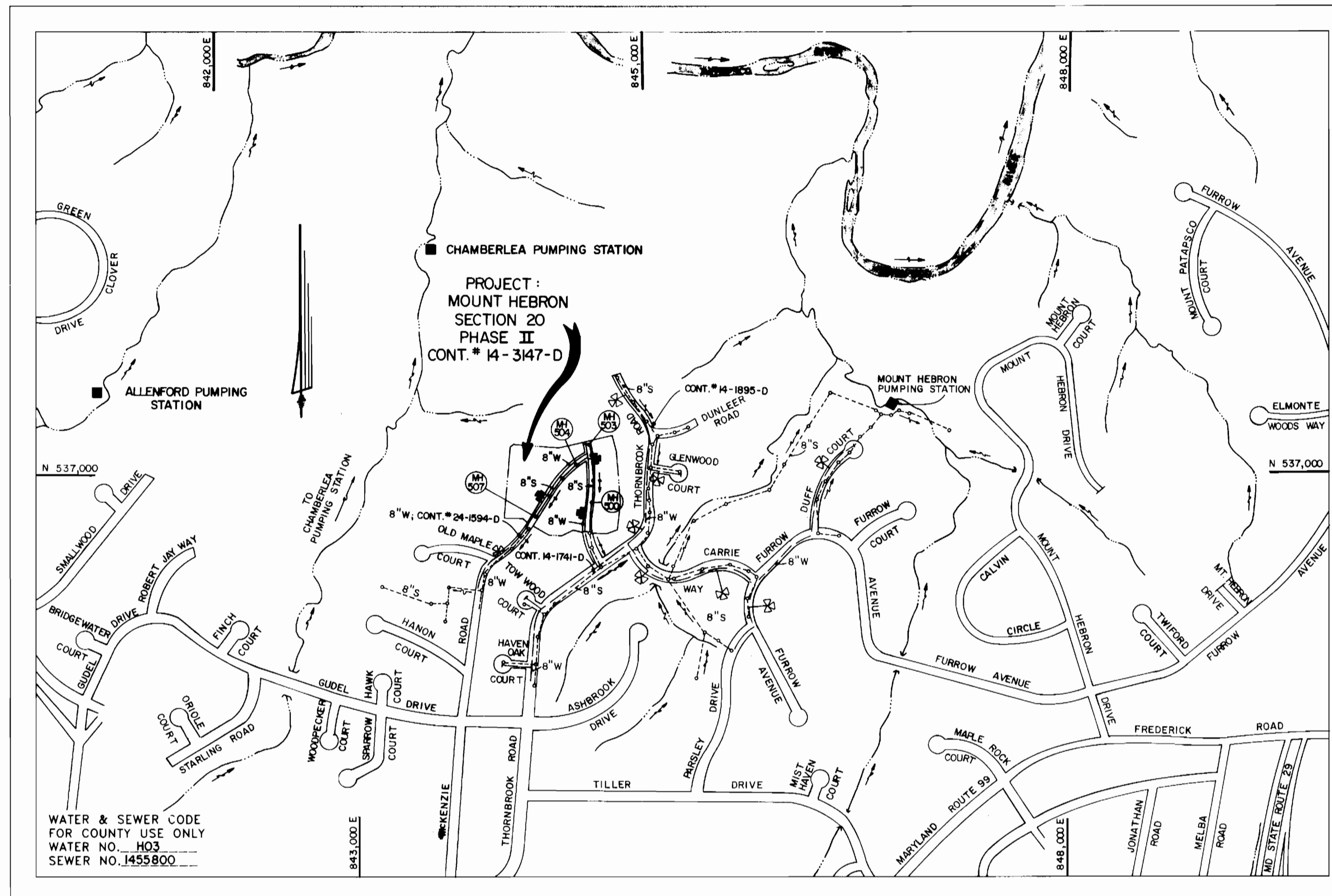


### GENERAL NOTES

- 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 DAMAGED INCURRED SHALL BE REPAIRED IMMEDIATELY TO THE SATISFACTION OF THE ENGINEER AT THE CONTRACTOR'S EXPENSE.
- ALL HORIZONTAL CONTROLS ARE BASED ON MARYLAND STATE COORDINATES.
- ALL VERTICAL CONTROLS ARE BASED ON U.S.G.S. DATUM.
- ALL PIPE ELEVATIONS ARE INVERT ELEVATIONS.
- CLEAR ALL UTILITIES BY A MINIMUM OF 6'.
- 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 (1989 AMENDMENTS) THE CONTRACTOR SHALL HAVE A COPY OF VOLUME IV ON THE JOB SITE.
- WHERE TEST PITS HAVE BEEN MADE ON EXISTING UTILITIES, THEY ARE NOTED BY THE SYMBOL  AT THE LOCATION OF THE TEST PIT. A NOTE OR NOTES CONTAINING THE RESULTS OF THE TEST PIT OR PITS IS INCLUDED ON THE DRAWINGS. EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED WORK FOR WHICH TEST PITS HAVE NOT BEEN DUG SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. ANY DAMAGE TO EXISTING FACILITIES DUE TO THE CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
  - C. & P. TELEPHONE COMPANY - 1-800-257-7777
  - STATE HIGHWAY ADMINISTRATION - 531-5533
  - BALTIMORE GAS & ELECTRIC CO. - CONTRACTOR SERVICES - 850-4620
  - BALTIMORE GAS & ELECTRIC CO. - UNDER GROUND 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 - 313-4900
- TREES AND SHRUBS ARE TO BE PROTECTED FROM DAMAGE TO MAXIMUM EXTENT. TREES AND SHRUBS LOCATED WITHIN THE CONSTRUCTION STRIP ARE NOT TO BE REMOVED OR DAMAGED BY THE CONTRACTOR.
- CONTRACTOR SHALL REMOVE TREE, STUMPS AND ROOTS ALONG THE LINE OF EXCAVATION. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONSTRUCTION OF THE MAIN.
- ALL SEWER MAINS SHALL BE C.S.P.X., R.C.S.P., V.C.P.X., OR P.V.C. UNLESS OTHERWISE NOTED.
- ALL MANHOLES SHALL BE 4'-0" INSIDE DIAMETER UNLESS OTHERWISE NOTED.
- T.B. DENOTES TEST BORING.
- MANHOLES SHOWN WITH 12" AND 16" WALLS ARE FOR BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT FRAME AND COVERS, STANDARD DETAIL G 5.52.
- WHERE WATERTIGHT MANHOLE FRAME AND COVER IS USED SET TOP OF FRAME 1/8" ABOVE FINISHED GRADE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTINGS, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATES THAT THE CELLAR CAN NOT BE SERVED.
- ALL WATER HOUSE CONNECTIONS SHALL BE FOR INSIDE METER SETTING, UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS.
- MANHOLES LOCATED WITHIN THE PROPOSED ROADWAY SHALL HAVE STANDARD HEAVY TRAFFIC MANHOLES, FRAMES AND COVERS STANDARD DETAIL G5.15.
- THE CONTRACTOR SHALL PROVIDE A JOINT IN ALL SEWER MAINS WITHIN 2'-0" OF EXTERIOR MANHOLE WALL.
- WATER MAINS AND WATER HOUSE CONNECTION LINES MUST BE PLACED SO AS TO HAVE ONE (1) FOOT SEPARATION FROM THE SEWER MAIN OR SEWER HOUSE CONNECTION AS THEY PASS ABOUT IT.
- 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 ELEVATION 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.
- CONTRACTOR SHALL NOT OPERATE ANY WATER MAIN VALVES ON THE EXISTING WATER SYSTEM.
- ALL D.I.P. FITTINGS SHALL BE IN ACCORDANCE WITH AWWA SPECIFICATIONS C-153; DUCTILE IRON COMPACT FITTINGS, 3-INCH THROUGH 12-INCH FOR WATER AND OTHER LIQUIDS.



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

VICINITY MAP  
 SCALE: 1"=600'

# CONTRACT NO. 14-3147-D MOUNT HEBRON SECTION 20 ; PHASE II ; LOTS 32 - 51 WATER AND SEWER MAIN EXTENSIONS HOWARD COUNTY, MARYLAND DEPARTMENT OF PUBLIC WORKS

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

APPROVED: *John P. Peltason* 9/9/91  
 HOWARD SOIL CONSERVATION DISTRICT

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 OF HOWARD COUNTY DESIGN MANUAL & STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F-92-II REVIEWED FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

APPROVED: *James M. Helm* 9/9/91  
 HOWARD COUNTY SOIL CONSERVATION DISTRICT

PLAN REFERENCE NUMBERS:  
 P-89-33  
 F-92-II

CONTRACT NO. 14-3147-D  
 MOUNT HEBRON ; SECTION 20  
 PHASE II ; LOTS 32-51  
 WATER AND SEWER EXTENSIONS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James M. Helm</i> 9/9/91 DIRECTOR OF PUBLIC WORKS DATE <i>Robert M. Deussen</i> 9-5-91 CHIEF, BUREAU OF UTILITIES DATE		FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS 9171 BALTIMORE NAT. PIKE ELLICOTT CITY, MD 21043 (301) 461-2855 #9757 TERRELL A. FISHER		DES: MJM DRWN: SFH CHK: PWK DATE: 6/2/91		TITLE SHEET 600' SCALE MAP NO. 17 BLOCK NO.		MOUNT HEBRON SECTION 20; PHASE II; LOTS 32-51 CONTRACT NO. 14-3147-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND		SCALE AS SHOWN SHEET 1 OF 3
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AS-BUILT 8.1.

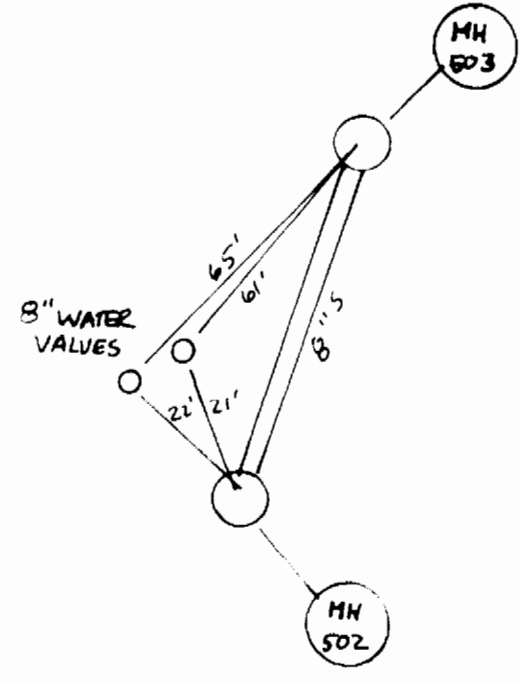
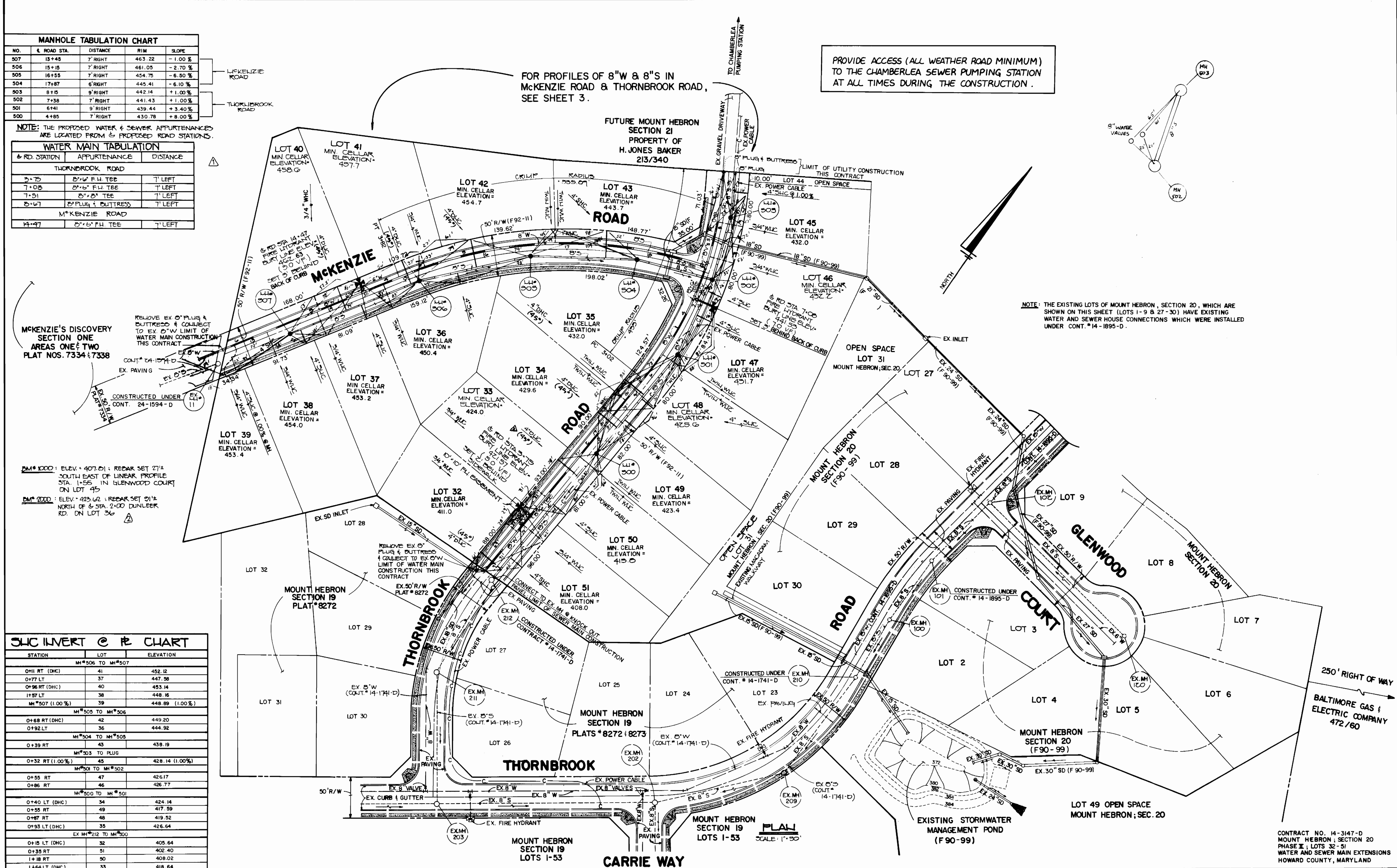
MANHOLE TABULATION CHART				
NO.	RD. STA.	DISTANCE	RIM	SLOPE
507	13+45	7' RIGHT	463.22	-1.00%
506	15+15	7' RIGHT	461.05	-2.70%
505	16+55	7' RIGHT	454.75	-6.80%
504	17+87	6' RIGHT	445.41	-6.10%
503	8+15	9' RIGHT	442.14	+1.00%
502	7+38	7' RIGHT	441.43	+1.00%
501	6+41	9' RIGHT	439.44	+3.40%
500	4+85	7' RIGHT	430.78	+8.00%

NOTE: THE PROPOSED WATER & SEWER AFFURTENANCES ARE LOCATED FROM & PROPOSED ROAD STATIONS.

WATER MAIN TABULATION		
& RD. STATION	AFFURTENANCE	DISTANCE
THORNBROOK ROAD		
2+75	8" x 6" F.H. TEE	7' LEFT
7+05	8" x 6" F.H. TEE	7' LEFT
7+51	8" x 6" TEE	7' LEFT
8+67	8" PLUG & BUTTRESS	7' LEFT
MCKENZIE ROAD		
14+47	8" x 6" F.H. TEE	7' LEFT

PROVIDE ACCESS (ALL WEATHER ROAD MINIMUM) TO THE CHAMBERLEA SEWER PUMPING STATION AT ALL TIMES DURING THE CONSTRUCTION.

FOR PROFILES OF 8" W & 8" S IN MCKENZIE ROAD & THORNBROOK ROAD, SEE SHEET 3.



NOTE: THE EXISTING LOTS OF MOUNT HEBRON, SECTION 20, WHICH ARE SHOWN ON THIS SHEET (LOTS 1-9 & 27-30) HAVE EXISTING WATER AND SEWER HOUSE CONNECTIONS WHICH WERE INSTALLED UNDER CONT. # 14-1895-D.

MCKENZIE'S DISCOVERY SECTION ONE AREAS ONE & TWO PLAT NOS. 7334 & 7338

BM# 1000: ELEV. 407.01; REBAR SET 27" SOUTH EAST OF LINEAR PROFILE STA. 1+55 IN GLENWOOD COURT ON LOT 45  
 BM# 2000: ELEV. 423.62; REBAR SET 21" NORTH OF & STA. 2+00 DUNLEER RD. ON LOT 36

SIC INVERT @ R CHART		
STATION	LOT	ELEVATION
MH#506 TO MH#507		
0+11 RT (DHC)	41	452.12
0+77 LT	37	447.38
0+96 RT (DHC)	40	453.14
1+57 LT	38	448.16
MH#507 (1.00%)	39	448.89 (1.00%)
MH#505 TO MH#506		
0+68 RT (DHC)	42	449.20
0+92 LT	36	444.92
MH#504 TO MH#505		
0+39 RT	43	438.19
MH#503 TO PLUG		
0+32 RT (1.00%)	45	428.14 (1.00%)
MH#502 TO MH#501		
0+55 RT	47	426.17
0+86 RT	46	426.77
MH#500 TO MH#501		
0+40 LT (DHC)	34	424.14
0+55 RT	49	417.59
0+87 RT	48	419.52
0+93 LT (DHC)	35	426.64
EX MH#212 TO MH#500		
0+15 LT (DHC)	32	405.64
0+35 RT	51	402.40
1+18 RT	50	408.02
1+64 LT (DHC)	33	418.64

CONTRACT NO. 14-3147-D  
 MOUNT HEBRON, SECTION 20  
 PHASE II; LOTS 32-51  
 WATER AND SEWER MAIN EXTENSIONS  
 HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
 Director of Public Works: James J. [Signature] 9/19/91  
 Chief, Bureau of Engineering: [Signature] 9/19/91  
 Chief, Bureau of Utilities: Robert M. [Signature] 9-5-91  
 Chief, Land Development Division: [Signature]

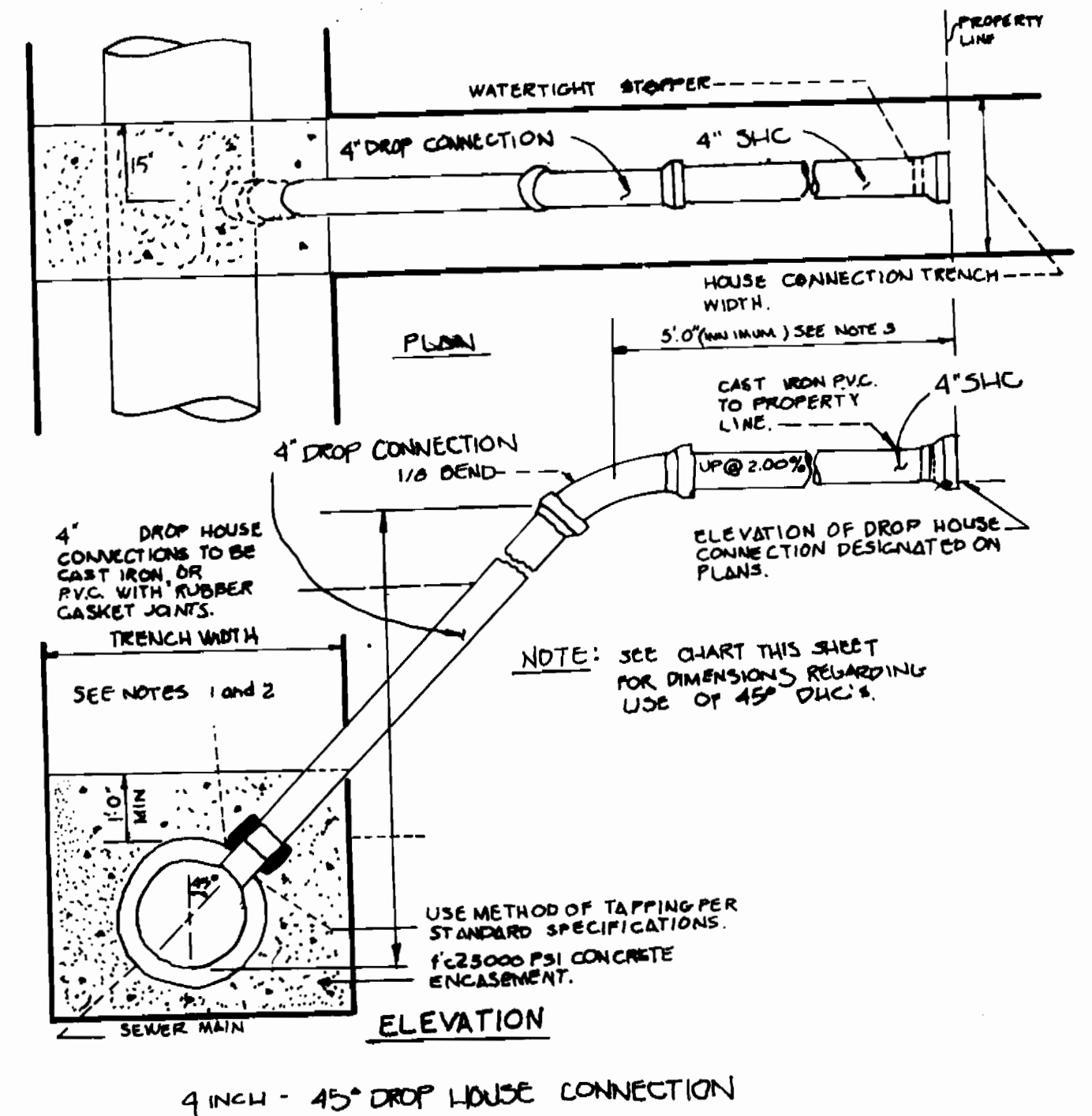
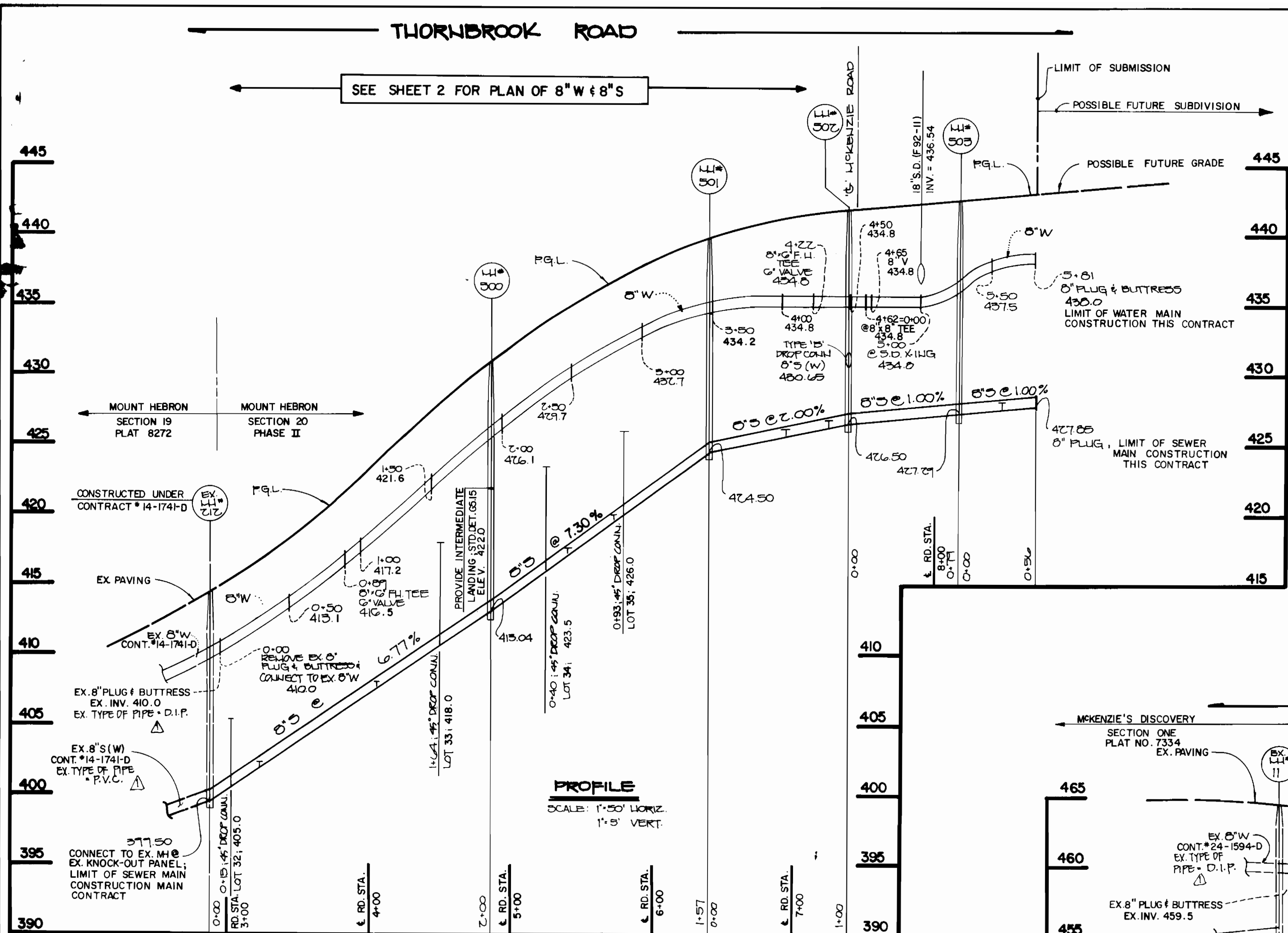
FISHER, COLLINS, AND CARTER, INC.  
 CONSULTING ENGINEERS AND LAND SURVEYORS  
 8388 COURT AVENUE  
 ELLICOTT CITY, MARYLAND 21043  
 Terrell A. Fisher

DES: MJM	MJM	ADD WM TABULATION CHART	7-19-91
DRN: MJM/SH	MJM	ADD BENCHMARK INFO.	7-19-91
CHK: FWK	JR	ADD 45' DROP HOUSE CONNECTION	7-30-91
DATE: 6/2/91	BY NO.	REVISION	DATE

WATER & SEWER MAINS  
 PLAN  
 600' SCALE MAP NO. 17 BLOCK NO.

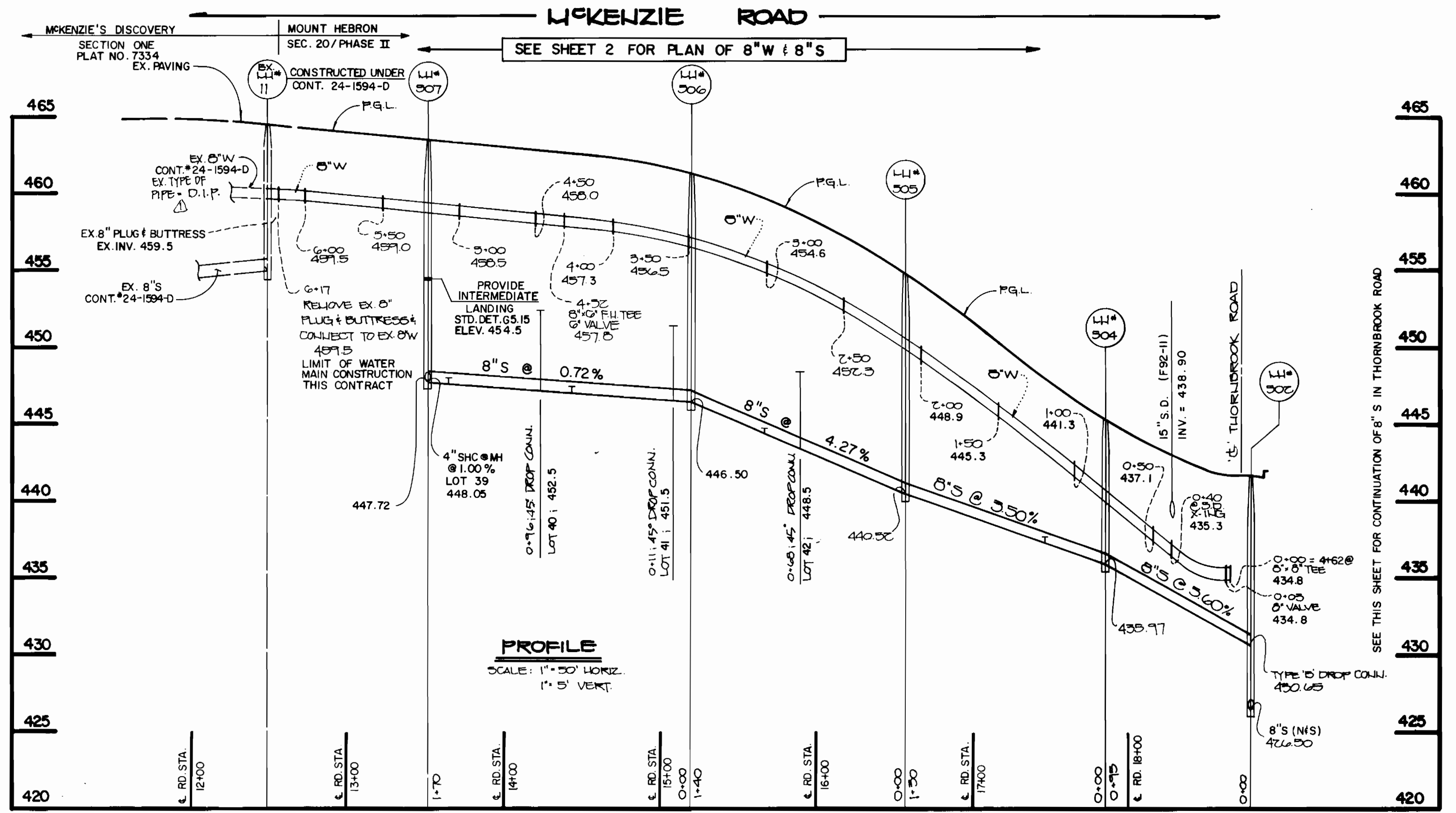
MOUNT HEBRON  
 SECTION 20; PHASE II, LOTS 32-51  
 CONTRACT NO. 14-3147-D  
 SECOND ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
 SHEET 2 OF 3



4-INCH - 45° DROP HOUSE CONNECTION CHART

LOT NO.	INV. @ 8" SEWER	INV. @ 1/8 BEND	DISTANCE @ 8" S TO 1/8 BEND	DISTANCE @ 2 1/2" S TO 1/8 BEND TO FT.
32	400.92	409.00	4.48'	27.92'
33	410.60	418.00	7.40'	24.60'
34	415.96	423.50	7.94'	24.46'
39	413.83	426.00	6.17'	29.83'
40	447.19	452.90	5.31'	26.69'
41	446.98	451.50	4.92'	27.08'
42	443.46	448.50	5.08'	23.92'



CONTRACT NO. 14-3147-D  
MOUNT HEBRON; SECTION 20  
PHASE II; LOTS 32-51  
WATER AND SEWER MAIN EXTENSIONS  
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 9/19/91  
Date: 9/19/91

Chief, Bureau of Engineering: *[Signature]* 9/19/91  
Date: 9/19/91

Chief, Bureau of Utilities: *[Signature]* 9/5/91  
Date: 9/5/91

Chief, Land Development Division: *[Signature]* 9/19/91  
Date: 9/19/91

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

Professional Engineer: *[Signature]*  
Terrill A. Fischer

DES: MJM	MJM	ADD TYPES OF EX. PIPES	9-91
DRN: MJM	JR	ADD NOTES OF 4" D.H.C.	7-92
CHK: PWK			
DATE: 6/2/91	BY NO.	REVISION	DATE

WATER & SEWER MAINS  
PROFILES

600' SCALE MAP NO. 17 BLOCK NO.

MOUNT HEBRON  
SECTION 20; PHASE II; LOTS 32-51  
CONTRACT NO. 14-3147-D  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN  
SHEET 3 OF 3