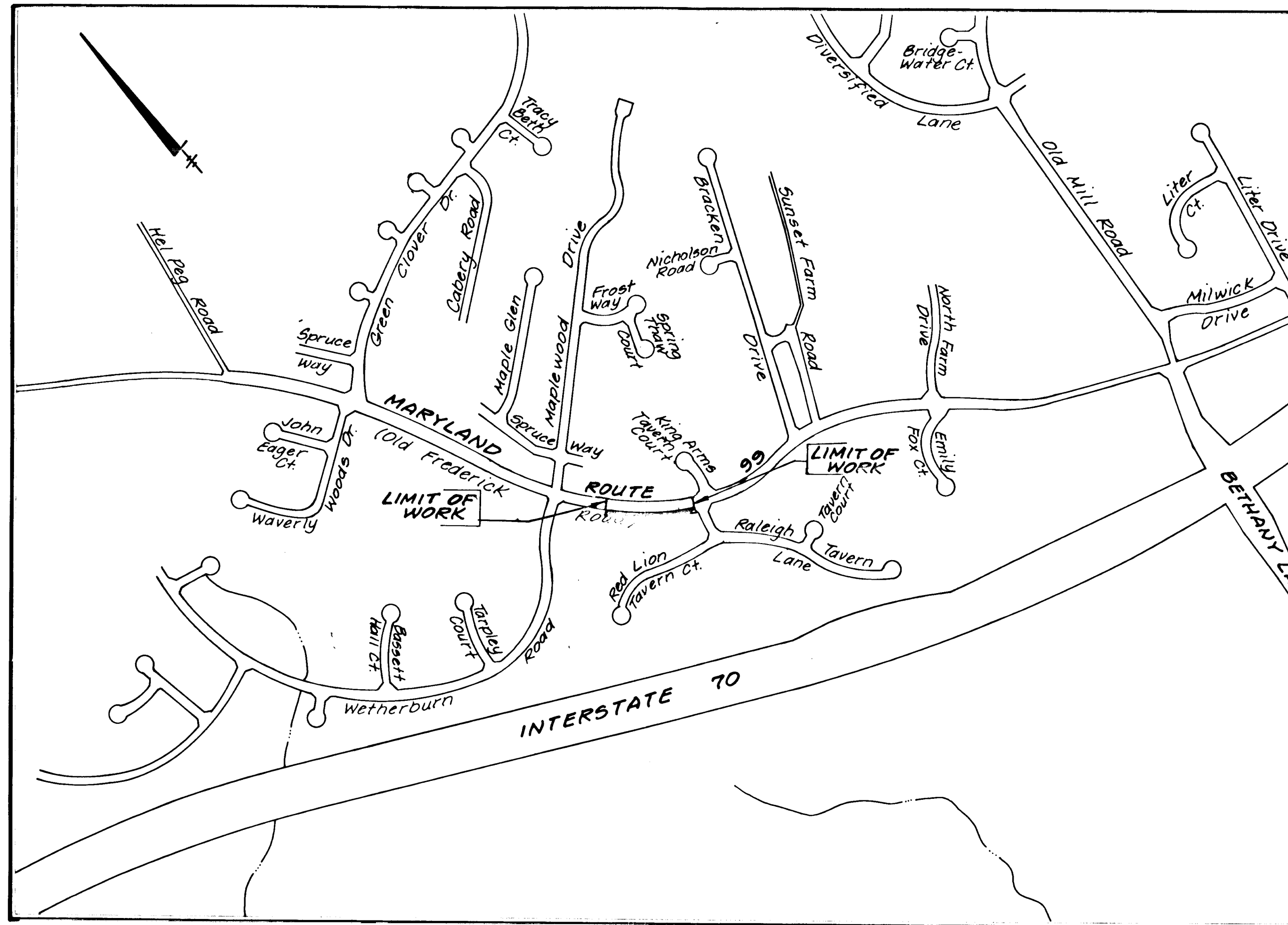


INDEX OF SHEETS	
NO.	TITLE
1	TITLE SHEET
2	PLAN AND PROFILE
3	SEDIMENT CONTROL PLAN



LOCATION MAP
SCALE 1"=600'

GENERAL NOTES:

- All construction shall be in accordance with the latest Standards and Specifications of Howard County plus MSHA Standards and Specifications, if applicable.
- The contractor shall notify the Department of Public Works Bureau of Construction Inspection at (410)-313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Any damage to public rights-of-ways, existing paving, existing curb and gutter, existing utilities etc. shall be corrected at the contractor's expense.
- The existing utilities shown hereon are located from field surveys and construction drawings of record. The approximate location of existing utilities are shown for the contractor's information and convenience. The contractor shall locate all existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- The topography shown hereon is compiled from field run data prepared by Land Design Engineering, Inc. (11/92).
- Horizontal and vertical datums are related to the Maryland State Plane Coordinate System as projected from Howard County Control Stations.
- Geotechnical Study and Structural Retaining Wall Design prepared by Millie Corcoran Engineering Associates, Inc. dated December 1993.
- 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 located by the Contractor two weeks in advance of construction operations at his own expense.

HOWARD COUNTY SOIL CONSERVATION DISTRICT
DATE

HOWARD COUNTY SOIL CONSERVATION DISTRICT
DATE

DEVELOPER'S CERTIFICATE

"I/We certify that all development and/or 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."

Robert S. Spon 8/28/97
Signature of Developer Date

ENGINEER'S CERTIFICATE

"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."

Bruce D. Burton 8/27/97
Signature of Engineer Date

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
Jan Z. Liu 8/29/97
DATE

Land Design Engineering, Inc.
8835 Columbia 100 Parkway
Unit A
Columbia, Maryland
21045
Phone: (410) 715-1070 (301) 596-3424

Bruce D. Burton 8/27/97
DATE

BY NO REVISION DATE
600 SCALE MAP No. 17 BLOCK No. 7

ALTERNATE STUDY
TITLE SHEET

SCHOOL ROUTE PATHWAYS / SIDEWALKS
OLD FREDERICK ROAD
Capital Project No. J-4164
Contract No. 92-43
2nd Election District Howard County, Maryland

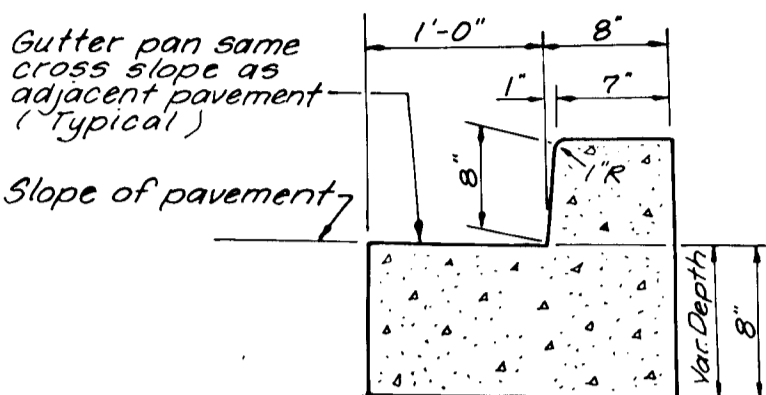
SCALE AS SHOWN
SHEET 1 OF 3

CΦ9AZΦ1

COORDINATE TABLE

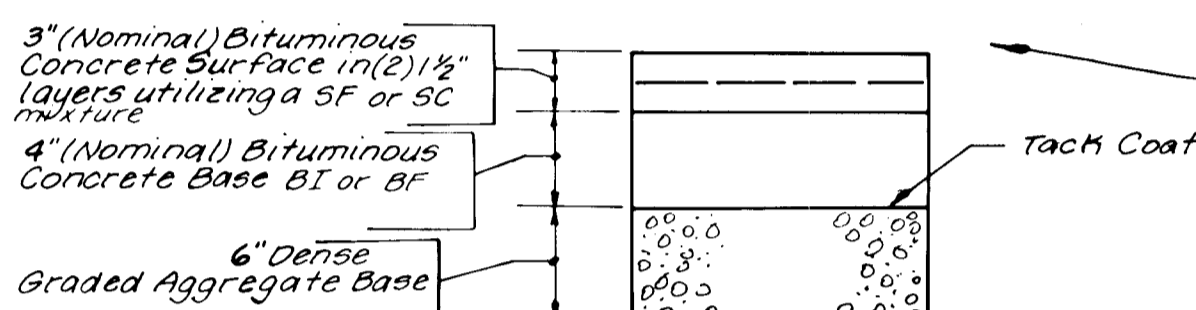
NO.	NORTH	EAST
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66	181,581.9324	411,603.8863
84	181,641.8351	411,546.8407
1550	181,680.4218	411,514.8625
1525	181,706.3548	411,497.8594
1527	181,707.9416	411,496.6381
102	181,677.5676	411,521.6066
103	181,533.6615	411,685.6158

NOTE: The coordinates shown are related to the Maryland State Plane Coordinate System as projected from Howard County Control Stations (NAD 83) 1012 and 1603.



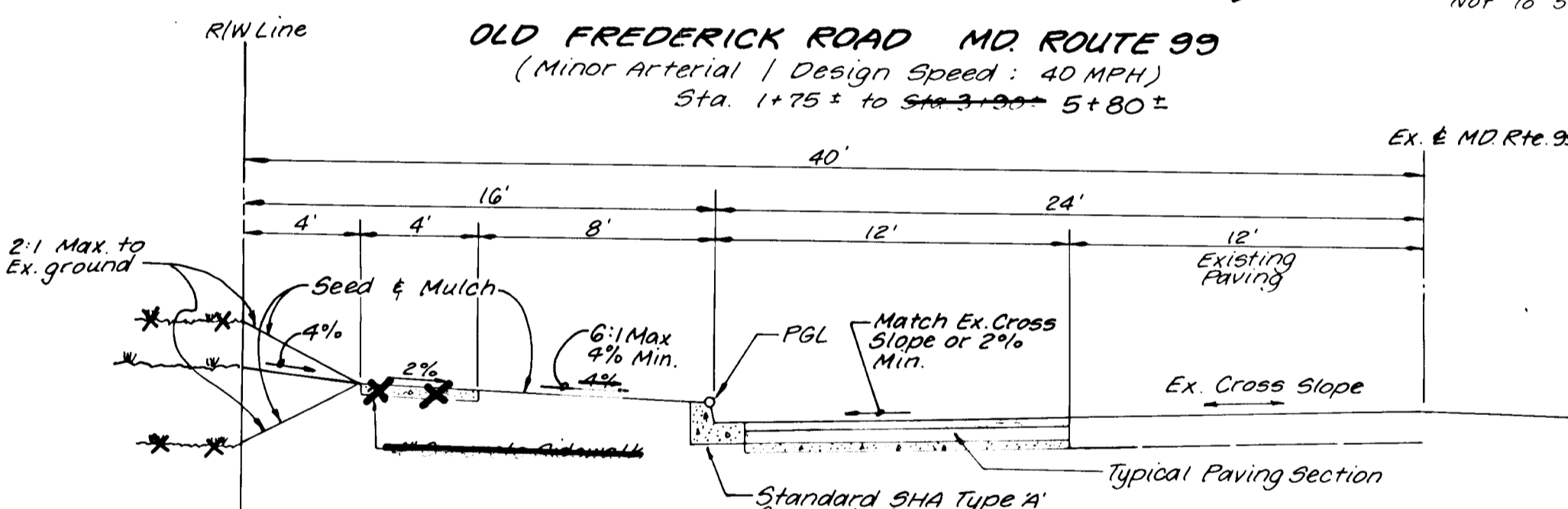
TYPE 'A' COMBINATION CURB & GUTTER

Not To Scale (MD-620.02 Det.)



TYPICAL PAVING SECTION

Not To Scale

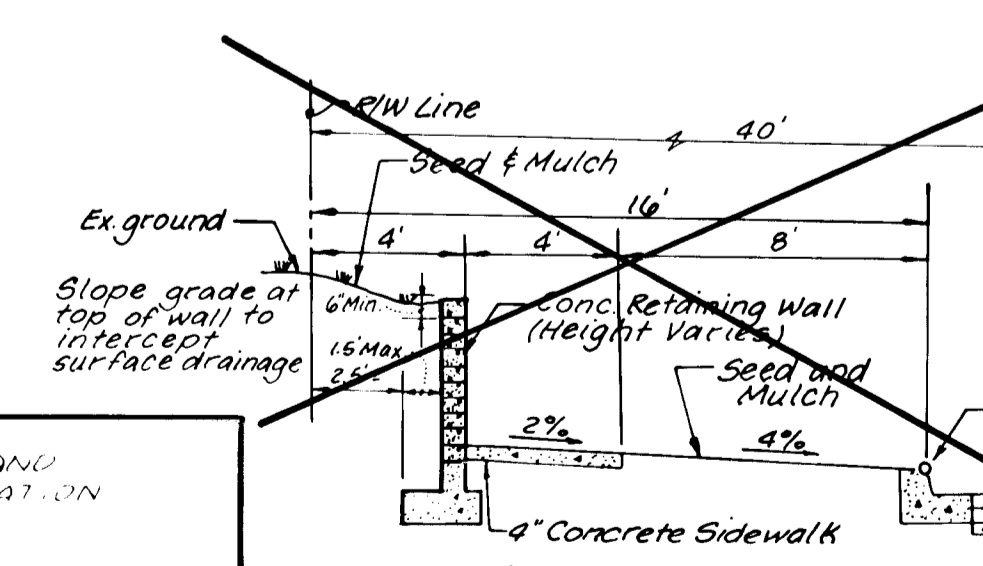


TYPICAL SECTION

Not To Scale

NOTES:

1. Sidewalk to be scribed in 5' Maximum Squares.
2. Expansion joints across the sidewalk are to be more than 15' apart.
3. 1/2" Preformed bituminous expansion material in expansion joints to be kept 1/4" below surface of sidewalk.
4. Concrete to be 2" Mix.
5. Sidewalk located 2' or more from curb may be 4'-0" in width with a 5'x5' paved section placed 200' apart.



TYPICAL SECTION

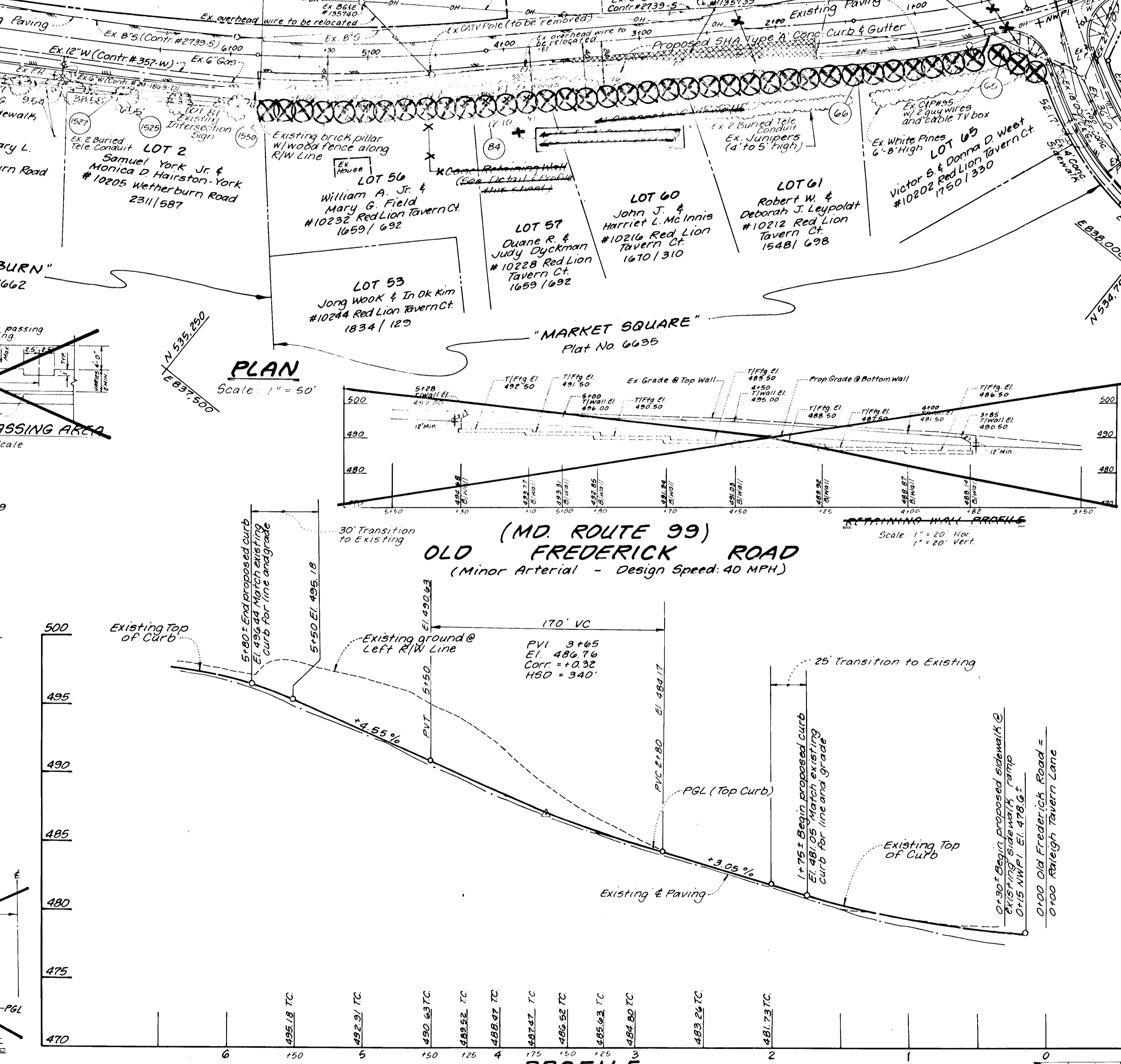
Not To Scale

LEGEND

- Rebar Found
- ▨ Reversible Slope/Grading Easement
- ⊗ Existing Street Trees
- ⊗ Existing Retaining Wall
- Overhead Wire
- ▨ Ex. Paving to be removed
- ▨ Prop. Paving
- Test Pit

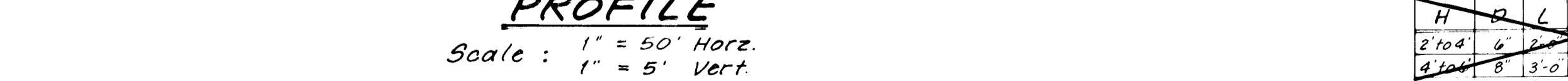
PLAN

Scale: 1" = 50'



PROFILE

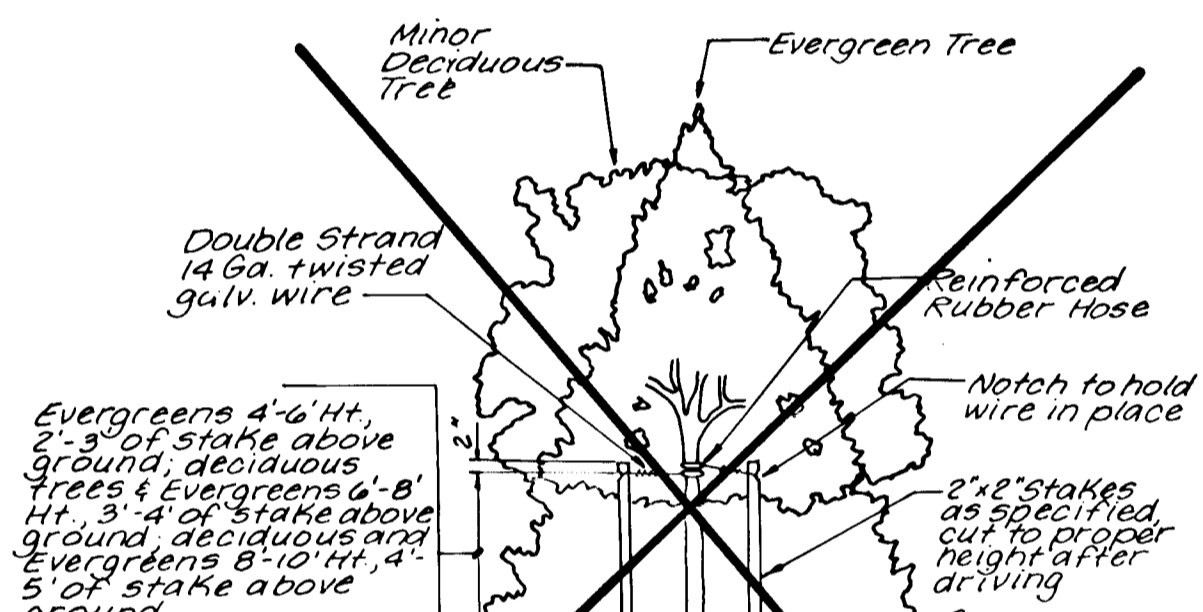
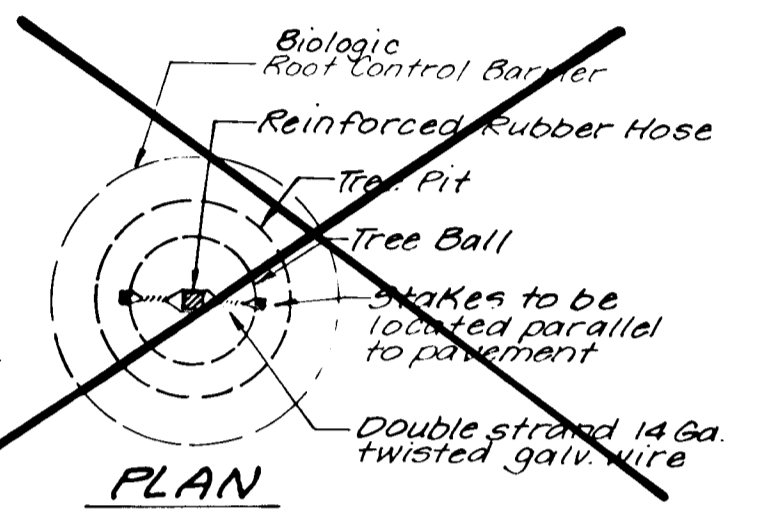
Scale: 1" = 5' Vert.



LANDSCAPE LEGEND

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
X	39	Pyrus Calleryana	Cleveland Select Pear	848 @ 4" O/C 15'

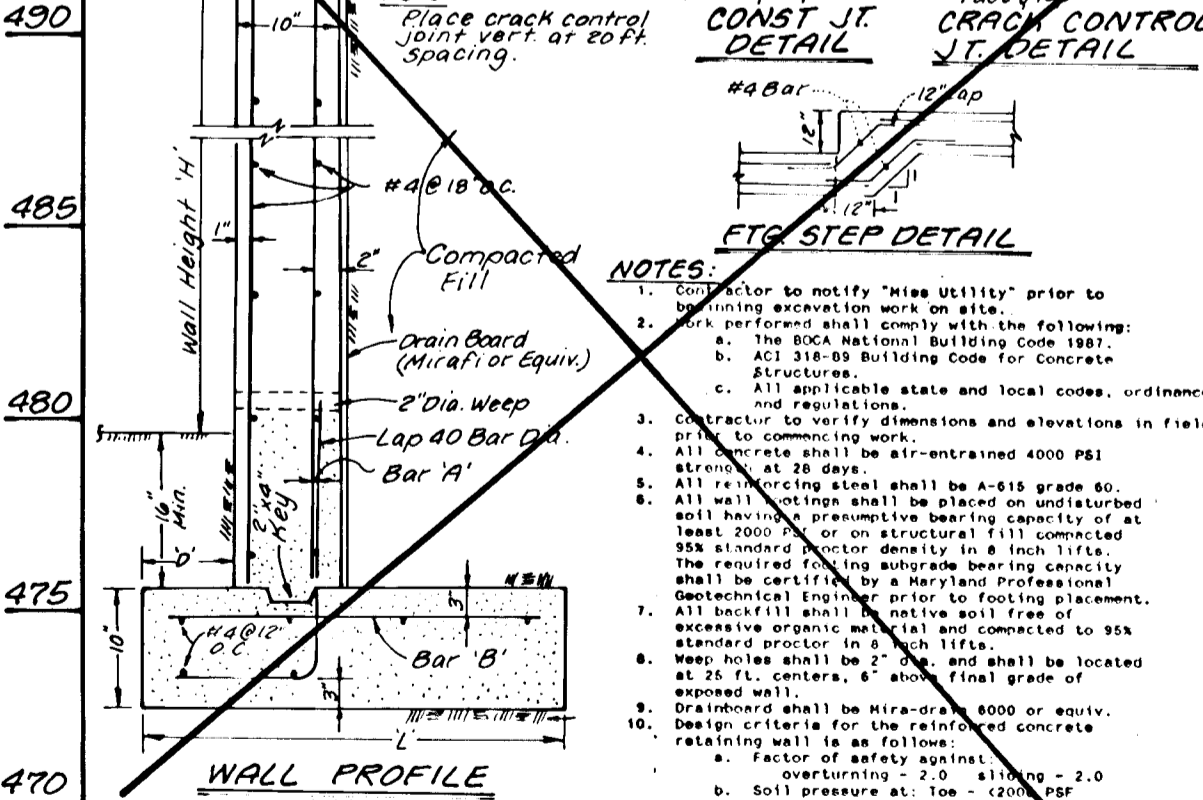
NOTE: The specific location of telephone and other utilities shown on this plan are for reference only and are not guaranteed correct. The Contractor must verify locations to his own satisfaction before proceeding with any work.



STAKING TREE DETAIL

(Sta No. MU-713.03 to 10' Height)

Not To Scale



RETAINING WALL DETAIL

Not To Scale

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Signature: *Jan J. ...* DATE: 8/28/97

Signature: *William ...* DATE: 8/29/97

Land Design Engineering, Inc.
8835 Columbia 100 Parkway
Unit N
Columbia, Maryland
21045
Phone (410) 715-1090 (301) 596-3424

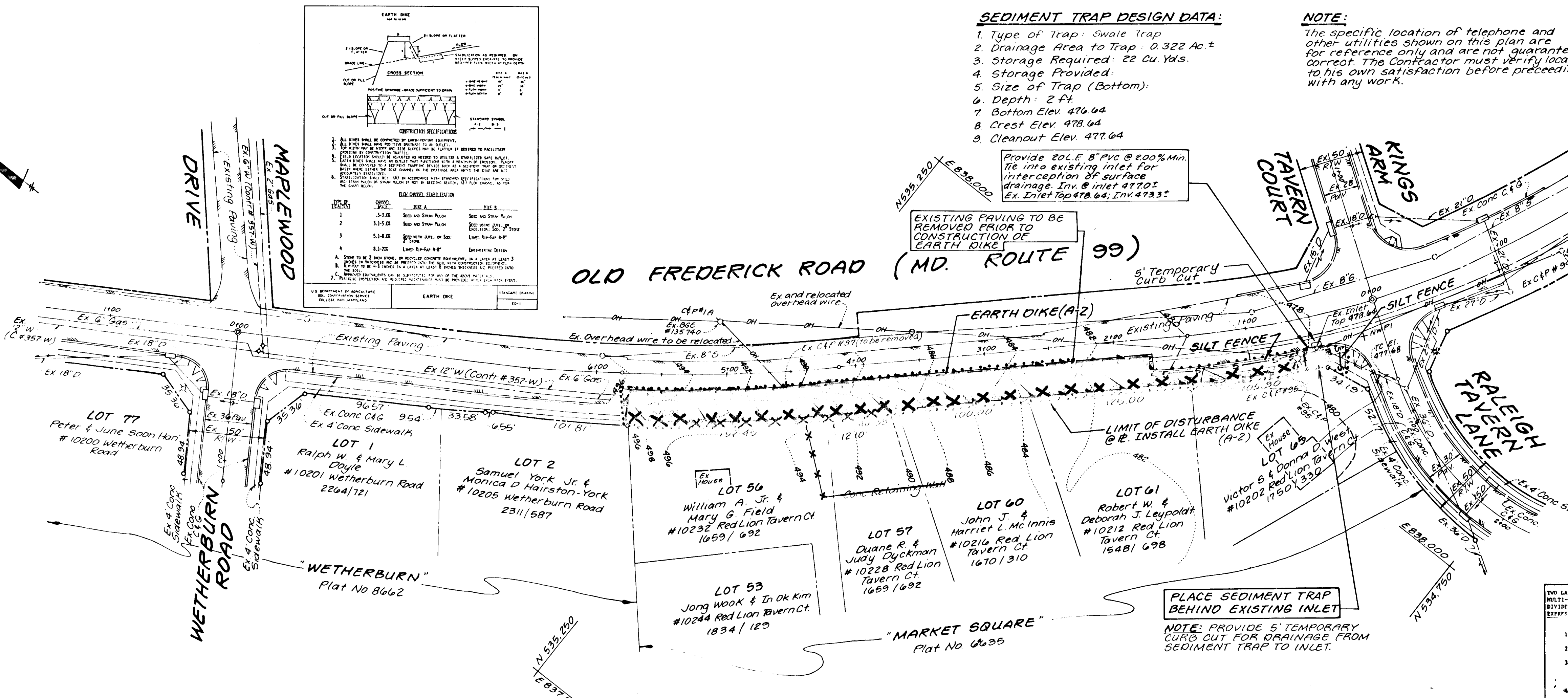
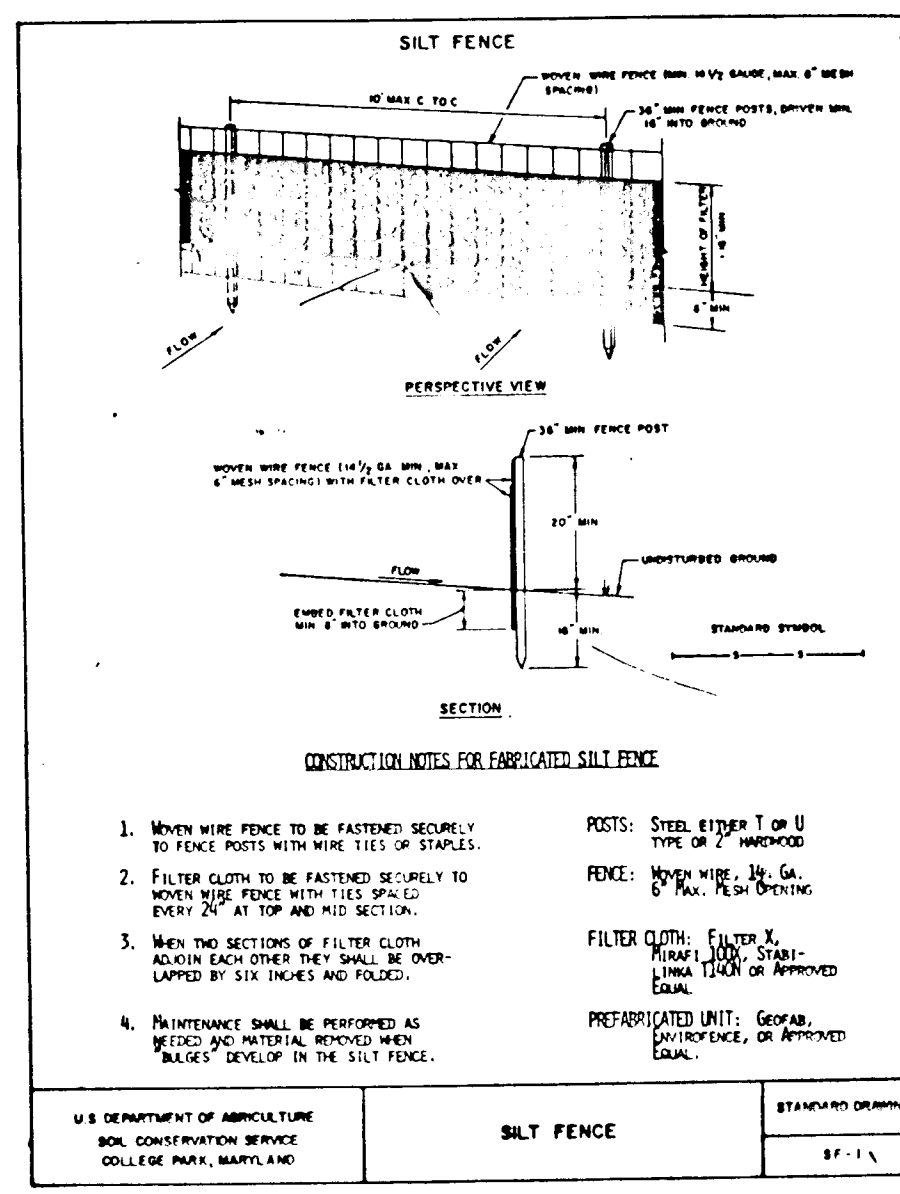
DESIGNED BY: BRB
DRAWN BY: KBW
CHECKED BY: BRB
DATE: Oct 1992

ALTERNATE STUDY PLAN AND PROFILE

600 SCALE MAP No. 17 BLOCK No. 7

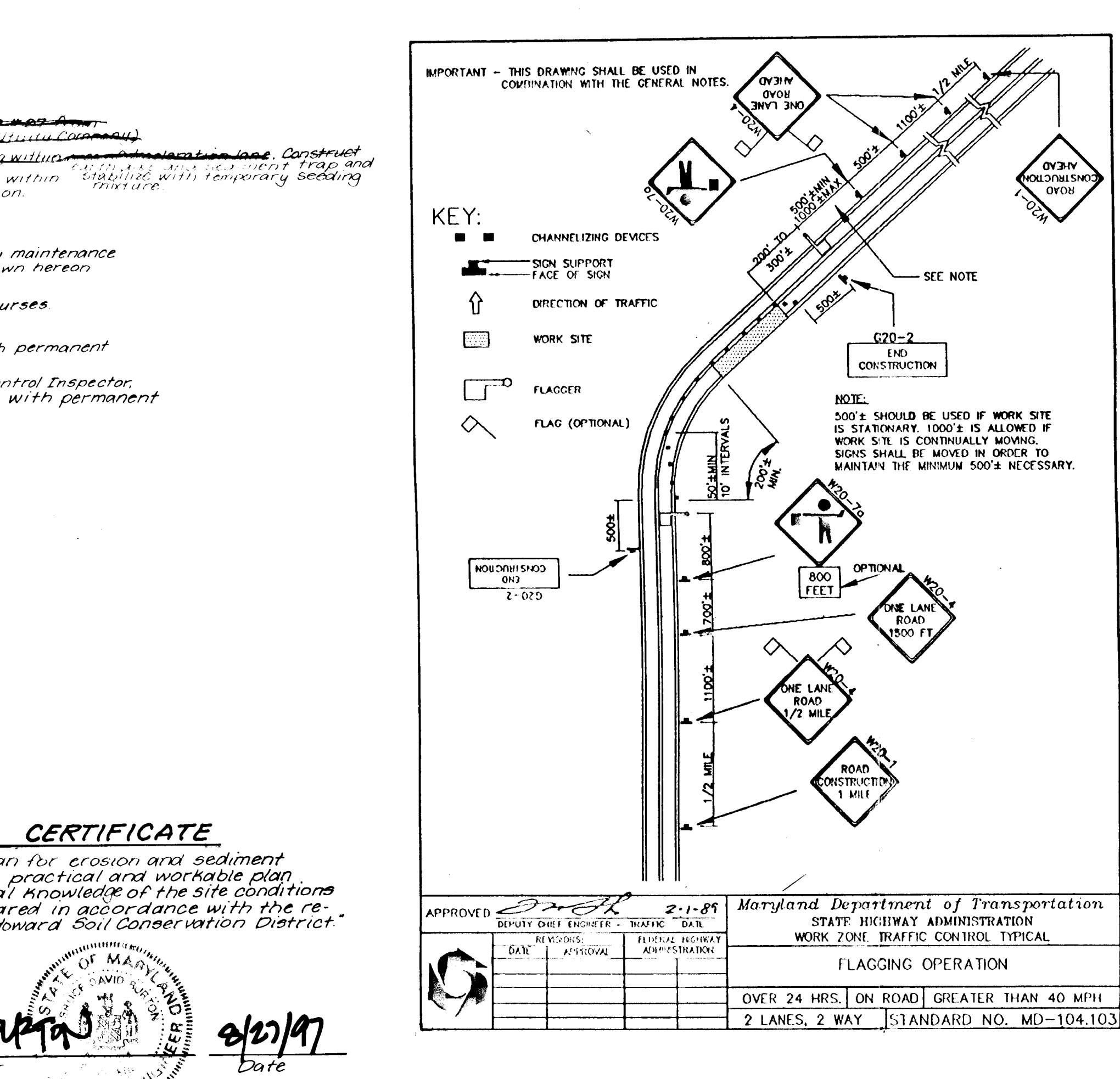
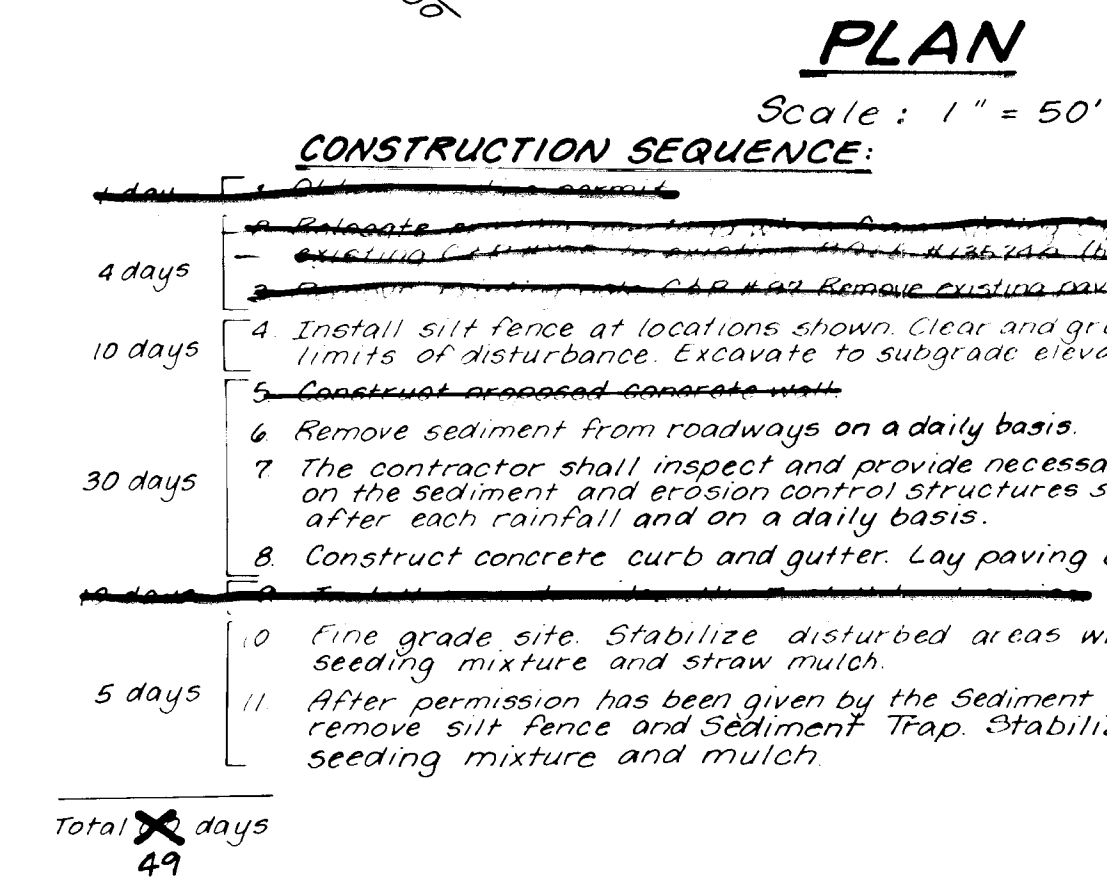
SCHOOL ROUTE PATHWAYS / SIDEWALKS
OLD FREDERICK ROAD
Capital Project No. 5-4164
Contract No. 92-49
2nd Election District Howard County, Maryland

SCALE: AS SHOWN
SHEET: 2 OF 3



- HOWARD SOIL CONSERVATION DISTRICT**
- SEMI-ANNUAL SEDIMENT CONTROL NOTES:**
- A minimum of 40 hours notice must be given to the Howard County Department of Inspection, Inspection and Permit, Sediment Control Division prior to the start of any construction. (HSD-355)
 - All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in accordance with the most current "MANUAL OF STANDARD SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
 - Following initial soil disturbance or re-disturbance, permanent or temporary stabilization shall be completed within 7 calendar days for all practices. Temporary stabilization shall be completed within 14 calendar days for all slopes greater than 3:1, 14 days as to all other disturbed or graded areas on the project site.
 - All sediment traps/basins shall be fenced and warning signs posted around their perimeter in accordance with Part 17, 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 1983 MANUAL OF STANDARD SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for permanent seeding (Sec. 51), and (Sec. 54), temporary seeding (Sec. 53) and mulching (Sec. 52). Temporary stabilization with mulch above can only be done when conventional seeding limits 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 operating condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
 - Site Analysis:
Total Area of Site: 0.322 Acres
Area Disturbed: 0.322 Acres
Area to be seeded or paved: 0.192 Acres
Area to be vegetatively stabilized: 0.130 Acres
Total Cut: 36.5 Cu. Yds.
Total Fill: 22 Cu. Yds.
Off-site waste/erosion area location:
 - 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 control 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 required upon completion of installation of permanent erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be retroactive until this initial approval by the Inspection Agency is made.
 - Tenders for the construction of utilities is limited to three pipe lengths or that which can be back filled and stabilized within one working day, whichever is shorter.

- HOWARD SOIL CONSERVATION DISTRICT**
- PERMANENT SEEDING NOTES:**
- Apply to graded or cleared areas not subject to immediate further disturbance where a permanent vegetative cover is needed.
- Soil Preparation:** Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendment:** In lieu of soil test recommendations, use one of the following schedules:
1) 10-10-10 fertilizer (14 lbs/1000 sq. ft.) before seeding. 2) 10-10-10 fertilizer (14 lbs/1000 sq. ft.) after seeding. 3) 10-10-10 fertilizer (14 lbs/1000 sq. ft.) after seeding. 4) 10-10-10 fertilizer (14 lbs/1000 sq. ft.) after seeding. 5) 10-10-10 fertilizer (14 lbs/1000 sq. ft.) after seeding.
- Seeding:** For the period March 1 thru April 30, and August 1 thru October 15, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre. For the period May 1 thru July 31, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre. For the period October 16 thru February 29, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre. For the period March 1 thru April 30, and August 1 thru October 15, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre. For the period May 1 thru July 31, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre. For the period October 16 thru February 29, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre.
- Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted wood chip mulch immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal/ton per acre (5 gal/1000 sq. ft.) of certified asphalt on flat areas. On slopes 8 ft. or higher, use 300 gal/ton per acre (6 gal/1000 sq. ft.) for anchoring.
- Maintenance:** Inspect all seeding areas and make needed repairs, replacements and reseedings.
- TEMPORARY SEEDING NOTES:**
- Apply to graded or cleared areas likely to be re-disturbed where a short-term vegetative cover is needed.
- Soil Preparation:** Loosen upper three inches of soil by raking, disking or other acceptable means before seeding, if not previously loosened.
- Soil Amendment:** Apply 60 lb/1000 sq. ft. of 10-10-10 fertilizer (14 lbs/1000 sq. ft.).
- Seeding:** For the period March 1 thru April 30, and from August 15 thru October 15, seed with 2-1/2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre and 2 lbs/1000 sq. ft. of Kentucky 31 Tall Fescue per acre. For the period May 1 thru August 14, 16 thru February 29, (except sites by applying 2 tons per acre of well rotted straw mulch and seed as soon as possible in the spring, or not seed).
- Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq. ft.) of unrotted wood chip mulch immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 210 gal/ton per acre (5 gal/1000 sq. ft.) of certified asphalt on flat areas. On slopes 8 ft. or higher, use 300 gal/ton per acre (6 gal/1000 sq. ft.) for anchoring.
- Refer to the 1983 MANUAL OF STANDARD SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, for additional rules and methods not covered.



- Flashing warning lights and/or flags may be used to call attention to early warning signs.
- Warning lights may be used to mark channelizing devices as needed.
- Channelizing devices are to be extended to a point where they are visible to approaching traffic. A full taper length (on two lane, two-way roadways) shall always be provided in advance of the taper.
- Taper formula: $L = \frac{V^2}{15}$ for speeds greater than (3) 40 mph
 $L = \frac{V^2}{15}$ for speeds equal to or less than (3) 40 mph
Where: L = minimum length of taper
V = numerical value of vehicle speed
W = width of offset
- Minimum spacing between channelizing devices:
a. Taper - approximately equal in feet to the speed limit.
b. Taper - twice the above taper value.
- Flood lights should be provided to mark flagger stations at night.
- If flaggers are not able to see each other, two-way radio communication shall be used.
- If traffic volume is high, additional signs such as arrow panels, more signing, etc., will be placed as soon as possible to prevent an array of devices which are consistent with the standard work zone traffic control system.
- Advance traffic control plans may be presented to the SMD District Office for approval in accordance with section 816.02 of the MUTCD's Standard Specifications for Construction and Materials, January 1982 and any revision thereto.
- For emergency repair operations, a minimum number of traffic control devices (CDS) may be used. This generally will consist of one sign and one flag or high level device. Additional signs such as arrow panels, more signing, etc., will be placed as soon as possible to prevent an array of devices which are consistent with the standard work zone traffic control system.
- An arrow panel in the flashing arrow mode shall be used anytime there is a lane closure on a multi-lane highway. Arrow panels shall not be used along two lane roadway unless they display MSHA's "four corner" lamp array.
- Vehicles should not occupy or be stopped in a lane beyond a horizontal curve or a vertical curve (VPI). Stopped vehicles stopping are to be pulled as far off the road as possible or be otherwise parked in a manner as to inhibit the movement of traffic as little as possible. If stopping is necessary and no backup vehicle is available place channelizing devices in accordance with general note #3 along with the appropriate signing.
- Warning signs mounted on wood posts (or for over 24 hour operations shall be installed as shown in figure 6-1, Part VI of the MUTCD. The bottom of the signs mounted on the vehicle, a minimum number of channelizing devices and flag or high level device. Additional signs such as arrow panels, more signing, etc., will be placed as soon as possible to prevent an array of devices which are consistent with the standard work zone traffic control system.
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DEPARTMENT OF PUBLIC WORKS
Jan J. [Signature] 8/26/97
8/26/97
STORMWATER MANAGEMENT

Design Engineering Inc
8835 Columbia 100 Parkway
UNIT IV
Columbia, Maryland
21045
e (410) 715-1070 (301) 596-3424
8/26/97
Signature of Developer
Date

ENGINEER'S CERTIFICATE
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.
Bruce D. Burton
Signature of Engineer
8/26/97
Date

ALTERNATE STUDY PLAN AND PROFILE
600 SCALE MAP No. 17 BLOCK No. 7

SEDIMENT AND EROSION CONTROL PLAN / TRAFFIC CONTROL PLAN
SCHOOL ROUTE PATHWAYS, SULLY AVE
OLD FREDERICK ROAD
5-4164
Contract No. 92-33
3 3