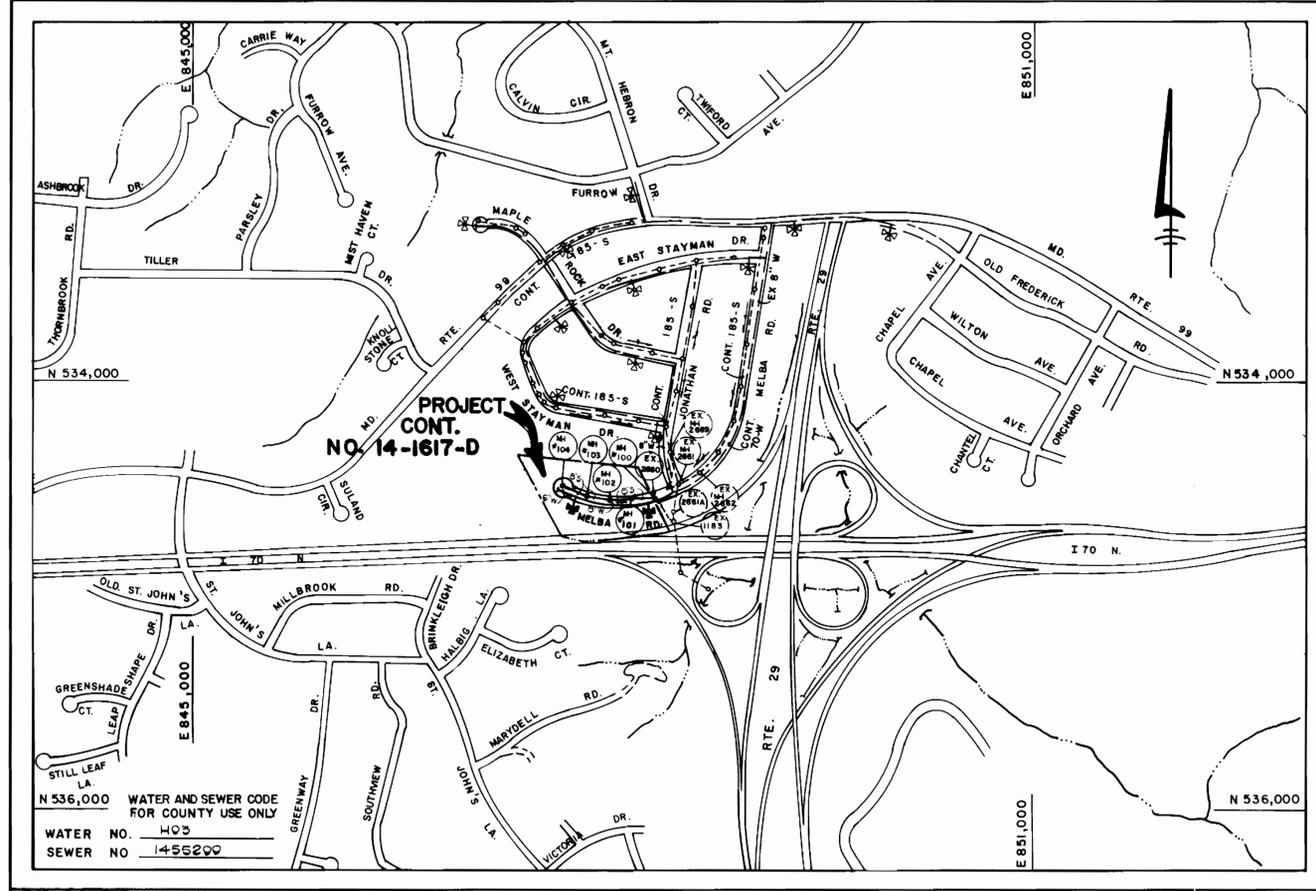


GENERAL NOTES

- APPROXIMATE LOCATION OF EXISTING MAINS ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING MAINS AND SERVICES AND MAINTAIN UNINTERRUPTED SUPPLY. ANY DAMAGE INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6".
- 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 NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 STATE HIGHWAY ADMINISTRATION : 531-5533
 BALTIMORE GAS & ELECTRIC CO.-CONTRACTOR SERVICES: 850-4620
 BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 859-9004
 BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9001
 MISS UTILITY: 1-559-0100
 COLONIAL PIPELINE COMPANY: 795-1390
 BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS 992-2366
 C & P TELEPHONE COMPANY : 1-800-257-7777
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREES, STUMPS AND ROOTS ALONG 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 1003 AND 1008 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 THE PLANS OR IN THE SPECIFICATIONS. (STD. DETAIL W.3.21).
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE AT LEAST ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATER-TIGHT FRAME AND COVERS STANDARD DETAIL G5.52 WHERE WATER-TIGHT MANHOLE FRAME AND COVER IS USED, SET TOP OF FRAME 1'-6" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., A.C.P. CLASS 2400 OR P.V.C. 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 FOR BRICK MANHOLES ONLY.
- MANHOLES LOCATED WITHIN PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLE FRAME AND COVER, STANDARD DETAIL G5.51.
- ALL D.I.R. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATION C-153: DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER & OTHER LIQUIDS.

QUANTITIES			
ITEM	EST'D	AS-BUILT	SUPPLIER
8" SEWER	690 L.F.	579 L.F.	2nd Manufacturing Corp
6" SEWER	800 L.F.	508 L.F.	"
MANHOLES	5 E.A.	5 E.A.	Atlantic Deep Prod
8" WATER	703 L.F.	704 L.F.	Atlantic Deep Prod
6" WATER	155 L.F.	147.5 L.F.	"
FIRE HYD.	2 E.A.	2 E.A.	Miller Co
3/4" WHC.	175 L.F.	214 L.F.	Howard Highways
1" WHC.	185 L.F.	150 L.F.	"
8" REDUCER	1 E.A.	1 E.A.	Carlisle Pipe Prod
8 VALVE	1 E.A.	1 E.A.	Miller Co



WATER AND SEWER CODE FOR COUNTY USE ONLY
 WATER NO. 403
 SEWER NO. 1456299

TYPE OF BUILDING	RESIDENTIAL
NUMBER OF LOTS (19 BUILDABLE)	20
NO OF WATER HOUSE CONNECTIONS	19
NO OF SEWER HOUSE CONNECTIONS	19
DRAINAGE AREA	PATAPSCO

SCALE: 1" = 600'

CONTRACT NO. 14-1671-D

ORCHARD VIEW

WATER AND SEWER MAIN EXTENSIONS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL AND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F 88-235

REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS
James Mottel 1/22/88
 SOIL CONSERVATION SERVICE DATE

PLAN REFERENCE NUMBERS
 P 87-72
 F 88-235

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

APPROVED:
Stephen L. Fisher 9/21/88
 HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 14-1671-D
 ORCHARD VIEW
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

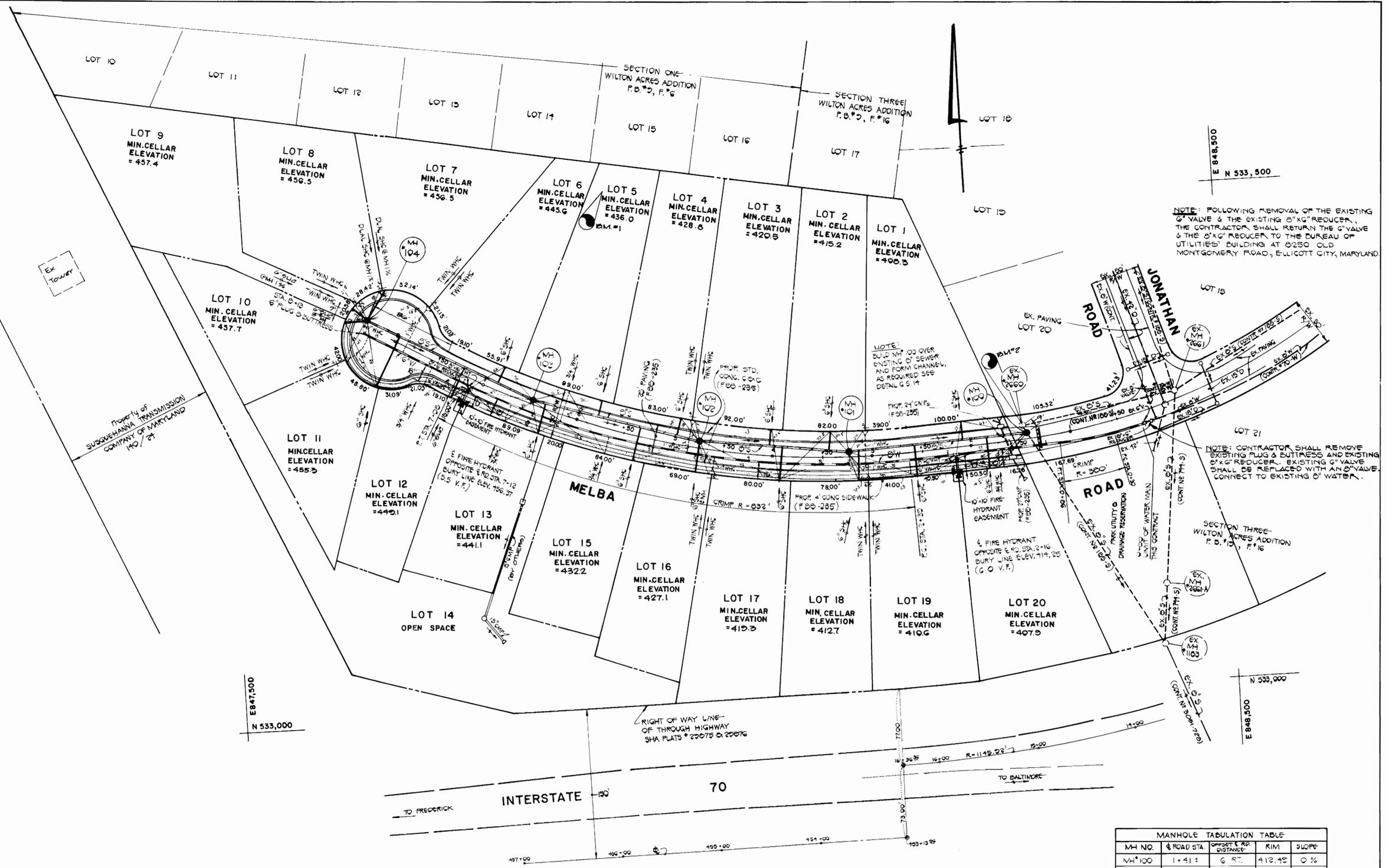
DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND 9/21/88 DIRECTOR OF PUBLIC WORKS 9-23-88 CHIEF BUREAU OF UTILITIES	FISHER, COLLINS AND CARTER, INC. # 9757 CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLICOTT CITY, MARYLAND 21043 9-27-88 CHIEF, BUREAU OF ENGINEERING 9/27/88 CHIEF, DEV. DIVISION	DES. T.A.F. DRN. S. B. CHK. P.W.K. DATE 4/20/88 BY NO REVISION DATE	TITLE SHEET 17 BLOCK NO. 16 & 17	ORCHARD VIEW CONTRACT NO. 14-1671-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE AS SHOWN SHEET 1 OF 3
--	--	--	-------------------------------------	--

BENCH MARKS

B.M. #1 ELEV. = 116.60
 1/2" REDAR SET AT APPROXIMATELY 20' OFF OF REAR LOT LINE IN LOT #5 KNOWN AS TRAVERSE-POINT #100.

B.M. #2 ELEV. = 112.02
 CROSS-CUT ON EX. SAN. MH #2660 LOCATED AT THE END OF EXISTING MELBA ROAD.

SEWER HOUSE CONNECTIONS INVERT ELEVATIONS AT PROPERTY LINE		
STATION	LOT	ELEVATION
MH #100 TO MH #101		
0+40 LT.	LOT 20	402.57
0+65 RT.	LOT 1	403.29
1+13 LT.	LOT 19	405.49
1+73 LT.	LOT 18	407.65
MH #101 TO MH #102		
0+20 RT.	LOT 2	409.81
0+67 LT.	LOT 17	414.32
0+80 RT.	LOT 3	415.15
MH #102 LT.	LOT 16	422.02
MH #102 TO MH #103		
MH #102 LT.	LOT 16	422.02
0+23 RT.	LOT 4	423.72
0+60 LT.	LOT 15	427.33
1+05 RT.	LOT 5	431.08
1+60 LT.	LOT 13	436.31
MH #103 TO MH #104		
0+40 RT.	LOT 6	440.53
0+76 LT.	LOT 12	443.81
1+50 LT.	LOT 11	450.40
MH #104 RT. @ 1%	LOT 9	452.30 @ 1%
MH #104 RT. @ 1%	LOT 7 & 8	452.45 @ 1%
MH #104 LT.	LOT 10	452.56



PLAN
 SCALE: 1"=50'

MANHOLE TABULATION TABLE				
MH NO.	± ROAD STA.	OFFSET & RD. DISTANCE	RIM	SLOPE
MH #100	1+41.5	6' RT.	412.45	0%
MH #101	3+24	4.5' RT.	418.70	+7.2%
MH #102	4+76	6.5' RT.	432.12	+10.0%
MH #103	6+50	5' RT.	443.62	+10.0%
MH #104	-	-	465.32	+1.7%

BRUNING 69150

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James M. ...
 DIRECTOR OF PUBLIC WORKS DATE 9-23-88

... ..
 CHIEF, BUREAU OF ENGINEERING DATE 9/22/89

... ..
 CHIEF, LAND DEVELOPMENT DIVISION DATE 9/16/89

FISHER, COLLINS AND CARTER, INC. #9757
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

Terrell A. Fisher
 TERRELL A. FISHER

DES: T.A.F.				
DRN: J.O.				
CHK: P.W.K.				
DATE: 4/15/88	BY: NO.	REVISION	DATE	

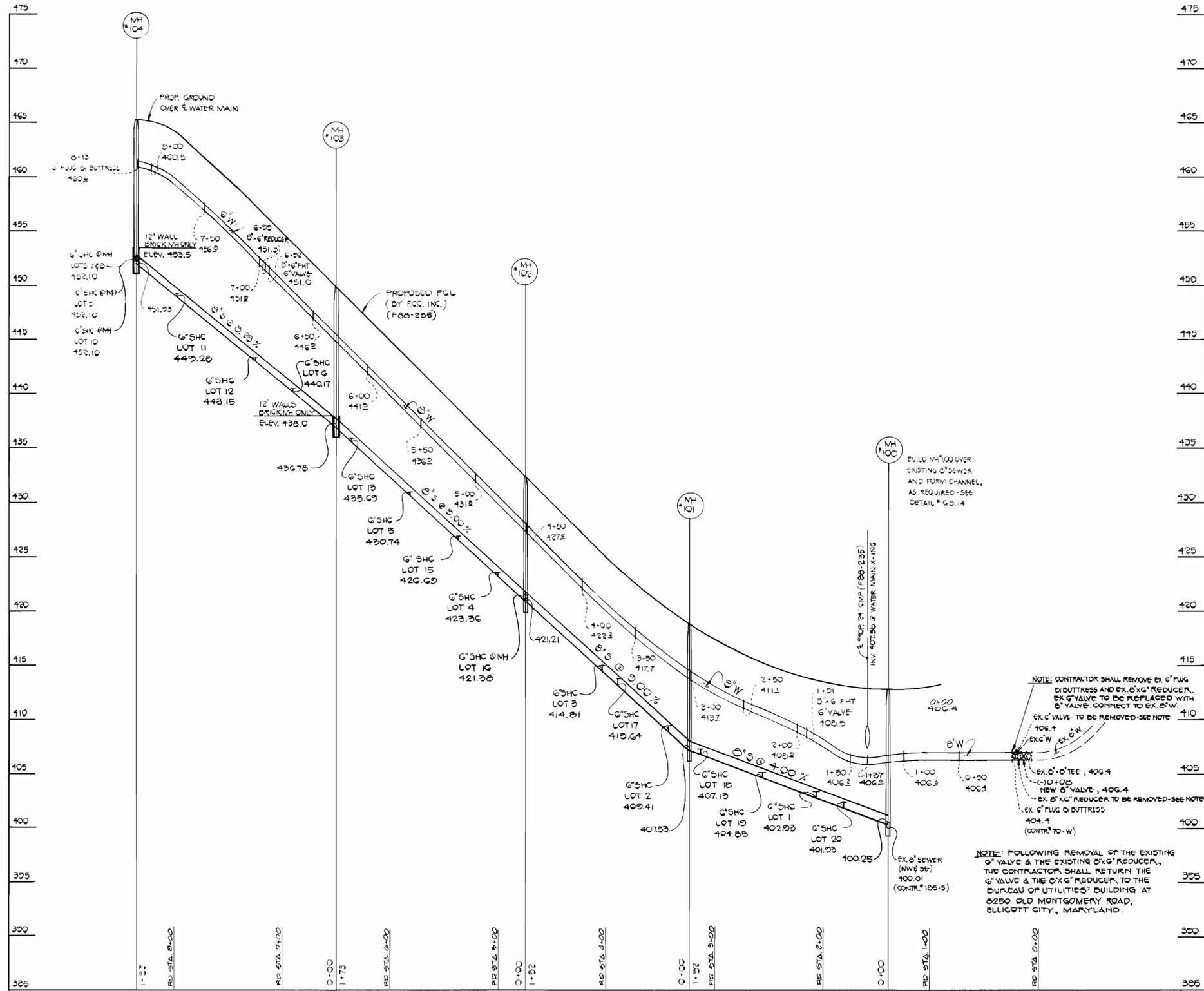
PLAN
WATER AND SEWER MAINS

600' SCALE MAP NO. 17 BLOCK NO. 16 & 17

ORCHARD VIEW
 LOTS 1-20
 CONTRACT NO. 14-1671-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

CONTRACT NO. 14-1671-D
 ORCHARD VIEW
 LOTS 1-20
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 2 OF 3



PROFILES
 1"=80' Horiz
 Scale: 1"=8' Vert.

NOTE: CONTRACTOR SHALL REMOVE EX. 6" FUG. & BUTTRESS AND EX. 6"X6" REDUCER. EX. 6" VALVE TO BE REPLACED WITH 6" VALVE. CONNECT TO EX. 6" W.

EX. 6" VALVE TO BE REMOVED-SEE NOTE
 406.4
 EX. 6" W
 EX. 6" W
 EX. 6"X6" REDUCER TO BE REMOVED-SEE NOTE
 406.4
 EX. 6" FUG. & BUTTRESS
 404.4
 (CONTR. TO W)

NOTE: FOLLOWING REMOVAL OF THE EXISTING 6" VALVE & THE EXISTING 6"X6" REDUCER, THE CONTRACTOR SHALL RETURN THE 6" VALVE & THE 6"X6" REDUCER TO THE BUREAU OF UTILITIES' BUILDING AT 8250 OLD MONTGOMERY ROAD, ELLICOTT CITY, MARYLAND.

CONTRACT NO. 14-1671-D
 ORCHARD VIEW
 LOTS 1-20
 WATER AND SEWER MAIN EXTENSIONS
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James J. Lee
 DIRECTOR OF PUBLIC WORKS
 DATE: 9-23-88

Robert H. Bennett
 CHIEF, BUREAU OF UTILITIES
 DATE: 9-23-88

W. S. ...
 CHIEF, BUREAU OF ENGINEERING
 DATE: 9-27-88

...
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE: 9/23/88

FISHER, COLLINS AND CARTER, INC. #9757
 CONSULTING ENGINEERS AND LAND SURVEYORS
 8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

Terrell A. Fisher
 TERRELL A. FISHER

DES: T. A. F.					
DRN: J. O.					
CHK: P. W. K.					
DATE: 4/15/88	BY	NO.	REVISION	DATE	

PROFILES
 WATER AND SEWER MAINS

600' SCALE MAP NO. 17 BLOCK NO. 16 & 17

ORCHARD VIEW
 LOTS 1-20
 CONTRACT NO. 14-1671-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 3 OF 3