

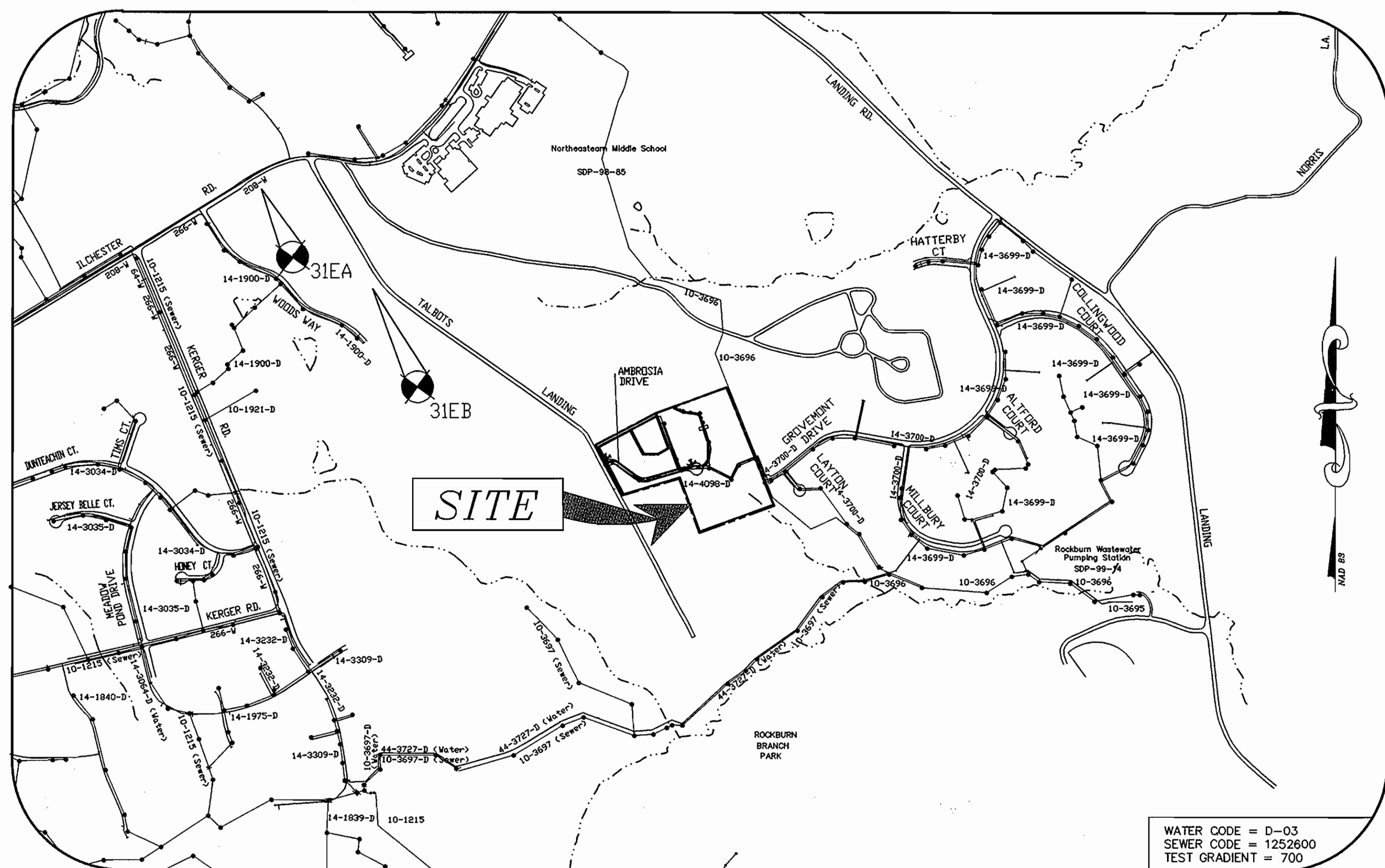
QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
STANDARD MH (HO. CO. STD.G-5.01)	12	12	—	FREDERICK PRECAST
WATERTIGHT MH (HO. CO. STD.G-5.52)	4	4	—	FREDERICK PRECAST
STANDARD TYPE A DROP MH	1	1	—	FREDERICK PRECAST
8" SEWER MAIN	660 L.F.	660 L.F.	PVC	— / BRS
8" SEWER MAIN (DIP)	1615 L.F.	1615 L.F.	DIP, CL52	ATLANTIC STATES / BRS
4" SEWER HOUSE CONNECTION	507 L.F.	—	—	SIGMA / BRS
# SEWER HOUSE CONNECTIONS	19 EACH	—	—	SIGMA / BRS
# DROP SEWER HOUSE CONNECTIONS	1 EACH	—	—	SIGMA / BRS
# MANHOLE SEWER HOUSE CONNECTIONS	1 EACH	—	—	SIGMA / BRS
8" WATER MAIN	2157 L.F.	2004 L.F.	DIP, CL52	ATLANTIC STATES / BRS
8" MECHANICAL JOINT RESTRAIN PIPE	100 L.F.	—	—	ATLANTIC STATES / BRS
1" WATER HOUSE CONNECTION	476 L.F.	—	—	SIGMA / BRS
# 1" WHC	22 EACH	—	—	SIGMA / BRS
8" x 8" TEE	4 EACH	3 EACH	—	SIGMA / BRS
8" CAP & BUTTRESS	5 EACH	4 EACH	—	SIGMA / BRS
1/8 H.B. (8")	7 EACH	—	—	SIGMA / BRS
1/16 H.B. (8")	6 EACH	—	—	SIGMA / BRS
1/32 H.B. (8")	2 EACH	—	—	SIGMA / BRS
F.H.	2 EACH	2 EACH	MUELLER	MUELLER CO. / BRS
8"x6" F.H.T. & V.	2 EACH	—	—	SIGMA / BRS
8" V.	4 EACH	5 EACH	MUELLER	MUELLER CO. / BRS
NAME OF UTILITY CONTRACTOR: MARTIN CONSTRUCTION				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE AUGUST 2008				
8" x 8" T.S. & V.	1 EACH	1 EACH	—	ROMAC IND. / BRS

BRS: BELAIR ROAD SUPPLY

GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES NAD83/91 AS PROJECTED BY HOWARD COUNTY HORIZONTAL AND VERTICAL GEODETIC CONTROL NOS. 31EA & 31EB. THESE WATER AND SEWER DRAWINGS ARE BASED ON A FIELD RUN TOPOGRAPHIC STUDY PERFORMED BY MILDENBERG, BOENDER AND ASSOCIATES, INC. ON OR ABOUT FEBRUARY 2002.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 12". CLEAR ALL POLES BY 2'-0" MINIMUM OR TUNNEL AS REQUIRED. THE OWNER HAS CONTACTED THE UTILITY COMPANIES AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES THE BRACING OF ADDITIONAL POLES, ANY COST INCURRED BY THE OWNER FOR BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES TO SCHEDULE THE BRACING OF THE POLES.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAIL FOR CONSTRUCTION (LATEST EDITION). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION (410) 531-5533
BG & E CO. CONTRACTOR SERVICES (410) 850-4620
BG & E CO. UNDERGROUND DAMAGE CONTROL (410) 787-9068
MISS UTILITY 1-800-257-7777
COLONIAL PIPELINE CO. (410) 795-1390
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS (410) 313-4900
BUREAU OF UTILITIES (800) 446-5266
VERIZON
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED OUTSIDE THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, AT (410)313-2450 AT LEAST FIVE (5) WORKING DAYS BEFORE ANY OPEN CUT OF ANY COUNTY ROAD OR BORING/JACKING OPERATION IN COUNTY ROADS FOR LAYING WATER/SEWER MAINS OR HOUSE CONNECTIONS. THE APPROVAL OF THESE DRAWINGS WILL CONSTITUTE COMPLIANCE WITH DPW REQUIREMENTS PER SECTION 18.114(a) OF HOWARD COUNTY CODE.
- ALL WATER MAINS TO BE D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- TOPS OF ALL WATER MAINS TO HAVE A MINIMUM OF 3-1/2" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
- ALL FITTINGS SHALL BE BUTTRESSED OR ANCHORED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS UNLESS OTHERWISE PROVIDED FOR ON THE DRAWINGS.
- FIRE HYDRANTS SHALL BE SET TO THE BURY LINE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 1000 AND 1005 OF THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING UNLESS OTHERWISE NOTED ON PLANS OR IN SPECIFICATIONS.
- ALL SEWER MAINS SHALL BE P.V.C. OR D.I.P. CLASS 52 UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL C5.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1' - 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- STATIONING SHOWN IS WATER MAIN AND CENTER LINE STATIONING.
- SEDIMENT CONTROL TO BE PROVIDED BY F-04-36.
- ALL WATER HOUSE CONNECTIONS TO BE 4" IN SIZE.
- ALL WATER HOUSE CONNECTIONS TO BE 1" IN SIZE UNLESS OTHERWISE NOTED.
- ALL HOUSES WILL HAVE SERVICE TO LOWEST FLOOR UNLESS OTHERWISE NOTED.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.
- APPLICATION WAS APPROVED ON MAY 5, 2004 BY THE MDE NON-TIDAL WETLANDS & WATERWAYS DIVISION FOR CROSSING OF THE HEN AND STYRIAN AND THEIR BRANCHES FOR THE INSTALLATION OF A WATER & SEWER MAIN UNDER TRACKING F-3-N1-0509/20048055.
- NO IMPROVEMENTS SHALL BE CONSTRUCTED OR PLACED WITHIN THE PUBLIC WATER, SEWER AND UTILITY EASEMENTS WHICH WILL IMPEDIE OR HINDER ACCESS TO THE PUBLIC WATER AND SEWER MAIN IMPROVEMENTS SUCH AS AIR-CONDITIONING UNITS, FIREPLACE CHIMNEYS, DECKS, FENCING, FOUNDATION FRAMINGS AND TREES SHALL NOT BE PLACED WITHIN THE EASEMENT.



VICINITY MAP

SCALE 1"=600'

TYPE OF BUILDING	SFD
No. OF UNITS	22
No. OF WATER HOUSE CONNECTION	22
No. OF SEWER HOUSE CONNECTIONS	22
DRAINAGE AREA	ROCKBURN
TREATMENT PLANT	ROCKBURN PUMPING STATION

EROSION AND SEDIMENT CONTROL FOR THIS CONTRACT IS PROVIDED UNDER F-04-36

**CONTRACT NO.: 14-4098-D
ILCHESTER OAKS
LOTS 1 THRU 22 &
OPEN SPACE LOTS 23 THRU 26
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS**

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	WATER PROFILE
4	WATER PROFILE
5	SEWER PROFILE
6	SEWER PROFILE

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

[Signature]
DEVELOPER'S NAME: *[Name]*

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

[Signature]
ENGINEER'S NAME: JIM B. MILDENBERG

REVIEWED FOR HOWARD SCD MEETS TECHNICAL REQUIREMENTS.
[Signature] 6/28/04
DATE

USDA NATURAL RESOURCES CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE SOIL CONSERVATION DISTRICT.
[Signature] 6/28/04
DATE

PLAN REFERENCE NUMBERS:
F-04-36

AS BUILT
DATE: AUG 2008

OWNER/DEVELOPER
ELLCOTT CITY LAND HOLDING, INC.
570 DON REWER
800 MAIN STREET
ELLCOTT CITY, MD 21043
(410) 480-9105

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 6/1/04
DATE

[Signature] 6/1/04
DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 987-0288 Baltimore (301) 621-5521 Wash. (410) 987-0288 Fax

engineering HSP			
illustration HSP			
approval JBM			
project 02-007	MBA	1	ADDED GENERAL NOTE 29 REGARDING NO. 1 IMPROVEMENTS WITHIN PUBLIC EASEMENTS.
date JUNE 2004	BY NO.	REVISION	DATE

TITLE SHEET

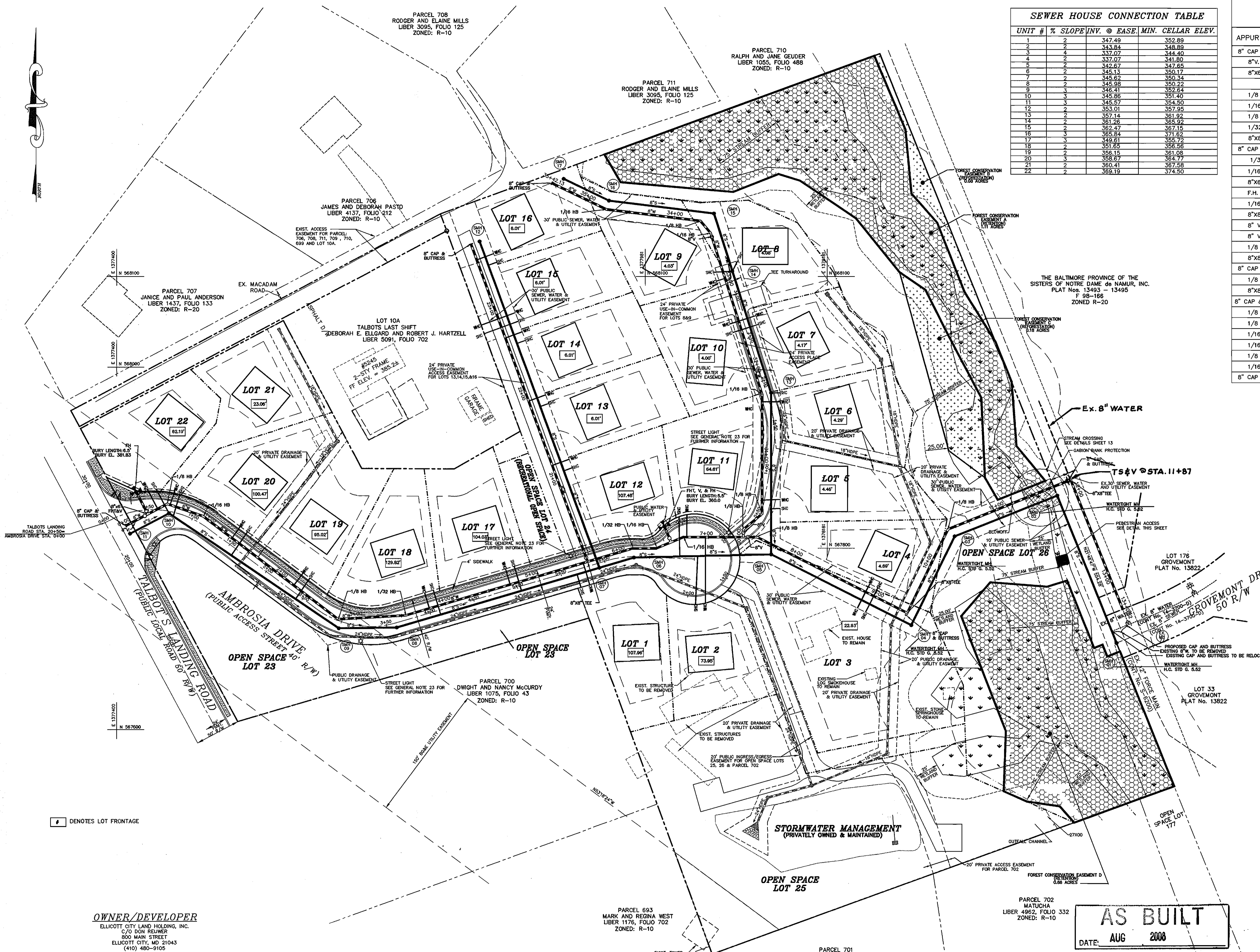
600' SCALE MAP NO. 31 BLOCK NO. 22

ILCHESTER OAKS
LOTS 1 THRU 22 & OPEN SPACE LOTS 23 THRU 26
CONTRACT NO.: 14-4098-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

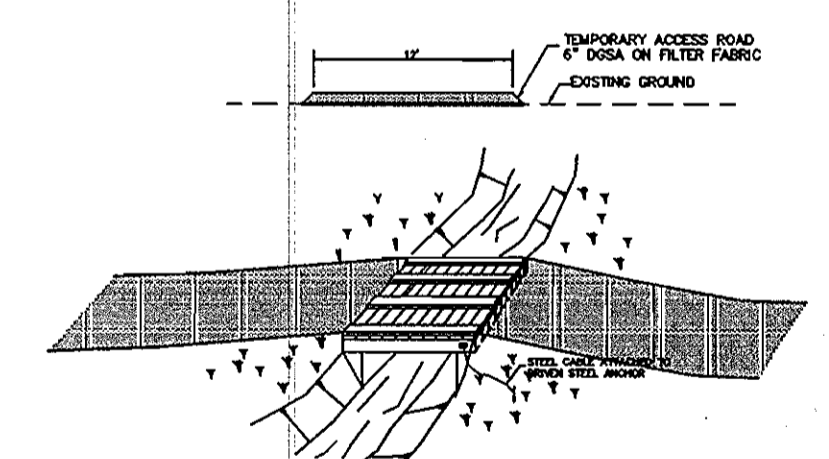
SEWER HOUSE CONNECTION TABLE				
UNIT #	% SLOPE	INV. @ EASE.	MIN. CELLAR ELEV.	
1	2	347.49	352.89	
2	2	343.84	348.89	
3	4	337.07	344.40	
4	2	337.07	341.80	
5	2	342.67	347.65	
6	2	345.13	350.17	
7	2	345.62	350.34	
8	2	345.98	350.22	
9	3	345.41	352.64	
10	3	345.86	351.40	
11	3	345.57	354.50	
12	2	353.01	357.95	
13	2	357.14	361.92	
14	2	361.26	365.92	
15	2	362.47	367.15	
16	3	355.84	371.62	
17	3	349.61	355.72	
18	2	351.65	356.56	
19	2	356.15	361.08	
20	3	358.67	364.77	
21	2	360.41	367.58	
22	2	369.19	374.50	

8" WATER MAIN TABULATION CHART				
APPURTENANCE	ROAD NAME or NORTHING & EASTING	CL STATION	OFFSET	
8" CAP & BUTTRISS	AMBROSIA DRIVE	0+20.45	12.64'	RT.
8" V.	AMBROSIA DRIVE	0+45.39	6.30'	RT.
8"x8" F.H.T.&V	AMBROSIA DRIVE	0+49.28	4.72'	RT.
F.H.	AMBROSIA DRIVE	0+39.61	21.0'	LT.
1/8 H.B.	AMBROSIA DRIVE	0+69.85	7.70'	LT.
1/16 H.B.	AMBROSIA DRIVE	1+08.92	8.32'	LT.
1/8 H.B.	AMBROSIA DRIVE	2+95.54	1.42'	LT.
1/32 H.B.	AMBROSIA DRIVE	3+73.53	5'	LT.
8"x8" TEE	AMBROSIA DRIVE	5+81.89	5'	LT.
8" CAP & BUTTRISS	AMBROSIA DRIVE	5+58.40	377.46'	LT.
1/32 H.B.	AMBROSIA DRIVE	6+31.51	8.99'	LT.
1/16 H.B.	AMBROSIA DRIVE	6+57.06	10.02'	LT.
8"x8" F.H.T.&V	AMBROSIA DRIVE	6+72.81	17.50'	LT.
F.H.	AMBROSIA DRIVE	6+64.87	34.83'	LT.
1/16 H.B.	AMBROSIA DRIVE	6+86.64	23.83'	LT.
8"x8" TEE	PRIVATE ACCESS DRIVE	0+18.79	3.96'	RT.
8" V.	PRIVATE ACCESS DRIVE	0+21.82	0.09'	RT.
8" V.	PRIVATE ACCESS DRIVE	0+22.56	7.12'	RT.
1/8 H.B.	N567812.2685 E1378103.5520			
8"x8" TEE	N567728.5040 E1378268.8273			
8" CAP & BUTTRISS	N567725.8123 E1378267.5022			
1/8 H.B.	N567820.9295 E1378313.6603			
8"x8" TEE	N567875.6284 E1378448.3828			
8" CAP & BUTTRISS	N567877.4908 E1378447.6374			
1/8 H.B.	PRIVATE ACCESS PLACE	0+24.27	2.57'	LT.
1/8 H.B.	PRIVATE ACCESS PLACE	0+50.84	2.06'	LT.
1/16 H.B.	PRIVATE ACCESS PLACE	1+86.01	5'	LT.
1/16 H.B.	N568147.5937 E1378052.7776			
1/8 H.B.	N568161.1535 E1377938.0963			
1/16 H.B.	N568173.8761 E1377938.0963			
8" CAP & BUTTRISS	N568203.0376 E1377878.1066			

MANHOLE LOCATION CHART				
SMH#	ROAD NAME or NORTHING & EASTING	CL STATION	OFFSET	
01	N567895.3393 E1378498.9502			
02	N567858.3832 E1378433.7436			
03	N567813.1980 E1378321.0244			
04	N567714.9838 E1378273.3834			
05	N567793.0756 E1378119.3011			
06	AMBROSIA DRIVE	6.32.83	1.01'	RT.
07	AMBROSIA DRIVE	5+92.54	5.00'	RT.
08	AMBROSIA DRIVE	3+60.19	5.01'	RT.
09	AMBROSIA DRIVE	2+99.39	7.76'	RT.
10	AMBROSIA DRIVE	0+73.19	2.21'	RT.
11	AMBROSIA DRIVE	0+22.33	22.52'	RT.
12	AMBROSIA DRIVE	5+68.41	377.70'	LT.
13	PRIVATE ACCESS PLACE	1+84.62	5.05'	RT.
14	N568105.6827 E1378076.6402			
15	N568169.3743 E1378056.4009			
16	N568183.5975 E1377940.9712			
17	N568207.8073 E1377891.1679			



AS BUILT
DATE: AUG 2008



MATERIAL SPECIFICATIONS
 • STRINGERS: STRINGERS SHOULD EITHER BE LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
 • DECK MATERIALS: DECK MATERIALS SHOULD BE OF SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD.

CONSTRUCTION SEQUENCE
 THE PROPOSED CONSTRUCTION, MAINTENANCE AND REMOVAL SEQUENCE IS AS FOLLOWS:
 1. ABUTMENTS SHOULD BE PLACED PARALLEL TO, AND ON, STABLE BANKS SUCH THAT THE STRUCTURE IS AT OR ABOVE BANKFULL DEPTH TO PREVENT THE ENTRAPMENT OF FLOATING MATERIALS AND DEBRIS.
 2. THE PEDESTRIAN BRIDGE SHOULD BE CONSTRUCTED TO SPAN THE ENTIRE CHANNEL. IF THE BANKFULL CHANNEL WIDTH EXCEEDS 8 FEET (2.5 METERS) THEN A FOOTING, PIER, OR OTHER BRIDGE SUPPORT MAY BE CONSTRUCTED WITHIN THE WATERWAY. NO SUPPORT WILL BE PERMITTED WITHIN THE CHANNEL FOR WATERWAYS LESS THAN 8 FEET WIDE. ONE ADDITIONAL BRIDGE SUPPORT WILL BE PERMITTED FOR EACH ADDITIONAL 8 FOOT WIDTH OF THE CHANNEL.
 3. ALL DECKING MEMBERS SHOULD BE PLACED PERPENDICULAR TO THE STRINGERS, BUTTED TIGHTLY, AND SECURELY FASTENED TO THE STRINGERS. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE GRIDS FROM FALLING INTO THE WATERWAY.
 4. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS. ONE RUN PLANK SHOULD BE PROVIDED FOR EACH TRACK OF THE EQUIPMENT WHEELS AND SHOULD BE SECURELY FASTENED TO THE LENGTH OF THE SPAN.
 5. ALL AREAS DISTURBED DURING INSTALLATION SHOULD BE STABILIZED WITHIN 14 CALENDAR DAYS IN ACCORDANCE WITH A REVEGETATION PLAN APPROVED BY THE WMA.
 6. PERIODIC INSPECTION SHOULD BE PERFORMED BY THE USER TO ENSURE THAT THE BRIDGE, STREAMBED, AND STREAM BANKS ARE MAINTAINED AND NOT DAMAGED.
 7. MAINTENANCE SHOULD BE PERFORMED AS NEEDED TO ENSURE THAT THE STRUCTURE COMPLIES WITH ALL STANDARDS AND SPECIFICATIONS. THIS SHOULD INCLUDE THE REMOVAL OF TRAPPED SEDIMENT AND DEBRIS WHICH SHOULD THEN BE DISPOSED OF AND STABILIZED OUTSIDE THE FLOODPLAIN.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, BUREAU OF UTILITIES
 DATE: 6/16/07

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE:

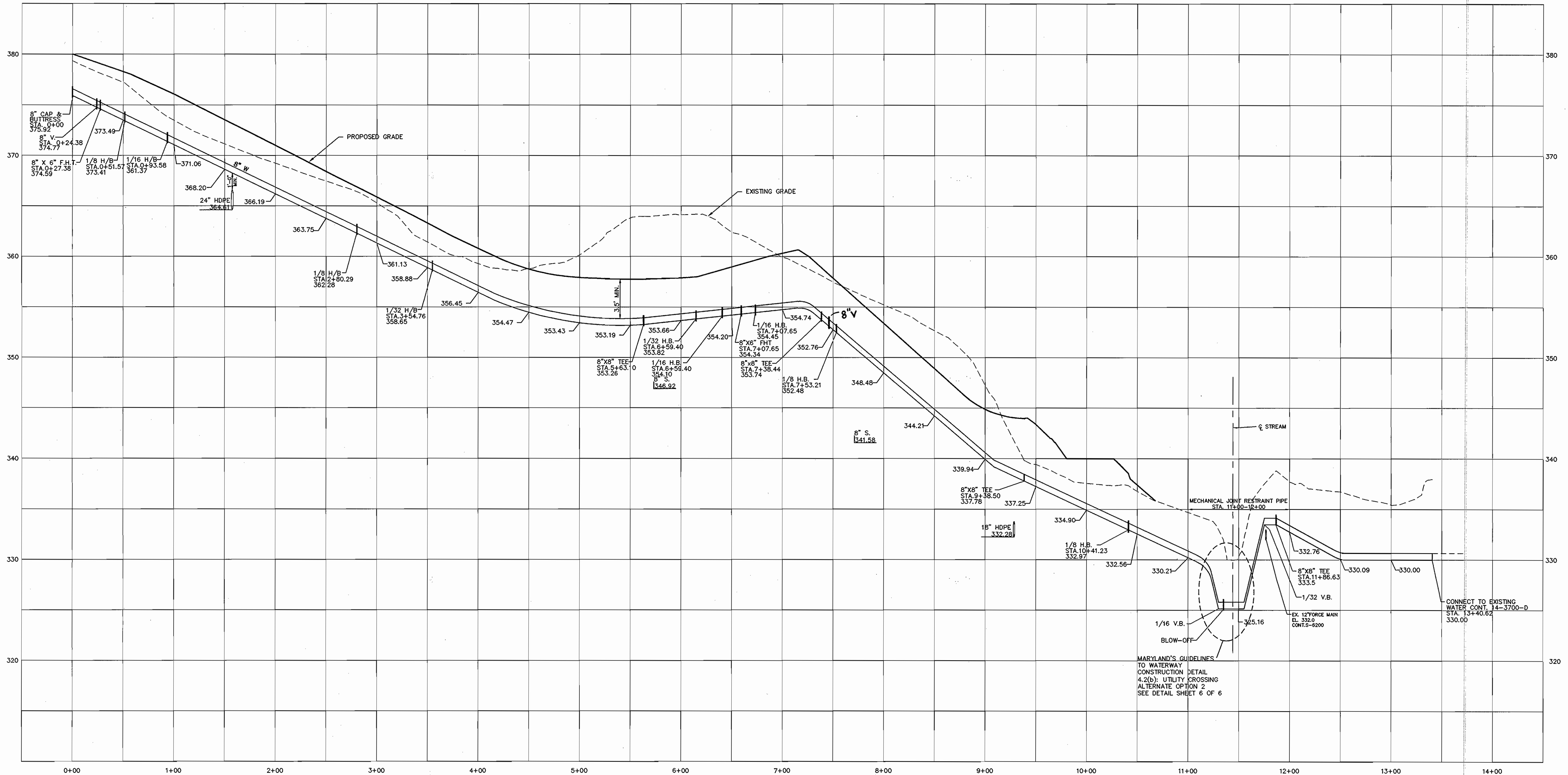
MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0286 Balt. (301) 621-5521 Wash. (410) 997-0238 Pac.

[Signature]
 PARCEL 701
JAMES AND CHARLENE GALLON
LIBER 1368, FOLIO 711

engineering					
illustration					
HSP					
approval					
JBM					
project					
02-007					
date					
JUNE 2004					

WATER AND SEWER PLAN
 600' SCALE MAP NO. 31 BLOCK NO. 22

ILCHESTER OAKS
 LOTS 1 THRU 22 & OPEN SPACE LOTS 23 THRU 26
 CONTRACT NO.: 14-4098-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 scale 1"=50'
 2 OF 6



WATER MAIN PROFILE (STA. 0+00 THRU STA. 9+05.71)

SCALE: HOR. 1"=50'
VER. 1"= 5'

AS BUILT
DATE: AUG 2008

OWNER/DEVELOPER

ELLCOTT CITY LAND HOLDING, INC.
C/O DON REUER
800 MAIN STREET
ELLCOTT CITY, MD 21043
(410) 480-9105

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

**MILDENBERG,
BOENDER & ASSOC., INC.**

Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 387-0298 Fax: (301) 821-5521 Wash. (410) 387-0299 Piz.

JMK
CHIEF, BUREAU OF UTILITIES
DATE: 6/12/04

MKB
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE:

engineering	HSP				
illustration	HSP				
approval	JBM				
project	02-007				
date	JUNE 2004	BY NO.		REVISION	

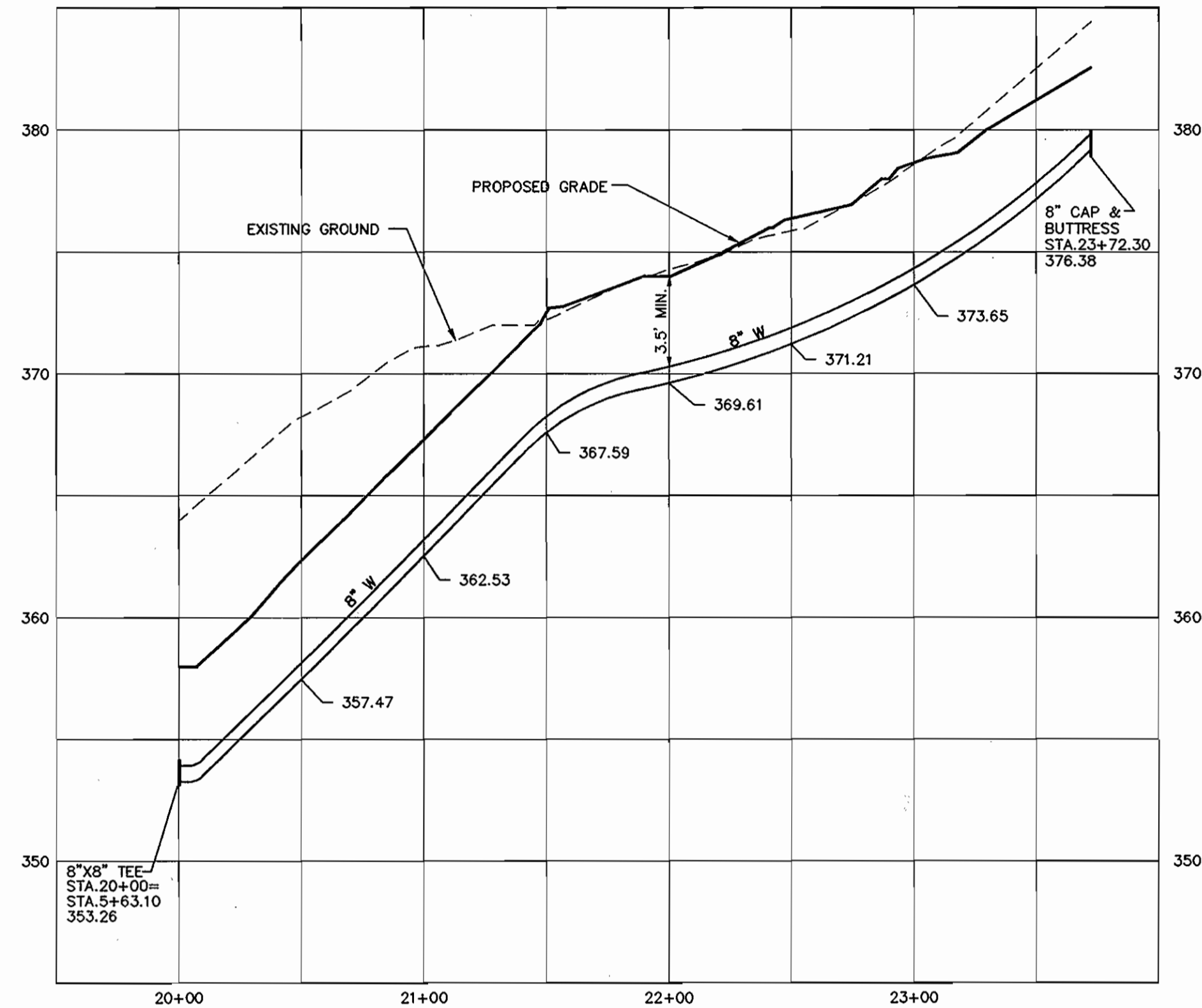
WATER PROFILE

DATE: 600' SCALE MAP NO. 31 BLOCK NO. 22

ILCHESTER OAKS
LOTS 1 THRU 22 & OPEN SPACE LOTS 23 THRU 26
CONTRACT NO.: 14-4098-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

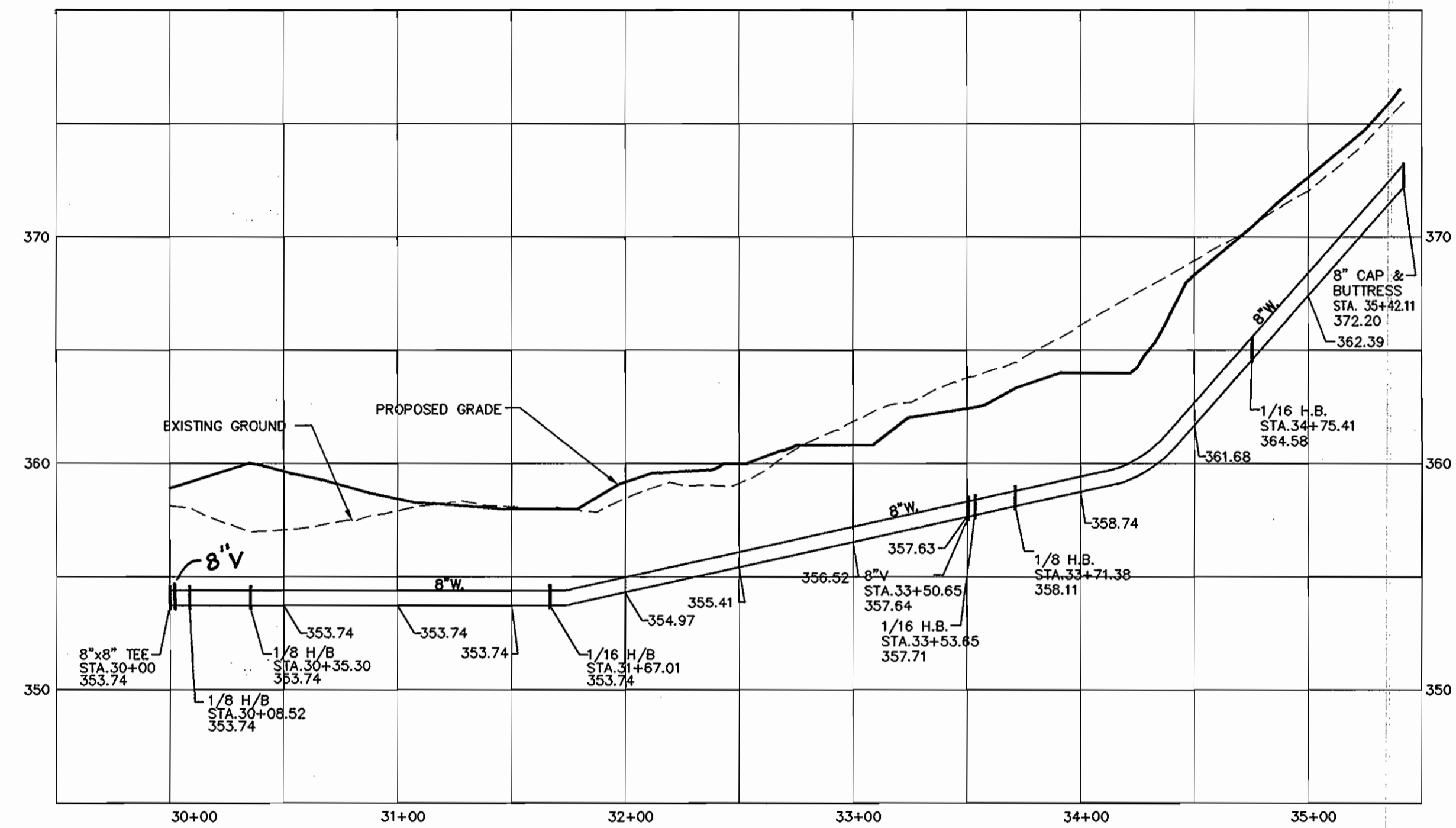
scale
AS SHOWN
3 OF 6

02-007.DWG V5 (0202) WATER PROFILE.DWG



WATER MAIN PROFILE (STA. 20+00 THRU STA. 23+40.38)

SCALE: HOR. 1"=50'
VER. 1"=5'



WATER MAIN PROFILE (STA. 30+00 THRU STA. 35+42.11)

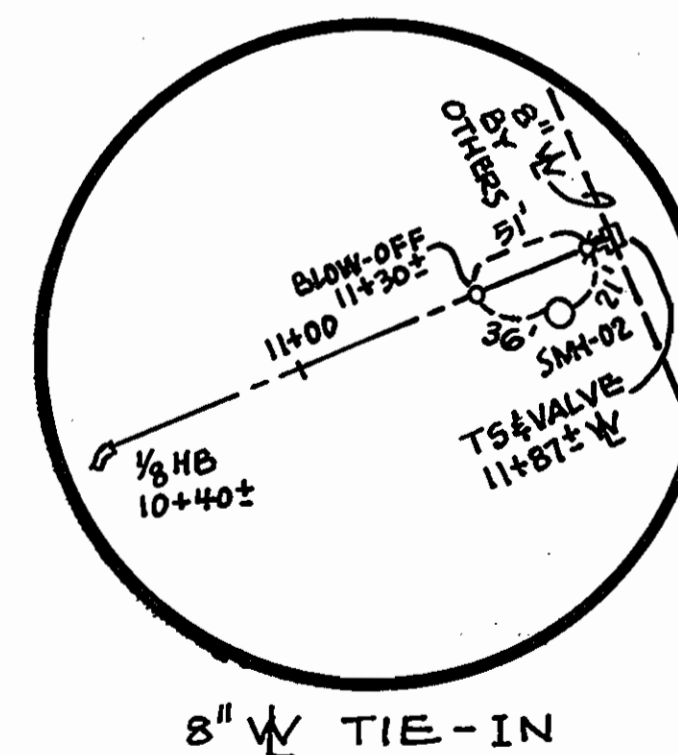
SCALE: HOR. 1"=50'
VER. 1"=5'

LOT No.	SHC	REFERENCE	WHC	REFERENCE
1	08'	SMH-6	57'	SMH-6
1	29'	SMH-7	21'	SMH-7
2	94'	SMH-5	88'	SMH-5
2	75'	SMH-6	93'	SMH-6
3	148'	SMH-5	117'	SMH-5
3	33'	SMH-4	55'	SMH-4
4	122'	SMH-5	113'	SMH-5
4	55'	SMH-4	64'	SMH-4
5	128'	SMH-13	117'	SMH-13
5	53'	SMH-5	63'	SMH-5
6	9'	SMH-13	14'	SMH-13
6	17'	INLET-11	26'	I-11
7	63'	SMH-14	55'	SMH-14
7	80'	SMH-13	87'	SMH-13
8	10'	SMH-14	9'	SMH-14
8	61'	SMH-15	59'	SMH-15
9	21'	SMH-14	22'	SMH-14
9	65'	SMH-15	74'	SMH-15
10	68'	SMH-14	57'	SMH-14
10	78'	SMH-13	89'	SMH-13
11	69'	SMH-6	77'	SMH-6
11	21'	FIRE HYDRANT	29'	FIRE HYDRANT

LOT No.	SHC	REFERENCE	WHC	REFERENCE
12	118'	SMH-7	127'	SMH-7
12	122'	FIRE HYDRANT	129'	FIRE HYDRANT
13	193'	SMH-7	203'	SMH-7
13	187'	FIRE HYDRANT	196'	FIRE HYDRANT
14	120'	SMH-12	111'	SMH-12
14	183'	SMH-17	175'	SMH-17
15	100'	SMH-12	88'	SMH-12
15	164'	SMH-17	156'	SMH-17
16	29'	SMH-12	20'	SMH-12
16	118'	SMH-17	114'	SMH-17
17	65'	I-1	73'	I-1
17	49'	I-2	43'	I-2
18	72'	I-2	80'	I-2
18	59'	SMH-8	51'	SMH-8
19	66'	SMH-9	73'	SMH-9
19	77'	I-4	70'	I-4
20	40'	I-4	45'	I-4
20	86'	SMH-10	78'	SMH-10
21	33'	SMH-10	25'	SMH-10
21	80'	SMH-11	68'	SMH-11
22	31'	SMH-10	37'	SMH-10
22	57'	SMH-11	54'	SMH-11

LOT No.	SHC	REFERENCE	WHC	REFERENCE
10A	104'	SMH-12	92'	SMH-12
10A	194'	SMH-17	188'	SMH-17

	DISTANCE	REFERENCE
8" VALVE @	26'	SMH-10
0+45±	27'	SMH-11
6" FH VALVE	24'	SMH-10
@0+49	30'	SMH-11
8" VALVE	53'	SMH-6
@5+82	17'	SMH-7
6" FH VALVE	45'	SMH-6
@6+73±	18'	FIRE HYDRANT
(ROWYSTA)		
8" VALVE PAP	34'	SMH-5
@+23±(RWYSTA)	92'	FIRE HYDRANT
+7' RT.		
7+50±(WSTA)		
8" VALVE	23'	SMH-15
@33+51±	47'	SMH-14
8" VALVE PAP	38'	SMH-5
@+22±(RWYSTA)	89'	
30+00±(WSTA)		



AS BUILT
DATE: AUG 2008

OWNER/DEVELOPER
ELLCOTT CITY LAND HOLDING, INC.
C/O DON REINER
800 MAIN STREET
ELLCOTT CITY, MD 21043
(410) 480-9105

02-007.DWG, WS 02007.WATERPROFILE2.DWG

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
J. Kelly for GMS 6/17/07
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Mark D. Jones FOR CPE PSD
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

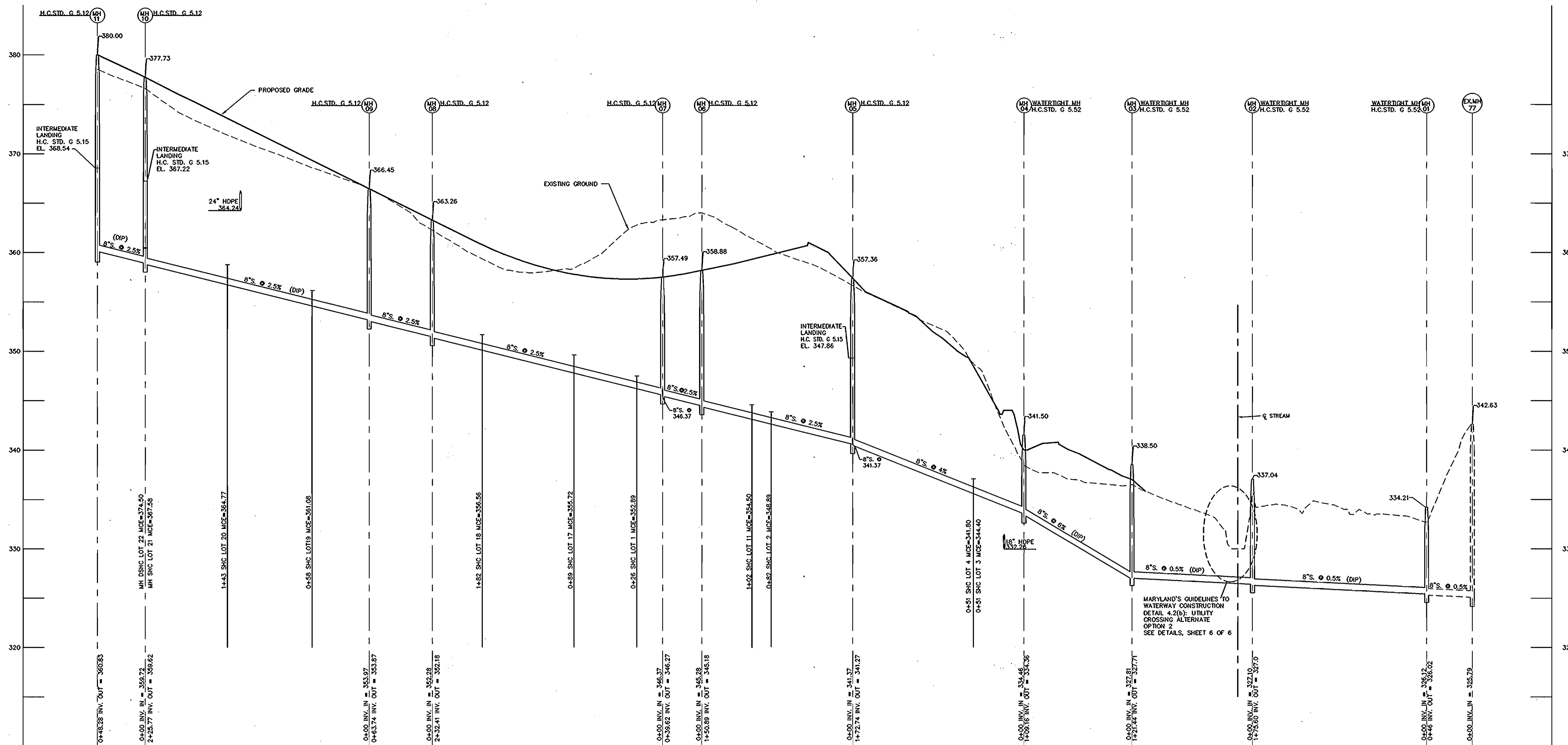
MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 987-0286 Dall. (301) 621-5321 Wash. (410) 987-0288 Fax.

engineering HSP
illustration HSP
approval JBM
project 02-007
date JUNE 2004 BY NO. REVISION DATE

WATER PROFILE
600' SCALE MAP NO. 31 BLOCK NO. 22

ILCHESTER OAKS
LOTS 1 THUR 22 & OPEN SPACE LOTS 23 THRU 26
CONTRACT NO.: 14-4098-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale AS SHOWN
4 OF 6



SEWER MAIN PROFILE
 SCALE: HOR. 1"=50'
 VER. 1"=5'

MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION
 DETAIL 4.2(b): UTILITY CROSSING ALTERNATE OPTION 2
 SEE DETAILS, SHEET 6 OF 6

AS BUILT
 DATE: AUG 2008

OWNER/DEVELOPER
 ELLICOTT CITY LAND HOLDING, INC.
 C/O DON REIMER
 800 MAIN STREET
 ELLICOTT CITY, MD 21043
 (410) 450-9105

02-007.DWG (MS) 02/07/SEWERPROFILE.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

John Kelly 6/12/07
 CHIEF, BUREAU OF UTILITIES DATE

Mark D. ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0236 Cell (301) 621-5321 Wash. (410) 997-0236 Fax

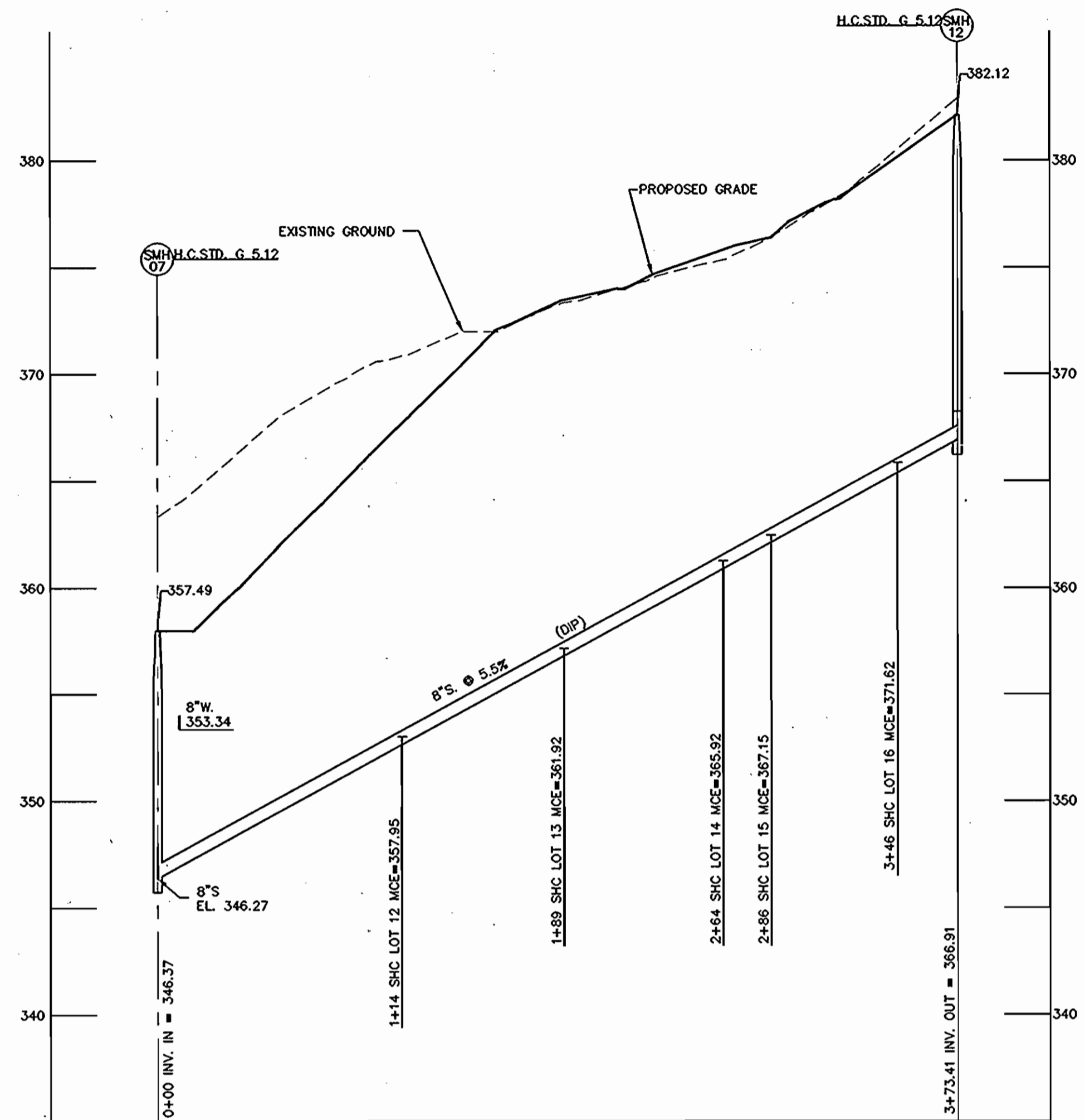
engineering HSP					
illustration HSP					
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SEWER PROFILE

600' SCALE MAP NO. 31 BLOCK NO. 22

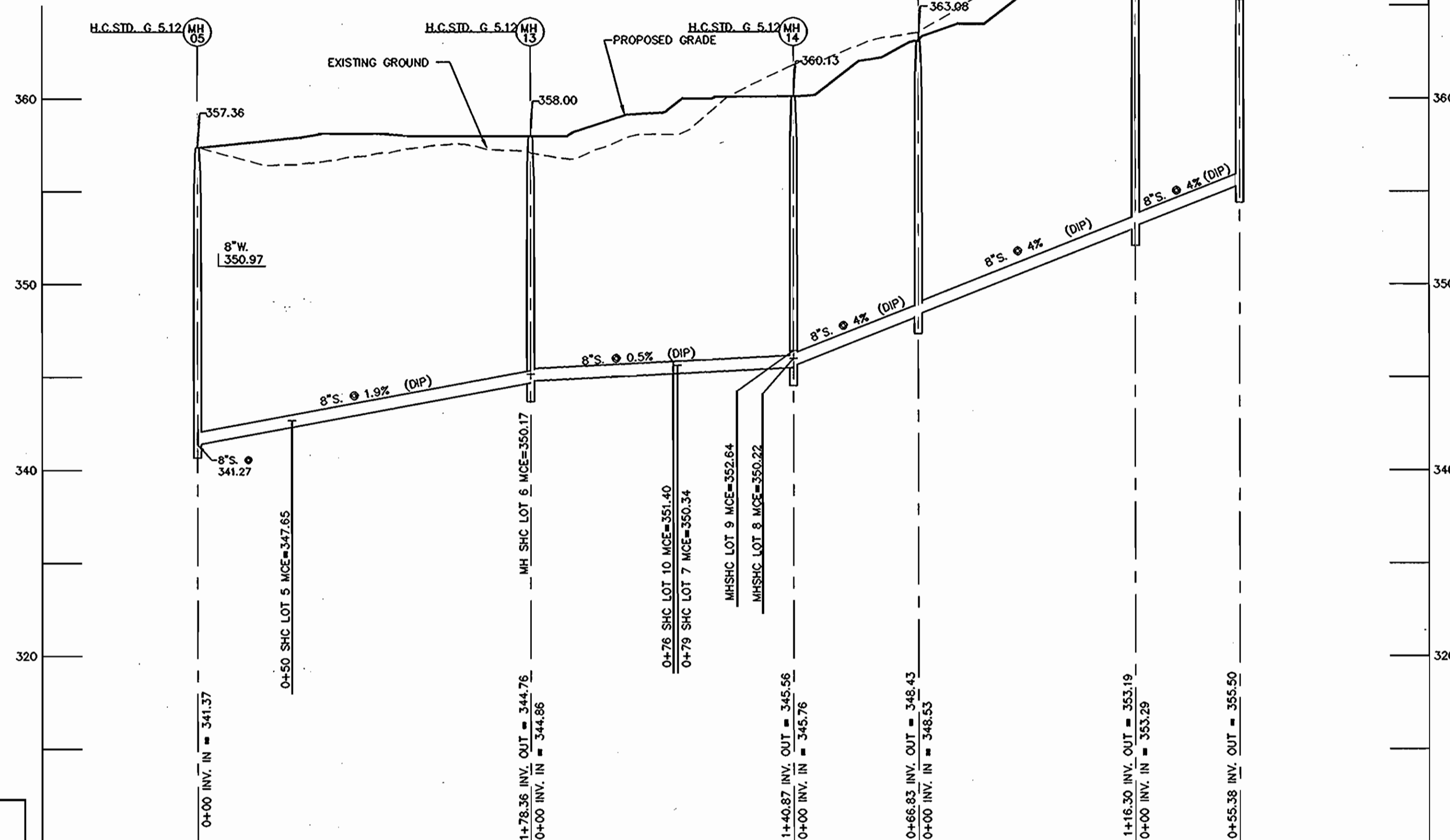
ILCHESTER OAKS
 LOTS 1 THRU 22 & OPEN SPACE LOTS 23 THRU 26
 CONTRACT NO.: 14-4098-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale AS SHOWN
5 OF 6



SEWER MAIN PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'



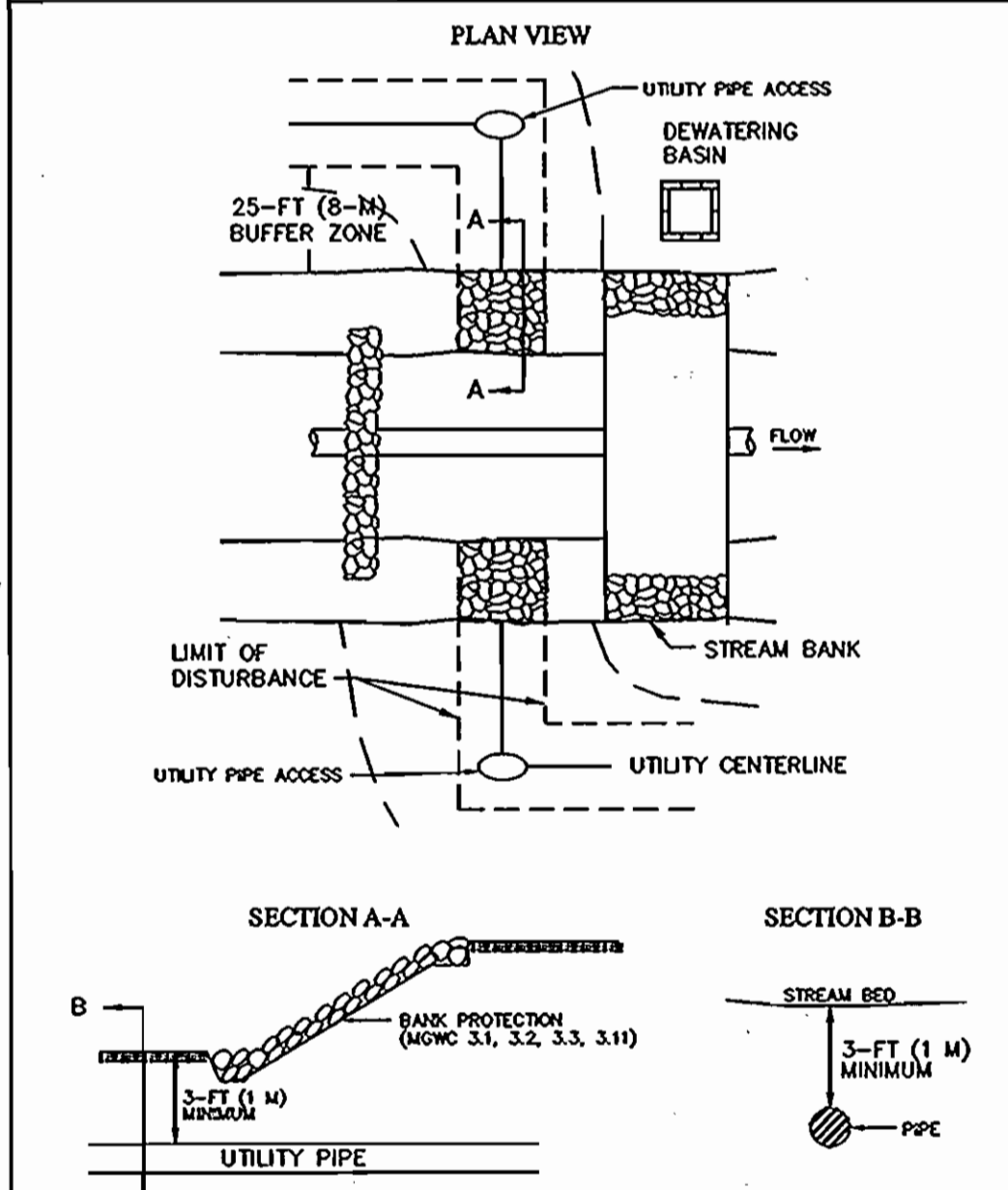
SEWER MAIN PROFILE

SCALE: HOR. 1"=50'
VER. 1"=5'

**MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION
DETAIL 4.2 : UTILITY CROSSING**

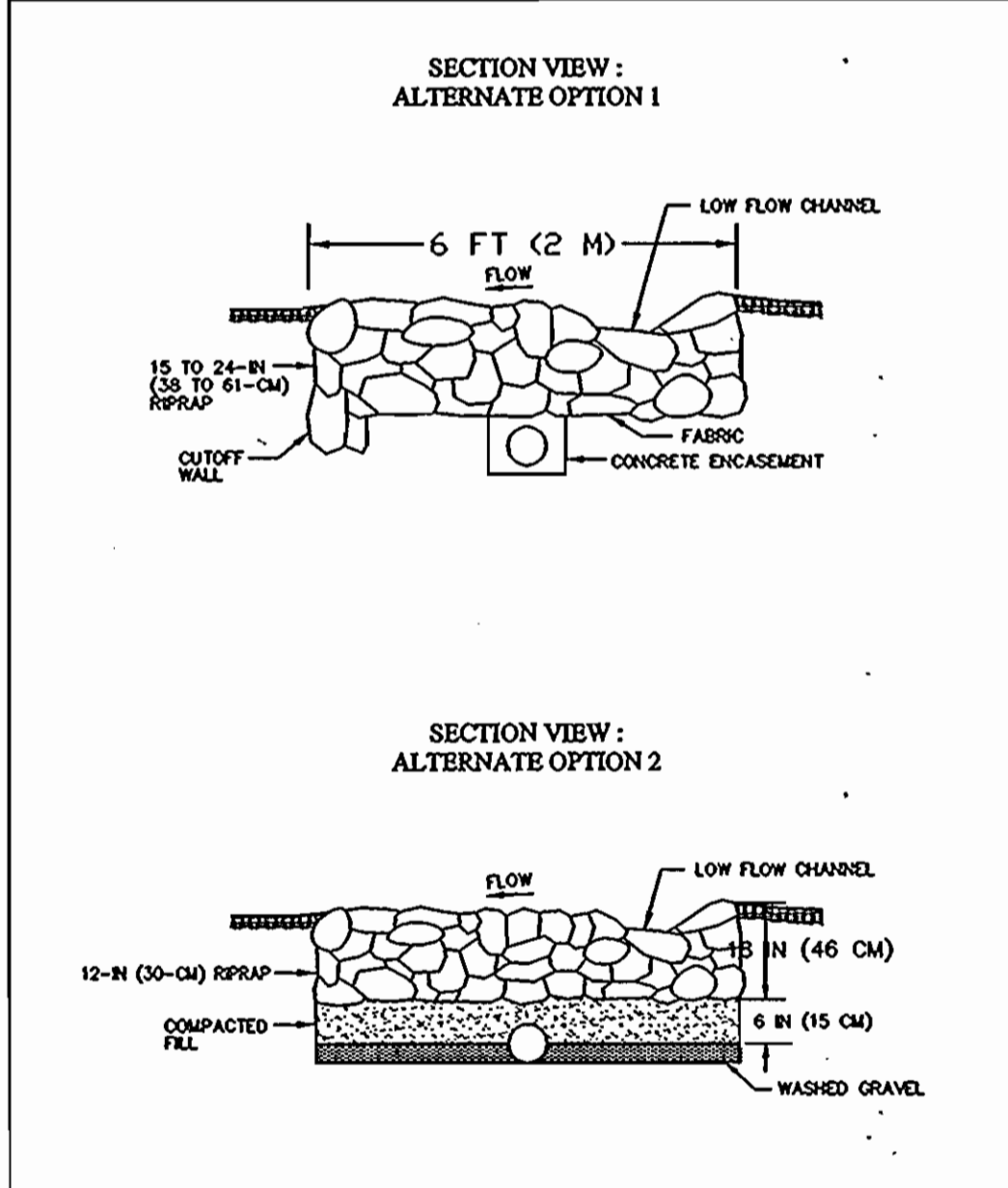
- 1. DESCRIPTION**
THE WORK SHALL CONSIST OF INSTALLING EROSION CONTROL DEVICES IN AND ADJACENT TO THE CONSTRUCTION OF UTILITY CROSSING.
- 2. INSTALLATION REQUIREMENTS**
ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING DOWNSLOPE BASINS, SHOULD BE IMPLEMENTED AS THE FIRST ORDER OF BUSINESS ACCORDING TO A PLAN APPROVED BY THE MWA OR LOCAL AUTHORITY. (SEE THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.) THE PROPOSED CONSTRUCTION SEQUENCE IS AS FOLLOWS (REFER TO DETAIL 4.2):
1. THE CONTRACTOR SHOULD INSURE THAT A CONTINUOUS PERMEABLE CONTROL BARRIER IS IN PLACE TO MINIMIZE THE AMOUNT OF POLLUTANTS ENTERING THE FLOW. A DIVERSION PIPE AS SHOWN IN MCHC 1.4.1 DIVERSION PIPE OR OTHER MEASURE SHOULD BE INSTALLED AND SANDBAGS OR STONE BARRIERS AS SHOWN IN MCHC 1.5.1 SANDBAG/STONE DIVERSION SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS TO DIVERT THE STREAMFLOW.
 2. EXCAVATED TOPSOIL AND SUBSOIL SHOULD BE KEPT SEPARATE, PLACED ON THE UPLAND SIDE OF THE EXCAVATION, AND REPLACED IN THEIR NATURAL ORDER.
 3. ALL CONSTRUCTION SHOULD TAKE PLACE DURING STREAM LOW FLOWS. THE LENGTH OF CONSTRUCTION TIME SHOULD BE LIMITED TO A MAXIMUM OF 5 CONSECUTIVE DAYS FOR EACH CROSSING.
 4. ALL UTILITY CROSSINGS SHOULD BE PLACED A MINIMUM OF 3 FEET (1 METER) BENEATH THE STREAM BED UNLESS AN ALTERNATE SECTION IS SPECIFICALLY APPROVED BY THE MWA. FOR INSTANCES WHERE A 3-FOOT COVER IS NOT Viable, TWO ALTERNATE STABILIZATION OPTIONS ARE GIVEN IN THE DETAIL 4.2. A LOW FLOW CHANNEL SHALL BE CONSTRUCTED THROUGH ALL RIPRAP PLACEMENTS ACROSS THE STREAM BED.
 5. THE STREAM SHOULD BE DIVERTED BY AN APPROVED TEMPORARY STREAM DIVERSION. THE CONSTRUCTION AREA SHOULD BE DEWATERED, AND ANY DISTURBED BANKS SHOULD BE STABILIZED. THE CONTRACTOR MAY ELECT TO CONSTRUCT THE UTILITY CROSSING IN TWO STAGES. IN THIS CASE, A MWA APPROVED FLOW BARRIER MAY BE CONSTRUCTED TO KEEP THE CONSTRUCTION AREA DRY.
 6. ONCE THE CROSSING IS COMPLETED, THE DIVERSION SHOULD BE REMOVED FROM UPSTREAM TO DOWNSTREAM. SEDIMENT CONTROL DEVICES, INCLUDING PERMEABLE EROSION CONTROLS, ARE TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTION AUTHORITY APPROVES THEIR REMOVAL.

**MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION
DETAIL 4.2(a) : UTILITY CROSSING**



STREAM CROSSINGS REVISED NOVEMBER 2000 MARYLAND DEPARTMENT OF THE ENVIRONMENT
PAGE 4.2-2 WATER MANAGEMENT ADMINISTRATION

**MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION
DETAIL 4.2(b) : UTILITY CROSSING**



STREAM CROSSINGS REVISED NOVEMBER 2000 MARYLAND DEPARTMENT OF THE ENVIRONMENT
PAGE 4.2-3 WATER MANAGEMENT ADMINISTRATION

**BEST MANAGEMENT PRACTICES FOR
WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS,
WATERWAYS, AND 100-YEAR FLOODPLAINS**

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER THAT DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NON-TIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS & WATERWAYS DIVISION. KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:
USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
10. STORMWATER MANAGEMENT RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.
11. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVITY IS TO IMPOUND WATER.

AS BUILT
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C/O DON REUVER
500 MAIN STREET
ELICOTT CITY, MD 21043
(410) 480-9105

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(410) 997-0286 Ball. (301) 621-5521 Wash. (410) 997-0288 Fax.



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600' SCALE MAP NO. 31 BLOCK NO. 22

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CONTRACT NO.: 14-4098-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN
6 OF 6

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