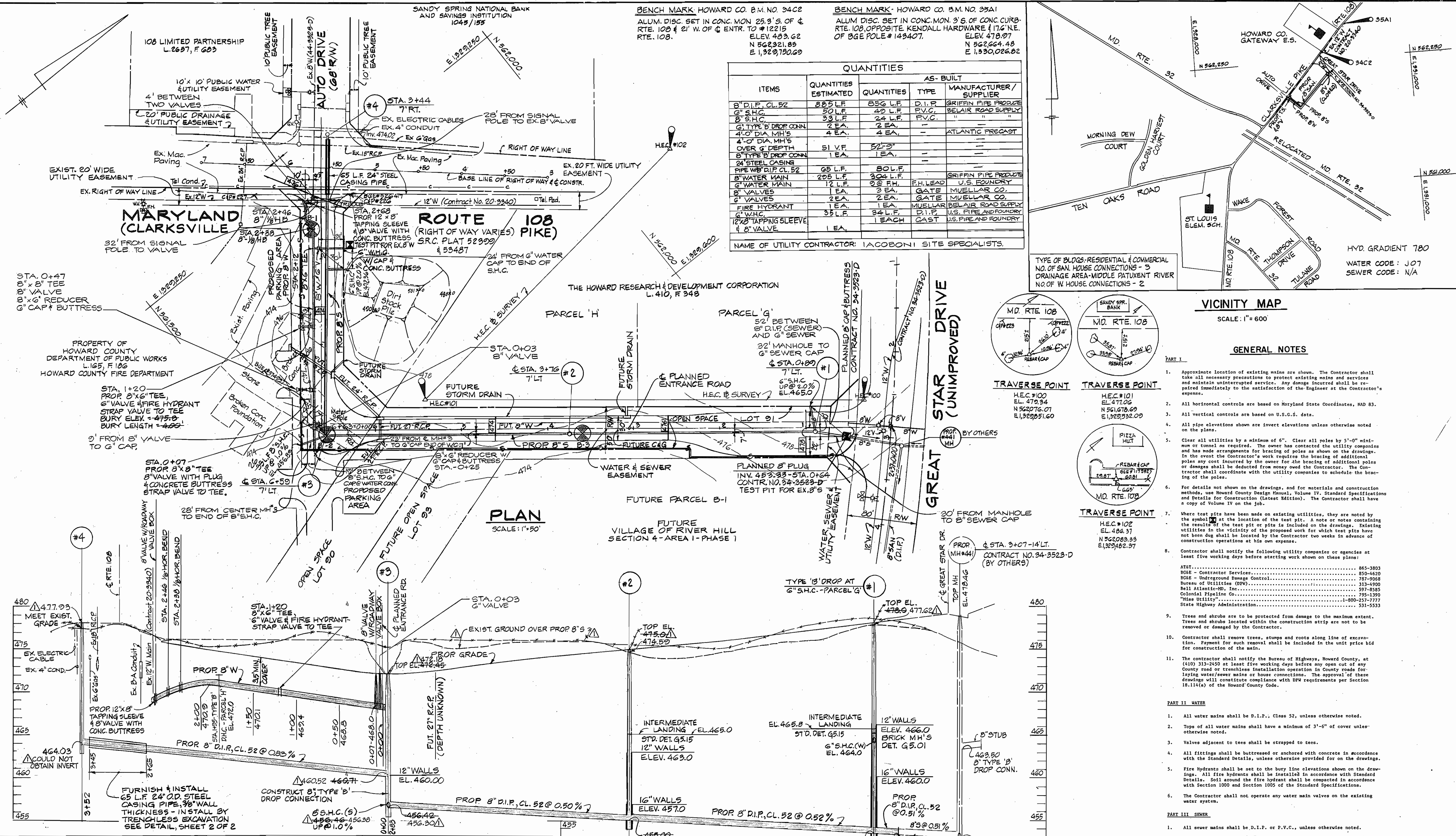


AS BUILT 4-22-97  
AS BUILT 2-5-97



ITEMS	QUANTITIES ESTIMATED	AS-BUILT		
		QUANTITIES	TYPE	MANUFACTURER / SUPPLIER
8" D.I.P. CL. 52	285 L.F.	286 L.F.	D.I.P.	GRIFFIN PIPE PRODUCTS
8" S.H.C.	50 L.F.	49 L.F.	F.V.C.	BELAIR ROAD SUPPLY
8" S.H.C.	39 L.F.	24 L.F.	F.V.C.	"
6" TYPE 'B' DROP CONN.	4 EA.	2 EA.		ATLANTIC PRECAST
4" DIA. M.H.S.	4 EA.	4 EA.		"
4" DIA. M.H.S. OVER 6' DEPTH	51 V.F.	52 V.F.		"
8" TYPE 'B' DROP CONN.	1 EA.	1 EA.		"
24" STEEL CASING	65 L.F.	60 L.F.		"
PIPE W/B D.I.P. CL. 52	205 L.F.	204 L.F.		GRIFFIN PIPE PRODUCTS
8" WATER MAIN	12 L.F.	20 F.H.	F.H. LEAD	U.S. PIPE AND FOUNDRY
8" VALVES	1 EA.	2 EA.	GATE	MUELLER CO.
8" VALVES	1 EA.	2 EA.	GATE	MUELLER CO.
8" HYDRANT	1 EA.	1 EA.	MUELLER	BELAIR ROAD SUPPLY
12" TAPPING SLEEVE & 8" VALVE	35 L.F.	34 L.F.	D.I.P.	U.S. PIPE AND FOUNDRY
	1 EA.	1 EACH	CAST	U.S. PIPE AND FOUNDRY

NAME OF UTILITY CONTRACTOR: IACOBONI SITE SPECIALISTS.

TYPE OF BLDGS: RESIDENTIAL & COMMERCIAL  
NO. OF SAN. HOUSE CONNECTIONS - 3  
DRAINAGE AREA - MIDDLE PATUXENT RIVER  
NO. OF W. HOUSE CONNECTIONS - 2



**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 service. 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 are invert elevations unless otherwise noted on the plans.
- Clear all utilities by a minimum of 6". 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.
- 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.
- Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note on 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:  
AT&T..... 865-3803  
BGE - Contractor Services..... 850-4620  
BGE - Underground Damage Control..... 781-9068  
Bureau of Utilities (DPU)..... 313-4900  
Bell Atlantic-ND, Inc..... 597-8385  
Colonial Pipeline Co..... 795-1300  
"Miss Utility"..... 1-800-257-7777  
State Highway Administration..... 531-5533
- 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.
- 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.
- The contractor shall notify the Bureau of Highways, Howard County, at (410) 313-2450 at least five working days before any open cut of any County road or trenchless installation operation in County roads for laying water/sewer main or house connections. The approval of these drawings will constitute compliance with DPM requirements per Section 18.11(a) of the Howard County Code.

**PART II WATER**

- All water mains shall be D.I.P., Class 52, unless otherwise noted.
- Top of all water mains shall have a minimum of 3'-6" of 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 installed in accordance with Standard Details. Soil around the fire hydrant shall be compacted in accordance with Section 1000 and Section 1005 of the Standard Specifications.
- The Contractor shall not operate any water main valves on the existing water system.

**PART III SEWER**

- All sewer mains shall be D.I.P. or F.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 W.T. in plan and profile shall have watertight frame and cover. Standard Detail G5.52. Where watertight manhole frame and covers are used, set top of frame 1'-0" above finished grade unless otherwise noted on the drawings.
- House(s) with the symbol "C.N.S." indicates that cellar cannot be served.

**DEVELOPER'S CERTIFICATION:**  
"I, WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONEL 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."  
DATE: 6-21-96  
BUREAU OF ENGINEERING  
DEPARTMENT OF PUBLIC WORKS

**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 COUNTY DEPARTMENT OF PUBLIC WORKS."  
DATE: 6/21/96  
HICKS ENGINEERING COMPANY, INC.  
ENGINEERS-SURVEYORS-PLANNERS  
200 EAST JOPPA ROAD, SUITE 402  
TOWSON, MARYLAND 21286 TEL (410) 494-0001

**THIS DEVELOPMENT PLAN IS APPROVED FOR THE SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.**  
DATE: 6/21/96  
REVIEWED FOR HOWARD COUNTY S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
DATE: 6/21/96  
U.S. NATURAL RESOURCES CONSERVATION SERVICE

**DEPARTMENT OF PUBLIC WORKS**  
HOWARD COUNTY, MARYLAND  
DIRECTOR OF PUBLIC WORKS: [Signature]  
DATE: 6/21/96  
CHIEF, BUREAU OF UTILITIES: [Signature]  
DATE: 6/21/96  
CHIEF, WATER & SEWER DESIGN DIVISION

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

DES: K.W.	F.W. 1	RELOCATE G'S.H.C. FOR PARCEL 'H'	9/9/96
DRN: F.W.	F.W. 2	FIELD REVISION-RELOCATE MH#3, 3 FEET S.W.	
CHK: D.E.H.			
DATE: 5/31/96	BY NO.	REVISION	DATE
			600' SCALE MAP NO. 34-W-34-3 BLOCK NO. 6

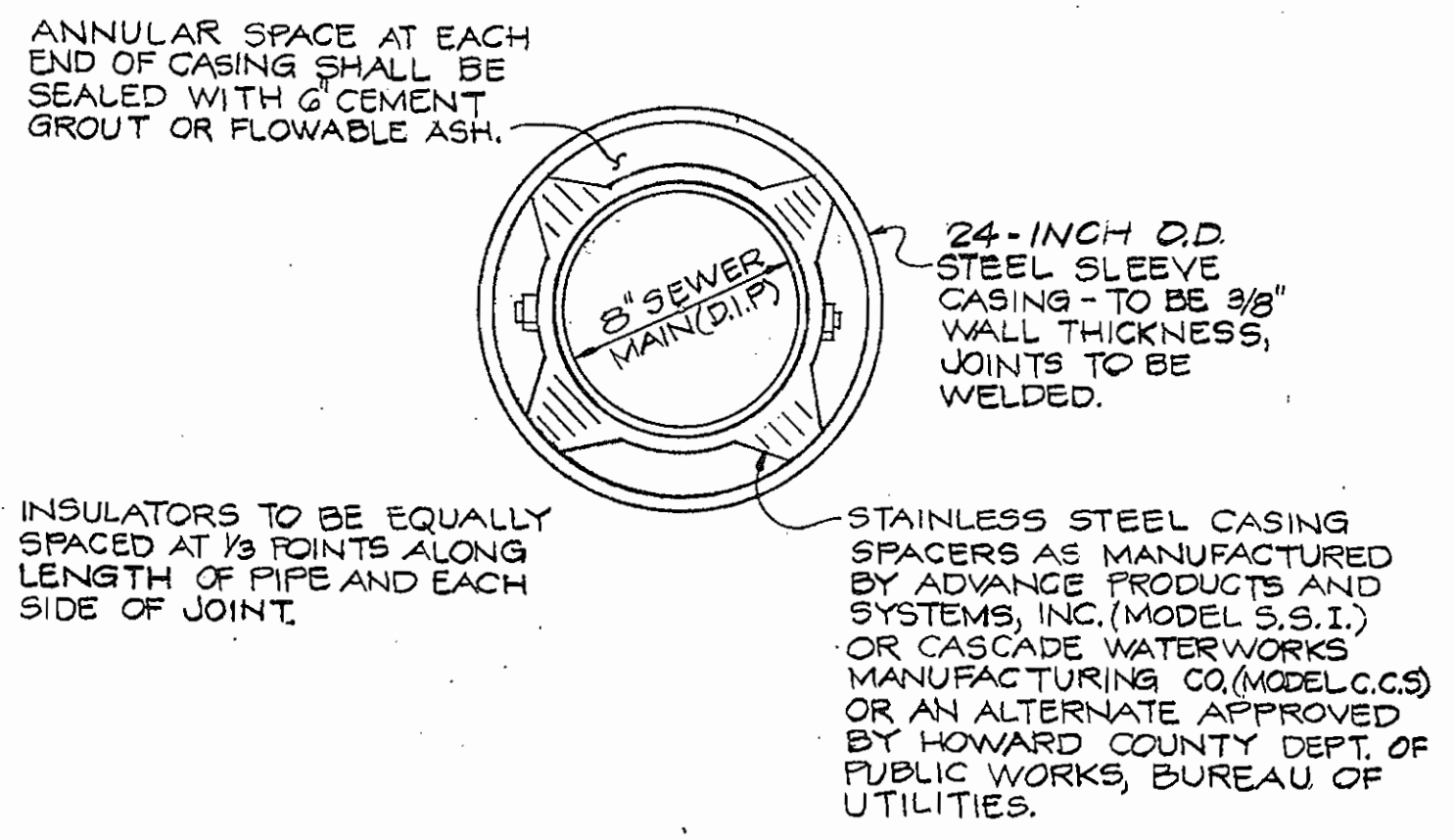
**GREAT STAR DRIVE-WATER & SEWER MAINS**  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT S-6696  
CONTRACT NO. 34-3539

SCALE AS SHOWN  
SHEET 1 OF 2

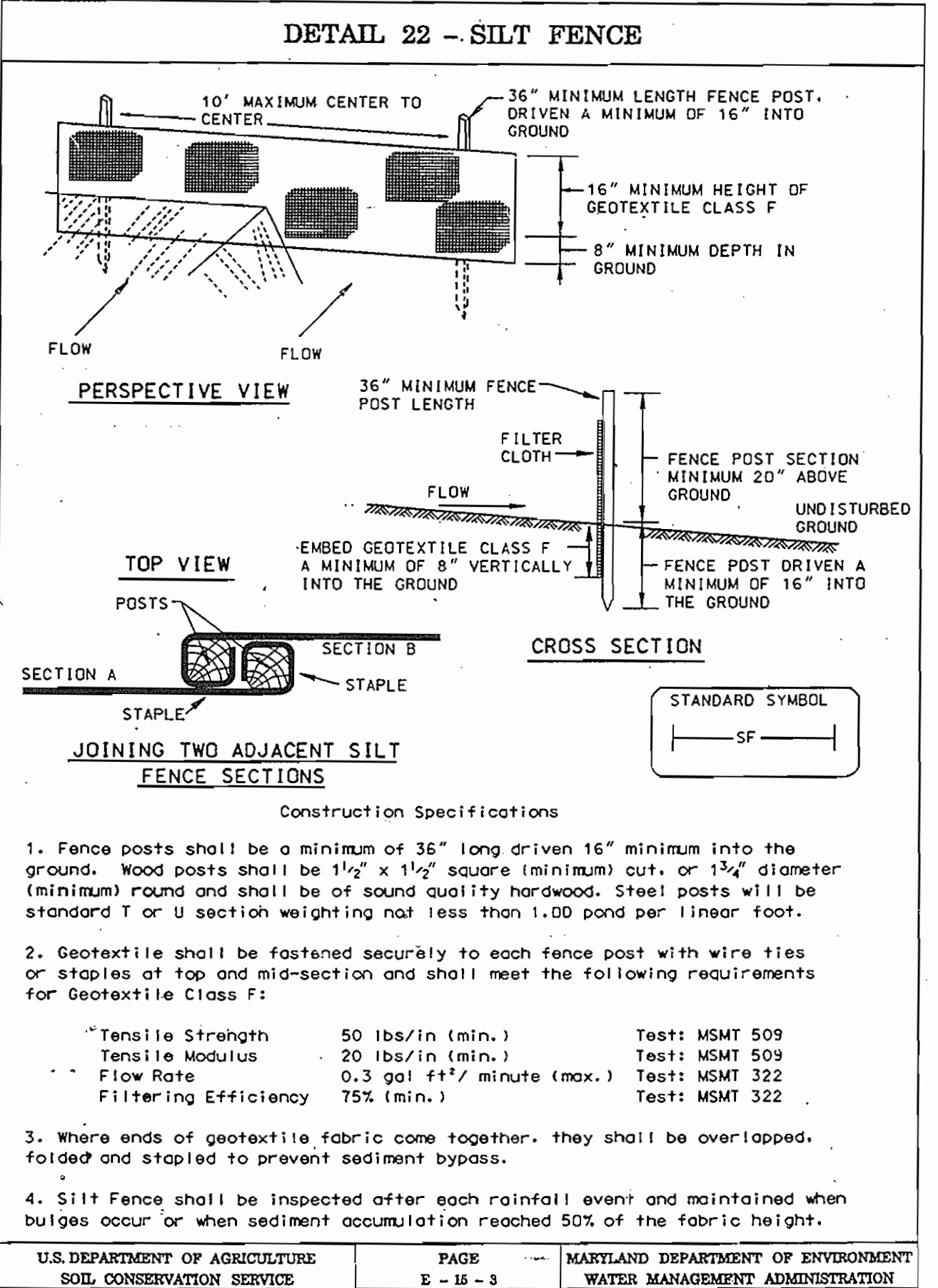
AS BUILT 2-5-97



AS BUILT 2-5-97



**CASING DETAIL**  
NOT TO SCALE  
AT CLARKSVILLE PIKE (MD ROUTE 108)  
CROSSING  
(MH#3 TO MH#4)



RESTORATION SCHEDULE

LOCATION	LENGTH	TYPE RESTORATION
<b>8" SEWER MAIN -</b>		
STA 0+64 TO STA MH-1	36 L.F.	SEED & MULCH
6" S.H.C.	30 L.F.	SEED & MULCH
MH-1 TO MH-2	287 L.F.	SEED & MULCH
MH-2 TO MH-3	280 L.F.	SEED & MULCH
6" S.H.C.	25 L.F.	SEED & MULCH
6" S.H.C.	20 L.F.	SEED & MULCH
MH-3 TO STA 2+80	280 L.F.	SEED & MULCH
STA 3+45 TO MH-4	13 L.F.	BIT CONC. PAVING
<b>8" WATER MAIN -</b>		
STA 0+25 TO STA 0+22	47 L.F.	SEED & MULCH
6" WATER MAIN-F. HYD.	12 L.F.	SEED & MULCH
STA 0+22 TO STA 2+12	190 L.F.	SEED & MULCH
STA 2+12 TO STA 2+67.2	55 L.F.	SEED & MULCH

**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 SQUARE 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 (1.4 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 (.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/ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1 1/2 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.

**UTILITY STAKE-OUT TABLE**

ITEM	STATION	NORTHING	EASTING
8" CAP BUTT.	0+25	561,543.89	1,329,501.21
1/8 BEND	2+38	561,706.24	1,329,297.53
1/8 BEND	2+46	561,704.64	1,329,293.50
8" x 12" TEE	2+68	561,718.32	1,329,266.27
SAN. MH#1	-	562,003.57	1,329,848.89
SAN. MH#2	-	561,786.06	1,329,671.32
SAN. MH#3	-	561,565.88	1,329,496.54
SAN. MH#4	-	561,788.57	1,329,216.23

- 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 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1895).
  - 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 AND REVISIONS THERETO.
  - 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 7, 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 SEEDING, SOD, TEMPORARY SEEDING & MULCHING (SEC. 4). 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	N/A
AREA DISTURBED	0.5 AC ±
AREA TO BE ROOFED OR PAVED	0.1 AC ±
AREA TO BE VEGETATIVELY STABILIZED	0.4 AC ±
TOTAL CUT	3,000 CU. YDS.
TOTAL FILL	3,000 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 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.
  - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

- SEQUENCE OF CONSTRUCTION**
- Obtain a grading permit from Howard County Department of Inspections, Licenses, and Permits.
  - Contact Howard County Bureau of Construction Inspection (313-1880) prior to starting date.
  - Install erosion and sediment control devices as per Section 219 of the Howard County Design Manual Vol. IV and as shown on the plans.
  - Excavate and install proposed 8" water mains, 8" sewer main and water and sewer house connections. (Duration: 60 days)
  - Restore paving and earth trenches to their original conditions as per Howard County Standards.
  - Upon permission from Howard County Sediment Control Inspector, remove Sediment Control Devices.
  - Fine grade all disturbed areas and stabilize with permanent seeding and mulching.

DEPARTMENT OF PUBLIC WORKS  
HOWARD COUNTY, MARYLAND

*James J. Lewis* DIRECTOR OF PUBLIC WORKS  
*Richard R. Harnett* CHIEF BUREAU OF UTILITIES

*Thomas F. Dudley* ACT. CHIEF, BUREAU OF ENGINEERING  
DATE: 6-21-96

*Thomas F. Dudley* ACT. CHIEF, WATER & SEWER DESIGN DIVISION  
DATE: 6-21-96

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

DES: K.W.  
DRN: F.W.  
CHK: D.E.H.  
DATE: 5/31/96

BY	NO.	REVISION	DATE
	1	RELOCATE 6" S.H.C. FOR PARCEL 'H'	9/2/96

DETAIL SHEET

600' SCALE MAP NO. 34-W, 34-S BLOCK NO. 6

GREAT STAR DRIVE-W&S MAIN EXTENSION  
5TH ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
CAPITAL PROJECT S-6696  
CONTRACT NO. 34-3539

SCALE AS SHOWN  
SHEET 2 OF 2

AS BUILT 2-5-97