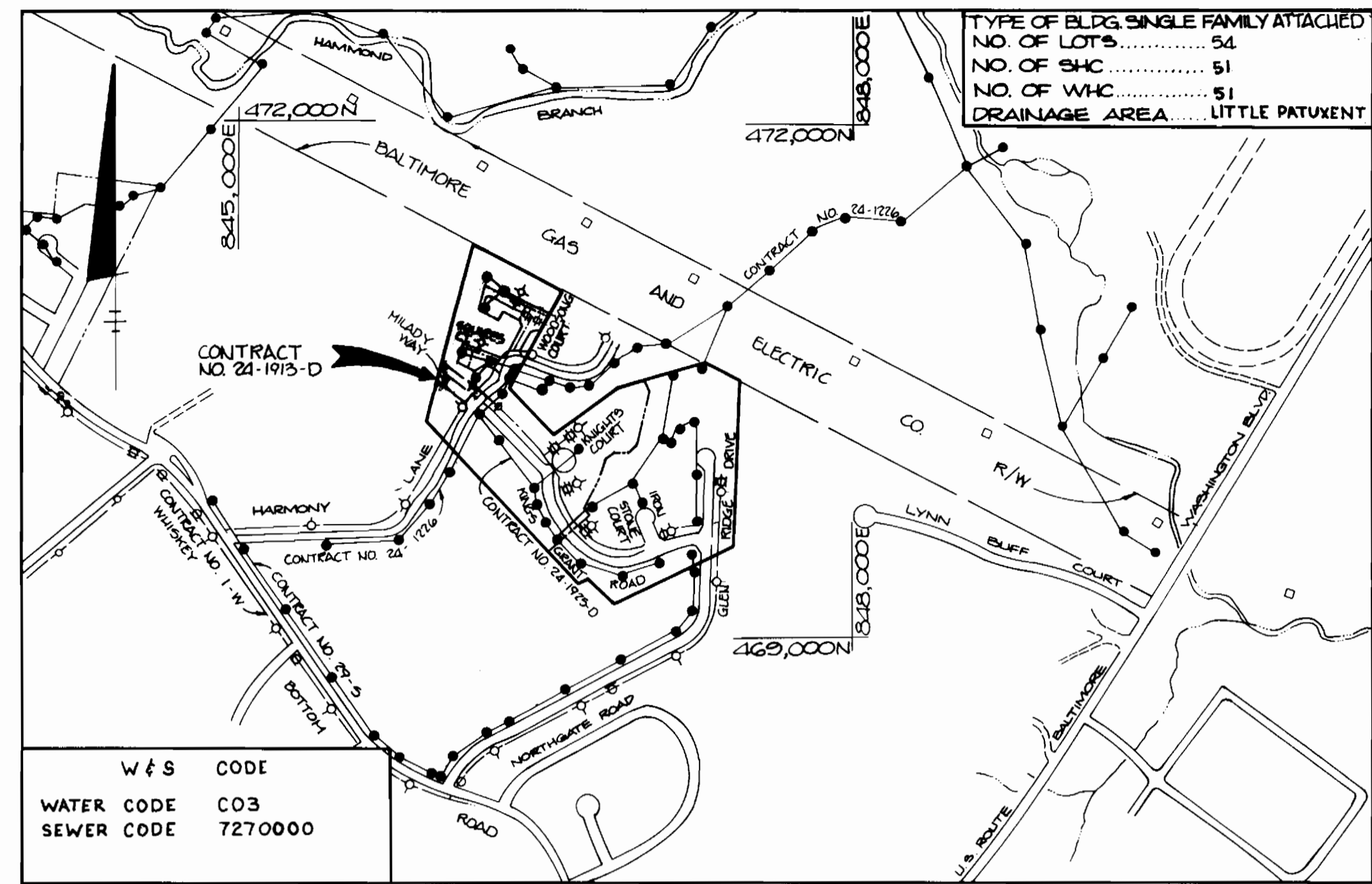


QUANTITIES			
ITEM	PROPOSED	AS-BUILT	SUPPLIER
8" WATER	440 LF	452'	GRIFFIN
6" WATER	992 LF	340'	"
FIRE HYDRANT	3	3	KENNEDY
1" W.H.C.	205 LF	813'	CAMBRIDGE LEE
3/4" W.H.C.	350 LF	1109'	"
8" SEWER	1313 LF	1293'	AMERICAN \ HARCO
MANHOLES	113 VF	114'	ATLANTIC \ HARCO
4" S.H.C.	2192 LF	2390'	AMERICAN \ HARCO



W & S CODE
WATER CODE C03
SEWER CODE 7270000

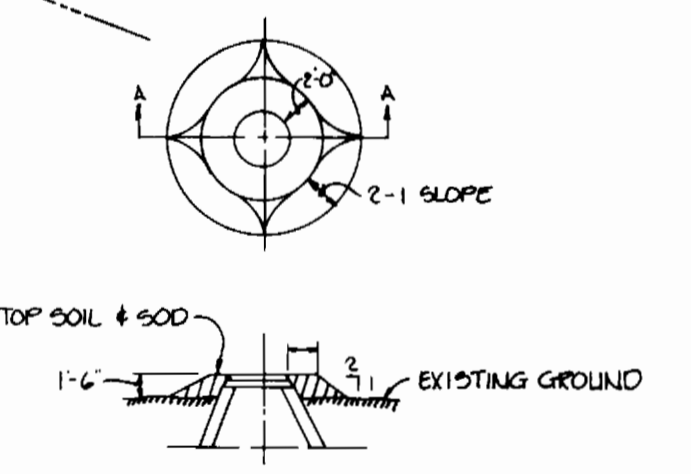
VICINITY MAP
SCALE: 1" = 600'

- 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. 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 COMPANY AND HAS MADE ARRANGEMENTS FOR BRACING OF POLES AS SHOWN ON THE DRAWINGS. IN THE EVENT THE CONTRACTOR'S WORK REQUIRES ADDITIONAL BRACING OF POLES, ANY COST INCURRED BY THE OWNER FOR THE BRACING OF ADDITIONAL POLES OR DAMAGES SHALL BE DEDUCTED FROM MONEY OWED TO THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY 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 DETAILS FOR CONSTRUCTION. 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 BEEN DUG SHALL BE LOCATED BY THE CONTRACTOR TWO WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS AT THE CONTRACTOR'S EXPENSE.
 - CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - OSP.....1-800-257-7777
 - STATE HIGHWAY ADMINISTRATION.....531-5533
 - BALTIMORE GAS & ELECTRIC CO. CONTRACTOR SERVICES.....850-4620
 - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL.....859-9004
 - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING.....298-9001
 - MISS UTILITY.....1-800-559-0100
 - COLONIAL PIPELINE CO.....795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS.....992-2366
 - TREES ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES 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 AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR EXCAVATION AND BACKFILL.
 - PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY MAINTENANCE OPERATIONS.
 - ALL WATER MAINS TO BE D.I.P. UNLESS OTHERWISE NOTED.
 - TOP OF ALL WATER MAINS TO HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
 - VALVES ADJACENT TO TEES SHALL BE STRAPPED TO TEES.
 - BLOCK ALL FITTINGS WITH CONCRETE.
 - BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE ELEVATIONS ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANT TO BE COMPACTED IN ACCORDANCE WITH SECTIONS 1005 OF THE GENERAL REQUIREMENTS FOR WATER AND SEWER.
 - ALL WATER HOUSE CONNECTIONS SHALL BE FOR AN INSIDE METER SETTING.
 - THE CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING SYSTEM.
 - ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH A.W.W.A. SPEC. C-153 DUCTILE IRON COMPACT FITTINGS 3"-12" FOR WATER AND OTHER LIQUIDS.
 - THE SERVICE CLAMPS ARE TO HAVE STAINLESS STEEL STRAPS.
 - ALL SEWER MAINS SHALL BE C.S.P.X., V.C.P.X., P.V.C. OR A.C.P. CLASS 2400 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.
 - MANHOLES SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
 - MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL 65.52 VOLUME IV WHERE WATERTIGHT MANHOLE IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE.
 - LOT (S) WITH SYMBOL "C.N.S." INDICATES CELLAR CANNOT BE SERVED.
 - ALL WATER HOUSE CONNECTIONS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 12" ABOVE ALL SANITARY SEWER CROSSINGS.
 - ALL SANITARY SEWER HOUSE CONNECTIONS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 12" BELOW ALL WATER MAIN CROSSINGS.
 - PROFILE STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
 - NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT TO SUBGRADE.

SEWER HOUSE CONNECTION
INVERT ELEVATION @ PROPERTY LINE

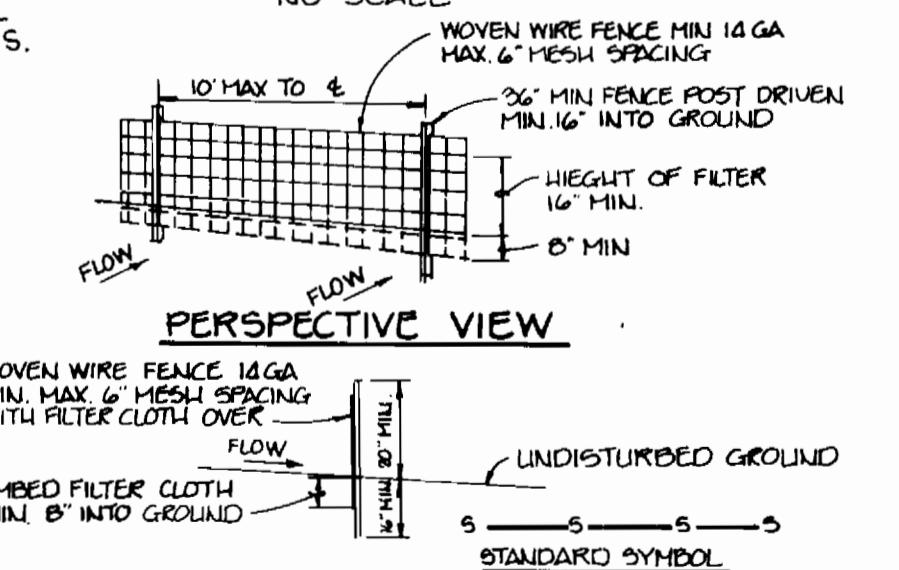
STA	LOT	INV @ PL	MIN. CELLAR ELEV.
@ MH-104	125	265.21	266.21
MH-104 - MH-105			
0+27R @ MH-104	124	266.47	269.87
0+27R	123	266.64	270.04
0+41R	122	266.64	270.04
0+60R	121	266.89	270.29
0+71R	120	267.11	270.51
1+05R	119	267.47	270.87
1+14R	118	267.58	270.98
1+60R	117	268.17	271.57
1+84R @ MH-105	114	268.48	271.88
MH-105 - MH-106			
0+52R	114	268.76	272.16
0+40L	110	268.67	271.77
0+23L	109	268.91	272.01
0+07R	115	268.85	272.25
0+62L @ MH-106	111	268.47	271.59
0+56R @ MH-106	112	268.07	272.15
@ MH-106	112	269.33	272.43
MH-107 - MH-105			
0+20R	108	269.05	272.15
0+30R	107	269.02	272.02
0+35L	103	269.71	272.91
0+65L	102	270.12	273.22
0+75R	106	268.81	271.91
0+78L	101	270.22	273.26
0+84R @ MH-107	105	268.74	271.74
@ MH-107	104	269.21	272.51
MH-108 - MH-109			
0+35R	100	271.78	275.18
0+43R	99	271.83	275.23
0+58R	98	271.92	275.32
0+84R	97	272.07	275.47
@ MH-108	96	272.84	276.24
MH-109 - MH-110			
0+19R	95	273.08	276.48
0+56R	94	273.18	276.58
0+80R @ 78 R	93	273.32	276.72
0+82L @ 80 L	88	273.42	276.82
0+86R @ 74 R	92	273.42	276.82
0+88R @ MH-109	91	273.63	276.93
@ 194-109	90	274.06	277.46
	89	273.92	277.12
MH-110 - MH-110			
0+44L	86	272.40	275.60
0+70L	85	272.56	275.76
0+80R	87	272.92	276.12
0+95L	84	272.74	275.94
1+10L	83	272.80	276.00
1+35L	82	272.95	276.15
1+48L	81	273.03	276.23
@ MH-110	80	273.50	276.70
EX MH-14 EX MH-15			
0+75 L	79	273.13	276.73
1+11 L	78	273.40	277.00
1+24 L	77	273.48	277.08
1+51 L	76	273.69	277.29
1+63 L	75	273.79	277.39

NOTE 1) EXISTING 8" FROM MANHOLE 11-12 SHALL BE REMOVED & RELAYED AT NEW ELEVATION SHOWN ON PROFILE.
2) THE CONTRACTOR SHALL CONSTRUCT A NEW CHANNEL FOR A NEW ANGLE OF DIRECTION OF FLOW AT MANHOLE No. 103.

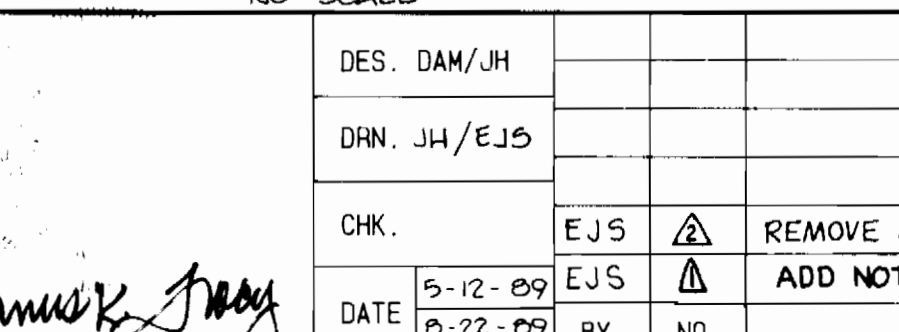


NOTES
1) ALL MANHOLE FRAME AND COVERS SHALL BE FLUSH WITH GRADE EXCEPT WHEN SHOWN ON PROFILE TO BE SET HIGHER THAN GRADE.
2) MANHOLE FRAME AND COVERS TO BE SET HIGHER THAN GRADE SHALL BE SET IN ACCORDANCE WITH THIS DETAIL.
3) MANHOLE FRAME AND COVERS TO BE SET HIGHER THAN 1'-6" SHALL BE SET AS NOTED ON THE PROFILE AND IN ACCORDANCE WITH THIS DETAIL.

FILL AROUND MANHOLE - DETAIL
NO SCALE



SECTION
SILT FENCE DETAIL
NO SCALE



HOWARD SOIL CONSERVATION DISTRICT:
REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
[Signature] 8-31-89
U.S. SOIL CONSERVATION SERVICE DATE

THIS PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
[Signature] 8-31-89
HOWARD SOIL CONSERVATION DISTRICT DATE

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY STANDARD SPECIFICATIONS AND AS PER ROAD CONSTRUCTION PLANS #F-89-210 AS SHOWN ON THIS PLAN.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

[Signature] 8/1/89
DIRECTOR OF PUBLIC WORKS DATE

[Signature] 8-31-89
CHIEF, BUREAU OF ENGINEERING DATE

[Signature] 8-28-89
CHIEF, BUREAU OF UTILITIES DATE

[Signature] 8/31/89
CHIEF, LAND DEVELOPMENT DIVISION DATE

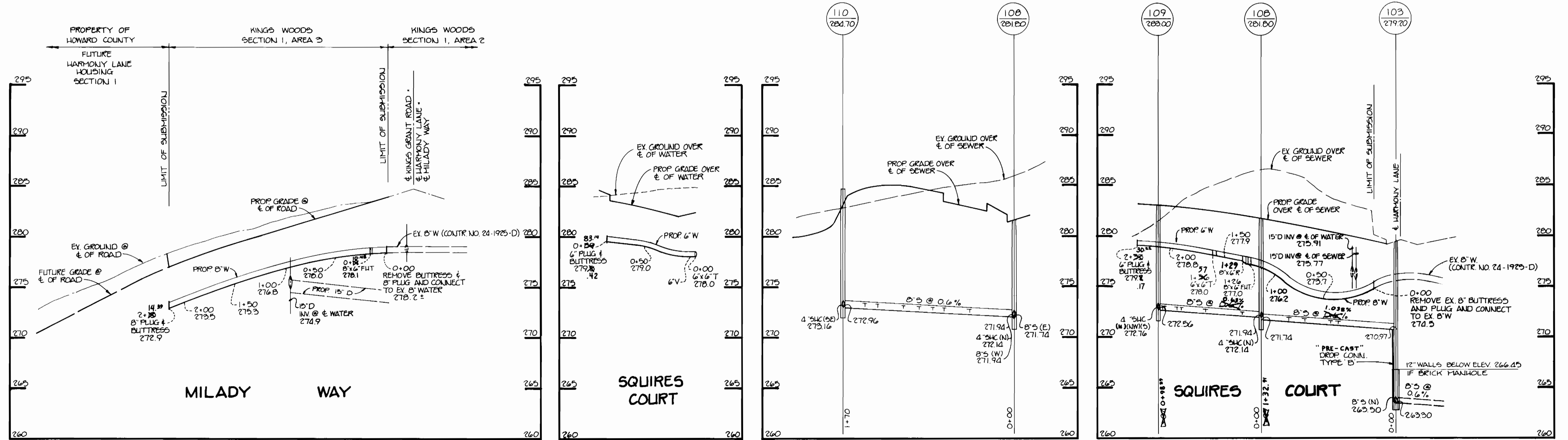
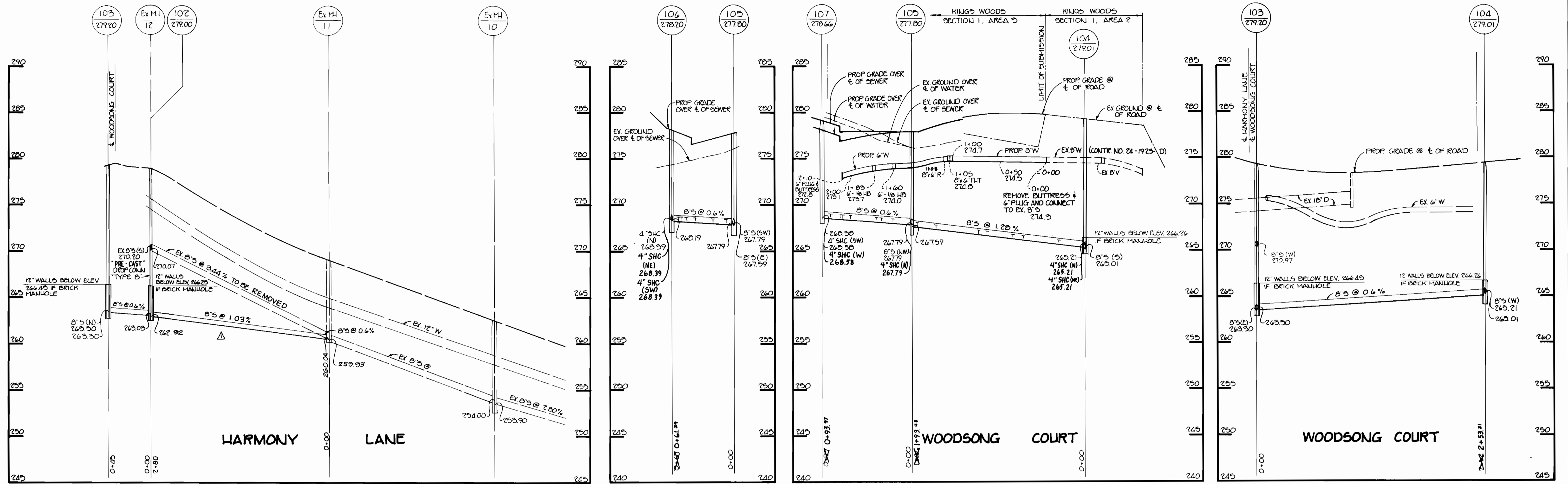
TRACY, SCHULTE & ASSOCIATES INC.
planning engineering surveying
8480 Baltimore National Pike Suite 418
Ellicott City, Maryland 21043

DES.	DAM/JH	DATE	BY	NO.	REVISIONS	DATE
		5-12-89	EJS	1	REMOVE MH 101, RELAY EX MH 11 TO MH 102	7/18/90
		8-22-89	EJS	2	ADD NOTE FOR REMOVE OF EX FH.	10/24/89

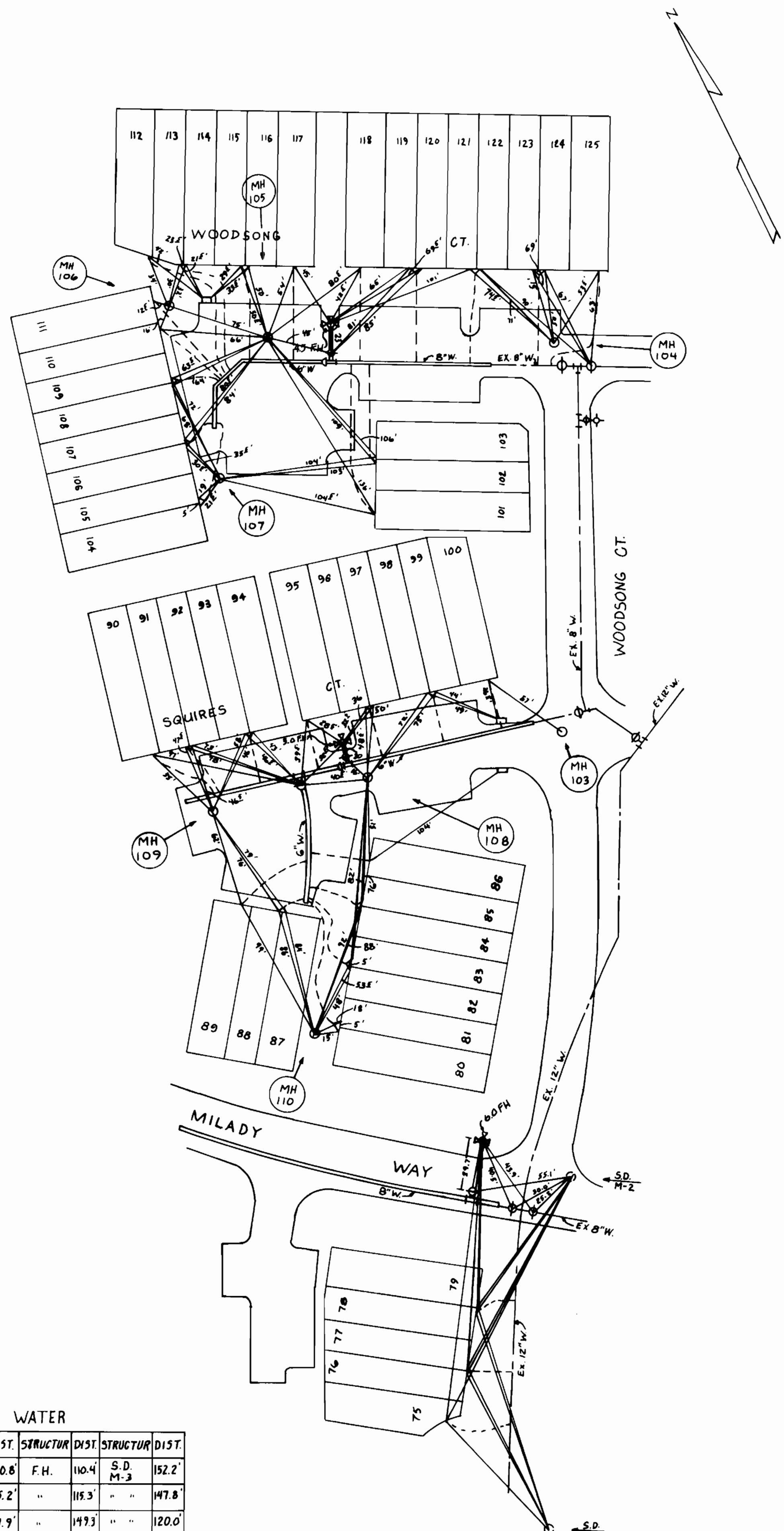
PLAN OF
WATER AND SEWER MAINS

KINGS WOODS
SECTION 1, AREA 3
ELECTION DISTRICT NO. 6
CONTRACT NO. 24-1913-D

SCALE AS SHOWN
SHEET 1 OF 3



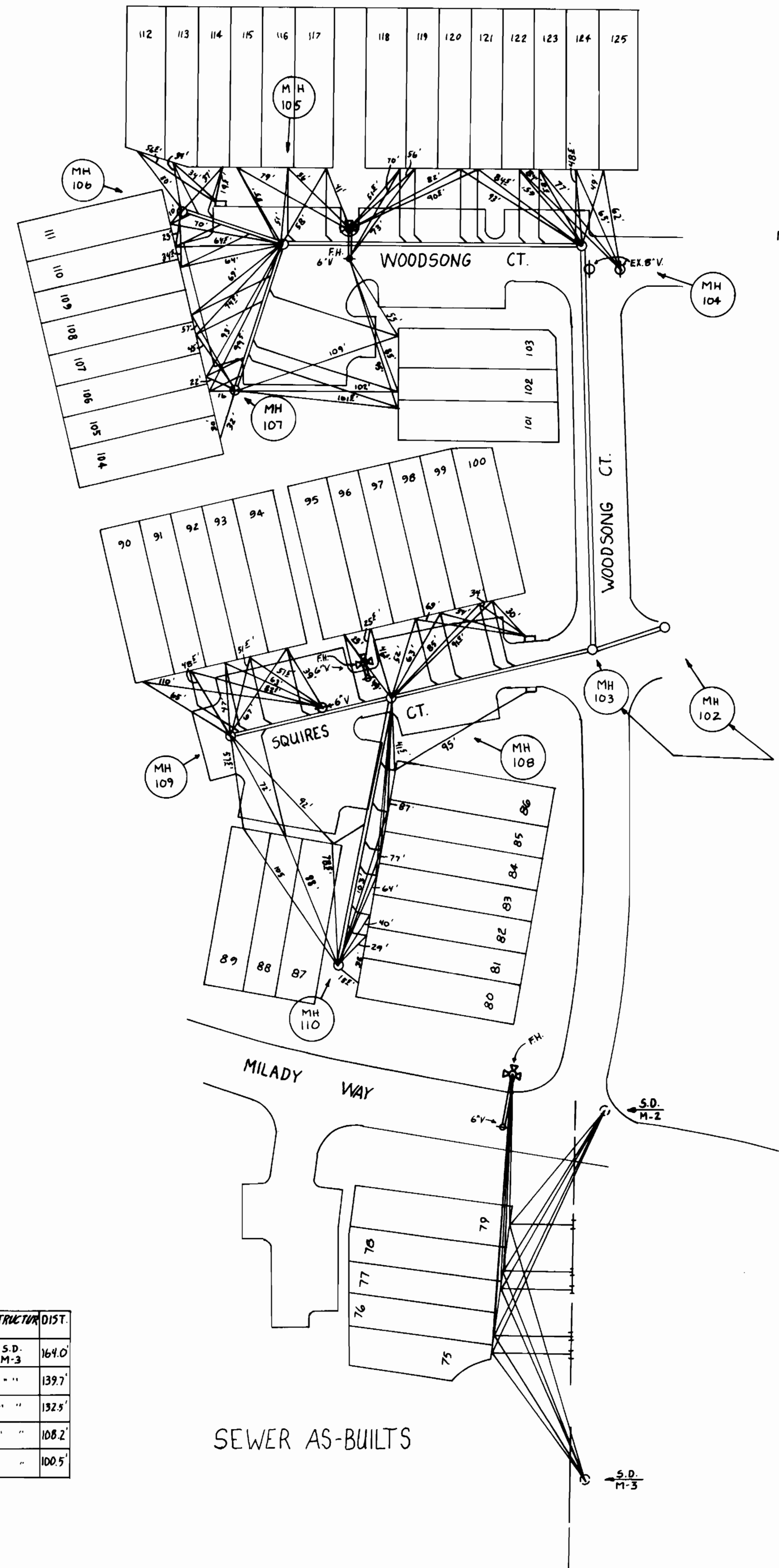
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: James J. Lane 9/1/89 Chief, Bureau of Engineering: William S. Poley 8-31-89 Chief, Bureau of Utilities: Robert B. Bunker 9-28-89 Chief, Land Development Division: Paul H. Poley 8/31/89		TRACY, SCHULTE & ASSOCIATES INC. planning engineering surveying 8480 Baltimore National Pike Suite 418 Ellicott City, Maryland 21043 Tracy K. Schulz		DES. DAM/JH DRN. JH CHK. DATE 5-12-89 EJS DATE 8-22-89 BY NO.		REMOVED MH 101 RELAYED EX MH 11 TO MH 102 7/18/90 REVISIONS DATE 600' SCALE MAP NO. 47 BLOCK NO. 22 & 16		PROFILES KINGS WOODS SECTION 1, AREA 3 ELECTION DISTRICT NO. 6 CONTRACT NO. 24-1913-D		SCALE VERT - 1" = 5' HORIZ - 1" = 50' SHEET 3 OF 3
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WATER

LOT	STRUCTUR	DIST.	STRUCTUR	DIST.	STRUCTUR	DIST.
79	S.D. M-2	100.8'	F.H.	110.4'	S.D. M-3	152.2'
78	" "	105.2'	" "	115.3'	" "	147.8'
77	" "	137.9'	" "	149.3'	" "	120.0'
76	" "	142.7'	" "	154.2'	" "	116.0'
75	" "	175.1'	" "	185.3'	" "	101.5'

WATER AS-BUILTS



SEWER AS-BUILTS

LOTS	STRUCTUR	DIST.	STRUCTUR	DIST.	STRUCTUR	DIST.
79	S.D. M-2	86.7'	F.H.	96.0'	S.D. M-3	164.0'
78	" "	114.9'	" "	125.2'	" "	139.7'
77	" "	124.0'	" "	134.3'	" "	132.5'
76	" "	155.7'	" "	167.0'	" "	108.2'
75	" "	165.2'	" "	177.3'	" "	100.5'
83	MH 10B	106'				
84	" "	93'				

SEWER AS-BUILTS

NOTE: SHC's To Following Lots Moved From Mainline Sewer To MH's, Lot # 91, 105, 111, 113, 116, 124.

NOTE: MH # 102 & 103 HAVE EXPERIMENTAL PRE-CAST "B" DROPS.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE CHIEF, BUREAU OF ENGINEERING DATE

DES:					
DRN:					
CHK:					
DATE:	BY	NO.	REVISION	DATE	600' SCALE MAP NO. BLOCK NO.

KINGS WOODS
SECTION 1, AREA 3
ELECTION DISTRICT NO. 6
CONTRACT NO. 24-1913-D

SCALE AS SHOWN
SHEET 3 OF 3

AS-BUILT WATER & SEWER 1-18-91