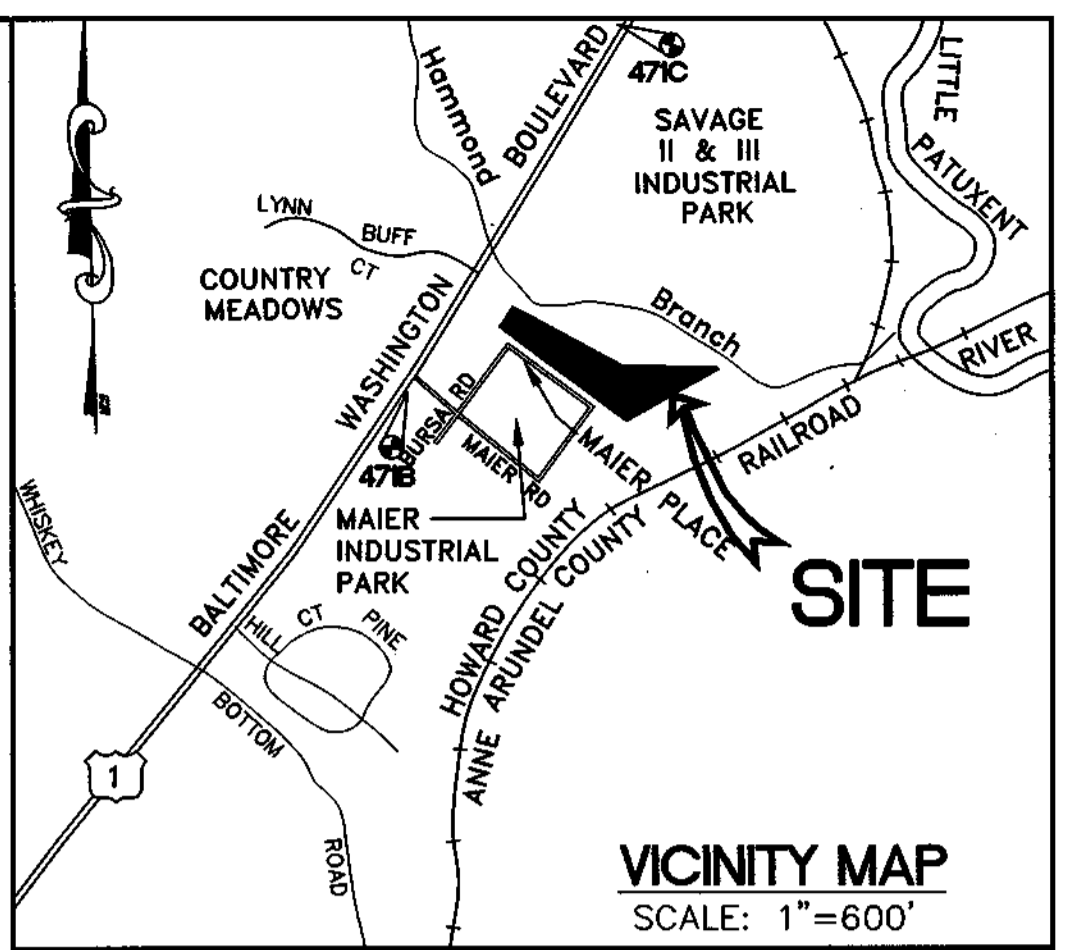


LEGEND

- 100-YR FLOODPLAIN
- LIMITS OF WETLANDS
- FOREST CONSERVATION EASEMENT
- PROPERTY LINE
- SUPER SILT FENCE



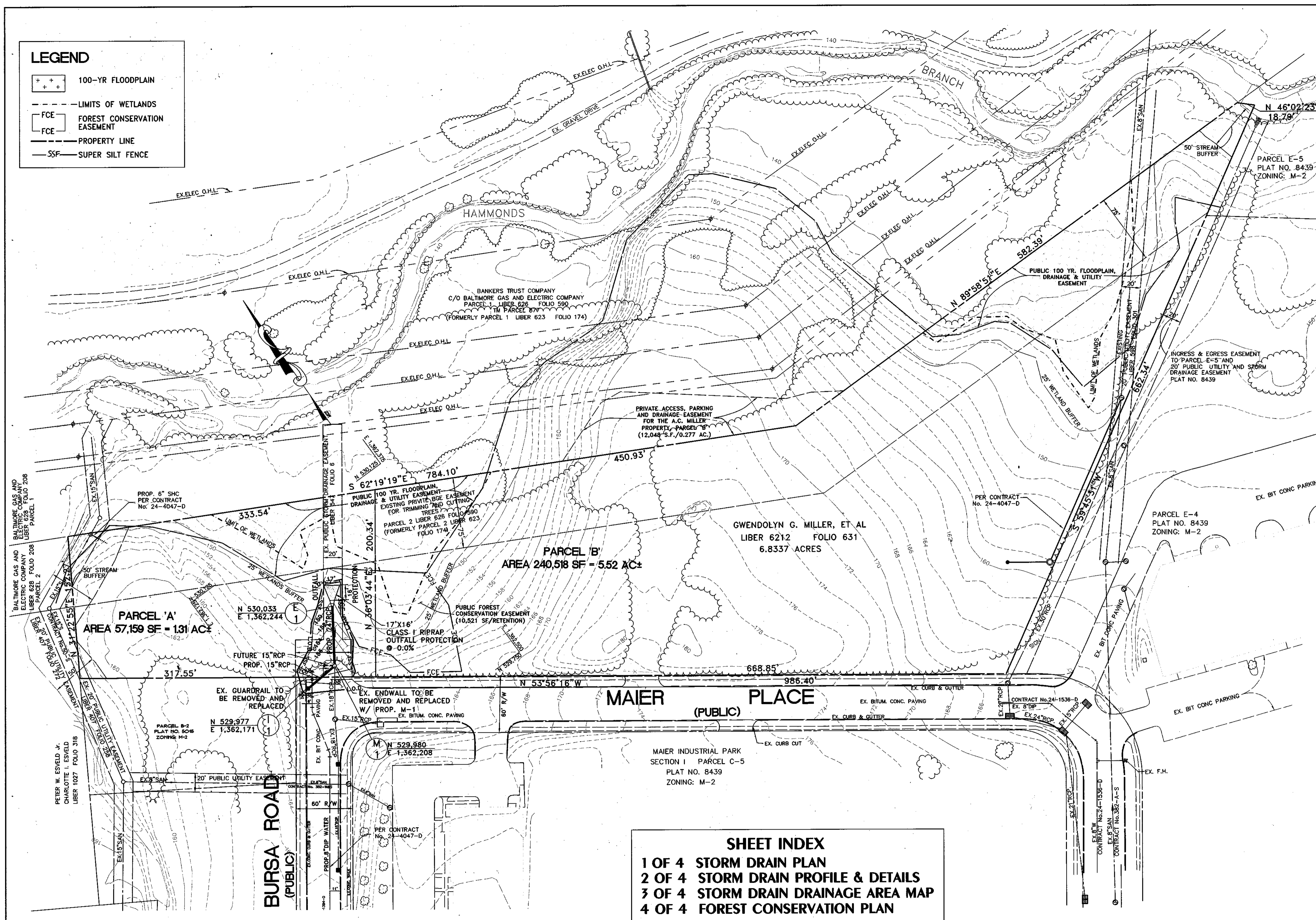
BENCHMARKS

HOWARD CO. HUB NO. 471C, EL. 188.05
N 532036.885 E 1362819.058
A BRASS DISC (1" TO 2" BELOW TERRAIN SURFACE) SET ON TOP OF CONCRETE CYLINDRIC BASE.

HOWARD CO. HUB NO. 471B, EL. 180.71
N 529701.579 E 1361469.758
3/4" IRON ROD WITH STAMPED ALUMINUM CAP.

GENERAL NOTES

1. OWNERS: GWENDOLYN G. MILLER, ARTHUR C. MILLER, JR., JENNIFER MILLER AND DAVID MILLER BRIDGE STREET SPRING CITY, PA. 19475
2. PROPERTY LOCATION: PARCEL 540 MAIER PLACE AND BURSA ROAD LAUREL, MARYLAND 417604
3. TAX ACCOUNT NO. 417604 ELECTION DISTRICT: 06 DEED: 6212/631 TAX MAP: 47, Grid 23, Parcel 540 TOTAL SITE AREA: 297,515 sf = 6.83 ac.
4. All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications if applicable.
5. The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
6. 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).
7. All street and regulatory signs shall be in place prior to the placement of any asphalt.
8. The existing topography shown is based on aerial topography prepared by "Wings Aerial Mapping Co., Inc." on Dec. 17, 1997.
9. The coordinates shown hereon are based upon the Howard County Geodetic Control which is based upon the Maryland State Plane Coordinate System, Howard County Monument Nos. 471B and 471C were used for this project.
10. Water is public. Howard County Contract 24-1536-D and 44-1394-D, Drainage Area
11. Sewer is public. Howard County Contract 382-A-S and 50-S, Drainage Area
12. Stormwater Management: Final Stormwater Management Plans shall be approved at site development plan phase.
13. Existing utilities are based on observable field information, previous construction drawings for the site, the best available information from the utility companies and Howard County. The Developer and Engineer do not warrant or guarantee the completeness or the correctness of this existing utility information. The Contractor shall verify all such information to his own satisfaction.
14. 100-year Floodplain shown is based on updated analysis, prepared by KCW Engineering Technologies, Inc. of Howard County's Hammond Branch Floodplain Study (1980 & Updated 1986).
15. Wetlands: Wetlands shown hereon were delineated by KCW Engineering Technologies, Inc. and verified by Howard Soil Conservation District Sept. 14, 2001.
16. A Traffic Study for this project has been prepared by the Traffic Group, Inc. dated March 18, 2002 and was approved.
17. Subdivision Name: A.C. Miller Property 28/BA Reference: Number of Proposed Lots: 2 Preliminary Plan Approval Date: DP2 Reference Number: SP-02-03, APPROVED 01/31/03 DP2 Final: F-02-10
18. WAIVER PETITIONS: WP-02-01: REQUEST TO WAIVE 16.144(a), SUBMISSION OF SKETCH PLAN & SECTION 16.144(f), SUBMISSION OF PRELIMINARY PLAN. WAIVER REQUEST DENIED AUGUST 21, 2002. WP-98-97: REQUEST TO WAIVE 16.155(a), TO PERMIT DEVELOPMENT (MASS GRADING) AND THE ISSUANCE OF A GRADING PERMIT WITHOUT AN APPROVED SITE DEVELOPMENT PLAN. WAIVER REQUEST DENIED APRIL 29, 1998.
19. FOREST CONSERVATION REQUIREMENTS HAVE BEEN MET WITH THE COMBINATION OF AN ON SITE FOREST CONSERVATION EASEMENT THAT WILL RETAIN 10,521 SF/0.24 AC. OF EXISTING FOREST AND A FEE OF \$45,343 THAT WILL BE PAID TO ADDRESS THE REMAINING REQUIREMENTS. SEE SHEET 4 OF 4 FOR THE FINAL FOREST CONSERVATION PLAN.



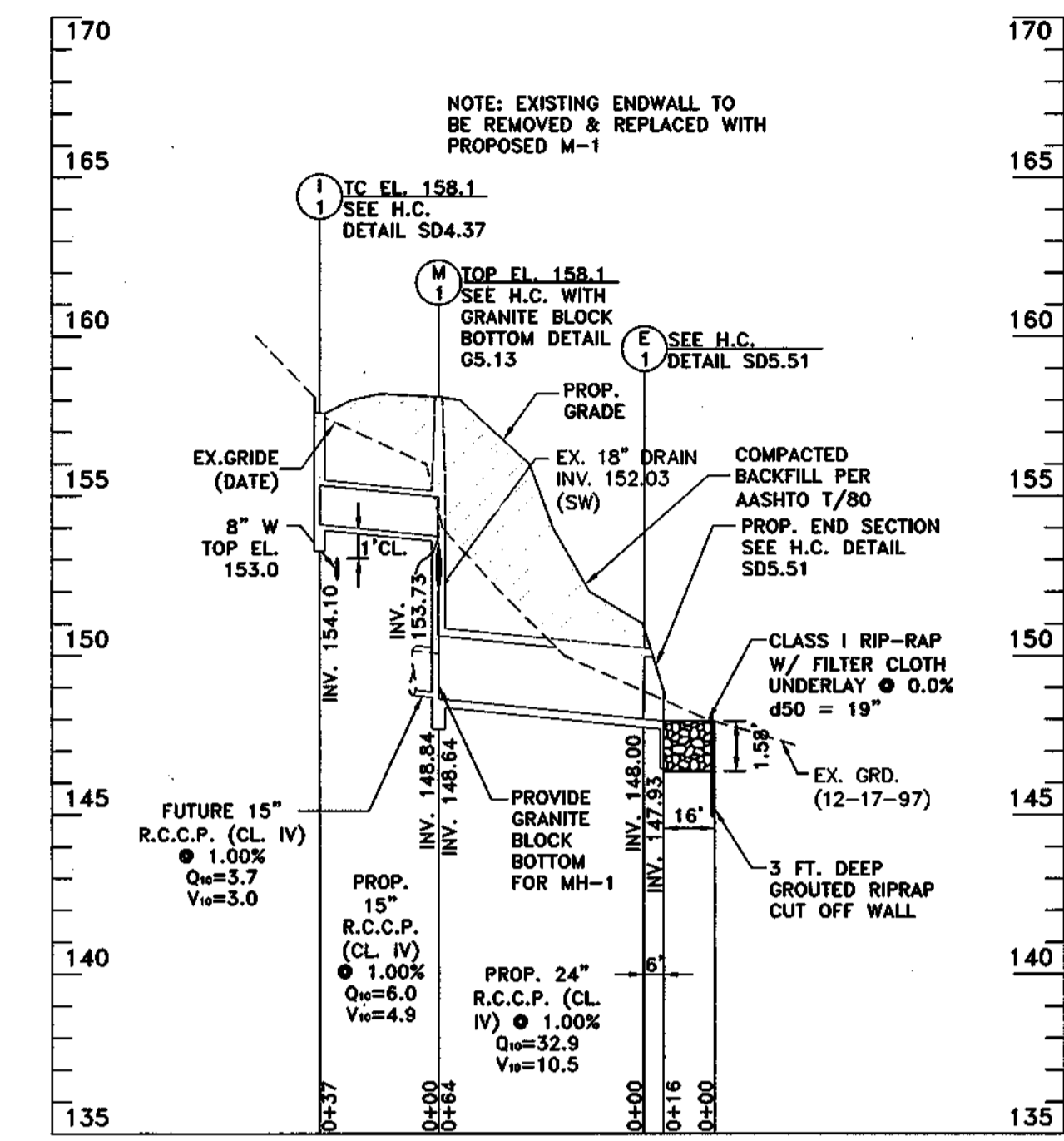
SHEET INDEX

- 1 OF 4 STORM DRAIN PLAN
- 2 OF 4 STORM DRAIN PROFILE & DETAILS
- 3 OF 4 STORM DRAIN DRAINAGE AREA MAP
- 4 OF 4 FOREST CONSERVATION PLAN

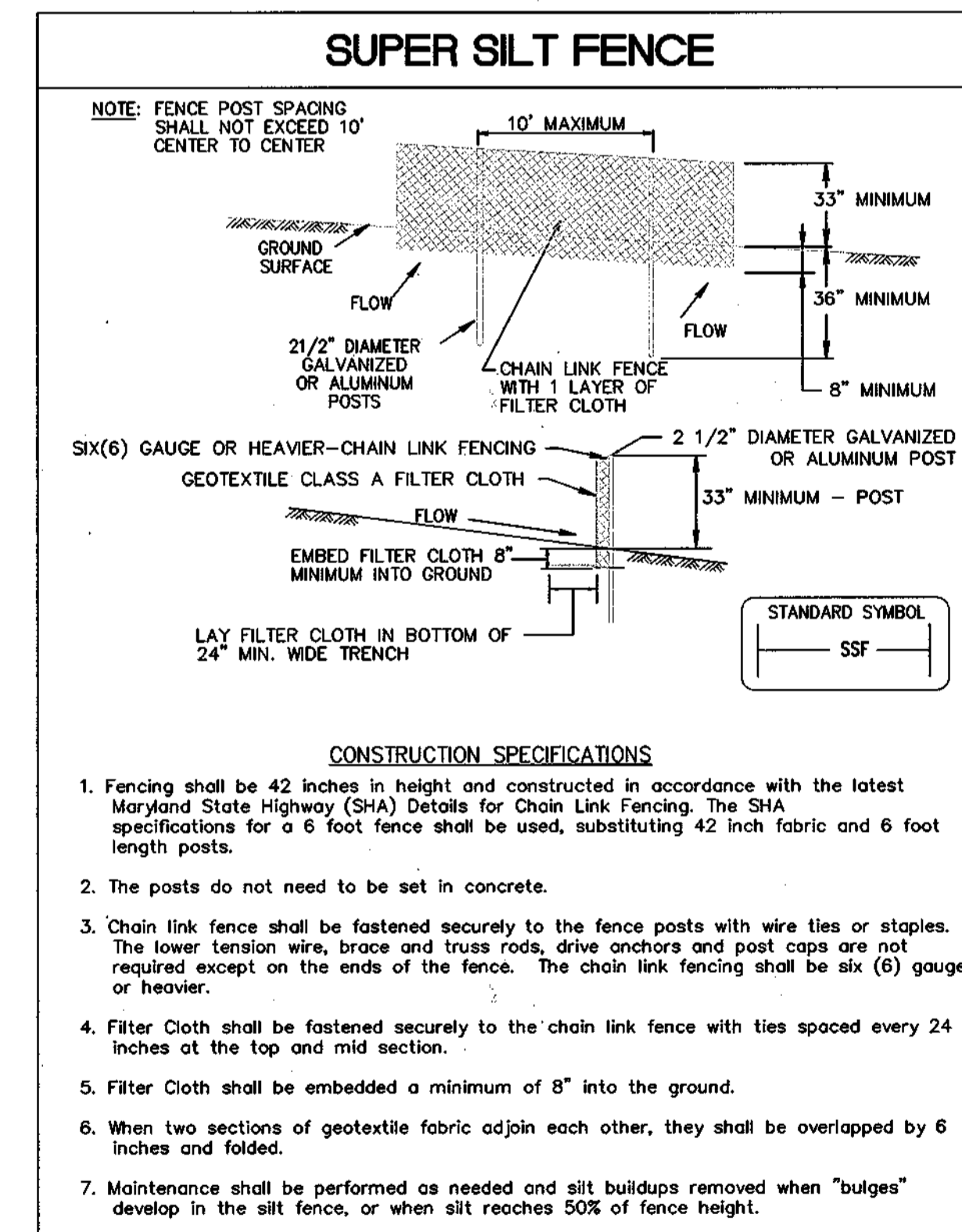
<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>William J. Mahoney Jr.</i> CHIEF, BUREAU OF HIGHWAYS</p> <p>8-25-03 DATE</p>	<p>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</p> <p><i>Chris Hamant</i> 9/5/03 CHIEF, LAND DEVELOPMENT DIVISION DATE</p> <p><i>Paul Damman</i> 9/5/03 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE</p>	<p>KCW Engineering Technologies, Inc. 3106 Lord Baltimore Drive, Suite 110 Baltimore, MD 21244 (410) 281-0033 Fax (410) 281-1065 www.KCW-ET.com</p> <p>KCW ENGINEERING TECHNOLOGIES</p>	<p>DESIGNED BY: K.M.G.</p> <p>DRAWN BY: K.C.W.</p> <p>CHECKED BY: D.L.K.</p> <p>DATE: AUGUST 12, 2003</p> <p>BY: No: REVISION DATE:</p> <p>TAX MAP No.47 GRID 23 PARCEL No.540</p>	<p>A.C. MILLER PROPERTY PARCELS 'A' & 'B' STORM DRAIN PLAN CONTRACT No.</p> <p>SCALE 1"=50' HOR. 1"= 5' VER.</p> <p>SHEET 1 OF 4</p> <p style="text-align: right;">F-02-10</p>
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PIPE SCHEDULE		
SIZE	TYPE	L.F.
15"	R.C.C.P. CL. IV	37
24"	R.C.C.P. CL. IV	64

STRUCTURE SCHEDULE				
No.	TYPE	TOP ELEV.	INV. OUT	DETAIL/REMARK
I-1	SINGLE WR INLET	157.6	154.10	SD4.37
M-1	5' STD MANHOLE	158.1	148.64	GS.13
E-1	24" END SECTION		147.93	SD5.51

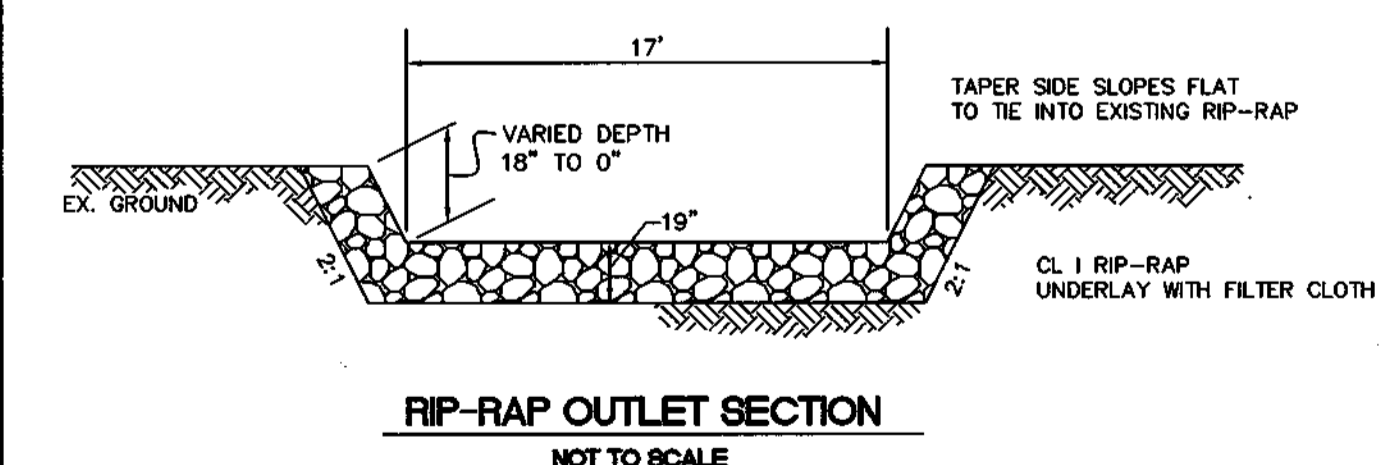


STORM DRAIN PROFILE
SCALE: HOR. 1" = 50'; VERT. 1" = 5'



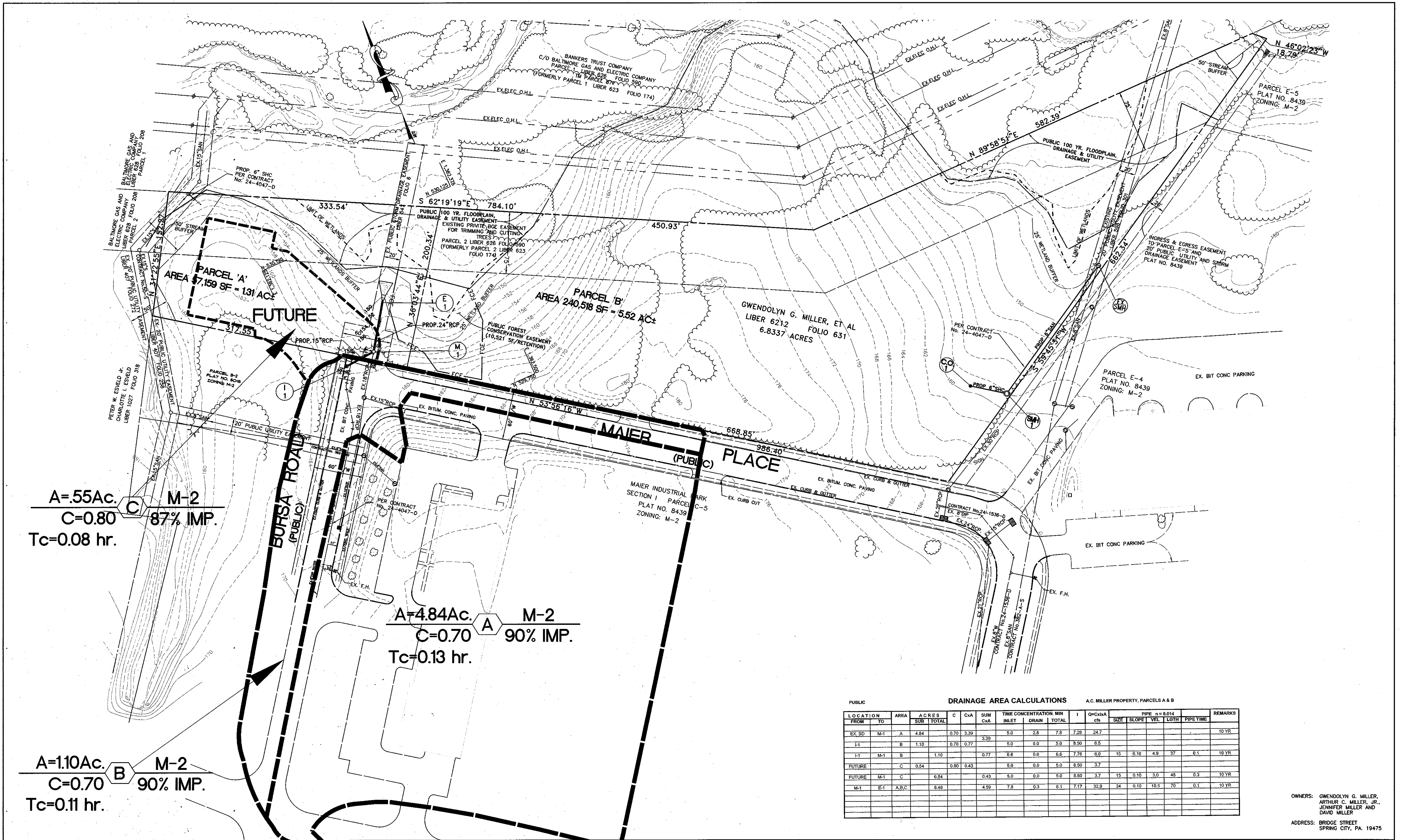
RIP-RAP OUTLET PROTECTION (CONSTRUCTION SPECIFICATIONS)

- 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 Class C or better 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 fabric over the damaged part or by completely replacing the geotextile fabric. All overlaps whether for repairs or for joining two pieces of geotextile fabric shall be minimum of one foot.
- 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 homogenous 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 fabric. 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 scour adjacent to the stone will occur.



OWNERS: GWENDOLYN G. MILLER,
ARTHUR C. MILLER, JR.,
JENNIFER MILLER AND
DAVID MILLER
ADDRESS: BRIDGE STREET
SPRING CITY, PA. 19475

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>William J. Miller</i> 8-29-03 CHIEF, BUREAU OF HIGHWAYS	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>Cindy Harms</i> 9/5/03 CHIEF, LAND DEVELOPMENT DIVISION	KCW ENGINEERING TECHNOLOGIES www.KCW-ET.com	3106 Lord Baltimore Drive, Suite 110 Baltimore, MD 21244 (410) 281-0033 Fax (410) 281-1065	 <i>Douglas R. Kennedy</i>	DESIGNED BY: K.M.G.							A.C. MILLER PROPERTY PARCELS 'A' & 'B' STORM DRAIN PROFILE AND DETAILS CONTRACT No. _____ HOWARD COUNTY, MARYLAND ELECTION DISTRICT -- 6 R-02-10	SCALE 1"=50' HOR. 1"= 5' VER.
					DRAWN BY: K.C.W.	CHECKED BY: D.L.K.	DATE: AUGUST 12, 2003	BY: No. _____	REVISION _____	DATE: _____	TAX MAP No.47 GRID 23 PARCEL No.540		SHEET 2 OF 4



A=55Ac. M-2
 C=0.80 87% IMP.
 Tc=0.08 hr.

A=4.84Ac. M-2
 C=0.70 90% IMP.
 Tc=0.13 hr.

A=110Ac. M-2
 C=0.70 90% IMP.
 Tc=0.11 hr.

PUBLIC DRAINAGE AREA CALCULATIONS A.C. MILLER PROPERTY, PARCELS A & B

LOCATION FROM TO	AREA	A CRES SUB TOTAL	C	CxA	SUM CxA	TIME CONCENTRATION MIN INLET DRAIN TOTAL	I	Q=CxAI cfs	PIPE n=0.014 SIZE SLOPE VEL LGTH PIPE TIME	REMARKS
EX. SD	M-1	A	4.84	0.70	3.39	5.0	2.8	7.28	24.7	10 YR.
I-1	B		1.10	0.70	0.77	5.0	0.0	3.50	6.5	
I-1	M-1	B	1.10	0.77	6.6	0.0	6.6	7.76	6.0	15 0.10 4.9 37 0.1 10 YR.
FUTURE	C	0.54	0.80	0.43	5.0	0.0	5.0	8.50	3.7	
FUTURE	M-1	C	0.54	0.43	5.0	0.0	5.0	8.50	3.7	15 0.10 3.0 45 0.3 10 YR.
M-1	E-1	A,B,C	6.48	4.59	7.8	0.3	8.1	7.17	32.0	24 0.10 10.5 70 0.1 10 YR.

OWNERS: GWENDOLYN G. MILLER, ARTHUR C. MILLER, JR., JENNIFER MILLER AND DAVID MILLER
 ADDRESS: BRIDGE STREET SPRING CITY, PA. 19475

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 W. J. ...
 CHIEF, BUREAU OF HIGHWAYS
 8-29-03
 DATE

DEPARTMENT OF PLANNING AND ZONING
 Cindy ...
 CHIEF, LAND DEVELOPMENT DIVISION
 7/5/03
 DATE
 ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 ...
 DATE

KCW Engineering Technologies, Inc.
 3106 Lord Baltimore Drive, Suite 110
 Baltimore, MD 21244
 (410) 281-0033
 Fax (410) 281-1065
 www.KCW-ET.com



DESIGNED BY: K.M.G.
 DRAWN BY: K.C.W.
 CHECKED BY: D.L.K.
 DATE: AUGUST 12, 2003
 BY: No: REVISION DATE: TAX MAP No.47 GRID 23 PARCEL No.540

A.C. MILLER PROPERTY
 PARCELS 'A' & 'B'
 STORM DRAINS DRAINAGE AREA MAP
 CONTRACT No.
 HOWARD COUNTY, MARYLAND ELECTION DISTRICT - 6
 SCALE 1"=50' HOR. 1"=5' VER.
 SHEET 3 OF 4
 F-02-10

FOREST CONSERVATION EASEMENT TABULATION CHART

FCE (Ac.)	AREA (Ac.)	RETENTION (Ac.)	REFORESTATION (Ac.)
0.24	0.24	0.24	0.0
TOTAL	0.24 AC.	0.24 AC.	0.0

CONSTRUCTION SEQUENCE

- Contractor is to stake and flag the sediment control measures, limit of disturbance, limit of clearance, and forest retention area.
- Notify Howard County Department of Planning and Zoning at (410) 313-3254 to view the flagged limits.
- Install protective fencing and signage.
- Call Howard County Department of Planning and Zoning and Human & Rohde, Inc. to schedule a pre-construction meeting after protective devices are in place and before any disturbance occurs.
- Install all sediment control devices.
- Begin clearing and grading.
- Monitor conditions of trees to be retained during construction and make corrective measures when appropriate. Decisions are to be made with the approval of Howard County Department of Planning and Zoning and Human & Rohde, Inc.
- After construction is completed, remove protective fencing. Signage for retention areas shall remain in place.
- Following completion of construction, prior to use, Howard County shall inspect the site to ascertain condition of trees in retention areas. If necessary, implement corrective measures for stress reduction, repair of tree damage, and removal of dead or dying trees that pose a safety hazard.

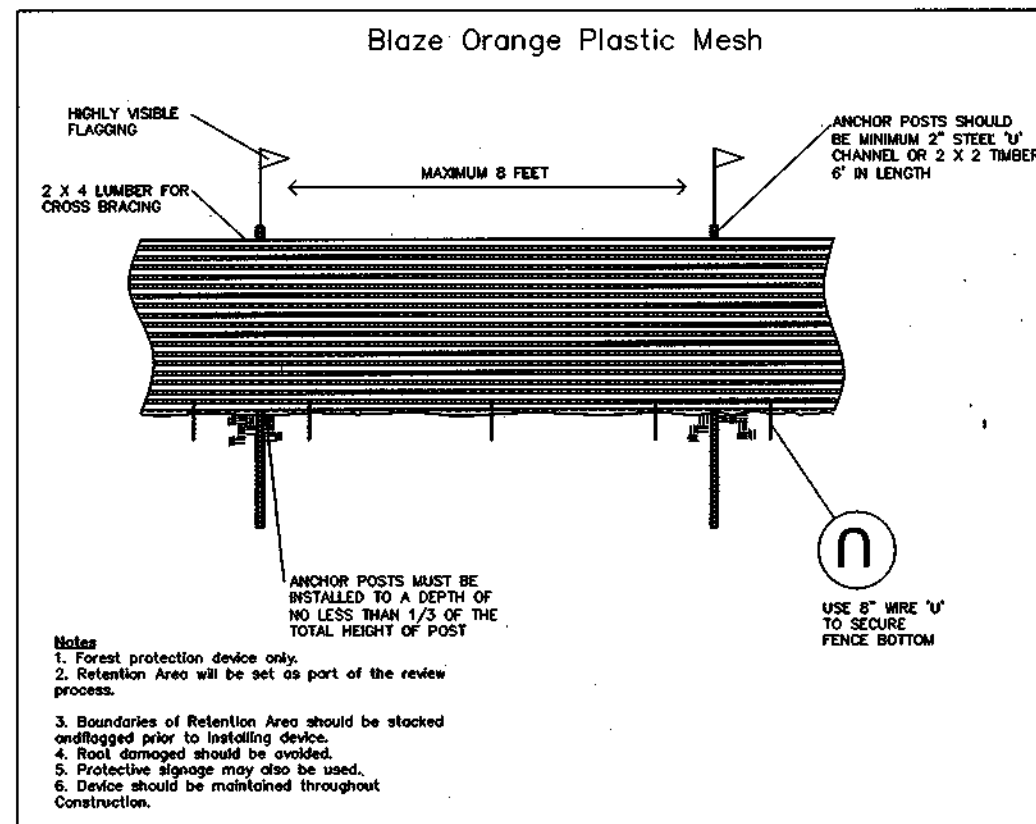
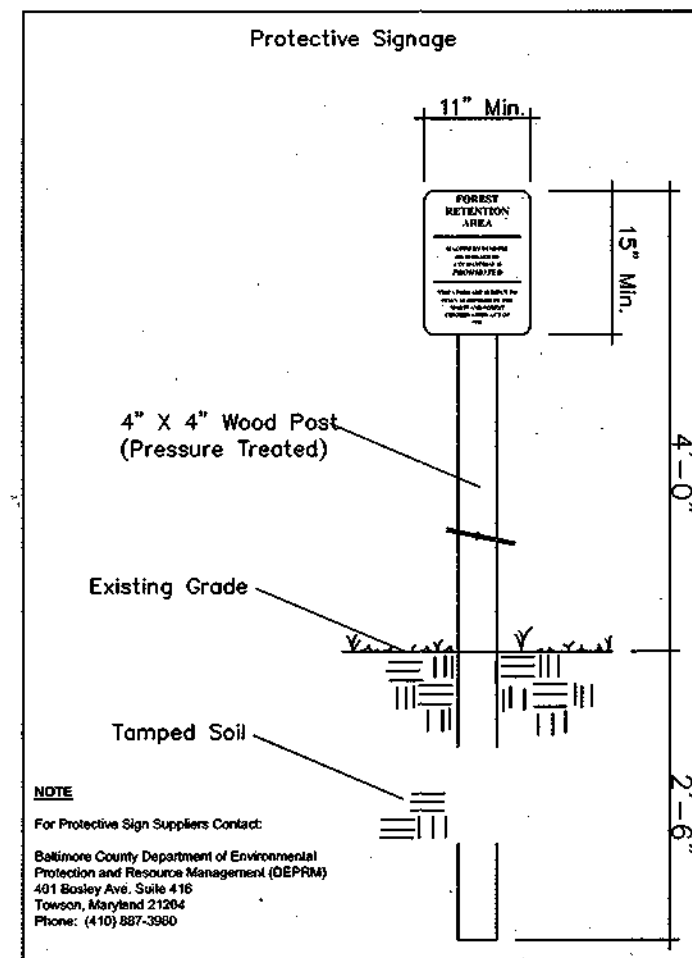
NOTES

- No equipment, machinery, vehicles, materials, or excessive pedestrian traffic shall be allowed within protective areas.
- All protective fencing shall be maintained throughout the construction period and shall remain in place until all construction has ceased.
- Attachment of signs or any other object to trees is prohibited.

FOREST CONSERVATION WORKSHEET FOR HOWARD COUNTY

PROJECT NAME/PROPERTY OWNER: A.C. MILLER PROPERTY DATE: 7/22/03
 LOCATION: MAIER PLACE REVIEWED BY: APPROVAL DATE: _____

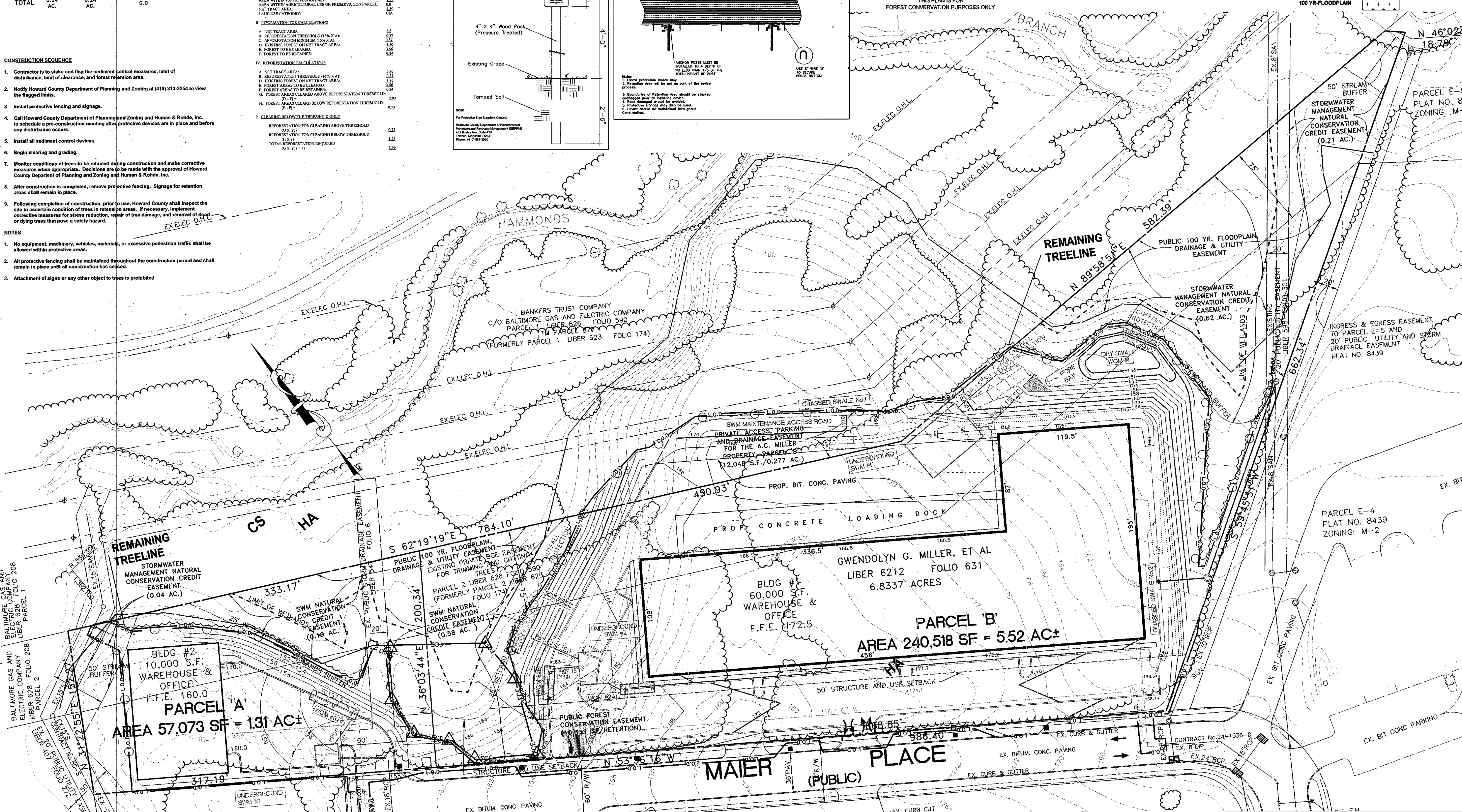
I. BASIC SITE DATA	ACRES (0.1 AC.)
GROSS SITE AREA (INCLUDES L.O.D. ON ADJACENT PARCEL 174)	2.16
AREA WITHIN 100 YR. FLOODPLAIN	1.32
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL	5.0
NET TRACT AREA	2.88
LAND USE CATEGORY:	C1A
II. INFORMATION FOR CALCULATIONS	
A. NET TRACT AREA:	2.88
B. REFORESTATION THRESHOLD (10% X A):	0.29
C. AFFORESTATION MINIMUM (15% X A):	0.43
D. EXISTING FOREST ON NET TRACT AREA:	2.96
E. FOREST TO BE CLEARED:	2.56
F. FOREST TO BE RETAINED:	0.40
IV. REFORESTATION CALCULATIONS	
A. NET TRACT AREA:	2.88
B. REFORESTATION THRESHOLD (10% X A):	0.29
D. EXISTING FOREST ON NET TRACT AREA:	2.96
F. FOREST AREAS TO BE RETAINED:	0.24
G. FOREST AREAS CLEARED ABOVE REFORESTATION THRESHOLD (D - F):	2.32
H. FOREST AREAS CLEARED BELOW REFORESTATION THRESHOLD (D - B):	0.24
2. CLEARING BELOW THE THRESHOLD DENSITY	
REFORESTATION FOR CLEARING ABOVE THRESHOLD (G X 2):	0.73
REFORESTATION FOR CLEARING BELOW THRESHOLD (H X 2):	0.48
TOTAL REFORESTATION REQUIRED (G X 2) + H:	1.21



NOTE: FOREST CONSERVATION REQUIREMENTS HAVE BEEN MET WITH THE COMBINATION OF THE ONSITE FOREST CONSERVATION EASEMENT SHOWN BELOW THAT WILL RETAIN 10,521 S.F./0.24 AC. OF EXISTING FOREST AND A FEE-IN-LIEU PAYMENT AT THE RATE OF \$0.50/SF. TO THE HOWARD COUNTY FOREST CONSERVATION PROGRAM TOTALING (\$43,343.00) FOR THE REQUIRED 1.99 ACRES OF REFORESTATION.
 NOTE: THE L.O.D. AND FOREST CONSERVATION EASEMENT RUN CONCURRENTLY IN NUMEROUS AREAS ONSITE. THE L.O.D. IS SHOWN OUTSIDE FOR CLARITY. (TYPICAL)

LEGEND

- EXISTING FOREST - [Symbol]
- EXISTING FOREST - RETAINED IN FCE (0.24 AC) - [Symbol]
- PROTECTIVE FENCE - [Symbol]
- EXISTING FOREST - CLEARED (3.56 AC) - [Symbol]
- FOREST CONSERVATION - EASEMENT - [Symbol]
- PROTECTIVE SIGNAGE - [Symbol]
- SOILS - CS, HA
- 100 YR-FLOODPLAIN - [Symbol]
- FCE - [Symbol]



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> CHIEF, BUREAU OF HIGHWAYS</p>	<p>DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION</p>	<p>HUMAN & ROHDE, INC. Landscape Architects 512 VIRGINIA AVENUE TOWSON, MARYLAND 21286 (410) 825-3885</p>	<p>DESIGNED BY: _____</p> <p>DRAWN BY: _____</p> <p>CHECKED BY: _____</p> <p>DATE: JULY 15, 2003</p>	<p>BY: No: _____</p> <p>REVISION _____</p> <p>DATE: _____</p>	<p>A.C. MILLER PROPERTY PARCELS 'A' & 'B' FOREST CONSERVATION PLAN CONTRACT No. _____</p>	<p>SCALE 1" = 50' HOR. 1" = 5' VER.</p> <p>SHEET 4 OF 4</p>
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