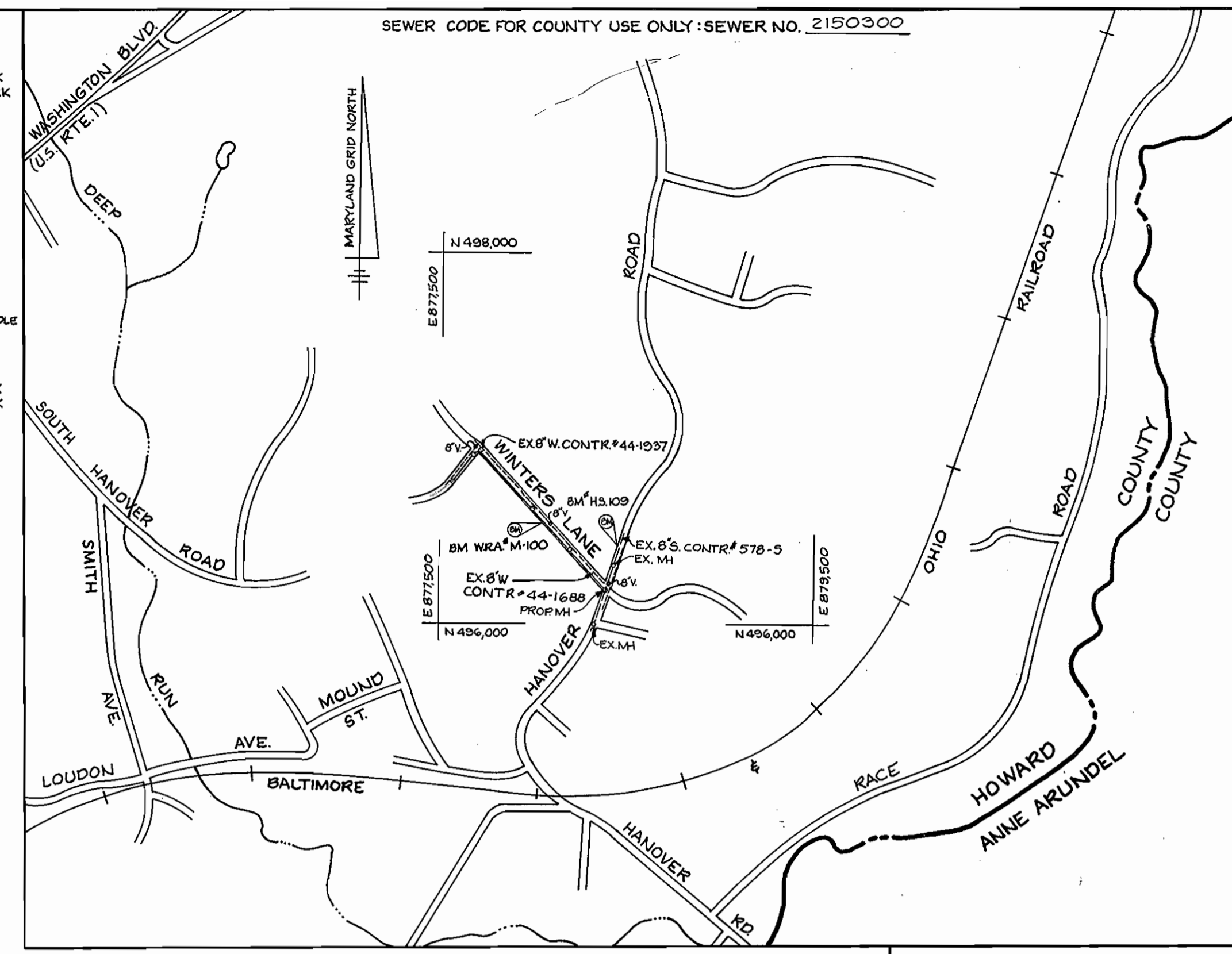


BENCHMARKS

BM# HS.109	ELEV. 149.10
TOP OF FIRE HYDRANT, 210' NORTH FROM INTERSECTION OF WINTERS LANE & HANOVER ROAD	
BM WR# M-100	ELEV. 165.72
RR SPIKE IN BASE OF C/P POLE #370980 LEFT OF STATION 5+10 WINTERS LANE.	



NOTE:
CONTRACTOR SHALL BE RESPONSIBLE FOR COST OF RELOCATING ANY UTILITY POLES AND REPLACING FENCING, PLANTINGS OR OTHER FEATURES DISTURBED DURING CONSTRUCTION.

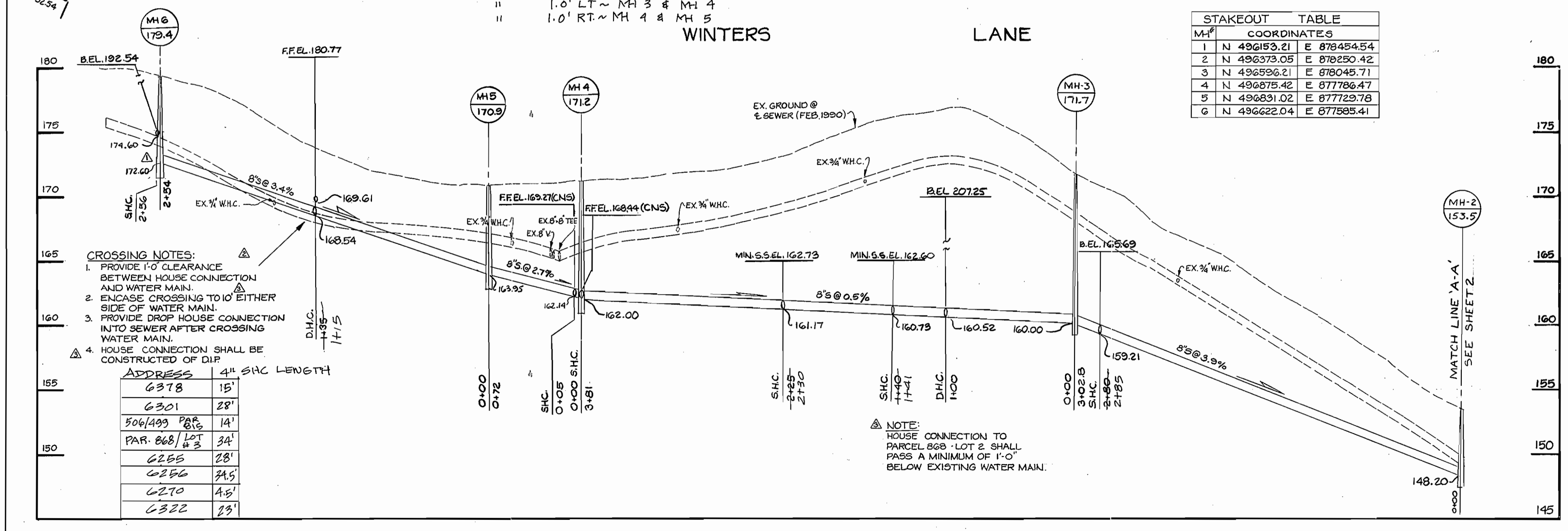
QUANTITIES

ITEM	UNIT	ESTIMATE	AS-BUILT	MATERIAL/SUPPLIER
8" SEWER MAIN	L.F.	1310	1288	
4" MANHOLES	EA.	5	5	
DROP MANHOLES - TYPE 'B'	EA.	1	1	
4" S.H.C.	L.F.	165	179	

SHIFTED 1.0' RT. ~ MH 2 & MH 3
 " 1.0' LT. ~ MH 3 & MH 4
 " 1.0' RT. ~ MH 4 & MH 5

STAKEOUT TABLE

M.H.#	COORDINATES
1	N 496153.21 E 878454.54
2	N 496373.05 E 878250.42
3	N 496596.21 E 878045.71
4	N 496875.42 E 877786.47
5	N 496831.02 E 877729.78
6	N 496622.04 E 877595.41



- ### 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 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 - 531-5533
 - Baltimore Gas & Electric Co. - Contractor Services - 850-4620
 - Baltimore Gas & Electric Co. - Under Ground Damage Control - 859-9004
 - Baltimore Gas & Electric Co. - Trouble Shooting - 298-9001
 - Mesa Utility - 1-800-257-7777
 - Colonial Pipeline Co. - 795-1390
 - Bureau of Utilities, Howard County Dept of Public Works - 992-2366
 - CIP Telephone - 1-800-257-7777
 - Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs located within the limits of construction 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., 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.
 - Force mains shall be D.I.P. only.
 - Manholes shown with 12" and 16" walls are for 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." indicates that cellar cannot be served.
 - Erosion and Sediment Control must conform to all requirements on sheet 2 of 2 and Section 219 of the Howard County Standard Specifications and Details for Construction.

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENT. *James M. Nelson (S.S.)* 9/19/90 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT. *Cliff Schwing* 9/19/90 DATE

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

James M. Nelson 9/20/90 DATE
 DIRECTOR OF PUBLIC WORKS

Robert A. Bunn 9-24-90 DATE
 CHIEF, BUREAU OF UTILITIES

HARRIS, SMARIGA, MATZ, INC.
 104 CHURCH LANE
 BALTIMORE, MARYLAND 21208

DES: J.S.B.	6/27	LOWERED MHG INVERT 2' AS PER M.D.E. COMMENTS	10-30-90
DRN: J.S.B.	6/27	CHANGED S.H.C. TO D.H.C. AND ADDED CROSSING	10-30-90
CHK: E.A.H.	6/27	ADDITIONAL S.H.C./D.H.C. NOTES PER M.D.E.	11-8-90
DATE: 9-10-90	BY: N.O.	REVISION	DATE

8" SEWER EXTENSION
 CONTRACT NO. 10-3041

600' SCALE MAP NO. 38 BLOCK NO. 14

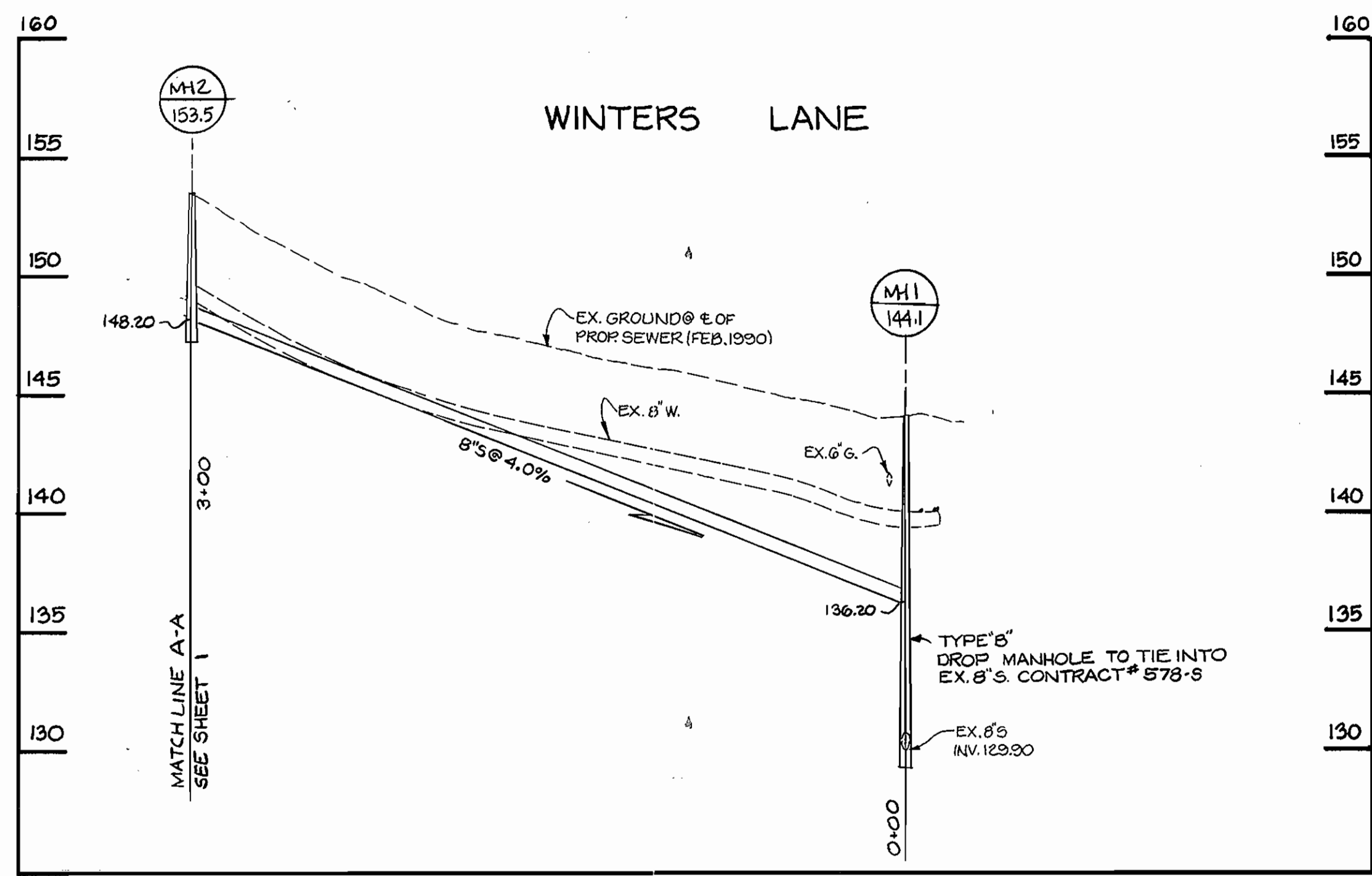
AS-BUILT

H.S.M. JOB NO. 40380

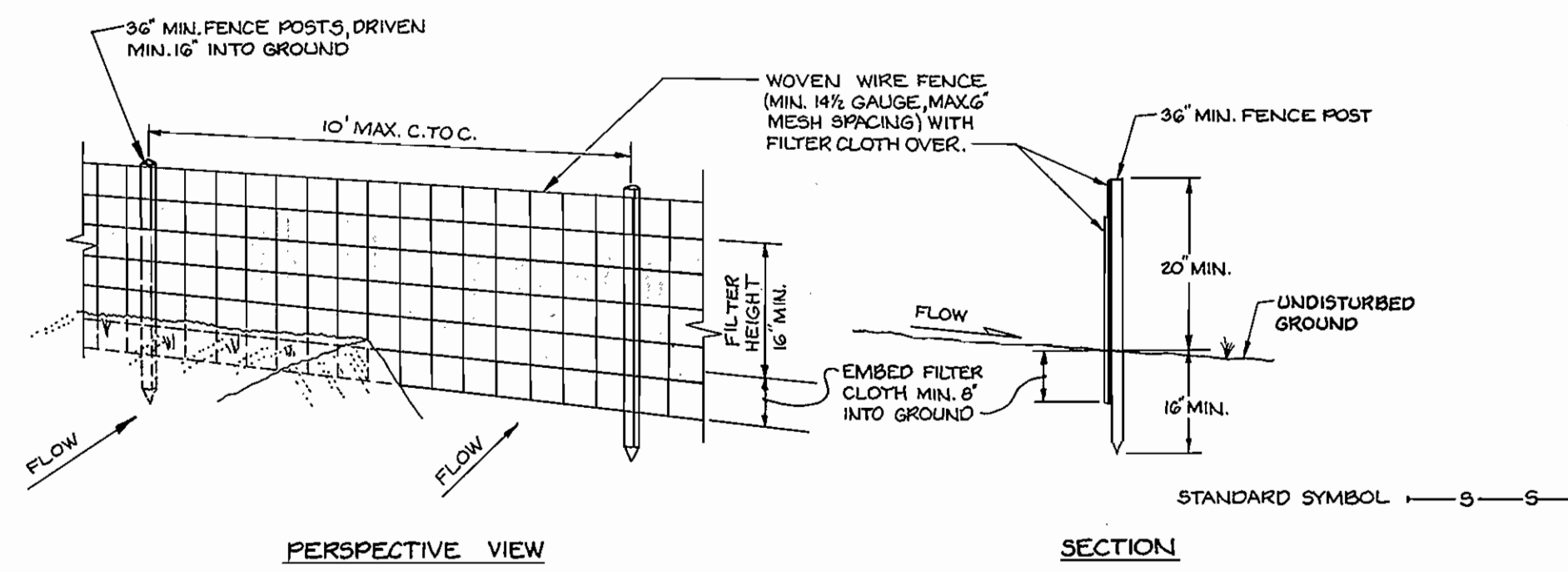
WINTERS LANE SEWER
 ELECTION DISTRICT NO. 1
 HOWARD COUNTY, MARYLAND
 CAPITAL PROJECT S-6162

SHEET 1 OF 2

69150



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



SILT FENCE DETAIL
(NOT TO SCALE)

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- Woven wire fence to be fastened securely to fence posts with wire ties or staples.
 - Filter cloth to be fastened securely to woven wire fence with ties spaced every 24" at top and mid section.
 - When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
 - Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.
- Posts: Steel either T or U type or 2 inch hardwood.
Fence: Woven wire, 1 1/2 gauge 6 inch max. mesh opening.
Filter Cloth: Filter X, Mirafi 100X, Stabilinka T140N, or approved equal.
Prefabricated Unit: Geofab, Envirofence or approved equal.

SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction.
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within:
 - 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1.
 - 14 days as to all other disturbed or graded areas on the project site.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52). Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	14	Acres
Area Disturbed	14	Acres
Area to be roofed or paved	08	Acres
Area to be vegetatively stabilized	06	Acres
Total Cut	714	Cu. yds.
Total Fill	714	Cu. yds.
Offsite waste / borrow area location	ALPHA RIDGE	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

SEQUENCE OF CONSTRUCTION

- Contractor shall obtain a grading permit.
- Install sediment and erosion control devices according to plan.
- Clear and grub right-of-way ahead of construction by no more than one pipe length.
- Install silt fence daily along the low side of the limits of construction. This silt fence shall be removed as construction proceeds upstream when the disturbed area has been stabilized and with approval of the Howard County Sediment Control Inspector. Fill must be placed on upland side of trench.
- Complete construction of sanitary sewer main, limiting open trench to one pipe length at a time.
- Restabilize all disturbed areas in accordance with permanent seeding notes.
- Upon approval of Howard County Sediment Control Inspector, remove all sediment control devices.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed where a short-term vegetative cover is needed.
Seeded preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding, if not previously loosened.
Soil Amendments: -- Apply 60 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.).
Seeding: -- For periods March 1 thru April 30 and August 15 thru October 15, seed with 2.5 bushel per acre of annual rye (3.2 lbs./1000 sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of weeping lovegrass (.07 lbs./1000 sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
Mulching: -- Apply 1.5 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5 gal./1000 sq. ft.) of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 348 gal. per acre (8 gal./1000 sq. ft.) for anchoring.
 Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.

PERMANENT SEEDING NOTES

Seeded Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.
Soil Amendments: Use one of the following schedules:
 1. Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq. ft.) and 600 lbs. per acre 10-10-10 fertilizer (14 lbs./1000 sq. ft.) before seeding. Harrow or disc into upper 3 inches of soil. At time of seeding, apply 400 lbs. per acre 30-0-0 ureaform fertilizer (9 lbs./1000 sq. ft.).
 2. Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq. ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23 lbs./1000 sq. ft.) before seeding. Harrow or disc into upper 3 inches of soil.
Seeding: - For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs. per acre (14 lbs./1000 sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. Kentucky 31 Tall Fescue per acre and 2 lbs. per acre (.05 lbs./1000 sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option 1 - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option 2 - Use sod. Option 3 - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.
Mulching: - Apply 1.5 to 2 tons per acre (70 to 90 lbs./1000 sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or wood cellulose binders.
Maintenance: - Inspect all seeded areas and make needed repairs, replacements and reseeds.

RESTORATION	SCHEDULE	
LOCATION	DISTANCE	TYPE
MH10+00 to MH2+00	300 L.F.	PAVING
MH20+00 to MH3+028	302.8 L.F.	PAVING
MH30+00 to STA. 0+18	18 L.F.	PAVING
STA. 0+18 to STA. 3+68	350 L.F.	SEED + MULCH
STA. 3+68 to MH4+3+81	13 L.F.	PAVING
MH40+00 to STA. 0+08	8 L.F.	PAVING
STA. 0+08 to STA. 0+65	57 L.F.	SEED + MULCH
STA. 0+65 to MH5+0+72	7 L.F.	PAVING
MH50+00 to MH6+2+54	254 L.F.	PAVING

By the Developer:

"I/We certify that all development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District."
 Signature of Developer: *William E. Reiley* 9-24-90
 Print name below signature: William E. Reiley

By the Engineer:

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."
 Signature of Engineer: *Eric A. Hanson* 8-28-90
 Print name below signature: Eric A. Hanson

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James A. ... 9-26-90
DIRECTOR OF PUBLIC WORKS DATE

William E. Reiley 9-24-90
CHIEF, BUREAU OF ENGINEERING DATE

Eric A. Hanson 9-24-90
CHIEF, UTILITY DESIGN DIVISION DATE

HARRIS, SMARIGA, MATZ, INC.
104 CHURCH LANE
SUITE 100
BALTIMORE, MARYLAND 21208

DES: J.S.B.				
DRN: J.S.B.				
CHK: E.A.H.				
DATE: 9-18-90	BY: NO.	REVISION	DATE	600' SCALE MAP NO. 38 BLOCK NO. 14

8" SEWER EXTENSION
CONTRACT NO. 10-3041

WINTERS LANE SEWER
ELECTION DISTRICT No. 1
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT S-616Z

SCALE AS SHOWN
SHEET 2 OF 2