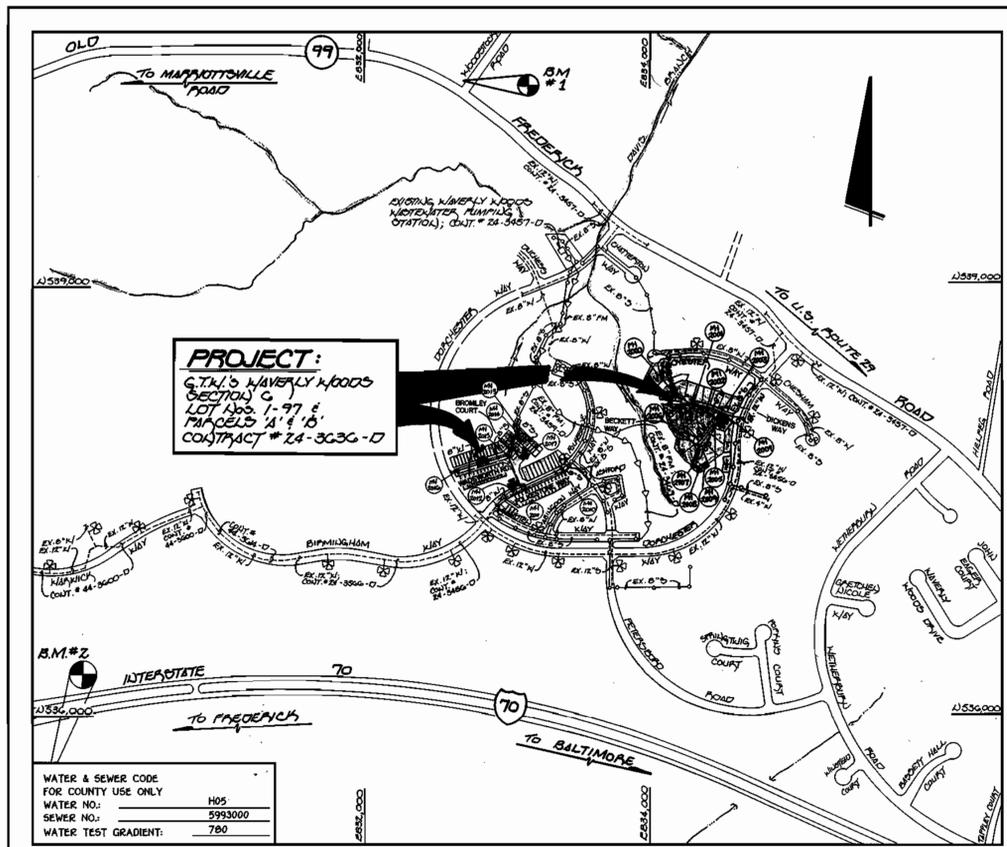


QUANTITIES				
ITEM	ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	SUPPLIER
8" DRENCH	2030 L.F.	1918	PVC	J-M MANUFACTURING
8" DRENCH (C.I.P.)	297 L.F.	323	DIP - TYSON J.J.	GRIFFIN PIPE CO.
4" DRENCH	2483 L.F.	2313	DIP / PVC	
MANHOLES	19 EACH	19	PRE-CAST CONC.	ATLANTIC CONC. PROD.
6" WATER	1937 L.F.	1922	DIP/CL52/TYTON	GRIFFIN PIPE CO.
6" WATER	111 L.F.	113	DIP/CL52/TYTON	GRIFFIN PIPE CO.
1" K.H.C.	2,865 L.F.	2810	K COPPER	READING TUBE
PIPE HYDRANTS	5 EACH	5		MUELLER
8" x 8" TEE	4 EACH	4	MJ DIP	US PIPE
8" x 6" TEE	4 EACH	4	MJ DIP	US PIPE
6" VALVE	6 EACH	6		MUELLER
6" VALVE	5 EACH	5		MUELLER
8" x 6" REDUCER	1 EACH	1	MJ DUCTILE	US PIPE
8" x 1/2" H.B.	1 EACH	1	MJ DIP	US PIPE
8" x 1/2" H.B.	1 EACH	1	MJ DIP	US PIPE
6" FLUG & BUTT WELD	4 EACH	4	MJ DIP	US PIPE
1 1/2" DRAIN	1 EACH	1	ORISEAL H-1574	MUELLER

NAME OF UTILITY CONTRACTOR: C.C.S. INC.
SURVEY & DRAFTING DIVISION AS-BUILT DATE:



PROJECT:
G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1-97 &
PARCELS 'A' & 'B'
CONTRACT # 24-3636-D

WATER & SEWER CODE
FOR COUNTY USE ONLY
WATER NO.: H05
SEWER NO.: 5993000
WATER TEST GRADIENT: 780

TYPE OF BUILDING: RESIDENTIAL - SINGLE FAMILY DETACHED
NUMBER OF LOTS: 97 (75 BUIDABLE)
NO. OF WATER HOUSE CONNECTIONS: 83
NO. OF SEWER HOUSE CONNECTIONS: 83
DRAINAGE AREA: LITTLE PATUXENT
TREATMENT PLANT: PATAPSCO W.W.T.P.-CITY OF BALTIMORE
VIA THE WAVERLY WOODS WASTEWATER PUMPING STATION

NO. OF K.H.C.'S FOR FUTURE LOTS: 5
NO. OF C.H.C.'S FOR FUTURE LOTS: 5

NOTE: LOT NOS. 1-4, 70, 71 & 94-97 HAVE HAD K.H.C.'S & C.H.C.'S PROVIDED TO THEM UNDER PREVIOUS CONTRACTS.

VICINITY MAP

SCALE: 1"=600'

PLAN REFERENCE NUMBERS:
F-10-80

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.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". CLEAR ALL POLES BY 2'-0" MINIMUM.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS, AND FOR MATERIALS AND CONSTRUCTION METHODS, USE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION (1991 AMENDMENTS). THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- 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 VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - STATE HIGHWAY ADMINISTRATION - 531-5533
 - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
 - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND DAMAGE CONTROL - 787-9066
 - MISS UTILITY - 1-800-257-7777
 - COLONIAL PIPELINE CO. - 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS - 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE D.I.P. OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 18" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSES WITH THE SYMBOL "C.A.S." INDICATES THAT THE CELLAR CANNOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAMES AND COVERS, STANDARD DETAIL G5.51.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- ALL WATER MAINS SHALL 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 ELEVATION SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE RESTRAINED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH THE STANDARD DETAILS (WJ11 AND WJ213). 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 D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH ANWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.
- THE CONTRACTOR SHALL NOTIFY THE BUREAU OF HIGHWAYS, HOWARD COUNTY, • (410) 313-2450 AT LEAST FIVE 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 THE HOWARD COUNTY CODE.

CONTRACT NO. 24-3636-D
G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1-97 & PARCELS 'A' and 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

BENCH MARKS

BM #1
HOWARD COUNTY CONTROL STATION #1012 (1/20/85)
(NEAR THE INTERSECTION OF MARYLAND ROUTE 99 & WOODSTOCK ROAD)
1) 601, 060, 177
E 1,345,356, 753 ELEV. - 445.577

BM #2
HOWARD COUNTY CONTROL STATION #1061 (1/20/85)
(NEAR THE INTERSECTION OF U.S. ROUTE 40 & WASHINGTONVILLE ROAD)
1) 593, 250, 902
E 1,340, 192, 711 ELEV. - 309.924

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

Amal Simons 10/9/98
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

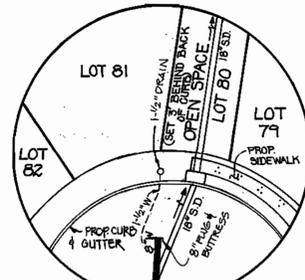
APPROVED
Sheldon S. ... 10/9/98
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AS SHOWN ON THESE PLANS AND UNDER F - 95-88

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>Robert ...</i> CHIEF, BUREAU OF UTILITIES 9-30-98 DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND <i>...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION 10/9/98 DATE	Fisher, Collins & Carter, Inc. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTENNIAL SQUARE OFFICE PARK 10272 Baltimore National Pike Ellicott City, Maryland 21042 (410) 461-2855	DESIGNED BY: M.J.M. DRAWN BY: M.J.M. / J.M.M. CHECKED BY: P.W.L. DATE: SEPTEMBER, 1998 M.D.T. CHANGE ALL W.H.C.'S TO 1" CONNECTIONS 4-12-99 BY NO. REVISION	TITLE SHEET 600' SCALE MAP NO. 16 BLOCK NO. 6 AND 12 F.C.C. WORK ORDER NO. 30023 FILE NAME: G/DRAWINGS/30023/	G.T.W.'S WAVERLY WOODS SECTION 6 LOT NOS. 1-97 & PARCELS 'A' and 'B' CONTRACT NO. 24-3636-D THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 6
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SHC INVERT @ PROPERTY LINE CHART		
STATION	LOT	ELEVATION
0+55 LT.	78 (DHC)	433.70
0+60 RT.	79 (DHC)	432.20
MH 2000 TO MH 2001		
0+60 LT.	77	433.56
0+65 RT.	81 (@ 1.00%)	433.51
1+00 RT.	82	434.45
1+25 LT.	76	435.75
1+55 RT.	83	436.95
MH 2001 TO MH 2002		
0+65 LT.	75	445.25
MH 2002 TO MH 2003		
0+30 LT.	74 (DHC)	452.60
0+30 LT.	73 (DHC)	452.60
0+30 LT.	73 (DHC)	452.60
0+30 LT.	73 (DHC)	452.60
MH 2003 TO MH 2004		
0+30 LT.	72 (DHC)	462.20
0+30 LT.	72 (DHC)	462.20
0+30 LT.	72 (DHC)	462.20
0+30 LT.	72 (DHC)	462.20
MH 2004 TO MH 2005		
0+30 LT.	84 (@ 1.00%)	453.55
MH 2005 TO MH 2006		
0+30 LT.	72	454.34
0+30 RT.	85	454.85
1+00 LT.	91	454.71
1+50 RT.	86	455.70
1+55 LT.	90	455.43
0+30 RT.	87 (SHC @ MH)	455.65
MH 2006 TO MH 2007		
0+40 LT.	89	455.97
0+50 RT.	88	455.12

WATER MAIN TABULATION CHART			
W.M. STATION	APPURTENANCE	± ROAD STATION	OFFSET
DICKENS WAY			
0+61	EX. 8" PLUG & BUTTRESS	0+55	5' RIGHT
1+08	1/2" H.B.	0+74	2' RIGHT
2+00	8" B TEE	1+91	7' RIGHT
2+05	8" VALVE	1+94	7' RIGHT
2+27	P.C.	2+17	7' RIGHT
2+27	8" C TEE	2+17	8' RIGHT
2+27	8" VALVE	2+17	11' RIGHT
3+71	P.T.	3+64	2' RIGHT
4+00	8" PLUG & BUTTRESS	L.P. 71A, 1+15	19' RIGHT
---	1/2" DRAIN	L.P. 71A, 1+15	4' LEFT
BECKETT WAY			
0+85	8" VALVE	0+04	5' RIGHT
0+70	P.C.	0+63	5' RIGHT
1+42	8" C TEE	L.P. 71A, 2+05	22' RIGHT
2+42	C VALVE	L.P. 71A, 2+05	23' RIGHT
2+48	8" PLUG & BUTTRESS (P.T.)	L.P. 71A, 1+50	17' RIGHT



SEE SHEET 3 FOR MANHOLE TABULATION CHART

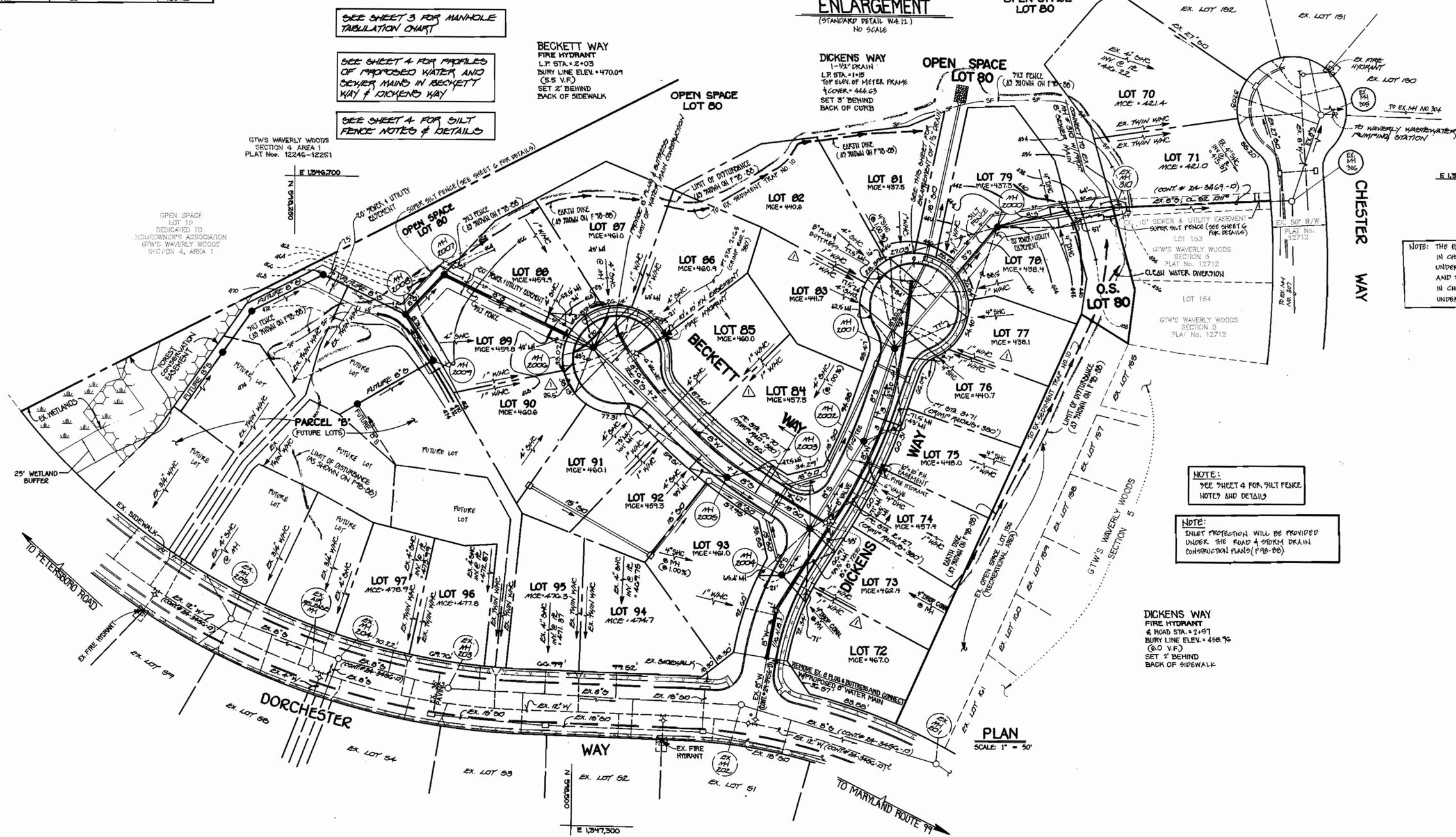
SEE SHEET 4 FOR PROFILES OF PROPOSED WATER AND SEWER MAINS IN BECKETT WAY & DICKENS WAY

SEE SHEET 4 FOR SILT FENCE NOTES & DETAILS

BECKETT WAY
FIRE HYDRANT
L.P. STA. = 2+03
BURY LINE ELEV. = 470.01
(5.5 V.F.)
SET 2' BEHIND
BACK OF SIDEWALK

1-1/2" DRAIN ENLARGEMENT
(STANDARD DETAIL W.A. 12.1)
NO SCALE

DICKENS WAY
1-1/2" DRAIN
L.P. STA. = 1+15
TOP EARTH OF METER FRAME
± COVER = 444.69
SET 3' BEHIND
BACK OF CURB



NOTE: SEE SHEET 4 FOR SILT FENCE NOTES AND DETAILS

NOTE: INLET PROTECTION WILL BE PROVIDED UNDER THE ROAD & OPEN DRAIN CONSTRUCTION PLANS (P. 80-88)

DICKENS WAY
FIRE HYDRANT
± ROAD STA. = 2+97
BURY LINE ELEV. = 458.90
(6.0 V.F.)
SET 2' BEHIND
BACK OF SIDEWALK

PLAN SCALE: 1" = 50'

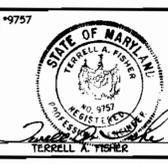
SEWER HSE. CONN. AS-BUILT

CONTRACT NO. 24-3636-D
G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1-97 & PARCELS A AND B
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
9-30-98
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
10/9/98
DATE

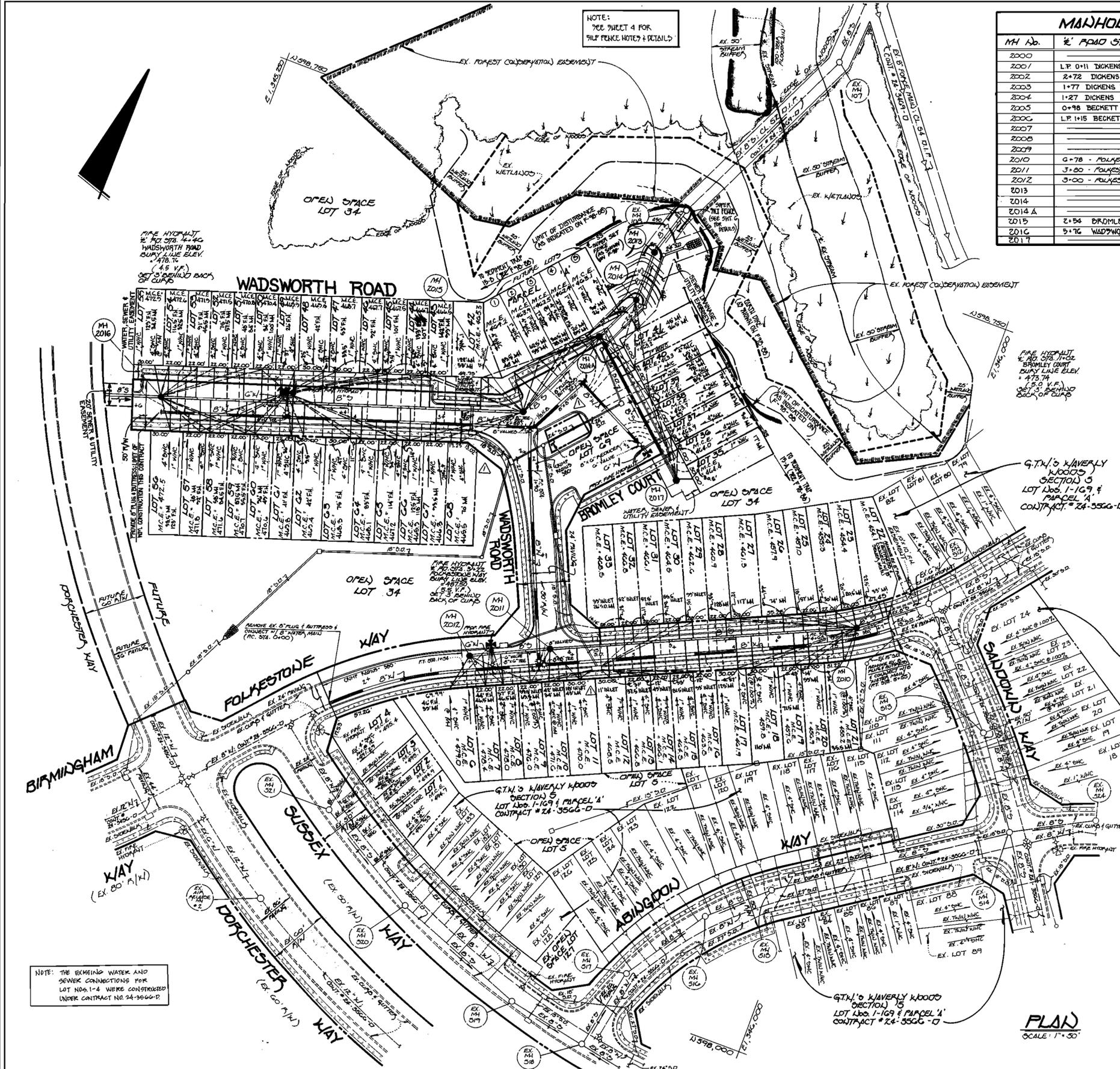
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
10720 BALTIMORE NATIONAL PKWY
ELICOTT CITY, MARYLAND 21042
4100 861 - 2055



DESIGNED BY: M.J.M.
DRAWN BY: M.J.M. / L.M.
CHECKED BY: M.J.M.
DATE: 11/18/98
M.D.T. CHANGE ALL W.C.'S TO 1" CONNECTIONS
BY NO. REVISION

PLAN VIEW
WATER AND SEWER MAINS
600' SCALE MAP NO. 16 BLOCK NO. 6 AND 12
F.C.C. WORK ORDER NO. 30025
FILE NAME: G:/DRAWINGS/30025/WATSEW/SECT6-1

G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1 - 97 & PARCELS 'A' AND 'B'
CONTRACT NO. 24-3636-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 2 OF 6



NOTE:
SEE SHEET 4 FOR
PILE FENCE NOTES & DETAILS

MANHOLE TABULATION CHART

MH No.	% ROAD STATION	DISTANCE	SLOPE	RIM ELEVATION
2000				444.00
2001	L.P. 0+11 DICKENS WAY	11' RIGHT		449.77
2002	2+72 DICKENS WAY	8' LEFT	8.68 %	456.40
2003	1+77 DICKENS WAY	7' LEFT	11.84 %	460.60
2004	1+27 DICKENS WAY	7' LEFT	7.68 %	471.17
2005	0+98 BECKETT WAY	7' LEFT	+2.00 %	466.02
2006	L.P. 1+15 BECKETT WAY	15' RIGHT		469.84
2007				466.00
2008				468.25
2009				469.01
2010	0+78 - FOLKESTONE WAY	5' LEFT	-5.15 %	462.74
2011	3+00 - FOLKESTONE WAY	7' LEFT	-7.00 %	462.89
2012	3+00 - FOLKESTONE WAY	7' LEFT	-7.00 %	468.41
2013				461.75
2014				466.00
2014 A				472.33
2015	2+54 BROMLEY COURT	8' E	+2.40 %	474.92
2016	5+76 WADSWORTH ROAD	8' RIGHT	+3.00 %	461.79
2017				476.00

SHC INVERT @ PROPERTY LINE CHART

STATION	LOT	ELEVATION
EX. MH 912 TO MH 2010		
0+46 RT.	ZZ (@ 1.00%)	450.57
@ MH 2010 RT.	Z3 (SHC @ MH @ 1.00%)	450.91
MH 2010 TO MH 2011		
0+15 LT.	Z1 (@ 1.00%)	451.66
0+20 RT.	Z4 (@ 1.00%)	451.70
0+29 LT.	Z0 (@ 1.00%)	453.44
0+32 RT.	Z5	453.64
0+42 LT.	Z9	454.45
0+70 RT.	Z6	454.59
1+04 LT.	Z8 (@ 1.00%)	456.33
1+13 RT.	Z7	456.84
1+20 LT.	Z7	457.49
1+27 RT.	Z8	457.58
1+36 LT.	Z0	459.35
1+40 RT.	Z9	459.31
1+48 LT.	Z0	462.01
1+74 RT.	Z0	462.05
2+00 LT.	Z4	461.09
2+05 RT.	Z1	461.67
2+13 LT.	Z3	462.37
2+18 RT.	Z2	462.36
2+44 LT.	Z2	464.00
2+50 RT.	Z3	464.04
2+73 LT.	Z1	465.52
@ MH 2011 LT.	Z0 (SHC @ MH)	467.10
MH 2011 TO MH 2012		
0+20 LT.	Z9 (@ 1.00%)	472.49
0+50 LT.	Z8	473.50
0+65 LT.	Z7	473.94
@ MH 2012 LT.	Z6 (SHC @ MH)	474.59
MH 2012 TO MH 2014 A		
0+25 RT.	PARCEL 'A' - 5	458.73
MH 2015 TO MH 2016		
0+42 RT.	Z4	460.82
0+60 LT.	Z8	461.31
0+85 LT.	Z7	461.85
0+92 RT.	Z5	462.02
1+00 RT.	Z4	462.21
1+10 LT.	Z0	462.45
1+23 LT.	Z5	462.76
1+35 RT.	Z5	463.05
1+44 RT.	Z4	463.27
1+58 LT.	Z3	463.84
1+85 RT.	Z7	464.25
1+97 RT.	Z8	464.54
2+15 LT.	Z2	464.97
2+32 LT.	Z1	465.38
2+55 RT.	Z9	465.45
2+57 RT.	Z0	465.98
2+62 LT.	Z0	466.10
2+70 LT.	Z7	466.21
2+74 RT.	Z7	466.39
3+03 RT.	Z2	467.08
3+06 LT.	Z8	467.15
3+16 LT.	Z7	467.31
3+20 RT.	Z8	467.41
3+45 LT.	Z6	468.04
3+48 RT.	Z4	468.16
@ MH 2016 RT.	Z5 (SHC @ MH)	468.41
MH 2014 A TO MH 2017		
0+20 LT.	Z1	459.11
0+45 LT.	Z0	459.21
0+75 LT.	Z9	459.51
0+90 LT.	Z0	459.62
1+20 LT.	Z7	459.83
1+32 LT.	Z6	459.72
@ MH 2017 LT.	Z5 (SHC @ MH)	460.32
MH 2014 A TO MH 2015		
0+15 RT.	PARCEL 'A' - 4 (@ 1.00%)	458.87
0+27 RT.	PARCEL 'A' - 3 (@ 1.00%)	458.97
0+57 RT.	PARCEL 'A' - 2	459.46
0+85 RT.	PARCEL 'A' - 1	459.76

WATER MAIN TABULATION CHART

M/M STATION	APPURTENANCE	% P.P. STA.	OFFSET
FOLKESTONE WAY			
0+00	P.C. (@ EX. B. PLUG & BUTTRESS)	1+50	7' RIGHT
1+34	P.T.	2+94	7' RIGHT
1+02	8" G" F.H. TEE	3+22	7' RIGHT
1+02	G" VALVE	3+22	4' RIGHT
2+08	8" x 6" TEE	3+08	7' RIGHT
2+11	G" VALVE	3+11	7' RIGHT
4+03	P.C.	6+26	7' RIGHT
5+55	P.T.	7+12	5' RIGHT
WADSWORTH ROAD			
0+05	8" VALVE	-0+04	7' LEFT
1+90	P.C.	1+81	@ E
2+27	8" VALVE	2+16	12' RIGHT
2+30	P.T. - 8" x 6" TEE	2+19	15' RIGHT
2+33	8" VALVE	2+21	9' RIGHT
4+70	8" x 6" F.H. TEE	4+53	7' LEFT
4+70	G" VALVE	4+53	4' LEFT
5+92	8" PLUG & BUTTRESS	5+77	7' LEFT
BROMLEY COURT			
1+50	G" VALVE	1+02	11' RIGHT
1+47	8" x 6" REDUCER	1+02	8' RIGHT
0+68	8" x 6" TEE	1+09	@ E
0+68	8" PLUG & BUTTRESS	1+05	@ E
0+04	8" 1/2 H.B.	2+30	17' RIGHT

SEE SHEET 5 FOR WATER,
SEWER MAINS PROFILES

SEE SHEET 4 FOR DIRT FENCE
NOTES & DETAILS

G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1-169 & PARCEL 'A'
CONTRACT NO. 24-3566-D

NOTE:
INLET PROTECTION WILL BE PROVIDED
UNDER THE ROAD & STORM DRAIN
CONSTRUCTION PLANS (1-98-08)

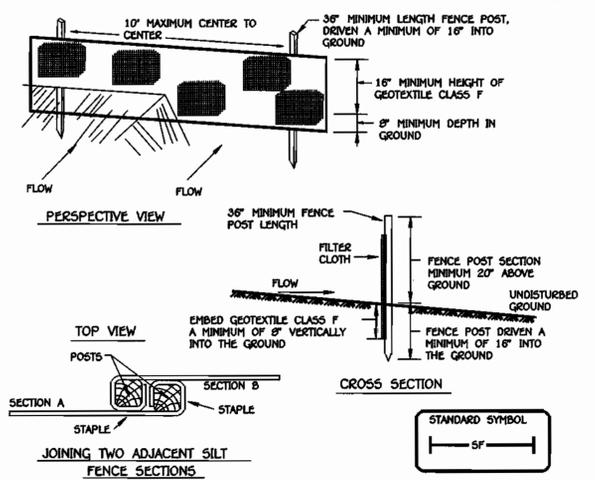
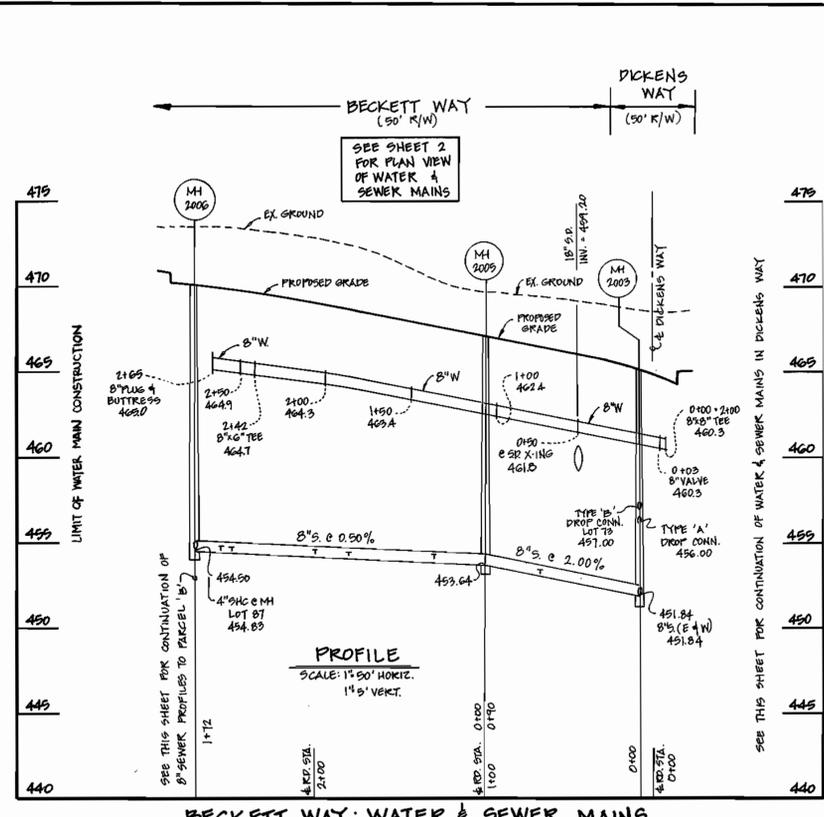
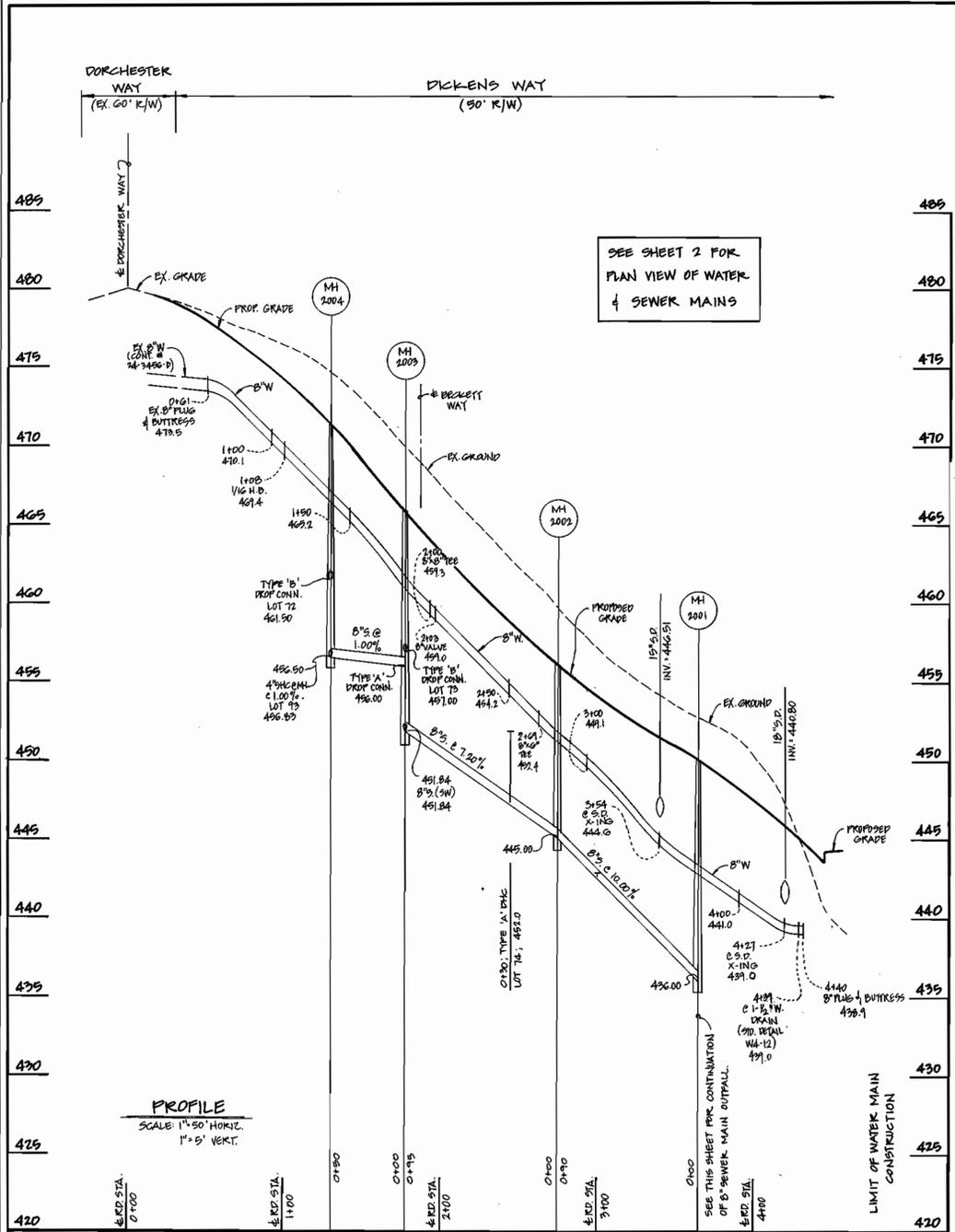
NOTE: THE EXISTING WATER AND
SEWER CONNECTIONS FOR
LOT NOS. 1-4 WERE CONSTRUCTED
UNDER CONTRACT NO. 24-3566-D

FLAK
SCALE 1" = 30'

SEWER HSE. CONN. AS-BUILT

CONTRACT NO. 24-3566-D
G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1-97 & PARCELS 'A' AND 'B'
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 9-30-98 DATE	DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY, MARYLAND 10/13/98 DATE	Fisher, Collins & Carter, Inc. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS CENTRAL SQUARE OFFICE PARK 10272 Baltimore National Pike Elliott City, Maryland 21042 (410) 481-2855	DESIGNED BY: M.J.M. DRAWN BY: L.M. J.M.M. CHECKED BY: P.W.K. DATE: SEPTEMBER, 1998	M.O.T. CHANGE ALL WHIC'S TO 1" CONNECTIONS BY NO. REVISION DATE	WATER AND SEWER MAINS PLAN VIEW 600' SCALE MAP NO. 16 BLOCK NO. 6 AND 12 F.C.C. WORK ORDER NO. 30023 FILE NAME: G:/DRAWINGS/30023/	G.T.W.'S WAVERLY WOODS SECTION 6 LOT NOS. 1-97 & PARCELS 'A' AND 'B' CONTRACT NO. 24-3566-D THIRD ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 3 OF 6
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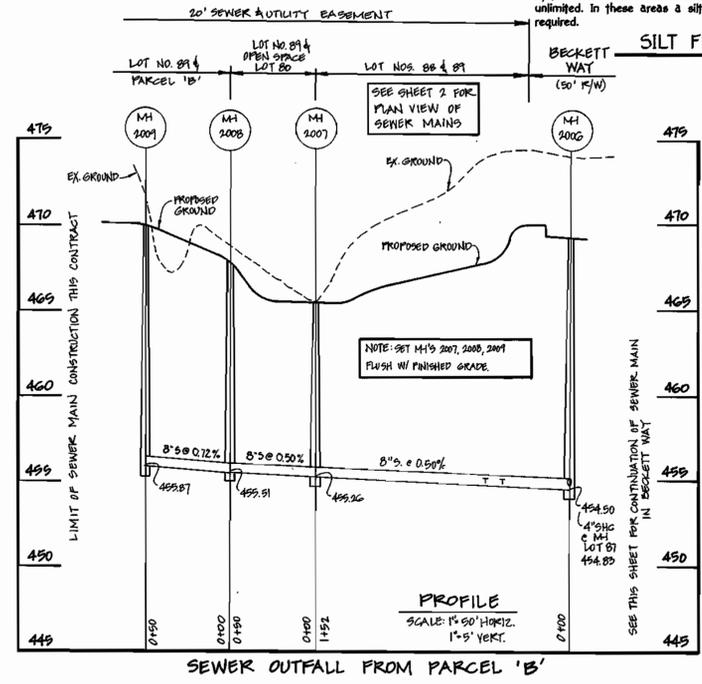
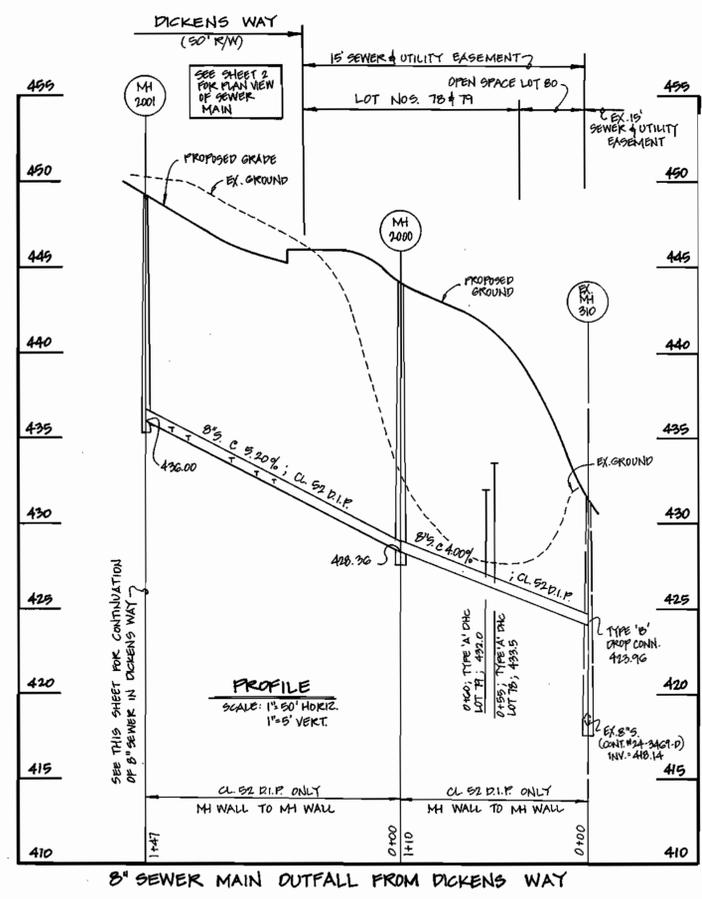
- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
 - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
 - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
 - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: in areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Robert M. Reinger
CHIEF, BUREAU OF UTILITIES

9-30-98
DATE

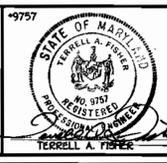
DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND

Mr. [Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION

10/5/98
DATE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLSWORTH CITY, MARYLAND 21042
(410) 481-2200



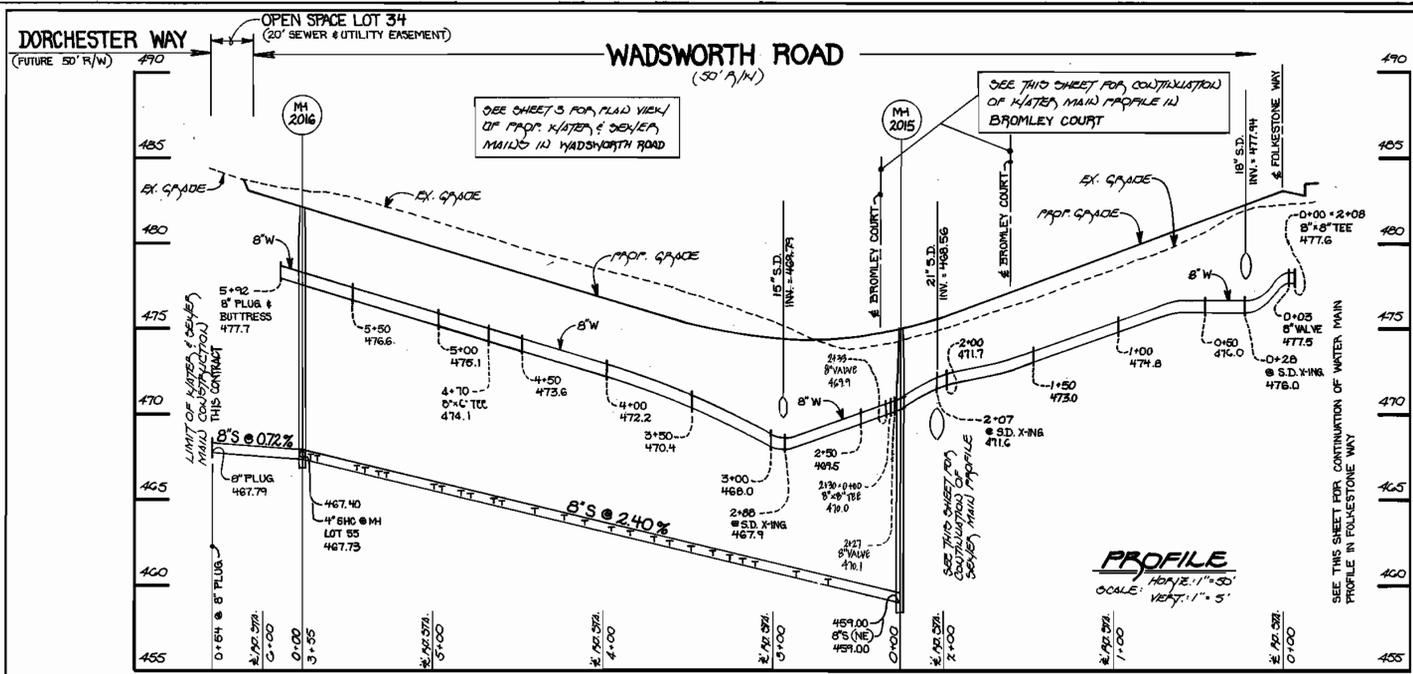
DESIGNED BY:	MJM
DRAWN BY:	JAU
CHECKED BY:	MJM
DATE:	SEPTEMBER, 1998
BY NO.	
REVISION	
DATE	

**PLAN VIEW
WATER AND SEWER MAINS**

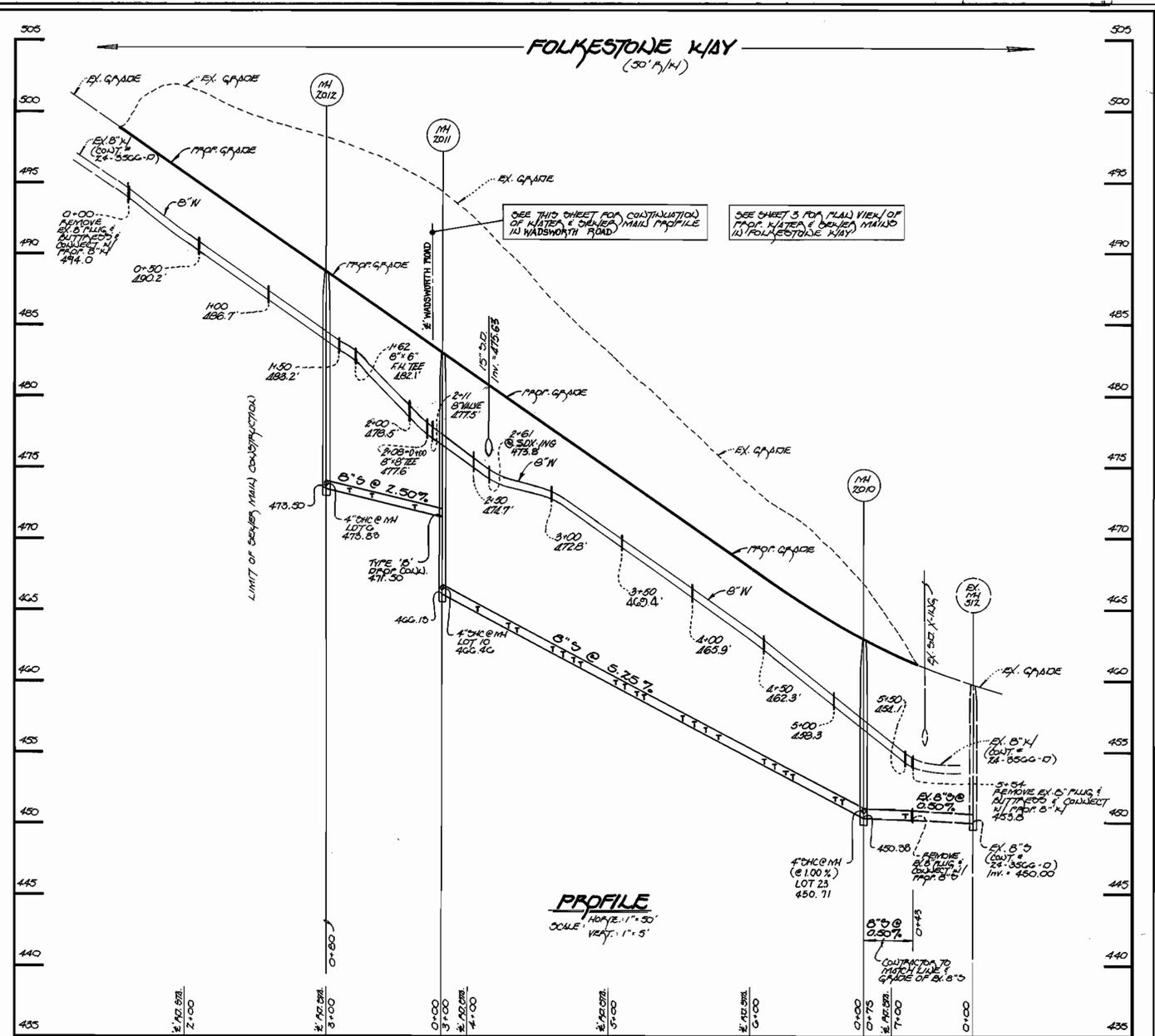
600' SCALE MAP NO. 35 BLOCK NO. 6 AND 12
F.C.C. WORK ORDER NO. 300225
FILE NAME: G:\DRAWINGS\300225\WATSEW\SECTS-1

G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1 - 97 & PARCELS 'A' and 'B'
CONTRACT NO. 24-3636-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

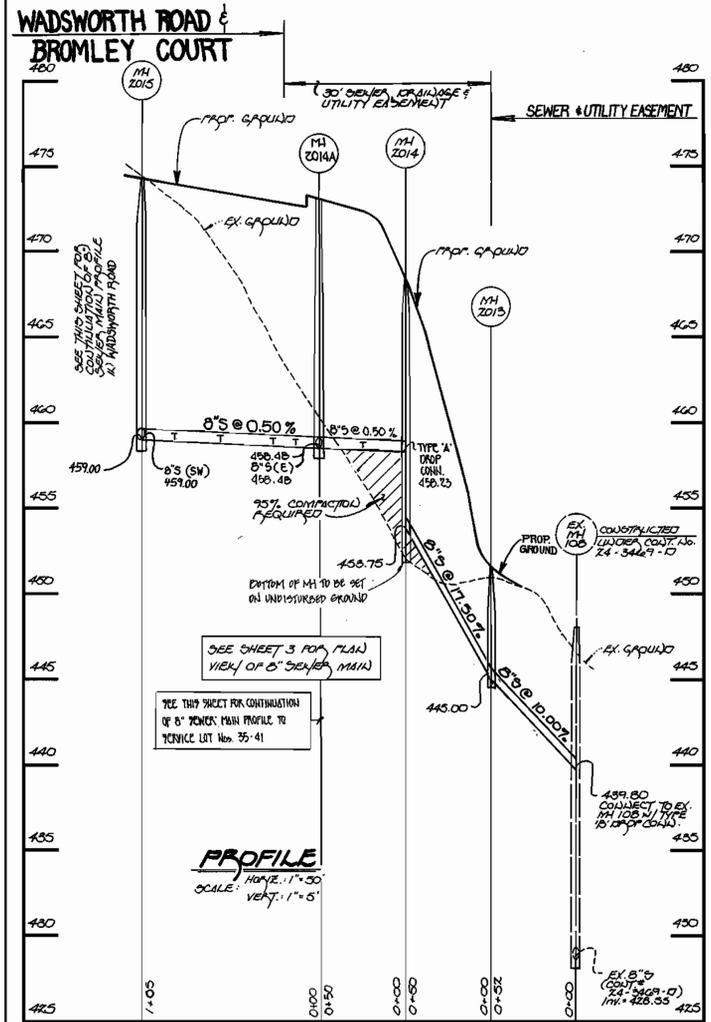
SCALE AS SHOWN
SHEET 4 of 6



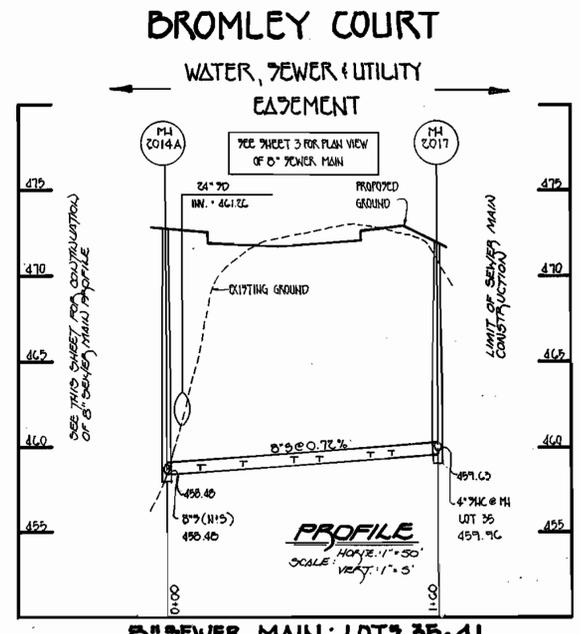
WADSWORTH ROAD: WATER & SEWER MAINS



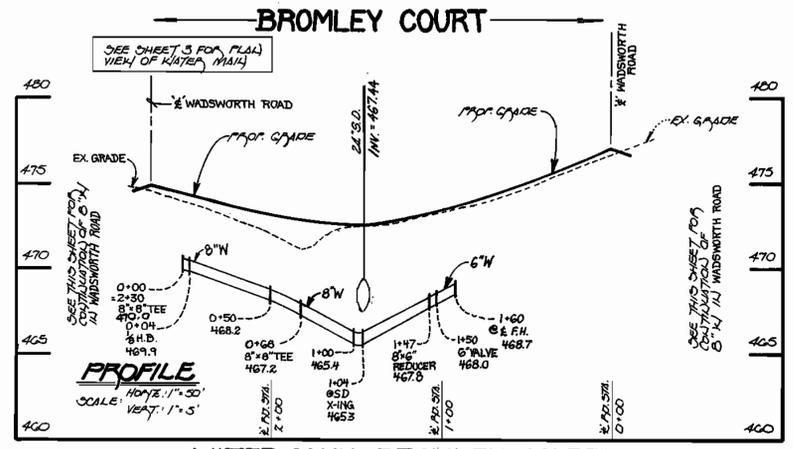
8" WATER & 8" SEWER MAINS: FOLKESTONE WAY



8" SEWER MAINS OUTFALL



8" SEWER MAIN: LOT 35-41



WATER MAIN: BROMLEY COURT

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert M. Berman
CHIEF, BUREAU OF UTILITIES
9-30-98
DATE

DEPARTMENT OF PLANNING AND ZONING
HOWARD COUNTY, MARYLAND
[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION
10/1/98
DATE

Fisher, Collins & Carter, Inc.
CIVIL ENGINEERING CONSULTANTS &
LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK
10272 Baltimore National Pike
Belted City, Maryland 21104
(410) 481-2855

TERRELL A. FISHER
[Signature]

DESIGNED BY:	MJM
DRAWN BY:	JMM, JLM
CHECKED BY:	P.W.K.
DATE:	8/17/98
BY NO.	
REVISION	

WATER AND SEWER MAIN PROFILES
80' SCALE MAP NO. IS BLOCK NO. 6 AND 12
F.C.C. WORK ORDER NO. 30225
FILE NAME: J:\LIBRARY\WATSEW\BLANKS

G.T.W.'S WAVERLY WOODS
SECTION 6
LOT NOS. 1-97 &
PARCELS 'A' AND 'B'
CONTRACT NO. 24-3030-D
THIRD ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
SCALE AS SHOWN
SHEET 5 OF 6

**SECTION 20 :
STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION**

DEFINITION
Using vegetation as cover for barren soil to protect it from erosion that cause erosion.
Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.
This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding to quickly establish vegetative cover for short duration up to one year, and Permanent Seeding for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dunes, cut and fill slopes and other areas where permanent vegetation is desired.

EFFECTS ON WATER QUALITY AND QUANTITY
Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration and evaporation. Transpiration, percolation and groundwater recharge over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth. Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone. Sediment control devices must remain in place during grading, seeded preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS
A. Site Preparation
1. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
2. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
3. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed areas over 5 acres.

B. Soil Amendment (Fertilizer and Lime Specifications)
1. Soil tests must be performed to determine the exact rates 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 analyses.
2. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Mixtures may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and regulations, including the name, trade name or trademark and warranty of the producer.
3. Lime materials shall be ground limestone hydrated or burnt lime may be substituted which contains at least 50% total oxide calcium oxide plus magnesium oxide. Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 90-100% will pass through a #20 mesh sieve.
4. Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.

C. Seeded Preparation
1. Temporary Seeding
a. Seeded preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural 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 3:1 should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
b. Apply fertilizer and lime as prescribed on the plans.
c. Incorporate lime and fertilizer into the top 3-5" of soil by diking or other suitable means.
ii. Permanent Seeding
Minimum soil conditions required for permanent vegetative establishment:
1. Soil pH shall be between 6.0 and 7.0.
2. Soluble salts shall be less than 500 parts per million (ppm).
3. The soil shall contain less than 40% clay, but enough fine grained material (silt and clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or sericea lespedeza is to be planted, then a sandy soil (50% silt plus clay) would be acceptable.
4. Soil shall contain 1.5% minimum organic matter by weight.
5. Soil must contain sufficient pore space to permit adequate root penetration.
6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standards and Specification for Topsoil.

**b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
c. Apply soil amendments as per soil test or as included on the plans.
d. Soil amendments into the top 3-5" of topsoil by diking 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 and application, where site conditions will not permit normal seeded preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in a irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seeded loosening may not be necessary on newly disturbed areas.**

D. Seed Specifications
1. 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 6 months immediately preceding the date of sowing such material on the job.
Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
2. Incubation - The incubation for purity testing shall be a 48 hour incubation at 70 degrees Fahrenheit in hydrogen-fixing bacteria prepared specifically for the species. Incubants shall not be used later than the date indicated on the incubant as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep incubants as cool as possible and temperatures above 75-80° F. can weaken bacteria and make the incubant less effective.

E. Methods of Seeding
1. Hydroseeding - Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a catapault seeder.
a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: Nitrogen: 100 lbs per acre total of soluble nitrogen; P205 (phosphorous): 200 lbs/acre; K2O (potassium): 200 lbs/acre.
b. Lime - use only ground agricultural limestone, 0.5 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.
c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
ii. Dry Seeding - This includes use of conventional drop or broadcast spreaders.
a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 295 or 296. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

iii. Drill or Catapault Seeding - Mechanized seeders that apply and cover seed with soil.
a. Catapault 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.
b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Muck Specifications (in order of preference)
1. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color and shall not be musty, moldy, caked, decayed or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
2. Wood Cellulose Fiber Muck (WCFM)
a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous material.
b. WCFM shall be dry green or contain a green dye that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber muck will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry.
e. The muck material shall form a muck-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.
f. WCFM material shall contain no elements or compounds at concentrations levels that will be phytotoxic.
g. WCFM must conform to the following physical requirements: fiber length to approximately 1 mm., diameter approximately 1 mm., of range of 40 to 65, ash content of 10% maximum and water holding capacity of 50% minimum.

Note: Only sterile straw muck should be used in areas where one species of grass is desired.
Making Seeded Area - Muck shall be applied to all seeded areas immediately after seeding.
1. If grading is completed outside of the seeding season, muck shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
2. When straw muck is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Muck shall be applied to a uniform loose depth of between 1" and 2". Muck applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a muck anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
3. Wood cellulose fiber used as a muck shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

H. Securing Straw Muck Muck Anchoring - Muck anchoring shall be performed immediately following muck application to minimize loss by wind or water. This may be done by one of the following methods listed by preference, depending upon size of area and erosion hazard:
1. A muck anchoring tool is a tractor drawn implement designed to punch and anchor muck into the soil surface to a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
2. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of one pound 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.
3. Application of liquid binders should be heavier at the edges where wind catches muck, such as in valleys and crests of dikes. The remainder of area should be applied uniform after binder application. Synthetic binders - such as Acrylic DLE (Agro-Tack), DCA-70 Petro-Tack, Terra-Tax II, Terra-Tack A2 or other approved equal may be used at rates recommended by the manufacturer to anchor muck.
4. Lightweight plastic netting may be stapled over the muck according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 500' to 3,000' feet long.

**SECTION 21 :
SEDIMENT CONTROL NOTES**

1. A minimum of 48 hours notice must be given to the HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-3859).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND EROSION CONTROL MEASURES.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN 31 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1 BY 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 25, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), 500 (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7. SITE ANALYSIS
TOTAL AREA OF SITE 20.44 ACRES
AREA DISTURBED 14.04 ACRES
AREA TO BE ROOFED OR PAVED 2.02 ACRES
AREA TO BE VEGETATIVELY STABILIZED 12.04 ACRES
TOTAL CUT 15000 CU.YDS.
TOTAL FILL 15000 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION N/A CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES SHALL BE REINSTALLED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TOLERANCES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12) ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
SOIL AMENDMENTS
APPLY TWO TONS PER ACRE DELOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (9 LBS./1000 SQ.FT.) BEFORE SEEDING.
APPLY 400 LBS. PER ACRE 30-0-0 NITROGEN FERTILIZER (9 LBS./1000 SQ.FT.) AND 100 LBS. PER ACRE 1-1-1 FERTILIZER (100 LBS./1000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF 1.5 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 2.0 LBS./ACRE (4 LBS./1000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (200 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIODS FEBRUARY 28, PROJECT SITE BY: OPTION (D) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING; OPTION (E) - USE 500 OPT. (D) SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING
APPLY 1 TO 2 TONS PER ACRE (40 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER USE 340 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (6 LBS./1000 SQ.FT.)
SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (07 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 500.

MULCHING
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER, USE 340 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.
REFER TO THE 1996 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

PERMANENT SEEDING NOTES
ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
SOIL AMENDMENTS
APPLY TWO TONS PER ACRE DELOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (9 LBS./1000 SQ.FT.) BEFORE SEEDING.
APPLY 400 LBS. PER ACRE 30-0-0 NITROGEN FERTILIZER (9 LBS./1000 SQ.FT.) AND 100 LBS. PER ACRE 1-1-1 FERTILIZER (100 LBS./1000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF 1.5 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 2.0 LBS./ACRE (4 LBS./1000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (200 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIODS FEBRUARY 28, PROJECT SITE BY: OPTION (D) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING; OPTION (E) - USE 500 OPT. (D) SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING
APPLY 1 TO 2 TONS PER ACRE (40 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER USE 340 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (6 LBS./1000 SQ.FT.)
SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (07 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 500.

MULCHING
APPLY 1.5 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHORING TOOL OR 200 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER, USE 340 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.
REFER TO THE 1996 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

MAINTENANCE
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (6 LBS./1000 SQ.FT.)
SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (07 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 500.

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MULCHING
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SOIL AMENDMENTS
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (6 LBS./1000 SQ.FT.)
SEEDING
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REFER TO THE 1996 MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

MAINTENANCE
INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.
SOIL AMENDMENTS
APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (6 LBS./1000 SQ.FT.)
SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF ANNUAL RYE (3.2 LBS./ACRE OF WEEPING LOVEGRASS (07 LBS./1000 SQ.FT.) FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROJECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE 500.

**SECTION 21 :
STANDARD AND SPECIFICATIONS FOR TOPSOIL**

1) DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.
2) PURPOSE: TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.
3) SPECIFICATIONS: A) TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. B) TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C) TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CHALK, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER. D) TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 6" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". E) AVOID SURFACE IRRREGULARITIES. F) PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION. G) TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.

4) APPLICATION: A) TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. B) TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING SUBSOILS. C) TOPSOIL SHALL CONTAIN LESS THAN 5% BY VOLUME OF CHALK, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1.5" IN DIAMETER. D) TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" - 6" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". E) AVOID SURFACE IRRREGULARITIES. F) PLACE TOPSOIL AND APPLY SOIL AMENDMENTS AS SPECIFIED IN STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION. G) TOPSOIL SHALL NOT BE PLACED DURING FROZEN, MUDDY, OR EXCESSIVELY WET CONDITIONS.

5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 50), 500 (SEC. 54), TEMPORARY SEEDING (SEC. 50), AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7) SITE ANALYSIS
TOTAL AREA OF SITE 20.44 ACRES
AREA DISTURBED 14.04 ACRES
AREA TO BE ROOFED OR PAVED 2.02 ACRES
AREA TO BE VEGETATIVELY STABILIZED 12.04 ACRES
TOTAL CUT 15000 CU.YDS.
TOTAL FILL 15000 CU.YDS.
OFFSITE WASTE/BORROW AREA LOCATION N/A CU.YDS.

8) ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES SHALL BE REINSTALLED ON THE SAME DAY OF DISTURBANCE.
9) ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10) ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11) TOLERANCES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

12) ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
SOIL AMENDMENTS
APPLY TWO TONS PER ACRE DELOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (9 LBS./1000 SQ.FT.) BEFORE SEEDING.
APPLY 400 LBS. PER ACRE 30-0-0 NITROGEN FERTILIZER (9 LBS./1000 SQ.FT.) AND 100 LBS. PER ACRE 1-1-1 FERTILIZER (100 LBS./1000 SQ.FT.) OF 10-20-20 FERTILIZER.

SEEDING
FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 1.5 BURLS PER ACRE OF 1.5 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE, FOR THE PERIOD MAY 1 THROUGH JULY 31, SEED WITH 2.0 LBS./ACRE (4 LBS./1000 SQ.FT.) KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE (200 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIODS FEBRUARY 28, PROJECT SITE BY: OPTION (D) - TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING; OPTION (E) - USE 500 OPT. (D) SEED WITH 100 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH TWO TONS/ACRE WELL ANCHORED STRAW. ALL SLOPES SHOULD BE HYDROSEEDED.

MULCHING
APPLY 1 TO 2 TONS PER ACRE (40 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 200 GALLONS PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS ON SLOPES 8 FEET OR HIGHER USE 340 GALLONS PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

PERMANENT SEEDING NOTES
ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
SEEDING PREPARATION
LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
SOIL AMENDMENTS
APPLY TWO TONS PER ACRE DELOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 0-20-20 FERTILIZER (9 LBS