

General Notes

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at 410-343-1800 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work being done.
- Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs be in place prior to the placement of any asphalt.
- Street light placement and the type of fixture and pole shall be in accordance with the Howard County Design Manual, Volume II (1993) and as modified by "Guidelines for Street Lights in Residential Developments (June 1993)". A minimum 20' feet spacing shall be between the light and any tree.
- The existing topography is taken from low level flight and aerial survey with 2' contour intervals prepared by 3DI dated April 8, 2002.
- 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 No. 31EA and 37CA were used for this project.
- The traffic study for this project was prepared by The Traffic Group and was approved on March 28, 2002. APFO Traffic Analysis is not required for this project. This project is located farther than 1/2 mile from the intersection of two major collector roadways.
- Sidewalk ramps shall meet current ADA requirements.
- Project background information:
Subdivision Name: Zaiser Property
Total Area 7.6 Acres (0.6 Ac Non-Buildable Bulk Parcels to be re-subdivided)
Tax Map: 31
Grid: 10
Parcel: 157
Phase II - Lot/Parcel: 157
Zoning: R-20
Election District: 1
Preliminary Plan Approval Date: 8/10/05
File Numbers: P-03-08, S-02-15, F-04-23, P-05-08
- Street trees shall be planted at least 5' from any inlet structure.
- This project complies with Section 161200 of the Howard County Code for Forest Conservation. Under this section, no forest clearing or retention is proposed, and an afforestation obligation of 1.05 acres is generated. This obligation will be met by retaining existing forest acreage on an off-site parcel at a 2:1 ratio in accordance with Howard County regulations. 0.1 acres of existing forest will be permanently retained in a Forest Conservation easement on the Myrtle Property. (F-06-104)
- Stormwater Management for this project will be addressed with the installation of one Stormwater Management Facility (Dry Extended Detention) which will control the runoff per the latest approved Design Standards. Credits are being utilized to meet the stormwater management requirements. Credit used includes Open Grass Channel. The Stormwater management pond will be owned by the Zaiser Property H.O.A. - there will be a public easement (Howard County) on the facility, the pond will be jointly maintained by the H.O.A. and Howard County. The Sand Filter will be owned and maintained by the H.O.A.
- Routine maintenance shall be performed by the Home Owner's Association, and non-routine maintenance shall be performed by Howard County. The routine and non-routine schedule is shown on sheet 7 of 19.
- Water and sewer extensions for this project will be public, and the site lies within the metropolitan district. The drainage area is in the Patapsco Watershed. Contract # 14-4304-D.
- Existing utilities shown are taken from record drawings obtained from Howard County Water & Sewer Contract No. 14-3699-D and 14-3719-D and from field survey. Contractor shall do see pits by hand 1 week in advance of construction at all crossings and notify engineer if there are any discrepancies.
- Boundary shown hereon is based on field survey by DMW dated September, 2002.
- A noise study is not required for this project.
- There are no known cemeteries or grave sites on this property.
- See Howard County Site Inventory HO-420 Older Mill.
- Financial surety for the required landscaping in the amount of \$20,850.00 must be posted as part of the developer's agreement.
- Financial surety for the Forest Conservation requirements in the amount of \$ 18,296 must be posted as part of the developer's agreement. (2:1 A.C. 0.20' of far off-site retention)
- The Maryland Department of the Environment Tracking Number is 2006-0272
- 95% compaction in fill areas to be per AASHTO T-180 standards.
- Landing Road is a Scenic Road.
- All sign posts used for traffic control signs installed in the County Right of Way shall be mounted on a 2" galvanized steel perforated square tube post (1/4" gauge) inserted into 2 1/2" galvanized steel perforated square tube sleeve (1/2" gauge) - 3' long. A galvanized steel pole cap shall be mounted on top of each post.
- There is no Floodplain on this site as defined in the Howard County Design Manual.
- There are no Wetlands on this site.
- This project is subject to the 5th Edition of the Subdivision and Land Development Regulations and the 1993 Zoning Regulations amended by CB90-2001 (effective 1-8-02).
- The H.O.A. Open Space shown hereon as Lot 11 are hereby dedicated to a property association for the residents of this subdivision. The Articles of Incorporation have been filed with the State Department of Assessments and Taxation.
- The sidewalk on Ilchester Road is to be extended to Landing Road when future road improvements are made. These improvements will include a deceleration lane on Ilchester Road and a realignment of Landing Road at Ilchester Road. These improvements will be made by Howard County.
- The Right Of Way for part of the cul-de-sac was dedicated under OWENS PROPERTY, Phase II, F-05-121

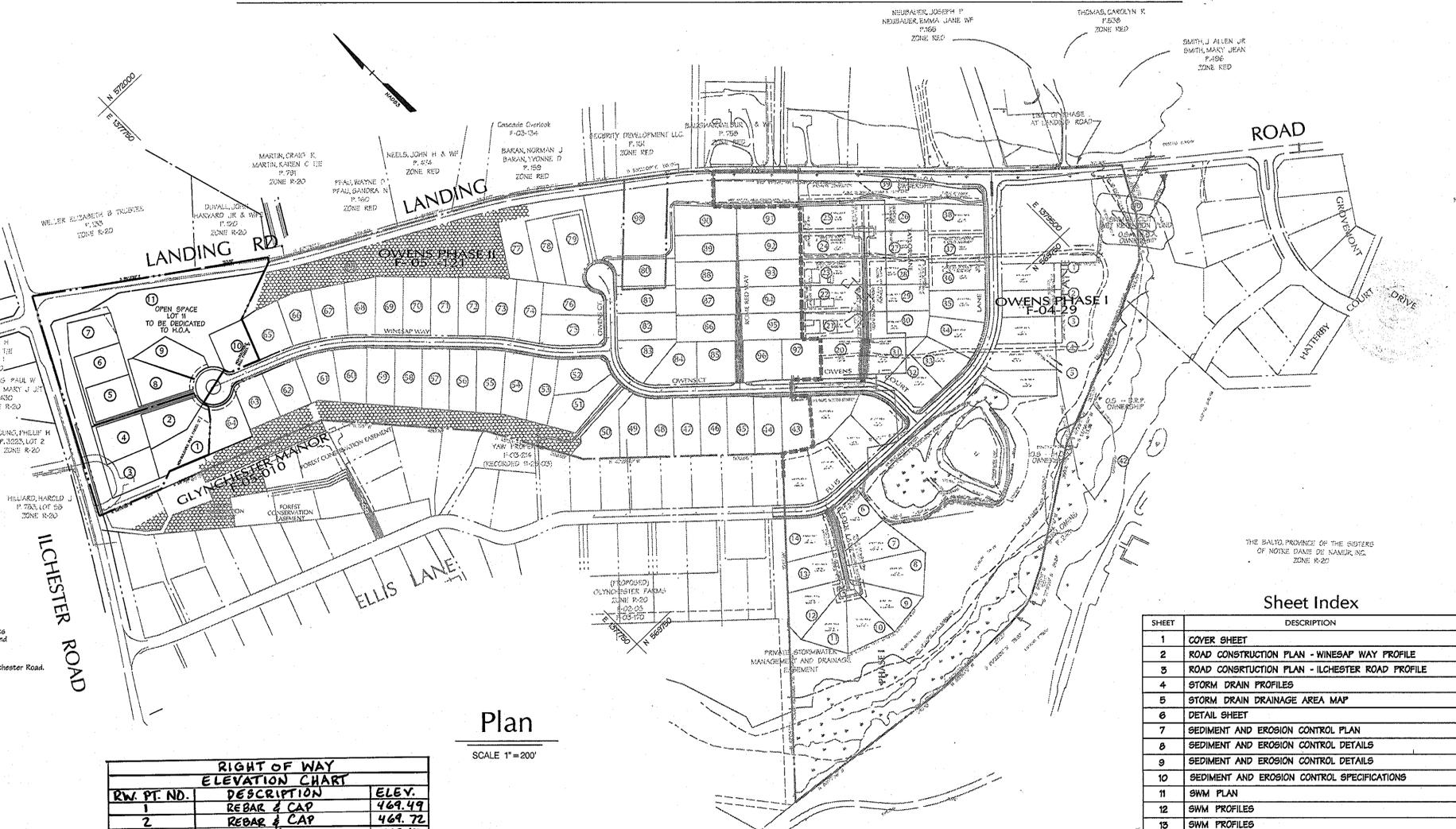
As-Built Notes:

- Horizontal Datum For This As-BUILT is Based on The Maryland State Reference System NAD83 As Projected From Ho. Co. Geodetic Control Stations 31EA and 37CA. Vertical Datum For This As-BUILT is North American Vertical Datum NAVD 88 As Projected From The Above Mentioned Ho. Co. Geodetic Control Stations.
- The Instruments Used In Performing The As-Built Where A 5" Total Station and Prism.
- This As-Built was Performed By Benchmark Engineering, Inc.

RW. PT. NO.	DESCRIPTION	ELEV.
1	REBAR & CAP	469.49
2	REBAR & CAP	469.72
3	REBAR & CAP	469.40
4	REBAR & CAP	467.91
5	REBAR & CAP	466.11
6	REBAR & CAP	455.40
7	REBAR & CAP	451.81
8	REBAR & CAP	440.48
9	REBAR & CAP	428.47
10	REBAR & CAP	429.26
11	REBAR & CAP	429.26

Plan

SCALE 1" = 200'



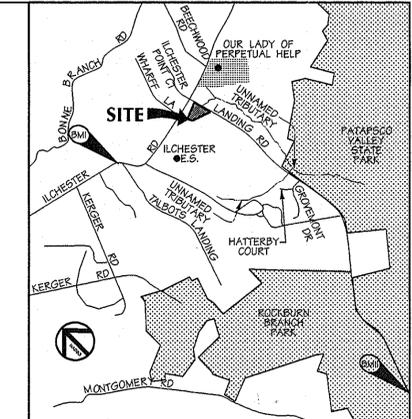
Final Plan

Zaiser Property

Lots 1-10, Open Space Lot 11

A Re-Subdivision Of Non-Buildable Bulk Parcels 'C' and 'D'

Howard County, Maryland



LOCATION MAP

SCALE: 1" = 2000'

BENCHMARK DESCRIPTION

- BM1 #31EA-DISC SET IN CONCRETE
N 1506841.03
E 1374815.935
ELEVATION = 468.50
2 FT SOUTH OF SIDEWALK ON ILCHESTER ROAD
1471 FT FROM GATE IN FENCE ON TRANSMISSION LINE ROW.
- BM2 #37CA-DISC SET IN CONCRETE
N 1506841.03
E 1382742.880
ELEVATION = 256.965
205' SOUTH OF CENTERLINE OF LANDING ROAD
25 MILES NORTHWEST OF LANDING ROAD FROM
INTERSECTION OF LANDING ROAD AND MONTGOMERY RD.

Sheet Index

SHEET	DESCRIPTION
1	COVER SHEET
2	ROAD CONSTRUCTION PLAN - WINESAP WAY PROFILE
3	ROAD CONSTRUCTION PLAN - ILCHESTER ROAD PROFILE
4	STORM DRAIN PROFILES
5	STORM DRAIN DRAINAGE AREA MAP
6	DETAIL SHEET
7	SEDIMENT AND EROSION CONTROL PLAN
8	SEDIMENT AND EROSION CONTROL DETAILS
9	SEDIMENT AND EROSION CONTROL DETAILS
10	SEDIMENT AND EROSION CONTROL SPECIFICATIONS
11	SWM PLAN
12	SWM PROFILES
13	SWM PROFILES
14	SWM DETAILS
15	SWM SPECIFICATIONS AND BORING LOGS
16	LANDSCAPE PLAN
17	SWM POND PLANTING PLAN
18	FOREST CONSERVATION PLAN
19	MAINTENANCE OF TRAFFIC AND PAVEMENT MARKING PLAN

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 1-10-14



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. 21443 Expiration Date: 12-2-14

DATA SOURCES

BOUNDARY SHOWN PER BOUNDARY SURVEY DATED SEPTEMBER, 2002, PREPARED BY DART/MCINIRE/WALKER, INC.
SOILS (IF SHOWN) TAKEN FROM HOWARD COUNTY SOIL SURVEY, 1988.
THE EXISTING TOPOGRAPHY IS TAKEN FROM LOW LEVEL FLIGHT AND AERIAL SURVEY WITH 2' CONTOUR INTERVALS PREPARED BY 3DI DATED APRIL 8, 2002 AND ON-SITE FIELD RUN TOPOGRAPHY BY DMW, INC. DATED SEPTEMBER, 2004.

9/5/06 Date
Professional Engr. No. 14330
AS-BUILT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William F. Mahaffey 1-3-07
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cindy Harris 1/10/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Donald Mason 1/9/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date	No.	Revision Description

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D'
TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
Ilchester Farm LLC
c/o James Keedy and Co. Inc.
P.O. Box 528
61 E. Padonia Road
Timonium, MD 21093

DMW
Dart McInire Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-3333
Fax 286-4702
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #
ZAISER PROPERTY		157
PLAT OR REF.	ZONE <td>CONTR. TRACT</td>	CONTR. TRACT
10/11/16/17	R-20	1
TITLE		
ZAISER PROPERTY		
FINAL PLAN		
COVER SHEET		
Des By	Scale	Proj. No.
Drn By	Date	
Chk By	Approved	
GMO	9/7/06	02059.B
		1 of 19

CURVE DATA					
FROM-TO	DELTA	RADIUS	LENGTH	TANGENT	CHORD
0+00 - 0+38.80	95°34'57"	40.00'	38.80'	21.08'	S 83°17'48" W 37.30'
0+38.80 - 3+03.06	29°10'59"55"	52.00'	264.25'	21.08'	N 21°05'17" E 58.78'
3+03.06 - 3+41.86	95°34'57"	40.00'	38.80'	21.08'	S 41°07'15" E 37.30'

Top Elev = 443.19'
Inv. In = 433.84'
Inv. Out = 433.64'

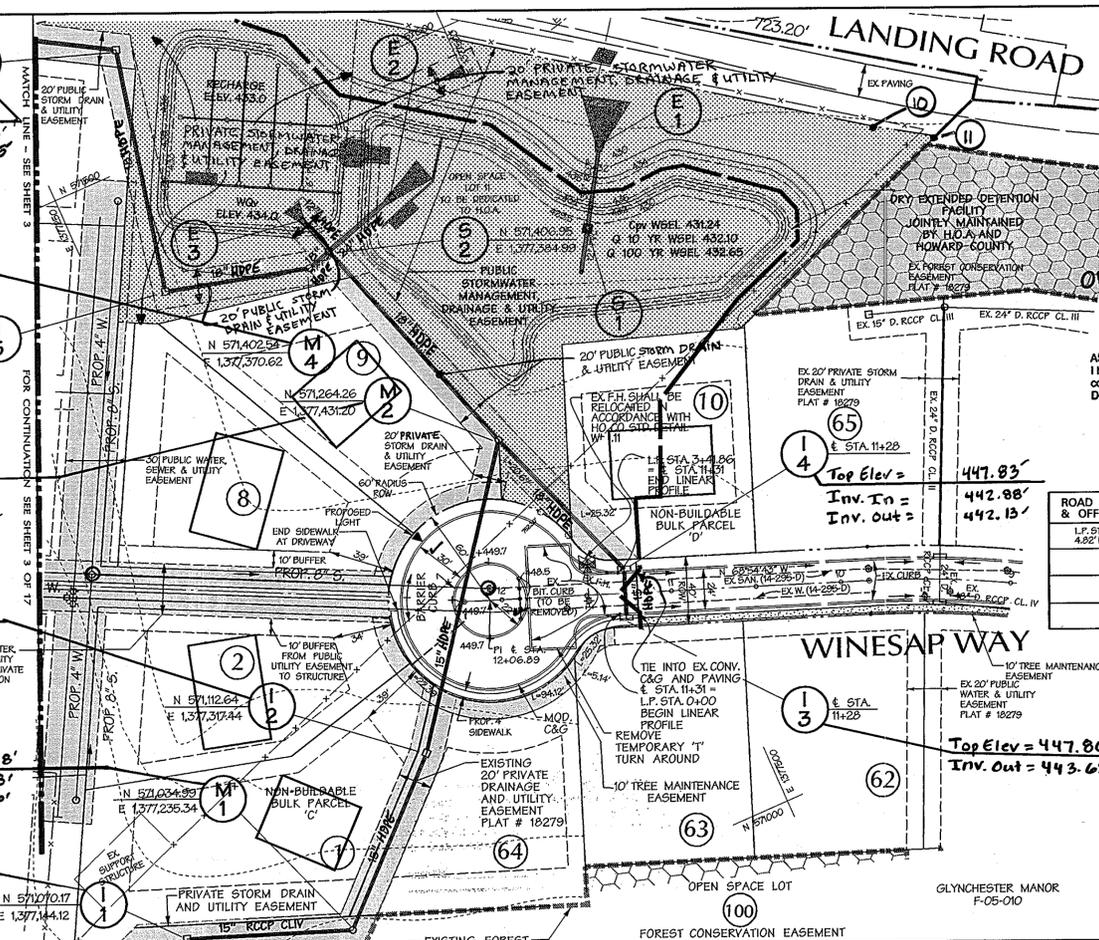
Top Elev = 442.24'
Inv. In = 434.79'
Inv. Out = 434.69'

Top Elev = 445.72'
Inv. In = 439.72'
Inv. In = 439.72'
Inv. Out = 439.52'

Top Elev = 450.08'
Inv. In = 444.43'
Inv. Out = 442.83'

Top Elev = 460.48'
Inv. In = 452.68'
Inv. Out = 450.06'

Top Elev = 461.00'
Inv. Out = 455.22'



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. 21443, Expiration Date: 12-21-14

FOR REVISIONS BY BENCHMARK ENGINEERING INC. ONLY

OWENS PROPERTY PHASE II F-05-121

AS-BUILT CERTIFICATION I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.

Donald Mason, P.E. 11-1-13

STREET LIGHT TABLE	
ROAD STATION & OFFSET	DESCRIPTION
LP STA. 2+10.66 432 CL	100 WATT HPS VAPOR PREMIER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE

12-15-06
Date

Professional Engr. No. 20784

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

CHIEF, BUREAU OF HIGHWAYS 1-3-07 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 11/10/07 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION 11/10/07 DATE

10/31/13 | CHANGE REC'D TO HDPF | BES

Date No. Revision Description BY

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D'
 TAX MAP 31 PARCEL 243,572

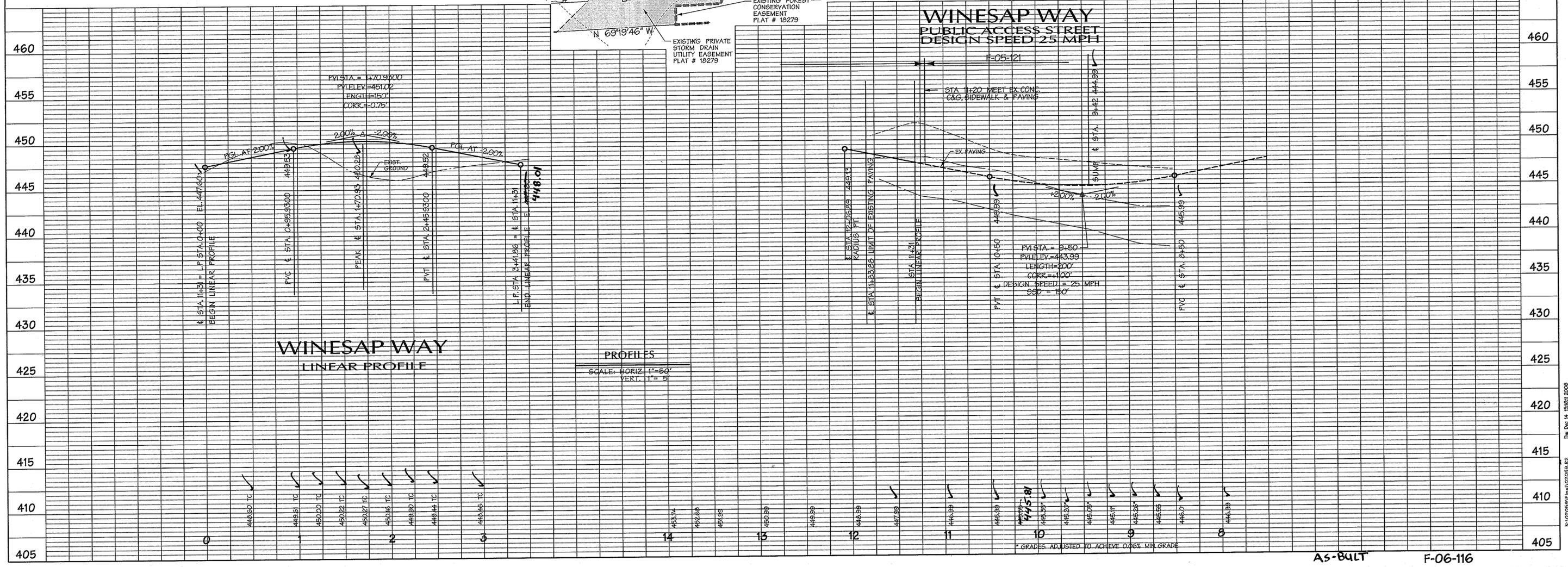
OWNER/DEVELOPER:
 Ilchester Farm LLC
 c/o James Keelty and Co. Inc.
 P.O. Box 528
 61 E. Padonia Road.
 Timonium, MD 21093

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

DIVISION NAME: ZAISER PROPERTY
 SECTION: 31
 LOT/PARCEL #: 157

TITLE: **ZAISER PROPERTY**
 FINAL PLAN
 WINESAP WAY PROFILE

Des. By: KAD Scale: 1" = 50' Proj. No.: 02059.B
 Dm. By: GMO Date: 10/25/06
 Chk. By: Approved 2 of 19



11/02/09/11/10/02/09/02 The Doc # 15/01/2008

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William J. Mahan 1-3-07
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cindy Hamilton 1/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. ... 1/10/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date	No.	Revision Description
10/31/2007	1	CHANGE RCP TO HDPE

**FINAL PLAN
 ZAISER PROPERTY**

LOTS 1 THRU 10 AND OPEN SPACE LOT 11
 AND THE RESUB DIVISION OF
 NON-BUILDABLE BULK PARCELS 'C' AND 'D'
 TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
 Ilchester Road LLC
 c/o James Keilty and Co. Inc.
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 Timonium, MD 21093

DMW
 David McCune-Walker, Inc.
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 Fax: 296-4705

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 Landscape Architects,
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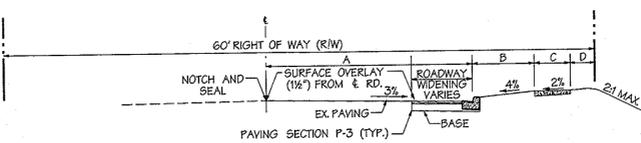
SECTION NAME	SECTION AREA	LOT/PARCEL #
ZAISER PROPERTY		107

DATE OF PLAN: 10/11/07
 TOWNSHIP: R-20
 COUNTY: HOWARD

**TITLE: ZAISER PROPERTY
 FINAL PLAN
 ILCHESTER ROAD**

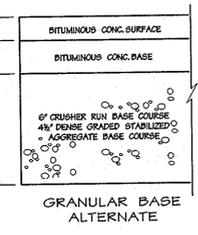
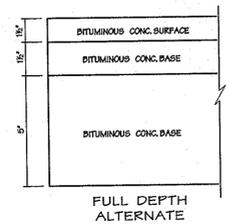
Des. By: KAD	Scale: 1" = 50'	Proj. No. 02059.B
Dir. By: GMO	Date: 9/7/06	3 of 19
Chk. By:	Approved:	

Professional Engr. No. 14230

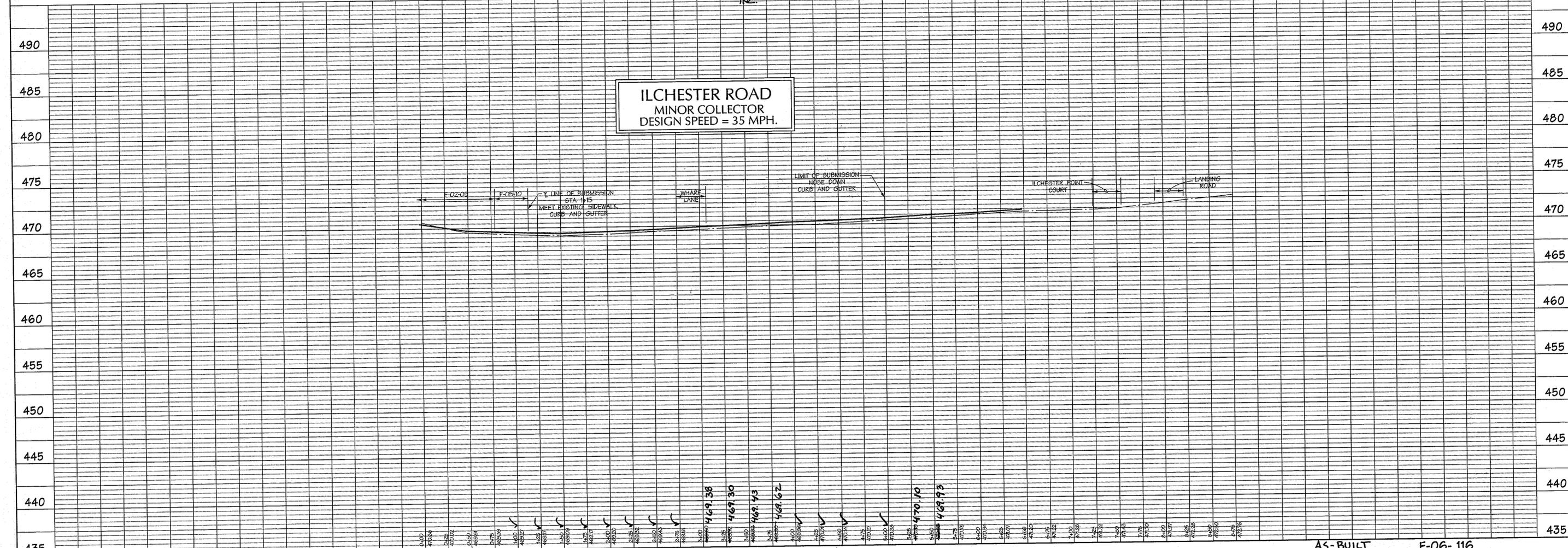
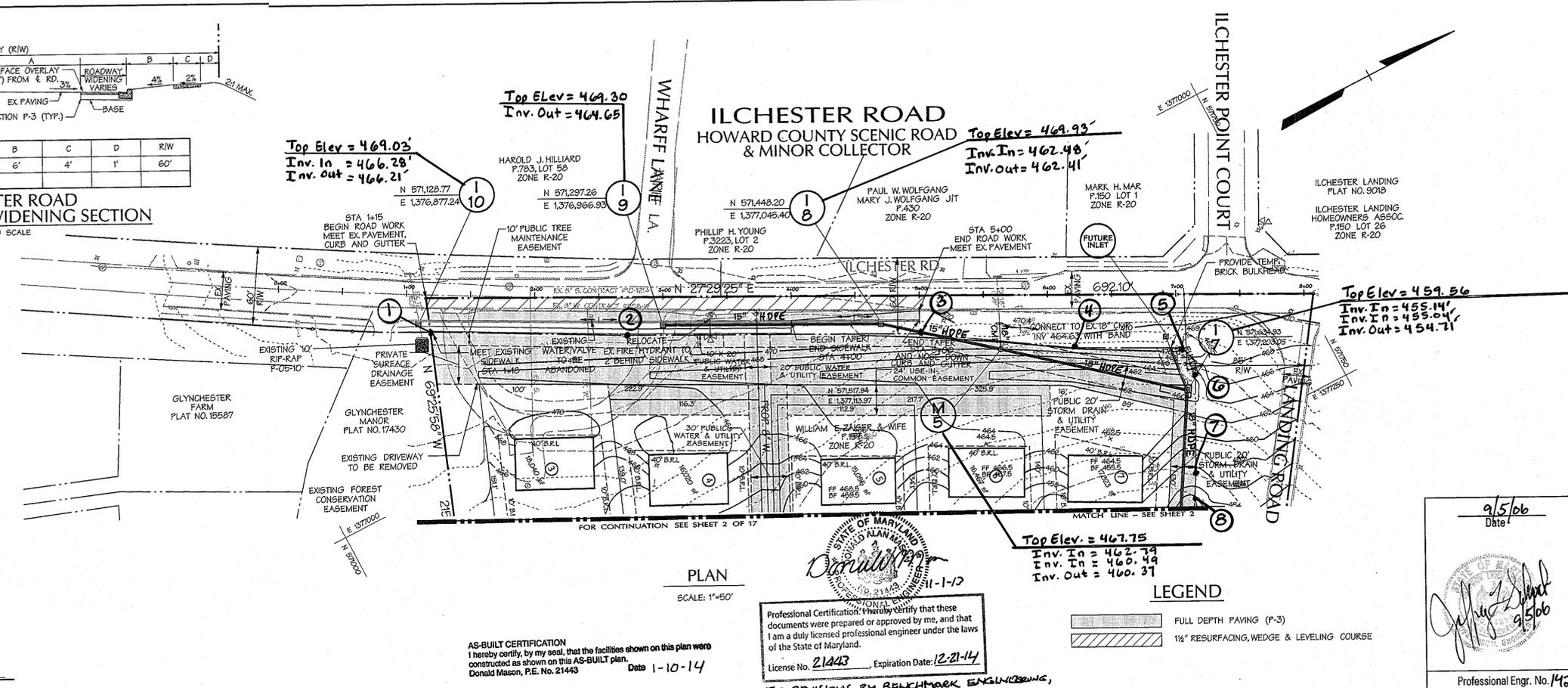


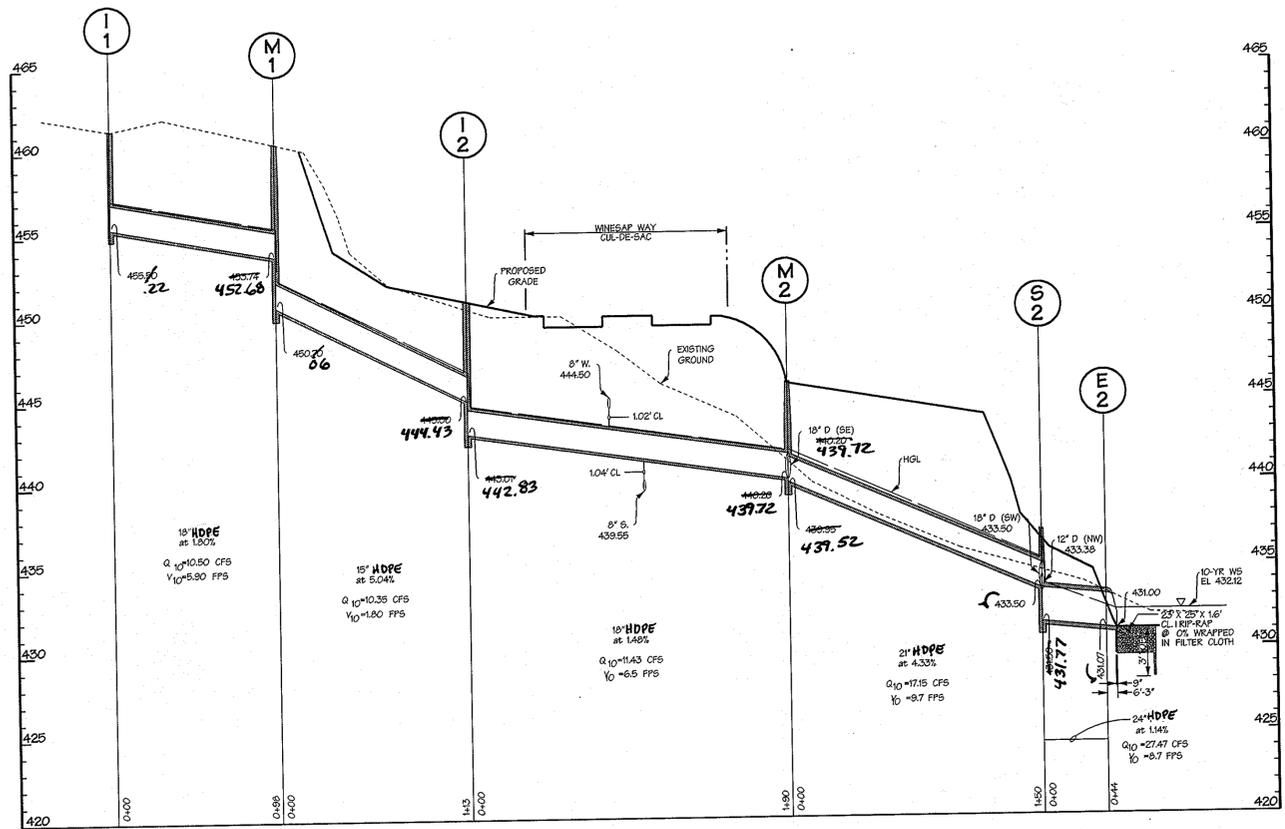
CLASSIFICATION	A	B	C	D	R/W	
MINOR COLLECTOR	500 ADT	19'±	6'	4'	1'	60'

**ILCHESTER ROAD
 TYPICAL ROAD WIDENING SECTION**
 NOT TO SCALE

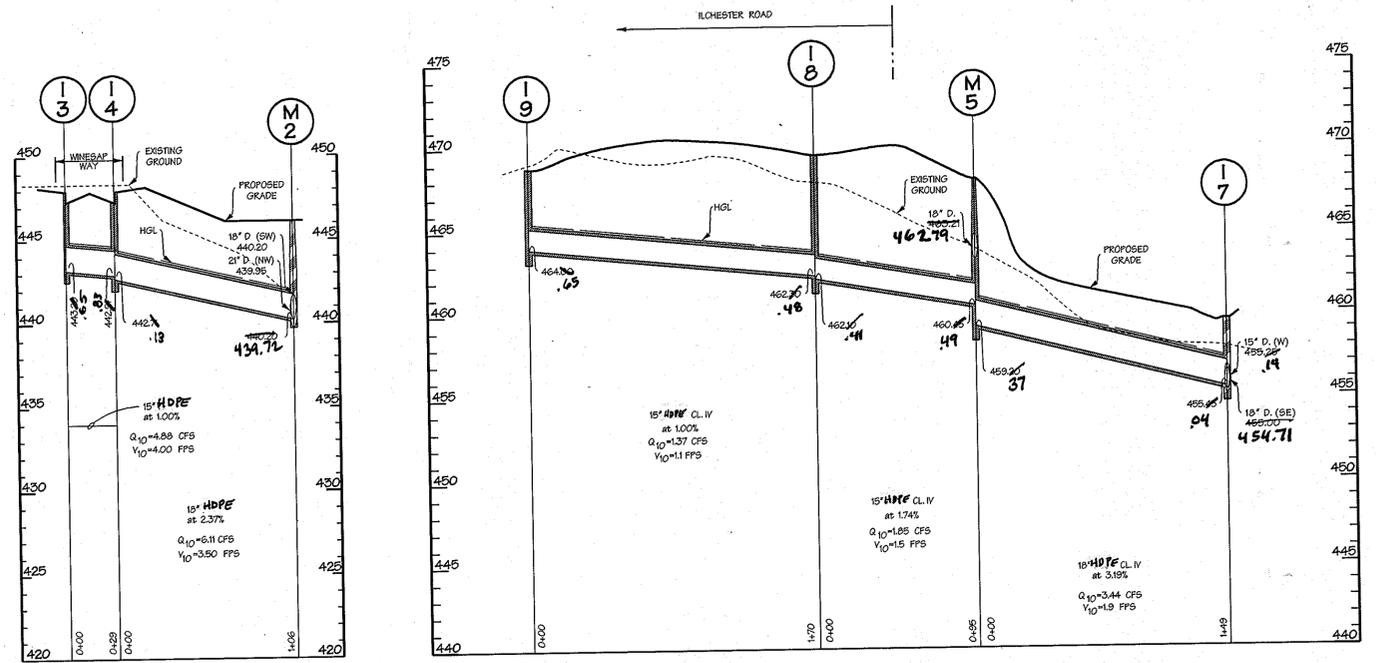


**PAVING SECTION P-3
 MINOR COLLECTOR**
 NOT TO SCALE

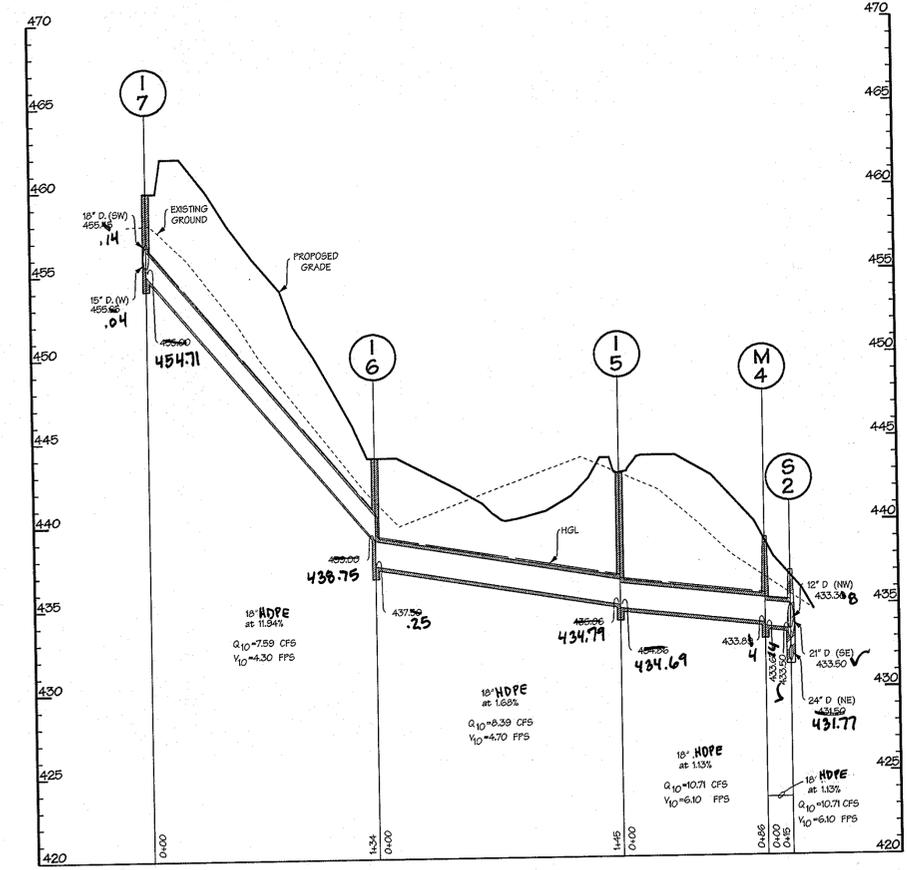




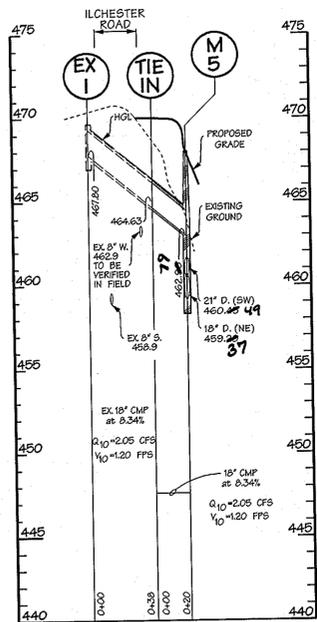
STORM DRAIN PROFILE
SCALE: HORIZ. 1" = 50'
VERT. 1" = 5'



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



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



AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 1-10-14

FOR REVISIONS BY BENCHMARK
ENGINEERING, INC.



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. 21443 Expiration Date: 12-21-14

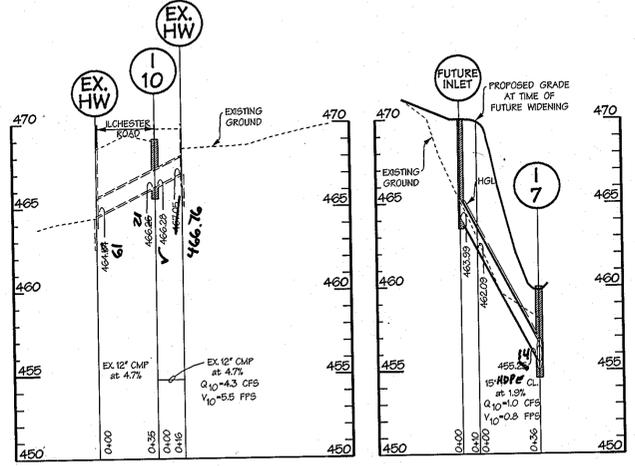
STRUCTURE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	LOCATION
I-1	TYPE 'D' INLET SD-4.11		455.50	461.80	SEE PLAN
I-2	TYPE 'S' INLET SD-4.22	442.03	449.01	450.08	SEE PLAN
I-3	TYPE 'A-5' INLET SD-4.01	442.70	448.00	447.80	SEE PLAN
I-4	TYPE 'A-5' INLET SD-4.01	434.84	443.00	442.24	SEE PLAN
I-5	TYPE 'D' INLET SD-4.11	437.50	444.00	442.35	SEE PLAN
I-6	TYPE 'D' INLET SD-4.11	454.71	455.80	460.04	SEE PLAN
I-7	TYPE 'A-5' INLET SD-4.01		462.24	460.10	419.93 STA 4+70 OFF 22.0' RT
I-8	TYPE 'A-5' INLET SD-4.01		464.20	469.10	30' STA 3+00 OFF 21.5' RT
I-9	TYPE 'A-5' INLET SD-4.01		466.28	469.10	30' STA 1+10 OFF 23.0' RT
I-10	TYPE 'A-5' INLET SD-4.01		431.50	436.62	SEE PLAN
S-2	TYPE 'A-10' INLET SD-4.02 MODIFIED				SEE PLAN
M-1	STD. G-5.12	48"	450.70	460.50	40' SEE PLAN
M-2	STD. G-5.13	60"	439.95	446.00	418.72 SEE PLAN
M-4	STD. G-5.12	48"	433.61	439.22	19' SEE PLAN
M-5	STD. G-5.12	48"	459.20	468.04	47.75 SEE PLAN
E-1	CONCRETE END SECTION SD-5.51	30"	427.50		SEE PLAN
E-2	CONCRETE END SECTION SD-5.51	24"	431.00	433.53	SEE PLAN
E-3	CONCRETE END SECTION SD-5.51	12"	432.84	433.80	SEE PLAN

NOTE: ELEVATION FOR TYPE 'D' INLETS IS THROAT OPENING ELEVATION, TOP OF CURB FOR TYPE 'A-5' *SEE SHEET 13 FOR STRUCTURE DETAIL

PIPE SCHEDULE

SIZE	TYPE & CLASS	LENGTH
12"	CMP	16'
15"	HDPE CL IV	340'
18"	HDPE CL IV	1,040'
21"	HDPE CL IV	150'
24"	HDPE CL IV	44'
30"	RCCP CL IV	44'
18"	CMP	38'



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Walter T. Mah 1-3-07
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cathy Kramer 1/10/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Donald Mason 1/10/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date	No.	Revision Description	By
10-31-13	1	CHANGE RCCP TO HDPE	BEJ

FINAL PLAN
ZAISER PROPERTY
LOTS 1 THRU 10 AND OPEN SPACE LOT 11
AND THE RESUB DIVISION OF
NON-BUILDABLE BULK PARCELS 'C' AND 'D'
TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
Ilchester Farm, LLC
c/o James Keilty and Co. Inc.
P.O. Box 528
61 E. Padonia Road.
Timonium, MD 21093

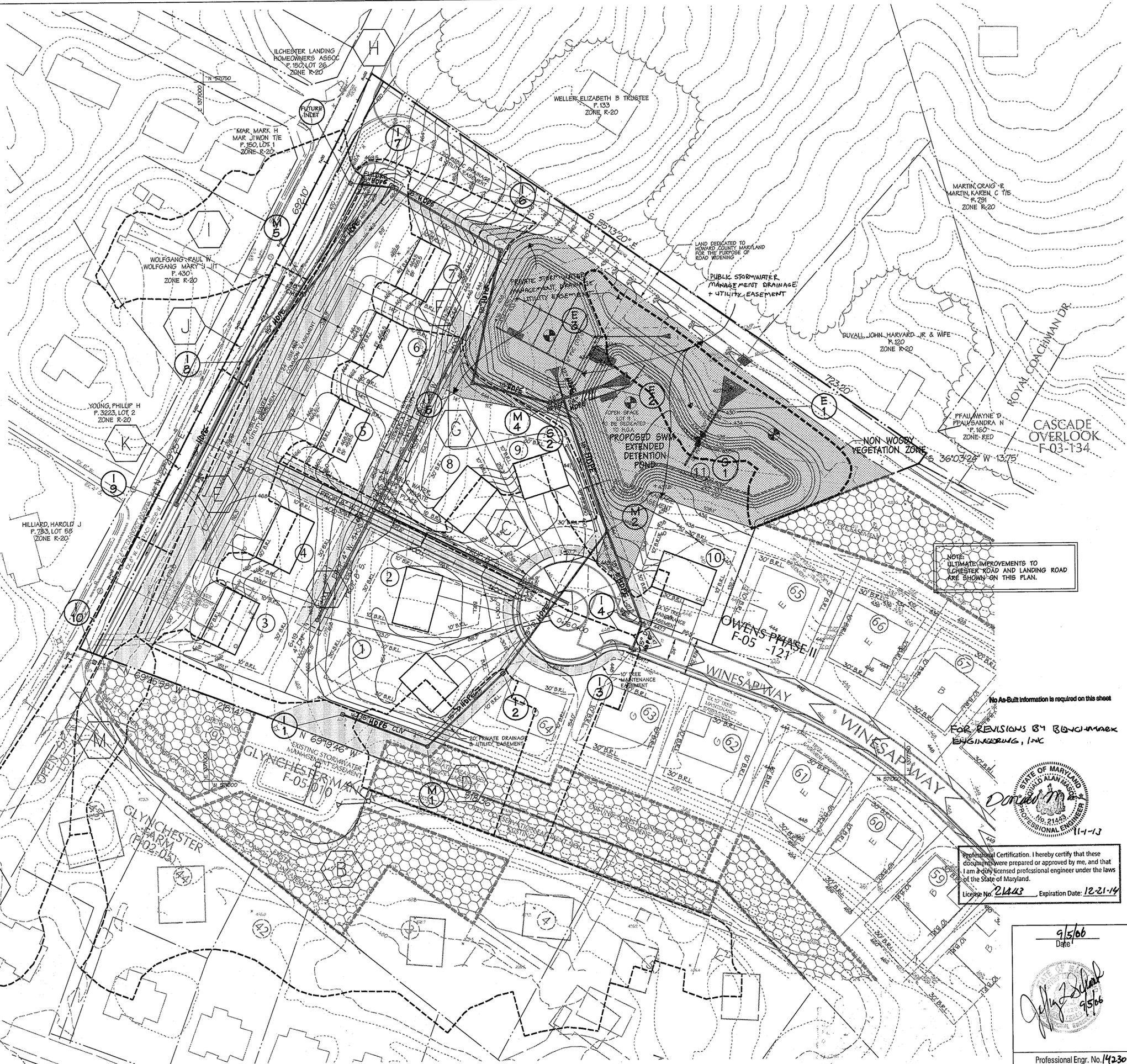
DMW
Date: 7/5/06
Date: 9/15/06

SECTION NAME	SECTION NO.	DATE
ZAISER PROPERTY	157	9/15/06

TITLE: **ZAISER PROPERTY FINAL PLAN STORM DRAIN PROFILES**

Des. By: KAD/CVS Scale: AS SHOWN Proj. No.: 02059.B
Dm. By: GMO Date: 9/17/06
Chk. By: Approved

- 1.86 ACRES ZONING R-20
C=0.40 A %IMP=40
- 3.49 ACRES ZONING R-20
C=0.40 B %IMP=40
- 0.48 ACRES ZONING R-20
C=0.40 C %IMP=40
- 0.47 ACRES ZONING R-20
C=0.40 D %IMP=40
- 1.10 ACRES ZONING R-20
C=0.40 E %IMP=40
- 0.37 ACRES ZONING R-20
C=0.40 F %IMP=40
- 0.87 ACRES ZONING R-20
C=0.40 G %IMP=40
- 0.13 ACRES ZONING R-20
C=0.80 H %IMP=40
- 0.53 ACRES ZONING R-20
C=0.40 I %IMP=40
- 0.10 ACRES ZONING R-20
C=0.80 J %IMP=40
- 0.17 ACRES ZONING R-20
C=0.80 K %IMP=40
- 1.10 ACRES ZONING R-20
C=0.40 L %IMP=40
- 0.18 ACRES ZONING R-20
C=0.40 M %IMP=40



LEGEND

	EX. TREE LINE
	EX. MINOR CONTOUR (2' INT.)
	EX. MAJOR CONTOUR (10' INT.)
	AREA OF INTERPOLATED CONTOURS
	EX. STRUCTURE
	PROP. TREE LINE (IF SHOWN)
	PROPERTY BOUNDARY
	RIGHT OF WAY LINE
	ROADWAY CENTERLINE
	PROP. LOT NUMBER
	ADJACENT LOT LINE
	PROP. LOT LINE
	BUILDING SETBACK LINE
	STOP SIGN
	EX. UTILITY POLE
	PROPOSED LIGHT POLE
	DRAINAGE DIVIDE
	EASEMENT AREAS
	NON WOODY VEGETATION ZONE

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William F. Webb, Jr. 1-3-07
 CHIEF, BUREAU OF HIGHWAYS MS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cindy Hamrick 1/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT JA DATE

Chris Dunning 1/10/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION JPS DATE

Date	No.	Revision Description	BY
10-31-13	1	CHANGE RECP TO HDPE	BET

**FINAL PLAN
ZAISER PROPERTY**

LOTS 1 THRU 10 AND OPEN SPACE LOT 11
 AND THE RE-SUB DIVISION OF
 NON-BUILDABLE BULK PARCELS 'C' AND 'D'
 TAX MAP 31 PARCEL 243, 572

OWNER/DEVELOPER:
 PATAPSCO LANDING, LLC
 c/o James Keelty and Co. Inc.
 P.O. Box 528
 61 E. Padonia Road.
 Timonium, MD 21093

DMW
 Dan McCusker/Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 586-3333
 Fax: 296-4705

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

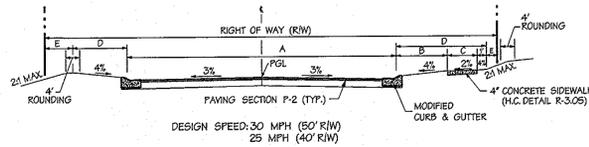
PROVISION NAME ZAISER PROPERTY	SECTION/AREA 157	LOT/PIECE #
PLAT OR L.P. 12/11/87	PLANNING MAP R-20	GENUS TRACT
TITLE ZAISER PROPERTY FINAL PLAN STORM DRAIN DRAINAGE AREAS		
Des. By KAD	Scale 1" = 50'	Proj. No. 02059.B
Drn. By GMO	Date 9/7/06	5 of 19
Chk. By	Approved	

NOTE:
 ULTIMATE IMPROVEMENTS TO
 ILCHESTER ROAD AND LANDING ROAD
 ARE SHOWN ON THIS PLAN.

No As-Built Information is required on this sheet
 FOR REVISIONS BY BENCHMARX
 ENGINEERING, INC.

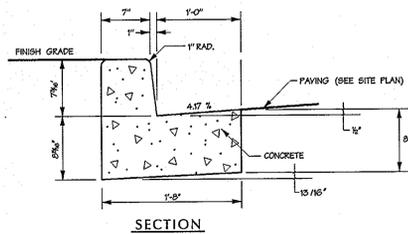
Professional Certification. I hereby certify that these
 documents were prepared or approved by me, and that
 I am a duly licensed professional engineer under the laws
 of the State of Maryland.
 License No. 21443 Expiration Date: 12-21-14

9/5/06
 Date
Jerry Zaiser
 9/5/06
 Professional Engr. No. 14230

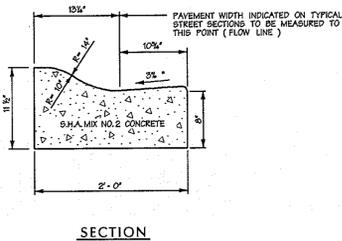


CLASSIFICATION	A	B	C	D	E	R/W	
ACCESS STREET	500 ADT	24'	3'	4'	8'	0	40'

WINESAP WAY
 TYPICAL ROAD SECTION
 NOT TO SCALE

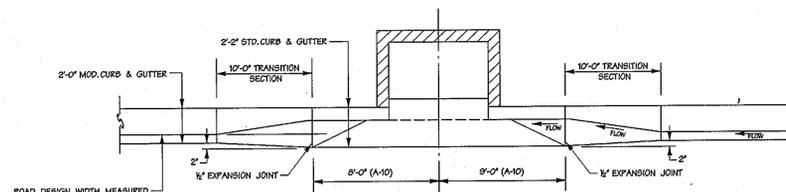


ILCHESTER ROAD
 AND
 BARRIER CURB FOR CUL-DE-SAC ISLAND
 TYPE "A" CURB AND GUTTER R-3.01
 NOT TO SCALE

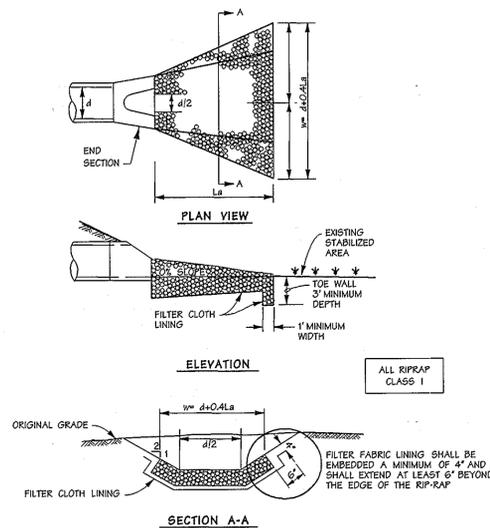


MODIFIED COMBINATION CURB & GUTTER R-3.01
 NOT TO SCALE

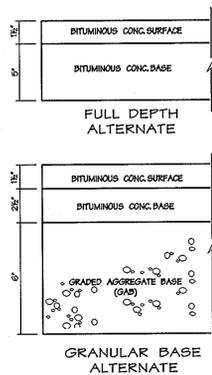
* GUTTER PAN AT MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT SAME RATE AND IN SAME DIRECTION AS PAVEMENT MATCH PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPER ELEVATION IS GREATER THAN 3% FOR MODIFIED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



TRANSITION CURB FROM MODIFIED CURB & GUTTER TO STANDARD CURB & GUTTER AT A-10 INLETS
 NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 ROCK OUTLET PROTECTION III
 NOT TO SCALE

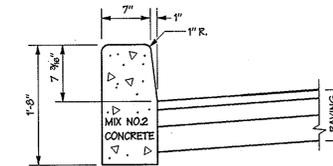


PAVING SECTION P-2
 PUBLIC ACCESS STREET
 NOT TO SCALE

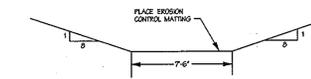
CONSTRUCTION SPECIFICATIONS

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 CLASS C 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.

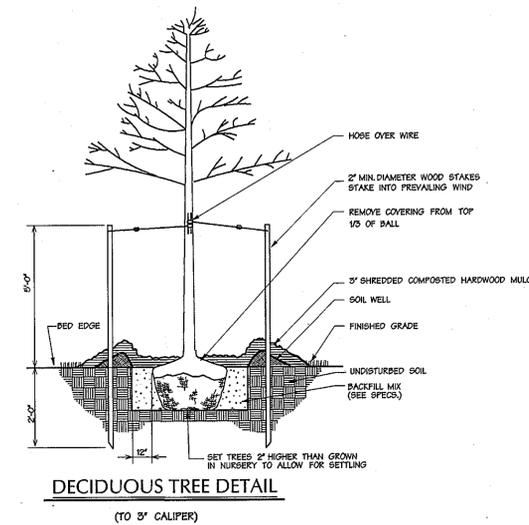
U.S. DEPARTMENT OF AGRICULTURE
 SOIL CONSERVATION SERVICE
 MARYLAND DEPARTMENT OF ENVIRONMENT
 WATER MANAGEMENT ADMINISTRATION
 ROCK OUTLET PROTECTION SPECIFICATIONS



STANDARD BARRIER CURB
 NOT TO SCALE



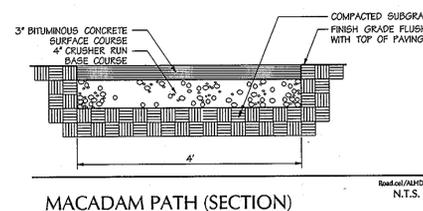
LANDING ROAD
 GRASS CHANNEL TYPICAL SECTION
 NOT TO SCALE



No As-Built information is required on this sheet



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. 21443 Expiration Date: 12-21-14



9/05/06
 Date
 Professional Engr. No. 14230

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
 William T. Walker, Jr. 1-3-07
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
 Cindy Harvett 1/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
 Mark DeWinn 1/9/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date No. Revision Description

FINAL PLAN
 ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11
 AND THE RE-SUB DIVISION OF
 NON-BUILDABLE BULK PARCELS 'C' AND 'D'
 TAX MAP 31 PARCEL 243.572

OWNER/DEVELOPER:

Ilchester Farm LLC
 c/o James Keely and Co. Inc.
 P.O. Box 528
 61 E. Padonia Road.
 Timonium, MD 21093

DMW
 David M. Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3333
 Fax: 286-4705

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

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL #
ZAISER PROPERTY	21	157
PLATE OR L.P. (BLOCK #)	ZONE	TRACT
10/11/16/17 R-20	1	
TITLE		
ZAISER PROPERTY		
FINAL PLAN		
DETAIL SHEET		
Des. By	Scale	Proj. No.
KAD	1" = 50'	02059.B
Dm. By	Date	
GMO	6/8/06	
Chk. By	Approved	
		6 of 19

BASIN TABLE

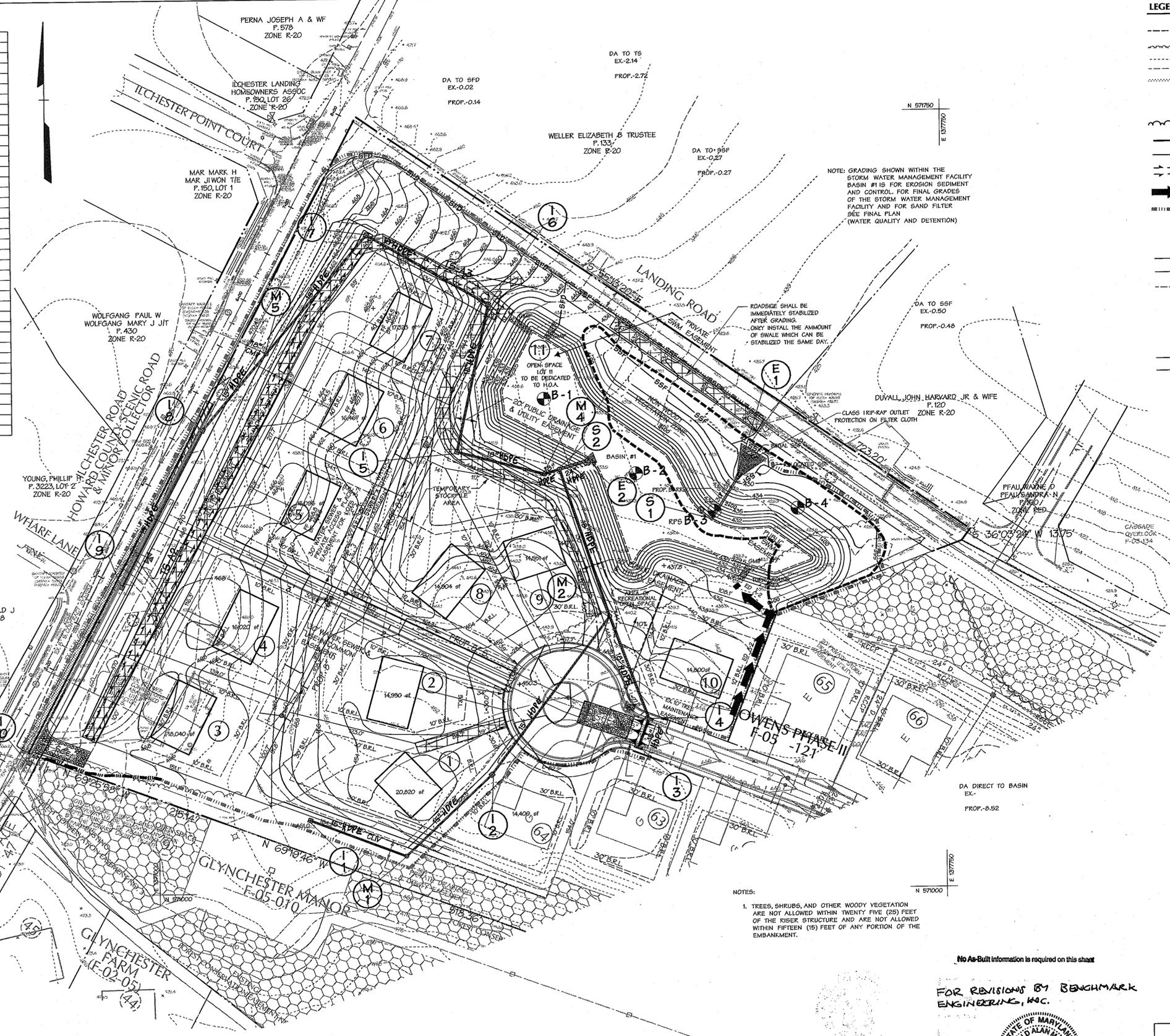
BASIN NUMBER	1
EXISTING DRAINAGE AREA: ACRES	11.74
INTERIM DRAINAGE AREA: ACRES	11.74
PROPOSED DRAINAGE AREA: ACRES	11.74
STORAGE REQUIRED: CUBIC FEET	21,132
STORAGE PROVIDED: CUBIC FEET	21,132
WET	21,132
DRY	21,132
TOTAL	42,264
STORAGE REQUIRED: CUBIC FEET	24,158
WET	22,263
DRY	1,895
TOTAL	46,421
STORAGE PROVIDED: CUBIC FEET	46,421
WET	46,421
DRY	0
TOTAL	46,421
EXISTING GROUND ELEVATION	430.60
TOP EMBANKMENT ELEVATION	435.00
EMERGENCY SPILLWAY CREST ELEVATION	N/A
RISER CREST ELEVATION	431.75
WET STORAGE ELEVATION	430.75
CLEANOUT ELEVATION	430.00
BOTTOM ELEVATION	429.50
Q-10 INTO BASIN (C.F.S.)	50.96
Q-10 OUT BARREL (C.F.S.)	34.48
Q-10 OUT EMERGENCY SPILLWAY (C.F.S.)	N/A
TOTAL Q-10 OUT OF BASIN (C.F.S.)	36.67
BASIN DEPTH	1.25
DRY	1.00
TOTAL	2.25
DESIGN HIGHWATER	432.53
FREEBORD PROVIDED	2.47
BARREL DIAMETER	30"
RISER INTERIOR DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEVATION	429.50-430.75
DRY STORAGE ZONE ELEVATION	430.75-431.75
BOTTOM DIMENSIONS	40' X 205'
STORAGE REQUIRED AT CLEANOUT C.F.	10,596
STORAGE PROVIDED AT CLEANOUT C.F.	9,180
DIMENSION FROM CLEANOUT ELEV. TO RISER TOP	3.33
START DRAINAGE PERFORATIONS AT ELEV.	430.75
EXISTING Q-1	5.69 CFS
PROPOSED Q-1	1.34 CFS
WSE Q-1	431.63

TEMPORARY MANAGEMENT

EX. 1 YR TO BASIN 3.42 CFS
 PROP. 1 YR FROM BASIN 1.34 CFS

LEGEND

	100 YR WSE + 1' FREEBOARD (I.E. FLOODPLAIN EASEMENT)		GMP
	EX. TREE LINE		B-4 BORING LOCATIONS
	EX. MINOR CONTOUR (2' INT.)		RIP-RAP OUTLET PROTECTION
	EX. MAJOR CONTOUR (10' INT.)		EROSION CONTROL MATTING
	AREA OF INTERPOLATED CONTOURS		8" W. EX. WATER
	EX. STRUCTURE		8" S. EX. SEWER
	PROP. TREE LINE (IF SHOWN)		24" D. EX. STORM DRAIN
	PROPERTY BOUNDARY		8" W. PROP. WATER
	RIGHT OF WAY LINE		8" S. PROP. SEWER
	TEMPORARY SWALE		24" D. PROP. STORM DRAIN
	EARTH DIKE		BASE OF EMBANKMENT
	LIMIT OF DISTURBANCE		NON WOODY VEGETATION ZONE
	REMOVABLE PUMPING STATION		EX. CURB AND GUTTER
	PROP. LOT NUMBER		PROP. CURB AND GUTTER
	ADJACENT LOT LINE		PROP. MINOR CONTOUR
	PROP. LOT LINE		PROP. MAJOR CONTOUR
	BUILDING SETBACK LINE		ROADWAY CENTERLINE
	STOP SIGN		SOIL TYPE DELINEATION LINE
	EX. UTILITY POLE		
	PROPOSED LIGHT POLE		
	EASEMENT AREAS		
	SUPER SILT FENCE		
	SILT FENCE DIVERSION		
	STABILIZED CONSTRUCTION ENTRANCE		
	MOUNTABLE BERM		



NOTE: GRADING SHOWN WITHIN THE STORM WATER MANAGEMENT FACILITY BASIN #1 IS FOR EROSION SEDIMENT AND CONTROL. FOR FINAL GRADES OF THE STORM WATER MANAGEMENT FACILITY AND FOR SAND FILTER SEE FINAL PLAN (WATER QUALITY AND DETENTION)

ROADSIDE SHALL BE IMMEDIATELY STABILIZED AFTER GRADING. ONLY INSTALL THE AMOUNT OF SWALE WHICH CAN BE STABILIZED THE SAME DAY.

DA DIRECT TO BASIN EX. PROP. 8-52

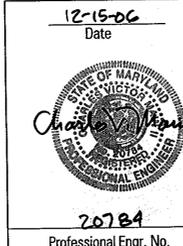
NOTES:
 1. TREES, SHRUBS, AND OTHER WOODY VEGETATION ARE NOT ALLOWED WITHIN TWENTY FIVE (25) FEET OF THE RISER STRUCTURE AND ARE NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

No As-Built information is required on this sheet

FOR REVISIONS BY BENCHMARK ENGINEERING, INC.



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. 21443, Expiration Date: 12-31-14



F-06-116 AS-BUILT

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS		
<i>William T. ...</i>	1-3-07	DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING		
<i>Cindy Hamaker</i>	1/10/07	DATE
<i>...</i>	1/9/07	DATE
10-31-13	2	CHANGE RCCP TO HDPE
3-10-2013	1	ADD SCE OFF ILCHESTER ROAD AT LOT 3
Date	No.	Revision Description

FINAL PLAN
ZAISER PROPERTY
 LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
 Ilchester Farm, LLC
 P.O. Box 528
 61 E. Padonia Road.
 Timonium, MD 21093

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

PROJECT NAME	ZAISER PROPERTY	DISTRICT	R-20	DATE	12-15-06
PLAT OR L.P.	10/13/17	DATE	12-20	REVISION	1
TITLE: FINAL PLAN SEDIMENT AND EROSION CONTROL PLAN					
Des. By	CRW	Scale	1" = 50'	Proj. No.	02059.B
Drn. By	GMO	Date	10/25/06		
Chk. By	Approved				7 of 19

DEVELOPER'S CERTIFICATION:
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: *Mark Budka*
 DATE: 12/15/06

ENGINEER'S CERTIFICATION:
 I CERTIFY THAT THIS PLAN FOR FOND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION.
 SIGNATURE OF ENGINEER: *Charles V. Main II*
 DATE: 12/15/06

THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL FOND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 SIGNATURE: *Jim Myers*
 DATE: 12/15/06
 U.S. NATURAL RESOURCE CONSERVATION SERVICE

THESE PLANS FOR SMALL FOND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE: *...*
 DATE: 12/15/06
 HOWARD COUNTY, M.D.

FOR REV. 1 (3/10/2010) ONLY BY BENCHMARK ENR. INC. 8480 BALTIMORE NAT'L PIKE SUITE 418 ELLICOTT CITY, MD 21043 (410) 465-6105

STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS

- A. SITE PREPARATION**
- Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
 - Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
 - Schedule required soil test to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
- B. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)**
- Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analysis.
 - Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranties of the producer.
 - Lime materials shall be ground limestones (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestones shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 95 - 100% will pass through a #20 mesh sieve.
 - Incorporate lime and fertilizer into the top 3 - 5 inches of soil by disking or other suitable means.

C. SEEDBED PREPARATION

- I. TEMPORARY SEEDING**
- Seedbed preparation shall consist of loosening soil to a depth of 3 inches to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3%) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
 - Apply fertilizer and lime as prescribed on the plans.
 - Incorporate lime and fertilizer into the top 3 - 5 inches of soil by disking or other suitable means.
- II. PERMANENT SEEDING**
- Minimum soil conditions required for permanent vegetative establishment:
 - Soil pH shall be between 6.0 and 7.0.
 - Soluble salts shall be less than 500 parts per million (PPM).
 - The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is for *Lovergrass* or *Serotia Lepedacea* to be planted. Then a sandy soil (< 30% silt plus clay) would be acceptable.
 - Soil shall contain 1.5% minimum organic matter by weight.
 - Soil must contain sufficient pore space to permit adequate root penetration. If these conditions cannot be met by the soils on site, adding topsoil is required in accordance with Section 21 - Standard and Specification for Topsoil.
 - Areas previously graded in conformance with the drawings shall be maintained in true and even grade, then scarified or otherwise loosened to a depth of 3 - 5 inches to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
 - Apply soil amendments as per soil test or as included on the plans.
 - Mix soil amendments into the top 3 - 5 inches of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3%) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3 inches of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. SEED SPECIFICATIONS

- All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made available to the Inspector to verify type and rate of seed used.
- Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculant shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: 15 is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

E. METHODS OF SEEDING

- Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or outspreader seeder.
 - If fertilizer is being applied at the time of seeding, the application rate amounts will not exceed the following:
 - Nitrogen: maximum of 100 pounds per acre total of soluble Nitrogen P205 (phosphorus); 200 pounds per acre; K2O (potassium); 200 pounds per acre.
 - Lime: Use only ground agricultural limestones, (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
 - Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- Dry Seeding: This includes use of conventional drop or broadcast spreaders.
 - Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the temporary or permanent seeding summaries or tables 25 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed soil contact.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
 - Drill or outspreader seeding: Mechanized seeders that apply and cover seed with soil.
 - Outspreading seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering.
 - Seeded must be firm after planting.
 - Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. MULCH SPECIFICATIONS (IN ORDER OF PREFERENCE)

- Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, soiled, decayed, or excessively dirty and shall be free of noxious weeds seeds as specified in the Maryland Seed Law.
- Wood cellulose fiber mulch (WCFM)
 - WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
 - WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
 - WCFM, including dye shall contain no germination or growth inhibiting factors.
 - WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a silt-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.

SECTION V - TURFGRASS ESTABLISHMENT

Areas where turfgrass may be desired may include lawns, parks, playgrounds, and commercial sites which will receive a medium high level of maintenance. Areas to receive seed shall be sited by disking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1/4 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

Note: Choose certified material. Certified material is the best guarantee of turf purity. The certification program of the Maryland Department of Agriculture, Turf and Seed Section, provides a reliable means of consumer protection and assures a pure genetic line.

A. TURFGRASS MIXTURES

- Kentucky Bluegrass - Full sun mixture - For use in areas that receive intensive management, irrigation required in the areas of central Maryland and Eastern Shore. Recommended certified Kentucky Bluegrass cultivars seeding rate: 1.5 to 2.0 pounds per 1000 square feet. A minimum of three Bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
 - Kentucky Bluegrass/Perennial Rye - Full sun mixture - For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass cultivars/certified Kentucky Bluegrass seeding rate: 2 pounds mixture per 1000 square feet. A minimum of 3 Kentucky Bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
 - Tall Fescue/Kentucky Bluegrass - Full sun mixture - For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: certified Tall Fescue cultivars 95-100%, certified Kentucky Bluegrass cultivars 0 - 5%, seeding rate: 5 to 8 pounds per 1000 square feet. One or more cultivars may be blended.
 - Kentucky Bluegrass/Fine Fescue - Shade mixture - For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf areas. Mixture includes: certified Kentucky Bluegrass cultivars 30-40% and certified Fine Fescue and 60-70%. Seeding rate: 1.5 - 3 pounds per 1000 square feet. A minimum of 3 Kentucky Bluegrass cultivars must be chosen. With each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
- Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland publication, agronomy memo number 77, "Turfgrass Cultivar Recommendations for Maryland".

B. IDEAL TIMES OF SEEDING

Western Maryland: March 15 - June 1, August 1 - October 1 (hardiness zone - 5B, 6A), Central Maryland: March 1 - May 15, August 15 - October 15 (hardiness zone - 6B), Southern Maryland, Eastern Shore: March 1 - May 15, August 15 - October 15 (hardiness zone - 7A - 7B).

C. IRRIGATION

If soil moisture is different, supply new seedlings with adequate water for plant growth (1/2" - 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. REPAIRS AND MAINTENANCE

- Inspect all seeded areas for failures and make necessary repairs, replacements, and reseedings within the planting season.
- Once the vegetation is established, the site shall have 95% groundcover to be considered adequately established.
- If the stand provides less than 40% ground coverage, re-establish following original lime, fertilizer, seedbed preparation and seeding recommendations.
- If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.
- Maintenance fertilizer rates for permanent seedings are shown in Table 24, for lawns and other medium high maintenance turfgrasses areas, refer to the University of Maryland publication "Lawn Care in Maryland" bulletin number 171.

MATERIALS SPECIFICATIONS

TABLE 27 GEOTEXTILE FABRICS

Class	Apparent Opening Size MM. Max.	Grab Tensile Strength Lb. Min.	Burst Strength PSI. Min.
A	0.30 **	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (felt fence)	0.40-0.80 *	90	190

* US Standard sieve GW-02215 ** .50 MM max. for super silt fence

The properties shall be determined in accordance with the following procedures:
 - Apparent opening size: ASTM 200
 - Grab tensile strength: ASTM 1682; 4 x 8" specimen, 1 x 2" clamps, 12" min. strain rate in both principal directions of geotextile fabric.
 - Burst strength: ASTM D 3786.

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polypropylene, polyesters, or polyamides. The geotextile fabric shall resist deterioration from ultraviolet exposure.

In addition, classes A through E shall have a 0.01 cm/sec. minimum permeability when tested in accordance with ASTM 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

Silt fence
 Class F geotextile fabric for silt fence shall have a 50 lb./in. minimum tensile strength and a 20 lb./in. minimum tensile modulus when tested in accordance with ASTM 507. The material shall also have a 0.3 gal./ft./min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with ASTM 322. Geotextile fabric used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amount of ultraviolet light stabilizers and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees Fahrenheit.

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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

- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - 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.
 - The original soil to be vegetated contains material toxic to plant growth.
 - The soil is so acidic that treatment with limestone is not feasible.
- 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

- 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-GCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - 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 of soil type, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of clumps, stones, disc, coarse fragments, gravel, rocks, trash, or other materials larger than 1 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
 - Where the 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.
 - For sites having disturbed areas under 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - 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.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No seed 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 phytotoxic material.
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.

Y. Topsoil Application

- 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.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- 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 seeding or sodding 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.
- 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.
- Alternative for Permanent Seeding - Instead of applying the full amounts of lime and ammoniacal fertilizer, composted sludge and amendments may be applied as specified below:
 - 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 sites having disturbed areas under 5 acres shall conform to the following requirements:
 - 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.
 - 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.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - Composted sludge shall be amended with a potassium fertilizer applied at a rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

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

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Walter J. Hahs 1-3-07
 CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Cindy Hamann 1/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

William J. ... 1/9/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date	No.	Revision Description

**FINAL PLAN
 ZAISER PROPERTY**

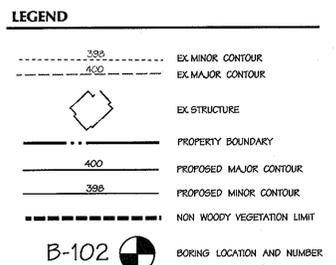
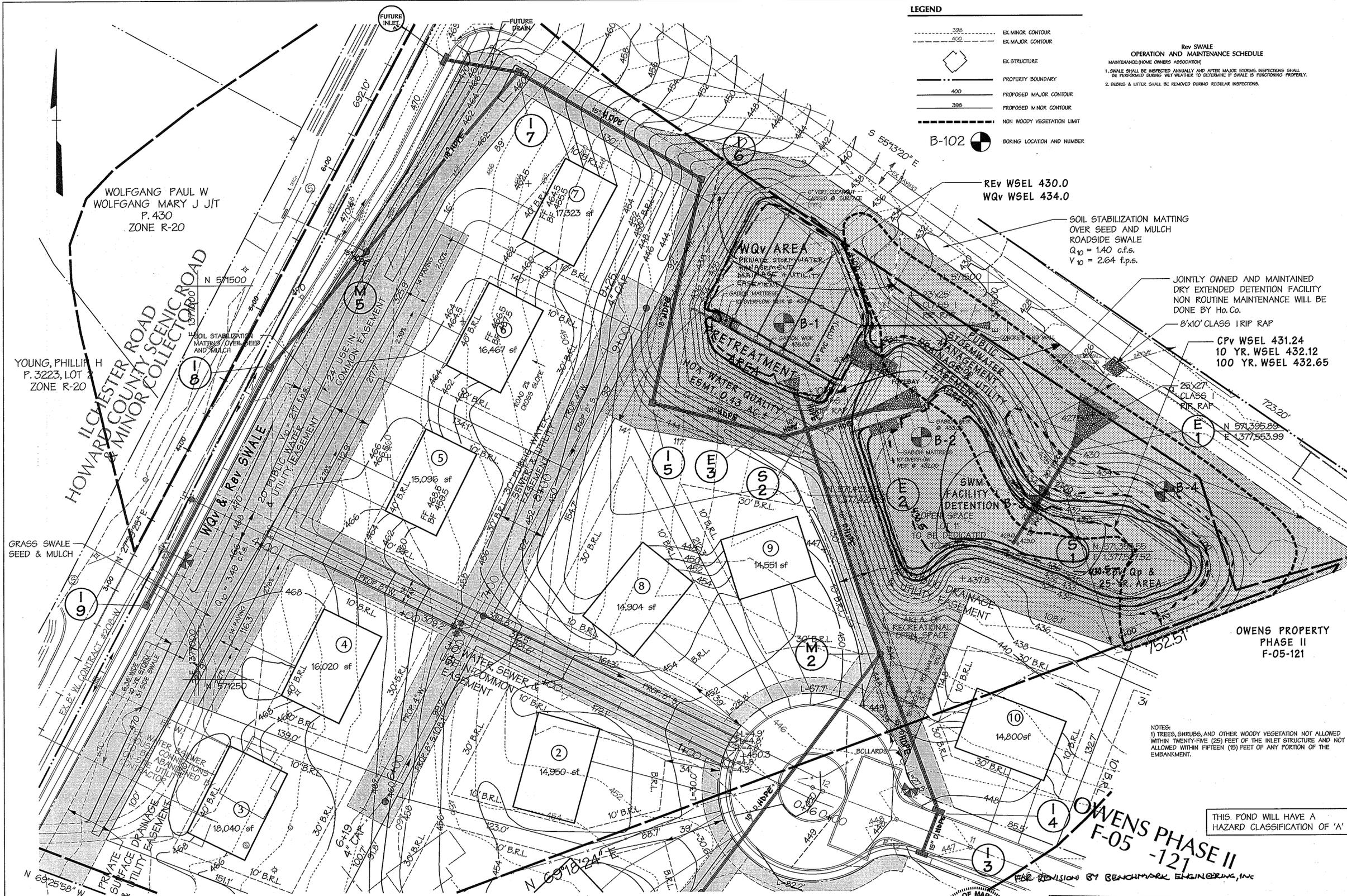
LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:

Ilchester farm, LLC
 c/o James Keely and Co. Inc.
 P.O. Box 528
 61 E. Padonia Road,
 Timonium, MD 21093

DMW
 Daft-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4706

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



OPERATION AND MAINTENANCE SCHEDULE
 MAINTENANCE (HOME OWNERS ASSOCIATION)
 1. SWALE SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF SWALE IS FUNCTIONING PROPERLY.
 2. DEBRIS & LITTER SHALL BE REMOVED DURING REGULAR INSPECTIONS.

SWM FACILITY 1 DESIGN FLOW SUMMARY PROPOSED CONDITIONS

Structure Type	Water Quality Type	Extended Detention Pocket Sand Filter and Open Channel Credits
Water Quality Storage Required (WQR) (Ac-ft)	0.19	
Water Quality Storage Provided (WQP) (Ac-ft)	0.33	
Recharge Required (Rev) (Ac)	0.04	
Recharge Provided (Rev) (Ac)	0.06	
Channel Protection Required (CPR) (Ac-ft)	0.37	
Channel Protection Provided (CPR) (Ac-ft)	0.33	
1-Yr Pre-development Q (cfs)	5.32	
1-Yr Post-development Q (cfs)	6.96	
10-Yr Pre-development Q (cfs)	27.10	
10-Yr Post-development Q (cfs)	29.66	
25-Yr Pre-development Q (cfs)	32.36	
25-Yr Post-development Q (cfs)	34.97	
100-Yr Pre-development Q (cfs)	50.77	
100-Yr Post-development Q (cfs)	53.32	
WQR =	0.19	WSEL
CPR =	0.33	WSEL
25 YR =	0.04	WSEL
100 YR =	0.06	WSEL

WATER QUALITY IS MET BY OPEN CHANNEL CREDITS AND A PROPOSED SAND FILTER. RECHARGE IS MET BY OPEN CHANNEL CREDITS AND A STONE AREA UNDERNEATH THE PROPOSED SAND FILTER. CHANNEL PROTECTION VOLUME IS MET BY EXTENDED DETENTION OF THE 1-YR STORM IN THE SWM FACILITY. FLOOD PROTECTION OF THE 10 & 25 YEAR STORMS WILL BE PROVIDED BY DETENTION IN THE SWM FACILITY.

STORMWATER MANAGEMENT FACILITY OPERATION AND MAINTENANCE SCHEDULE
 ROUTINE MAINTENANCE (HOME OWNERS ASSOCIATION)
 1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF FACILITY IS FUNCTIONING PROPERLY.
 2. TOP AND SIDE SLOPES OF EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED. VEGETATION SHALL NOT EXCEED 6" MAXIMUM HEIGHT.
 3. DEBRIS & LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 4. VISIBLE SIGNS OF EROSION IN THE FACILITY SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
 NON-ROUTINE MAINTENANCE (HOWARD COUNTY)
 1. STRUCTURAL COMPONENTS OF THE FACILITY SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 2. SEDIMENT SHALL BE REMOVED FROM FACILITY AND FOREBAY NO LATER THAN WHEN CAPACITY OF THE FOREBAY OR FOREBAY IS HALF FULL OF SEDIMENT OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.
 3. VISIBLE SIGNS OF EROSION IN THE RIP-RAP OR GARDEN OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

SAND FILTER OPERATION AND MAINTENANCE SCHEDULE
 ROUTINE MAINTENANCE (HOME OWNERS ASSOCIATION)
 1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF FACILITY IS FUNCTIONING PROPERLY.
 2. DEBRIS & LITTER SHALL BE REMOVED DURING REGULAR INSPECTIONS.
 3. STRUCTURAL COMPONENTS OF THE FACILITY SUCH AS THE PIPES, GARDEN MATRESS AND WEIR SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 4. SEDIMENT SHALL BE REMOVED FROM THE SAND FILTER WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM HOWARD COUNTY.
 5. VISIBLE SIGNS OF EROSION OF THE SAND AND THE GARDEN MATRESS AND WEIR SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS

Walter Z. M... Jr. 1-3-07
 CHIEF, BUREAU OF HIGHWAYS WS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

Craig Hamilton 1/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT JA DATE

Mark De... Jr. 1/10/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION Jyo DATE

Date	No.	Revision Description	By
10-31-13	1	CHANGE RCPP TO HDPE	BET

FINAL PLAN ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
 PATAPSCO LANDING, LLC
 c/o James Kealty and Co. Inc.
 P.O. Box 528
 61 E. Padonia Road.
 Timonium, MD 21093

DMW
 Dan-DeCenzo-Walken, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4705

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

DESIGNER	DATE	SCALE	PROJECT NO.
DMW	12-15-06	1" = 30'	02059.B

DESIGNER: CRW
SCALE: 1" = 30'
PROJECT NO.: 02059.B

DATE: 10/25/06
DATE: 10/25/06
DATE: 10/25/06

DESIGNER: CRW
SCALE: 1" = 30'
PROJECT NO.: 02059.B

DATE: 10/25/06
DATE: 10/25/06
DATE: 10/25/06

DESIGNER: CRW
SCALE: 1" = 30'
PROJECT NO.: 02059.B

DATE: 10/25/06
DATE: 10/25/06
DATE: 10/25/06

THIS POND WILL HAVE A HAZARD CLASSIFICATION OF 'A'

NOTES:
 1) TREES, SHRUBS, AND OTHER WOODY VEGETATION NOT ALLOWED WITHIN TWENTY-FIVE (25) FEET OF THE INLET STRUCTURE AND NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

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. 21A03 Expiration Date: 12-31-14



AS-BUILT CERTIFICATION
 I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
 Donald Mason, P.E. No. 21443 Date 1-10-14

DEVELOPER'S CERTIFICATION:
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Mark Buda 12/15/06
 SIGNATURE OF DEVELOPER
 PRINT NAME BELOW SIGNATURE
 MARK BUDA DATE

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

Charles V. Main II 12/15/06
 SIGNATURE OF ENGINEER
 PRINT NAME BELOW SIGNATURE
 Charles V. Main II DATE

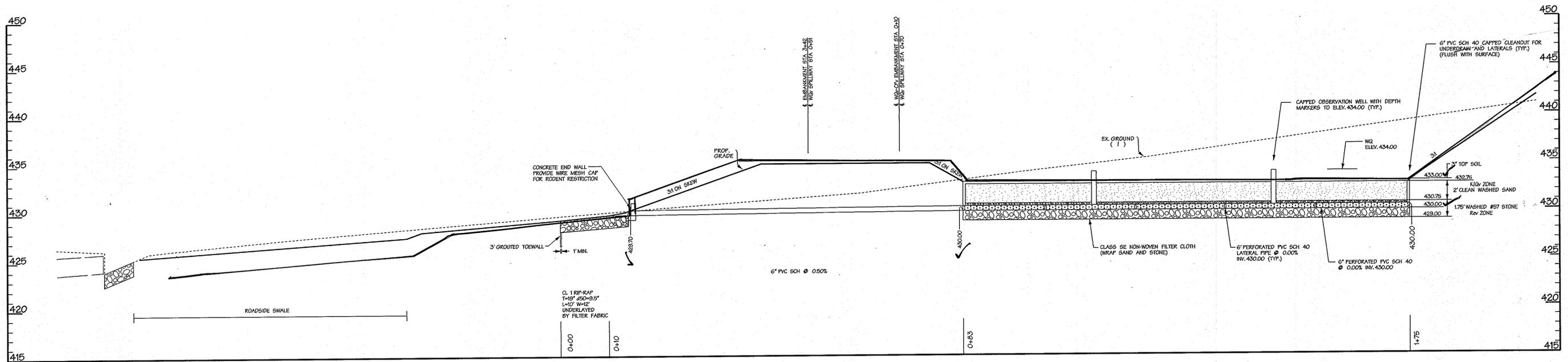
THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.

John R. ... 12/15/06
 U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

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

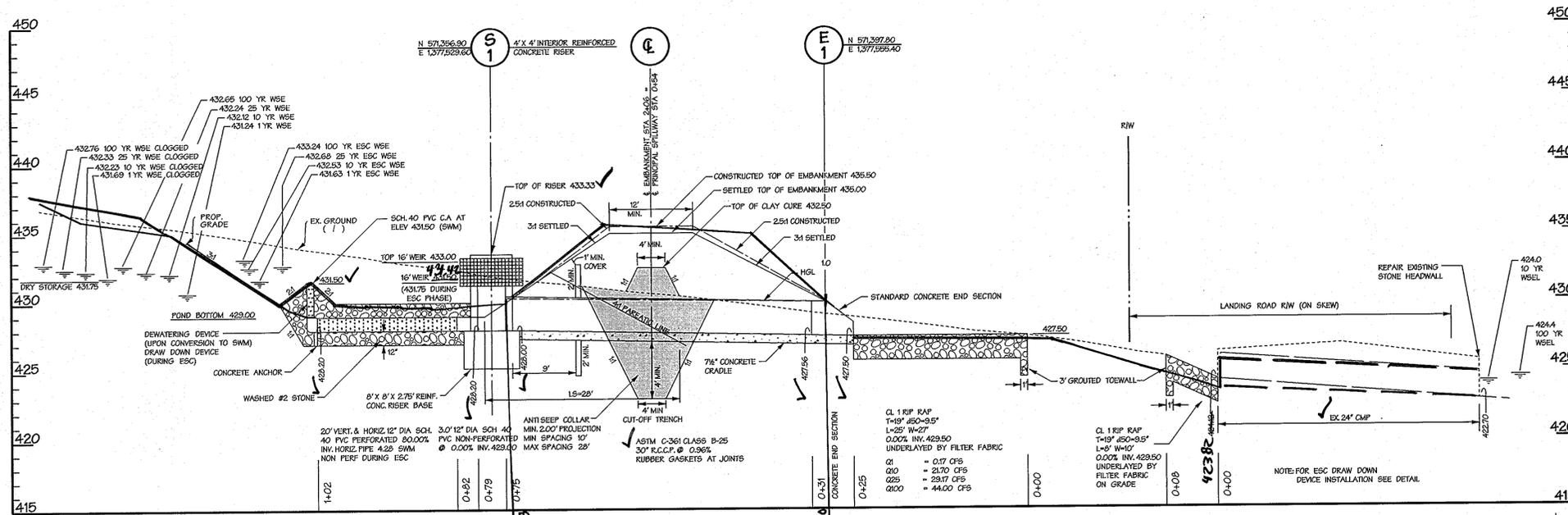
Mark Buda 12/15/06
 HOWARD COUNTY DATE

NOTE: The property downstream of the existing 24" CMP culvert will be subject to current environmental constraints. If improvements are proposed, future developments would require establishment of a stream buffer adequate to contain the dam breach flow from the proposed stormwater management facility.



PROFILE ALONG WQv SPILLWAY

SCALE: HORIZ. 1"=10'
VERT. 1"=5'



PROFILE THROUGH RISER AND PRINCIPAL SPILLWAY

SCALE: HORIZ. 1"=10'
VERT. 1"=5'

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 1-10-14



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. 21443, Expiration Date: 12-21-14

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William T. Mahall 1-3-07
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cindy Hamner 1/16/12
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. ... 1/9/12
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date	No.	Revision Description

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
PATAPSCO LANDING, LLC
c/o James Keely and Co. Inc.
P.O. Box 525
61 E. Padonia Road
Timonium, MD 21093

DMW
Daft-McCune-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

DATE: 12-15-06

ZAISER PROPERTY
FINAL PLAN
STORMWATER MANAGEMENT PROFILES

Des. By: CRW Scale: 1" = 10' Proj. No.: 02059.5
Dim. By: GMO Date: 10/25/06
Chk. By: Approved 12 of 19

DF	1 YR		10 YR		25 YR		100 YR	
	EX	PROP	EX	PROP	EX	PROP	EX	PROP
#1	5.32 CFS	1.26 CFS	27.83 CFS	25.47 CFS	33.13 CFS	32.31 CFS	51.00 CFS	43.56 CFS
#2	0.30 CFS	0.27 CFS	1.54 CFS	0.80 CFS	1.80 CFS	0.92 CFS	2.66 CFS	1.30 CFS

DEVELOPER'S CERTIFICATION:
"I ME CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE FOND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE FOND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT."

MARK BUDA
SIGNATURE OF DEVELOPER
DATE: 12/15/06

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

Charles V. Main II
SIGNATURE OF ENGINEER
DATE: 12/21/06

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

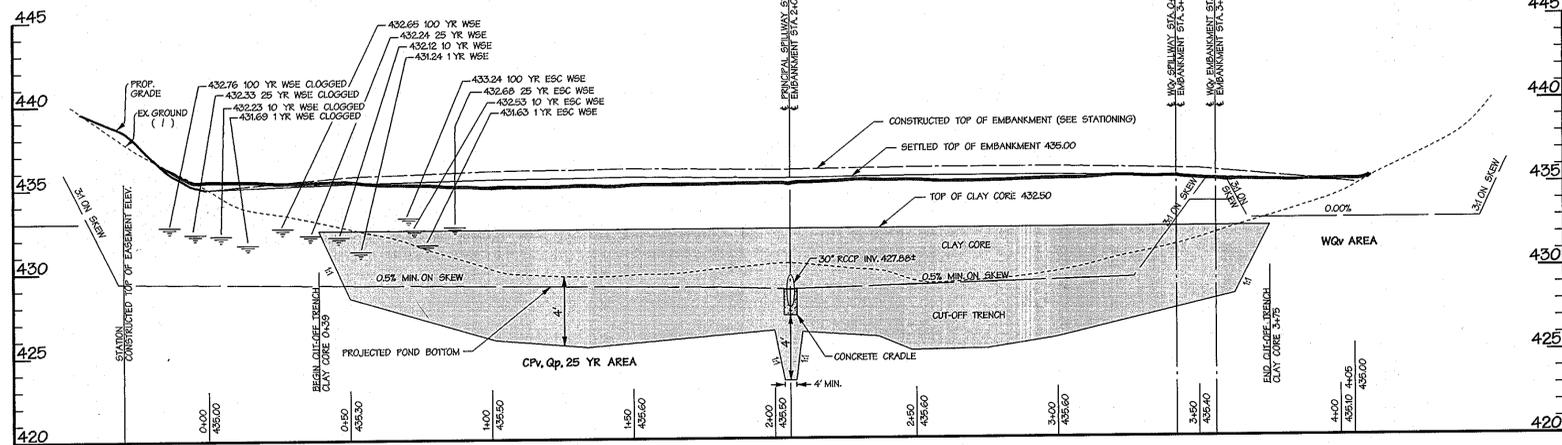
John Mason 12/21/06
U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

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

John Mason 12/21/06
HOWARD SOIL CONSERVATION SERVICE DATE

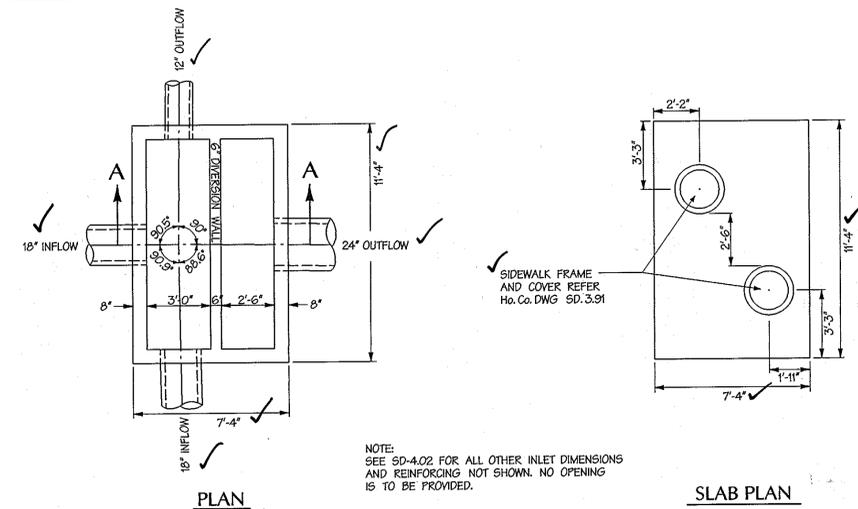
AS-BUILT F-06-116

The Dec 14 15:41:11 2006 N:\02059\Final\02059.MXD



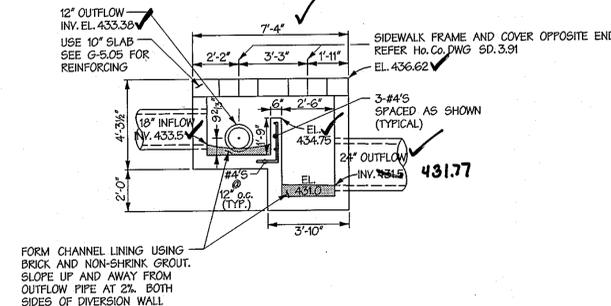
PROFILE ALONG CENTERLINE OF EMBANKMENT

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



PLAN

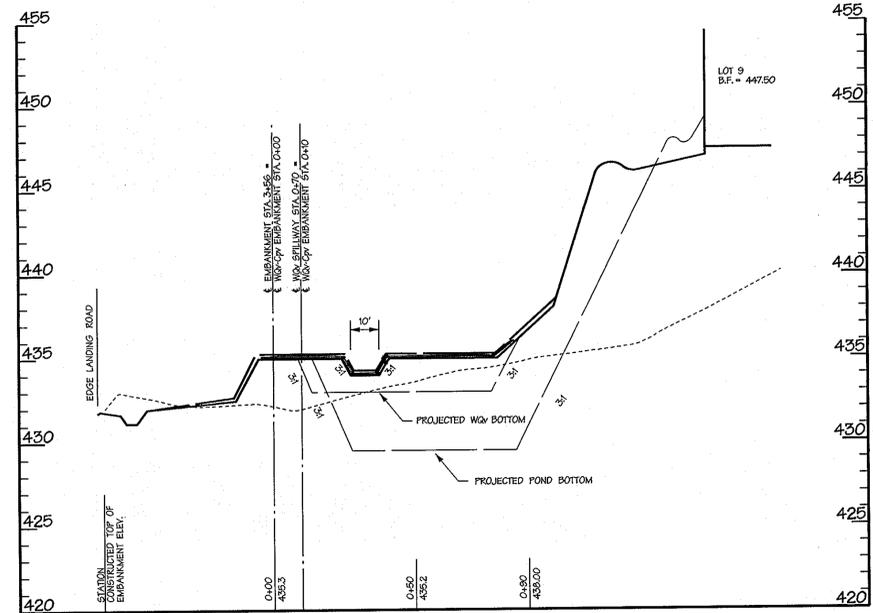
SLAB PLAN



SECTION A-A

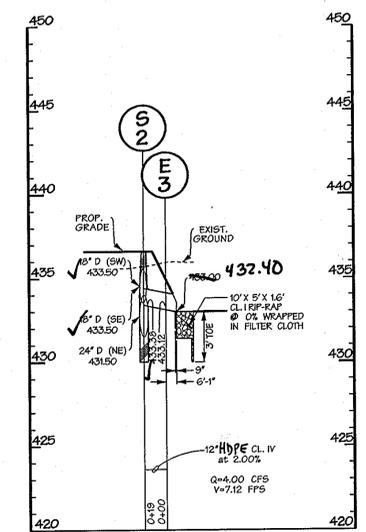
DIVERSION STRUCTURE (S-2) FOR SWM FACILITY
TYPE 'A-10' INLET (SD 4.02)

SCALE: 1/4" = 1'-0"



PROFILE ALONG CENTERLINE OF WQv-Cpv EMBANKMENT

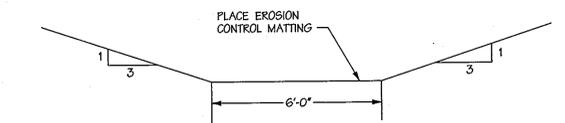
SCALE: HORIZ. 1"=30'
VERT. 1"=5'



STORM DRAIN PROFILE

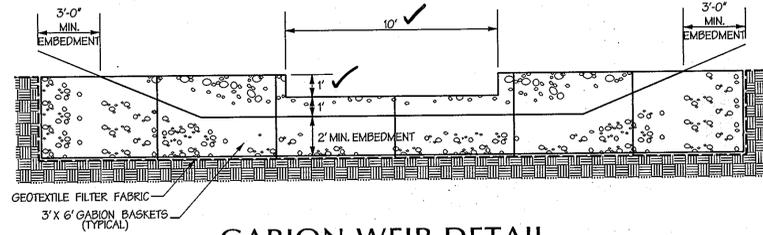
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

NOTE: SEE SHEET 4 FOR STRUCTURE TABLE



GRASS CHANNEL TYPICAL SECTION

NOT TO SCALE



GABION WEIR DETAIL

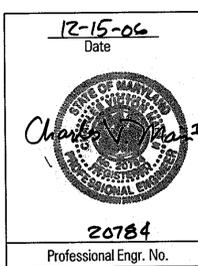
NOT TO SCALE

FOR REVISION BY BENCHMARK
ENGINEERING, INC.

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 1-10-14



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. 21443, Expiration Date: 12-21-14



20784
Professional Engr. No.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS			
<i>William J. Mahaffey</i>	me	1-3-07	DATE
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING			
<i>Cindy Hammett</i>	JA	1/10/07	DATE
<i>John P. ...</i>	GMO	1/11/07	DATE

0-31-13	1	CHANGE RCP TO HDPE	BEI
Date	No.	Revision Description	

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11
AND THE RE-SUB DIVISION OF
NON-BUILDABLE BULK PARCELS 'C' AND 'D'
TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
PATAPSCO LANDING, LLC
c/o James Keilty and Co. Inc.
P.O. Box 528
61 E. Padonia Road.
Timonium, MD 21093

DMW
Darr McCaskey-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-8835
Fax 286-4765

SUBDIVISION NAME: ZAISER PROPERTY				SECTION/AREA: 51				DATE: 12/15/06			
PLAN OR LOT: 10, 11, 16, 17				BLOCK: R-20				SUBJECT: STORMWATER			
TITLE: ZAISER PROPERTY											
FINAL PLAN											
STORMWATER MANAGEMENT PROFILES											
Des. By: CRW		Scale: AS SHOWN		Proj. No.: 02059.B		Date: 10/25/06		13 of 19		Approved	
Um. By: GMO		Date: 10/25/06		13 of 19		Approved					
Chk. By:		Approved									

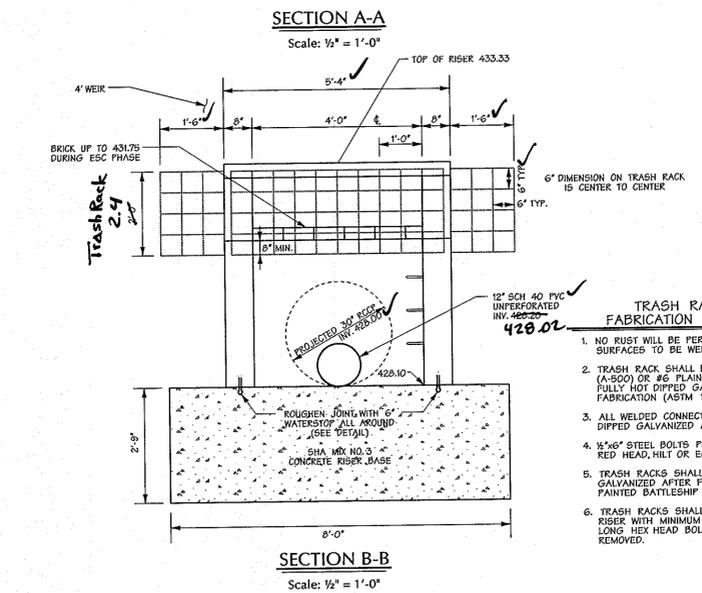
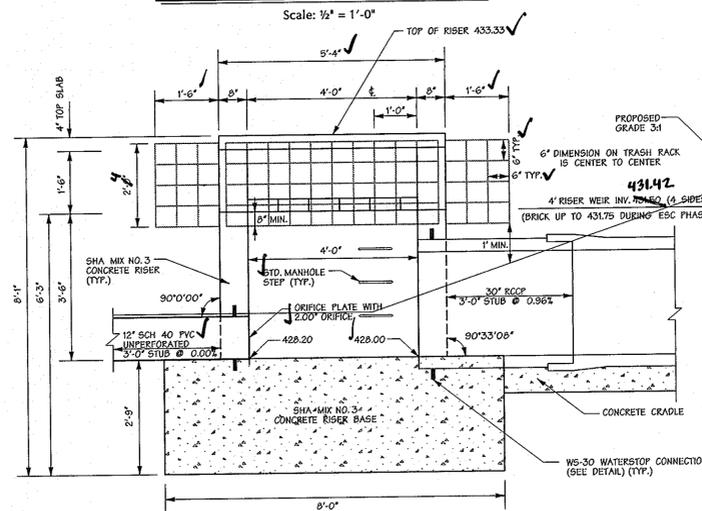
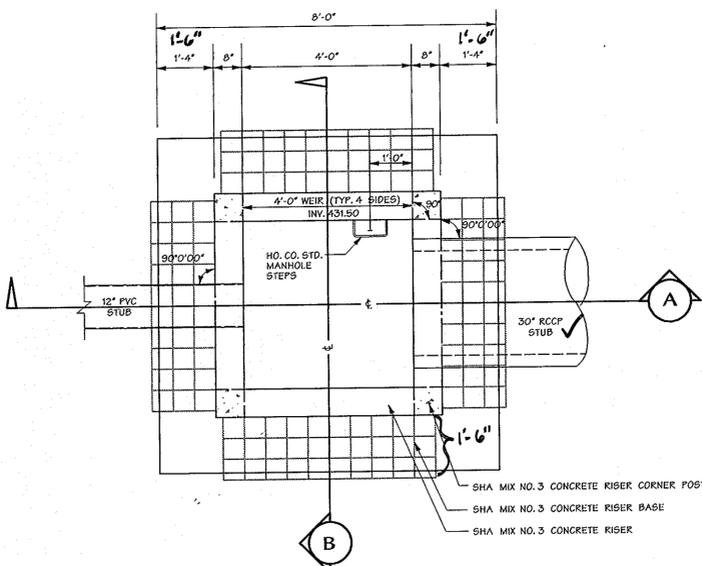
DEVELOPER'S CERTIFICATION:
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Mark Buda
MARK BUDA
12/15/06
DATE

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Charles V. Main
Charles V. Main
12/21/06
DATE

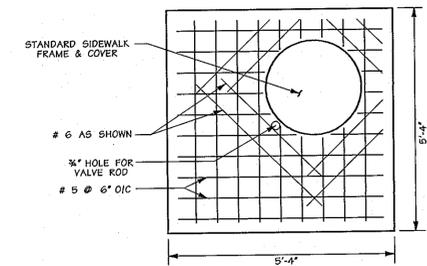
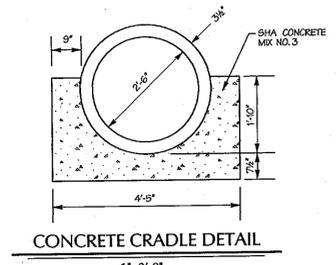
THESE PLANS HAVE BEEN REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Jim ...
U.S. NATURAL RESOURCE CONSERVATION SERVICE
12/21/06
DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
...
HOWARD SOIL CONSERVATION DISTRICT
12/21/06
DATE

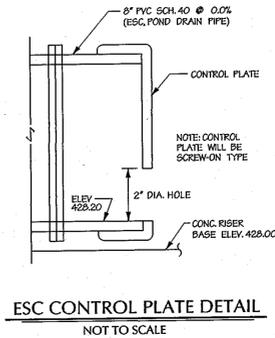
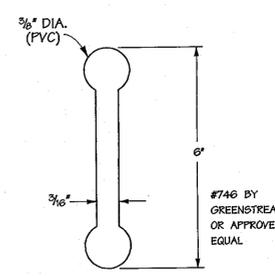
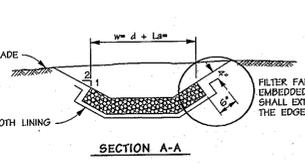
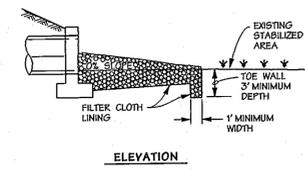
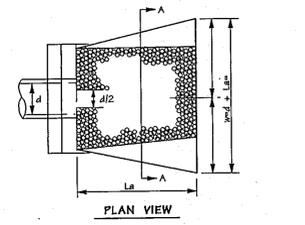
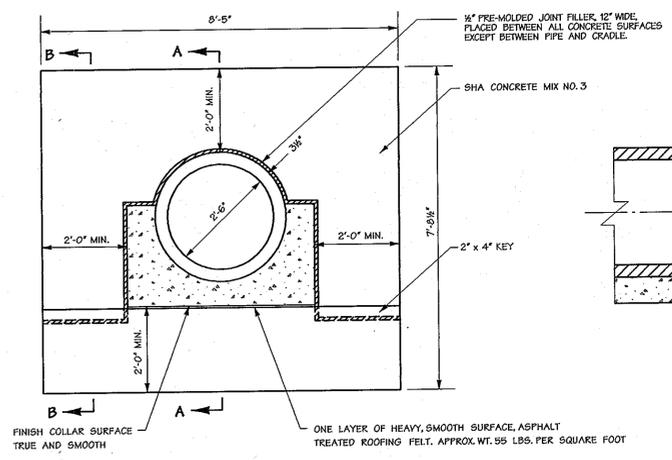
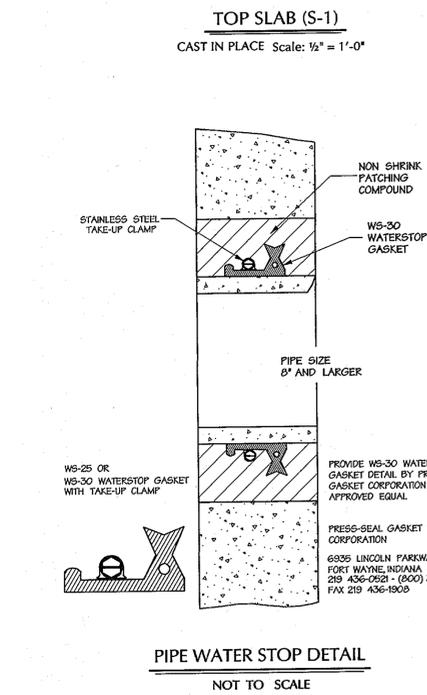
AS-BUILT F-06-116



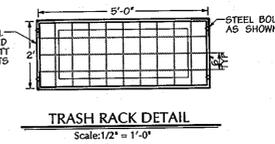
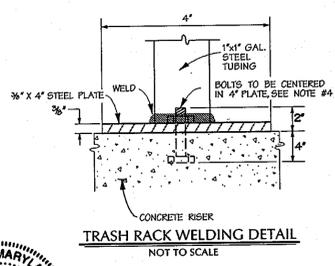
- TRASH RACK FABRICATION NOTES**
- NO RUST WILL BE PERMITTED ON SURFACES TO BE WELDED.
 - TRASH RACK SHALL BE 1" x 1" TUBING (A-500) OR #6 PLAIN BAR (ASTM A-36) FULLY HOT DIPPED GALVANIZED AFTER FABRICATION (ASTM 1152).
 - ALL WELDED CONNECTIONS MUST BE HOT DIPPED GALVANIZED AND SHOP FABRICATED.
 - 1/2" x 6" STEEL BOLTS PER ASTM (A-307) RED HEAD, HILT OR EQUAL.
 - TRASH RACKS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION AND PAINTED BATTLESHIP GREY.
 - TRASH RACKS SHALL BE BOLTED TO EX. RISER WITH MINIMUM OF 8'-12" x 6" LONG HEX HEAD BOLTS SO THAT IT CAN BE REMOVED.



- NOTES:**
- BOLT TOP SLAB TO RISER WITH (4) 1/2" x 6" LG. HEX. HEAD GALVANIZED BOLTS.
 - THE SIDE OF THE SLAB CLOSEST TO THE FRAME AND COVER WILL LINE UP WITH THE SIDE OF THE RISER WITH STANDARD MANHOLE STEPS.



ROCK OUTLET PROTECTION III NOT TO SCALE



- Construction Specifications**
- 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.
 - The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.
 - 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.
 - Stones 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 stones 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.
 - 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 occur adjacent to the stone wall.

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William F. Mahan 1-3-07
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cindy Harms 1/16/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark Budz 1/16/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Date No. Revision Description

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11
AND THE RESUB DIVISION OF
NON-BUILDABLE BULK PARCELS 'C' AND 'D'
TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:

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c/o James Keilty and Co. Inc.
P.O. Box 528
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Timonium, MD 21093

DMW
Dawn M. O'Connell-Walkers, Inc.
300 East Pennsylvania Avenue
Poolesville, Maryland 21286
(410) 286-3355
Fax 286-4705

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

REVISION NAME	REVISION NUMBER	DATE
ZAISER PROPERTY	1	12/15/06
PLAN OR UP	DATE	DATE
10/11/07	12/20	12/20
TITLE		
ZAISER PROPERTY		
FINAL PLAN		
STORMWATER MANAGEMENT DETAILS		
Des. By	Scale	Proj. No.
CRW	A5 SHOWN	02059.B
Dm. By	Date	
GMO	10/25/06	
Chk. By	Approved	
		14 of 19

DEVELOPER'S CERTIFICATION:

I hereby certify that all development and 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 construction of sediment and erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Mark Budz 12/16/06
SIGNATURE OF DEVELOPER DATE
MARK BUDZ

ENGINEER'S CERTIFICATION:

I certify that this plan for pond construction, erosion and sediment control, represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Charles V. Main 12/16/06
SIGNATURE OF ENGINEER DATE
Charles V. Main

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

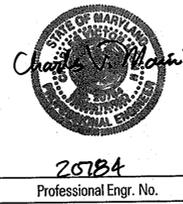
Jim Myler 12/16/06
U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

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

Donald Mason 12/16/06
HOWARD SOIL CONSERVATION DISTRICT DATE

AS-BUILT CERTIFICATION
I hereby certify, by my seal, that the facilities shown on this plan were constructed as shown on this AS-BUILT plan.
Donald Mason, P.E. No. 21443 Date 1-10-14

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. 21443, Expiration Date: 12-21-14



AS-BUILT F-06-116

11/02/05/11/10/20/05/3/MCA The Doc 14 10/25/06 2006

STORMWATER MANAGEMENT POND GENERAL CONSTRUCTION SPECIFICATIONS

1. GENERAL
All stormwater management facilities shall be constructed in accordance with Howard County's "Standard Specifications and Details for Construction", (1985) and the N.R.C.S. Maryland "Standards and Specifications for Ponds", (MD-378, 2000).

These specifications are appropriate to all ponds within the scope of the standard practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

2. SITE PREPARATION
Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed, and stripped of topsoil. All trees, vegetation, roots, and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

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

3. EARTH FILL
MATERIAL - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #20 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must be constructed supervised by a geotechnical engineer.

Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

PLACEMENT - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

COMPACTION - Control the movement of the hauling equipment over the fill so that the entire surface of each lift is compacted to 95% of AASHTO Specification T-99 (or equivalent ASTM Specifications). Fill material must contain enough moisture to yield the required degree of compaction with the equipment used.

When required by the reviewing agency the minimum required density shall not be less than 95% of the maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

CUT OFF TRENCH - The cut off trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

EMBANKMENT CORE - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

4. STRUCTURE BACKFILL
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed 4 inches thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 4 feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 6.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches thickness and compacted by other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to that specified for the core of the embankment or other embankment materials.

5. REMOVAL AND REPLACEMENT OF DEFECTIVE FILL
Fill placed at densities lower than specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the requirements of the specifications shall be removed to meet the requirements or removed and replaced by acceptable fill. The bottoms of such excavations shall be finished flat or gently curving and at the sides of such excavations the adjacent sound fill shall be trimmed to a slope not steeper than 3 feet horizontally to 1 foot vertically extending from the bottom of the excavation to the fill surface.

6. PIPE CONDUITS
All pipes shall be circular in cross section. All perforated pipes shall have a minimum of 3.31 square inches of opening per square foot of pipe surface (ex. 30 3/8-inch holes per square foot). Perforations are to be uniformly spaced around the full periphery of the pipe. Any holes blocked or partially blocked by bituminous coating shall be opened prior to installation.

REINFORCED CONCRETE PIPE - All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.
- Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/grade for their entire length. This bedding/grade shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete grade is not needed for structural purposes, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.
- Laying Pipes - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.
- Backfilling shall conform to "Structure Backfill".
- Connections - All connections (to anti-seep collars, riser, etc.) shall be watertight.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

PLASTIC PIPE - All of the following criteria shall apply for plastic pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated high density polyethylene (HDPE) pipe, couplings and fittings shall conform to following: 4" - 10" inch pipe shall meet the requirements of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirements of AASHTO M294 Type S.
- Joints and connections to anti-seep collars shall be completely watertight.
- Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
- Backfilling shall conform to "Structure Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

7. CONCRETE
Concrete must meet minimum requirements set forth in Maryland State Highway Administration Standard Specifications for Construction and Materials, Section 919 (Portland Cement Concrete Mixtures), Mix Number 3. Reinforcing steel must be ASTM A615, Grade 60. Steel angles and anchor bars must be ASTM A36.

8. ROCK RIP-RAP
Rock rip-rap shall meet the requirements of the Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all rip-rap and shall meet the requirements of the Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

The rip-rap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the rip-rap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks.

9. CARE OF WATER DURING CONSTRUCTION
All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary ditches, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works, the contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at such locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

10. STABILIZATION
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

11. EROSION AND SEDIMENT CONTROL
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

All disturbed areas shall be controlled by an erosion and sediment control plan which has been approved by the Baltimore County Soil Conservation District (B.C.S.C.D.).

12. SEEDING
Seeding, fertilizing and mulching shall be as follows:

- Seed Mix: 50% Kenblue Kentucky Bluegrass
40% Pennlawn Creeping Red Fescue
10% Streater Redtop
Applied at a rate of 150 pounds per acre.
- Rebel II Tall Fescue (125 pounds per acre)
Pennlawn Perennial Ryegrass (15 pounds per acre)
Kenblue Kentucky Bluegrass (10 pounds per acre)
(or)
Pennlawn Creeping Red Fescue (70 pounds per acre)
Aurora Hard Fescue (50 pounds per acre)
Common White Clover (6 pounds per acre)
Winter Rye (45 pounds per acre)
- Lime: 2 tons per acre Dolomitic Limestone.
- Fertilizer: 600 pounds per acre 10-10-10 fertilizer before seeding.
400 pounds per acre 30-0-0 Ureaform Fertilizer at time of seeding.
- Mulch: Straw at 4,000 pounds per acre.
- Anchoring: Mulching tool or wood cellulose fiber binder at a net dry binder rate of 750 pounds per acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water or at rates recommended by the manufacturer.

13. FILTER CLOTH
All filter cloth shall conform to the 1994 Maryland Standards and Specifications for soil erosion and sediment control, or the latest edition.

14. GABIONS
All gabions shall be PVC coated woven wire baskets. Stone size shall be 4 inches to 7 inches, (Class IV gabions)

15. FENCE
Split rail fencing:
Fencing shall be constructed in accordance with the details on these plans. The split rail fence shall be constructed of locust post and spruce rails, round side out, with post spaced 10 feet on center. The wire fabric shall be 4" x 2", 14 gauge, black vinyl coated welded wire mesh attached to the inside of the fence with stainless steel electrical staples 12 inches on center, each rail, and shall extend 6 inches below finished grade.

Chain link fencing:
Construct fencing in accordance with the State Highway Administration Standard details 690.01 and 690.02. Use specifications for a 6-foot fence, substituting 42" fabric and 6'-8" line posts. Construct the gate in accordance with SHM Standard Detail 692.01 with 42" fabric. The fabric used for the fence and gate must conform to AASHTO Designation M181-74.

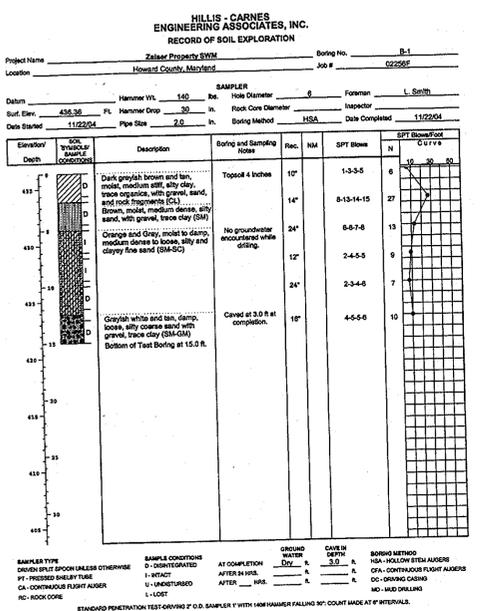
16. INSPECTION SCHEDULE

- Prior notification shall be given to the engineer so that inspections may be made at the following stages:
 - Core trenches for structural embankments.
 - Inter-Outlet Structures and Anti-Seep Structures, watertight connections on pipes and removers for closed storm drainage facilities.
 - During placement of structural fill, reinforcing and concrete, and installation of piping and catch basins.
 - During backfill of foundations and trenches.
 - Upon completion of final grading and establishment of permanent stabilization.
- No work shall proceed until the engineer inspects and approves the work previously completed.
- Geotechnical compaction testing of the facility embankment is required. Certification must be provided to the designated engineer in charge of the as-built.
- A copy of all material supply tickets must be given to the designated engineer in charge of the as-built.

17. OPERATION, MAINTENANCE AND INSPECTION

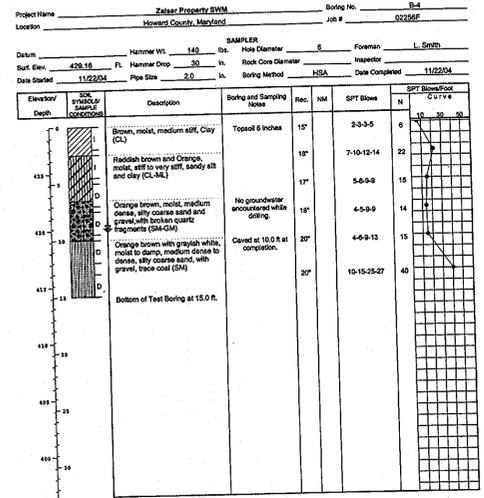
Inspection of ponds shown hereon shall be performed at least twice annually, in accordance with the checklist and requirements contained within USDA, SCS "Standards and Specifications for Ponds" (MD-378), the pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and its contents, operation, surveillance, inspection and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

18. UTILITIES
No utilities may be constructed within/along any MD-378 Embankment.



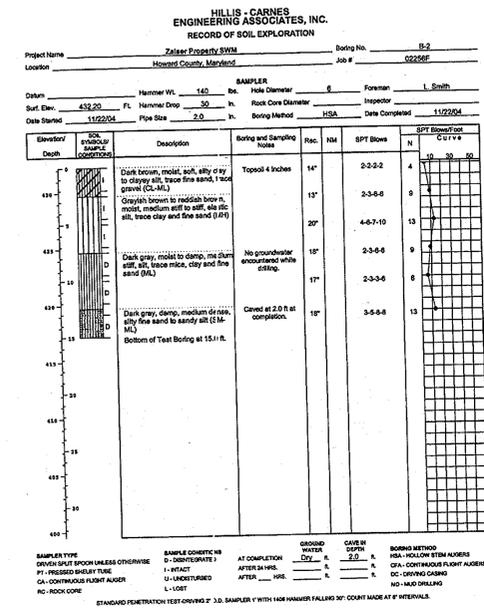
SAFETY TYPE	SAFETY CONDITION	AT COMPLETION	GROUND WATER	CAUSE IN	BORING METHOD
D - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED
F - PRESATURATED	1 - SATURATED				
G - CONTINUOUS FLIGHT AUGER	U - UNDESATURATED				
H - ROCK CORE	L - LOG				

STANDARD PENETRATION TEST BORING P.O. 2.0. SAAMPLER WITH 1/2" HANDED FALLS 30" COUNT MADE AT INTERVALS.



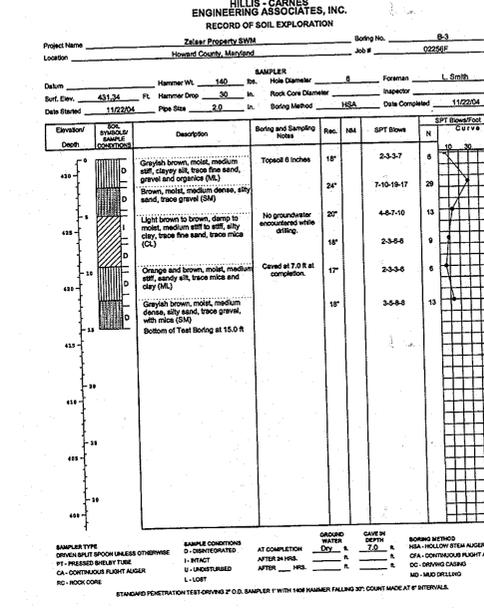
SAFETY TYPE	SAFETY CONDITION	AT COMPLETION	GROUND WATER	CAUSE IN	BORING METHOD
D - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED
F - PRESATURATED	1 - SATURATED				
G - CONTINUOUS FLIGHT AUGER	U - UNDESATURATED				
H - ROCK CORE	L - LOG				

STANDARD PENETRATION TEST BORING P.O. 2.0. SAAMPLER WITH 1/2" HANDED FALLS 30" COUNT MADE AT INTERVALS.



SAFETY TYPE	SAFETY CONDITION	AT COMPLETION	GROUND WATER	CAUSE IN	BORING METHOD
D - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED
F - PRESATURATED	1 - SATURATED				
G - CONTINUOUS FLIGHT AUGER	U - UNDESATURATED				
H - ROCK CORE	L - LOG				

STANDARD PENETRATION TEST BORING P.O. 2.0. SAAMPLER WITH 1/2" HANDED FALLS 30" COUNT MADE AT INTERVALS.



SAFETY TYPE	SAFETY CONDITION	AT COMPLETION	GROUND WATER	CAUSE IN	BORING METHOD
D - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED	0 - UNDESATURATED
F - PRESATURATED	1 - SATURATED				
G - CONTINUOUS FLIGHT AUGER	U - UNDESATURATED				
H - ROCK CORE	L - LOG				

STANDARD PENETRATION TEST BORING P.O. 2.0. SAAMPLER WITH 1/2" HANDED FALLS 30" COUNT MADE AT INTERVALS.

No As-Built information is required on this sheet



Professional Certification. I hereby certify that these documents were prepared, approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 21443, Expiration Date: 12-31-14

ENGINEERS CERTIFICATE:
I hereby certify that this plan for pond construction erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions. This plan was prepared in accordance with the requirements of the Howard Soil Conservation District. I have notified the developer that HEISHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

Signature: Jeffrey L. Schwab
Date: 9/5/06

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

Signature: [Signature]
Date: 12/21/06

DEVELOPERS CERTIFICATE:
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 ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: [Signature]
Date: 9/5/06

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
Signature: [Signature]
DATE: 1-3-07

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Signature: [Signature]
DATE: 1/10/07

Signature: [Signature]
DATE: 1/16/07

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
Ilchester farm, LLC
c/o James Keely and Co. Inc.
P.O. Box 528
61 E. Padonia Road.
Timonium, MD 21093

DMW
Daft McCune Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-3333
Fax: 286-4705

REVISIONS:

Date	No.	Revision Description

FINAL PLAN SOIL BORINGS

Des. By	KAD	Scale	NONE	Proj. No.	02059.B
Dn. By	WDE	Date	9/7/06		
Chk. By	Approved				15 of 19

AS-BUILT F-06-116

PUBLIC ROAD STREET TREE PLANT LIST

QTY	SYM	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS
10	AR	ACER RUBRUM / OCTOBER GLORY	2 1/2" - 3" CAL. 12-14" HT.	D & B
14	ZS	ZELKOVA SERATA / JAPANESE ZELKOVA	2 1/2" - 3" CAL. 12-14" HT.	D & B

PERIMETER PLANT LIST

QTY	SYM	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS
6	QR	QUERCUS RUBRA / RED OAK	2 1/2" - 3" CAL. 12-14" HT.	D & B FULL HEAD
4	FS	FINUS SYROBUS / EASTERN WHITE PINE	6'-8" HT.	D & B UNSHEARED

SWM PERIMETER PLANT LIST

QTY	SYM	BOTANICAL NAME / COMMON NAME	SIZE	REMARKS
11	AR	ACER RUBRUM / RED SUNSET	2 1/2" - 3" CAL. 12-14" HT.	D & B
7	QR	QUERCUS RUBRA / RED OAK	2 1/2" - 3" CAL. 12-14" HT.	D & B FULL HEAD
14	PA	PICEA ABIES / NORWAY SPRUCE	6'-8" HT.	D & B
13	FS	FINUS SYROBUS / EASTERN WHITE PINE	6'-8" HT.	D & B UNSHEARED
6	CC	CORNUS CANADENSIS / EASTERN DOGWOOD	1 1/2" - 2" CAL. 6" HT.	D & B FULL HEAD
6	CK	CORNUS KOUSA / KOUSA DOGWOOD	1 1/2" - 2" CAL. 6" HT.	D & B FULL HEAD

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

LANDSCAPING TYPE	PERIMETER (TYPE 'D')	180 LF
NUMBER OF TREES REQUIRED	36	25
SHADE TREES	10	10
EVERGREEN TREES	10	10
OTHER TREES (2:1 SUBSTITUTION)	16	5
CREDIT FOR EXISTING VEGETATION	N/A	N/A
CREDIT FOR OTHER LANDSCAPING	N/A	N/A
NUMBER OF TREES PROVIDED	36	25
SHADE TREES	10	10
EVERGREEN TREES	10	10
OTHER TREES (2:1 SUBSTITUTION)	16	5

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES
LANDSCAPE TYPE 'A'		P 3
LINEAR FEET OF PERIMETER		189 LF.
LANDSCAPE TYPE 'B'	P 1	P 2'
LINEAR FEET OF PERIMETER	163 LF.	660 LF.
LANDSCAPE TYPE 'C'		
LINEAR FEET OF PERIMETER		
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)	N/A	N/A
CREDIT FOR BERM (DESCRIBE BELOW IF NEEDED)	N/A	N/A
NUMBER OF PLANTS REQUIRED	3	3
SHADE TREES	4	0
EVERGREEN TREES	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	0
SHRUBS (10:1 SUBSTITUTION)	0	0
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)		
NUMBER OF PLANTS PROVIDED	3	3
SHADE TREES	4	0
EVERGREEN TREES	0	0
OTHER TREES (2:1 SUBSTITUTION)	0	0
SHRUBS (10:1 SUBSTITUTION)	0	0

General Planting Notes

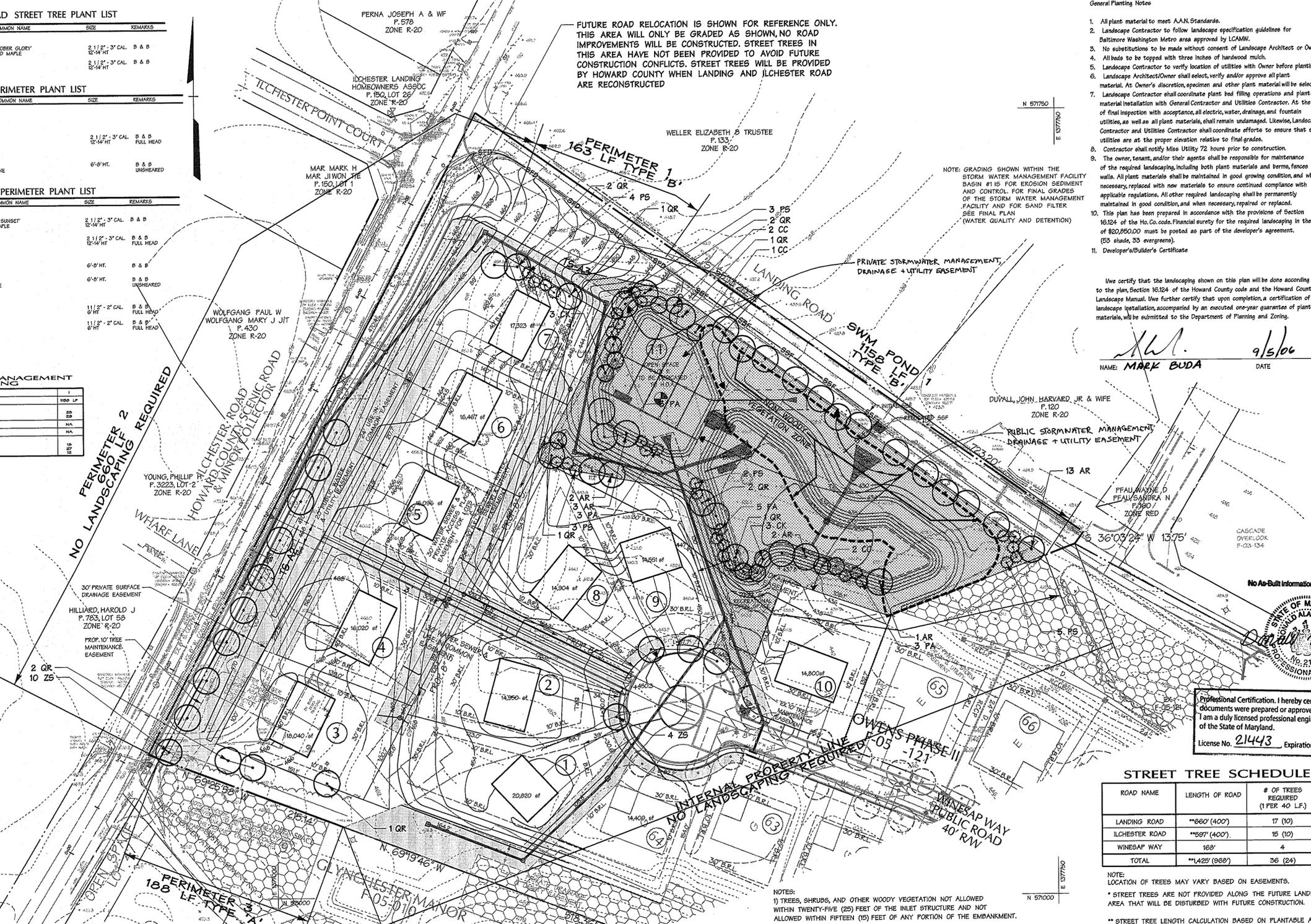
- All plant material to meet A.A.N. Standards.
- Landscape Contractor to follow landscape specification guidelines for Baltimore Washington Metro area approved by LCAMM.
- No substitutions to be made without consent of Landscape Architect or Owner.
- All beds to be topped with three inches of hardwood mulch.
- Landscape Contractor to verify location of utilities with Owner before planting.
- Landscape Architect/Owner shall select, verify and/or approve all plant material. At Owner's discretion, specimen and other plant material will be selected.
- Landscape Contractor shall coordinate plant bed filling operations and plant material installation with General Contractor and Utilities Contractor. At the time of final inspection with acceptance, all electric, water, drainage, and fountain utilities, as well as all plant materials, shall remain undamaged. Likewise, Landscape Contractor and Utilities Contractor shall coordinate efforts to ensure that surface utilities are at the proper elevation relative to final grade.
- Contractor shall notify Miss Utility 72 hours prior to construction.
- The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
- This plan has been prepared in accordance with the provisions of Section 16.124 of the Ho.Co.Code. Financial surety for the required landscaping in the amount of \$20,850.00 must be posted as part of the developer's agreement.
- (53 shade, 33 evergreen).
- Developer's/Builder's Certificate

I 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. Use further certify that upon completion, a certification of landscape installation, accompanied by an accurate one-year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

NAME: **MARK BUDA** DATE: **9/5/06**

LEGEND

- EX TREELINE
- EX MINOR CONTOUR (2' INT.)
- EX MAJOR CONTOUR (10' INT.)
- EX STRUCTURE
- PROP. TREELINE (IF SHOWN)
- PROPERTY BOUNDARY
- RIGHT OF WAY LINE
- PROP. LOT NUMBER
- NON WOODY VEGETATION ZONE
- EX DECIDUOUS TREE
- EX DECIDUOUS TREE
- PROP. LOT LINE
- BUILDING SETBACK LINE
- EASEMENT AREAS
- 8" W. PROP. WATER
- 8" S. PROP. SEWER
- PROP. MINOR CONTOUR
- PROP. MAJOR CONTOUR
- PROP. DECIDUOUS TREE
- PROP. FLOWERING TREE
- PROP. EVERGREEN TREE



FUTURE ROAD RELOCATION IS SHOWN FOR REFERENCE ONLY. THIS AREA WILL ONLY BE GRADED AS SHOWN, NO ROAD IMPROVEMENTS WILL BE CONSTRUCTED. STREET TREES IN THIS AREA HAVE NOT BEEN PROVIDED TO AVOID FUTURE CONSTRUCTION CONFLICTS. STREET TREES WILL BE PROVIDED BY HOWARD COUNTY WHEN LANDING AND ILCHESTER ROAD ARE RECONSTRUCTED

NOTE: GRADING SHOWN WITHIN THE STORM WATER MANAGEMENT FACILITY BASIN #1 IS FOR EROSION SEDIMENT AND CONTROL FOR FINAL GRADES OF THE STORM WATER MANAGEMENT FACILITY AND FOR SAND FILTER. SEE FINAL PLAN (WATER QUALITY AND DETENTION)

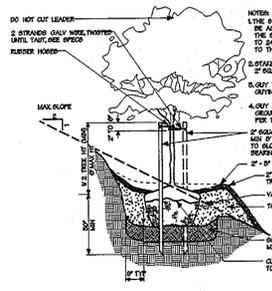


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. **21443** Expiration Date: **12-31-14**

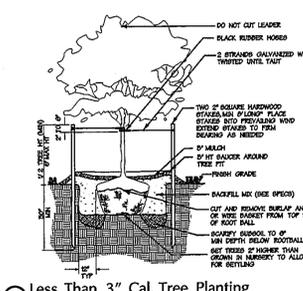
STREET TREE SCHEDULE

ROAD NAME	LENGTH OF ROAD	# OF TREES REQUIRED (1 PER 40 LF.)	# OF TREES PROVIDED
LANDING ROAD	**660' (400')	17 (10)	*10
ILCHESTER ROAD	**660' (400')	15 (10)	*10
WINESAP WAY	168'	4	4
TOTAL	**1,428' (968')	36 (24)	*24

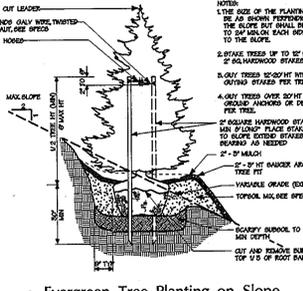
- NOTE:
LOCATION OF TREES MAY VARY BASED ON EASEMENTS.
* STREET TREES ARE NOT PROVIDED ALONG THE FUTURE LANDING ROAD RELOCATION AREA THAT WILL BE DISTURBED WITH FUTURE CONSTRUCTION.
** STREET TREE LENGTH CALCULATION BASED ON PLANTABLE AREA WHICH WILL NOT BE DISRUPTED BY FUTURE ROAD WIDENING CONSTRUCTION. STREET TREES IN FUTURE ROAD WIDENING AREA WILL BE PROVIDED WITH FUTURE ROAD WIDENING.



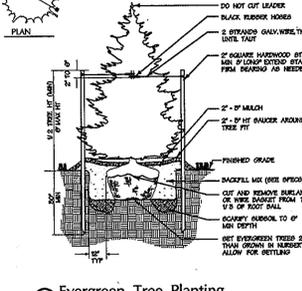
1 Tree Planting on Slope Not To Scale



2 Less Than 3" Cal. Tree Planting Not To Scale



3 Evergreen Tree Planting on Slope Not To Scale



4 Evergreen Tree Planting Not To Scale

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William J. ... 1-7-07
CHIEF, BUREAU OF HIGHWAYS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Andy ... 4/10/07
CHIEF, DIVISION OF LAND DEVELOPMENT

... 1/19/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Date	No.	Revision Description

FINAL PLAN ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
PATAPSCO LANDING, LLC
c/o James Keely and Co. Inc.
P.O. Box 528
61 E. Padonia Road.
Timonium, MD 21093

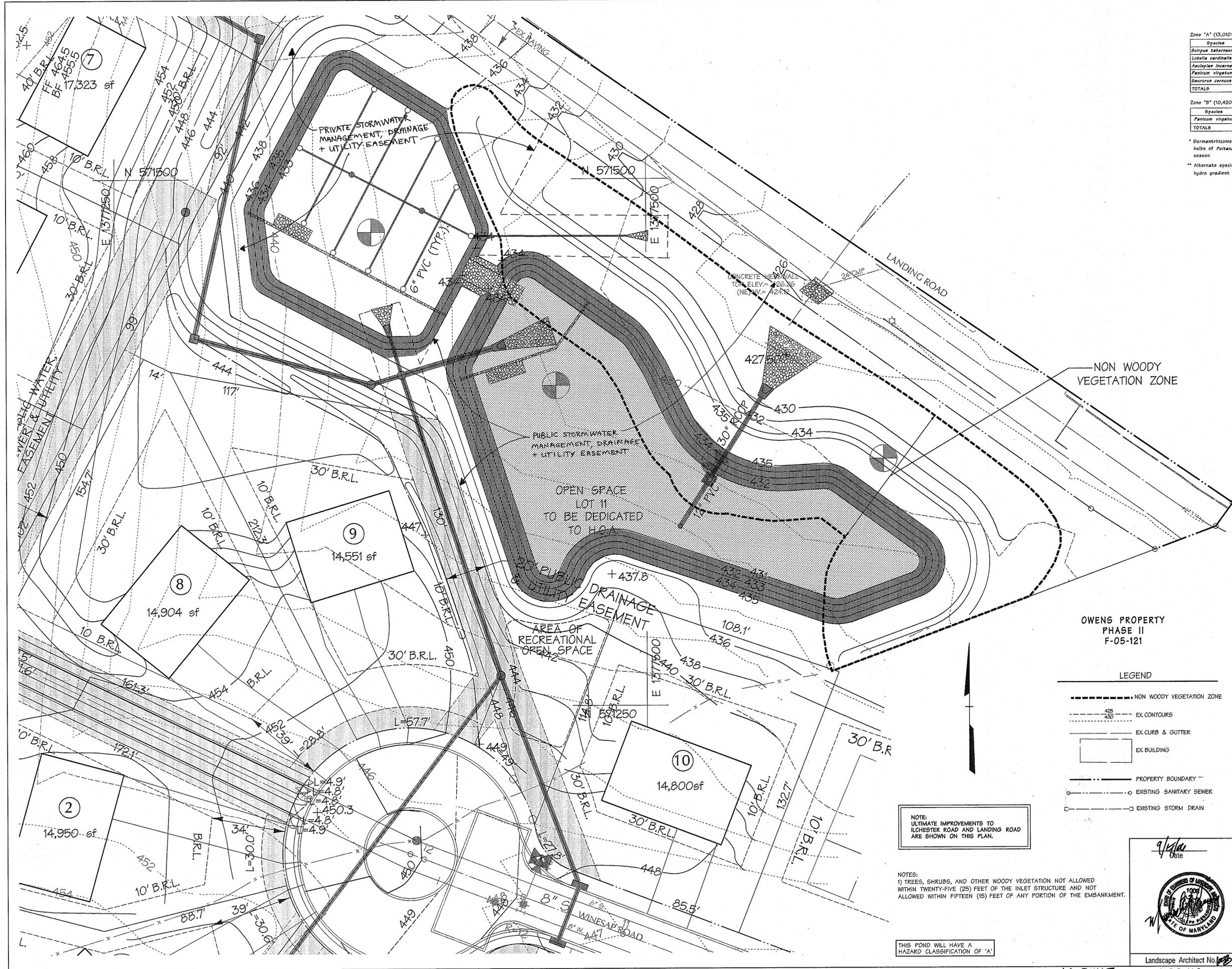


SECTION	DATE	BY	FOR
FINAL PLAN LANDSCAPE PLAN	9/7/06	JLT	GMO

Des. By: **JLT** Scale: **1" = 50'** Proj. No.: **02059.B**
Dwn. By: **GMO** Date: **9/7/06**
Chk. By: **GMO** Approved: **16 of 19**



9/5/06
Landscape Architect No. **1000**

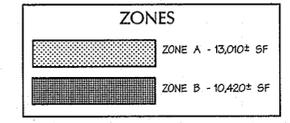


Water Quality Planting Plan **

Species	Size	Plant Spacing	Quantity	Remarks
<i>Scirpus tabernaemontani</i>	quart container*	36"	354	ODL
<i>Lobelia cardinalis</i>	quart container	36"	354	FACW
<i>Anclystis incarnata</i>	quart container	36"	354	ODL
<i>Panicum virgatum</i>	quart container	36"	354	FAC
<i>Saururus cernuus</i>	quart container*	36"	354	ODL
TOTALS			1,670	

Species	Size	Plant Spacing	Quantity	Remarks
<i>Panicum virgatum</i>	quart container	36"	1,327	FAC
TOTALS			1,327	

* Dormant/hibernating of *Scirpus, Iris* and *Saururus*, dormant tubers of *Sagittaria*, and 1 styx tubs of *Potamogeton* may be substituted if plantings are to be installed during dormant season.
 ** Alternate species and install in random pattern, distributing each species across the hydro gradient of each planting zone. Single species massings to be avoided.



No As-Built information is required on this sheet



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. 21443, Expiration Date: 12-21-14

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William J. White 1-3-07
 CHIEF, BUREAU OF HIGHWAYS AS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Judy Hamilton 11/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT JP DATE

Alan Robinson 1/10/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION gno DATE

Date	No.	Revision Description

FINAL PLAN
ZAISER PROPERTY

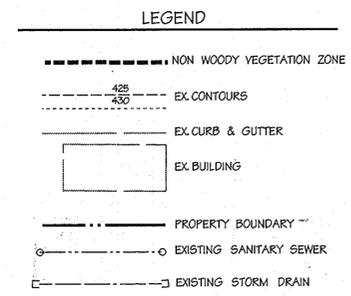
LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
 PATAPSCO LANDING, LLC
 c/o James Keilty and Co. Inc.
 P.O. Box 523
 61 E. Padonia Road.
 Timonium, MD 21093

DMW
 Deft/McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3233
 Fax: 296-4705

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

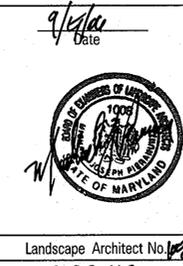
PROVISION NAME	SECTION/AREA	LOT/FACIL #
ZAISER PROPERTY		107
PLAN OR LP TRACT OR TIME	PARCEL MAP	CELESTIAL TRACT
10/11/07 R-20	31	1
TITLE		
ZAISER PROPERTY		
FINAL PLAN		
STORMWATER MANAGEMENT		
POND PLANTING PLAN		
Des. By	Scale 1" = 20'	Proj. No. 02059.B
Dm. By GMO	Date 9/7/06	
Chk. By	Approved	

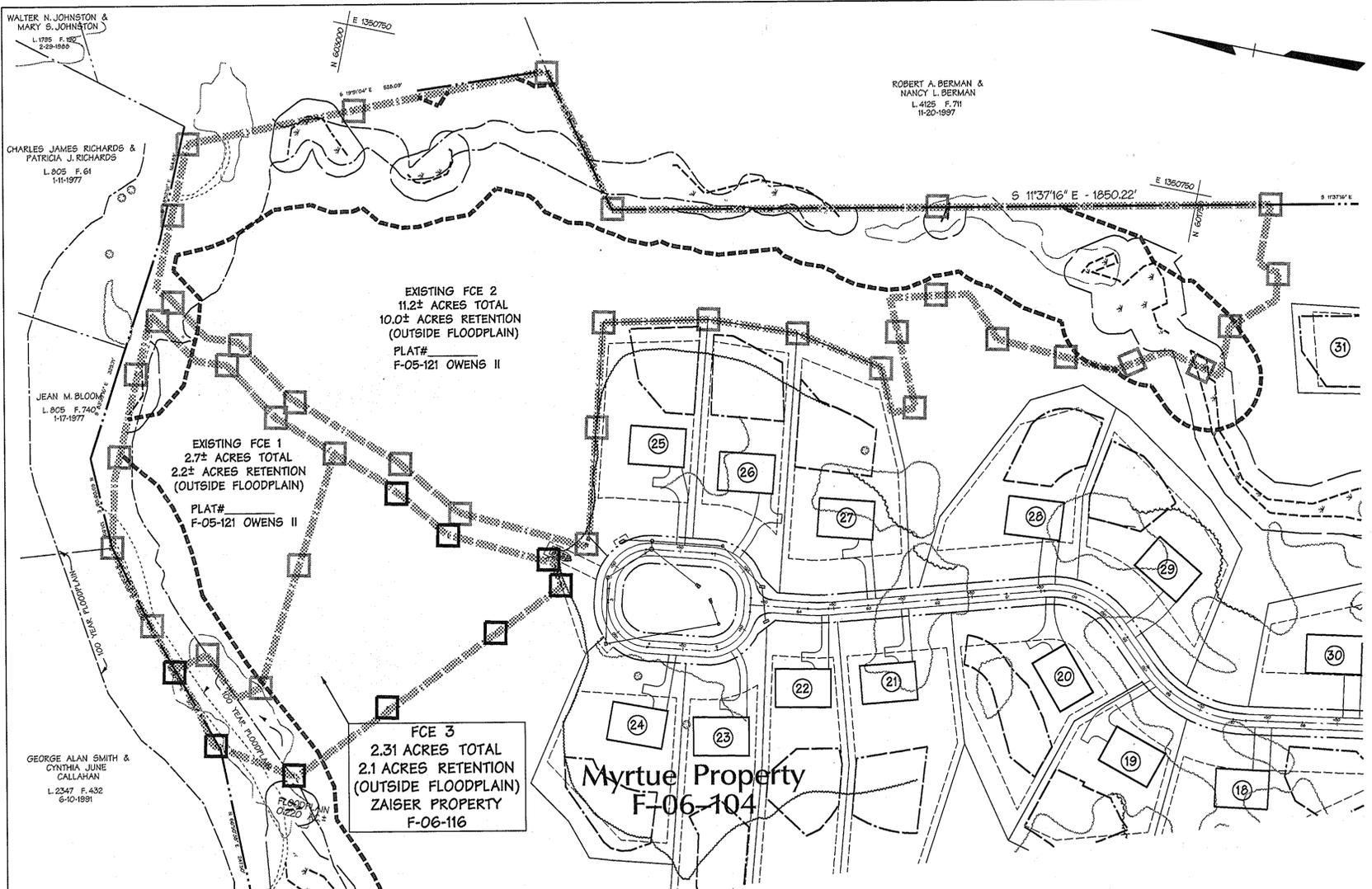


NOTE:
 ULTIMATE IMPROVEMENTS TO ILCHESTER ROAD AND LANDING ROAD ARE SHOWN ON THIS PLAN.

NOTES:
 1) TREES, SHRUBS, AND OTHER WOODY VEGETATION NOT ALLOWED WITHIN TWENTY-FIVE (25) FEET OF THE INLET STRUCTURE AND NOT ALLOWED WITHIN FIFTEEN (15) FEET OF ANY PORTION OF THE EMBANKMENT.

THIS POND WILL HAVE A HAZARD CLASSIFICATION OF 'A'





Plan
Scale: 1" = 100'

2.1 ACRES OF NON-FLOOD PLAIN FOREST RETAINED ON MYRTUE PROPERTY (MAP 10, GRID 10, P 225) TO FULFILL THE ZAISER FOREST CONSERVATION OBLIGATION. THE ZAISER PROPERTY AFFORESTATION OBLIGATION IS MET BY RETENTION AT 2.1 OR 2.127 ACRES.

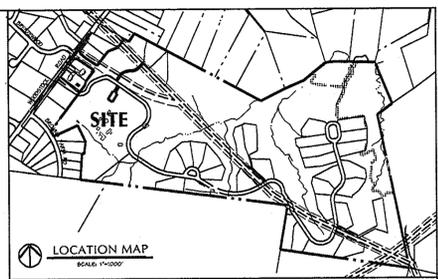
FOREST CONSERVATION CALCULATIONS

BASIC SITE DATA	ACRES (110)
GROSS SITE AREA	7.0
AREA WITHIN 100 YEAR FLOODPLAIN	0.0
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (IF APPLICABLE)	0.0
NET TRACT AREA	7.0
LAND USE CATEGORY	SUBURBAN

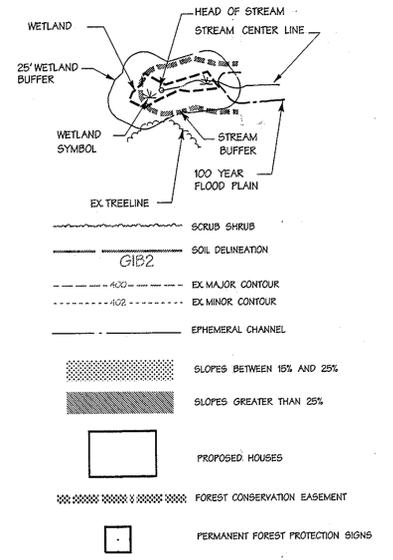
INFORMATION FOR CALCULATIONS	
A. NET TRACT AREA	7.0
B. REFORESTATION THRESHOLD (25% x A)	1.75
C. AFFORESTATION MINIMUM (20% x A)	1.40
D. EXISTING FOREST ON NET TRACT AREA	1.05
E. FOREST AREAS TO BE CLEARED	0.0
F. FOREST AREAS TO BE RETAINED	0.0

AFFORESTATION CALCULATIONS	
A. NET TRACT AREA	7.0
B. AFFORESTATION THRESHOLD (15% x A)	1.05
C. EXISTING FOREST ON NET TRACT AREA	0.0
D. FOREST AREAS TO BE CLEARED	0.0
E. FOREST AREAS TO BE RETAINED	0.0
F. AFFORESTATION OBLIGATION	1.05
G. AFFORESTATION PROVIDED ON-SITE	0.0
H. RETENTION PROVIDED OFF-SITE	2.10

The goals and objectives of the Forest Conservation Plan are to satisfy Forest Conservation Act compliance by providing for an afforestation obligation of 1.05 acres for the Zaiser property. The 1.05 acre obligation for this parcel will be satisfied in accordance with Howard County regulations, by off-site retention of existing forest (2:1 ratio) = 2.10 Acres at the Myrtue property in a recorded Forest Conservation easement. Tax Map 31 Grid 10 Parcel 157- Zaiser Property Myrtue, Tax Map 10, Grid 24, Parcel 225



Legend



APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William J. ... 1-3-07
 CHIEF, BUREAU OF HIGHWAYS
 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cynthia ... 1/10/07
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

... 1/9/07
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

Date	No.	Revision Description

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11 AND THE RE-SUB DIVISION OF NON-BUILDABLE BULK PARCELS 'C' AND 'D' TAX MAP 31 PARCEL 572

OWNER/DEVELOPER:
 Ilchester Road LLC
 c/o James Keelty and Co. Inc.
 P.O. Box 528
 61 E. Padonia Road.
 Timonium, MD 21093

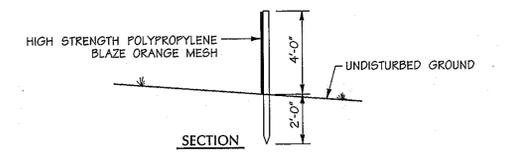
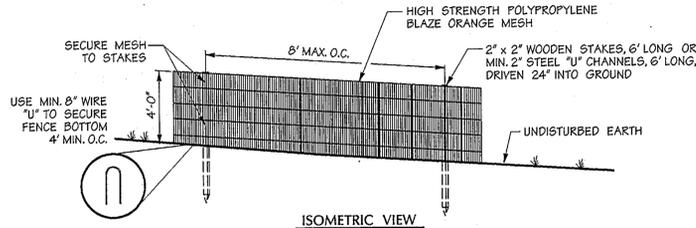
DMW
 Date-McCune-Walkers, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3833
 Fax 286-4705
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

PROJECT NAME	SECTION AREA	DATE
ZAISER PROPERTY	157	10/11/17

TITLE
FOREST CONSERVATION PLAN
OFFSITE FOREST CONSERVATION AREA

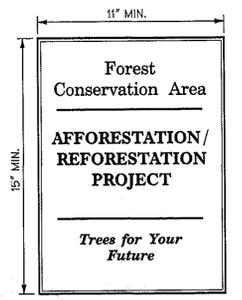
Des. By	KAD	Scale	1" = 100'	Proj. No.	02059.B
Dim. By	GMO	Date	6/8/06		
Chk. By	Approved				

18 of 19



- NOTES:
- THIS DETAIL IS FOR FOREST PROTECTION DEVICE ONLY.
 - FOREST RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
 - BOUNDARIES OF FOREST RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING THE DEVICE.
 - ROOT DAMAGE SHALL BE AVOIDED.
 - PROTECTION SIGNAGE MAY ALSO BE USED.
 - FOREST PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 - INSTALLATION OF FOREST PROTECTION FENCE MUST BE APPROVED BY BALTIMORE COUNTY EIR (410-887-3980) PRIOR TO ISSUANCE OF BUILDING OR GRADING PERMITS.

Forest Protection Fence
Not To Scale



Permanent Signage
Not To Scale

No As-Built information is required on this sheet

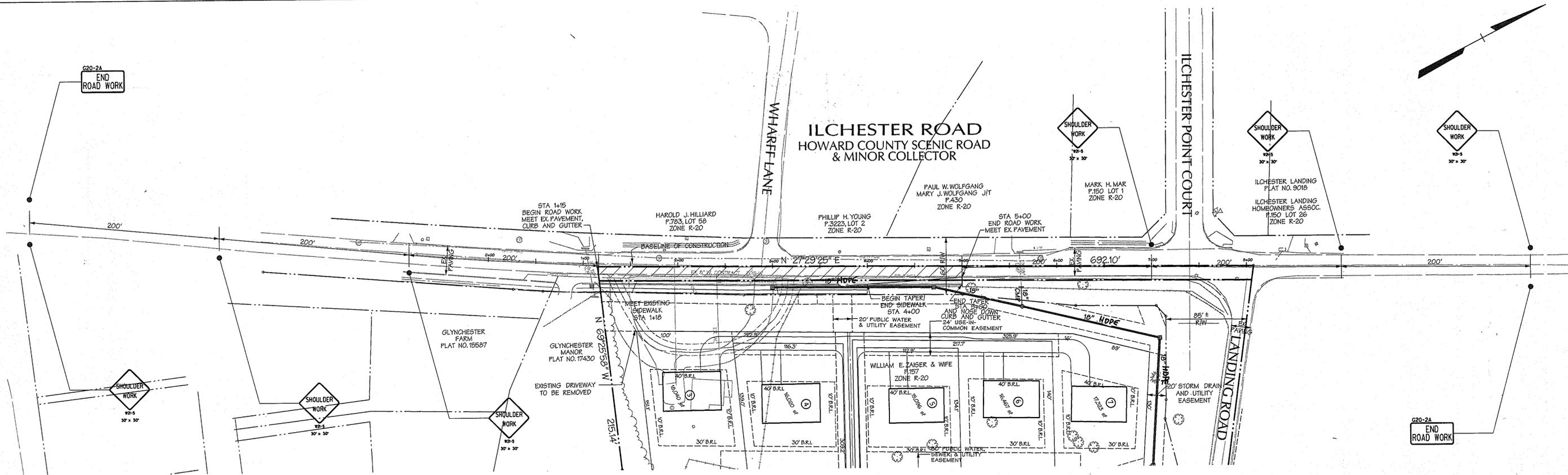


Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
 License No. 21443 Expiration Date: 12-31-14



Landscape Architect No. 1093
AS-BUILT

ILCHESTER ROAD
HOWARD COUNTY SCENIC ROAD
& MINOR COLLECTOR

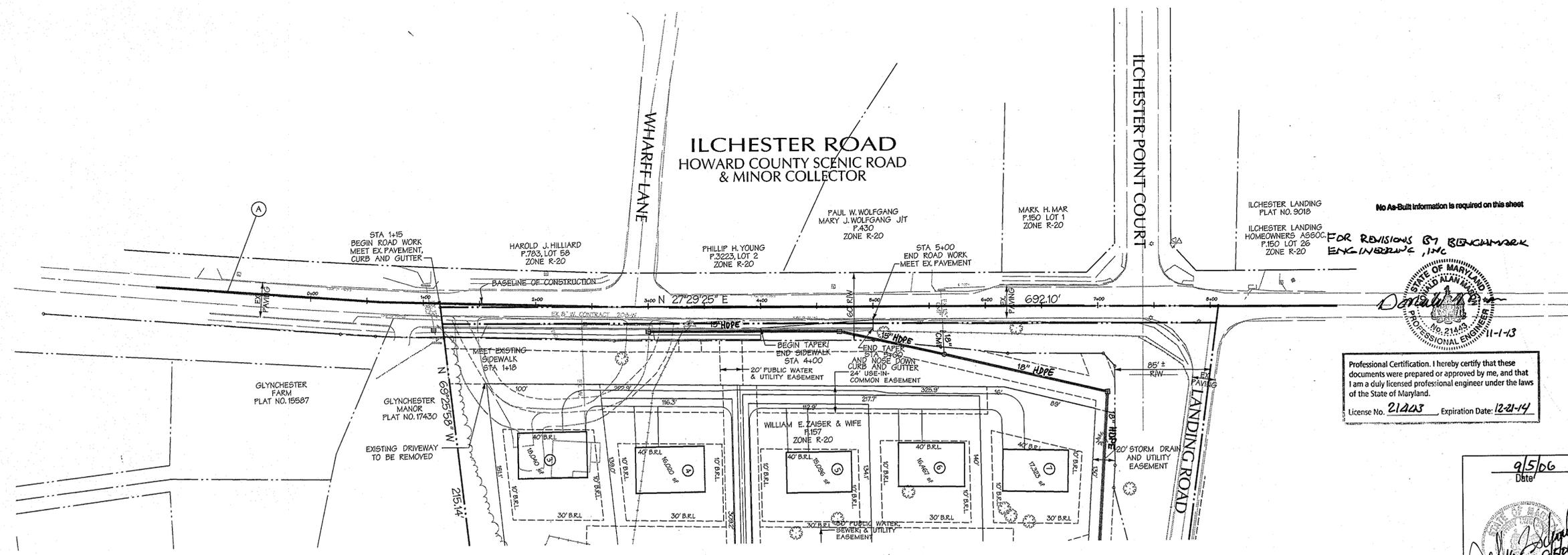


MAINTENANCE OF TRAFFIC PLAN

LEGEND

	FULL DEPTH PAVING (P-3)
	1/2" RESURFACING, WEDGE & LEVELING COURSE

ILCHESTER ROAD
HOWARD COUNTY SCENIC ROAD
& MINOR COLLECTOR



STRIPING PLAN

PAVEMENT MARKING LEGEND

A - 5 IN. SOLID DOUBLE YELLOW PAVEMENT MARKING LINE

No As-Built information is required on this sheet

FOR REVISIONS BY BENCHMARK ENGINEERS, INC.



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. 21443 Expiration Date: 12-21-14

APPROVED: HOWARD COUNTY DEPT. OF PUBLIC WORKS
William J. ... 1-3-07
CHIEF, BUREAU OF HIGHWAYS DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING
Cindy Hanna 1/10/07
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John ... 1/11/07
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

10-31-13	1	CHANGE RCP TO HDPE	BEL
Date	No.	Revision Description	

FINAL PLAN
ZAISER PROPERTY

LOTS 1 THRU 10 AND OPEN SPACE LOT 11
AND THE RE-SUB DIVISION OF
NON-BUILDABLE BULK PARCELS 'C' AND 'D'
TAX MAP 31 PARCEL 243,572

OWNER/DEVELOPER:
Ilchester Road LLC
c/o James Keilty and Co. Inc.
P.O. Box 528
61 E. Padonia Road,
Timonium, MD 21093

DMW
Duff-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-3333
Fax 296-4705
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

SUBDIVISION NAME	SECTION/AREA	LOT/FACEL #
ZAISER PROPERTY		107
PLAT OR L.P. #	ZONE	GENUS TRACT
10/11/07	R-20	

TITLE
ILCHESTER ROAD
MAINTENANCE OF TRAFFIC AND
PAVEMENT MARKING PLAN

Des. By	KAD	Scale	1" = 50'	Proj. No.	02059.B
Dm. By	GWO	Date	9/7/06		
Chk. By	Approved				

9/5/06
Date



Professional Engr. No. 14230

AS-BUILT

F-06-116