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3	SEDIMENT CONTROL PLAN AND DRAINAGE AREA MAP
4	PROFILES, NOTES, AND DETAILS
5	PROFILES, NOTES, AND DETAILS
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# SITE DEVELOPMENT PLAN

## MIKE'S TRAIN HOUSE

### OFFICE/WAREHOUSE FACILITY

#### 6th ELECTION DISTRICT

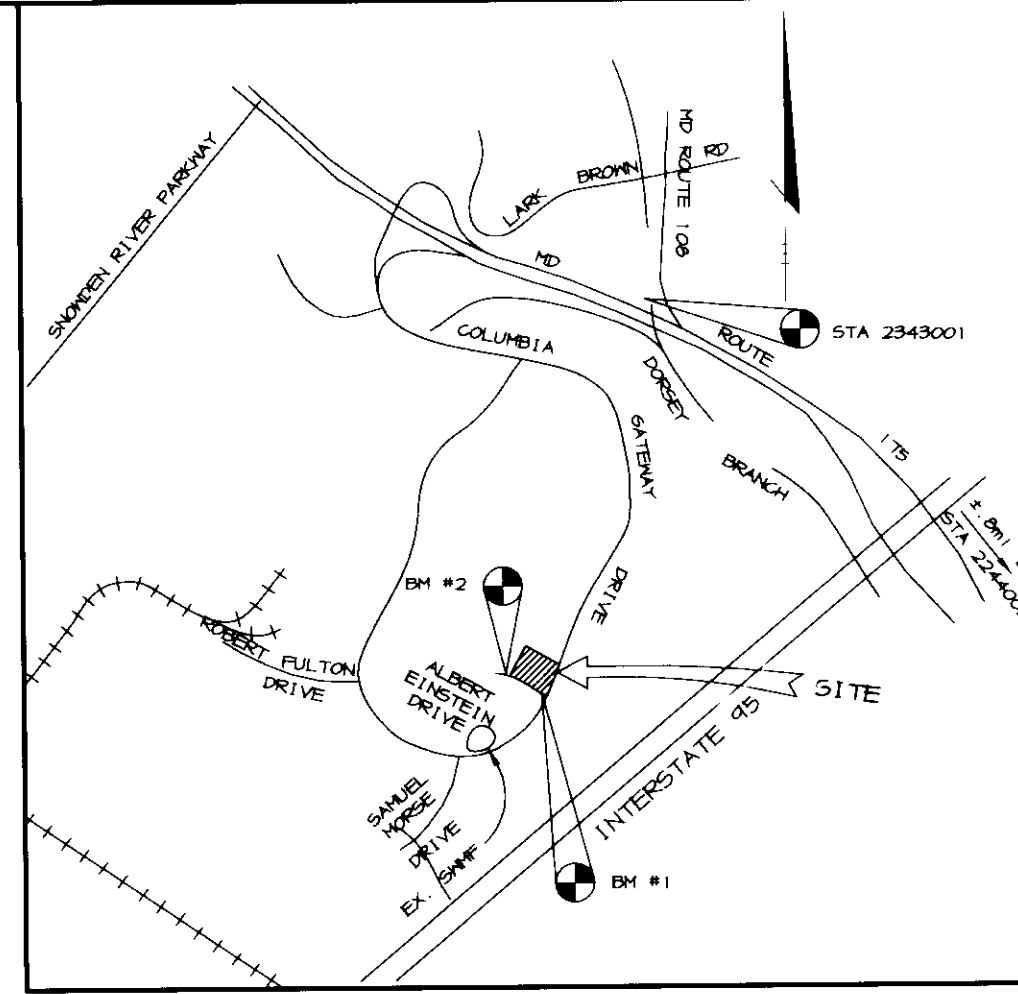
#### HOWARD COUNTY, MARYLAND

### 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 ENGINEERING/CONSTRUCTION INSPECTION DIVISION 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 BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB AND FACE OF BUILDING UNLESS OTHERWISE NOTED.
- THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD SURVEY WITH MAXIMUM TWO FOOT CONTOUR INTERVALS PREPARED BY RIEMER MUEGGE & ASSOC. DATED JANUARY, 1997.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. STATION NUMBERS 2343001 & 2244002.
- WATER IS PUBLIC, CONTRACT NO. 24-3038-D.
- SEWER IS PUBLIC. SEWER DRAINAGE AREA: PATUXENT. TREATMENT PLANT: LITTLE PATUXENT CONTRACT NO. 24-3038-D.
- STORMWATER MANAGEMENT FOR THIS PROJECT IS OFF-SITE UNDER F-87-63 AND GP-87-36. THIS PARCEL IS PART OF THE WESTSIDE WATERSHED AS ANALYZED BY WHITMAN REQUARDT & ASSOC.
- APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE. EXISTING UTILITIES ARE SHOWN BASED ON THE BEST AVAILABLE INFORMATION.
- A 100-YEAR FLOODPLAIN STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- NO GEOTECHNICAL STUDY IS REQUIRED FOR THIS PROJECT.
- THE BOUNDARY FOR THIS PROJECT IS BASED ON PLAT NO. 12G74
- SUBJECT PROPERTY ZONED M-1. PER 10-18-93 COMPREHENSIVE ZONING PLAN.
- ALL ELEVATIONS SHOWN ARE BASED ON THE U.S.C. AND G.S. MEAN SEA LEVEL DATUM, 1929.
- SEE DEPARTMENT OF PLANNING AND ZONING FILE NO'S F-90-138, F-87-63, F-87-125, GP-87-36, AND F-97-135.
- THE CONTRACTOR SHALL TEST PIT EXISTING UTILITIES AT LEAST (5) DAYS BEFORE STARTING WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
- PIPE SHALL NOT BE INSTALLED BY THE CONTRACTOR UNTIL THE LENGTH CALLED FOR AT EACH STATION HAS BEEN APPROVED BY THE ENGINEER IN THE FIELD.
- NO PIPE SHALL BE LAID UNTIL LINES OF EXCAVATION HAVE BEEN BROUGHT WITHIN 6" OF FINISHED GRADE.
- ALL STORM DRAIN PIPE BEDDING SHALL BE CLASS 'C' AS SHOWN IN FIG. 11.4, VOLUME 1 OF HOWARD COUNTY DESIGN MANUAL UNLESS OTHERWISE NOTED.
- ALL INLETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARDS.
- ALL PIPE ELEVATIONS SHOWN ARE INVERT ELEVATIONS.
- STORM DRAIN TRENCHES WITHIN ROAD RIGHT OF WAY SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE HOWARD COUNTY DESIGN MANUAL, VOLUME IV, I.E., STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, LATEST AMENDMENTS.
- PROFILES STATIONS SHALL BE ADJUSTED AS NECESSARY TO CONFORM TO PLAN DIMENSIONS.
- ALL FILL AREAS WITHIN ROADWAY AND UNDER STRUCTURES TO BE COMPACTED TO A MINIMUM OF 95% COMPACTION OF AASHTO T100.
- THE DEVELOPMENT OF PARCEL S-16 IS SUBJECT TO THE DESIGN AND DEVELOPMENT GUIDELINES FOR COLUMBIA GATEWAY. PER SECTION IV, "GENERAL CRITERIA":  
 (A)(7) OFF-SITE GRADING WILL NOT BE PERMITTED.  
 (A)(8) GRADED SLOPES ON THE PROPERTY MUST NOT EXCEED 3:1.  
 (A)(9) LAWN AREA MUST HAVE SLOPES OF NOT LESS THAN 2%.  
 (A)(11) DRIVEWAY SLOPES SHOULD NOT EXCEED 7%. PARKING LOTS SHALL NOT EXCEED 5%.  
 SEE GUIDELINES FOR COMPLETE DESIGN CRITERIA.
- THESE PLANS INCLUDE A TRUCK ENTRANCE TO PARCEL S-16 VIA ALBERT EINSTEIN DRIVE. A HOWARD COUNTY COMMERCIAL ENTRANCE RADIUS WAS NOT USED FOR THE RIGHT TURN AT THIS ENTRANCE AS WE ANTICIPATE LIMITED TRUCK TRAFFIC TURNING INTO THE CUL-DE-SAC. THE ENTRANCE ONTO COLUMBIA GATEWAY DRIVE IS A RIGHT-IN/RIGHT-OUT CAR ENTRANCE WITH APPROPRIATE CURB RETURN RADI TO INHIBIT TRUCKS FROM ENTERING.
- A WAIVER HAS BEEN APPROVED ALLOWING STORM DRAIN PIPE MATERIAL TO BE EITHER ADS N-12 PIPE OR REINFORCED CONCRETE. SECTION 908 OF THE HOWARD COUNTY DESIGN MANUAL VOL. IV SHALL BE HELD FOR PIPE CONSTRUCTION. SEE SHEET 5 FOR ADS N-12 PIPE SPECIFICATIONS.

**BENCHMARKS**

BM #1	ELEV. 329.67
N 488,408.12	E 855,747.99
PIN & CAP	
BM #2	ELEV. 326.04
N 488,498.98	E 855,415.49
PIN & CAP	

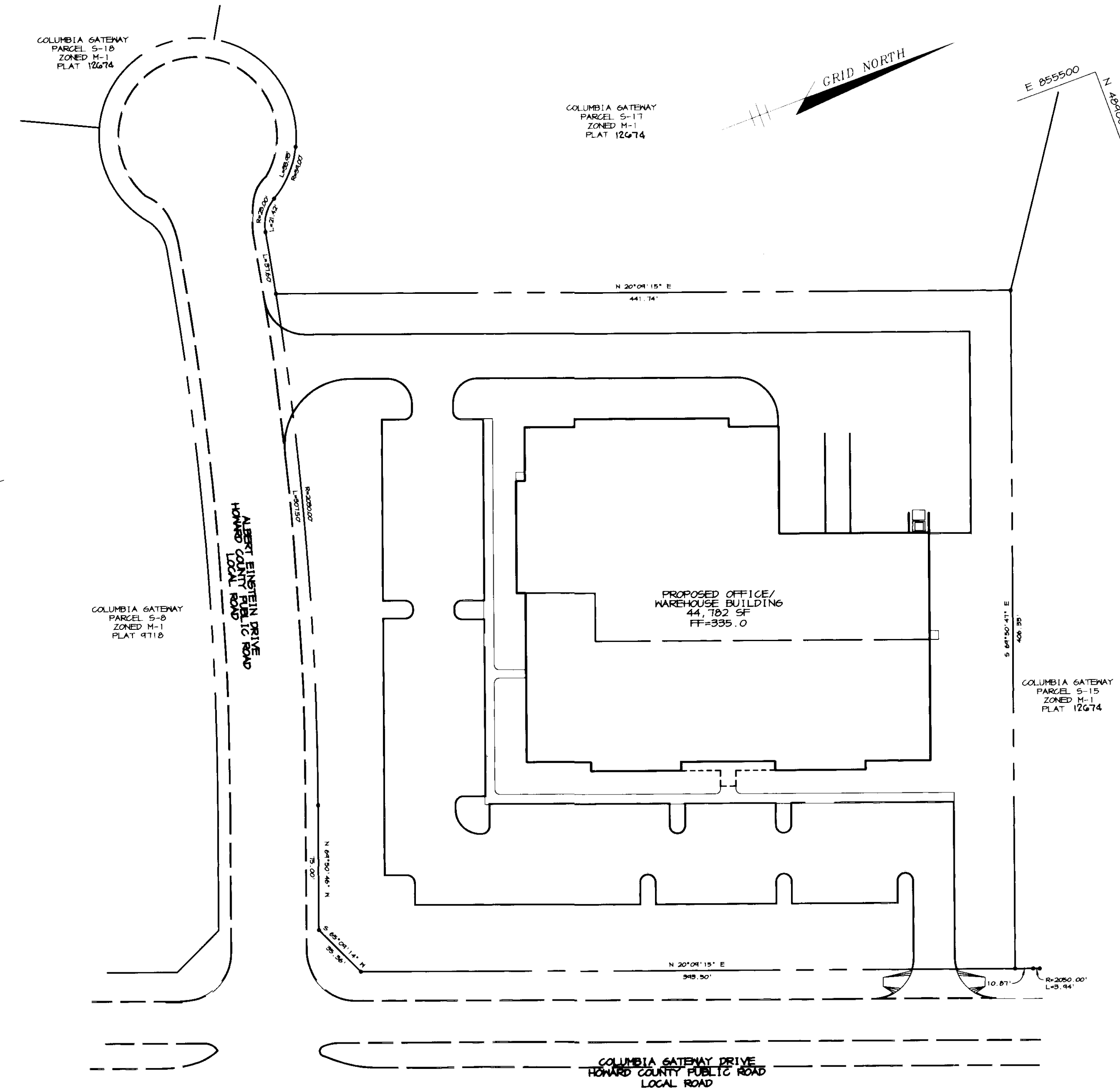


**VICINITY MAP**  
SCALE: 1" = 2000'

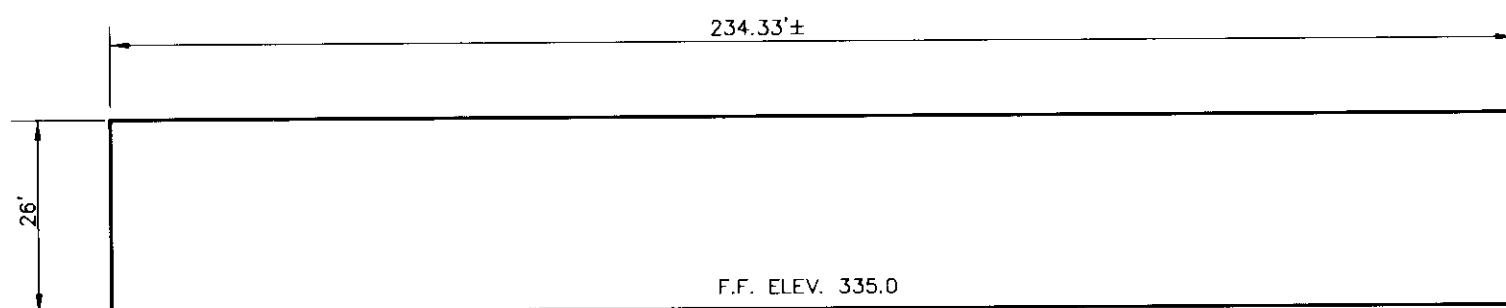
### SITE ANALYSIS

AREA OF PARCEL	3.95 ACRES (172,105 SF)
DISTURBED AREA	4.01 ACRES (174,756 SF)
PRESENT ZONING	M-1
PROPOSED USE	OFFICE/WAREHOUSE FACILITY
BUILDING COVERAGE	44,782 SF (26.0% OF SITE)
OFFICE	19,707 SF
SHIPPING & RECEIVING	5,789 SF
STORAGE & PROCESSING	19,286 SF
# OF PARKING SPACES REQUIRED*	
0.5 SP/1000 SF (SHIPPING/STORAGE AREA)	13 SPACES
3.3 SP/1000 SF (OFFICE AREA)	66 SPACES
TOTAL REQUIRED	79 SPACES
# OF PARKING SPACES PROVIDED	110 SPACES (INCL. 5 HC)
PAVED AREA	59,865 SF (34.8% OF SITE)

\* PER HOWARD COUNTY ZONING REGULATIONS SECT. 133, PG. 249-3(a) & PG. 251-5(a)



**PLAN**  
SCALE: 1" = 50'



**EAST BUILDING ELEVATION**  
NO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

<i>[Signature]</i>	3/21/97
DIRECTOR	DATE
<i>[Signature]</i>	3/18/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
<i>[Signature]</i>	3/21/97
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE

DATE	NO.	REVISION
OWNER		
THE HOWARD RESEARCH AND DEVELOPMENT CORP.		
THE ROUSE BUILDING		
10275 LITTLE PATUXENT PARKWAY		
COLUMBIA, MD 21044		
(410) 992-6000		
DEVELOPER		
MTH ELECTRIC TRAINS		
1693-A GERSHIG LANE		
COLUMBIA, MD 21046		
(410) 301-2560		
PROJECT		
MIKE'S TRAIN HOUSE		
OFFICE/WAREHOUSE FACILITY		
AREA		
COLUMBIA GATEWAY		
PARCEL S-16		
TAX MAP 43, BLOCK 7		
ZONED M-1		
6th ELECTION DISTRICT		
TITLE		
TITLE SHEET		

**RIEMER MUEGGE & ASSOCIATES, INC.**  
 ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
 8818 Centre Park Drive, Columbia, Maryland 21045  
 tel 410.997.8900 fax 410.997.9282

3-11-97	F-90-138 GP-87-36 F-97-131
DATE	F-87-63 F-87-125
DESIGNED BY: CJR	
DRAWN BY: RPP	
PROJECT NO: 97006	
SDP1.DWG	
DATE: MARCH 11, 1997	
SCALE: AS SHOWN	
DRAWING NO. 1 OF 6	

### ADDRESS CHART

PARCEL	STREET ADDRESS
S-16	1020 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	COLUMBIA GATEWAY	SECT./AREA		PARCEL	S-16
PLAT #	12G74-12675	BLOCK #	7	ZONING	M-1
TAX MAP NO.	43	ELECT. DIST.	6th	DENSITY TRACT	606T.03
WATER CODE	E06	SEWER CODE	3380000		

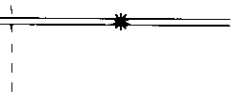
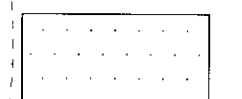

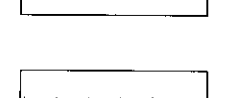
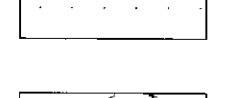


*[Signature]*  
 JAYKANT D. PAREKH #19148

COLUMBIA GATEWAY  
PARCEL S-16  
ZONED M-1  
PLAT 12674

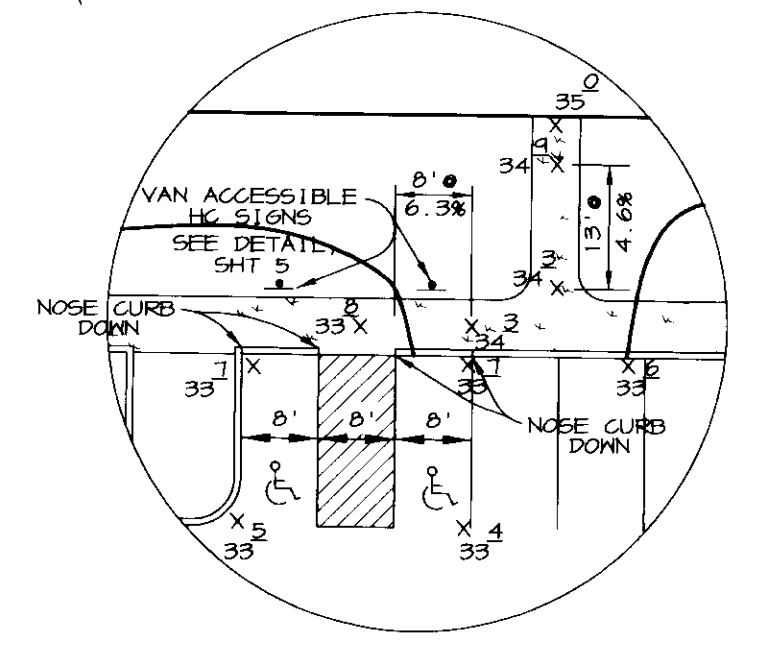
COLUMBIA GATEWAY  
PARCEL S-17  
ZONED M-1  
PLAT 12674

COLUMBIA GATEWAY  
PARCEL S-8  
ZONED M-1  
PLAT 9718

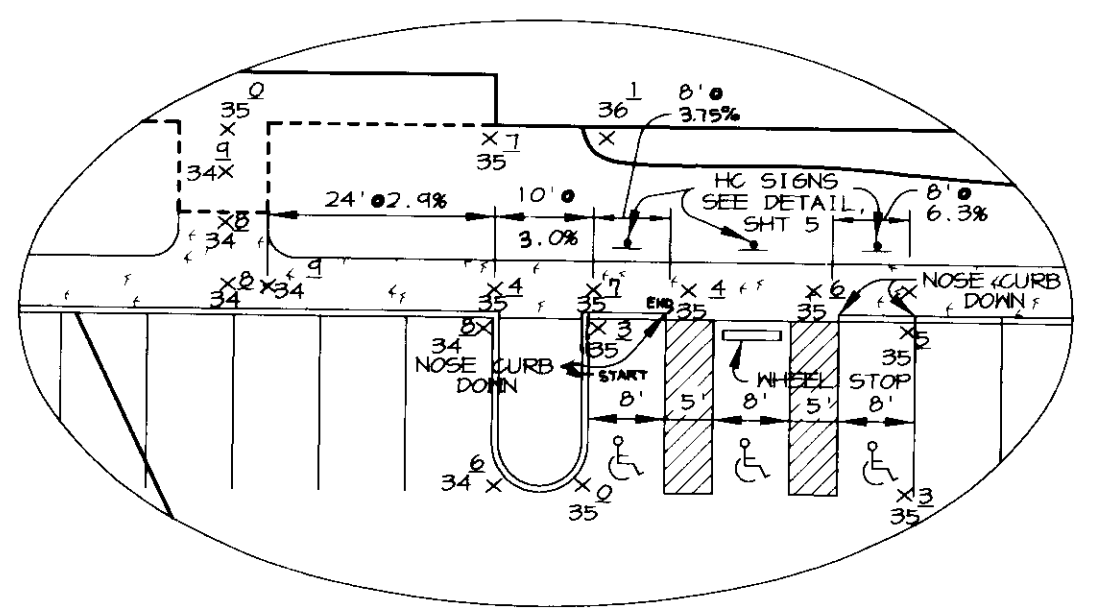
LEGEND

-  STANDARD/REVERSE CURB & GUTTER TRANSITION
-  P-1 PAVING
-  P-2 PAVING
-  P-3 PAVING
-  CONCRETE
-  FLOW ARROWS
-  LIGHT POLE, SEE DETAIL SHEET 5

E 855250  
N 486350



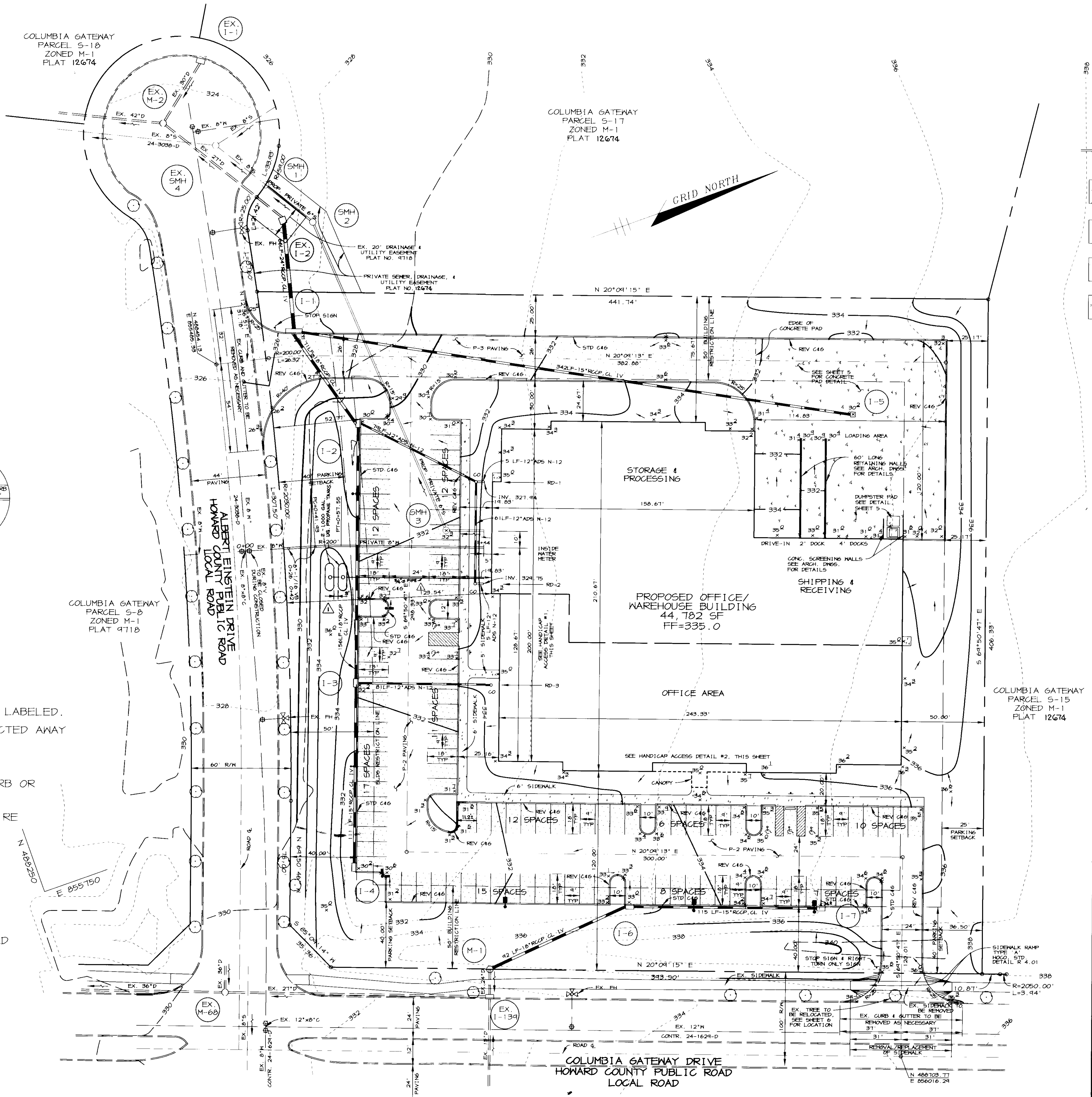
HANDICAP ACCESS DETAIL #1  
1"=20'



HANDICAP ACCESS DETAIL #2  
1"=20'

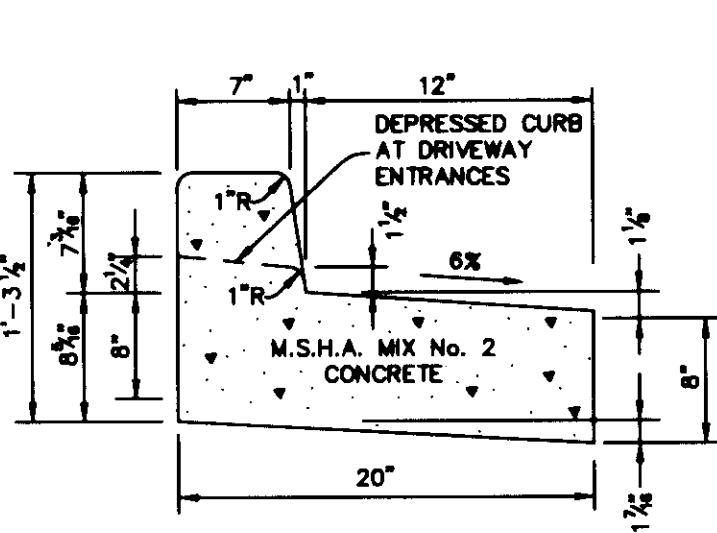
NOTES

1. ALL CURB RADII ARE 5' UNLESS OTHERWISE LABELED.
2. ALL SITE LIGHTING TO BE DIRECTED/REFLECTED AWAY FROM PUBLIC ROADS AND DOWNWARD.
3. ALL ON-SITE ROADS ARE PRIVATE.
4. ALL DIMENSIONS SHOWN ARE TO FACE OF CURB OR BUILDING FACE UNLESS OTHERWISE NOTED.
5. THIS BUILDING WILL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
6. THE STREET TREES ALONG ALBERT EINSTEIN DRIVE ARE PER F-90-138, AND THE STREET TREES ALONG COLUMBIA GATEWAY DRIVE ARE PER F-87-125.
7. ALL SIDEWALK RADII ARE 3'.
8. BUILDING AND PARKING SETBACKS ARE PER DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS FOR COLUMBIA GATEWAY.

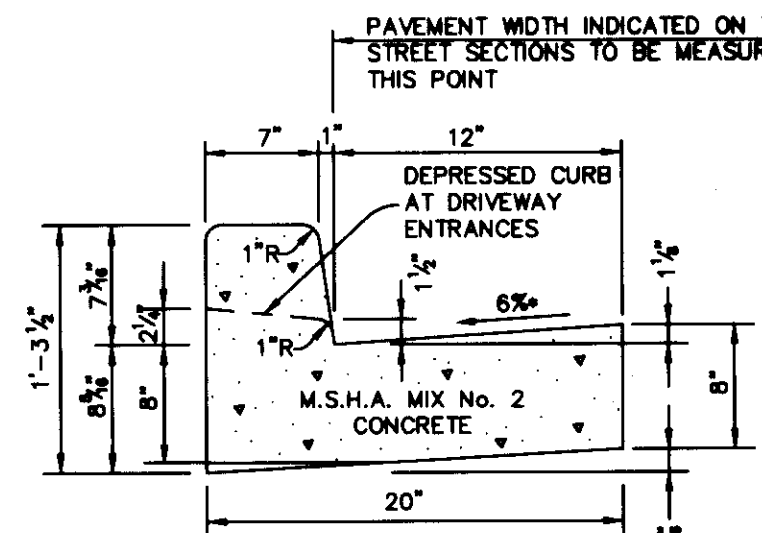


APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.	
<i>James Smith</i> DIRECTOR	3/24/97 DATE
<i>John D. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	3/18/97 DATE
<i>Richard Blood</i> CHIEF, DIVISION OF LAND DEVELOPMENT	3/24/97 DATE
9-26-97	ADDED 2-1000 GAL UNDERGROUND PROPANE TANKS & 3/4" PIPE.
DATE NO.	REVISION
OWNER	THE HOWARD RESEARCH AND DEVELOPMENT CORP. THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 (410) 942-6000
DEVELOPER	MTH ELECTRIC TRAINS 4643-A GERMIG LANE COLUMBIA, MD 21046 (410) 381-2580
PROJECT	MIKE'S TRAIN HOUSE OFFICE/WAREHOUSE FACILITY
AREA	COLUMBIA GATEWAY PARCEL S-16 TAX MAP 43, BLOCK 7 ZONED M-1 6th ELECTION DISTRICT
TITLE	SITE DEVELOPMENT PLAN
<b>RIEMER MUEGGE &amp; ASSOCIATES, INC.</b> ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282	
DATE	3.11.97
DESIGNED BY :	CJR
DRAWN BY :	RPP
PROJECT NO :	97006 SDP2.DWG
DATE :	MARCH 11, 1997
SCALE :	1"=30'
DRAWING NO.	2 OF 6
<i>J. Garb</i> JAYKANT D. PAREKH #19148	

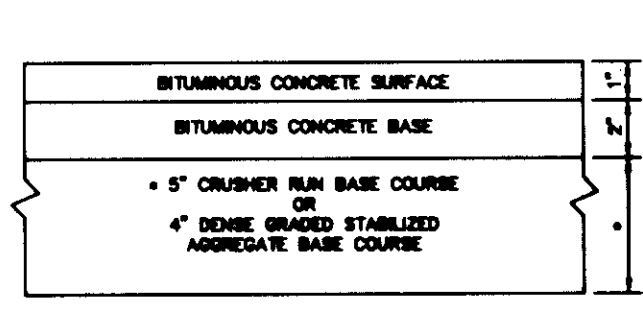




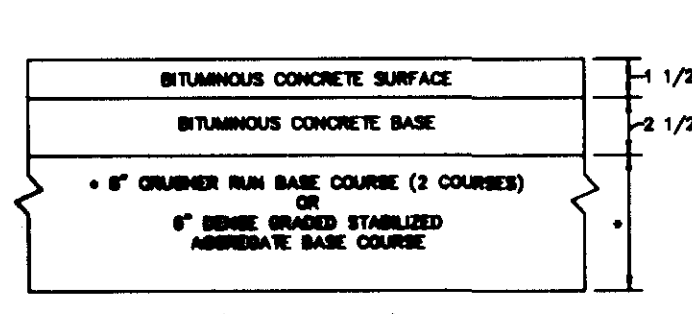
**REVERSE 7<sup>TH</sup> COMBINATION CURB AND GUTTER**  
NO SCALE



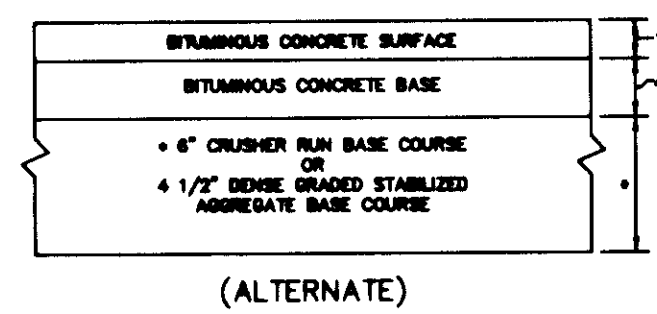
**STANDARD 7<sup>TH</sup> COMBINATION CURB AND GUTTER**  
NO SCALE



**P-1 PAVING**  
NO SCALE



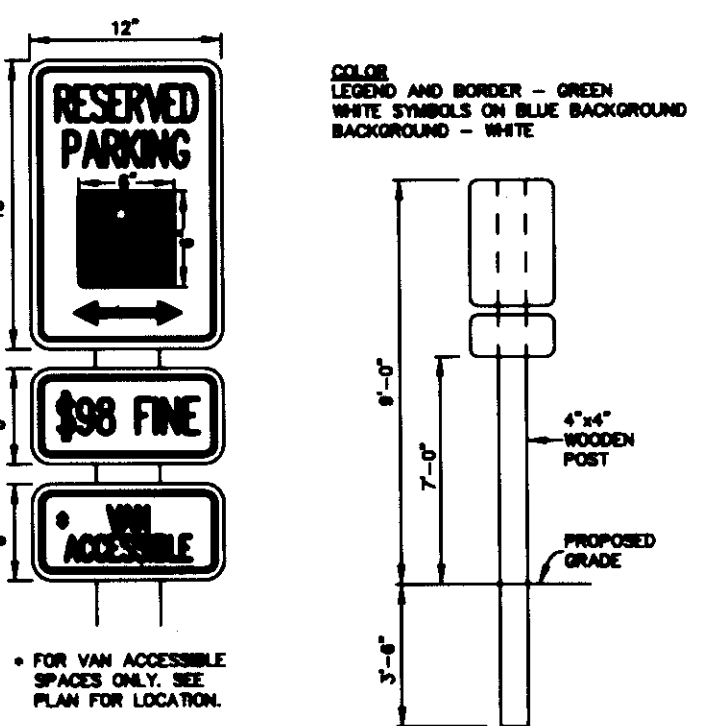
**P-2 PAVING**  
NO SCALE



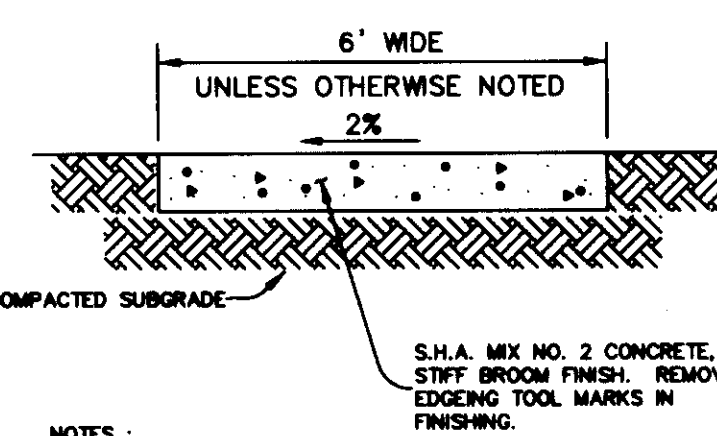
**P-3 PAVING**  
NO SCALE

STRUCTURE SCHEDULE						
STRUCTURE	TYPE	LOCATION	INV. IN	INV. OUT	TOP	REMARKS
I-1	A-10	N 400,504.24 E 005,405.61	325.53(15') 322.46(10')	322.46	326.7	HOCO. STD. DETAIL SD 4.02
I-2	A-5	N 400,525.64 E 005,544.30	327.00(12') 324.50(10')	324.40	330.6	HOCO. STD. DETAIL SD 4.01
I-3	A-5	N 400,470.26 E 005,644.64	324.14(12') 325.04(15')	325.54	332.8	HOCO. STD. DETAIL SD 4.01
I-4	A-5	N 400,452.57 E 005,747.44	-	326.45	330.8	HOCO. STD. DETAIL SD 4.01
I-5	5 WITH RECTANGULAR GRATE	N 400,006.37 E 005,642.41	-	326.45	330.2	HOCO. STD. DETAILS SD 4.22 AND SD 4.43
I-6	A-5	N 400,501.77 E 005,675.65	324.60	324.35	333.6	HOCO. STD. DETAIL SD 4.01
I-7	A-5	N 400,600.74 E 005,914.41	-	330.75	334.6	HOCO. STD. DETAIL SD 4.01
M-1	4' H4	N 400,487.24 E 005,005.55	328.43	327.42	336.0	HOCO. STD. DETAIL 6 5.01
SH4-1	4' H4	N 400,516.34 E 005,943.25	317.50	314.40	325.6	HOCO. STD. DETAIL 6 5.01
SH4-2	4' H4	N 400,557.62 E 005,423.62	316.40	320.30	327.3	HOCO. STD. DETAIL 6 5.01
SH4-3	4' H4	N 400,550.40 E 005,625.75	322.54	322.44	332.1	HOCO. STD. DETAIL 6 5.01

NOTES: LOCATION IS AT CENTER OF THROAT OPENING AT FACE OF CURB FOR INLETS. TOP ELEVATION IS TOP OF CURB/GRATE/RH.

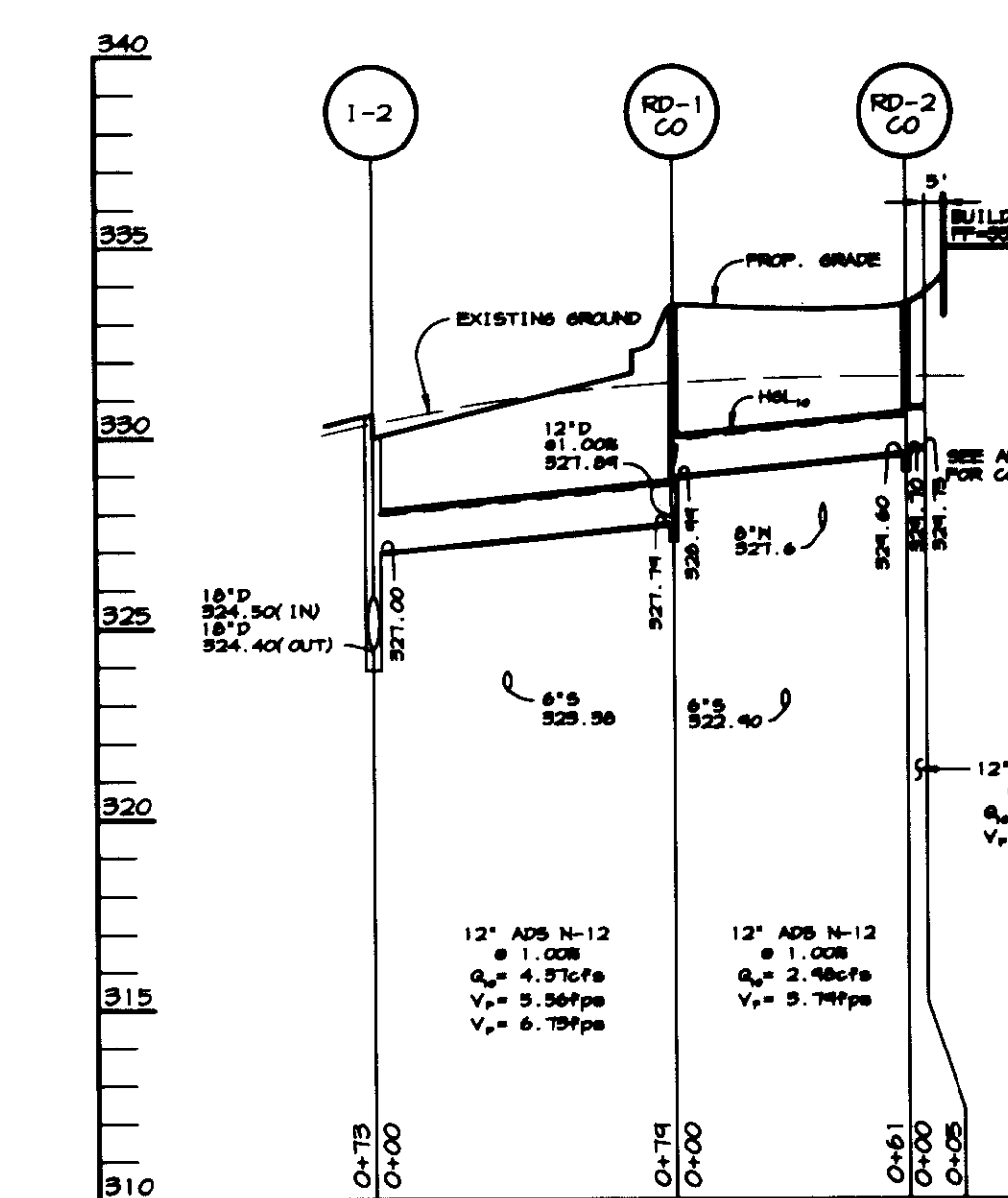


**HANDICAP SIGN DETAIL**  
NO SCALE

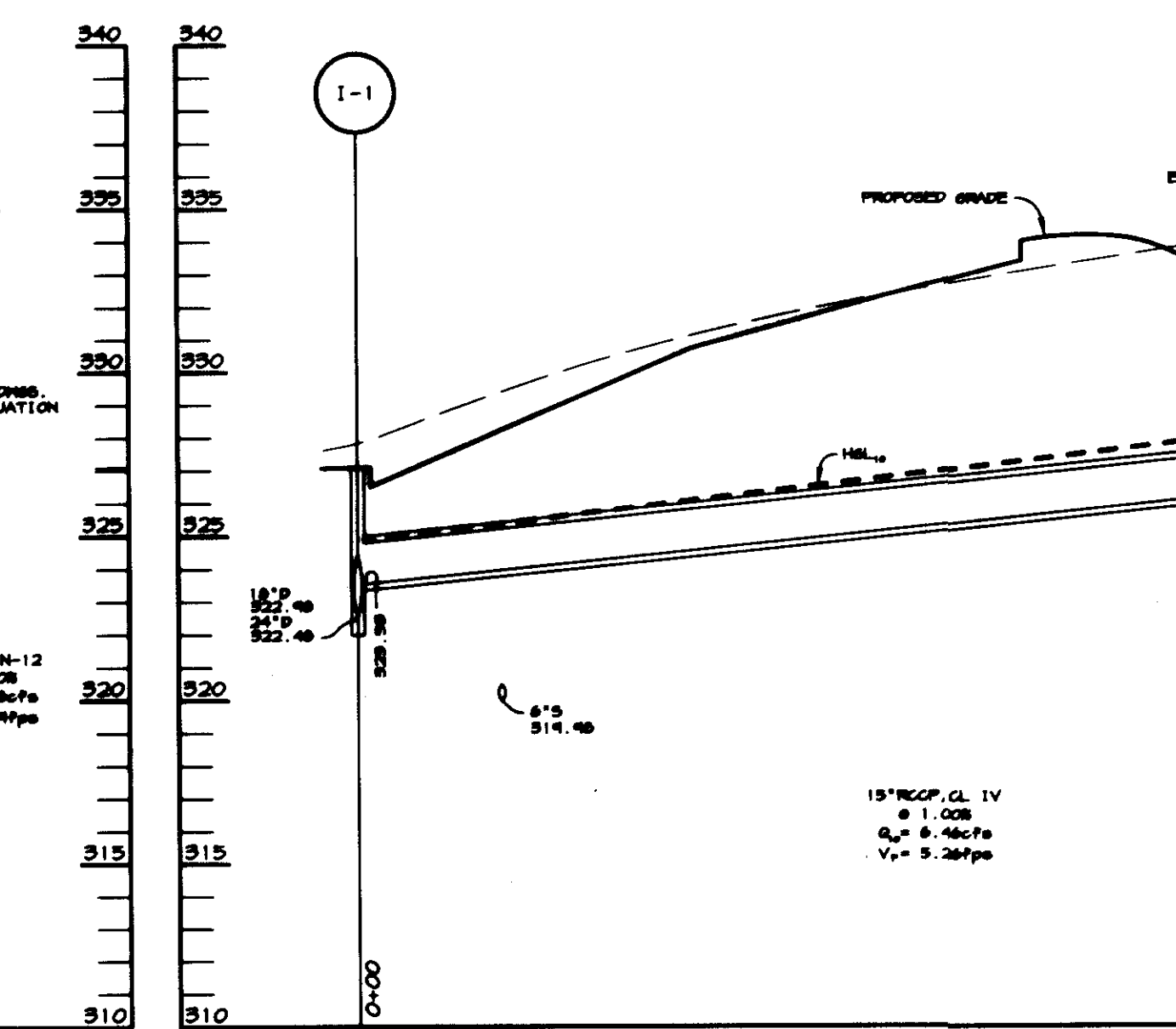


**SIDEWALK DETAIL**  
NO SCALE

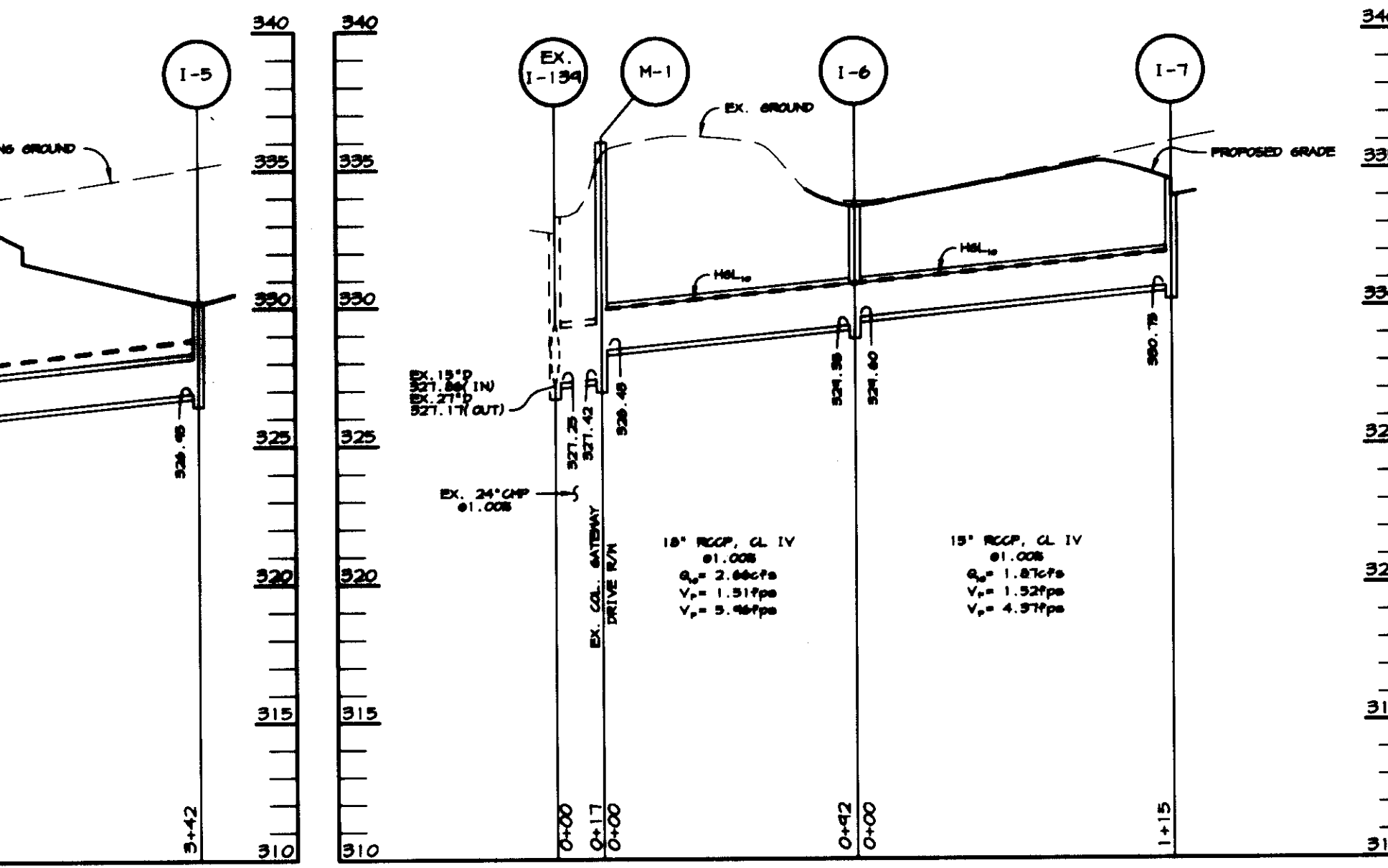
**STANDARD 7<sup>TH</sup> COMBINATION CURB AND GUTTER**  
NO SCALE



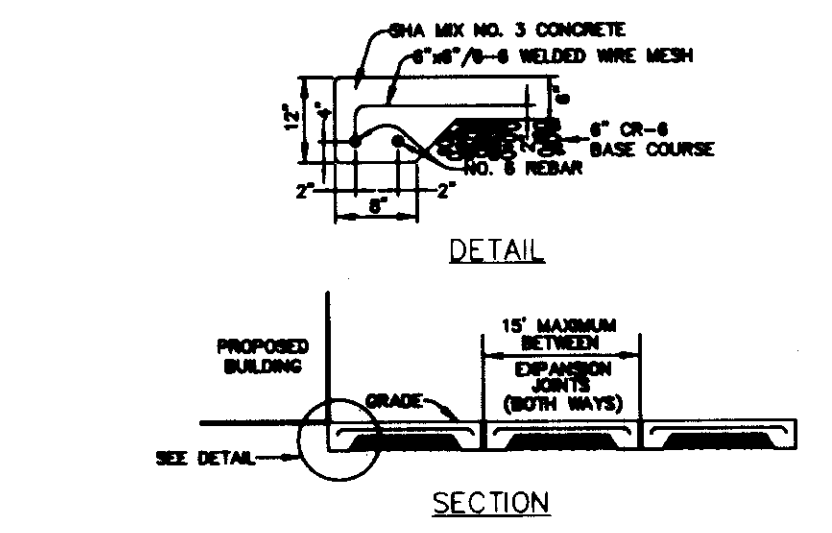
**STORM DRAIN PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'



**STORM DRAIN PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'



**CONCRETE PAVING DETAIL**  
NO SCALE

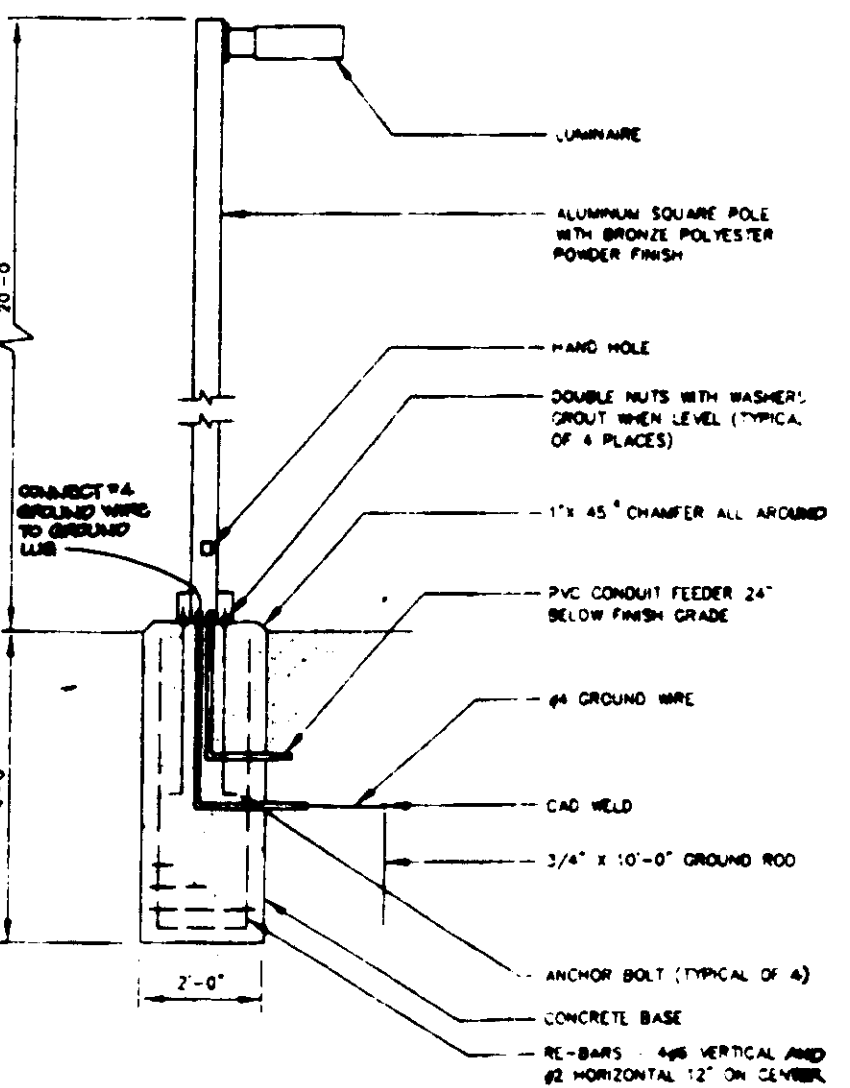
- SAW JOINTS AT 15' SPACING IN BOTH DIRECTIONS WITH DEPTH AT JOINT EQUAL TO 1/4 DEPTH OF SLAB.
- CONSTRUCTION JOINTS AS NEEDED, USING 3/4" DIA. SMOOTH DOWELS COATED TO PREVENT BOND @ 12" O/C (MAX.) WITH SMOOTH CUT EDGES. DOWELS EXTEND 8" INTO CONCRETE ON EACH SIDE OF JOINT.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

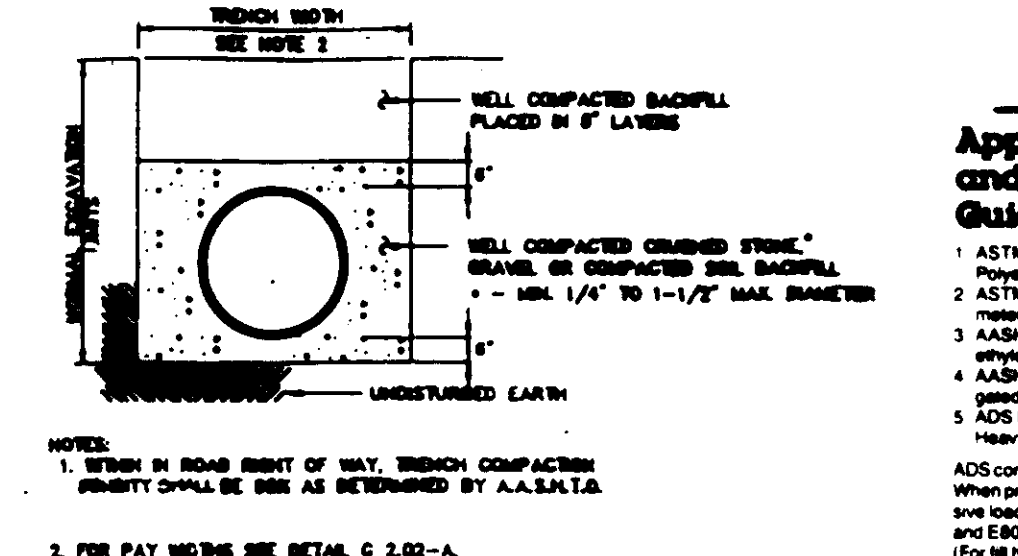
Director: *[Signature]* 3/24/97 DATE

Chief, Development Engineering Division: *[Signature]* 3/18/97 DATE

Chief, Division of Land Development: *[Signature]* 3/24/97 DATE



**LIGHT DETAIL**  
NO SCALE



**TRENCH FOR ADS N-12 PIPE**  
NO SCALE

**ADS N-12**  
Applicable Specifications and Installation Guidelines

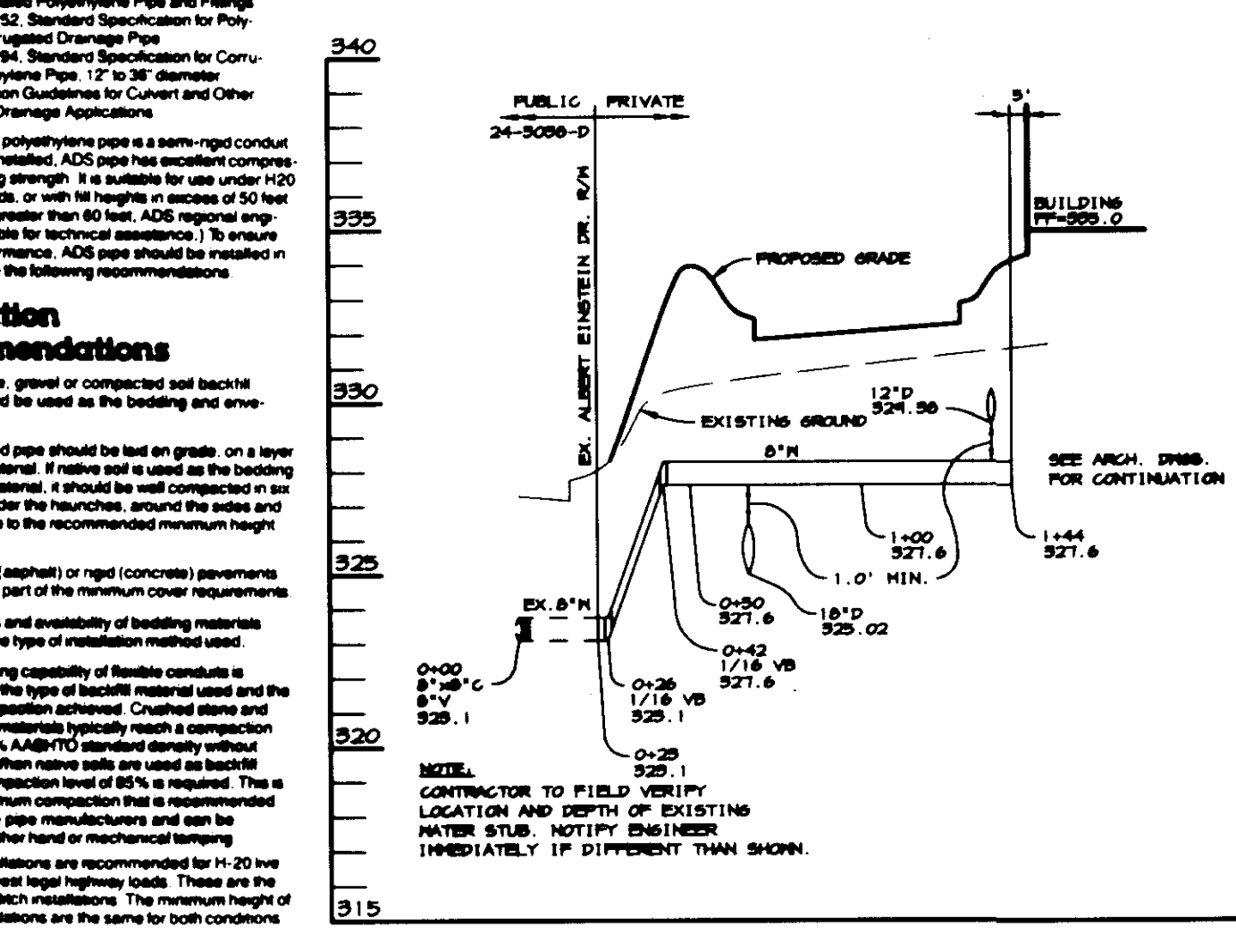
- ASTM A95 Standard Specification for Corrugated Polyethylene Pipe and Fittings
- ASTM F887 Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings
- ASHTO M 252 Standard Specification for Polyethylene Corrugated Drainage Pipe
- ASHTO M 294 Standard Specification for Polyethylene Corrugated Drainage Pipe - 12 to 36" diameter
- ADS Installation Guidelines for Culvert and Other Heavy-Duty Drainage Applications

ADS corrugated polyethylene pipe is a semi-rigid conduit. When properly installed, ADS pipe has excellent compressive load bearing strength. It is suitable for use under H2O and E80 live loads, or with live heights in excess of 50 feet (for all heights greater than 60 feet, ADS regional engineers are available for technical assistance). To ensure maximum performance, ADS pipe should be installed in accordance with the following recommendations:

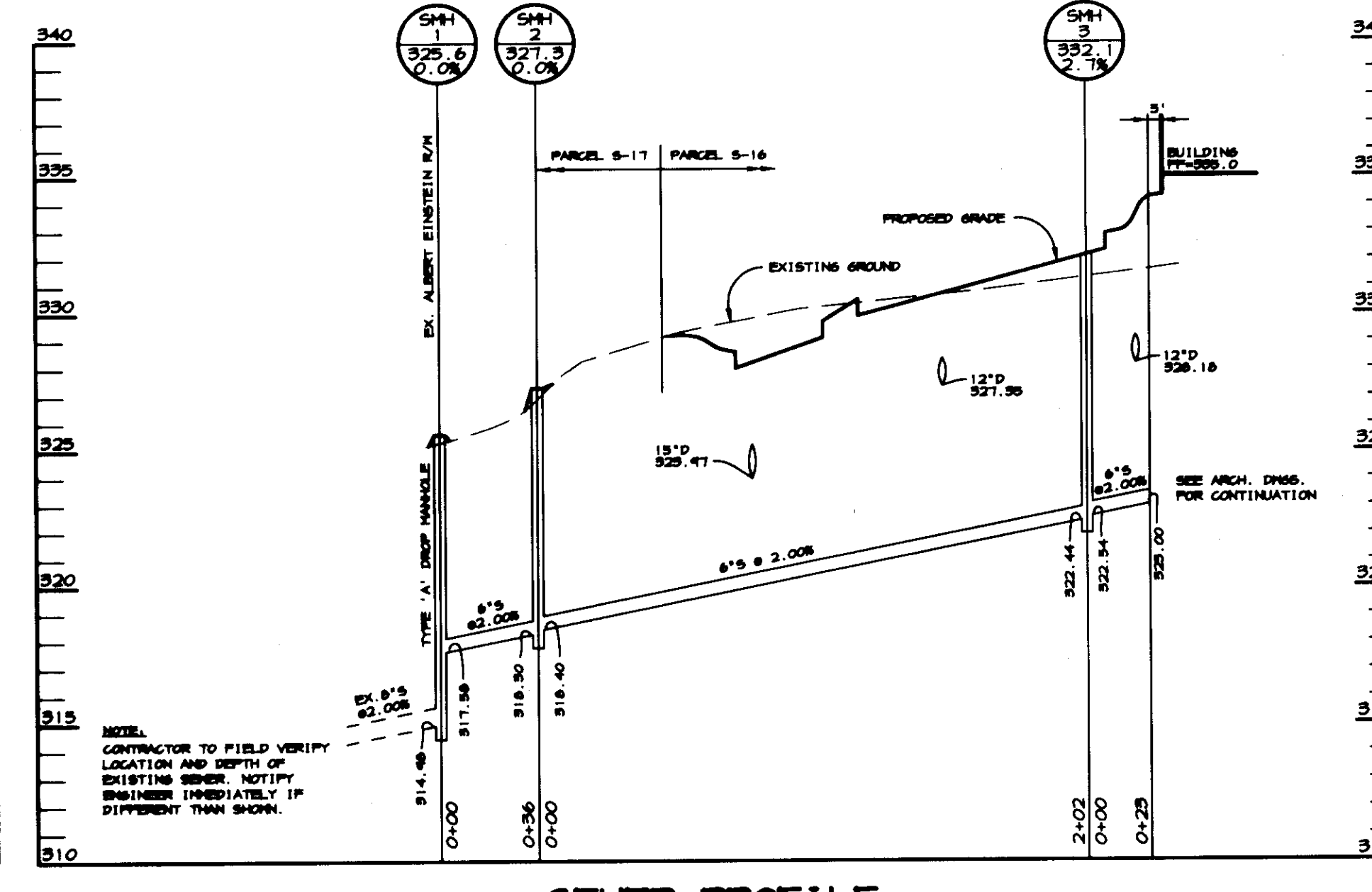
**Installation Recommendations**

- Crushed stone, gravel or compacted soil backfill material should be used as the bedding and side-slope material.
- The corrugated pipe should be laid on grade, on a layer of bedding material. If bedding is used, it should be compacted in six inch layers under the handbars, around the sides and above the pipe to the recommended minimum height of cover.
- Other flexible (asphalt or rigid concrete) pavements may be used as part of the minimum cover requirements.
- Site conditions and availability of bedding materials often dictate the type of installation method used.
- The load bearing capability of flexible concrete is dependent on the type of bedding material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% ASHTO standard density without compaction. When other soils are used, backfill material, a compaction level of 85% is required. This is the same minimum compaction that is recommended by all drainage pipe manufacturers and can be achieved by either hand or mechanical tamping.

Two types of installation are recommended for 12" and 18" ADS pipe - the 'hand' and 'mechanical' methods. These are the trench and open ditch installations. The minimum height of cover recommendations are the same for both conditions.



**WATER PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'



**SEWER PROFILE**  
SCALE: HOR. - 1"=50', VERT. - 1"=5'

DATE	NO.	REVISION
OWNER: THE HOWARD RESEARCH AND DEVELOPMENT CORP. THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 (410) 992-6000		
DEVELOPER: MTH ELECTRIC TRAINS 6643-A GERRI16 LANE COLUMBIA, MD 21046 (410) 381-2580		
PROJECT: MIKE'S TRAIN HOUSE OFFICE/WAREHOUSE FACILITY		
AREA: COLUMBIA GATEWAY PARCEL 5-16 TAX MAP 43, BLOCK 7 ZONED M-1 6th ELECTION DISTRICT		
TITLE: PROFILES, NOTES, AND DETAILS		
<b>RIEMER MUEGGE &amp; ASSOCIATES, INC.</b> ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.5282		
DATE: 3-11-97	F-80-138 GP-87-36 F-87-135	
	F-87-63 F-87-125	
	DESIGNED BY: CJR	
	DRAWN BY: RPP	
	PROJECT NO: 97006	
	SDPS.DWG	
	DATE: MARCH 11, 1997	
	SCALE: AS SHOWN	
	DRAWING NO. 5 OF 6	

STATE OF MARYLAND  
JAYKANT D. PAREKH #19148



### TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed 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 600 lbs. per acre 10-10-10 Fertilizer (14 lbs. per 1000 sq.ft.).

**Seeding:** For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushels per acre of annual ryegrass (3.2 lbs. per 1000 sq.ft.). For the period May 1 thru August 1, seed with 3 lbs. per acre of creeping lovegrass (0.07 lbs. per 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 1-1/2 to 2 tons per acre (70 to 90 lbs. per 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. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

Refer to the 1989 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR rate and methods not covered.

### PERMANENT SEEDING NOTES

Apply to graded or cleared areas not subject to immediate further disturbance where a permanent long-lived 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:** In lieu of soil test recommendations, use one of the following schedules:

- 1) Preferred - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq.ft.) and 600 lbs. per acre 10-10-10 Fertilizer (14 lbs. per 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 (4 lbs. per 1000 sq.ft.).
- 2) Acceptable - Apply 2 tons per acre dolomitic limestone (42 lbs. per 1000 sq.ft.) and 1000 lbs. per acre 10-10-10 Fertilizer (23 lbs. per 1000 sq.ft.) before seeding. Harrow or disc into upper three inches of soil.

**Seeding:** For the period March 1 thru April 30 and from August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period August 1 thru October 15, seed with 60 lbs. per acre (1.4 lbs. per 1000 sq.ft.) of Kentucky 31 Tall Fescue. For the period November 16 thru February 28, protect site by one of the following options:

- 1) 2 tons per acre of well-anchored mulch straw and seed as soon as possible in the spring.
- 2) Use sod.
- 3) Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch with 2 tons per acre well anchored straw.

**Mulching:** Apply 1-1/2 to 2 tons per acre (70 to 90 lbs. per 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. per 1000 sq.ft.) of emulsified asphalt on flat areas. On slopes, 8 ft. or higher, use 347 gal. per acre (8 gal. per 1000 sq.ft.) for anchoring.

**Maintenance:** Inspect all seeded areas and make needed repairs, replacements and reseedings.

### SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS PRIOR TO THE START OF ANY CONSTRUCTION (313-1055).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL, AND REVISIONS THERETO.
3. 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 AND ALL SLOPES GREATER THAN 3:1; B) 14 DAYS AS TO OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1991 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL AND EROSION CONTROL FOR PERMANENT SEEDINGS (SEC. 51), SOIL (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.
6. 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.
7. SITE ANALYSIS:
 

TOTAL AREA OF SITE (LEASE AREA)	3.95 ACRES
AREA DISTURBED	4.01 ACRES
AREA TO BE ROOFED OR PAVED	2.37 ACRES
AREA TO BE VEGETATIVELY STABILIZED	1.64 ACRES
TOTAL CUT	4800 CU. YARDS
TOTAL FILL	4800 CU. YARDS
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. SITE GRADING WILL BEGIN ONLY AFTER ALL PERIMETER SEDIMENT CONTROL MEASURES HAVE BEEN INSTALLED AND ARE IN A FUNCTIONING CONDITION.
11. SEDIMENT WILL BE REMOVED FROM TRAPS WHEN ITS DEPTH REACHES CLEAN OUT ELEVATION SHOWN ON THE PLANS.
12. CUT AND FILL QUANTITIES PROVIDED UNDER SITE ANALYSIS DO NOT REPRESENT BID QUANTITIES. THESE QUANTITIES DO NOT DISTINGUISH BETWEEN TOPSOIL, STRUCTURAL FILL OR EMBANKMENT MATERIAL, NOR DO THEY REFLECT CONSIDERATION OF UNDERCUTS OR REDUCTION OF UNSUITABLE MATERIAL. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH SITE CONDITIONS WHICH MAY AFFECT THE WORK.
13. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 AC., 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.
14. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
15. BORROW SITE TO BE PRE-APPROVED BY THE SEDIMENT CONTROL INSPECTOR, OR IN CASE OF EXCESS MATERIAL, AN APPROVED SEDIMENT CONTROL PLAN WILL BE NEEDED TO DEPOSIT EXCESS OFF-SITE.

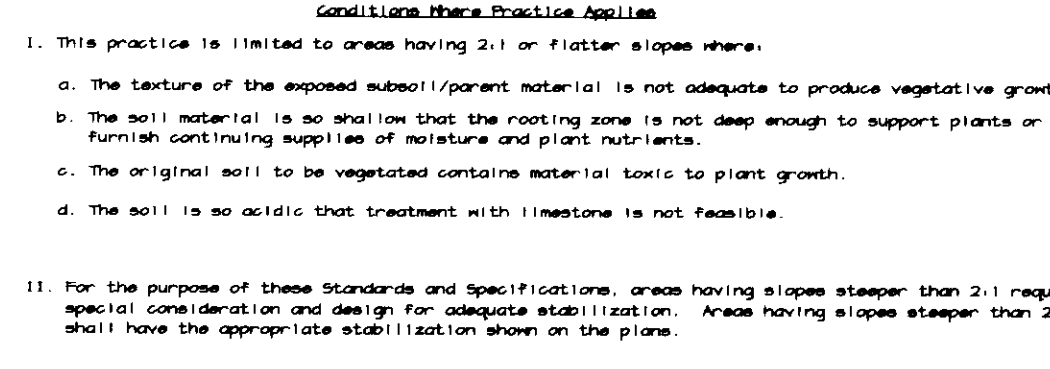
### 21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

**Definition:** Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

**Purpose:** To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

**Conditions Where Practice Applies:**

1. This practice is limited to areas having 2:1 or flatter slopes where:
  - a. The texture of the exposed subsoil (parent material) is not adequate to produce vegetative growth.
  - b. The soil material is so small that the rooting area is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - c. The original soil to be vegetated contains material toxic to plant growth.
  - d. The soil is so acidic that treatment with limestone is not feasible.
2. For the purpose of these standards and specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization when on the slope.



### Construction and Material Specifications

1. Topsoil salvaged from the existing site may be used provided that it meets the standards set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
2. Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - a. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand, other soil may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, clay, coarse fragments, gravel, sticks, rocks, trash, or other materials larger than 1/4" in diameter.
  - b. Topsoil must be free of plants or plant parts such as stems, grass, weeds, grasses, alfalfa, alfalfa, poison ivy, thistle, or others as specified.
  - c. There shall be either highly acidic or compensated of heavy clay, ground limestone will be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
3. For sites having disturbed areas under 5 acres:
  - a. On soil meeting Topsoil specifications, obtain test results discarding fertilizer and lime amounts required to bring the soil into compliance with the following:
    - i. pH for Topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sulfuric acid (line shall be prepared to raise the pH to 6.0 or higher.
    - ii. Organic content of topsoil shall not be less than 1.5 percent by weight.
    - iii. Topsoil having available soil content greater than 500 parts per million shall not be used.
    - iv. No seed or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
  - b. Note: Topsoil substitutes to amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority may be used in lieu of natural topsoil.
4. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

### Topsoil Application

- i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and basins.
- ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, at least 4" - 6" higher in elevation.
- iii. Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Seeding shall be performed in such a manner that seeding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

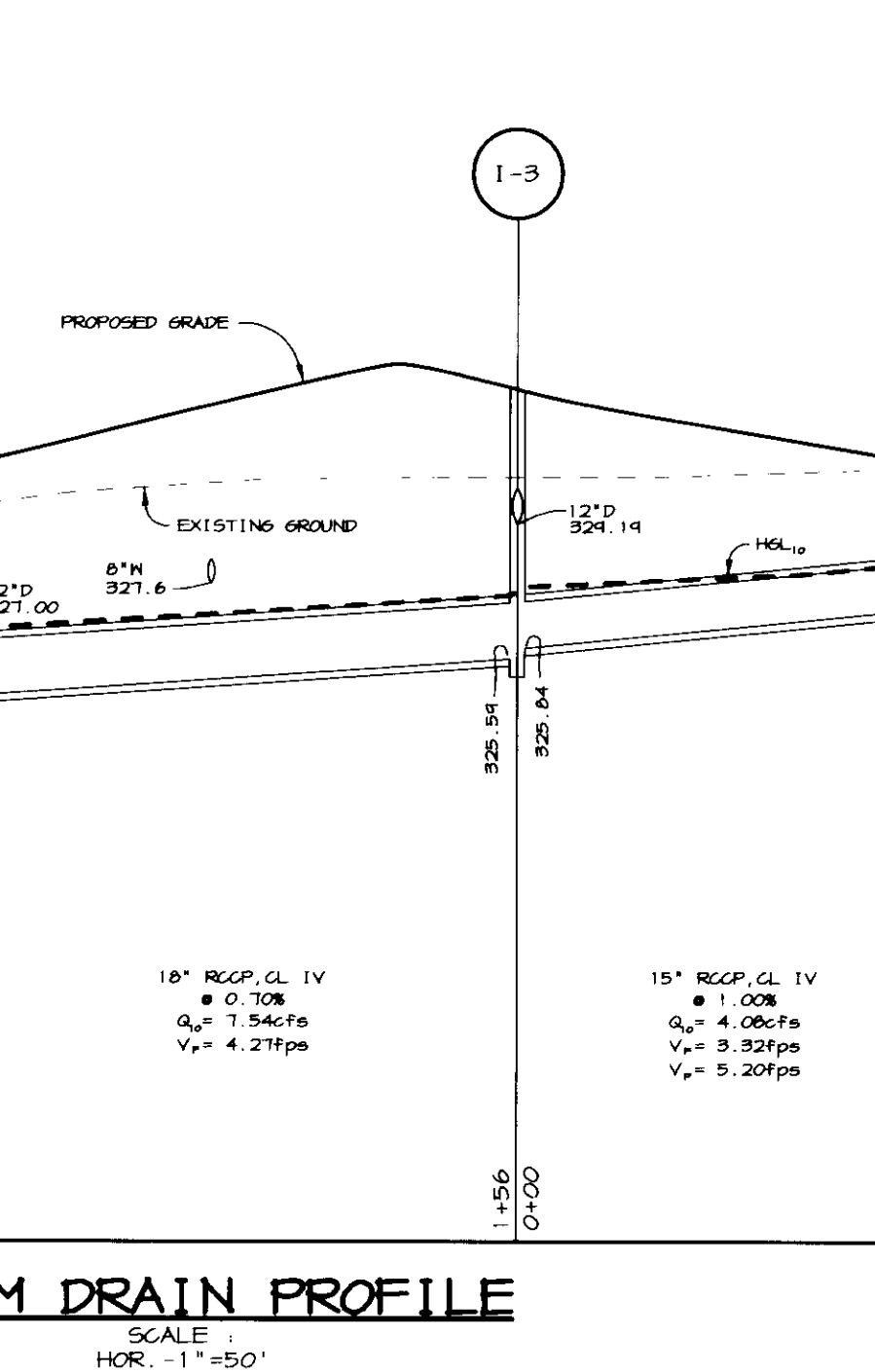
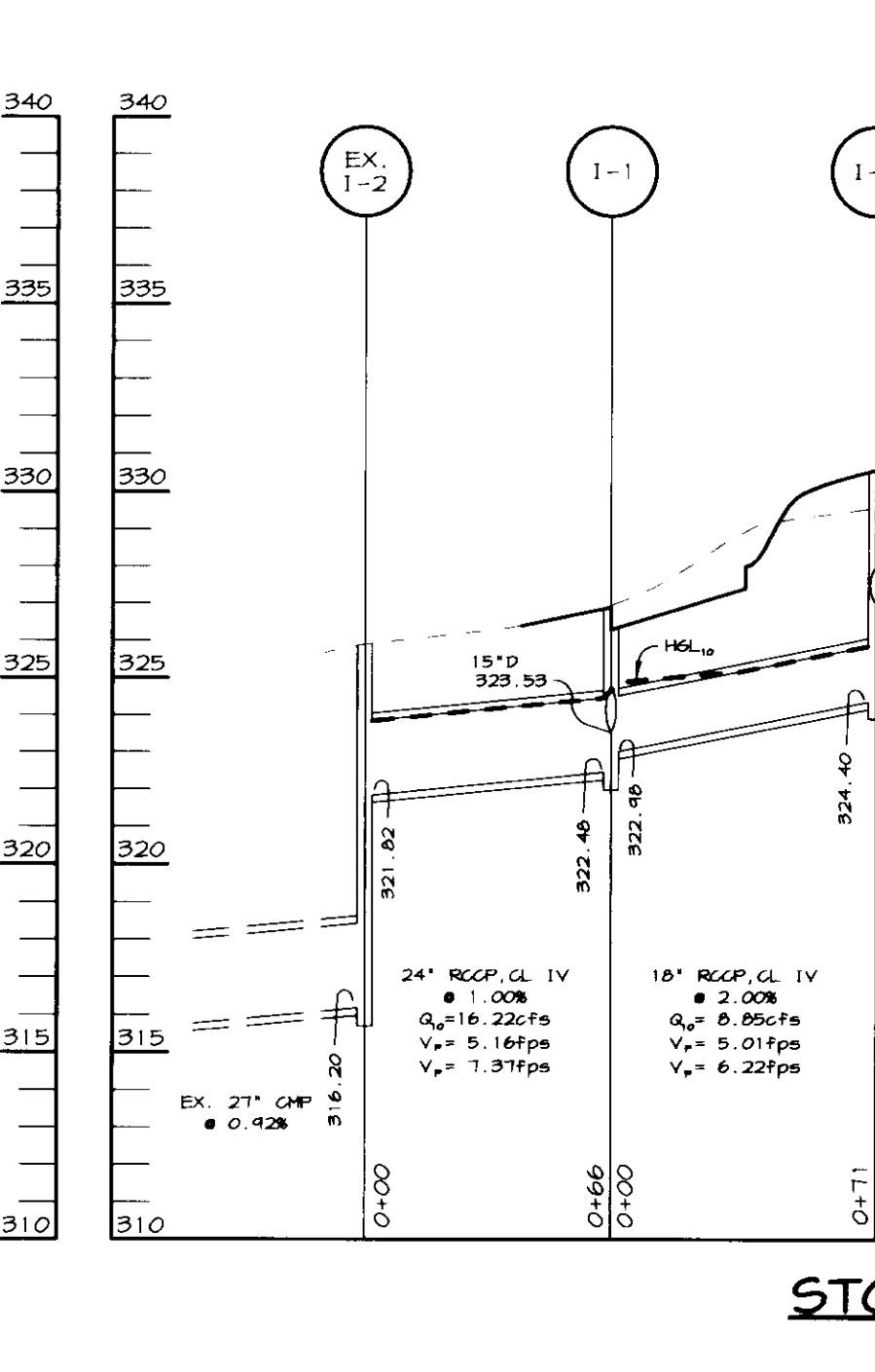
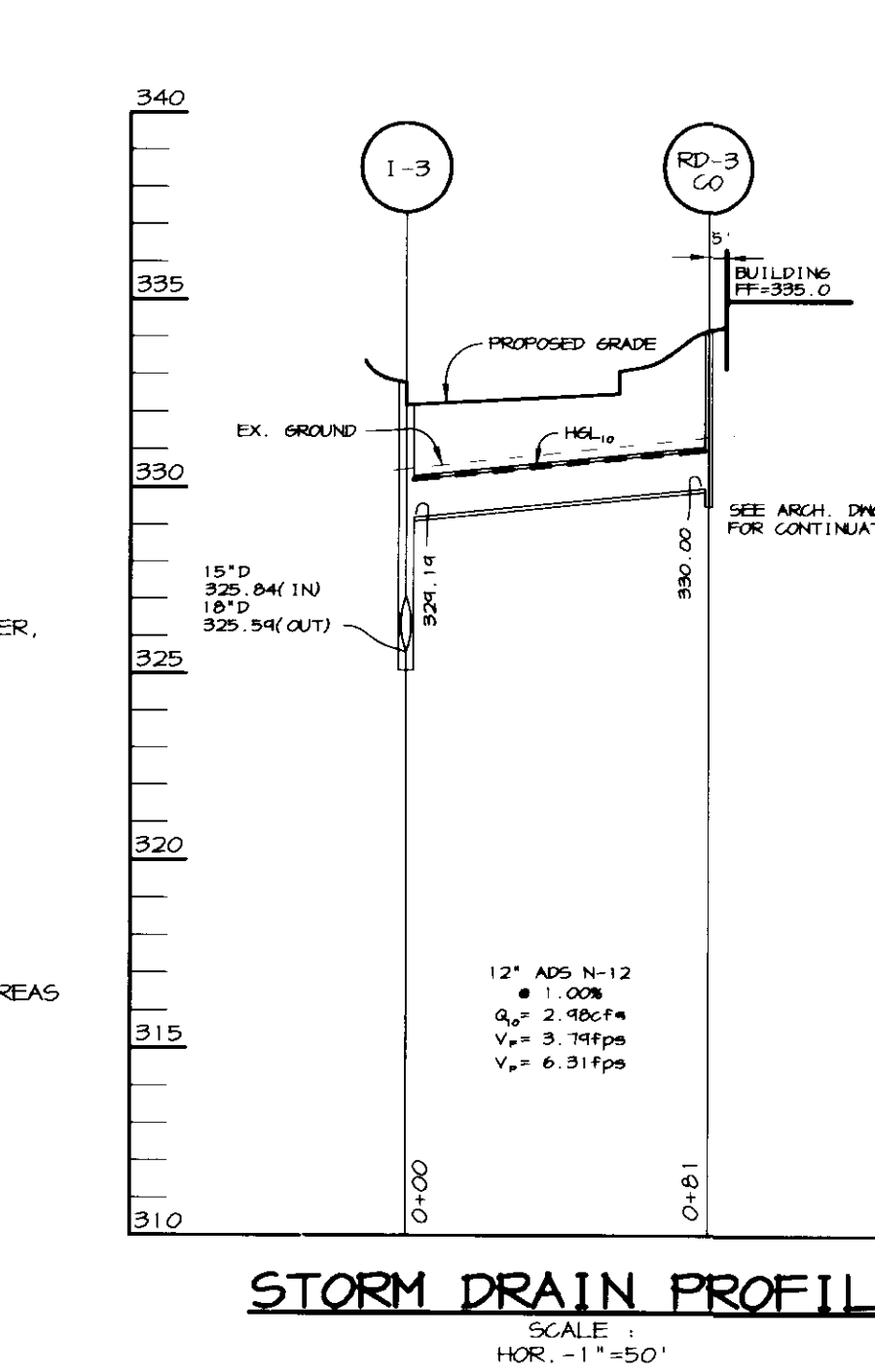
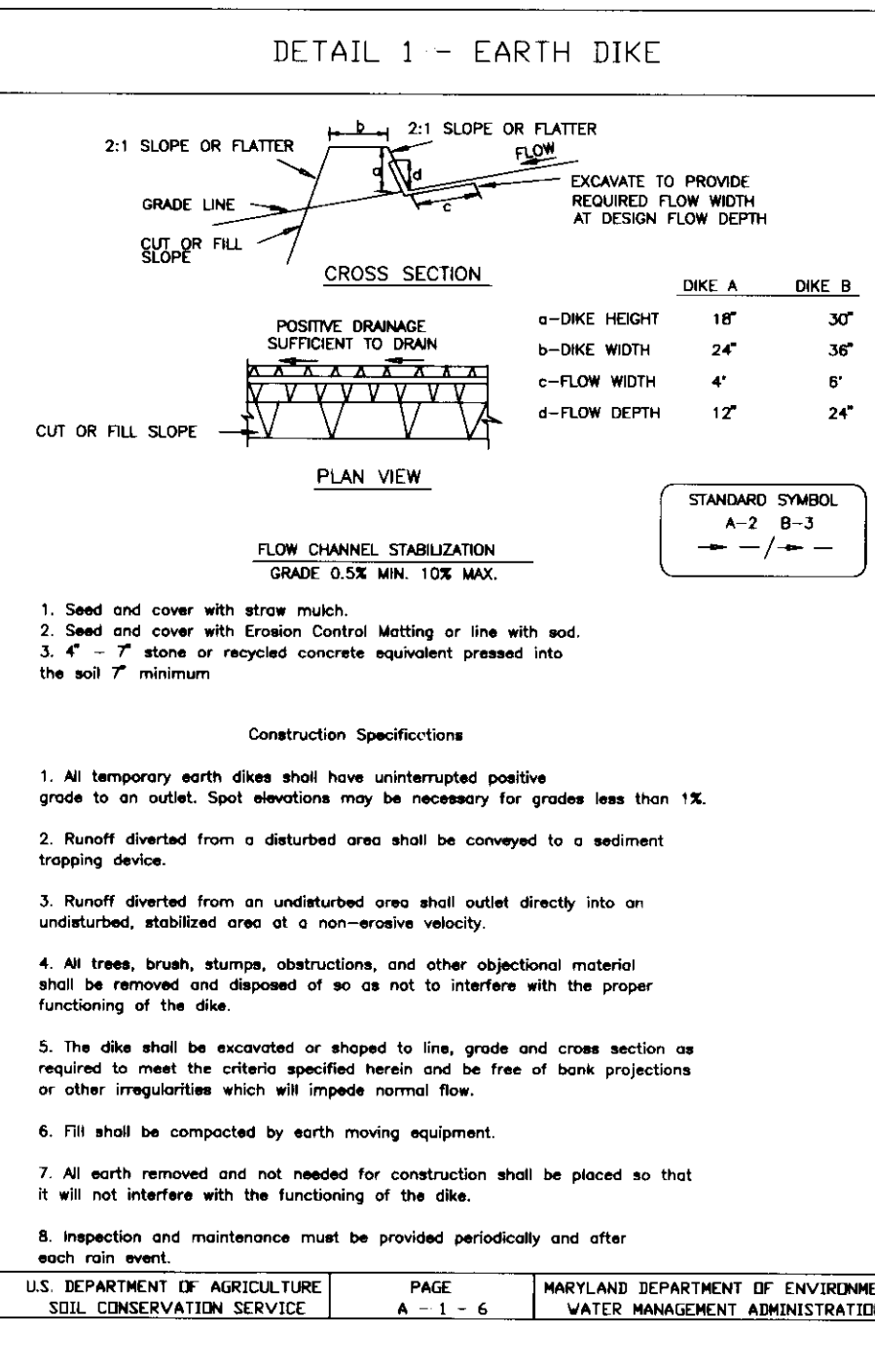
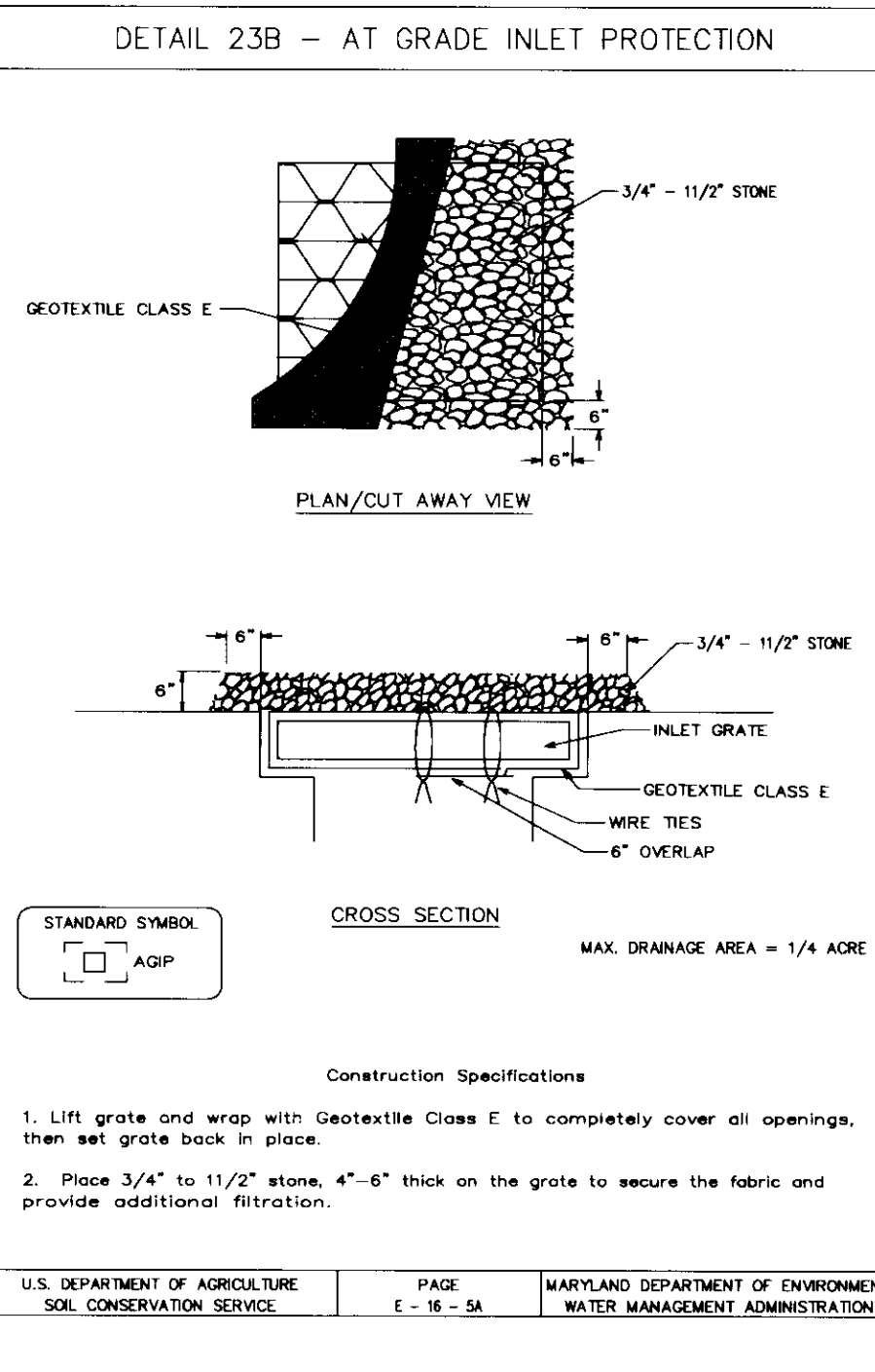
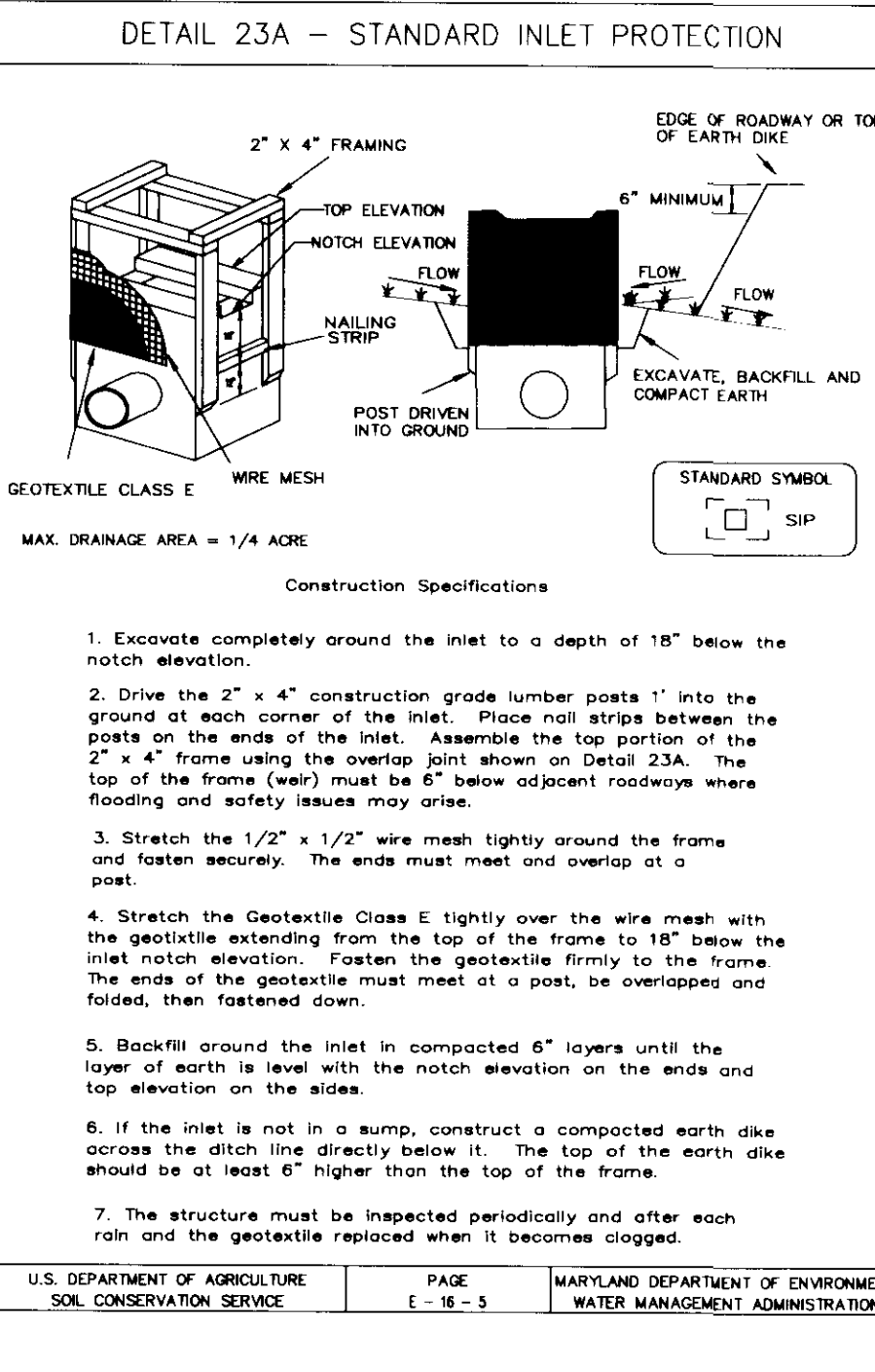
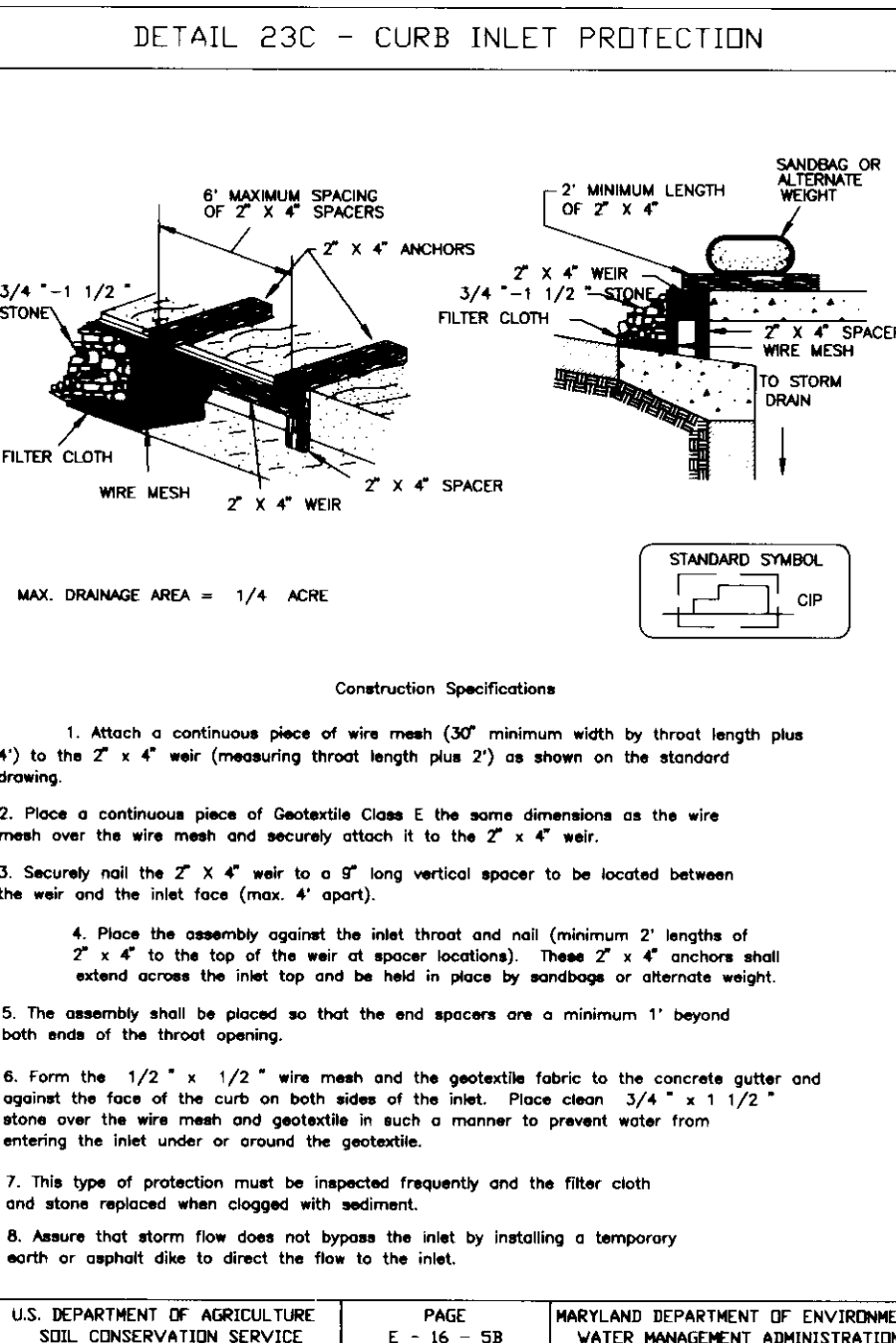
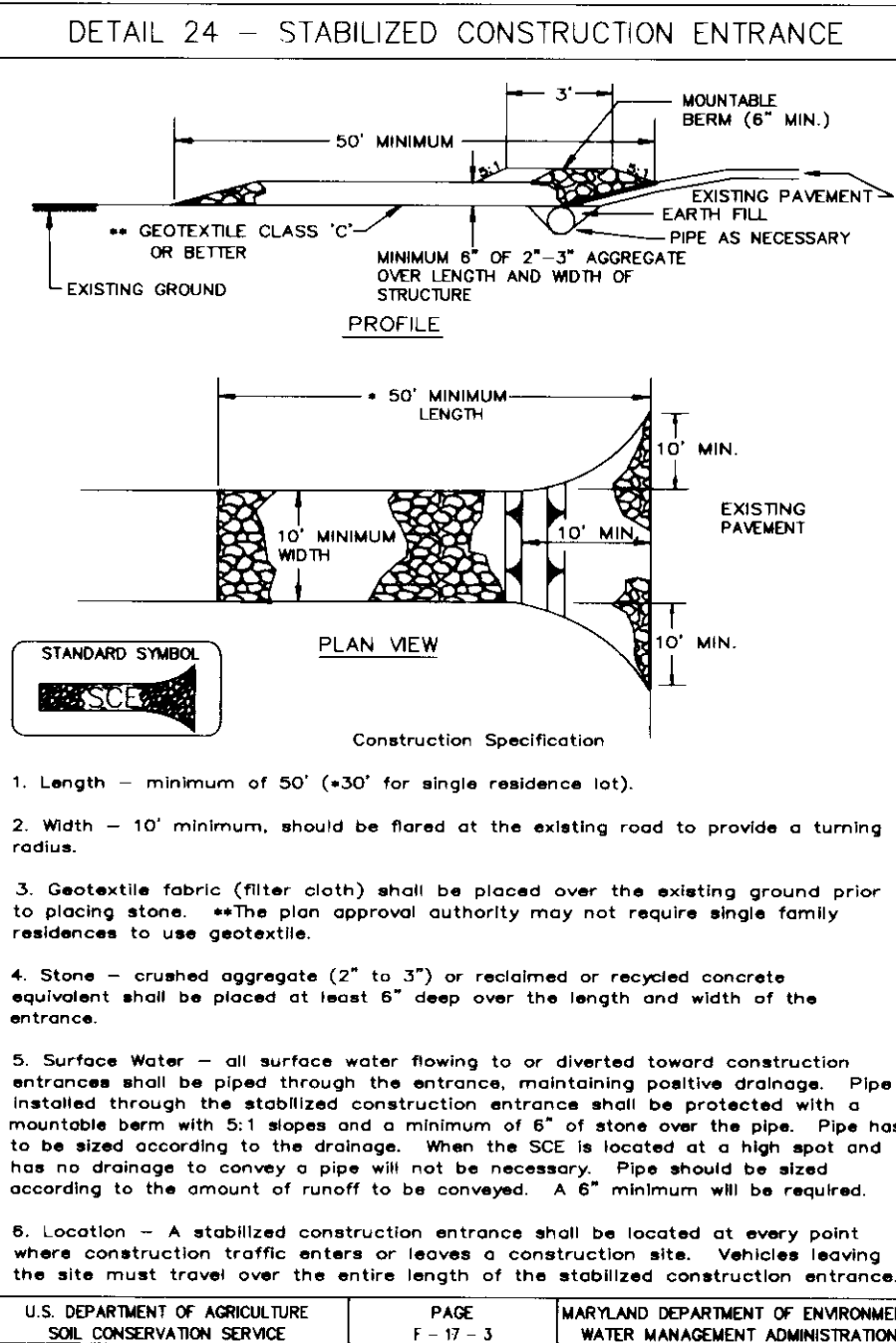
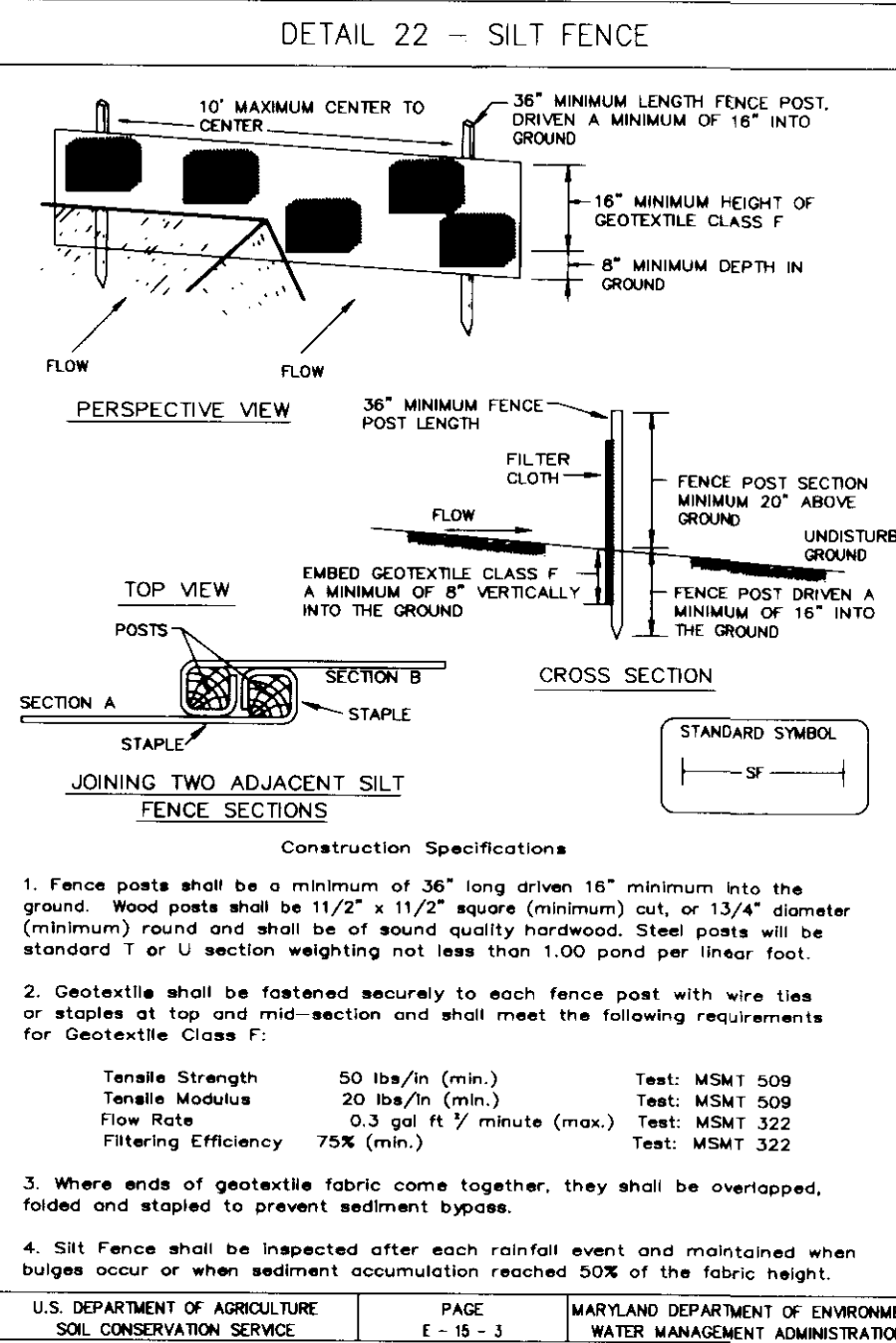
### Alternative for Permanent Seeding - Instead of applying the full amount of lime and commercial fertilizer, composted sludge may be applied as specified below.

- i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas under 5 acres shall be tested to the following requirements:
  - a. Composted sludge shall be applied by, or originate from, a person or persons that are permitted for the time of acquisition of the sludge by the Maryland Department of the Environment under COMAR 26.04.06.
  - b. Composted sludge shall contain at least 1 percent nitrogen, 1 percent phosphorus, and 0.2 percent potassium and have a pH of 1.0 to 9.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
  - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
  - d. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Seeding, NCHA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1975.

### SEQUENCE OF CONSTRUCTION

1. OBTAIN BUILDING PERMIT.
2. INSTALL STABILIZED CONSTRUCTION ENTRANCE AND SILT FENCE. (1 DAY)
3. ROUGH GRADE SITE AND BEGIN BUILDING CONSTRUCTION. (5 DAYS)
4. AS SUBGRADE ELEVATIONS ARE ESTABLISHED, INSTALL STORM DRAINS, WATER, AND SEWER. PROVIDE INLET PROTECTION AS SHOWN. (4 WEEKS)
5. INSTALL CURBS AND SUTTER AND PAVE ROADWAYS, POUR CONCRETE LOADING AREA AND SIDEWALKS. (3 WEEKS)
6. FINE GRADE SITE AND INSTALL BERMS. (5 DAYS)
7. STABILIZE DISTURBED AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (1 DAY)
8. INSTALL LIGHTS, LANDSCAPING AND SIGNS AS REQUIRED. (5 DAYS)
9. UPON APPROVAL OF HOWARD COUNTY DLP SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND STABILIZE ALL REMAINING AREAS IN ACCORDANCE WITH THE PERMANENT SEEDING NOTES. (2 DAYS)



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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/11/97  
DEVELOPER DATE

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]* 3/11/97  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

*[Signature]* 3/1/97  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/1/97  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/24/97  
DIRECTOR DATE

*[Signature]* 3/10/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/24/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

OWNER: THE HOWARD RESEARCH AND DEVELOPMENT CORP. THE ROUSE BUILDING 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 (410) 942-6000

DEVELOPER: MTH ELECTRIC TRAINS 9693-A GERNIG LANE COLUMBIA, MD 21046 (410) 381-2580

PROJECT: MIKE'S TRAIN HOUSE OFFICE/WAREHOUSE FACILITY

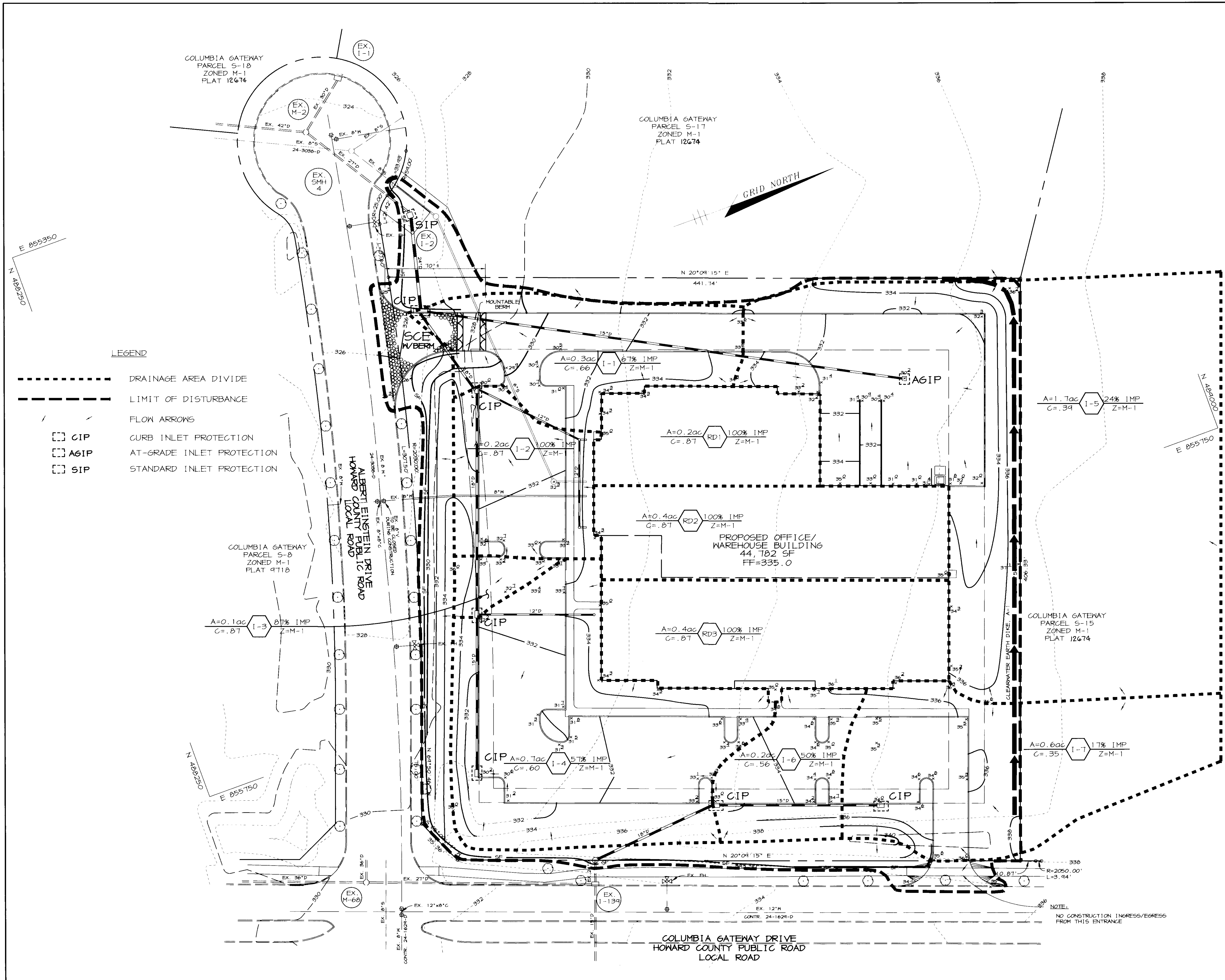
AREA: COLUMBIA GATEWAY PARCEL S-16 TAX MAP 43, BLOCK 7 ZONED M-1 6TH ELECTION DISTRICT

TITLE: PROFILES, NOTES, AND DETAILS

RIEMER MUEGGE & ASSOCIATES, INC. ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING 8818 Centre Park Drive, Columbia, Maryland 21045 tel 410.997.8900 fax 410.997.9282

DATE: 3-11-97  
DESIGNED BY: CJR  
DRAWN BY: RPP  
PROJECT NO: 97006 SDP4.DWG  
DATE: MARCH 11, 1997  
SCALE: AS SHOWN  
DRAWING NO. 4 OF 6

*[Signature]*  
JAYKANT D. PAREKH #19148



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 INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/11/97  
DEVELOPER DATE

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]* 3/11/97  
ENGINEER DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

*[Signature]* 3/11/97  
NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 3/11/97  
HOWARD SOIL CONSERVATION DISTRICT DATE

APPROVED : HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/24/97  
DIRECTOR DATE

*[Signature]* 3/18/97  
CHIEF DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 3/21/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

DATE	NO.	REVISION

**OWNER**  
THE HOWARD RESEARCH AND DEVELOPMENT CORP.  
THE ROUSE BUILDING  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
(410) 992-6000

**DEVELOPER**  
MTH ELECTRIC TRAINS  
9693-A GERMI6 LANE  
COLUMBIA, MD 21046  
(410) 381-2580

**PROJECT**  
MIKE'S TRAIN HOUSE  
OFFICE/WAREHOUSE FACILITY

**AREA**  
COLUMBIA GATEWAY  
PARCEL S-16  
TAX MAP 43, BLOCK 7  
ZONED M-1  
6th ELECTION DISTRICT

**TITLE**  
SEDIMENT CONTROL PLAN AND  
DRAINAGE AREA MAP

**RIEMER MUEGG & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

3.11.97  
DATE

DESIGNED BY : CJR

DRAWN BY : RPP

PROJECT NO : 97006  
SDP3.DWG

DATE : MARCH 11, 1997

SCALE : 1"=30'

*[Signature]*  
JAYKANT D. PAREKH #19148  
DRAWING NO. 3 OF 6



**LANDSCAPE SCHEDULES**

**ALTERNATIVE COMPLIANCE REQUIRED  
COLUMBIA GATEWAY TREE REQUIREMENTS**

OFFICE 5-10 ACRES  
32 SHADE TREES PER GROSS ACRE  
3.95 ACRES X 32 SHADE S.T.E./ACRE = 126.4 S.T.E.  
(COLUMBIA GATEWAY REQUIRED SHADE TREE EQUIVALENTS, S.T.E.) = 126

PROVIDED:	PLANTED	S.T.E.
Each Shade Tree = 1 S.T.E.	(49)	49
Each Evergreen Tree = 0.5 S.T.E.	(61)	30.5
Each Flowering Tree = 0.5 S.T.E.	(33)	16.5
Each Shrub = 0.1 S.T.E.	(116)	11.6
<b>SUBTOTAL</b>		<b>107.6</b>

CREDIT TAKEN FOR EXISTING STREET TREES (EACH CREDITED SHADE TREE = 1 S.T.E.) = 5  
CREDIT TAKEN FOR APPROVED STREET TREES NOT YET PLANTED (EACH CREDITED SHADE TREE = 1 S.T.E.) = 14  
**SUBTOTAL** = 19

\*\* CREDIT TAKEN FOR 3' - 4' BERMS ALONG ALBERT EINSTEIN DRIVE & COLUMBIA GATEWAY DRIVE (2819 L.F. = 202 SHRUBS = 20 S.T.E.) = 20

**TOTAL S.T.E. PROVIDED: 147.6 S.T.E.**

PERIMETER	SCHEDULE A PERIMETER LANDSCAPE EDGE				ADJACENT TO PERIMETER PROPERTIES	
	A-1	A-2	B-1	B-2	C	D
LANDSCAPE TYPE	E	B	E	B	A	A
LINEAR FEET OF ROADWAY FRONTAGE / PERIMETER	1392	135	1477	125	1442	1406
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO	NO	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES 1932 L.F. OF BERM	NO	YES 1447 L.F. OF BERM	NO	NO	NO
NUMBER OF PLANTS REQUIRED	140' x 0.3	150' x 0.7	140' x 1.1	150' x 0.5	160' x 1.4	160' x 6.8
SHADE TREES	0	0	0	0	0	0
EVERGREEN TREES	0	0	0	0	0	0
SHRUBS	1/4" **	1/4" **	1/4" **	1/4" **	1/4" **	1/4" **
NUMBER OF PLANTS PROVIDED	4	1	8	1	8	11
SHADE TREES	4	1	8	1	8	11
EVERGREEN TREES	0	0	0	0	0	0
SMALL FLOWERING TREES	0	0	0	0	0	0
SHRUBS	11	3	11	3	11	16

SUBSTITUTION / CREDIT NOTES:  
PERIMETER LANDSCAPE EDGE: SCHEDULE A  
PERIMETER A-1:  
3'-4' HIGH BERM TO ROAD ELEVATION - CREDIT TAKEN FOR 83 SHRUBS.  
PERIMETER A-2:  
SUBSTITUTE (3) FLOWERING TREES FOR (0.9) EVERGREEN TREES.  
PERIMETER B-1:  
3'-4' HIGH BERM TO ROAD ELEVATION - CREDIT TAKEN FOR 119.25 SHRUBS.

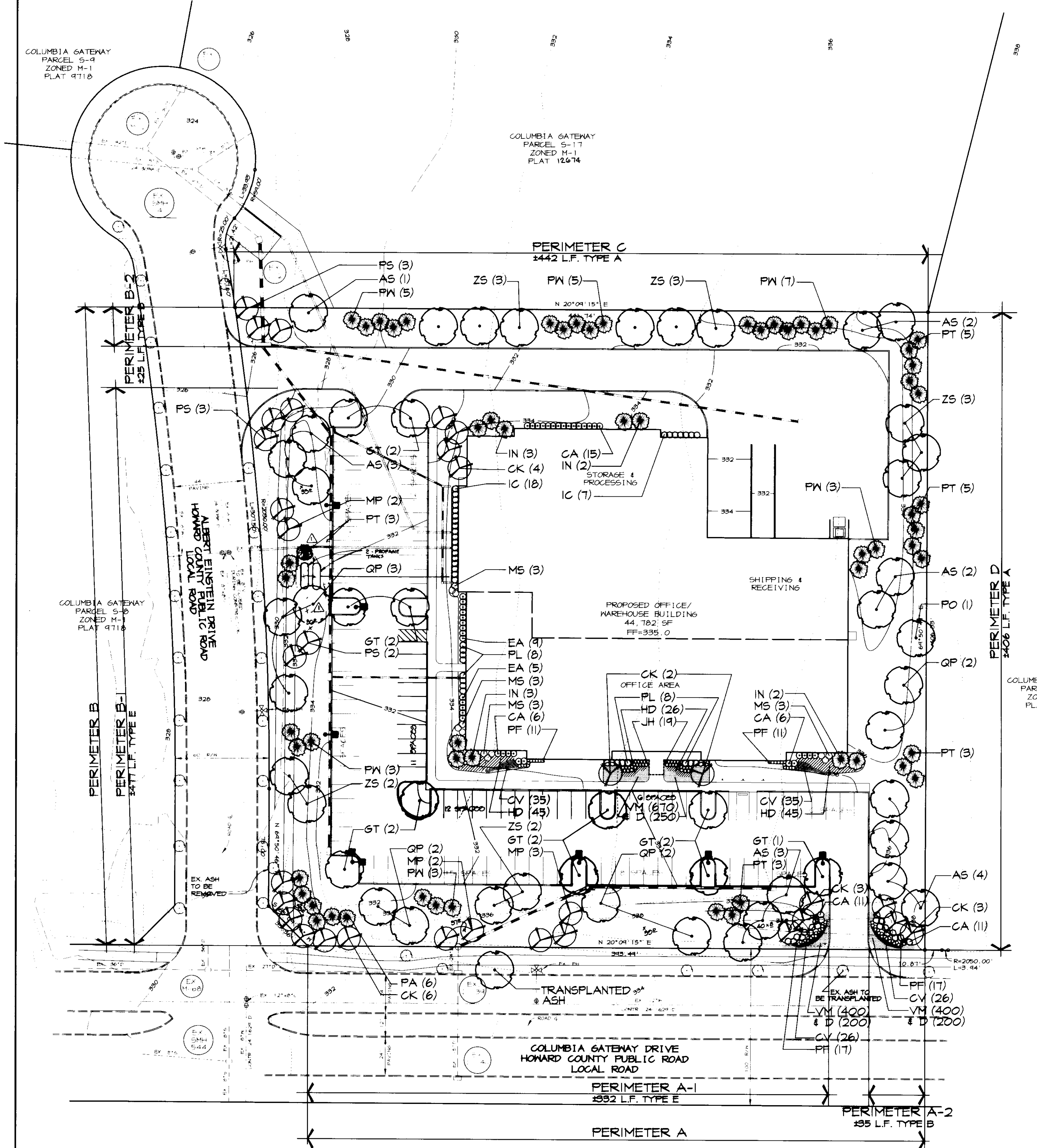
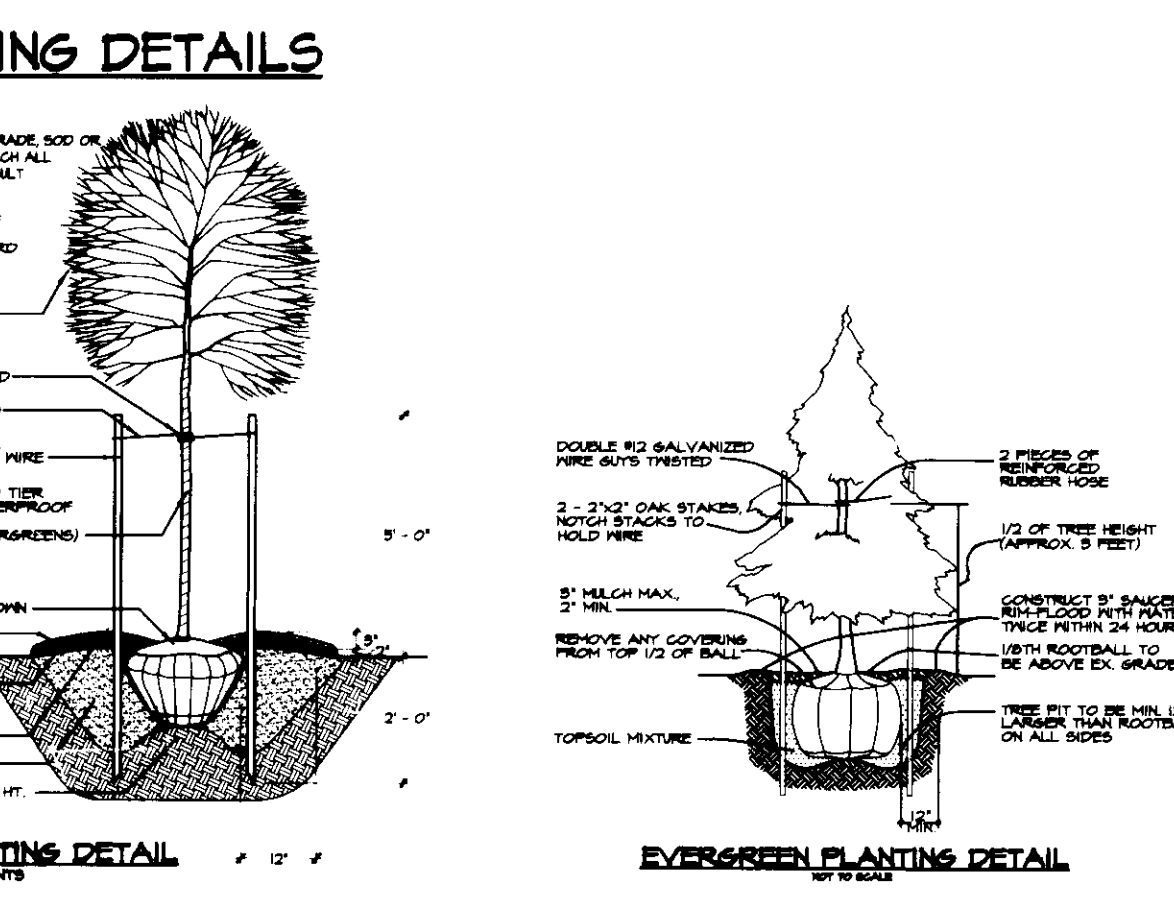
SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	110
NUMBER OF SHADE TREES REQUIRED @ 1 S.T./20 SPACES	5.5
NUMBER OF TREES PROVIDED	11
OTHER TREES (2:1 SUBSTITUTION)	0
NUMBER OF ISLANDS REQUIRED (1 ISLAND/30 SPACES)	5.5
NUMBER OF ISLANDS PROVIDED	6

NOTES: \*THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.

FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE GRADING PERMIT IN THE AMOUNT OF \$4800.00

ADDITIONAL LANDSCAPE ISLANDS ABOVE THE COUNTY REQUIREMENT IN-LIEU OF 12 WIDE ISLANDS HAVE BEEN PROVIDED IN ACCORDANCE WITH ARCHITECTURAL REVIEW COMMITTEE ALTERNATIVE COMPLIANCE.

PLANT MATERIAL LIST						
KEY	QTY	BOTANICAL - COMMON NAME	SIZE	ROOT	REMARKS	
<b>SHADE TREES</b>						
AS	15	Acer saccharum Green Mountain / Green Mountain Sugar Maple	2 1/2' - 3' Cal	B + B	Full Crown Central Leader	
ST	11	Gracilaria brachyloba var. pernis / Thornless Honeylocust	2 1/2' - 3' Cal	B + B	Full Crown	
PO	1	Platanus occidentalis / Sycamore	2 1/2' - 3' Cal	B + B	Full Crown	
QP	9	Quercus palustris / Pin Oak	2 1/2' - 3' Cal	B + B	Full Crown Central Leader	
ZS	13	Zelkova serrata Village Green / Village Green Japanese Zelkova	2 1/2' - 3' Cal	B + B	Full Crown	
<b>FLOWERING TREES</b>						
CK	18	Cornus chinensis / Korean Dogwood	8' - 10' Ht.	B + B	Multitemped Specimen	
MP	7	Malus 'Profusion' / Profusion Crabapple	15' - 2' Cal	B + B	Full Crown Specimen	
PS	8	Prunus sargentii / Sargent Cherry	15' - 2' Cal	B + B	Multitemped Specimen	
<b>EVERGREEN TREES</b>						
IN	10	Ilex X Nellie R. Stevens / Nellie Stevens Holly	5' - 6' Ht.	B + B	Full Form	
PA	6	Rosa alba / Rose	6' - 8' Ht.	B + B	Full Form	
PW	26	Pinus strobus / White Pine	2' - 2 1/2' Cal	B + B	Sheared	
PT	12	Pinus thunbergiana / Japanese Black Pine	2' - 2 1/2' Cal	B + B	Full Form	
<b>SHRUBS, PERENNIALS &amp; GROUNDCOVER</b>						
CA	49	Cornus alba Argentea-margata / Variegated Red Twig Dogwood	3' - 4' Ht.	B + B	3' O.C.	
EA	14	Eryngium alata compacta	3' - 4' Ht.	B + B	3' O.C.	
IC	25	Ilex compacta / Roundleaf Japanese Holly	3' - 4' Ht.	B + B	4' O.C.	
JH	19	Juncus horizontalis 'Pumosa Compacta' / Compact Anemone Juniper	18' - 24' Sp.	Cont.	2' O.C.	
PL	16	Prunus lanceolatus Otto Luyken / Dwarf Cherry Laurel	3' - 4' Ht.	B + B	4' O.C.	
MS	12	Muscadivina shenasi purpurascens / Red-ribbed Muscadivine	3' - 4' Ht.	Cont.	3' O.C.	
CV	56	Coreopsis verticillata / Dwarf Fountain Grass	#	Cont.	30' O.C.	
CV	122	Coreopsis verticillata / Moorbean Moorbean Coreopsis	#	Cont.	30' O.C.	
HD	116	Hemerocallis X Autumn Red / Autumn Red Day Lily	#	Cont.	30' O.C.	
D	650	Daffodils	Top Size	Sluice	Yellow & White mixed 12' O.C.	
VM	1470	Vinca minor / Periwinkle	8'-12" length	Flat	10' O.C.	



NOTE: THIS PLAN FOR LANDSCAPE PURPOSES ONLY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.

*[Signature]* 3/24/97  
DIRECTOR DATE

*[Signature]* 2/10/97  
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 7/21/97  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

2-26-97: ADJUSTED PLANT LOCATIONS AS PER INSTALLATION OF 2 PROPANE TANKS.

DATE	NO.	REVISION

OWNER: THE HOWARD RESEARCH AND DEVELOPMENT CORP., THE ROUSE BUILDING, 10275 LITTLE PATUXENT PARKWAY, COLUMBIA, MD 21044, (410) 992-6000

DEVELOPER: MTH ELECTRIC TRAINS, 9693-A GERINIG LANE, COLUMBIA, MD 21046, (410) 381-2580

PROJECT: MIKE'S TRAIN HOUSE OFFICE/WAREHOUSE FACILITY

AREA: COLUMBIA GATEWAY PARCEL 5-16, TAX MAP 43, BLOCK 7, ZONED M-1, 6th ELECTION DISTRICT

TITLE: **LANDSCAPE PLAN**

**RIEMER MUEGGE & ASSOCIATES, INC.**  
ENGINEERING • ENVIRONMENTAL SERVICES • PLANNING • SURVEYING  
8818 Centre Park Drive, Columbia, Maryland 21045  
tel 410.997.8900 fax 410.997.9282

2-18-97

F-90-138 GP-87-36 F-07-105  
F-87-63 F-07-105

DESIGNED BY: CAK

DRAWN BY: CAK

PROJECT NO.: 97006 LSCP

DATE: FEBRUARY 18, 1997

SCALE: 1" = 40'

DRAWING NO. Q OF 6

MOON O. HART #1098