

AS-BUILT 12/3/96

DISTURBED AREA = 11,300 S.F. OR 0.26 AC.

NOTE L.O.D. IS EQUAL TO LIMIT OF EASEMENTS OR 10' EITHER SIDE OF MAIN IN EXIST ROAD RIGHT OF WAY.

BENCH MARK - HOWARD CO. BM. NO. 25AA

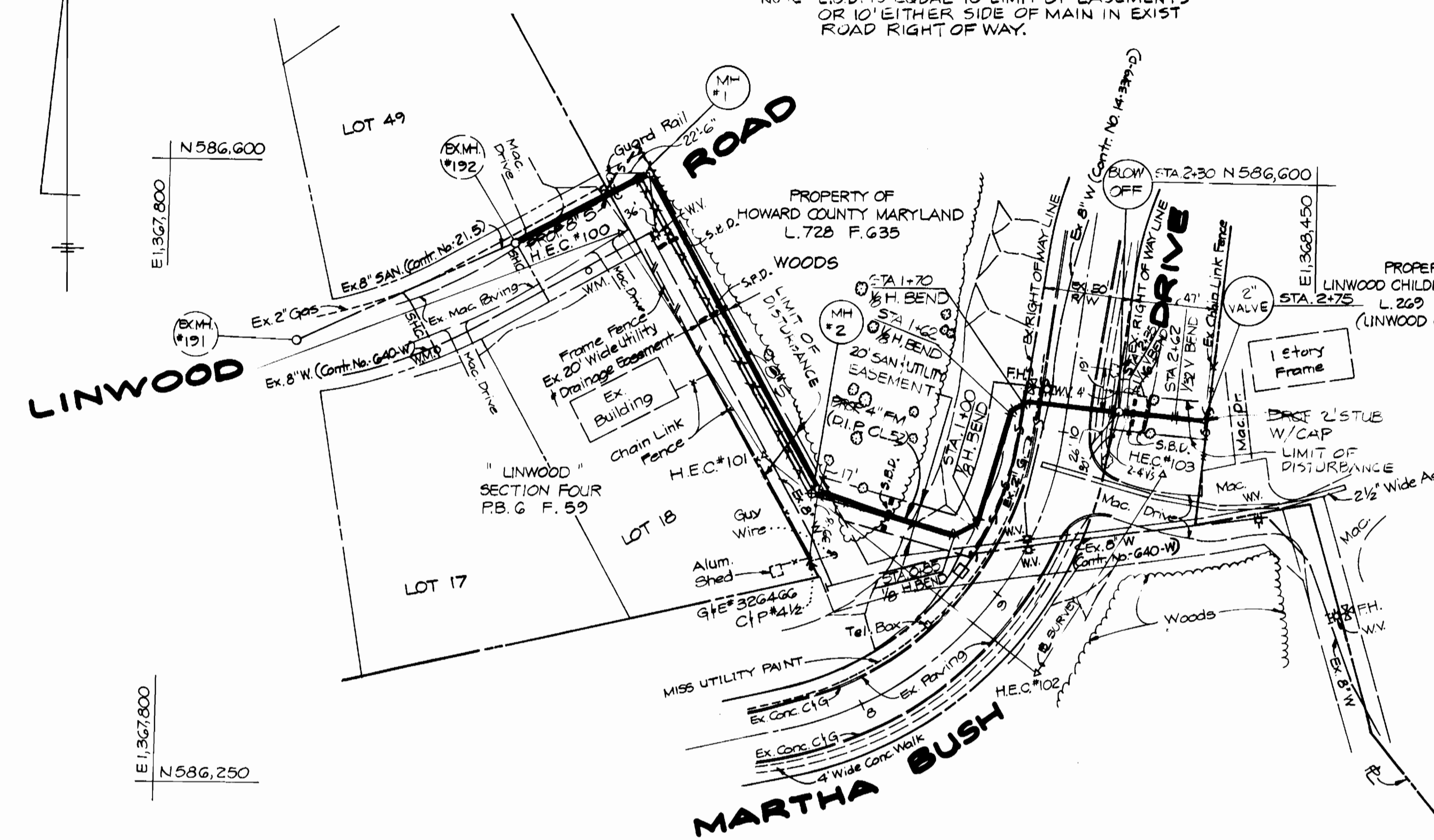
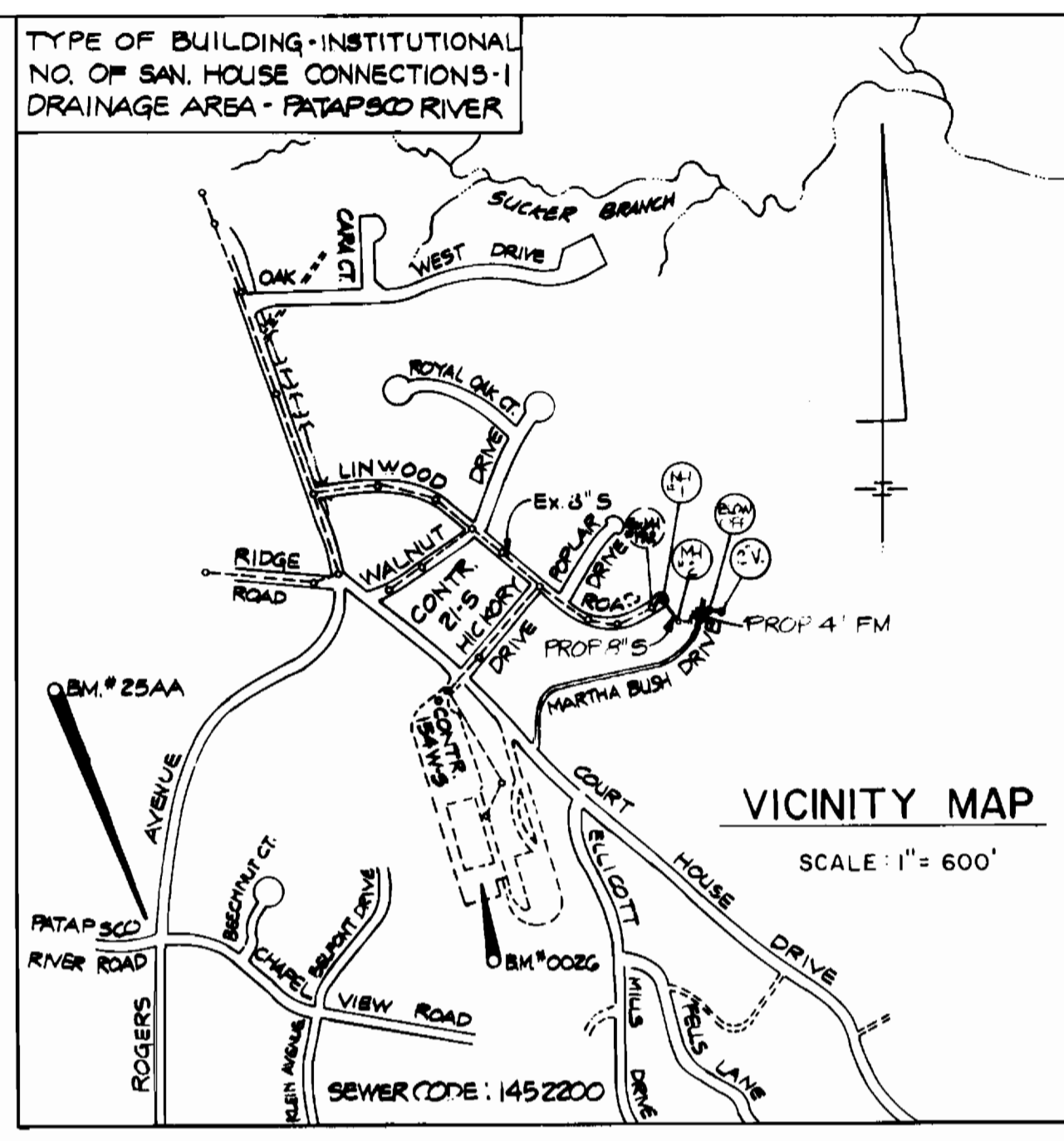
STD. HO. CO. SURV. DISC. ON CONC. MON. 2' FR. E. PAVING ON W. SIDE OF ROGERS AVE. 30' ± N. OF PATAPSCO RIVER RD. 78.8' FR. F.H. IN SHLDR. OF ROGERS AVE. ELEV. 308.54 N 585,307.15 E 1,366,070.90

BENCH MARK - HOWARD CO. BM. NO. 002G

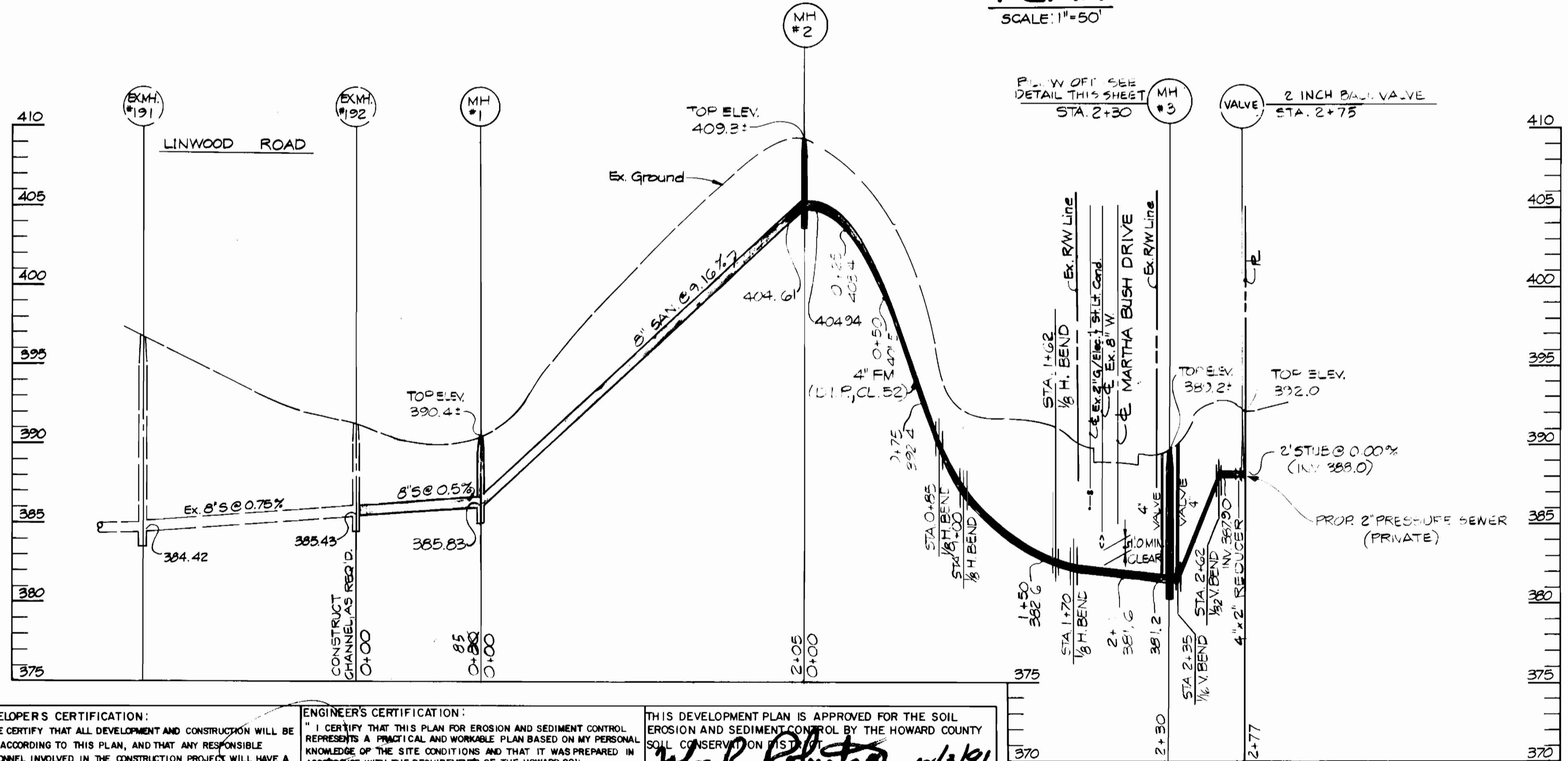
STD. HO. CO. SURV. DISC. ON CONC. MON. FLUSH W/GRD. PERM. METALLIC TRIPOD MOUNTED OVER IT. FD IN ISLAND OF PARKING LOT S. OF CARROLL BLDG. 5.6' FR. W. OF CURB AND 13.6' S. OF F.H. ELEV. 417.88 N 585,511.15 E 1,367,418.40

GENERAL NOTES

- 1. Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted service. Any damage incurred shall be repaired immediately to the satisfaction of the Engineer at the Contractor's expense.
2. All horizontal controls are based on Maryland State Coordinates, NAD 83.
3. All vertical controls are based on U.S.G.S. data.
4. All pipe elevations shown are invert elevations unless otherwise noted on the plans.
5. Clear all utilities by a minimum of 5'. Clear all poles by 5'-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 the 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.
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 (Latest Edition). The Contractor shall have a copy of Volume IV on the job.
7. Where test pits have been made on existing utilities, they are noted by the symbol [X] 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.
8. Contractor shall notify the following utility companies or agencies at least five working days before starting work shown on these plans:
AT&T... 865-3803
BGE - Contractor Services... 850-4830
BGE - Underground Usage Control... 787-9068
Bureau of Utilities (BPU)... 313-4900
Bell Atlantic-MD, Inc... 593-8385
Colonial Pipeline Co... 795-1390
"Miss Utility"... 1-800-251-7777
State Highway Administration... 331-5533
9. Trees and shrubs are to be protected from damage to the maximum extent. Trees and shrubs located within the construction strip are not to be removed or damaged by the Contractor.
10. 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.
11. The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-3520 at least five working days before any open cut of any County road or trenchless installation 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.



PLAN SCALE: 1" = 50'



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

QUANTITIES table with columns: ITEMS, QUANTITIES ESTIMATED, QUANTITIES, TYPE, MANUFACTURER/SUPPLIER. Lists items like 8" SEWER MAIN, 4" FM, 1/2" VERT. BEND, 4" GATE VALVE, 2" BALL VALVE, etc.

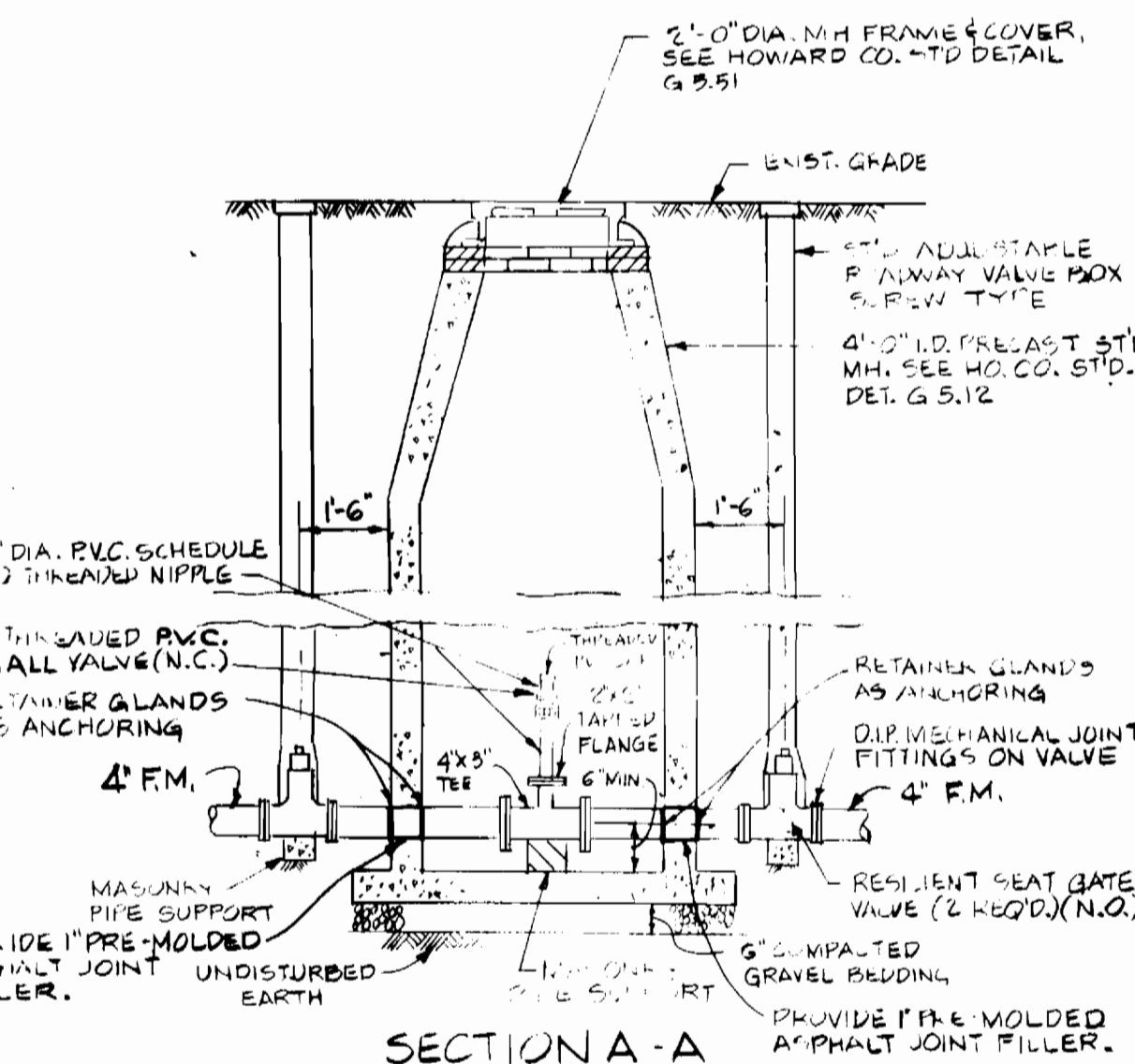
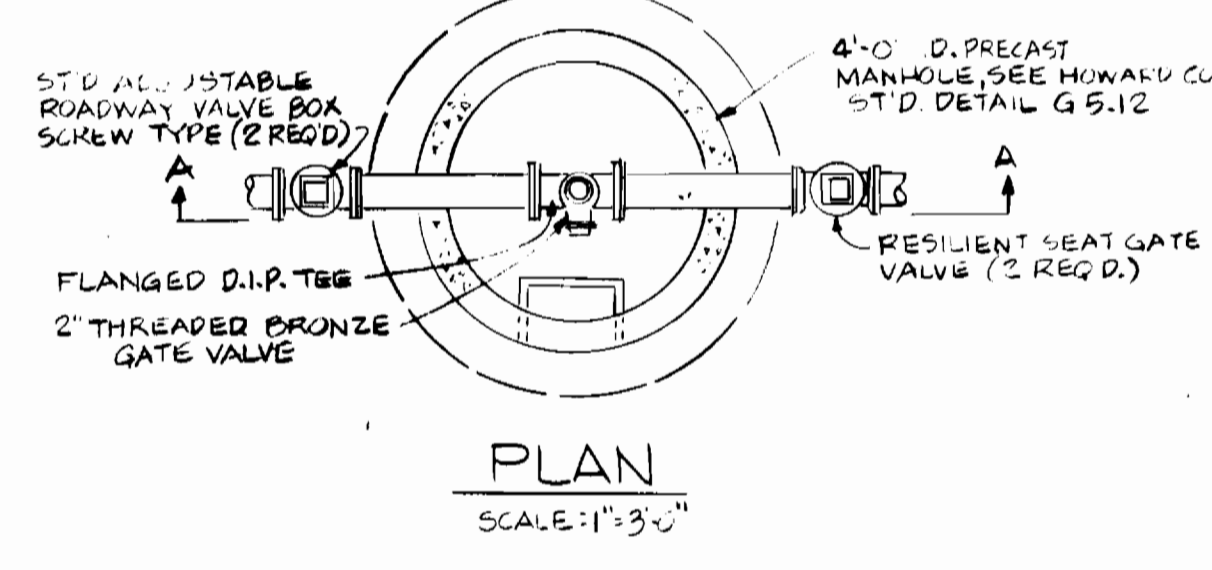
RESTORATION SCHEDULE

RESTORATION SCHEDULE table with columns: LOCATION, LENGTH, TYPE. Lists restoration tasks such as '8" SANITARY EX MH #192 TO MH #1', 'MH #1 TO MH #2', '4" FM MH #2 TO BLOW OFF MH', etc.

STAKEOUT DATA

STAKEOUT DATA table with columns: MAIN FITTING, DISTANCE, OFFSET. Lists stakeout points for manholes and valves with their distances and offsets from a common point.

- SEWER NOTES
1. All sewer mains shall be D.I.P. or P.V.C., unless otherwise noted.
2. All manholes shall be 4'-0" inside diameter, unless otherwise noted.
3. Force mains shall be D.I.P. only.
4. Manholes shown with 12" and 16" walls are for brick manholes only.
5. Manholes designated W.T. in plan and profile shall have watertight frame and cover, Standard Detail 03.52. Where watertight manhole frames and covers are used, set top of frame 1'-6" above finished grade unless otherwise noted on the drawings.
6. House(s) with the symbol "C.N.S." indicates that cellar cannot be served.



BLOW OFF SCALE: 1" = 3'-0"

ALL PIPING FITTINGS AND VALVES IN THE MANHOLE, EXCLUDING THE CLEANOUT FITTING, SHALL BE 4 INCH DIAMETER DUCTILE IRON, CL 52.

DEVELOPER'S CERTIFICATION: 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 certification of attendance at a Maryland Department of Environment approved training program for the control of sediment and erosion, before beginning the project.

ENGINEER'S CERTIFICATION: 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. Reviewed, Howard County S.C.D. and meets reviewed for Howard County S.C.D. and meets TECHNICAL REQUIREMENTS.

THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT. John R. Robertson 10/2/96. Reviewed, Howard County S.C.D. and meets reviewed for Howard County S.C.D. and meets TECHNICAL REQUIREMENTS. J. J. Wayland 10/2/96.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND. Director of Public Works: James P. Lee 10/2/96. Chief, Bureau of Engineering: Robert E. Sporn 9/27/96. Chief, Bureau of Utilities: Robert E. Sporn 9/30/96. Chief, Water & Sewer Design Division: Cy Don Lin 9/27/96.

HICKS ENGINEERING CO. INC. ENGINEERS SURVEYORS PLANNERS 200 E. JOPPA ROAD SUITE 402 TOWSON, MARYLAND 21286

Revision table with columns: DES. D.E.H., DRN. R.E.W., CHK. D.E.H., DATE: 8/16/96, BY NO., REVISION, DATE: 600' SCALE MAP NO. 5-25 BLOCK NO. 1.

PLAN & PROFILE 4" SEWAGE FORCE MAIN & 8" SANITARY SEWER MAIN

LINWOOD ROAD - SEWER EXTENSION 2ND ELECTION DISTRICT HOWARD COUNTY, MARYLAND CAPITAL PROJECT S-6696 CONTRACT NO. 10-3565 SCALE AS SHOWN SHEET 1 OF 2 AS-BUILT 12/3/96

DETAIL 22 - SILT FENCE

Construction Specifications

- Fence posts shall be a minimum of 36' long driven 16' minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in. (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in. (min.)	Test: MSMT 509
Flow Rate	0.3 gal. ft ² /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E-15-3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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DETAIL 32 - STRAW BALE DIKE

Construction Specifications

- Bales shall be placed at the toe of a slope, on the contour, and in a row with the ends of each bale tightly abutting the adjacent bales.
- Each bale shall be entrenched in the soil a minimum of 4' 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 12' to 18' into the ground. 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 top of the bale.
- Straw bale dikes shall be inspected frequently and after each rain event and maintenance performed as necessary.
- All bales shall be removed when the site has been stabilized. The trench where the bales were located shall be graded flush and stabilized.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H-25-2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
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- #### UTILITY NOTES
- OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY.
 - PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
 - ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

- #### SEDIMENT CONTROL NOTES
- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY OFFICE OF CONSTRUCTION INSPECTION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1855).
 - ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
 - FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
 - ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
 - ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS; SOIL TEMPORARY SEEDING AND MULCHING. 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	NA ACRES
AREA DISTURBED	0.26 ACRES±
AREA TO BE ROOFED OR PAVED	0.01 ACRES±
AREA TO BE VEGETATIVELY STABILIZED	0.28 ACRES±
TOTAL CUT	700 CU. YDS.
TOTAL FILL	700 CU. YDS.
 - OFFSITE WASTE/BORROW AREA LOCATION-TO BE DETERMINED BY THE CONTRACTOR.
 - 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.

- #### PERMANENT SEEDING NOTES
- APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.
- SEEDBED PREPARATION:** LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
- SOIL AMENDMENTS:** IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:
- 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 THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS/1000 SQ. FT.).
 - 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 THREE 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 PER ACRE 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/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/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 218 GALLONS PER ACRE (5 GAL/1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ. FT.) FOR ANCHORING.
- MAINTENANCE -** INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS. REPLACEMENTS AND RESEEDINGS.

SEQUENCE OF CONSTRUCTION	TIME TO COMPLETE
1. OBTAIN A GRADING PERMIT FROM HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES, AND PERMITS.	0.5 WEEK
2. CONTACT HOWARD COUNTY BUREAU OF CONSTRUCTION INSPECTION (313-1880) PRIOR TO STARTING DATE.	0.5 WEEK
3. INSTALL EROSION AND SEDIMENT CONTROL DEVICES AS PER SECTION 219 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV.	1.0 WEEK
4. EXCAVATE AND INSTALL PROPOSED 8" SEWER MAIN AND 4" FORCE MAIN.	2.0 WEEKS
5. RESTORE PAVING AND EARTH TRENCHES TO THEIR ORIGINAL CONDITION AS PER HOWARD COUNTY STANDARDS.	1.0 WEEK
6. UPON PERMISSION FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES.	0.5 WEEK
7. FINE GRADE ALL DISTURBED AREAS AND STABILIZE WITH PERMANENT SEEDING.	0.5 WEEK

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

James J. ... 10/2/96
DIRECTOR OF PUBLIC WORKS DATE

Robert ... 9/27/96
CHIEF, BUREAU OF ENGINEERING DATE

Robert ... 9-30-96
CHIEF, BUREAU OF UTILITIES DATE

Oy ... 9-27-96
CHIEF, WATER & SEWER DESIGN DIV. DATE

HICKS ENGINEERING CO., INC.
ENGINEERS, SURVEYORS & PLANNERS
200 EAST JOPPA ROAD - SUITE 402
TOWSON, MARYLAND 21286-3160
(410) 494-0001

John E. Hicks
PROFESSIONAL ENGINEER
STATE OF MARYLAND
NO. 8676
EXPIRES 12/31/97

DES: K.W.
DRN: L.C.
CHK: D.E.H.
DATE: 8/16/96

BY	NO.	REVISION	DATE	600' SCALE MAP NO.	BLOCK NO.

DETAIL SHEET

LINWOOD ROAD - SEWER EXTENSION
2ND ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
CAPITAL PROJECT S-6696
CONTRACT NO. 10-3565

SCALE AS SHOWN
SHEET 2 OF 2