

GENERAL NOTES

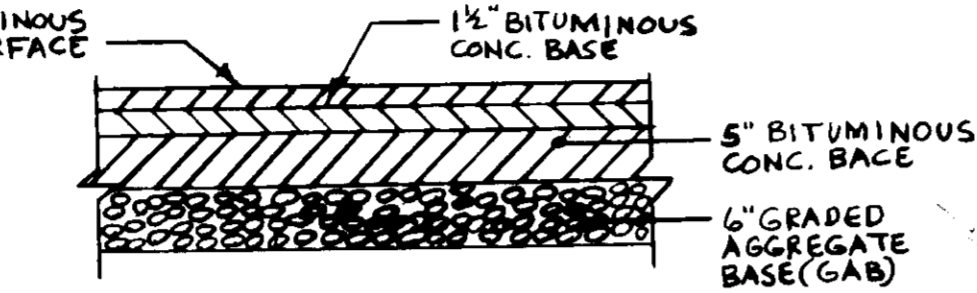
1. ALL AREAS NOT BEING PAVED OR RECEIVING BUILDING COVERAGE SHALL BE STABILIZED IN ACCORDANCE WITH THE PLANS APPROVED BY HOWARD COUNTY SOIL CONSERVATION DISTRICT.
2. ANY DAMAGE DONE TO PUBLIC RIGHT OF WAY AND/OR ADJACENT PROPERTIES SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL MAINTAIN AT LEAST A 2' LEVEL BENCH BEHIND ALL CURB & GUTTER IN ALL AREAS.
4. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES TO HIS OWN SATISFACTION BEFORE STARTING CONSTRUCTION.
5. ALL SLOPES SHALL BE 3:1 OR FLATTER.
6. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY.
7. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT 410-305-1230.
8. FOR DETAILS OF RAMPS AND SIGNS FOR THE HANDICAPPED SEE THE MARYLAND BUILDING CODE FOR THE HANDICAPPED AND THE AED AND AS SHOWN HEREON. SEE DETAIL SHEET 2 OF 7.
9. THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 4" COVER OVER ALL PROPOSED WATER LINES.
10. ALL RIP-RAP SHALL BE PLACED ON FILTER CLOTH.
11. THE CONTRACTOR SHALL NOTIFY "MSB UTILITY" AT 1-800-297-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.
12. THE CONTRACTOR SHALL REMOVE ALL EXISTING CURB & GUTTER ETC. THAT MAY INTERFERE WITH PROPOSED CONSTRUCTION.
13. ALL UTILITIES INSTALLED SHALL RECEIVE FULL TRENCH COMPACTION.
14. ALL WATER MAINS, TEES, BENDS, CAPS, ETC. SHALL BE BUTTRESSED IN ACCORDANCE WITH HOWARD COUNTY DESIGN REQUIREMENTS.
15. TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNS 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.
16. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
17. STORMWATER QUANTITY MANAGEMENT FOR THIS SITE HAS BEEN PROVIDED IN A REGIONAL FACILITY LOCATED ON PARCEL 5-5. THE FACILITY WAS APPROVED AS PART OF F 80-92.
18. ALL PARKING SPACES ARE 8' X 18' UNLESS OTHERWISE NOTED.

P-2 Pavement Section
NOT TO SCALE

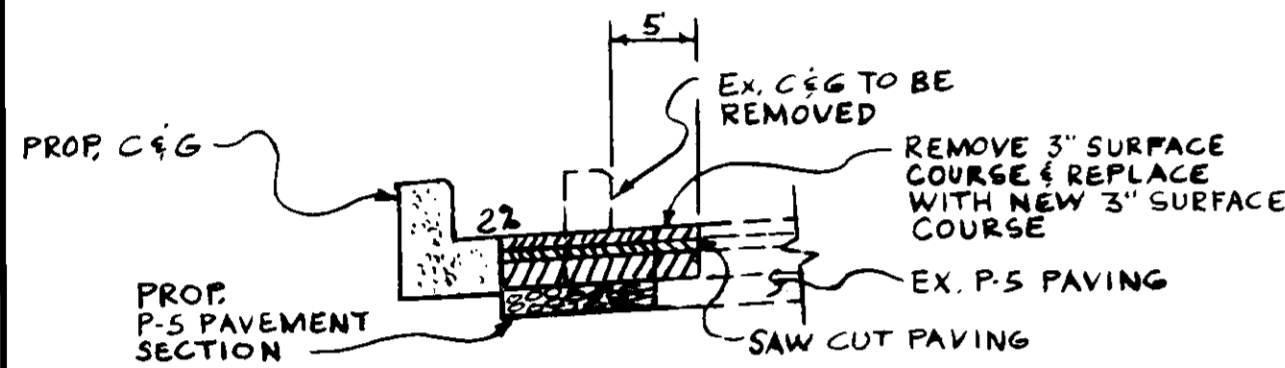
NOTES:

1. ALL PAVING TO BE P-2 PAVING UNLESS OTHERWISE NOTED.
2. ALL RADII FOR CONCRETE CURB AND GUTTER TO BE 5' UNLESS OTHERWISE NOTED.

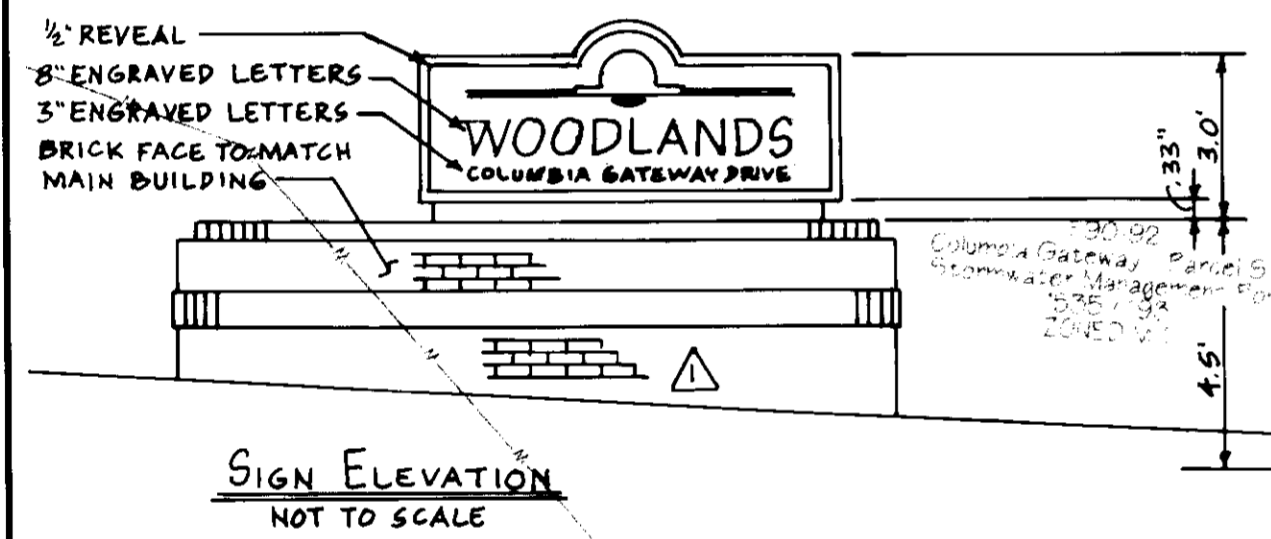
P-3 Pavement Section
NOT TO SCALE



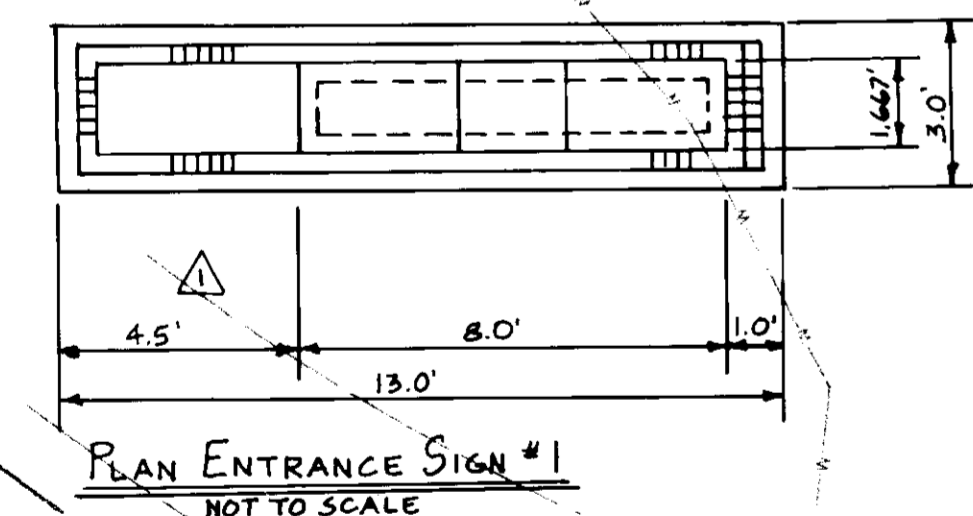
P-5 Pavement Section
NOT TO SCALE
AT COLUMBIA GATEWAY DRIVE DECELERATION LANES



TYPICAL ROAD-WIDENING SECTION
DECELERATION LANES
COLUMBIA GATEWAY DRIVE
NOT TO SCALE



Sign Elevation
NOT TO SCALE



PLAN ENTRANCE SIGN #1
NOT TO SCALE

NOTE: The owner shall provide a separate and independent sewer connection for each tenant or occupant of any building shown on this site development plan who will discharge non-domestic waste to the public sewerage system if each separate and independent sewer connection shall include a standard manhole and other waste pretreatment devices as required and approved by Howard County. Waste lines on the interior of the building shall be designed, constructed or modified such that non-domestic waste will be discharged to the separate and independent sewer connection. No tenant or occupant of any building shown on this site development plan shall discharge regulated non-domestic waste to the public sewerage system prior to installation of the separate and independent sewer connection and related interior waste lines. The above statement shall apply to all initial and future occupants or tenants.

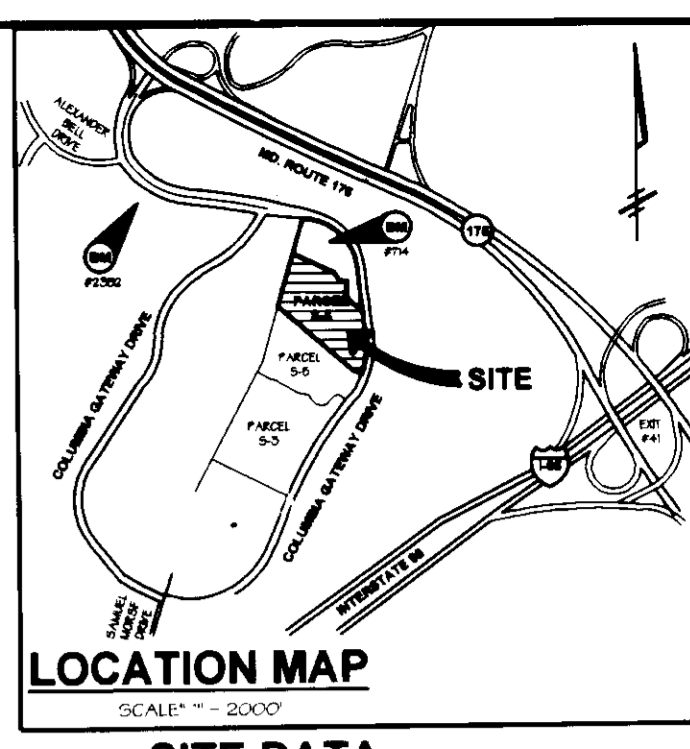
PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

NOTE: ALL EXTERIOR LIGHTING MUST COMPLY WITH ZONING REGULATIONS SECTION 134, OUTDOOR LIGHTING.

PLAN
SCALE: 1"=50'

BENCHMARKS:

- WR & A BM #2502 ELEVATION: 356.29
150' FEET RIGHT OF CENTERLINE
574.18+00 COLUMBIA GATEWAY DRIVE
- WR & A BM #714 ELEVATION: 356.29
230' FEET RIGHT OF CENTERLINE
574.34+00 COLUMBIA GATEWAY DRIVE



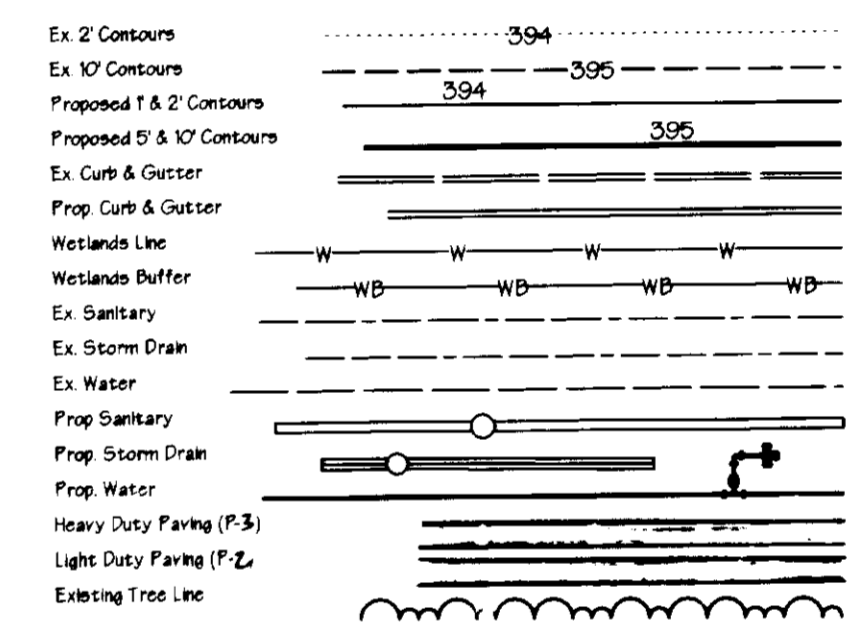
SITE DATA

TOTAL AREA OF SITE:	9,445.9 AC.
AREA OF SUBMITTAL:	9,445.9 AC.
EXISTING ZONING:	M-1
PROPERTY REFERENCE:	1536/1152 PLAT NO. 8603
EXISTING USE:	VACANT
PROPOSED USE:	OFFICE
BUILDING COVERAGE:	27,632 SQ. FT. OR 0.63 AC.
% BUILDING COVERAGE:	6.70 %
FLOOR AREA RATIO:	2.65
AREA TO BE PAVED PLUS BUILDING AREA:	4,700 AC.
OPEN SPACE:	4.46 AC.
TOTAL AREA OF PARKING LOT:	4.09 AC.
% PARKING LOT COVERAGE:	9.17 %
AREA TO BE DISTURBED:	2,116 AC.
AREA TO BE VEGETATIVELY STABILIZED:	2,116 AC.
PREVIOUS SKETCH NO.:	585-28
PRELIMINARY NO.:	F 18-15 PLAT NO. 12882
FINAL PLAT NO.:	

PARKING TABULATION

REQUIRED OFFICE: 10,520 SF @ 33 P.S./1,000 SF = 365 P.S.
PROVIDED: 480 SPACES (INCLUDES 9 HANDICAPPED)

Legend



SHEET INDEX

SHEET #1:	SITE PLAN
SHEET #2:	SECTIONS & DETAILS
SHEET #3:	DRAINAGE AREA MAP & PROFILES
SHEET #4:	PROFILES
SHEET #5:	WATER QUALITY NOTES & DETAILS
SHEET #6:	SEDIMENT CONTROL PLAN
SHEET #7:	SEDIMENT CONTROL DETAILS
SHEET #8:	LANDSCAPE PLAN

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
DATE: 8/29/97

Reviewed for the Howard Conservation District and meets technical requirements.
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
DATE: 8/29/97

CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
DATE: 8/29/97

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/29/97

DIRECTOR (Acting)
DATE: 8/29/97

ADDRESS CHART	
PARCEL NO. 5-19	STREET ADDRESS 4100 COLUMBIA GATEWAY DRIVE
SUBDIVISION NAME COLUMBIA GATEWAY	SECTION NAME N/A
PLAT # 12882	BLOCK # 1
WATER CODE E06	SEWER CODE 5333000

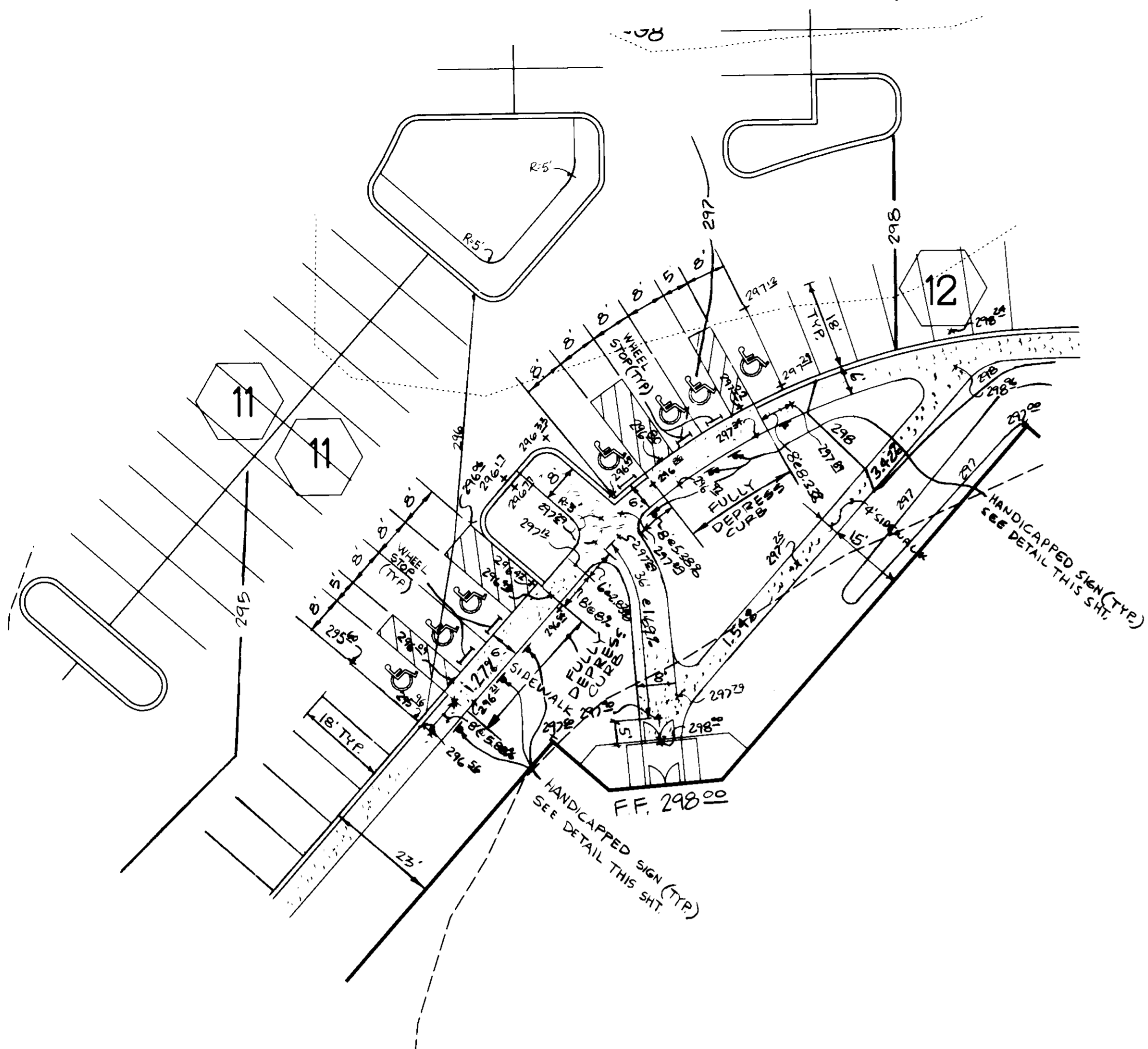
Site Plan
PARCEL 5-19 (A Resubdivision of Parcel 5-4)
COLUMBIA GATEWAY GREEN SPRING
PREVIOUS FILE NOS.: VP 04-150, VP 05-34, VP 05-35, S 04-44, F 05-03, F 06-22, VP 06-61, VP 06-73, F 06-17, S 05-28, F 06-102, F 07-03, F 07-125, F 09-166, S 09-197
ELECTION DISTRICT: 6
HOWARD CO., MARYLAND
SHT. 1 OF 8
DATE: JUNE 27, 1997

OWNER
HOWARD RESEARCH DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
(410) 992-6027

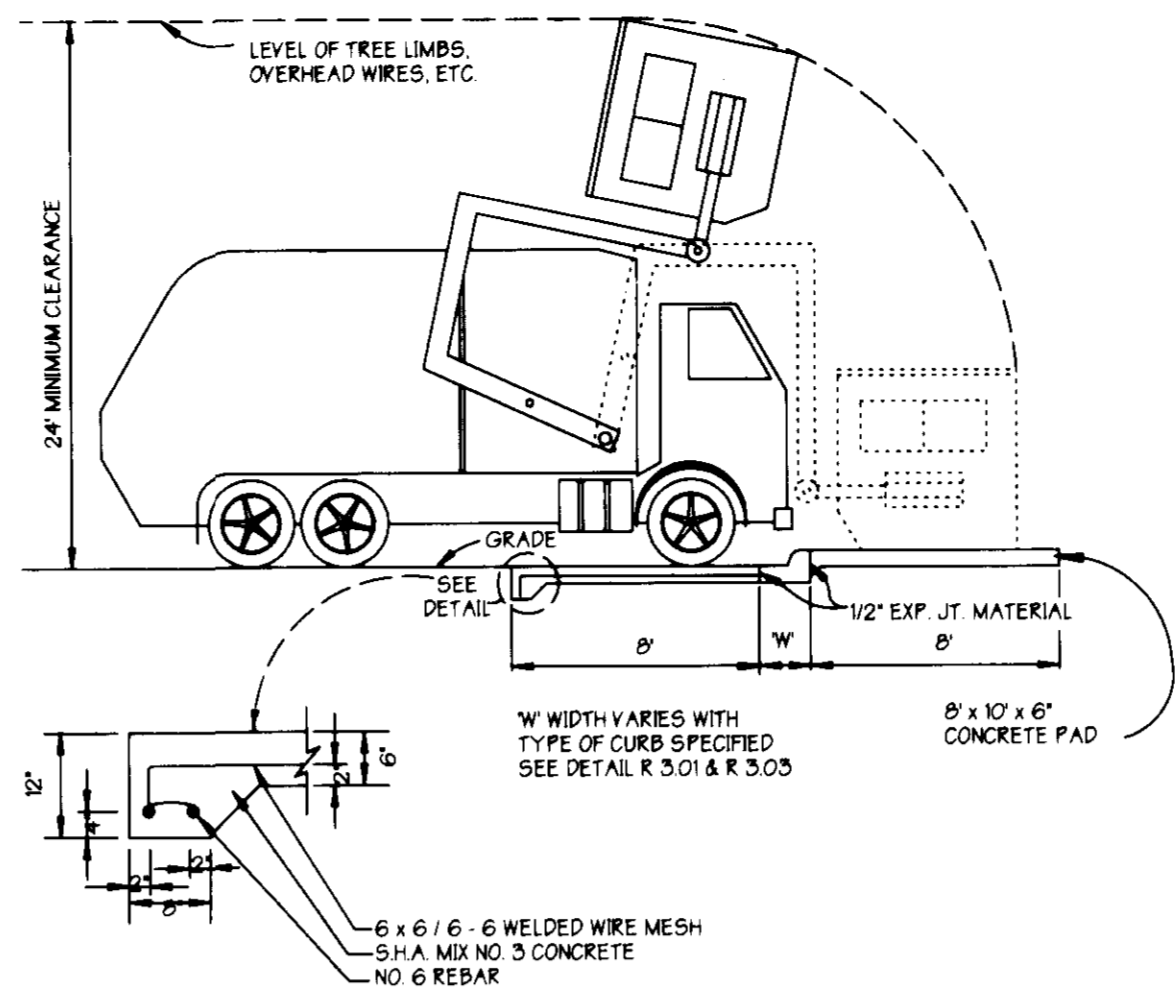
DEVELOPER
CONSTELLATION GATESPRING LLC
BY
CPI GATESPRING, INC.
8015 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: E.M.T./K.E.
CHECKED BY: P.R.C.

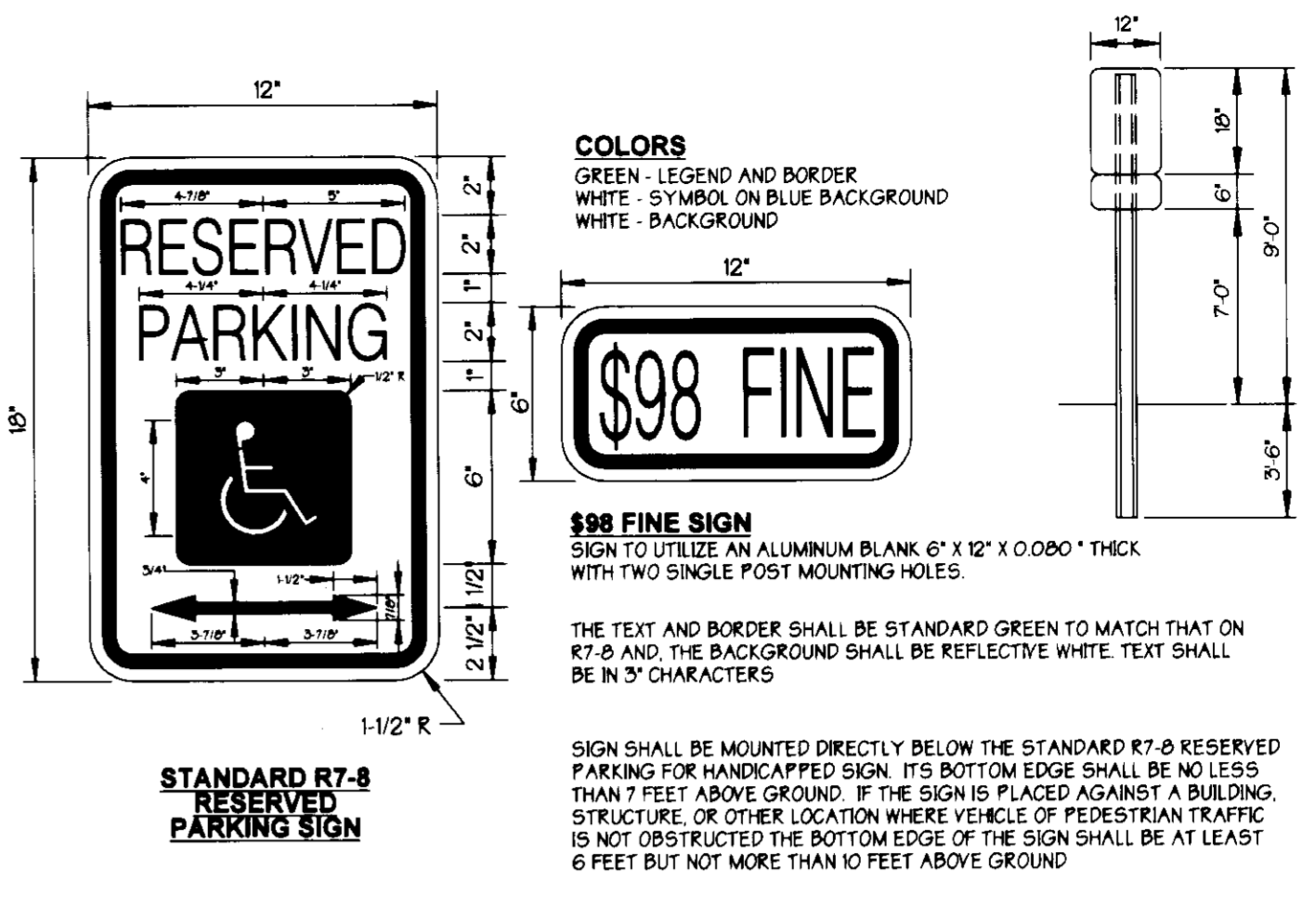
REVISIONS
10/29/97 - REVISED STORM DRAIN BETWEEN I-71 & I-9, ADDED ENTRANCE SIGNS



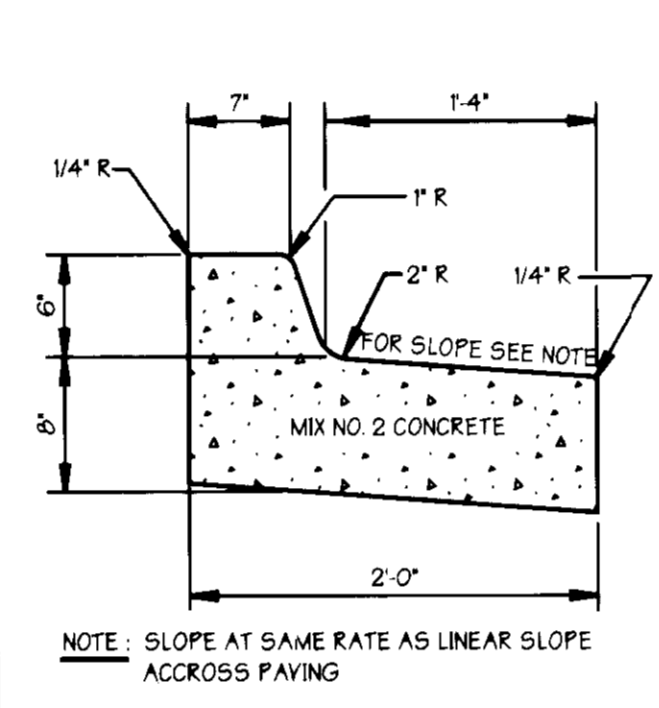
Handicapped Detail #1
SCALE: 1" = 20'



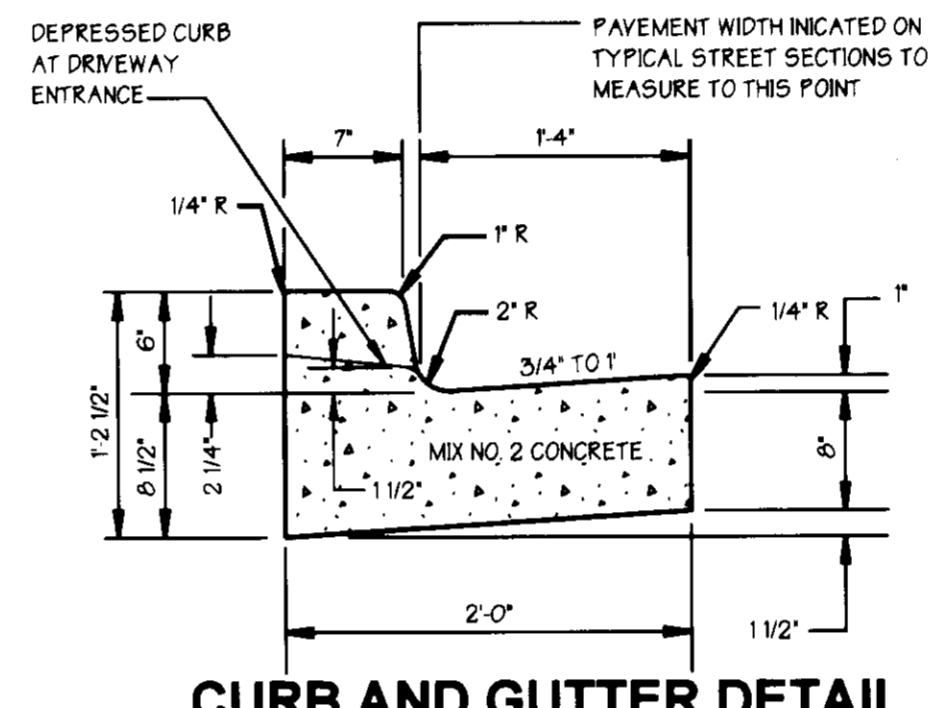
Solid Waste Service Pad
NOT TO SCALE



Handicapped Parking Sign Detail
NOT TO SCALE



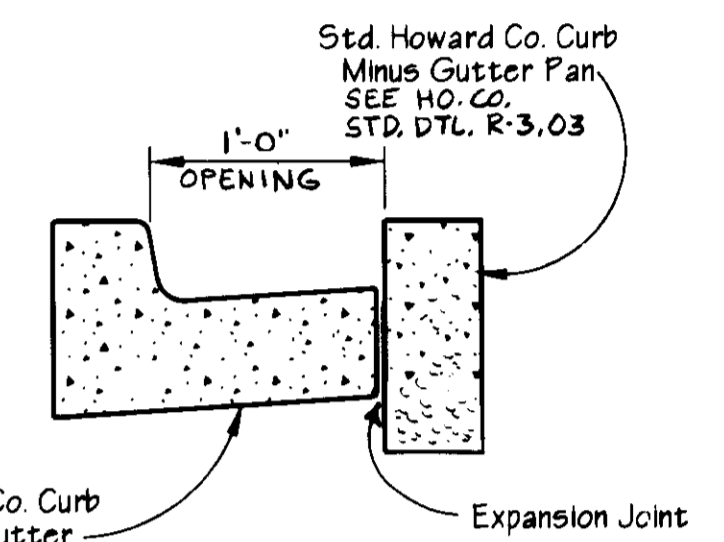
REVERSE SLOPE CURB AND GUTTER



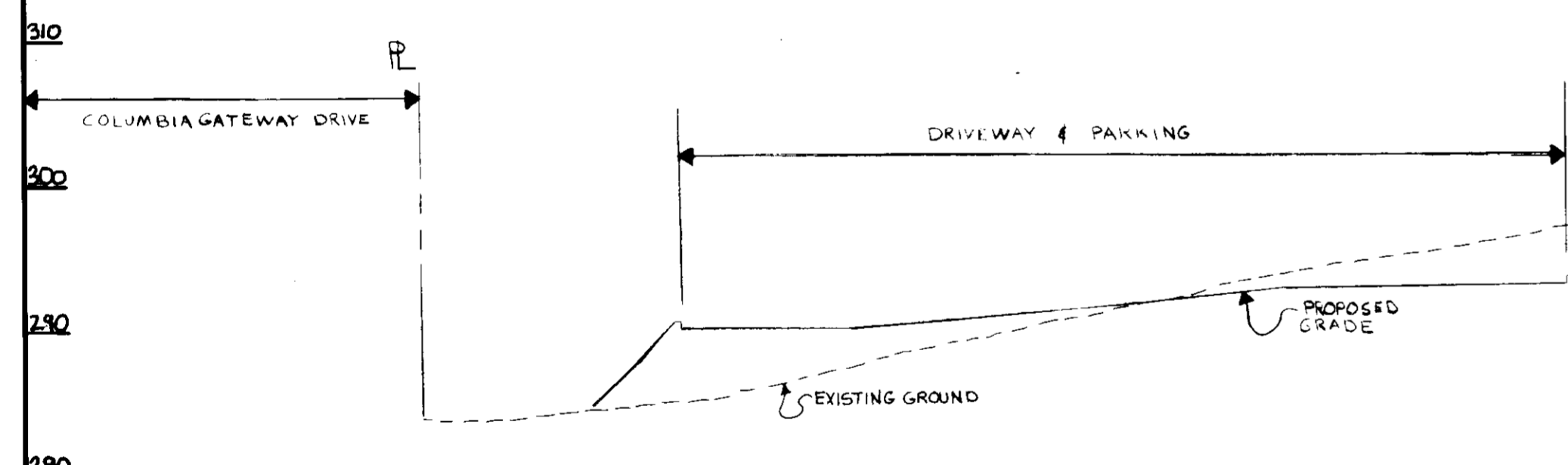
CURB AND GUTTER DETAIL
NOT TO SCALE
SEE HO. CO. STD. DTL. R-3.01



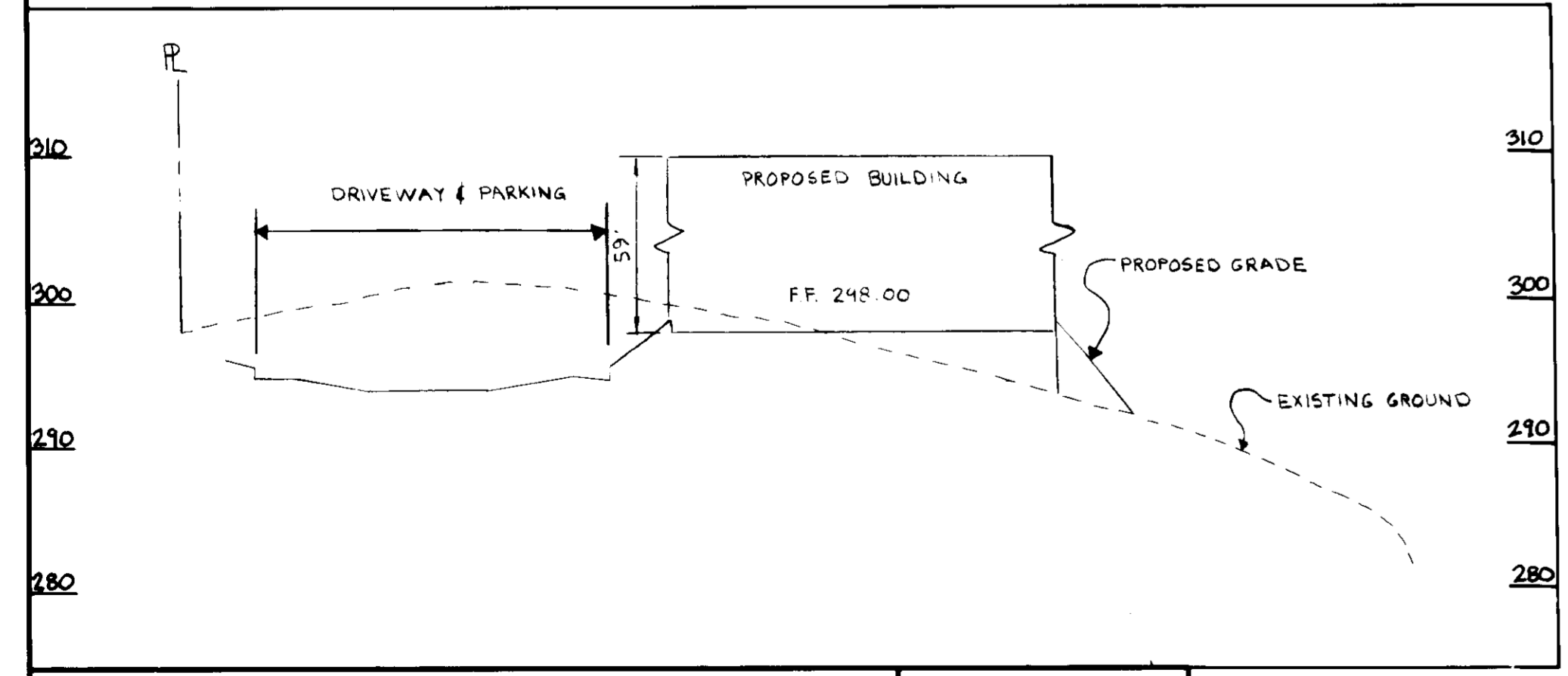
Dumpster Enclosure Detail
NOT TO SCALE



Curb Opening Detail
NOT TO SCALE

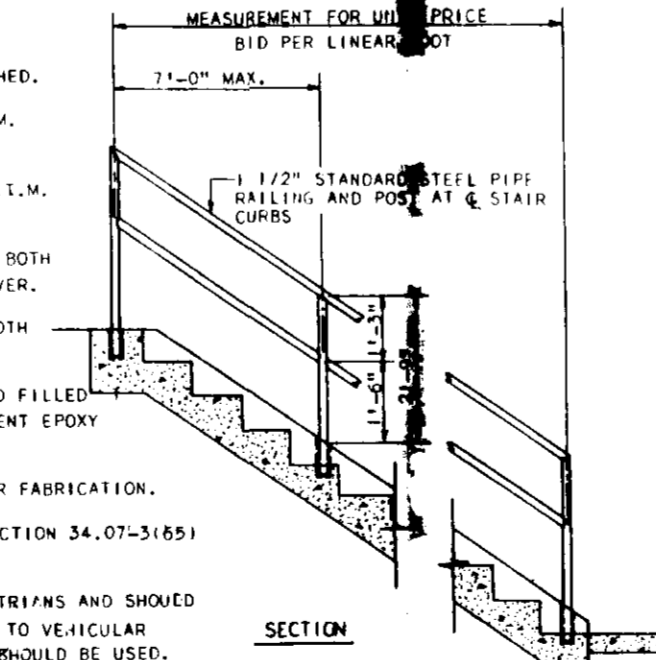


SECTION A-A
SCALE: HORIZ 1" = 50'
VERT 1" = 10'

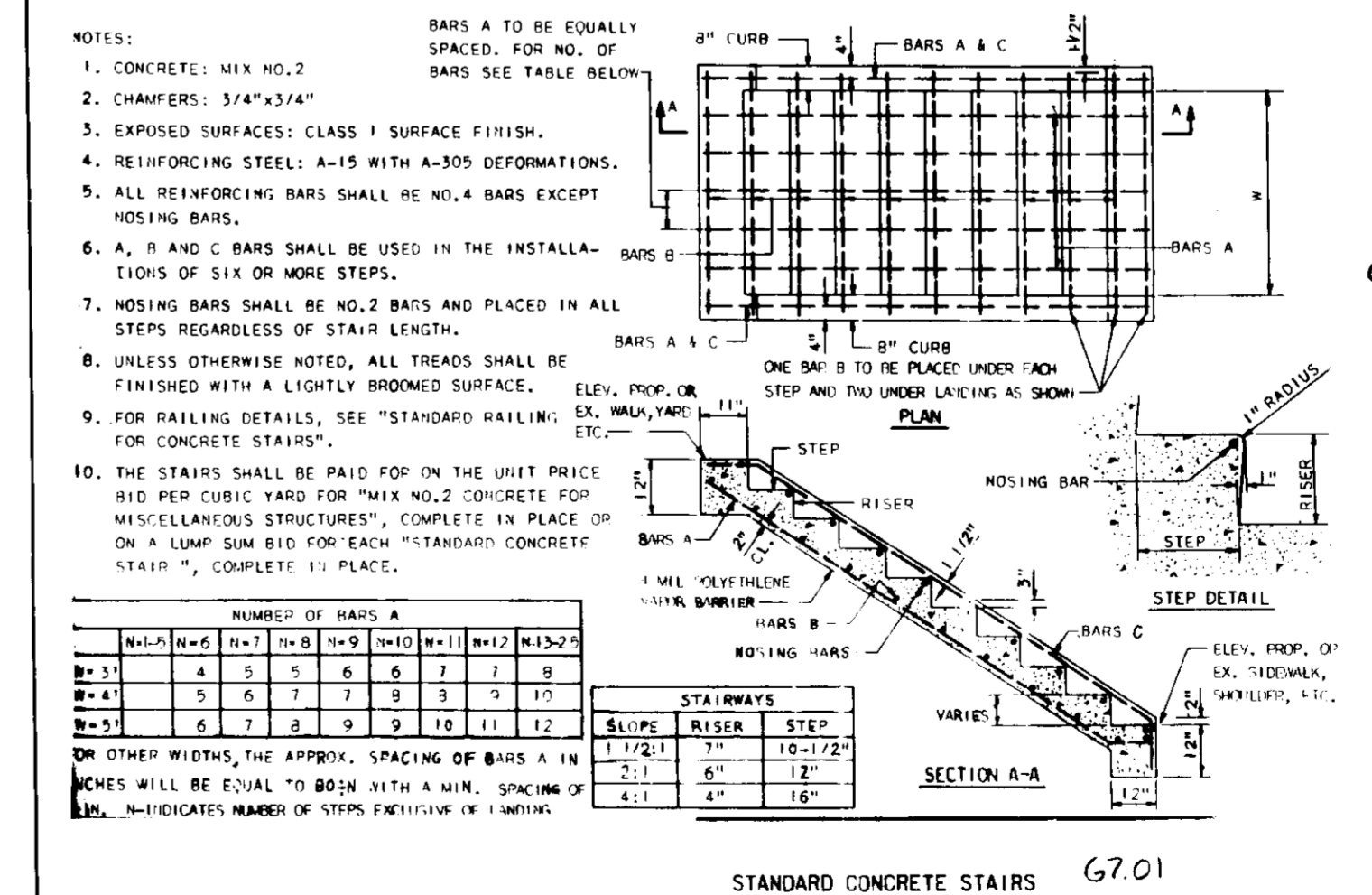


SECTION B-B
SCALE: HORIZ 1" = 50'
VERT 1" = 10'

- NOTES:**
- UNLESS OTHERWISE NOTED, PAINTED RAILING SHALL BE FURNISHED.
 - RAILING AND POSTS TO BE PAINTED SHALL CONFORM TO A.S.T.M. SPECIFICATION A-429 STANDARD HEIGHT.
 - RAILING AND POSTS TO BE GALVANIZED SHALL CONFORM TO A.S.T.M. DESIGNATION A-441 SEE SPECIFICATIONS.
 - UNLESS OTHERWISE NOTED, RAILINGS SHALL BE FURNISHED FOR BOTH SIDES OF STAIRS AND ON ALL STAIRS HAVING 4 RISERS AND OVER.
 - RAILING SHALL BE ALL WELDED WITH ITS JOINTS GROUND SMOOTH AND FREE OF BURRS.
 - RAILING POSTS SHALL BE SET IN METAL SLEEVES, 6" DEEP AND FILLED WITH HOT POURED LEAD OR HOT POURED SULFUR OR AN EQUIVALENT EPOXY COMPOUND.
 - GALVANIZED RAILINGS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
 - PAINTED RAILINGS SHALL BE PAINTED IN ACCORDANCE WITH SECTION 34.07-3185) OF THE SPECIFICATIONS.
 - THIS HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO VEHICULAR IMPACT. FOR VEHICULAR PROTECTION, STANDARD GUARD RAIL SHOULD BE USED.
 - THE RAILING SHALL BE PAID FOR AT THE UNIT PRICE BID PER LINEAR FOOT, MEASURED HORIZONTALLY, FOR "STANDARD PIPE RAILING FOR CONCRETE STAIRS" COMPLETE IN PLACE; OR ITS COST SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR "STANDARD CONCRETE STAIRS", COMPLETE IN PLACE.



STANDARD PIPE RAILING FOR CONCRETE STAIRS



STAIR PROFILE
SCALE: HORIZ 1" = 10'
VERT 1" = 10'

- NOTES:**
- CONCRETE: MIX NO. 2
 - CHAMBERS: 3/4" x 3/4"
 - EXPOSED SURFACES: CLASS 1 SURFACE FINISH.
 - REINFORCING STEEL: A-15 WITH A-505 DEFORMATIONS.
 - ALL REINFORCING BARS SHALL BE NO. 4 BARS EXCEPT NOSING BARS.
 - A, B AND C BARS SHALL BE USED IN THE INSTALLATIONS OF SIX OR MORE STEPS.
 - NOSING BARS SHALL BE NO. 2 BARS AND PLACED IN ALL STEPS REGARDLESS OF STAIR LENGTH.
 - UNLESS OTHERWISE NOTED, ALL TREADS SHALL BE FINISHED WITH A LIGHTLY BROOMED SURFACE. ELEV. PROP. OR SEE PLAN FOR CONCRETE STAIRS.
 - FOR RAILING DETAILS, SEE "STANDARD RAILING" FOR CONCRETE STAIRS.
 - THE STAIRS SHALL BE PAID FOR ON THE UNIT PRICE BID PER CUBIC YARD FOR "MIX NO. 2 CONCRETE FOR MISCELLANEOUS STRUCTURES", COMPLETE IN PLACE OR ON A LUMP SUM BID FOR EACH "STANDARD CONCRETE STAIR", COMPLETE IN PLACE.

NUMBER OF BARS A		NUMBER OF BARS B		NUMBER OF BARS C	
NO. OF STEPS	NO. OF RISERS	NO. OF STEPS	NO. OF RISERS	NO. OF STEPS	NO. OF RISERS
1-3	1-2	4-6	3-4	7-9	6-7
4-6	3-4	10-12	9-10	13-15	12-13
7-9	6-7	16-18	15-16	19-21	18-19
10-12	9-10	22-24	21-22	25-27	24-25
13-15	12-13	28-30	27-28	31-33	30-31
16-18	15-16	34-36	33-34	37-39	36-37
19-21	18-19	40-42	39-40	43-45	42-43
22-24	21-22	46-48	45-46	49-51	48-49
25-27	24-25	52-54	51-52	55-57	54-55
28-30	27-28	58-60	57-58	61-63	60-61
31-33	30-31	64-66	63-64	67-69	66-67
34-36	33-34	70-72	69-70	73-75	72-73
37-39	36-37	76-78	75-76	79-81	78-79
40-42	39-40	82-84	81-82	85-87	84-85
43-45	42-43	88-90	87-88	91-93	90-91
46-48	45-46	94-96	93-94	97-99	96-97
49-51	48-49	100-102	99-100	103-105	102-103

STANDARD CONCRETE STAIRS

PREPARED BY:
GWS
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



OWNER
HOWARD RESEARCH DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
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DEVELOPER
CONSTELLATION GATESPRING LLC
BY
CPI GATESPRING, INC.
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: E.M.T./K.E.
CHECKED BY: P.R.C.
REVISIONS

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

John R. Advertiser
APPROVED: HOWARD SOIL CONSERVATION DISTRICT
DATE: 8/24/97

PLAN NUMBER

Reviewed for the Howard Conservation District and meets technical requirements.

Charles H. Zimmerman
NATURAL RESOURCES CONSERVATION SERVICE
DATE: 08/24/97

APPROVED: Howard County Department of Planning and Zoning

Mark S. Hamilton
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 8/16/97

Wanda Hammett
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/24/97

Mark S. Hamilton
DIRECTOR
DATE: 8/24/97

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
5-19	6490 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME	SECTION NAME	PARCEL #
COLUMBIA GATEWAY	N/A	671
PLAT #	BLOCK #	ZONE
12062	1	M-1
TAX MAP #	ELECT. DIST.	CENSUS TRACT
43	6	6067.03
WATER CODE	SEWER CODE	
E06	5333000	

Sections & Details
PARCEL 5-19
COLUMBIA GATEWAY GREEN SPRING

ELECTION DISTRICT: 6
HOWARD CO., MARYLAND

SCALE: As Shown
DATE: JUNE 27, 1997

Stabilization Specifications

Section I - Vegetative Stabilization Methods and Materials

- A. Site Preparation**
1. In areas where erosion control structures (either temporary or permanent) such as diversion, grade stabilization structures, bents, waterways, or sediment control basins are required, they shall be constructed in accordance with the specifications for such structures.
 2. Final grading and shaping is not usually necessary for temporary seeding.
 3. Schedule required soil tests to determine soil amendment and application rates for sites having disturbed areas over 5 acres.

- B. Soil Amendments (Fertilizer and Lime Specifications)**
1. Soil tests must be performed to determine the exact rates and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples may be taken for engineering purposes also and for chemical analysis.
 2. Fertilizers shall be uniform in composition. Fine flowing and suitable for accurate application by approved equipment. Materials may be substituted for fertilizer with prior approval from the appropriate authority. Fertilizers shall all be delivered to the site fully bagged according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warranty of the producer.
 3. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 90% total oxide (calcium oxide plus magnesium oxide). Limestone shall be ground so that 75% of it will pass through a #20 mesh sieve and 90% will pass through a #100 mesh sieve.

Section II - Temporary Seeding

- Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.**
- A. Seed Mixtures - Permanent Seeding**
1. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 2) and enter them in Permanent Seeding Summary below, along with application rates and seeding depths. Seeding depths can be determined using Table 26. If the Summary is not put on the construction plan and completed, then Table 25 must be put on the plan. Additional plantings for special purposes such as shrubs, ornamentals, trees or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planning for special lawn maintenance areas, see Section 9 - Soil and Turfgrass.

- C. Seeded Preparation**
- 1. Temporary Seeding**
1. Seeded preparation shall consist of loosening soil to a depth of 4 inches for agricultural or construction equipment, such as disc harrows or chisel plows or ripper tines on construction equipment. After the area is loosened, it should be rolled or dragged smooth to the left in the roughed location. Seeded areas (greater than 5') should not be tracked leaving the surface in an irregular condition with ruts running parallel to the contour of the slope.
 2. Apply fertilizer and lime as prescribed on the plan.
 3. Incorporate lime and fertilizer into the top 3" - 5" of soil by disk or other suitable means.

Section III - Permanent Seeding

- Seeding and begins to establish ground cover for a minimum period of one year in a disturbed area generally requiring low maintenance.**
- A. Seed Mixtures - Permanent Seeding**
1. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardness Zone (from Figure 2) and enter them in Permanent Seeding Summary below, along with application rates and seeding depths. Seeding depths can be determined using Table 26. If the Summary is not put on the construction plan and completed, then Table 25 must be put on the plan. Additional plantings for special purposes such as shrubs, ornamentals, trees or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342 - Critical Area Planning for special lawn maintenance areas, see Section 9 - Soil and Turfgrass.
 2. For sites having disturbed areas over 5 acres, the rates shown the table shall be deleted and the rates determined by the testing agency shall be written in.
 3. For areas receiving low maintenance, apply uniform fertilizer (46-0-0) at 3-1/2 lbs/1000 sq. ft. (50 lbs/acre), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

- B. Local times of seeding**
- Western MD: March 15-June 1, August 1-October 1 (Hardness Zone - 5b, 6a)
Central MD: March 1-May 15, August 15-October 15 (Hardness Zone - 6b)
Southern MD: Eastern Shore: March 1-May 15, August 15-October 15 (Hardness Zone - 7a, 7b)
- C. Irrigation**
- If soil moisture is deficient, apply water seedings with adequate water for plant growth (1/2" - 1" every 3-4 days depending on soil content) until they are well established. This is especially true when seedings are made into the planting season, in autumn, dry or hot seasons, or on adverse sites.

Section IV - Sod

- General specifications**
1. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
 2. Sod shall be machine cut at a uniform sod thickness of 3/4" plus or minus 1/4". Each piece of sod shall be cut to the sward with width and length. Maximum allowable deviation from standard width and length shall be 1/8" (percent). Broken ends and sod of uneven length will not be accepted.
 3. Standard size sods shall be cut to strong enough to support their own weight and retain their shape when suspended vertically with a firm grip on the upper 10 percent of the sod.
 4. Sod shall not be harvested or transported when moisture content (excessively dry or wet) may affect the sod's ability to establish.
 5. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transported within the period shall be approved by an agronomist or soil scientist prior to its installation.

- Site Preparation** - Fertilizer and lime application rates will be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime may be applied in amounts shown in table below.
1. Prior to sodding, the surface will be cleared of all trash, debris, and all of non-planting, wire, grade stakes and other objects that would interfere with planting, fertilizing, or maintenance operations.
 2. Where soil is acid or composed of heavy clay, ground limestone will be spread at the rate of 2 tons per acre/1000 sq. ft. (1000 sq. ft.) in all soil 1000 sq. ft. per acre (25 lbs./1000 sq. ft.) of 10-10-10 fertilizer or equivalent will be uniformly applied and mixed into the top 3" inch of soil with the required time.

- Soil Amendments**
1. All areas receiving sod will be uniformly fertilized. Hard packed earth will be scarified prior to placement of sod.

- Soil Test Results**
- | CLASS | APPROXIMATE AFFORDABLE SIZE (MM MAX) | GRAIN TENSILE STRENGTH (LB. MIN) | BURST STRENGTH (PSI MIN) |
|-------|--------------------------------------|----------------------------------|--------------------------|
| A | 0.850 | 200 | 500 |
| B | 0.600 | 200 | 250 |
| C | 0.500 | 200 | 250 |
| D | 0.400 | 80 | 150 |
| E | 0.300 | 80 | 150 |

- Fertilizer Rates**
- Permanent Seeding**
- | Fertilizer Rate (lb/1000 sq. ft.) | Lime Rate (lb/1000 sq. ft.) |
|-----------------------------------|-----------------------------|
| 10-10-10 (200-400-400) | 50 |
| 10-10-10 (200-400-400) | 50 |
| 10-10-10 (200-400-400) | 50 |

- Developer Certification:**
- I/We certify that development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
- Developer: *Robert A. Wiesecke Jr.* Date: *1/1/97*

- Engineer 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.
- Engineer: *James A. Munnick Jr.* Date: *1/1/97*

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

- B. Sod Installation**
1. During periods of excessively high temperature or in areas having dry subsoil, the sods shall be lightly irrigated immediately prior to laying the sods.
 2. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and slightly offset against each other. Lateral joints shall be staggered to provide more uniform growth and avoid erosion. Sod joints shall not be stretched or overlapped and shall all joints be notched slightly in order to prevent weeds which could cause drying of the roots.
 3. Whenever possible, sod shall be laid with the long edge parallel to the contour and with staggered joints. Sod shall be rolled and raked and/or otherwise secured to prevent slipping on slopes and to ensure solid contact between sods and the underlying soil surface.
 4. Sod shall be watered immediately following rolling or tamping and the laying of the new sod pad and soil surface below the sods are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.

- C. Sod Maintenance**
1. In the absence of adequate rainfall, watering shall be performed daily, or as often as necessary during the first week and sufficient quantity to maintain sods out to a depth of 4" watering should be done during the heat of the day to prevent wilting.
 2. After the first week, sod watering is required as necessary to maintain adequate moisture content.
 3. The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the mow cutting or subsequent cutting. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section IV - Turfgrass Establishment

- A. Turfgrass Mixtures**
1. Kentucky Bluegrass - Full sun mixture. For use in areas that require intensive management. Irrigation is required in high quality situations. Intensively managed turf areas include certified Kentucky Bluegrass Sodding Rate 15 to 20 pounds/1000 square feet. A minimum of three Bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 30% of the mixture by weight.
 2. Kentucky Bluegrass/Fescue - Full sun mixture. For use in full sun areas where rapid establishment is required. Intensively managed turf areas include certified Kentucky Bluegrass Sodding Rate 15 to 20 pounds/1000 square feet. A minimum of three Bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 30% of the mixture by weight.
 3. Kentucky Bluegrass/Fescue - Shade mixture. For use in areas with shade in Bluegrass lawns. For use in areas with shade in Bluegrass lawns. Intensively managed turf areas include certified Kentucky Bluegrass Sodding Rate 15 to 20 pounds/1000 square feet. A minimum of three Bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 30% of the mixture by weight.

- B. Local times of seeding**
- Western MD: March 15-June 1, August 1-October 1 (Hardness Zone - 5b, 6a)
Central MD: March 1-May 15, August 15-October 15 (Hardness Zone - 6b)
Southern MD: Eastern Shore: March 1-May 15, August 15-October 15 (Hardness Zone - 7a, 7b)

Section V - Sod

- General specifications**
1. Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
 2. Sod shall be machine cut at a uniform sod thickness of 3/4" plus or minus 1/4". Each piece of sod shall be cut to the sward with width and length. Maximum allowable deviation from standard width and length shall be 1/8" (percent). Broken ends and sod of uneven length will not be accepted.
 3. Standard size sods shall be cut to strong enough to support their own weight and retain their shape when suspended vertically with a firm grip on the upper 10 percent of the sod.
 4. Sod shall not be harvested or transported when moisture content (excessively dry or wet) may affect the sod's ability to establish.
 5. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transported within the period shall be approved by an agronomist or soil scientist prior to its installation.

- Site Preparation** - Fertilizer and lime application rates will be determined by soil tests. Under unusual circumstances where there is insufficient time for a complete soil test, fertilizer and lime may be applied in amounts shown in table below.
1. Prior to sodding, the surface will be cleared of all trash, debris, and all of non-planting, wire, grade stakes and other objects that would interfere with planting, fertilizing, or maintenance operations.
 2. Where soil is acid or composed of heavy clay, ground limestone will be spread at the rate of 2 tons per acre/1000 sq. ft. (1000 sq. ft.) in all soil 1000 sq. ft. per acre (25 lbs./1000 sq. ft.) of 10-10-10 fertilizer or equivalent will be uniformly applied and mixed into the top 3" inch of soil with the required time.

- Soil Amendments**
1. All areas receiving sod will be uniformly fertilized. Hard packed earth will be scarified prior to placement of sod.

- Soil Test Results**
- | CLASS | APPROXIMATE AFFORDABLE SIZE (MM MAX) | GRAIN TENSILE STRENGTH (LB. MIN) | BURST STRENGTH (PSI MIN) |
|-------|--------------------------------------|----------------------------------|--------------------------|
| A | 0.850 | 200 | 500 |
| B | 0.600 | 200 | 250 |
| C | 0.500 | 200 | 250 |
| D | 0.400 | 80 | 150 |
| E | 0.300 | 80 | 150 |

- Fertilizer Rates**
- Permanent Seeding**
- | Fertilizer Rate (lb/1000 sq. ft.) | Lime Rate (lb/1000 sq. ft.) |
|-----------------------------------|-----------------------------|
| 10-10-10 (200-400-400) | 50 |
| 10-10-10 (200-400-400) | 50 |
| 10-10-10 (200-400-400) | 50 |

- Developer Certification:**
- I/We certify that development and construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the Howard Soil Conservation District.
- Developer: *Robert A. Wiesecke Jr.* Date: *1/1/97*

- Engineer 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.
- Engineer: *James A. Munnick Jr.* Date: *1/1/97*

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120

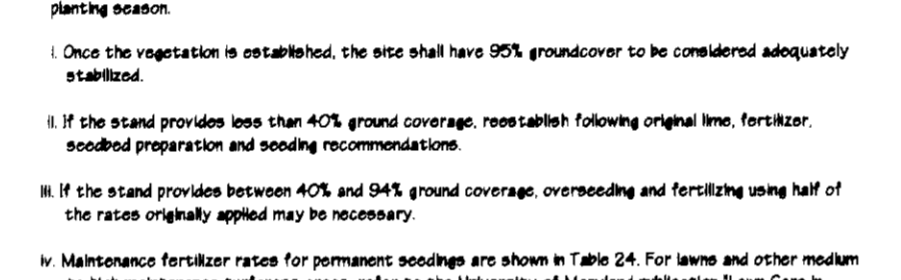
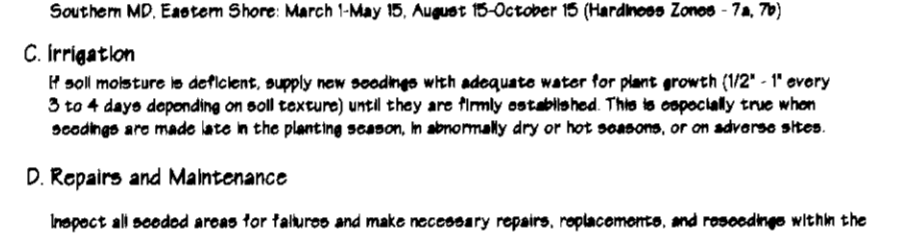
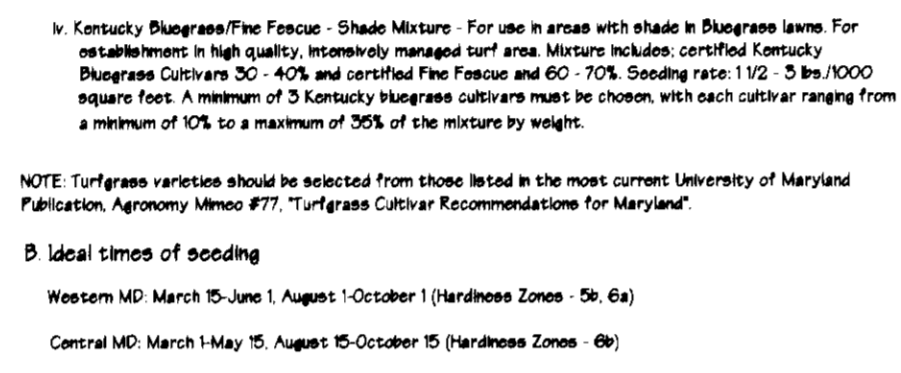
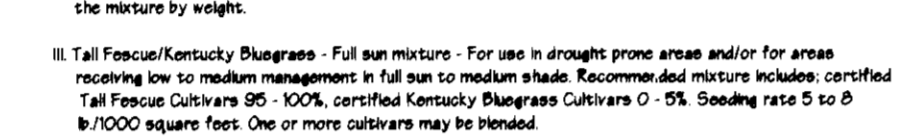
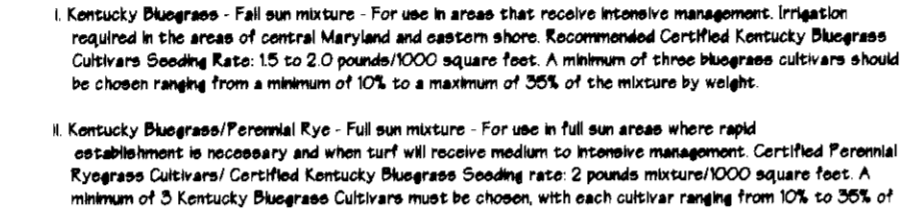
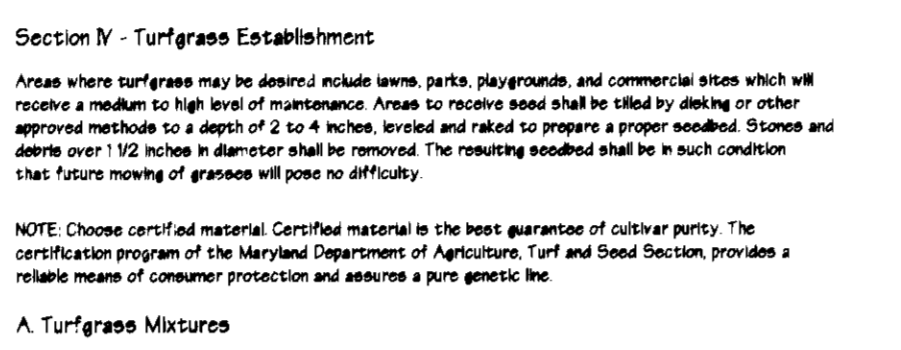
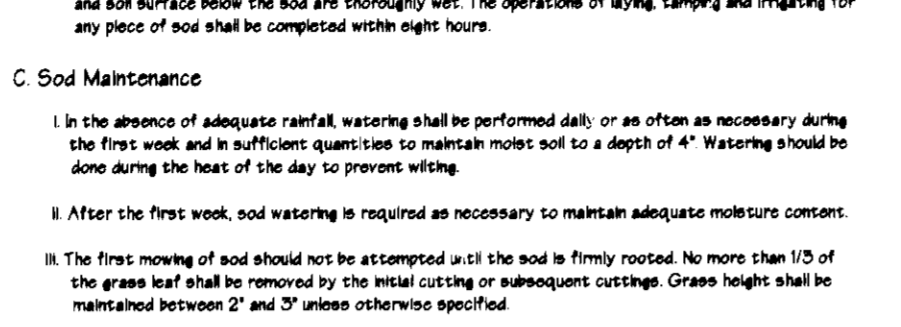
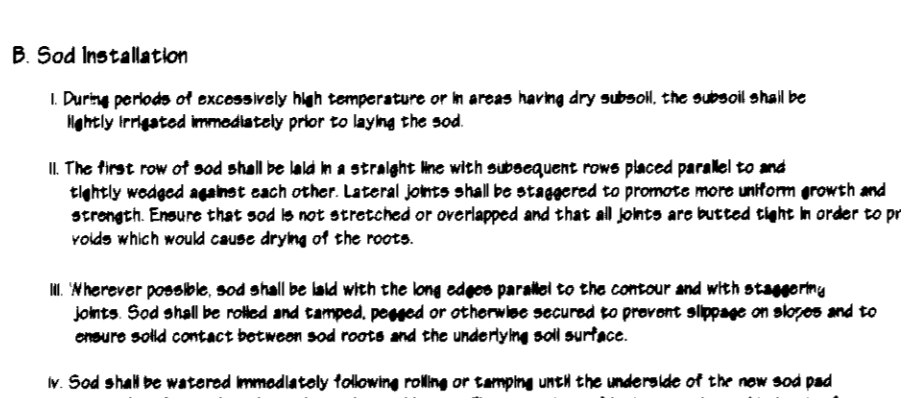


Table 25 - Permanent Seeding for Low Maintenance Areas

PLANTING RATE (lb/1000 sq. ft.)	SITE CONDITIONS	RECOMMENDED PLANTING DATES												
		3/15	5/15	7/15	9/15	11/15	1/15	3/15	5/15	7/15	9/15			
10-10-10 (200-400-400)	MOIST TO WET	X	X	X	X	X	X	X	X	X	X	X	X	X
10-10-10 (200-400-400)	MOIST TO DRY	X	X	X	X	X	X	X	X	X	X	X	X	X
10-10-10 (200-400-400)	DRY TO WET	X	X	X	X	X	X	X	X	X	X	X	X	X
10-10-10 (200-400-400)	DRY TO DRY	X	X	X	X	X	X	X	X	X	X	X	X	X

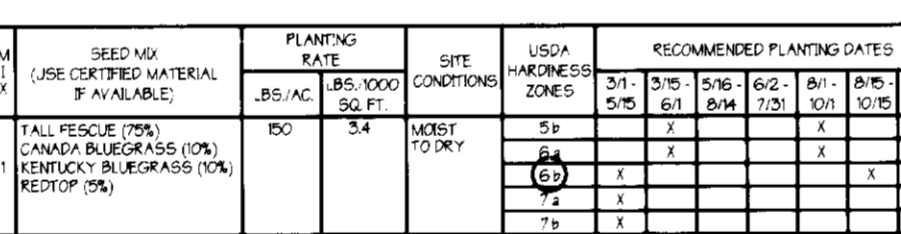


Table 26 - Temporary Seeding Rates, Depths, and Dates

SPECIES	MINIMUM SEEDING RATE (lb/1000 sq. ft.)	PLANTING DEPTH (inches)	RECOMMENDED PLANTING DATES											
			3/15	5/15	7/15	9/15	11/15	1/15	3/15	5/15	7/15	9/15		
GRASS (CERBERA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (FESTUCA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (POA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (FESTUCA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X

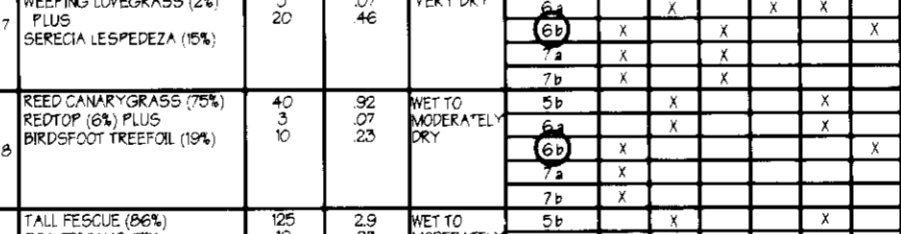
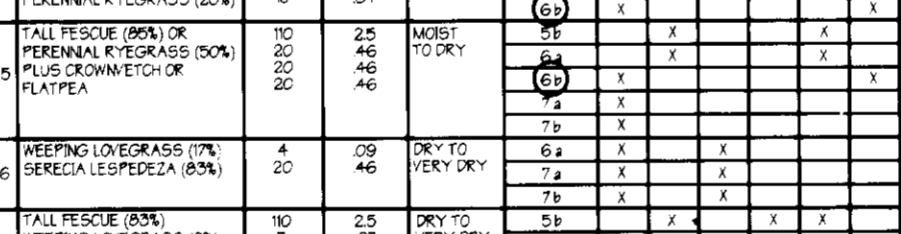
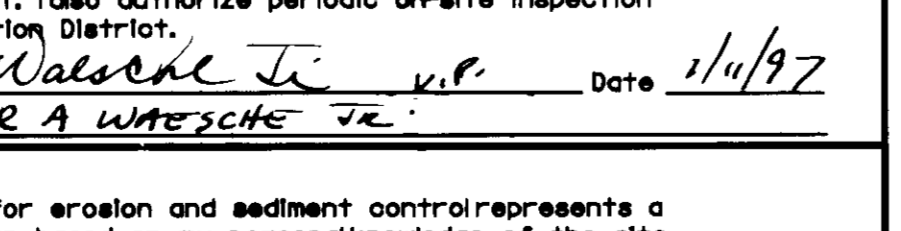
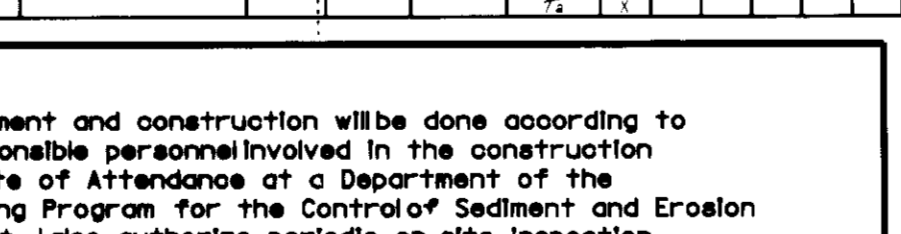


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GRASS (CERBERA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (FESTUCA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (POA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (FESTUCA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X



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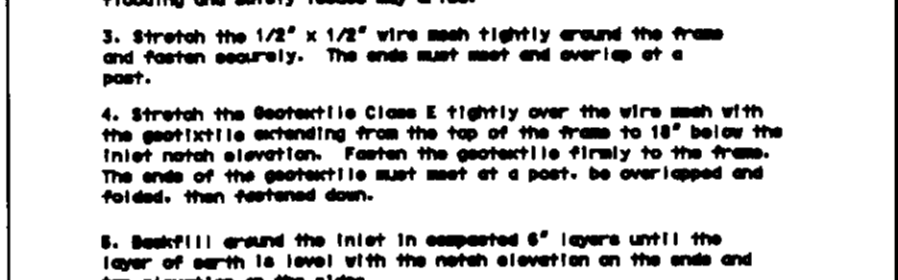
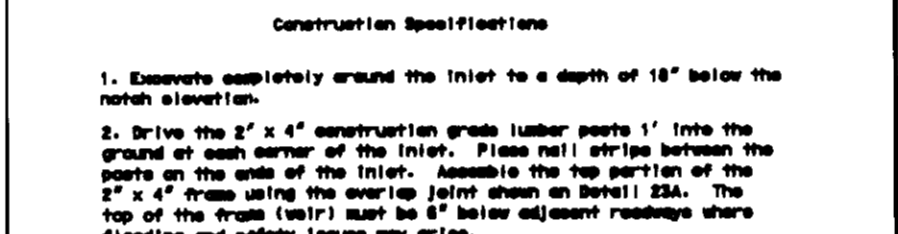
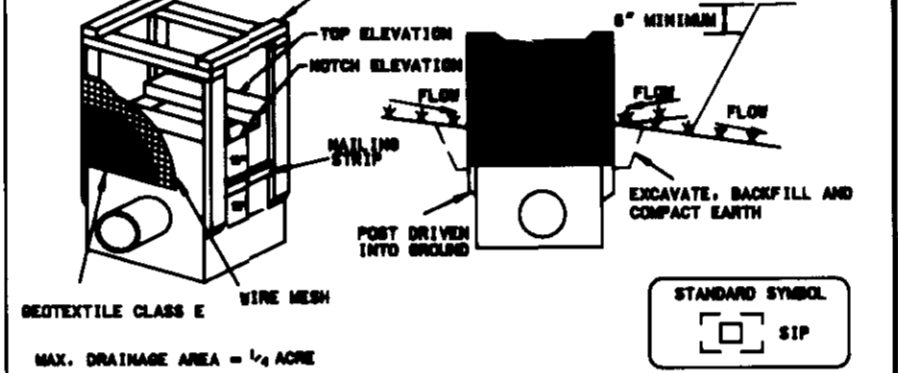
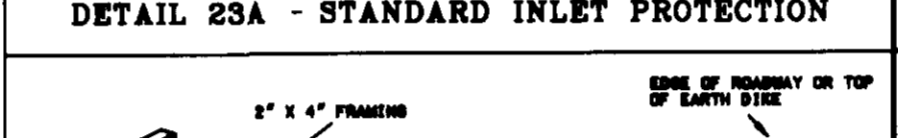
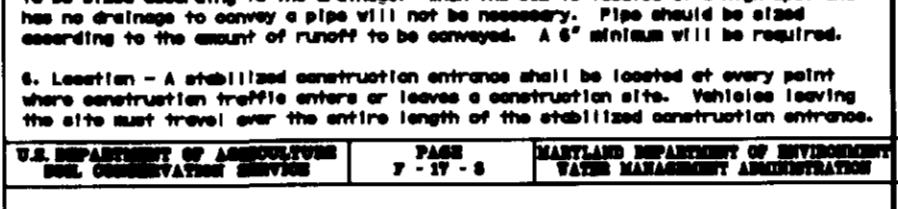
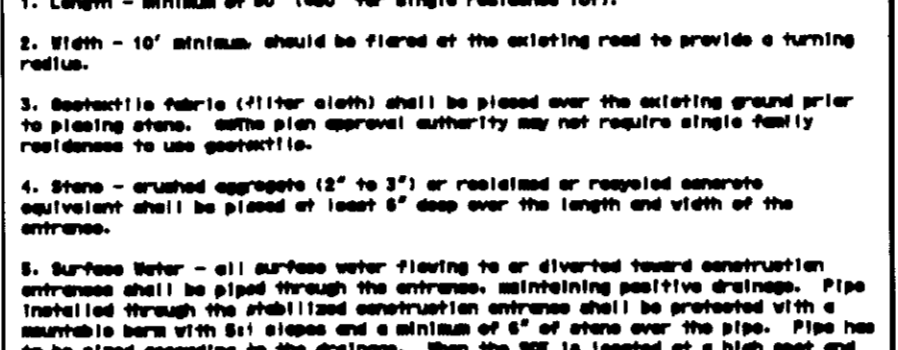
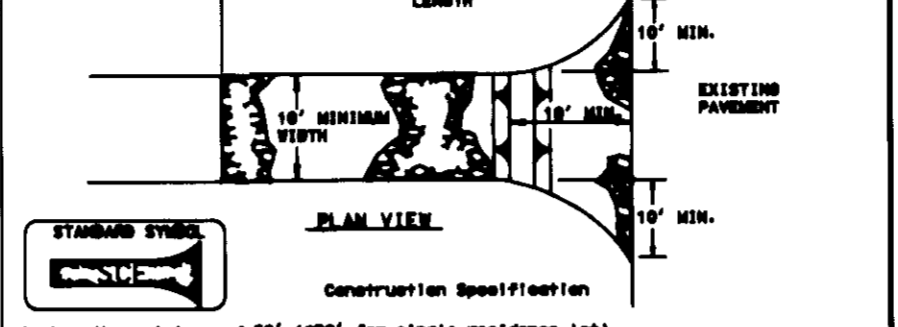
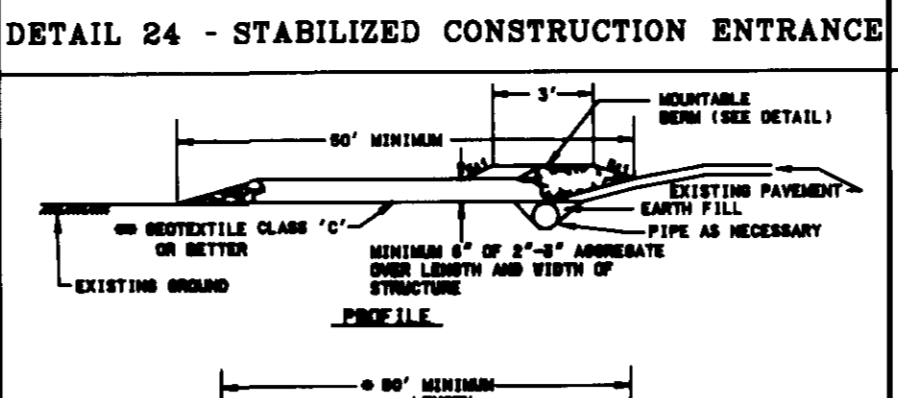


Table 25 - Permanent Seeding for Low Maintenance Areas

PLANTING RATE (lb/1000 sq. ft.)	SITE CONDITIONS	RECOMMENDED PLANTING DATES												
		3/15	5/15	7/15	9/15	11/15	1/15	3/15	5/15	7/15	9/15			
10-10-10 (200-400-400)	MOIST TO WET	X	X	X	X	X	X	X	X	X	X	X	X	X
10-10-10 (200-400-400)	MOIST TO DRY	X	X	X	X	X	X	X	X	X	X	X	X	X
10-10-10 (200-400-400)	DRY TO WET	X	X	X	X	X	X	X	X	X	X	X	X	X
10-10-10 (200-400-400)	DRY TO DRY	X	X	X	X	X	X	X	X	X	X	X	X	X

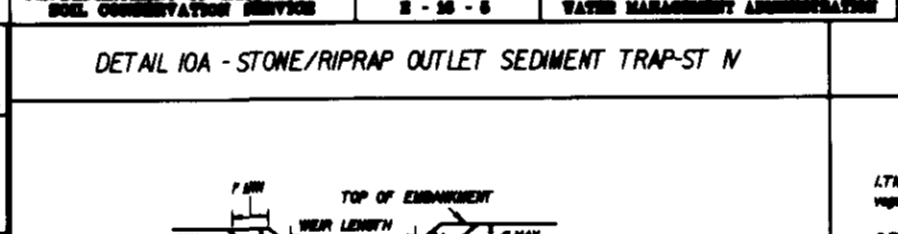
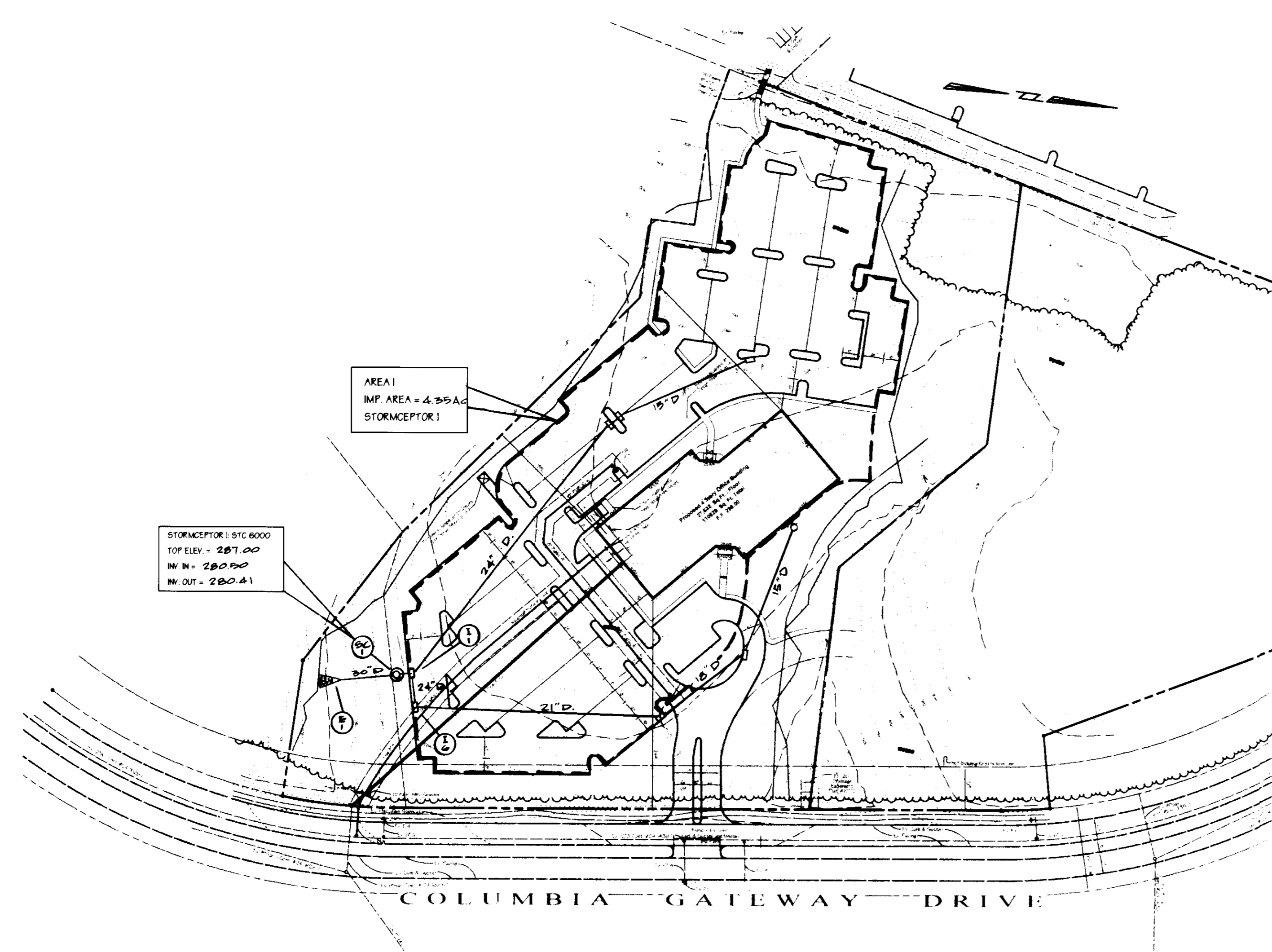


Table 26 - Temporary Seeding Rates, Depths, and Dates

SPECIES	MINIMUM SEEDING RATE (lb/1000 sq. ft.)	PLANTING DEPTH (inches)	RECOMMENDED PLANTING DATES											
			3/15	5/15	7/15	9/15	11/15	1/15	3/15	5/15	7/15	9/15		
GRASS (CERBERA)	25.0 (100 lb)	1.2	X	X	X	X	X	X	X	X	X	X	X	X
GRASS (FESTUCA)	25.0 (100 lb)	1.2	X	X</										



PLAN
SCALE: 1" = 100'

10 Installation Procedures

11 Concrete Stormceptor® Installation

The installation of the concrete Stormceptor® should conform in general to state highway or local specifications for the construction of manholes. Selected sections of a general specification that are applicable are summarized in the following sections:

Excavation

Excavation for the installation of the Stormceptor® should conform to state highway or local specifications. Topsoil that is removed during the excavation for the Stormceptor® should be stockpiled in designated areas and should not be mixed with subsoil or other materials. Topsoil stockpiles, and the general site preparation for the installation of the Stormceptor®, should conform to state highway or local specifications.

The Stormceptor® should not be installed on frozen ground. Excavation should extend a minimum of 12 inches from the precast concrete surfaces plus an allowance for shoring and bracing where required. If the bottom of the excavation provides an unsuitable foundation additional excavation may be required.

In areas with a high water table, continuous dewatering should be provided to ensure that the excavation is stable and free of water.

Leveling

A 6 to 12 inch layer of granular material (conforming to local or state highway backfill specifications) should be installed, compacted, and leveled at the bottom of the excavation to the proper elevation for the installation of the Stormceptor base.

Backfilling

Backfill material should conform to state highway or local specifications. Generally, backfill material should be placed in uniform layers not exceeding 12 inches in depth. Each layer should be compacted to 95% of the maximum dry density. Backfill is not to contain topsoil.

Stormceptor® Construction Sequence

The concrete Stormceptor® is installed in sections in the following sequence:

1. aggregate base
2. base slab
3. treatment chamber section(s)
4. transition slab (if required)
5. by-pass section
6. connect inlet and outlet pipes
7. transition slab
8. maintenance access way
9. frame and access cover

The precast base should be placed level at the specified grade. The entire base should be in contact with the underlying compacted granular material. Subsequent sections, complete with joint seals, should be installed in accordance with the precast concrete manufacturer's recommendations.

Adjustment of the Stormceptor® can be performed by lifting the upper sections free of the excavated area, re-leveling the base, and re-installing the sections. Damaged sections and gaskets should be replaced. Once the Stormceptor® has been constructed, the lift holes should be plugged with mortar.

Down Pipe and Riser Pipe

Once the by-pass section has been attached to the treatment chamber the down pipe and riser pipe can be attached. To install these pipes a worker enters the treatment chamber through the central access way in the by-pass section.

STC 900, STC 1200, STC 1800

The inlet pipe (pipe with the tee at the end) is installed by coating the outside of the end of the pipe with quick dry PVC cement and pushing the pipe into the coupling provided on the underside of the by-pass section. The tee must be oriented such that water which enters the treatment chamber is directed tangentially around the inside walls of the chamber.

The outlet riser pipe (straight pipe without the tee) is installed in a similar fashion using the quick dry PVC cement and coupling provided underneath the by-pass section near the downstream pipe.

STC 2400, STC 3600, STC 4800, STC 6000, STC 7200

The inlet pipe (pipe with the tee at the end) is installed by coating the outside of the end of the pipe with lubricant and pushing the pipe into the pressure coupling provided on the underside of the by-pass section. The tee must be oriented such that water which enters the treatment chamber is directed tangentially around the inside walls of the chamber.

The outlet riser pipe (straight pipe without the tee) is installed in a similar fashion using pipe lubricant and a pressure coupling provided underneath the by-pass section near the downstream pipe.

Inlet and Outlet Pipes

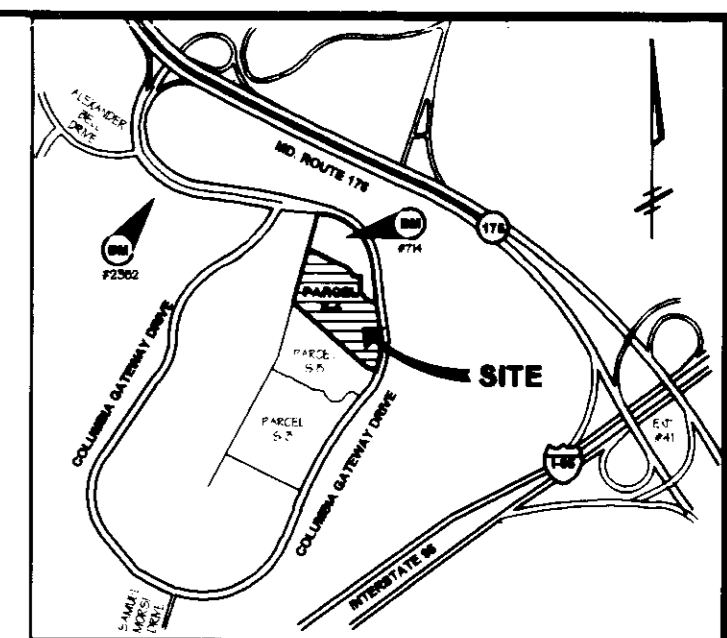
Inlet and outlet pipes should be securely set into the by-pass chamber using grout or approved pipe seals so that the structure is watertight. Kor-N-Seal® boots are normally used and installed at the precast concrete plant prior to shipping. The Kor-N-Seal® boots are applicable for pipes with an outside diameter up to 46 inches. Stormceptor Corporation should be notified if the pipe is to be grouted in the field at the time of ordering (i.e. Kor-N-Seal® boots will not be used) since the boots are generally included in the price quotations.

Installation of the Kor-N-Seal® boots should follow the manufacturer's recommendations. As previously mentioned, the boots will already be attached to the Stormceptor® at the concrete plant. Accordingly, the following procedure should be followed to attach the inlet and outlet pipes to the Stormceptor® in the field:

1. Center the pipe in the boot opening
2. Lubricate the outside of the pipe and/or inside of the boot if the pipe outside diameter is the same as the inside diameter of the boot
3. Position the pipe clamp in the groove of the boot with the screw at the top
4. Tighten the pipe clamp screw to 60 inch pounds
5. On minimum outside diameter installations lift the boot such that it contacts the bottom of the pipe while tightening the pipe clamp to ensure even contraction of the rubber
6. Move the pipe horizontally and/or vertically to bring it to grade

Frame and Cover Installation

Precast concrete adjustment units should be installed to set the frame and cover at the required elevation. The adjustment units should be laid in a full bed of mortar with successive units being joined using sealant recommended by the manufacturer. Frames for the cover should be set in a full bed of mortar at the elevation specified.



LOCATION MAP
SCALE: 1" = 200'

BENCHMARKS:

- WR & A BM #2202 ELEVATION: 330.29
IRON PIPE 240 FEET RIGHT OF CENTERLINE
STA 15+00 COLUMBIA GATEWAY DRIVE
- WR & A BM #714 ELEVATION: 305.29
250 FEET RIGHT OF CENTERLINE
STA 34+30 COLUMBIA GATEWAY DRIVE

Concrete Stormceptor® Order Request Form *

Contractor Information

Name _____
Address _____
City _____
State _____
Zip Code _____
Contact _____
Phone _____
Fax _____

DEVELOPER Information

Name Constellation Gatespring LLC
Phone 410-730-9092
Fax 410-492-7227

Stormceptor® Model

900	3600
1200	4800
1800	6000
2400	7200

Insert Size

22"	<input type="checkbox"/>
32"	<input type="checkbox"/>
44"	<input checked="" type="checkbox"/>
Custom	<input type="checkbox"/>

Manhole Number

Top Elevation (ft)	<u>287.0</u>
Inlet Pipe Invert (ft)	<u>280.8</u>
Outlet Pipe Invert (ft)	<u>280.4</u>
Pipe Type	<u>RCCP</u>
Pipe Inside Diameter (in) [ID]	<u>30"</u>
Pipe Outside Diameter (in) [OD]	<u>30"</u>

Project Name: COLUMBIA GATEWAY

Approximate time frame until required delivery (weeks): _____

Delivery Address: Street _____ State _____ Zip Code _____

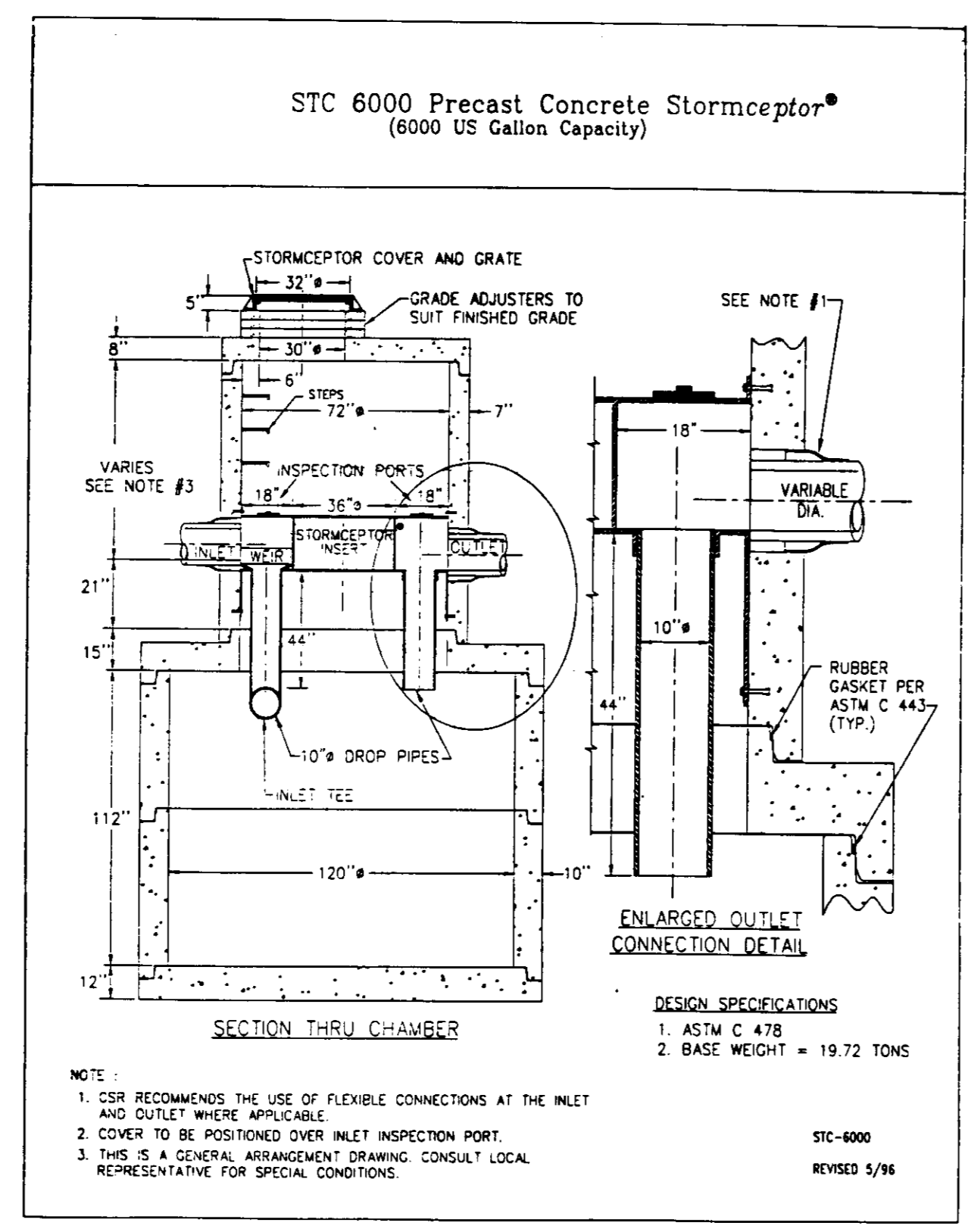
City _____

Designer Company: G.W. STEPHENS JR & ASSOC. INC.

Designer Contact: PAT CARLO Phone: (410) 825-8122 Fax: (410) 825-0280

Please fax this order to Stormceptor at (301) 762-4190
For Technical Assistance Please Call Stormceptor Corporation at
(301) 762-8361 or toll free at 1 (800) 762-4703

ALL LIFTING APPARATUS TO BE PROVIDED BY THE INSTALLATION CONTRACTOR



OWNER

HOWARD RESEARCH DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
(410) 992-6027

DEVELOPER

CONSTELLATION GATESPRING LLC
BY
CPI GATESPRING, INC.
8615 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

ENGINEER 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.

Engineer: James A. Markie Jr. Date: 8/18/97
Name: JAMES A. MARKIE JR. PE # 11005

OPERATIONS AND MAINTENANCE SCHEDULE FOR STORMCEPTOR WATER QUALITY DEVICE

1. The stormceptor water quality structure shall be periodically inspected and cleaned to maintain operation and function. The owner shall inspect the stormceptor unit yearly at a minimum, utilizing the stormceptor inspector/monitoring form. Inspection shall be done by using a clear plexiglass tube ("sludge judge") to extract a water column sample. When the sediment depth exceeds the level specified in Table 6 of the Stormceptor Technical Manual, the unit must be cleaned.
2. The Stormceptor water quality structure shall be checked and cleaned immediately after petroleum spills. The owner shall contact the appropriate regulatory agencies.
3. The maintenance of the Stormceptor unit shall be done using a vacuum truck which will remove the water, sediment, debris, floating hydrocarbons and other materials in the unit. Proper cleaning and disposal of the removed materials and liquid must be followed by the owner.
4. The inlet and outlet pipes shall be checked for any obstructions at least once every six months. If obstructions are found the owner shall have them removed. Structural parts of the Stormceptor unit shall be repaired as needed.
5. The owner shall retain and make the Stormceptor Inspection/Monitoring Forms available for the Howard County officials upon their request.
6. Upon receipt of a revised submission a more complete review will be performed.

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

APPROVED: HOWARD SOIL CONSERVATION DISTRICT
John P. [Signature] DATE: 8/20/97

PLAN NUMBER _____

Reviewed for the Howard Conservation District and meets technical requirements.

APPROVED: HOWARD COUNTY Department of Planning and Zoning
Charles [Signature] DATE: 8/20/97
NATURAL RESOURCES CONSERVATION SERVICE

APPROVED: HOWARD COUNTY Department of Planning and Zoning
[Signature] DATE: 8/20/97
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK

APPROVED: HOWARD COUNTY Department of Planning and Zoning
[Signature] DATE: 8/20/97
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: HOWARD COUNTY Department of Planning and Zoning
[Signature] DATE: 8/20/97
DIRECTOR

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
5-19	6953 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME: COLUMBIA GATEWAY SECTION NAME: N/A PARCEL #: 587

PLAT #: 12802 BLOCK #: 24 ZONE: M-1 ELECTION DISTRICT: 6 CENSUS TRACT: 6066 02

WATER CODE: E06 SEWER CODE: 5335000

PREPARED BY:

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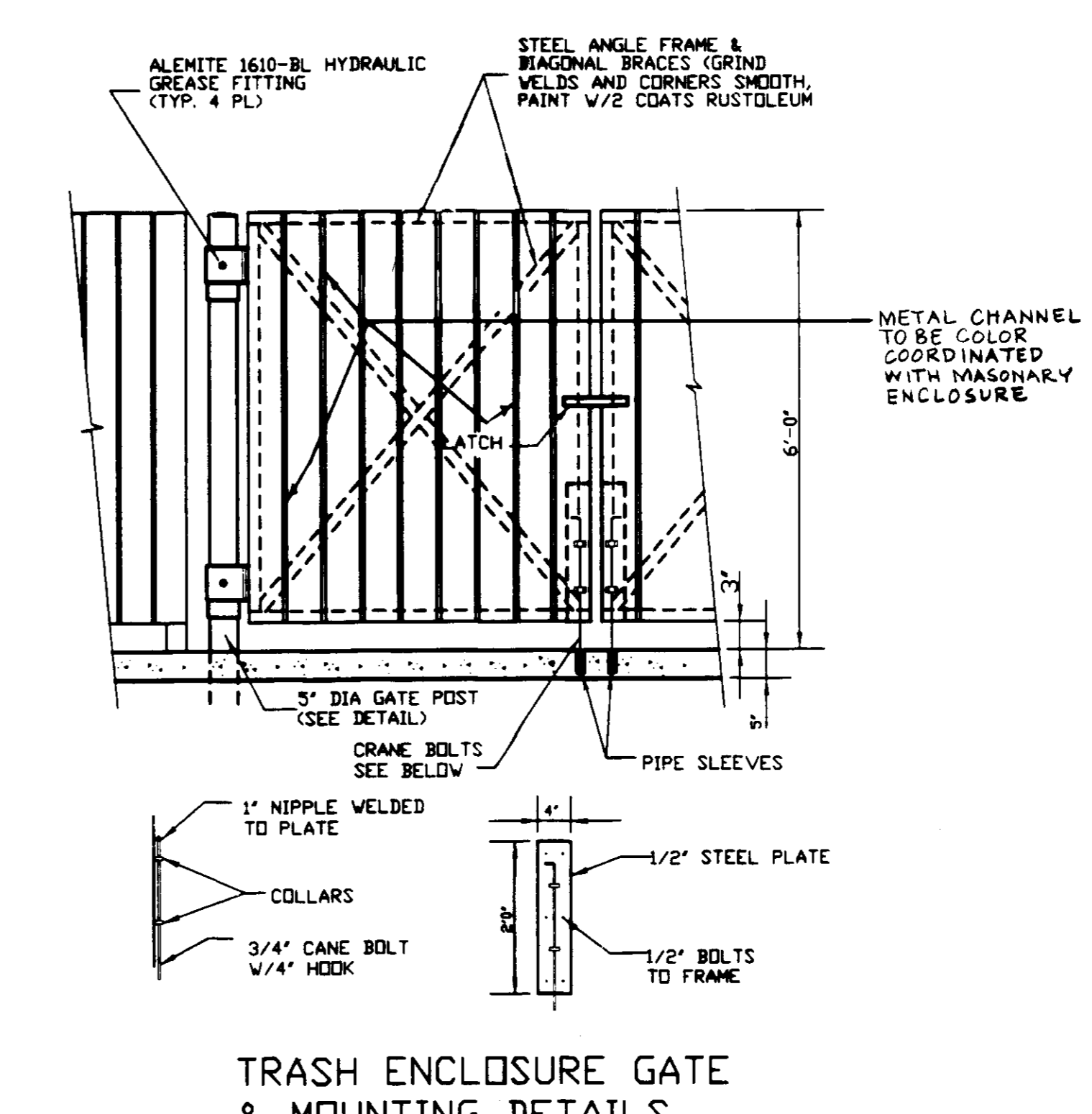
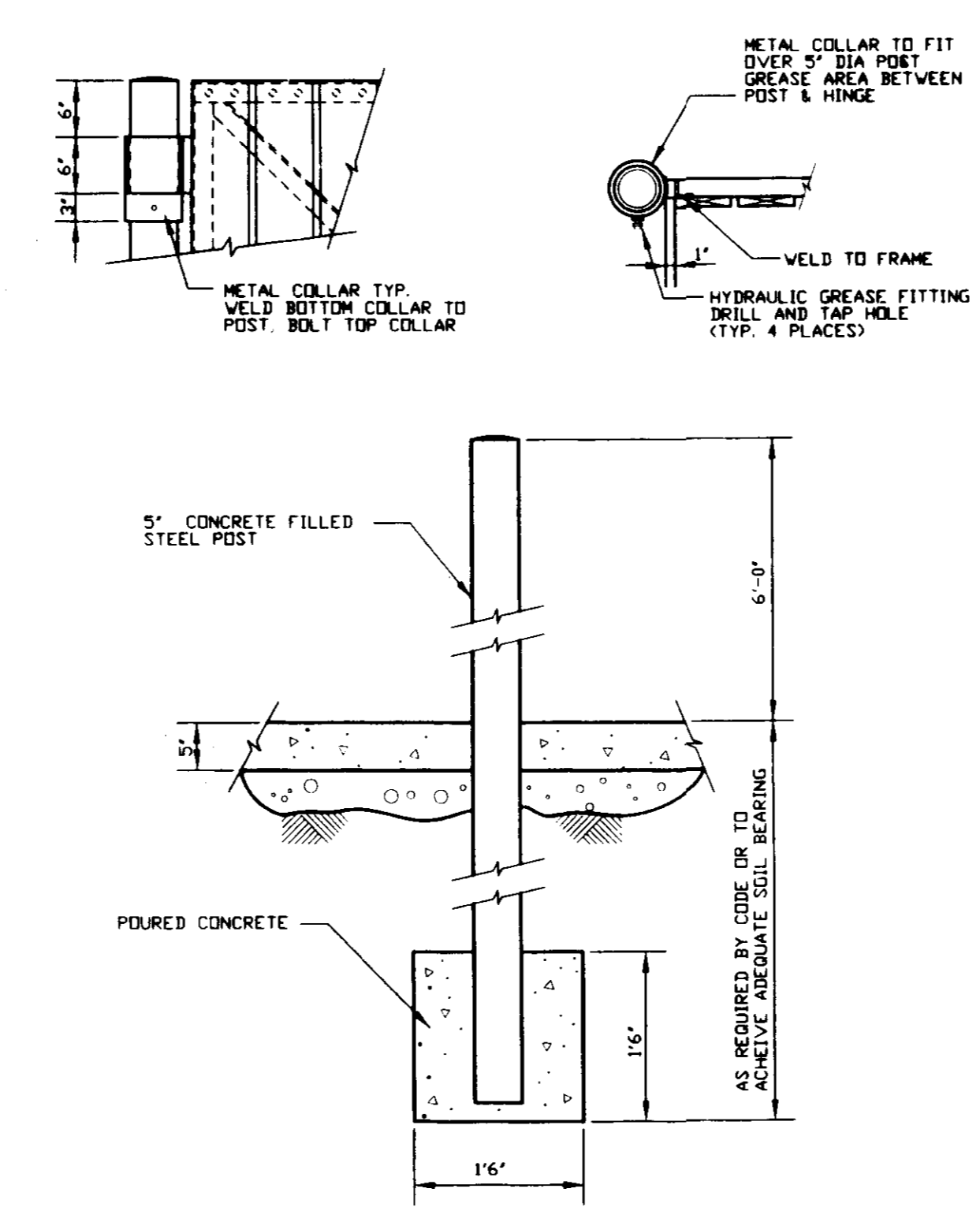
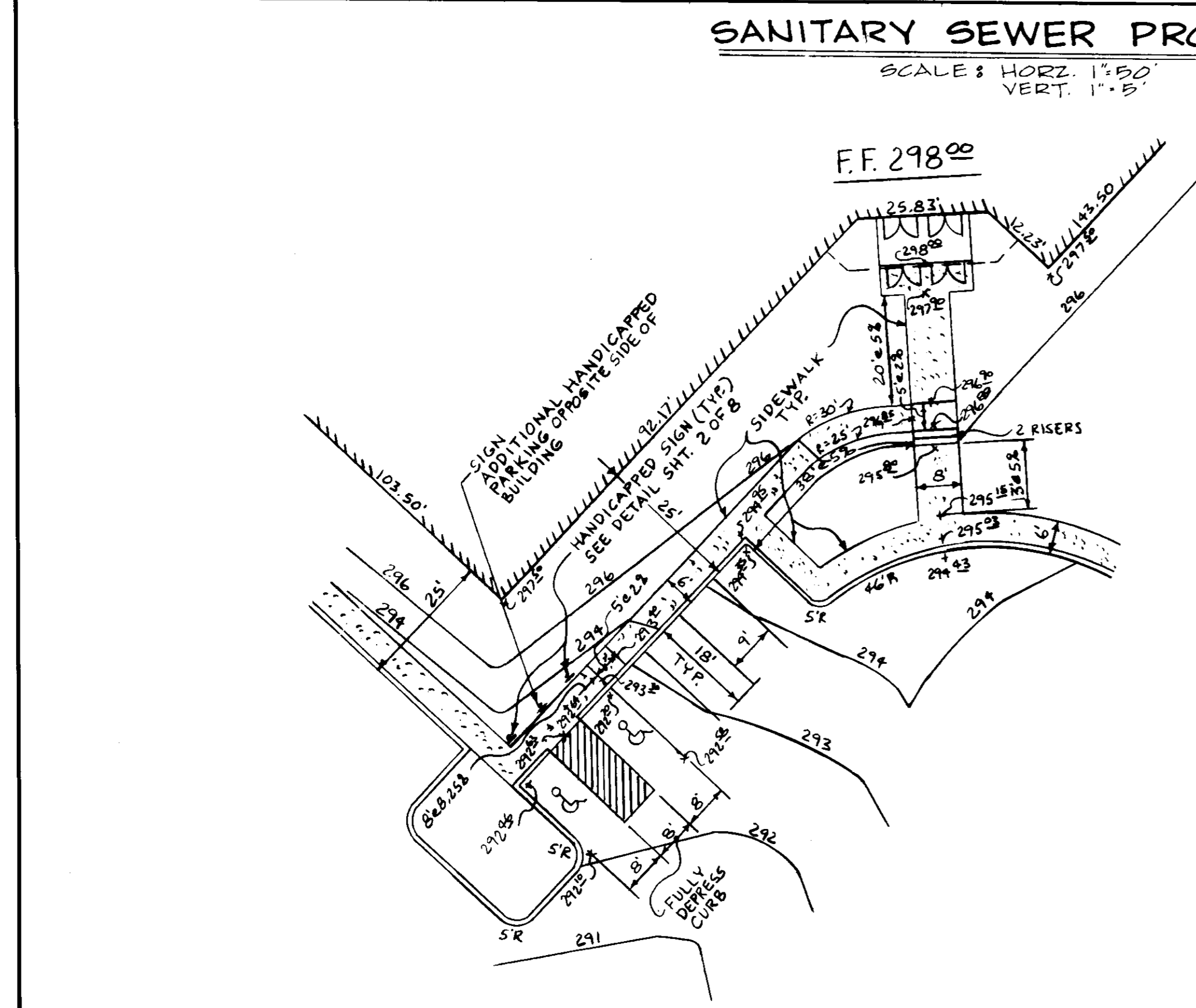
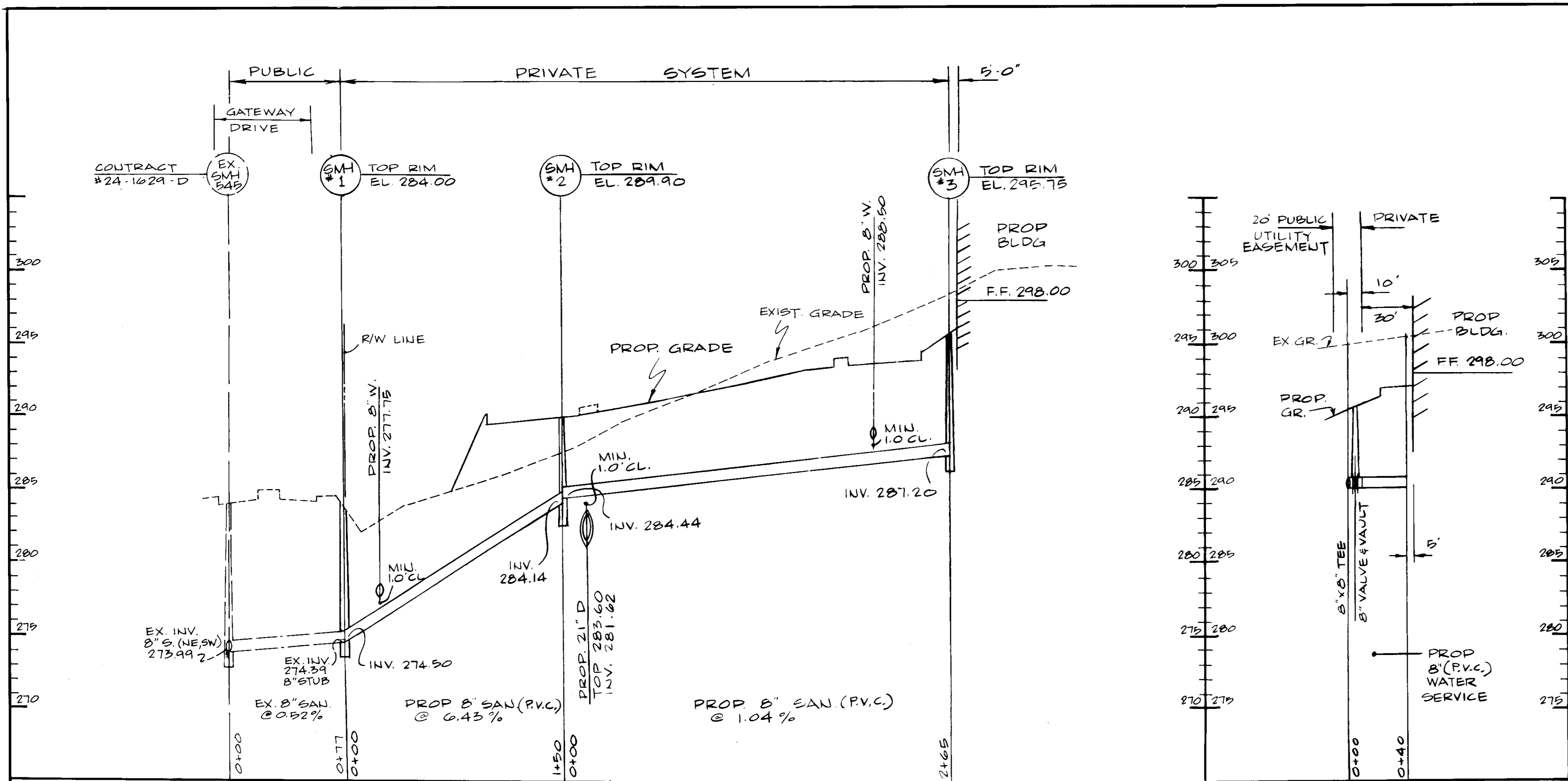
DEVELOPER CERTIFICATION:

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 Certificate of Attendance of 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.

Developer Name: Roger A. Waesche Jr. v.p. Date: 8/18/97
Roger A. WAESCHE JR

STORMCEPTOR PLAN FOR COLUMBIA GATEWAY PARCEL 5 19 GREEN SPRING

ELECTION DISTRICT: 6 HOWARD COUNTY, MD SHEET 5 OF 8 SCALE: AS SHOWN DATE: JUNE 27, 1997



These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

John R. Patterson
 APPROVED: HOWARD SOIL CONSERVATION DISTRICT
 PLAN NUMBER: _____ DATE: 8/2/97

Reviewed for the Howard Conservation District and meets technical requirements.
Cheryl K. Simmonds
 NATURAL RESOURCES CONSERVATION SERVICE
 APPROVED: Howard County Department of Planning and Zoning
 DATE: 08/20/97

Mark A. Dwyer
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MKK
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 8/2/97

Mark A. Dwyer
 DIRECTOR
 DATE: 8/2/97

ADDRESS CHART	
PARCEL NO. 5-19	STREET ADDRESS 6990 COLUMBIA GATEWAY DRIVE
SUBDIVISION NAME COLUMBIA GATEWAY	SECTION NAME N/A
PARCEL NO. 12802	PARCEL # 671
BLOCK 1	ZONE M-1
WATER CODE E06	ELECT. DIST. 6
	CENSUS TRACT 6067.03
	SEWER CODE 5333000

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
 Civil Engineers and Land Surveyors
 658 Kenilworth Drive, Suite 100
 Towson, Maryland 21204
 (410) 825-8120



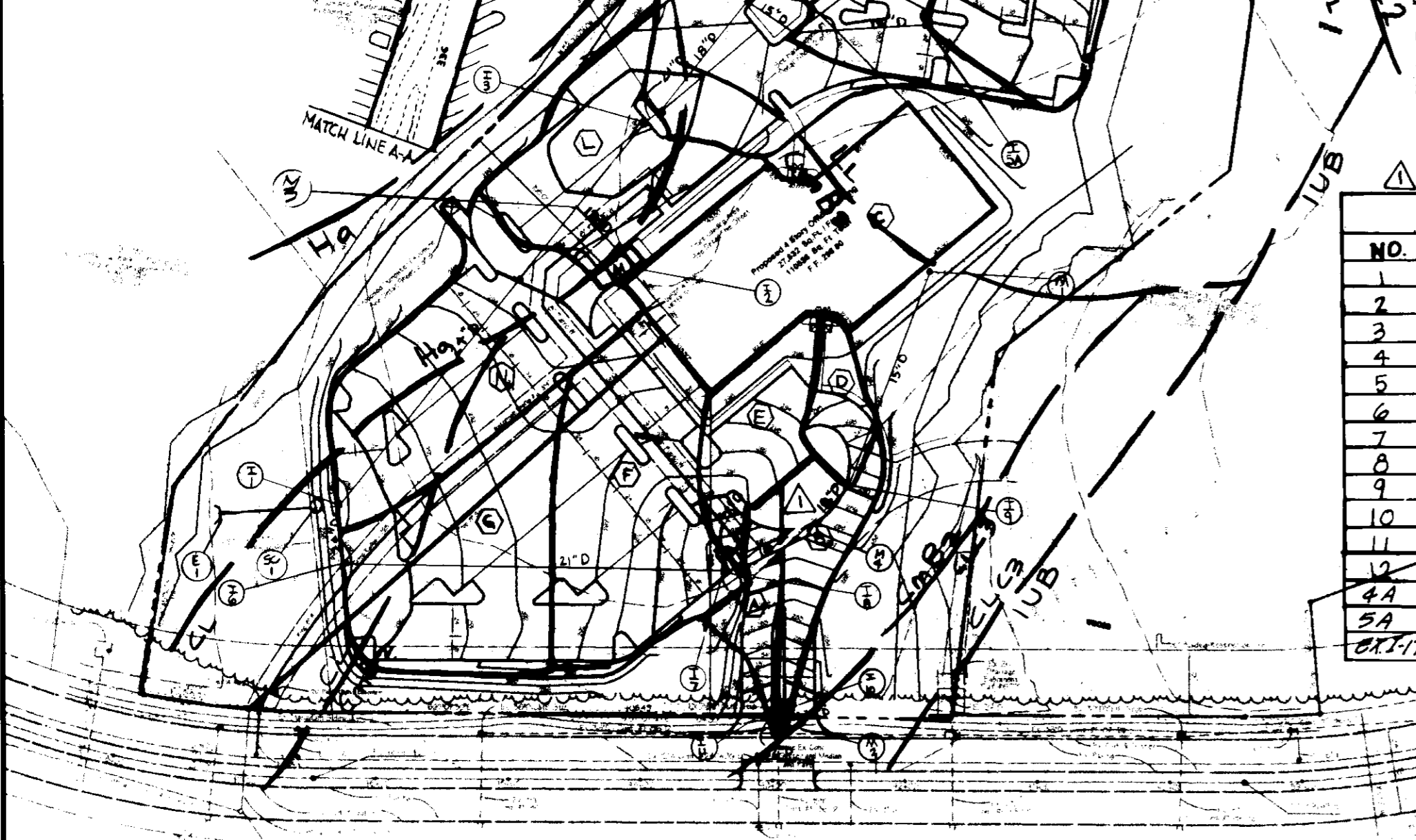
OWNER
HOWARD RESEARCH DEVELOPMENT CORPORATION
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044
 (410) 992-6027

DEVELOPER
CONSTELLATION GATESPRING LLC
 BY
CPI GATESPRING, INC.
 8815 CENTRE PARK DRIVE, SUITE 400
 COLUMBIA, MARYLAND 21045
 (410) 730-9092

DESIGNED BY: P.R.C.
 DRAWN BY: E.M.T./K.E.
 CHECKED BY: P.R.C.
 REVISIONS:

Profiles
 PARCEL 5-19
COLUMBIA GATEWAY GREEN SPRING
 ELECTION DISTRICT: 6
 HOWARD CO., MARYLAND
 SCALE: As Shown
 SHT. 4 OF 8
 DATE: JUNE 27, 1997

AREA	ACREAGE	C	% IMP
A	0.14	0.78	71
B	0.17	0.82	77
C	0.63	0.95	100
D	0.10	0.64	53
E	0.22	0.72	67
F	0.62	0.74	78
G	0.22	0.85	85
H	0.38	0.87	86
I	0.56	0.84	80
J	0.34	0.78	71
K	0.77	0.81	76
L	0.42	0.78	71
M	0.23	0.97	100
N	0.63	0.94	96
O	0.22	0.30	0



Drainage Area Map
SCALE: 1"=100'

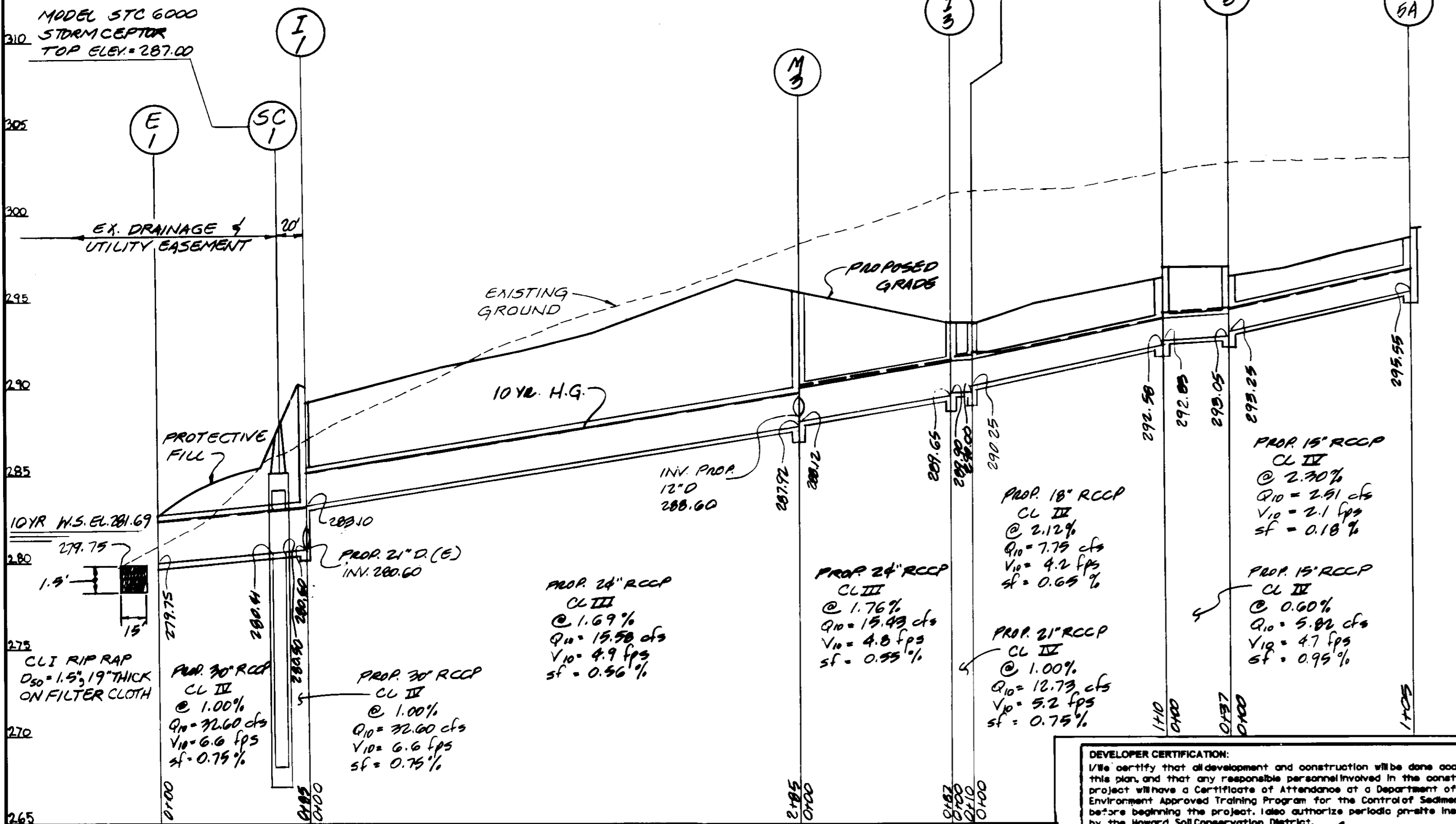
NO	TYPE	TOP ELEV	INV. IN	INV. OUT	HOW. CO. DET.
M-3	STD PRECAST	295.30	288.12	287.92	G-5.12
M-1	STD PRECAST	287.50	—	289.80	G-5.12
SC-1	STORM RECEPTOR	287.00	279.75	—	SEE SHT 5 OF 8
M-2	STD PRECAST	280.10	275.60	274.10	G-5.12
E-1	END SECTION	282.25	—	279.75	SD-5.52
E-2	END SECTION	310.00	—	303.00	SD-5.52
M-4	STD PRECAST	287.50	283.24	283.14	SD-5.12

NO.	TYPE	TOP ELEV	INV. IN	INV. OUT	Q ₁₀ cfs	HOW. CO. DET.
1	DN 18" CONC	288.80	283.10	280.60	5.23	SD-4.34
2	TRENCH INLET	283.80	—	280.80	0.51	#8
3	DN 18" CONC	283.75	281.30	281.65	2.32	SD-4.34
4	DN 18" CONC	283.75	280.50	280.00	5.89	SD-4.34
5	DN 18" CONC	280.40	278.25	278.05	3.57	SD-4.34
6	DN 18" CONC	288.80	281.10	281.00	3.30	SD-4.34
7	DN 18" CONC	282.65	282.55	282.84	4.51	SD-4.34
8	DN 18" CONC	282.82	282.75	283.02	1.19	SD-4.34
9	DN 18" CONC	283.57	283.47	284.12	0.46	SD-4.34
10	DN 18" CONC	279.55	—	276.00	1.04	SD-4.34
11	DN 18" CONC	279.55	—	276.00	0.84	SD-4.34
12	YARD INLET	311.00	—	309.42	1.38	SD-4.14
4A	DN 18" CONC	286.50	282.87	282.50	2.05	SD-4.34
5A	DN 18" CONC	286.70	—	285.55	2.51	SD-4.34
6A	DN 18" CONC	286.59	284.83	281.45	—	SEE DETAIL TWD SHT.

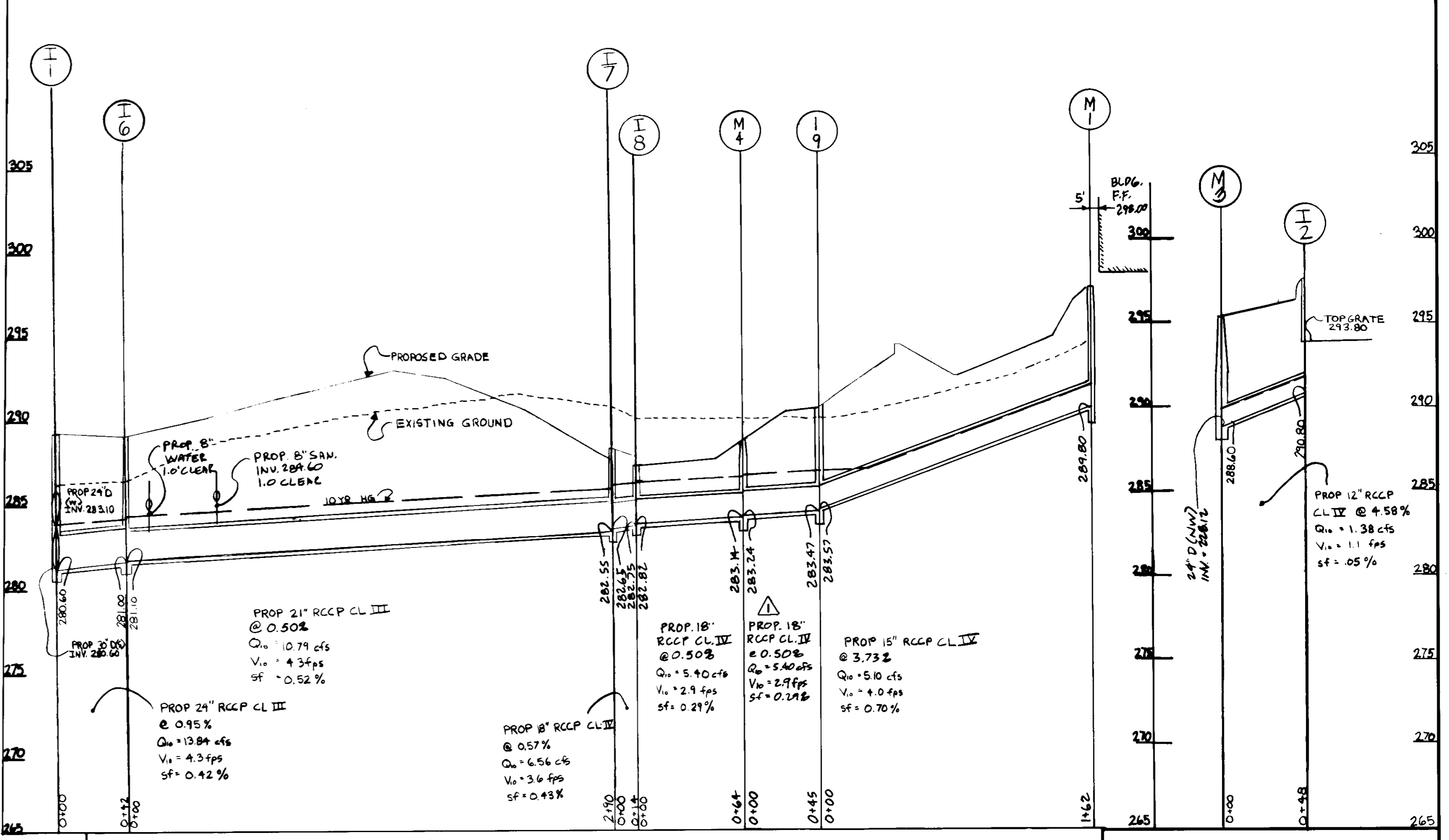
* TOP OF GRATE ELEV
* TRENCH DRAIN SHALL BE POLYDRAIN SYSTEM AS MANUFACTURED BY AOT, INC., TROUTMAN, N.C. OR APPROVED EQUAL.

LEGEND

- (A) DRAINAGE AREA
- (S) STRUCTURE NO.

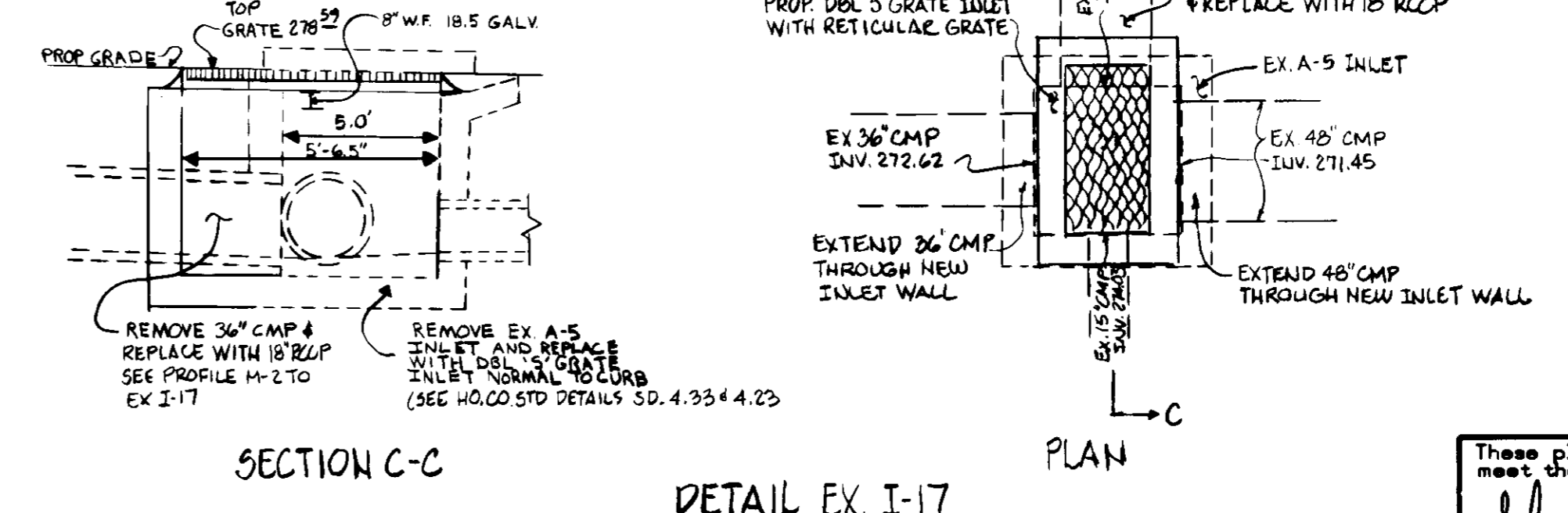


STORM DRAIN PROFILE
Hor. 1"=50'
VERT. 1"=5'



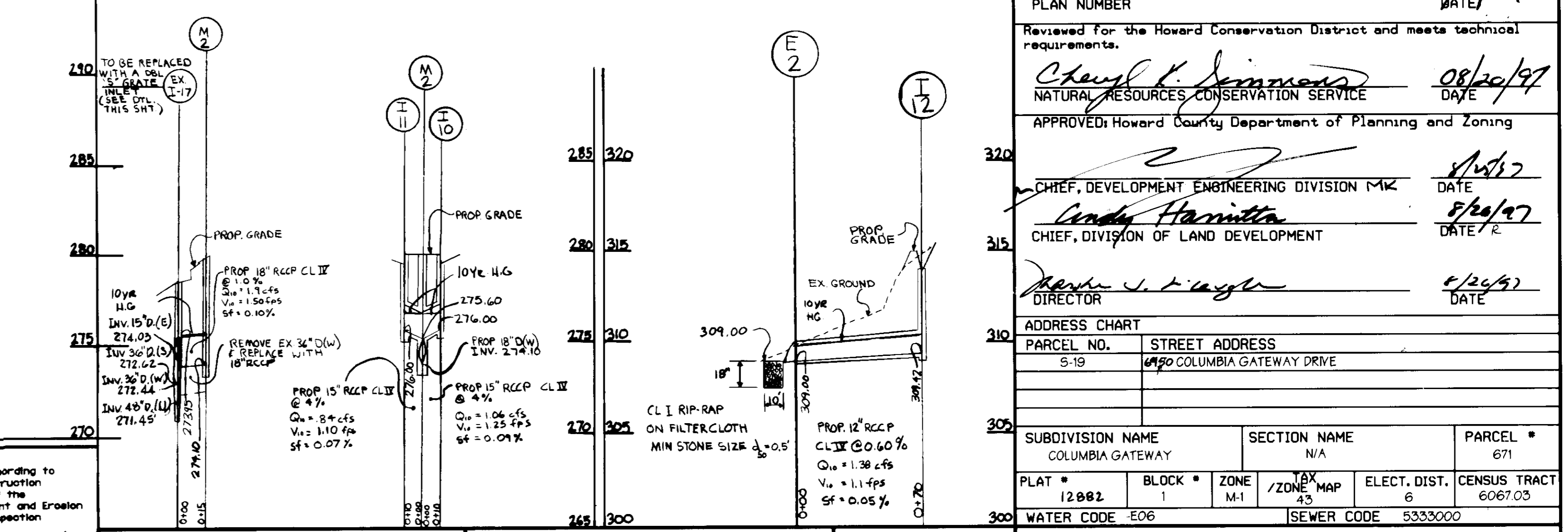
STORM DRAIN PROFILE

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



SECTION C-C

DETAIL EX I-17
(NO SCALE)



OWNER
HOWARD RESEARCH
DEVELOPMENT CORPORATION

DEVELOPER
CONSTELLATION
GATESPRING LLC
BY
CPI GATESPRING, INC.

DESIGNED BY: P.R.C.
DRAWN BY: E.M.T./K.E.
CHECKED BY: P.R.C.

PREPARED BY:
GEORGE W. STEPHENS, JR. AND ASSOCIATES, INC.
Civil Engineers and Land Surveyors
658 Kenilworth Drive, Suite 100
Towson, Maryland 21204
(410) 825-8120



DEVELOPER CERTIFICATION:
I/We certify that all development and construction will be done according to this plan and that any reasonable 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/We authorize periodic pre-emptive inspection by the Howard Soil Conservation District.
Developer: *Greg A. Waesche Jr.* Date: 8/14/97
Name: *Greg A. Waesche Jr.*

ENGINEER 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.
Engineer: *James A. Meule Jr.* Date: 8/14/97
Name: *James A. Meule Jr.* PE # 11025

OWNER
HOWARD RESEARCH
DEVELOPMENT CORPORATION
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
(410) 992-6027

DEVELOPER
CONSTELLATION
GATESPRING LLC
BY
CPI GATESPRING, INC.
8815 CENTRE PARK DRIVE, SUITE 400
COLUMBIA, MARYLAND 21045
(410) 730-9092

DESIGNED BY: P.R.C.
DRAWN BY: E.M.T./K.E.
CHECKED BY: P.R.C.
REVISIONS
10/29/97 REVISED STORM DRAIN BETWEEN I-7 & I-9

These plans for S.W.M. construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.

John R. Robertson
APPROVED: HOWARD SOIL CONSERVATION DISTRICT
PLAN NUMBER: 5-19
DATE: 8/22/97

Reviewed for the Howard Conservation District and meets technical requirements.
Charles K. Jimenez
NATURAL RESOURCES CONSERVATION SERVICE
DATE: 08/20/97

APPROVED: Howard County Department of Planning and Zoning
Leah Hanitta
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/20/97

Mark J. Taylor
DIRECTOR
DATE: 8/24/97

ADDRESS CHART

PARCEL NO.	STREET ADDRESS
5-19	490 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME COLUMBIA GATEWAY
SECTION NAME N/A
PARCEL # 671

PLAT #	BLOCK #	ZONE	TAX MAP / ZONE MAP	ELECT. DIST.	CENSUS TRACT
12882		M-1	43	6	6067.03

WATER CODE E06
SEWER CODE 5333000

Drainage Area Map & Profiles
PARCEL 5-19
COLUMBIA GATEWAY GREEN SPRING
ELECTION DISTRICT: 6
HOWARD CO., MARYLAND
SCALE: As Shown
SHT. 3 OF 8
DATE: JUNE 27, 1997

