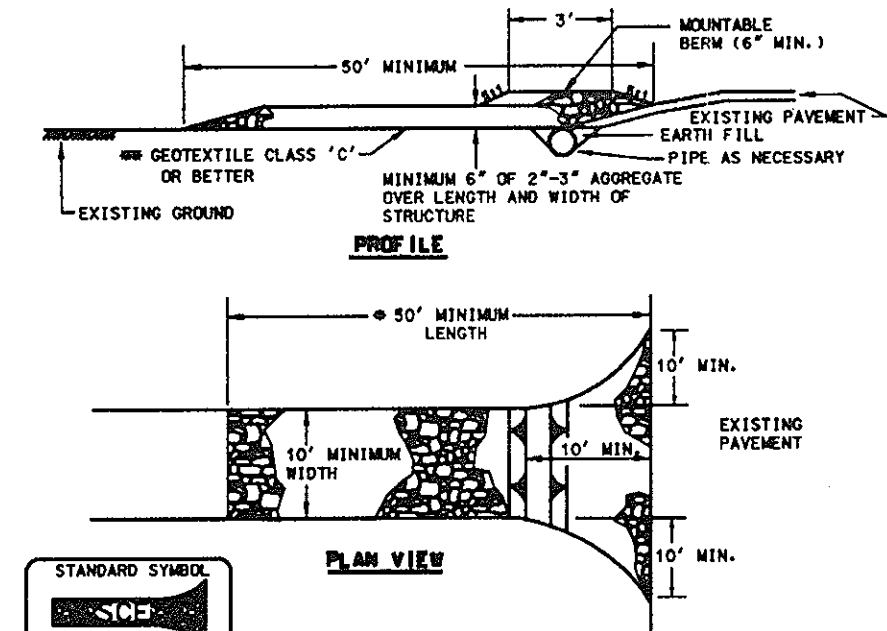
NOTE: EXCESS SPILL TO BE DISPOSED OF AT A SITE WITH AN ACTIVE GRADING PERMIT TO BE DETERMINED AT TIME OF CONSTRUCTION.
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST 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 CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

DETAIL 1 - EARTH DIKE



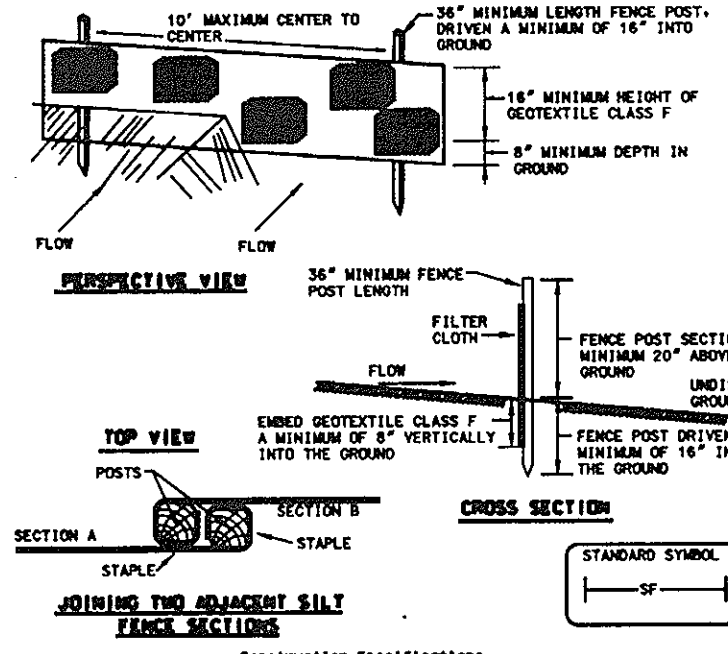
- Construction Specifications**
1. All temporary earth dikes shall have unfiltered positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
 2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
 3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area of a comparable velocity.
 4. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
 5. The dike shall be excavated or shaped to fit the grade and cross section as required to meet the criteria specified herein and be free of bare 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.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Construction Specifications**
1. Length - minimum of 50' (400' for single roadway 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 filter cloth shall be placed so that it will not be displaced by the stone.
 4. Stone - crushed aggregate (2" to 3" or recycled 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 entrance shall be placed through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a concrete curb with 5:1 slope and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located on a high spot and the 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.

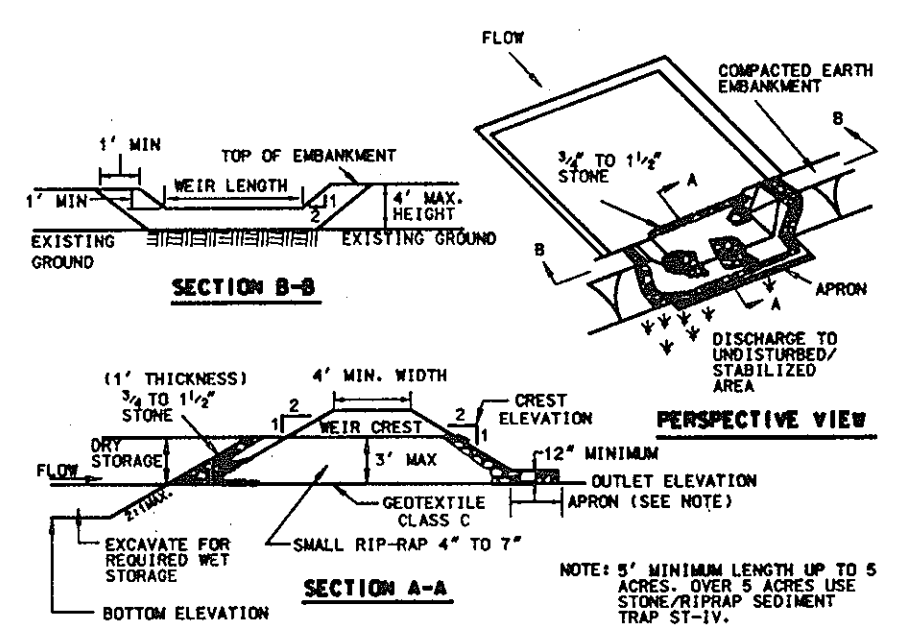
DETAIL 22 - SILT FENCE



- Construction Specifications**
1. Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) or 1 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard 1" or 1 1/2" diameter weighing not less than 1.00 pound 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:

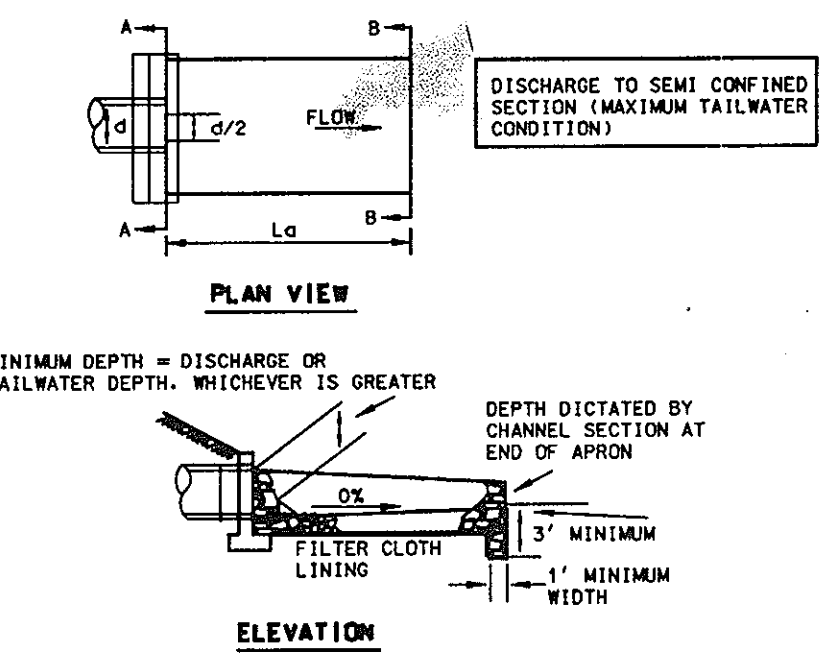
Tensile Strength	50 (lb/in. min.)	Tear	SOFT 508
Tensile Modulus	20 (lb/in. min.)	Tear	SOFT 509
Flow Rate	0.3 gal. #V. minute (max.)	Tear	SOFT 322
Filtering Coefficient	75% (min.)	Tear	SOFT 322
 3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 4. Silt Fence shall be installed after each rainfall event and maintained when bulging occur or when sediment accumulation reaches 50% of the fabric height.
- Silt Fence Design Criteria**
- | Slope Steepness | Slope Length | Minimum Silt Fence Length |
|-------------------|--------------|---------------------------|
| Flatter than 50:1 | unlimited | unlimited |
| 50:1 to 10:1 | 125 feet | 1,000 feet |
| 10:1 to 5:1 | 100 feet | 750 feet |
| 5:1 to 3:1 | 60 feet | 500 feet |
| 3:1 to 2:1 | 40 feet | 250 feet |
| 2:1 and steeper | 20 feet | 125 feet |
- Note: In areas of less than 2:1 slope and sandy soils (USDA general classification system soil class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST 11



- Construction Specifications**
1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The soil 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 traveling with equipment while it is being constructed.
 3. All out 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 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent sloughing. 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.
 6. The structure shall be inspected periodically and after each rain and repairs made as needed.
 7. Construction of trap 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 embankment shall be stabilized (one time) with seed and mulch upon trap completion and maintained and maintained season long during the life of the trap.
 8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage trap has been properly stabilized.
 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 placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 12" with the section immediately adjacent to it. The filter cloth shall be extended 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 manner to an existing stable channel.

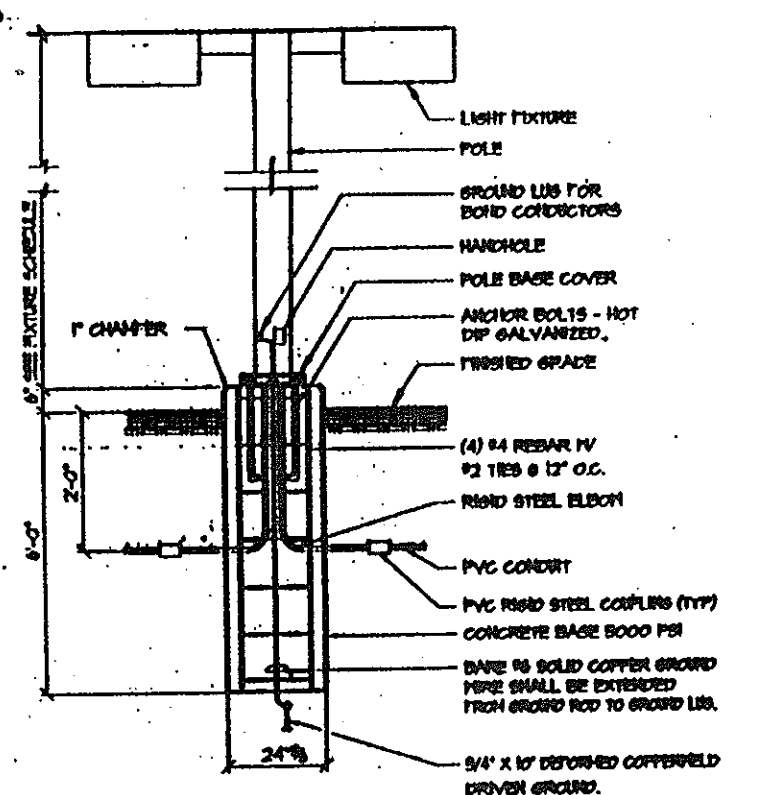
DETAIL 25 - ROCK OUTLET PROTECTION I



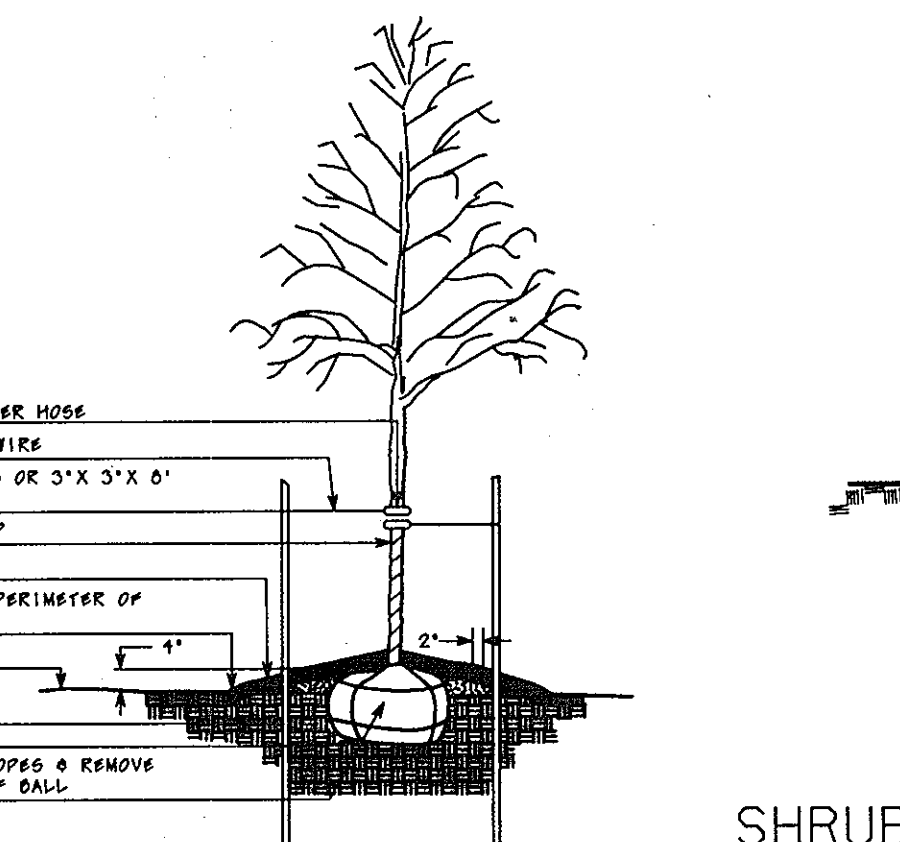
- Construction Specifications**
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required line and grade. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
 2. The rock or gravel shall conform to 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 repairs shall be made before the structure is placed. 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.

LIGHT FIXTURE SCHEDULE

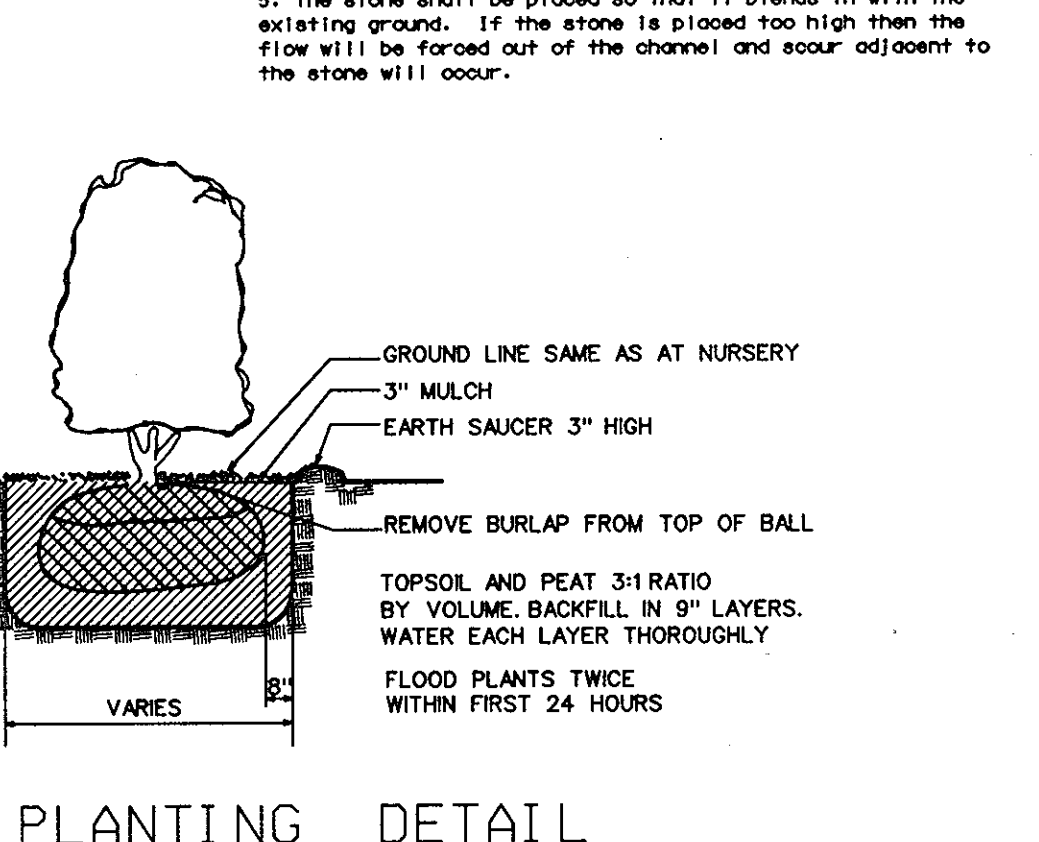
DESCRIPTION	QUANTITY	MANUFACTURER
1" W/HEAD @ 180 DEG.	25 POLE	GEACOR
SINGLE HEAD	25 POLE	(1) GEACOR



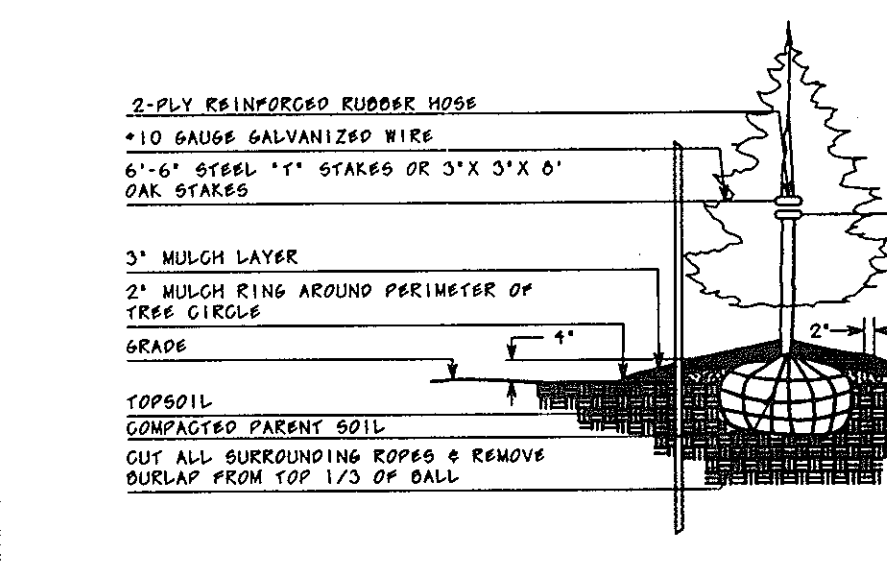
BASE POLE DETAIL
SCALE: NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL



SHRUB PLANTING DETAIL
NOT TO SCALE



CONIFEROUS TREE PLANTING DETAIL

REQUIRED SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT.
2. NOTIFY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR 48 HOURS PRIOR TO ANY ON SITE WORK.
3. INSTALL STABILIZED CONSTRUCTION ENTRANCES WITH MOUNTABLE BERMS, PERIMETER SILT FENCE, AND STONE / RIP RAP OUTLET SEDIMENT TRAP. INSTALL EARTH DIKES CONVEYING WATER TO THE SEDIMENT TRAP. (2 WEEKS)
4. NOTIFY THE SEDIMENT AND EROSION CONTROL INSPECTOR FOR APPROVAL BEFORE PROCEEDING.
5. CLEAR AND GRUB SITE. (1 WEEK)
6. INSTALL STORMDRAIN SYSTEM FROM M-1 TO 1-4 TO CONVEY SEDIMENT LADEN STORM RUNOFF. A TEMPORARY 24" FLEX PIPE WILL BE INSTALLED FROM M-1 TO THE PROPOSED SEDIMENT TRAP. AFTER THE STORMDRAINS ARE CONSTRUCTED, INSTALL ALL EARTH DIKES DESIGNED TO CONVEY WATER TO THE INLETS. (3 WEEKS)
7. BEGIN TO MASS GRADE SITE. STOCKPILE TOPSOIL AND STABILIZE IMMEDIATELY. (6 WEEKS)
8. AS GRADING REACHES SUB GRADE ELEVATIONS, INSTALL SEWER AND WATER SYSTEMS. BUILDING CONSTRUCTION MAY ALSO BEGIN AT THIS TIME. (4 WEEKS)
9. INSTALL THE REMAINDER OF THE STORM DRAIN SYSTEM. (2 WEEKS)
10. COMPLETE MASS GRADING AND STABILIZE ALL AREAS NOT TO BE PAVED. (1 WEEK)
11. POUR CURB AND GUTTER AT ENTRANCE FILLETS AND PAVE PARKING AREAS (2 WEEKS)
12. ONCE THE SITE IS PAVED, INSTALL THE LANDSCAPING AND FINE GRADE THE REMAINDER OF THE SITE. (3 WEEKS)
13. NOTIFY THE SEDIMENT CONTROL INSPECTOR FOR APPROVAL PRIOR TO REMOVAL OF THE SEDIMENT CONTROL DEVICES.
14. FLUSH STORM DRAIN SYSTEM. INSTALL SILT FENCE BELOW SEDIMENT TRAP AND REMOVE TRAP AND ALL REMAINING EARTH DIKES. FINALIZE GRADING AND IMMEDIATELY STABILIZE ALL AREAS. (1 WEEK)

NOTE: ALL STOCKPILE AREAS SHALL BE CONFINED WITHIN THE PERIMETER CONTROLS. IN THE EVENT THAT A STOCKPILE AREA MUST BE LOCATED OUTSIDE THE DISTURBED AREAS, THE LOCATION SHALL BE SPECIFIED BY THE INSPECTOR IN THE FIELD.

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

SIGNATURE OF DEVELOPER: *[Signature]* DATE: 9/15/98
PRINTED NAME OF DEVELOPER: **Canopy Revision**

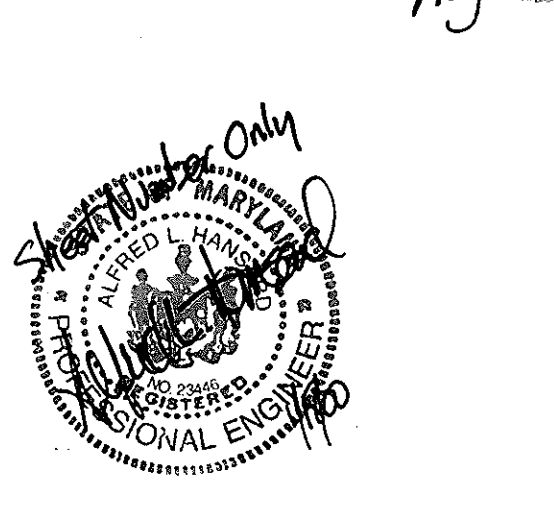
BY THE ENGINEER:
I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITION AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF ENGINEER: *[Signature]* DATE: 9-15-98
PRINTED NAME OF ENGINEER: **John D. Giate**

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

SIGNATURE OF APPROVING AGENCY: *[Signature]* DATE: 10/7/98
USDA - NATIONAL RESOURCE CONSERVATION SERVICE

APPROVED DEPARTMENT OF PLANNING AND ZONING
SIGNATURE OF DEPARTMENT: *[Signature]* DATE: 10/20/98
SIGNATURE OF DEPARTMENT: *[Signature]* DATE: 12/4/98
SIGNATURE OF DEPARTMENT: *[Signature]* DATE: 12/4/98



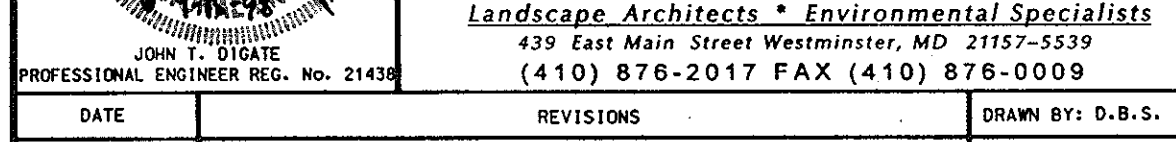
PROJECT

WAVERLY GOLF COURSE CLUBHOUSE
Parcel D & E F-97-180 WAVERLY WOODS SECTION 7

AREA: TAX MAP 16 GRIDS 4 & 5 PARCEL 406
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

S-94-007, P-95-007, P-96-16, W-95-023, ZB 929-4, F-95-173, F-95-174, SDP-96-35 F-97-180 & BA-96-21V

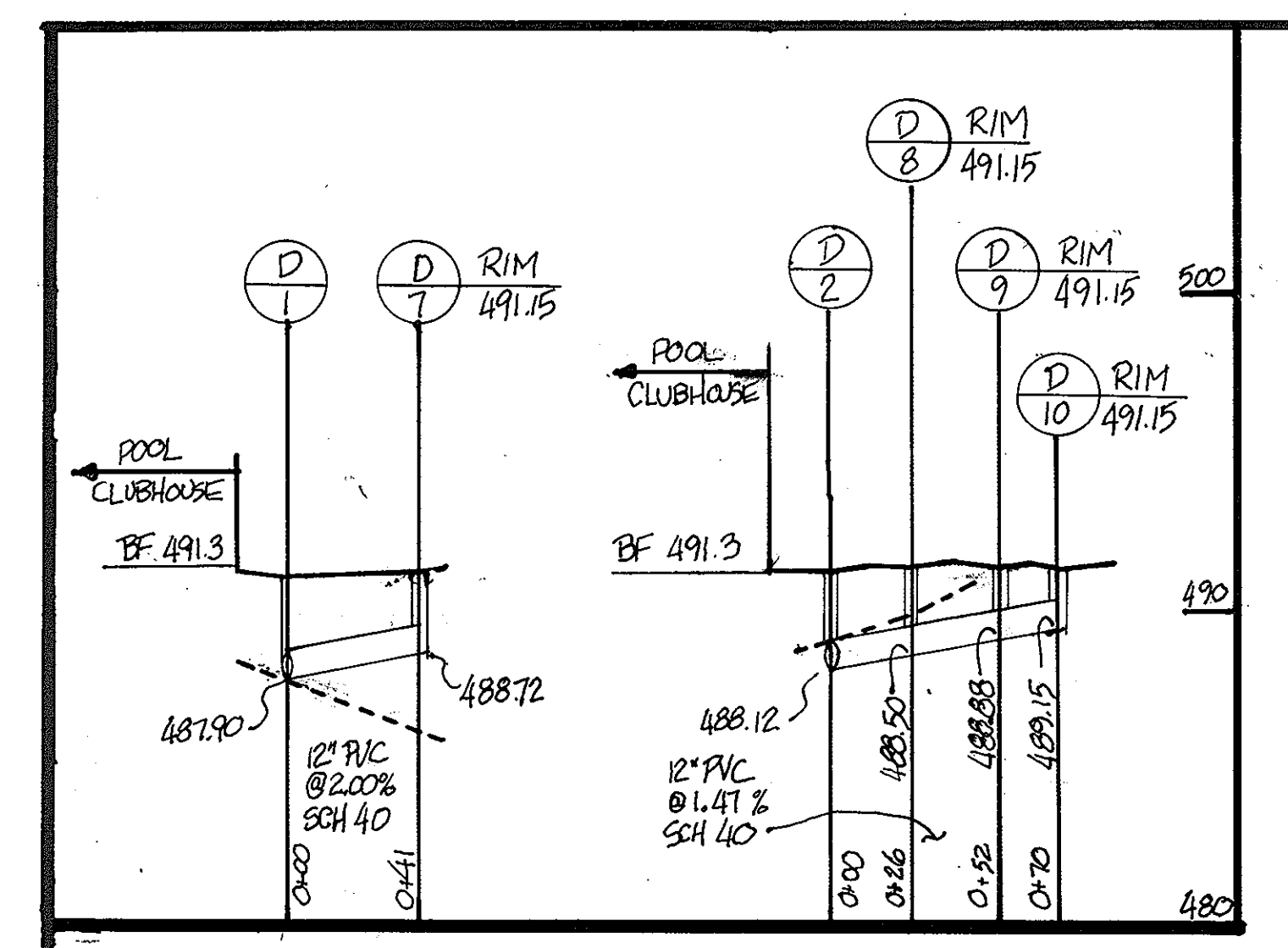
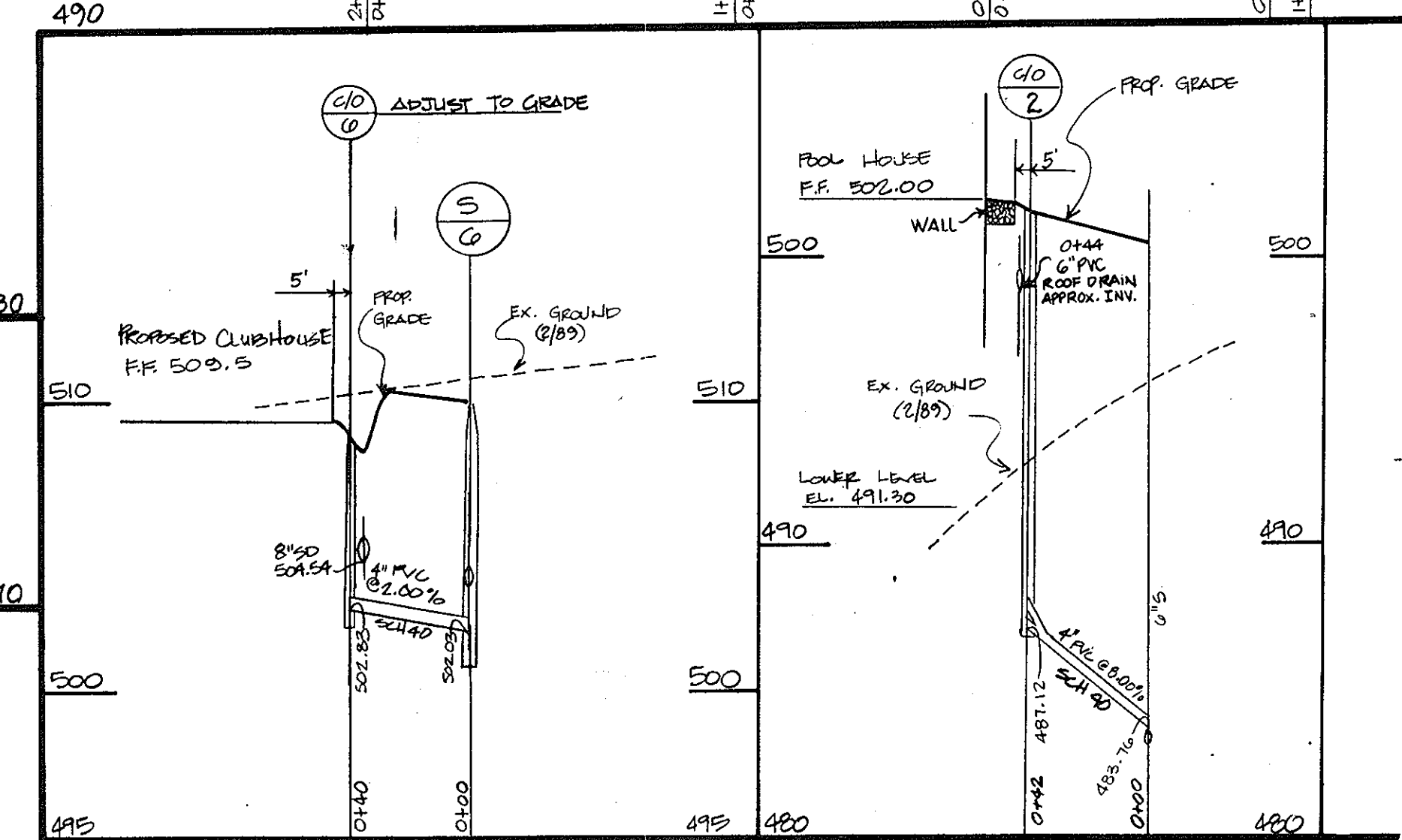
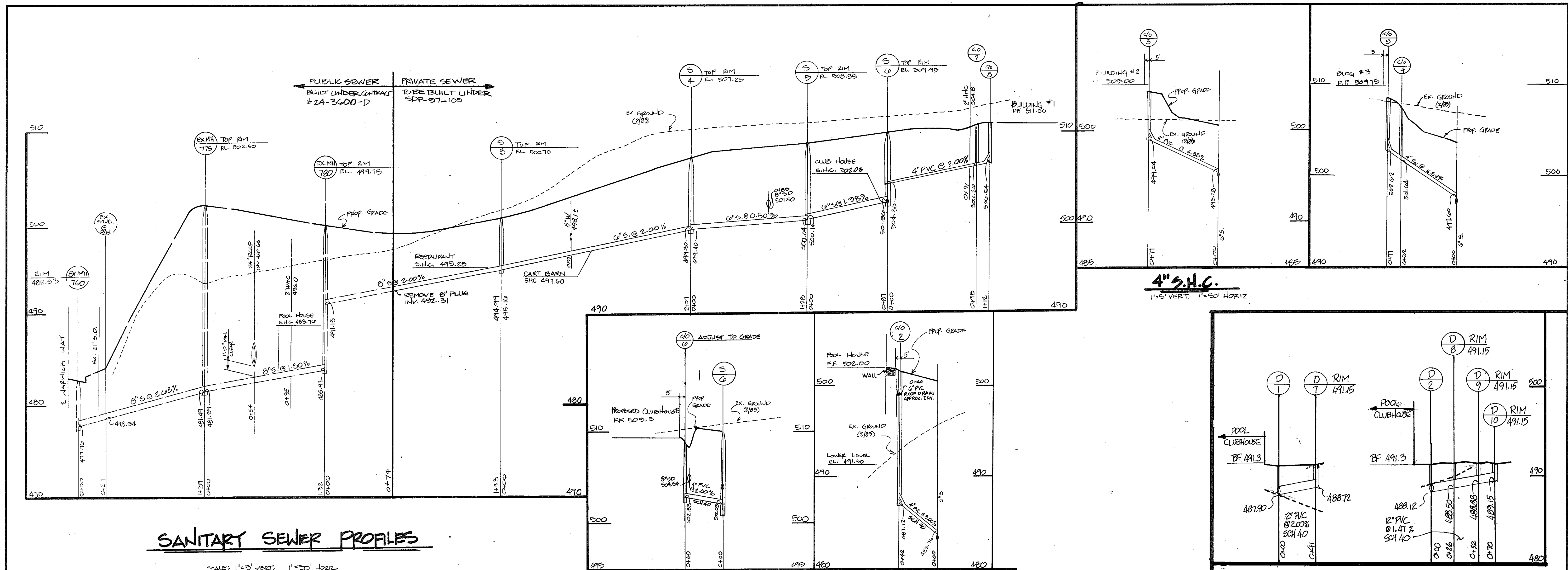
TITLE: **EROSION & SEDIMENT CONTROL NOTES & DETAILS**



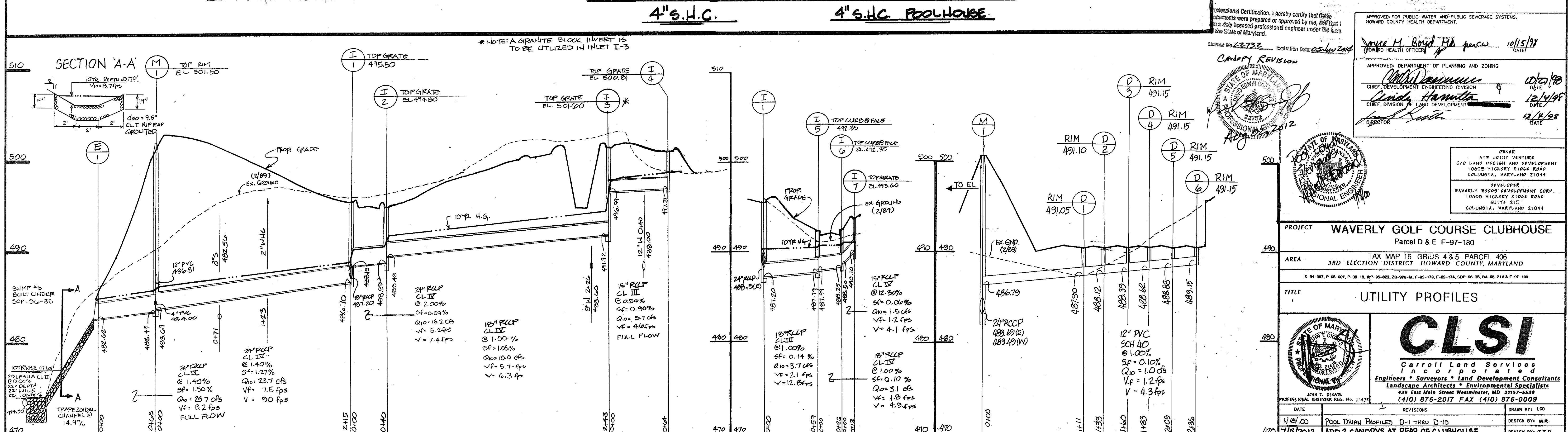
DATE: 11/10/02
SHT. NUMBER: 7/5/2012
REVISIONS: ADD 2 CANOPIES AT REAR OF CLUBHOUSE
DESIGN BY: G.D.
REVIEW BY: J.T.D.
DATE: 9/15/98
SCALE: AS SHOWN
JOB NO: 96109
SHEET: 5 OF 10

DEVELOPER: WAVERLY WOODS DEVELOPMENT CORP., 10005 HICKORY RIDGE ROAD, SUITE 215, COLUMBIA, MARYLAND 21044

DATE	REVISION



DATE	REVISION



Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 22732, Expiration Date: 25 Jun 2014

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD COUNTY HEALTH DEPARTMENT.

Joyce M. Boyd, P.E. (Professional Engineer), 10/15/97 (Date)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division: [Signature], 10/20/98 (Date)

Chief, Division of Land Development: [Signature], 12/4/98 (Date)

Director: [Signature], 12/18/98 (Date)

OWNER: G/O LAND DESIGN AND DEVELOPMENT, 10005 HICKORY RIDGE ROAD, COLUMBIA, MARYLAND 21044

DEVELOPER: WAVERLY RIDGE DEVELOPMENT CORP., 10005 HICKORY RIDGE ROAD, SUITE 215, COLUMBIA, MARYLAND 21044

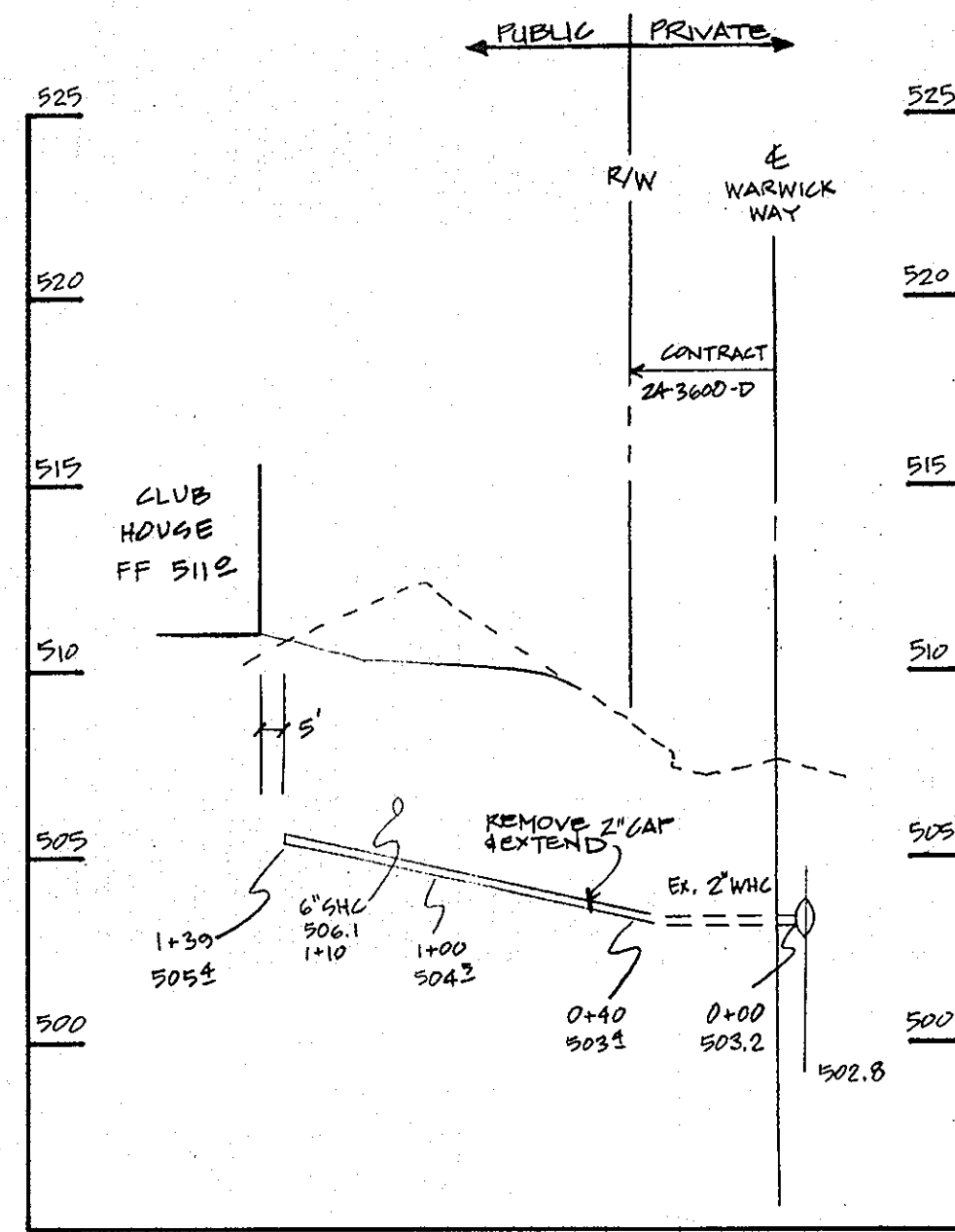
PROJECT: WAVERLY GOLF COURSE CLUBHOUSE, Parcel D & E F-97-180

AREA: TAX MAP 16 GRIDS 4 & 5 PARCEL 406, 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

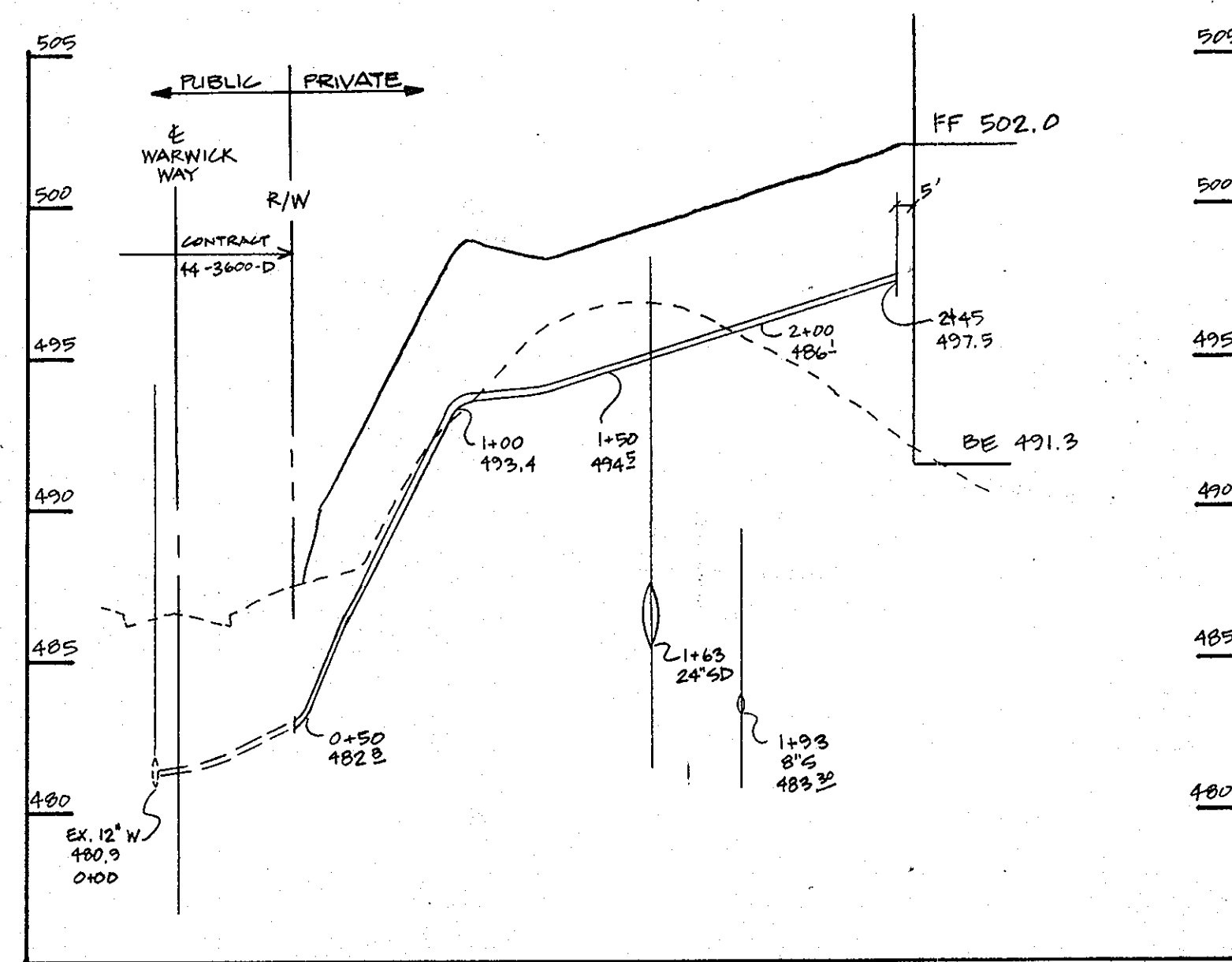
TITLE: UTILITY PROFILES

CLSI
Carroll Land Services
Incorporated
Engineers • Surveyors • Land Development Consultants
Landscape Architects • Environmental Specialists
439 East Main Street Westminster, MD 21157-5539
(410) 876-2017 FAX (410) 876-0009

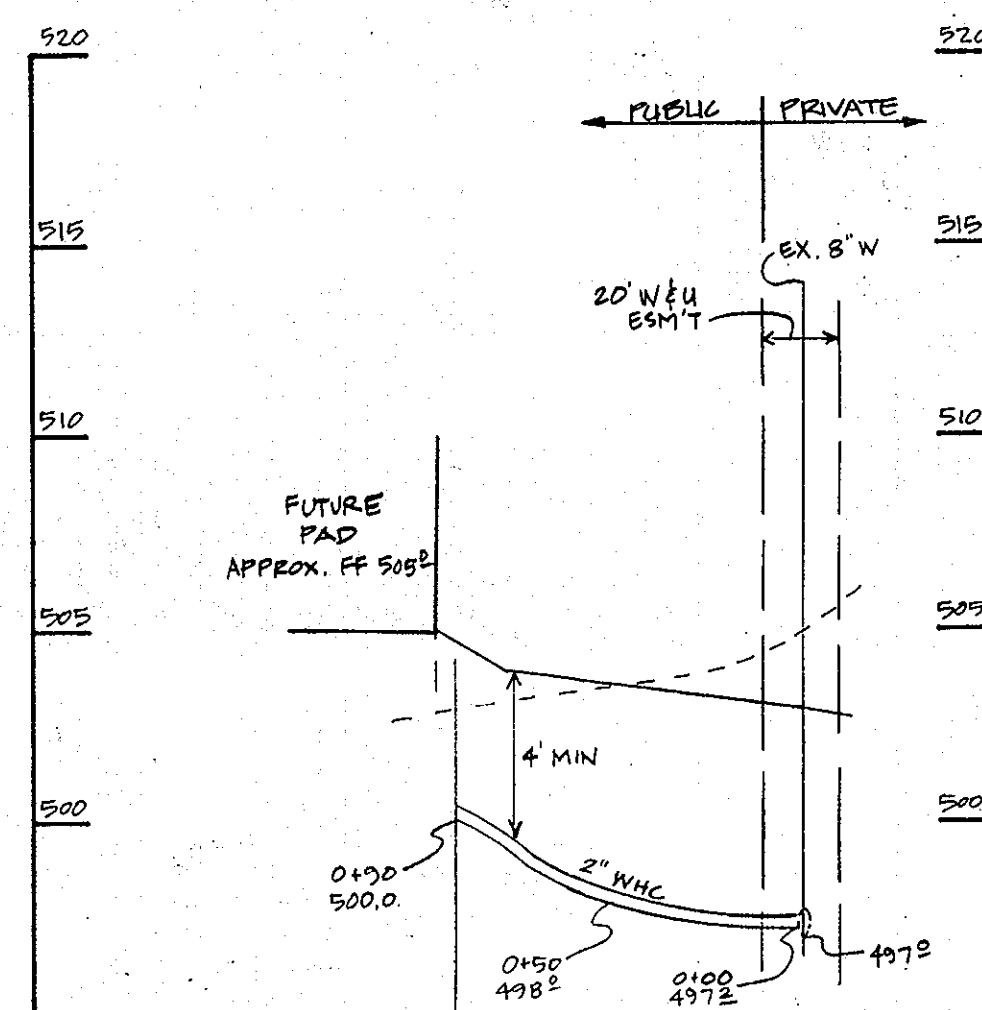
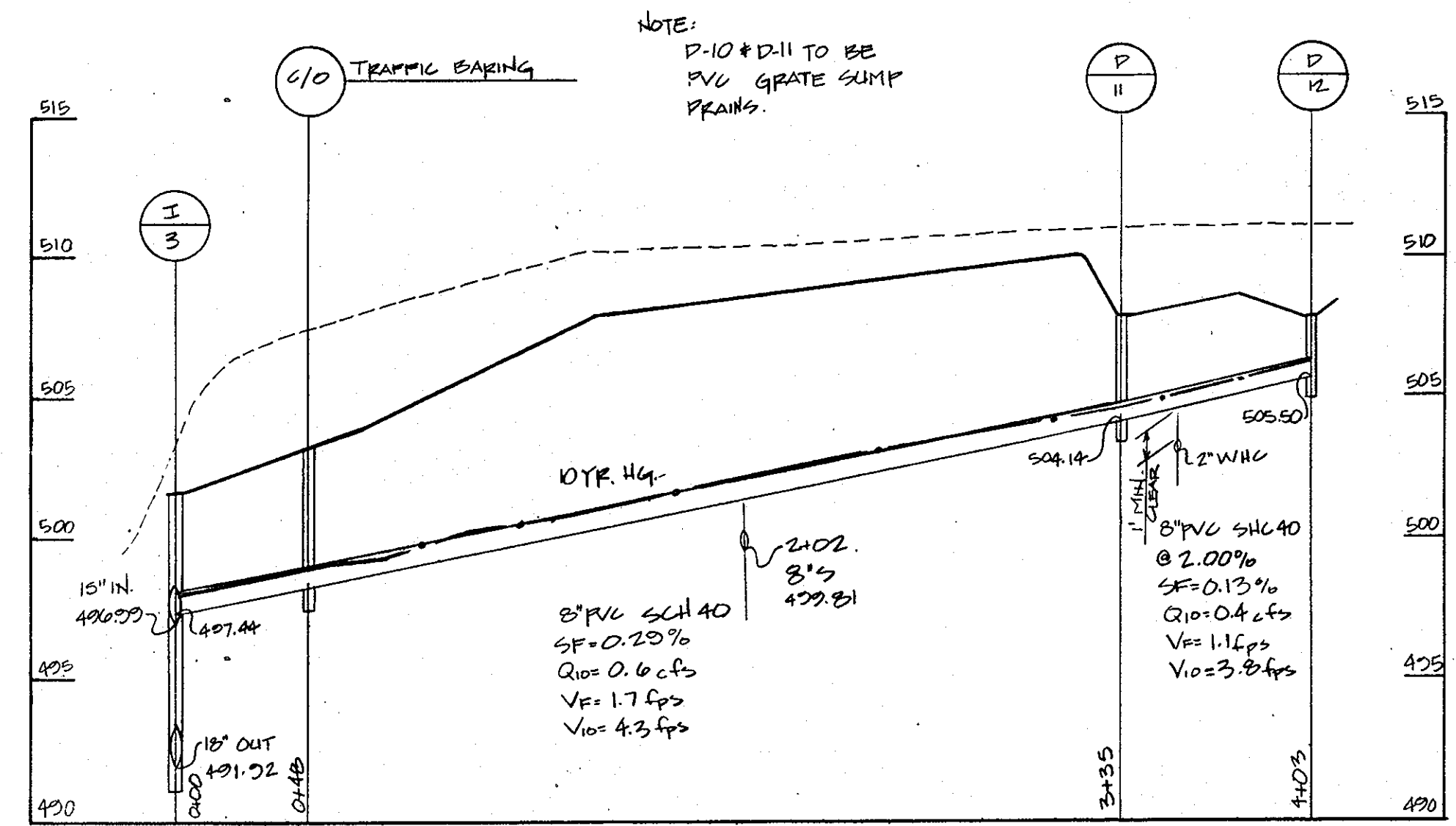
DATE: 11/01/00, 7/5/2012
REVISIONS: POOL DRAIN PROFILES D-1 THRU D-10, ADD 2 CANOPIES AT REAR OF CLUBHOUSE
DESIGN BY: M.R.
REVIEW BY: G.T.D.
DATE: 9/15/98
SCALE: AS SHOWN
JOB NO: 96109 A
SHEET: 6 & 10



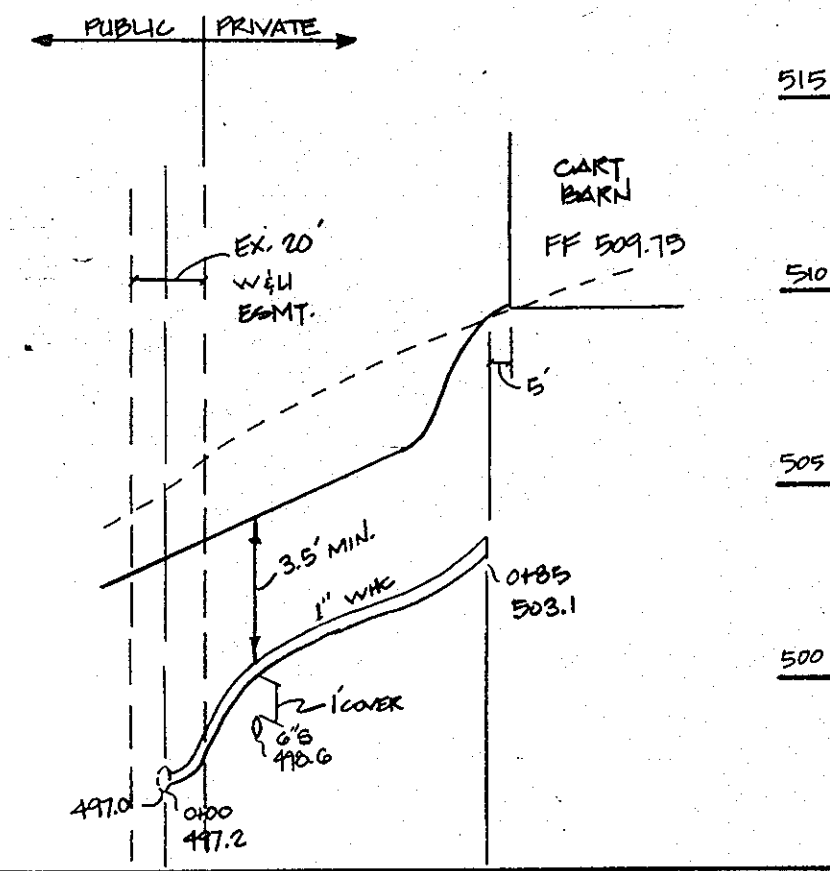
CLUBHOUSE WHC



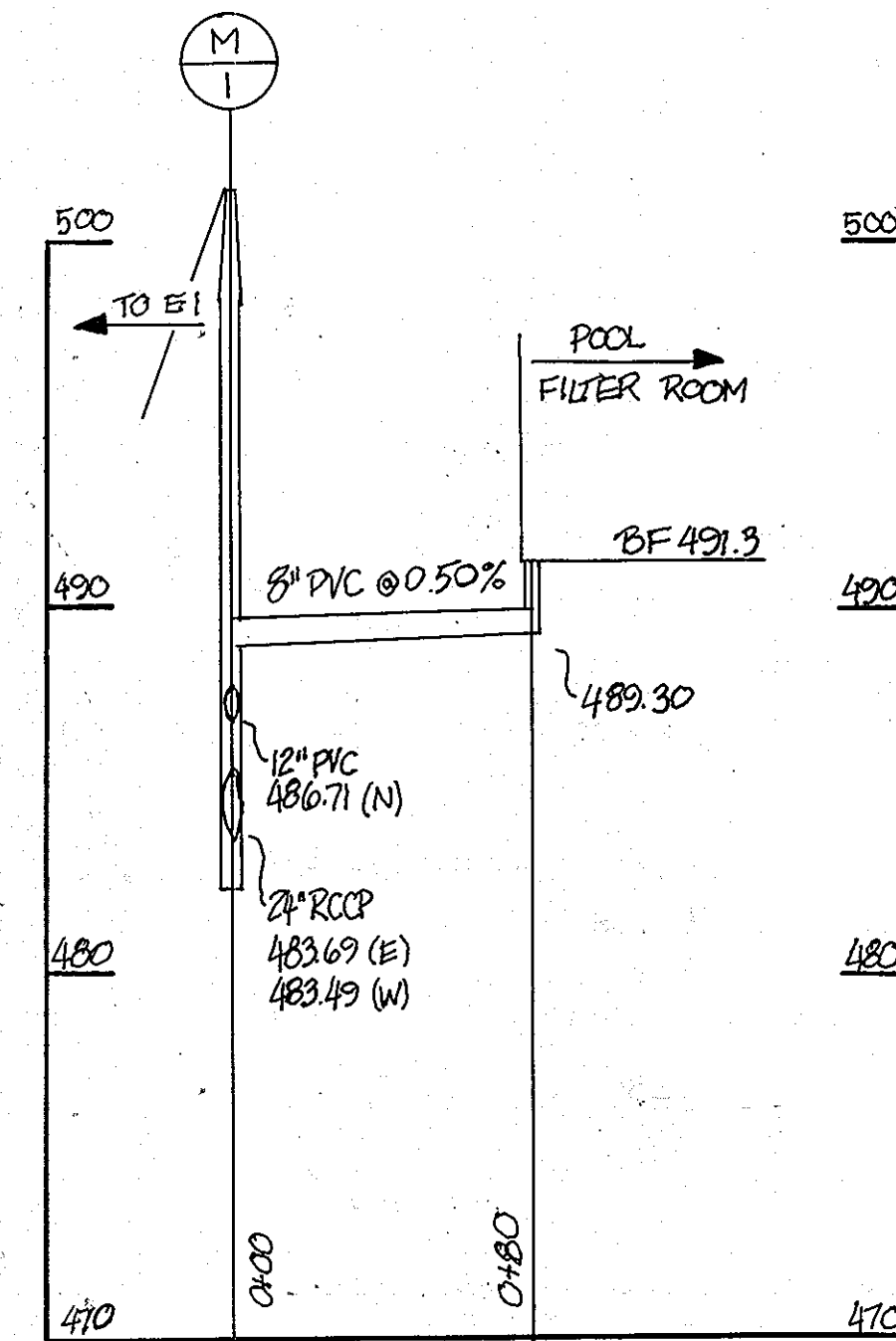
POOL HOUSE WHC



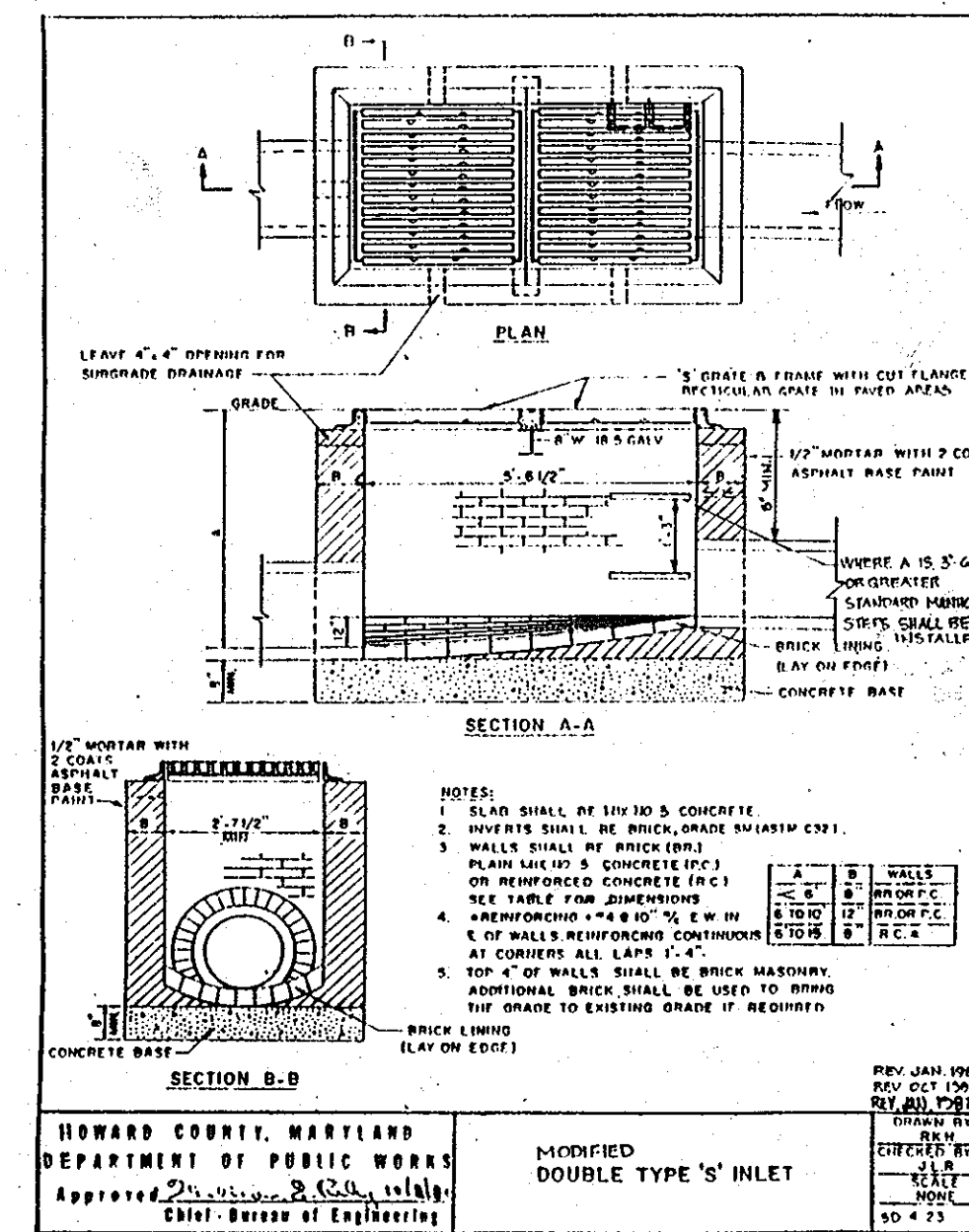
FUTURE PAD SITE WHC



CART BARN WHC

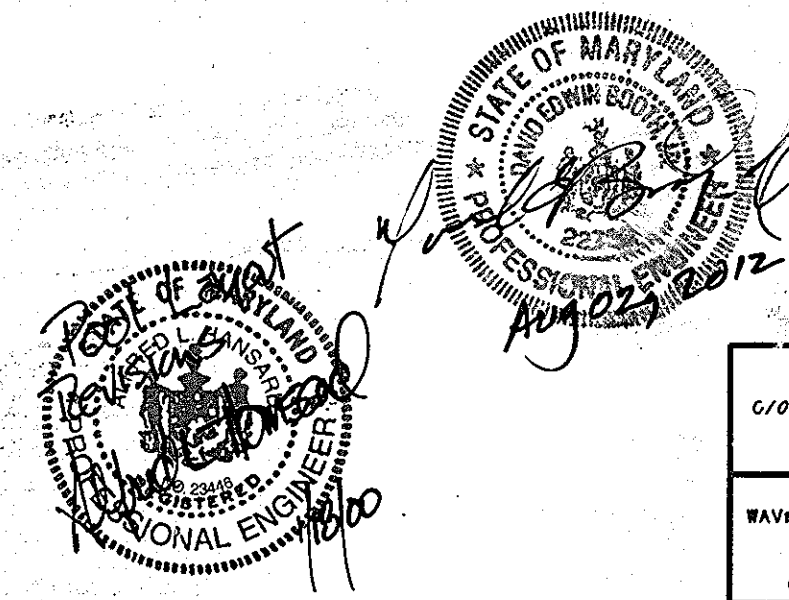


POOL FILTER ROOM DRAIN



Professional Certification: I hereby certify that the documents were prepared or approved by me as a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 22732 Expiration Date: 05 Jun 2014

Canopy Revision



OWNER
 6TH JOINT VENTURE
 G/O LAND DESIGN AND DEVELOPMENT
 10005 HICKORY RIDGE ROAD
 COLUMBIA, MARYLAND 21044

DEVELOPER
 WAVERLY WOODS DEVELOPMENT COFF.
 10005 HICKORY RIDGE ROAD
 SUITE 215
 COLUMBIA, MARYLAND 21044

PROJECT: WAVERLY GOLF COURSE CLUBHOUSE
 Parcel D & E F-97-180

AREA: TAX MAP 16' GRIDS 4 & 5 PARCEL 405
 3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: UTILITY PROFILES

DATE: 7/15/2012
 SHT. NO.: ADD 2 CANOPIES AT REAR OF CLUBHOUSE

DESIGN BY: D.B.S.
 REVIEW BY: J.T.D.
 DATE: 9/15/98
 SCALE: As shown
 JOB NO: 96109
 SHEET: 7 OF 10

CLSI
 Carroll Land Services
 Incorporated
 Engineers • Surveyors • Land Development Consultants
 Landscape Architects • Environmental Specialists
 439 East Main Street, Westminster, MD 21157-5539
 (410) 876-2017 FAX (410) 876-0009

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

NOTE: ALL TYPE 'S' AND MOD. TYPE 'S' INLET GRATES TO BE REPLACED W/ RECTANGULAR GRATES. SEE STD. DETAIL SD-432

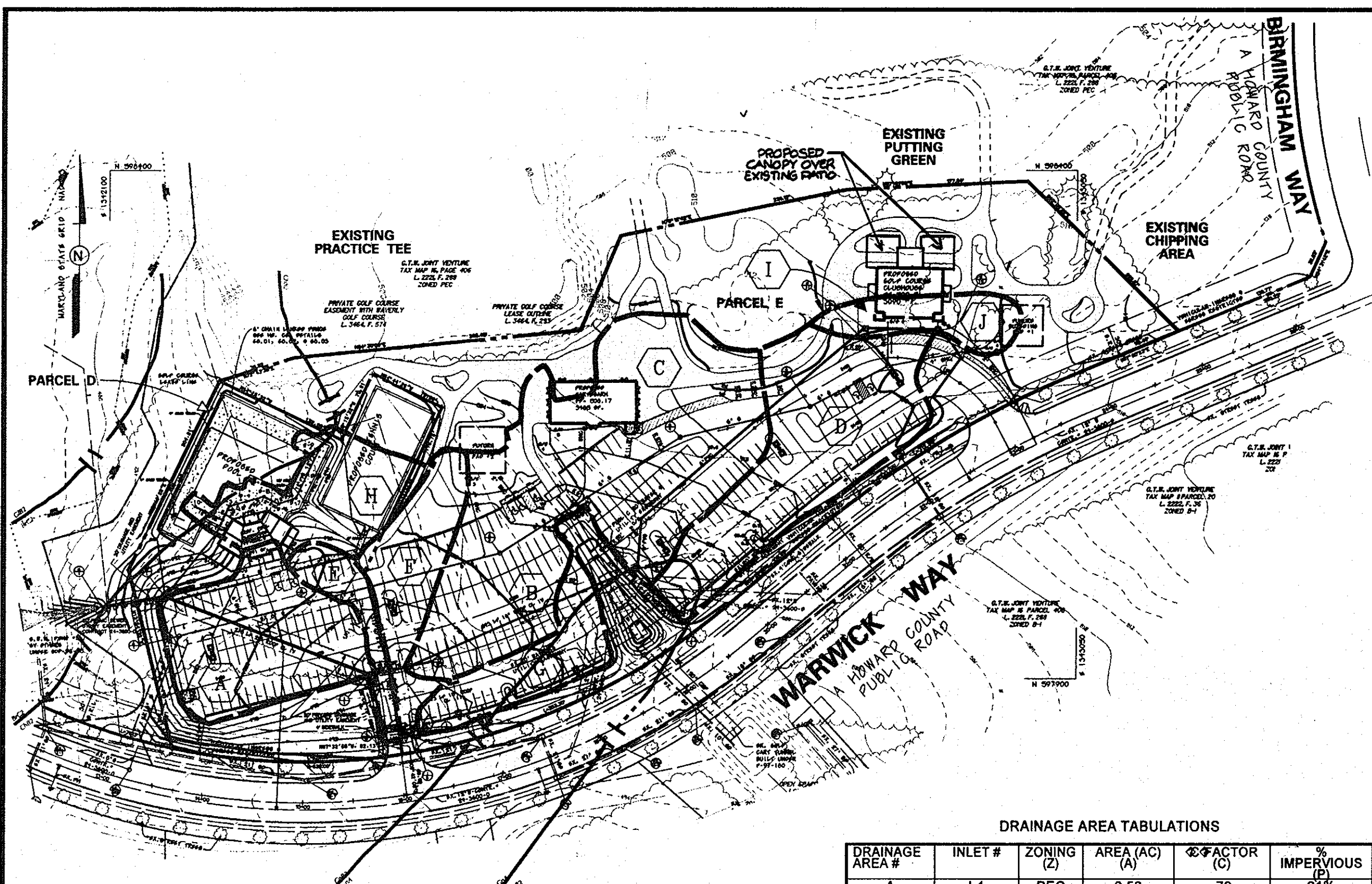
STRUCT.	TYPE	INV. IN	INV. OUT	TOP EL.	LOCATION	OFFSET	REMARKS
I-1	MOD. DOUBLE TYPE 'S'	487.20	488.70	495.50	7+61.72	33.9' L	SEE DETAIL SHT 7 OF 9
I-2	MOD. DOUBLE TYPE 'S'	489.49	489.99	494.50	7+18.50	30.1' L	SEE DETAIL SHT 7 OF 9
I-3	MOD. DOUBLE TYPE 'S'	497.44	496.99	491.92	501.60	53+71.15	15.9' L
I-4	DOUBLE TYPE 'S'	-	497.31	500.81	90+74.58	43.2' L	SEE HOOD STD. DETAIL SD-423
I-5	A-6 INLET	-	487.99	487.79	492.35	7+55.19	87.3' L
I-6	A-6 INLET	-	488.50	488.25	492.35	72+49.53	30.4' L
I-7	MOD. DOUBLE TYPE 'S'	-	490.10	493.60	72+37.30	33.2' L	SEE DETAIL SHT 7 OF 9
ME-1	STD 40 PRECAST	12" 488.8	483.89	483.40	501.50	9+32.75	94.7' R
E-1	34" END SECTION	-	-	482.82	-	-	SEE HOOD STD. DETAIL SD-515
S-1	STD 40 PRECAST	-	481.99	481.49	503.50	9+28.23	53.8' R
S-2	STD 40 PRECAST	-	491.13	483.97	496.75	7+08.81	56.0' R
S-3	STD 40 PRECAST	-	486.18	484.99	500.70	8+04.12	48.8' R
S-4	STD 40 PRECAST	-	489.40	489.30	507.25	3+89.94	40.8' R
S-5	STD 40 PRECAST	-	500.14	500.04	500.55	2+61.01	11.7' L
S-6	STD 40 PRECAST	-	504.30	501.99	509.95	1+00.64	8.1' L

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
 HOWARD COUNTY HEALTH DEPARTMENT.

David M. Boyd, M.D., P.E. 10/15/98
 HOWARD COUNTY OFFICER

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 HOWARD COUNTY HEALTH DEPARTMENT

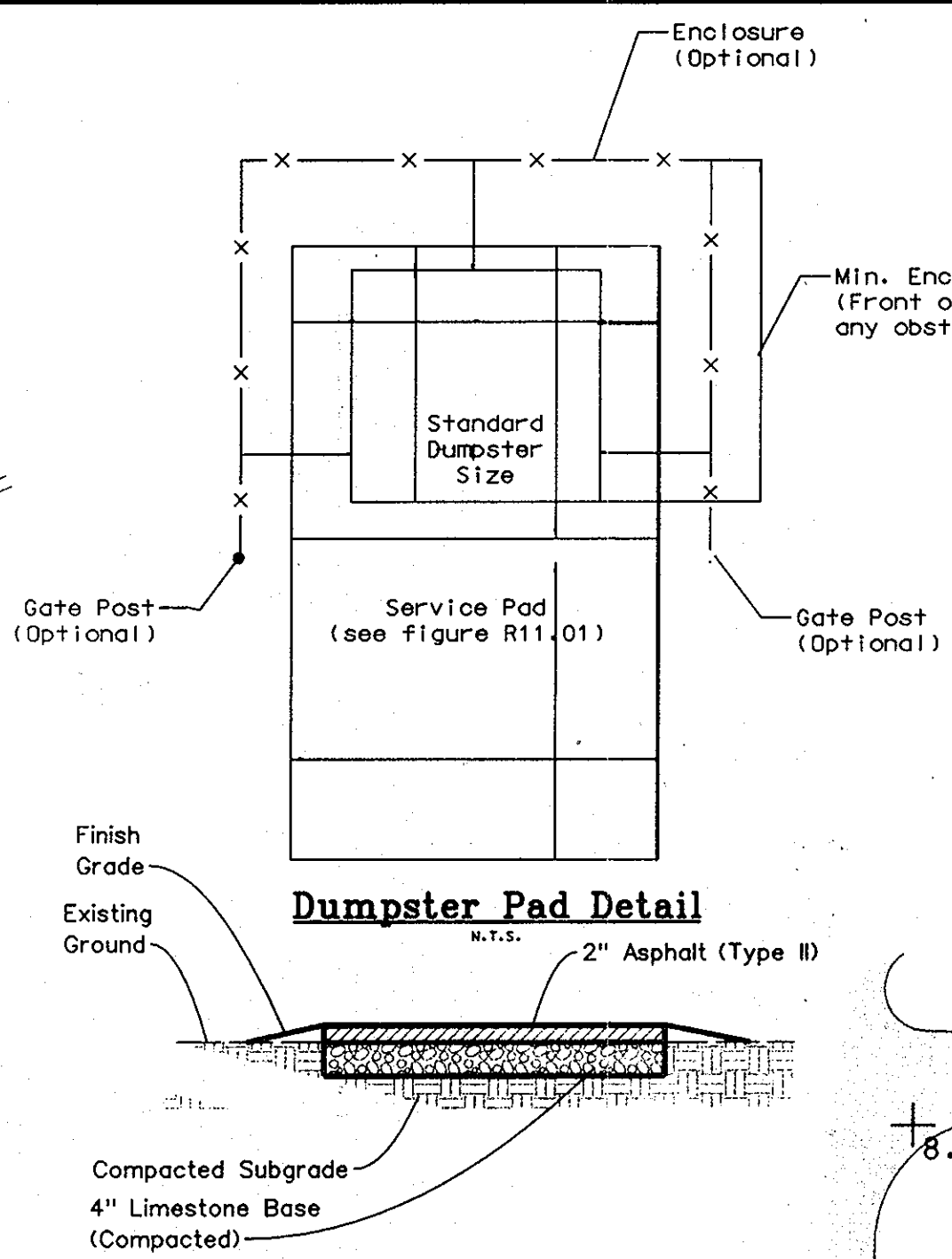
12/1/98
 12/1/98



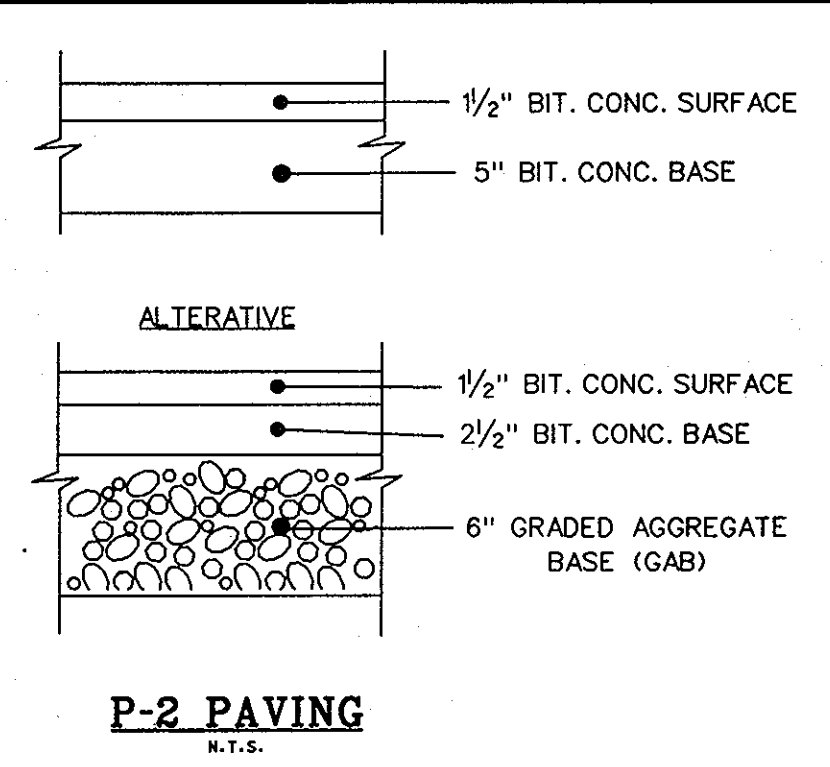
ABBREV.	NAME	CLASS
BrC2	BRANDYWINE LOAM	C
ChB2	CHESTER SILT LOAM	B
G1B2	GLENELG LOAM	C
GnA	GLENELG LOAM	C

PLAN
SCALE: 1" = 100'

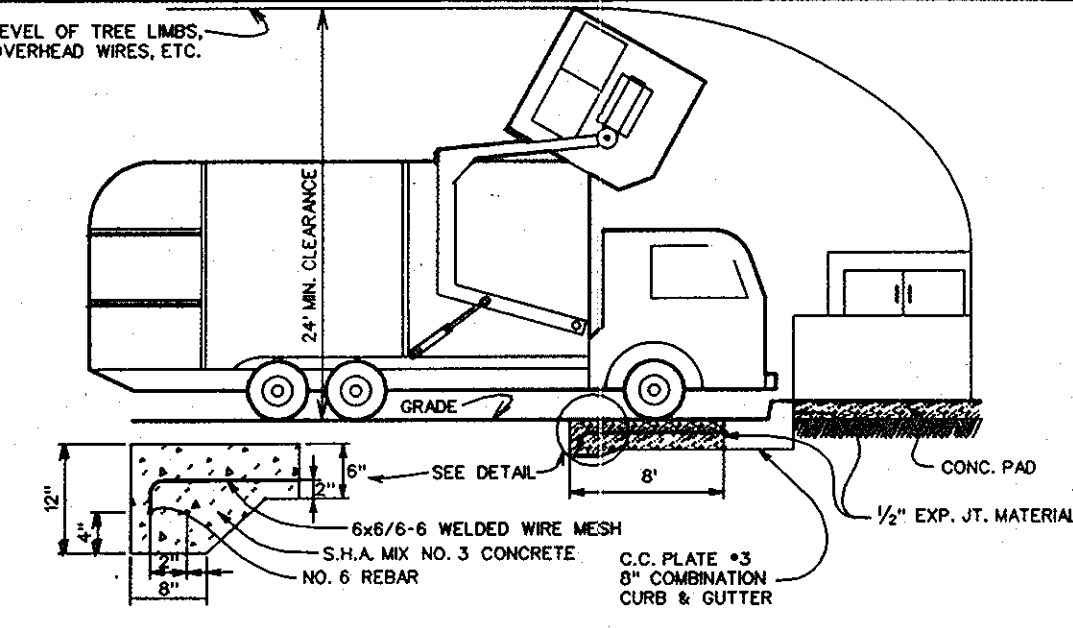
DRAINAGE AREA #	INLET #	ZONING (Z)	AREA (AC) (A)	CF FACTOR (C)	% IMPERVIOUS
A	1-1	PEC	0.53	.79	91%
B	1-2	PEC	0.92	.75	84%
C	1-3	PEC	0.61	.72	81%
D	1-4	PEC	0.87	.67	74%
E	1-5	PEC	0.13	.64	69%
F	1-6	PEC	0.27	.68	74%
G	1-7	PEC	0.23	.71	79%
H	POOL DECK DRAINS	PEC	0.39	.63	67%
I	CLUBHOUSE AREA DRAIN	PEC	0.11	.35	36%
J	CLUBHOUSE AREA DRAIN	PEC	0.06	.47	50%



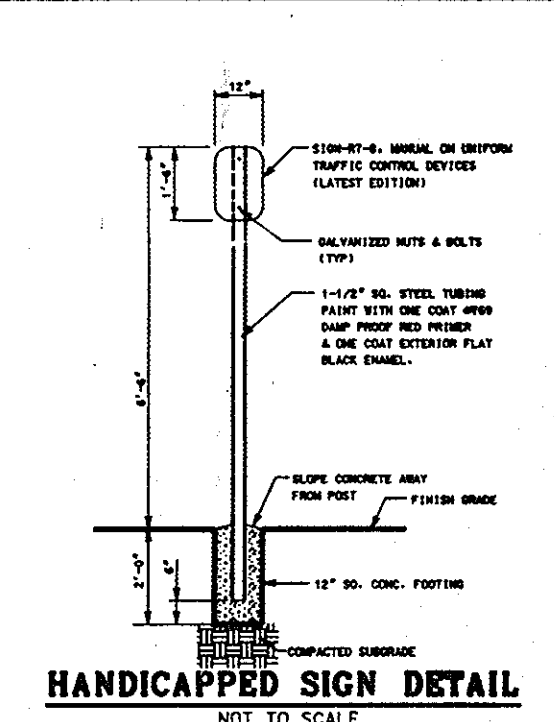
DUMPSTER PAD DETAIL
NOT TO SCALE.



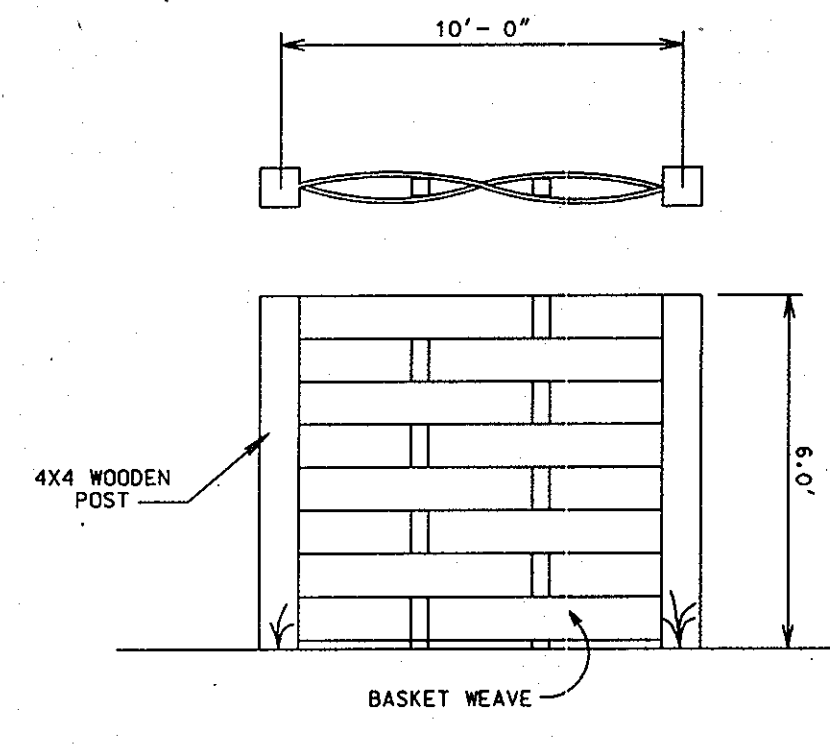
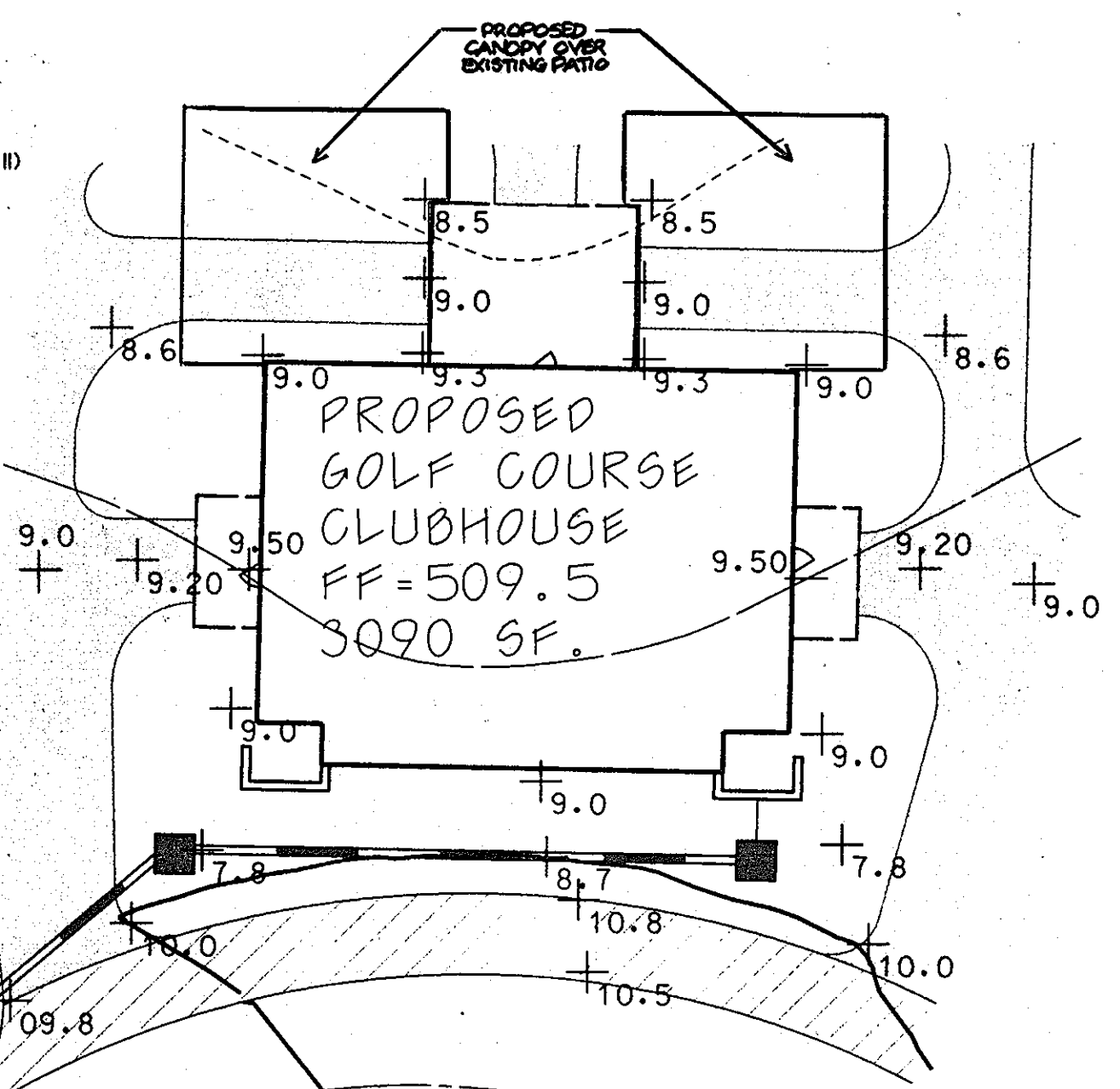
P-2 PAVING
N.T.S.



SOLID WASTE SERVICE PAD
N.T.S.



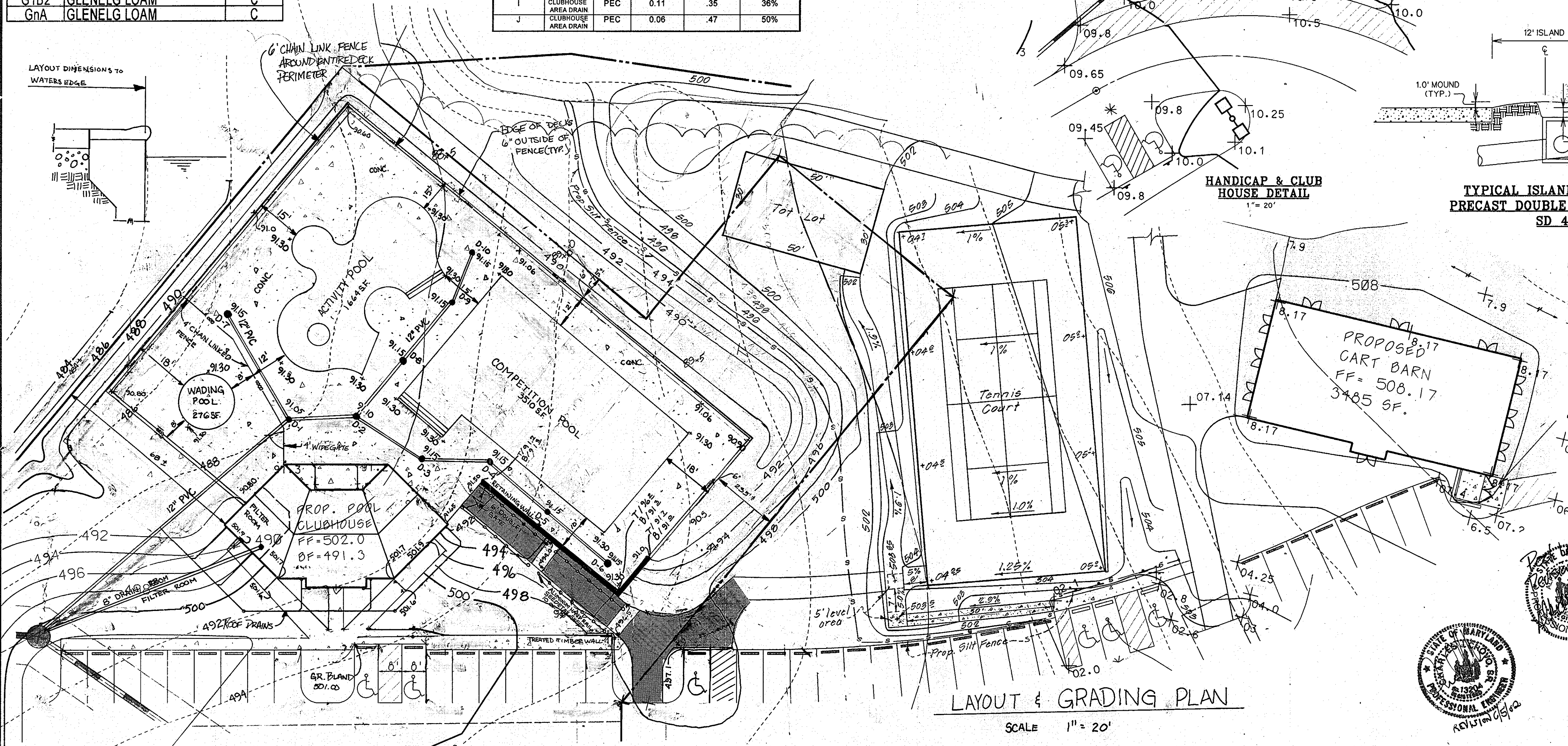
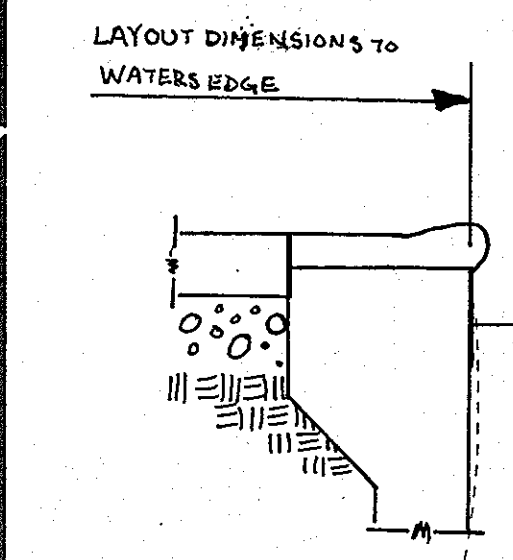
HANDICAPPED SIGN DETAIL
NOT TO SCALE



TRASH DUMPSTER SCREENING DETAIL
NOT TO SCALE



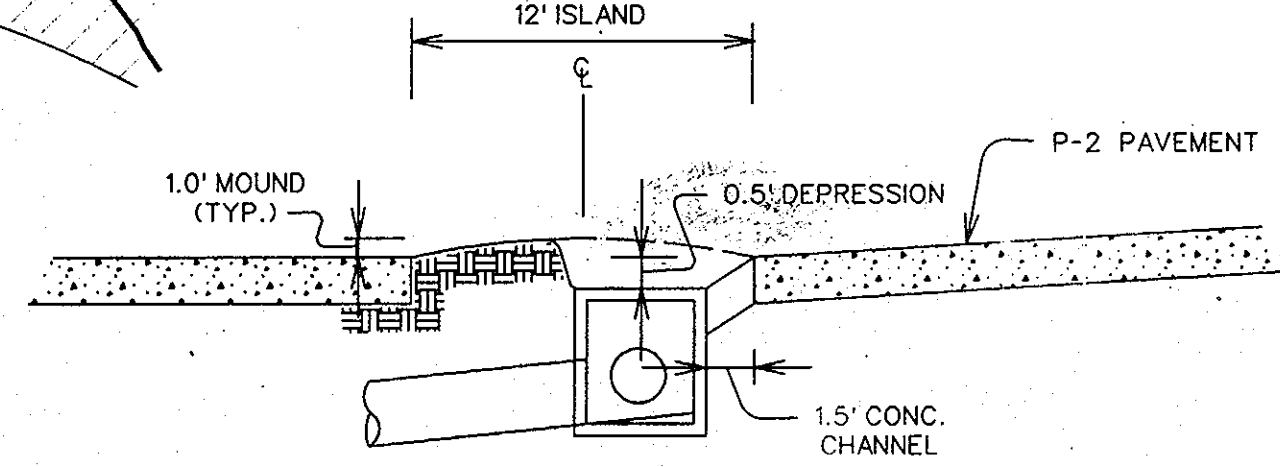
HANDICAPPED PARKING SPACE
NOT TO SCALE



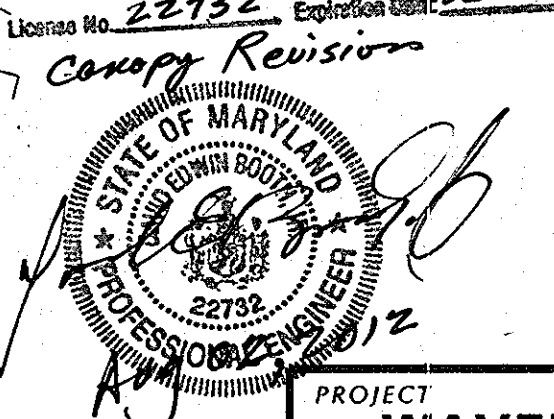
LAYOUT & GRADING PLAN
SCALE 1" = 20'

HANDICAP & CLUB HOUSE DETAIL
1" = 20'

TYPICAL ISLAND LAYOUT W/ PRECAST DOUBLE TYPE 'S' INLET
SD 4.23



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 22732, Expiration Date: 05/31/2014
Canopy Revision



OWNER
GTW JOINT VENTURE
C/O LAND DESIGN AND DEVELOPMENT
10005 HICKORY RIDGE ROAD
COLUMBIA, MARYLAND 21044

DEVELOPER
WAVERLY WOODS DEVELOPMENT CORP.
10005 HICKORY RIDGE ROAD
SUITE 215
COLUMBIA, MARYLAND 21044

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE PLANS AND MEETS THE APPROVED STANDARDS AND SPECIFICATIONS.

P.E. NO. _____
DATE: _____

SIGNATURE: _____
DATE: _____

APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT & ENGINEERING DIVISION
CHIEF, DIVISION OF LAND DEVELOPMENT
DIRECTOR

10/27/08
12/14/08
12/14/08

PROJECT
WAVERLY GOLF COURSE CLUBHOUSE
Parcel D & E F-97-180 WAVERLY WOODS SECTION 7
AREA
TAX MAP 16 GRIDS 4 & 5 PARCEL 406
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE
DRAINAGE AREA MAP & DETAILS

CLSI
Carroll Land Services
Incorporated
Engineers • Surveyors • Land Development Consultants
Landscape Architects • Environmental Specialists
439 East Main Street Westminster, MD 21157-5139
(410) 876-2017 FAX (410) 876-0009

DATE: 1-16-00
1-5-02
7/5/2012

REVISIONS
1"=20' LAYOUT & GRADING PLAN, SHT. NUMBER
Eliminated Future bldg pad "E", added tennis ct. & tot lot, reconfigured cart path, side walk & revised grading as necessary.
ADD 2 CANOPIES AT REAR OF CLUBHOUSE

DESIGN BY: M.R.
REVIEW BY: J.T.D.
DATE: 9/15/98
SCALE: AS SHOWN
JOB NO: 96109
SHEET: 8 OF 10

PLANTING SCHEDULE

KEY	QUANTITY	SCIENTIFIC NAME / COMMON NAME	SIZE	SPACING	REMARKS	ROOT
T-1	6	Quercus palustris / PIN OAK	2 1/2" - 3" CAL.	40' O.C.		B&B
T-2	11	Tilia cordata 'Greenspire' / GREENSPIRE LITTLELEAF LINDEN	2 1/2" - 3" CAL.	40' O.C.		B&B
T-3	12	Ilex crenata 'Village Green' / VILLAGE GREEN JAPANESE ZELKOVA	2 1/2" - 3" CAL.	40' O.C.		B&B
E-1	24	Pinus strobus / WHITE PINE	6' - 8'	10' O.C.		B&B
E-2	26	Picea abies / NORWAY SPRUCE	6' - 8'	10' O.C.		B&B
S-1	48	Azalea 'Delaware Valley White' / DELAWARE VALLEY WHITE AZALEA	2' - 2 1/2'	4' O.C.		#5 CAN
S-2	108	Ilex crenata 'Green Lustre' / GREEN LUSTRE JAPANESE HOLLY	2' - 2 1/2'	4' O.C.		#3 CAN
S-3	57	Ilex glabra compacta / COMPACT INKBERRY	2' - 2 1/2'	4' O.C.		#3 CAN
S-4	36	Juniperus 'Pfitzeriana' compacta / COMPACT PFITZER JUNIPER	18" - 24"	4' O.C.		#3 CAN

EXISTING PRACTICE TEE

G.T.W. JOINT VENTURE
TAX MAP 16, PAGE 406
L. 2221, F. 299
ZONED PEC

PRIVATE GOLF COURSE
EASEMENT WITH WAVERLY
GOLF COURSE
L. 3464, F. 574

PRIVATE GOLF COURSE
LEASE OUTLINE
L. 3464, F. 293

PARCEL E

EXISTING PUTTING GREEN

G.T.W. JOINT VENTURE
TAX MAP 16, PARCEL 406
L. 2221, F. 299
ZONED PEC

EXISTING CHIPPING AREA

PARCEL D

FOR PROPOSED POOL CLUBHOUSE
LAYOUT & GRADING PLAN
(SEE SHEET 8)

NOTE:

This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
Financial security for the required landscaping must be posted as part of the grading permit in the amount of \$7,700.00

G.T.W. JOINT VENTURE
TAX MAP 16, PARCEL 406
L. 2221, F. 299
ZONED B-1

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways		
	E	B	D
Linear Feet of Roadway Frontage/Perimeter	870 L.F.	180 L.F.	32 L.F. x 2
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe Below if needed)	0	0	0
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe Below if needed)	0	0	Standard #11.02 container enclosure
Number of Plants Required	22	4	1
Shade Trees	0	5	10
Evergreen Trees	218	0	0
Shrubs			
Number of Plants Provided	9	3	0
Shade Trees	29	9	12
Evergreen Trees	208	41	0
Shrubs			

Note:
See sheet 8 for detail of trash container enclosure

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	265
Number of Trees Required	1 Shade Tree (20 Spaces) 13 Trees Required
Number of Islands Required	13 Islands Required 13 Islands Provided
Number of Shade Trees Provided	13 Shade Trees
Shade Trees	
Other Trees (2:1 substitution)	

26 Evergreen trees substituted for 13 shade trees.
3 evergreen trees substituted for 10 shrubs.
An additional 20 evergreen trees are provided above the required number of plants

Professional Certification, I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
Licenses No. 22732 Expiration Date: 05/15/2014

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS,
HOWARD COUNTY HEALTH DEPARTMENT.
Date: 10/15/08
APPROVED: DEPARTMENT OF PLANNING AND ZONING
Date: 10/21/08
APPROVED: 10/21/08
APPROVED: 12/14/08

PROJECT
WAVERLY GOLF COURSE CLUBHOUSE
Parcel D & E-97-180 WAVERLY WOODS SECTION 7
TAX MAP 16, GRIDS 4 & 5, PARCEL 406
AREA
3RD ELECTION DISTRICT, HOWARD COUNTY, MARYLAND

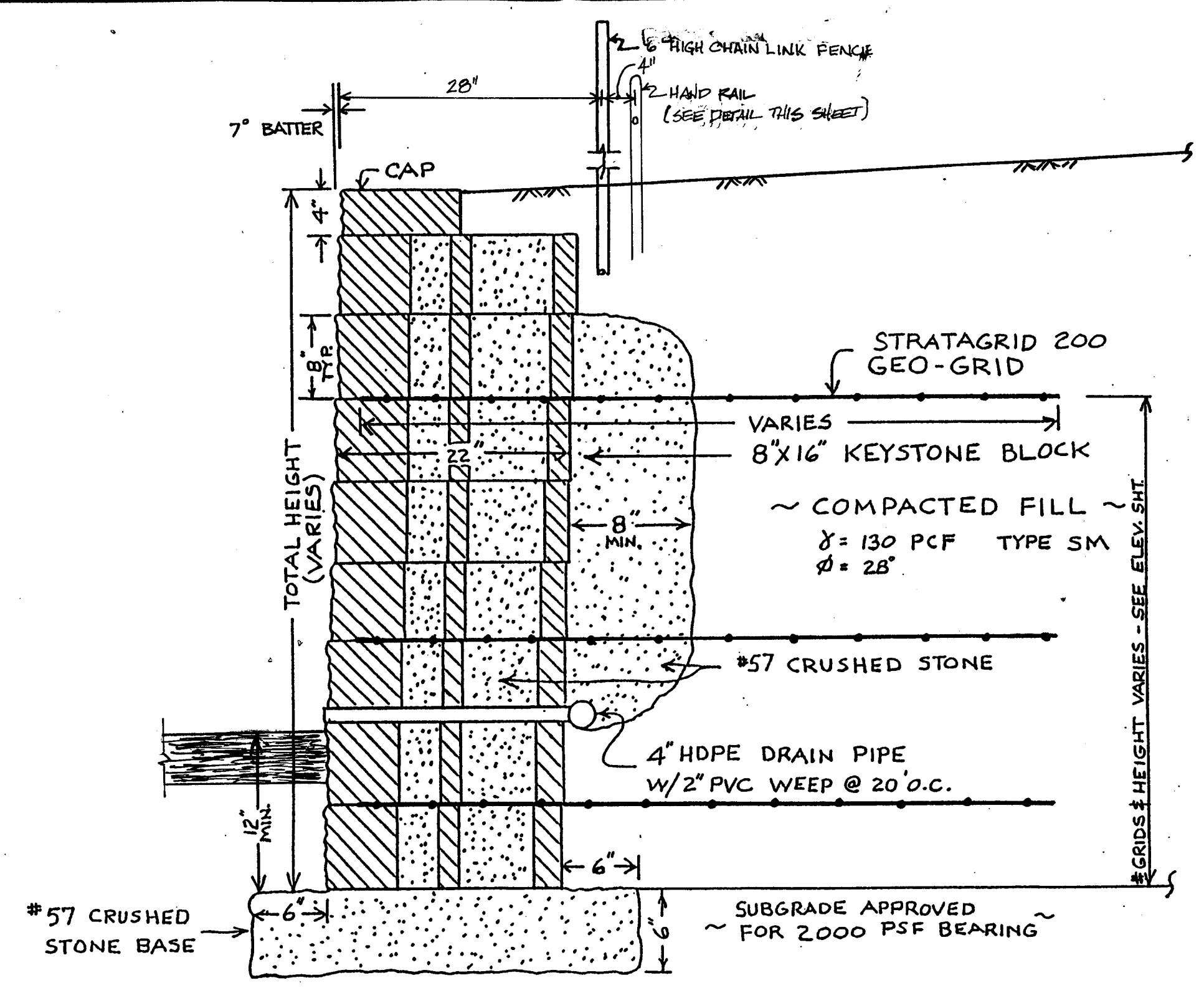
S-94-007, P-95-007, P-96-16, P-96-023, 28 923-N, F-95-173, P-95-174, SDP-96-35 F-97-180 & BA-96-21V

TITLE
LANDSCAPE PLAN

CLSI
Carroll Land Services
Incorporated
Engineers • Surveyors • Land Development Consultants
Landscape Architects • Environmental Specialists
439 East Main Street Westminster, MD 21157-5539
(410) 876-2017 FAX (410) 876-0009

DATE: 1-18-08 REVISIONS: POOL LAYOUT SHIT NUMBER DRAWN BY: S.K.
DESIGN BY: D.E.
6-5-08 Eliminated Future Bldg pad #2, added tennis REVIEW BY: J.T.D.
DATE: 9/15/08
7/5/2012 ADD 2 CANOPIES AT REAR OF CLUBHOUSE SCALE: 1" = 40'
JOB NO: 96109 SHEET: 9 OF 10

REVISION	DATE

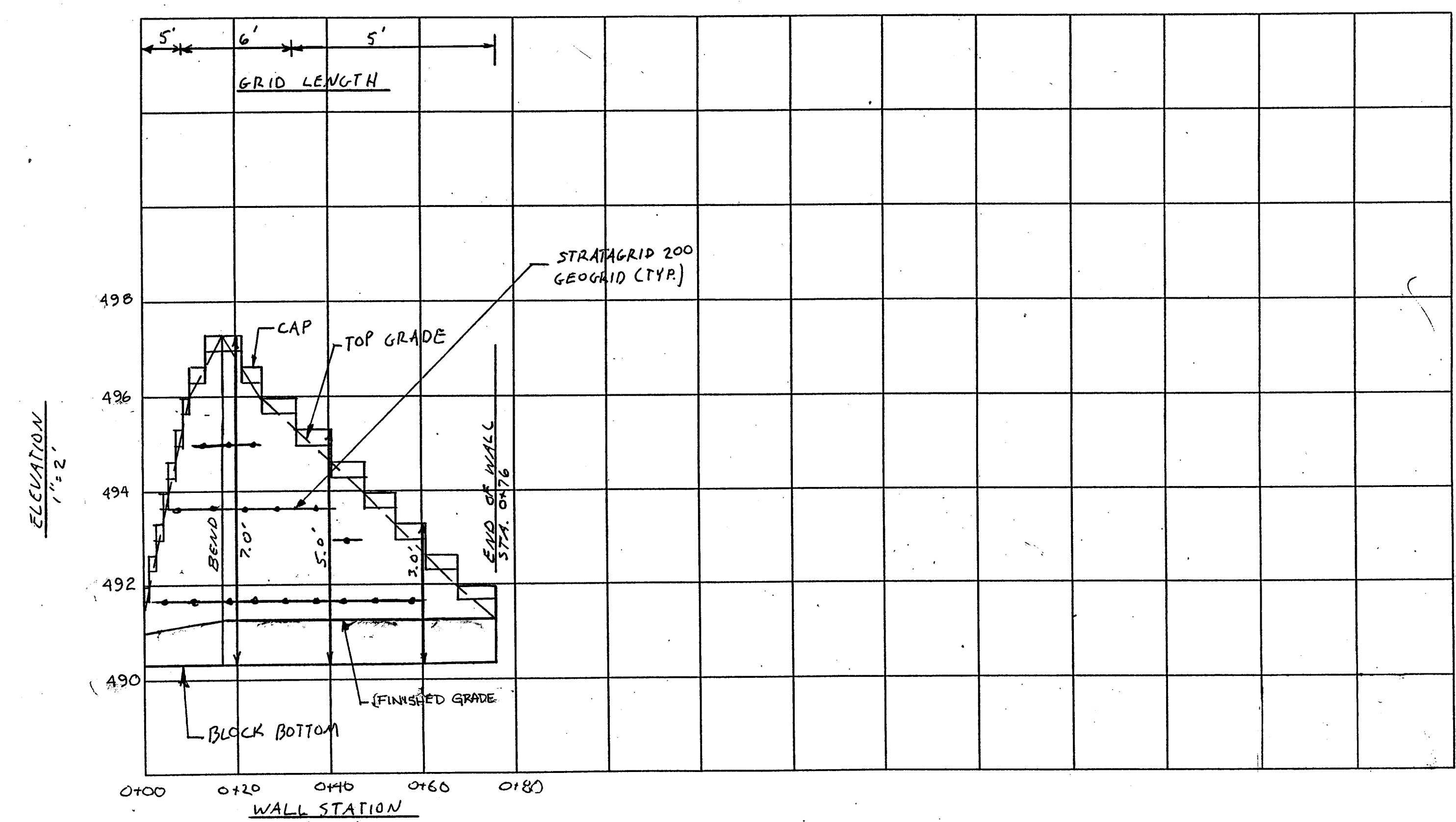


TYPICAL WALL PROFILE
N.T.S.

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
12011 GULFORD ROAD, ANNAPOLIS JUNCTION, MARYLAND 20701 880-4788 WASH. AREA 470-4239

RETAINING WALL STRUCTURAL DETAIL
WAVERLY POOL - WAVERLY WDS. SEC. 7
WAVERLY WOODS DEVELOPMENT CORP.

SHEET	DATE	JOB NUMBER
1 OF 4	10/25/99	99007-A
	SCALE	
	NONE	



HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
12011 GULFORD ROAD, ANNAPOLIS JUNCTION, MARYLAND 20701 880-4788 WASH. AREA 470-4239

RETAINING WALL ELEVATION
WAVERLY POOL - WAVERLY WDS. SEC. 7
WAVERLY WOODS DEVELOPMENT CORP.

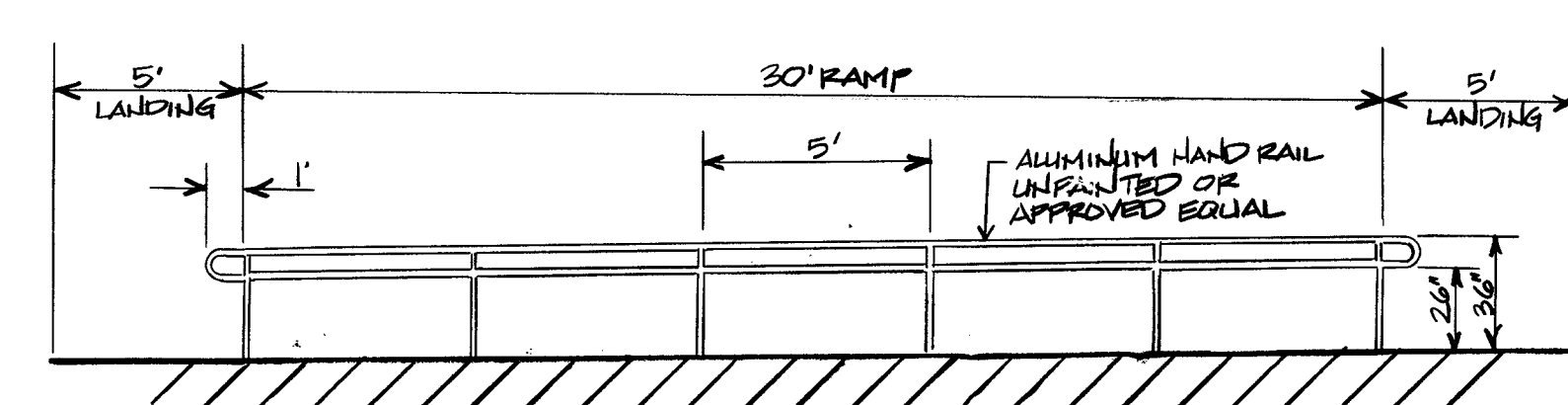
SHEET	DATE	JOB NUMBER
3 OF 4	10/25/99	99007-A
	SCALE	
	AS SHOWN	

**SPECIFICATION GUIDELINES
KEYSTONE CONCRETE MODULAR RETAINING WALL**

- PART 1: GENERAL**
- 1.01 DESCRIPTION
- A. Work includes furnishing and installing modular block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.
 - B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades designated on the construction drawings.
 - C. Furnishing and installing all appurtenant materials required for construction of the retaining wall as shown on the construction drawings.
- 1.02 RELATED WORK
- A. Section 02275 - Geogrid Soil Reinforcement.
- 1.03 REFERENCE STANDARDS
- A. ASTM C90-85 Hollow Load Bearing Masonry Units.
 - B. ASTM C140-75 Sampling and Testing Concrete Masonry Units.
 - C. ASTM C145-85 Solid Load Bearing Concrete Masonry Units.
- 1.04 DELIVERY, STORAGE AND HANDLING
- A. Contractor shall check the materials upon delivery to assure that proper material has been received.
 - B. Contractor shall prevent excessive mud, wet cement, epoxy, and like materials which may affix themselves, from coming in contact with the materials.
 - C. Contractor shall protect the materials from damage. Damaged material shall not be incorporated into the retaining wall structure.
- 1.05 SUBMITTALS
- A. Samples of all products used in the work of this section.
 - B. Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.
- 1.06 QUALITY ASSURANCE
- A. Soil testing and inspection service for quality control testing during earthwork operations will be supplied by the owner.
- PART 2: PRODUCTS**
- 2.01 CONCRETE UNITS
- A. Masonry units shall be Keystone® Retaining Wall Units as manufactured by:
 - B. Concrete wall units shall have a minimum net 28 day compressive strength of 3000 psi. The concrete shall have a maximum moisture absorption of 6 to 8 lbs/ft³.
 - C. Exterior dimensions may vary in accordance with ASTM C90-85. Standard and Composite units shall have a minimum of 1 square foot face area each. Mini units shall have a minimum 1/2 square foot face area each.
 - D. Keystone Standard units shall provide a minimum of 150 psf of wall face area. Fill which is contained within the dimensions of the units may be considered as 80% effective weight.
- PART 3: EXECUTION**
- 3.01 EXCAVATION
- A. Contractor shall excavate to the lines and grades shown on the construction drawings. Over excavation shall not be paid for and replacement with compacted fill and/or wall system components will be required at contractor expense. Contractor shall be careful not to disturb embankment materials beyond lines shown.
- 3.02 FOUNDATION SOIL PREPARATION
- A. Foundation soil shall be excavated as required by the dimensions shown on the construction drawings, or as directed by the Engineer.
- 3.03 BASE LEVELING PAD
- A. Leveling pad materials shall be placed as shown on the construction drawings, upon undisturbed in situ soils, to a minimum thickness of 6 inches.
 - B. Material shall be compacted so as to provide a level hard surface on which to place the first course of units. Compaction shall be to 85% of standard proctor for sand or gravel type materials. For crushed rock, material shall be densely compacted.
 - C. Leveling pad shall be prepared to insure complete contact of retaining wall unit with base.
 - D. Leveling pad materials shall be to the depth and width shown. Contractor may opt for using reduced depth of sands, gravel or crushed rock using a concrete topping. Concrete shall be unreinforced and a maximum of 1" to 3" thick.
- 3.04 UNIT INSTALLATION
- A. First course of concrete wall units shall be placed on the base leveling pad. The units shall be checked for level and alignment. The first course is the most important to insure accurate and acceptable results.
 - B. Insure that units are in full contact with base.
 - C. Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from base line.
 - D. Install fiberglass connecting pins and fill all voids at units with unit fill material. Tamp fill.
 - E. Sweep all excess material from top of units and install next course. Insure each course is completely unit filled, backfilled and compacted prior to proceeding to next course.
 - F. Lay up each course insuring that pins protrude into adjoining courses above a minimum of one inch. Two pins are required per unit. Pull each unit forward, away from the embankment, against pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.
 - G. As appropriate where the wall changes elevation, units can be stepped with grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.
- 3.05 CAP INSTALLATION
- A. Place Keystone Cap units, over projecting pins from units below. Pull forward to set back position. Back fill and compact to finished grade.
 - B. As required, provide permanent mechanical connection to wall units with construction adhesive or epoxy. Apply adhesive or epoxy to bottom surface of cap units and install on units below.
- 3.06 GEOGRID INSTALLATION
- A. Follow the requirements of Section 02275, GEOGRID SOIL REINFORCEMENT.

GEOGRID SOIL REINFORCEMENT

- PART 1: GENERAL**
- 1.01 DESCRIPTION
- A. Work includes furnishing and installing geogrid reinforcement, wall fill, and backfill to the lines and grades designated on the construction drawings.
 - B. Work includes furnishing and installing all appurtenant materials required for construction of the geogrid reinforced soil retaining wall as shown on the construction drawings.
- 1.02 RELATED WORK
- A. Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
- 1.03 REFERENCE STANDARDS
- A. Specific geogrid manufacturers reference standards.
- 1.04 DELIVERY, STORAGE AND HANDLING
- A. Contractor shall check the geogrid upon delivery to assure that the proper material has been received.
 - B. Geogrids shall be stored above -20°F.
 - C. Contractor shall prevent excessive mud, wet cement, epoxy and like materials which may affix themselves to the gridwork, from coming in contact with the geogrid material.
 - D. Rolled geogrid material may be laid flat or stood on end for storage.
- 1.05 SUBMITTALS
- A. Samples of all products used in the work of this section.
 - B. Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.
- 1.06 QUALITY ASSURANCE
- A. Soil testing and inspection services for quality control testing during earthwork operation will be supplied by the owner.
- PART 2: PRODUCTS**
- 2.01 DEFINITIONS
- A. Geogrid products shall be high density polyethylene expanded sheet or polyester woven fiber materials, specifically fabricated for use as soil reinforcement.
 - B. Concrete retaining wall units are as detailed on the drawings and are specified under Section 02275 - KEYSTONE CONCRETE MODULAR RETAINING WALL.
 - C. Wall fill is a free draining granular material used within the concrete units.
 - D. Backfill is the soil which is used as fill for the reinforced soil mass.
 - E. Foundation soil is the in situ soil.
- 2.02 GEOGRID
- A. Geogrid shall be the type as shown on the drawings having the property requirements described within the manufacturers specifications.
 - B. Rubber-tired equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
 - C. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.
 - D. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.
- 2.03 ACCEPTABLE MANUFACTURERS
- A. A manufacturer's product shall be approved by the Engineer prior to bid opening.



RAILING W/ EXTENDED PLATFORM
SCALE: 1"=5'

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
12011 GULFORD ROAD, ANNAPOLIS JUNCTION, MARYLAND 20701 880-4788 WASH. AREA 470-4239

WALL CONSTRUCTION SPECIFICATIONS
WAVERLY POOL - WAVERLY WDS. SEC. 7
WAVERLY WOODS DEVELOPMENT CORP.

SHEET	DATE	JOB NUMBER
4 OF 4	10/25/99	99007-A
	SCALE	

OWNER
6TW JOINT VENTURE
C/O LAND DESIGN AND DEVELOPMENT
10005 HICKORY RIDGE ROAD
COLUMBIA, MARYLAND 21044

DEVELOPER
WAVERLY WOODS DEVELOPMENT CORP.
10005 HICKORY RIDGE ROAD
SUITE 215
COLUMBIA, MARYLAND 21044

APPROVED FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS
HOWARD COUNTY HEALTH DEPARTMENT.

HOWARD HEALTH OFFICER _____ DATE _____

APPROVED DEPARTMENT OF PLANNING AND ZONING

CHEF, DEVELOPMENT ENGINEERING DIVISION
George Hamilton 2/11/00
DATE

CHEF, DIVISION OF LAND DEVELOPMENT HB
John A. Smith 2/28/00
DATE

DIRECTOR

PROJECT
WAVERLY GOLF COURSE CLUBHOUSE
Parcel D & E F-97-180 WAVERLY WOODS SECTION 7

AREA
TAX MAP 16 GRIDS 4 & 5 PARCEL 406
3RD ELECTION DISTRICT HOWARD COUNTY, MARYLAND

S-94-007, P-95-007, P-96-16, MP-95-023, BZ 923-44, F-95-173, F-95-174, SDP-96-35 F-97-180 & BA-96-21V

TITLE
RETAINING WALL PROFILES, NOTES & DETAILS

CLSI
Carroll Land Services
Incorporated
Engineers • Surveyors • Land Development Consultants
Landscape Architects • Environmental Specialists
439 East Main Street Westminster, MD 21157-5539
(410) 876-2017 FAX (410) 876-0009

DATE	REVISIONS	DRAWN BY: <i>RWJ</i>
2/11/00	THIS SHEET ADDED TO THE SET	DESIGN BY: <i>RWJ</i>
		REVIEW BY: <i>RWJ</i>
		DATE: JAN. 2000
		SCALE: AS SHOWN
		JOB NO: 96109
		SHEET: 10 OF 10

