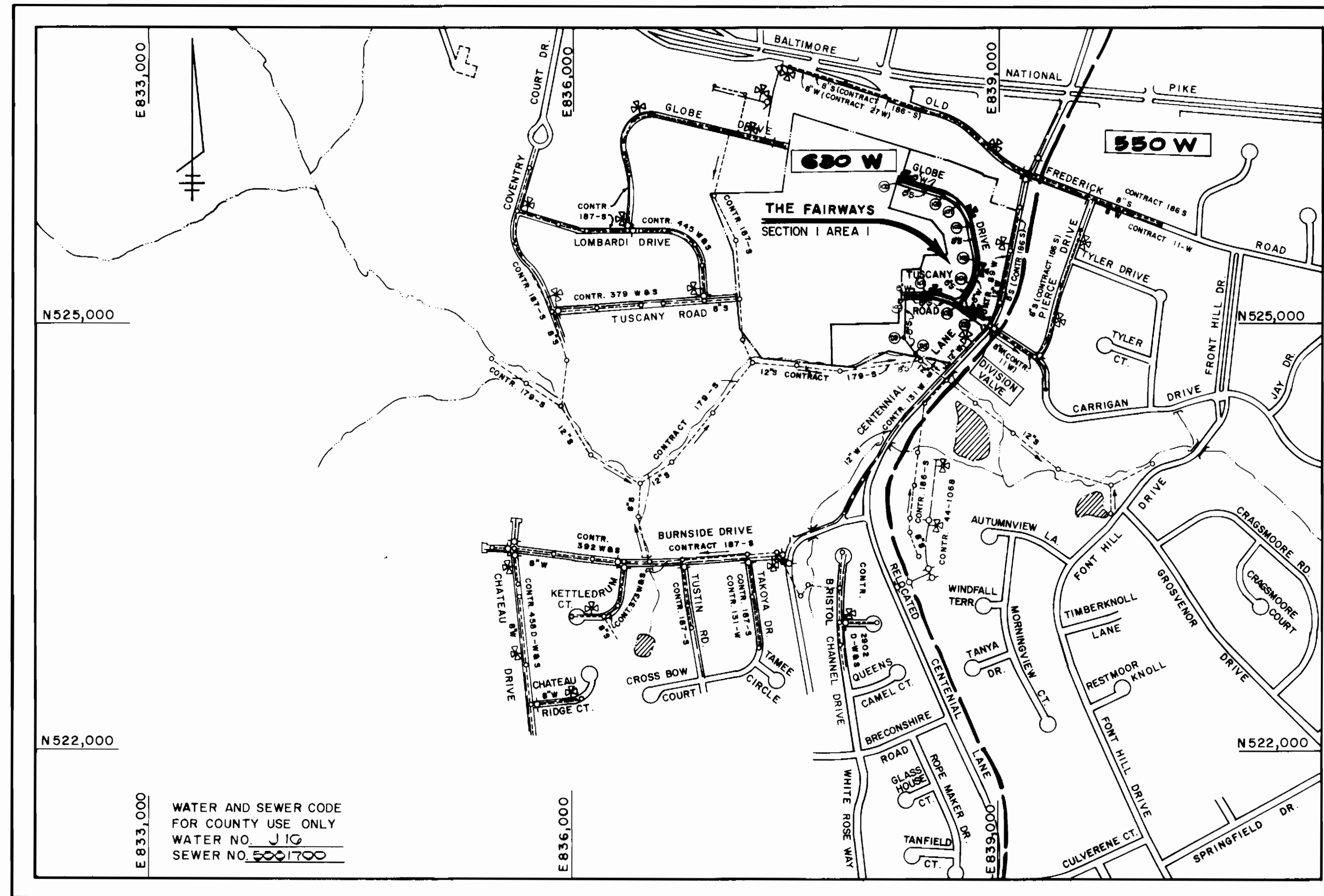


QUANTITIES			
ITEM	ESTIMATE	AS-BUILT	SUPPLIER
6" WATER	186' L.F.	187' L.F.	GRiffin PIPE PRODUCTS
6" WATER	50' L.F.	90' L.F.	"
12" 75# 6" V	1 EACH	1 EACH	WATERWORKS, INC.
3/4" W.H.C.	446' L.F.	434' L.F.	"
1" W.H.C.	272' L.F.	286' L.F.	"
FIRE HYDRANT	5 EACH	5 EACH	"
6" VALVES	3 EACH	3 EACH	"
6" SEWER	2,150' L.F.	2,136' L.F.	WATERWORKS, INC.
6" SEWER	1,115' L.F.	1,200' L.F.	WATERWORKS, INC.
MANHOLES	12 EACH	12 EACH	ATLANTIC PREPARED

* THIS SHEET 270 FUTURE EXTENSION



TYPE OF BUILDING	RESIDENTIAL
NUMBER OF LOTS	42 (41 BUILDABLE)
NO. OF WATER HOUSE CONNECTIONS	37
NO. OF SEWER HOUSE CONNECTIONS	38
DRAINAGE AREA	LITTLE PATUXENT

SCALE: 1" = 600'

CONTRACT NO. 24-1475-D

THE FAIRWAYS

SECTION 1 AREA 1

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
 - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9013
 - MISS UTILITY: 1-559-0100
 - 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 F86-155.

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

John M. Hillman 7-2-86
US SOIL CONSERVATION SERVICE DATE

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

APPROVED:
Stacy R. Ash 7/2/86
HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 24-1475-D
THE FAIRWAYS
SECTION 1 AREA 1
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND	
<i>Shirley F. Neuman</i> 7-2-86 DIRECTOR OF PUBLIC WORKS DATE	<i>William R. Ray</i> 7-2-86 CHIEF, BUREAU OF ENGINEERING DATE
<i>Robert M. Beaman</i> 7-7-86 CHIEF, BUREAU OF UTILITIES DATE	<i>William R. Ray</i> 7-8-86 CHIEF, LAND DEVELOPMENT DIVISION DATE

FISHER, COLLINS, AND CARTER, INC. CONSULTING ENGINEERS AND LAND SURVEYORS 8388 COURT AVENUE ELLCOTT CITY, MARYLAND 21043	
<i>James O. Fisher</i>	
DATE: 4/2/86	

DES. D.B.S.					
URN. D.B.S.					
CHK. T.A.F.					
DATE: 4/2/86	BY	NO.	REVISION	DATE	600 SCALE MAP NO. 24

TITLE SHEET

THE FAIRWAYS SECTION 1 AREA 1 CONTRACT NO. 24-1475-D SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 4

MANHOLE TABLE

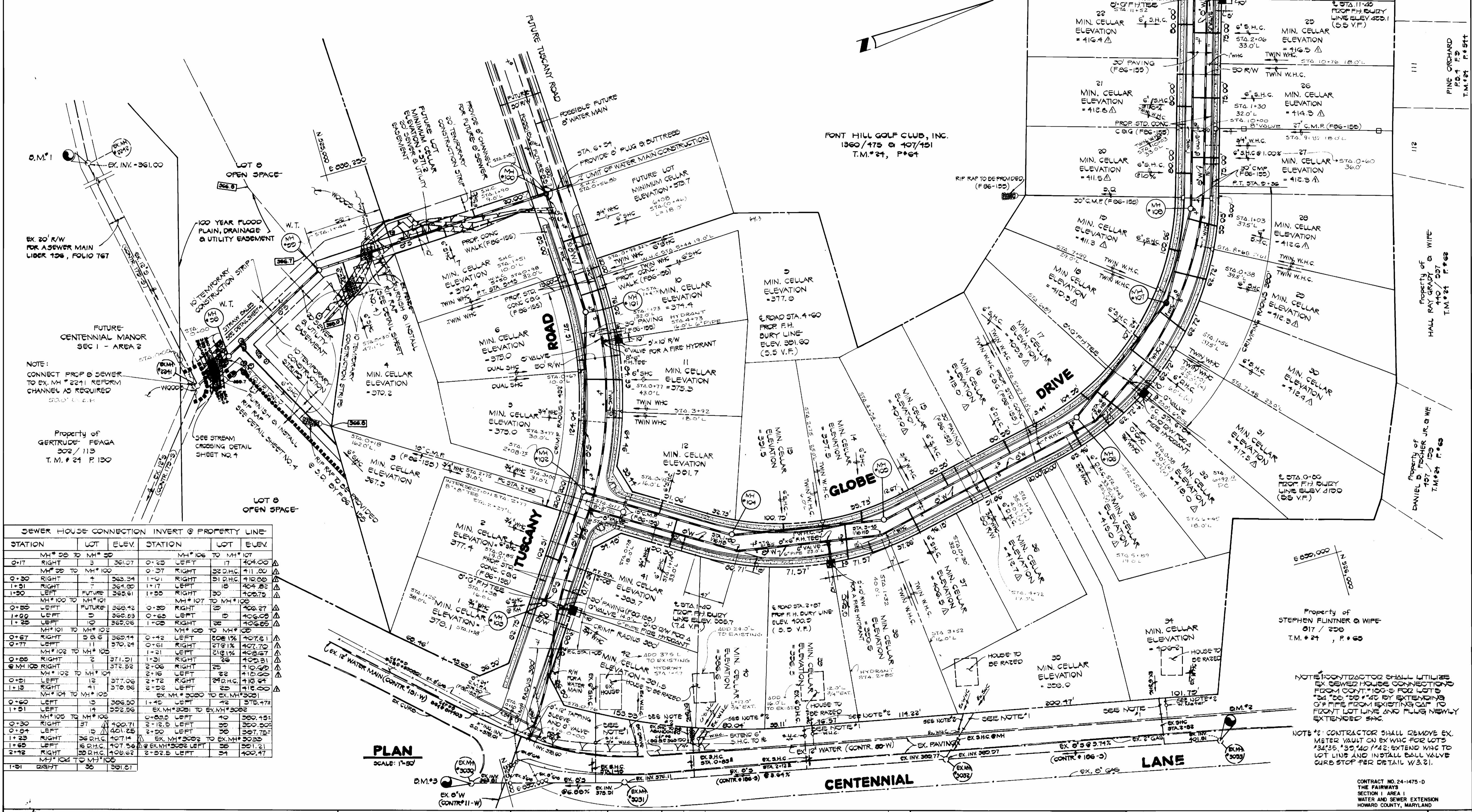
NO.	RD. STA.	DIST.	RIM	SLOPE
100	6+40	7' LT.	378.00	-1.5%
101	4+57	6' LT.	380.12	-1.5%
102	2+80	6' LT.	383.60	-1.5%
103	1+45	7' LT.	385.12	+0.8%
104	1+73	5' LT.	391.30	+6.4%
105	3+85	5' LT.	406.80	+8.8%
106	6+10	8' LT.	418.74	+0.7%
107	7+86	5' LT.	418.80	-1.5%
108	2+04	7' LT.	418.45	-0.1%
109	12+01	7' LT.	426.20	+7.5%

BENCH MARKS

B.M.#1 ELEV. 369.21
X-CUT IN RIM OF EX. SANITARY MH # 3242

B.M.#2 ELEV. 414.53
X-CUT IN RIM OF EX. SANITARY MH # 3033, CENTENNIAL LANE

B.M.#3 ELEV. 376.25
X-CUT IN RIM OF EX. SANITARY MH # 3030, CENTENNIAL LANE



SEWER HOUSE CONNECTION INVERT @ PROPERTY LINE

STATION	LOT	ELEV.	STATION	LOT	ELEV.
MH# 50 TO MH# 55			MH# 106 TO MH# 107		
0+17 RIGHT	3	361.07	0+25 LEFT	17	404.00
MH# 55 TO MH# 100			0+37 RIGHT	22 D.H.C.	411.80
0+30 RIGHT	4	363.34	1+01 RIGHT	31 D.H.C.	418.80
1+31 RIGHT	7	364.80	1+17 LEFT	18	404.82
1+30 LEFT	FUTURE	362.61	1+50 RIGHT	30	409.79
MH# 100 TO MH# 101			MH# 107 TO MH# 109		
0+85 LEFT	FUTURE	368.42	0+30 RIGHT	29	406.27
1+00 LEFT	5	368.83	0+65 LEFT	19	406.09
1+25 LEFT	10	367.06	1+08 RIGHT	28	406.85
MH# 101 TO MH# 102			MH# 109 TO MH# 110		
0+67 RIGHT	5 B.C.	369.14	0+42 LEFT	18 B.C.	407.81
0+77 LEFT	11	370.24	0+61 RIGHT	27 B.C.	407.70
MH# 102 TO MH# 103			1+31 LEFT	21 B.C.	408.67
0+85 RIGHT	2	371.51	1+31 RIGHT	26	409.81
MH# 103 RIGHT	1	373.52	2+06 LEFT	25	410.69
MH# 102 TO MH# 104			2+16 LEFT	22	410.00
0+91 LEFT	12	377.06	2+72 RIGHT	24 D.H.C.	418.97
1+13 RIGHT	41	378.86	2+22 LEFT	23	416.00
MH# 104 TO MH# 105			EX. MH# 3030 TO EX. MH# 3031		
0+60 LEFT	13	386.50	1+45 LEFT	42	378.474
1+51 LEFT	14	382.56	EX. MH# 3031 TO EX. MH# 3032		
MH# 105 TO MH# 106			0+85 LEFT	40	380.451
0+30 RIGHT	37	400.71	2+12.5 LEFT	39	380.503
0+04 LEFT	15	401.25	2+20 LEFT	38	387.757
1+23 RIGHT	36 D.H.C.	407.14	EX. MH# 3032 TO EX. MH# 3033		
1+65 LEFT	16 D.H.C.	407.56	EX. MH# 3032 LEFT	36	391.21
2+72 RIGHT	33 D.H.C.	408.62	2+25.5 LEFT	34	400.47
MH# 104 TO MH# 106					
1+51 RIGHT	30	391.01			

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

7-8-86
DATE

7-7-86
DATE

FISHER, COLLINS, AND CARTER, INC.
CONSULTING ENGINEERS AND LAND SURVEYORS

8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

DES: _____

DRN: _____

CHK: T.A.F. _____

DATE: 4/2/86

BY: DAN

NO. _____

REVISION _____

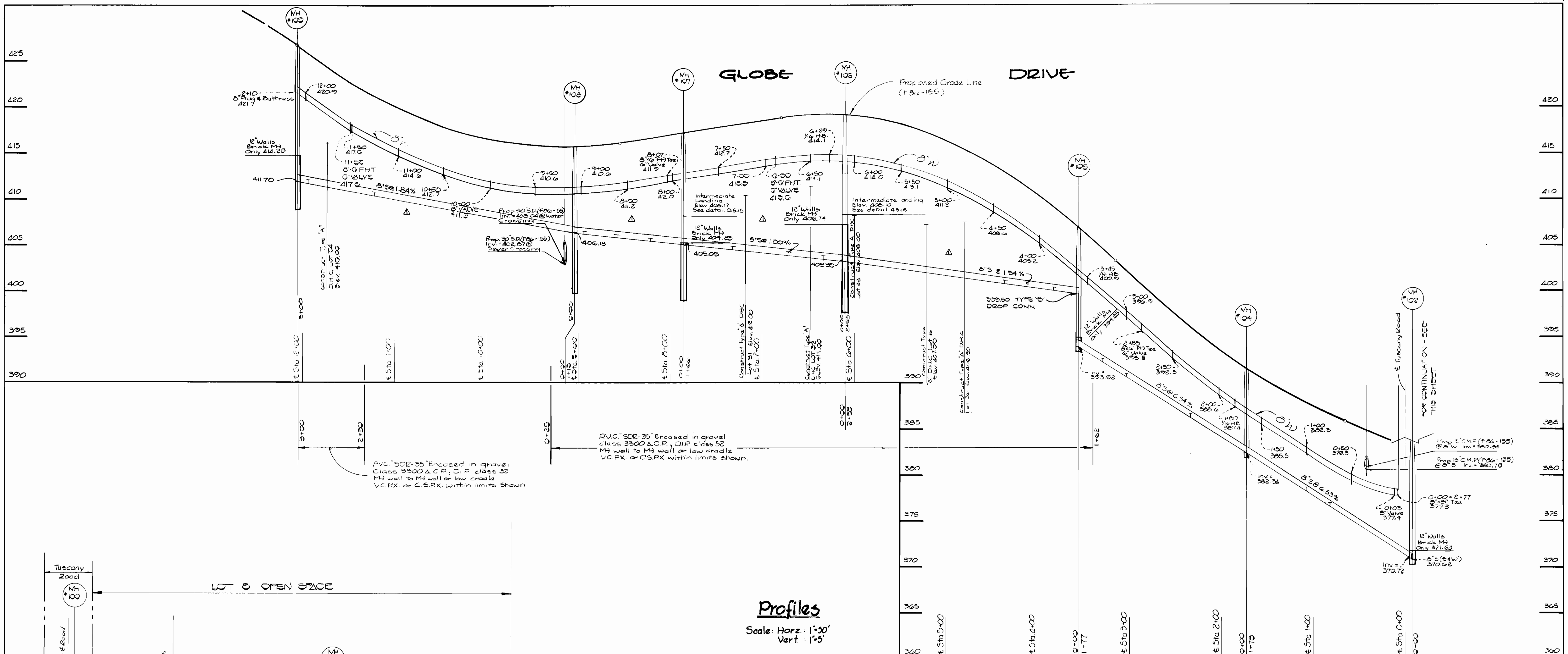
DATE: 12/8/86

PLAN
WATER AND SEWER MAINS

60' SCALE MAP NO. 24 BLOCK NO. _____

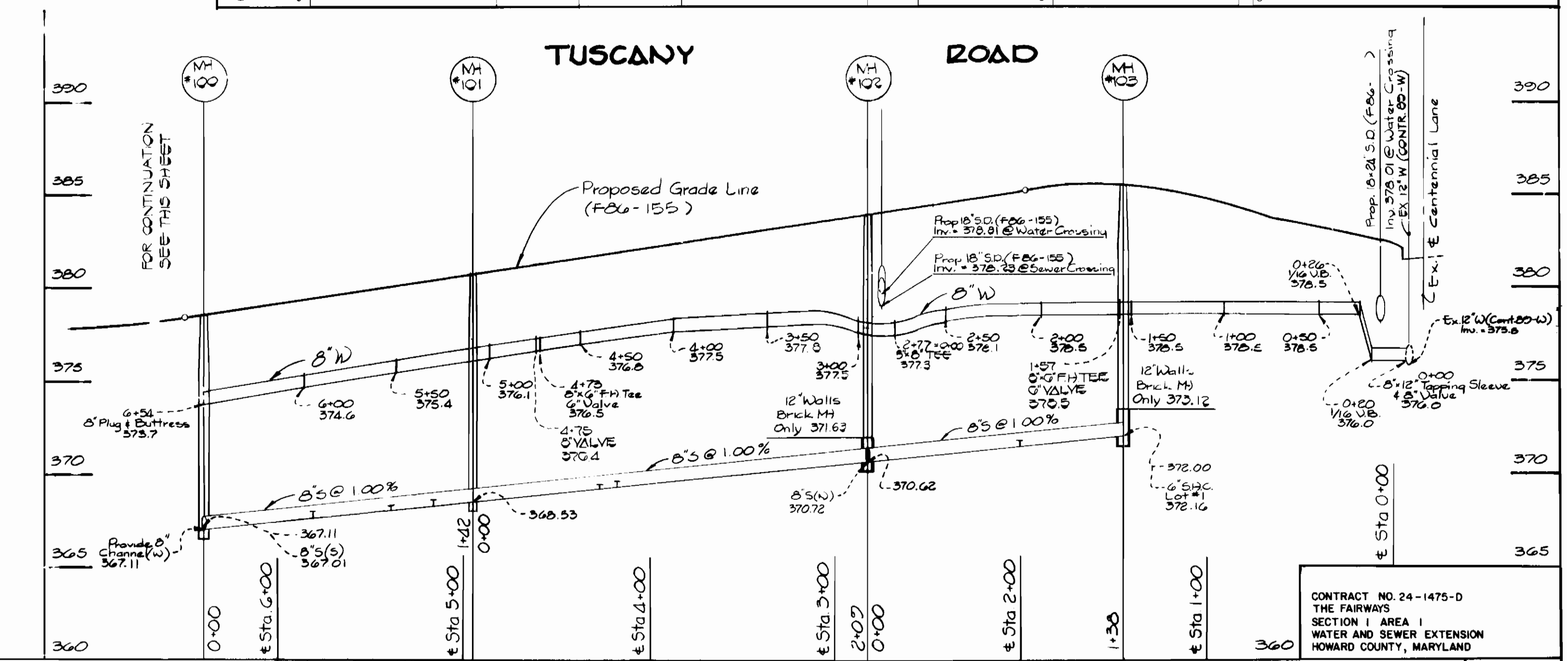
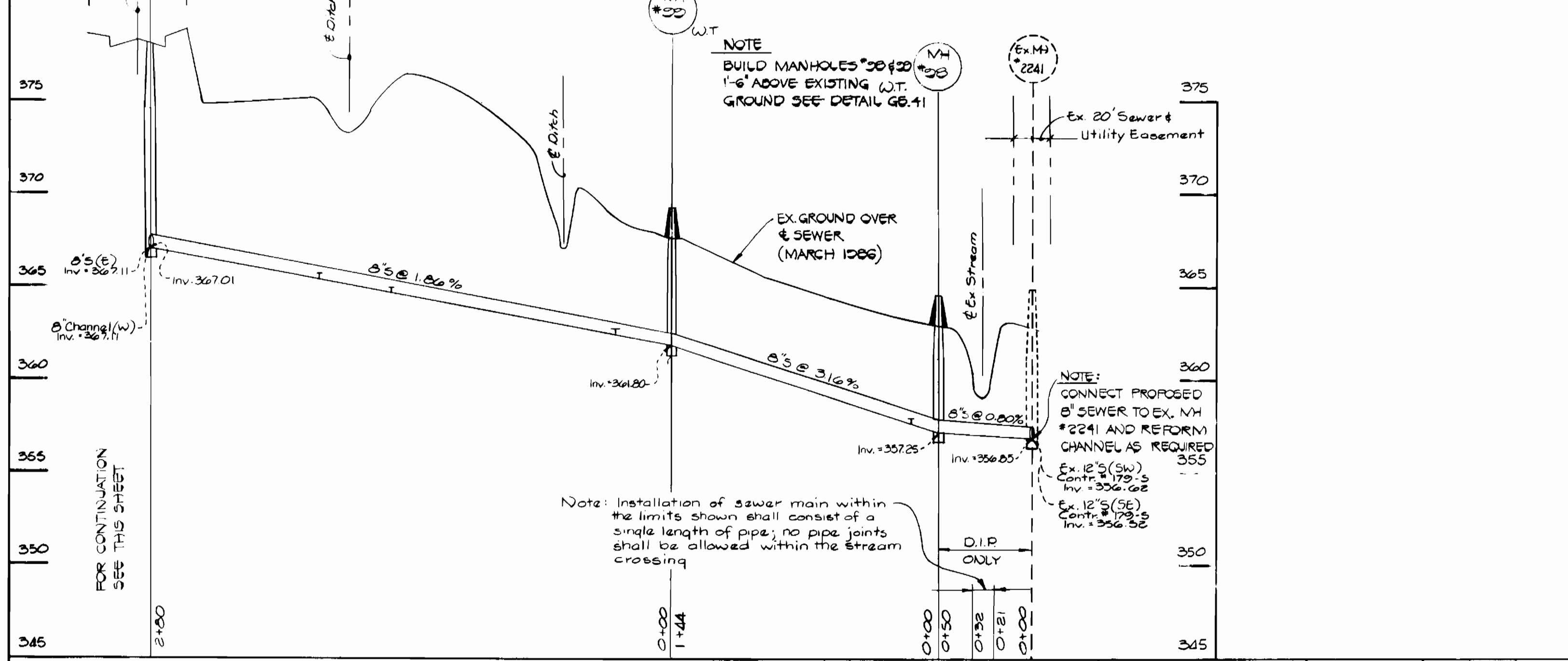
THE FAIRWAYS
SECTION I AREA I
CONTRACT NO. 24-1475-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 4



Profiles

Scale: Horiz. 1"=50'
Vert. 1"=5'



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Henry F. Neely 7-8-86
DIRECTOR OF PUBLIC WORKS DATE

Richard B. Smith 7-7-86
CHIEF, BUREAU OF UTILITIES DATE

William H. Fisher 7-8-86
CHIEF, LAND DEVELOPMENT DIVISION DATE

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

William H. Fisher
TERRELL A. FISHER DATE

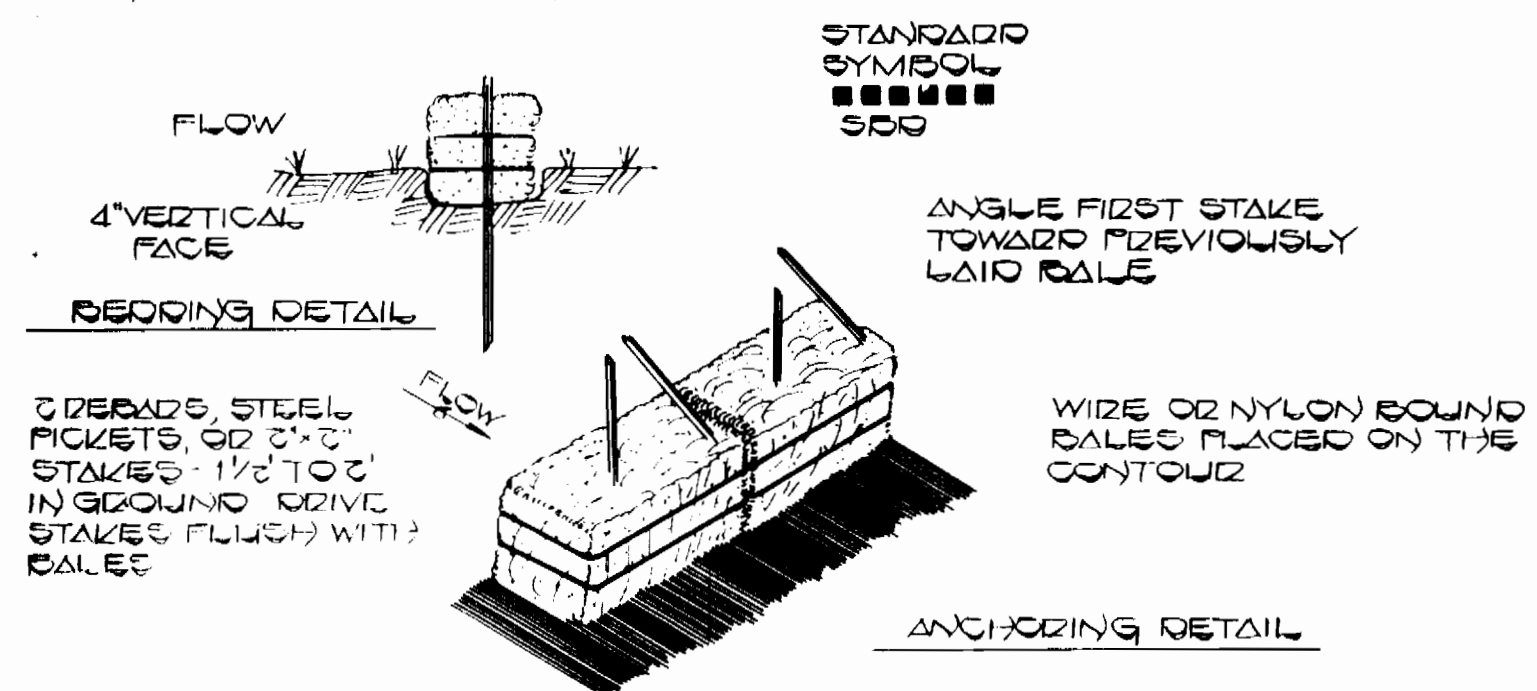
DES: D.E.V.	
DRN: J.A.H.	
CHK: T.A.F.	
DAN	CHANGE PROFILE OF SEWER MAIN BETWEEN MH 105 & 109 12/2/86
BY NO.	
REVISION	
DATE: 4/1/86	

PROFILES
WATER AND SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO. 1

THE FAIRWAYS
SECTION I AREA I
CONTRACT NO. 24-1475-D
SECOND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

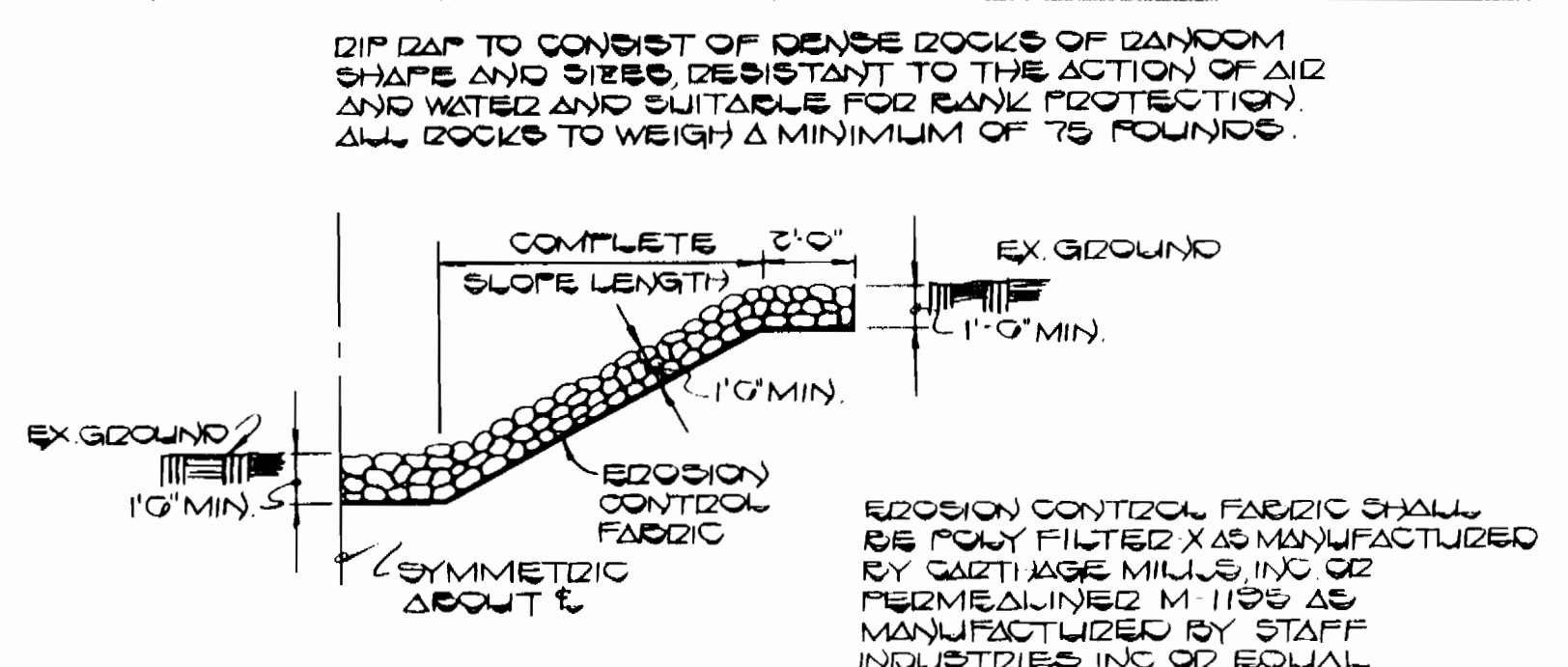
SCALE AS SHOWN
SHEET 3 OF 4



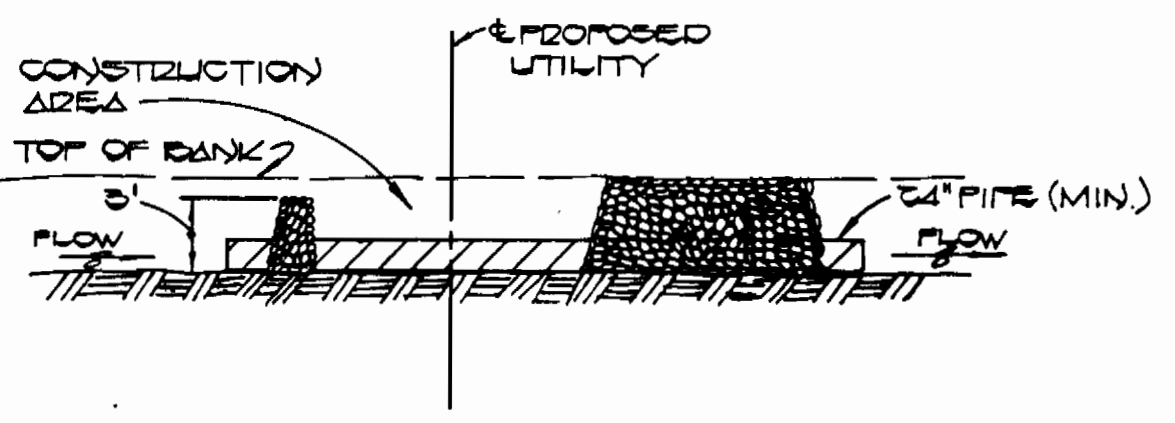
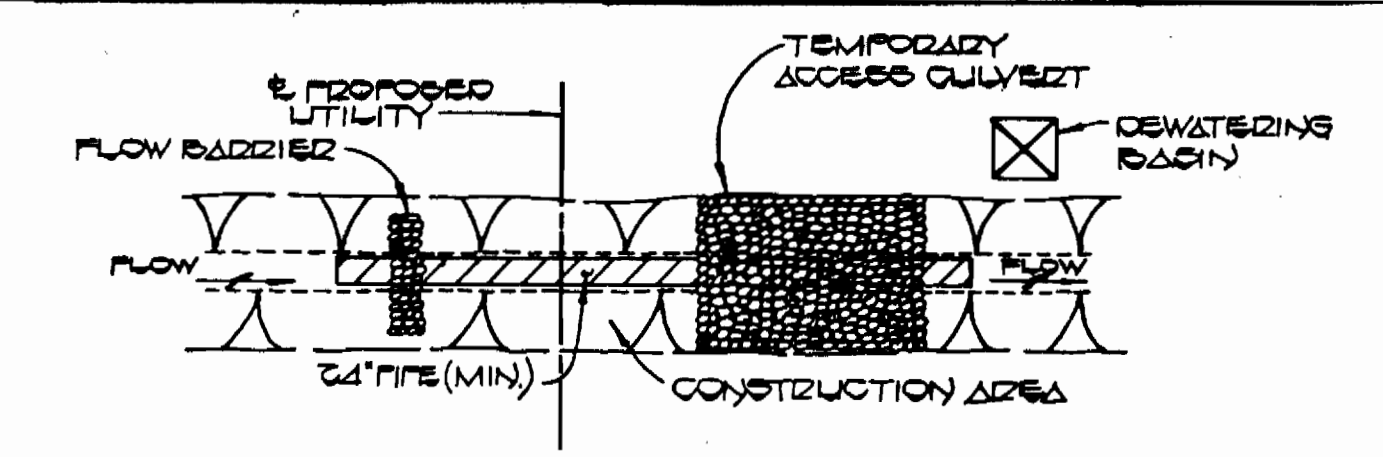
STRAW BALE DIKE
 NO SCALE

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ADJUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR DEBARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR / REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPERE STORM FLOW OR DRAINAGE.



UNGROUTED DIP ZAP DETAIL
 NO SCALE



STREAM CROSSING DETAIL
 NO SCALE

- CONSTRUCTION REQUIREMENTS:**
1. ALL EROSION AND SEDIMENT CONTROL DEVICES SHALL BE INSTALLED AS THE FIRST ORDER OF BUSINESS.
 2. PIPES MUST BE SIZED TO ACCOMMODATE THE NORMAL STREAM FLOW AND SHALL HAVE A MINIMUM DIAMETER OF AT LEAST 24-INCHES.
 3. ALL DEWATERING OF THE CONSTRUCTION AREA SHALL BE PUMPED TO A DEWATERING BASIN OR OTHERWISE FILTERED PRIOR TO RE-ENTERING THE STREAM.
 4. THE FLOW BARRIER SHALL BE A MINIMUM OF 3 FEET IN DEPTH AND BE CONSTRUCTED OF MATERIALS WHICH SHALL BE SIZED TO WITHSTAND NORMAL STREAM FLOW VELOCITIES.
 5. THE TEMPORARY CULVERT CROSSING SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD DETAIL (TAC-2), 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL.
 6. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED AREAS ARE STABILIZED AND THE INSPECTING AUTHORITY APPROVES THEIR REMOVAL.

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Robert W. Beninger
 CHIEF, BUREAU OF UTILITIES
 DATE: 7-7-86

Walter H. ...
 CHIEF, LAND DEVELOPMENT DIVISION
 DATE: 7-8-86

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

DATE: 4/3/86

DATE	BY	NO.	REVISION

DETAILS
WATER AND SEWER MAINS

DATE: 6/00 SCALE MAP NO. 24 BLOCK NO. 1

THE FAIRWAYS
 SECTION I AREA I
 CONTRACT NO. 24-1475-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 4 OF 4

CONTRACT NO. 24-1475-D
 THE FAIRWAYS
 SECTION I AREA I
 WATER AND SEWER EXTENSION
 HOWARD COUNTY, MARYLAND