

QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES	TYPE	MANUFACTURER/SUPPLIER
STANDARD MH (excluding drops)	11	10		Atlantic Conc. Products Inc.
DROP MH, TYPE "A"	1	1		Atlantic Conc. Prod. Inc. / A-1 Pipe
DROP MH, TYPE "B"	2	2		Atlantic Conc. Prod. Inc. / A-1 Pipe
INTERMEDIATE LANDING	5	1		Atlantic Conc. Prod. Inc.
8" SEWER MAIN	1519 L.F.	986'		J.M. Manufacturing / A-1
8" D.I.P. SEWER MAIN	1441 L.F.	1356'		Atlantic States
4" SEWER HOUSE CONNECTION	1283 L.F.			
# DROP HOUSE CONNECTIONS	29			
# SEWER HOUSE CONNECTIONS	16			
# MH CONNECTIONS	6	14		Atlantic States
8" WATER	4124 L.F.	3759		Mueller Co.
6" WATER	117 L.F.			
4" WATER	217 L.F.	217		Mueller Co.
F.H.	7	7		Mueller Co.
F.H.T. & V.	7			
8"x8" CROSS	1			
8"x8" T	2			
8"x6" T	0			
8"x4" T	1			
8" V	10			
6" V	0			
4" V	1			
8" CAP & PLUG	3	1		Mueller Co.
8" PLUG & BUTTRESS	1			
8" CAP & BUTTRESS	2			
6" CAP & BUTTRESS	0			
4" CAP & BUTTRESS	1			
# WHC (3/4" & 1")	10			
# TWHC	19			
3/4" WHC	454 L.F.	517		Cambridge-Lee
1" WHC	438 L.F.	420		Cambridge-Lee
1 1/2" AIR RELEASE MH	1			
BLOW OFF MH	1			
1/16 HB	2			

NAME OF UTILITY CONTRACTOR: Gains Co. Inc.
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE

NOTE:
 - THE SPOIL FROM THE TRENCHING OPERATIONS IS TO BE PLACED ON THE UPHILL SIDE OF CONSTRUCTION.
 - WATER & SEWER LINES ARE TO BE LIMITED TO THREE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED IN ONE WORK DAY.

NOTE:
 THESE WATER AND SEWER CONSTRUCTION PLANS (SHEETS 1 THRU 12) RESERVOIR OVERLOOK PHASE I WILL SUPERCEDE THE WATER AND SEWER CONSTRUCTION PLANS (SHEETS 1 THRU 15) APPROVED AND SIGNED BY CHIEF, DEVELOPMENT ENGINEERING ON 6/3/98.

VICINITY MAP

SCALE: 1" = 600'

TYPE OF BUILDING	SFD	TOTAL LOTS	55
No. OF UNITS			48
No. OF WATER HOUSE CONNECTION			48
No. OF SEWER HOUSE CONNECTIONS			30
DRAINAGE AREA			LITTLE PATUXENT
TREATMENT PLANT			LITTLE PATUXENT WATER RECLAMATION PLANT

CONTRACT # 24-3671-D
RESERVOIR OVERLOOK
LOTS 1 THRU 28 & 84 THRU 110
PHASE 1
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND
DEPARTMENT OF PUBLIC WORKS

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	20-3664-D

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. DATA.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6". 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 BUREAU OF UTILITIES (410) 313-4900
- 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.
- 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. UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- FORCE MAINS SHALL BE D.I.P. ONLY.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 05.52. WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1' - 6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT CELLAR CANNOT BE SERVED.
- ALL WATER METERS TO BE LOCATED INSIDE PROPOSED UNITS.
- STATIONING SHOWN IS WATER MAIN AND CENTER LINE STATIONING.
- ALL CLEANOUTS AND BALL VALVES ARE TO BE LOCATED AT THE WATER, SEWER AND UTILITY EASEMENT LINE.
- CONTRACTOR TO VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
- ON-SITE SEDIMENT CONTROL TO BE PROVIDED BY F-98-61.
- ALL SEWER HOUSE CONNECTIONS TO BE 4" IN SIZE.
- ALL WATER HOUSE CONNECTIONS TO BE 3/4" IN SIZE UNLESS OTHERWISE NOTED.
- ALL CELLARS WILL HAVE SERVICE TO LOWEST FLOOR UNLESS OTHERWISE NOTED.
- THERE WILL BE NO TWIN SEWER HOUSE CONNECTIONS ON SITE UNLESS APPROVED BY HOWARD COUNTY.
- ALL WATER MAINS TO BE 8", 6", OR 4" DIP CLASS 52.
- THE EXISTING WELL AND SEPTIC SERVICING THE EXISTING HOUSE ARE TO BE ABANDONED.
- STORM DRAIN SYSTEM INDICATED FOR INFORMATIONAL PURPOSES ONLY, SEE ROAD PLANS FOR CONSTRUCTION DATA.
- COMPACTION IN FILL AREAS TO BE 95% AS DETERMINED PER AASHTO T-180.
- IF MATERIAL IS WITHIN 8% OF OPTIMUM MOISTURE, WORKING THE MATERIAL UNTIL REQUIRED COMPACTION IS ACHIEVED IS CONTRACTOR'S RESPONSIBILITY.
- THE CONSTRUCTION IS TO BE LIMITED TO THAT WHICH CAN BE BACKFILLED AND STABILIZED IN ANY ONE WORKING DAY.
- APPLICATION WAS APPROVED ON MAY 4, 1998, BY THE MDE NON-TIDAL WETLANDS & WATERWAYS DIVISION FOR THE TEMPORARY DISTURBANCE OF THE WETLANDS, FLOODPLAIN, STREAM, AND THEIR BUFFERS FOR THE INSTALLATION OF A 6" FORCE MAIN AND 8" WATER MAIN UNDER AUTHORIZATION # 97-NT-0052/199761555.

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	WATER AND SEWER PLAN
4	WATER AND SEWER PLAN
5	WATER PLAN AND PROFILE
6	WATER PROFILES
7	WATER PROFILES
8	SEWER PROFILES
9	SEWER PROFILES
10	SEWER PROFILES
11	SEWER PROFILES
12	SEDIMENT CONTROL NOTES AND DETAILS

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/13/99 DATE
 DEVELOPER'S SIGNATURE
 GLENN S. WARENS, RESERVOIR OVERLOOK, L.C.
 DEVELOPER'S NAME

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A DRAINAGE PRACTICABLE 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] 1/13/99 DATE
 ENGINEER'S SIGNATURE
 JOHN B. MILDENBERG
 ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

[Signature] 1/22/99 DATE
 USDA-NATURAL RESOURCES CONSERVATION SERVICE

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

[Signature] 1/22/99 DATE
 HOWARD SCD

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

[Signature] 1-20-99 DATE
 CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

[Signature] 1/25/99 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Ball (301) 621-5521 Wash. (410) 997-0298 Fax

engineering	SJD	RFW	3	As-Built	4/27/98
illustration	SJD				
approval					
project	SJD	4	REVISE QUANTITY TABLE & ADD CONTRACT # IN VICINITY MAP		1/16/99
	SJD	2	REVISE QUANTITY TABLE		1/8/99
	RCJ	1	REVISE QUANTITY TABLE		9/29/98
date					
		BY	NO.	REVISION	DATE
					600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

TITLE SHEET

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
1 OF 12

WATER MAIN TABULATION CHART

WINDSOR WALK COURT		
STATION	APPURTENANCE	DIST. FROM E
0+45.54	1/16 BEND	7' LT.
1+38	8" V	7' LT.
1+40	8"x8" T	7' LT.
1+42	8" V	7' LT.
1+94	8"x6" F.H.T.	9' LT.
1+94	6" V	16.1' LT.
4+34.3	8"x4" T	29.8' RT.
4+35.9	4" V	27.2' RT.
4+37	8" C&B	32.1' RT.

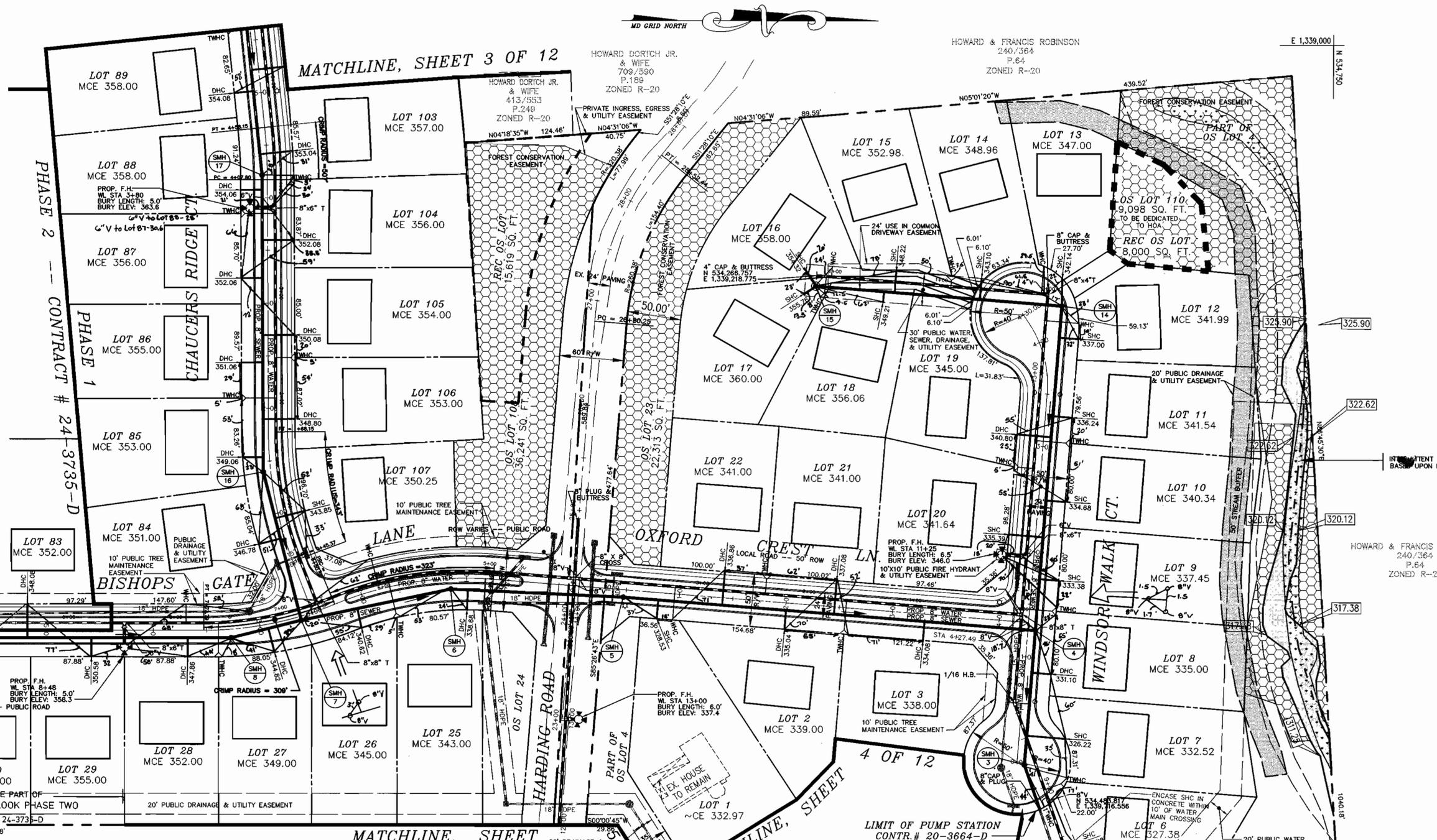
OXFORD CREST LANE		
STATION	APPURTENANCE	DIST. FROM E
0+06.20	8" V	7' LT.
4+17	8" V	7' LT.

BISHOPS GATE LANE		
STATION	APPURTENANCE	DIST. FROM E
0+04.61	8" V	7' RT.
2+42.3	8"x8" T	7' RT.
2+44.3	8" V	7' RT.
4+26.94	8"x6" FHT	7' RT.
4+26.94	6" V	5' RT.
4+26.94	6" V	16.1' LT.
4+38.95	8" P&B	7' RT.

CHAUCERS RIDGE COURT		
STATION	APPURTENANCE	DIST. FROM E
0+10	8" V	7' RT.
3+90.07	8"x6" FHT	7' RT.
3+90.07	6" V	5' RT.
3+90.07	6" V	16.1' LT.
6+08.66	1" AIR RELEASE MH	7' RT.
8+93.69	8"x6" FHT	7' RT.
8+93.69	6" V	5' RT.
8+93.69	6" V	21.9' LT.
9+46	8" C&B	7' LT.

HARDING ROAD		
STATION	APPURTENANCE	DIST. FROM E
13+24.95	8"x6" FHT	11.5' RT.
13+24.95	6" V	13.5' RT.
13+24.95	6" V	21.5' RT.
6+78.39	8"x6" FHT	10.6' RT.
6+78.39	6" V	12.6' RT.
6+78.39	6" V	21.6' RT.
23+01.97	8"x6" FHT	3.2' RT.
23+01.97	6" V	5.2' RT.
23+01.97	6" V	15.2' RT.
24+29.94	8" V	0.8' RT.
24+35.34	8"x8" CROSS	0.7' RT.
24+40.75	8" V	0.7' RT.
24+92.27	8" P&B	0.3' LT.

NOTE: - CONTRACTOR TO VERIFY THE LOCATION OF APPURTENANCES WITHIN EASEMENTS.
 - FOR ALL APPURTENANCES OUTSIDE OF THE ROAD RIGHT-OF-WAY, SEE PLAN VIEW FOR NORTHING AND EASTING LOCATION INFORMATION.



MANHOLE LOCATION CHART

MH #	ROAD OR NORTHING & EASTING	CL STATION	OFFSET
1	BY OTHERS		
2	BY OTHERS		
3	WINDSOR WALK COURT EAST	0+02.34	7.00' RT.
4	WINDSOR WALK COURT	1+25.49	7.00' RT.
5	OXFORD CREST LANE	0+47.67	7.00' RT.
6	BISHOPS GATE LANE	1+15.24	10.00' LT.
7	BISHOPS GATE LANE	2+01.26	3.78' LT.
8	BISHOPS GATE LANE	3+27.79	8.02' LT.
9	BISHOPS GATE LANE	6+88.83	7.00' LT.
14	WINDSOR WALK COURT	4+18.37	34.66' RT.
15	WINDSOR WALK COURT WEST	LP 1+00.91	196.25' LT.
16	CHAUCERS RIDGE COURT	1+40.43	7.00' LT.
17	CHAUCERS RIDGE COURT	4+21.62	4.98' LT.
18	CHAUCERS RIDGE COURT	6+45.00	7.00' LT.
19	CHAUCERS RIDGE COURT	9+35.13	7.00' LT.
20	CHAUCERS RIDGE COURT	LP 1+89.77	138.24' LT.
25	N 535,207.139 E 1,340,575.025		
26	BY OTHERS		

NOTE: CONTRACTOR TO VERIFY THE LOCATION OF APPURTENANCES WITHIN EASEMENTS.

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	20-3664-P

ROCKY GORGE RESERVOIR

WASH. SUB. SANITARY COMMISSION. 221.774

F: 197084.DWG/FINAL/MS&S/84-WS-2.DWG

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Chief, Bureau of Utilities Date: 1-20-99	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND Chief, Development Engineering Division Date: 1/25/99
--	--

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0286 Fax (301) 821-5521 Wash. (410) 997-0288

engineering	SJD	RFW	3	As-Built	4/27/99
illustration	SJD				
approval					
project	SJD	2	REVISE FH LOCATIONS & ADD PHASE LINE		1/8/99
date	RCJ	1	REVISE MCE & GRADE AT ROW		9/30/98
date		BY	NO.	REVISION	DATE
MAY 1998					

Water & Sewer As-Built

WATER AND SEWER PLAN

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale 1"=50'
 2 of 12

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

WASH. SUB.
SANITARY COMMISSION.
221/74

PAUL PANITZ
1132/540
P.47
ZONED R-20

STEVE AND PAUL BURKE
3948/439
P.71
ZONED R-20

FRED E. SISSON & WIFE
407/389
P.72
ZONED R-20

MILDRED E. MITCHELL
485/386
P.73
ZONED R-20

JOAN M. BUCKINGHAM
1080/137
P.278
ZONED R-20

LLOYD BARNES & WIFE
227/368
P.74
ZONED R-20

HOWARD & FRANCIS ROBINSON
240/364
P.64
ZONED R-20

HOWARD DORTCH JR.
& WIFE
413/553
P.249
ZONED R-20

HOWARD DORTCH JR.
& WIFE
709/580
P.189
ZONED R-20



ROCKY GORGE RESERVOIR

WASH. SUB.
SANITARY COMMISSION.
221/74

E 1,338,750
N 533,000

E 1,338,750
N 533,000

PHASE 2
CONTRACT # 24-3735-D

PHASE 1

MATCHLINE,

SHEET 2 OF 12

Water & Sewer As-Builts

CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

PLAN REFERENCE NUMBERS	
F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	ZO-3664-P

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) 997-0296 Ball (301) 621-5521 Wash. (410) 997-0296 Ft.



Robert M. Boender
CHIEF, BUREAU OF UTILITIES
1-20-99
DATE

Chief, Development Engineering Division
1/25/99
DATE

engineering	SJD	REW	3	As-Builts	4/27/99
illustration	SJD				
approval					
project	SJD	2		ADD PRIVATE SEWER & UTILITY EASEMENT & ADD PHASING	1/2/99
	RCJ	1		REVISE MCE, GRADE AT ROW, & LOT 109	10/1/98
date					MAY 1998
	BY	NO.		REVISION	

WATER AND SEWER PLAN

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
1"=50'

3 of 12

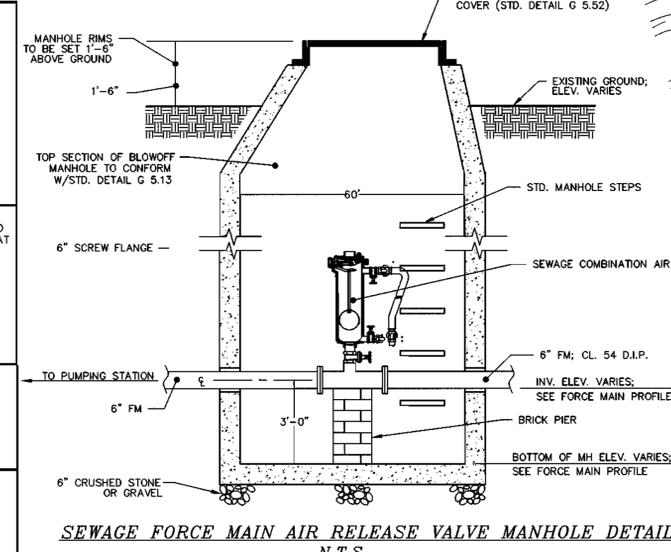
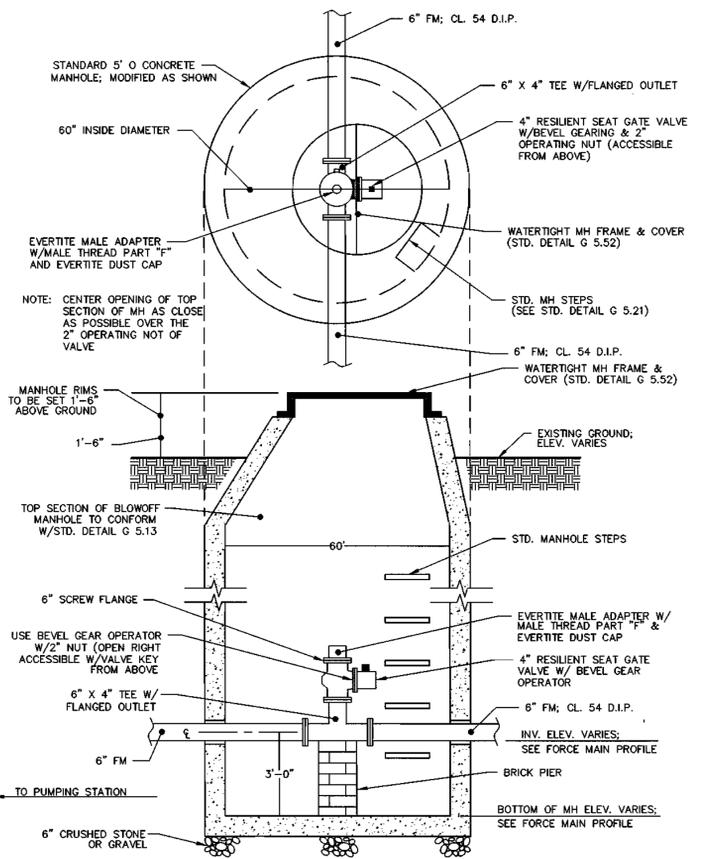
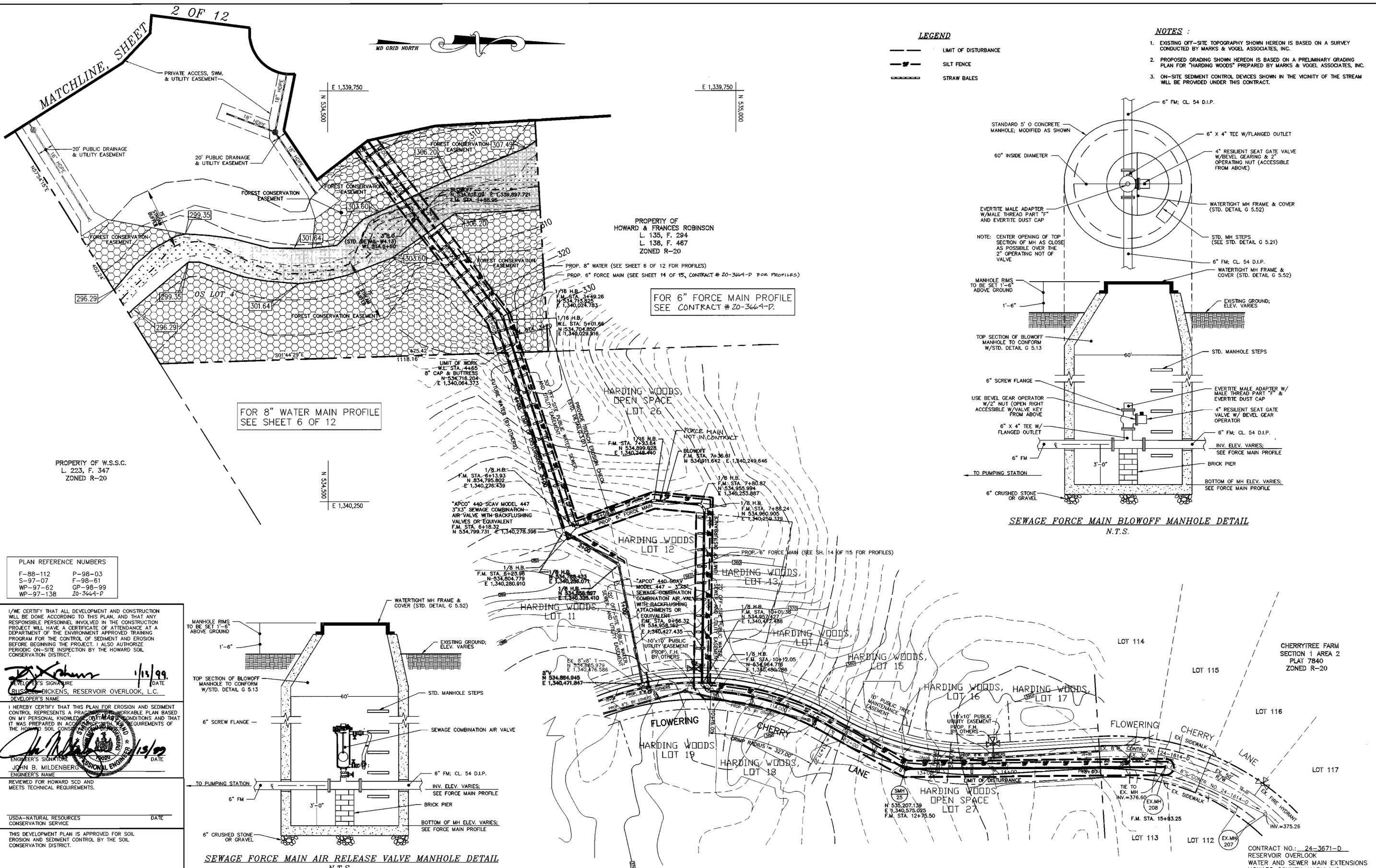
F:\97084\DWG\FINAL\W&S\04-MS-3.DWG

MATCHLINE, SHEET



- LEGEND**
- LIMIT OF DISTURBANCE
 - SILT FENCE
 - STRAW BALES

- NOTES :**
1. EXISTING OFF-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON A SURVEY CONDUCTED BY MARKS & VOGEL ASSOCIATES, INC.
 2. PROPOSED GRADING SHOWN HEREON IS BASED ON A PRELIMINARY GRADING PLAN FOR "HARDING WOODS" PREPARED BY MARKS & VOGEL ASSOCIATES, INC.
 3. ON-SITE SEDIMENT CONTROL DEVICES SHOWN IN THE VICINITY OF THE STREAM WILL BE PROVIDED UNDER THIS CONTRACT.



PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	CP-98-99
WP-97-138	ZO-3664-D

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/13/99
DEVELOPER'S SIGNATURE DATE
RUSSELL DICKENS, RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRAGMATIC 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] 1/13/99
ENGINEER'S SIGNATURE DATE
JOHN B. MILDENBERG
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 2/5/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Beltsville City, Maryland 21042
(410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0298 Fax

engineering	SJD		
illustration	SJD		
approval	SJP	4	NOTE FORCE MAIN CONTRACT # 7/16/00
project	SJD	2	CORRECT STATIONING OF APPURTENANCES & REVISE LOT 1/11/99
project			97084
date			MAY 1998
BY	NO.	REVISION	DATE

WATER AND SEWER PLAN

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

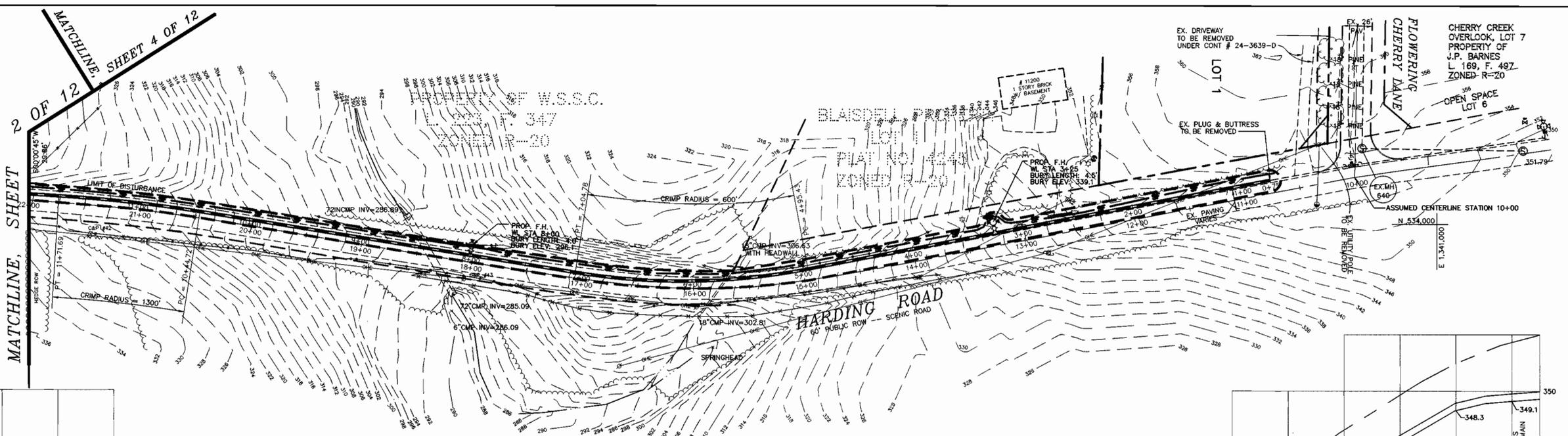
scale
1"=50'
4 of 12

LEGEND

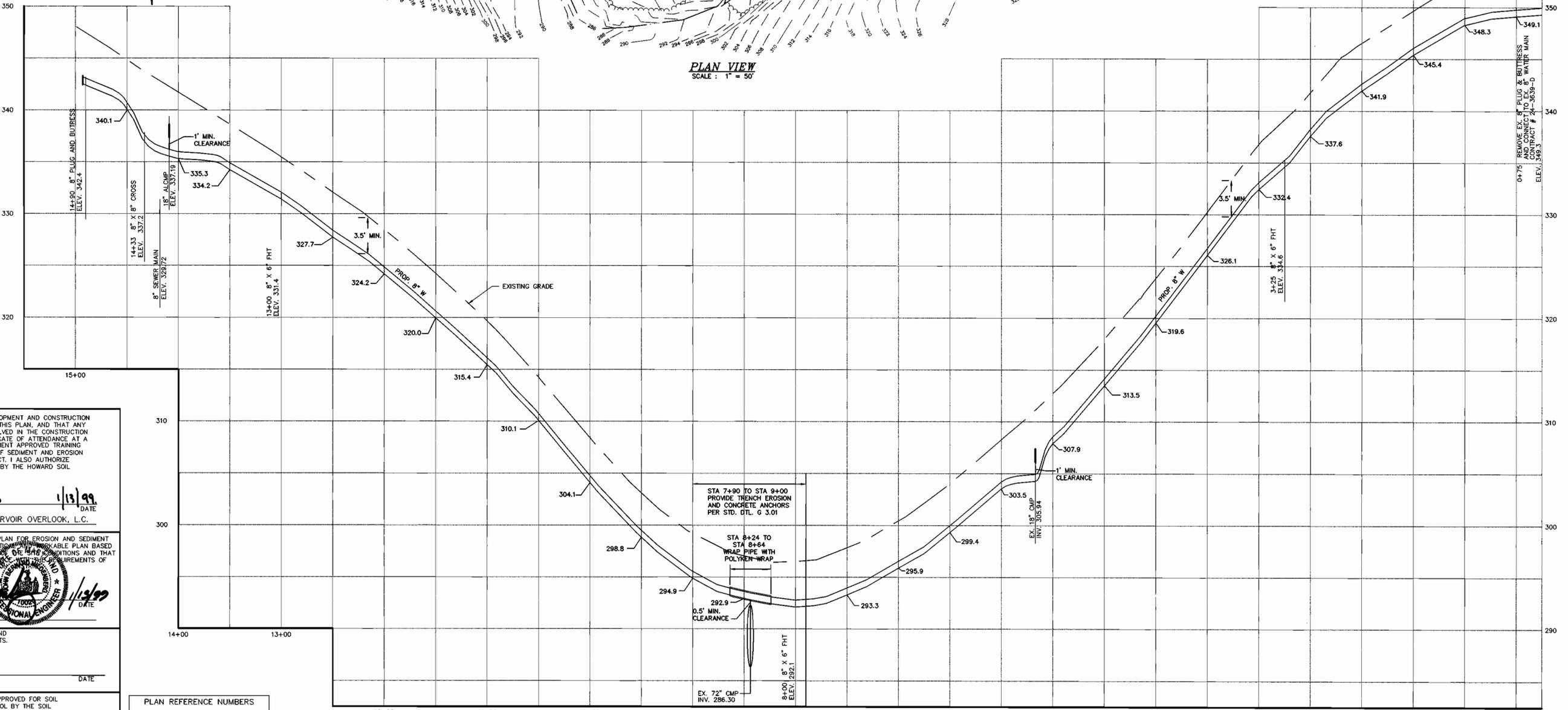
- - - - - EX. EDGE OF GRAVEL
- ⊙ EX. POWER POLE
- ⊙ EX. OVERHEAD ELEC.
- ⊙ EX. LIGHT POLE
- ⊙ EX. GUY POLE
- ⊙ EX. SANITARY MH
- ⊙ EX. WATER VALVE
- ⊙ EX. WATER METER
- ⊙ EX. WELL
- ⊙ EX. FIRE HYDRANT
- - - - - EX. EDGE OF CONC.
- - - - - EX. EDGE OF PAVEMENT
- - - - - EX. GUARD RAIL
- - - - - EX. FENCE
- - - - - EX. WOODLINE
- - - - - EX. STREAM CENTERLINE
- ⊙ EXISTING TREE

MATCHLINE, SHEET 2 OF 12

MATCHLINE SHEET 4 OF 12



PLAN VIEW
SCALE: 1" = 50'



8" MAIN HARDING ROAD
ALL STATIONING IS WATER MAIN STATIONING
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/13/99
DEVELOPER'S SIGNATURE DATE
ROBERT COLEMAN, RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

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

[Signature] 1/13/99
ENGINEER'S SIGNATURE DATE
JOHN B. MILDENBERG
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	ZO-3664-P

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) 997-0296 Baltimore (301) 621-5521 Wash. (410) 997-0298 Fax

engineering	SJD		
illustration	SJD		
approval			
project	97084	2	REVISE LOT NUMBERS AND MATCHLINE AND SHEET NUMBERS.
date	MAY 1998	BY	NO.
		REVISION	DATE

WATER PLAN AND PROFILE

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN
5 OF 12

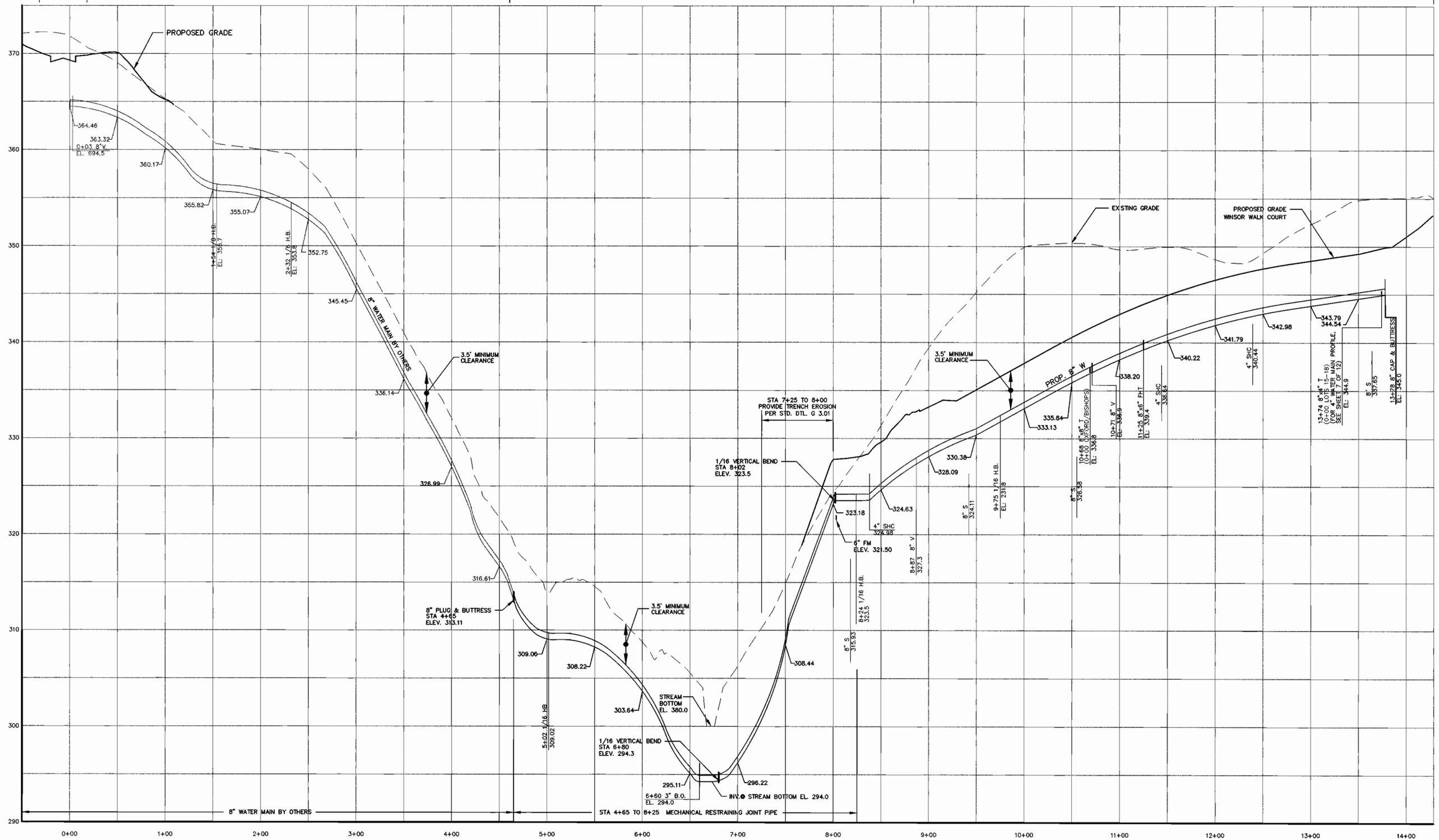
F:\197084\DWG\FINAL\W851-84-MS-5.DWG

FLOWERING
CHERRY LANE

OFF-SITE PUBLIC WATER, SEWER, & UTILITY EASEMENT

PUBLIC WATER, SEWER, & UTILITY EASEMENT

WINDSOR WALK COURT



8" MAIN OFFSITE THROUGH WINDSOR WALK COURT

ALL STATIONING IS WATER MAIN STATIONING
HORIZONTAL SCALE : 1" = 50'
VERTICAL SCALE : 1" = 5'

CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

**MILDENBERG,
BOENDER & ASSOC., INC.**
Engineers Planners Surveyors



engineering	SD				
illustration	SD				
approval					
project	SJD	2	REVISE LOT & SHEET NUMBERS	1/12/99	
	RCJ	1	ADD VERTICAL BENDS	10/1/98	
date	MAY 1998	BY	NO.	REVISION	DATE

WATER PROFILES

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN
6 OF 12

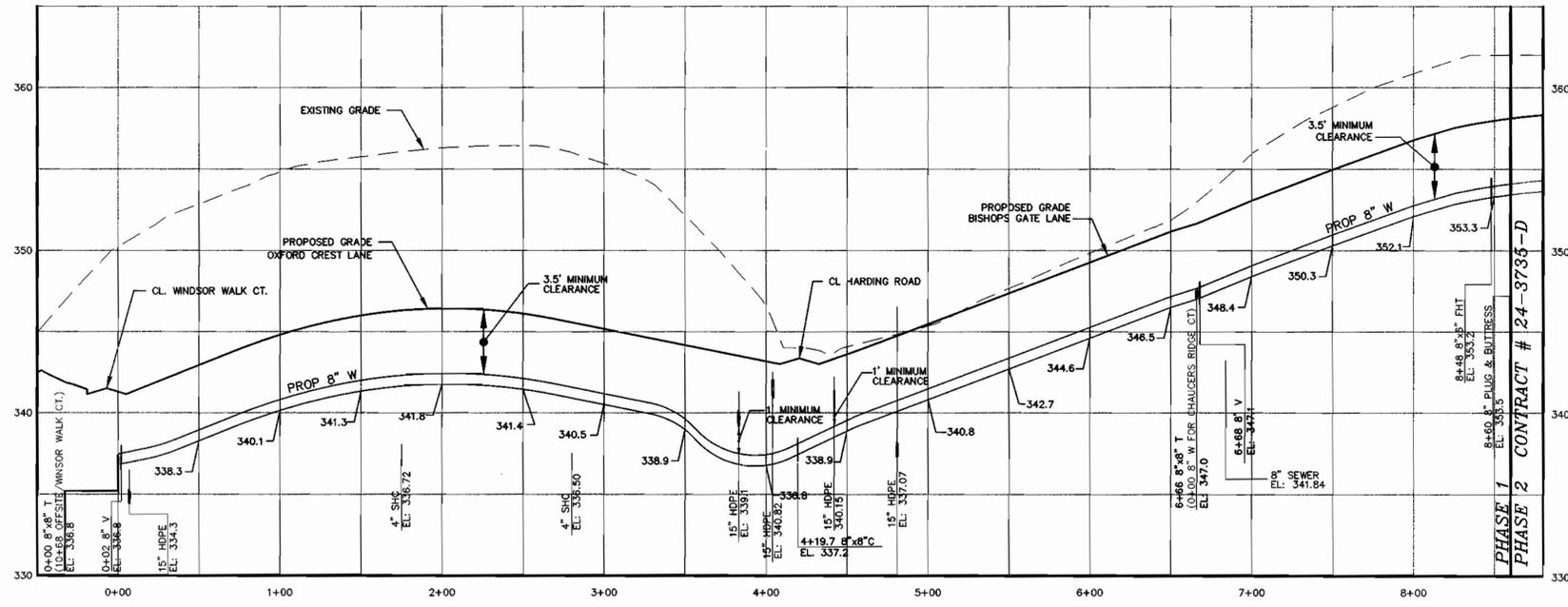
Robert J. Dennis 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

1/25/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

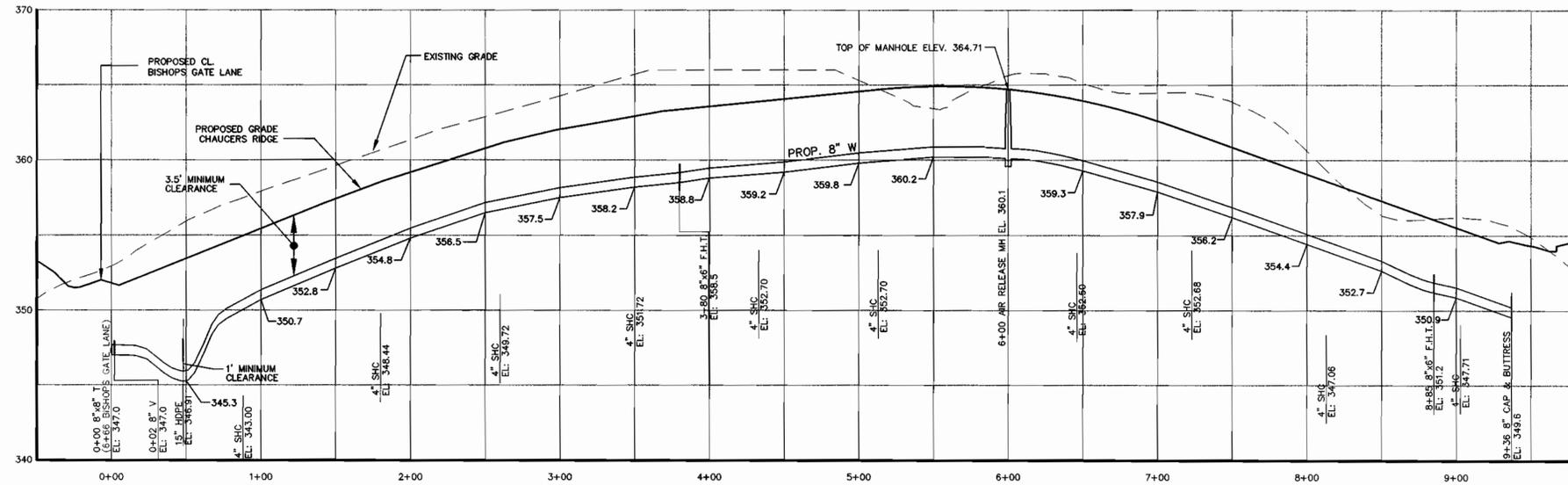
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0286 Bulk (301) 621-5321 Wash. (410) 997-0286 Fax.

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

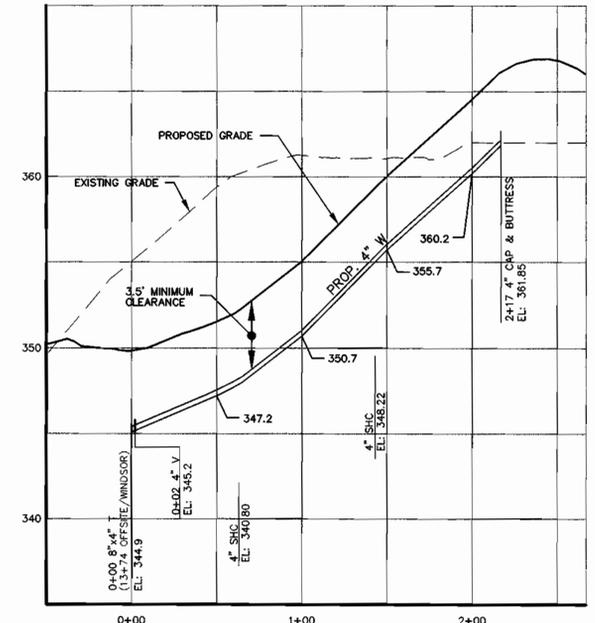
F:\197084\DWG\FINAL\WSES\84-WPROF.DWG



8" MAIN OXFORD CREST AND BISHOPS GATE LANE
 ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



8" MAIN CHAUCER'S RIDGE
 ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



4" EXTENSION, LOTS 15-18
 ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

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, Elkowitz City, Maryland 21042
 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0296 Pac.



Robert W. Beaman 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

Michael J. ... 1/25/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

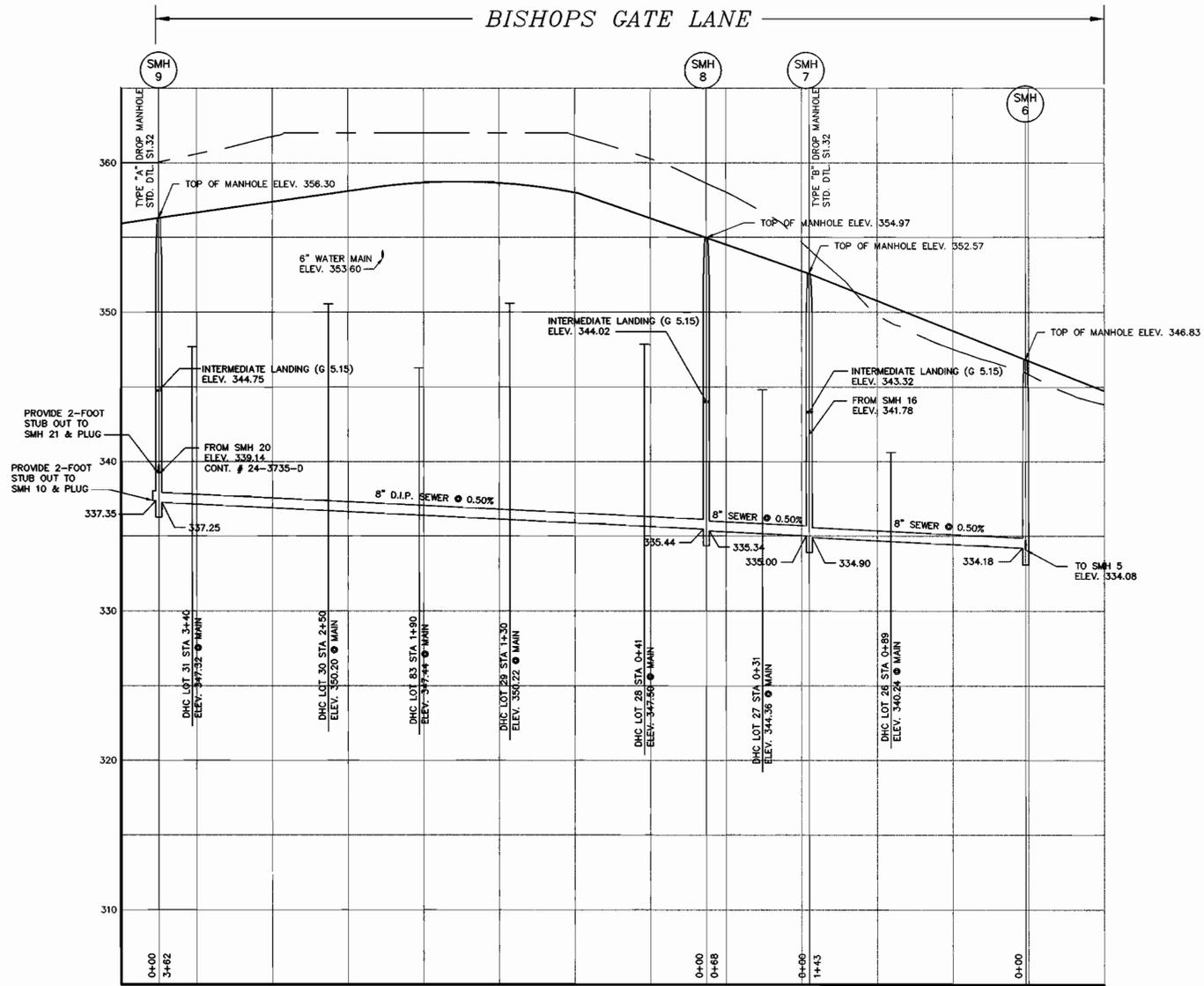
engineering	SD			
illustration	SD			
approval				
project	SJD 2	REVISE FH LOCATIONS & REMOVE PHASE 2 PROFILES	1/12/99	
date	97084	RCJ 1	REVISE PROPOSED GRADE, WATER MAIN, & CROSSINGS	10/1/98
	MAY 1998	BY NO.	REVISION	DATE

WATER PROFILES

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
 7 of 12

F:\97084\DWG\FINAL\W&S\84-WPROF.DWG



SEWER PROFILE - SMH 13 TO SMH 6
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

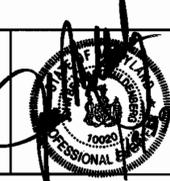
CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

F:\97084\DWG\FINAL\W85\64-SPROF.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Robert M. Berman
 CHIEF, BUREAU OF UTILITIES
 1-20-99
 DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 Howard M. ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1/25/99
 DATE

MILDENBERG, BOENDER & ASSOC., INC
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21142
 (410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0286 Fax



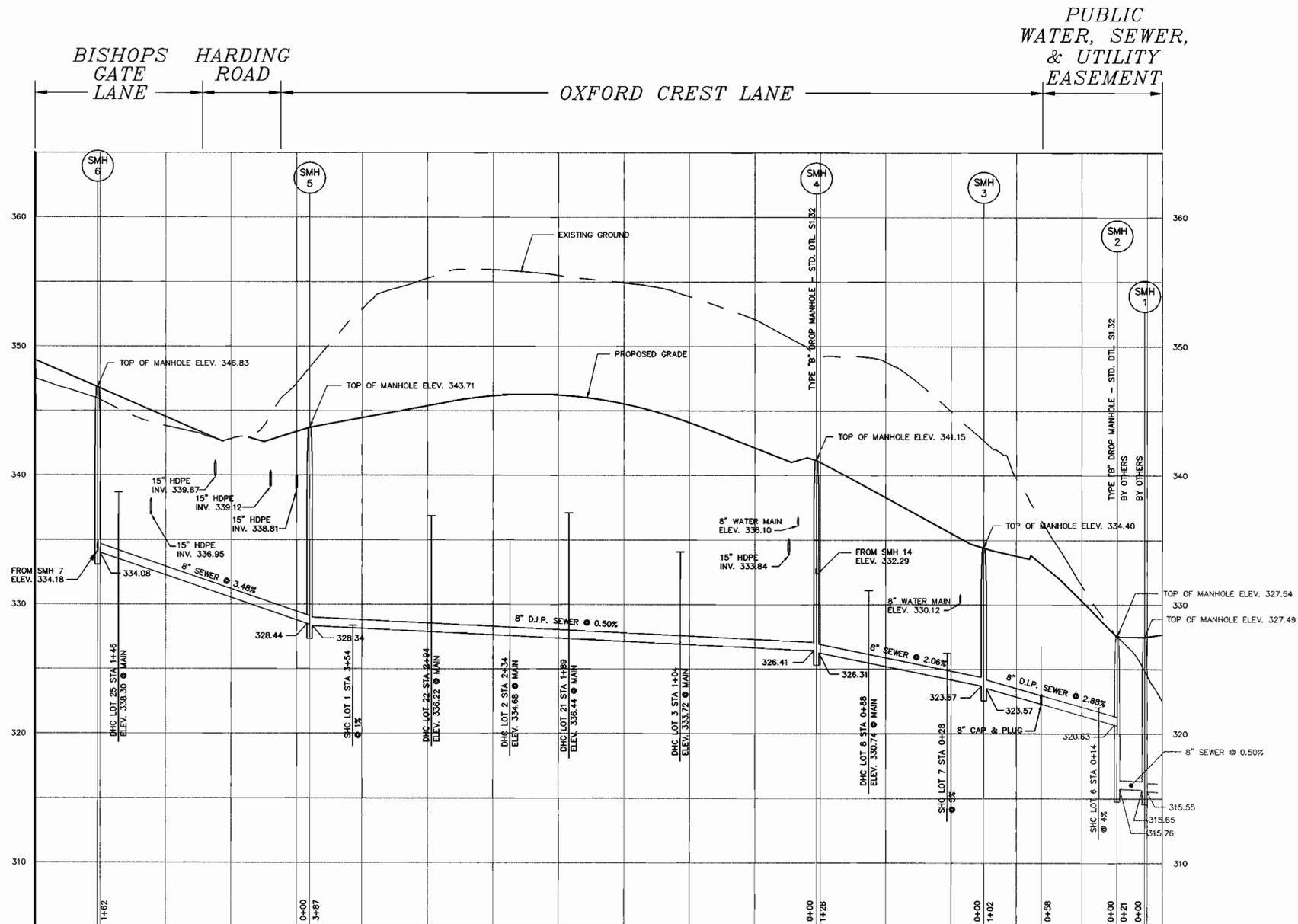
engineering	SJD				
illustration	SJD				
approval					
project	SJD	2	PROVIDE STUBS AT SMH 9 & REMOVE PHASE 2	1/12/99	
date	RCJ	1	REVISE PROPOSED GRADE, SHC, & 8" SEWER	10/6/98	
MAY 1998	BY	NO.	REVISION	DATE	

SEWER PROFILES

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

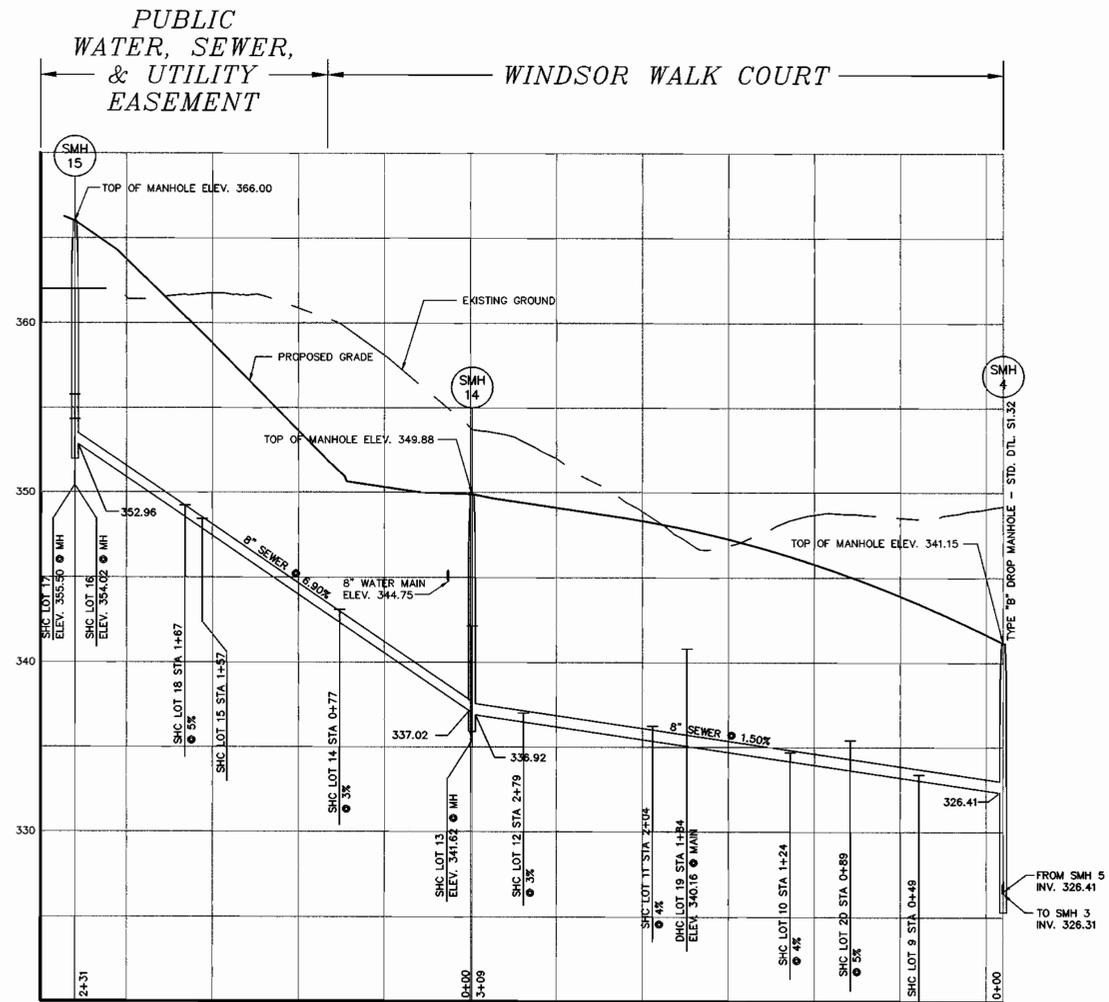
RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
 8 OF 12



SEWER PROFILE - SMH 6 TO SMH 1

HORIZONTAL SCALE : 1" = 50'
VERTICAL SCALE : 1" = 5'



SEWER PROFILE - SMH 15 TO SMH 4

HORIZONTAL SCALE : 1" = 50'
VERTICAL SCALE : 1" = 5'

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dersey Hall Drive, Suite 202, Ellicott City, Maryland, 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax



engineering	SJD				
illustration	SJD				
approval					
project	SJD	2	REVISE LOT NUMBERS		1/12/99
date	RCJ	1	REVISE PROPOSED GRADE & PIPE BETWEEN SMH 15 TO SMH 14 & SMH 6 TO SMH 5.		10/8/98
date					
	BY	NO.	REVISION		DATE

SEWER PROFILES

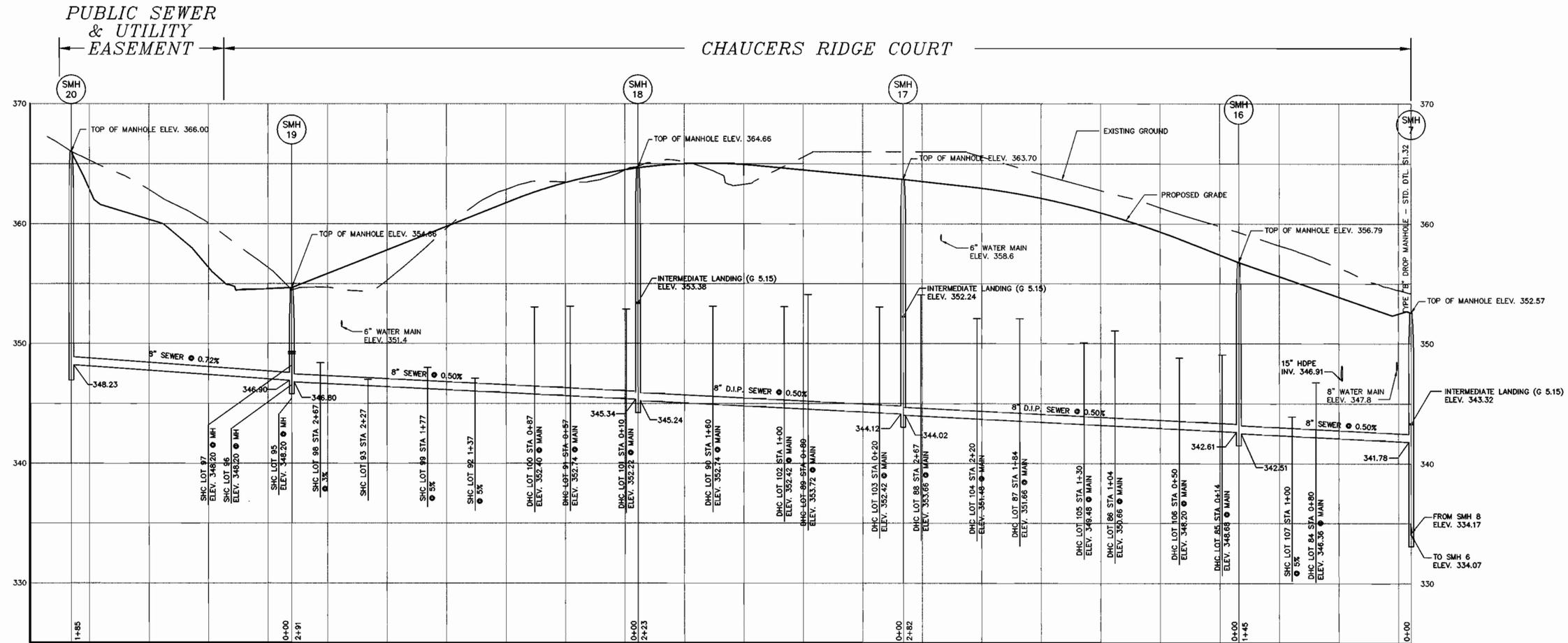
CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN

9 OF 12

F:\97084\DWG\FINAL\W&S\84-SPROF.DWG



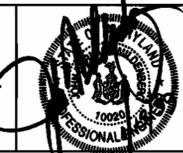
SEWER PROFILE - SMH 20 TO SMH 7
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\97084\DWG\FINAL\MS&S\14-SPROP.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Robert M. Beninger 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature] 1/25/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21112
 (410) 997-0296 Balt. (301) 621-5321 Wash. (410) 997-0298



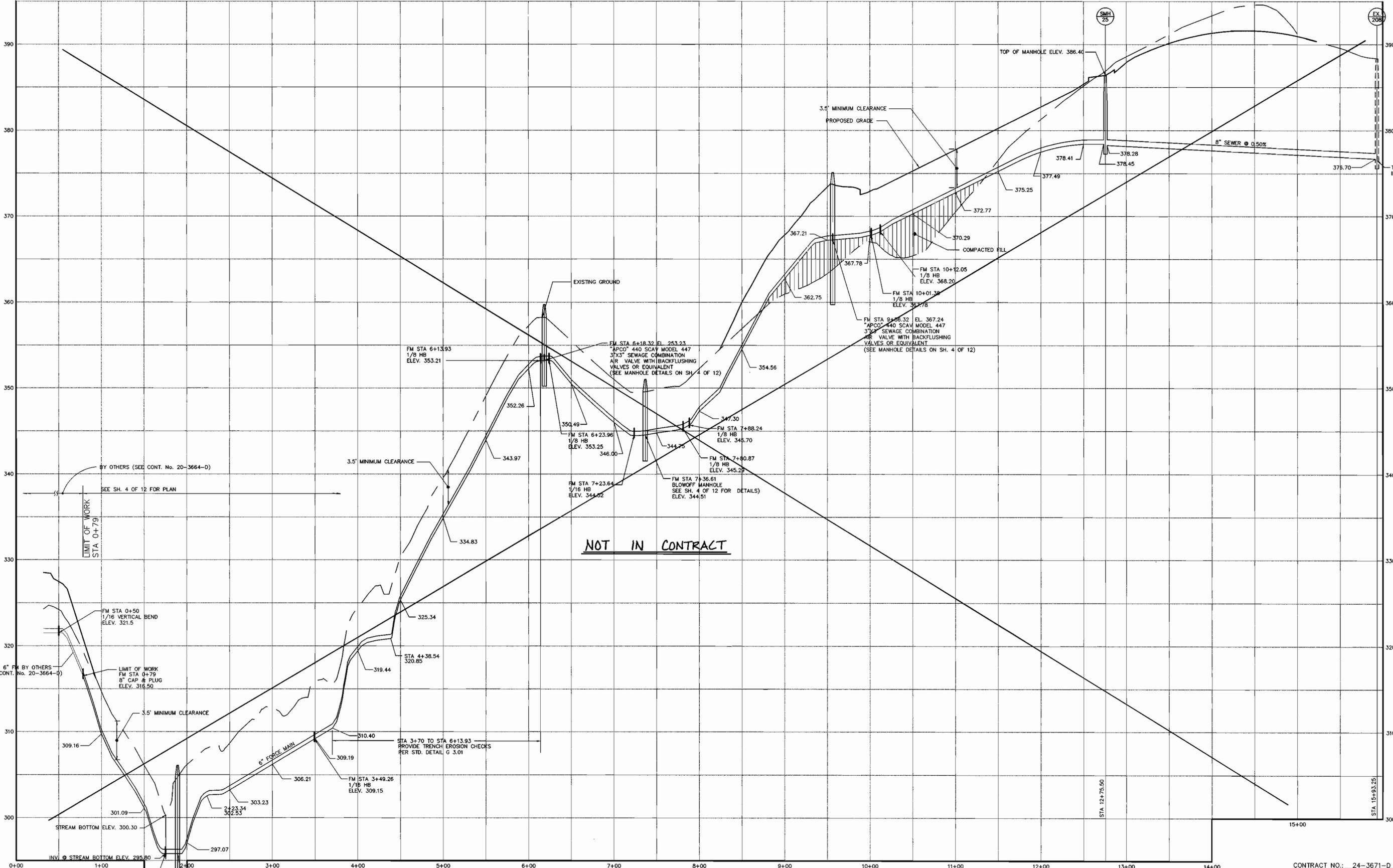
engineering	SJD				
illustration	SJD				
approval					
project	SJD	2	REVISE LOT NUMBERS	1/12/99	
date	RCJ	1	REVISE PROPOSED GRADE & SHC AND DHC ELEVATIONS.	10/9/98	
BY	NO.		REVISION	DATE	
MAY 1998					

SEWER PROFILES
 600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
 10 of 12

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND



SEWER PROFILE - FORCE MAIN TO SMH 28

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

NOTE: FIELD LOCK GASKET FOR THE ENTIRE FORCE MAIN.

CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert Berman 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

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, Elkocott City, Maryland 21032
(410) 987-0296 Ball. (301) 621-5521 Wash. (410) 987-0298 Pa.



engineering	SJD			
illustration	SJD			
approval				
project	SJP	4	LABEL NOT IN CONTRACT	7/16/98
	SJD	2	CORRECT STATIONING & ELEVATIONS.	1/12/99
	RCJ	1	ADD VERTICAL BEND NOTES.	10/9/98
date	BY	NO.	REVISION	DATE
MAY 1998				

SEWER PROFILES
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN
11 OF 12

F:\97084.DWG\FINAL\W&S\84-SPROF.DWG

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- 1) PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL - AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
- 2) ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 1-4 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

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

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED. SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

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

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

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

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

STANDARD SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
- 2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- 3) FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- 4) ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- 5) ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.5), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 6) ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.

7) SITE ANALYSIS:		
TOTAL AREA OF SITE:	N/A	ACRES
AREA DISTURBED:	1.20	ACRES
AREA TO BE ROOFED OR PAVED:	0.088	ACRES
AREA TO BE VEGETATIVELY STABILIZED:	0.94	ACRES
TOTAL CUT:	N/A	CU. YDS.
TOTAL FILL:	N/A	CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	N/A	

THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS.

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

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW pH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- II. TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - i. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF COM-TRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF ONDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - iii. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- IV. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - i. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - a. pH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A pH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSCRIBED TO RAISE THE pH TO 6.5 OR HIGHER.
 - b. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - c. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - d. NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

ii. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

- V. TOPSOIL APPLICATION
 - i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
 - iii. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - iv. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

- i. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - a. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - b. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOROUS, AND 0.2 PERCENT POTASSIUM AND HAVE A Ph OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 - c. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
- iv. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

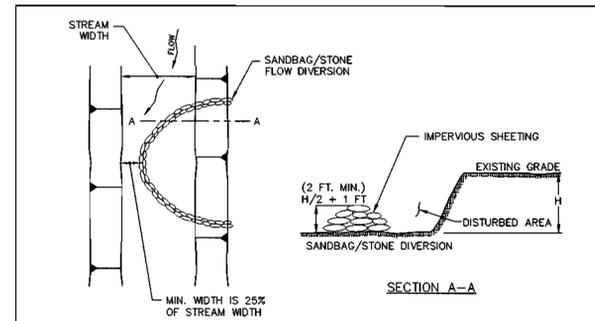
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA, PUB. #, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT. (1 DAY)
2. SEDIMENT AND EROSION CONTROL DEVICES INSTALLED UNDER F-98-61 WILL BE USED FOR INSTALLATION OF WATER AND SEWER MAINS WITHIN PROJECT LIMITS, EXCEPT AS NOTED HEREIN. INSPECT AND REPAIR ALL SEDIMENT AND EROSION CONTROL DEVICES, AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCEMENT OF WORK. (2 DAYS)
3. FOR WATER AND SEWER CONSTRUCTION OUTSIDE LIMITS OF F-98-61, ALL WORK SHALL CONFORM TO THE FOLLOWING:
 - A. CLEAR AND GRUB FOR STRAW BALE DIKES AND SILT FENCES. (2 DAYS)
 - B. INSTALL STRAW BALE DIKES AND SILT FENCES AS INDICATED. (3 DAYS)
 - C. EXCAVATION SHALL BE LIMITED TO THE AMOUNT OF TRENCH WHICH CAN BE COMPLETED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
 - D. REPAIR AND/OR REPLACE ANY DISTURBED STRAW BALE DIKES AND SILT FENCES AT END OF EACH WORKING DAY.
4. FOR STREAM CROSSING, REFER TO STREAM DIVERSION DETAIL WPD 2.3 AND THE FOLLOWING:
 - A. PRIOR TO COMMENCEMENT OF ANY WORK WITHIN THE BANKS OF THE STREAM, PLACE SANDBAG DIVERSIONS AS INDICATED ON DETAIL.
 - B. COMPLETE INSTALLATION OF UTILITY CROSSING WITHIN THE AREA OF DIVERSION AND BACKFILL AS INDICATED ON PLAN.
 - C. RELOCATE SANDBAG DIVERSION TO OPPOSITE SIDE OF STREAM.
 - D. COMPLETE INSTALLATION AND BACKFILL FOR UTILITY CROSSING.
 - E. WHEN INSTALLATION IS COMPLETE AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SANDBAG DIVERSION AND STABILIZE STREAM AREA AND BANKS AS INDICATED ON PLANS.
5. UPON STABILIZATION OF AREA, AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS.

EROSION AND SEDIMENT CONTROL NOTES

1. ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
2. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
3. ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
4. EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
5. IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
6. THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
7. ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



I. DESCRIPTION
THE WORK SHALL CONSIST OF INSTALLING FLOW DIVERSIONS FOR THE PURPOSE OF EROSION CONTROL WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION OR BRIDGE ABUTMENT CONSTRUCTION.

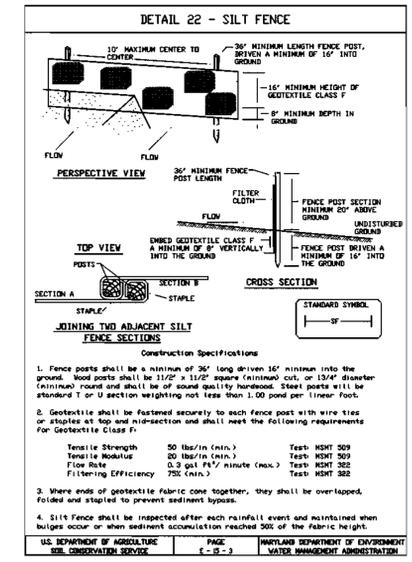
II. MATERIAL SPECIFICATIONS

1. SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRAVIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E., SAND, FINE GRAVEL, ETC.)
2. STONES: STONES SHALL BE WASHED AND HAVE A MINIMUM DIAMETER OF 6 INCHES.
3. SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.

III. CONSTRUCTION REQUIREMENTS

1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
2. THE DIVERSION STRUCTURE SHALL BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.
3. THE HEIGHT OF THE DIVERSION STRUCTURE SHALL BE ONE HALF THE DISTANCE FROM STREAM BED TO STREAM BANK PLUS ONE FOOT, AS INDICATED ON THE CROSS SECTION VIEW.
4. ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN A SOD APPROVED DISPOSAL AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS BY THE WRA.
5. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN PRIOR TO RE-ENTERING THE STREAM.
6. SHEETING SHALL BE OVERLAPPED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST AN 18-INCH OVERLAP.
7. SEDIMENT CONTROL DEVICES AREA TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

WATER RESOURCES ADMINISTRATION	SANDBAG/STONE DIVERSION	APPROVED BY _____	WPD 2.3
		CHIEF, WATERWAY PERMITS	



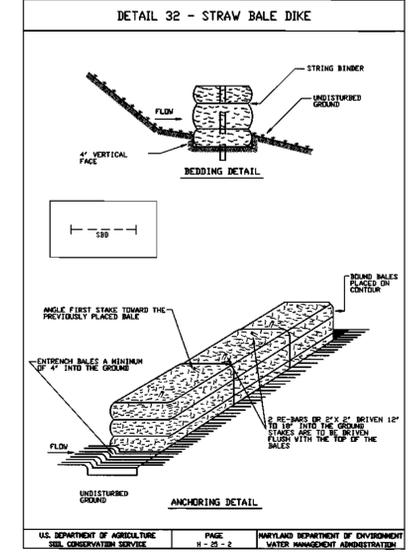
SILT FENCE

Silt Fence Design Criteria

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

Note: In areas of less than 2:1 slope and sandy soils (USDA general classification system, Soil Class 4) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE 1-15-24, MARYLAND DEPARTMENT OF ENVIRONMENT, WATER MANAGEMENT ADMINISTRATION



CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

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 A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER'S SIGNATURE: *Russell Dickens* DATE: 1/13/99
DEVELOPER'S NAME: RUSSELL DICKENS, RESERVOIR OVERLOOK, L.C.

ENGINEER'S SIGNATURE: *John B. Milender* DATE: 1/14/99
ENGINEER'S NAME: JOHN B. MILENDER, PROFESSIONAL ENGINEER

REVIEWED FOR HOWARD MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE: _____

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

HOWARD SCD DATE: _____

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	20-3664-D

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

CHIEF, BUREAU OF UTILITIES DATE: 1-20-99

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 1/25/99

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors

5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Fax.

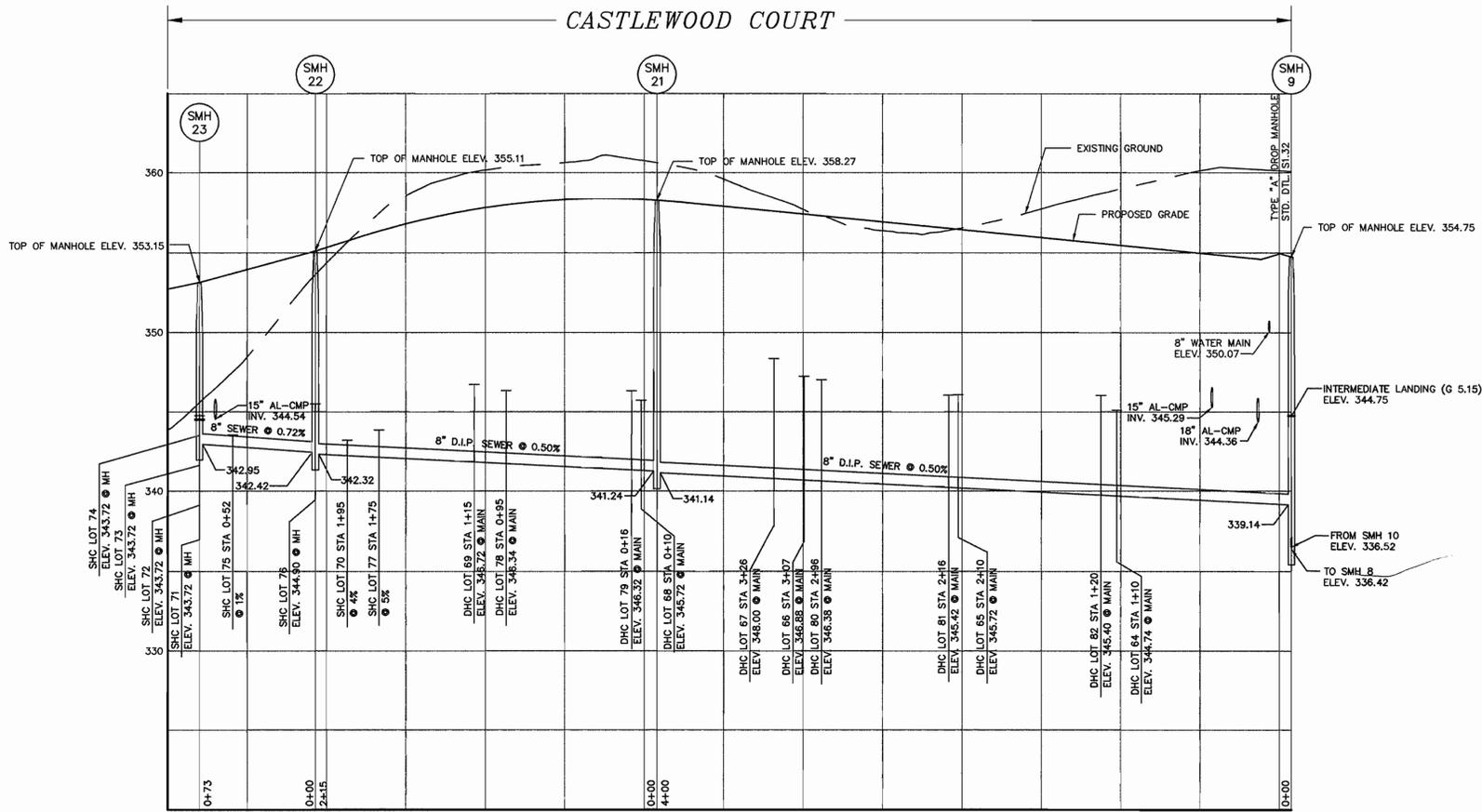
engineering	SJD				
illustration	SJD				
approval					
project	97084	S/D	2	REVISE LOT NUMBERS	1/12/99
date	MAY 1998	BY	NO.	REVISION	

SEDIMENT CONTROL NOTES AND DETAILS

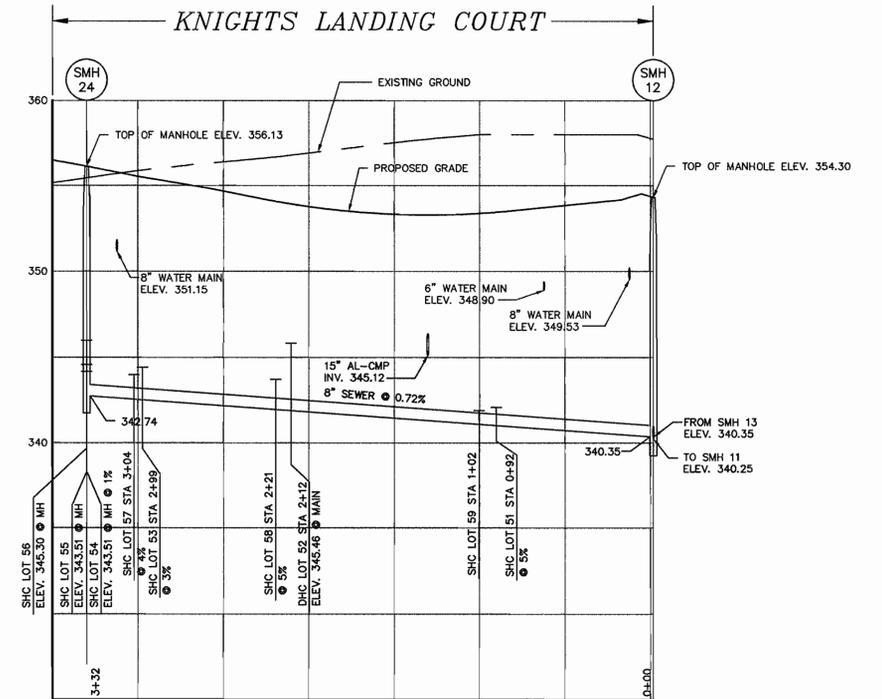
600' SCALE MAP NO. _____ BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

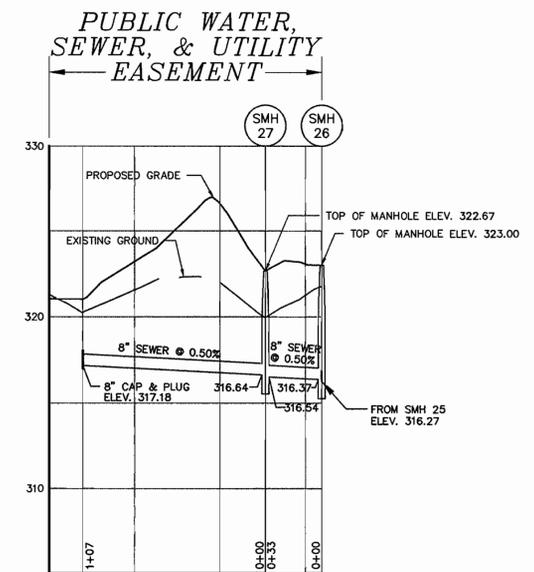
scale: NOT TO SCALE
12 OF 12



SEWER PROFILE - SMH 23 TO SMH 9
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



SEWER PROFILE - SMH 24 TO SMH 12
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



SEWER PROFILE - PLUG TO SMH 26
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

F:\197084\DWG\FINAL\W&S\184-MS-6.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Chief, Bureau of Utilities
 6-2-98

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 Chief, Development Engineering Division

MILDENBERG,
 BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Bult. (301) 621-5321 Wash. (410) 997-0298 Fax

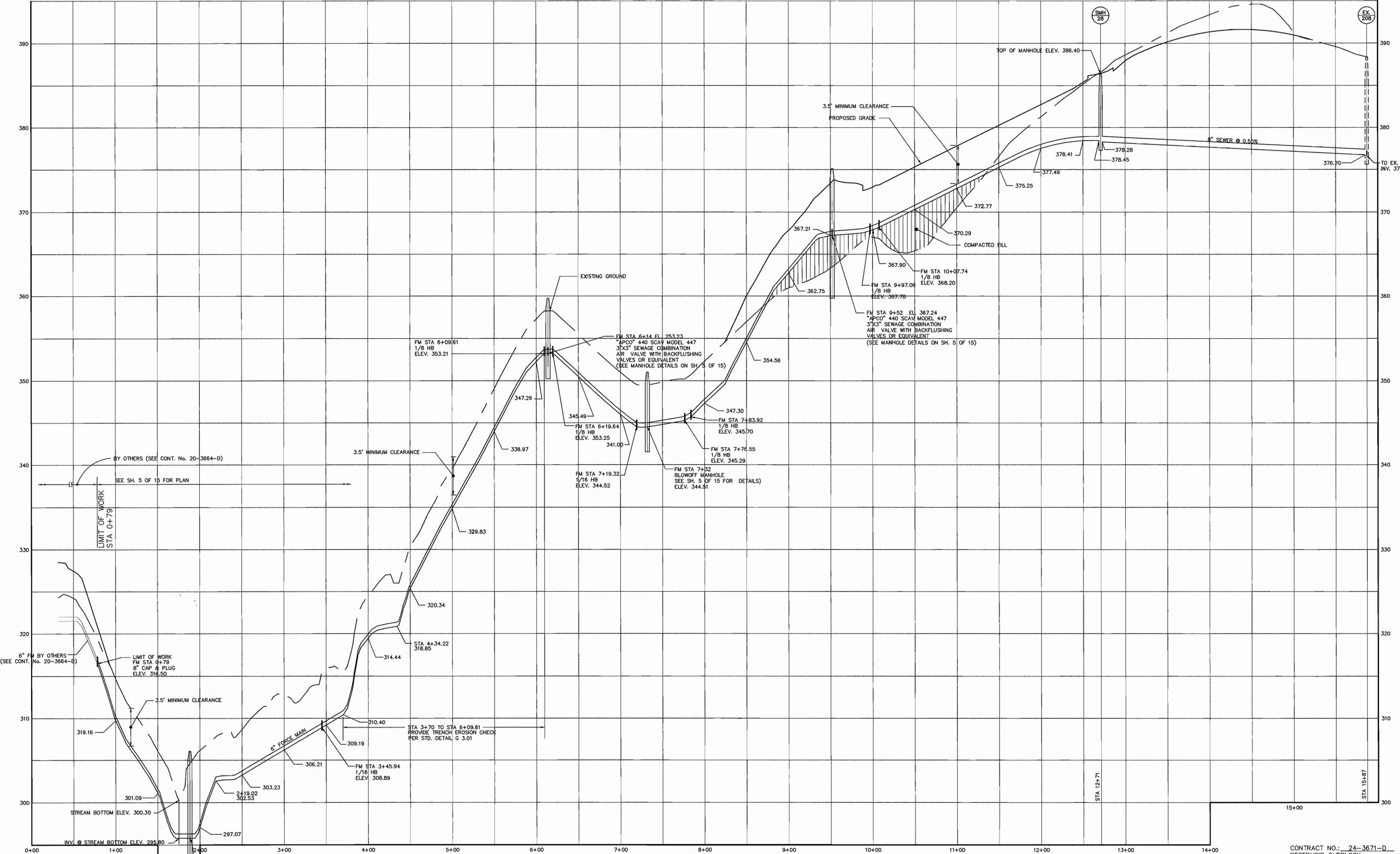


engineering	SJD				
illustration	SJD				
approval					
project	97084				
date	MAY 1998	BY	NO.	REVISION	DATE

SEWER PROFILES
 600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
 13 of 15



SEWER PROFILE - FORCE MAIN TO SMH 28

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

NOTE: FIELD LOCK GASKET FOR THE ENTIRE FORCE MAIN.

CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert M. ... 6-2-98
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
... 4/3/98
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 397-0298 Ext. (301) 521-5521 Wash. (410) 527-0299 Fax.



engineering	SJD				
illustration	SJD				
approval					
project	97084				
date	MAY 1998	BY NO.		REVISION	

SEWER PROFILES

DATE: 600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

F:\197084\DWG\FINAL\WKS\84-MS-6.DWG

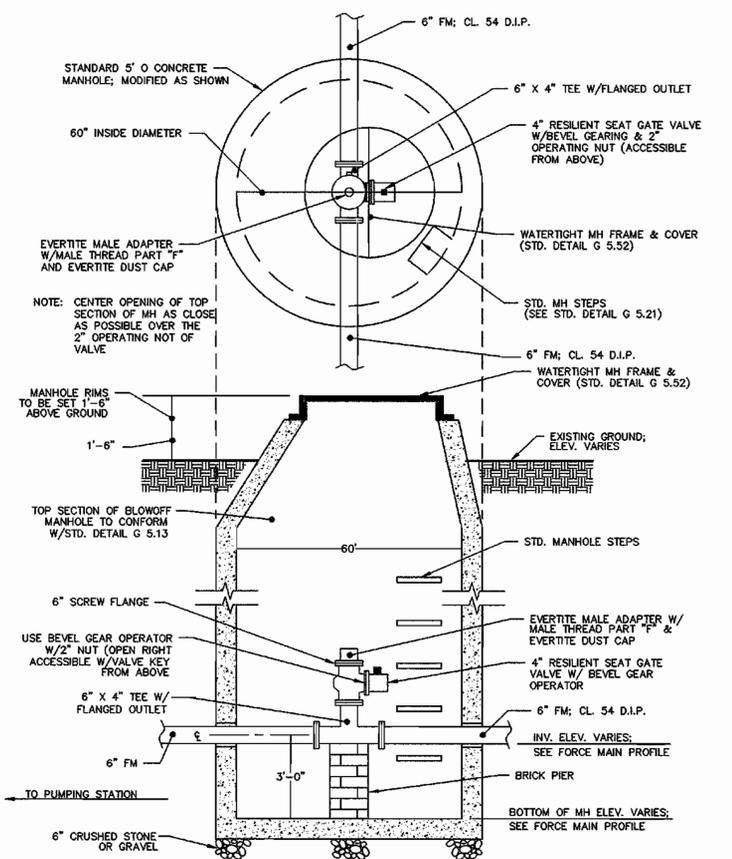
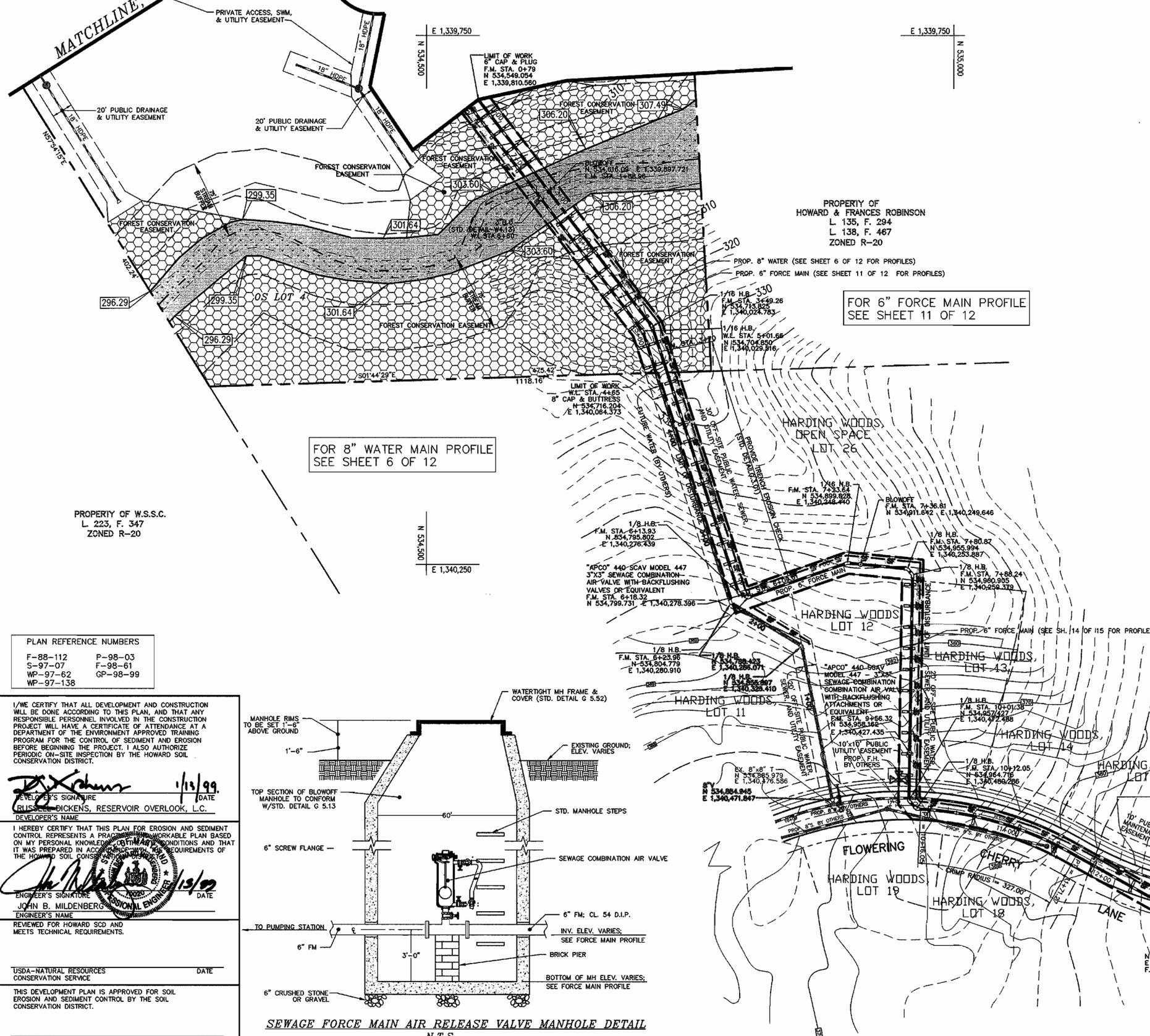


LEGEND

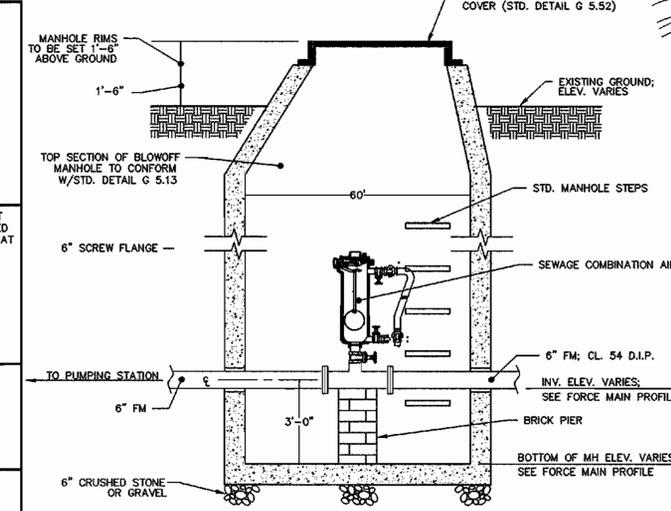
- LIMIT OF DISTURBANCE
- SILT FENCE
- STRAW BALES

NOTES :

1. EXISTING OFF-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON A SURVEY CONDUCTED BY MARKS & VOGEL ASSOCIATES, INC.
2. PROPOSED GRADING SHOWN HEREON IS BASED ON A PRELIMINARY GRADING PLAN FOR "HARDING WOODS" PREPARED BY MARKS & VOGEL ASSOCIATES, INC.
3. ON-SITE SEDIMENT CONTROL DEVICES SHOWN IN THE VICINITY OF THE STREAM WILL BE PROVIDED UNDER THIS CONTRACT.



SEWAGE FORCE MAIN BLOWOFF MANHOLE DETAIL
N.T.S.



SEWAGE FORCE MAIN AIR RELEASE VALVE MANHOLE DETAIL
N.T.S.

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/15/99
DEVELOPER'S SIGNATURE DATE
RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

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

[Signature] 1/15/99
ENGINEER'S SIGNATURE DATE
JOHN B. MILDENBERG
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 1/25/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0298 Fax (301) 521-5521 Wash. (410) 997-0298 Fax

engineering	SJD			
illustration	SJD			
approval				
project	SJD	2	CORRECT STATIONING OF APPURTENANCES & REVISE LOT NUMBERS AND MATCHLINE NUMBERS.	1/11/99
date	MAY 1998	BY NO.	REVISION	DATE

WATER AND SEWER PLAN

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
1"=50'
4 of 12

LEGEND

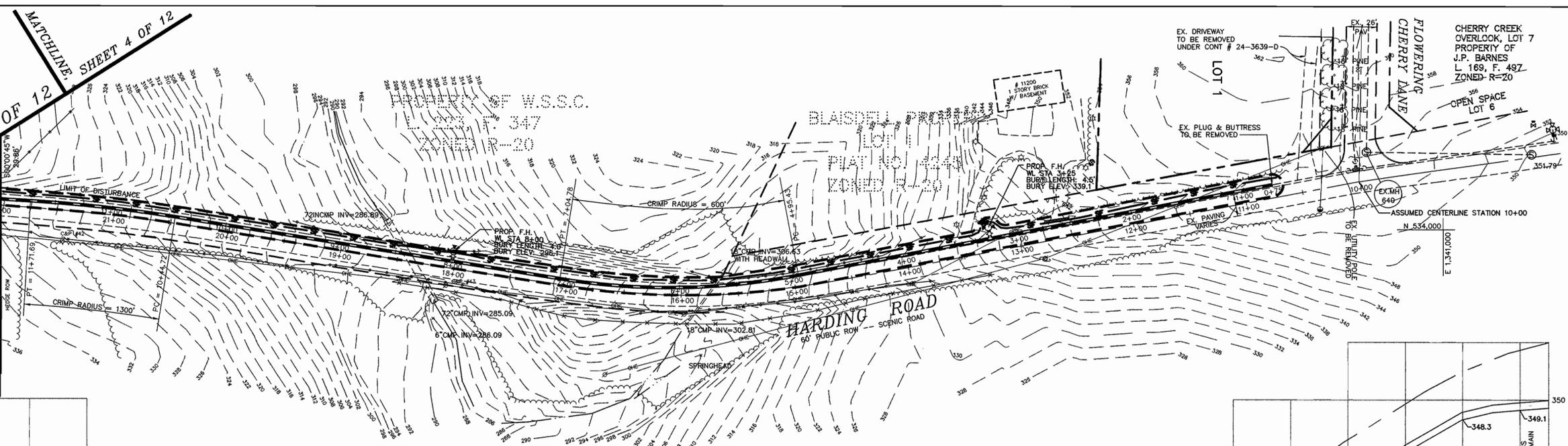
- EX. EDGE OF GRAVEL
- EX. POWER POLE
- EX. OVERHEAD ELEC.
- EX. LIGHT POLE
- EX. GUY POLE
- EX. SANITARY MH
- EX. WATER VALVE
- WATER METER
- EX. WELL
- EX. FIRE HYDRANT
- EX. EDGE OF CONC.
- EX. EDGE OF PAVEMENT
- EX. GUARD RAIL
- EX. FENCE
- EX. WOODLINE
- EX. STREAM CENTERLINE
- EXISTING TREE

E 1,339,500
N 534,000

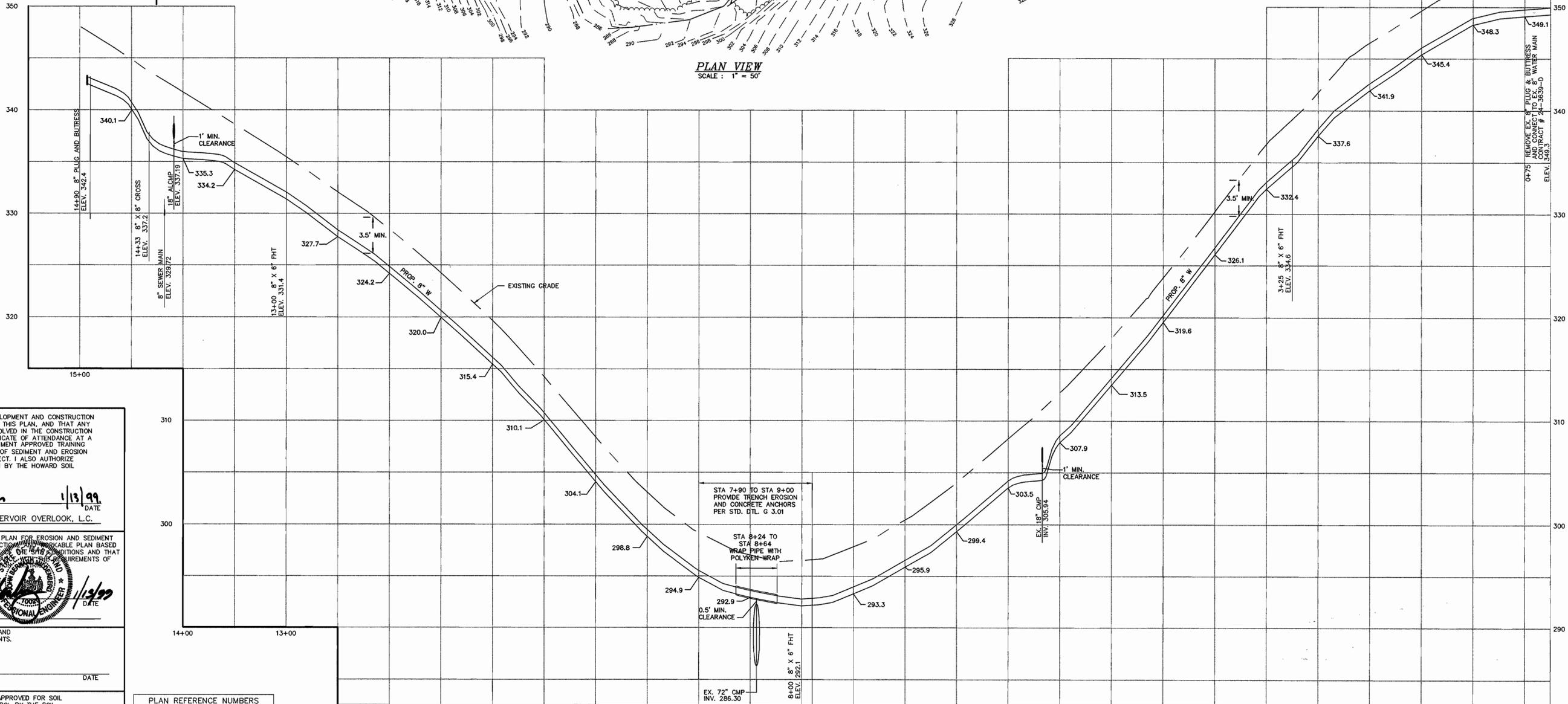
E 1,339,500
N 533,750

MATCHLINE, SHEET 2 OF 12

MATCHLINE, SHEET 4 OF 12



PLAN VIEW
SCALE: 1" = 50'



8" MAIN HARDING ROAD
ALL STATIONING IS WATER MAIN STATIONING
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/13/99
DEVELOPER'S SIGNATURE DATE
RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICABLE 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] 1/25/99
ENGINEER'S SIGNATURE DATE
JAN B. MILDENBERG
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	

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) 997-0296 Bal. (301) 821-5521 Wash. (410) 997-0298 Fax

engineering	SJD		
illustration	SJD		
approval			
project	SJD	2	REVISE LOT NUMBERS AND MATCHLINE AND SHEET NUMBERS.
date			
MAY 1998	BY	NO.	REVISION

WATER PLAN AND PROFILE

60' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN
5 OF 12

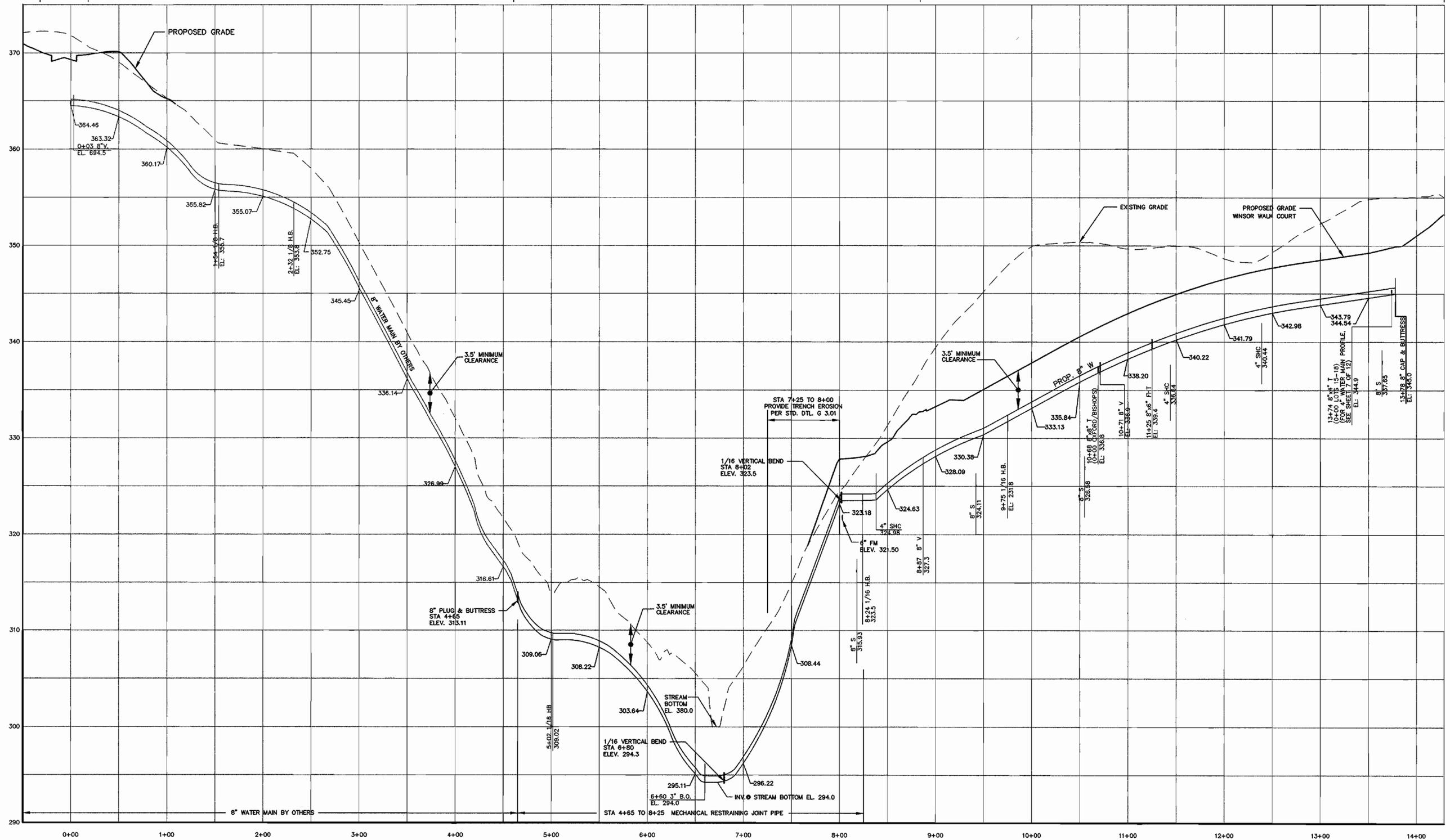
F:\197084\DWG\FINAL\WKS\84-WS-5.DWG

FLOWERING CHERRY LANE

OFF-SITE PUBLIC WATER, SEWER, & UTILITY EASEMENT

PUBLIC WATER, SEWER, & UTILITY EASEMENT

WINDSOR WALK COURT



8" MAIN OFFSITE THROUGH WINDSOR WALK COURT

ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

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) 937-0286 Fax: (301) 631-5321 Telex: (410) 937-0288 Fax



engineering	SD			
illustration	SD			
approval				
project	SJD 2	REVISE LOT & SHEET NUMBERS		1/12/99
	RCJ 1	ADD VERTICAL BENDS		10/1/98
date	97084			
	MAY 1998	BY NO.	REVISION	DATE

WATER PROFILES

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN

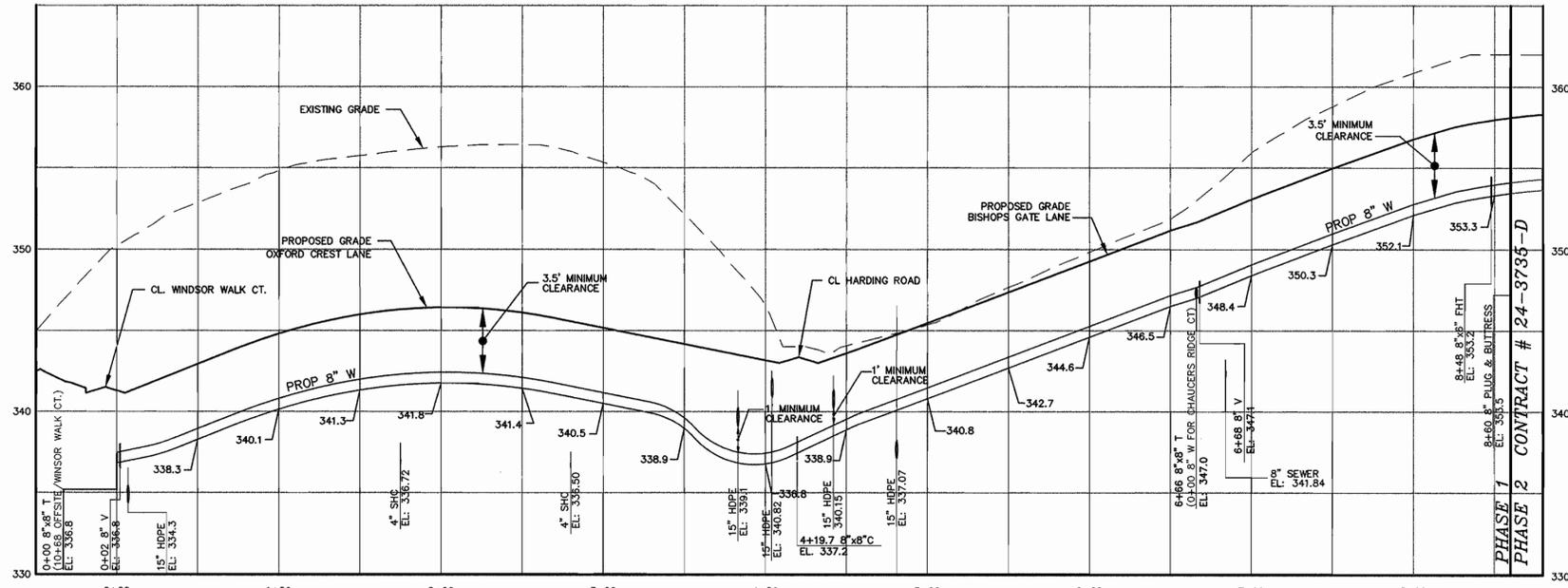
6 OF 12

F:\97084\DWG\FINAL\WAS\84-WPROF.DWG

Robert M. Dennis 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

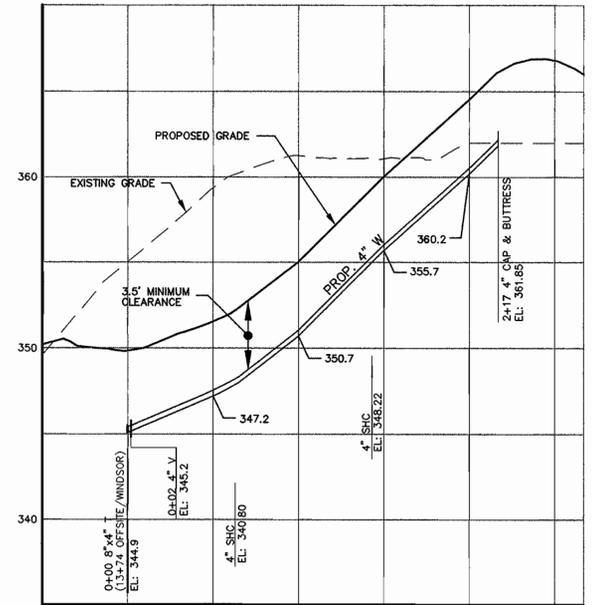
12569
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16



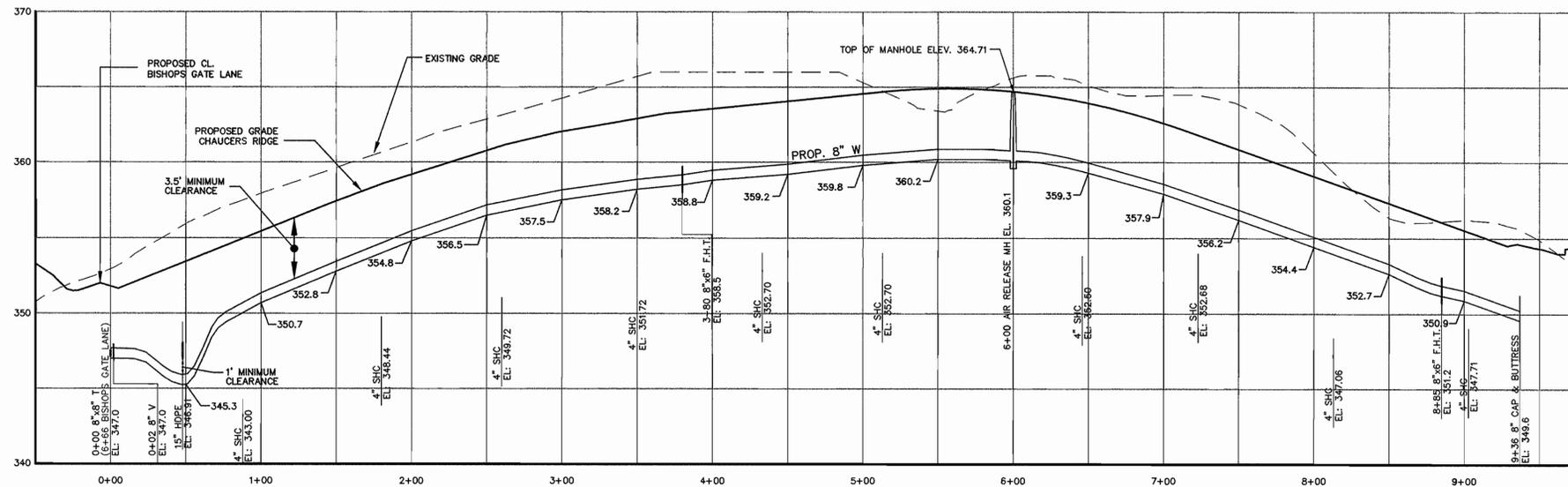
8" MAIN OXFORD CREST AND BISHOPS GATE LANE

ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



4" EXTENSION, LOTS 15-18

ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



8" MAIN CHAUCER'S RIDGE

ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\197084\DWG\FINAL\W&S\84-WPROF.DWG

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) 997-0286 Bulk (301) 621-5321 Wash. (410) 997-0286 Fax.



Robert M. Deinger 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

Chief, Development Engineering Division 1/25/99
 DATE

engineering	SD			
illustration	SD			
approval				
project	SJD	2	REVISE FH LOCATIONS & REMOVE PHASE 2 PROFILES	1/12/99
	RCJ	1	REVISE PROPOSED GRADE, WATER MAIN, & CROSSINGS	10/1/98
date				
MAY 1998	BY	NO.	REVISION	DATE

WATER PROFILES

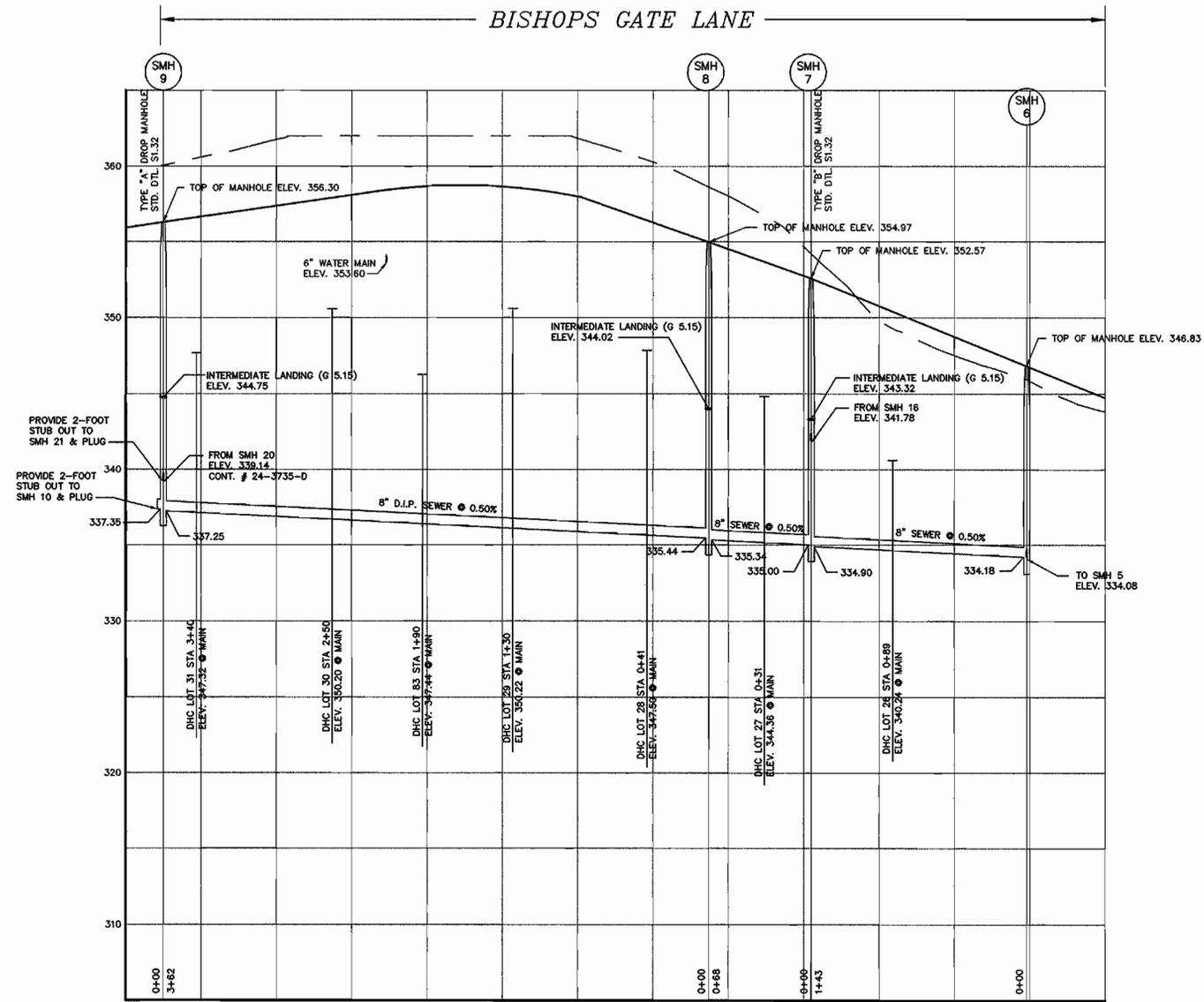
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN

7 of 12

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND



SEWER PROFILE - SMH 13 TO SMH 6

HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\97084\DWG\FINAL\W&S\84-SPROF.DWG

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

**MILDENBERG,
 BOENDER & ASSOC., INC.**
 Engineers Planners Surveyors

6072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21042
 (410) 897-0296 Ball (301) 621-5521 Wash. (410) 897-0298 Fax



engineering	SJD				
illustration	SJD				
approval					
project	SJD	2	PROVIDE STUBS AT SMH 9 & REMOVE PHASE 2	1/12/99	
	RCJ	1	REVISE PROPOSED GRADE, SH, & 8" SEWER	10/6/98	
date	MAY 1998	BY	NO.	REVISION	DATE

SEWER PROFILES

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

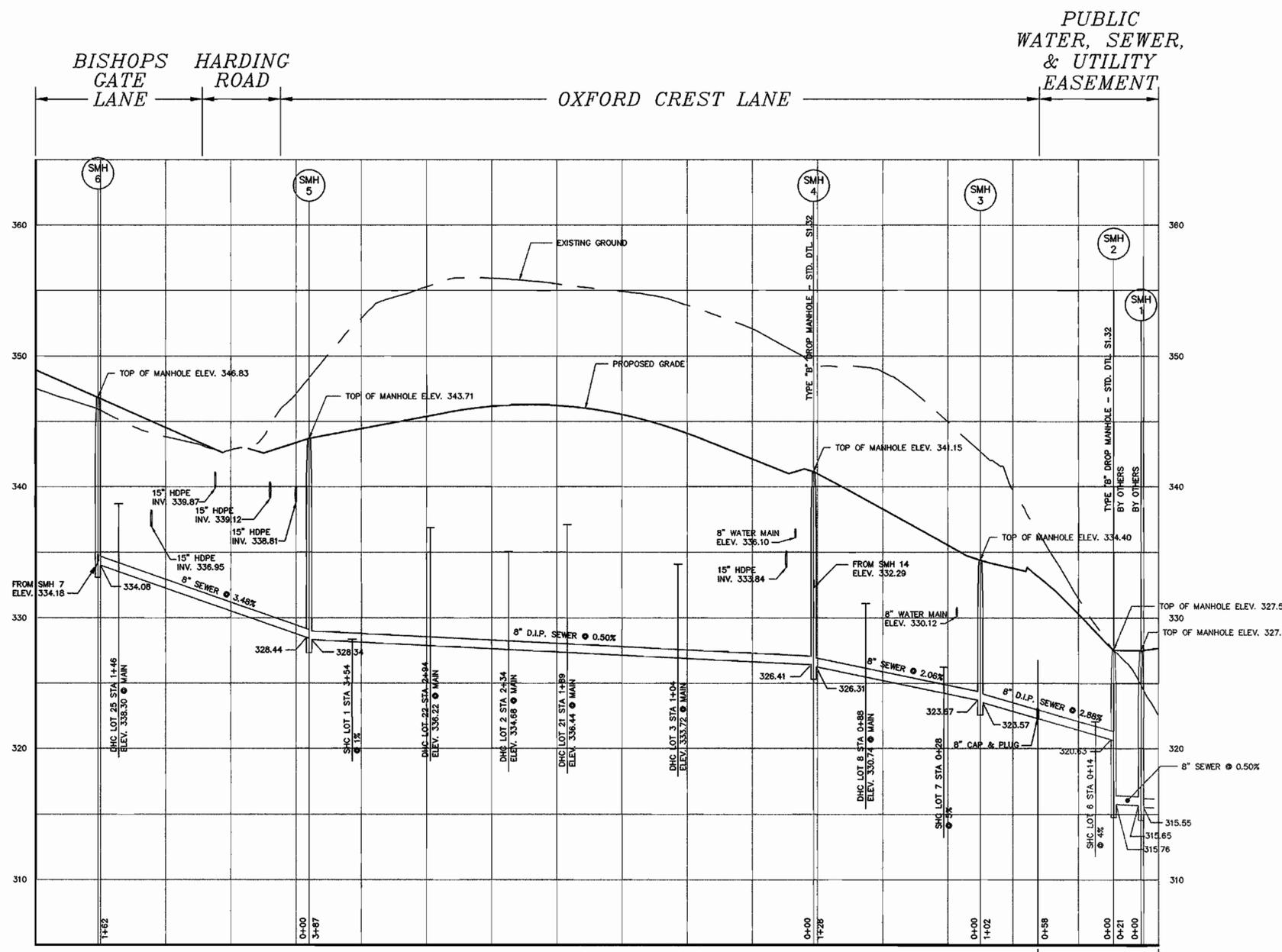
scale
 AS SHOWN

8 OF 12

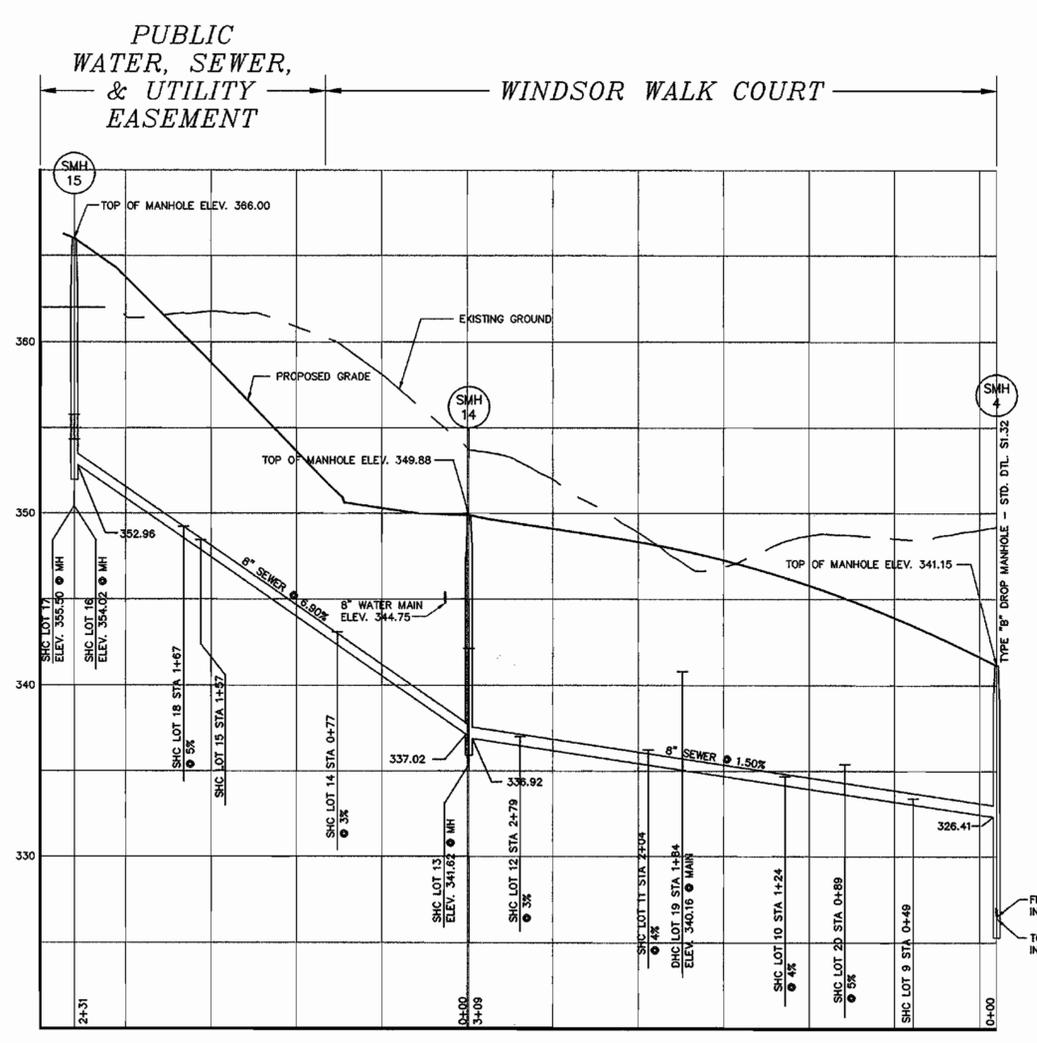
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

Robert W. Ransom 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

Robert W. Ransom 1/25/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



SEWER PROFILE - SMH 6 TO SMH 1
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



SEWER PROFILE - SMH 15 TO SMH 4
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\197084\DWG\FINAL\W&S\94-SPROF.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Robert M. Bowen
 CHIEF, BUREAU OF UTILITIES
 1-20-99

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1/25/99

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21022
 (410) 997-0298 Ball. (301) 621-5521 Wash. (410) 997-0298 Pa.

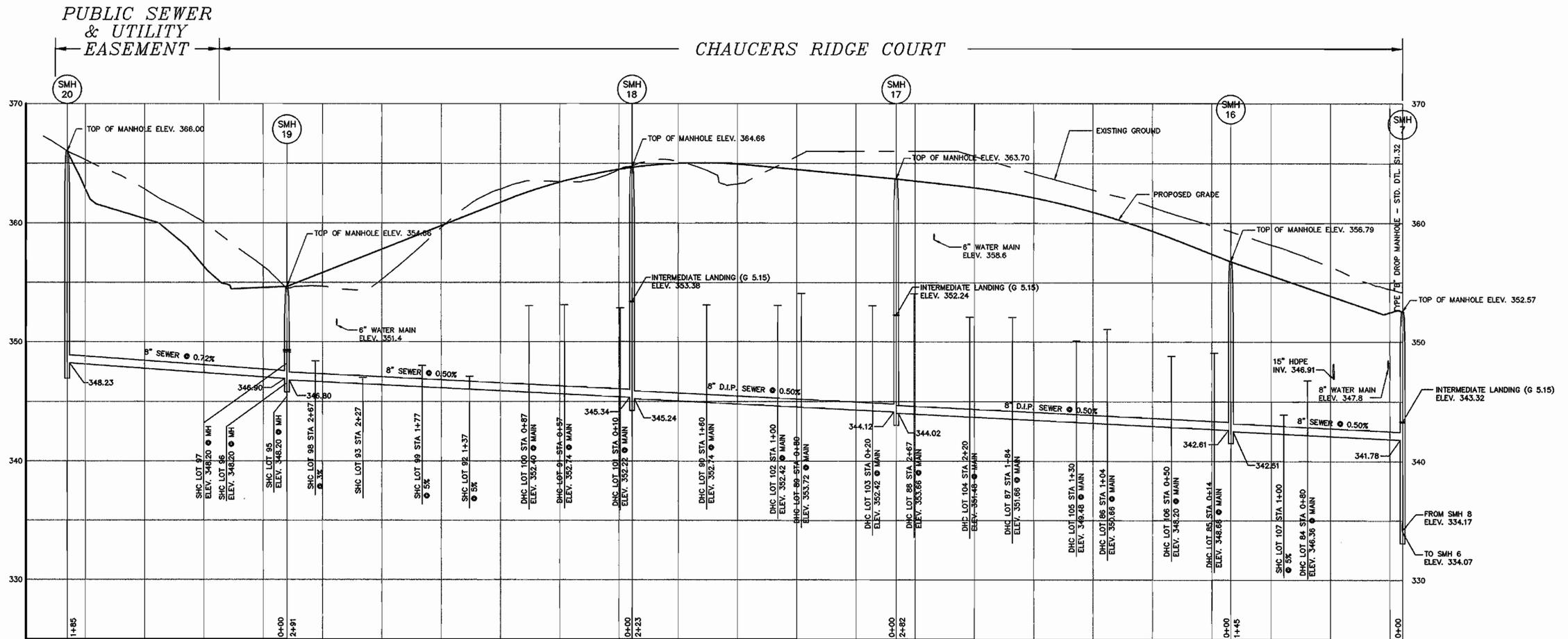
engineering	SJD			
illustration	SJD			
approval				
project	SJD	2	REVISE LOT NUMBERS	1/12/99
date	RCJ	1	REVISE PROPOSED GRADE & PIPE BETWEEN SMH 15 TO SMH 14 & SMH 6 TO SMH 5.	10/8/98
	BY	NO.	REVISION	DATE

SEWER PROFILES
 600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
9 OF 12

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND



SEWER PROFILE - SMH 20 TO SMH 7
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

F:\197084\DWG\FINAL\W&S\14-SPROF.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Robert W. Beaman 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature] 1/25/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21142
 (410) 987-0286 Bal. (301) 821-5521 Wash. (410) 987-0288 Pa.

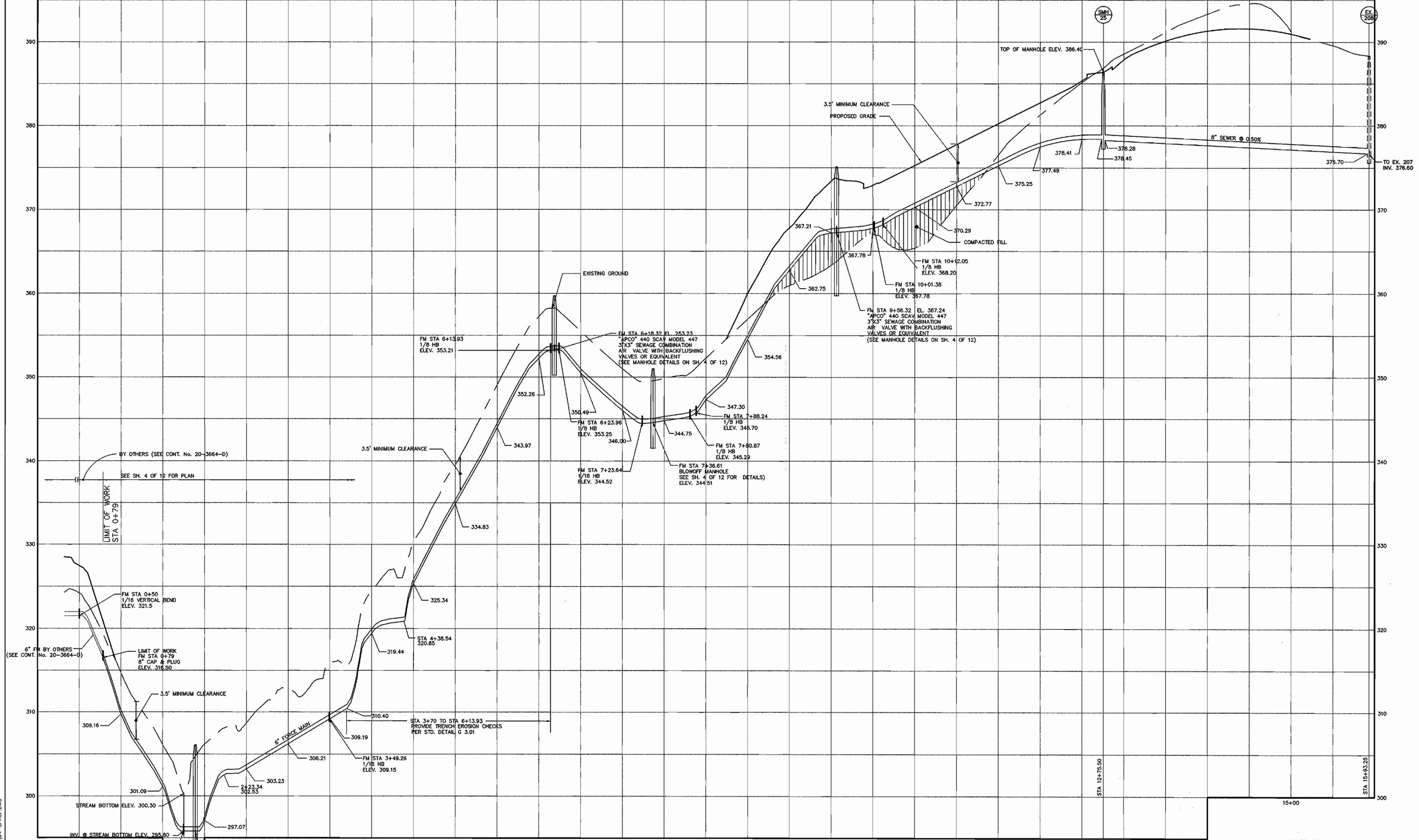


engineering	SJD			
illustration	SJD			
approval				
project	SJD	2	REVISE LOT NUMBERS	1/12/99
date	RCJ	1	REVISE PROPOSED GRADE & SHC AND DHC ELEVATIONS.	10/9/99
date	MAY 1998	BY	NO.	REVISION

SEWER PROFILES
 600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale AS SHOWN
 10 of 12



SEWER PROFILE - FORCE MAIN TO SMH 28

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

NOTE: FIELD LOCK GASKET FOR THE ENTIRE FORCE MAIN.

CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert Benjamin 1-20-99
CHIEF, BUREAU OF UTILITIES

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

MILDENBERG,
BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 987-0296 Bal. (301) 621-5521 Wash. (410) 987-0298 Pa.



engineering	SJD			
illustration	SJD			
approval				
project	SJD	2	CORRECT STATIONING & ELEVATIONS.	1/12/99
date	RGJ	1	ADD VERTICAL BEND NOTES.	10/9/98
date				
MAY 1998	BY	NO.	REVISION	DATE

SEWER PROFILES
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
scale AS SHOWN
11 OF 12

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 14 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 80 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

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

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

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

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

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

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

STANDARD SEDIMENT CONTROL NOTES

- 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, (313-1655).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDING (SEC-51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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:	N/A	ACRES
AREA DISTURBED:	1.20	ACRES
AREA TO BE ROOFED OR PAVED:	0.26	ACRES
AREA TO BE VEGETATIVELY STABILIZED:	0.94	ACRES
TOTAL CUT:	N/A	CU. YDS.
TOTAL FILL:	N/A	CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	N/A	

THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS.

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CON-TRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF ONDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - PH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PERSORBED TO RAISE THE PH TO 6.5 OR HIGHER.
 - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- TOPSOIL APPLICATION
 - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
 - COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOROUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
 - COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

ii. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

VI. TOPSOIL APPLICATION

- WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" - 8" HIGHER IN ELEVATION.
- TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
 - COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOROUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
 - COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

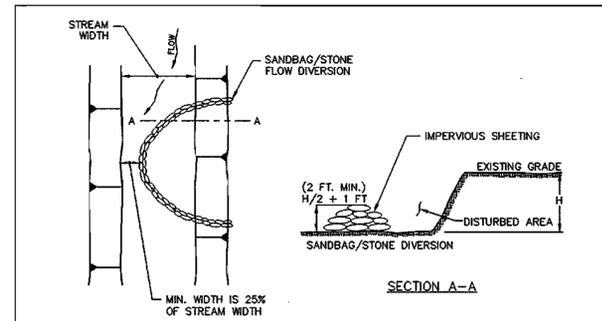
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VI, PUB. #J, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. (1 DAY)
- SEDIMENT AND EROSION CONTROL DEVICES INSTALLED UNDER F-98-61 WILL BE USED FOR INSTALLATION OF WATER AND SEWER MAINS WITHIN PROJECT LIMITS, EXCEPT AS NOTED HEREIN. INSPECT AND REPAIR ALL SEDIMENT AND EROSION CONTROL DEVICES, AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCEMENT OF WORK. (2 DAYS)
- FOR WATER AND SEWER CONSTRUCTION OUTSIDE LIMITS OF F-98-61, ALL WORK SHALL CONFORM TO THE FOLLOWING:
 - CLEAR AND GRUB FOR STRAW BALE DIKES AND SILT FENCES. (2 DAYS)
 - INSTALL STRAW BALE DIKES AND SILT FENCES AS INDICATED. (3 DAYS)
 - EXCAVATION SHALL BE LIMITED TO THE AMOUNT OF TRENCH WHICH CAN BE COMPLETED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
 - REPAIR AND/OR REPLACE ANY DISTURBED STRAW BALE DIKES AND SILT FENCES AT END OF EACH WORKING DAY.
- FOR STREAM CROSSING, REFER TO STREAM DIVERSION DETAIL WPD 2.3 AND THE FOLLOWING:
 - PRIOR TO COMMENCEMENT OF ANY WORK WITHIN THE BANKS OF THE STREAM, PLACE SANDBAG DIVERSIONS AS INDICATED ON DETAIL.
 - COMPLETE INSTALLATION OF UTILITY CROSSING WITHIN THE AREA OF DIVERSION AND BACKFILL AS INDICATED ON PLAN.
 - RELOCATE SANDBAG DIVERSION TO OPPOSITE SIDE OF STREAM.
 - COMPLETE INSTALLATION AND BACKFILL FOR UTILITY CROSSING.
 - WHEN INSTALLATION IS COMPLETE AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SANDBAG DIVERSION AND STABILIZE STREAM AREA AND BANKS AS INDICATED ON PLANS.
- UPON STABILIZATION OF AREA, AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS.

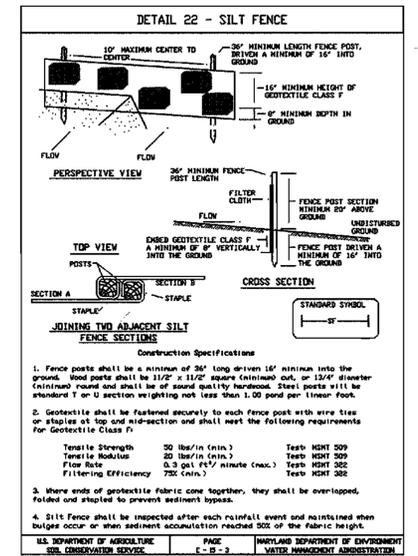
EROSION AND SEDIMENT CONTROL NOTES

- ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
- ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
- EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
- IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
- THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
- ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



- DESCRIPTION**
THE WORK SHALL CONSIST OF INSTALLING FLOW DIVERSIONS FOR THE PURPOSE OF EROSION CONTROL WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION OR BRIDGE ABUTMENT CONSTRUCTION.
- MATERIAL SPECIFICATIONS**
 - SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRAVIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E. SAND, FINE GRAVEL, ETC.)
 - STONE: STONE SHALL BE WASHED AND HAVE A MINIMUM DIAMETER OF 6 INCHES.
 - SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.
- CONSTRUCTION REQUIREMENTS**
 - ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
 - THE DIVERSION STRUCTURE SHALL BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.
 - THE HEIGHT OF THE DIVERSION STRUCTURE SHALL BE ONE HALF THE DISTANCE FROM STREAM BED TO STREAM BANK PLUS ONE FOOT, AS INDICATED ON THE CROSS SECTION VIEW.
 - ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN A SCD APPROVED DISPOSAL AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED BY THE WEA.
 - ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN PRIOR TO RE-ENTERING THE STREAM.
 - SHEETING SHALL BE OVERLAPPED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST AN 18-INCH OVERLAP.
 - SEDIMENT CONTROL DEVICES AREA TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

WATER RESOURCES ADMINISTRATION	SANDBAG/STONE DIVERSION	APPROVED ON _____	WPD 2.3
		CHIEF, WATERWAY PERMITS	

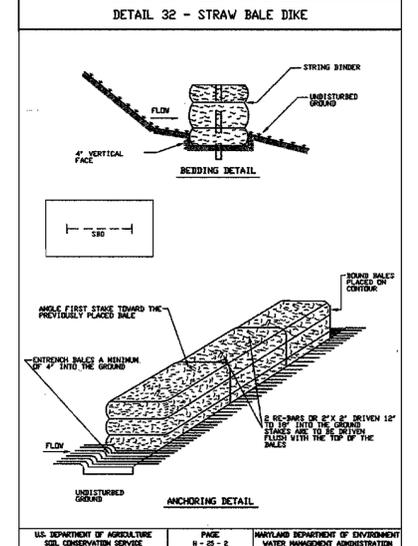


SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 30:1	125 feet	1,000 feet
10:1 to 5:1	60 feet	750 feet
5:1 to 3:1	40 feet	500 feet
3:1 to 2:1	20 feet	250 feet
2:1 and steeper	10 feet	125 feet

Note: In areas of less than 2:1 slope and sandy soils (USDA general classification system, soil class A), maximum slope length and silt fence length will be limited. In these areas a silt fence may be the only perimeter control required.



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 AUTHORITY PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER'S SIGNATURE: *Russell Dickens* DATE: 1/13/99
 DEVELOPER'S NAME: RUSSELL DICKENS, RESERVOIR OVERLOOK, L.C.
 DEVELOPER'S NAME: _____ DATE: _____

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A FEASIBLE 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.

ENGINEER'S SIGNATURE: *John B. Milder* DATE: 1/13/99
 ENGINEER'S NAME: JOHN B. MILDENBERG, INC.
 ENGINEER'S NAME: _____ DATE: _____

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE: _____
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE SOIL CONSERVATION DISTRICT.

HOWARD SCD DATE: _____

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

Robert J. Berman 1-20-99
 CHIEF, BUREAU OF UTILITIES

John B. Milder 1/23/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21042
 (410) 997-0298 Toll. (301) 621-5521 Wash. (410) 997-0298 Fax.

engineering	SJD			
illustration	SJD			
approval				
project	97084	SJD	2	REVISE LOT NUMBERS
date	MAY 1998	BY	NO.	REVISION

SEDIMENT CONTROL NOTES AND DETAILS

600' SCALE MAP NO. _____ BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale NOT TO SCALE
 12 OF 12

WATER MAIN TABULATION CHART

WINDSOR WALK COURT		
STATION	APPURTENANCE	DIST. FROM E
0+45.54	1/16 BEND	7' LT.
1+38	8" V	7' LT.
1+40	8" V	7' LT.
1+42	8" V	7' LT.
1+84	8" V F.H.T.	7' LT.
1+94	6" V	9' LT.
1+94	FH	16.1' LT.
4+34.3	8" V T.	29.8' RT.
4+35.9	8" V	27.2' RT.
4+37	8" CAB	32.1' RT.

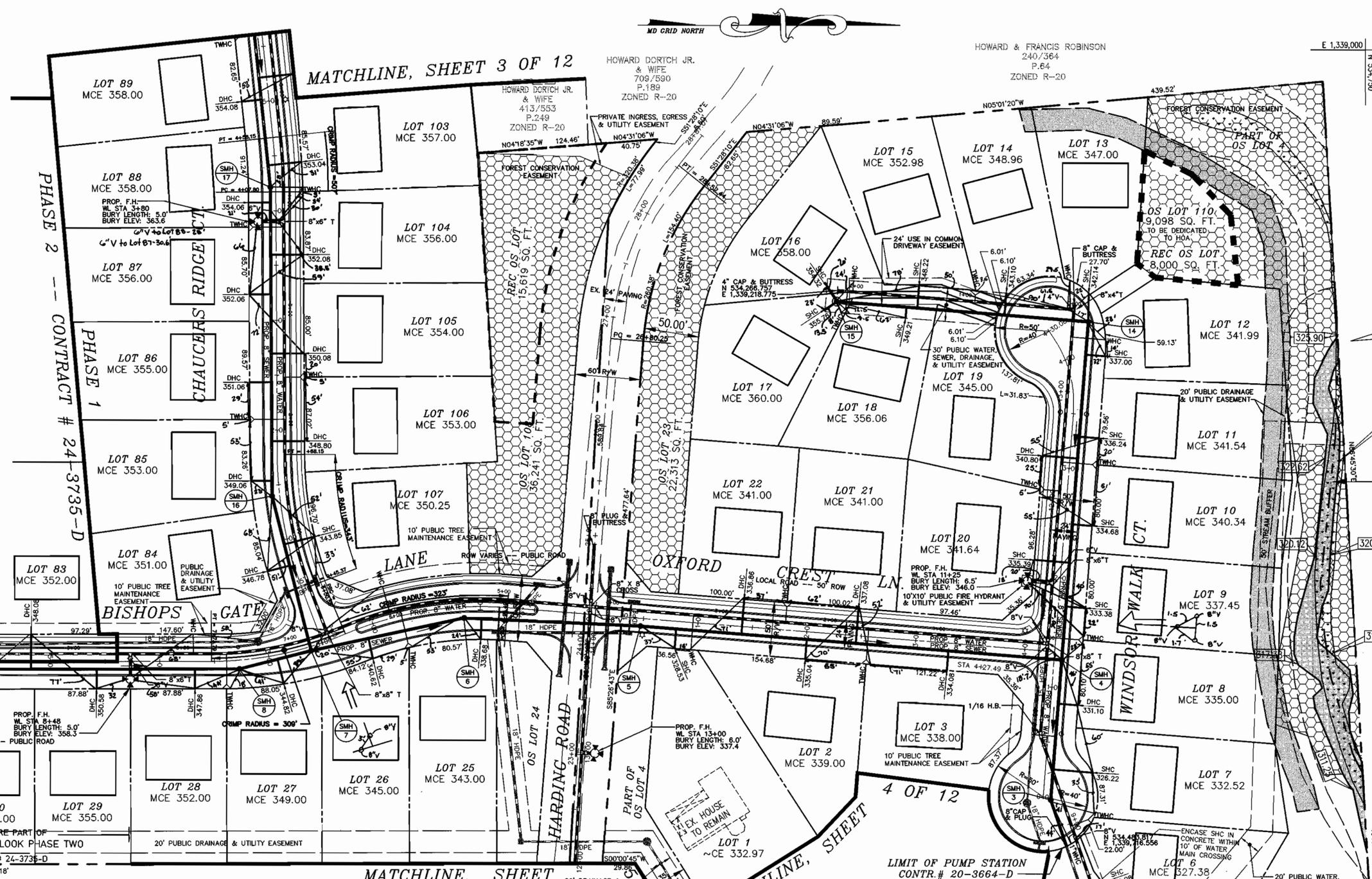
OXFORD CREST LANE		
STATION	APPURTENANCE	DIST. FROM E
0+06.20	8" V	7' LT.
4+17	8" V	7' LT.

BISHOPS GATE LANE		
STATION	APPURTENANCE	DIST. FROM E
0+04.61	8" V	7' RT.
2+42.3	8" V T	7' RT.
2+44.3	8" V	7' RT.
4+26.94	8" V FHT	7' RT.
4+26.94	6" V	5' RT.
4+26.94	FH	16.1' LT.
4+38.95	8" P&B	7' RT.

CHAUCERS RIDGE COURT		
STATION	APPURTENANCE	DIST. FROM E
0+10	8" V	7' RT.
3+90.07	8" V FHT	7' RT.
3+90.07	6" V	5' RT.
3+90.07	FH	7' RT.
6+08.66	1" AIR RELEASE MH	7' RT.
8+93.69	8" V FHT	7' RT.
8+93.69	6" V	5' RT.
8+93.69	FH	21.9' LT.
8+96	8" CAB	7' LT.

HARDING ROAD		
STATION	APPURTENANCE	DIST. FROM E
13+24.95	8" V FHT	11.5' RT.
13+24.95	6" V	13.5' RT.
13+24.95	FH	21.5' RT.
6+78.39	8" V FHT	10.6' RT.
6+78.39	6" V	12.6' RT.
6+78.39	FH	21.6' RT.
23+01.97	8" V FHT	3.2' RT.
23+01.97	6" V	5.2' RT.
23+01.97	FH	15.2' RT.
24+29.84	8" V	0.8' RT.
24+35.34	8" V CROSS	0.7' RT.
24+40.75	8" V	0.7' RT.
24+92.27	8" P&B	0.5' LT.

NOTE: - CONTRACTOR TO VERIFY THE LOCATION OF APPURTENANCES WITHIN EASEMENTS.
 - FOR ALL APPURTENANCES OUTSIDE OF THE ROAD RIGHT-OF-WAY, SEE PLAN VIEW FOR NORTHING AND EASTING LOCATION INFORMATION.



MANHOLE LOCATION CHART

MH #	ROAD OR NORTHING & EASTING	CL STATION	OFFSET
1	BY OTHERS		
2	BY OTHERS		
3	WINDSOR WALK COURT EAST	0+02.34	7.00' RT.
4	WINDSOR WALK COURT	1+25.49	7.00' RT.
5	OXFORD CREST LANE	0+47.67	7.00' RT.
6	BISHOPS GATE LANE	1+15.24	10.00' LT.
7	BISHOPS GATE LANE	2+61.26	3.78' LT.
8	BISHOPS GATE LANE	3+27.79	8.02' LT.
9	BISHOPS GATE LANE	6+88.83	7.00' LT.
14	WINDSOR WALK COURT	4+18.37	34.86' RT.
15	WINDSOR WALK COURT WEST	LP 1+00.91	196.25' LT.
16	CHAUCERS RIDGE COURT	1+40.43	7.00' LT.
17	CHAUCERS RIDGE COURT	4+21.62	4.98' LT.
18	CHAUCERS RIDGE COURT	6+45.00	7.00' LT.
19	CHAUCERS RIDGE COURT	9+35.13	7.00' LT.
20	CHAUCERS RIDGE COURT	LP 1+89.77	138.24' LT.
25	N 535,207.139 E 1,340,575.025		
26	BY OTHERS		

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	20-3664-1-D

ROCKY GORGE RESERVOIR

WASH. SUB. SANITARY COMMISSION. 221/74

F:\97084\DWG\FINAL\W&S\84-MS-2.DWG

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Robert M. Beemer</i> CHIEF, BUREAU OF UTILITIES 1-20-99 DATE</p>	<p>DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND</p> <p><i>John J. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION 1/25/99 DATE</p>
--	---

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Ball (301) 621-5521 Wash. (410) 997-0298 Fax

engineering	RFW	3	As-Built	4/22/99
illustration	SJD			
approval	SJD			
project	SJD	2	REVISE FH LOCATIONS & ADD PHASE LINE	1/8/99
date	RCJ	1	REVISE MCE & GRADE AT ROW	9/30/98
date	BY NO.		REVISION	

Water & Sewer As-Built

WATER AND SEWER PLAN

60' SCALE MAP NO. 46 BLOCK NO. 15 & 16

CONTRACT NO. 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

**RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110**

CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 1"=50'
 2 of 12

WASH. SUB.
SANITARY COMMISSION.
221/74

PAUL PANITZ
1132/540
P.47
ZONED R-20

STEVE AND PATTI BURKE
3948/439
P.71
ZONED R-20

FRED E. SISSON & WIFE
407/389
P.72
ZONED R-20

MILDRED E. MITCHELL
495/386
P.75
ZONED R-20

JOAN M. BUCKINGHAM
1090/137
P.278
ZONED R-20

LLOYD BARNES & WIFE
227/369
P.74
ZONED R-20

HOWARD & FRANCIS ROBINSON
240/364
P.64
ZONED R-20

HOWARD DORTCH JR.
& WIFE
709/580
P.188
ZONED R-20



ROCKY GORGE RESERVOIR

WASH. SUB.
SANITARY COMMISSION.
221/74

WASH. SUB.
SANITARY COMMISSION.
221/74

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-51
WP-97-62	GP-98-99
WP-97-138	20-3641-P

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

Robert M. Benjamin
CHIEF, BUREAU OF UTILITIES
1-20-99

Michael J. ...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Fax

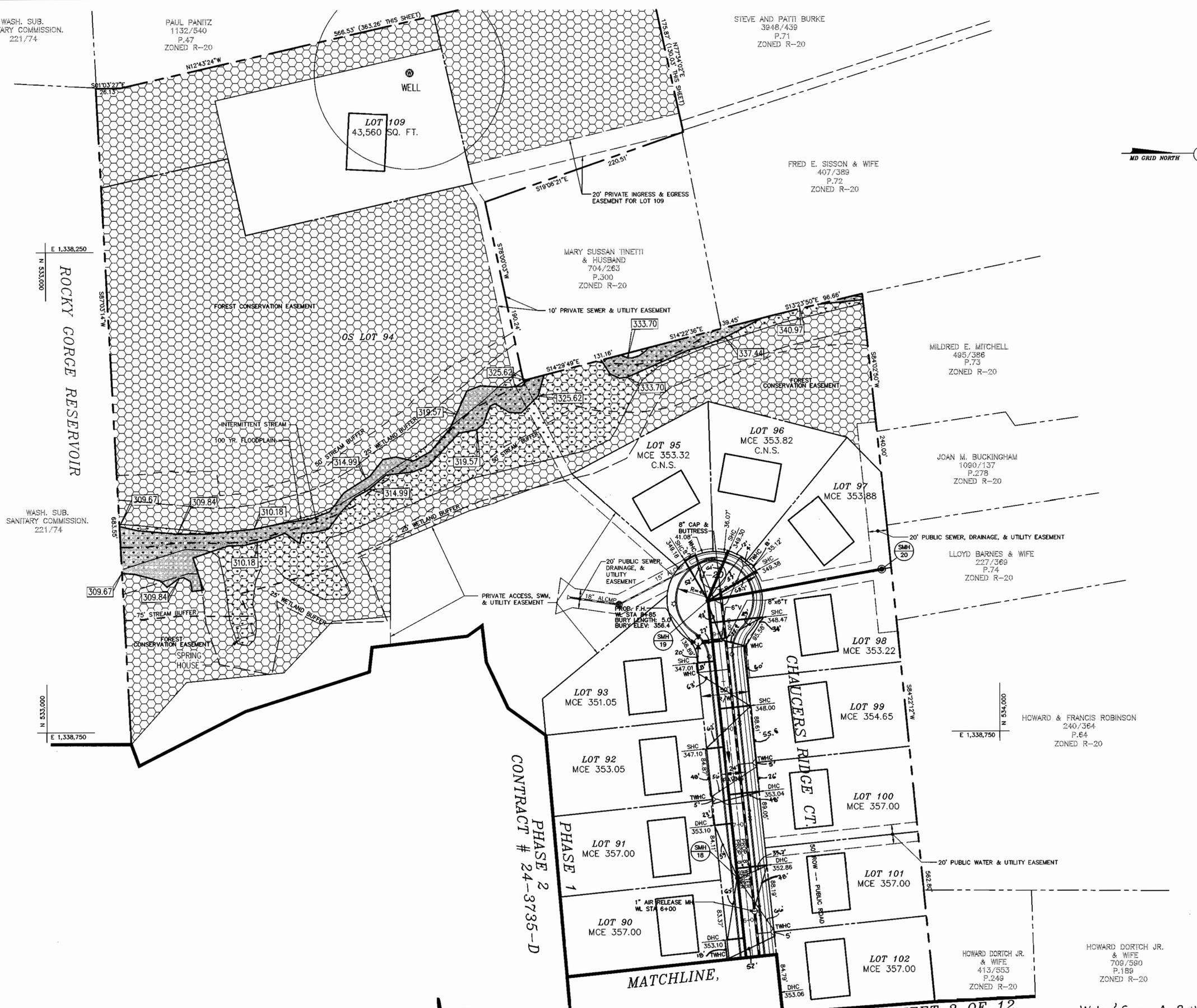
engineering	SJD	REW	3	As-Builts	4/22/99
illustration	SJD				
approval					
project	SJD	2		ADD PRIVATE SEWER & UTILITY EASEMENT & ADD PHASING	1/8/99
	RCJ	1		REVISE MCE, GRADE AT ROW, & LOT 109	10/1/98
date					
	MAY	1998	BY NO.	REVISION	DATE

WATER AND SEWER PLAN

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
1"=50'
3 of 12



F:\97084\DWG\FINAL\W&S\94-WS-3.DWG

MATCHLINE SHEET

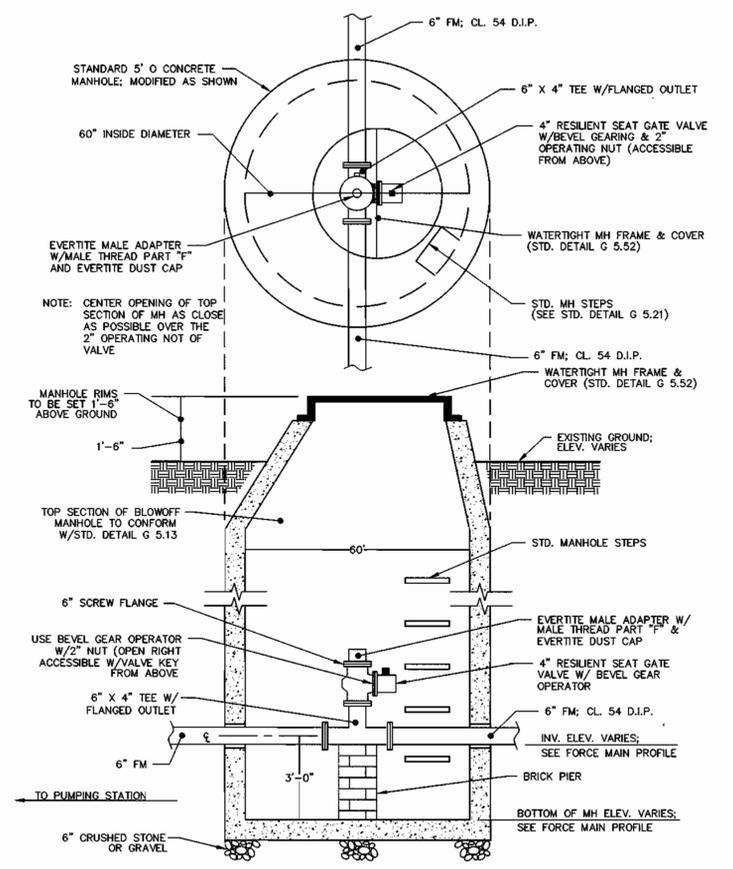
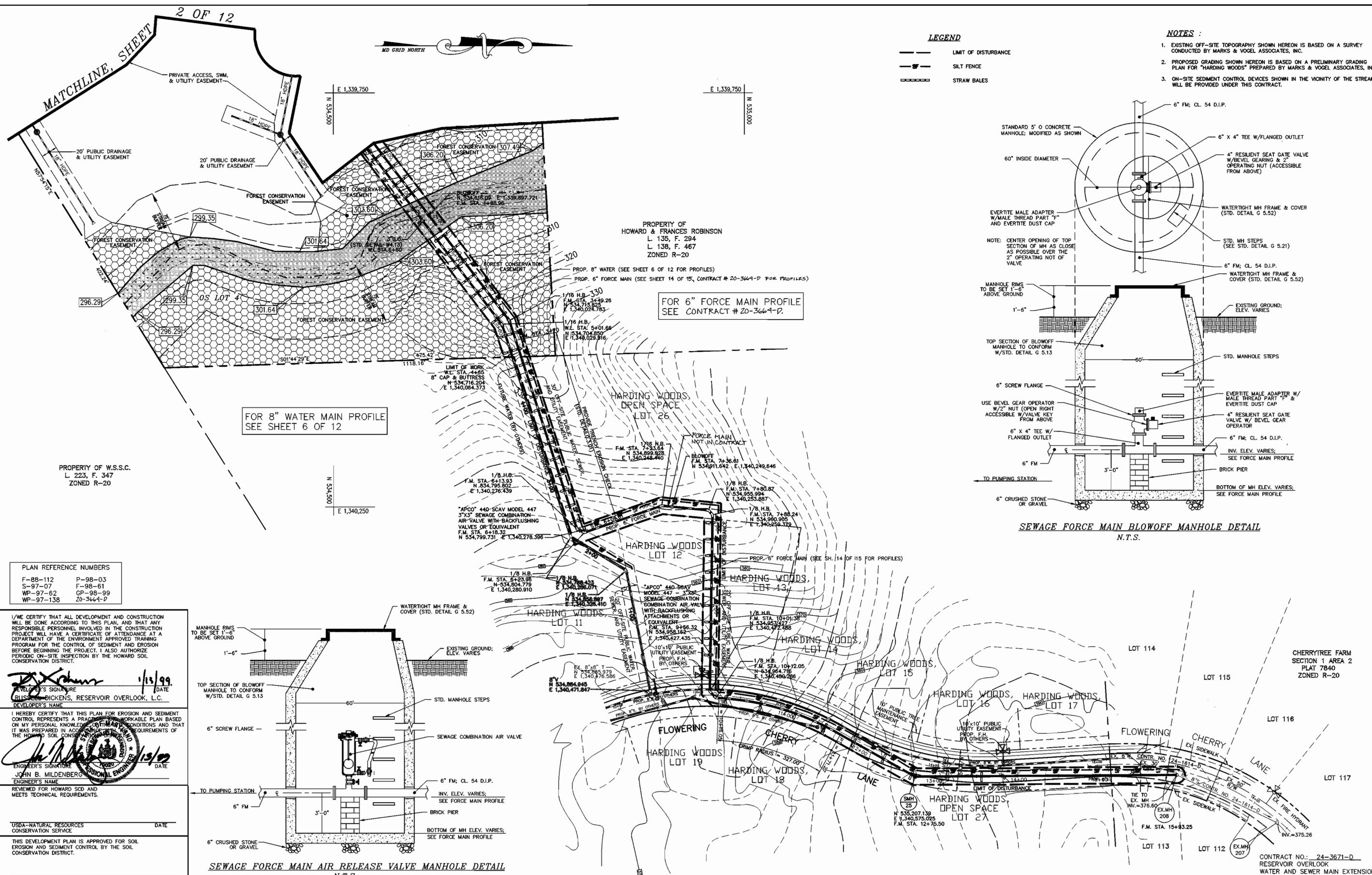


LEGEND

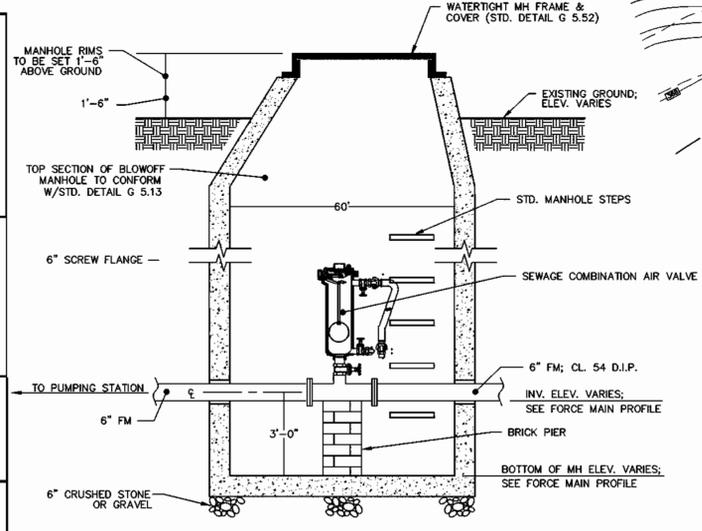
- LIMIT OF DISTURBANCE
- - - SILT FENCE
- ▬▬▬ STRAW BALES

NOTES :

- EXISTING OFF-SITE TOPOGRAPHY SHOWN HEREON IS BASED ON A SURVEY CONDUCTED BY MARKS & VOGEL ASSOCIATES, INC.
- PROPOSED GRADING SHOWN HEREON IS BASED ON A PRELIMINARY GRADING PLAN FOR "HARDING WOODS" PREPARED BY MARKS & VOGEL ASSOCIATES, INC.
- ON-SITE SEDIMENT CONTROL DEVICES SHOWN IN THE VICINITY OF THE STREAM WILL BE PROVIDED UNDER THIS CONTRACT.



SEWAGE FORCE MAIN BLOWOFF MANHOLE DETAIL N.T.S.



SEWAGE FORCE MAIN AIR RELEASE VALVE MANHOLE DETAIL N.T.S.

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	ZO-3664-D

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/15/99
DEVELOPER'S SIGNATURE DATE
RUSSELL DICKENS, RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICABLE 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] 1/15/99
ENGINEER'S SIGNATURE DATE
JOHN B. MILDENBERG, PROFESSIONAL ENGINEER
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

PROPERTY OF HOWARD & FRANCES ROBINSON
L. 135, F. 294
L. 138, F. 467
ZONED R-20

FOR 6" FORCE MAIN PROFILE SEE CONTRACT # 20-3664-D

FOR 8" WATER MAIN PROFILE SEE SHEET 6 OF 12

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 1/25/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax.

engineering	SJD			
illustration	SJD			
approval	SJP	4	NOTE FORCE MAIN CONTRACT #	1/16/00
	SJD	2	CORRECT STATIONING OF APPURTENANCES & REVISE LOT NUMBERS AND MATCHLINE NUMBERS.	1/11/99
project				
date				
	MAY 1998	BY	NO.	REVISION

WATER AND SEWER PLAN

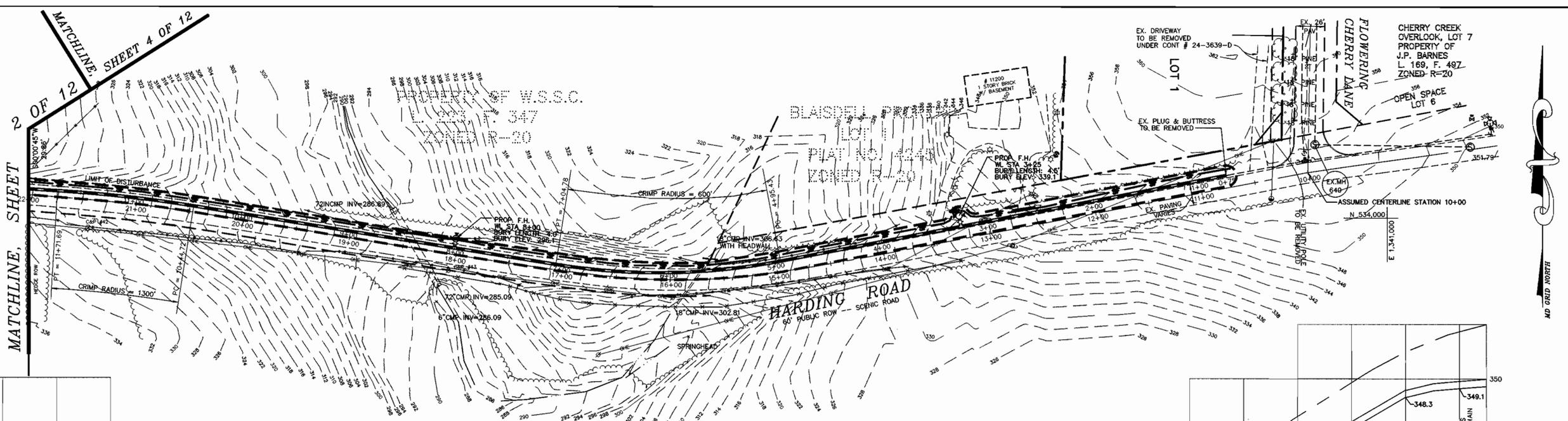
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

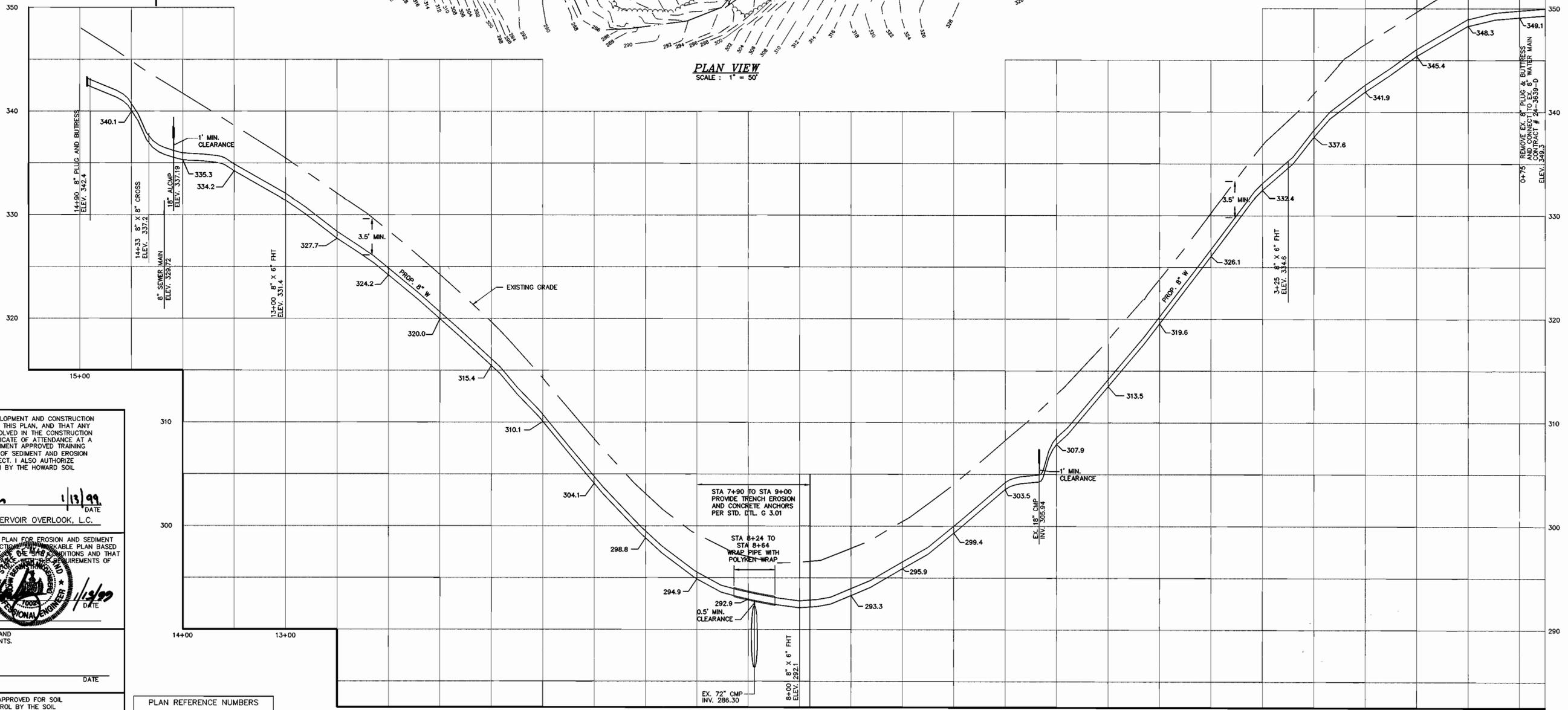
scale
1"=50'
4 OF 12

LEGEND

- EX. EDGE OF GRAVEL
- EX. POWER POLE
- EX. OVERHEAD ELEC.
- EX. LIGHT POLE
- EX. GUY POLE
- EX. SANITARY MH
- EX. WATER VALVE
- WATER METER
- EX. WELL
- EX. FIRE HYDRANT
- EX. EDGE OF CONC.
- EX. EDGE OF PAVEMENT
- EX. GUARD RAIL
- EX. FENCE
- EX. WOODLINE
- EX. STREAM CENTERLINE
- EXISTING TREE



PLAN VIEW
SCALE: 1" = 50'



8" MAIN HARDING ROAD
ALL STATIONING IS WATER MAIN STATIONING
HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 1/13/99
DEVELOPER'S SIGNATURE DATE
ROBBELI DIMMENS, RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

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

[Signature] 1/13/99
ENGINEER'S SIGNATURE DATE
JIN B. MILDENBERG
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

HOWARD SCD DATE

PLAN REFERENCE NUMBERS

F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	ZO-3664-P

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

[Signature] 1/25/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Fax.

engineering	SJD			
illustration	SJD			
approval				
project	SJD	2	REVISE LOT NUMBERS AND MATCHLINE AND SHEET NUMBERS.	1/11/99
date				MAY 1998
BY	NO.		REVISION	DATE

WATER PLAN AND PROFILE

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

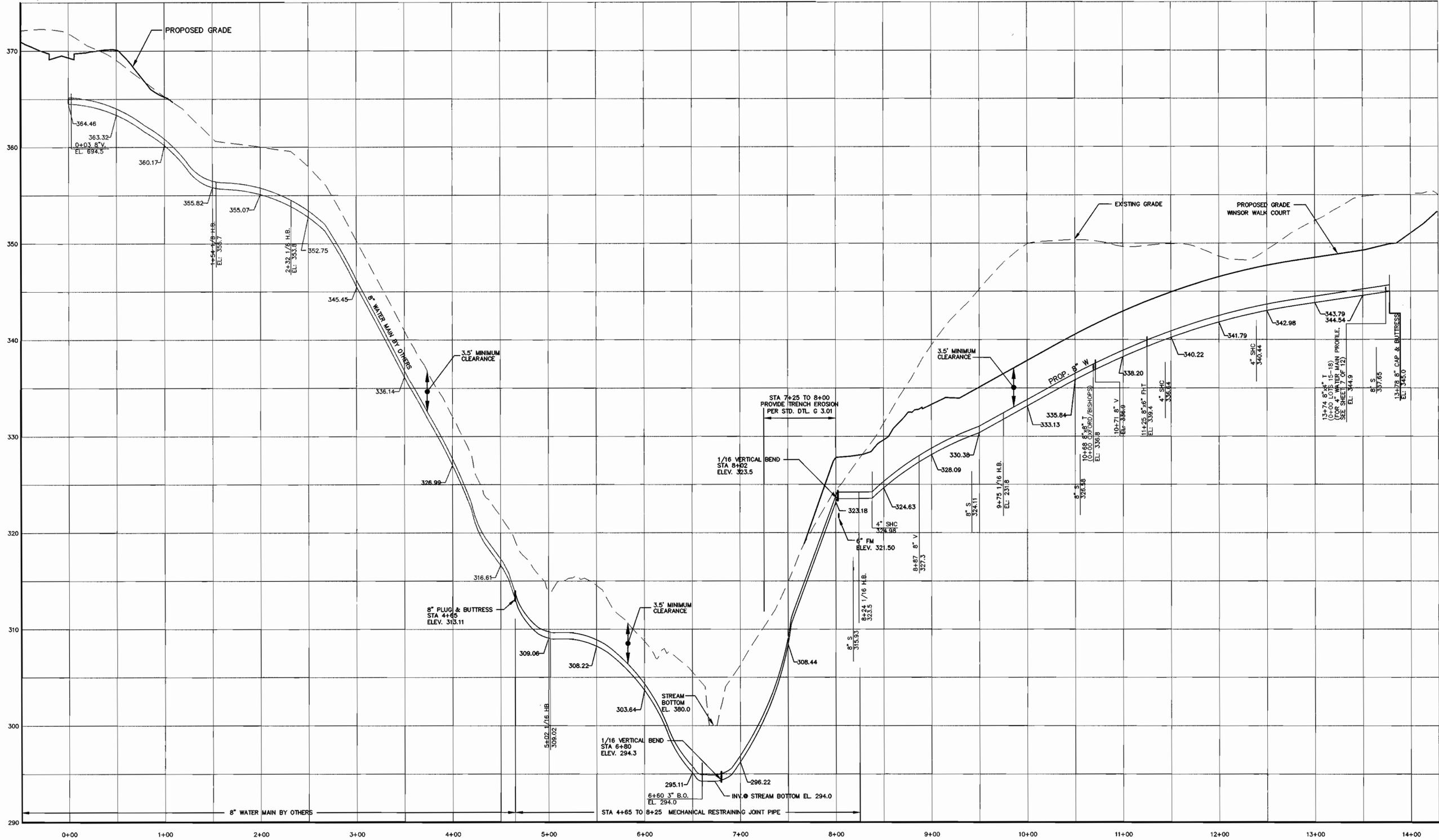
scale AS SHOWN
5 of 12

FLOWERING
CHERRY LANE

OFF-SITE PUBLIC WATER, SEWER, & UTILITY EASEMENT

PUBLIC WATER, SEWER, & UTILITY EASEMENT

WINDSOR WALK COURT



8" MAIN OFFSITE THROUGH WINDSOR WALK COURT

ALL STATIONING IS WATER MAIN STATIONING
HORIZONTAL SCALE : 1" = 50'
VERTICAL SCALE : 1" = 5'

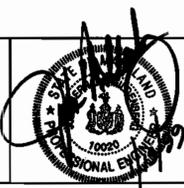
CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

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) 997-0296 Bal. (301) 621-5521 Wash. (410) 997-0298 Fax.



engineering	SD			
illustration	SD			
approval				
project	SD	2	REVISE LOT & SHEET NUMBERS	1/12/99
date	RCJ	1	ADD VERTICAL BENDS	10/1/98
	BY	NO.	REVISION	DATE

WATER PROFILES

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN

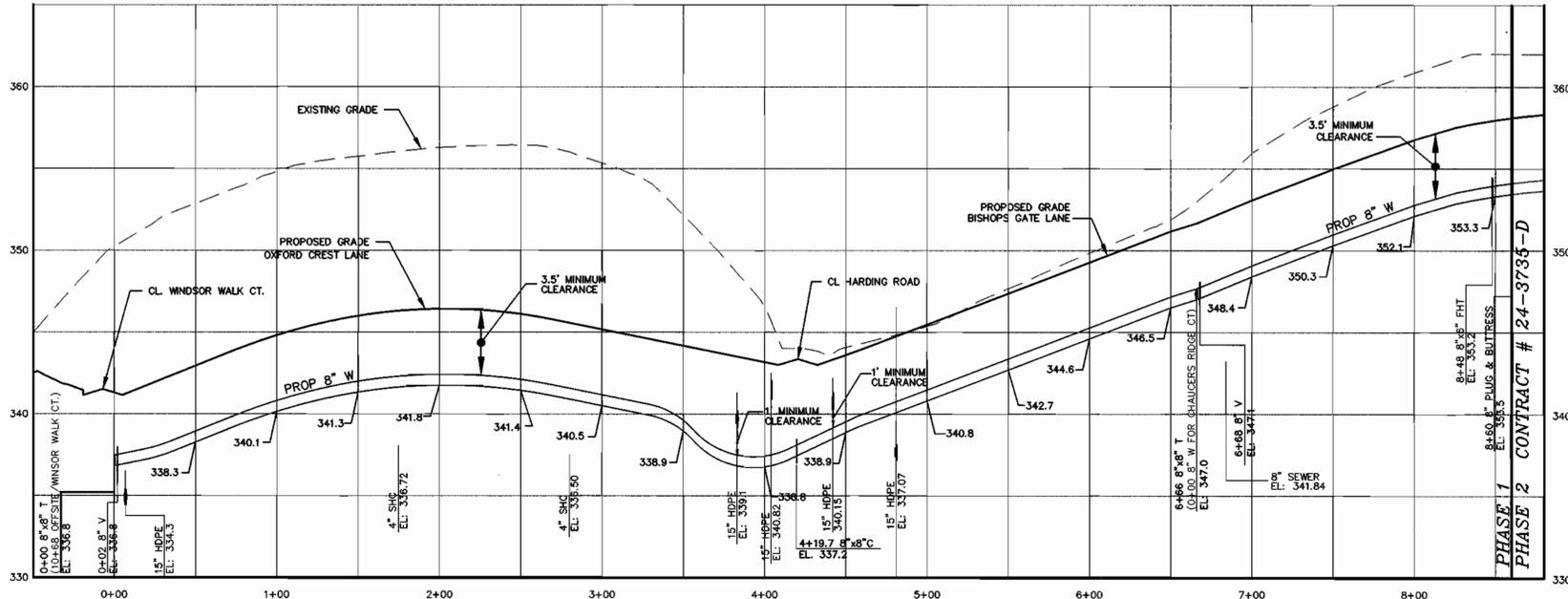
6 OF 12

F:\97084\DWG\FINAL\WAS184-PROP.DWG

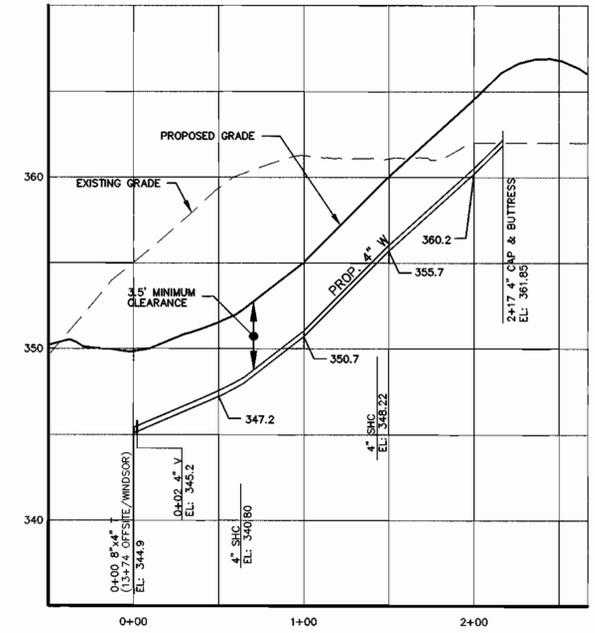
Robert M. Dennis 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

1/25/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

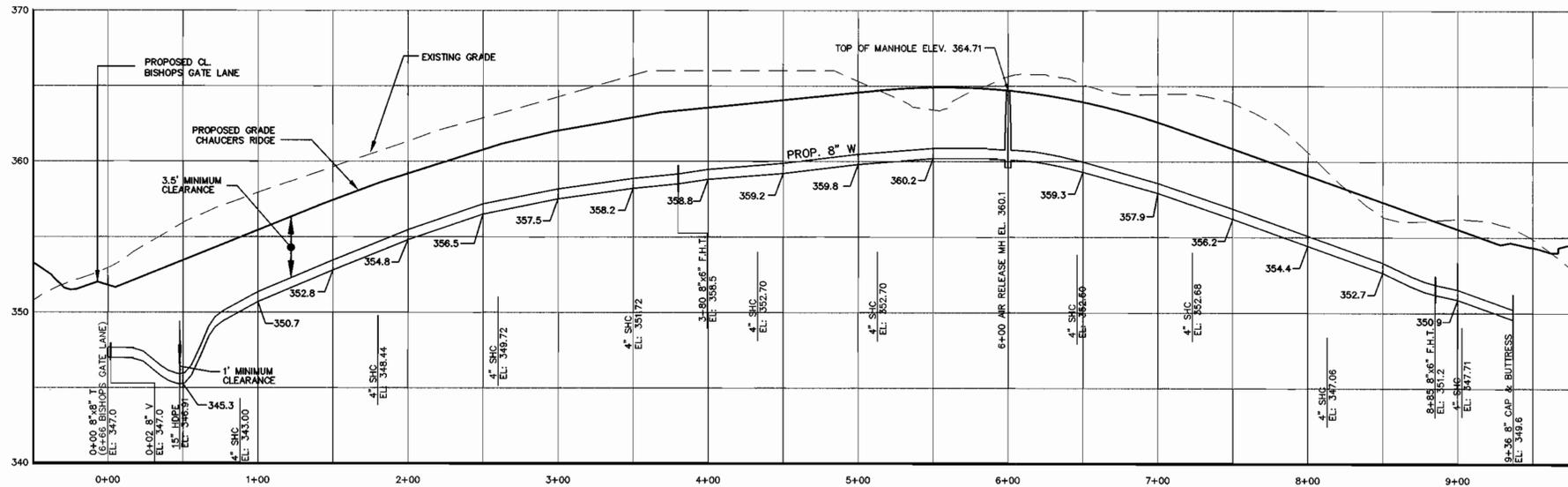
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16



8" MAIN OXFORD CREST AND BISHOPS GATE LANE
 ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



4" EXTENSION, LOTS 15-18
 ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



8" MAIN CHAUCER'S RIDGE
 ALL STATIONING IS WATER MAIN STATIONING
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\197084\DWG\FINAL\W65\164-IMP\PROP.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Robert J. Bennett
 CHIEF, BUREAU OF UTILITIES
 1-20-99
 DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1/25/99
 DATE

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21042
 (410) 997-0296 Balt. (301) 621-5521 Wash. (410) 997-0298 Fax

engineering	SD			
illustration	SD			
approval				
Project	SID	2	REVISE FH LOCATIONS & REMOVE PHASE 2 PROFILES	1/12/99
date	RJG	1	REVISE PROPOSED GRADE, WATER MAIN, & CROSSINGS	10/1/98
	BY	NO.	REVISION	DATE

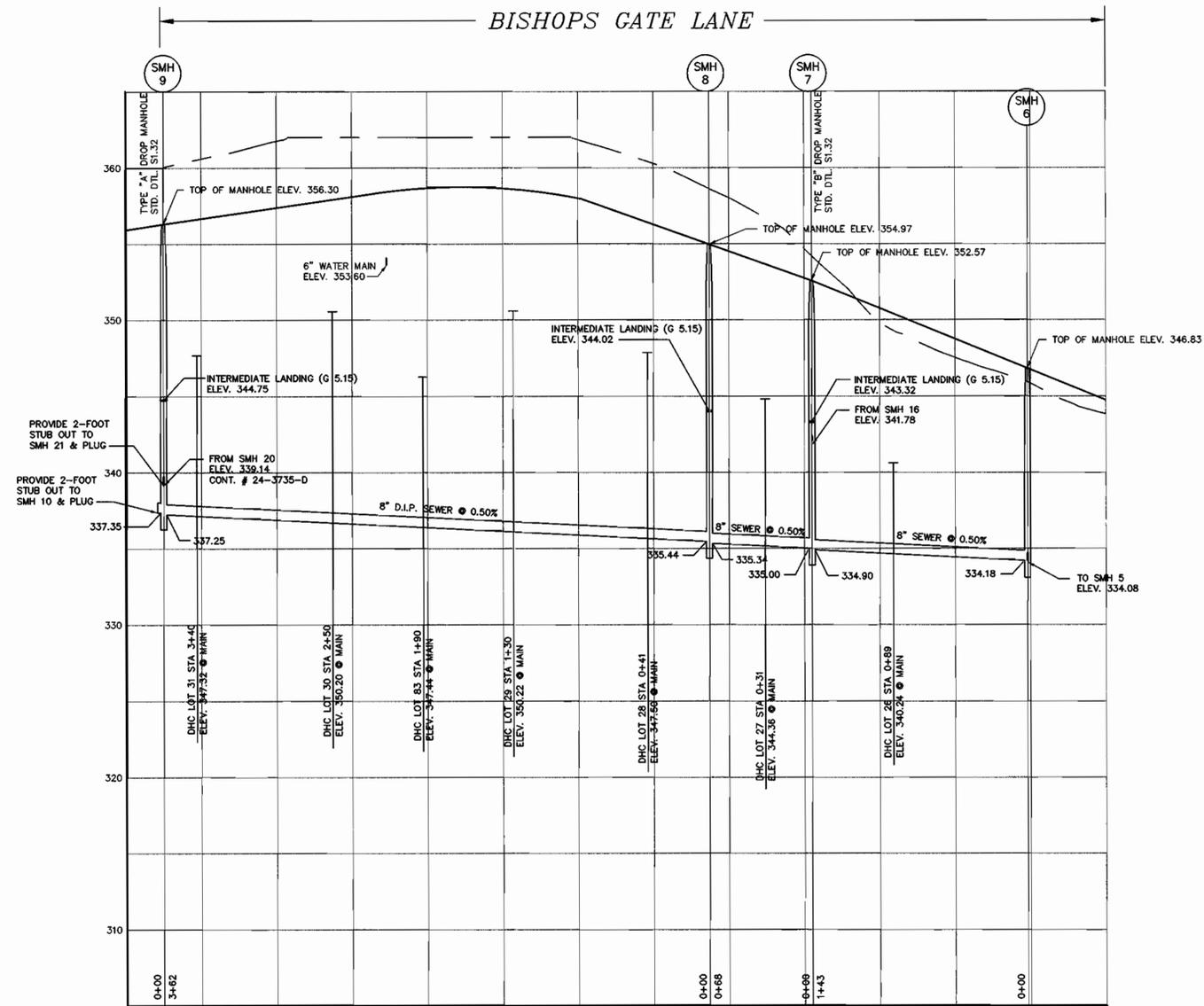
WATER PROFILES

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
 7 of 12

CONTRACT NO. 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND



SEWER PROFILE - SMH 13 TO SMH 6
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

F:\97084\DWG\FINAL\W84-SFPROF.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
Robert Berman 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
Michael Danner 1/25/99
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21112
 (410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Fax

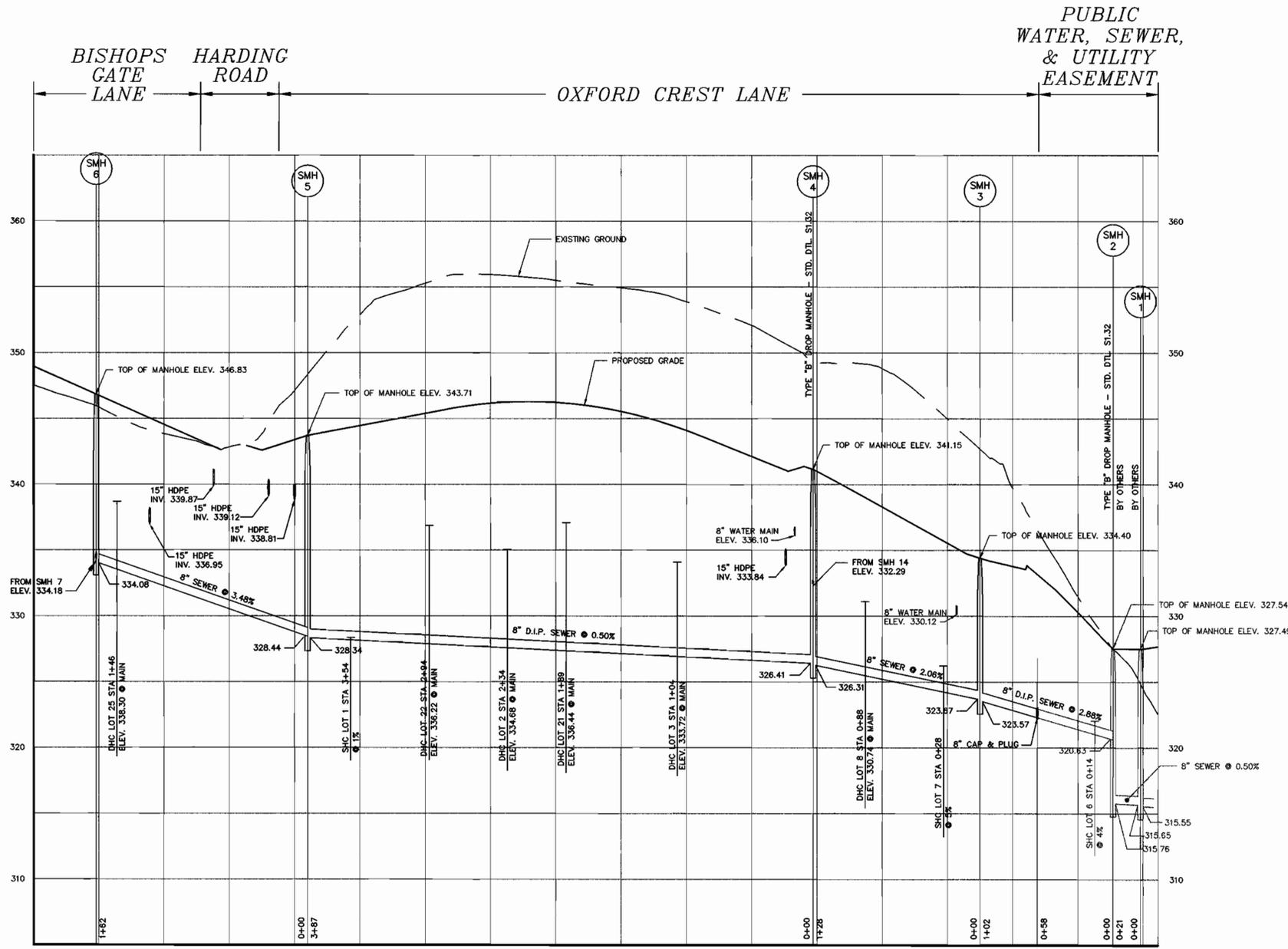
engineering	SJD				
illustration	SJD				
approval					
project	SJD	2	PROVIDE STUBS AT SMH 9 & REMOVE PHASE 2	1/12/99	
date	RCJ	1	REVISE PROPOSED GRADE, SHG, & 8" SEWER	10/6/98	
date	MAY 1998	BY	NO.	REVISION	DATE

SEWER PROFILES

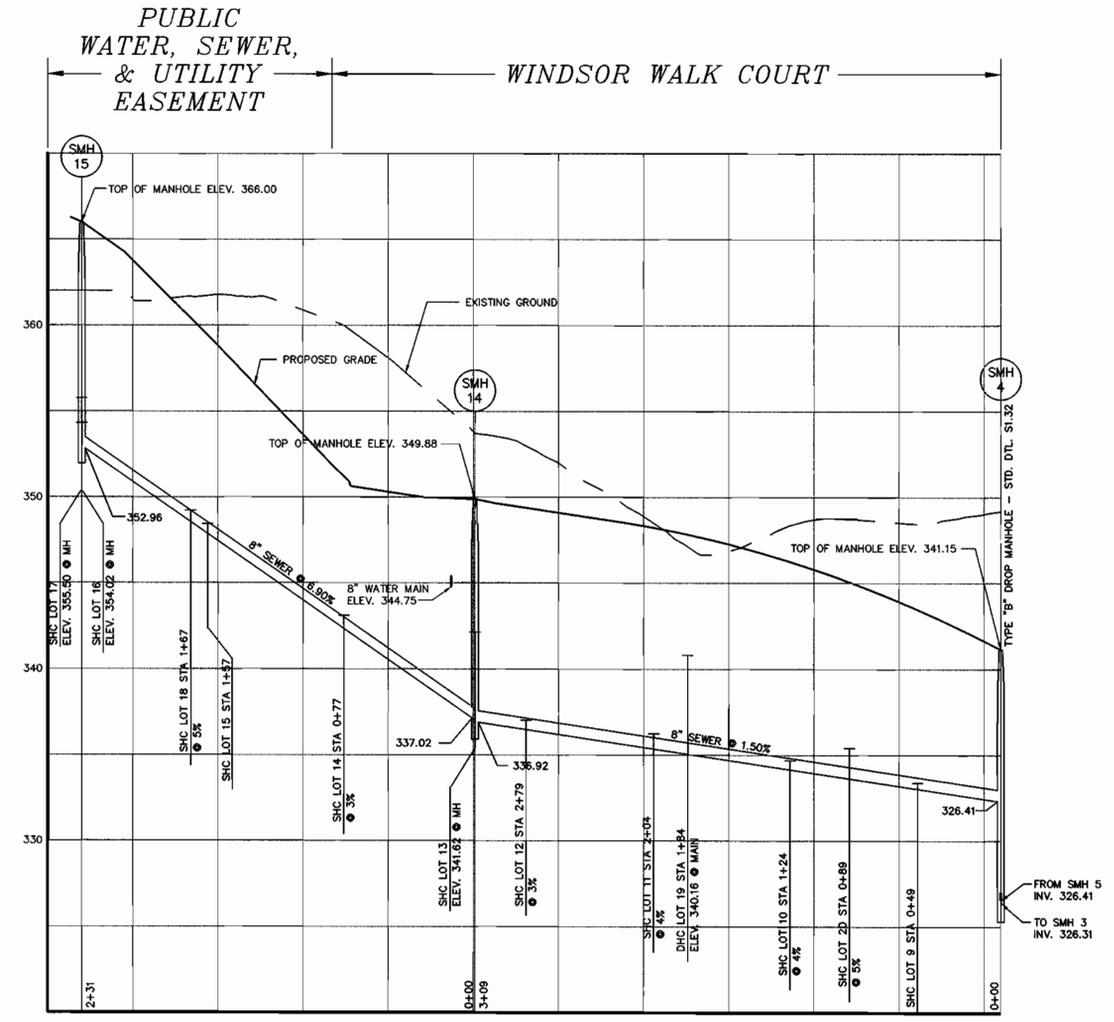
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
8 of 12



SEWER PROFILE - SMH 6 TO SMH 1
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'



SEWER PROFILE - SMH 15 TO SMH 4
 HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\97084\DWG\FINAL\WKS\84-SPROF.DWG

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND
 Robert M. Bowers
 CHIEF, BUREAU OF UTILITIES
 1-20-99
 DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 1/25/99
 DATE

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
 (410) 997-0296 Bal. (301) 621-5221 Wash. (410) 997-0298 Pa.



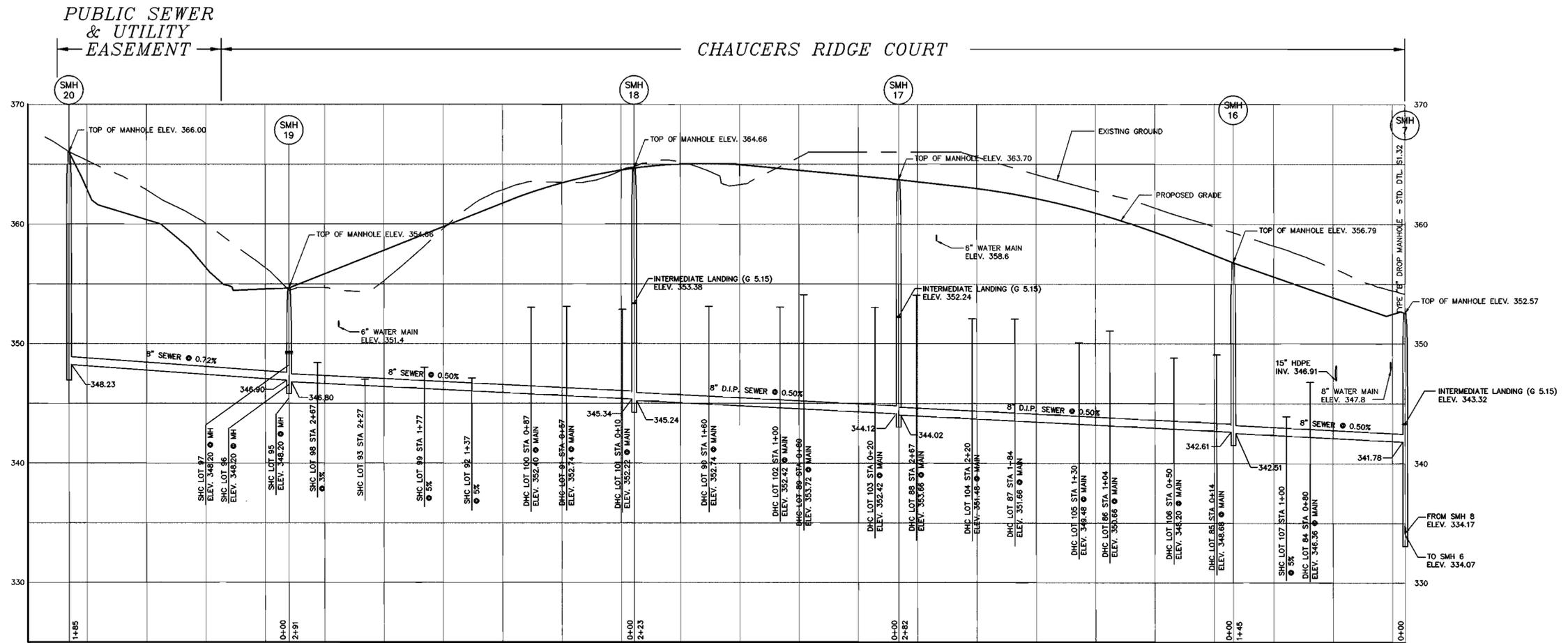
engineering	SJD				
illustration	SJD				
approval					
	S.D.	2	REVISE LOT NUMBERS		1/12/99
	RCJ	1	REVISE PROPOSED GRADE & PIPE BETWEEN SMH 15 TO SMH 14 & SMH 6 TO SMH 5.		10/8/98
project	97084				
date	MAY 1998				
	BY	NO.	REVISION		DATE

SEWER PROFILES
 '600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
 9 of 12

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND



SEWER PROFILE - SMH 20 TO SMH 7

HORIZONTAL SCALE : 1" = 50'
 VERTICAL SCALE : 1" = 5'

F:\97084\DWG\FINAL\WKS\84-SPROF.DWG

CONTRACT NO.: 24-3671-D
 RESERVOIR OVERLOOK
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

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 21112
 (410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Pa.



engineering	SJD			
illustration	SJD			
approval				
project	SJD	2	REVISE LOT NUMBERS	1/12/99
date	97084	1	REVISE PROPOSED GRADE & SHC AND DHC ELEVATIONS.	10/9/98
	MAY 1998	BY NO.	REVISION	DATE

SEWER PROFILES

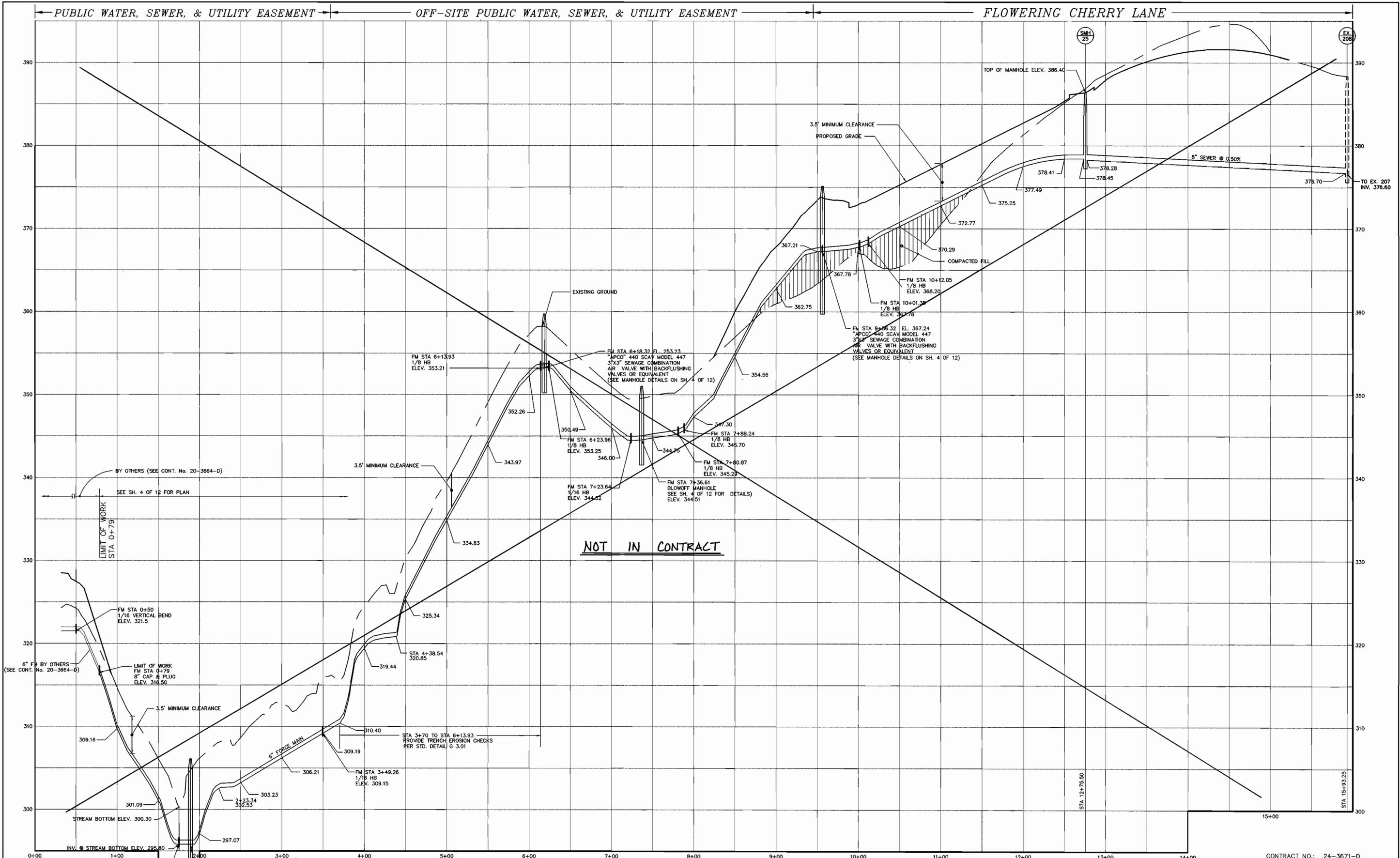
RESERVOIR OVERLOOK,
 LOTS 1 THRU 28 & 84 THRU 110
 CONTRACT # 24-3671-D
 SIXTH ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale
 AS SHOWN
10 OF 12

600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

Robert M. Benjamin 1-20-99
 CHIEF, BUREAU OF UTILITIES DATE

Chief, Development Engineering Division DATE



SEWER PROFILE - FORCE MAIN TO SMH 28

HORIZONTAL SCALE: 1" = 50'
VERTICAL SCALE: 1" = 5'

NOTE: FIELD LOCK GASKET FOR THE ENTIRE FORCE MAIN.

CONTRACT NO.: 24-3671-D
RESERVOIR OVERLOOK
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert B. Bauman 1-20-99
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
[Signature] 1/25/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG,
BOENDER & ASSOC., INC.**
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Elkocott City, Maryland 21038
(410) 997-0296 Ball. (301) 621-5521 Wash. (410) 997-0298 Fax



engineering	SJD			
illustration	SJD			
approval				
project	SJP	4	LABEL NOT IN CONTRACT	9/16/98
	SJD	2	CORRECT STATIONING & ELEVATIONS.	1/12/99
date	RCJ	1	ADD VERTICAL BEND NOTES.	10/9/98
	BY	NO.	REVISION	DATE

SEWER PROFILES
600' SCALE MAP NO. 46 BLOCK NO. 15 & 16

RESERVOIR OVERLOOK,
LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
scale AS SHOWN
11 of 12

HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

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

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.).
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE 1.4 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31, SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

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

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, FOR NOT PREVIOUSLY LOOSENED.

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

SEEDING: FOR PERIODS MARCH 1 THRU APRIL 30 AND FROM AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.) FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU NOVEMBER 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

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

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

STANDARD SEDIMENT CONTROL NOTES

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION, (313-1855).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC.51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC.52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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:	N/A	ACRES
AREA DISTURBED:	1.20	ACRES
AREA TO BE ROOFED OR PAVED:	0.26	ACRES
AREA TO BE VEGETATIVELY STABILIZED:	0.94	ACRES
TOTAL CUT:	N/A	CU. YDS.
TOTAL FILL:	N/A	CU. YDS.
TOTAL WASTE/BORROW AREA LOCATION:	N/A	

THESE QUANTITIES ARE FOR PERMIT PURPOSES ONLY. CONTRACTOR IS REQUIRED TO PROVIDE HIS OWN QUANTITIES MEASUREMENTS.

- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

- THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
 - THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
 - THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
 - THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
 - THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.
- FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

- TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATION. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.
- TOPSOIL SPECIFICATIONS - SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:
 - TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF ONIONS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
 - TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON-SON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
 - WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.
- FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0. VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:
 - ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:
 - PH FOR TOPSOILS SHALL BE BETWEEN 6.0 AND 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.
 - ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.
 - TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.
 - NO SOD OR SEED SHALL BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.
 - PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0. VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.
- TOPSOIL APPLICATION
 - WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
 - GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
 - TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
 - TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.
- ALTERNATIVE FOR PERMANENT SEEDING - INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:
 - COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS WHO ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
 - COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHOROUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
 - COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.
 - COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4 LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

ii. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 2.0. VEGETATIVE STABILIZATION - SECTION I - VEGETATIVE STABILIZATION METHODS AND MATERIALS.

VI. TOPSOIL APPLICATION

- WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4" - 8" HIGHER IN ELEVATION.
- TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" TO 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

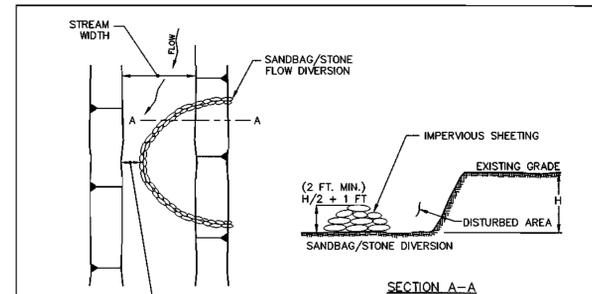
REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VI, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES. REVISED 1973.

SEQUENCE OF CONSTRUCTION

- OBTAIN GRADING PERMIT. (1 DAY)
- SEDIMENT AND EROSION CONTROL DEVICES INSTALLED UNDER F-98-61 WILL BE USED FOR INSTALLATION OF WATER AND SEWER MAINS WITHIN PROJECT LIMITS, EXCEPT AS NOTED HEREIN. INSPECT AND REPAIR ALL SEDIMENT AND EROSION CONTROL DEVICES, AS DIRECTED BY THE SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCEMENT OF WORK. (2 DAYS)
- FOR WATER AND SEWER CONSTRUCTION OUTSIDE LIMITS OF F-98-61, ALL WORK SHALL CONFORM TO THE FOLLOWING:
 - CLEAR AND GRUB FOR STRAW BALE DIKES AND SILT FENCES. (2 DAYS)
 - INSTALL STRAW BALE DIKES AND SILT FENCES AS INDICATED. (3 DAYS)
 - EXCAVATION SHALL BE LIMITED TO THE AMOUNT OF TRENCH WHICH CAN BE COMPLETED, BACKFILLED, AND STABILIZED WITHIN ONE WORKING DAY.
 - REPAIR AND/OR REPLACE ANY DISTURBED STRAW BALE DIKES AND SILT FENCES AT END OF EACH WORKING DAY.
- FOR STREAM CROSSING, REFER TO STREAM DIVERSION DETAIL WPD 2.3 AND THE FOLLOWING:
 - PRIOR TO COMMENCEMENT OF ANY WORK WITHIN THE BANKS OF THE STREAM, PLACE SANDBAG DIVERSIONS AS INDICATED ON DETAIL.
 - COMPLETE INSTALLATION OF UTILITY CROSSING WITHIN THE AREA OF DIVERSION AND BACKFILL AS INDICATED ON PLAN.
 - RELOCATE SANDBAG DIVERSION TO OPPOSITE SIDE OF STREAM.
 - COMPLETE INSTALLATION AND BACKFILL FOR UTILITY CROSSING.
 - WHEN INSTALLATION IS COMPLETE AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SANDBAG DIVERSION AND STABILIZE STREAM AREA AND BANKS AS INDICATED ON PLANS.
- UPON STABILIZATION OF AREA, AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS.

EROSION AND SEDIMENT CONTROL NOTES

- ALL SEDIMENT CONTROL OPERATIONS ARE TO BE DONE IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY VOLUME IV DESIGN MANUAL AND THE STANDARDS AND SPECIFICATIONS FOR SEDIMENT CONTROL IN DEVELOPING AREAS.
- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
- ALL EXCAVATED MATERIALS SHALL BE STOCKPILED ON THE UPGRADE SIDE OF THE MAIN TRENCH.
- EXCAVATION AND BACKFILL SHALL BE LIMITED TO THAT WHICH CAN BE STABILIZED WITHIN ONE WORKING DAY.
- IMMEDIATELY FOLLOWING BACKFILL OF THE SEWER TRENCH, ALL DISTURBED AREAS ARE TO BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION AND SEEDING NOTES SHOWN ON THIS SHEET.
- THROUGHOUT THE PROJECT, THE CONTRACTOR SHALL REGULARLY INSPECT ALL SEDIMENT CONTROL DEVICES AND PROVIDE ALL NECESSARY MAINTENANCE TO INSURE THAT ALL DEVICES ARE IN OPERATIVE CONDITION.
- ALL SEDIMENT CONTROL FACILITIES SHALL REMAIN IN PLACE UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.



I. DESCRIPTION

THE WORK SHALL CONSIST OF INSTALLING FLOW DIVERSIONS FOR THE PURPOSE OF EROSION CONTROL WHEN CONSTRUCTION ACTIVITIES TAKE PLACE WITHIN THE STREAM CHANNEL SUCH AS BANK STABILIZATION OR BRIDGE ABUTMENT CONSTRUCTION.

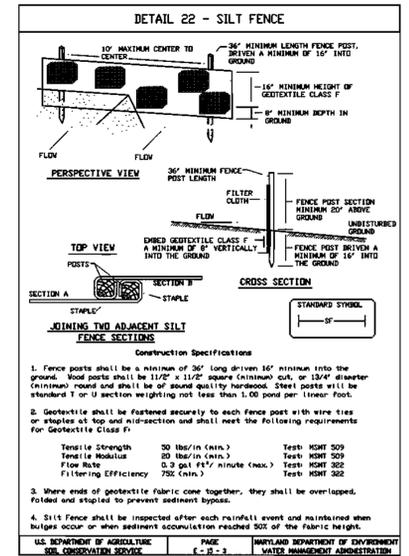
II. MATERIAL SPECIFICATIONS

- SANDBAGS: SANDBAGS SHALL CONSIST OF MATERIALS WHICH ARE RESISTANT TO ULTRAVIOLET RADIATION, TEARING AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL (I.E., SAND, FINE GRAVEL, ETC.).
- STONE: STONE SHALL BE WASHED AND HAVE A MINIMUM DIAMETER OF 6 INCHES.
- SHEETING: SHEETING SHALL CONSIST OF POLYETHYLENE OR OTHER MATERIAL WHICH IS IMPERVIOUS AND RESISTANT TO PUNCTURE AND TEARING.

III. CONSTRUCTION REQUIREMENTS

- ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF WORK.
- THE DIVERSION STRUCTURE SHALL BE INSTALLED FROM UPSTREAM TO DOWNSTREAM.
- THE HEIGHT OF THE DIVERSION STRUCTURE SHALL BE ONE HALF THE DISTANCE FROM STREAM BED TO STREAM BANK PLUS ONE FOOT, AS INDICATED ON THE CROSS SECTION VIEW.
- ALL EXCAVATED MATERIALS SHALL BE DISPOSED OF IN A SCD APPROVED DISPOSAL AREA OUTSIDE THE 100-YEAR FLOODPLAIN UNLESS OTHERWISE APPROVED ON THE PLANS BY THE WRA.
- ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN PRIOR TO RE-ENTERING THE STREAM.
- SHEETING SHALL BE OVERLAPPED SUCH THAT THE UPSTREAM PORTION COVERS THE DOWNSTREAM PORTION WITH AT LEAST AN 18-INCH OVERLAP.
- SEDIMENT CONTROL DEVICES AREA TO REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED IN ACCORDANCE WITH AN APPROVED SEDIMENT AND EROSION CONTROL PLAN AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

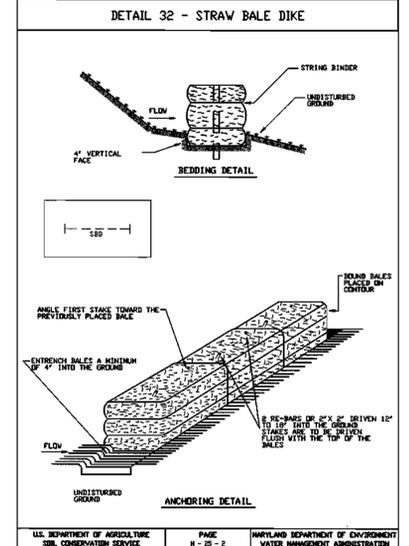
WATER RESOURCES ADMINISTRATION	SANDBAG/STONE DIVERSION	APPROVED ON _____	WPD 2.3
		CHIEF, WATERWAY PERMITS	



Silt Fence Design Criteria		
Slope Steepness	(Minimum) 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	25 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.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 15-34 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE 15-34 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Russell Dickens 1/17/99
DEVELOPER'S SIGNATURE DATE
RUSSELL DICKENS, RESERVOIR OVERLOOK, L.C.
DEVELOPER'S NAME

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A FEASIBLE 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.

John B. Milder 1/17/99
ENGINEER'S SIGNATURE DATE
JOHN B. MILDENBERG, INC.
ENGINEER'S NAME
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT MEETS TECHNICAL REQUIREMENTS.

USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE SOIL CONSERVATION DISTRICT.

HOWARD SCD DATE

PLAN REFERENCE NUMBERS	
F-88-112	P-98-03
S-97-07	F-98-61
WP-97-62	GP-98-99
WP-97-138	20-364-D

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND
<i>Robert R. ...</i> 1-20-99 CHIEF, BUREAU OF UTILITIES DATE	<i>John B. Milder</i> 1/25/99 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Elkton City, Maryland 21042
(410) 997-0296 Fax (301) 621-5521 Wash. (410) 997-0296 Fax

engineering	SJD				
illustration	SJD				
approval					
project	97084	SID 2	REVISE LOT NUMBERS	1/12/99	
date	MAY 1998	BY NO.	REVISION	DATE	600' SCALE MAP NO. _____ BLOCK NO. 15 & 16

SEDIMENT CONTROL NOTES AND DETAILS
46

RESERVOIR OVERLOOK, LOTS 1 THRU 28 & 84 THRU 110
CONTRACT # 24-3671-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale NOT TO SCALE
12 of 12