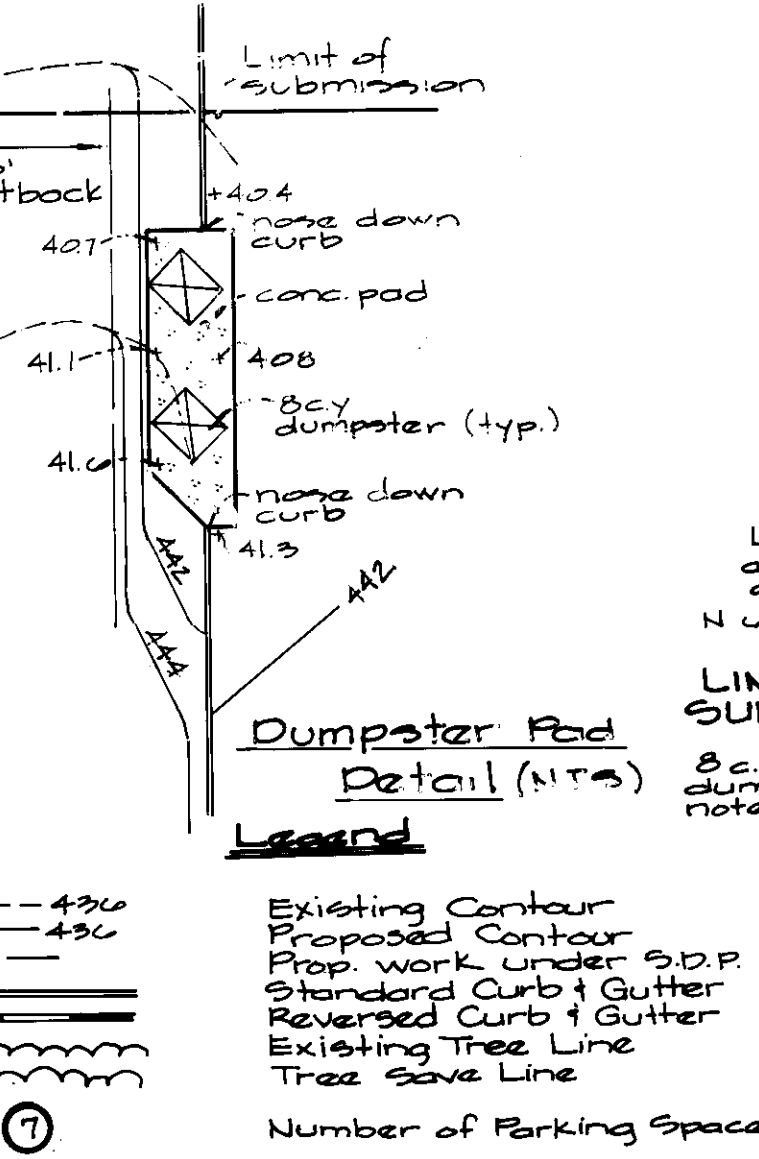


- GENERAL NOTES**
- All construction shall be in accordance with the latest standards and specifications of Howard County plus HSCD standards and specifications, if applicable.
 - Any damage to county owned rights-of-way to be corrected at the developer's expense.
 - Traffic control devices, markings and signing shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to placement of any asphalt.
 - Topography taken from field run survey dated Feb. 1993, by Riemer, Muegge and Assoc., Inc. Contours shown at 2 foot interval.
 - All pipe elevations shown are invert elevations.
 - All driveways and parking to be privately owned and maintained.
 - Vertical control established using Howard County Monuments 2442003 and 2442002. Horizontal control established from Maryland State Coordinate System.
 - Class "C" Trench bedding shall be used under all storm drains unless otherwise shown.
 - Information concerning underground utilities was obtained from F-87-82 and Contract # 24-1588-D, but the contractor must determine the exact location by digging test pits by hand at all utility crossings well in advance of construction.
 - The contractor/developer shall contact the Construction Inspection Division at 315-1850 at least five (5) working days prior to the start of work.
 - The developer agrees to work with the Department of Licenses and Inspections to resolve any problems caused by roof water discharge.
 - All downspout drains shall be handled by one of these methods:
 - Downspout to splash blocks and discharge onto ground having good permeation;
 - Downspout in front of units piped to curb;
 - Downspout connected to storm drain.

SITE ANALYSIS

Location: Columbia 100 Parkway Tax Map: 30 Parcel: p/a 2
 Zoning: RA-15
 ZB / BA Reference: ZB-930-M
 Erection District: 2nd
 Submission Area: 3.7 Ac. Site Area: 2.09Ac. ±
 Number of Proposed Lots: 1
 Date of Final Plan: Approved and DPZ
 Reference #: ZB-930-M, F-87-82, F-93-111
 Parking Required: 60 spaces (30 units x 2/unit)
 Parking Provided: 71 spaces
 Building Coverage on Site: 0.30 Ac. ± (5%)
 Paved Parking Lot Area: 0.38 Ac. ±



top of curb elevations

point no.	notations	elevation (t.c.)
1	22+51.85	437.72
2	2+47.72	437.20
3	0+61.00	434.70
4	1+02.77	434.40
5	12+24.10	435.80
6	11+00.00	435.80
7	0+47.00	430.70
8	23+54.86	435.70

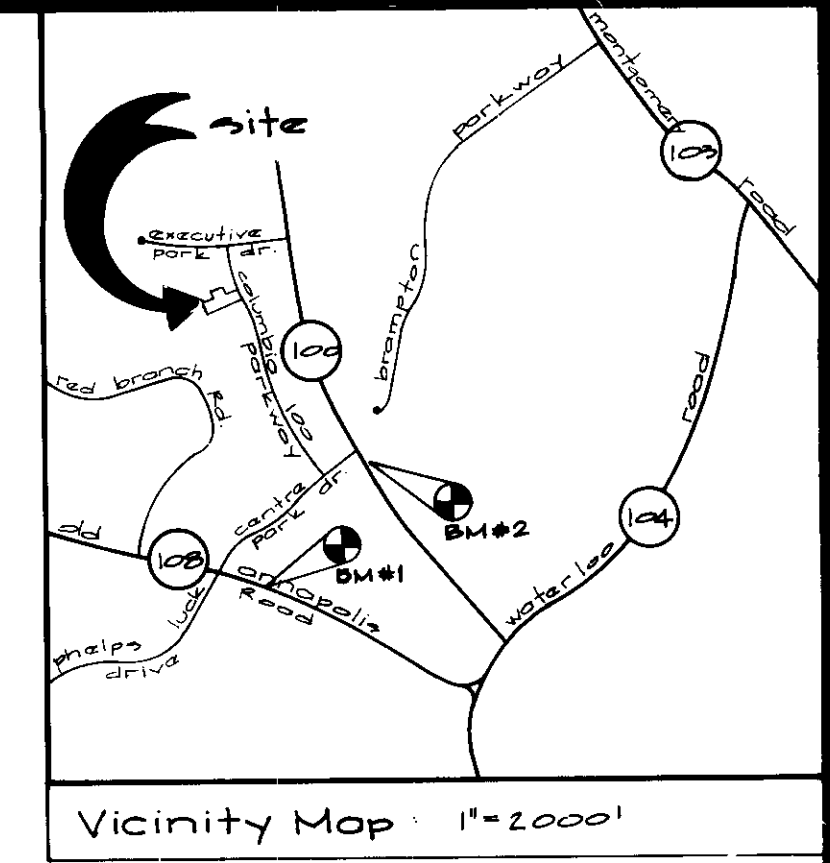
Note: Elevations shown on (x, y) are flow line

DENSITY TABULATION FOR RA-15 ZONING

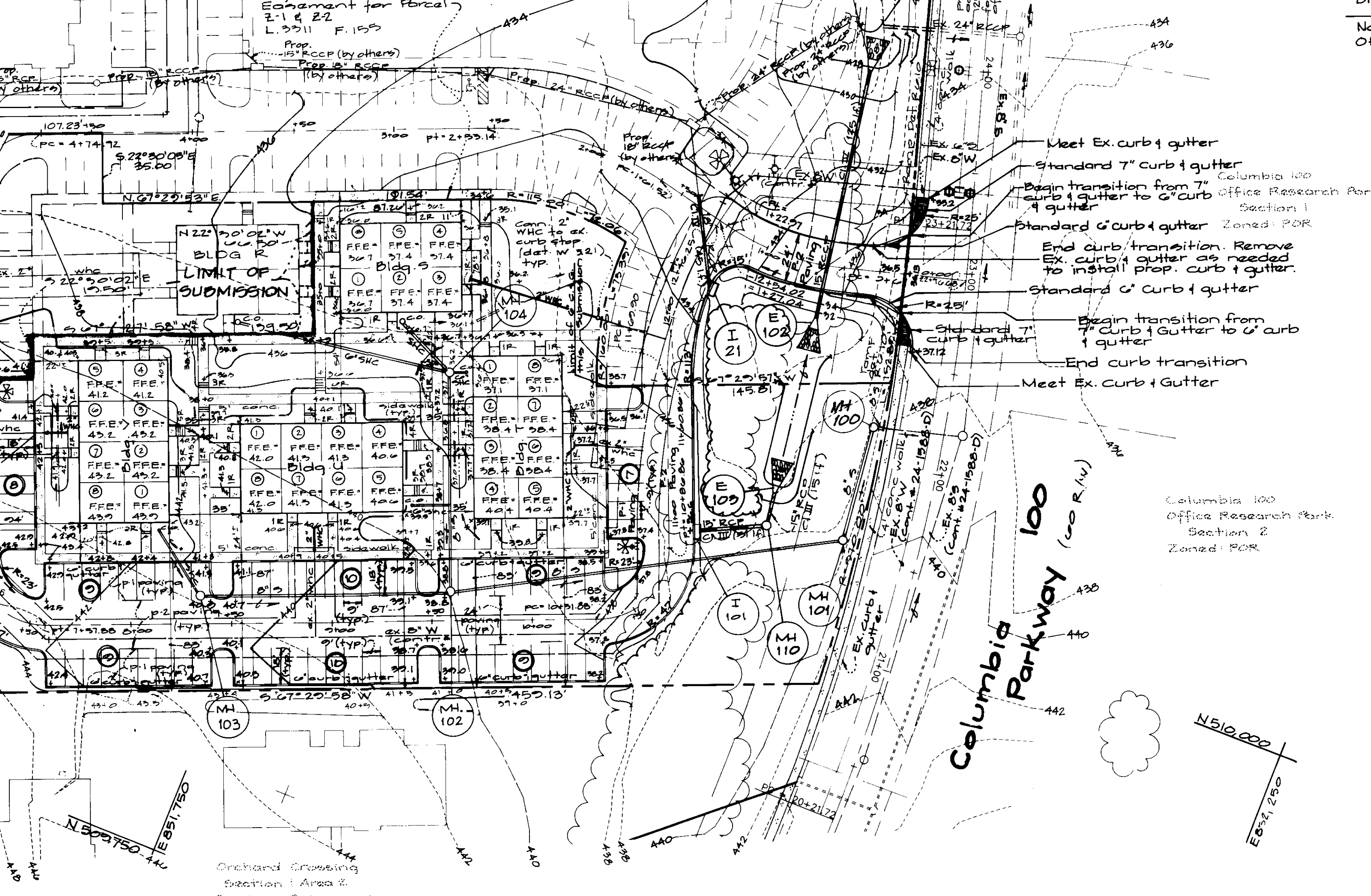
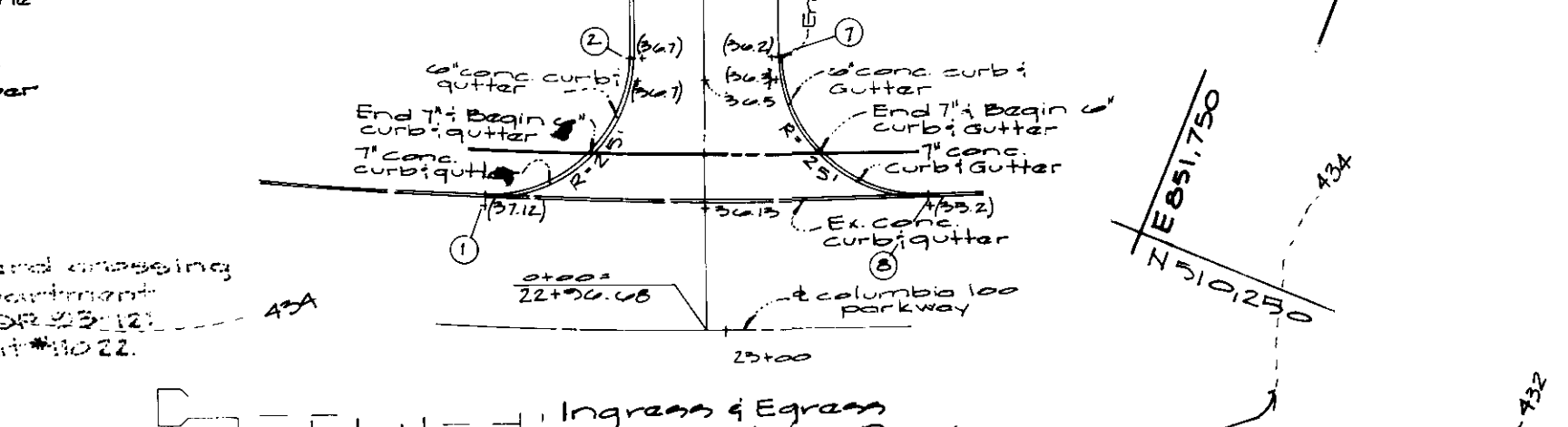
	Parcel W	Parcels X & Y	Parcel Z-1	Parcel Z-2	Parcel AA	Totals
Gross Area	* 10,921 Ac.	** 11,397 Ac.	0.441 Ac.	2.090 Ac.	5,250 Ac.	30,039 Ac.
Steep Slopes	0	0	0	0	0	0
Floodplain	0.074 Ac.	0	0	0	0	0.074 Ac.
Net Area	10,847 Ac.	11,397 Ac.	0.441 Ac.	2.090 Ac.	5,250 Ac.	29,965 Ac.
No. of Units Allowed (15 D.U. / Ac.)	126	187	0	30	100	443
No. of Units Proposed	114	187	0	30	98	429
Density (Units/Ac.)	10.5	16.4	15.0	14.8	18.7	14.5

OPEN SPACE TABULATION

	S.D.P. 93-121	S.D.P. 94-52	Totals
Area	11,834 Ac.	2,034 Ac. ±	13,868 Ac.
25% Required Open Space	2,96 Ac. ±	0.51 Ac. ±	3.47 Ac. ±
Open Space Provided	4.04 Ac. ±	0.31 Ac. ±	4.35 Ac. ±
Recreational O.S. Required	175 s.f. x 193 units = 0.78 Ac. ±	175 s.f. x 30 units = 0.12 Ac. ±	0.90 Ac. ±
Recreational O.S. Provided	1.43 Ac. ±	0.19 Ac. ±	1.62 Ac. ±



Entrance Detail
No Scale



- Benchmarks**
- BM #1 Elev. 482.29
Ho. Co. 2743010-R
9'4" Below Surface, 34' South of Curb on Maryland Route 108 175' + East of CL Phelps Luck Drive.
 - BM #2 Elev. 525.51
Nail in Stone at Property Corner Columbia 100-Office Research Park.

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Signature
Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

Signature
U.S. Soil Conservation Service
Date

ENGINEER'S CERTIFICATE

"I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District."

Signature 11-15-93
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance of a Maryland 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 HSCD."

Signature 11-15-93
Signature of Developer/Builder Date

Sheet Index

Sheet No.	Description
1	Site Development Plan
2	Sediment Control/Drainage Area Map
3	Landscape Plan
4	Landscape Details & Notes
5	Profiles & Road Grades
6	Details & Notes

Approved: For public water & public sewerage systems Howard County Health Dept.
 County Health Officer Date

Approved: Howard County Department of Planning & Zoning
 Director Date

Approved: For public water & public sewerage storm drainage systems and private roads, Howard County Dept. of Public Works.
 Director Date

Chief Engineer Date

Address Chart

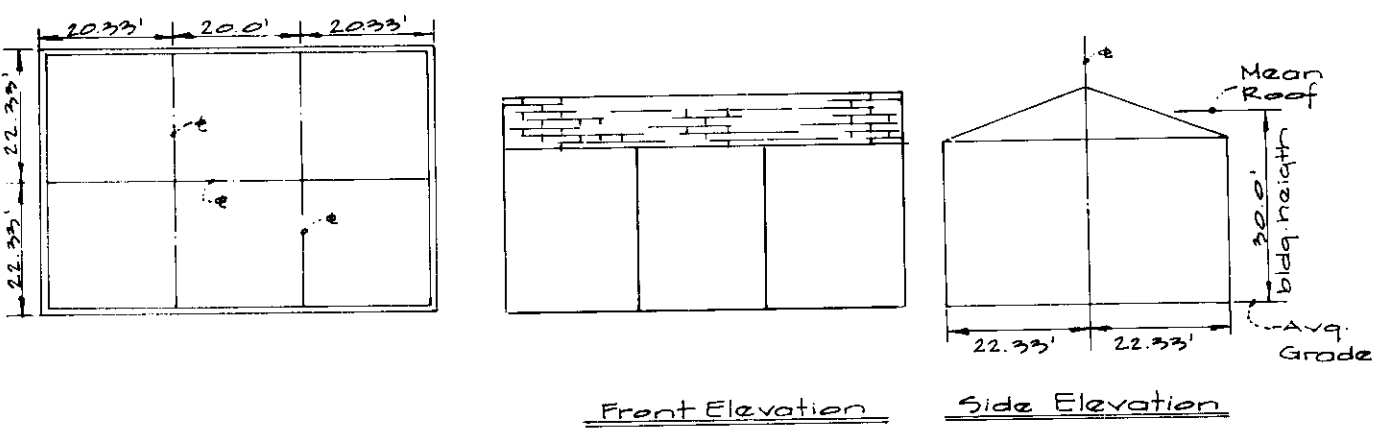
Bldg.	Street Name
S	8801 Blue Wing Court
T	8811 " " "
U	8821 " " "
V	8831 " " "

sidewalks are 5' wide concrete.

All radii are 5' unless otherwise noted

Min. Cellar Elevations

Bldg.	Unit #s	Min. C.E.
S	1-G	430.70
T	1-B	435.08
U	1-B	434.54
V	1-B	440.54



GLW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
 3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK - BURTONSVILLE, MD. 20866
 TELEPHONE (301)421-4024 NO. VA. (301)980-2524 BALTO. (301)880-1820 FAX (301)421-4186

PREPARED FOR:
 Howard County Housing Comm
 10650 Hickory Ridge Rd.
 Box #4
 Columbia, Maryland 21044
 (410) 315-2110

Site Development Plan
Columbia 100 Office Research Park
 Section 1 Area 2, Parcel Z-2
 Orchard Crossing SFA Units
 2nd Election District
 Howard County, Maryland

DATE	REVISION	BY	APPR.
11/24/94	provide 3" to 4" to building	MCF	

DES:	SCALE	ZONING	G.L.W. FILE No.
DEV	1"=40'	R/A-15	03-002
DRN:	DATE	TAX MAP NO.	SHEET
MCF	NOV. 15, 1993	30	1 of 6
CHK:			
CKG			

SCHEDULE A PERIMETER LANDSCAPE EDGE			
CATEGORY	ADJACENT TO ROADWAYS	#	ADJACENT TO PERIMETER PROPERTIES
PERIMETER	1	2	3
LANDSCAPE TYPE	E	N/A	A
LINEAR FEET OF ROADWAY FRONTAGE/PERIMETER	155'	460'	155'
CREDIT FOR EXISTING VEGETATION (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	YES ¹ 100 LF.	NO	YES ² 155'
CREDIT FOR WALL, FENCE OR BERM (YES, NO, LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	N/A	NO
NUMBER OF PLANTS REQUIRED	FOR 55'	N/A	0
SHADE TREES	1:40 (2)	-	-
EVERGREEN TREES	-	-	-
SHRUBS	1:4 (39)	-	-
NUMBER OF PLANTS PROVIDED	3	N/A	0
SHADE TREES	2/1	-	-
EVERGREEN TREES	-	-	-
OTHER TREES (2:1 SUBSTITUTION)	-	-	-
SHRUBS (10:1 SUBSTITUTION)	40/4	-	-

- EXISTING TREES ALONG COLUMBIA 100 PARKWAY TO BE SAVED TO THE EXTENT SHOWN. TREES INCLUDE OAK, MAPLE. SUPPLEMENTAL PLANTING PROVIDED.
 - EXISTING TREES ALONG WESTERN PROPERTY LINE TO BE SAVED (20'-25' WIDTH) INCLUDE OAK, MAPLE AND GUM TO SATISFY REQUIREMENTS.
- * NOTE: AS STATED UNDER PERIMETER LANDSCAPED EDGES, P. 17 OF THE LANDSCAPE MANUAL, "THE REGULATIONS DO NOT REQUIRE LANDSCAPED EDGES, BUFFERING, OR SCREENING BETWEEN INTERNAL LOTS OR PARCELS WITHIN THE SAME DEVELOPMENT." THIS SITUATION OCCURS ALONG PERIMETER 2 OF THIS PLAN. A LANDSCAPE BUFFER WILL BE PROVIDED ON THE ADJACENT PARCEL ALONG THE SOUTHERN BORDER UPON THE SUBMITTAL OF THE PLAN FOR THE REMAINING PARCEL.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	71
NUMBER OF TREES REQUIRED - 1 PER 10 SPACES	8
NUMBER OF TREES PROVIDED	8
SHADE TREES	8
OTHER TREES (2:1 SUBSTITUTION)	-
NUMBER OF ISLANDS REQUIRED - 1 PER 10 SPACES	8
NUMBER OF ISLANDS PROVIDED	8

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	30 SFA
NUMBER OF TREES REQUIRED - (1:10 SFA)	30
NUMBER OF TREES PROVIDED	17
SHADE TREES	26/13*
OTHER TREES (2:1 SUBSTITUTION)	-
SHRUBS (10:1 SUBSTITUTION)	-
TOTAL: (30)	

* 26 FLOWERING TREES HAVE BEEN SUBSTITUTED AT A 2:1 RATIO TO SATISFY THE REQUIREMENT FOR 13 OF THE SHADE TREES.

Plant List

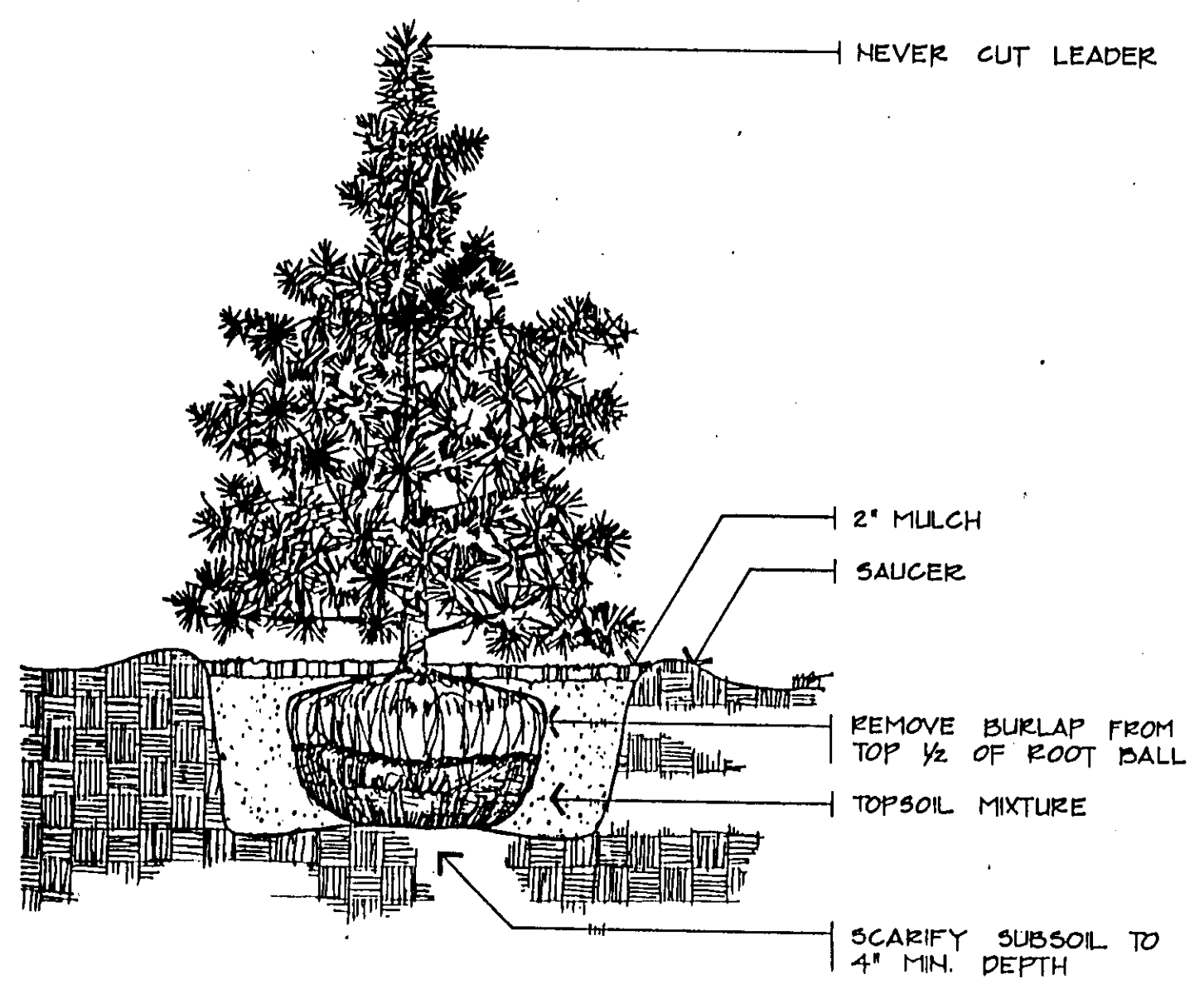
Qty.	Key	Botanical/Common Name	Size	Remarks
Shade Trees				
3	Qp	Quercus phellos/Willow Oak	12-14' HL 2 1/2-3" Cal.	B&B Full
17	Up	Ulmus parvifolia/Chinese Elm	13-15' HL 2 1/2-3" Cal.	B&B Full
8	Zs	Zelkova serrata "Green Vase" / Green Vase Zelkova	13-15' HL 2 1/2-3" Cal.	B&B Full
Small Trees				
11	C	Cornus kousa var. chinensis/Chinese Dogwood	8-10' HL 2-2 1/2" Cal.	B&B Full
15	P	Prunus serrulata "Kwanon"/Kwanon Cherry	8-10' HL 2-2 1/2" Cal.	B&B Heavy
Evergreen				
3	PS	Pinus strobus/Eastern White Pine	6-8' HL	B&B Full
Shrubs				
39	Vd	Viburnum dentatum/Arrowwood Viburnum	2 1/2-3' HL 3-4 canes	B&B Full

General Planting Notes

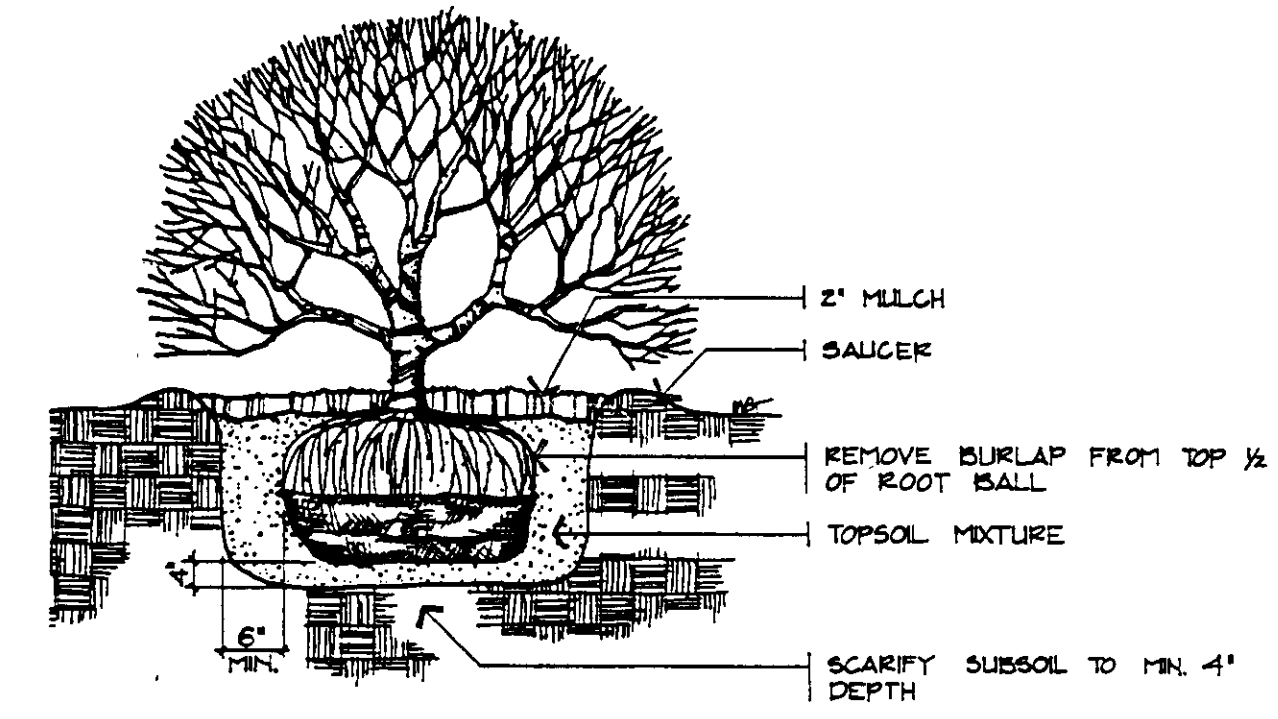
- All plant material shall conform to the sizes given in the plant list and shall be nursery grown in accordance with the "American Standard for Nursery Stock", latest edition.
- All planting shall be in accordance with Landscape Contractors procedures and specifications.
- Contractor and Owner's Representative shall verify the correct location of all underground utilities in the field prior to installation of any plant materials.
- Plant material location to be staked in the field and approved by the Landscape Architect prior to planting.
- All plant beds and planting areas to be mulched to a depth of 3" unless otherwise noted on drawings or specifications.
- All disturbed areas shall be fine graded and seeded.
- All plant beds shall be contained with a spaced edge unless otherwise noted on drawings.
- Obtain approval from Landscape Architect's or Owner's Representative before making any substitutions or changes.
- Quantities shown on plant list are for the Contractor's convenience only and are not guaranteed to be accurate. In the event of a discrepancy between quantities shown on the plan and quantities shown on the plant list, the quantities on the plan shall apply.

General Notes

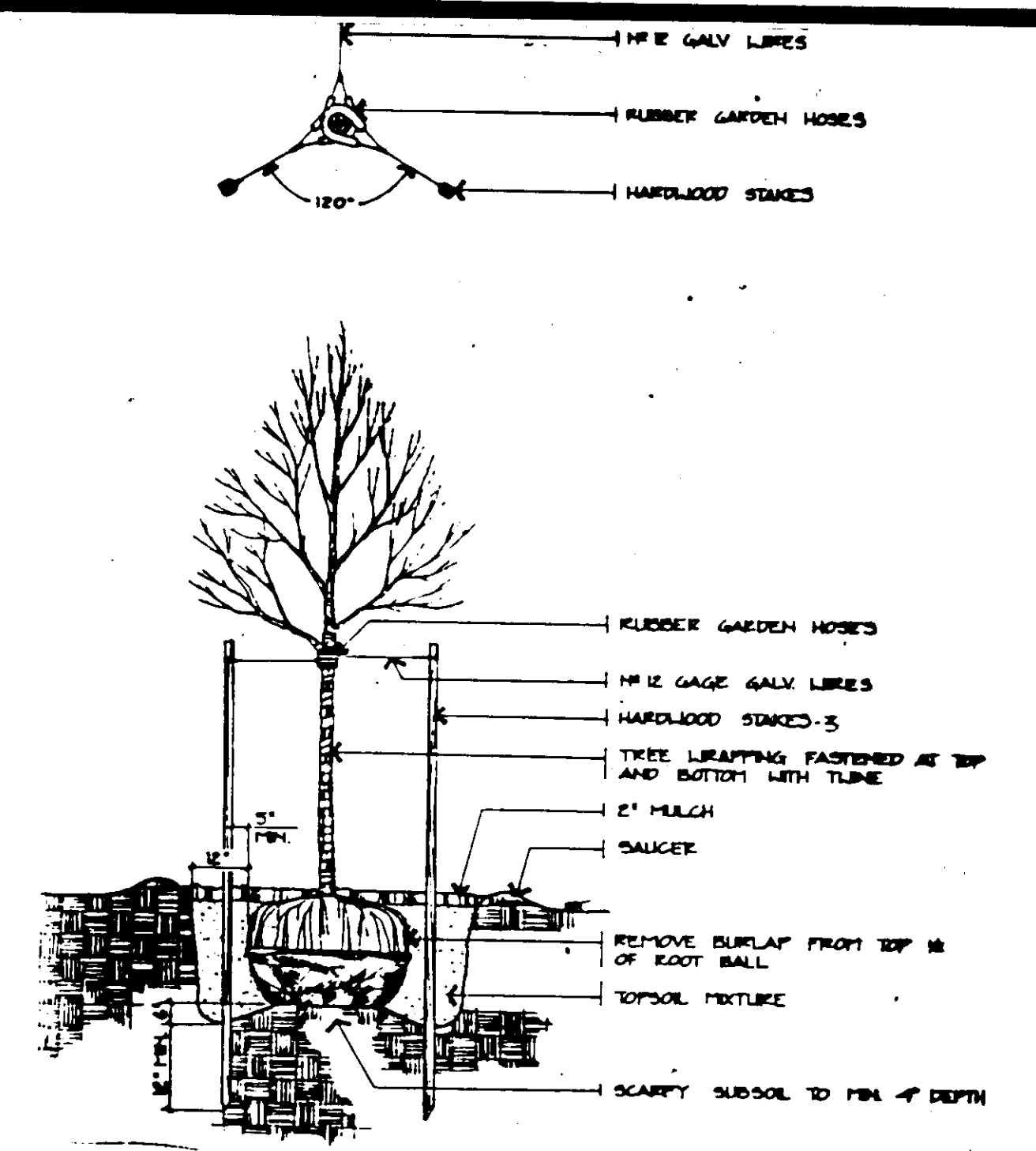
- The Landscape Plan has been prepared in accordance with the Howard County Planning, Zoning and Subdivision and Land Development Regulations and the Landscape Manual.
- Existing trees along Columbia 100 Parkway and at the western border are to be saved and will be used to help satisfy landscape perimeter requirements.
- The site has been cleared and rough graded according to a previously approved grading plan. Through discussions with Howard County Planning Staff, it has been determined that the site is exempt from compliance with the Forest Conservation Act requirements.
- The street tree landscape program for Columbia 100 Parkway has been implemented according to previous Submission No. 5246 for Columbia 100 Office Research Park.
- The stormwater management for the majority of the site is being handled by an appropriately sized existing facility located directly north of the intersection of Executive Park Drive and Columbia 100 Parkway. The remaining runoff is not sufficient to warrant an additional on-site management facility.
- Several tree plantings fall near or atop underground storm drain lines. It is assumed that field adjustment of plants will be necessary as well as the possible relocation of several storm drain lines, especially at the front entry area.



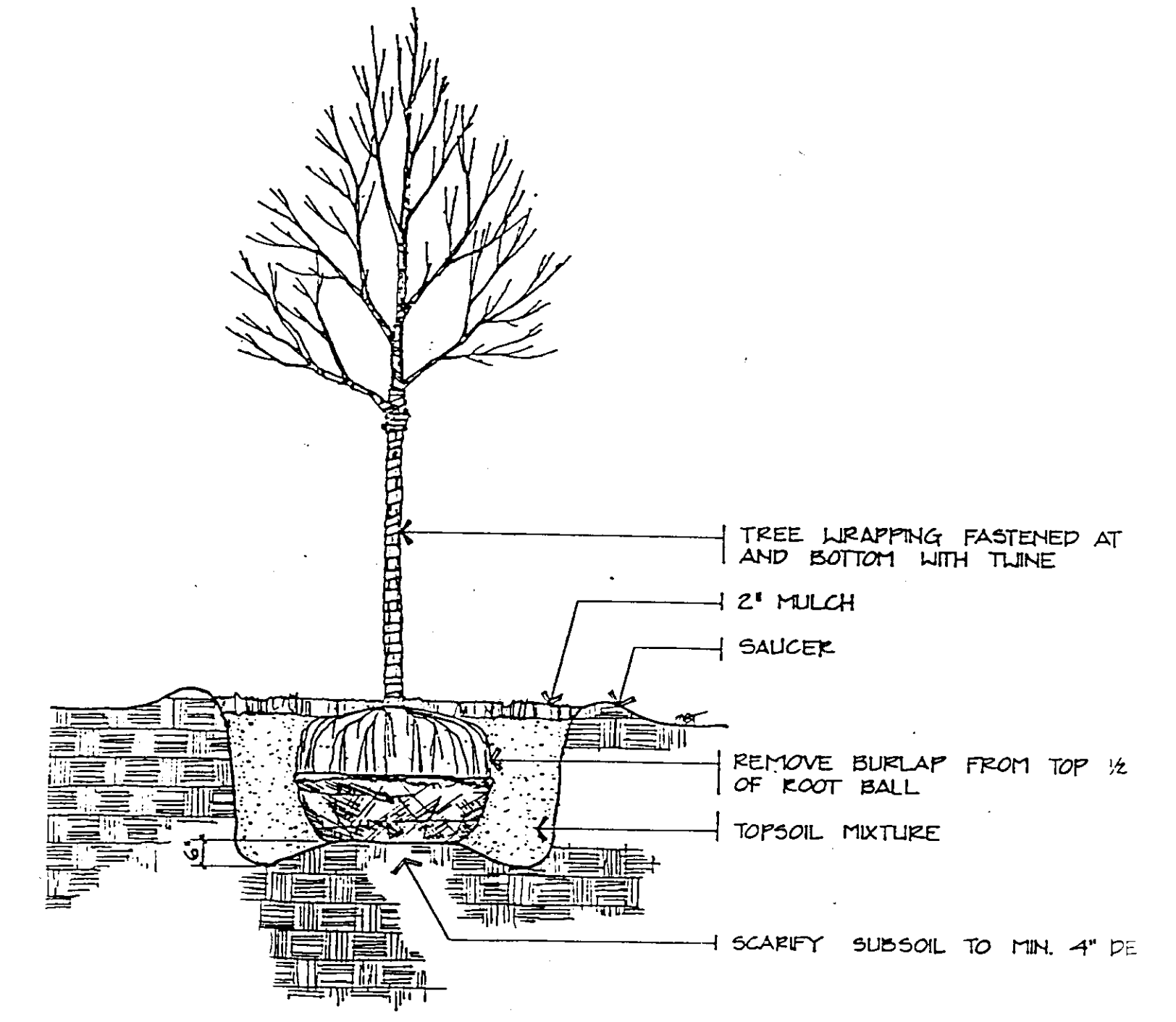
TYPICAL EVERGREEN TREE PLANTING
NO SCALE



TYPICAL B&B SHRUB PLANTING
NO SCALE



TYPICAL DECIDUOUS TREE PLANTING & STAKING
3" CALIPER AND SMALLER
NO SCALE



TYPICAL DECIDUOUS TREE PLANTING
NO SCALE

Handwritten signature and stamp

APPROVED: FOR PUBLIC WATER & PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPT.
COUNTY HEALTH OFFICER DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING
DIRECTOR DATE 2/1/99

APPROVED: CHIEF, DIVISION OF LAND PLANNING AND RESEARCH
DATE 5/11/99

APPROVED: FOR PUBLIC WATER & PUBLIC SEWERAGE STORM DRAINAGE SYSTEMS AND PRIVATE ROADS, HOWARD COUNTY DEPT. OF PUBLIC WORKS
DIRECTOR DATE 7/12/98

CHIEF, BUREAU OF ENGINEERING DATE 7/12/98

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
3908 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20886
TELEPHONE: (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186

DATE	REVISION	BY	APP'R.

PREPARED FOR:
Howard County Housing Comm
10450 Hickory Ridge Rd.
Box #4
Columbia, Maryland 21044
(410) 319-6116

LANDSCAPE DETAILS & NOTES
Columbia 100 Office Research Park
Section 1 Area 2; Parcel E-L
Orchard Crossing
39A Units
2nd Election District
Howard County, Maryland

DES:	KWH	SCALE	AS SHOWN	ZONING	R/A-15	G.L.W. FILE NO.	DB-062
ORN.:	LIH	DATE	NOV. 15, 1998	TAX MAP NO.	30	SHEET	4 OF 6
CHK.:							

Struct.	Type	Detail	Top Elev.	Inv. In	Inv. Out	Station
I-21	A-B W/DEFL	SD. 4.23	433.90		429.50	12+20.6 12' RT
I-101	A-B	SD. 4.01	437.10		432.31	10+94 12' RT
MH10	STD MANHOLE	G.501	426.00	422.00	421.76	SEE PLAN
E103	END SECTION	P.2.551	432.00	431.61	421.55	"
E102	"	"	431.96	420.70	420.71	"
E101	"	"	427.95	426.70	426.51	"

Size	Type	Quant.
15"	cl. III RCP	46
15"	cl. IV RCP	125

STRUCT.	TYPE	TOP	INV.	STATION	DETAIL
MH100	STD 4' MANHOLE	434.00	423.15	SEE PLAN	9.9.01
MH101	"	436.70	427.18	SEE PLAN	"
MH102	"	438.96	428.85	9+60 - 13' LEFT	"
MH103	"	440.96	433.72	8+35 - 13' LEFT	"
MH104	"	437.00	429.74	SEE PLAN	"

BLDG #	INVERT @ CLEANOUT	MIN. CELLAR ELEV.
S	430.82	426.80
T	430.10	435.10
U	429.66	434.50
V	434.48	440.60
R	431.00	

SIZE	TYPE	QUANT.
6"	SEWER MAIN	494'
6"	S.H.C.	181'
2"	W.H.C.	131'

- Water and Sewer Notes**
- All construction methods and materials for private water and sewer mains and connections shall follow the current edition of the Howard County Plumbing Code, supplemented by the Howard County Standards, Details & Specifications, where necessary.
 - All sewer mains and connections shall be p.v.c.
 - All water mains shall be D.I.P., class 52.
 - Black all water fittings with concrete.
 - Sewer manholes shall be 4' diameter.
 - Water services are for inside meter settings.
 - Verify location of existing utilities prior to starting construction of utilities shown on this plan.
 - Line and grade of existing sewer stubs shall be confirmed at stakeout. Engineer shall be notified of discrepancies prior to construction.

DEVELOPER'S/BUILDER'S CERTIFICATE
 I/We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Maryland 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 HSCD.

Signature of Developer/Builder **11-15-93**
 Date

ENGINEER'S CERTIFICATE
 I certify that this plan for erosion and sediment control represents a practical and workable plan, based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

Signature of Engineer **11-15-93**
 Date

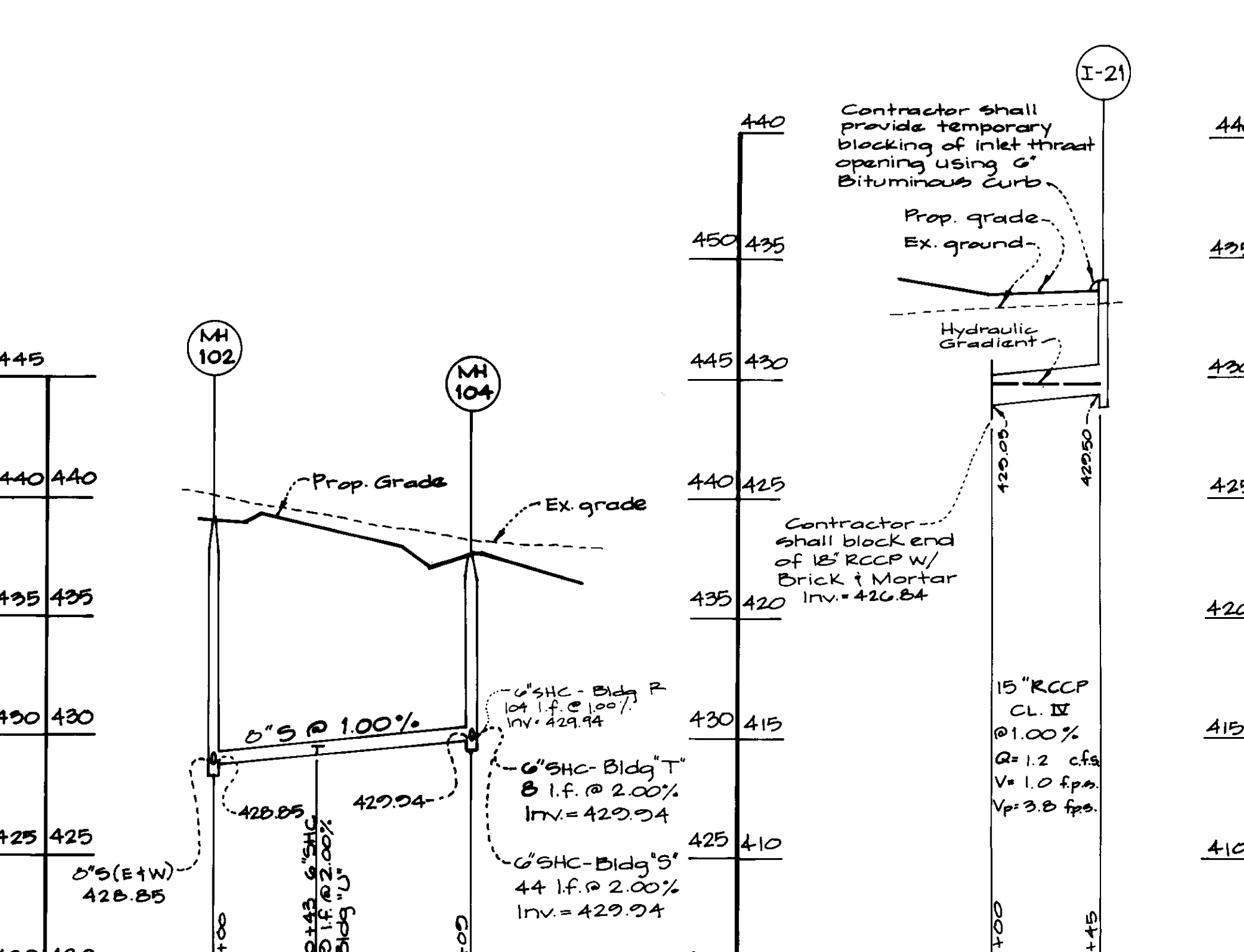
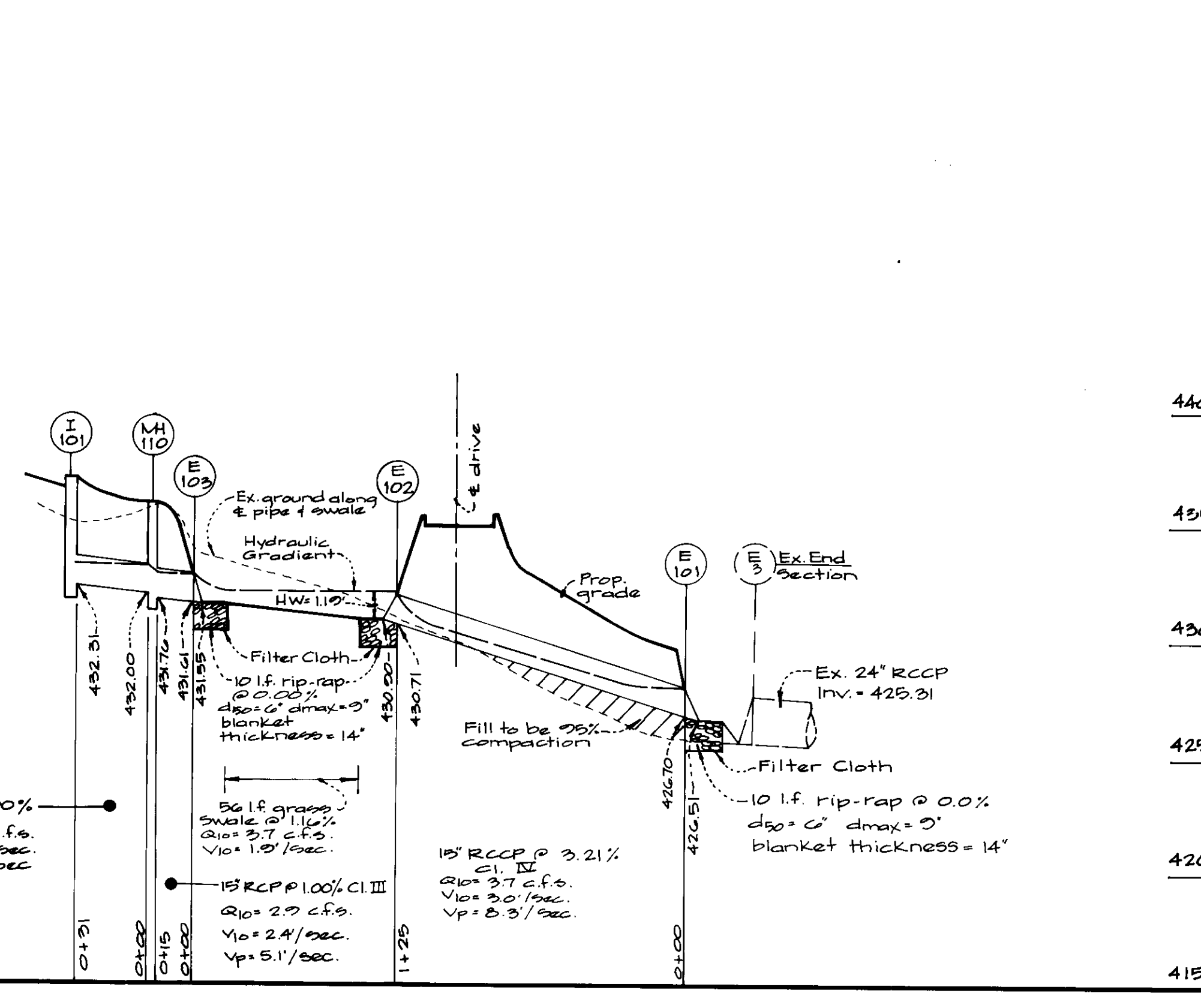
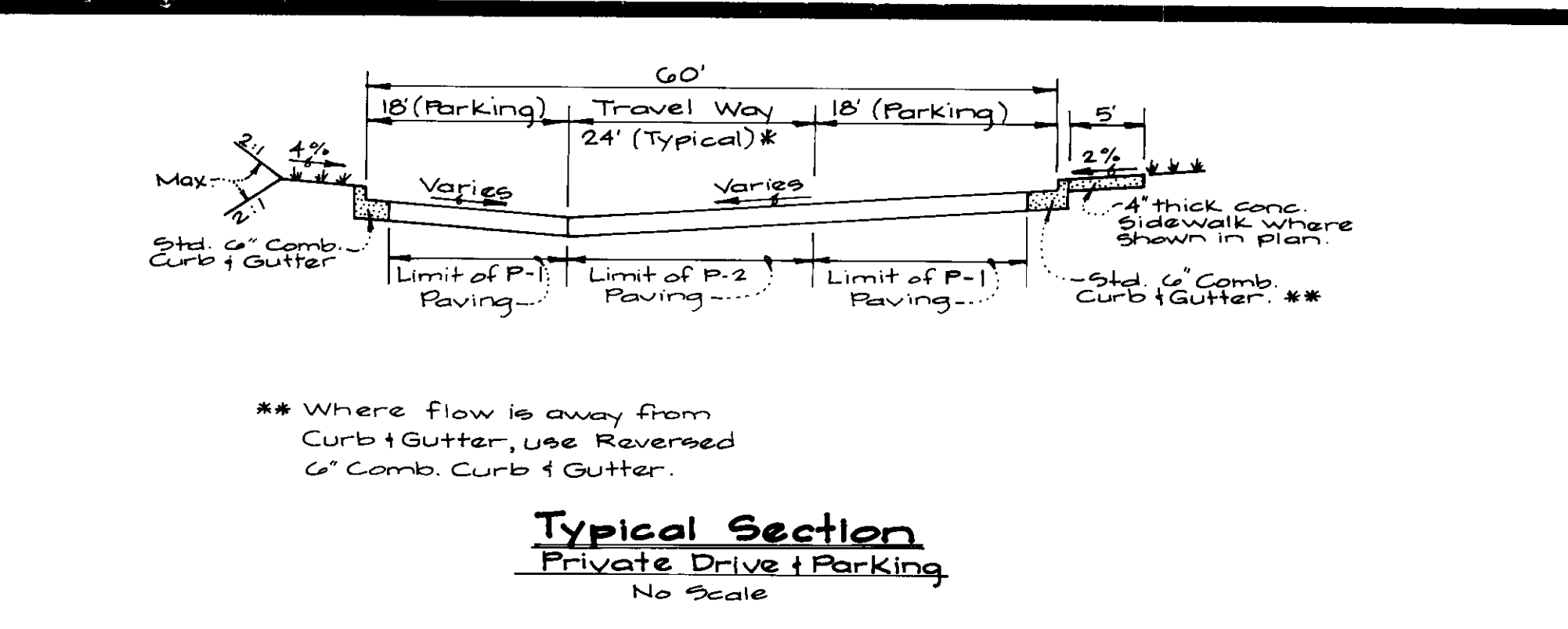
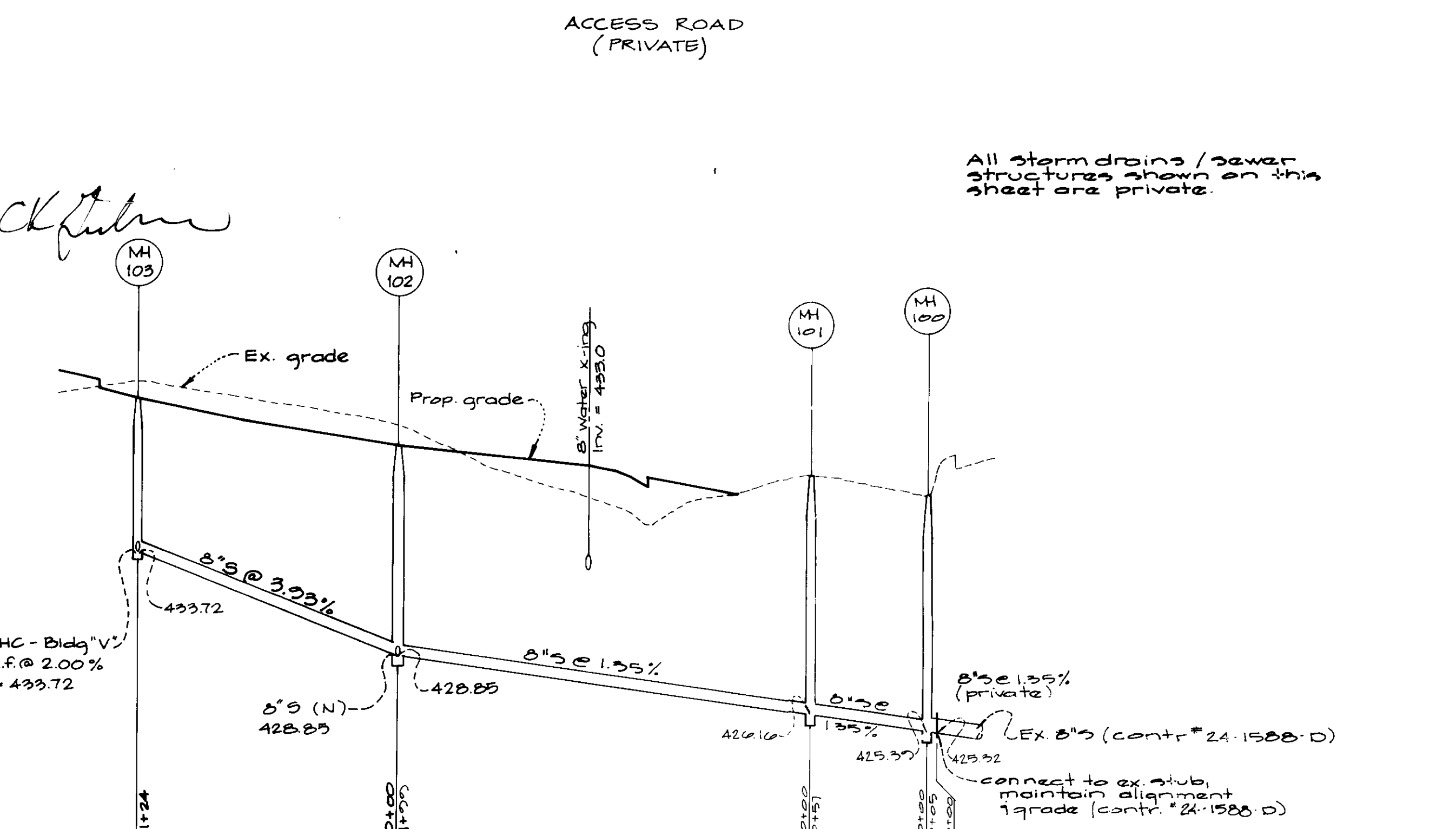
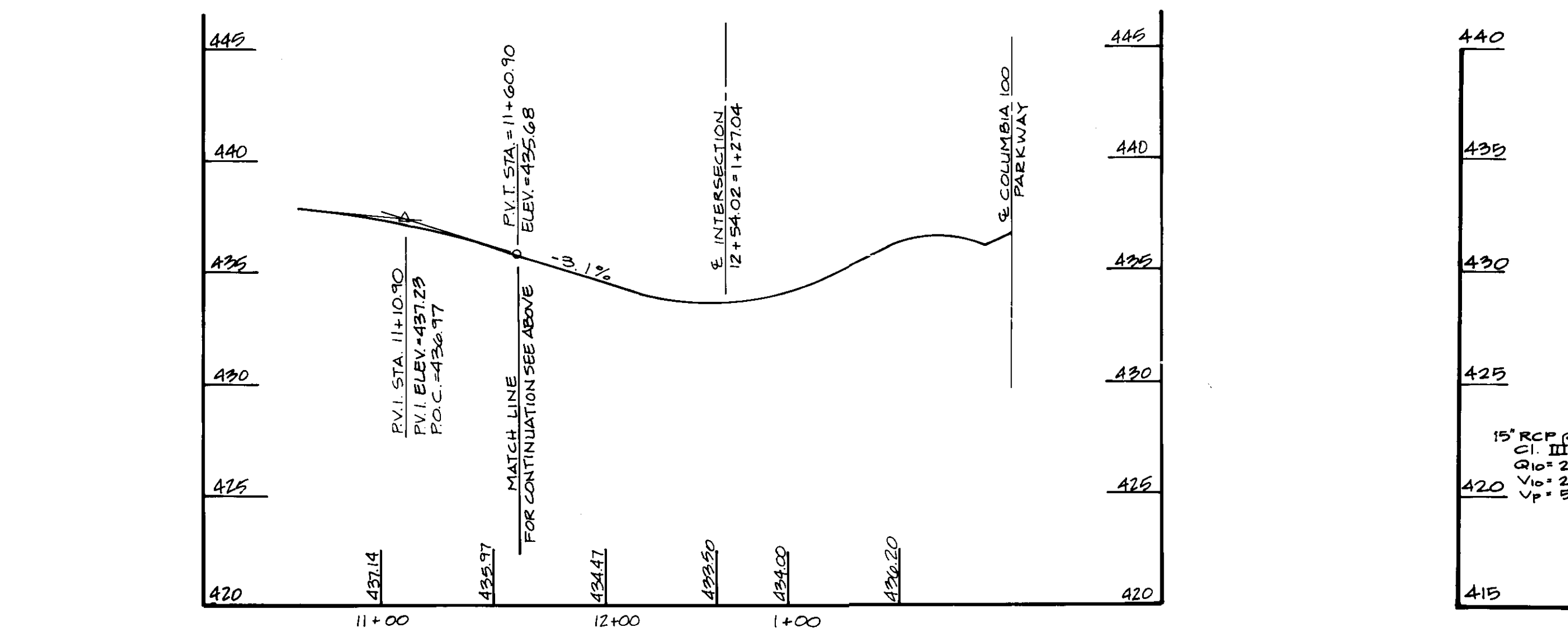
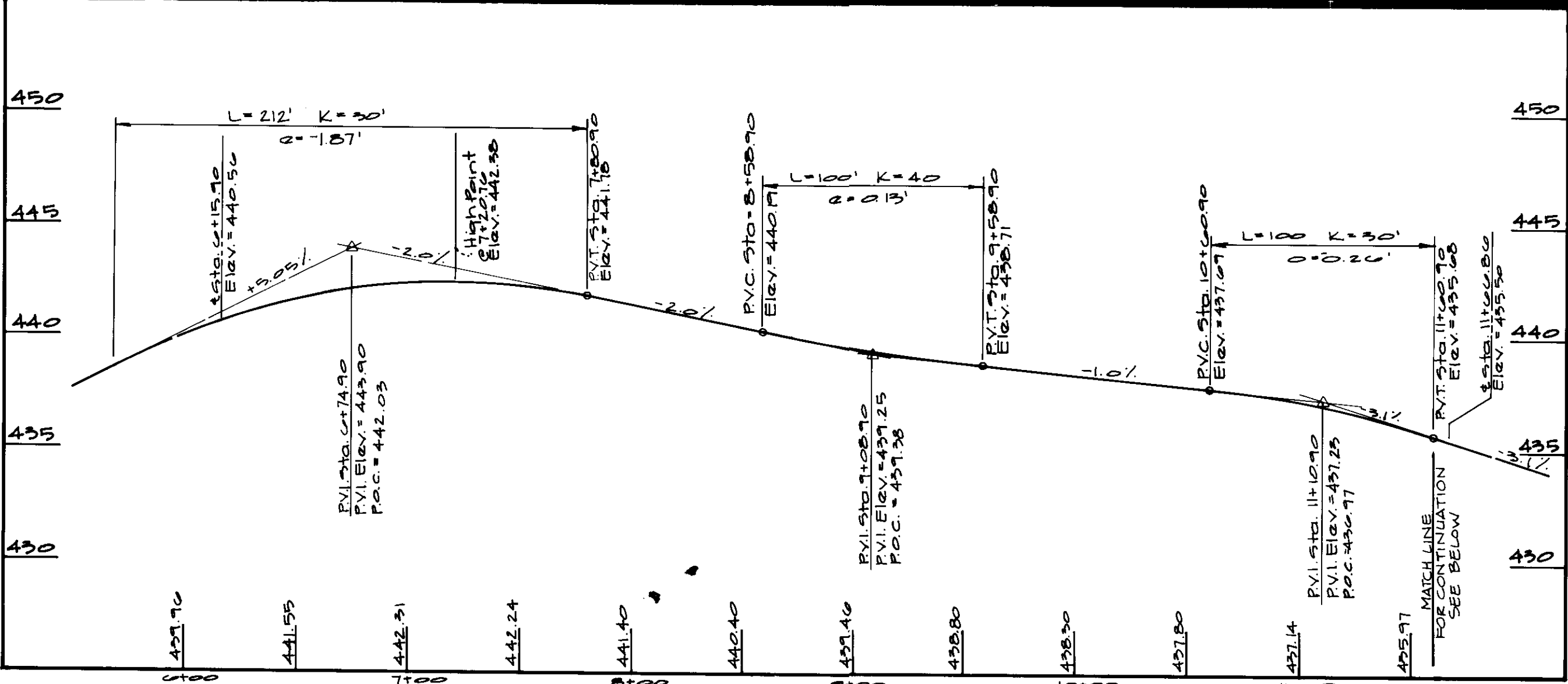
Approved for public water & public sewerage systems: Howard County Health Dept.
 N/A
 County Health Officer Date

Approved: Howard County Department of Planning & Zoning
Signature **8/1/94**
 Director Date

Approved: Howard County Department of Land Development & Research
Signature **8/1/94**
 Chief, Division of Land Development & Research Date

Approved for public water & public sewerage storm drainage systems and private roads: Howard County Dept. of Public Works
Signature **7/12/94**
 Director Date

GW GUTSCHICK LITTLE & WEBER, P.A.
 CIVIL ENGINEERS, SURVEYORS, PLANNERS, LANDSCAPE ARCHITECTS
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 TELEPHONE (301)421-4024 NO. VA. (301)989-2524 BALTO. (301)880-1820 FAX (301)421-4186



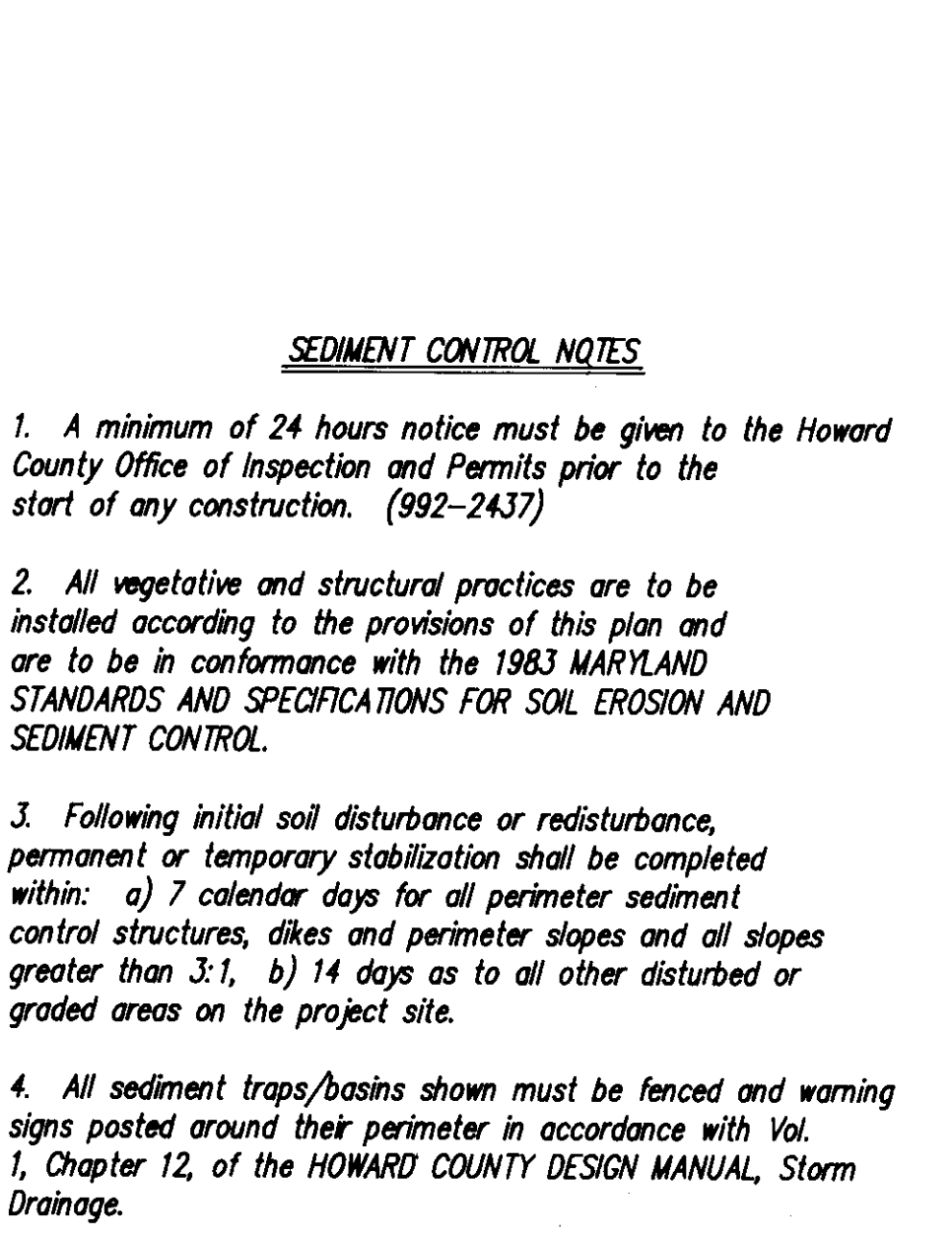
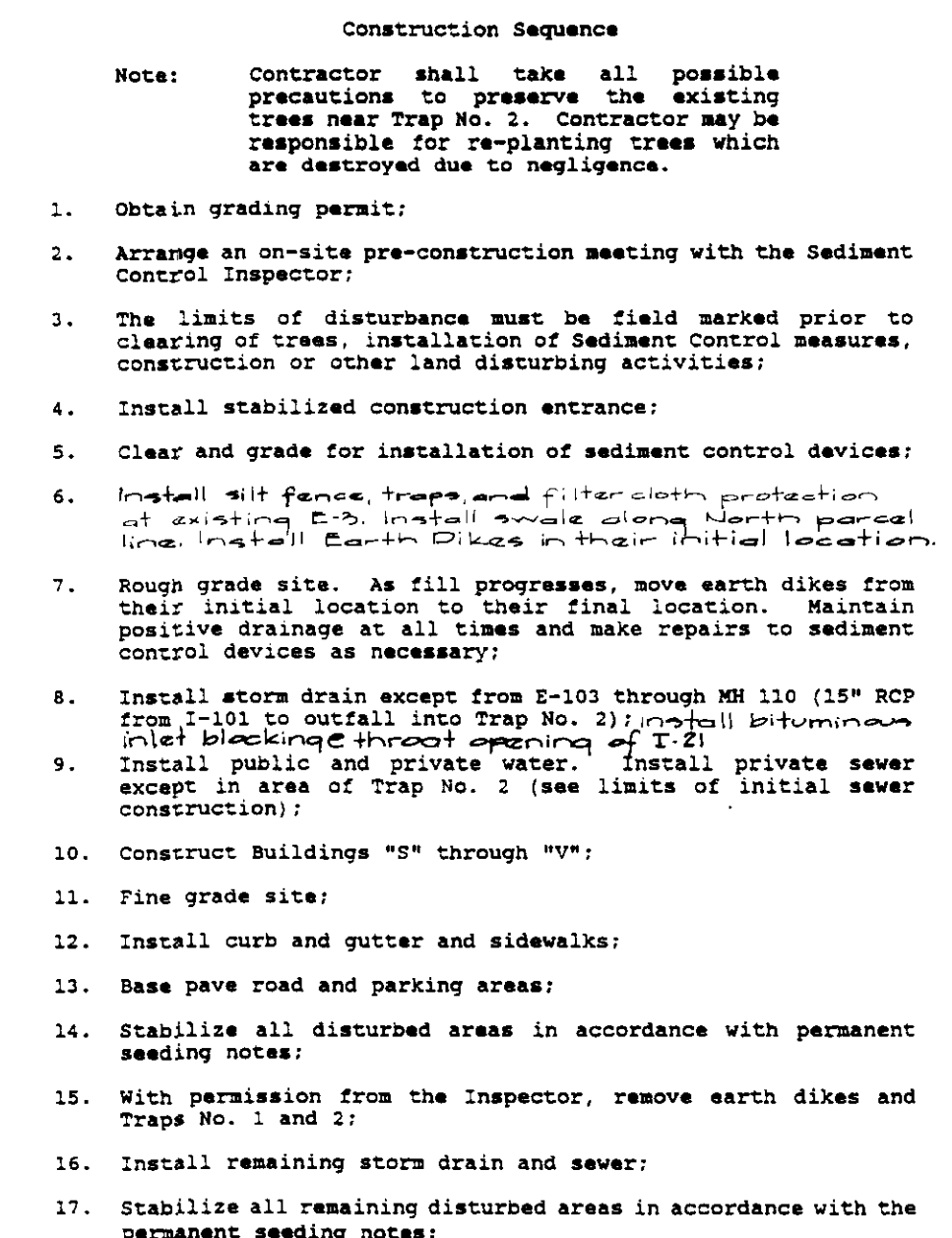
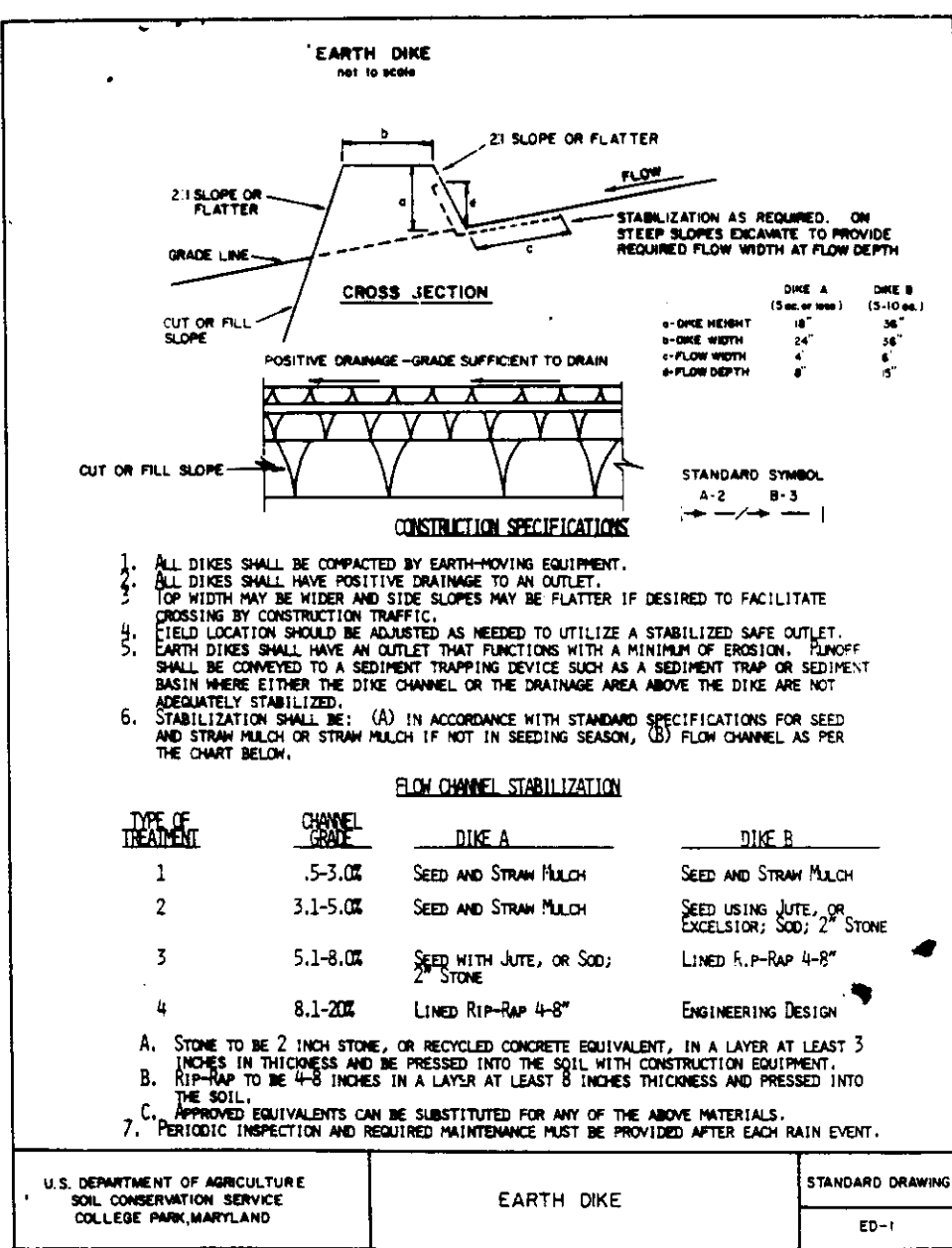
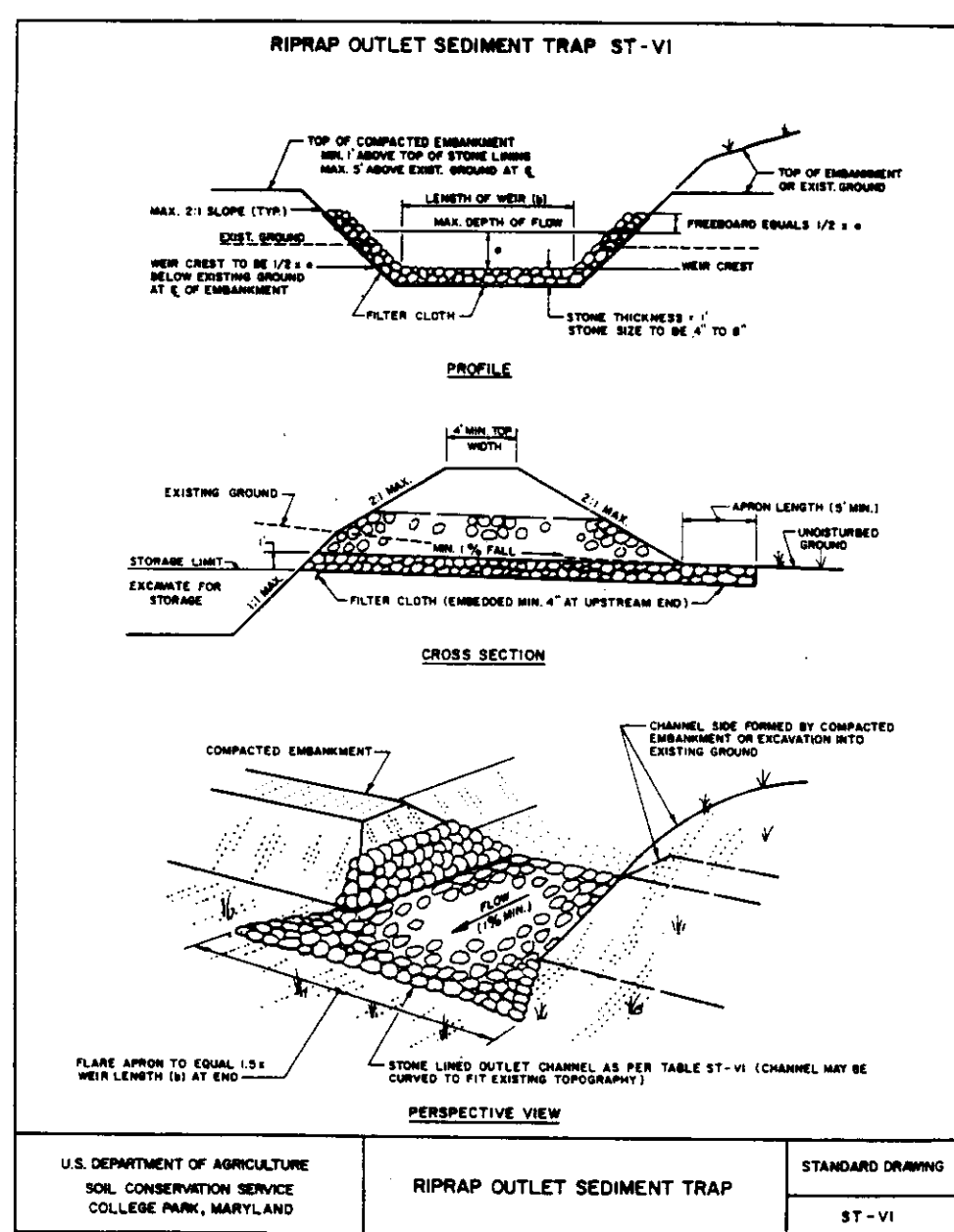
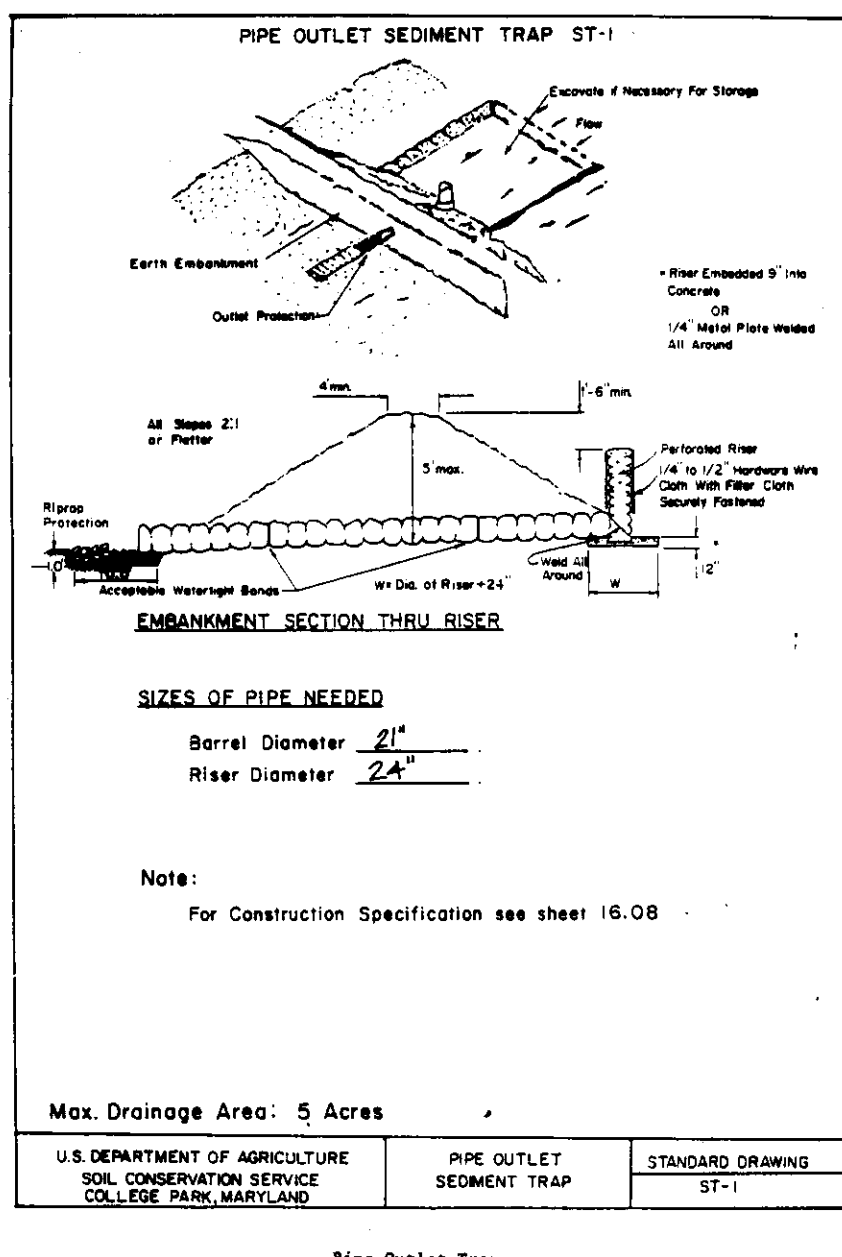
PREPARED FOR:
 Howard County Housing Comm.
 10450 Hickory Ridge Rd
 Box #4
 Columbia, Maryland 21044
 (410) 313-0110

DESIGNED BY: **DES.**
 SCALE: **AS SHOWN**
 ZONING: **R/A-15**
 G.L.W. FILE NO.: **93-062**

DRN. BY: **DRN.**
 DATE: **NOV 15, 1993**
 TAX MAP NO.: **30**
 SHEET: **5 of 6**

CHK. BY: **CHK.**

Columbia 100 Office Research Park
 Section 1 Area 2 Parcel 2-2
 Orchard Crossing
 SFA Units
 2nd Election District
 Howard County, Maryland



CONSTRUCTION SPECIFICATION FOR ST-VI

- Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- Volume of sediment storage shall be 1800 cubic feet per acre of contributory drainage.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repairs made as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and area stabilized when the drainage area has been properly stabilized.
- All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
- All pipe connections shall be watertight.
- The top 2/3 of the riser shall be perforated with one (1) inch diameter holes or slots spaced six (6) inches vertically and horizontally and placed in the concrete portion of pipe. No holes will be allowed within six (6) inches of the horizontal barrel.
- The riser shall be wrapped with 1/4 to 1/2 inch hardware cloth wire then wrapped with filter cloth having an equivalent sieve size of 40 - 80. The filter cloth shall extend six (6) inches above the highest hole and six (6) inches below the lowest hole. Where ends of filter cloth come together, they must be overlapped, folded and stapled to prevent bypass.
- Staples or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.
- Fill material around the pipe spillway shall be hand compacted in four (4) inch layers. A minimum of two (2) feet of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.
- The riser shall be anchored with either a concrete base or steel plate base to prevent flotation. For concrete bases the depth shall be 12 inches with the riser embedded six (6) inches. A 1/4 inch minimum thickness steel plate shall be attached to the riser by a continuous weld around the bottom to form a watertight connection and then place two (2) feet of stone, gravel, or compact earth on the plate.

CONSTRUCTION SPECIFICATION FOR ST-VI

- The area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed. Maximum height of embankment shall be five (5) feet, measured at conclusion of embankment.
- All fill slopes shall be 2:1 or flatter; cut slopes 1:1 or flatter.
- Elevation of the top of any dike directing water into trap must equal or exceed the height of embankment.
- Storage area provided shall be figured by computing the volume available behind the outlet channel up to an elevation of one (1) foot below the level weir crest.
- Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Sections of fabric must overlap at least one (1) foot with section nearest the entrance placed on top. Fabric shall be embedded at least six (6) inches into existing ground at entrance of outlet channel.
- Stone used in the outlet channel shall be four (4) to eight (8) inches (riprap). To provide a filtering effect, a layer of filter cloth shall be embedded one (1) foot back into the upstream face of the outlet stone or a one (1) foot thick layer of two (2) inch or finer aggregate shall be placed on the upstream face of the outlet.
- Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to 1/2 the design depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected after each rain and repairs as needed.
- Construction operations shall be carried out in such a manner that erosion and water pollution are minimized.
- The structure shall be removed and the area stabilized when the drainage area has been properly stabilized.
- The drainage area for this practice is limited to 1/2 Acre or less.

CONSTRUCTION SPECIFICATIONS

- Stone Size - Use 2" stone, or recycled concrete equivalent.
- Length - As required, but not less than 30 feet (except on a simple rest-dance rest where a 20 foot minimum length would apply).
- Thickness - Not less than six (6) inches.
- Width - The (18) foot minimum, but not less than the full width at points where ingress or egress occurs.
- Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a simple family residence site.
- Bottom Material - All surface water flowing or diverted toward construction entrances shall be placed across the entrance, if placed in a permanent, a minimum berm with 3:1 slopes will be permitted.
- Relationships - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public right-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanup of any measures used to stop sediment. All sediment spilled, dropped, washed or tracked onto public right-of-way must be cleaned immediately.
- Warning - Warning shall be placed to remove sediment prior to entrance onto public right-of-way, when washing is required. It shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
- Periodic inspection and needed maintenance shall be provided after each rain.

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

- NOVEL WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH TO BE FASTENED SECURELY TO NOVEL WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
- MINIMUM SECTION OF FILTER CLOTH SHALL COVER 10' MINIMUM AND OVERLAP LAPPED BY SIX INCHES AND FOLDED.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL SHOULD BE REPLACED AS NEEDED IN THE SILT FENCE.

DEVELOPER'S/BUILDER'S CERTIFICATE

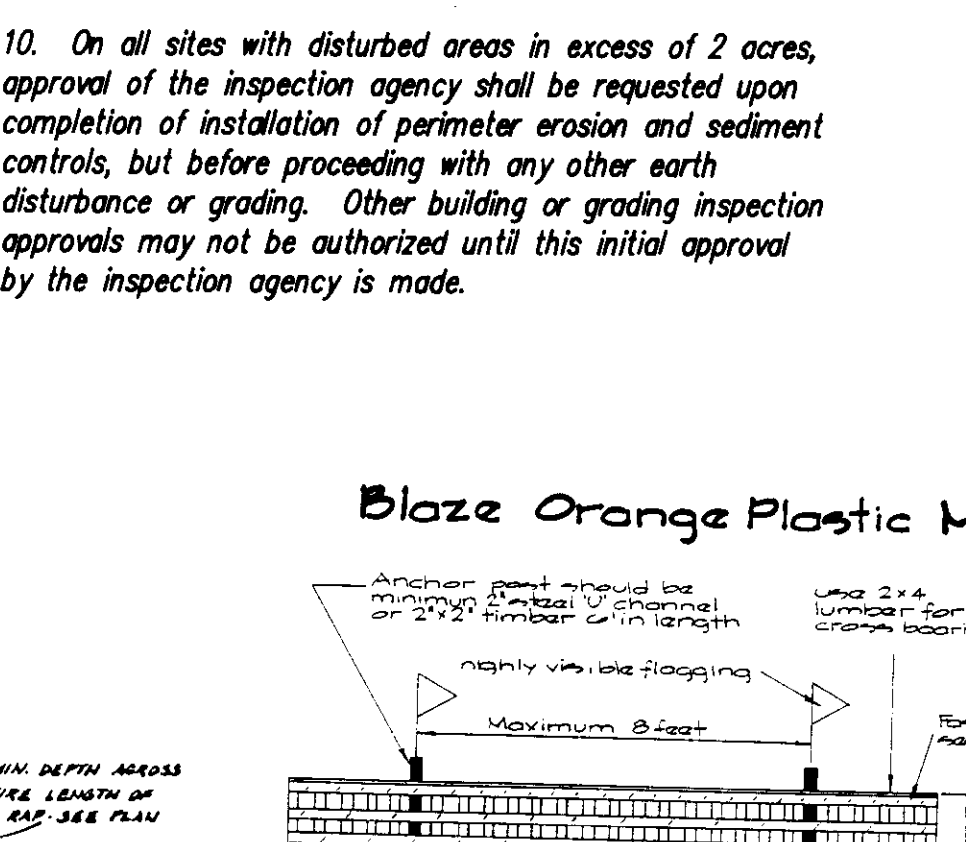
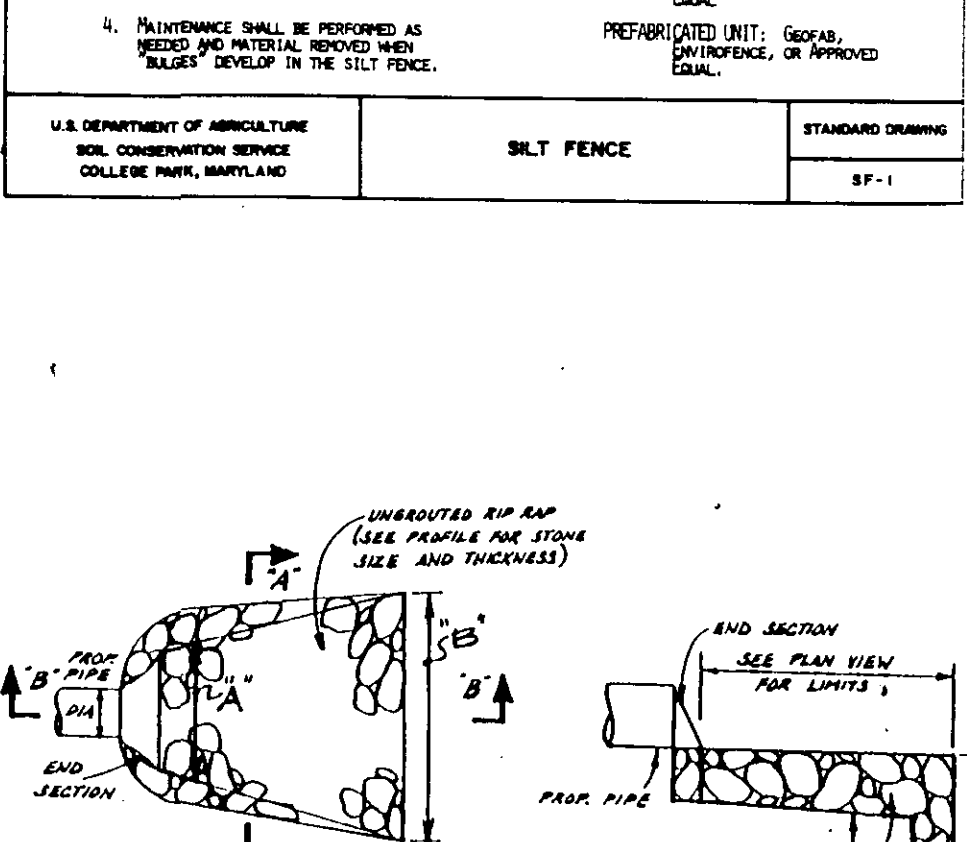
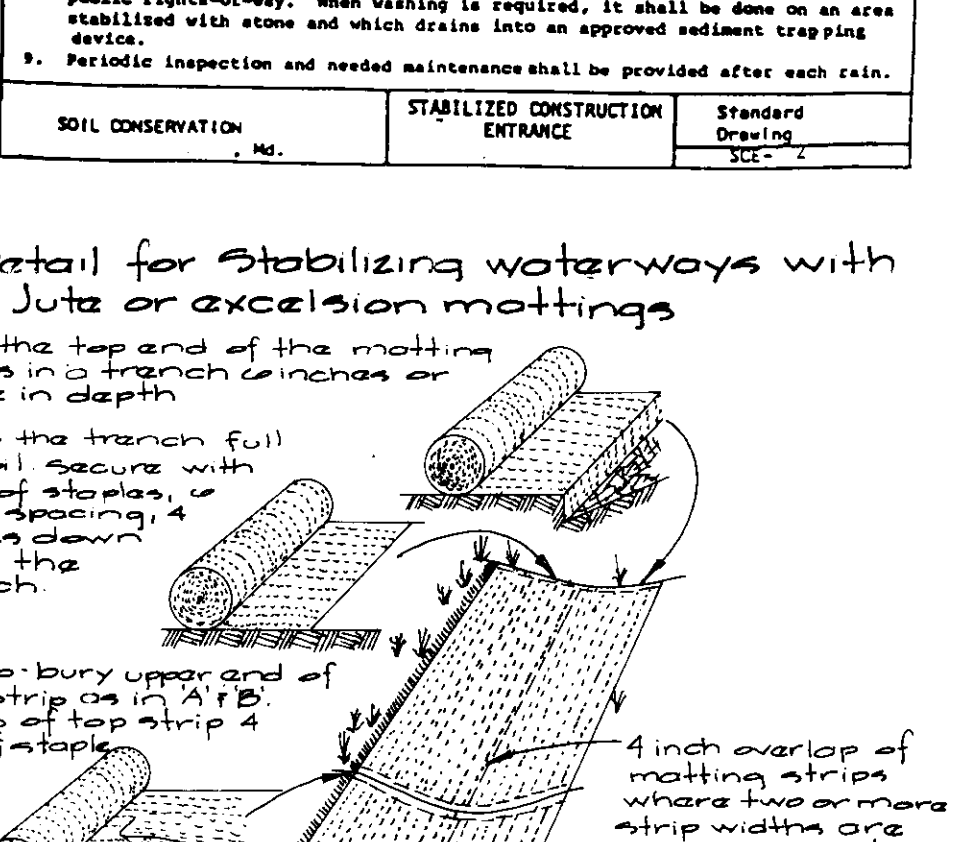
I/We certify that all development and/or construction will be done according to this plan, and that any responsible personnel involved in the construction project will have a Certificate of Attendance at a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic on-site inspection by the HSCD.

[Signature] 11-15-93 Date

ENGINEER'S CERTIFICATE

I certify that this plan for erosion and sediment control represents a practical and suitable 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] 11-15-93 Date



Approved For public water & public sewerage systems
Howard County Health Department
Date

Approved Howard County Department of Planning
Date

Approved For public water & public sewerage storm drainage systems and public roads
Howard County Dept. of Public Works
Date

Approved For public water & public sewerage storm drainage systems and public roads
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Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
ENGINEERS, PLANNERS, SURVEYORS
3908 NATIONAL DRIVE SUITE 250 BURTONSVILLE OFFICE PARK BURTONSVILLE, MD 20866
TELEPHONE: (301) 421-4024

DES.	DRN.	CNK.	DATE	REVISION	BY	APPR.

PREPARED FOR:
Howard County Housing Commission
10050 Hickory Ridge Rd.
Box #4
Columbia, Maryland 21044
(410) 515-0116

Notes and Details
Columbia 100 Office Research Park
Section 1 Area 2, Parcel E-2
Orchard Crossing SPA Units
2nd Election District
Howard County, Maryland

SCALE	ZONING	G.L.W. FILE NO.
AS SHOWN	R/A-15	93062
DATE	TAX MAP NO.	SHEET
Nov. 1993	30	6 of 6

Construction Sequence

- Obtain grading permit.
- Arrange an on-site pre-construction meeting with the Sediment Control Inspector.
- The limits of disturbance must be field marked prior to clearing of trees. Installation of Sediment Control structures, construction of other land disturbing activities:
- Install stabilized construction entrance.
- Clear and grade for installation of sediment control devices.
- Install silt fence, traps and filter cloth protection at existing and proposed disturbed areas along North parcel line. Install Earth Dikes in their initial location.
- Rough grade site. As fill progresses, move earth dikes from their initial location to their final location. Maintain positive drainage at all times and make repairs to sediment control devices as necessary.
- Install storm drain except from E-103 through MH 110 (15" RCP from E-101 to outfall into Trap No. 2). Install storm drain from E-103 through MH 110 (15" RCP from E-101 to outfall into Trap No. 2). Install storm drain from E-103 through MH 110 (15" RCP from E-101 to outfall into Trap No. 2). Install storm drain from E-103 through MH 110 (15" RCP from E-101 to outfall into Trap No. 2).
- Install public and private water. Install private sewer except in area of Trap No. 2 (see limits of private sewer construction).
- Construct Buildings "S" through "V".
- Fine grade site.
- Install curb and gutter and sidewalks.
- Base pave road and parking areas.
- Stabilize all disturbed areas in accordance with permanent seeding notes.
- With permission from the Inspector, remove earth dikes and Traps No. 1 and 2.
- Install remaining storm drain and sewer.
- Stabilize all remaining disturbed areas in accordance with the permanent seeding notes.
- With permission of Inspector remove all remaining sediment control devices and install surface paving to road and parking areas.
- Inlet blocking at I-21 will be removed upon completion of installation of riprap at I-21 under approval of the Inspector.

SEDIMENT CONTROL NOTES

- A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (992-2437)
- All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1. b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51), sod (Sec. 54), temporary seedings (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.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:
Total Area of Site: 2.05 Acres
Area Disturbed: 2.7 Acres
Area to be roofed or paved: 0.55 Acres
Area to be vegetatively stabilized: 2.05 Acres
Total Cut: 172 Cu. Yds.
Total Fill: 172 Cu. Yds.
Off-Site waste/borrow area location
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

- Preferred - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).
- Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

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

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

Seeding: For periods March 1 thru April 30 and from August 15 thru November 15, seed with 2-1/2 bushel per acre of annual ryegrass (3.2 lbs/1000 sq ft). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/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/1000 sq ft) of rotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for rate and methods not covered.