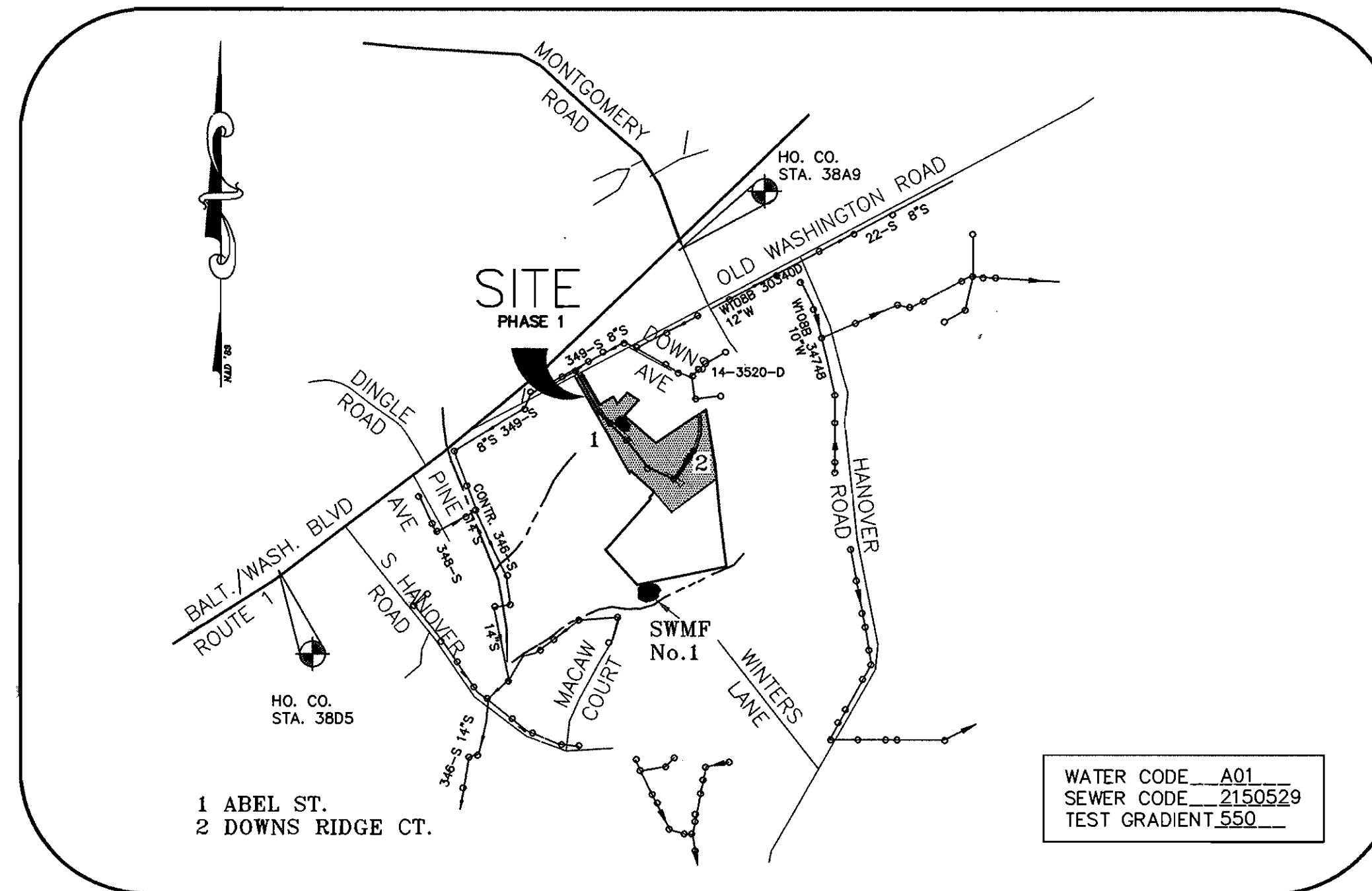


QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES		
		TYPE	MANUFACTURER/SUPPLIER	
STANDARD MH	12			
8" SEWER MAIN	1,995 L.F.			
4" SEWER HOUSE CONNECTION	715 L.F.			
# SEWER HOUSE CONNECTIONS	32			
# MH CONNECTIONS	2			
8" DIP WATER	1,653 L.F.			
6" DIP WATER	44 L.F.			
4" DIP WATER	450 L.F.			
F.H.	4			
F.H.T. & V.	4			
12"x8" TS&V	1			
8"x8" T	1			
8"x4" T	3			
8" V	3			
4" V	3			
8" CAP & BUTTRESS	1			
4" CAP & BUTTRESS	3			
# WATER HOUSE CONNECTIONS	8			
# TWIN WATER HOUSE CONNECTIONS	13			
3/4" WATER HOUSE CONNECTION	169 L.F.			
1" WATER HOUSE CONNECTION	246 L.F.			
1 1/2" DRAIN	3			
AIR RELEASE MANHOLE	1			
NAME OF UTILITY CONTRACTOR:				
SURVEY AND DRAFTING DIVISION AS-BUILT DATE				



VICINITY MAP

SCALE: 1"=1000'

TYPE OF BUILDING	SFD
No. OF UNITS	33
No. OF TWIN WATER HOUSE CONNECTIONS	13
No. OF WATER HOUSE CONNECTIONS	8
No. OF SEWER HOUSE CONNECTIONS	34
DRAINAGE AREA	
TREATMENT PLANT	

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 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	531-5533
BG & E CO. CONTRACTOR SERVICES	850-4620
BG & E CO. UNDERGROUND DAMAGE CONTROL	787-9068
MISS UTILITY	1-800-257-7777
COLONIAL PIPELINE CO.	795-1390
HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS BUREAU OF UTILITIES	313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG 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 WITH 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 G5.52. 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 COMMENSING CONSTRUCTION.
- SEDIMENT CONTROL TO BE PROVIDED BY F-97-110. ALL WATER AND SEWER CONSTRUCTION TO BE INSIDE F-97-110'S LIMIT OF DISTURBANCE.
- STORM DRAIN SYSTEM INDICATED FOR INFORMATIONAL PURPOSES ONLY. SEE ROAD PLANS FOR CONSTRUCTION DATA.

CONTRACT NO. 14-3620-D: WILLIAMS KNOLL SECTION I LOTS 1-41

WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	WATER PROFILES
4	SEWER PROFILES

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.

James L. Munka 8-11-97
DEVELOPER'S SIGNATURE DATE
JNSD, LC
DEVELOPER'S NAME

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

R. Jacob Hikmat 8/11/97
ENGINEER'S SIGNATURE DATE
R. JACOB HIKMAT
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEET TECHNICAL REQUIREMENTS.

Cheryl K. Jimmiers 08/21/97
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Paul Robertson 8/21/97
HOWARD SCD DATE

DPZ REFERENCE NUMBERS
S 95-08
P 96-20
WP 96-69
AA 96-19
F 97-110, F-97-154

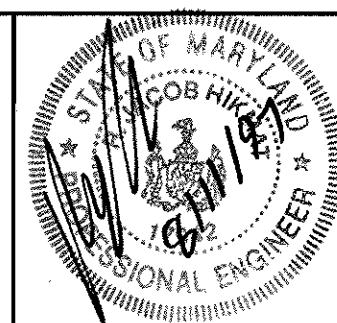
CONTRACT NO.: 14-3620-D
WILLIAMS KNOLL, SECTION I
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

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



engineering SD					
illustration SD					
approval					
project	95136				
date	AUG 1997	BY	NO.	REVISION	DATE

TITLE SHEET

600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTION I
LOTS 1-41
CONTRACT NO.: 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

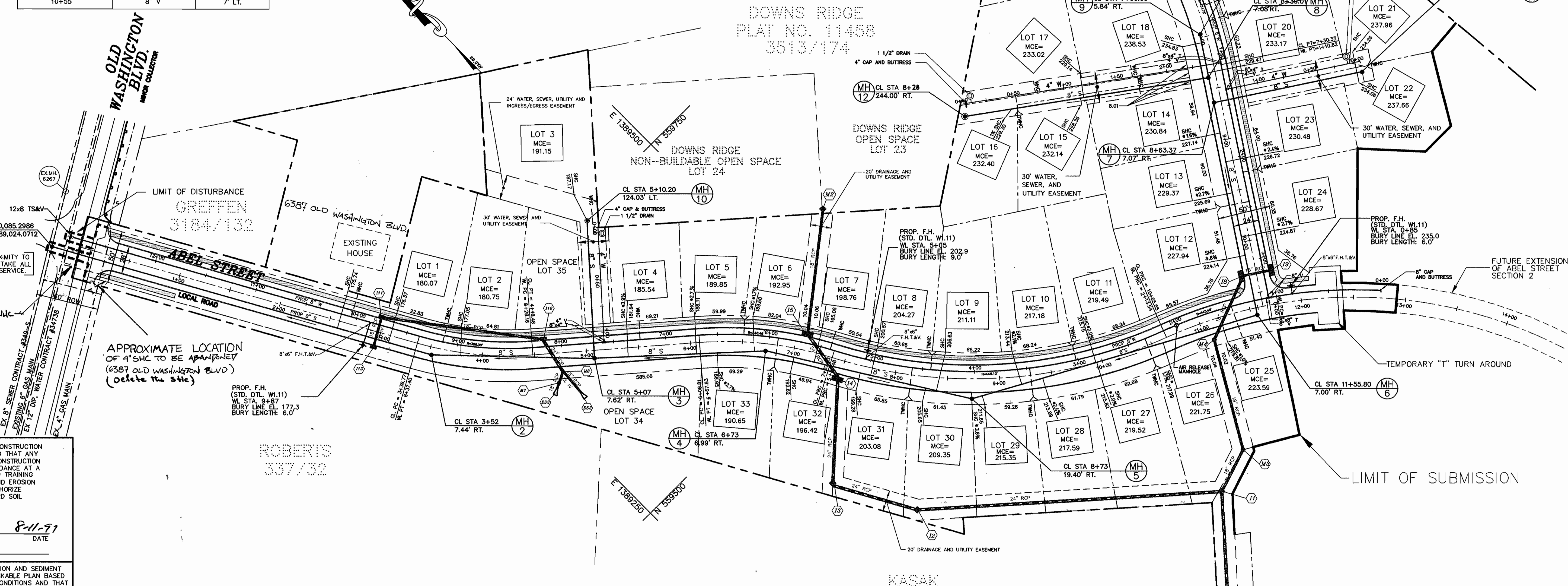
scale AS SHOWN

1 of 4

WATER MAIN TABULATION CHART

ABEL STREET		
STATION	APPURTENANCE	DIST. FROM E
N 560,079.4024	12"x8" TS&V	-
E 1,389,043.4011	8"x6" F.H.T.&V.	7' LT.
2+88	F.H.	16' RT.
3+18	8"x4" T	7' LT.
5+18	4" V	9' LT.
5+18	1 1/2" DRAIN	112' LT.
5+19	4" P&B	117' LT.
7+69	8"x6" F.H.T.&V.	7' LT.
7+69	F.H.	16' LT.
10+78	AIR RELEASE MANHOLE	7' LT.
11+92	8"x6" F.H.T.&V.	7' LT.
11+92	F.H.	16' LT.
11+68	4" V	7' LT.
11+70	8" T	7' LT.
11+72	8" V	7' LT.
12+76	8" P&B	7' LT.
DOWNS RIDGE COURT		
STATION	APPURTENANCE	DIST. FROM E
7+34	8"x6" F.H.T.&V.	7' LT.
7+34	F.H.	15' LT.
8+53	8"x4" T	7' LT.
8+53	4" V	9' LT.
8+53	1 1/2" DRAIN	158' LT.
8+53	4" P&B	137' LT.
8+28	8"x4" T	7' LT.
8+28	4" V	7' LT.
8+05	1 1/2" DRAIN	235' RT.
8+05	4" P&B	237' RT.
10+55	8" V	7' LT.

DOWNS RIDGE PLAT NO. 11458 3513/174
 DOWNS RIDGE LOT 16
 DOWNS RIDGE LOT 19
 JUNKER 1120/134



NOTE: SIX-INCH GAS LINE IS IN CLOSE PROXIMITY TO EXISTING WATER MAIN. CONTRACTOR IS TO TAKE ALL PRECAUTIONS SO AS NOT TO DISRUPT GAS SERVICE.

APPROXIMATE LOCATION OF 1" WKC TO BE ABANDONED. (6387 OLD WASHINGTON BLVD.) (delete wkc.)

APPROXIMATE LOCATION OF 4" SHC TO BE ABANDONED (6387 OLD WASHINGTON BLVD.) (delete the shc)

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.

John C. Newman 8-11-97
 DEVELOPER'S SIGNATURE DATE
 JNSD, LLC
 DEVELOPER'S NAME

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

R. JACOB HIKMAT 8/11/97
 ENGINEER'S SIGNATURE DATE
 R. JACOB HIKMAT
 ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEET TECHNICAL REQUIREMENTS.

Cheryl K. Jiminas 08/21/97
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Robertson 8/21/97
 HOWARD SCD DATE

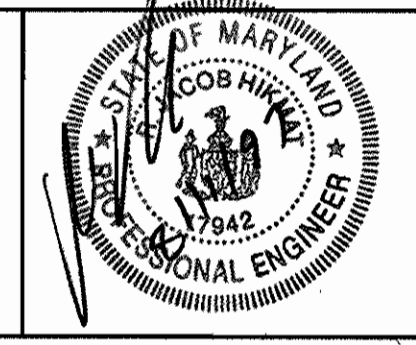
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert D. ... 8-18-97
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

John D. ... 8/21/97
 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 Fax (301) 621-5521 Wash. (410) 997-0298 Fax



engineering	SD				
illustration	SD				
approval					
project	95136	RCJ	1	CHANGE STATIONING & ELEV. ON SHC'S	5-29-98
date	AUG 1997	BY	NO.	REVISION	DATE

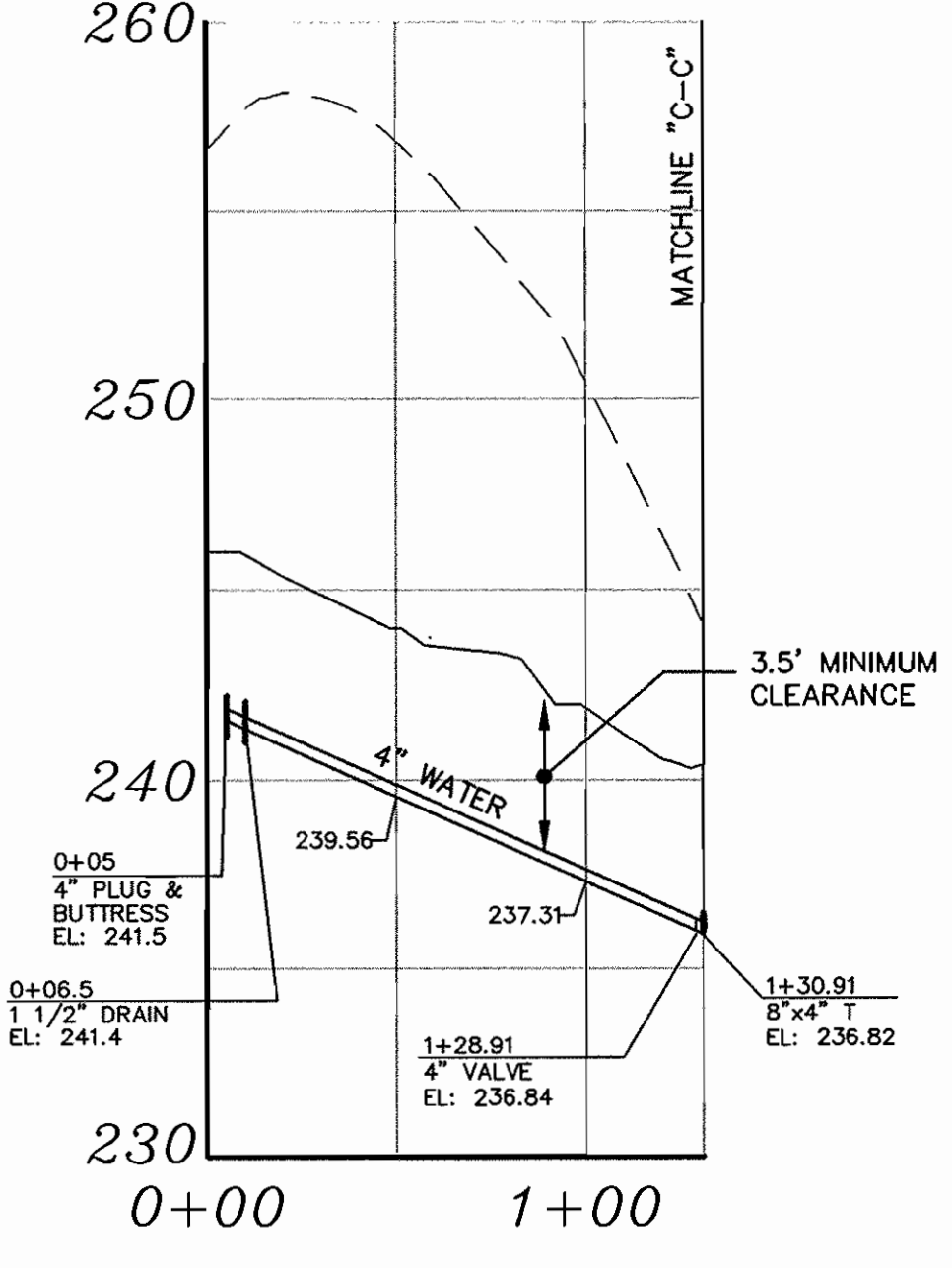
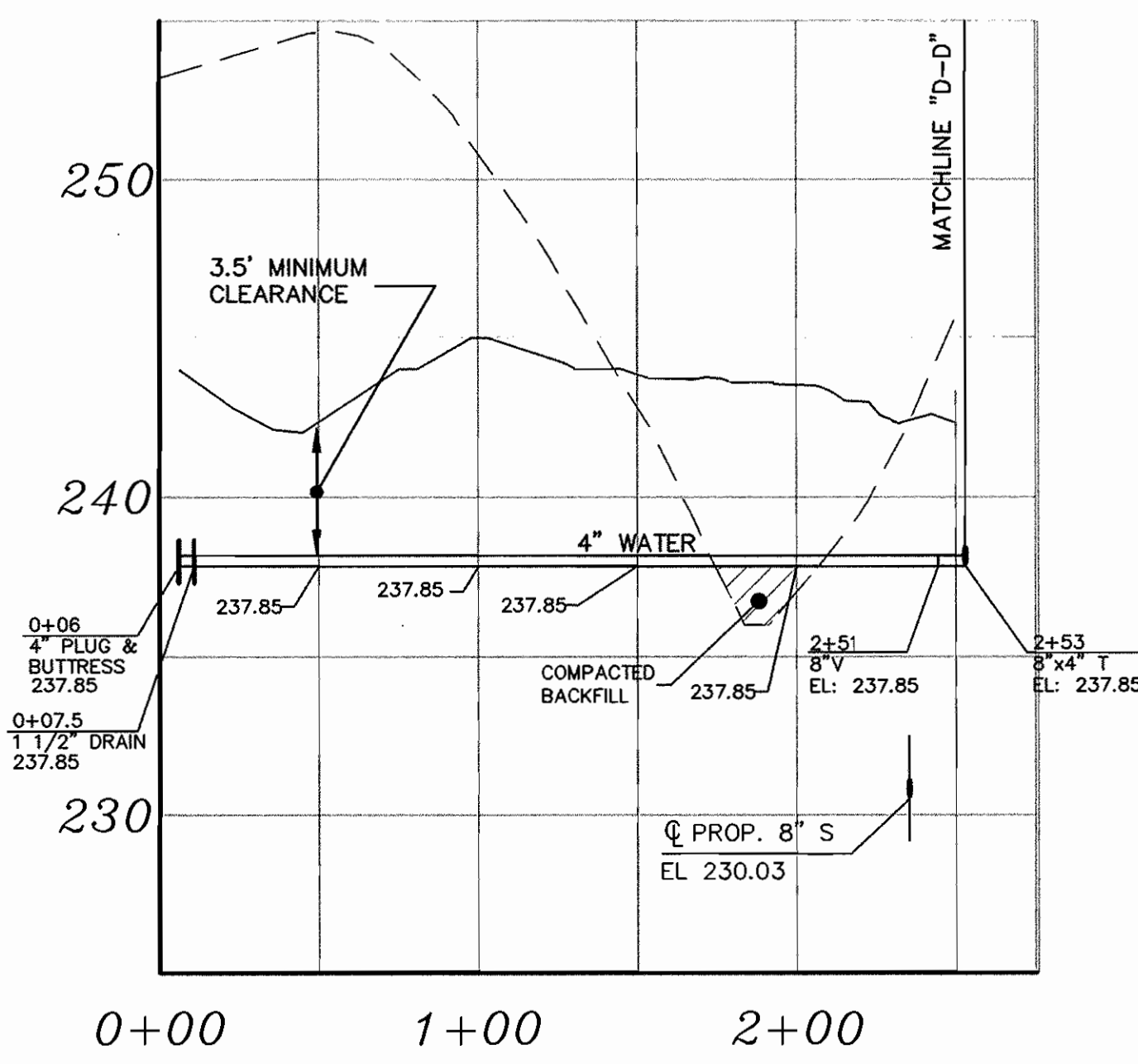
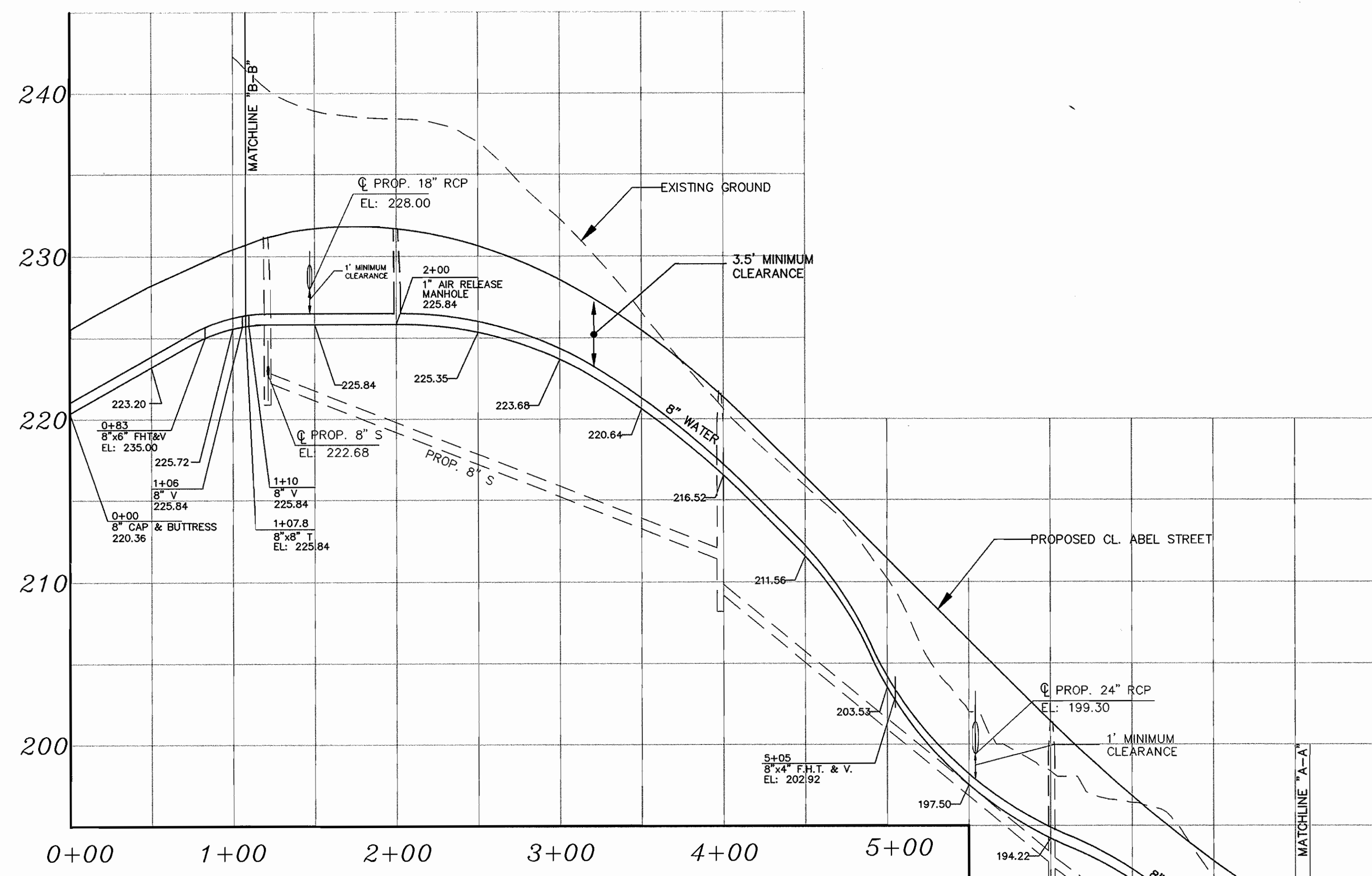
WATER AND SEWER PLAN

600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTION I
 LOTS 1-41
 CONTRACT# 14-3620-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale 1"=50'
 2 OF 4

CONTRACT NO. 14-3620-D
 WILLIAMS KNOLL, SECTION I
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

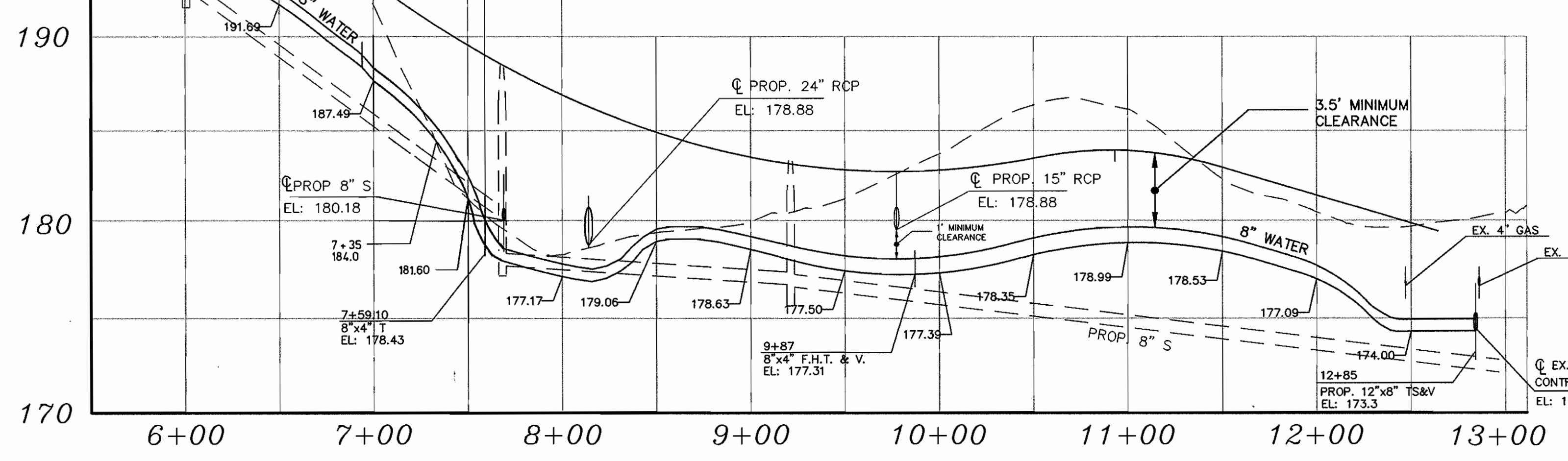
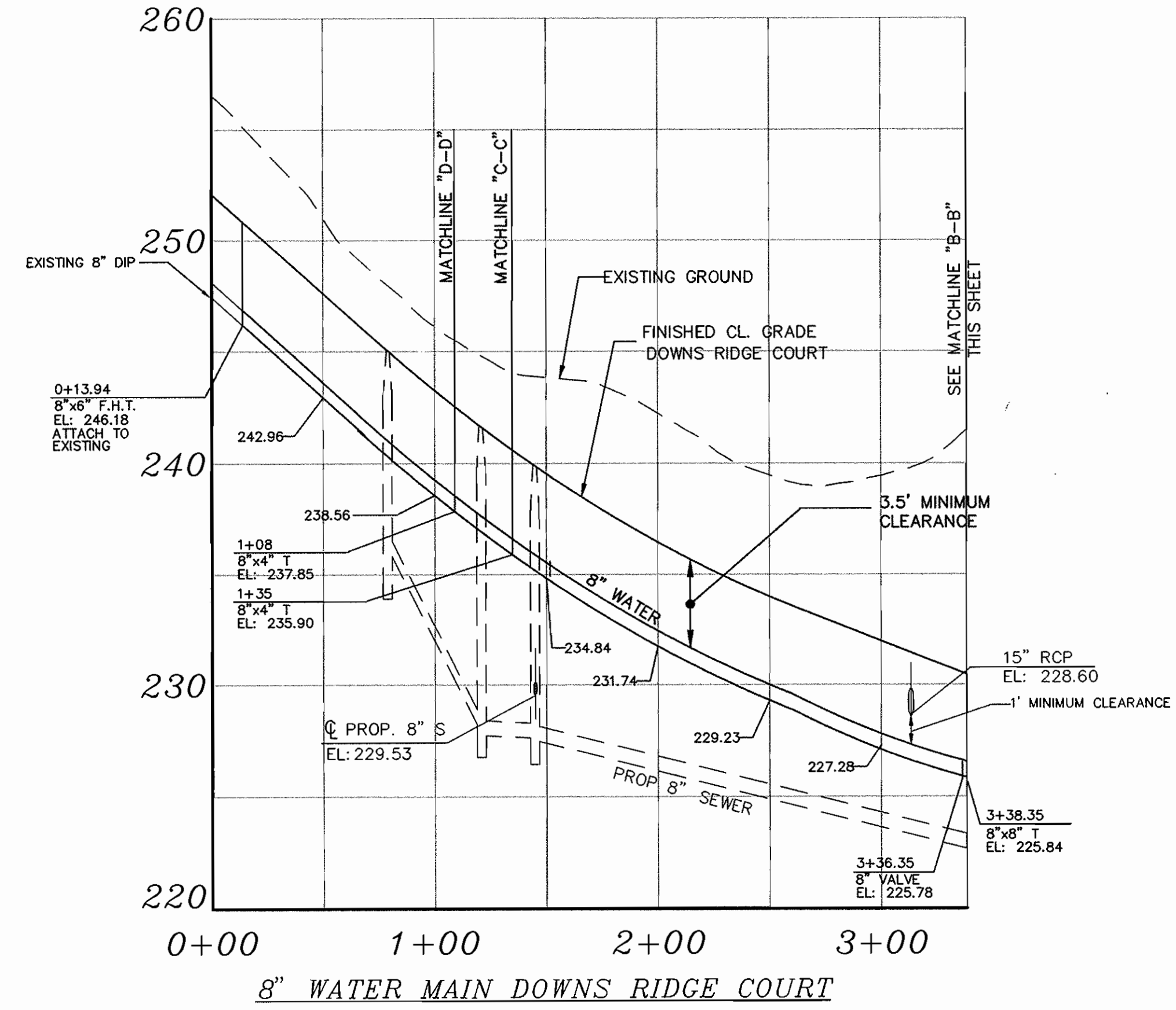


4" WATER MAIN EXTENSION
LOTS 14 - 18

4" WATER MAIN EXTENSION
LOTS 21 & 22

SCALE
HOR: 1"=50'
VERT: 1"=5'

SCALE
HOR: 1"=50'
VERT: 1"=5'



8" WATER MAIN ABEL STREET

4" WATER MAIN EXTENSION
LOT 3 & FUTURE

SCALE
HOR: 1"=50'
VERT: 1"=5'

SCALE
HOR: 1"=50'
VERT: 1"=5'

8" WATER MAIN DOWNS RIDGE COURT

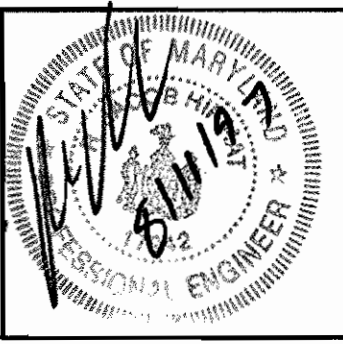
SCALE
HOR: 1"=50'
VERT: 1"=5'

CONTRACT NO.: 14-3620-D
WILLIAMS KNOLL, SECTION I
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
8-18-97

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
8/22/97

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0296 Balt. (301) 821-5521 Wash. (410) 997-0288 Fax.



engineering	SD				
illustration	SD				
approval					
project	95136	RCJ	1	CHANGES ON WATER MAIN & ASSOC. CHANGES	5-28-98
date	AUG 97	BY	NO.	REVISION	DATE

WATER PROFILES
600' SCALE MAP NO. 38 BLOCK NO. 8

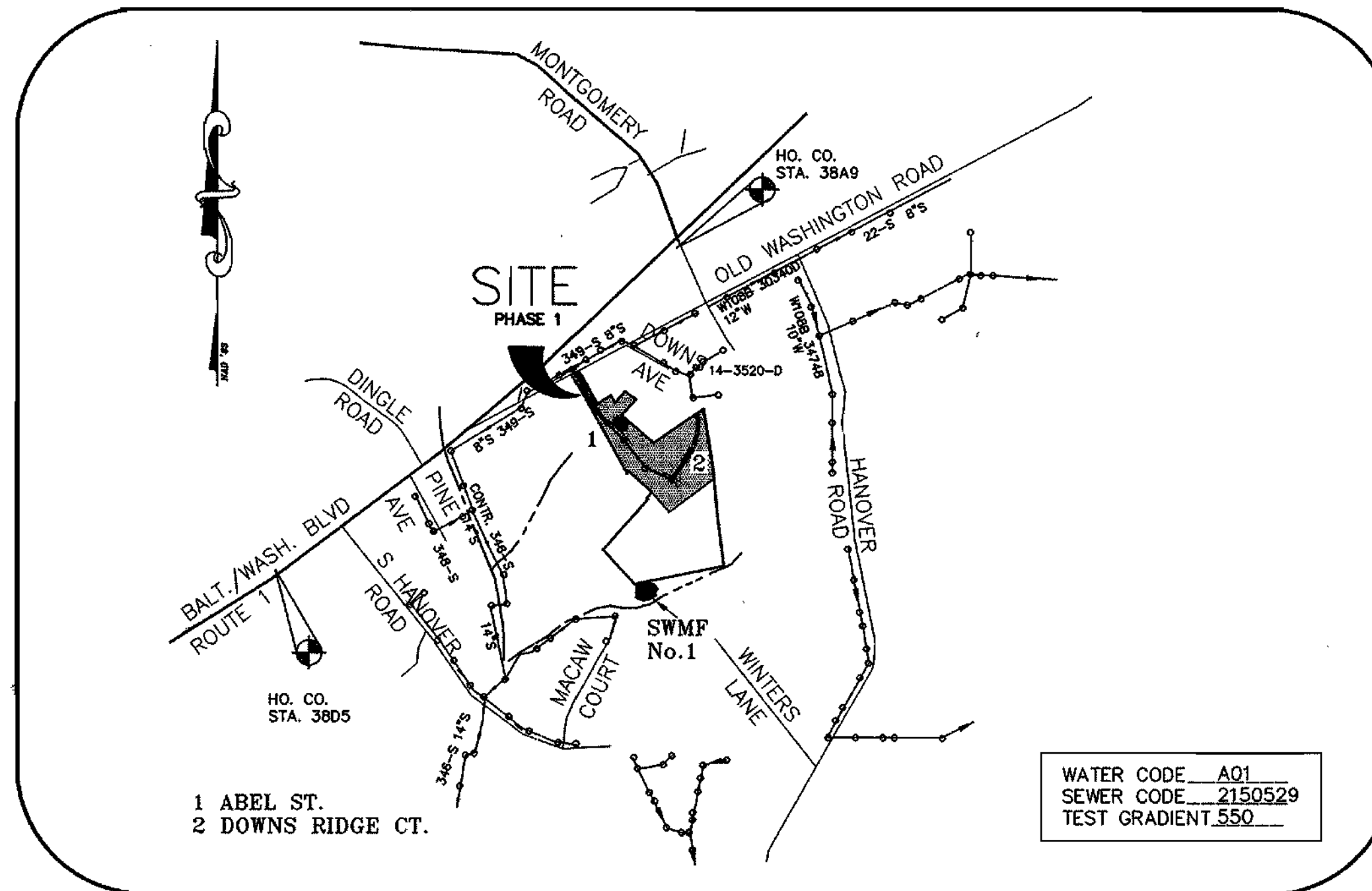
WILLIAMS KNOLL, SECTION I
LOTS 1-41
CONTRACT# 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale AS SHOWN
3 OF 4

QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES			MANUFACTURER/SUPPLIER
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER	
STANDARD MH	12	13			
8" SEWER / O.I.P.		42 L.F.	CL 52 TYTON	ATLANTIC STATES	
8" SEWER MAIN / P.V.C.	1,995 L.F.	1,998 L.F.	SDR 35	JM MANUFACTURING	
4" SEWER HOUSE CONNECTION	745 L.F. 750	737 L.F.	" "	" "	
# SEWER HOUSE CONNECTIONS	32	34 L.F.	PVC TEE WYE	HARRINGTON CORP.	
# MH CONNECTIONS	2				
8" DIP WATER	1,653 L.F.	1,628 L.F.	CL 52 TYTON	ATLANTIC STATES	
6" DIP WATER	44 L.F.	44 L.F.	" "	" "	
4" DIP WATER	450 L.F.	476 L.F.	" "	" "	
F.H.	4	4 EA.	A 428 CENTERLINE	MUELLER COMP.	
F.H.T. & V.	4	4 EA.	M.J. HYDR. TEE RES. WEDGE GATE	UNION FOUNDRY / MUELLER COMP.	
12"x8" TS&V	1	1 EA.	H 165	MUELLER COMP.	
8"x8" T	1	1 EA.	MJ TEE	UNION FOUNDRY	
8"x4" T	3	3 EA.	" "	" "	
8" V	3	3 EA.	RES. WEDGE GATE VALVE	MUELLER COMP.	
4" V	3	3 EA.	" "	" "	
8" CAP & BUTTRESS	1	1	" "	" "	
4" CAP & BUTTRESS	3	3 EA.	MJ CAP	UNION FOUNDRY	
# WATER HOUSE CONNECTIONS	8	11	1" H 1500 COB	MOELLER COMP.	
# TWIN WATER HOUSE CONNECTIONS	13	11	" "	" "	
3/4" WATER HOUSE CONNECTION	169 L.F.	370 L.F.	TYPE K" CARBON	READING TUBE	
1" WATER HOUSE CONNECTION	246 L.F.	315 L.F.	" "	" "	
1 1/2" DRAIN	3	3	" "	" "	
AIR RELEASE MANHOLE	1	1	" "	" "	
4" SEWER HOUSE CONN/O.I.P.		81 L.F.	CL 52 TYTON	ATLANTIC STATES	

NAME OF UTILITY CONTRACTOR: C.J. MILLER
 SURVEY AND DRAFTING DIVISION AS-BUILT DATE



VICINITY MAP

SCALE: 1"=1000'

TYPE OF BUILDING	SFD
No. OF UNITS	33
No. OF TWIN WATER HOUSE CONNECTIONS	13
No. OF WATER HOUSE CONNECTIONS	8
No. OF SEWER HOUSE CONNECTIONS	34
DRAINAGE AREA	
TREATMENT PLANT	

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.C.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 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 531-5533
 BG & E CO. CONTRACTOR SERVICES 850-4620
 BG & E CO. UNDERGROUND DAMAGE CONTROL 787-9068
 MISS UTILITY 1-800-257-7777
 COLONIAL PIPELINE CO. 785-1390
 HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 313-4900
 BUREAU OF UTILITIES 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG 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 WITH 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 G5.52. 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 COMMENSING CONSTRUCTION.
- SEDIMENT CONTROL TO BE PROVIDED BY F-97-110, ALL WATER AND SEWER CONSTRUCTION TO BE INSIDE F-97-110'S LIMIT OF DISTURBANCE.
- STORM DRAIN SYSTEM INDICATED FOR INFORMATIONAL PURPOSES ONLY. SEE ROAD PLANS FOR CONSTRUCTION DATA.

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	WATER PROFILES
4	SEWER PROFILES

CONTRACT NO. 14-3620-D: WILLIAMS KNOLL SECTION I LOTS 1-41

WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

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.

James L. Mendenhall 8-11-97
 DEVELOPER'S SIGNATURE DATE
 JNSD, L.C.
 DEVELOPER'S NAME

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

R. Jacob Hikmat 8/11/97
 ENGINEER'S SIGNATURE DATE
 R. JACOB HIKMAT
 ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEET TECHNICAL REQUIREMENTS.

Cheryl K. Simmons 08/21/97
 USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

John Robertson 8/21/97
 HOWARD SCD DATE

DPZ REFERENCE NUMBERS
 S 95-08
 P 96-20
 WP 96-59
 AA 96-19
 F 97-110, F-97-154

CONTRACT NO.: 14-3620-D
 WILLIAMS KNOLL, SECTION I
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

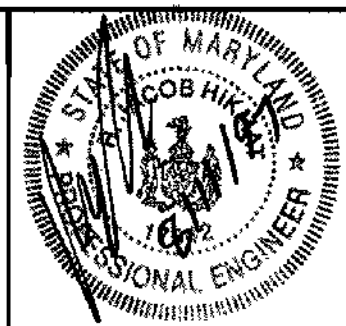
DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert J. Benjamin 8-18-97
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
 HOWARD COUNTY, MARYLAND

Mark D. Benjamin 8/21/97
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

MILDENBERG, BOENDER & ASSOC., INC.
 Engineers Planners Surveyors
 5972 Dorsey Hall Drive, Suite 200, Ellicott City, Maryland 21042
 (410) 987-0296 Balt. (301) 621-5221 Wash. (410) 987-0288 Fax



engineering SD					
illustration SD					
approval					
project	95136	K.C.I.	1	WATER & SEWER AS-BUILT CONDITIONS ADDED TO	11/28
date	AUG 1997	BY	NO.	REVISION	PLAN
					DATE

TITLE SHEET
 AS-BUILT SET

600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTION I
 LOTS 1-41
 CONTRACT NO.: 14-3620-D
 FIRST ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

scale AS SHOWN
 1 of 4

410-211-3031

WATER MAIN TABULATION CHART

ABEL STREET		
STATION	APPURTENANCE	DIST. FROM
N 560,079.4024 E 1,399,043.4011	12"x8" TS&V	-
2+88	8"x6" F.H.T.&V.	7' LT.
5+18	8"x4" T	7' LT.
5+18	8"x4" V	9' LT.
5+18	1 1/2" DRAIN	112' LT.
5+19	4" P&B	117' LT.
7+69	8"x6" F.H.T.&V.	7' LT.
7+69	F.H.	18' LT.
10+78	AIR RELEASE MANHOLE	7' LT.
11+92	8"x6" F.H.T.&V.	7' LT.
11+92	F.H.	16' LT.
11+68	8" V	7' LT.
11+70	8" T	7' LT.
11+72	8" V	7' LT.
12+76	8" P&B	7' LT.

DOWNS RIDGE COURT		
STATION	APPURTENANCE	DIST. FROM
7+34	8"x6" F.H.T.&V.	7' LT.
7+34	F.H.	15' LT.
8+53	8"x4" T	7' LT.
8+53	4" V	9' LT.
8+53	1 1/2" DRAIN	135' LT.
8+53	4" P&B	137' LT.
8+28	8"x4" T	7' LT.
8+28	4" V	5' LT.
8+05	1 1/2" DRAIN	235' RT.
8+05	4" P&B	237' RT.
10+55	8" V	7' LT.

DOWNS RIDGE
PLAT NO. 11458
3513/174

DOWNS RIDGE
LOT 16

DOWNS RIDGE
LOT 19

JUNKER
1120/134

BO&E R.O.W.

SEE DOWNS RIDGE
F-96-120
FOR ROAD PLANS

CONNECT TO EXISTING
SEE W&S #14-3520-D
CL. STA 7+34, 7L
WATER MAIN STA 0+13.94

IF 8" WATER MAIN IS EXISTING (CONTRACT # 14-3520-D), REMOVE
CAP AND BUTTRISS AT THE END OF THE CONNECTION, OTHERWISE PROVIDE
CAP AND BUTTRISS AT THE END OF THE WATER MAIN.

PROP. F.H.
(STD. DTL. W.11)
W. STA. 0+14
BURY LINE EL. 246.2
BURY LENGTH: 5.5'

SCHUTT
1402/462

DOWNS RIDGE
PLAT NO. 11458
3513/174

BO&E
R.O.W.

OLD
WASHINGTON
BLVD.

GREFFEN
3184/132

NOTE: SIX-INCH GAS LINE IS IN CLOSE PROXIMITY TO
EXISTING WATER MAIN. CONTRACTOR IS TO TAKE ALL
PRECAUTIONS SO AS NOT TO DISRUPT GAS SERVICE.

APPROXIMATE LOCATION OF 1" W&S
TO BE ABANDONED.
(6587 OLD WASHINGTON BLVD.)
(Delete w/c.)

APPROXIMATE LOCATION
OF 4" SHC TO BE ABANDONED
(6587 OLD WASHINGTON BLVD.)
(Delete the SHC)

PROP. F.H.
(STD. DTL. W.11)
W. STA. 9+57
BURY LINE EL. 177.3
BURY LENGTH: 6.0'

ROBERIS
337/32

KASAK
431/545

LIMIT OF SUBMISSION

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.

James L. Henderson 8/11/97
DEVELOPER'S SIGNATURE DATE
JNSD, LLC
DEVELOPER'S NAME

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

R. JACOB HIKMAT 8/11/97
ENGINEER'S SIGNATURE DATE
R. JACOB HIKMAT
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND
MEET TECHNICAL REQUIREMENTS.

Cheryl K. Jiminas 08/21/97
USDA-NATURAL RESOURCES
CONSERVATION SERVICE DATE

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

John K. Robertson 8/21/97
HOWARD SCD DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert J. Berman 8-18-97
CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
John K. Robertson 8/21/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

**MILDENBERG,
BOENDER & ASSOC., INC.**
Engineers Planners Surveyors
5072 Dersy Hall Drive, Suite 202, Elkocott City, Maryland 21042
(410) 997-0286 Dalt. (301) 621-5521 Wash. (410) 997-0286 Fax.



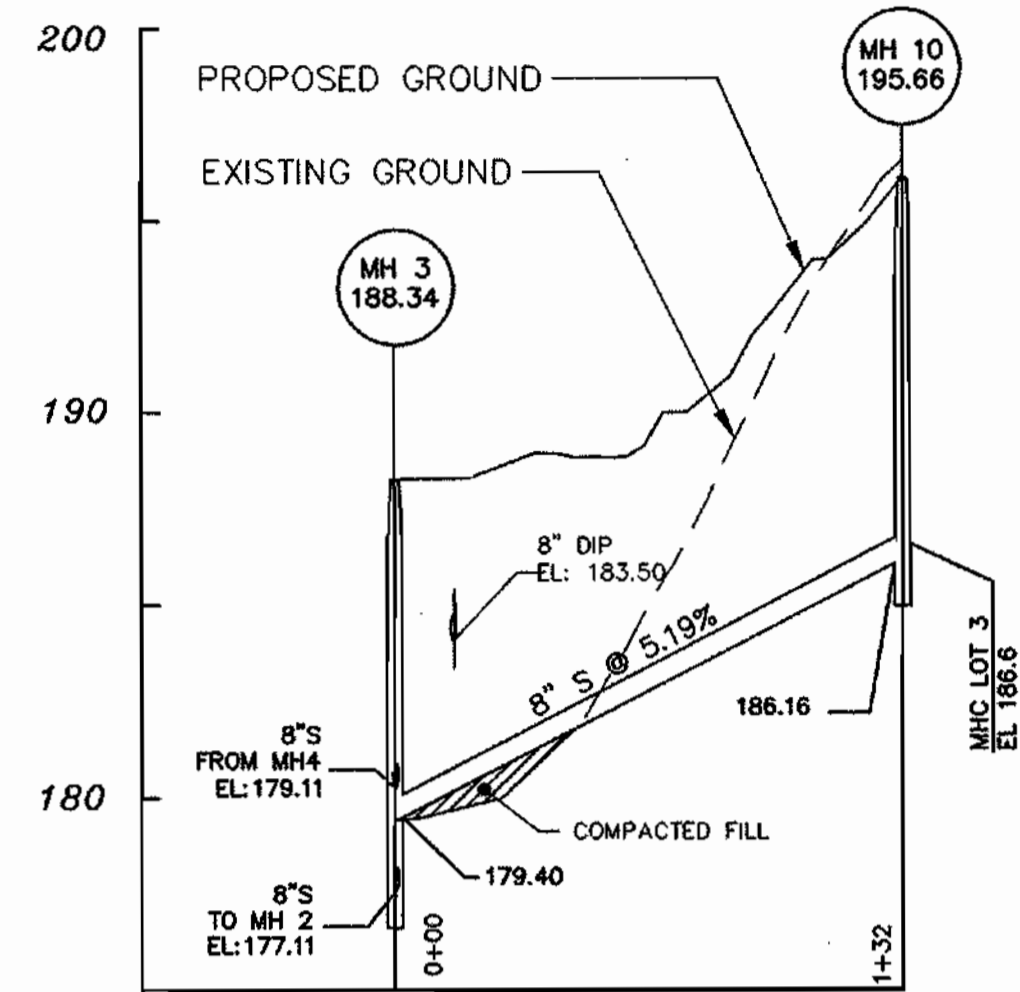
engineering	SD				
illustration	SD				
approval					
project	KCI-2	ASBUILT CONDITIONS ADDED TO PLAN	11-98		
	RCJ-1	CHANGE STATIONING & ELEV. ON SHC'S	5-29-98		
date	AUG 1997	BY NO.	REVISION	DATE	

WATER AND SEWER
PLAN
"ASBUILT SET"
600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTION I
LOTS 1-41
CONTRACT# 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

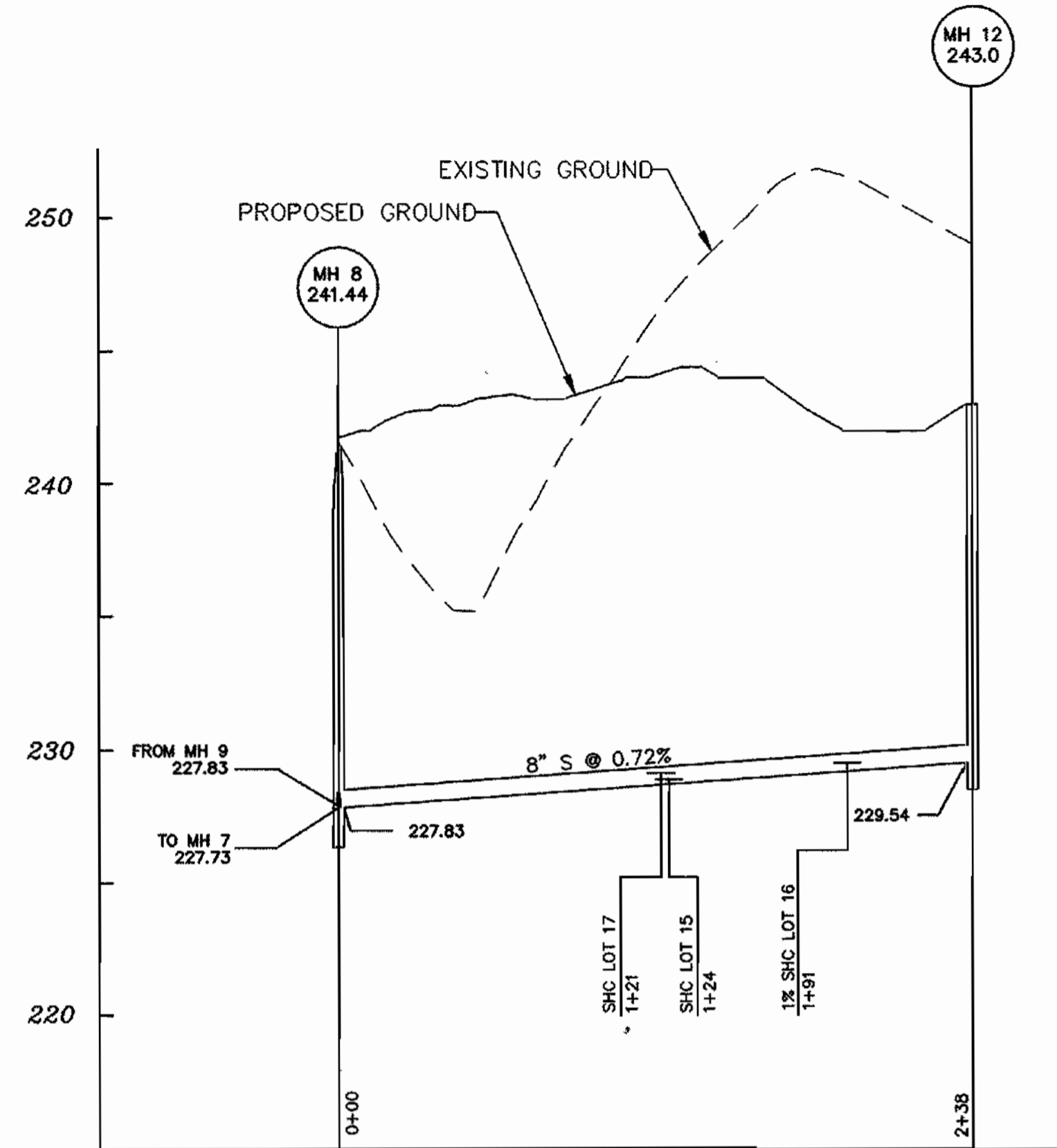
scale
1"=50'
2 OF 4

950.35 (LONG) FINAL (W&S) PLANT DWG



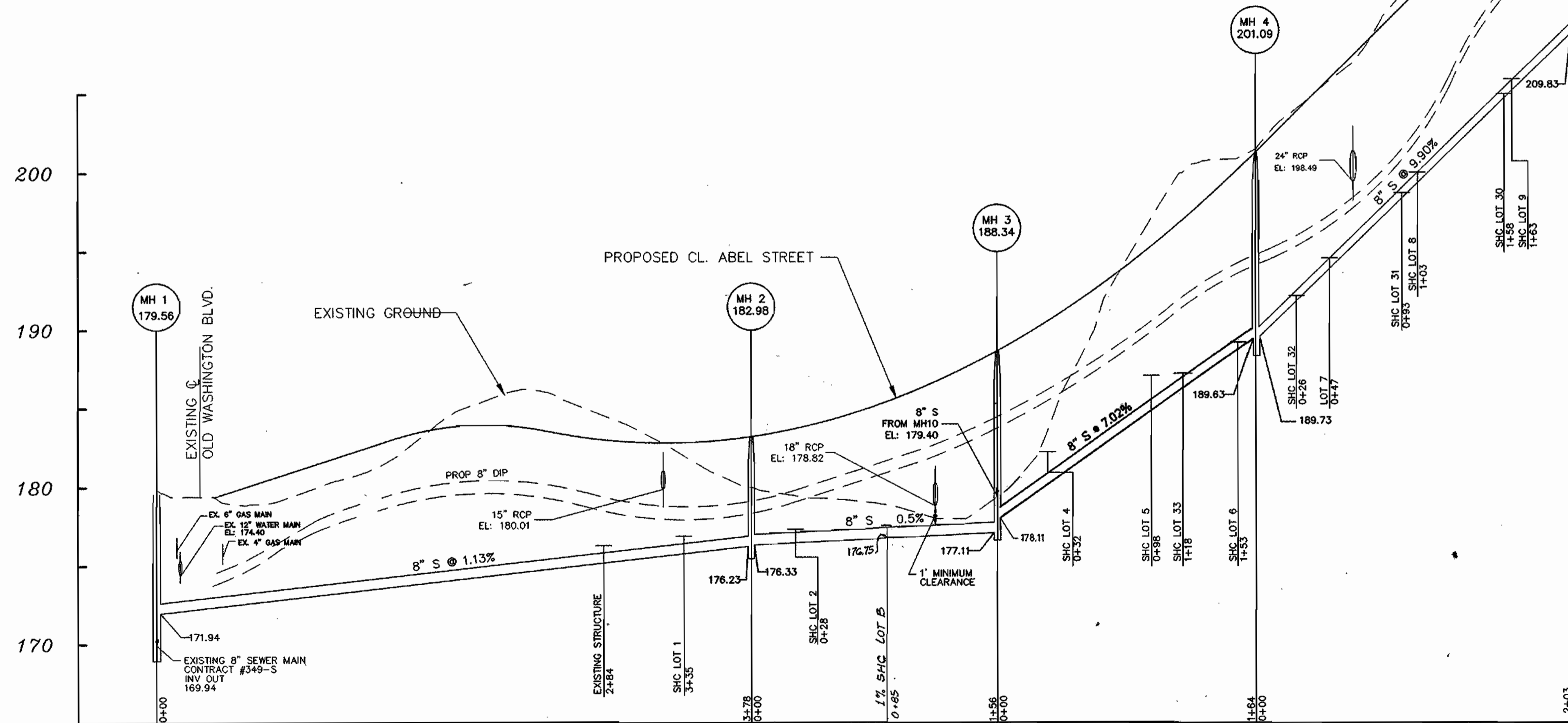
8" SEWER MAIN EXTENSION - LOT 3 & FUTURE

SCALE
HOR: 1"=50'
VERT: 1"=5'



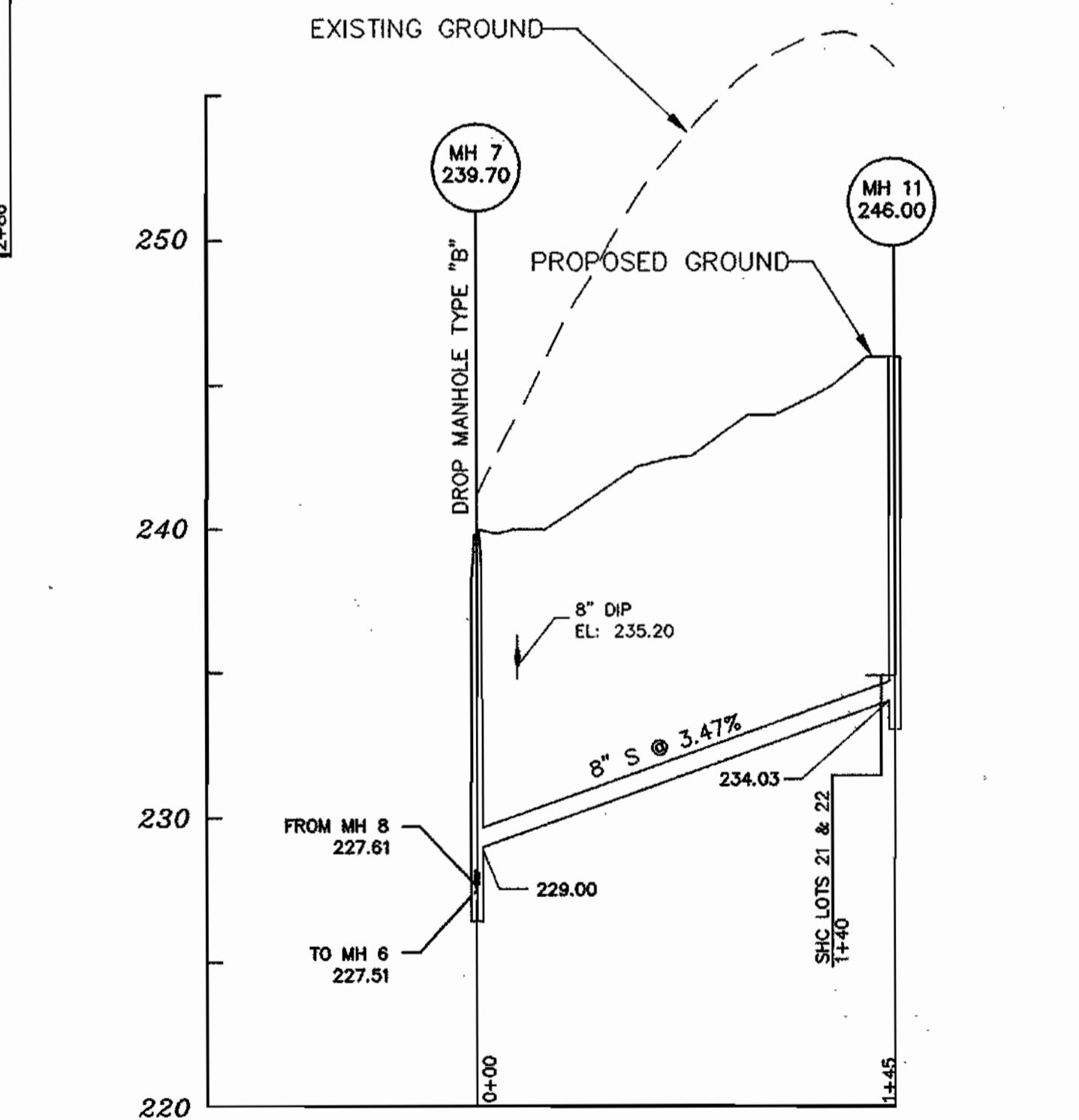
8" SEWER MAIN EXTENSION - LOTS 15 - 17

SCALE
HOR: 1"=50'
VERT: 1"=5'



8" SEWER MAIN - DOWNS RIDGE COURT AND ABEL STREET

SCALE
HOR: 1"=50'
VERT: 1"=5'



8" SEWER MAIN EXTENSION - LOTS 21 & 22

SCALE
HOR: 1"=50'
VERT: 1"=5'

CONTRACT NO. 14-3620-D
WILLIAMS KNOLL, SECTION 1
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

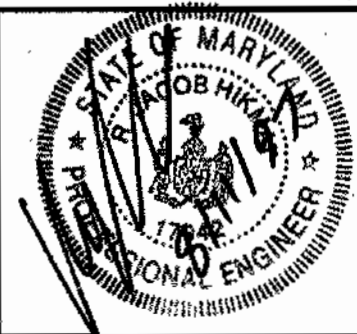
95136.DWG/FINAL/MS-36-SHRI.DWG

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND

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

5072 Dorsey Hill Drive, Suite 202, Ellicott City, Maryland 21042
(410) 887-0286 Fax (301) 621-5521 Wash (410) 997-0286 Fax



engineering	SD				
illustration	SD				
approval					
project	K.C.I. 2	ASPHALT CONDITIONS ADDED TO PLAN	11-28		
project	95136	RCJ 1	CHANGE STATIONING & ELEV. ON SEWER MAINS	5-28-98	
date	AUG 1997	BY NO.	REVISION	DATE	600' SCALE MAP NO. 38 BLOCK NO. 8

**SEWER
PROFILES
ASPHALT SET**

WILLIAMS KNOLL, SECTION 1
LOTS 1-41
CONTRACT# 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
AS SHOWN

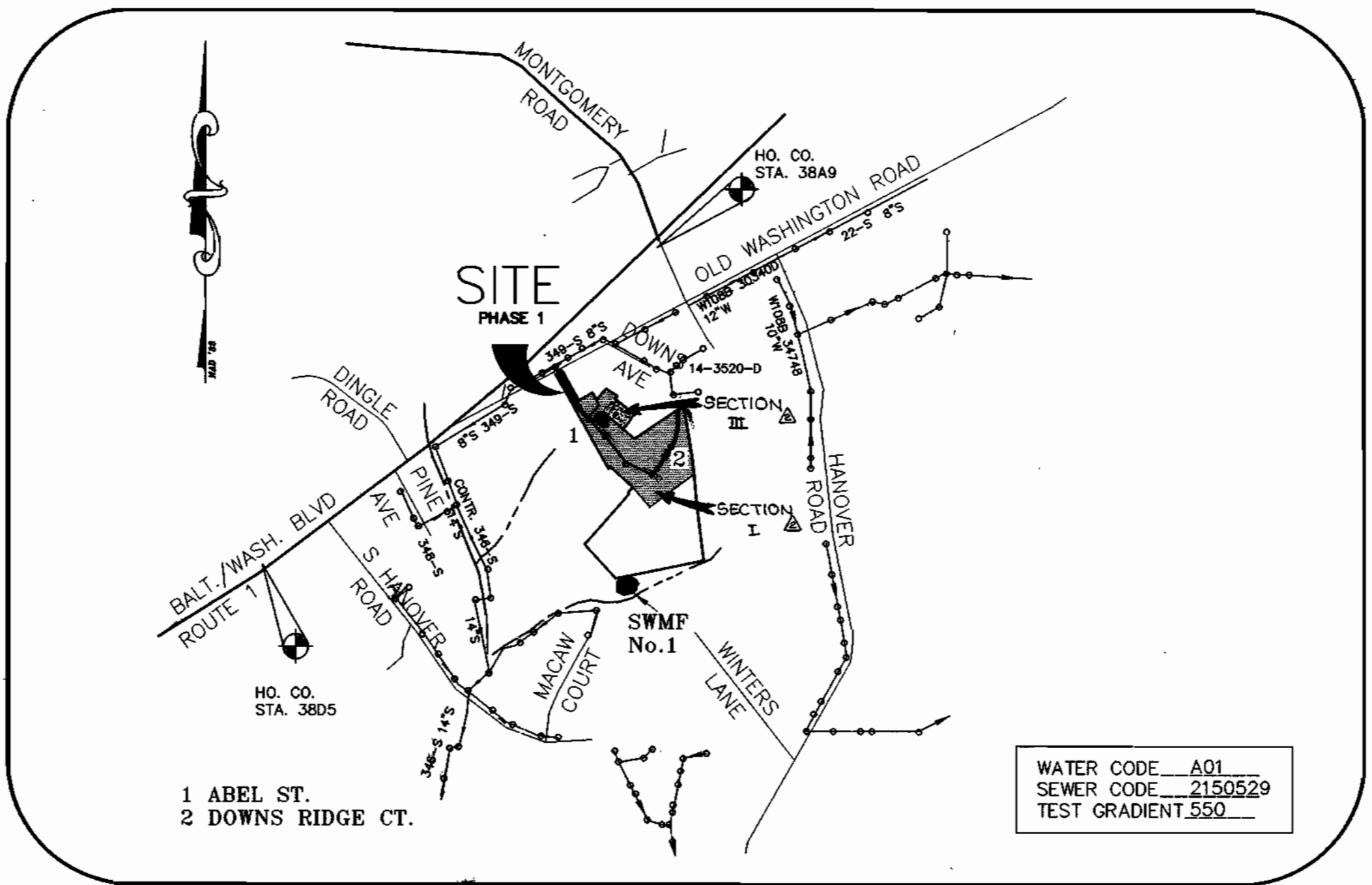
4 OF 4

QUANTITY TABLE

ITEMS	QUANTITIES ESTIMATED	QUANTITIES			MANUFACTURER/SUPPLIER
		QUANTITIES	TYPE	MANUFACTURER/SUPPLIER	
STANDARD MH	13	13	ARLON	ATLANTIC CONCRETE PRODUCTS	
8" SEWER/O.I.P.		42 L.F.	CL 52 TYTON	ATLANTIC STATES	
8" SEWER MAIN/P.V.C.	2,056 L.F.	2,056 L.F.	SDR 35	JM MANUFACTURING	
4" SEWER HOUSE CONNECTION	745 L.F.	745 L.F.	" "	" "	
# SEWER HOUSE CONNECTIONS	32	34 L.F.	PVC TEE WYE	HARRINGTON CORP.	
# MH CONNECTIONS	4				
8" DIP WATER	1,653 L.F.	1,628 L.F.	CL 52 TYTON JOINT	ATLANTIC STATES	
6" DIP WATER	44 L.F.	44 L.F.	" "	" "	
4" DIP WATER	450 L.F.	476 L.F.	" "	" "	
F.H.	4	4 EA.	A 423 CENTERLINE	MUELLER COMP.	
F.H.T. & V.	4	4 EA.	MJ HYDR TEE RES WEDGE GATE	UNION FOUNDRY/MUELLER COMP.	
12"x8" TS&V	1	1 EA.	H 165	MUELLER COMP.	
8"x8" T	1	1 EA.	MJ TEE	UNION FOUNDRY	
8"x4" T	3	3 EA.	" "	" "	
8" V	3	3 EA.	RES WEDGE GATE VALVE	MUELLER COMP.	
4" V	3	3 EA.	" "	" "	
8" CAP & BUTTRESS	1				
4" CAP & BUTTRESS	3	3 EA.	MJ CAP	UNION FOUNDRY	
# WATER HOUSE CONNECTIONS	8	11	H 15000 CORP	MUELLER COMP.	
# TWIN WATER HOUSE CONNECTIONS	14	11	H 15000 CORP	" "	
3/4" WATER HOUSE CONNECTION	282 L.F.	370 L.F.	TYPE K" CORNER	READING TUBE	
1" WATER HOUSE CONNECTION	306 L.F.	315 L.F.	" "	" "	
1 1/2" DRAIN	3	3	" "	" "	
AIR RELEASE MANHOLE	1	1	" "	" "	
4" SEWER HOUSE CONN/O.I.P.		81 L.F.	CL 52 TYTON 50"	ATLANTIC STATES	
NAME OF UTILITY CONTRACTOR: C.J. MILLER / LOTS 89-92 = UTILITIES UNLIMITED, INC. 9/2000					
SURVEY AND DRAFTING DIVISION AS-BUILT DATE					

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 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 531-5533
 - BG & E CO. CONTRACTOR SERVICES 850-4620
 - BG & E CO. UNDERGROUND DAMAGE CONTROL 787-9068
 - MISS UTILITY 1-800-257-7777
 - COLONIAL PIPELINE CO. 795-1390
 - HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 313-4900
 - BUREAU OF UTILITIES 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO THE MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG 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 WITH 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 G5.52. 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 COMMENSING CONSTRUCTION.
- SEDIMENT CONTROL TO BE PROVIDED BY F-97-110, ALL WATER AND SEWER CONSTRUCTION TO BE INSIDE F-97-110'S LIMIT OF DISTURBANCE.
- STORM DRAIN SYSTEM INDICATED FOR INFORMATIONAL PURPOSES ONLY. SEE ROAD PLANS FOR CONSTRUCTION DATA.



VICINITY MAP

SCALE: 1"=1000'

TYPE OF BUILDING	SFD
No. OF UNITS	36
No. OF TWIN WATER HOUSE CONNECTIONS	14
No. OF WATER HOUSE CONNECTIONS	10
No. OF SEWER HOUSE CONNECTIONS	38
DRAINAGE AREA	
TREATMENT PLANT	

CONTRACT NO. 14-3620-D:

WILLIAMS KNOLL SECTIONS I & III LOTS 1-41 & 89-92

WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

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] 8-11-97
DEVELOPER'S SIGNATURE DATE
JNSD, LC
DEVELOPER'S NAME

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

[Signature] 8/11/97
ENGINEER'S SIGNATURE DATE
R. JACOB HIKMAT
ENGINEER'S NAME

REVIEWED FOR HOWARD SCD AND MEET TECHNICAL REQUIREMENTS.

[Signature] 08/21/97
USDA-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

[Signature] 8/21/97
HOWARD SCD DATE



FOR REVISIONS BY BENCH-MARK ENGINEERING, INC.
DATE: 8/11/97

DPZ REFERENCE NUMBERS
S 95-08 SP-99-01A
P 96-20 F-99-195A
WP 96-69
AA 96-19
F 97-110, F-97-154

INDEX OF DRAWINGS

NO.	DESCRIPTION
1	TITLE SHEET
2	WATER AND SEWER PLAN
3	WATER PROFILES
4	SEWER PROFILES

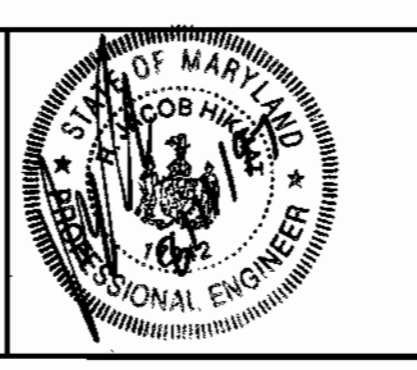
CONTRACT NO.: 14-3620-D
WILLIAMS KNOLL, SECTIONS I & III
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

95136/DWG/FINAL/PHASE/INMS/COV.DWG

<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 8-18-97 CHIEF, BUREAU OF UTILITIES DATE</p>	<p>DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND</p> <p><i>[Signature]</i> 9/26/97 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE</p>
---	---

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

5875 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 987-0236 Fax (301) 621-5521 Wash. (410) 987-0236 Fax



engineering SD					
illustration SD					
approval	KCI	3	AS BUILT CONDITIONS ADDED TO PLAN	11/1/00	
project	95136	KCI	1	ADD SECT. III, LOT 89-92 TO TITLES, REVISE EST QUANTITIES	09/17/99
date	AUG 1997	BY	NO.	REVISION	PLAN
					DATE

TITLE SHEET
AS BUILT SET

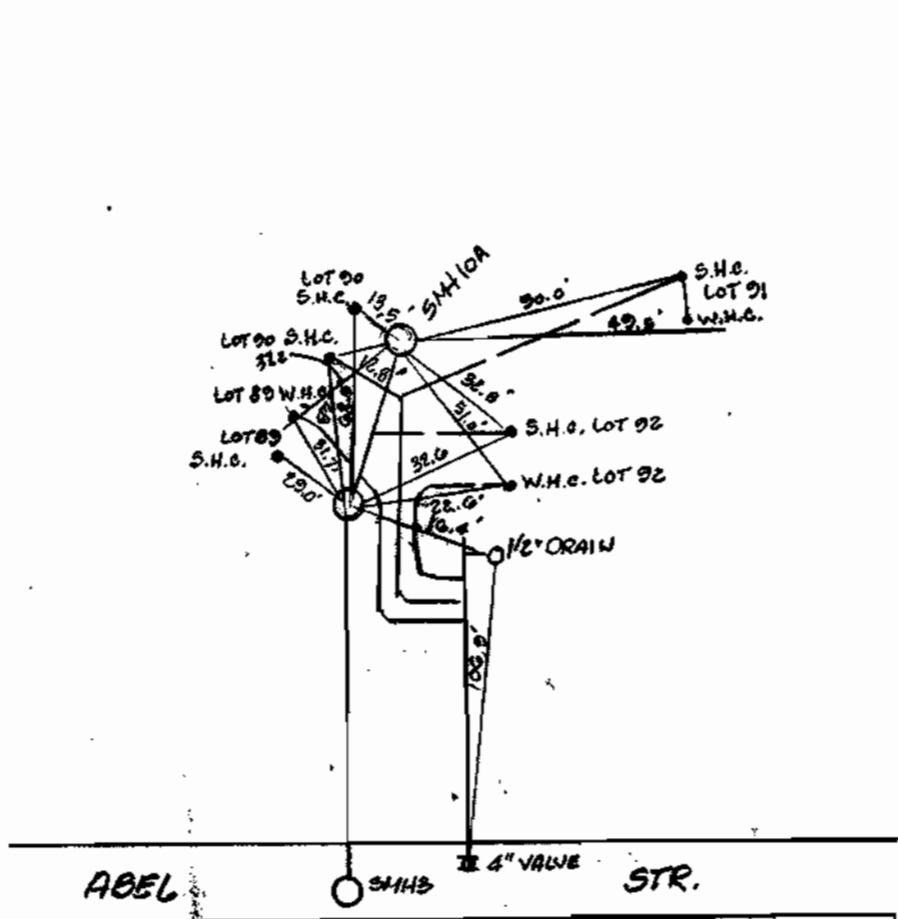
600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTIONS I & III
LOTS 1-41 & 89-92
CONTRACT NO.: 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale AS SHOWN
1 of 4

410-245-3034

WATER MAIN TABULATION CHART		
ABEL STREET		
STATION	APPURTENANCE	DIST. FROM E
N 580,079.4024		
E 1,389,043.4011	12"x8" TS&V	
2+88	8"x6" F.H.T.&V.	7' LT.
5+18	F.H.	16' RT.
5+18	8"x4" T	7' LT.
5+18	4" V	9' LT.
5+19	1 1/2" DRAIN	112' LT.
5+19	4" P&B	117' LT.
7+69	8"x6" F.H.T.&V.	7' LT.
7+69	F.H.	16' LT.
10+78	AIR RELEASE MANHOLE	7' LT.
11+92	8"x6" F.H.T.&V.	7' LT.
11+92	F.H.	16' LT.
11+88	8" V	7' LT.
11+70	8" T	7' LT.
11+72	8" V	7' LT.
12+76	8" P&B	7' LT.
DOWNS RIDGE COURT		
STATION	APPURTENANCE	DIST. FROM E
7+34	8"x6" F.H.T.&V.	7' LT.
7+34	F.H.	15' LT.
8+53	8"x4" T	7' LT.
8+53	4" V	9' LT.
8+53	1 1/2" DRAIN	153' LT.
8+53	4" P&B	137' LT.
8+28	8"x4" T	7' LT.
8+28	4" V	7' LT.
8+05	1 1/2" DRAIN	235' RT.
8+05	4" P&B	237' RT.
10+55	8" V	7' LT.



DOWNS RIDGE
PLAT NO. 11458
3513/174

DOWNS RIDGE LOT 16
DOWNS RIDGE LOT 19

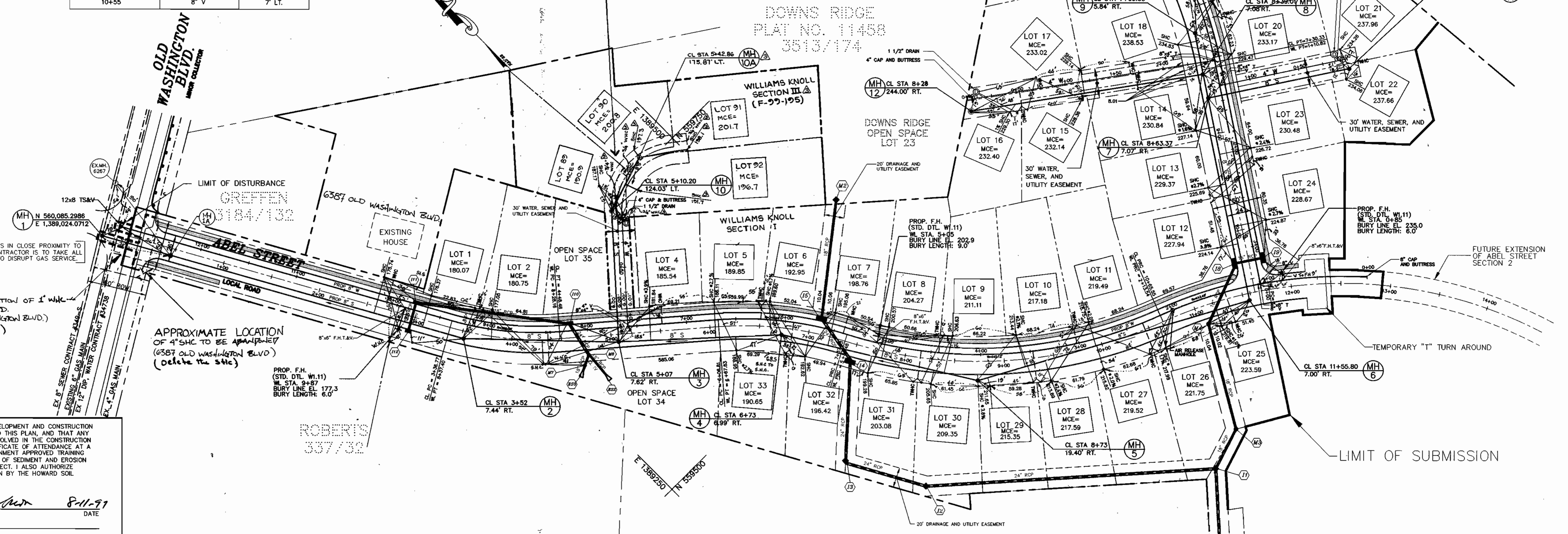
JUNKER
1120/134

BO&E R.O.W.

CONNECT TO EXISTING SEE W&S #14-3520-D CL STA 7+34.7L WATER MAIN STA 0+13.94
IF 8" WATER MAIN IS EXISTING (CONTRACT # 14-3520-D), REMOVE CAP AND BUTTRISS AT THE END OF THE CONNECTION, OTHERWISE PROVIDE CAP AND BUTTRISS AT THE END OF THE WATER MAIN.
PROP. F.H. (STD. DTL. W.11) WL STA. 0+14 BURY LINE EL. 246.2 BURY LENGTH: 5.5'

SCHUTT
1402/462

DOWNS RIDGE
PLAT NO. 11458
3513/174



NOTE: SIX-INCH GAS LINE IS IN CLOSE PROXIMITY TO EXISTING WATER MAIN. CONTRACTOR IS TO TAKE ALL PRECAUTIONS SO AS NOT TO DISRUPT GAS SERVICE.

APPROXIMATE LOCATION OF 1" W&S TO BE ABANDONED (6507 OLD WASHINGTON BLVD.) (DELETE W&S.)

APPROXIMATE LOCATION OF 4" SHC TO BE ABANDONED (6587 OLD WASHINGTON BLVD.) (DELETE THE SHC.)

PROP. F.H. (STD. DTL. W.11) WL STA. 9+87 BURY LINE EL. 177.3 BURY LENGTH: 6.0'

ROBERT'S
337/32

KASAK
431/545

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.
Developer's Signature: JNSD, LLC
DATE: 8-11-97

I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Engineer's Signature: R. JACOBS HIKMAT
DATE: 8/11/97

REVIEWED FOR HOWARD SCD AND MEET TECHNICAL REQUIREMENTS.
USDA-NATURAL RESOURCES CONSERVATION SERVICE
Date: 08/21/97

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE SOIL CONSERVATION DISTRICT.
Date: 8/21/97

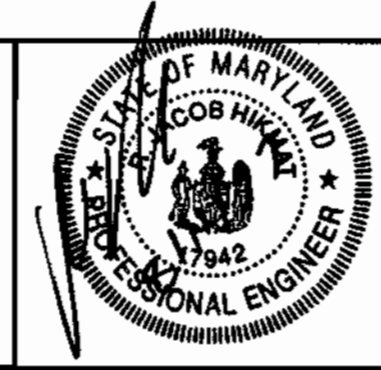


FOR REVISIONS BY MILDENBERG, BOENDER & ASSOC., INC. DATED: 8/11/97

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Date: 8-18-97

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
Date: 8/22/97

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
6072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 987-0296 Fax (301) 821-5521 Wash. (410) 987-0296 Fax



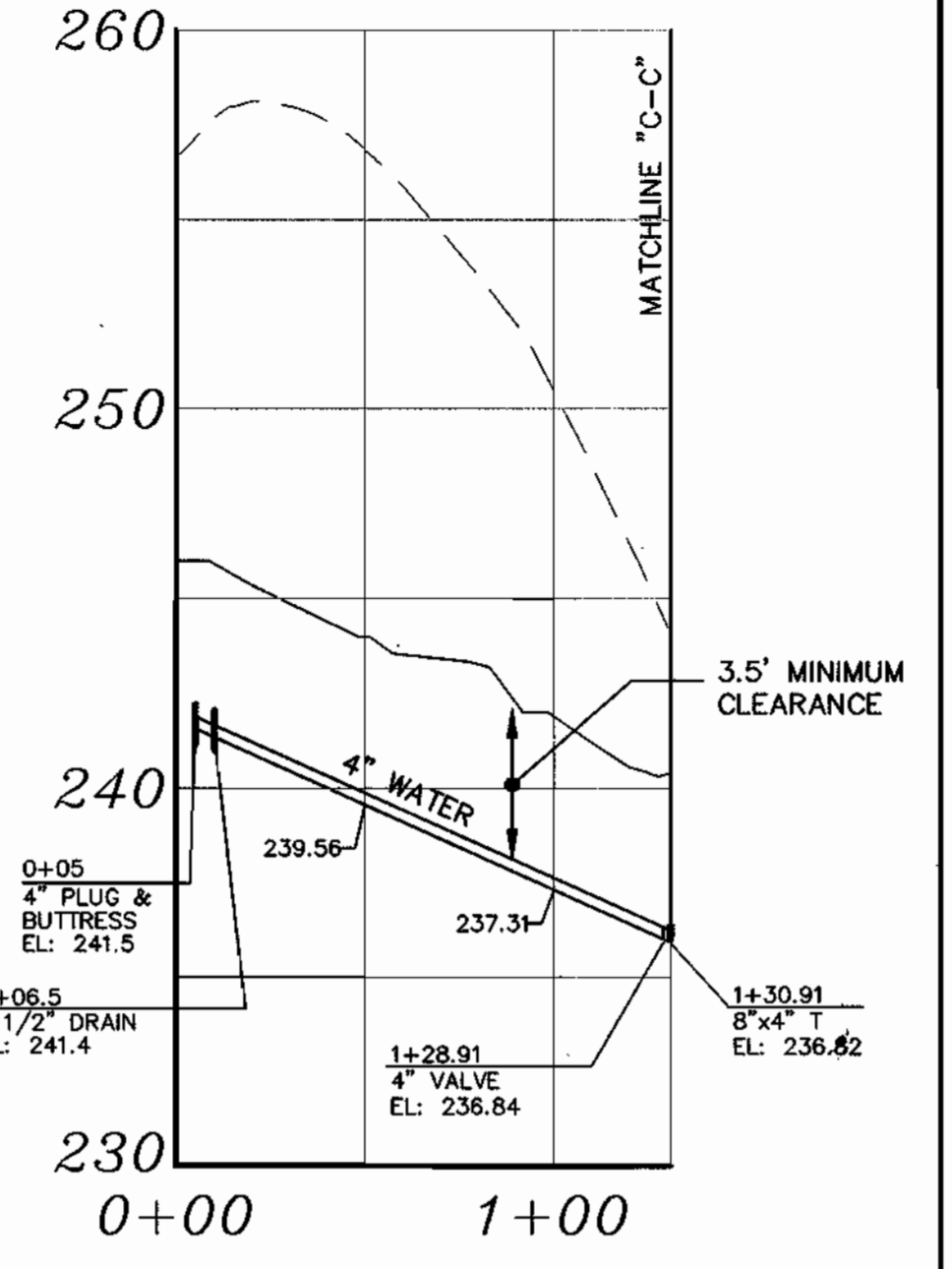
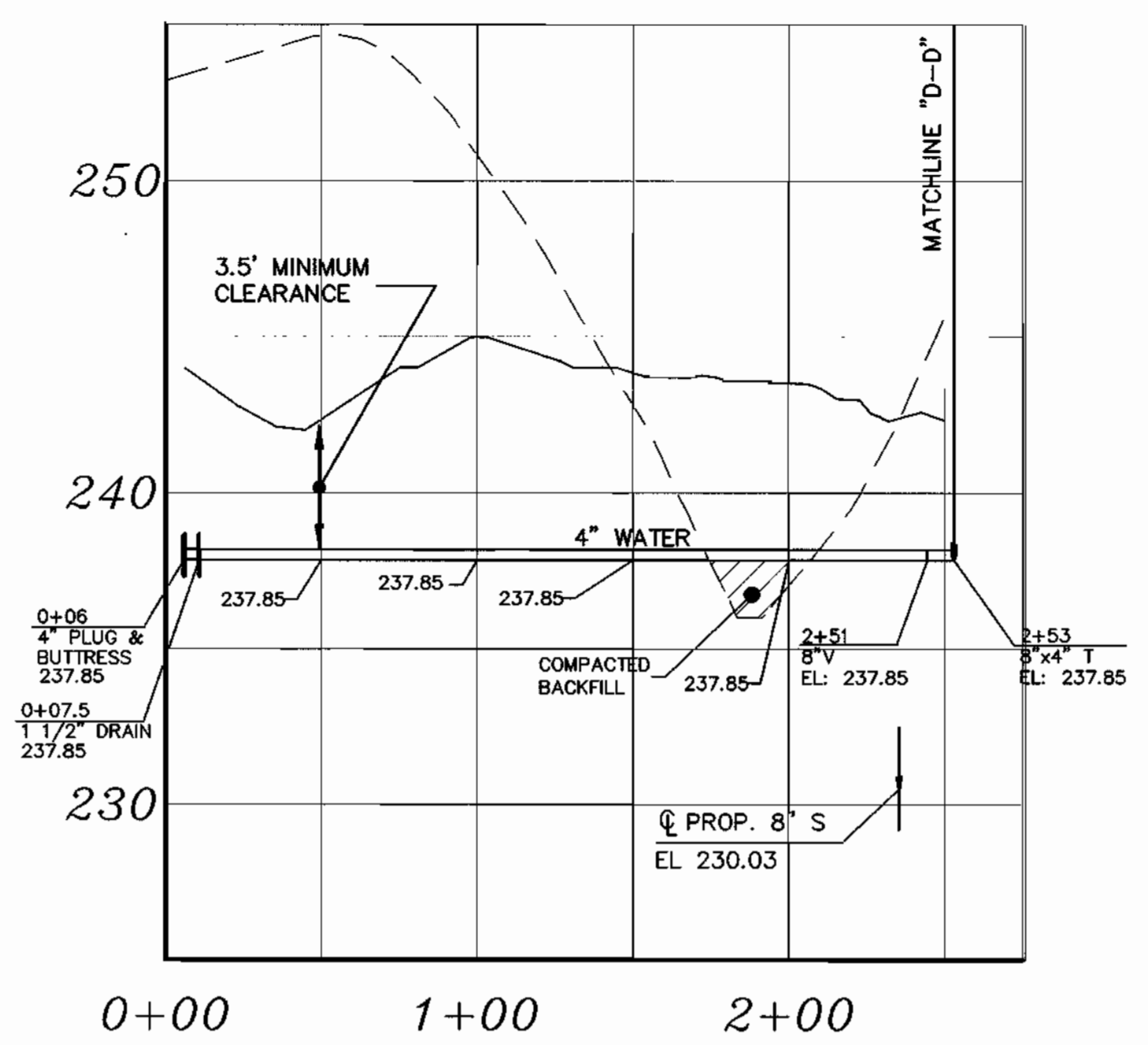
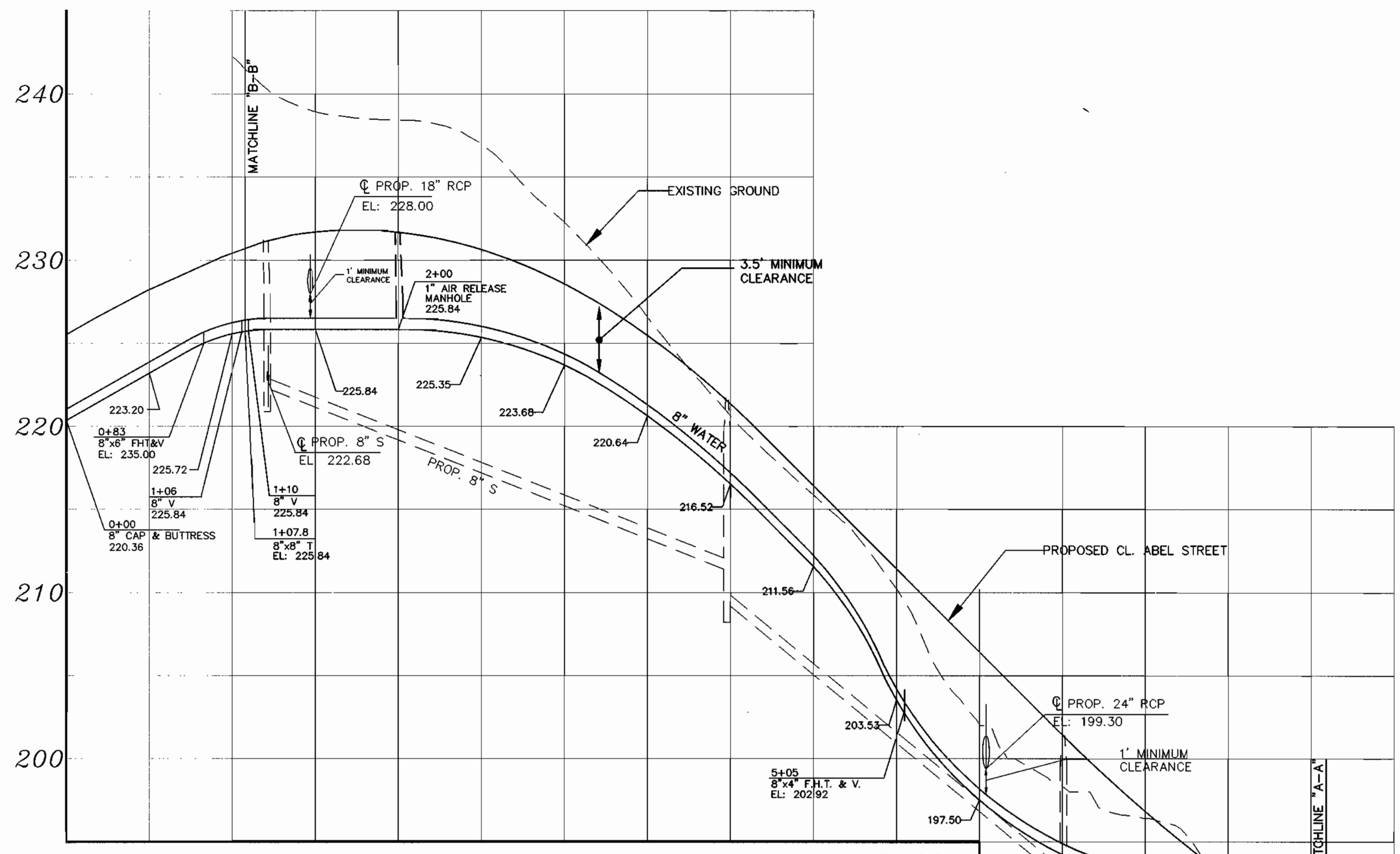
engineering	SD	BY	NO.	REVISION	DATE
illustration	SD				11/01/00
approval	K.C.I.	4		ASBUILT CONDITIONS ADDED TO PLAN	08/11/97
project	K.C.I.	2		INCLUDE SECT. III PLAN, ADD MH10A, SHC 1 W&S LOTS 89-92	11-98
date	RCJ	1		CHANGE STATIONING & ELEV. ON SHCS	5-29-98
AUG 1997					

WATER AND SEWER
PLAN
"ASBUILT SET"
600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTIONS I, II & III
LOTS 1-41 & 89-92
CONTRACT # 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale
1"=50'
2 OF 4

CONTRACT NO. 14-3620-D
WILLIAMS KNOLL, SECTIONS I, II & III
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

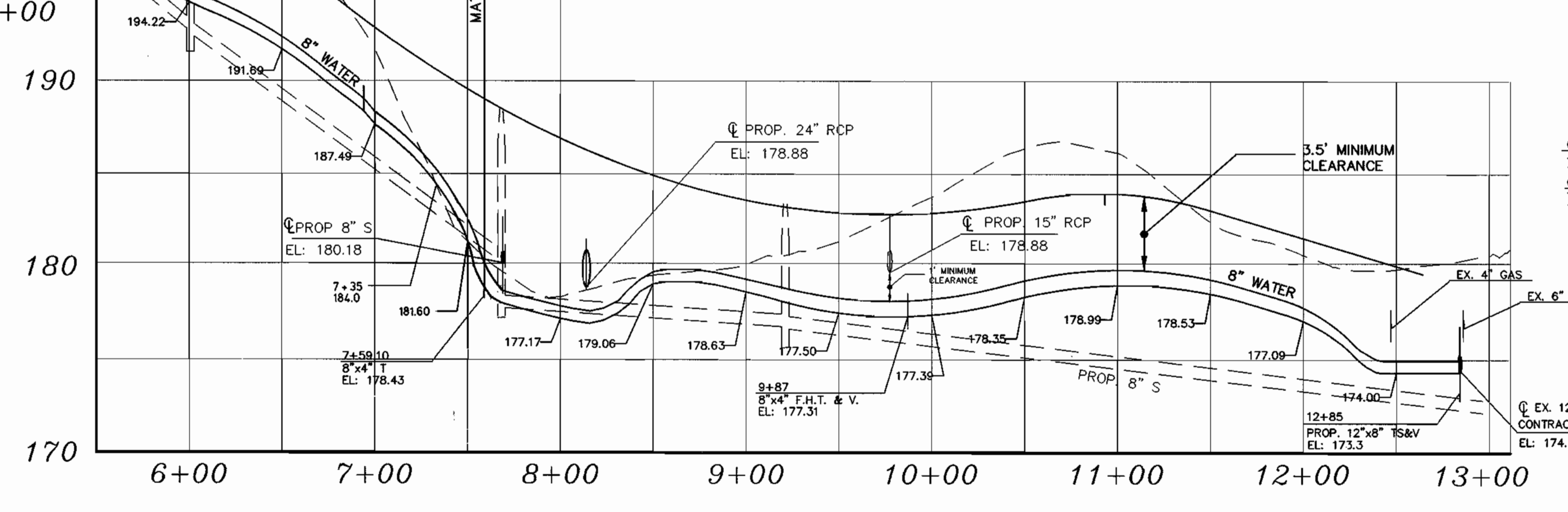
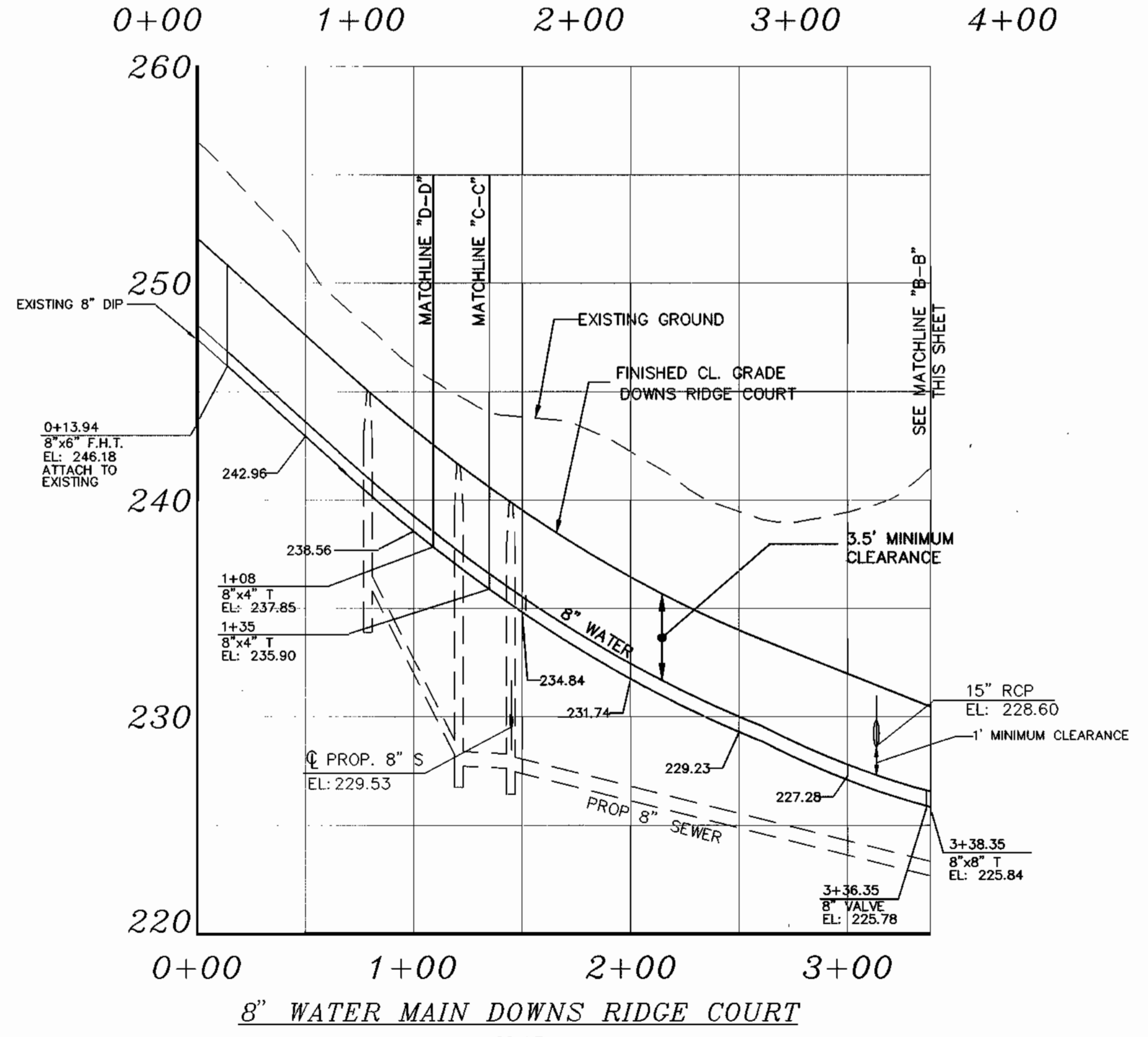


4" WATER MAIN EXTENSION
LOTS 14 - 18

4" WATER MAIN EXTENSION
LOTS 21 & 22

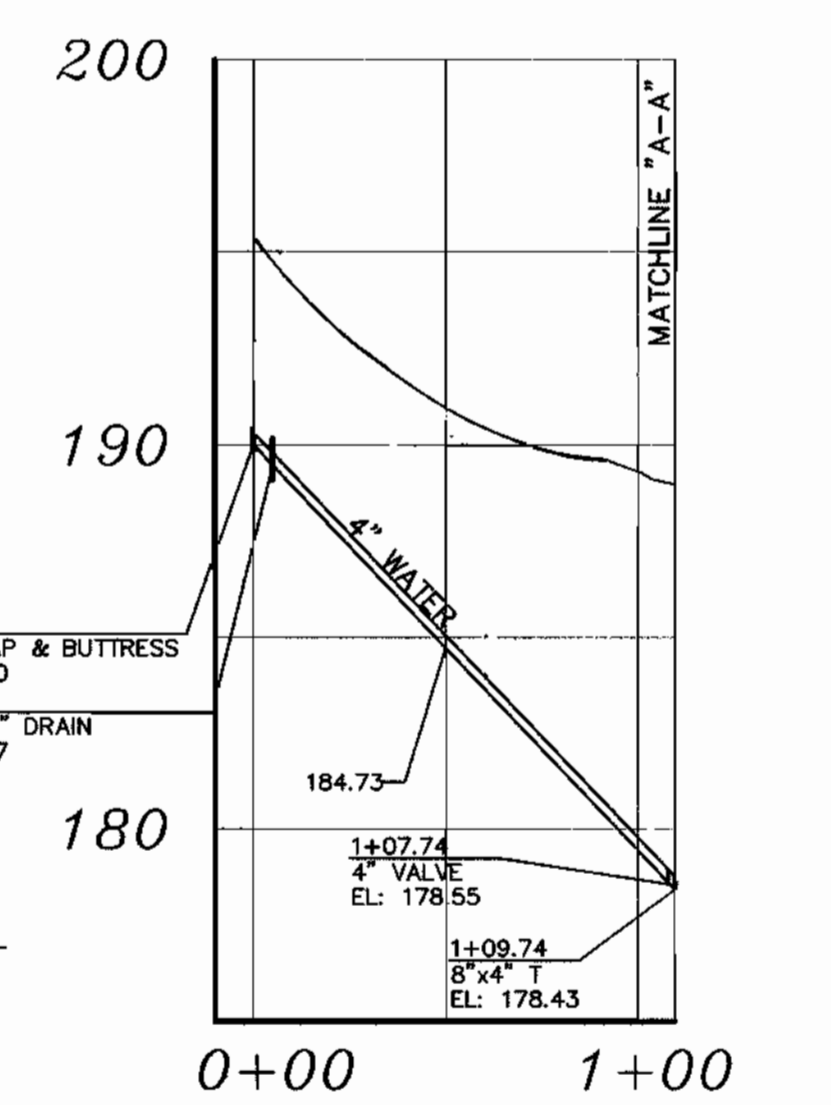
SCALE
HOR: 1"=50'
VERT: 1"=5'

SCALE
HOR: 1"=50'
VERT: 1"=5'



8" WATER MAIN ABEL STREET

SCALE
HOR: 1"=50'
VERT: 1"=5'



4" WATER MAIN EXTENSION
LOTS 89-92

SCALE
HOR: 1"=50'
VERT: 1"=5'



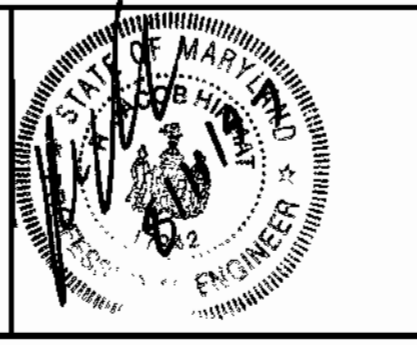
FOR 12 MONTHS
MILDENBERG, BOENDER & ASSOC., INC.
DATED: 8/17/97

CONTRACT NO: 14-3620-D
WILLIAMS KNOLL, SECTIONS I & III
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
8-18-97

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
8/22/97

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0236 Fax (301) 821-5321 Wash. (410) 997-0236 Fax

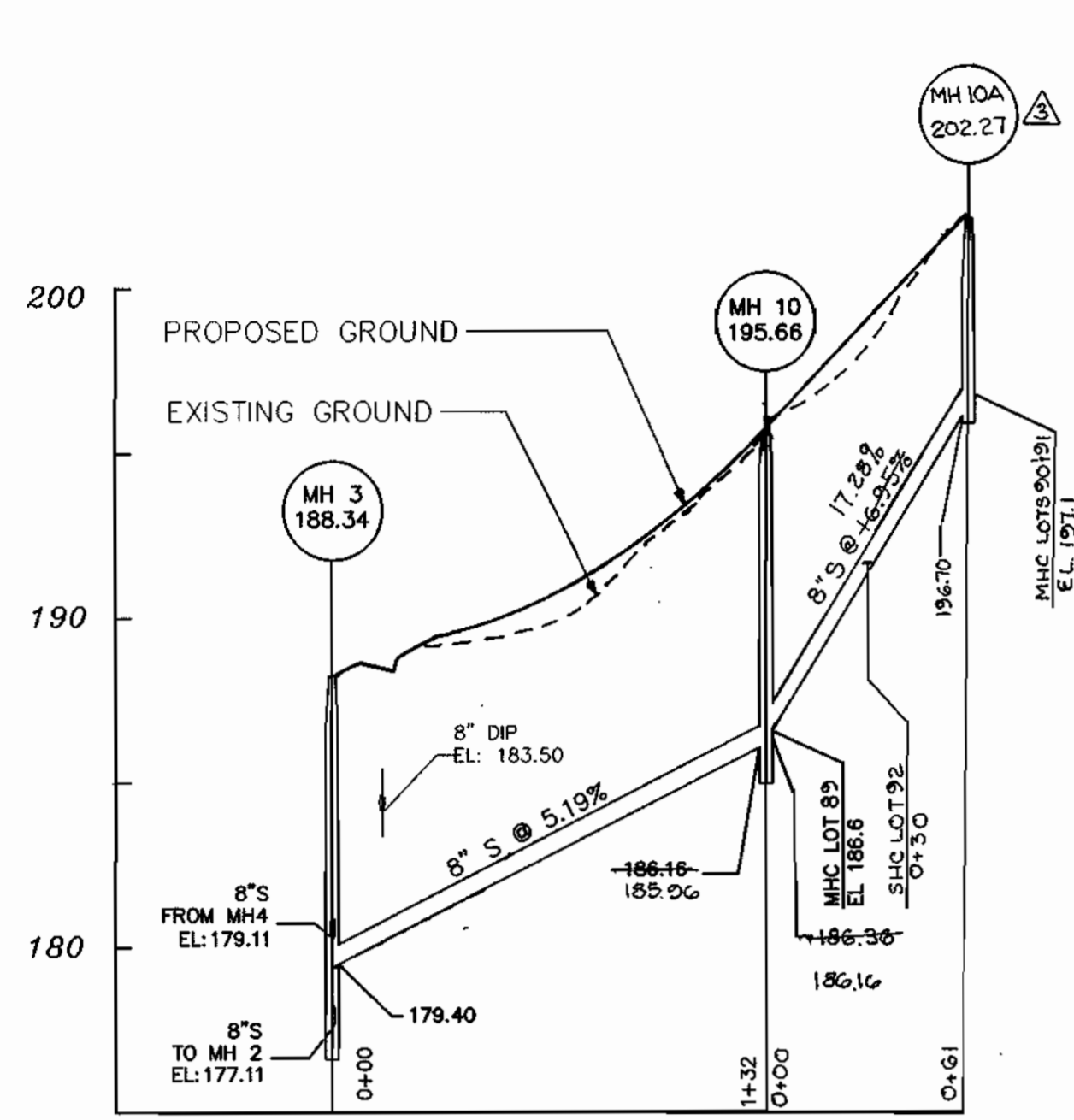


engineering	SD				
illustration	SD				
approval					
project	95136	REVISION	REVISE 4" WATER PROFILE TO INCLUDE LOTS 89-92, SECTION III	8/17/97	
date	AUG 97	BY	NO.	REVISION	DATE

WATER PROFILES

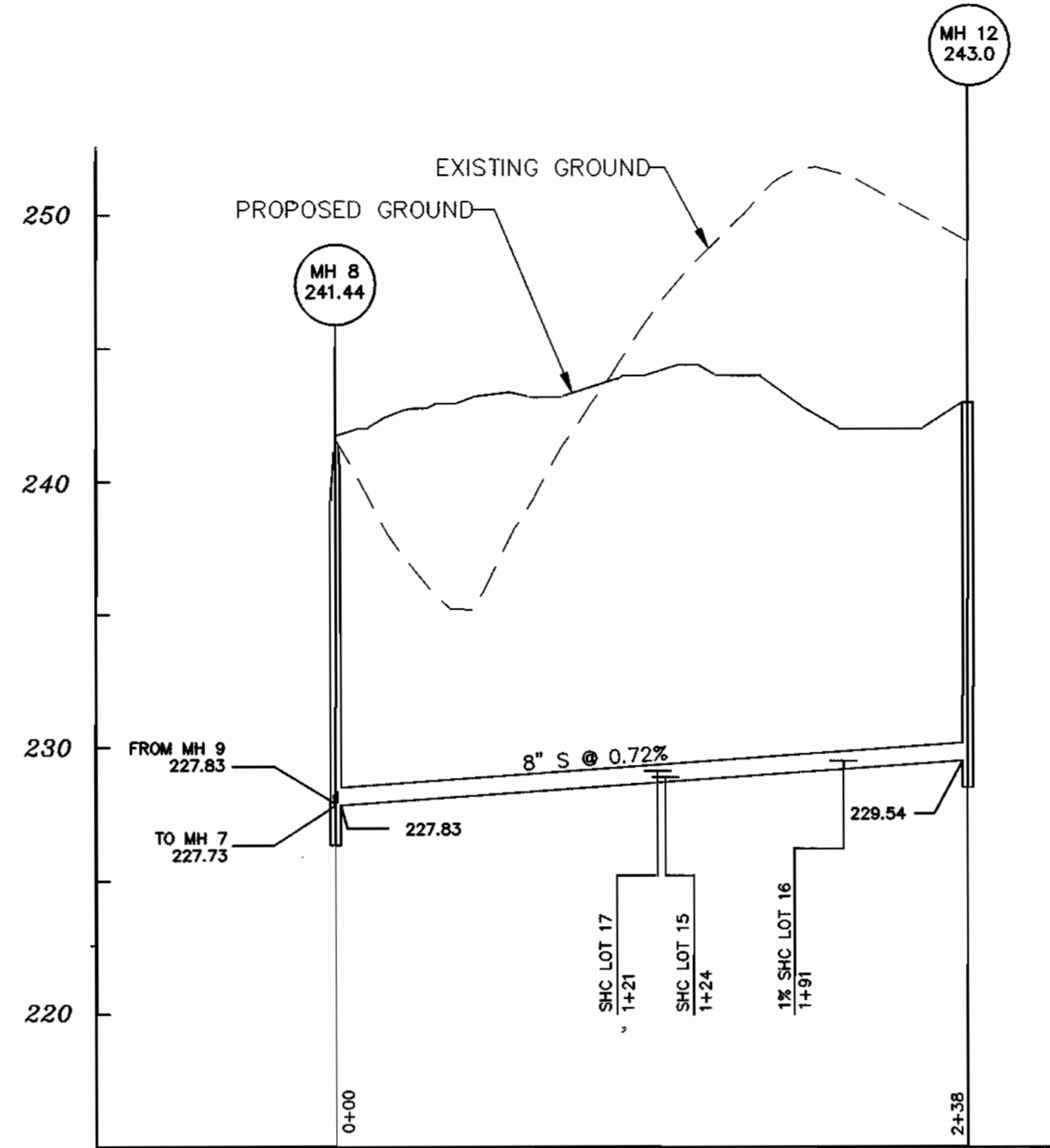
WILLIAMS KNOLL, SECTIONS I & III
LOTS 1-41 & 89-92
CONTRACT# 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

scale AS SHOWN
3 OF 4



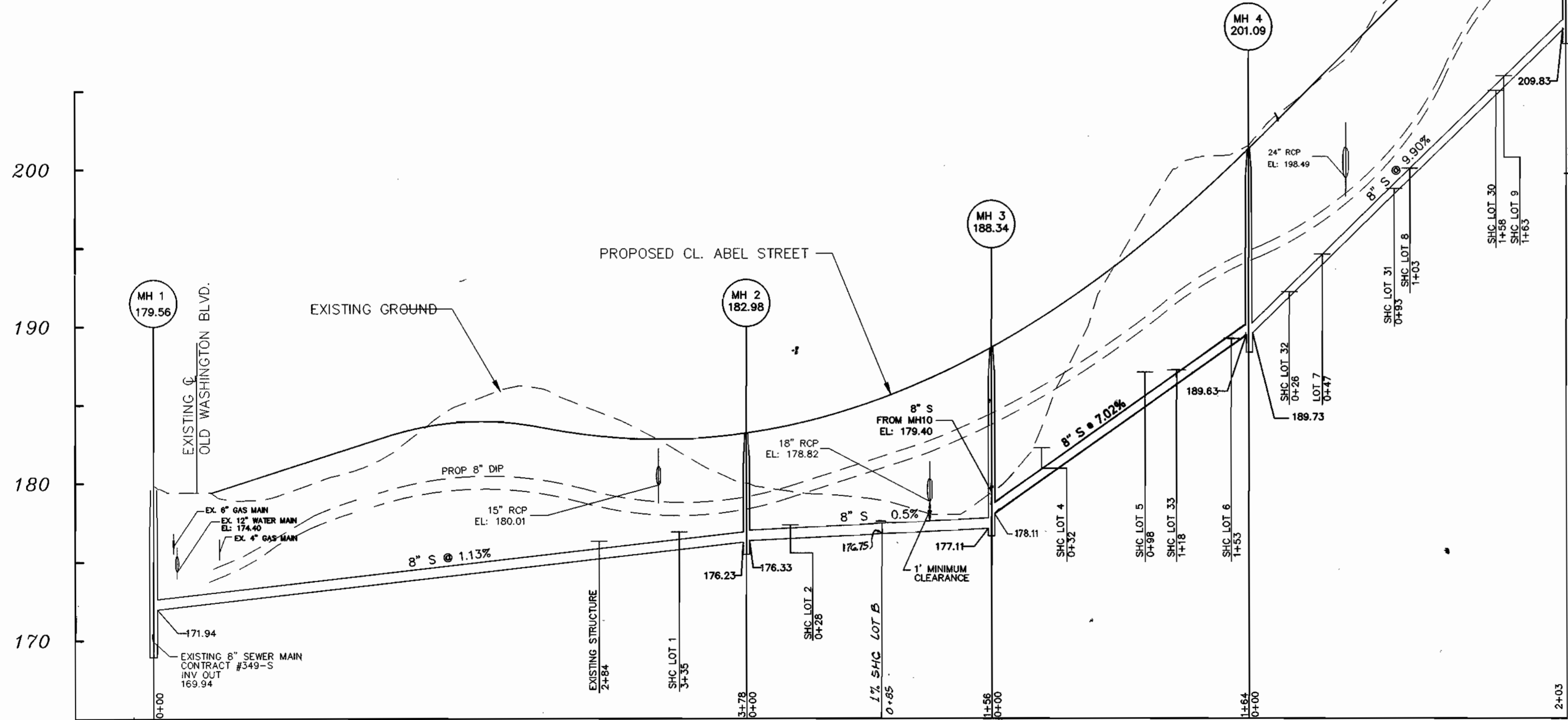
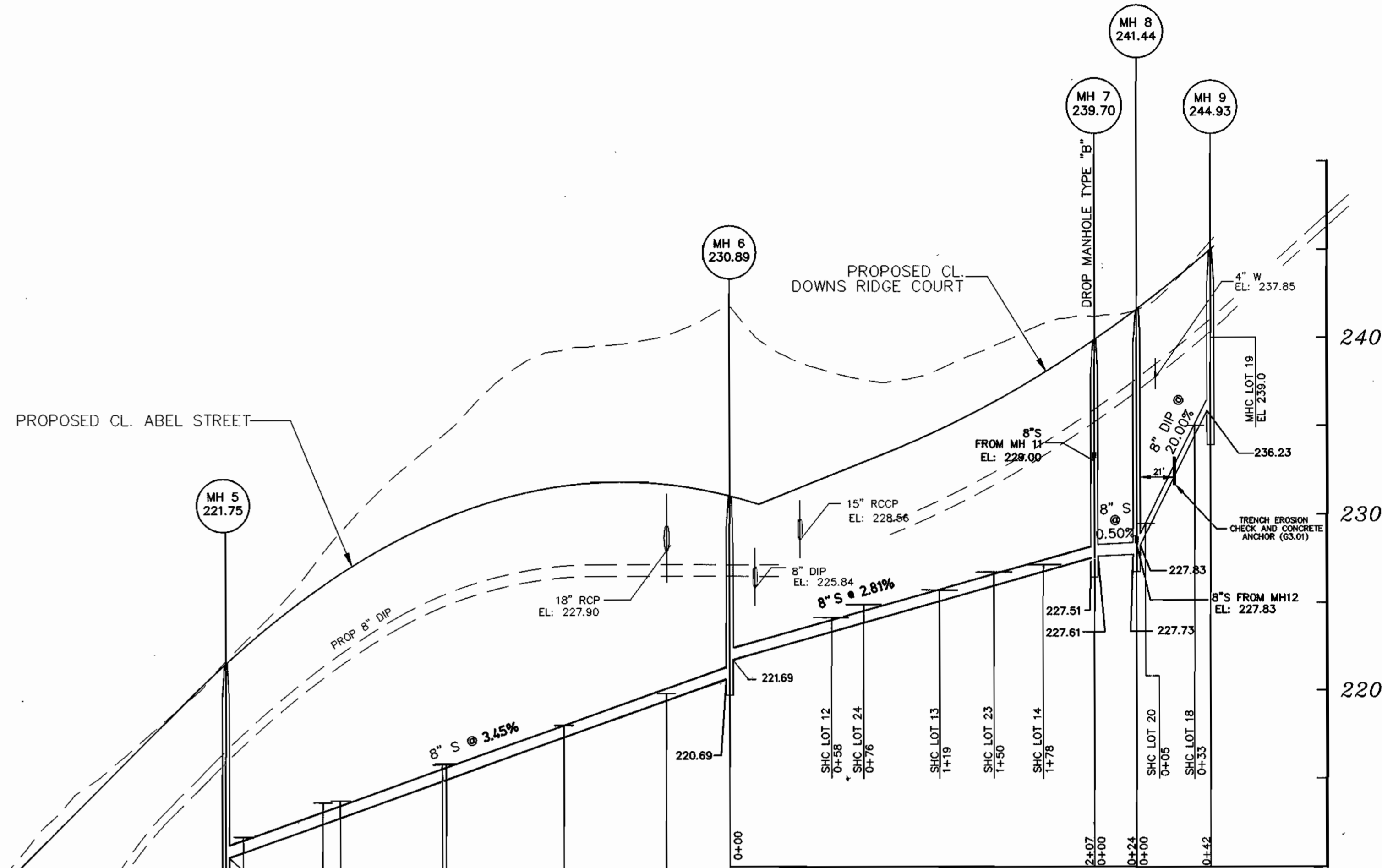
8" SEWER MAIN EXTENSION - LOTS 89-92

SCALE
HOR: 1"=50'
VERT: 1"=5'



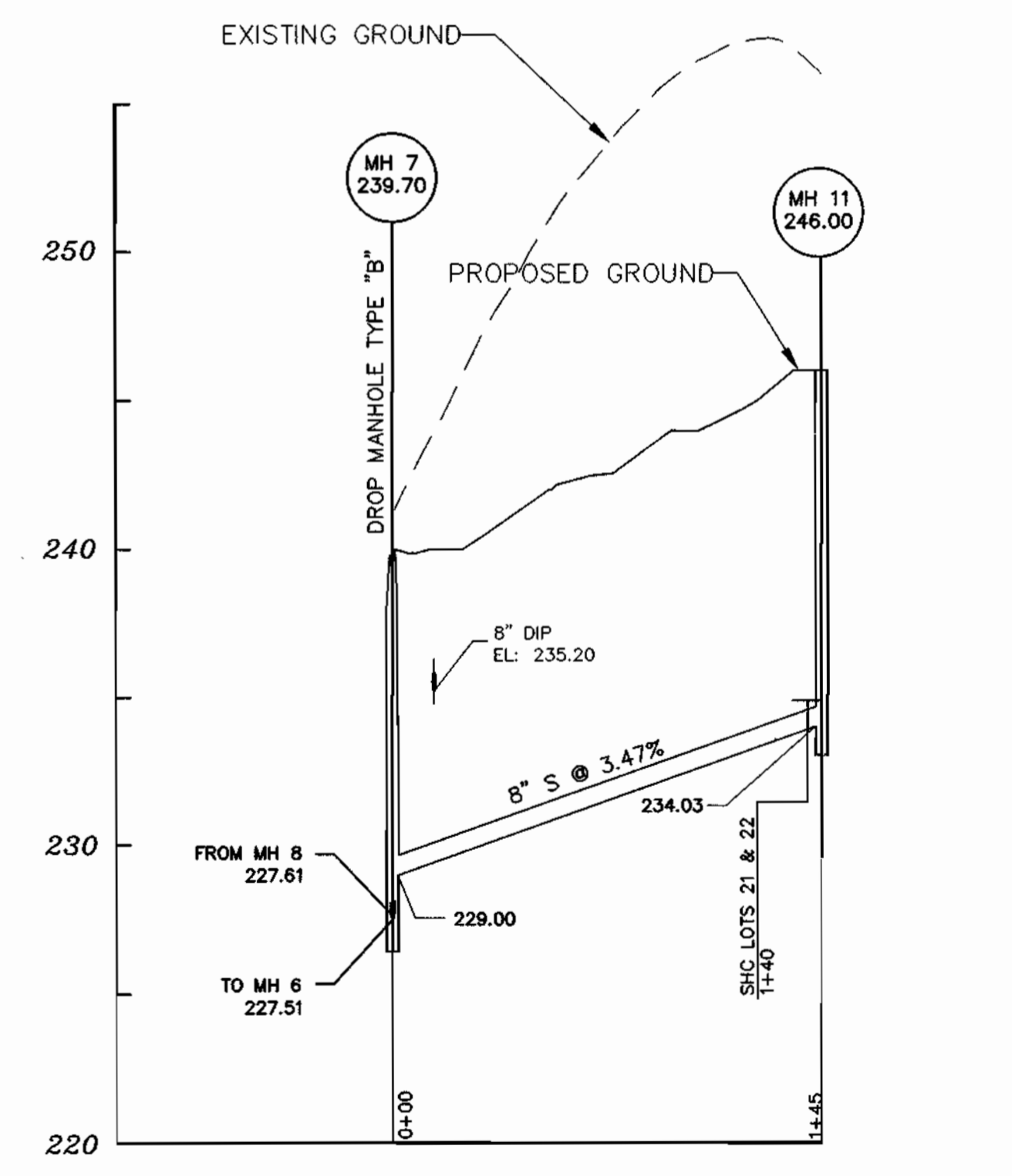
8" SEWER MAIN EXTENSION - LOTS 15 - 17

SCALE
HOR: 1"=50'
VERT: 1"=5'



8" SEWER MAIN - DOWNS RIDGE COURT AND ABEL STREET

SCALE
HOR: 1"=50'
VERT: 1"=5'



8" SEWER MAIN EXTENSION - LOTS 21 & 22

SCALE
HOR: 1"=50'
VERT: 1"=5'



FOR REVISION: MARK ENGINEERING, INC.
DATED: 8/1/99

CONTRACT NO.: 14-3620-D
WILLIAMS KNOLL, SECTIONS I & III
WATER AND SEWER MAIN EXTENSIONS
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Robert J. ... 8-18-99
CHIEF, BUREAU OF UTILITIES

DEPARTMENT OF PLANNING & ZONING
HOWARD COUNTY, MARYLAND
... 8/18/99
CHIEF, DEVELOPMENT ENGINEERING DIVISION

MILDENBERG, BOENDER & ASSOC., INC.
Engineers Planners Surveyors
3072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042
(410) 997-0236 Fax (301) 621-5521 Wash. (410) 997-0238 Fax



engineering	SD				
illustration	SD				
approval	KCI	4	ASBUILT CONDITIONS ADDED TO PLAN	11/1/00	
	MARK	1	ADD MH10A & REVISE PROFILE LOTS 89-92, SECTION III	8/1/99	
project	KCI	2	ASBUILT CONDITIONS ADDED TO PLAN	11-98	
	RCJ	1	CHANGE STATIONING & ELEV. ON SEWER MAINS	5-28-98	
date					
AUG 1997	BY	NO.	REVISION	DATE	

SEWER
PROFILES
ASBUILT SET
600' SCALE MAP NO. 38 BLOCK NO. 8

WILLIAMS KNOLL, SECTIONS I & III
LOTS 1-41 & 89-92 & III
CONTRACT# 14-3620-D
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
scale AS SHOWN
4 of 4