
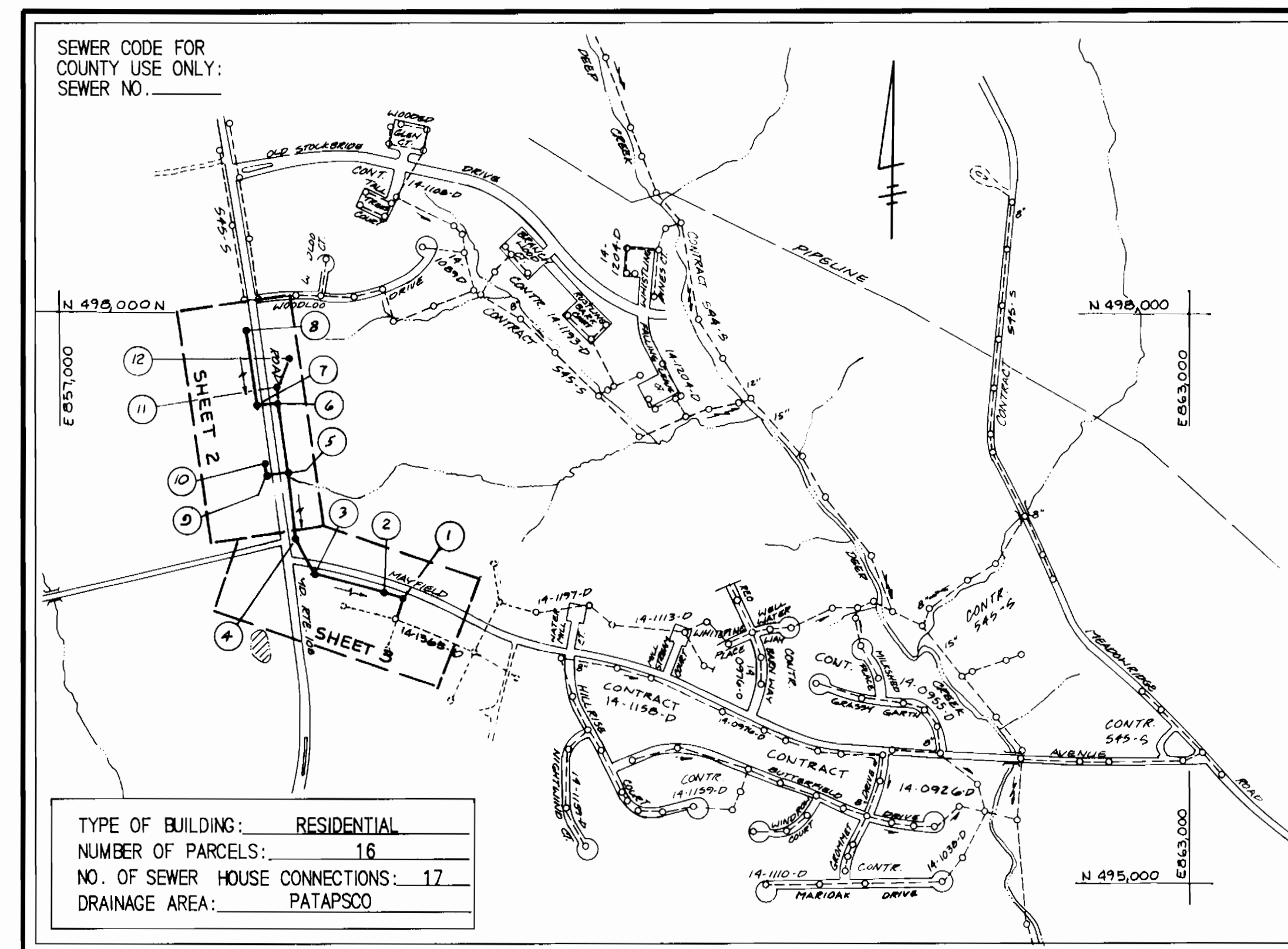


ROUTE 108 EAST SEWER CAPITAL PROJECT NO. S-6140

GENERAL NOTES

CONTRACT NO. 10-1351

- 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 SPECIFICATION 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 (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS:
STATE HIGHWAY ADMINISTRATION - 531-5533
BALTIMORE GAS & ELECTRIC COMPANY - CONTRACTOR SERVICES - 850-4620
BALTIMORE GAS & ELEC. CO. - UNDERGROUND DAMAGE CONTROL - 899-9004
BALTIMORE GAS & ELEC. CO. - TROUBLE SHOOTING - 296-9001
"MISS UTILITY" - 1-559-0100
COLONIAL PIPELINE COMPANY - 795-1390
BUREAU OF UTILITIES HOWARD CO. DEPT. OF PUBLIC WORKS - 992-2366
C&P - 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 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 BRICK MANHOLES ONLY.
- MANHOLES DESIGNATED W.T. IN PLAN AND PROFILE SHALL HAVE WATERTIGHT 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.
- HOUSE(S) WITH THE SYMBOL "C.N.S." INDICATE THAT CELLAR CANNOT BE SERVED.



LOCATION MAP

SCALE: 1" = 600'

FIRST ELECTION DISTRICT HOWARD COUNTY MARYLAND

SOIL EROSION AND SEDIMENT CONTROL NOTES

- THE CONTRACTOR WILL COMPLY WITH ALL REQUIREMENTS OF SEDIMENT AND EROSION CONTROL SET FORTH IN THE CONTRACT DRAWINGS, THE "MDS MARYLAND" STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND VOLUME IV - ARTICLE 219 OF THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV.
- THE CONTRACTOR SHALL NOT PUMP FROM EXCAVATED AREAS DIRECTLY INTO THE HOWARD COUNTY STORM DRAINAGE SYSTEM OR ANY NATURAL WATER COURSE, WHERE GROUND WATER IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE PORTABLE OR EXCAVATED SEDIMENT TRAPS TO PREVENT SILTED TRENCH WATER FROM ENTERING STORM DRAINAGE SYSTEMS OR NATURAL WATERWAYS.
- ALL EXCAVATED MATERIAL SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH WATER WHENEVER POSSIBLE, AND CONFINED TO AN AREA WHERE IT WILL NOT OBSTRUCT THE NORMAL FLOW OR DRAINAGE COURSES.
- ALL SWALES SHALL BE EQUIPPED WITH A SEDIMENT RETENTION DEVICE TO TRAP SEDIMENT AND FILTER WATER LEAVING THE RIGHT-OF-WAY PRIOR TO ENTERING ANY RUNNING STREAMS.
- THE CONTRACTOR SHALL PROVIDE STRAW BALE DIKES NORMAL TO SURFACE WATER FLOW AND AROUND ALL VEHICLE AND EQUIPMENT STAGING AREAS AS SHOWN IN "DETAIL OF A STRAW BALE DIKE" ENCLOSED IN SPECIFICATIONS.
- ROADSIDE DITCHES AND DRAINAGE PIPES SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THE ORIGINAL CONDITION FOLLOWING COMPLETION OF CONSTRUCTION.
- THE CONTRACTOR SHALL DISPOSE OF SPOILS IN ACCORDANCE WITH GOOD SOIL CONSERVATION PRACTICE AND IN SUCH A MANNER THAT NONE CAN BE CARRIED INTO ANY DRAINAGE FACILITY OR WATER COURSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF ALL SPOIL OR EXCESS EXCAVATED MATERIAL ON A SITE APPROVED BY THE SOIL CONSERVATION DISTRICT. DOCUMENTATION OF APPROVAL AND SITE SHALL BE PROVIDED TO THE ENGINEER PRIOR TO BEGINNING WORK.
- THE HOWARD COUNTY SOIL CONSERVATION DISTRICT MUST BE NOTIFIED IN WRITING BY THE CONTRACTOR AS TO WHERE EXCESS MATERIAL WILL BE DISPOSED OR BORROW MATERIAL WILL BE OBTAINED. PRIOR TO BEGINNING ANY WORK ON THIS PROJECT, COPIES SHALL BE PROVIDED TO THE ENGINEER.
- CONTINUOUS INSPECTION AND MAINTENANCE OF ALL SEDIMENT AND EROSION CONTROL DEVICES WILL BE REQUIRED.
- THE CONTRACTOR SHALL PROVIDE ADDITIONAL SOIL EROSION AND SEDIMENT CONTROL AS REQUIRED BY THE SEDIMENT CONTROL INSPECTOR, AS THE WORK PROGRESSES OR REQUIRES.
- THE CONTRACTOR SHALL NOTIFY IN WRITING, A HOWARD COUNTY SEDIMENT CONTROL DIVISION REPRESENTATIVE AT LEAST THREE (3) DAYS PRIOR TO STARTING WORK. PLEASE CONTACT: HOWARD COUNTY - 992-2436. COPIES SHALL BE PROVIDED TO THE ENGINEER.
- THE CONTRACTOR SHALL PLACE A STABILIZED CONSTRUCTION ENTRANCE AS SHOWN IN THE HOWARD COUNTY STANDARD DETAILS, G6.11, WHERE SHOWN ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- SEDIMENT REMOVAL - ALL TRAPPED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AT THE AUTHORIZED LANDFILLS PRIOR TO THE REMOVAL OF SEDIMENT CONTROL STRUCTURES.
- FOLLOWING INITIAL SOIL DISTURBANCE AND REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A.) SEVEN (7) CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1
B.) FOURTEEN (14) DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

ITEM	QUANTITIES		TYPE MATERIAL	SUPPLIERS
	ESTIMATE	AS BUILT		
8" SEWER (OPEN CUT)	2239 L.F.	2,215 L.F.	P.V.C.	BELAIR ROAD SUPPLY CO. INC.
8" SEWER W/ SLEEVE (JACK AND BORE)	116 L.F.	116 L.F.	D.I.P.	AS ABOVE + SEVE ON 3TL & EQUIP. INC.
8" SEWER W/ SLEEVE (OPEN CUT)	92 L.F.	68 L.F.	D.I.P.	AS ABOVE
MANHOLES	12 EA.	12 EA.	PRECAST CONC.	ATLANTIC CONC. PRODUCT INC.
6" S.H.C. & D.H.C.	319 L.F.	315 L.F.	P.V.C.	BELAIR ROAD SUPPLY CO. INC.

REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
John M. Kelle 4-2-86
U.S. SOIL CONSERVATION SERVICE DATE

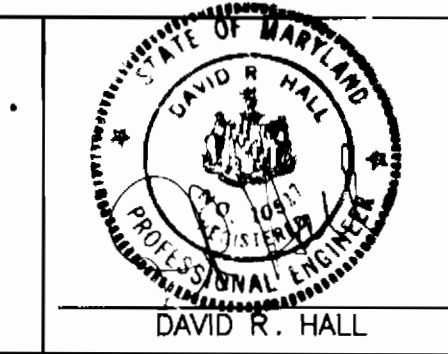
THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
Robert W. Zickler 4-2-86
APPROVED DATE
HOWARD COUNTY S.C.D.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS DATE: 3-25-86
CHIEF, BUREAU OF UTILITIES DATE: 3/25/86

CHIEF, BUREAU OF ENGINEERING DATE: 4/1/86
CHIEF, UTILITY DESIGN DIVISION DATE: 4/1/86

FREDERICK WARD ASSOC. INC.
ENGINEERS-ARCHITECTS-SURVEYORS
5 SOUTH MAIN STREET
BEL AIR, MARYLAND 21014
838-7900 879-2090



DES: S.R.B.
DRN: P.H.P.
CHK: D.W.
DATE: 3/8/85

BY: A.P. NO. 1 AS BUILT DATE: 4/31/87

TITLE SHEET
SEWER LINE

600' SCALE MAP NO. S-37 BLOCK NO. 14

ROUTE 108 EAST SEWER
CAPITAL PROJECT NO. S-6140
CONTRACT NO. 10-1351
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 1 OF 4

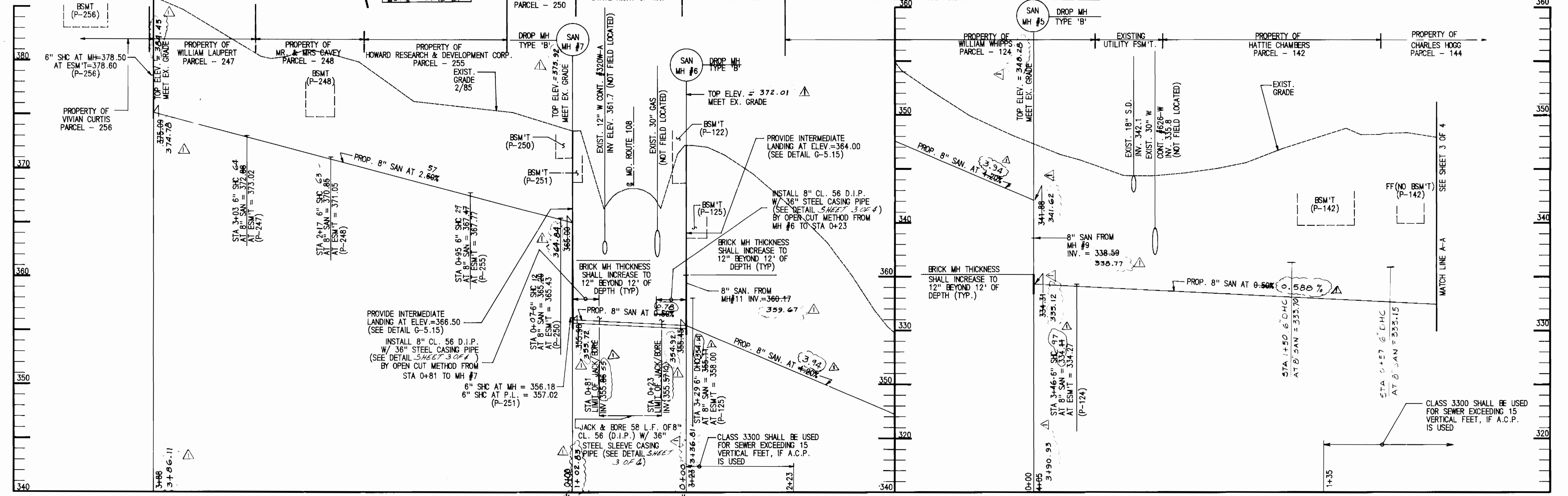
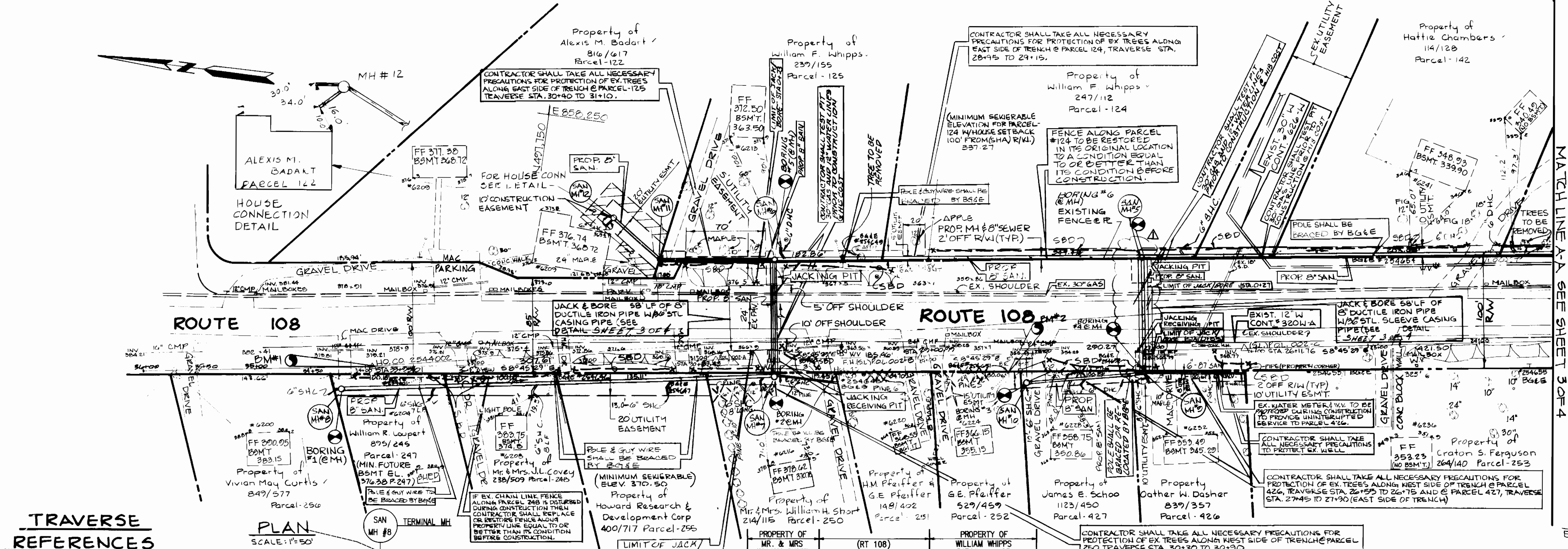
NOTE: FOR RESTORATION SCHEDULE SEE SHEET 4 OF 4

- BENCH MARKS**
- HOWARD COUNTY GEODETIC SURVEY MARKER #254400Z. LOCATED ON THE WEST SIDE OF RTE. 108, 1210' NORTH OF THE INTERSECTION OF MD. RTE. 108 & MAYFIELD AVE. ELEV. 384.01
 - R.R. SPIKE IN B&E POLE #254651. POLE LOCATED ON THE WEST SIDE OF RTE. 108 640' NORTH OF THE INTERSECTION OF MD. RTE. 108 & MAYFIELD AVE. ELEV. 359.11

MH NO	TRAVERSE STATION	OFFSET
5	28+71.71	87.23 RT
6	30+23.57	84.52 RT
7	30+35.74	12.32 LT
8	34+25.34	25.21 LT
9	29+12.38	10.26 LT
10	28+07.44	25.32 LT
11	31+27.58	21.27 RT
12	31+22.29	120.01 RT

NOTE: FOR PROFILE OF SAN FROM MH #4-14 & MH #14-15. SEE SHEET 4 OF 4

NOTE: A MINIMUM CLEARANCE OF 1' SHALL BE MAINTAINED FROM SEWER PIPE & UTILITY POLE



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS
Robert M. Baum
DATE: 3-25-86

CHIEF, BUREAU OF UTILITIES

FREDERICK WARD ASSOC. INC.
ENGINEERS-ARCHITECTS-SURVYORS
5 SOUTH MAIN STREET
BEL AIR, MARYLAND 21014
838-7900 879-2090

CHIEF, BUREAU OF ENGINEERING
Frederick Ward
DATE: 3/21/86

CHIEF, UTILITY DESIGN DIVISION

DES: S.R.B.
DRN: J.D.T.
CHK: D.W.
DATE: 1/24/86

A.P. AS BUILT
BY NO. REVISION

DATE: 8/31/87

**PLAN & PROFILES
SEWER LINE**

600' SCALE MAP NO. S-37 BLOCK NO. 14

ROUTE 108 EAST SEWER
CAPITAL PROJECT NO. S-6140
CONTRACT NO. 10-1351
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 2 OF 4

NOTE: FOR RESTORATION SCHEDULE SEE SHEET 4 OF 4

Property Of Thompson's Purchase Section 4 Area 1

- BENCH MARKS
- HOWARD COUNTY GEODETIC SURVEY MARKER #2544008, LOCATED ON THE EAST SIDE OF MD. RTE. 108 AT THE INTERSECTION OF MD. RTE. 108 & MAYFIELD AVE. ELEV. 345.89
 - RR SPIKE SET IN 6" x 6" POLE # 371425, POLE IS LOCATED ON THE NORTH SIDE OF MAYFIELD AVE. 600' WEST OF THE INTERSECTION OF MAYFIELD AVE. & HILLRISE CT. ELEV. 317.81

NOTE: MINIMUM BEHABLE ELEVATION FOR PARCEL 144 W/ HOUSE SET BACK 100' FROM C.S.U.C = 324.75

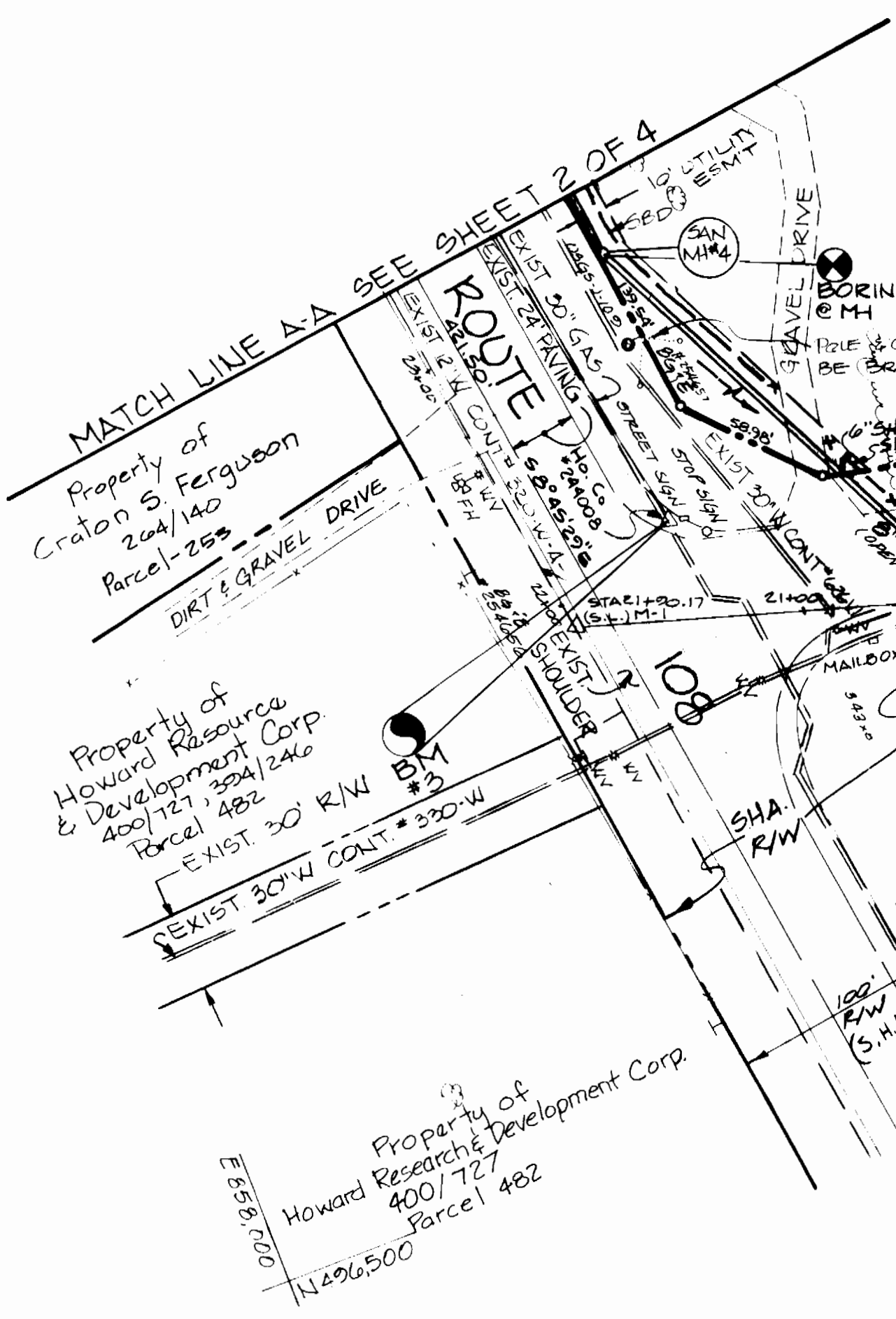
Property of Charles E. Hogg 1086/470 Parcel 144

Property of Sarah Elizabeth Matthews 205/262 Parcel 145

Property of Craion S. Ferguson 204/140 Parcel 253

Property of Howard Resource & Development Corp. 400/127, 330/246 Parcel 482

Property of Howard Research & Development Corp. 400/127, 330/246 Parcel 482

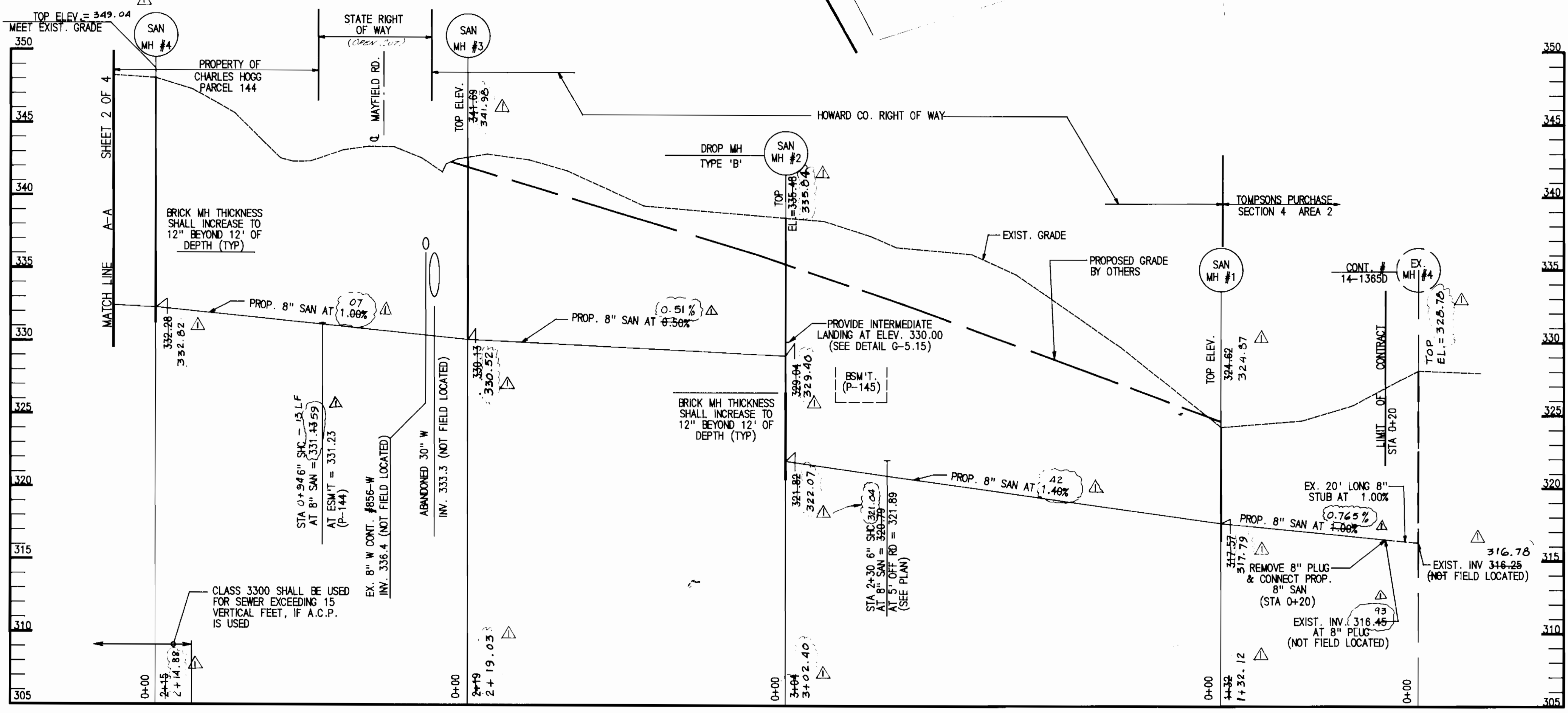
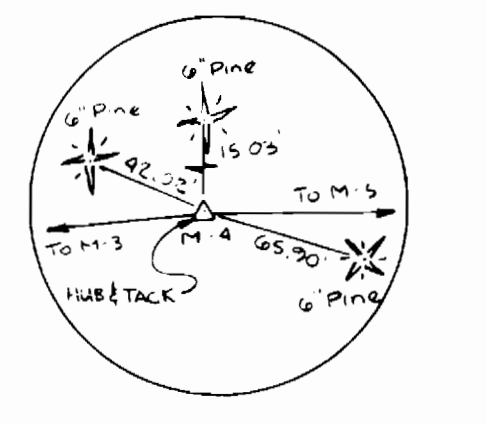
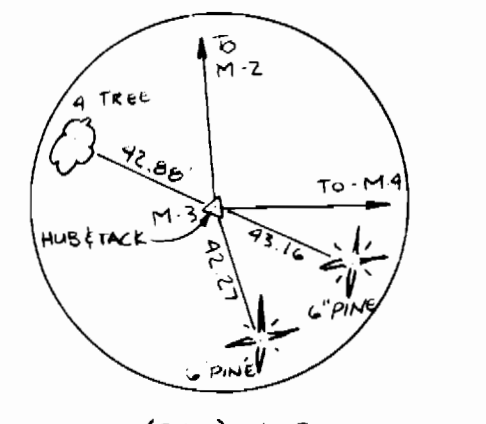
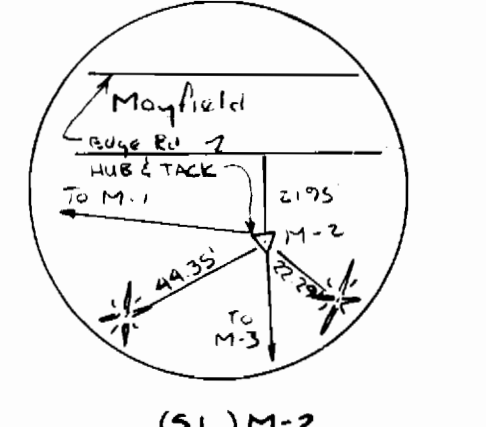
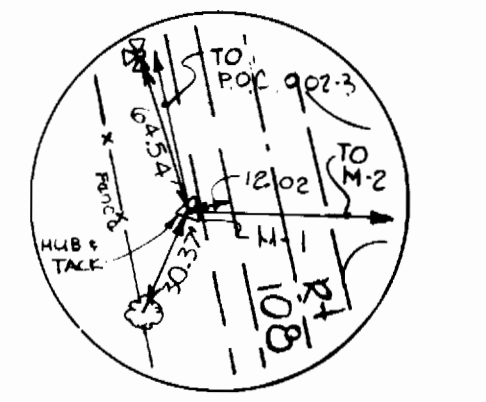


CONTRACTOR SHALL FIELD VERIFY B' STUB ELEVATION & ADJUST SEWER GRADE BETWEEN MH #1 & EX. MH #4 IF NECESSARY, BEFORE CONSTRUCTION.

MANHOLE LOCATION

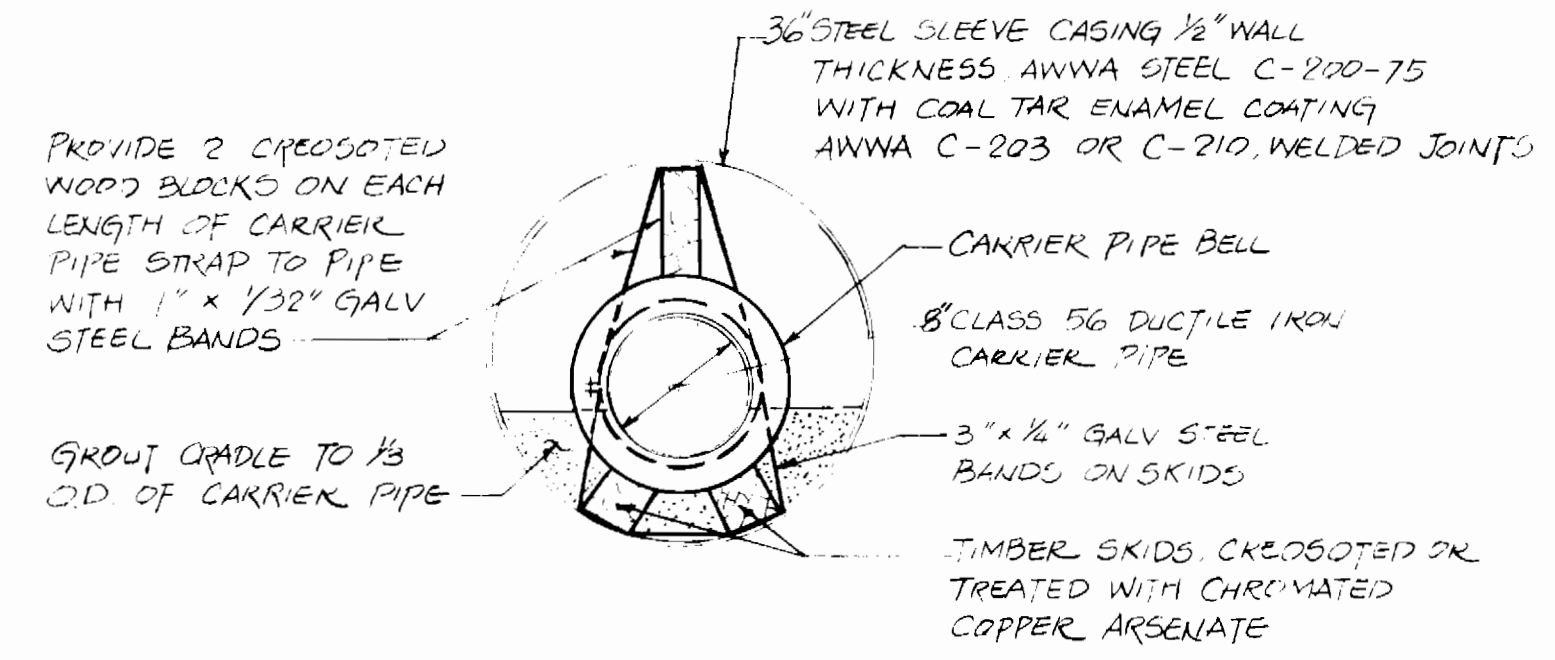
MH NO.	TRAVERSE STATION	OFFSET
EX. MH #1	13+59.60	1.51' LT.
1	13+60.78	130.37' RT.
2	18+03.05	462' LT.
3	20+22.89	18.77' LT.
4	23+06.09	77.06' RT.
EX. MH #5	13+60.23	0.66' LT.
1	13+63.51	130.78' RT.
2	18+03.33	1.52' LT.
3	20+23.66	17.64' LT.
4	23+07.32	79.32' RT.

TRAVERSE REFERENCES



SEWER PROFILES

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



JACKING & BORING CASING DETAIL

- NOTE
- ANNULAR SPACE AT EACH END OF CASING SHALL BE SEALED WITH 1/2" CEMENT GROUT
 - REFER TO SECTION 1012 OF THE STANDARD SPECIFICATION FOR ADDITIONAL REQUIREMENTS

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DIRECTOR OF PUBLIC WORKS: Robert W. Bunn
DATE: 3-25-86

CHIEF, BUREAU OF UTILITIES: [Signature]
DATE: 3/21/86

FREDERICK WARD ASSOC. INC.
ENGINEERS-ARCHITECTS-SURVEYORS
5 SOUTH MAIN STREET
BEL AIR, MARYLAND 21014
838-7900 879-2090



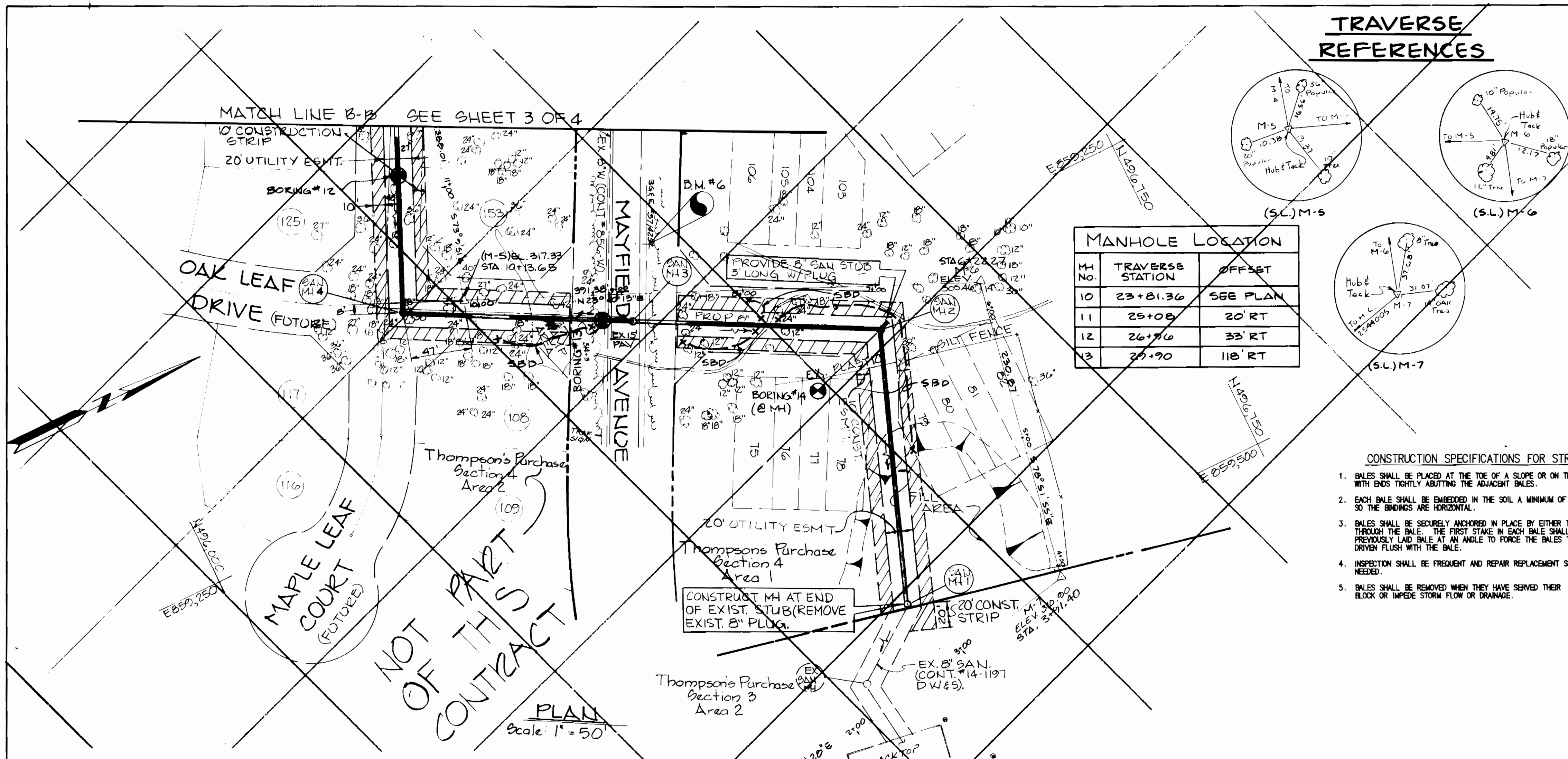
DES: S.R.B.			
DRN: J.D.T.			
CHK: D.W.			
DATE: 1/24/85	BY: A.P.	NO. 1	REVISION: AS BUILT
			DATE: 8/31/86

PLAN & PROFILES
SEWER LINE

ROUTE 108 EAST SEWER
CAPITAL PROJECT NO. S-6140
CONTRACT NO. 10-1351
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

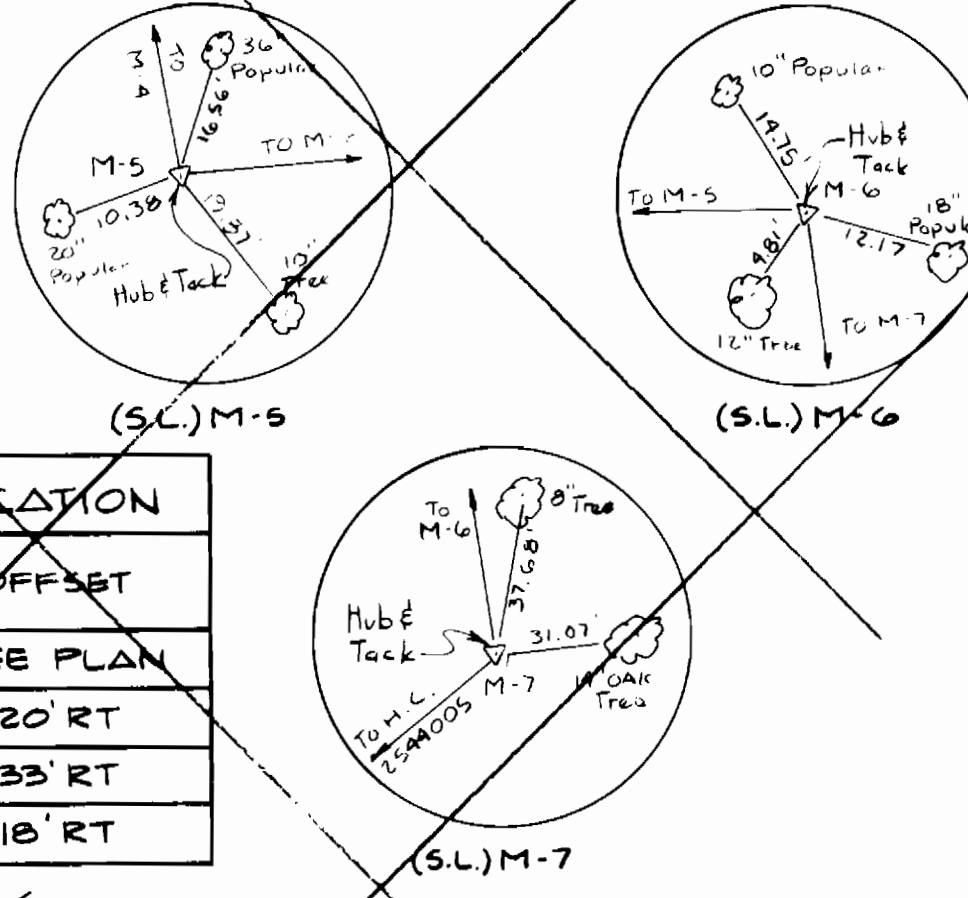
SCALE AS SHOWN

SHEET 3 OF 4



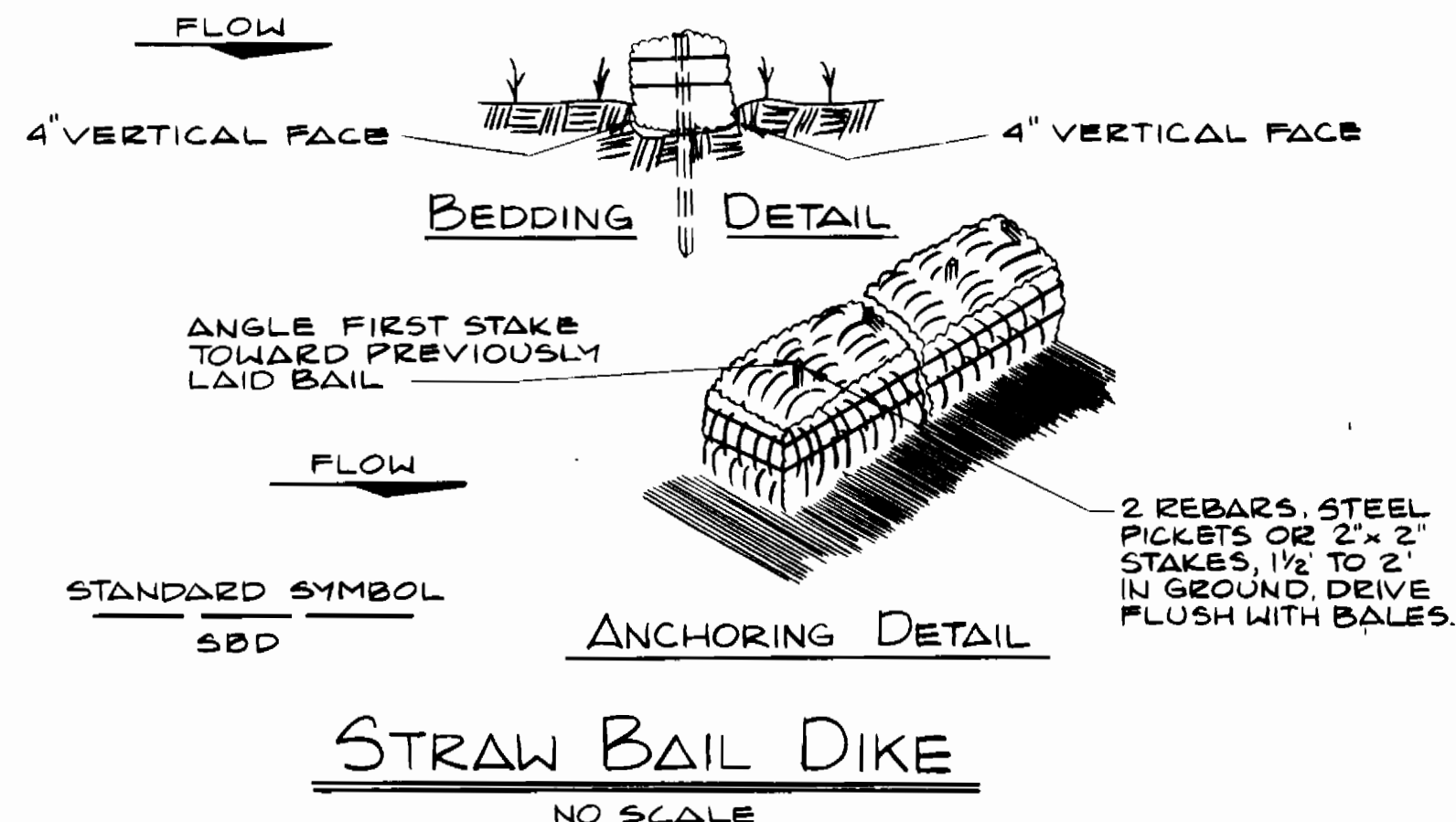
MH No.	TRAVERSE STATION	OFFSET
10	23+81.36	SEE PLAN
11	25+08	20' RT
12	26+76	33' RT
13	28+90	118' RT

TRAVERSE REFERENCES



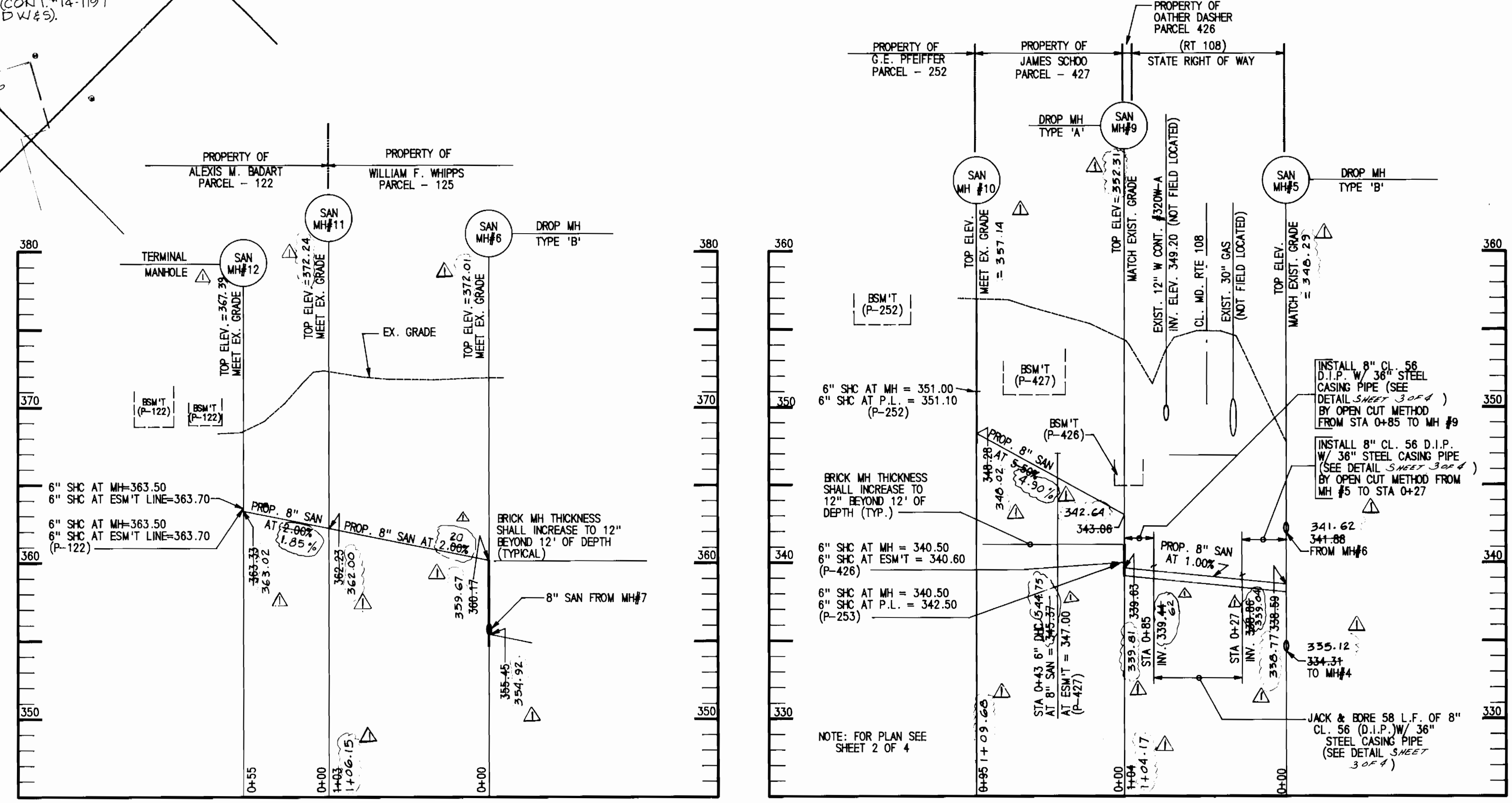
BENCH MARKS

- HOWARD CO. GEODETIC SURVEY MARKER # 2544005, LOCATED ALONG THE SOUTH SIDE OF MAYFIELD AVE, 115' WEST OF THE INTERSECTION OF HILLRISE CT. & MAYFIELD AVE. ELEV. 317.32
- 2" SPIKE SET IN B.G. & E. POLE # 371425. POLE IS LOCATED ON THE NORTH SIDE OF MAYFIELD AVE, 600' WEST OF THE INTERSECTION OF MAYFIELD AVE. & HILLRISE CT. ELEV. 317.81



- CONSTRUCTION SPECIFICATIONS FOR STRAW BALE DIKE**
- BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
 - EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
 - BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS 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.
 - INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 - BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

RESTORATION SCHEDULE		
LOCATION FROM	TO	DESCRIPTION OF RESTORATION
0+20	MH#1	SOD
MH#1	MH#2	SOD
MH#2	MH#3	0+00 TO 1+50 SOD 1+50 TO MH#3 SEED & MULCH
MH#3	MH#4	0+00 TO 0+30 SOD & MULCH 0+30 TO 0+25 MACADAM 0+25 TO 1+00 SOD 1+00 TO 1+25 GUTTER 1+25 TO MH#4 SOD
MH#4	MH#5	0+00 TO 0+85 SOD 0+85 TO 1+05 GUTTER 1+05 TO 2+70 SOD 2+70 TO MH#5 SEED & MULCH
MH#5	MH#6	0+00 TO 1+80 SEED & MULCH 1+80 TO MH#6 SOD
MH#6	MH#7	0+00 TO 0+23 SOD 0+23 TO 0+81 NO RESTORATION REQUIRED (JACK & BORE) 0+81 TO MH#7 SOD
MH#7	MH#8	0+00 TO 0+65 SOD 0+65 TO 1+70 SEED & MULCH 1+70 TO 2+70 SOD 2+70 TO 2+80 MA-ADHAT 2+80 TO MH#8 SOD
MH#8	MH#9	0+00 TO 0+27 SEED & MULCH 0+27 TO 0+85 NO RESTORATION REQUIRED (JACK & BORE) 0+85 TO MH#9 SOD
MH#9	MH#10	SOD
MH#9	MH#10	CLEAN OUT TO PAR. 26 & 25A SOD
MH#10	MH#11	SOD
MH#11	MH#12	SOD



SEWER PROFILES

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

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

DATE: 3-25-86
DATE: 3/21/86

FREDERICK WARD ASSOC. INC.
ENGINEERS-ARCHITECTS-SURVEYORS
5 SOUTH MAIN STREET
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DES: S.R.B.	DATE: 1/24/86
DRN: J.D.T.	BY: A.P.
CHK: D.W.	NO. AS BUILT
DATE: 1/24/86	REVISION: 8/31/87

**PLAN & PROFILES
SEWER LINE**

ROUTE 108 EAST SEWER
CAPITAL PROJECT NO. S-6140
CONTRACT NO. 10-1351
FIRST ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
SHEET 4 OF 4