

SHEET INDEX

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3	PROFILES OF WATER & SEWER MAIN EXTENSIONS

BENCHMARKS

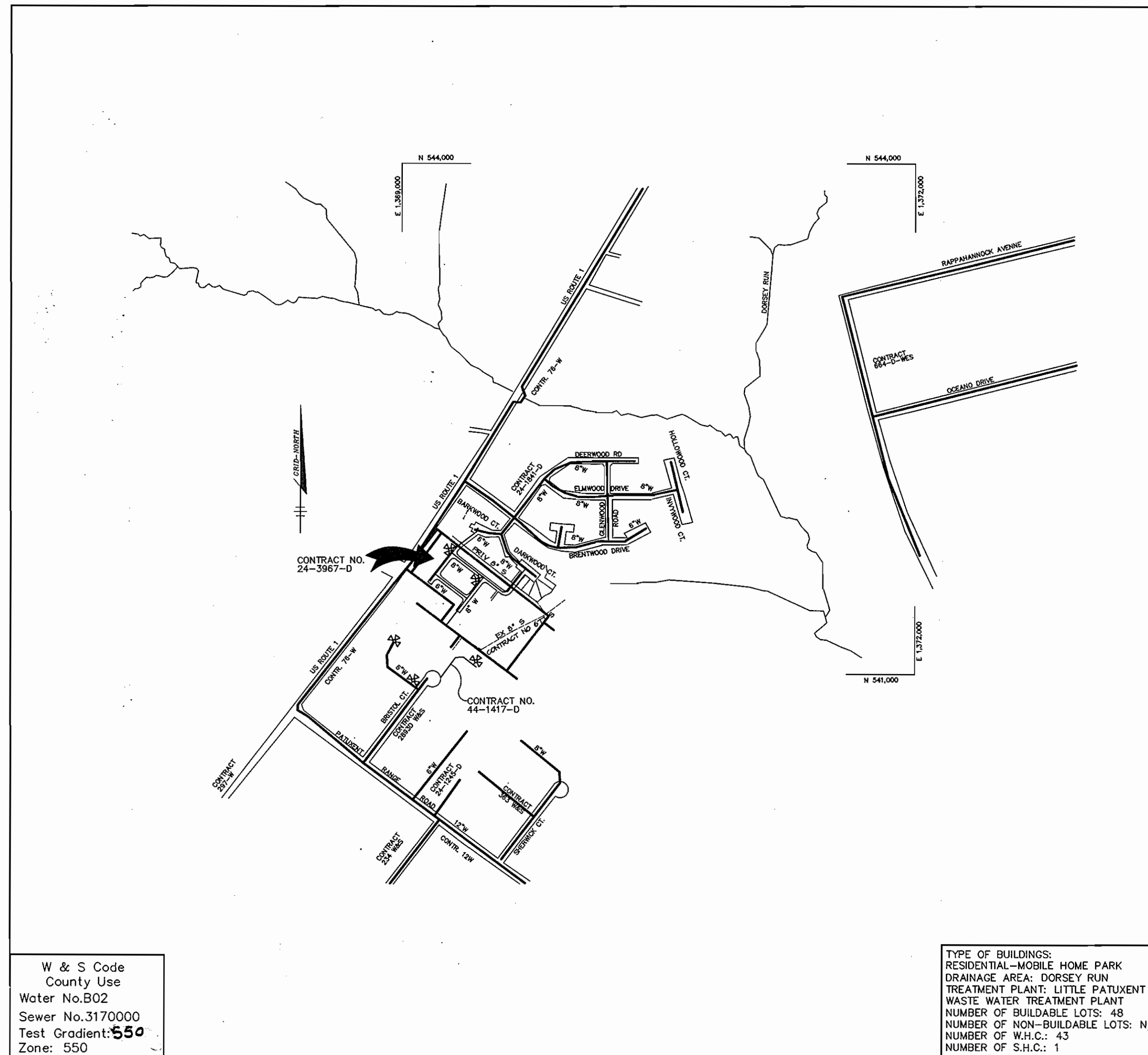
**BENCHMARK #1**  
 HOWARD COUNTY SURVEY CONTROL  
 STATION: 2143002  
 N 481,041.15 E 856,744.81  
 ELEVATION: 243.15  
 CONCRETE MONUMENT ON S.E. SIDE  
 OF ROUTE 1, 1.4 MILES S.W. OF  
 ROUTE 175.

**BENCHMARK #2**  
 HOWARD COUNTY SURVEY CONTROL  
 STATION: 2143003  
 N 476,924.101 E 859,068.366  
 ELEVATION: 274.90  
 CONCRETE MONUMENT ON N.E. SIDE  
 OF ROUTE 1, 1.107 MILES NORTH OF  
 BRIDGE ON ROUTE 1 OVER R.R. SPUR.

# WATER & SEWER EXTENSION BRENTWOOD MANOR EXPANSION 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT NO. 24-3967-D

**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, NAD 83.
- All vertical controls are based on U.S.G.S. data.
- All pipe elevations shown  $\ominus$  are invert elevations.
- Clear all utilities by a minimum of 6". Clear all poles by 2'-0" minimum or tunnel as required. The owner has contacted the utility companies and has made arrangements for bracing of poles as shown on the drawings. In the event the contractor's work requires the bracing of additional poles, any cost incurred by the owner for bracing of additional poles or damages shall be deducted from money owed the contractor. The contractor shall coordinate with the utility companies to schedule the bracing of the poles.
- For details not shown on the drawings, and for materials and construction methods use Howard County Design Manual, Volume IV, Standard Specifications and Detail for Construction. (Latest Edition). 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  $\oplus$  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 located by the contractor two weeks in advance of construction operations at his own expense.
- Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:  
 State Highway Administration 531-5535  
 Baltimore Gas & Electric Co. Contractor Services 850-4620  
 Baltimore Gas & Electric Co. Underground Damage Control 707-4068  
 Hise Utility 1-800-297-7777  
 Colonial Pipeline Co. 745-1340  
 Bureau of Utilities, Howard County Department of Public Works 313-4400
- 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 trees shall be strapped to trees.
- 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 restrained and buttressed with concrete in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and 1005 of the Standard Specifications.
- The contractor shall not operate any water main valves on the existing water system.
- All water house connections shall be for inside meter setting unless otherwise noted on plans or in specifications.
- All sewer mains shall be D.I.P. and P.V.C. unless otherwise noted.
- All manholes shall be 4'-0" inside diameter unless otherwise noted.
- Force mains shall be D.I.P. only.
- Manholes shown with 12" and 16" walls are for brick manholes only.
- Manholes designated M.T. in plan and profile shall have watertight 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.
- House(s) with the symbol "C.N.S." indicates that cellar cannot be served.
- Manholes can be either brick or precast concrete structures.
- Contractor is solely responsible for construction means, methods, techniques, sequences, procedures, and safety precautions and programs.
- The fire hydrant shall be installed as per standard detail M.1.11.
- Fire hydrants will be located 3' FROM BACK OF CURB unless otherwise noted.
- For sprinkler systems, all townhomes or multi-family dwelling units should have a minimum of 1" connection with a 3/4" meter.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-7450 at least five (5) working days before any open cut of any County road or boring/jacking operation in County roads for laying water/sewer mains or house connections. The approval of these drawings will constitute compliance with DPM requirements per Section 18.114(a) of the Howard County Code.
- Howard County DPM is hereby granted permission to access private lots shown on these plans in order to maintain public water and sewer house connections at the curb stops and/or cleanouts.
- A request to waive section 3.6 of Volume II of the Howard County Design Manual requiring a 20 foot easement for a single pipeline through private property was approved by letter dated July 25, 2001. The requirement of a 20 foot wide utility easement in the area of sewer manholes 4, 5, and 8 is waived to 18 feet.



VICINITY MAP  
 SCALE: 1"=600'

**QUANTITIES**

ITEMS	QUANTITIES ESTIMATED	AS-BUILT		MANUFACTURER / SUPPLIER
		QUANTITIES	TYPE	
8" WATER MAIN	1372 LF	1380 L.F.	CL-52 DIP	ATLANTIC PIPE FERGUSON WATER WORK
8" VALVES	2 EA	2 EA	GATE VALVE	MUELLER CO. FERGUSON WATER WORK
6" WATER MAIN	420 LF	420 L.F.	CL-52 DIP	ATLANTIC PIPE FERGUSON WATER WORK
6" VALVES	4 EA	4 EA.	GATE VALVE	MUELLER CO. FERGUSON WATER WORK
6"X6"TS&V	1 EA	1 EA.	18-8 TYPE 304	SAFETY BRACING FERGUSON WATER WORK
FIRE HYDRANTS	2 EA	2 EA.	A.W.W.A C 902-85	AMERICAN VALVE & F.H. FERGUSON WATER WORK
1" WHC	98 LF	98 L.F.	K-TYPE	MULLER INDUSTRIES FERGUSON WATER WORK
1 1/2" WHC	272 LF	272 L.F.	K-TYPE	" "
8" SEWER MH	1	1	PRECAST	ATLANTIC PRE-CAST
8" SEWER	49 LF	49	SDR-35	J.M. MANUFACTURING FERGUSON WATER WORK

NAME OF UTILITY CONTRACTOR: FERGUSON TRENCHING CO.  
 Sediment control measures for this contract will be implemented in accordance with Section 219 of the Specifications SDP-01-95

Review for Howard Soil Conservation District and meets technical requirements.  
*Jim Myers* 2/5/02  
 NATURAL RESOURCES CONSERVATION SERVICE DATE

This plan is approved for soil erosion and sediment control by the Howard Soil Conservation District.  
*John R. Roberts* 2/5/02  
 HOWARD SOIL CONSERVATION DISTRICT DATE

DEPARTMENT OF PUBLIC WORKS  
 HOWARD COUNTY, MARYLAND  
*Ruth W. Berman* 1-31-02  
 CHIEF, BUREAU OF UTILITIES DATE

DEPARTMENT OF PLANNING & ZONING  
 HOWARD COUNTY, MARYLAND  
*John R. Roberts* 2/7/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Patton Harris Rust & Associates, pc  
 ENGINEERS • SURVEYORS • PLANNERS  
 LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS  
 8818 Centre Park Drive, Columbia, MD 21045 • tel 410.997.9900 fax 410.997.9922

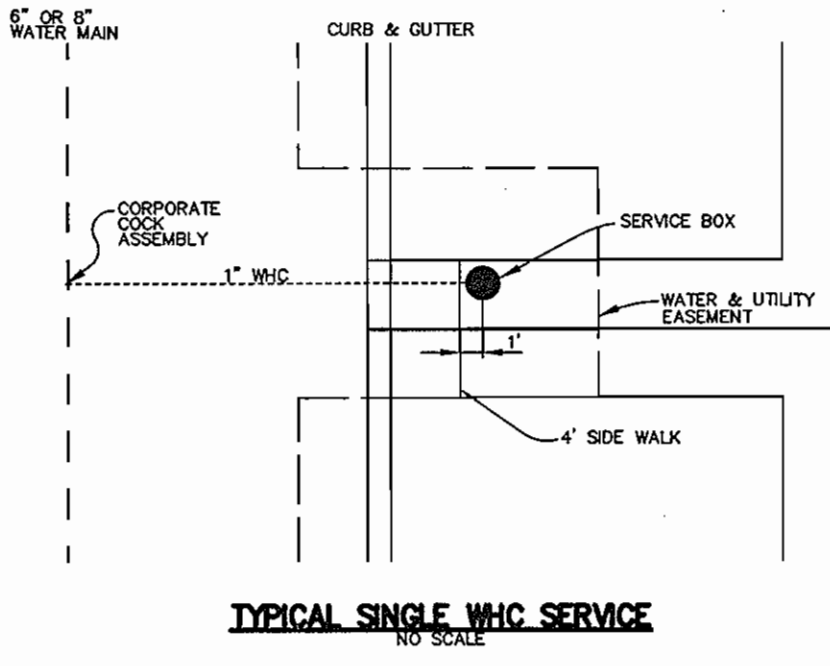
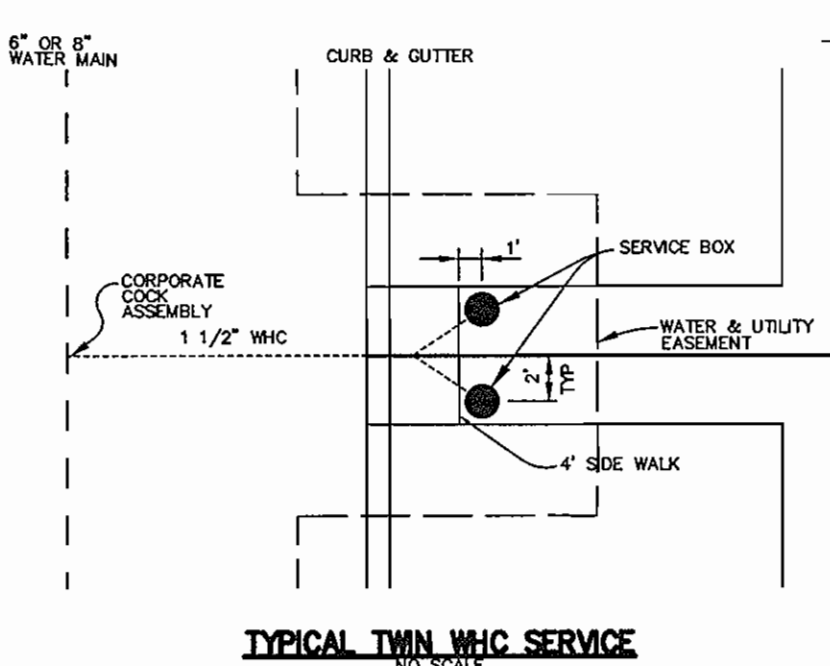
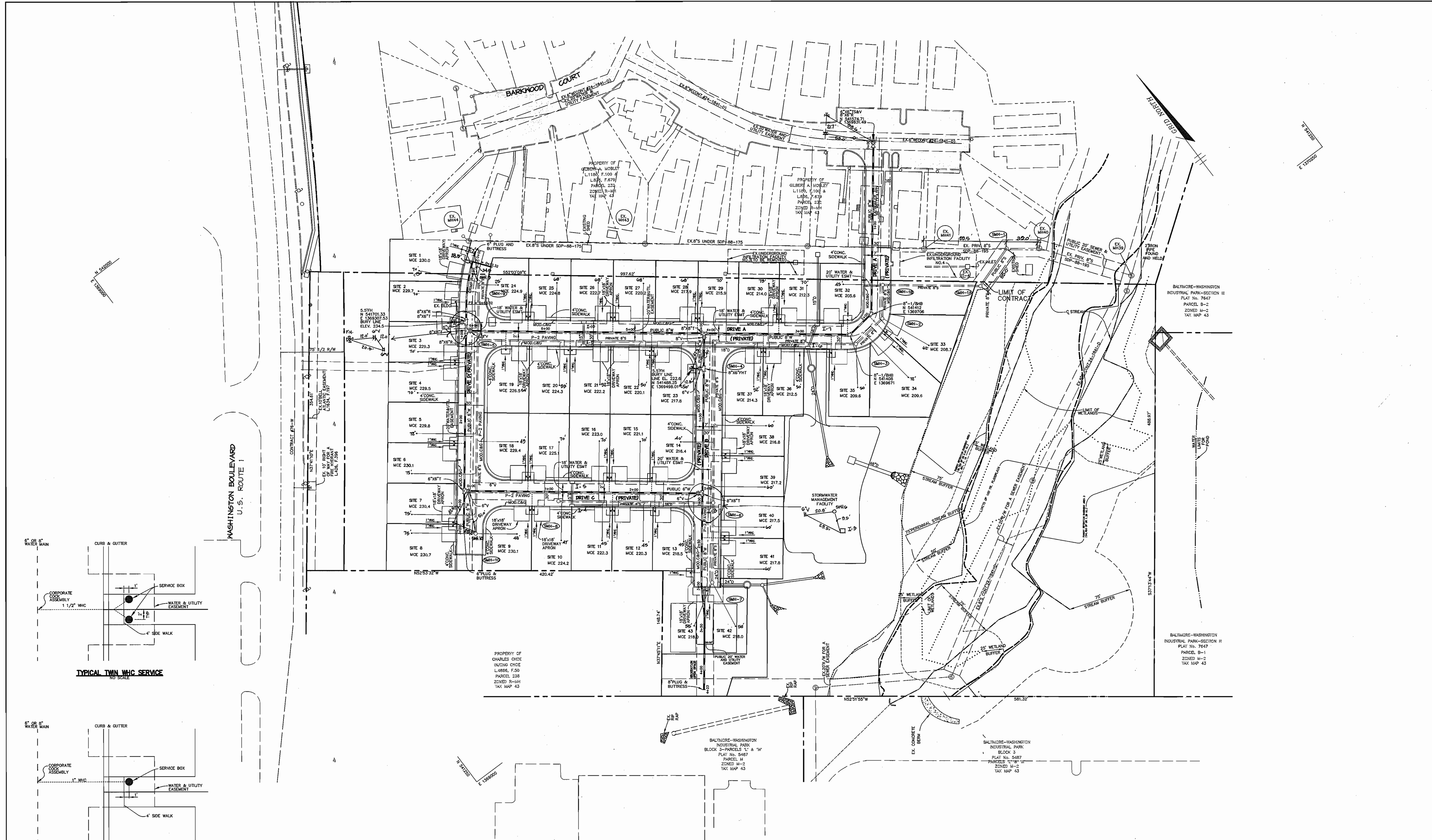


DES: C.J.R.					
DRN: MAD					
CHK: C.J.R.					
DATE: 1/25/02	1	KCI	AS-BUILT DATA (QUANTITIES)	10/24/02	
	NO	BY	REVISION	DATE	

TITLE SHEET  
 600' SCALE MAP NO. 43 BLOCK NO. 19, 20

BRENTWOOD MANOR EXPANSION  
 HOCK PROPERTY, PARCEL 233  
 6TH ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND  
 CONTRACT 24-3967-D

SCALE AS SHOWN  
 SHEET 1 OF 3



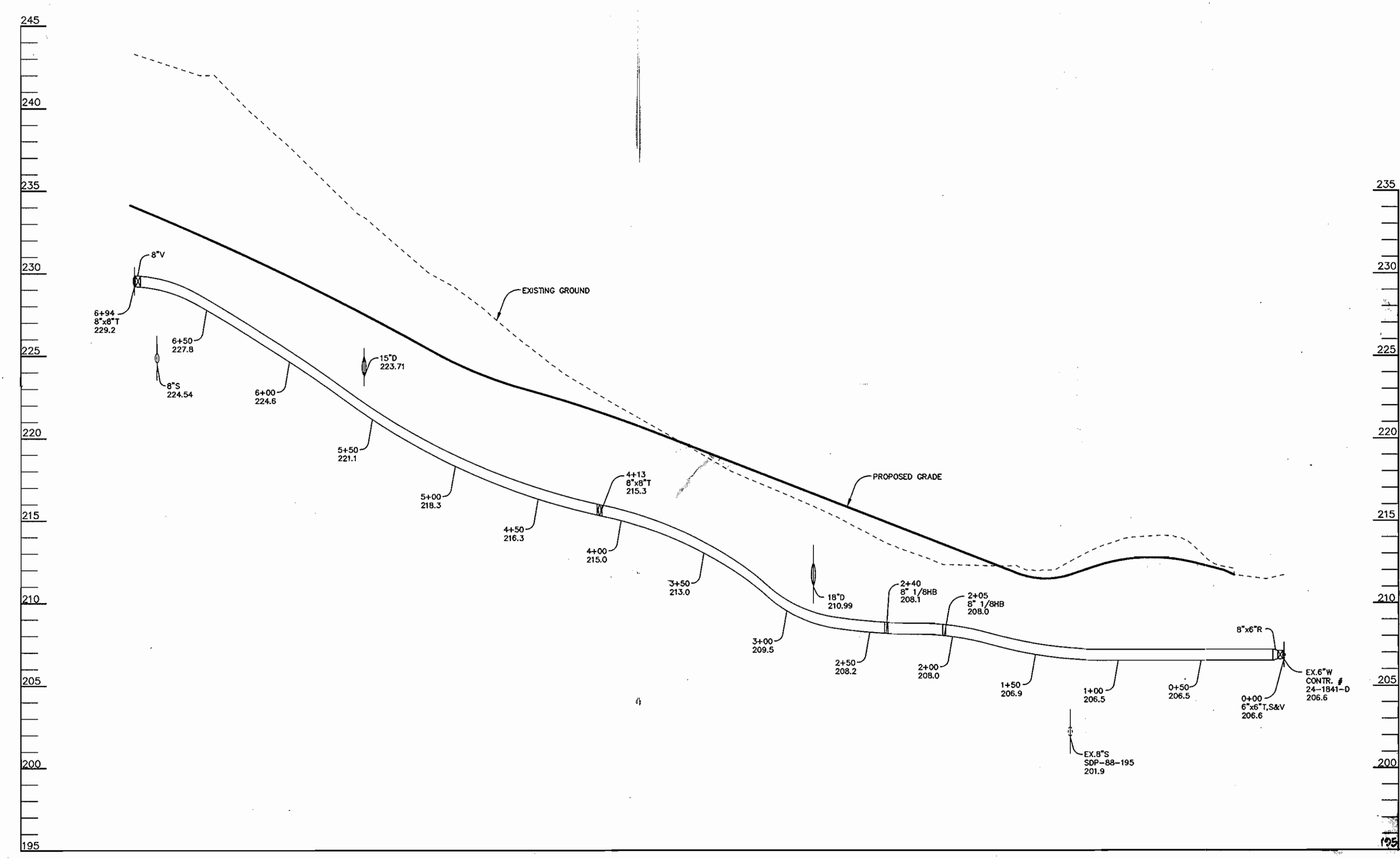
PLAN  
SCALE: 1"=50'

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND		DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND		Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Centre Drive, Columbia, MD 21045 • tel 410.997.8800 fax 410.997.8232		DES: C.J.R. DRN: MAD CHK: C.J.R. DATE: 1/25/02		PLAN OF SEWER & WATER MAIN EXTENSIONS		BRENTWOOD MANOR EXPANSION HOCK PROPERTY, PARCEL 233 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 24-3967-D		SCALE AS SHOWN
1-31-02 DATE		2/1/02 DATE		00082 / WS2.DWG		CHRISTOPHER J. REID #19949		1 KCI NO BY NO: REVISION		10/29/05 DATE		SHEET 2 OF 3

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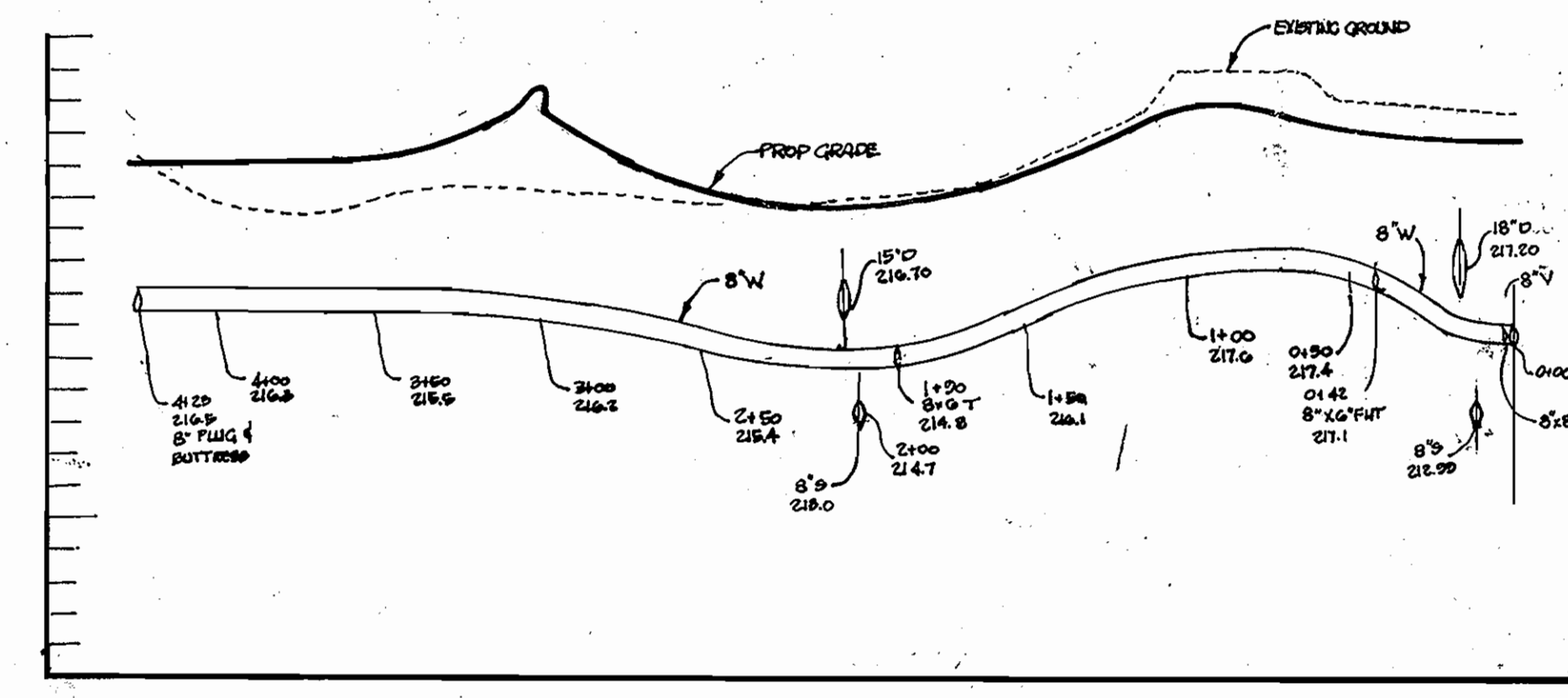
ADJUNCT FIELD MEASUREMENTS

SEWER				WATER						
SHC	LOT	TO	MH/SHC #	DIST.	WHC	LOT	TO	MH/WHC	DIST.	
"	1	"	SMH 9	70	"	2	"	6" FHV	26	
"	1	"	LOT 2	25	"	2	"	SMH 9	26	
"	2	"	SMH 9	72	"	6" FHV	"	SMH 9	52	
"	3	"	SMH 5	73	"	WHC	3/4	SMH 5	28	
"	3	"	LOT 4	50	"	3/4	"	LOT 5/6	28	
"	4	"	SMH 5	45	"	5/6	"	SMH 5	120	
"	5	"	SMH 5	192	"	7/8	"	G VALVE	42	
"	5	"	LOT 4	48	"	7/8	"	LOT 9/10	42.5	
"	5	"	SMH 10	127	"	9/10	"	G VALVE	78	
"	6	"	LOT 5	48	"	11/12	"	SMH 8	69	
"	6	"	SMH 10	104	"	11/12	"	LOT 13	50	
SHC	7	"	SMH 10	79	"	13	"	SMH 8	114	
"	7	"	LOT 8	23	"	14	"	SMH 8	114	
"	8	"	SMH 10	75	"	14	"	LOT 15/16	50	
"	9	"	SMH 8	63	"	15/16	"	SMH 8	60	
"	9	"	LOT 10	54	"	17/18	"	G VALVE	72	
"	10	"	SMH 8	48	"	17/18	"	SMH 8	45	
"	10	"	LOT 11	50	"	G VALVE	"	SMH 8	107.5	
"	11	"	SMH 8	70	"	WHC	19	"	SMH 5	28
"	12	"	SMH 6	23	"	19	"	LOT 20/21	75	
"	12	"	LOT 13	48	"	20/21	"	SMH 5	110	
"	13	"	SMH 6	58	"	22/23	"	SMH 4	75	
"	14	"	SMH 6	81	"	22/23	"	G VALVE	68.5	
"	14	"	LOT 16	48	"	G VALVE	"	SMH 4	14	
SHC	15	"	SMH 6	110	"	WHC	24/25	"	SMH 5	65
"	16	"	SMH 8	87	"	24/25	"	LOT 26/27	100.5	
"	16	"	LOT 17	47	"	26/27	"	SMH 5	162	
"	17	"	SMH 8	70	"	28/29	"	SMH 4	20	
"	18	"	SMH 8	83	"	30/31	"	SMH 4	20	
"	18	"	LOT 17	50	"	30/31	"	SMH 4	80	
"	19	"	SMH 5	73	"	32	"	SMH 3	20	
"	19	"	LOT 20	49	"	32	"	SMH 3	42.5	
"	20	"	SMH 5	111	"	33/34	"	SMH 3	37	
"	20	"	LOT 21	48	"	35	"	SMH 3	20	
"	21	"	SMH 5	154	"	35	"	SMH 3	80	
"	22	"	SMH 4	103	"	36/37	"	SMH 3	110	
SHC	22	"	LOT 23	50	"	38/39	"	SMH 6	56	
"	23	"	SMH 4	65	"	38/39	"	LOT 41	47	
"	24	"	SMH 0	24	"	40/41	"	SMH 6	45	
"	24	"	SMH 5	70	"	42	"	SMH 7	13	
SMH	5	"	SMH 9	68	"	42	"	LOT 43	29	
SHC	LOT 25	"	SMH 9	93	"	43	"	SMH 7	27.5	
"	LOT 25	"	SMH 9	113	"	"	"	"	"	
"	LOT 26	"	NECOR 10	48	"	"	"	"	"	
"	LOT 26	"	NECOR 10	75	"	"	"	"	"	
I-10	INLET	"	NECOR 10	23	"	"	"	"	"	
SHC	LOT 27	"	NECOR 10	80	"	"	"	"	"	
"	LOT 27	"	LOT 28	52	"	"	"	"	"	
"	LOT 28	"	NECOR 10	127	"	"	"	"	"	
"	LOT 29	"	SMH 4	73	"	"	"	"	"	
"	LOT 29	"	SMH 4	24	"	"	"	"	"	
"	LOT 31	"	SMH 3	20	"	"	"	"	"	
"	LOT 31	"	LOT 32	43	"	"	"	"	"	
"	LOT 32	"	SMH 3	73	"	"	"	"	"	
"	LOT 33	"	SMH 2	64	"	"	"	"	"	
"	LOT 33	"	LOT 34	45	"	"	"	"	"	
SHC	LOT 34	"	SMH 2	77	"	"	"	"	"	
"	LOT 35	"	SMH 3	52	"	"	"	"	"	
"	LOT 35	"	SMH 2	87	"	"	"	"	"	
"	LOT 36	"	NECOR 10	49	"	"	"	"	"	
"	LOT 36	"	LOT 37	48	"	"	"	"	"	
"	LOT 37	"	NECOR 10	82	"	"	"	"	"	
"	LOT 38	"	SMH 6	110	"	"	"	"	"	
"	LOT 38	"	LOT 39	72	"	"	"	"	"	
"	LOT 39	"	SMH 6	69	"	"	"	"	"	
"	LOT 40	"	SMH 6	67	"	"	"	"	"	
"	LOT 40	"	LOT 41	50	"	"	"	"	"	
"	LOT 41	"	SMH 6	100	"	"	"	"	"	
SMH	7	"	LOT 42	58	"	"	"	"	"	
SHC	LOT 42	"	LOT 43	50	"	"	"	"	"	
"	LOT 43	"	SMH 7	55	"	"	"	"	"	



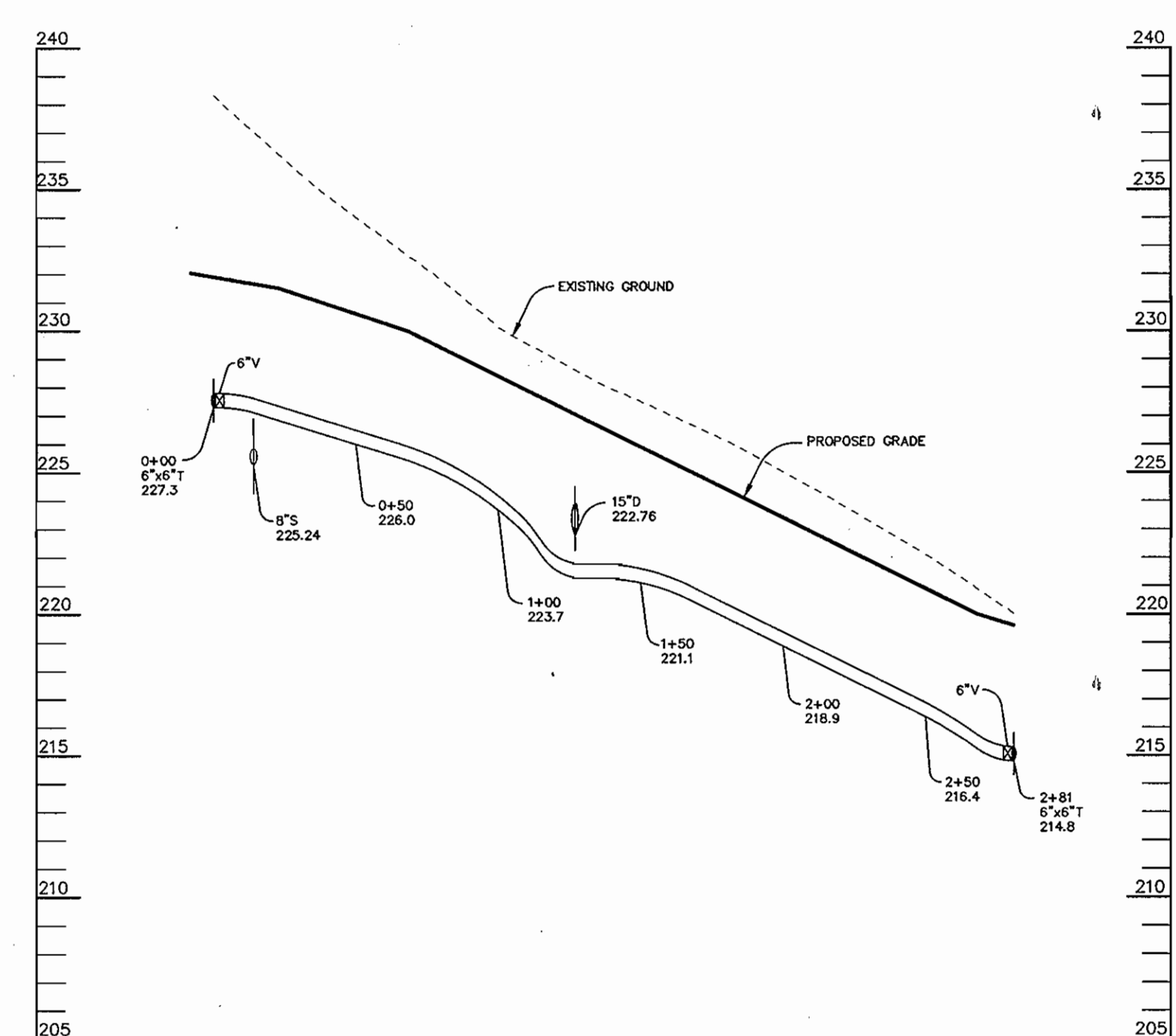
WATER PROFILE-DRIVE A

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



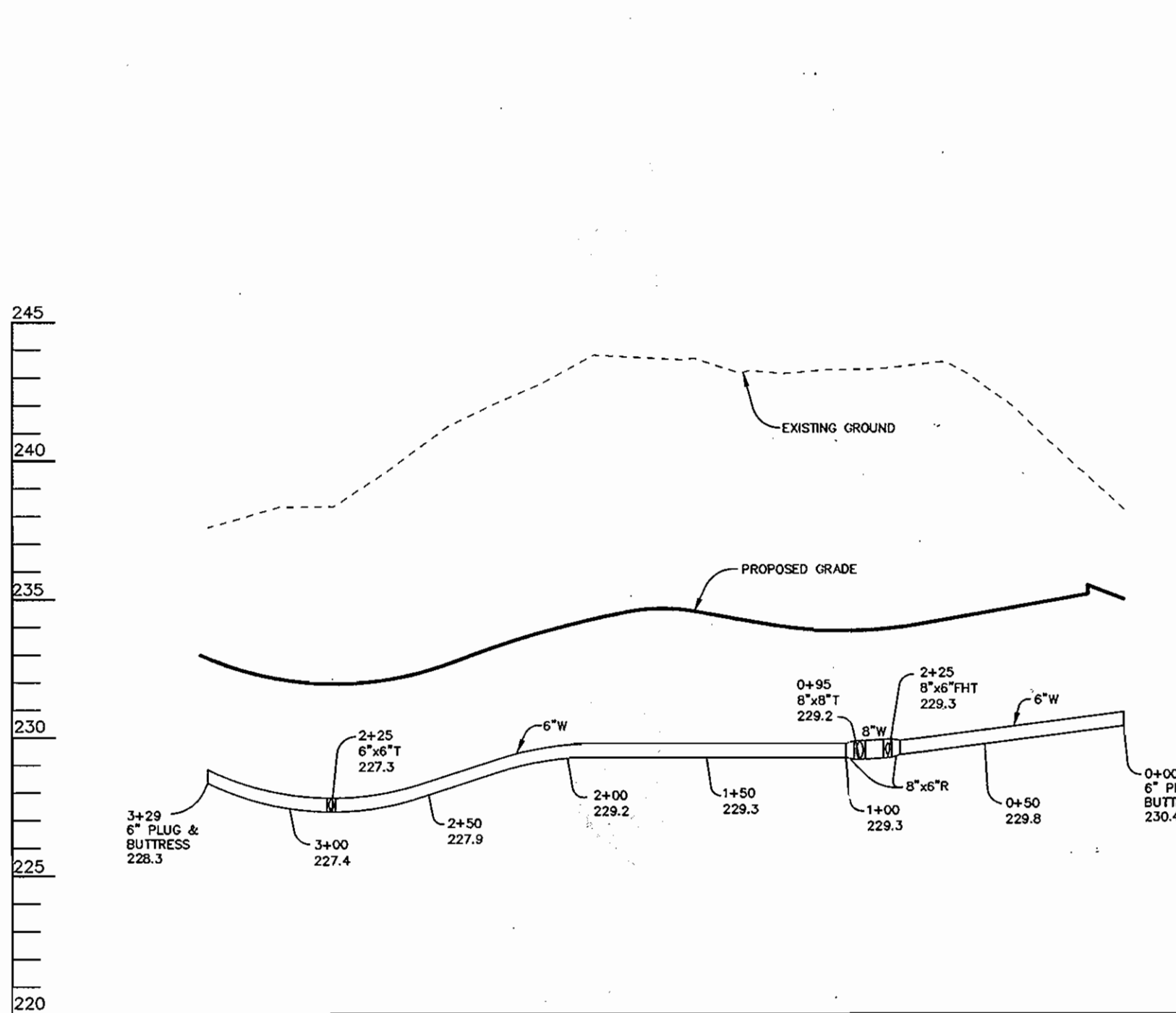
WATER PROFILE-DRIVE B

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



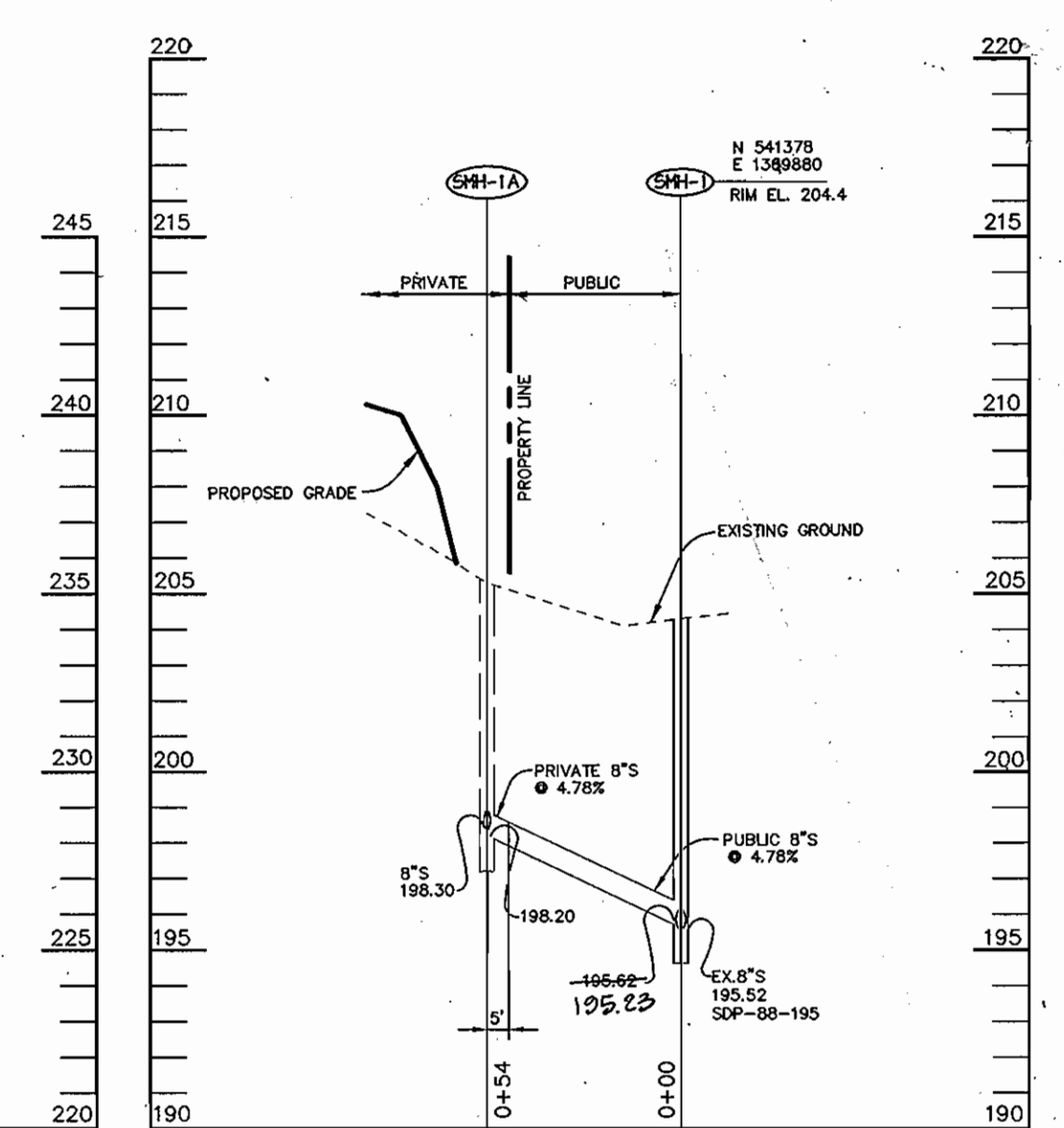
WATER PROFILE-DRIVE C

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



WATER PROFILE-DRIVE D

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



SEWER PROFILE

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

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND  Chief, Bureau of Utilities 1-31-02 DATE	DEPARTMENT OF PLANNING & ZONING HOWARD COUNTY, MARYLAND  Chief, Development Engineering Division 2/10/02 DATE	Patton Harris Rust & Associates, pc ENGINEERS • SURVEYORS • PLANNERS LANDSCAPE ARCHITECTS • ENVIRONMENTAL SPECIALISTS 8818 Conroy Park Drive, Columbia, MD 21045 • Tel 410.997.8900 fax 410.997.8282 00082 / WS3.DWG CHRISTOPHER J. REID #19949	DES: C.J.R. DRN: MAD CHK: C.J.R. DATE: 1/25/02 BY: NO. REVISION DATE	1 KCI ADJUNCT DATA ADDED TO PLAN 10/2/02	PROFILES OF WATER & SEWER MAIN EXTENSIONS 600' SCALE MAP NO. 43 BLOCK NO. 19, 20	BRENTWOOD MANOR EXPANSION HOCK PROPERTY, PARCEL 233 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND CONTRACT 24-3967-D SCALE AS SHOWN SHEET 3 OF 3
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