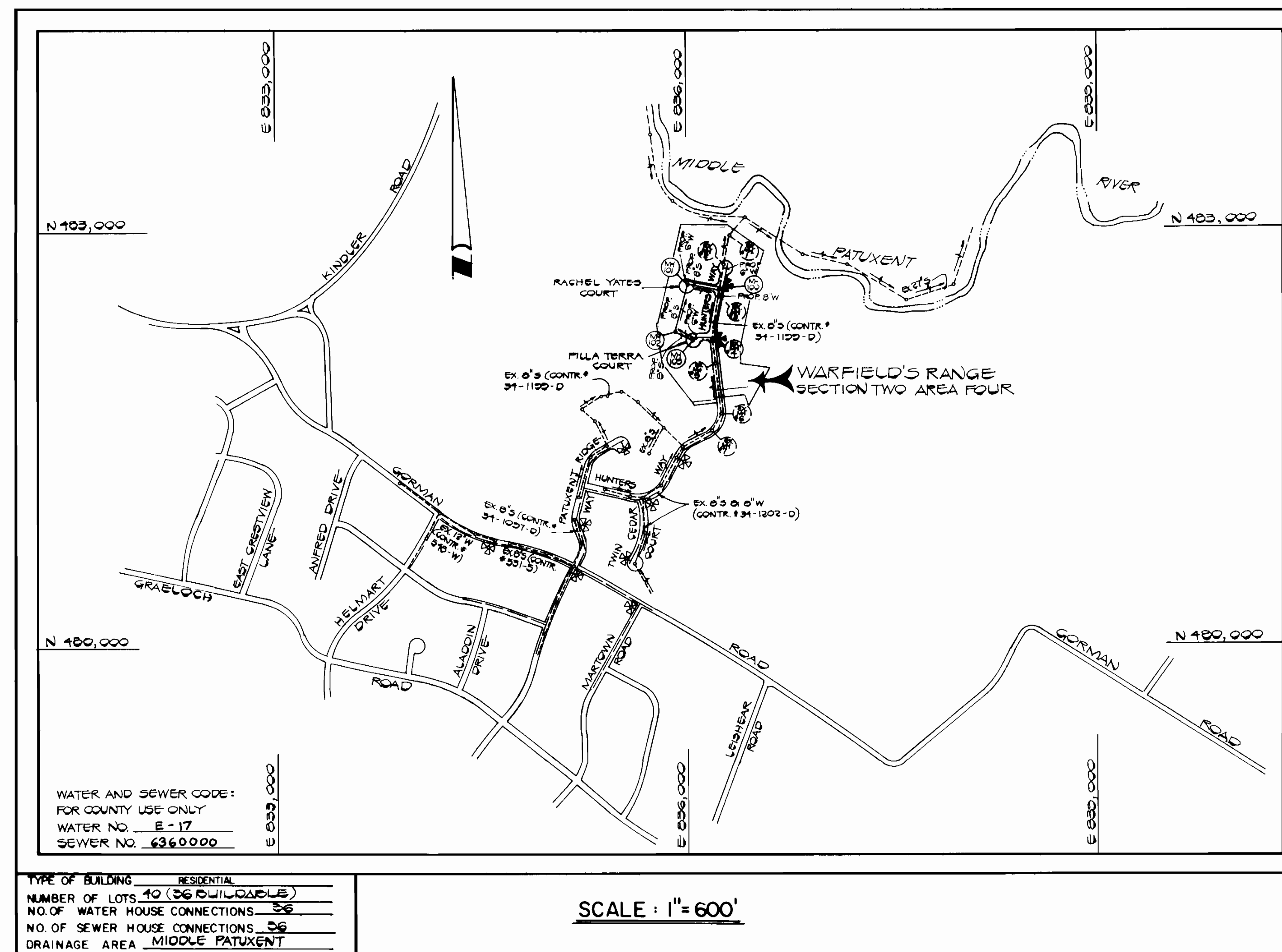


QUANTITIES			
ITEM	ESTIMATED	AS-BUILT	SUPPLIER
8" WATER	865 L.F.	865 L.F.	GRIFFIN, CLASS 52
6" WATER	216 L.F.	226 L.F.	GRIFFIN, CLASS 52
1/2" WATER	55 L.F.	59 L.F.	HOWELL METALS, TYPE K
1" WATER HOUSE CONN.	305 L.F.	309 L.F.	HOWELL METALS, TYPE K
3/4" WATER HOUSE CONN.	605 L.F. &	635 L.F.	HOWELL METALS, TYPE K
8" VALVE	3 EACH	3 EACH	US PIPE, METRO
6" VALVE EXCLUDING F.H.	2 EACH	2 EACH	US PIPE, METRO
8" F.F. TEE	2 EACH	2 EACH	GRIFFIN, CLASS 250
8" VALVE	2 EACH	2 EACH	US PIPE, METRO
HYDRANTS	2 EACH	2 EACH	US PIPE, METRO
1 1/2" BLOW-OFF	3 EACH	3 EACH	HOWELL, TYPE K COPPER
8" REDUCER	2 EACH	2 EACH	GRIFFIN, CLASS 250
8" SEWER	804 L.F. &	804 L.F.	J-M, SDR-35, PVC
6" SEWER	1040 L.F. &	1040 L.F.	J-M, SDR-35, PVC
8" SADDLE	1 EACH	1 EACH	HARRINGTON CORP, PVC
MANHOLES	4 EACH	4 EACH	ATLANTIC PRECAST CORP.

SEWER HOUSE CONNECT INVERT @ Ft		
STATION	LOT	INVERT @ Ft
MH 100 TO MH 101		
0+80	LEFT	45
1+27	LEFT	291.26
2+07	RIGHT	291.64
① MH 101	RIGHT	55 @ 1.00%
② MH 101	RIGHT	54
MH 101 TO MH 102		
0+47	RIGHT	52
0+27	LEFT	50
②-15	RIGHT	25 @ 1.00%
MH 102 TO MH 100		
0+28	RIGHT	44 D.H.C.
0+60	LEFT	46 D.H.C.
1+14	RIGHT	43
② MH 103	RIGHT	42
EX. MH 1 TO EX. MH 2		
0+20	RIGHT	55
1+23	LEFT	62 D.H.C.
1+28	RIGHT	60 D.H.C.
EX. MH 2 TO PROP. MH #100		
0+10	LEFT	62 @ 3.00%
0+59	RIGHT	58 @ 4.00%
0+70	LEFT	64 D.H.C.
1+55	RIGHT	57 D.H.C.
1+70	LEFT	65 @ 5.00%
EX. MH 3 TO EX. MH 4		
0+15	LEFT	66
0+24	LEFT	67
1+02	RIGHT	40
1+73	LEFT	69
2+71	RIGHT	47
EX. MH 4 TO EX. MH 5		
0+44	LEFT	70 @ 3.00%
0+22	RIGHT	40
1+22	LEFT	71 @ 5.00%
EX. MH 5 TO EX. MH 6		
0+27	RIGHT	35 D.H.C.
1+02	LEFT	72 D.H.C.
1+20	RIGHT	38 D.H.C.
1+30	LEFT	73 @ 7.4 @ 1.00%
1+50	LEFT	75 D.H.C.
2+24	RIGHT	36 @ 37



CONTRACT NO. 34-1488-D

WARFIELD'S RANGE

SECTION 2 AREA 4

WATER AND SEWER MAIN EXTENSIONS

HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

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".
- 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: 561-2585
 - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 234-5621
 - MISSISSIPPI UTILITY: 1-559-0100
 - TROUBLE SHOOTING: 298-9013
 - COLONIAL PIPELINE COMPANY: 795-1390
 - BUREAU OF UTILITIES, HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS: 992-2366
- 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.
- FOR ALL COPPER WATER HOUSE CONNECTIONS, UTILIZE FLARED TYPED FITTINGS ONLY.
- 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 WATERTIGHT 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.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 15 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 F86-168

REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS.

James M. Nolas 6/25/86
US SOIL CONSERVATION SERVICE DATE

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

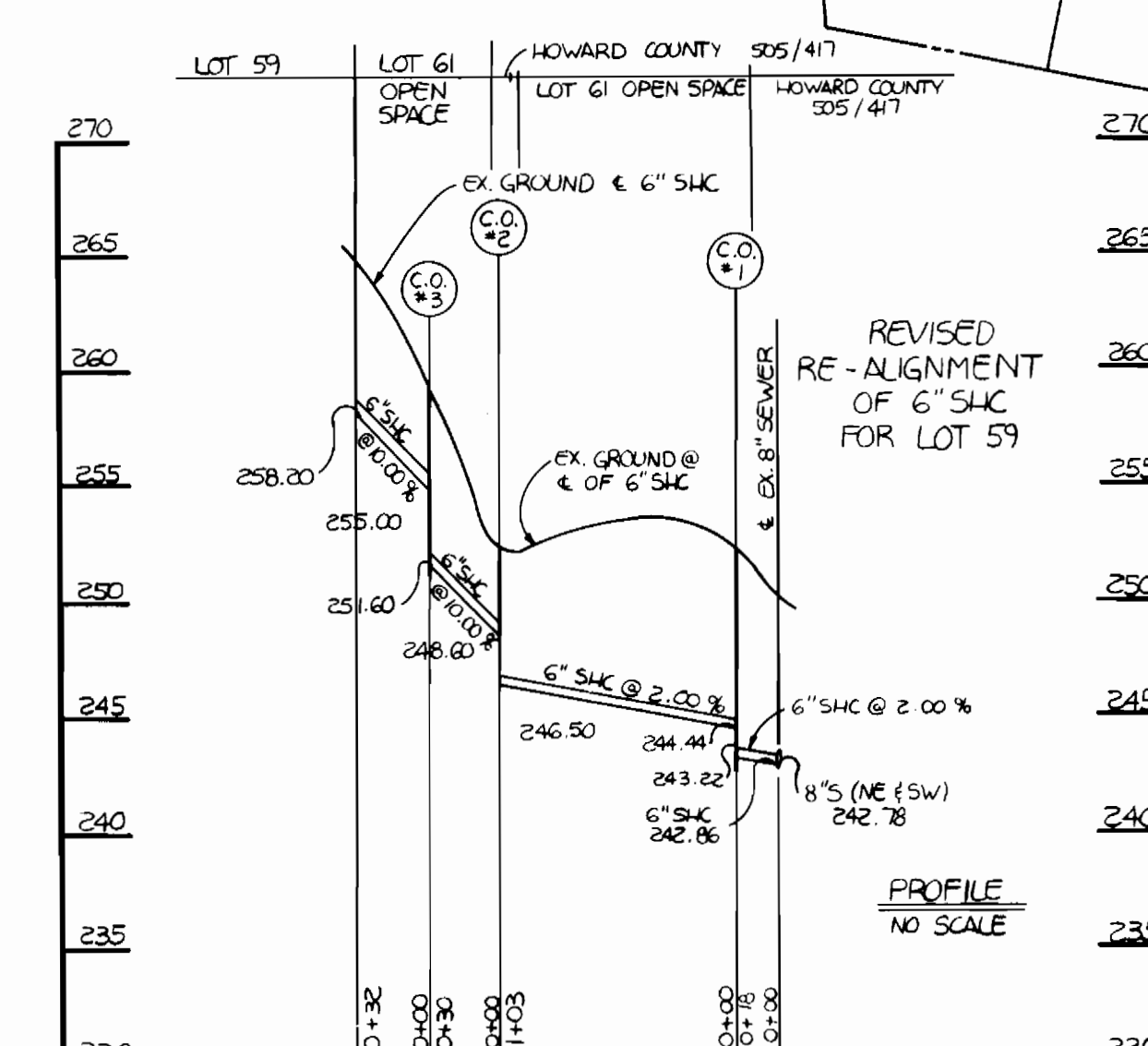
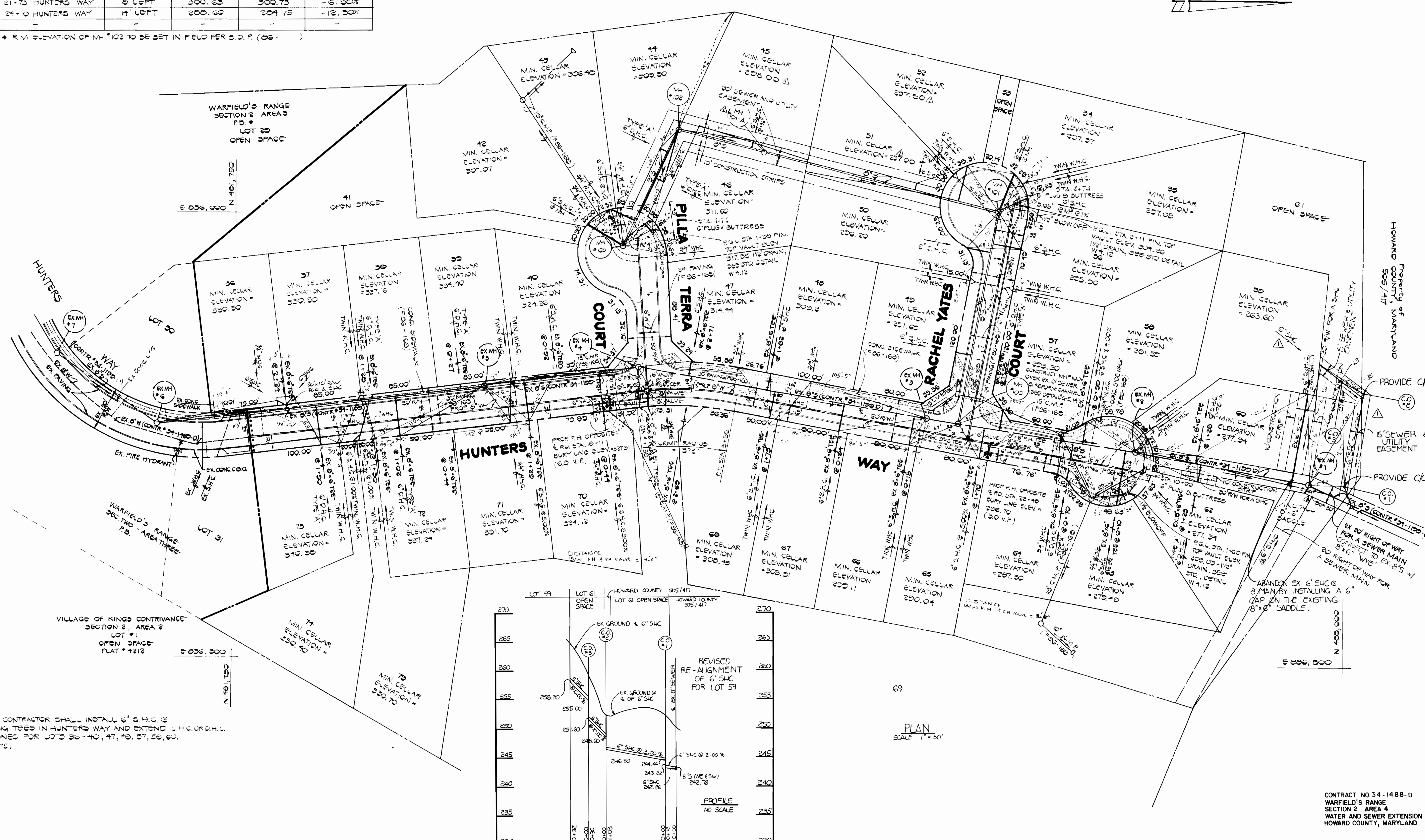
APPROVED:
Stephen J. Smith 6/25/86
HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James M. Nolas</i> 6/25/86 DIRECTOR OF PUBLIC WORKS DATE	FISHER, COLLINS, AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLKOTT CITY, MARYLAND 21043 <i>Terrell A. Fisher</i> 4/29/86 TERRELL A. FISHER DATE	DES. DEV. _____ DRN. J.O. _____ CHK. T.A.F. _____ DATE: 4/29/86	TITLE SHEET WARFIELD'S RANGE SECTION TWO AREA FOUR CONTRACT NO. 34-1488-D SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN SHEET 1 OF 3
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MANHOLE TABULATION					
NUMBER	ROAD STATION	DISTANCE	AS BUILT RIM	PROP. RIM	SLOPE
MH*100	22+00 HUNTERS WAY	5' LEFT	-	208.35	-6.00%
MH*101	-	-	-	303.71	+1.00%
MH*102	-	-	-	*	-
MH*103	-	-	-	317.85	-0.70%
EX. MH*5	16+73 HUNTERS WAY	20' LEFT	339.35	339.27	-7.00%
EX. MH*4	18+40 HUNTERS WAY	21' LEFT	321.43	323.25	-4.00%
EX. MH*3	21+73 HUNTERS WAY	8' LEFT	300.63	300.73	-6.50%
EX. MH*2	24+10 HUNTERS WAY	14' LEFT	289.60	284.75	-12.50%
EX. MH*1	-	-	-	-	-

Property of
HOWARD COUNTY, MARYLAND
505 / 417

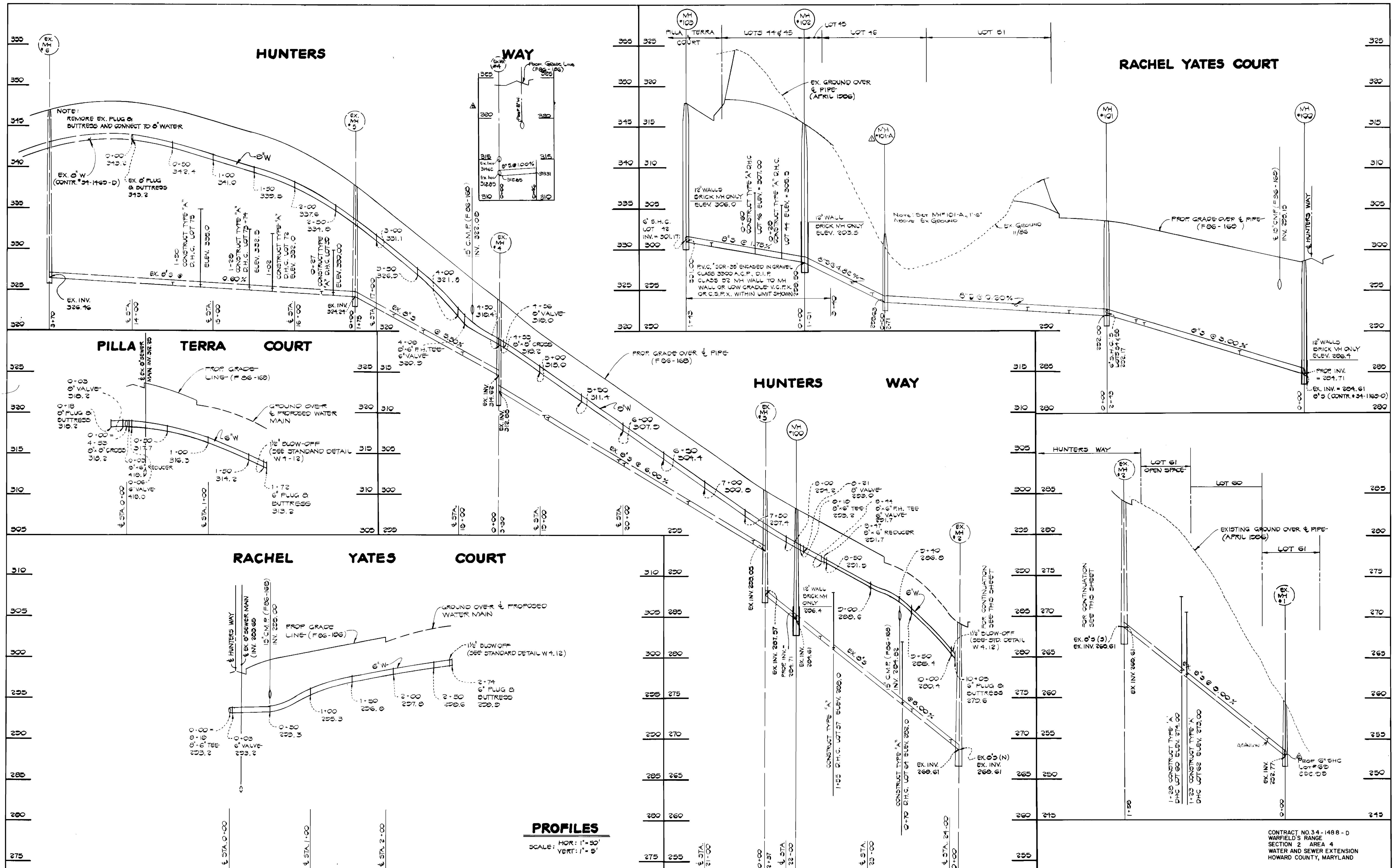
* RIM ELEVATION OF MH*102 TO BE SET IN FIELD PER S.O.P. (26-)



NOTE: CONTRACTOR SHALL INSTALL 6\"/>

CONTRACT NO. 34-1488-D
WARFIELD'S RANGE
SECTION 2 - AREA 4
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND <i>James A. ...</i> DIRECTOR OF PUBLIC WORKS <i>Robert W. Wood</i> CHIEF, BUREAU OF UTILITIES	FISHER, COLLINS AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLICOTT CITY, MARYLAND 21043 <i>Terrell A. Fisher</i> TERRELL A. FISHER, DATE	DES: DEV.	SH Δ D.A.N. Δ CHK: T.A.F. D.A.N. Δ DATE: 4/28/86	REVISE LOCATION OF SHC ADD 8\"/>	3/12/90 1/7/87 12/8/86	PLAN WATER AND SEWER MAINS 600' SCALE MAP NO. 31 BLOCK NO. 24	WARFIELD'S RANGE SECTION 2 - AREA 4 CONTRACT NO. 34-1488-D SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	SCALE AS SHOWN
		SHEET 2 OF 3						



PROFILES

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

FISHER, COLLINS, AND CARTER, INC.

CONSULTING ENGINEERS AND LAND SURVEYORS
8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

DES: D. E. V.

DRN: J. O.

CHK: T. A. F.

DATE: 4/29/86

DAN	ADD WHC SHK TO LOT #60 & 61 CENTER @ NHT# EASTERLY	1/7/87
DAN	INSTALL ADDITIONAL MHP#101-A BETWEEN MHP#101 & MHP#102	12/8/85
BY: NO.	REVISION	DATE

PROFILES
WATER & SEWER MAINS

600' SCALE MAP NO. 41 BLOCK NO. 24

WARFIELD'S RANGE
SECTION 2 AREA 4
CONTRACT NO. 34-1488-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 3

CONTRACT NO. 34-1488-D
WARFIELD'S RANGE
SECTION 2 AREA 4
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND