

TYPE OF BUILDING	RESIDENTIAL
NO. OF LOTS	51
NO. OF WATER HOUSE CONN.	47
NO. OF SEWER HOUSE CONN.	47
DRAINAGE AREA	124,152

VICINITY MAP
SCALE: 1" = 600'

WATER AND SEWER CODE FOR COUNTY USE ONLY
WATER NO. E19
SEWER NO. J172000

BENCH MARKS

- B.M. No 1 ELEV 322.71
22 SPIKE IN 12" TREE, 50' NORTH OF MANHOLE #13 IN LOT 48 OPEN SPACE
- B.M. No 2 ELEV 322.92
X-CUT ON BONNET BOLT ON FIRE HYDRANT @ NW CORNER OF YELLOW BIRD COURT & DOVES FLY WAY (SEE VICINITY MAP)

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. & G.S. DATUM.
- 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. ANY COST INCURRED TO THE CONTRACTOR FOR TUNNELING OR BRACING AT POLES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR CONSTRUCTION OF THE MAIN.
- FOR DETAILS NOT SHOWN ON THE DRAWINGS USE HOWARD COUNTY STANDARD DETAILS.
- FOR MATERIALS AND CONSTRUCTION METHODS USE HOWARD COUNTY STANDARD SPECIFICATIONS.
- CONTRACTOR SHALL LOCATE EXISTING UTILITIES A MINIMUM OF TWO (2) WEEKS IN ADVANCE OF CONSTRUCTION OPERATIONS IN THE VICINITY OF PROPOSED UTILITIES AT HIS OWN EXPENSE.
- CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
 - BALTIMORE GAS AND ELECTRIC CO. - UNDERGROUND ELECTRIC DISTRIBUTION CUSTOMER SERVICE - (685-0123)
 - BALTIMORE GAS AND ELECTRIC CO. - UNDERGROUND GAS DISTRIBUTION CUSTOMER SERVICE - (685-0123)
 - ENGINEERING "DAMAGE CONTROL" - (234-5621)
 - "MISS UTILITY" - (1-559-0100)
 - CHESAPEAKE AND POTOMAC TELEPHONE CO. - (725-9976)
 - BUREAU OF UTILITIES, HOWARD COUNTY - (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 THE LINE OF EXCAVATION AS DIRECTED BY THE ENGINEER. PAYMENT FOR SUCH REMOVAL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE CONSTRUCTION OF THE MAIN.
- PLACE REGULATION "MEN WORKING" AND WARNING SIGNS AS REQUIRED TO COMPLY WITH MARYLAND STATE HIGHWAY ADMINISTRATION MANUAL OF TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION AND MAINTENANCE OPERATION.
- ALL WATER MAINS TO BE C.I.P., D.I.P. OR P.C.C.P. UNLESS OTHERWISE NOTED.
- TOP OF WATER MAINS SHALL HAVE A MINIMUM OF 3'-6" COVER UNLESS OTHERWISE NOTED.
- VALVES ADJACENT TO TEE SHALL BE STRAPPED TO TEES.
- BLOCK ALL FITTINGS WITH CONCRETE.
- BURY LINE ELEVATIONS ON FIRE HYDRANTS SHALL BE SET TO THE ELEVATIONS SHOWN ON THE DRAWINGS. ALL FIRE HYDRANTS SHALL BE STRAPPED AND BUTTRESSED WITH CONCRETE IN ACCORDANCE WITH STANDARD DETAILS. SOIL AROUND THE FIRE HYDRANTS TO BE COMPACTED IN ACCORDANCE WITH SECTION 37.01 AND 37.05 OF THE STANDARD SPECIFICATION.
- 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 SEWER MAINS SHALL BE C.S.P.X., 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.
- MANHOLE SHOWN WITH 12" AND 16" WALLS ARE BRICK MANHOLES ONLY.
- 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.
- ALL COPPER WATER HOUSE CONNECTIONS, UTILIZE FLARED TYPE FITTINGS ONLY.

ITEM	EST'D	AS-BUILT	SUPPLIER
8" SEWER	1040 LF	1837	SDR 35 P.V.C.
8" SEWER	1140 LF	1235	SDR 35 P.V.C.
MANHOLE	5 EA.	8	TERRE HILL
8" WATER	1275 LF	1912	GRIFFIN
8" WATER	25 LF	85	GRIFFIN
FIRE HYD.	5 EA.	5	U.S.P.
1" W.H.C.	315 LF	365	HOWELL METAL
3/4" W.H.C.	510 LF	631	HOWELL METAL
8" VALVE	2 EA.	2	U.S.P.

SEDIMENT CONTROL MEASURED FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH ARTICLE 18 OF THESE SPECIFICATIONS AND ALSO AS SHOWN ON THE GRADING AND SEDIMENT CONTROL PLAN F-24-08 REVIEW FOR HOWARD COUNTY SOIL CONSERVATION DISTRICT AND MEET TECHNICAL REQUIREMENTS

James M. Helms 8-30-83
U.S. SOIL CONSERVATION SERVICE DATE

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

APPROVED: *Am. Rowe* 8-30-83
HOWARD SOIL CONSERVATION DISTRICT DATE

CONTRACT NO. 24-1144-D
CARDINAL FOREST (SEC. 1 AREA 4)
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS

Shirley F. Neuman 9-2-83
DIRECTOR OF PUBLIC WORKS DATE

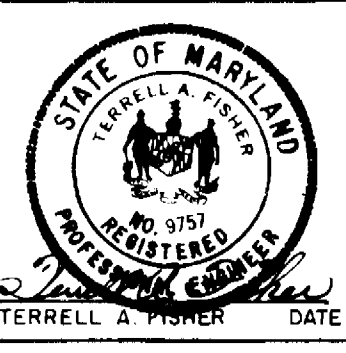
Robert W. Beisinger 9-2-83
CHIEF, BUREAU OF UTILITIES DATE

William S. King 9-7-83
CHIEF, BUREAU OF ENGINEERING DATE

William S. King 9-7-83
CHIEF, LAND DEVELOPMENT DIVISION DATE

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

8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043
461-2855



DES. T.A.F.	
DRAWN B.G.O.	
CHECKED T.A.F.	
DATE 7/21/83	
BY	NO.
REVISION	DATE

PLAN

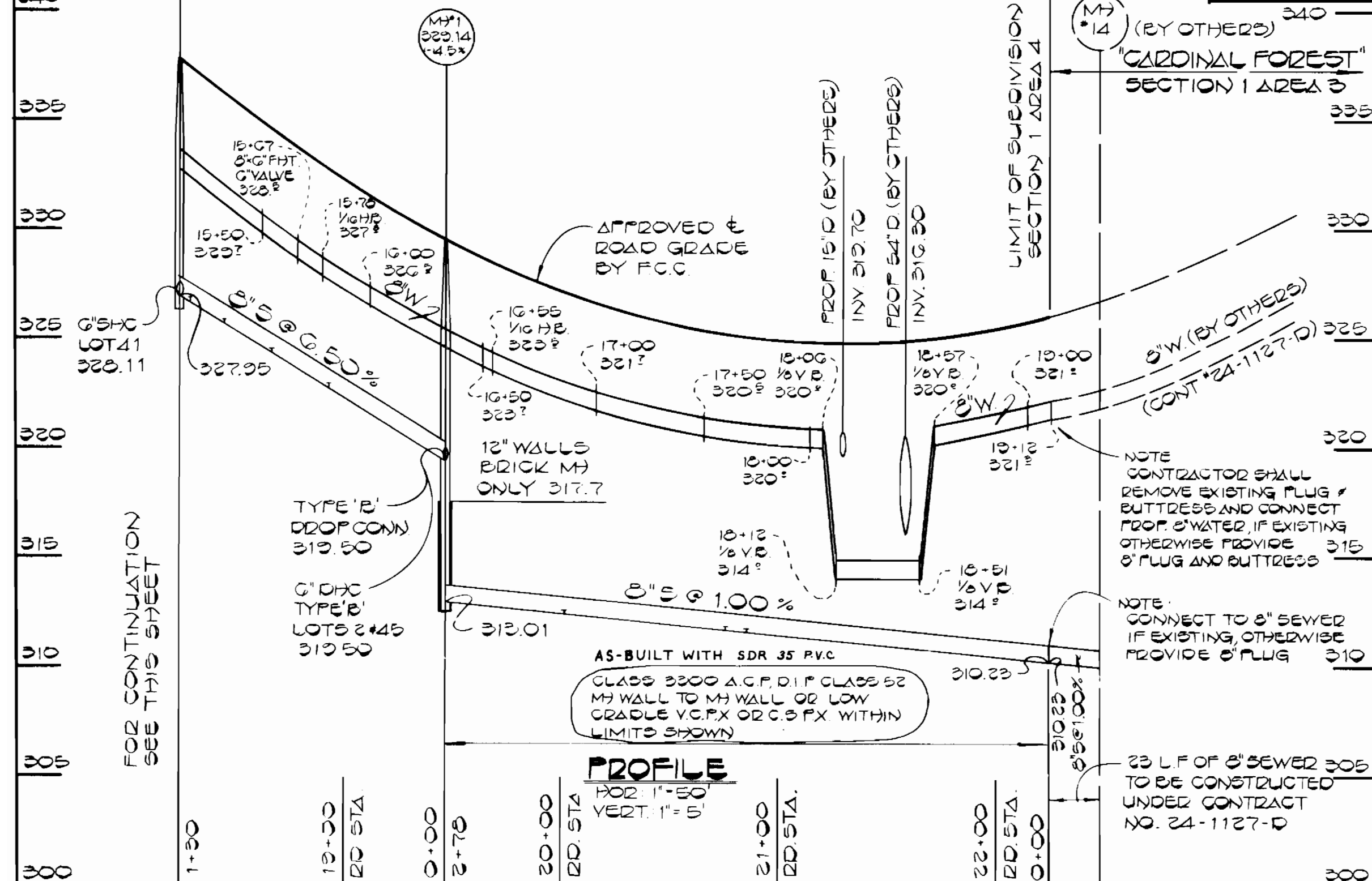
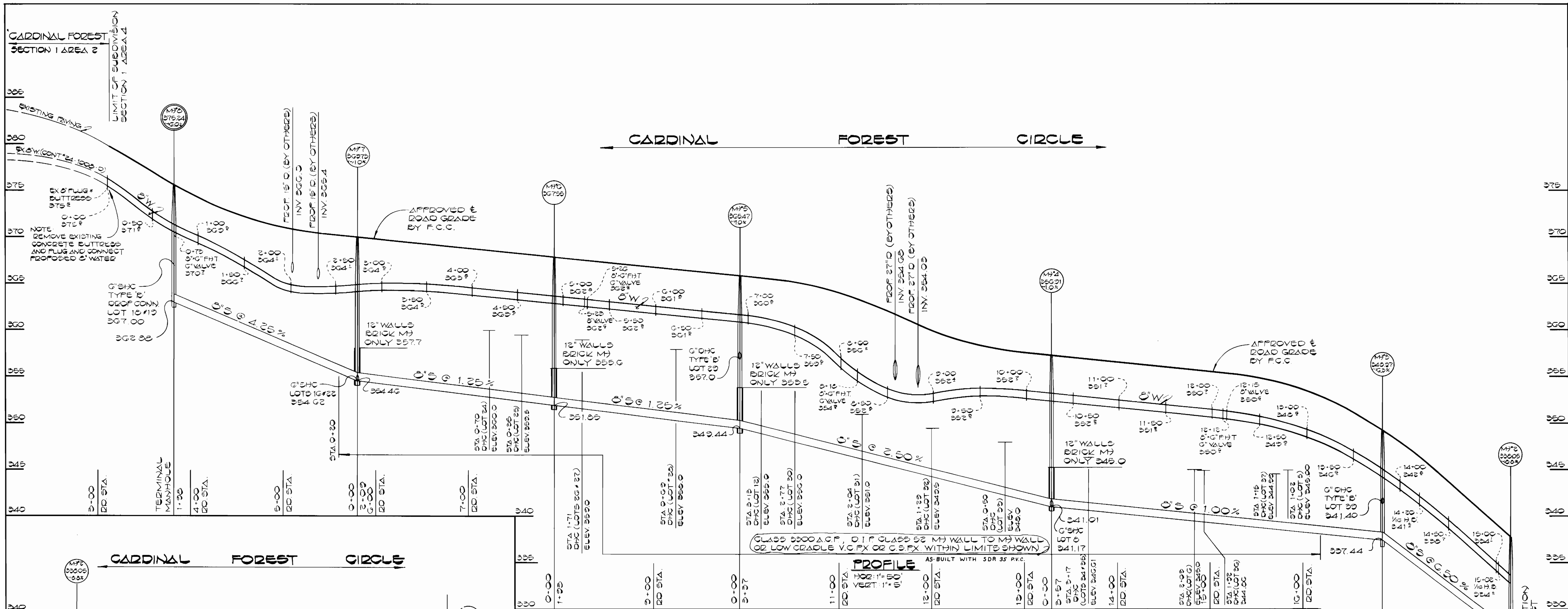
WATER AND SEWER MAINS

CARDINAL FOREST
SECTION 1 AREA 4

CONTRACT NO. 24-1144-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

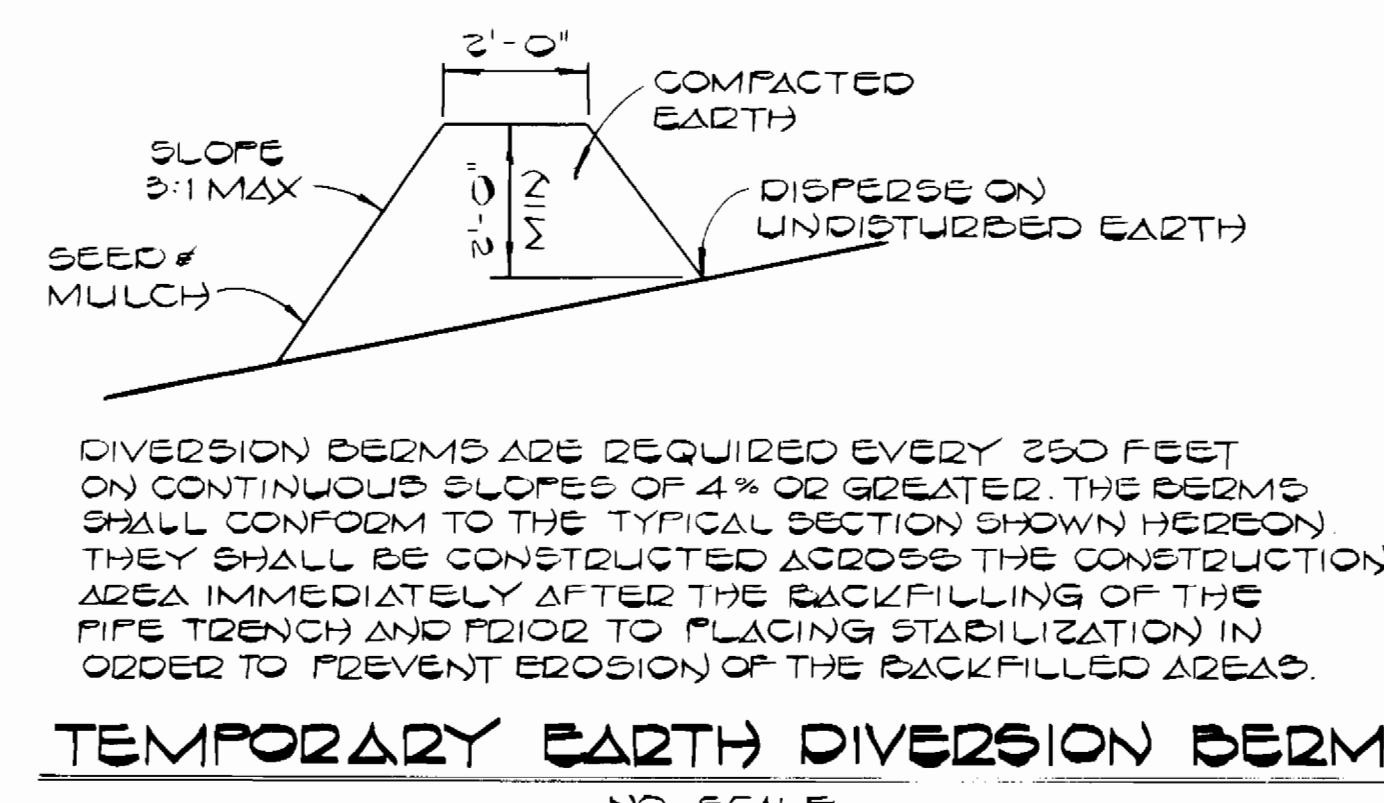
SCALE AS SHOWN

SHEET 1 OF 2



SEWER HOUSE CONNECTIONS INVERT ELEVATIONS AT PROPERTY LINE

STATION	LOT	INVERT	STATION	LOT	INVERT
FLUG TO MH#1					
1-30 LT	LOT 1	312.37	MH#5 TO MH#6	LOT 15	320.02
MH#1 LT	LOT 2	320.16	MH#6 LT	LOT 14	322.01
MH#1 RT	LOT 45	312.86	MH#6 RT	LOT 25	327.70
2-32 RT	LOT 46	312.87	MH#7 LT	LOT 26	320.86
1-45 RT	LOT 47	312.19	MH#7 RT	LOT 27	329.72
MH#1 TO MH#2					
MH#1 LT	LOT 3	320.10	MH#7 TO MH#8	LOT 16	325.23
MH#1 RT	LOT 4	320.10	MH#8 LT	LOT 24	320.82
MH#2 LT	LOT 48	312.71	MH#8 RT	LOT 24	320.84
MH#2 RT	LOT 49	312.71	MH#9 LT	LOT 25	324.40
MH#2 LT	LOT 42	322.05	MH#9 RT	LOT 26	325.10
MH#2 RT	LOT 41	322.15	MH#9 LT	LOT 16	325.08
MH#2 TO MH#3					
MH#2 LT	LOT 4	324.44	MH#9 TO MH#10	LOT 17	325.24
MH#2 RT	LOT 41	322.21	MH#10 LT	LOT 16	327.26
MH#3 LT	LOT 40	322.09	MH#10 RT	LOT 21	327.21
MH#3 RT	LOT 39	321.72	MH#10 LT	LOT 20	329.76
MH#3 TO MH#4					
MH#3 LT	LOT 5	345.36	MH#10 TO MH#11	LOT 10	327.76
MH#3 RT	LOT 6	345.36	MH#11 LT	LOT 10	325.25
MH#4 LT	LOT 7	342.07	MH#11 RT	LOT 11	347.15
MH#4 RT	LOT 33	341.72	MH#11 LT	LOT 33	325.04
MH#4 LT	LOT 38	320.42	MH#11 RT	LOT 33	320.14
MH#4 RT	LOT 37	345.23	MH#11 LT	LOT 31	321.04
MH#4 LT	LOT 36	345.50	MH#11 RT	LOT 30	322.04
MH#4 RT	LOT 35	347.25	MH#11 LT	LOT 29	327.70
MH#4 TO MH#5					
MH#4 LT	LOT 8	341.53			
MH#4 RT	LOT 9	345.25			
MH#5 LT	LOT 10	345.25			
MH#5 RT	LOT 11	347.15			
MH#5 LT	LOT 12	325.04			
MH#5 RT	LOT 33	320.14			
MH#5 LT	LOT 31	321.04			
MH#5 RT	LOT 30	322.04			
MH#5 LT	LOT 29	327.70			



DIVERSION BERMS ARE REQUIRED EVERY 250 FEET ON CONTINUOUS SLOPES OF 4% OR GREATER. THE BERMS SHALL CONFORM TO THE TYPICAL SECTION SHOWN HEREON. THEY SHALL BE CONSTRUCTED ACROSS THE CONSTRUCTION AREA IMMEDIATELY AFTER THE BACKFILLING OF THE PIPE TRENCH AND PRIOR TO PLACING STABILIZATION IN ORDER TO PREVENT EROSION OF THE BACKFILLED AREA.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

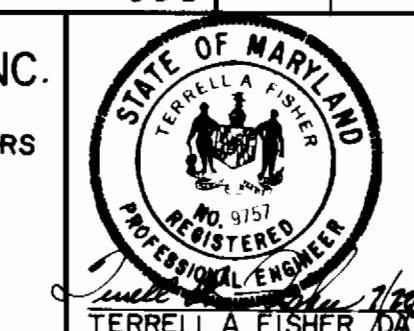
Director of Public Works: *Robert M. Bennett* 9-7-83
Date: 9-2-83

Chief, Bureau of Engineering: *Robert M. Bennett* 9-7-83
Date: 9-7-83

Chief, Land Development Division: *Robert M. Bennett* 9-7-83
Date: 9-7-83

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

8388 COURT AVENUE
ELLICOTT CITY, MARYLAND 21043
461-2855



DES. DBS.	DRN. DBS.	CHK. T.A.F.	DATE
			7/21/84
BY	NO.	REVISION	DATE

PROFILES AND DETAILS
WATER AND SEWER MAINS

CARDINAL FOREST
SECTION I AREA 4

CONTRACT NO. 24-1144-D
SIXTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 2