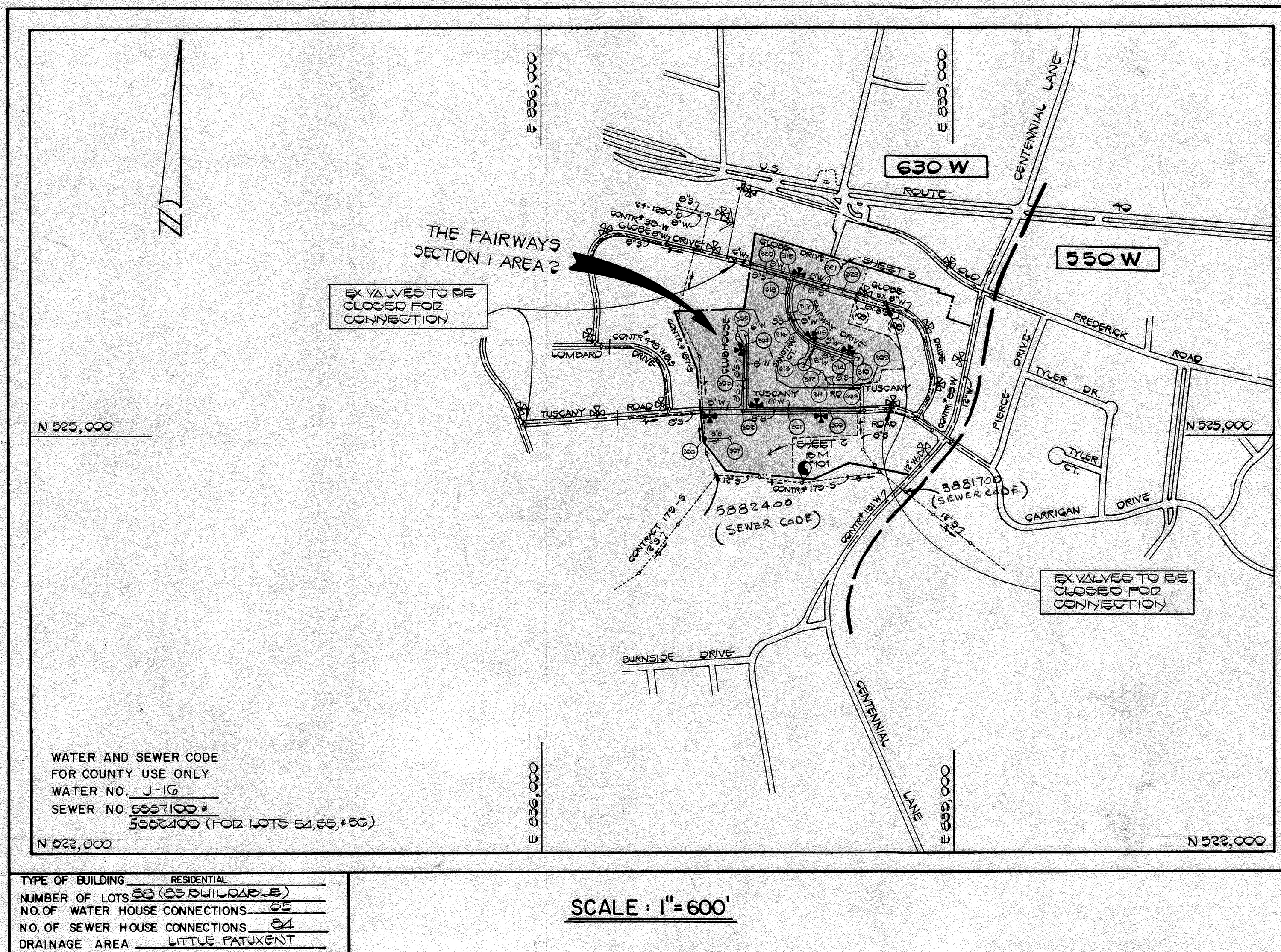


QUANTITIES			
ITEM	ESTIMATE	AS-BUILT	SUPPLIER
8" SEWER	4201 L.F.	4000 L.F. PVC 214 L.F. CL-52 DIP	BELAIR RD. SUPPLY CO.
6" SEWER	2006 L.F.	2048 L.F.	BELAIR RD. SUPPLY CO.
MANHOLES	23 EACH	23 EACH	ATLANTIC CONC. PROD.
8" WATER	3400 L.F.	3420 L.F.	AIP WATER & SEWER SUP.
6" WATER	340 L.F.	525 L.F.	AIP WATER & SEWER SUP.
1" WATER	655 L.F.	780 L.F.	MUNICIPAL CONTRACTOR SALES
3/4" WATER	1120 L.F.	1110 L.F.	MUNICIPAL CONTRACTOR SALES
2" VALVE	8 EACH	8 EACH	MUNICIPAL CONTRACTOR SALES
FIREHYDRANTS	7 EACH	7 EACH	MUNICIPAL CONTRACTOR SALES
6" REDUCER	3 EACH	2 EACH	AIP WATER & SEWER SUP.
1/2" COIL	1 EACH	1 EACH	MUNICIPAL CONTRACTOR SALES
1/2" WATERZ	22 L.F.	20 L.F.	MUNICIPAL CONTRACTOR SALES
3" VALVE (P.S.)	1 EACH	1 EACH	MUNICIPAL CONTRACTOR SALES

SEWER HOUSE CONNECTION INVERT @ PROPERTY LINE					
STATION	LOT	ELEV.	STATION	LOT	ELEV.
MH*303 TO MH*305					
0+00 LEFT	100	375.00	2+40 LEFT	123 0126	422.06
0+00 LEFT	99	372.20	0+00 LEFT	86 0127	422.26
0+00 LEFT	99	377.10	EX. MH*109 TO MH*300		
MH*310 TO MH*311					
1+10 RIGHT	103	391.20	0+45 RIGHT	120 0128	422.00
MH*311 TO MH*312					
0+00 RIGHT	104	392.16	0+00 LEFT	85	422.00
MH*312 TO MH*313					
0+00 RIGHT	105	393.01	0+76 RIGHT	82	368.39
1+12 LEFT	106 1107	394.34	1+07 RIGHT	91	368.60
0+00 LEFT	108 1108	394.79	1+74 LEFT @ 1%	44 0129	368.62
0+00 RIGHT	110	394.05	2+61 RIGHT	79 0130	369.71
MH*313 TO MH*314					
0+41 RIGHT	101	390.42	2+69 LEFT	46	369.48
0+00 LEFT	102	391.07	MH*300 TO MH*301		
MH*314 TO MH*315					
0+00 RIGHT	96	393.05	1+40 LEFT	48	373.63
0+00 RIGHT @ 1%	97	393.20	1+48 RIGHT	77	374.13
0+00 RIGHT	95	396.54	2+15 LEFT	49	375.73
1+14 RIGHT	95 1109	391.04	2+32 RIGHT	0 1110	369.74
2+70 RIGHT	91 0131	399.92	0+00 LEFT	50	370.10
MH*315 TO MH*316					
0+47 LEFT	111	390.97	MH*302 TO MH*303		
0+00 RIGHT	0 1111	394.50	1+53 LEFT	51 0132	399.22
MH*316 TO MH*317					
0+14 LEFT @ 1%	112	394.31	1+74 RIGHT	0 1112	392.64
0+50 LEFT	113	395.30	2+40 LEFT	53	396.10
0+67 RIGHT	0 1113	401.52	MH*304 TO MH*305		
MH*317 TO MH*318					
0+17 LEFT	114	396.63	2+20 LEFT	60 0133	399.23
0+42 LEFT	115	400.54	MH*306 TO MH*307		
0+50 LEFT	116	404.76	0+50 RIGHT	71 0134	394.36
MH*318 TO MH*319					
0+28 LEFT	117	409.06	1+31 LEFT	62 0135	394.88
0+41 RIGHT	88	400.54	2+13 RIGHT	60 0136	396.01
MH*319 TO MH*320					
0+00 RIGHT	122	412.59	0+00 RIGHT	68	399.09
0+73 RIGHT	121	415.21	0+00 LEFT	65	400.29
1+74 RIGHT	120	418.97	0+00 RIGHT	66 0137	400.35
0+00 LEFT	118	420.03	MH*308 TO MH*309		
0+00 RIGHT	119	420.39	1+25 LEFT @ 1%	55 1114	374.10
MH*320 TO MH*321					
0+44 LEFT	123	414.89	0+00 LEFT	54	374.58
1+24 LEFT	124	419.25			



WATER AND SEWER CODE FOR COUNTY USE ONLY
 WATER NO. J-10
 SEWER NO. 50571000#
 5052400 (FOR LOTS 64, 65, & 66)

TYPE OF BUILDING: RESIDENTIAL
 NUMBER OF LOTS: 30 (25 BUILDABLE)
 NO. OF WATER HOUSE CONNECTIONS: 25
 NO. OF SEWER HOUSE CONNECTIONS: 24
 DRAINAGE AREA: LITTLE PATUXENT

SCALE: 1" = 600'

CONTRACT NO. 24 - 1556-D

THE FAIRWAYS

SECTION 1 - AREA 2 (LOTS 43-130)

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: 850-4620
 - C.B.P. TELEPHONE CO.- 1-800-257-7777
 - BALTIMORE GAS & ELECTRIC CO. UNDERGROUND DAMAGE CONTROL: 859-9004
 - BALTIMORE GAS & ELECTRIC CO. TROUBLE SHOOTING: 298-9001
 - MISS UTILITY: 1-555-0100
 - 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 65.52 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 65.51.

SEDIMENT CONTROL MEASURES FOR THIS CONTRACT WILL BE IMPLEMENTED IN ACCORDANCE WITH SECTION 219 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 F87-68

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

James M. Webb 2-18-87
 SOIL CONSERVATION SERVICE DATE

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

APPROVED:

Stephen L. Fisher 2/18/87
 HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

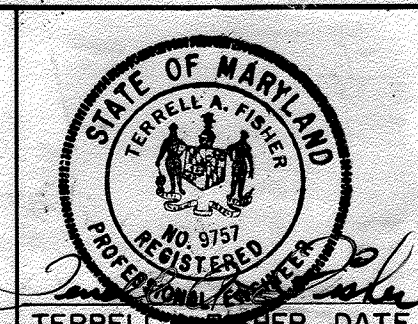
John F. Noyes 2-26-87
 DIRECTOR OF PUBLIC WORKS DATE

Robert M. Bauman 2-24-87
 CHIEF, BUREAU OF UTILITIES DATE

William J. Fisher 2-24-87
 CHIEF, LAND DEVELOPMENT DIVISION DATE

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

TERRELL FISHER DATE



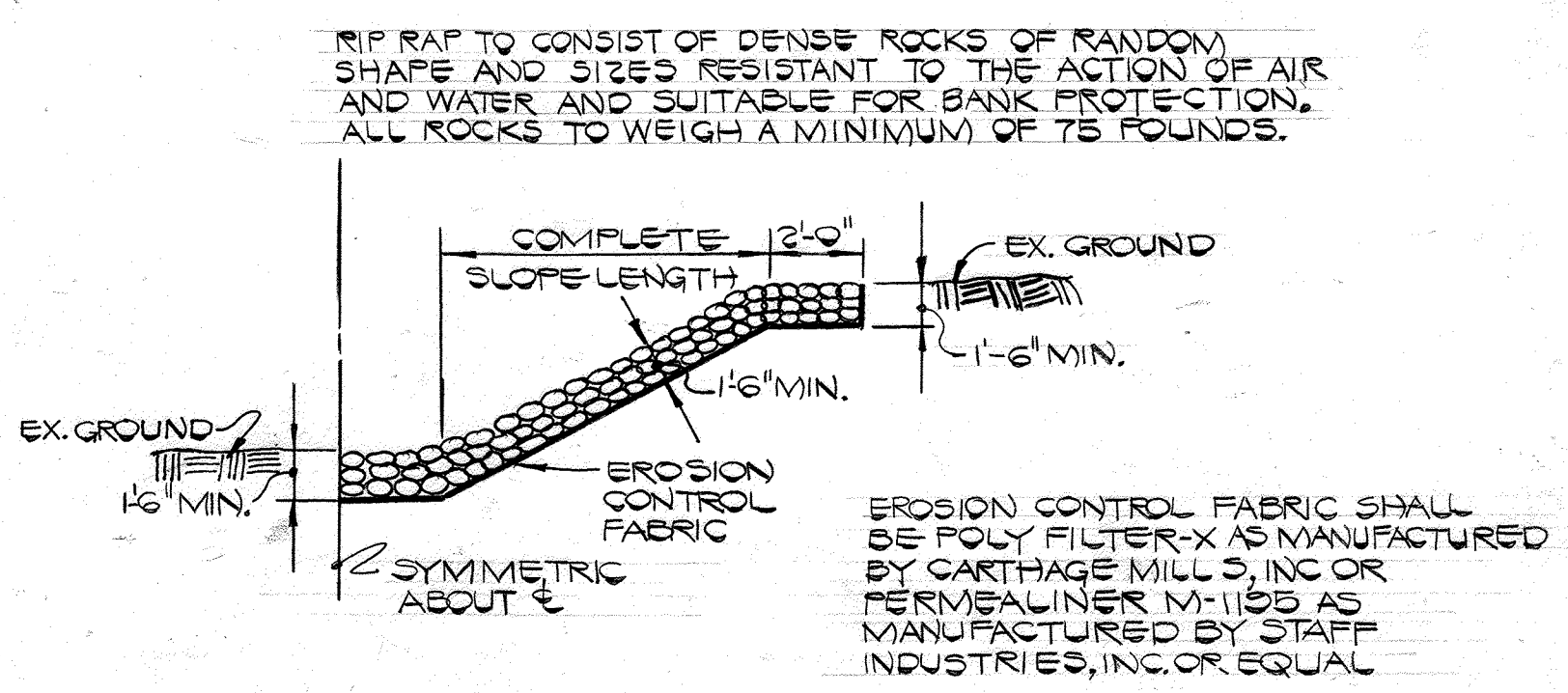
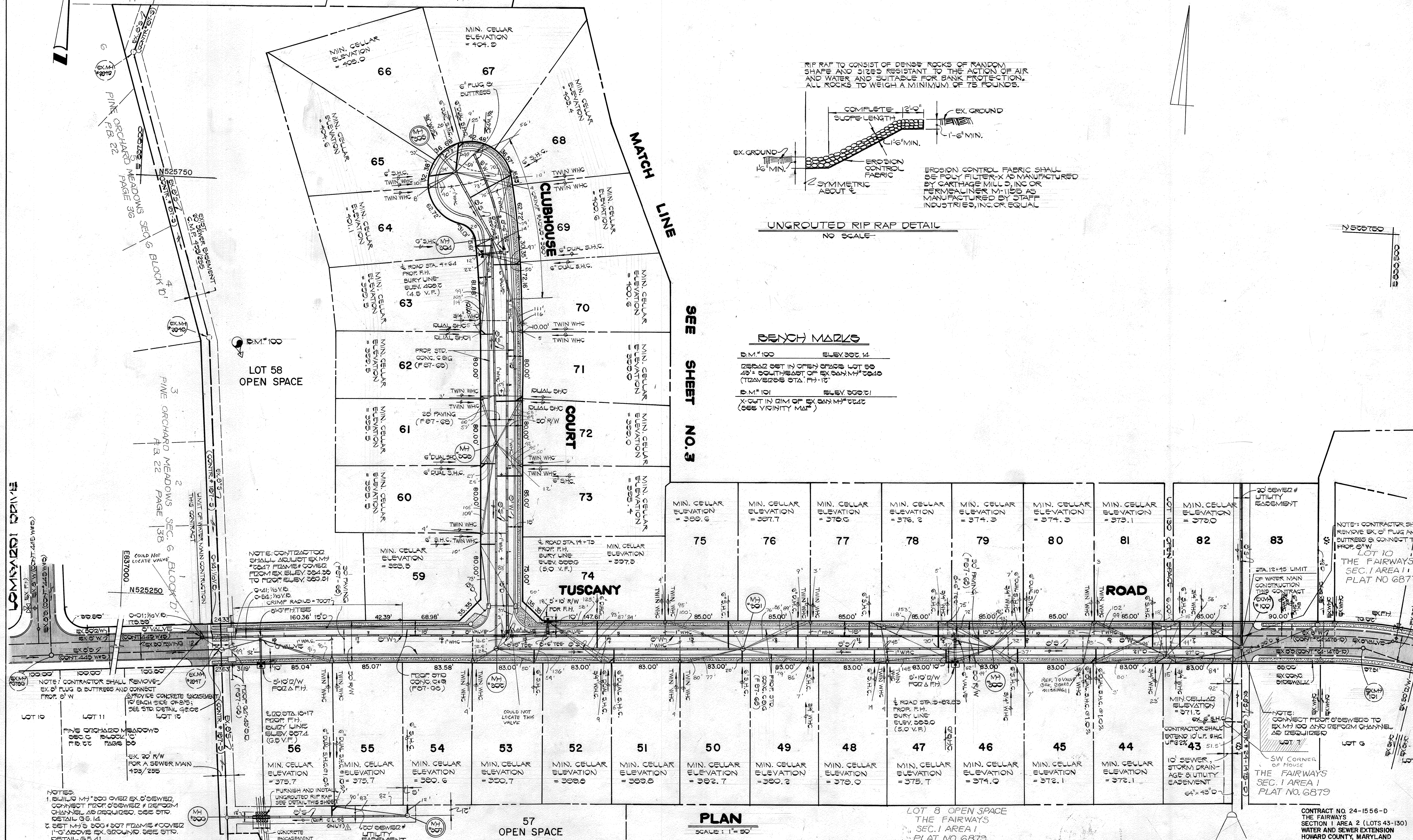
DES: D.E.V.					
DRN: J.O.					
CHK: T.A.F.					
DATE: 10-20-86	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 24	BLOCK NO. 1

TITLE SHEET

CONTRACT NO. 24-1556-D
 THE FAIRWAYS
 SECTION 1 AREA 2 (LOTS 43-130)
 WATER AND SEWER EXTENSION
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN

SHEET 1 OF 5



UNGRADED RIP RAP DETAIL
NO SCALE

BENCH MARKS

- B.M.#100 ELEV. 307.14
DEBAG SET IN OPEN SPACE LOT 69
43' SOUTHEAST OF EX. SAN. M.# 3010
(TRAVEL 255 STA. 17-12)
- B.M.#101 ELEV. 308.21
X-CUT IN DIM OF EX. SAN. M.# 3022
(SEE VICINITY MAP)

SEE SHEET NO. 3

PLAN
SCALE: 1" = 50'

NOTES:
1. SHALL M#300 OVER EX. S'W. SEWER,
CONNECT FOOT OF S'W. SEWER & REFORM
CHANNEL AS REQUIRED. SEE STD.
DETAIL 95.14

2. SET M#300 #307 FRAME # COVER
1'-3" ABOVE EX. GROUND. SEE STD.
DETAIL 95.41

NOTE: CONTRACTOR SHALL REMOVE
EX. S'W. BUTTRESS AND CONNECT
PROF. S'W.

PROVIDE CONCRETE ENCASMENT
TO EACH SIDE OF S'W. SEE
DETAIL 95.02

LOT 10 LOT 11

FAIRWAY HILL SECTION 2
P.B. 21 PAGE 42

FAIRWAY HILL SECTION 2
P.B. 10 PAGE 18

LOT 57 OPEN SPACE

LOT 8 OPEN SPACE
THE FAIRWAYS
SEC. 1 AREA 1
PLAT NO. 6873

CONTRACT NO. 24-1556-D
THE FAIRWAYS
SECTION 1 AREA 2 (LOTS 43-130)
WATER AND SEWER EXTENSION
HOWARD COUNTY, MARYLAND

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director: *Robert M. Beatty* 2-24-87
DATE: 2-24-87
CHIEF, BUREAU OF UTILITIES

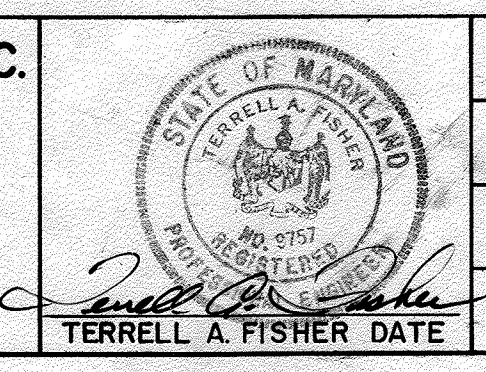
Chief: *William E. Ray* 2-24-87
DATE: 2-24-87
CHIEF, BUREAU OF ENGINEERING

Chief: *William E. Ray* 2-24-87
DATE: 2-24-87
CHIEF, LAND DEVELOPMENT DIVISION

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

8388 COURT AVENUE
ELLCOTT CITY, MARYLAND 21043

TERRELL A. FISHER DATE



DES: D.E.V.			
DRN: J.O.			
CHK: T.A.F.	DAN	ADD CONC. ENCASMENT OF W.M. @ EX. S'W.	4-1-87
	DAN	REVISE SEWER MAIN, M# 306 - R.I.F. ONLY	4-1-87
BY: NO.		REVISION	DATE

PLAN
WATER AND SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO. _____

SCALE AS SHOWN
SHEET 2 OF 5

AS-BUILT G. WALLACE 8/9/87

MANHOLE TABLE				
NO.	℄ RD. STA.	DIST.	RIM	SLOPE
919	00+02.7		324.0	
914	00+02.7		327.0	
916	3+68.47	9' RT.	400.38	-2.20%
910	4+12.00	9' RT.	405.82	-3.50%
917	2+67.00	6' RT.	411.70	-5.70%
918	1+26.50	5' RT.	421.98	-6.70%
919	17+45.19	7' LT.	427.00	-0.50%
920	19+54.50	7' LT.	433.66	+0.50%
921	14+75.96	7' LT.	434.55	-1.00%
922	13+53.36	7' LT.	433.66	+2.70%
923	9+00.00	7' LT.	389.34	+2.50%
924	12+40.00	7' LT.	392.84	+5.00%
925	15+35.43	7' RT.	397.65	-3.50%
926	2+36.00	7' LT.	405.44	+1.20%
927	00+02.7		408.7	
928	00+02.7		409.7	

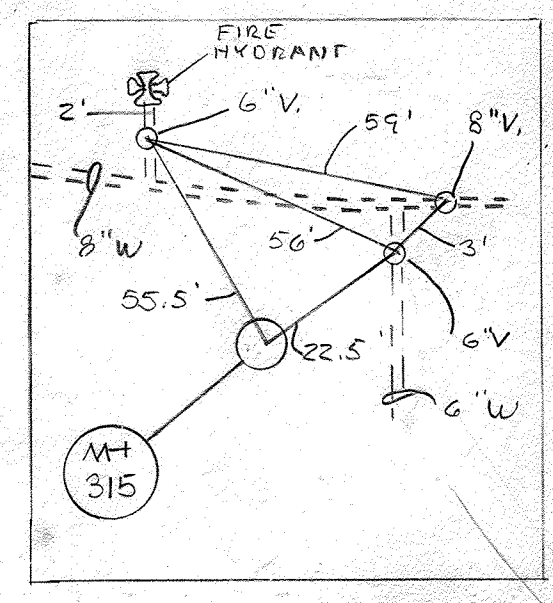
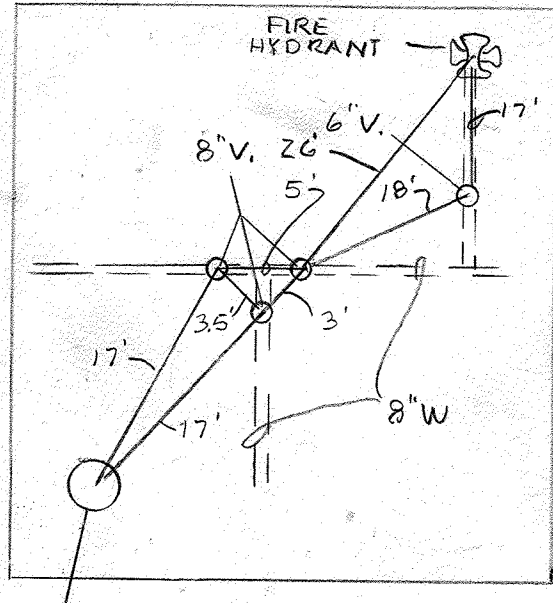


BENCH MARKS

B.M. 107 ELEV. 416.99
 DEBRIS SET IN REAR OF LOT 119
 (TRAVELERS STA. FH-10')

B.M. 108 ELEV. 431.45
 2.0" SPIKE SET IN REAR OF LOT
 110 (TRAVELERS STA. FH-9')

WATER VALVE REF. DETAIL
 GLOBE DRIVE / FAIRWAY
 DRIVE INTERSECTION



PLAN
 SCALE: 1" = 50'

CONTRACT NO. 24-1556-D
 THE FAIRWAYS
 SECTION I AREA 2 (LOTS 43-130)
 WATER AND SEWER EXTENSION
 HOWARD COUNTY MARYLAND

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

David F. Neimeyer 2-26-87
 DIRECTOR OF PUBLIC WORKS DATE

William B. Reay 2-26-87
 CHIEF, BUREAU OF ENGINEERING DATE

Robert Beisinger 2-24-87
 CHIEF, BUREAU OF UTILITIES DATE

William B. Reay 2-26-87
 CHIEF, LAND DEVELOPMENT DIVISION DATE

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

8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043

Terrell A. Fisher
 TERRILL A. FISHER DATE

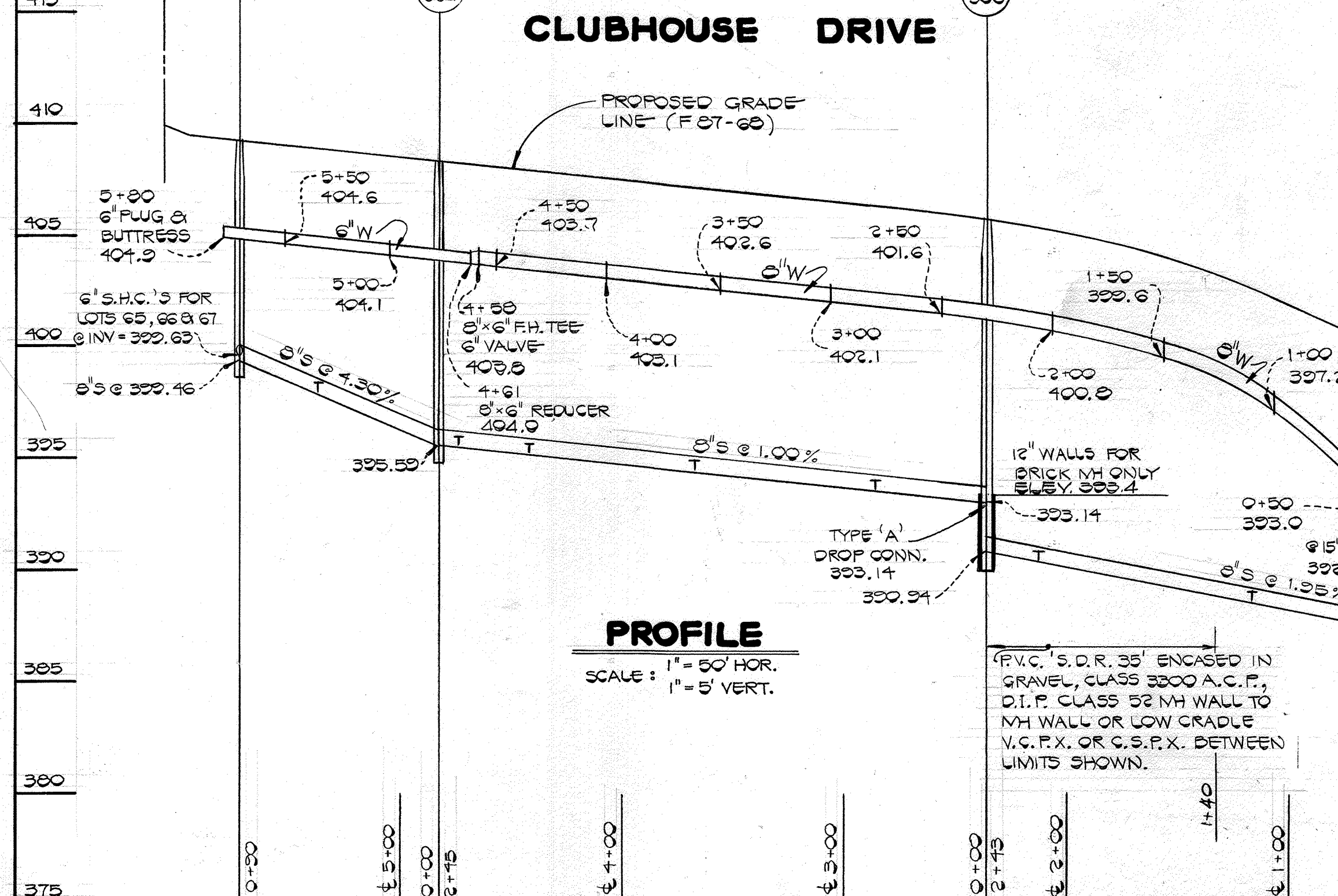
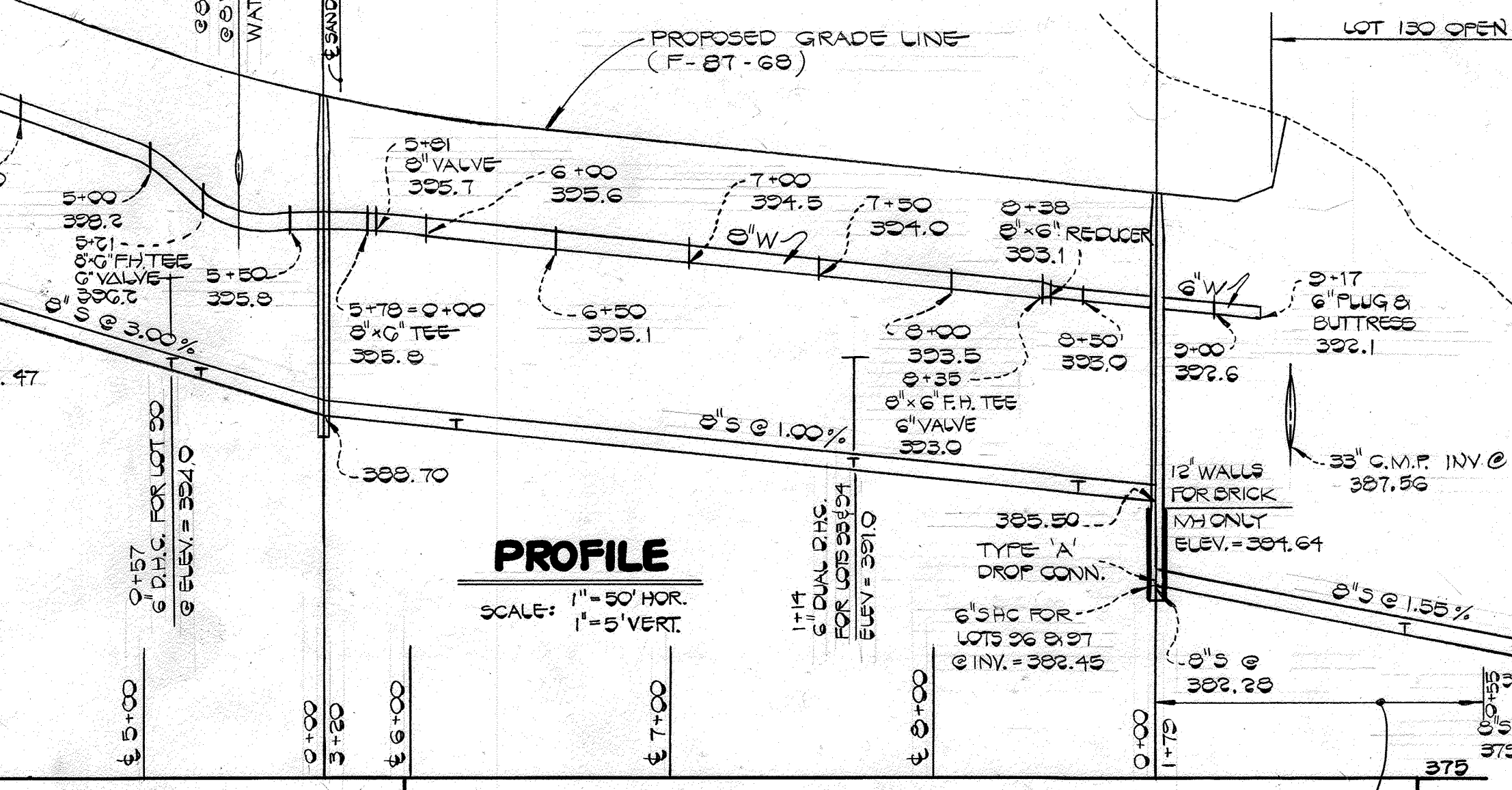
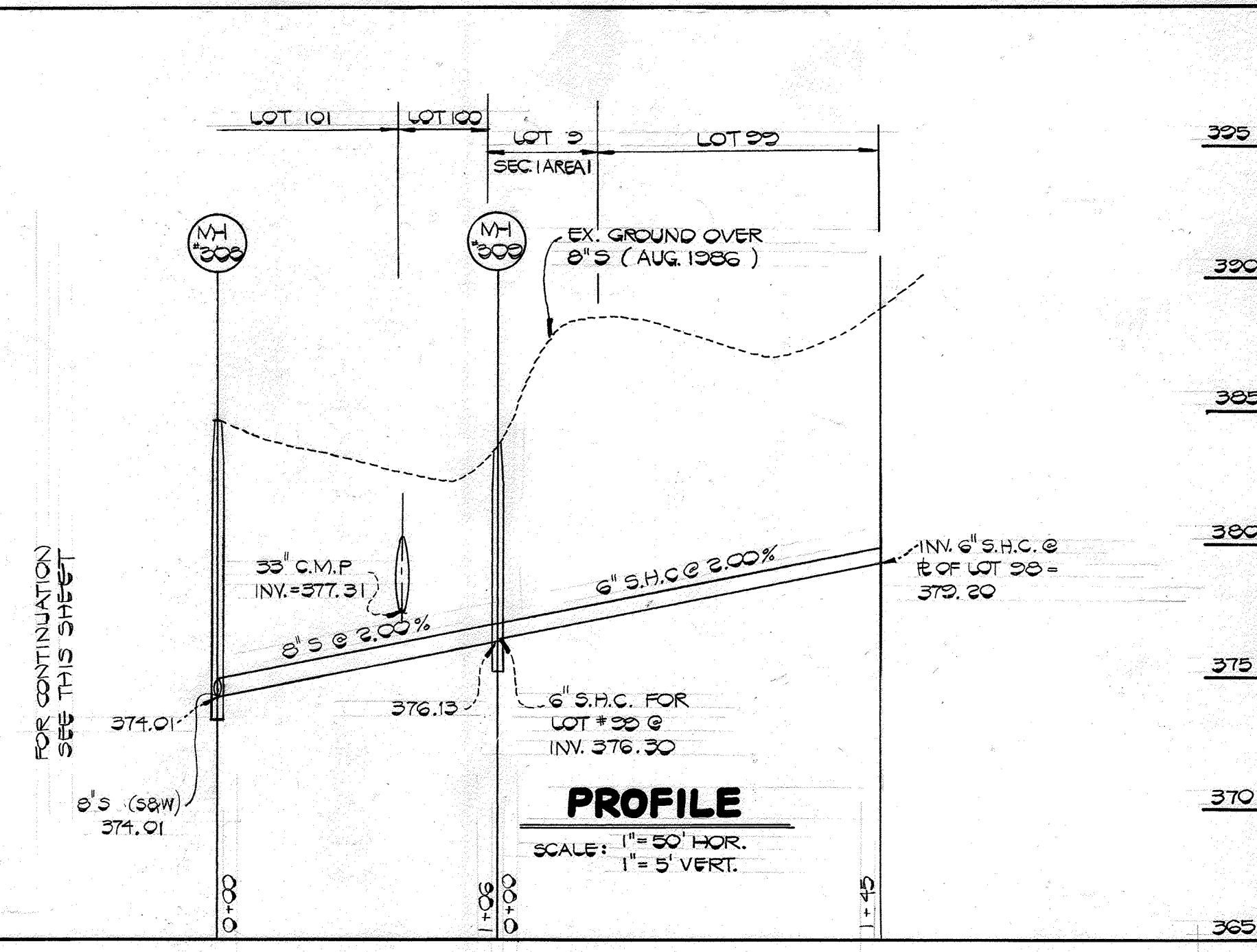
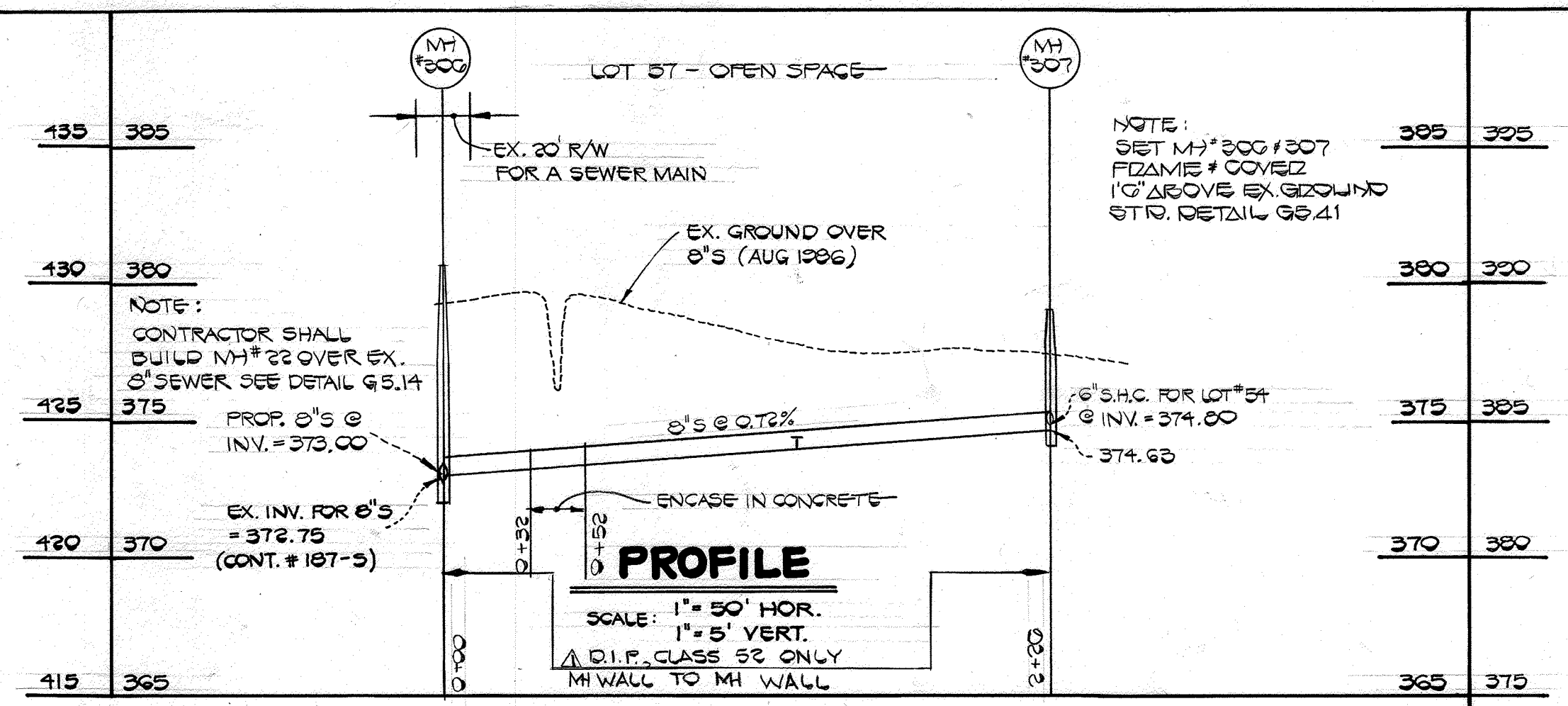
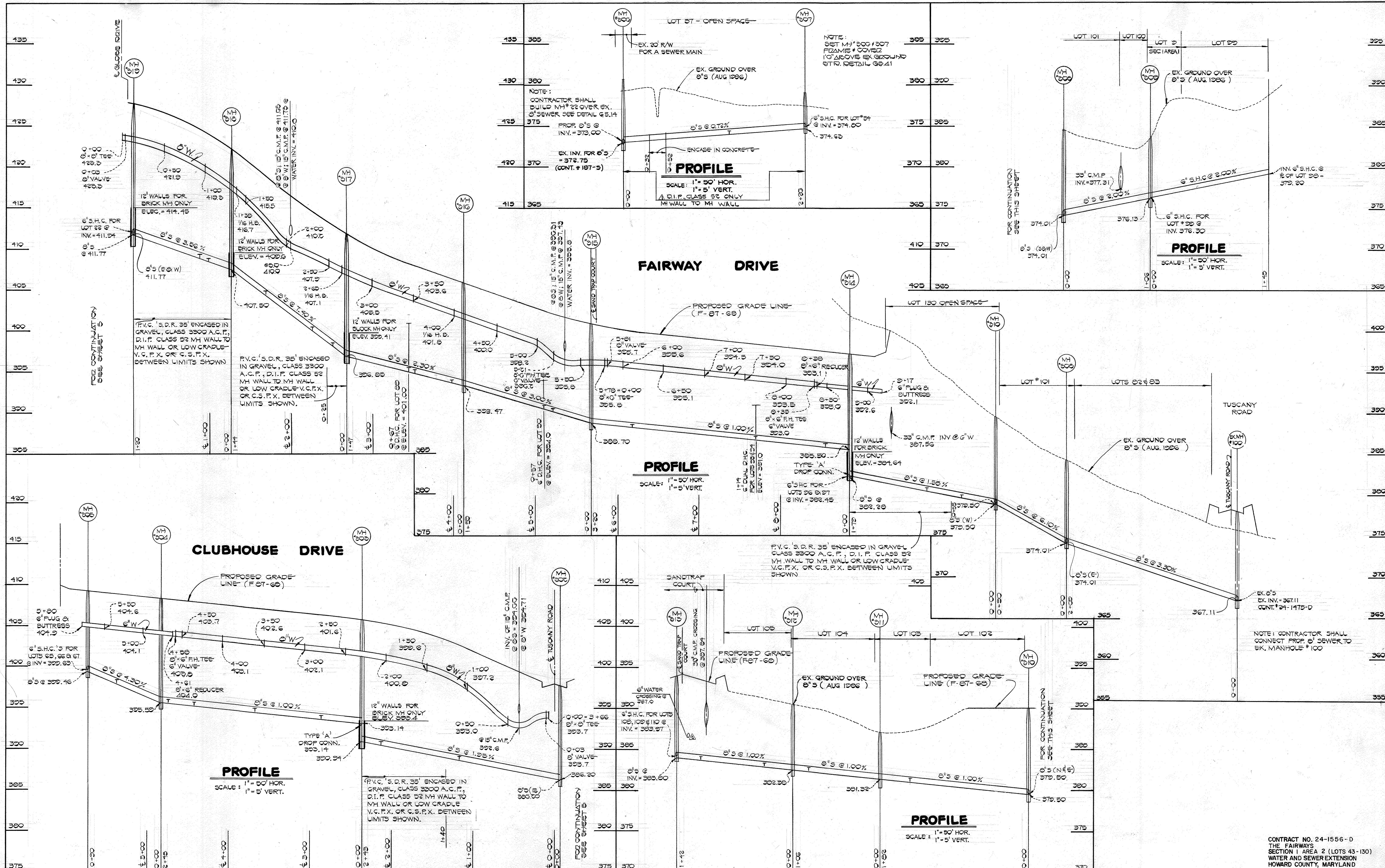
DES: D.E.V.	
DRN: J.O.	
CHK: T.A.F.	
DATE: 10-20-86	
BY: NO.	
REVISION	
DATE	

PLAN
 WATER AND SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO. 1

THE FAIRWAYS
 SECTION I AREA 2
 LOTS 43 THROUGH 130
 CONTRACT NO. 24-1556-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 3 OF 5



DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Henry F. Neumaier 2-26-87
 DIRECTOR OF PUBLIC WORKS DATE

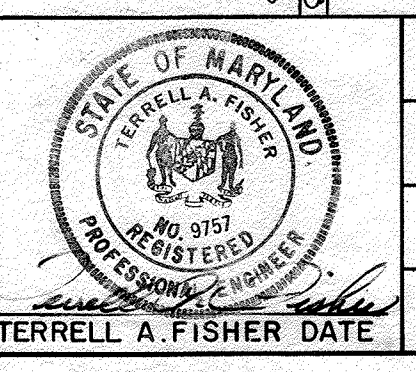
William R. Roy 2-26-87
 CHIEF, BUREAU OF ENGINEERING DATE

Robert M. Reinger 2-24-87
 CHIEF, BUREAU OF UTILITIES DATE

Michael J. ... 2-24-87
 CHIEF, LAND DEVELOPMENT DIVISION DATE

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

8388 COURT AVENUE
 ELLICOTT CITY, MARYLAND 21043



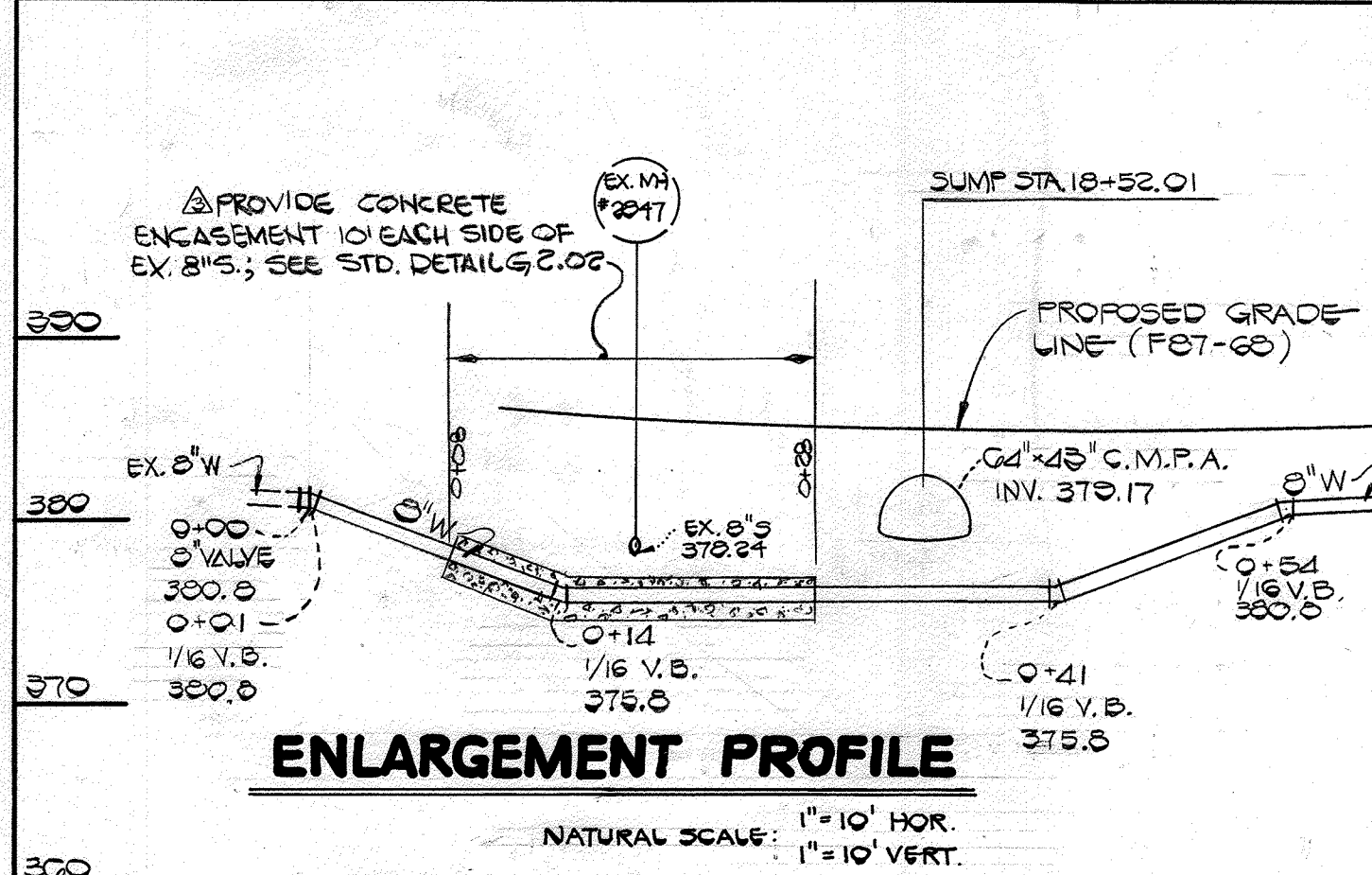
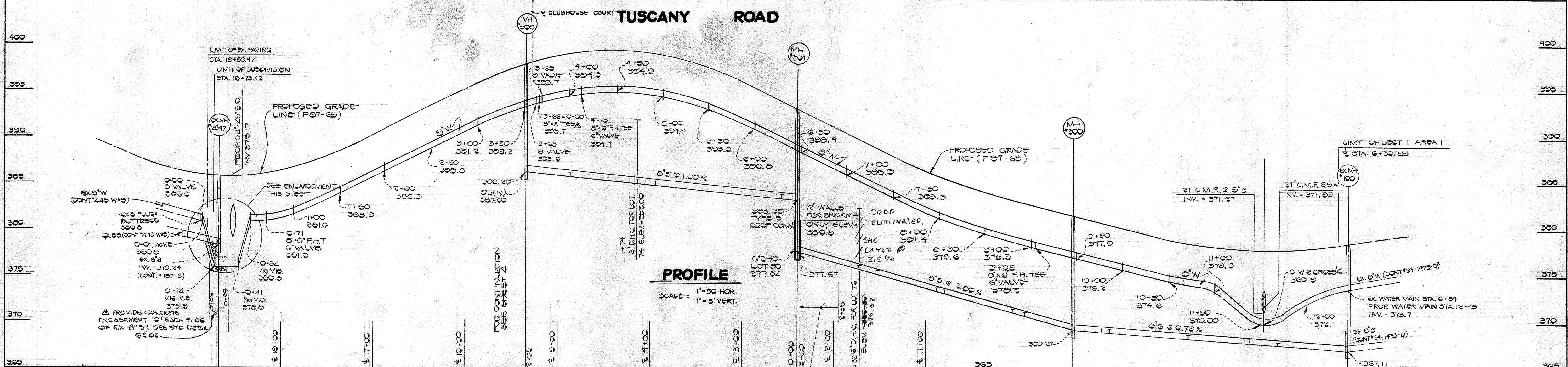
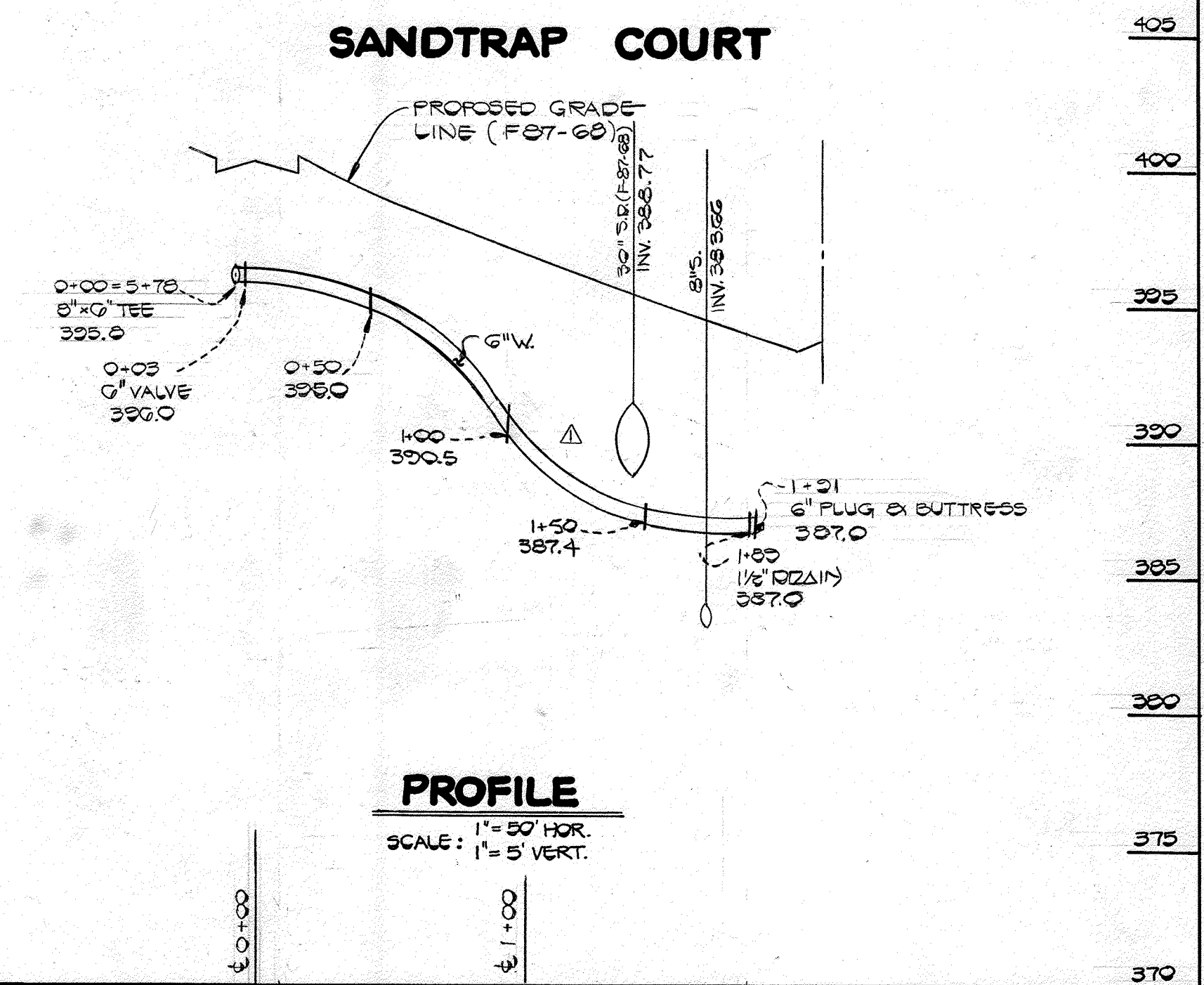
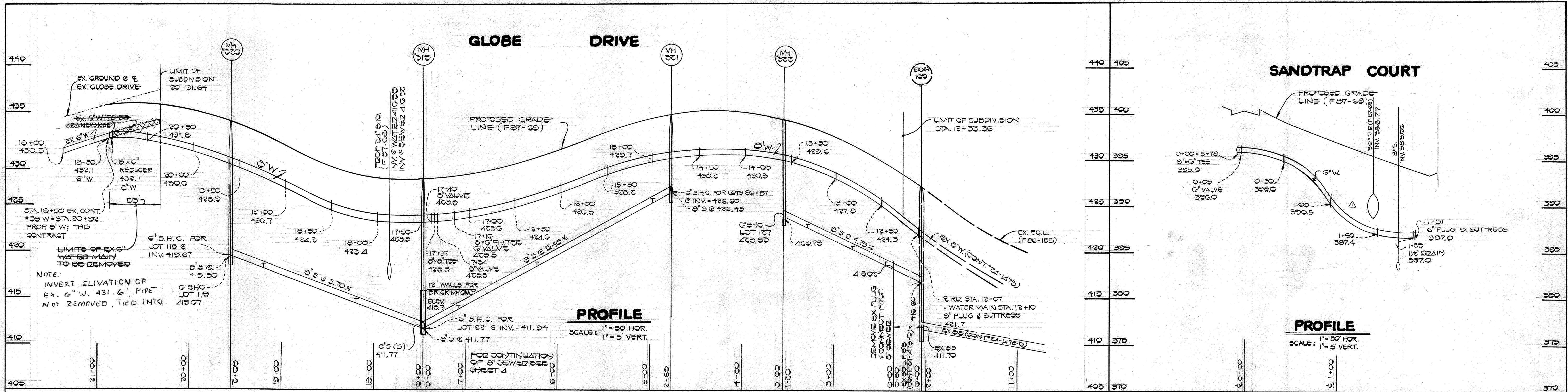
DES: D.E.V.	
DRN: J.O.	
CHK: T.A.F.	DAN, Δ
DATE: 10-20-86	

PROFILES		WATER AND SEWER MAINS	
DAN, Δ	REVISE LOCATION OF G.W. IN PROFILE	4/16/87	
DAN, Δ	REVISE SEWER MAIN, MH# 206-307; C.I.P. ONLY	4/16/87	
BY NO.	REVISION	DATE	

THE FAIRWAYS
 SECTION 1 AREA 2
 LOTS 43 THROUGH 130
 CONTRACT NO. 24-1556-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 4 OF 5

AS-BUILT G. WALLACE 8/9/87



ENLARGEMENT PROFILE
 NATURAL SCALE: 1" = 10' HOR.
 1" = 10' VERT.

R.V.C. S.D.R. 35' ENCASED IN GRAVEL, CLASS 3200 A.C.F., D.I.P. CLASS 52 MH WALL TO MH WALL OR LOW GRADE V.C.F.X. OR C.S.P.X. BETWEEN LIMITS SHOWN

FOR OUTFALL SEE CONTRACT # 24-1175-D

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 2-28-87
 Chief, Bureau of Engineering: *[Signature]* 2-26-87
 Chief, Bureau of Utilities: *[Signature]* 2-24-87
 Chief, Land Development Division: *[Signature]* 2-24-87

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

STATE OF MARYLAND
 TERRILL A. FISHER
 REGISTERED PROFESSIONAL ENGINEER
 DATE: 10-20-86

DES: D.E.V.			
DRN: J.O.			
CHK: T.A.F.			
DATE: 10-20-86			
BY: NO.		REVISION	DATE
		ADD CONC ENCASEMENT OF 8" W. @ EX. 8" S.	4-15-87
		REVISE FITTING @ WM STA. 2465+00 TO 8" X 8" TEE	4-15-87
		SHOWN STORM DRAIN @ 8" S; REVISE G.W. PROFILE	4-15-87

PROFILES
WATER AND SEWER MAINS

600' SCALE MAP NO. 24 BLOCK NO. 1

THE FAIRWAYS
 SECTION I AREA 2
 LOTS 43 THROUGH 130
 CONTRACT NO. 24-1556-D
 SECOND ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

SCALE AS SHOWN
 SHEET 5 OF 5

AS-BUILT G. WALLACE 8/9/87