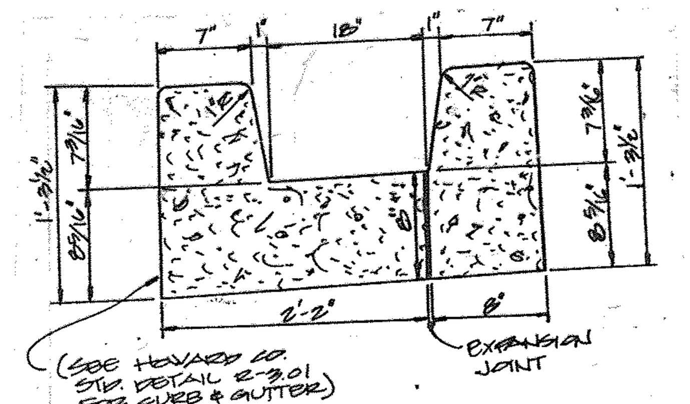
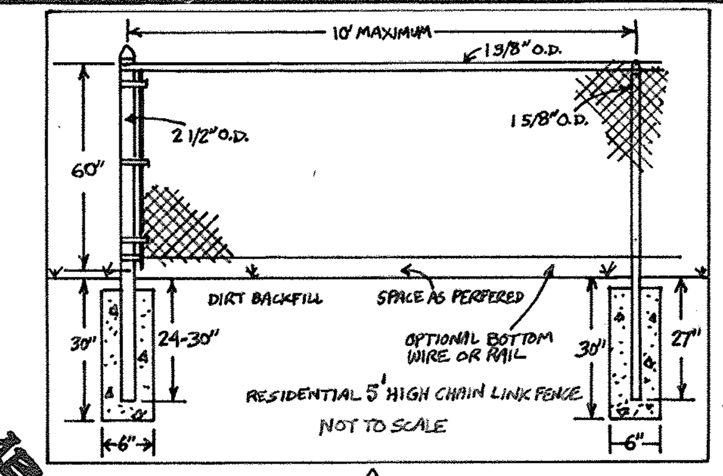


CURB OPENING DETAIL
NOT TO SCALE



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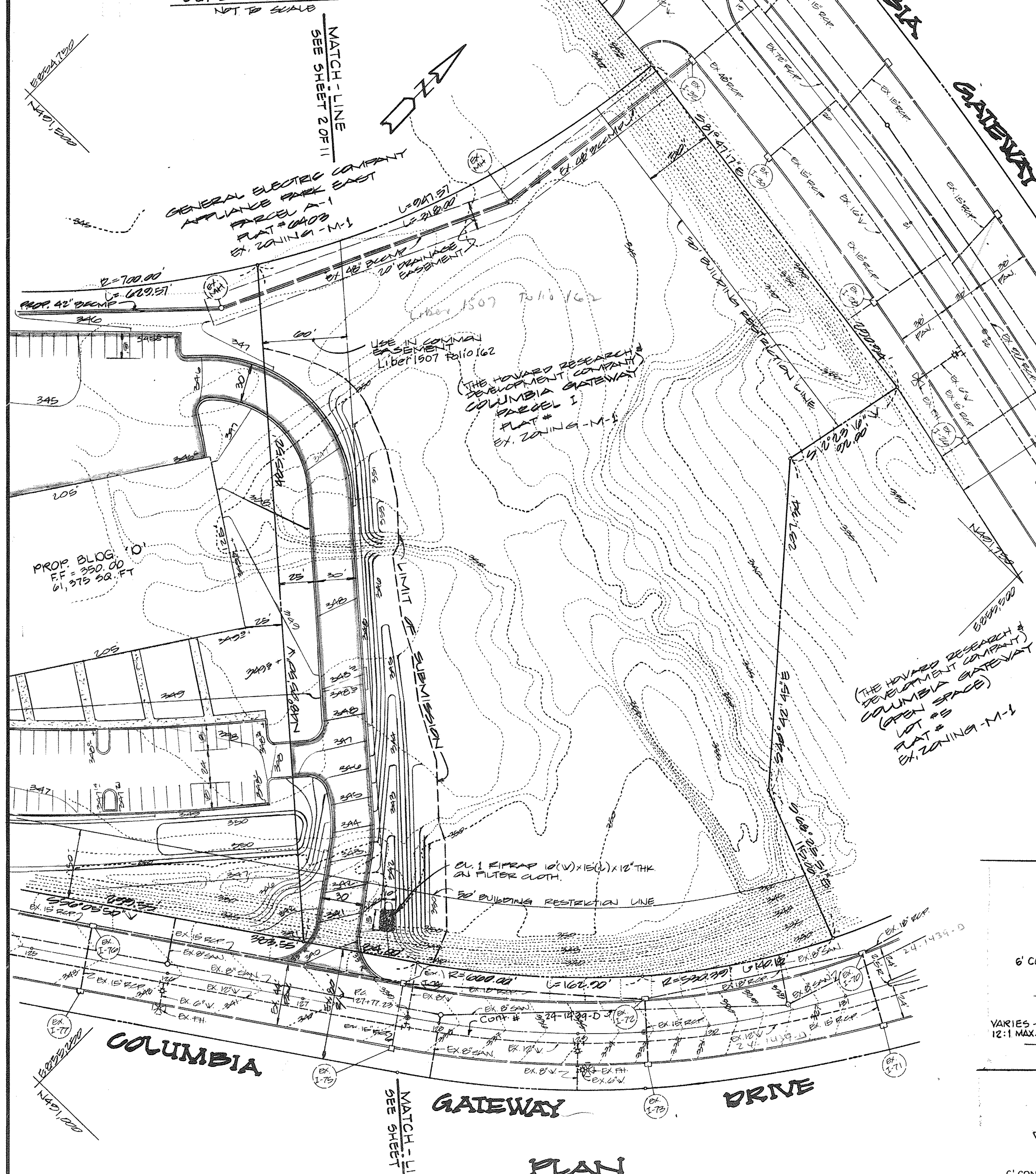


PLAN
SCALE: 1"=50'

SITE DATA

Total Area of Site = 908,300 s.f./20.852 Ac. ±
Existing Zoning = M-1
Property Reference =
Existing Use = Vacant
Proposed Use = Office/Warehouse - Research & Development
Total Floor Area = 202,933 S.F.
Parking Required = 622 p.s.
Parking Provided = 644 p.s.
Floor Area Ration = 4.60 Ac. ±/20.85 Ac. ± = 22.06%
% Open Space = 7.75 Ac. ±/20.85 Ac. ± = 37.17%
% Building Coverage w/Paving = 13.1 Ac. ±/20.85 Ac. ± = 62.83%
Area to be Disturbed = 21.33 Ac. ± / 929,135 s.f. ±
Area to be Vegetatively Stabilized = 7.75 Ac. ± / 337,590 s.f. ±
Area of Submission = 947,300 s.f. ± / 21.75 Ac. ±

Building	DAYCARE	Office	Warehouse	Total
A	△1	31,363 s.f.	16,887 s.f.	48,250 s.f.
B		21,125 s.f.	11,375 s.f.	32,500 s.f.
C		22,734 s.f.	12,241 s.f.	34,975 s.f.
△1 D	8,935 s.f.	30,959 SF (~~39,894 s.f.~~)	21,481 s.f.	61,375 s.f.
E		12,916.5 s.f.	0	12,916.5 s.f.
F		12,916.5 s.f.	0	12,916.5 s.f.

Total Area of Parking Lot = 260,375 s.f. ± = 5.98 Ac. ±
Total Area of Landscaped Islands = 26,400 s.f. ± = 0.61 Ac. ±
Percentage of Landscaped Islands & Parking Lots = 10.2%

PARKING TABULATION

Parking Required:

Building "A" - Office = 31,363 s.f. - 157 emp. @ 7ps/10 emp. = 110 p.s.
Warehouse = 16,887 s.f. @ 1 ps/500 s.f. = 34 p.s. - Employees = 9
Total Parking Spaces Required for Building "A" = 144 p.s.

Building "B" - Office = 21,125 s.f. - 106 emp. @ 7 ps/10 emp. = 75 p.s.
Warehouse = 11,375 s.f. @ 1 ps/500 s.f. = 23 p.s. - Employees = 6
Total Parking Spaces Required for Building "B" = 98 p.s.

Building "C" - Office - 22,734 s.f. - 114 emp. @ 7 ps/10 emp. = 80 p.s.
Warehouse = 12,241 s.f. @ 1 ps/500 s.f. = 25 p.s. - Employees = 7
Total Parking Spaces Required for Building "C" = 105 p.s. △1

Building "D" - Office - 30,959 @ 3.3 SPACES/1,000 SF = 103 SPACES ~~39,894 s.f. - 200 emp. @ 7 ps/10 emp. = 140 p.s.~~ DAYCARE (SUITE A): 8,935 SF @ 3 PARKING SPACES/1,000 SF = 27 SPACES.
Warehouse - 21,481 s.f. @ 1 ps/500 s.f. = 43 p.s. - Employees = 11
Total Parking Spaces Required for Building "D" = ~~183~~ 173 p.s. △1

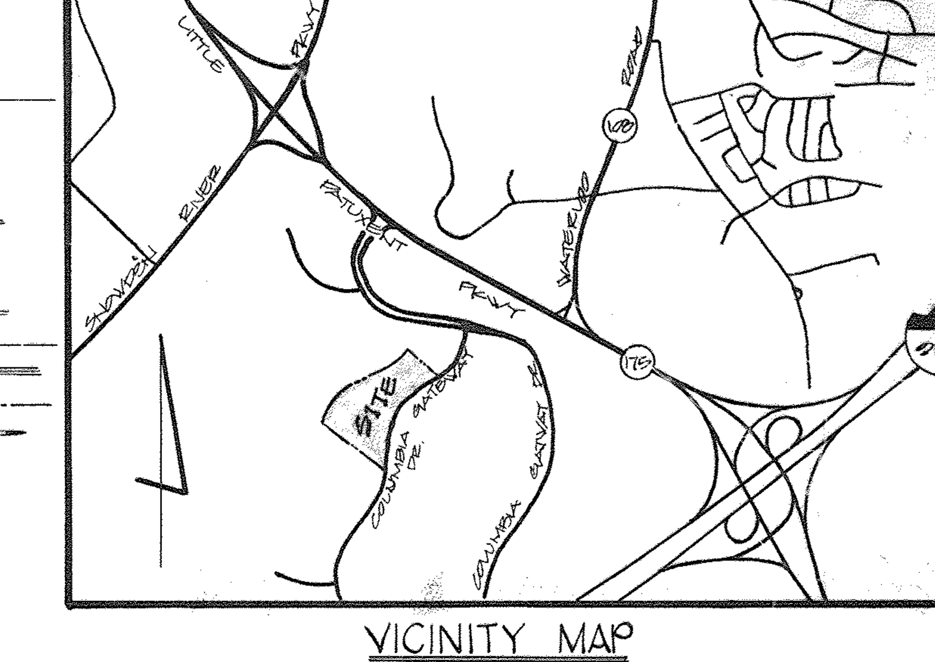
Building "E" - Office - 12,916.5 s.f. - 65 emp. @ 7 ps/10 emp. = 46 p.s.
Total Parking Spaces Required for Building "E" = 46 p.s.

Building "F" - Office - 12,916.5 s.f. - 65 emp. @ 7 ps/10 emp. = 46 p.s.
Total Parking Spaces Required for Building "F" = 46 p.s.

Total Parking Spaces Required = ~~622~~ 612 △1
Total Parking Spaces Provided = 644 (including 16 spaces for the handicapped)

LEGEND

- PROPERTY LINE
- BUILDING RESTRICTION LINE
- EASEMENT
- EXISTING GROUND (347)
- PROPOSED GRADE (348)
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- EXISTING WATER
- PROPOSED WATER
- EXISTING STORM DRAIN
- PROPOSED STORM DRAIN
- EXISTING SEWER
- PROPOSED SEWER
- PROPOSED HANDICAPPED PARKING
- PROPOSED LIGHTS
- Nº PARKING SPACES (9)
- PROP. CONCRETE DUMPSTER PADS ⊠



VICINITY MAP
SCALE: 1" = 2,000'

BENCH MARKS

W.R. & A.B.M. #3 ELEV. 328.26
TOP BOLT @ TOP OF OLD LIGHT POST FOOT, 143' OF ℄ COLUMBIA GATEWAY DRIVE STA. 11+50

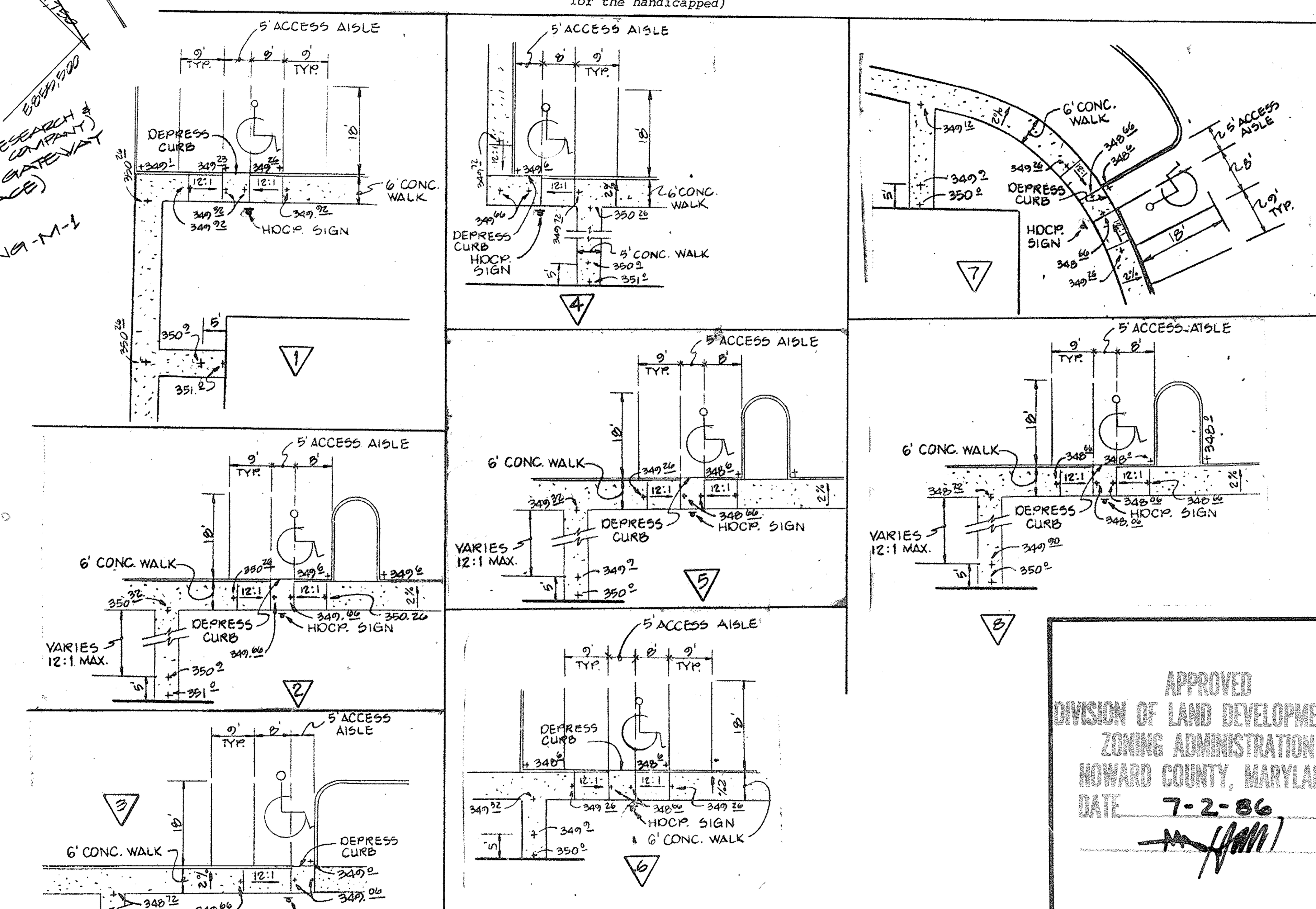
W.R. & A.B.M. #4 ELEV. 330.10
RR SPIKE IN BASE OF 14" OAK, 33' RIGHT OF ℄ COLUMBIA GATEWAY DRIVE. STA. 24+55

(Seal: STATE OF MARYLAND — ZACHARIAH YOREKNOW — 22416 — PROFESSIONAL ENGINEER)
Zachariah Y. Fisch
FOR REV 1 DATED 7/22/16

△1 18. THE AREA DISTURBED FOR INSTALLATION OF THE ADA WOODEN RAMP IN THE REAR OF SUITE A WILL RESULT IN DISTURBANCE OF APPROX. 200 SF.

GENERAL NOTES

1. Maximum building height = 50'.
2. All areas not being paved or receiving building coverage shall be stabilized in accordance with the plans approved by Howard Soil Conservation District.
3. Any damage to public rights-of-way and/or adjacent properties shall be repaired immediately at the contractor's expense.
4. The contractor shall maintain at least a 2" level bench behind all curb and gutter in fill areas.
5. The contractor shall verify all existing utilities to his own satisfaction before starting construction.
6. All slopes shall be 2:1 or flatter.
7. All work shall be done in accordance with Howard County Standard Specifications and Details for Construction, or as shown on these plans.
8. The contractor shall notify the C&P Telephone Co. and the Gas and Electric Company five days prior to starting work shown on these plans by calling "Miss Utility". Call collect 1-559-0100.
9. For details of ramps and signs for the handicapped see the Maryland Building Code for the Handicapped and Aged and as shown hereon. See Sheet of .
10. The contractor shall maintain a minimum of 4' cover over all proposed water lines.
11. All rip-rap shall be placed on filter cloth.
12. The contractor or developer shall contact the Construction Inspection/Survey Division, 24 hours in advance of commencement of work at 992-2417 or 792-7272.
13. The contractor shall remove all existing paving, curb and gutter, etc. that may interfere with proposed construction.
14. All utilities installed shall receive full trench compaction.
15. All water main tees, bends, caps, etc. shall be buttressed in accordance with Howard County Design requirements.
16. All sidewalks will be 6' wide (see architectural plans for details).
17. The owner shall proved 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 this waste is regulated under Section 18.122A of the Howard County Code. 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 requirements shall apply to all initial and future occupants or tenants.



HANDICAPPED RAMP DETAILS
SCALE: 1"=20'

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
James M. ... 8-6-86
U.S. SOIL CONSERVATION SERVICE — DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Ziehm — HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Acting — DIRECTOR — 8-18-86 DATE
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-13-86 DATE
CHIEF BUREAU OF ENGINEERING — 8-13-86 DATE

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

ADDRESS CHART

BUILDING #	STREET ADDRESS
A	7151 COLUMBIA GATEWAY DRIVE
B	7155 COLUMBIA GATEWAY DRIVE
C	7161 COLUMBIA GATEWAY DRIVE
D	7175 COLUMBIA GATEWAY DRIVE
E	7171 COLUMBIA GATEWAY DRIVE
F	7165 COLUMBIA GATEWAY DRIVE

SUBDIVISION NAME: COLUMBIA GATEWAY			SECT./AREA —		LOT/PARCEL # PARCEL 'J'
PLAT # OR L/F 6773	BLOCK # 1	ZONE M-1	TAX/ZONE MAP 43	ELECT. DIST. 6	CENSUS TRACT 6065.02
WATER CODE E06			SEWER CODE 3390000		

△1	REVISION 7-22-16	SUITE A CHANGE OF USE FROM OFFICE TO DAY CARE, ADD PLAY AREA, AND REARRANGE PARKING SPOTS.

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENT A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
Tapobrata Chakraborty 8930 4/16/86
ENGINEER TAPOBRATA CHAKRABARTI REG. NO. — DATE

OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033
CONTRACT PURCHASER
M.O.R. XXXVIII PARTNERSHIP
c/o MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

DEVELOPER'S CERTIFICATE:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
DEVELOPER: JOSEPH H. NECKER JR. — ASST. V.P. — DATE:

DESIGNED: DB / K.B.
DRAWN: DB / K.B.
CHECKED: TC
REVISIONS:

SITE AND STORM WATER MANAGEMENT PLAN
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY
PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — APRIL 9, 1986
F.N. 05453 — SHEET 1 OF 11

SDP # 86-231

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
U.S. SOIL CONSERVATION SERVICE — DATE 8-6-86

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: HOWARD SOIL CONSERVATION DISTRICT — DATE 8-6-86
SDP-86-231
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD CO. HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER — DATE 8-15-86

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Acting DIRECTOR — DATE 8-18-86
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE 8-8-86

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — DATE 8-11-86
CHIEF BUREAU OF ENGINEERING — DATE 8-13-86

FOR REV. 7 DATED 7/22/16

P-1 PAVING SECTION
HOWARD COUNTY STD. DETAIL R-2.01
NOT TO SCALE
SHOWN THUS:
- 1" BIT. CONC. SURFACE
- 2" BIT. CONC. BASE
- PRIME
- 5" CRUSHER RUN BASE COARSE OR 4" DENSE GRADE STABILIZED AGGREGATE BASE COARSE

P-3 PAVING SECTION
HOWARD COUNTY STD. DETAIL R-2.01
NOT TO SCALE
SHOWN THUS:
- 1½" BIT. CONC. SURFACE
- 4½" BIT. CONC. BASE
- PRIME
- 6" CRUSHER RUN BASE COURSE OR 4½" DENSE GRADED STABILIZED AGGREGATE BASE COURSE

FOR REVISION NO. 5
PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 1095, EXPIRATION DATE: 7/27/2016

For Rev 6
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 44289 Expiration Date: 8/08/2017

7 7-22-16 SUITE A CHANGE OF USE FROM OFFICE TO DAY CARE, ADD PLAY AREA AND REARRANGE PARKING SPOTS. 07-18-16 SWM 1
6 CUTFALL BARREL SLIPLINING * 9-28-2015 SURVEY
5 REV. 10/12/2015 - GENERATOR ENCLOSURE WALL EXTENDED 8'
4 REV. 5/26/00 - ADDED GENERATOR ENCLOSURE TO N.E. CORNER BLDG. 'D'

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENT A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
ENGINEER TAPOBRATA CHAKRABARTI REG. NO. 8935 — DATE 4/10/86

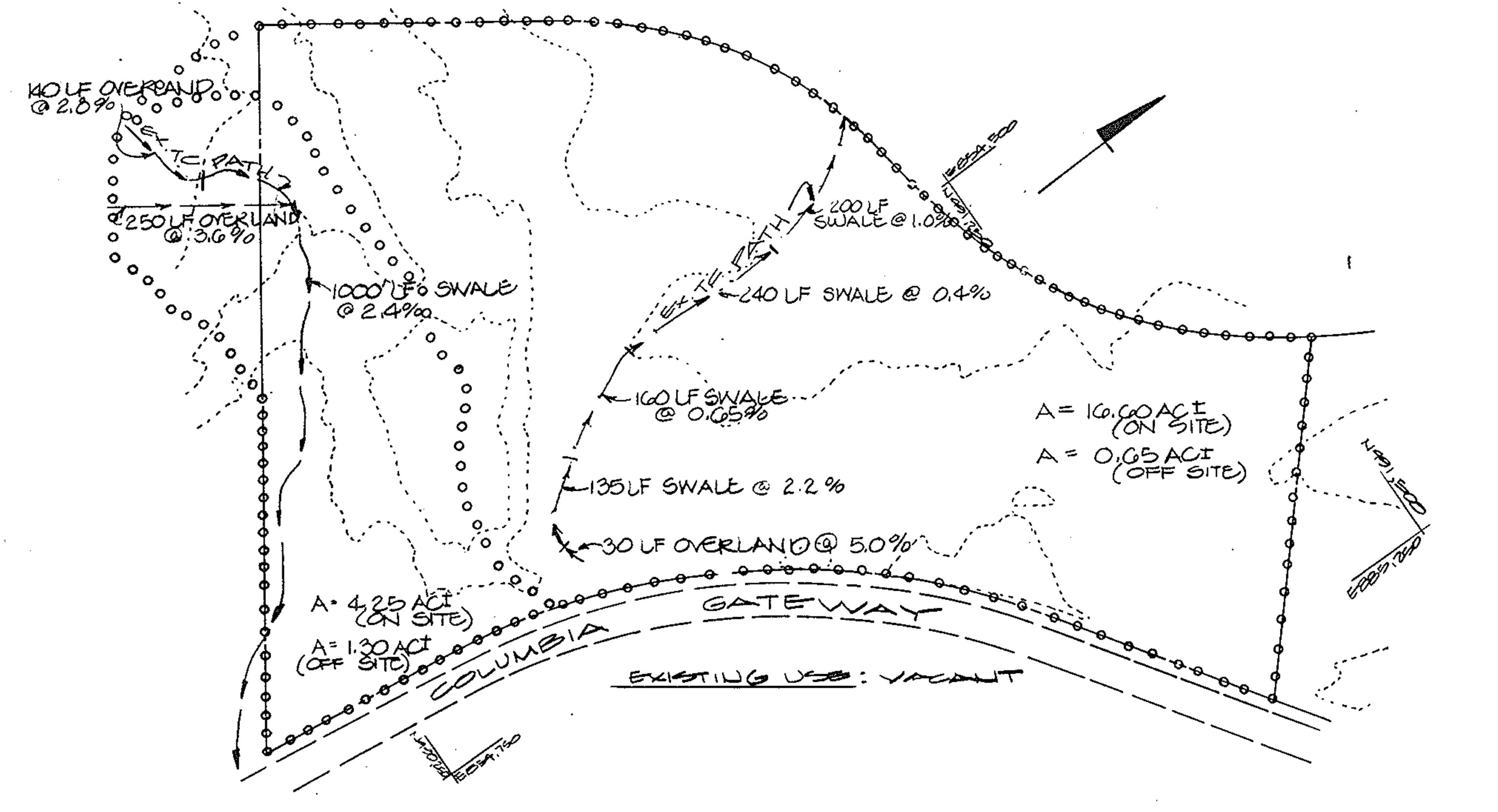
OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
(301) 992-6033
CONTRACT PURCHASER
M.O.R. XXXVIII PARTNERSHIP
c/o MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND 21046 (301) 995-1670

DEVELOPER'S CERTIFICATE:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
DEVELOPER: JOSEPH H. NECKER JR. ASST. V.P. DATE:

DESIGNED: D.B. / K.B.
DRAWN: D.B. / K.B.
CHECKED: T.C.
REVISIONS: 6/5/86 REVISED BLDG. DIMENSIONS ON BLDG 'E' & 'F'
2 REVISIONS: 07/23/88 RAMP ADDED TO BACK OF BUILDING A.
3 ADDED RAMPS BEHIND BLDG. 'D'. T.G.55

SITE AND STORM WATER MANAGEMENT PLAN
— for —
~~PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT~~ PARK
COLUMBIA GATEWAY
PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT # 6
SCALE: AS SHOWN — APRIL 9, 1986
F.N. 05453 — SHEET 2 OF 11

F.N. 05453
SDP # 86-231

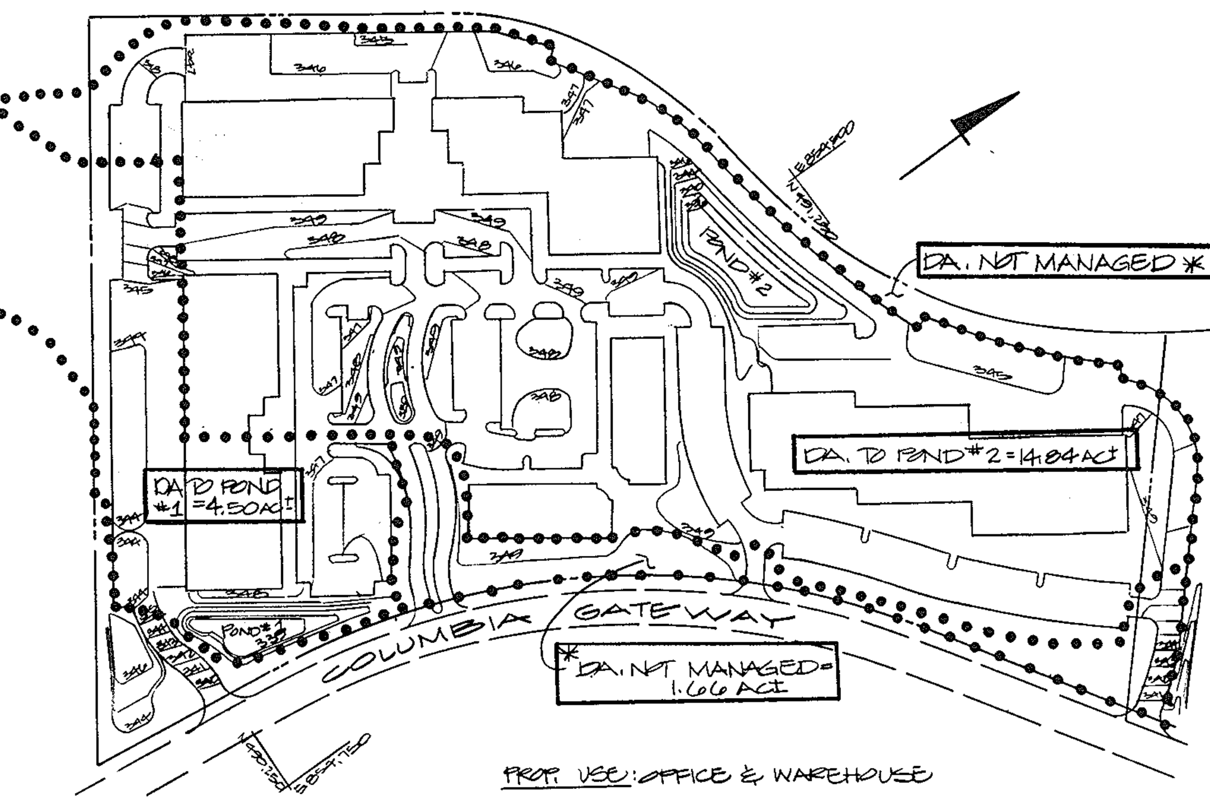


EXISTING SWM DRAINAGE AREA MAP

SCALE: 1" = 200'

TC PATH

EX. D.A.

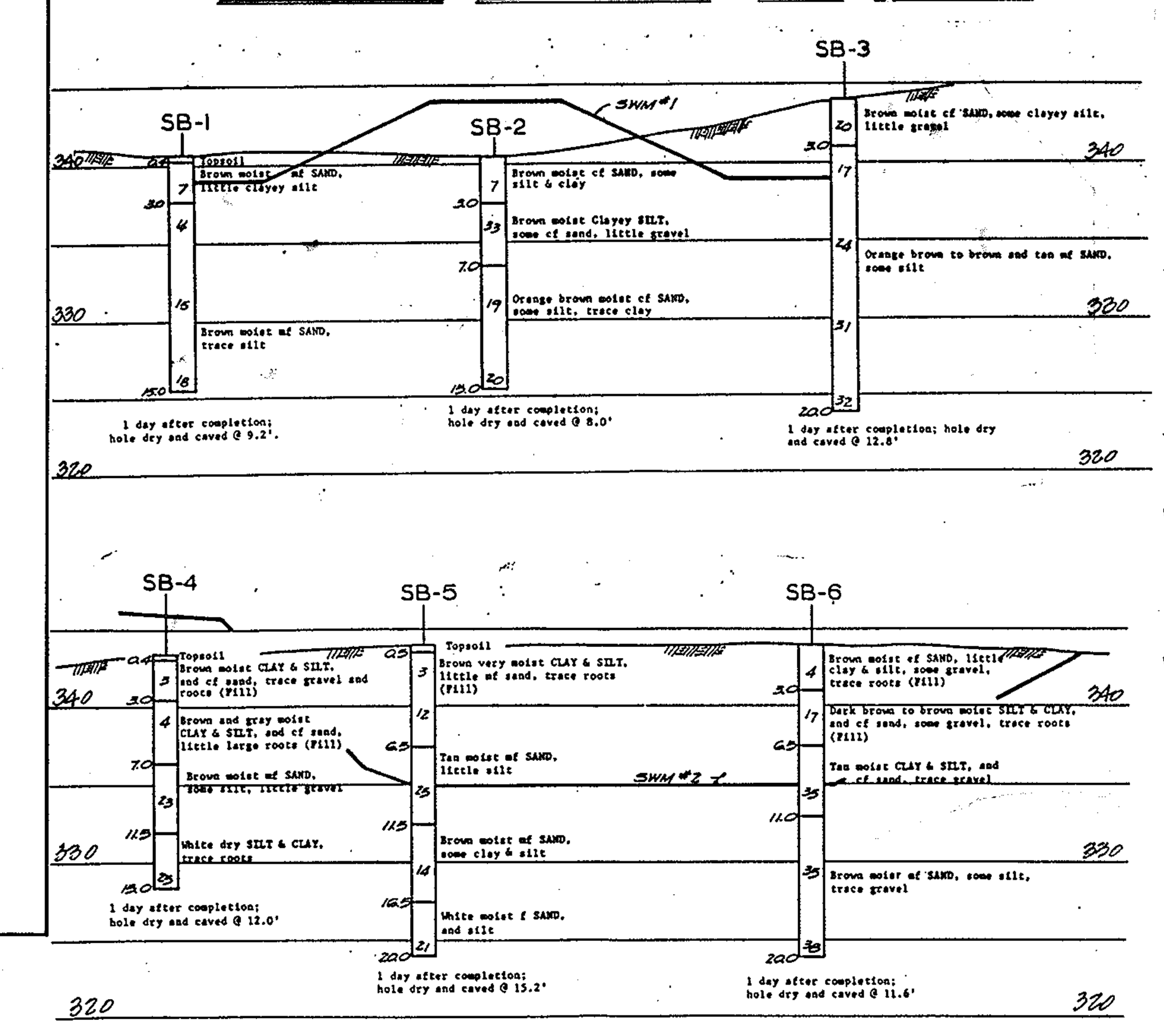


PROPOSED SWM DRAINAGE AREA MAP

SCALE: 1" = 200

PROP. D.A.

STORMWATER MANAGEMENT SOIL BORINGS



CONSTRUCTION SPECIFICATIONS

I. SITE PREPARATION
The fill area and borrow area shall be cleared and grubbed to remove all trees, vegetation, roots and other objectionable material. The topsoil from the embankment area and borrow area shall be removed and stockpiled. The topsoil shall be spread on the completed fill area.

II. EARTH FILL
A) FILL MATERIAL shall be obtained from on-site under the supervision of a soils engineer. It shall be free from roots, stumps, wood rubbish, oversized stones frozen or other objectionable material. Fill areas shall be constructed to the elevation shown on the plan to allow for anticipated settlement.
B) PLACEMENT: Areas on which fill will be placed shall be scarified prior to placement of fill. Fill materials shall be placed in layers 6" thick maximum (before compaction) and shall be continuous over the entire length of fill. The most porous material shall be placed in areas not adjacent to ponded water.
C) COMPACTION: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be compacted to the specified density. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used.
D) CORE TRENCH shall be made of SC or CL material compacted to 95% of A.A.S.H.T.O. T-99 density.

III STRUCTURAL BACKFILL
Backfill material shall be the type and quality specified for the adjoining fill material. The fill shall be placed in horizontal layers 4" thick maximum and compacted by hand tamping or manually directed power tampers or plate vibrators. At no time during backfilling operations shall driven equipment by allowed to operate any closer than four feet measured horizontally to any part of a structure. Under no circumstances shall the contractor drive equipment over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Materials shall fill completely all spaces under and adjacent to newly installed pipe.

IV. CONCRETE
Concrete shall meet the minimum requirements set forth in the Maryland State Highway Administration "Specifications for Construction and Materials" January 1982 Section 918.06 - "Portland Cement Concrete Mixtures", Mix No. 3 Reinforcing steel shall be A.S.T.M. A 615, Grade 60.

V. STABILIZATION
The storm water management facility will be stabilized with "Permanent Slope Seeding" as follows:
After spreading 4" topsoil seed with a mixture of 30% innoculated crown vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs./Ac., 10-20-20 fertilizer shall be applied at a rate of 25 lbs./1000 square feet, lime at a rate of 92 lbs./1000 square feet, mulch area with unweathered small grain straw at a rate of 1.5 T/Ac., anchor with rapid curing asphalt (R.C.-70, R.C.-250 or R.C.-800) at a rate of 0.2 Gal. S.Y.

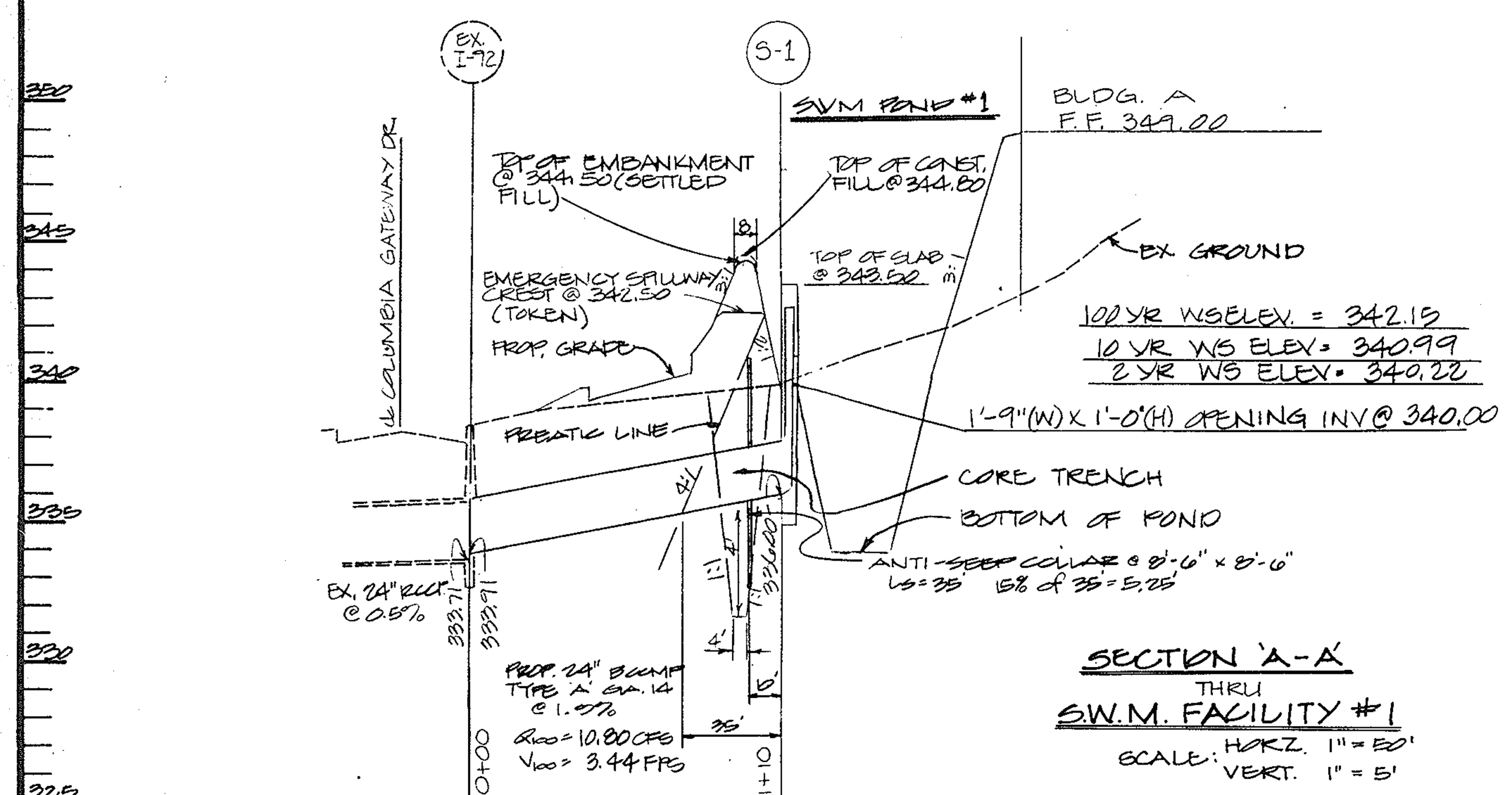
VI. PIPE CONDUITS
24" B.C.C.M.P. TYPE 'A', GA. 14 @ FACILITY #1
42" B.C.C.M.P. TYPE 'A', GA. 12 @ FACILITY #2

A. Corrugated Metal Pipe
1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-90 with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.
5. Backfilling shall conform to structural backfill as shown above.
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

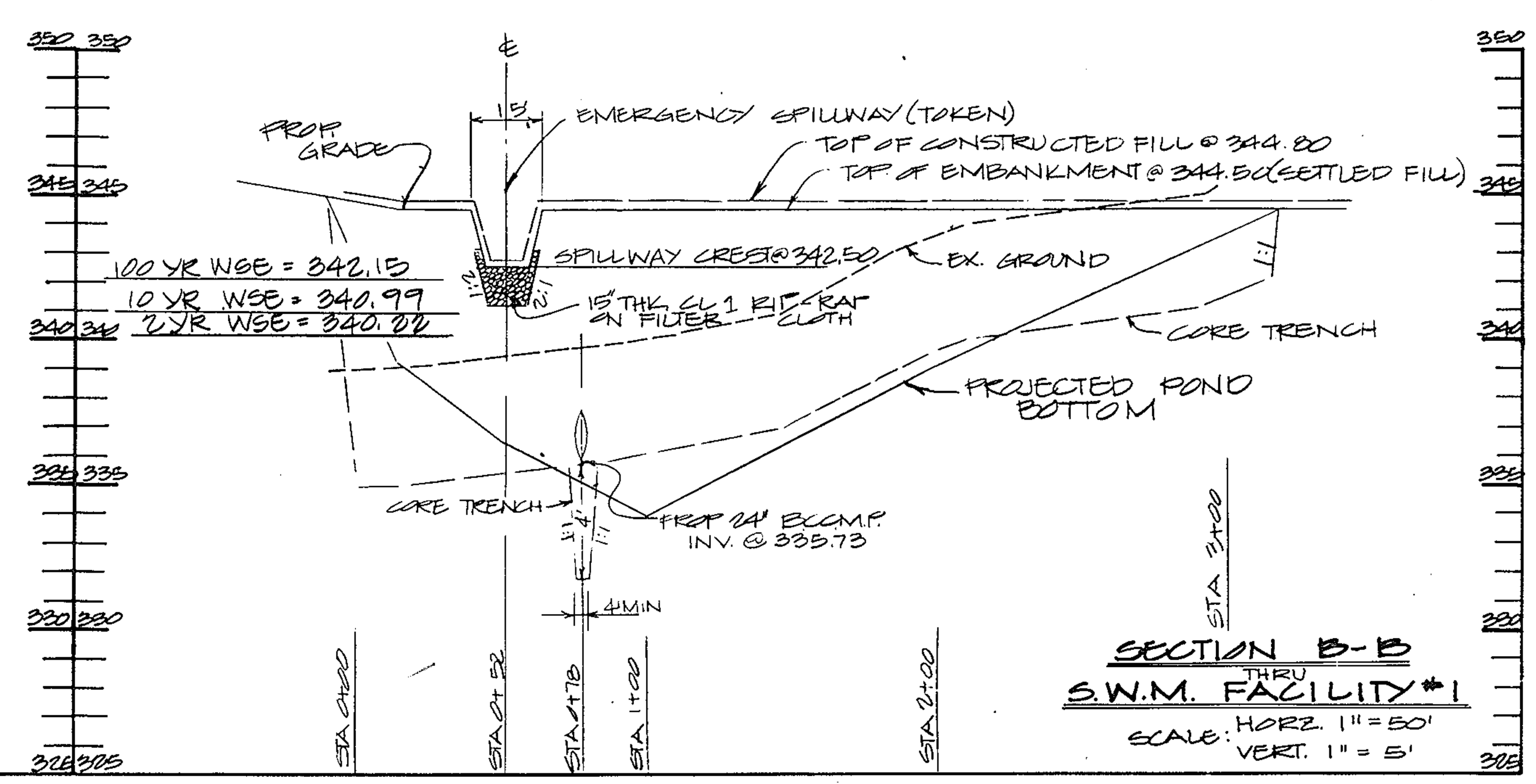
VII. FILTER CLOTH
MIRAFI 140S or equivalent shall be used.

VIII. SEDIMENT CONTROL
Construction to be in accordance with "1983 Maryland Standards and Specifications For Soil Erosion and Sediment Control". In release structure install dewatering device by connecting 25 L.F. of 12" perforated underdrain to the low flow pipe. The 12" underdrain shall be wrapped in filter cloth and covered with minimum 12" thick #2 stone.

NOTE: (SPECIFIED DENSITY)
SUITABLE MATERIAL SHALL BE USED FOR THE EMBANKMENT AND ROLLED TO A MINIMUM DEGREE OF COMPACTION OF 95% OF THE DRY UNIT WEIGHT AS DETERMINED BY A.A.S.H.T.O. T-99. CONSTRUCTION OF SWM POND SHALL BE PERFORMED UNDER STRICT SUPERVISION OF A SOILS ENGINEER.



SECTION 'A-A'
THRU
S.W.M. FACILITY #1
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



SECTION B-B
THRU
S.W.M. FACILITY #1
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'

STORMWATER MANAGEMENT
MAINTENANCE SCHEDULE

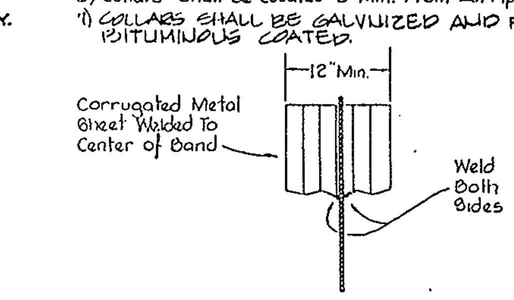
MAINTENANCE ITEM	1	2	3	4	5	6
MAINTENANCE FREQUENCY	8	7	8	8	7	8
REPAIR DURATION	9	10	9	9	10	9

1. CLEAN OUT SILT
2. CLEAN OUT TRASH
3. CHECK WEIR CLOGGING
4. CHECK SLOPE STABILATION
5. CUT GRASS
6. CHECK STRUCTURAL INTEGRITY
7. EVERY TWO WEEKS
8. EVERY THREE MONTHS
9. ONE WEEK MAXIMUM
10. TWO DAYS

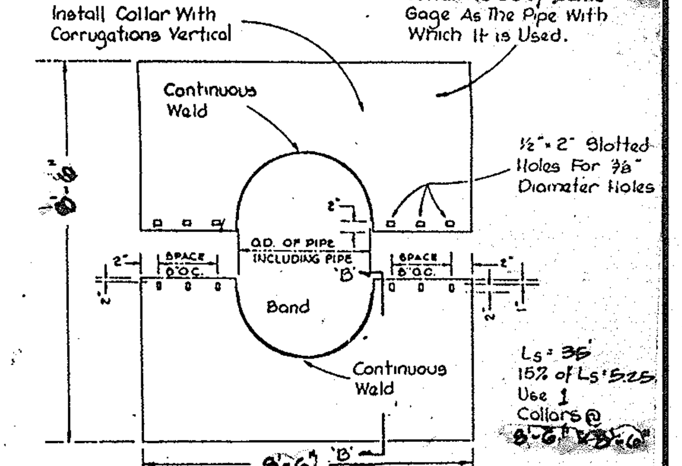
* ALL MAINTENANCE, INSPECTION AND REPAIR SHALL BE THE RESPONSIBILITY OF THE OWNER.

* INSPECT ALL ABOVE ITEMS AFTER EACH MAJOR RAINFALL AND REPAIR IF NECESSARY.

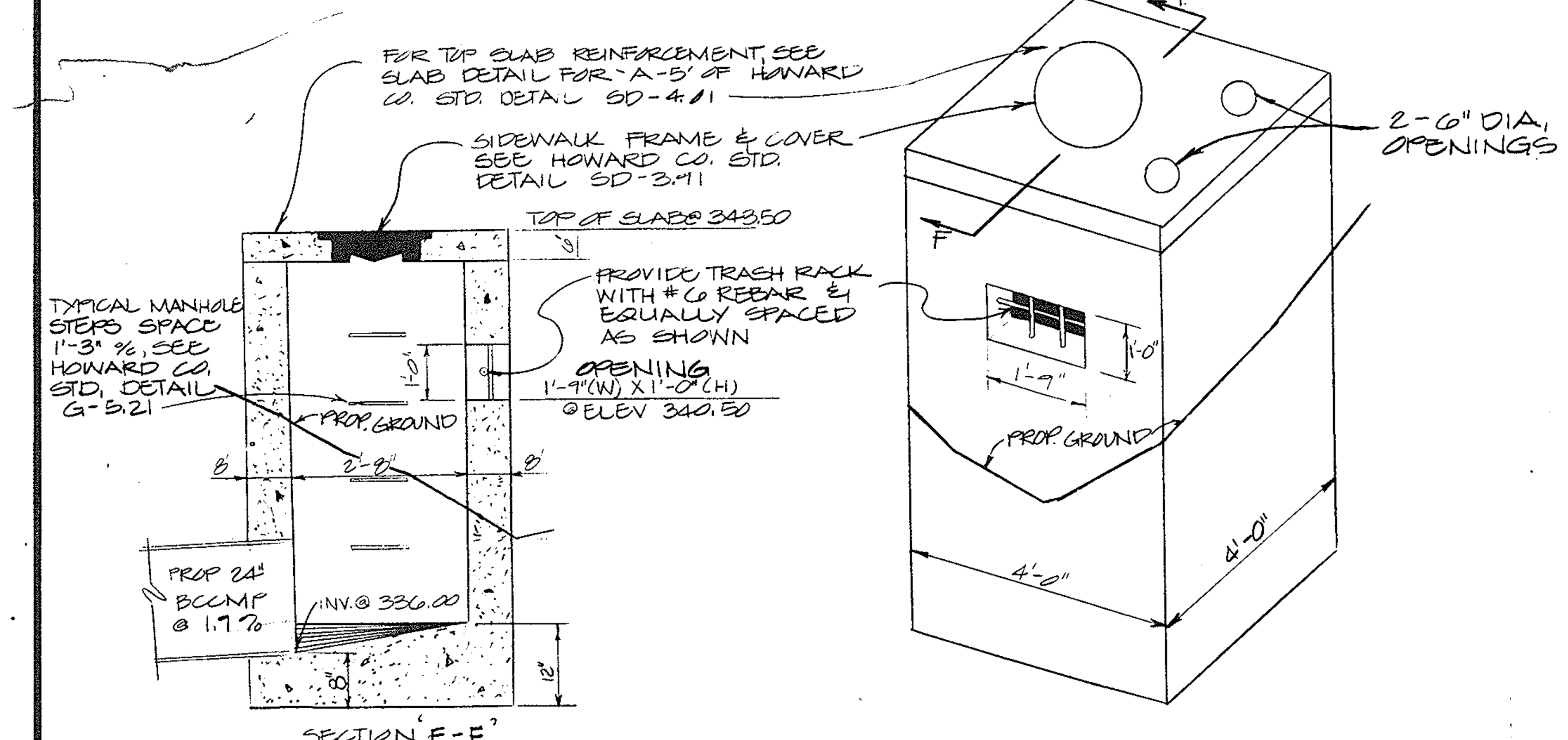
NOTES: ANTI-SEEP COLLARS
1) All Materials To Be in Accordance With Construction and Construction Material Specifications.
2) When Specified on The Plans, Coating of Collars Shall Be in Accordance With Construction and Construction Material Specifications.
3) Unassembled Collars Shall Be Marked By Painting or Tagging To Identify Matching Pairs.
4) The Lap Between The Two Half Sections And Between The Pipe And Connecting Band Shall Be Caulked With Asphalt Mastic At Time of Installation.
5) Each Collar Shall Be Furnished With Two 1/2" Diameter Rods With Standard Tank Lugs For Connecting Collars To Pipe.
6) Collars Shall Be Located 2' Min. From All Pipe Joints.
7) COLLARS SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED.



SECTION 'B'-'B'
NO SCALE



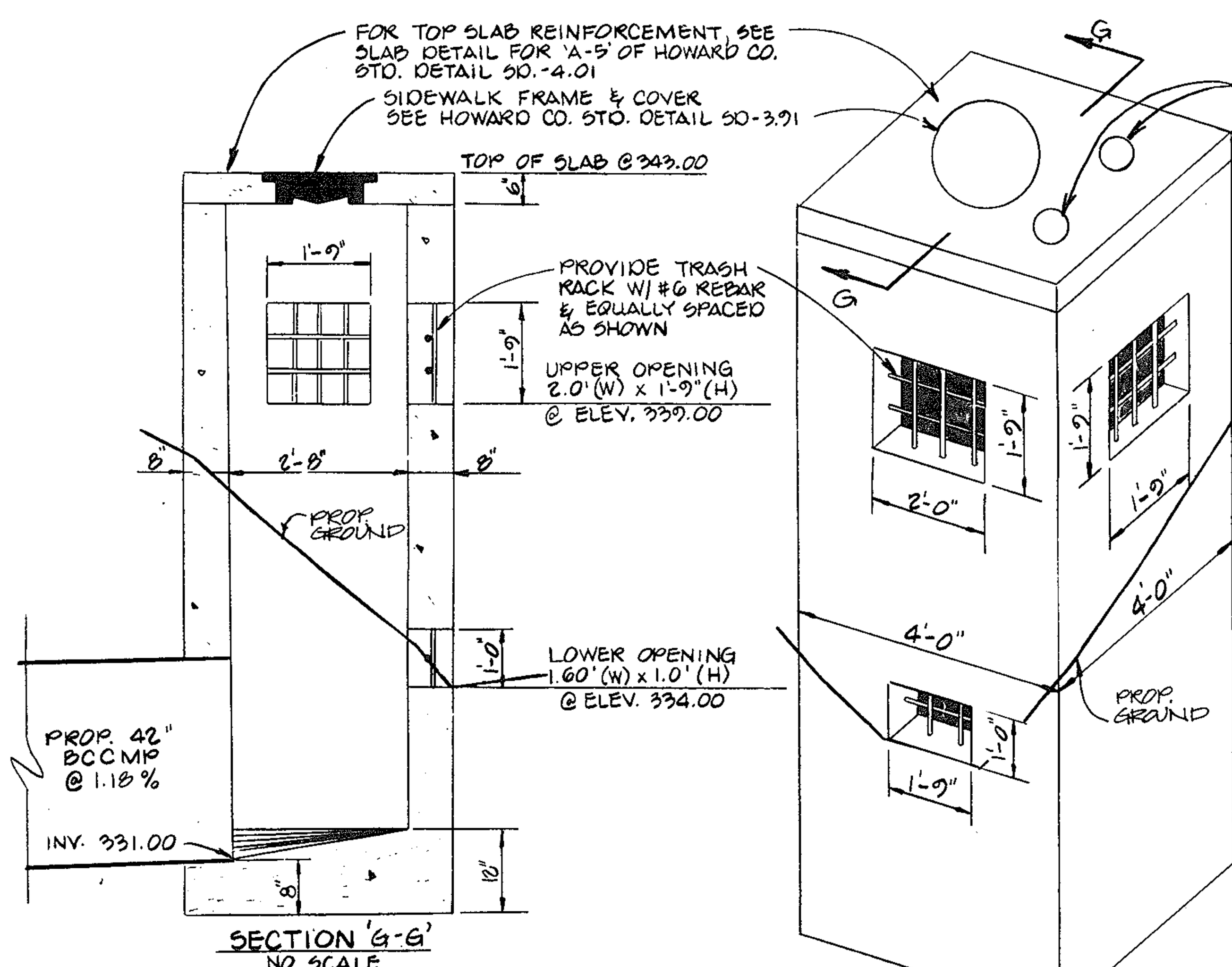
ANTI-SEEP COLLAR DETAIL
POND #1



SECTION 'F-F'
NO SCALE

NOTES
1. THIS STRUCTURE SHALL BE BUILT OF REINFORCED CONCRETE.
2. FOR REINFORCEMENT OF THIS STRUCTURE SHALL BE PER HOWARD CO. STD. DETAIL SD-4.01
3. SEE HOWARD CO. STD. DETAIL SD-4.22 FOR THE CONSTRUCTION OF THE STRUCTURE
4. TRASH RACKS SHALL BE EQUALLY SPACED AS SHOWN AND SHALL BE PAINTED WITH NON-CORROSIVE PAINT OR EPOXY.

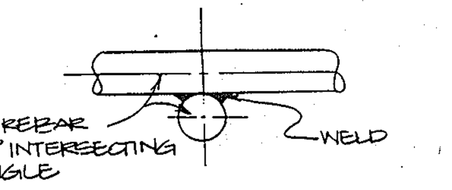
S.W.M. RELEASE STRUCTURE
S-1 DETAIL
NO SCALE



SECTION 'G-G'
NO SCALE

NOTES:
1. THIS STRUCTURE SHALL BE BUILT OF REINFORCED CONCRETE.
2. REINFORCEMENT OF THIS STRUCTURE SHALL BE PER HOWARD CO. STD. DETAIL SD-4.01.
3. SEE HOWARD CO. STD. DETAIL SD.-4.22 FOR THE CONSTRUCTION OF THE STRUCTURE.
4. TRASH RACKS SHALL BE EQUALLY SPACED AND SHALL BE PAINTED WITH NON-CORROSIVE PAINT OR EPOXY.
5. PROVIDE TYPICAL MANHOLE STEPS ON NORTHWEST INNER STRUCTURE WALL SPACED 1'-3", SEE HOWARD CO. STD. DETAIL G-5.21.

NOTES:
1. NO RUST SHALL BE PERMITTED ON REBAR SURFACES TO BE WELDED.
2. BITUMINOUS COATING SHALL BE REPAIRED UPON COMPLETION OF WELDING.



WELDING DETAIL
NO SCALE

SWM. RELEASE STRUCTURE
(S-2 DETAIL)
NO SCALE

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
U.S. SOIL CONSERVATION SERVICE — 8-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Ziehm — HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Acting DIRECTOR — 8-18-86 DATE
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-19-86 DATE
CHIEF BUREAU OF ENGINEERING — 8-18-86 DATE

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENT A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
8930 — 4/16/86
ENGINEER TAPOBRATA CHAKRABARTI REG. NO. — DATE

OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033

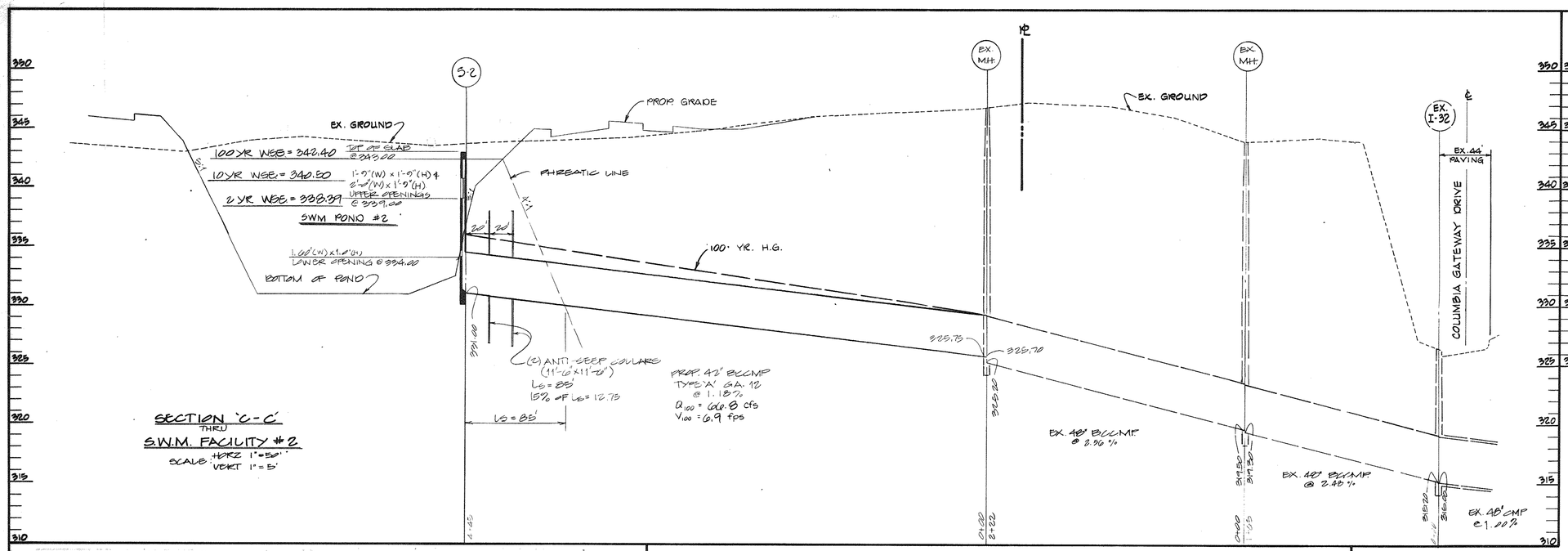
CONTRACT PURCHASER
M.O.R. XXXVIII PARTNERSHIP
c/o MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

DEVELOPER'S CERTIFICATE:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
DEVELOPER: ASST. V.P. DATE: 4-14-86

DESIGNED BY: KB/BB
DRAWN BY: KB/RL
CHECKED BY: TC
REVISIONS

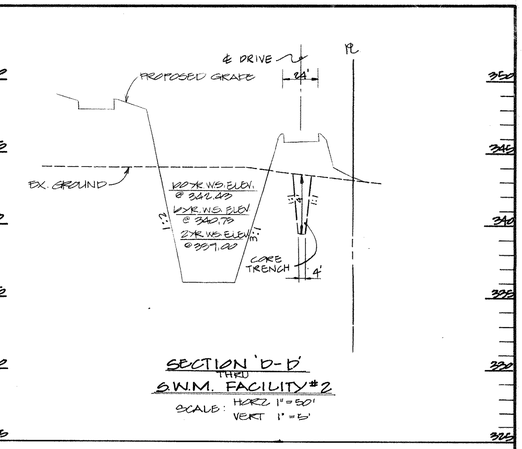
S.W.M. PROFILES & DETAILS
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY
PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — APRIL 9, 1986
F.N. 05453 — SHEET 3 OF 11

SDP #86-231



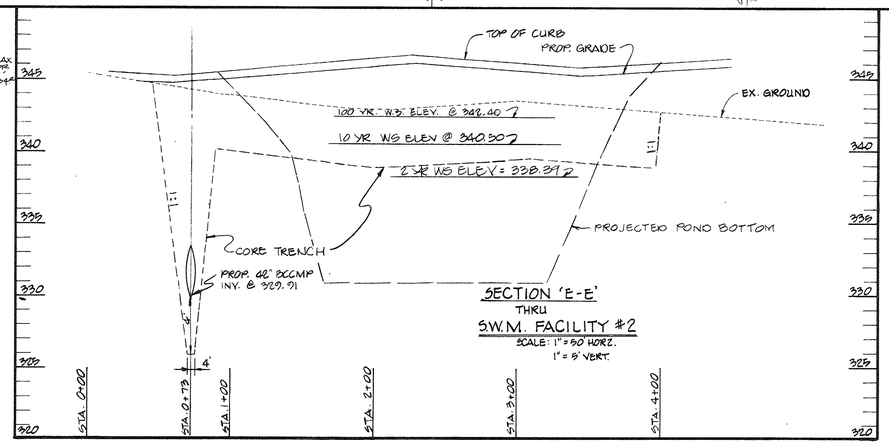
SECTION 'C-C' THRU S.W.M. FACILITY #2

SCALE: HORZ 1"=50'
VERT 1"=5'



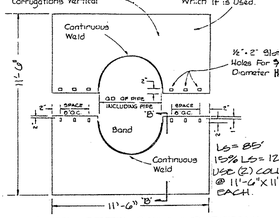
SECTION 'D-D' THRU S.W.M. FACILITY #2

SCALE: HORZ 1"=50'
VERT 1"=5'



SECTION 'E-E' THRU S.W.M. FACILITY #2

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

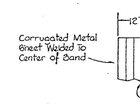


ANTI-SEEP COLLAR DETAIL

POND № 2
NO SCALE

NOTES: ANTI-SEEP COLLARS

1) All Materials To Be In Accordance With Construction and Construction Material Specifications.
2) When Specified On The Plans, Coating of Collars Shall Be In Accordance With Construction and Construction Material Specifications.
3) Unassembled Collars Shall Be Marked By Painting or Tagging To Identify Matching Pairs.
4) The Lap Between The Two Half Sections And Between The Pipe And Connecting Band Shall Be Caulked With Asphalt Mastic At Time of Installation.
5) Each Collar Shall Be Furnished With Two ½" Diameter Rods With Standard Tank Lugs For Connecting Collars To Pipe.
6) Collars Shall Be Located 2'-Min. From All Pipe Joints.



SECTION 'B-B'

NO SCALE

STORM WATER MANAGEMENT DATA

POND #1

Per Soils Report - Infiltration is ... feasible. RATE = 1.2"/HR. 7% HR. MAX. REQUIRED MAX. DEPTH FOR INFILTRATION = 1.2 x 7% / 2 = 4.2' PROVIDED BETWEEN ELEV. 334.5 & 340.0

Existing Condition:

Drainage Area to South = 5.55 Ac. ±
(on-site = 4.25 Ac./ off-site = 1.30 Ac. ±)
Soil Group = "C"
RCN = 71

2 yr. flow = 6.42 cfs
10 yr. flow = 15.66 cfs
100 yr. flow = 26.77 cfs

Proposed Condition:

(i) Drainage Area to south - Not Managed
D.A. = 1.66 Ac. ± (on-site)
RCN = 78

2 yr. flow = 3.14 cfs
10 yr. flow = 6.94 cfs
100 yr. flow = 11.53 cfs

Therefore, Allowable Releases From the Pond #1

2 yr. Allowable Release = 6.42 - 3.14 = 3.28 cfs
10 yr. Allowable Release = 15.66 - 6.94 = 8.72 cfs
(Not Req'd) 100 yr. Allowable Release = 26.77 - 11.53 = 15.24 cfs

(ii) Drainage Area to the Pond #1 - Routed & Managed
D.A. = 4.50 Ac. ± (on-site = 3.35 Ac. ± / off-site = 1.15 Ac. ±)
RCN = 86

After Routing - Releases		
2 yr. Allow = 13.88 cfs	2 yr. flow = 3.68 cfs	< 3.28 cfs
10 yr. Allow = 23.40 cfs	10 yr. flow = 14.96 cfs	< 8.72 cfs
100 yr. Allow = 34.14 cfs	100 yr. flow = 26.00 cfs	< 15.24 cfs

2 and 10 Yr. Storm Water Management Required

2, 10 & 100 Yr. Storm Water Management Provided

HYDROLOGIC CRITERIA: HAZARD CLASS - 'A'
Watershed Area - 4.50 Ac±
Principal Spillway - 100 yr. storm 18.2 CFS
Emergency Spillway - Remove 100 year 10.5 CFS
Freeboard above 100 yr W.S. = 0.6'

STRUCTURAL CLASSIFICATION:
Structural Class - "A"
Watershed Area - 4.50 Ac±
Storage Height Product 4.5 x 0.80 x 1.2 = 7.23 Ac.Ft.

STORM WATER MANAGEMENT DATA

Pond #2

Per Soils Report - Infiltration is ... feasible. RATE = @ 60"/HR 7% HR. MAX. REQUIRED MAX. DEPTH FOR INFILTRATION = 0.5 x 7% = 3.5' PROVIDED BETWEEN ELEV 331.5 & 335.0

Existing Condition:

Drainage Area to north = 17.25 Ac. ±
(on-site= 16.60 Ac. ± / off-site = 0.65 Ac. ±)

Soil Group = "C"
RCN - 73
2 yr. flow = 32.14 cfs
10 yr. flow = 53.31 cfs
100 yr. flow = 92.84 cfs

Proposed Condition:

(i) Drainage Area to northern drain systems - Not Managed

D.A. = 1.80 Ac. ± (on-site = 1.43 Ac. ± / off-site = 0.37 Ac. ±)
RCN = 77
2 yr. flow = 3.24 cfs
10 yr. flow = 7.24 cfs
100 yr. flow = 12.17 cfs

Therefore, allowable releases from the Pond #2:
2 yr. Allowable Release = 32.14 - 3.24 = 28.90 cfs
10 yr. Allowable Release = 53.31 - 7.24 = 46.07 cfs
(Not Req'd) 100 yr. Allowable Release = 92.84 - 12.17 = 80.67 cfs

(ii) Drainage Area to the Pond #2 - Routed & Managed
D.A. = 14.86 Ac. ± (on-site = 14.41 Ac. ± / off-site = 0.43 Ac. ±)
RCN - 93

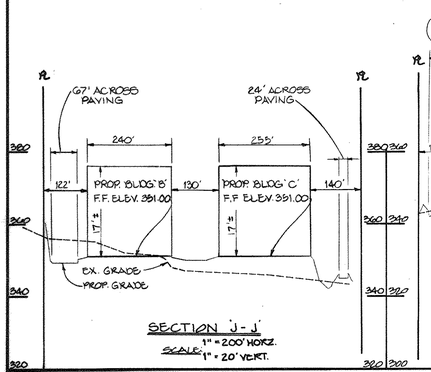
After Routing - Releases		
2 yr. Allow = 54.19 cfs	2 yr. flow = 35.40 cfs	< 28.90 cfs
10 yr. Allow = 93.13 cfs	10 yr. flow = 90.03 cfs	< 46.07 cfs
100 yr. Allow = 140.90 cfs	100 yr. flow = 140.00 cfs	< 80.67 cfs

2 & 10 yr. Storm Water Management Required

2, 10 & 100 yr. Storm Water Management Provided

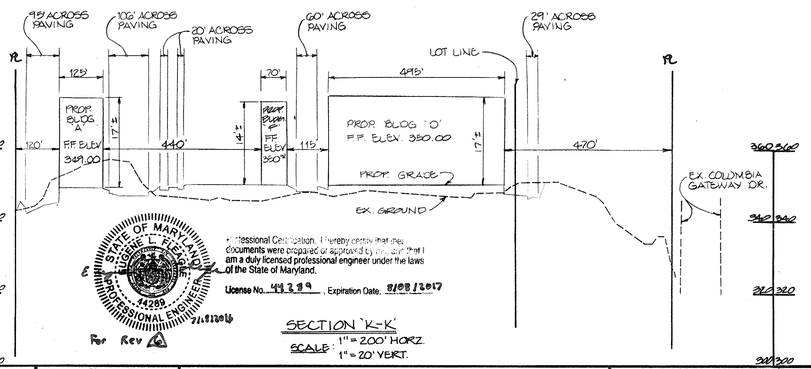
HYDROLOGIC CRITERIA: HAZARD CLASS - 'A'
Watershed Area - 14.41 Ac±
Principal Spillway - 100 yr. Storm
Emergency Spillway - None
Freeboard above 100 yr. W.S. = 2.40'

STRUCTURAL CLASSIFICATION:
Structural Class - 'A'
Watershed Area - 14.41 Ac±
Storage Height Product = 3.24 Ac.Ft x 14.41 Ac = 30 Ac.Ft.



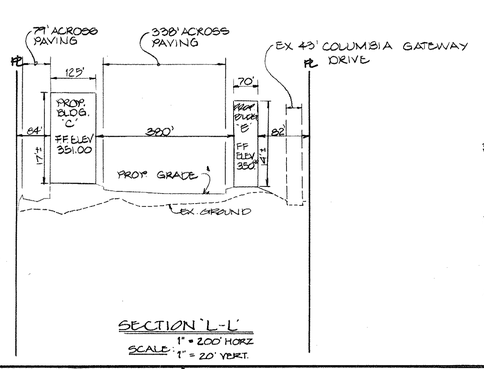
SECTION 'J-J'

1" = 200' HORZ.
SCALE: 1" = 20' VERT.



SECTION 'K-K'

SCALE: 1" = 200' HORZ.
1" = 20' VERT.



SECTION 'L-L'

1" = 200' HORZ.
SCALE: 1" = 20' VERT.

Professional Certification. I hereby certify that the documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 14289, Expiration Date: 8/08/2017
For Rev 6

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
U.S. SOIL CONSERVATION SERVICE — 6-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Zickefoose — HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231 PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD CO. HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER — 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Acting DIRECTOR — 8-18-86 DATE
DEPUTY DIRECTOR, DEPARTMENT OF ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-13-86 DATE
CHIEF BUREAU OF ENGINEERING — 8-15-86 DATE

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301)825-8120

ENGINEER
SIGNATURE: CHARRASAN — REG. NO. 8930 — 4/16/86 DATE

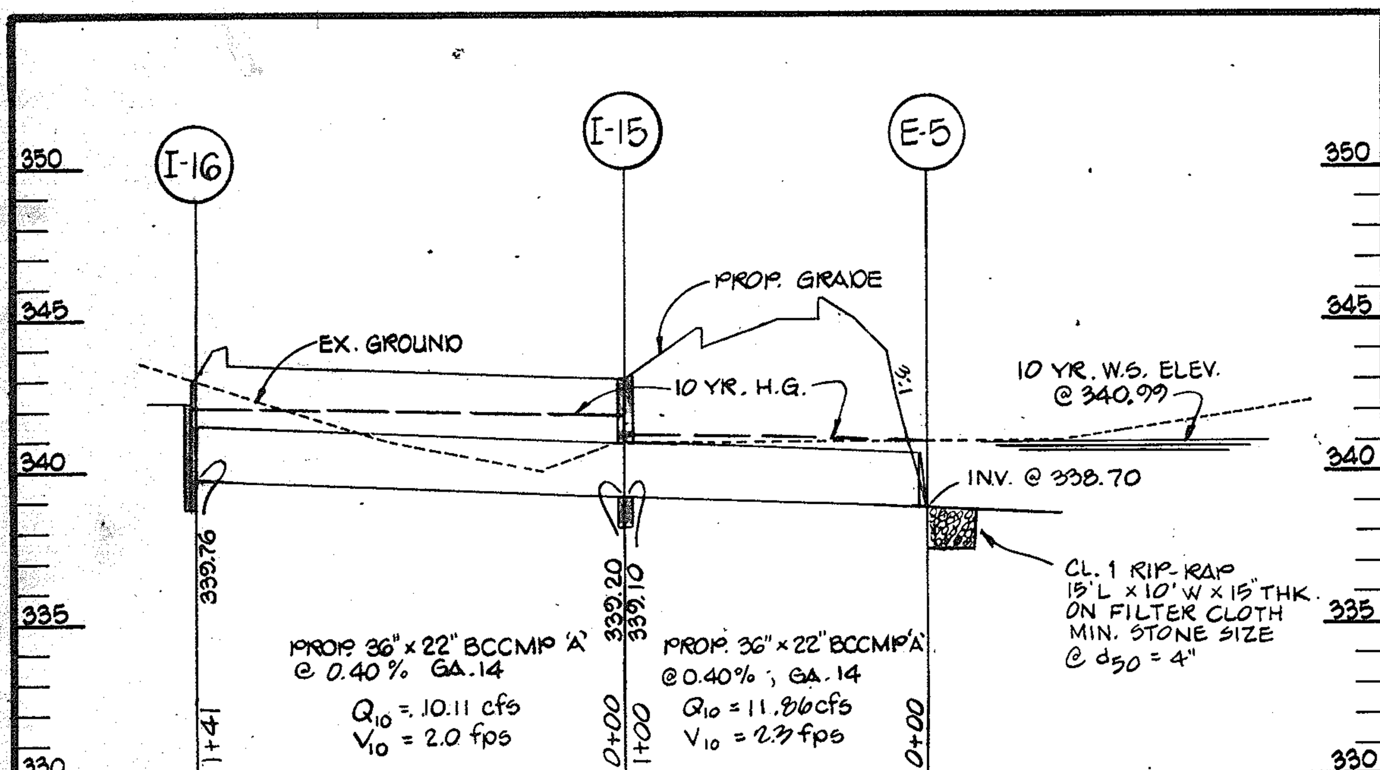
OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033
CONTRACT PURCHASER:
M.C.R. XXXVIII PARTNERSHIP
% MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

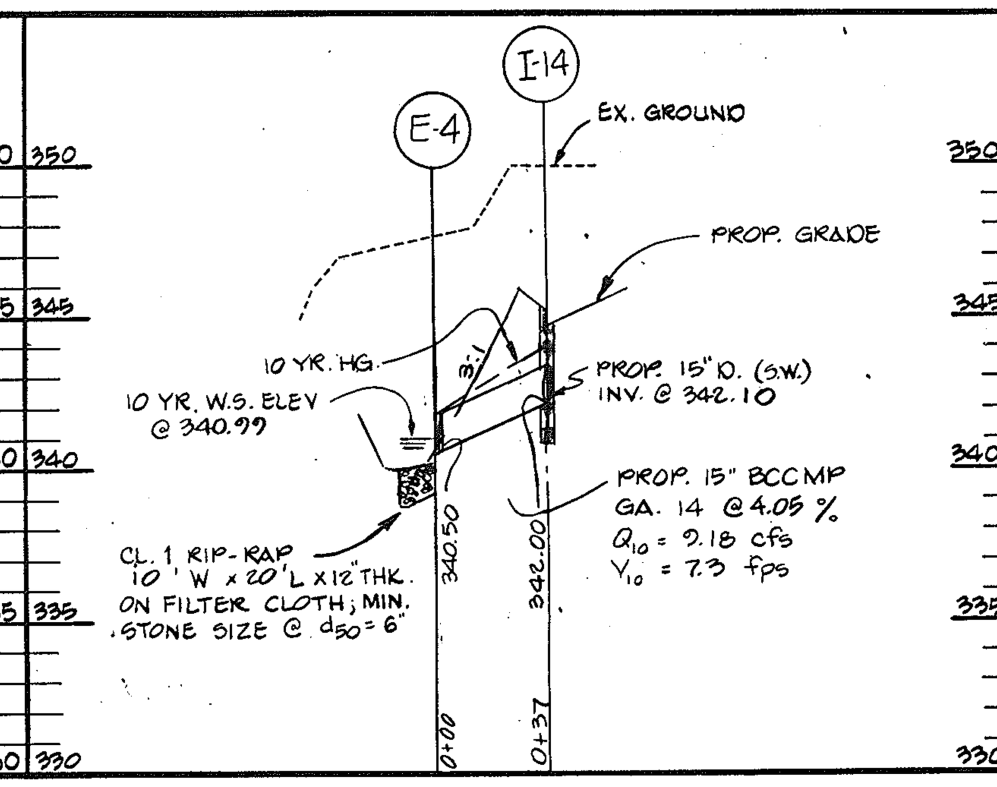
DEVELOPER
SIGNATURE — ASST. V.P. — 4-14-86 DATE

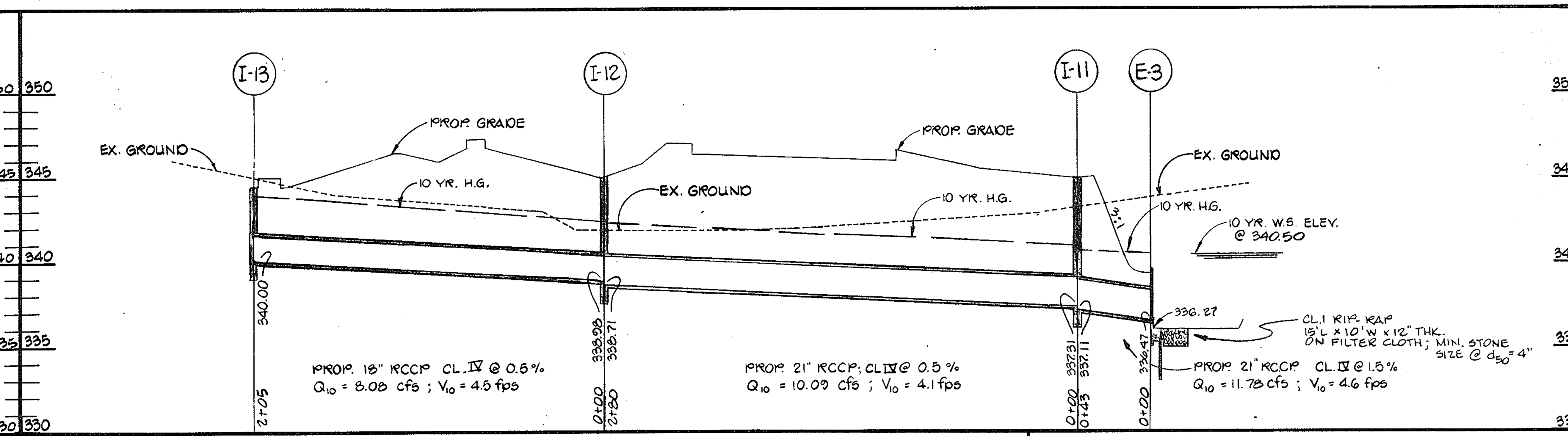
DESIGNED BY: DB/KB
DRAWN BY: DL
CHECKED BY: TC
REVISIONS
6 07-18-16 SWM 1 OUTFALL BARREL SLIPLINING
5 9-28-2015 SURVEY

S.W.M. PROFILES & DETAILS
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — APRIL 2, 1986
F.N. 85483 — SHEET 4 OF 11

SDP # 86-231



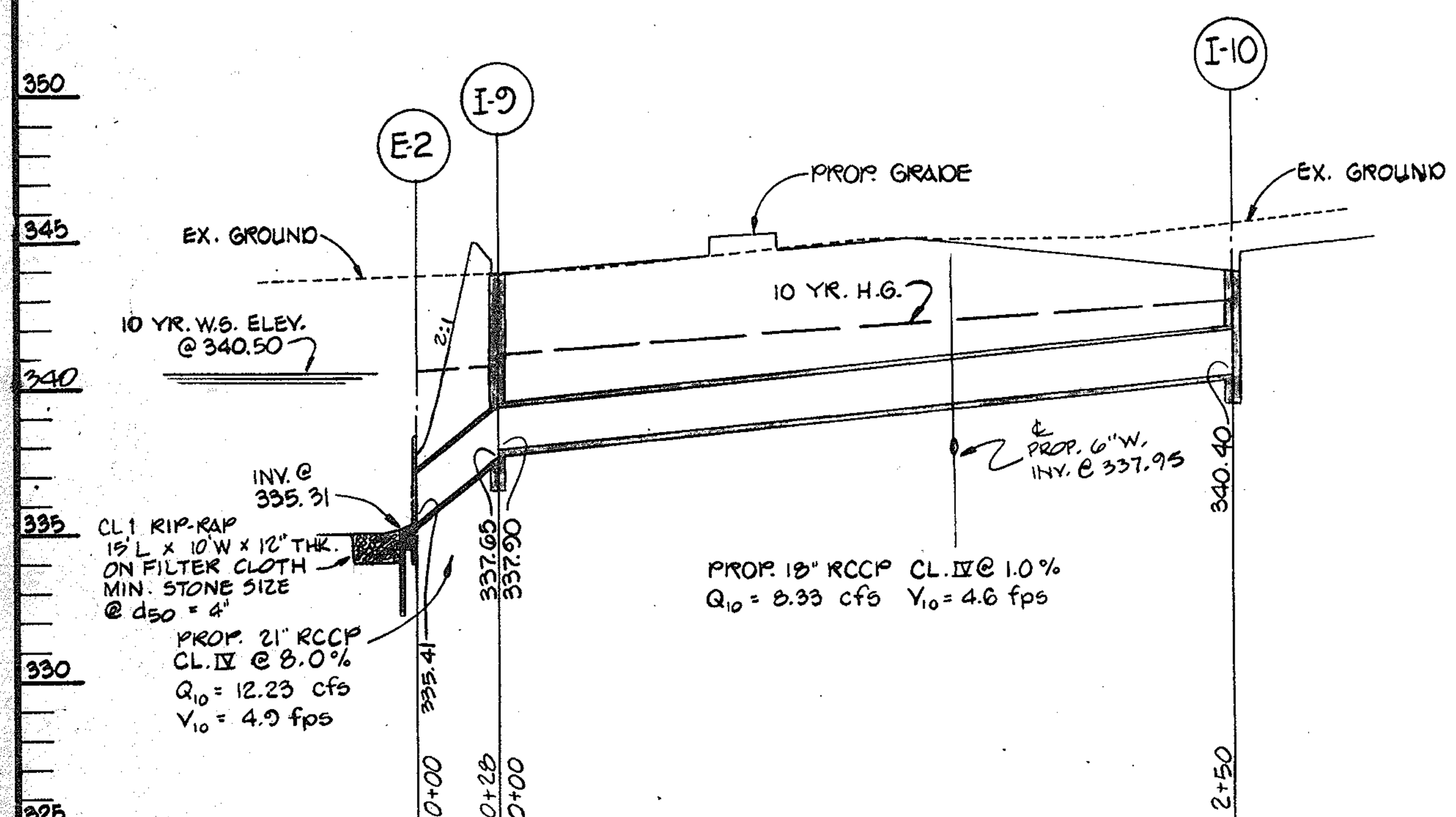


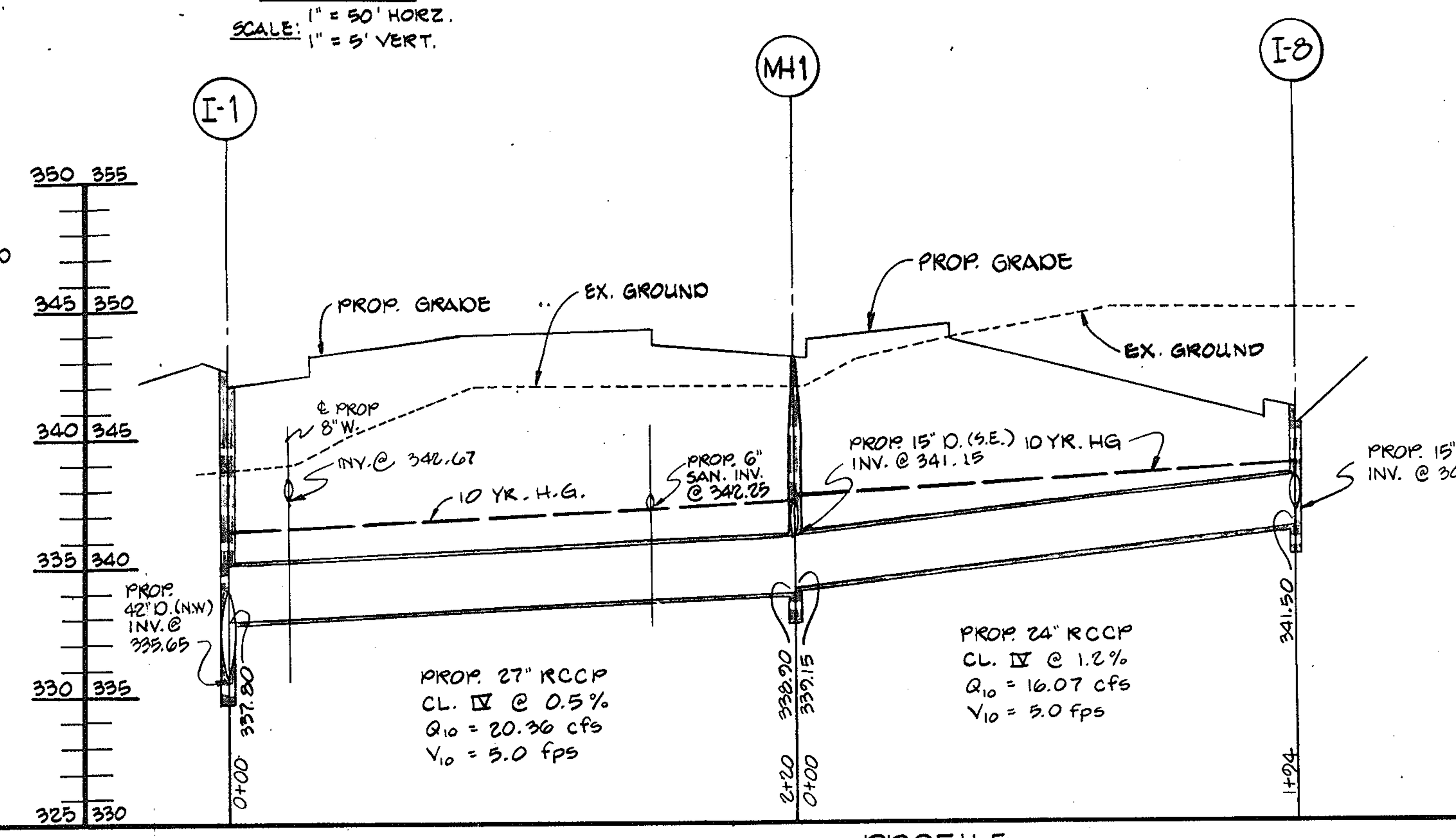


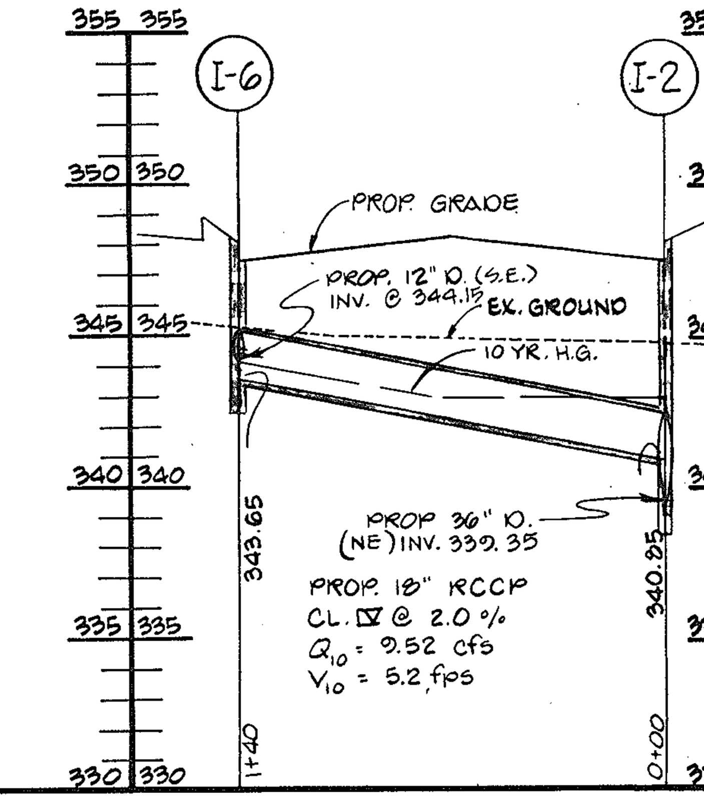
PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.







PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

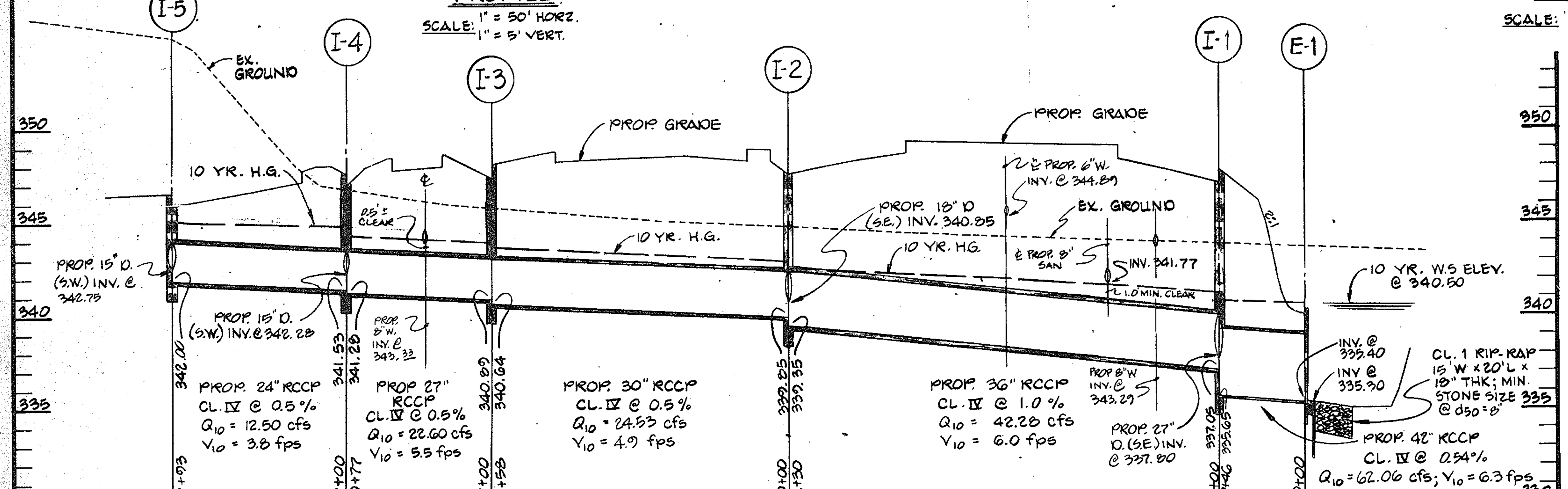
INLET SCHEDULE

NO.	TYPE	ELEVATION * TOP	INV. IN.	INV. OUT	REMARKS
I-1	DBL. '5' COMB.	347.00	337.05/337.80	335.65	SEE HOW. CO. STD. DET. SD-4.34
I-2	DBL. '5' COMB.	347.50	339.85/340.85	339.35	SEE HOW. CO. STD. DET. SD-4.34
I-3	DBL. '5' COMB.	347.50	340.89	340.64	SEE HOW. CO. STD. DET. SD-4.34
I-4	DBL. '5' COMB.	347.00	341.53	341.28	SEE HOW. CO. STD. DET. SD-4.34
I-5	DBL. '5' COMB.	346.00	———	342.00	SEE HOW. CO. STD. DET. SD-4.34
I-6	DBL. '5' COMB.	347.50	———	343.65	SEE HOW. CO. STD. DET. SD-4.34
I-7	DBL. '5' COMB.	347.00	———	342.83	SEE HOW. CO. STD. DET. SD-4.34
I-8	DBL. '5' COMB.	345.50	———	341.50	SEE HOW. CO. STD. DET. SD-4.34
I-9	DBL. '5' COMB.	343.80	337.90	337.65	SEE HOW. CO. STD. DET. SD-4.34
I-10	DBL. '5' COMB.	343.90	———	340.40	SEE HOW. CO. STD. DET. SD-4.34
I-11	DBL. '5' COMB.	345.00	337.31	337.11	SEE HOW. CO. STD. DET. SD-4.34
I-12	DBL. '5' COMB.	345.00	338.98	338.71	SEE HOW. CO. STD. DET. SD-4.34
I-13	DBL. '5' COMB.	344.50	———	340.00	SEE HOW. CO. STD. DET. SD-4.34
I-14	DBL. '5' COMB.	345.25	———	342.00	SEE HOW. CO. STD. DET. SD-4.34
I-15	DBL. '5' COMB.	343.00	339.20	339.10	SEE HOW. CO. STD. DET. SD. 4.34
I-16	DBL. '5' COMB.	342.30	———	339.76	SEE HOW. CO. STD. DET. SD. 4.34

* TOP OF GRATE ELEVATION

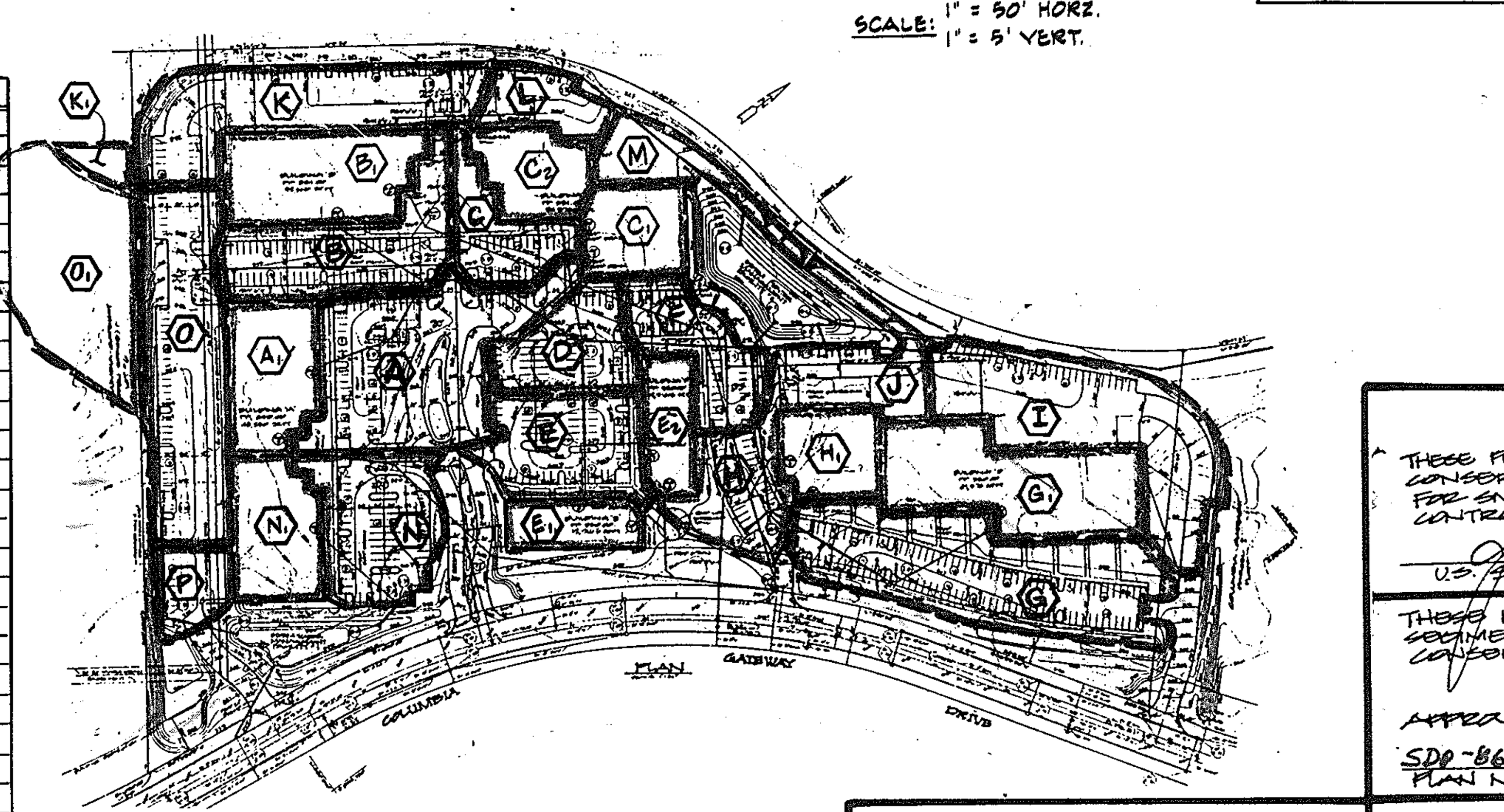
STRUCTURE SCHEDULE

NO.	TYPE	ELEVATION TOP	INV. IN	INV. OUT	REMARKS
E-1	TYPE 'A' HEADWALL	———	335.40	335.30	SEE HOW. CO. STD. DET. SD 5.11
E-2	TYPE 'A' HEADWALL	———	335.41	335.31	SEE HOW. CO. STD. DET. SD 5.11
E-3	TYPE 'A' HEADWALL	———	336.47	336.27	SEE HOW. CO. STD. DET. SD 5.11
E-4	METAL END SECTION	———	340.50	340.50	SEE HOW. CO. STD. DET. SD 5.61
E-5	METAL END SECTION	———	338.70	338.70	SEE HOW. CO. STD. DET. SD 5.63
WYE	BRICK WYE (SINGLE)	———	———	345.39	SEE HOW. CO. STD. DET. SD 1.11
MH-1	BRICK MANHOLE	348.20	341.15/339.15	338.90	SEE HOW. CO. STD. DET. G 5.01

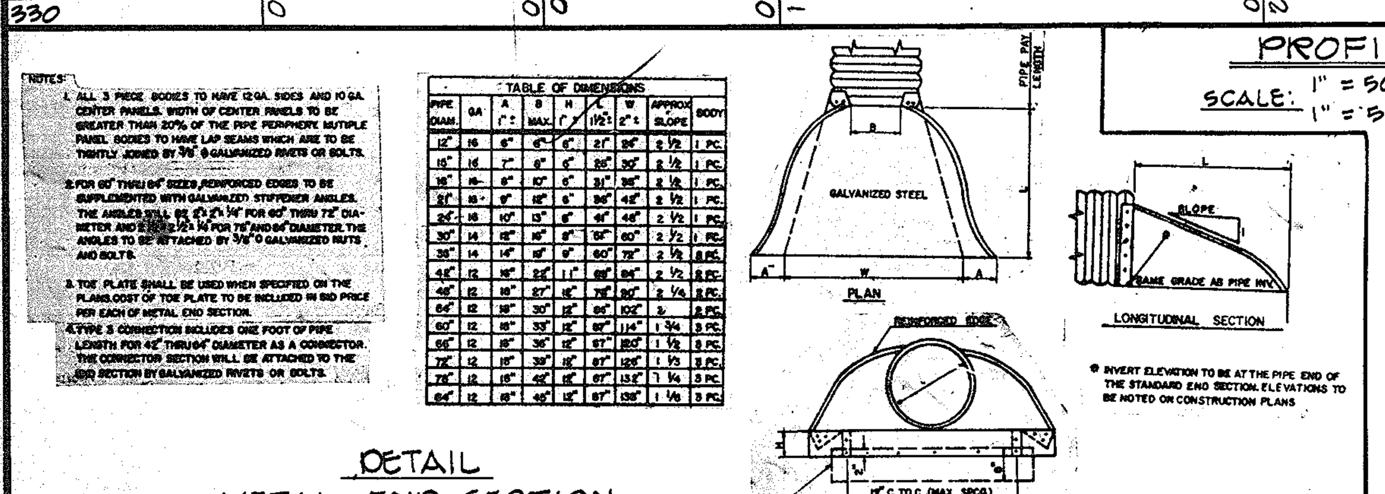


PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

D.A.	AC. ±	'C'
A	1.42	0.67
A₁	0.55	0.95
B	0.80	0.64
B₁	0.75	0.95
C	0.46	0.51
C₁	0.40	0.95
C₂	0.40	0.95
D	0.50	0.84
E	0.68	0.79
E₁	0.30	0.95
E₂	0.30	0.95
F	0.54	0.72
G	1.61	0.57
G₁	1.02	0.95
H	0.60	0.43
H₁	0.32	0.95
I	1.30	0.75
J	0.59	0.90
K	1.20	0.75
K₁	0.15	0.30
L	0.30	0.94
M	0.36	0.89
N	0.76	0.74
N₁	0.55	0.95
O	1.31	0.75
O₁	1.15	0.30
P	0.27	0.79



STORM DRAIN
DRAINAGE AREA MAP
SCALE: 1" = 200'



DETAIL
METAL END SECTION
NO SCALE

PROFILE
SCALE: 1" = 50' HORZ. 1" = 5' VERT.

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHINAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL
U.S. SOIL CONSERVATION SERVICE 8-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: HOWARD SOIL CONSERVATION DISTRICT 8-6-86 DATE
SDP-86-231
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD CO. HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Acting DIRECTOR 8-8-86 DATE
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR 8-23-8 DATE
CHIEF BUREAU OF ENGINEERING 8-18-86 DATE

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUÉ
TOWSON, MARYLAND 21204
(301) 825-8120

REG #8930 4/16/86

ENGINEER
SIGNATURE TAPOBRATA CHAKRABARTI 8930 REG. NO. 4/16/86 DATE

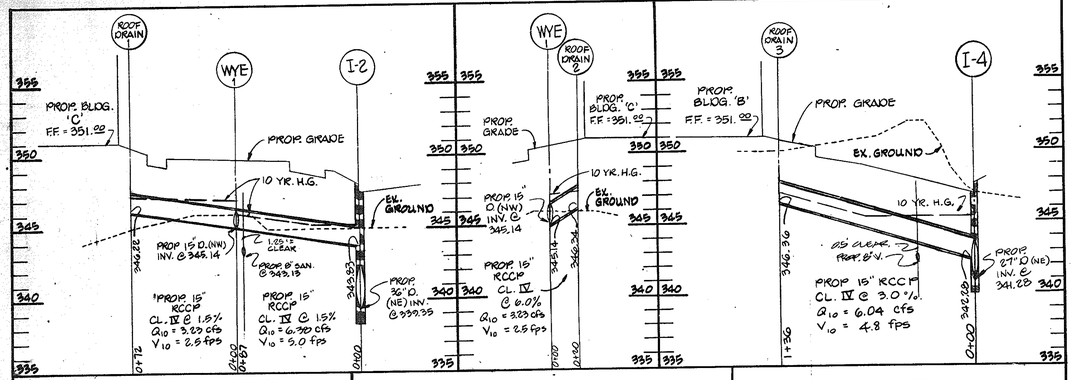
OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033
CONTRACT PURCHASER
M.O.R. XXXVIII PARTNERSHIP
c/o MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

DEVELOPER
SIGNATURE ASST. V.P. 4-14-86 DATE

DESIGNED BY: K.L.B.
DRAWN BY: K.L.B.
CHECKED BY: T.C.
REVISIONS

STORM DRAIN PROFILES AND DETAILS
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY
PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND ELECTION DISTRICT #6
SCALE: AS SHOWN APRIL 9, 1986
F.N. 05453 SHEET 5 OF 11

SDP # 86-231

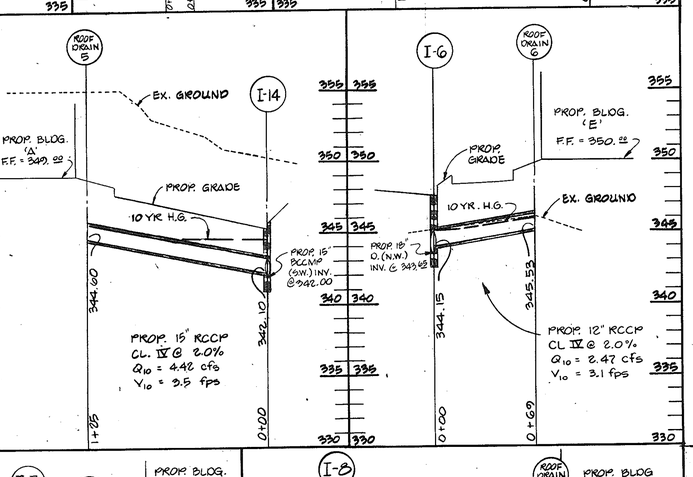


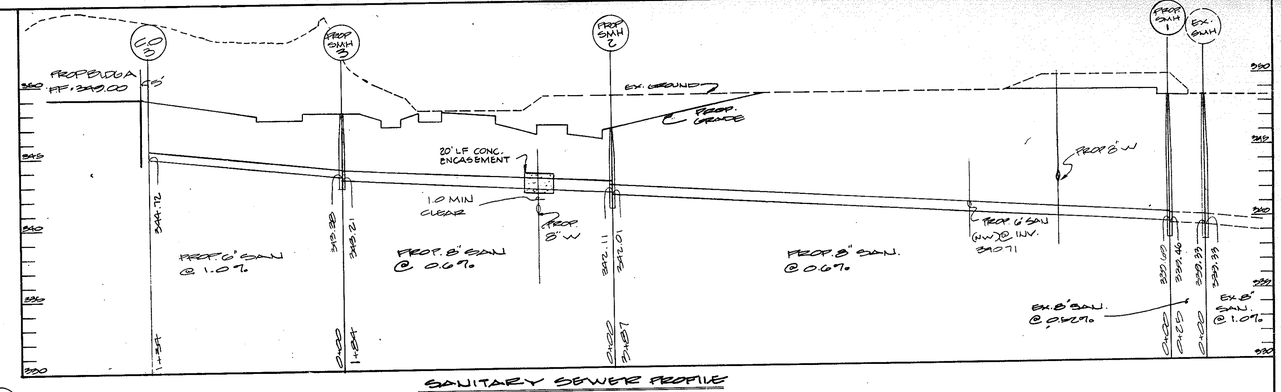
ROOF DRAIN PROFILE

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

ROOF DRAIN PROFILES

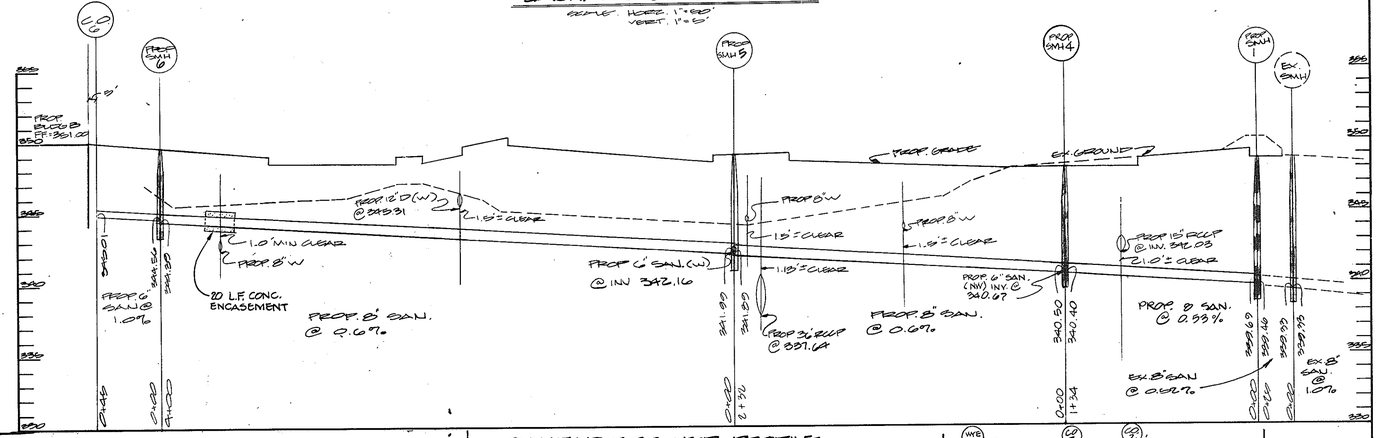
SCALE: 1" = 50' HORZ.
1" = 5' VERT.





SANITARY SEWER PROFILE

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

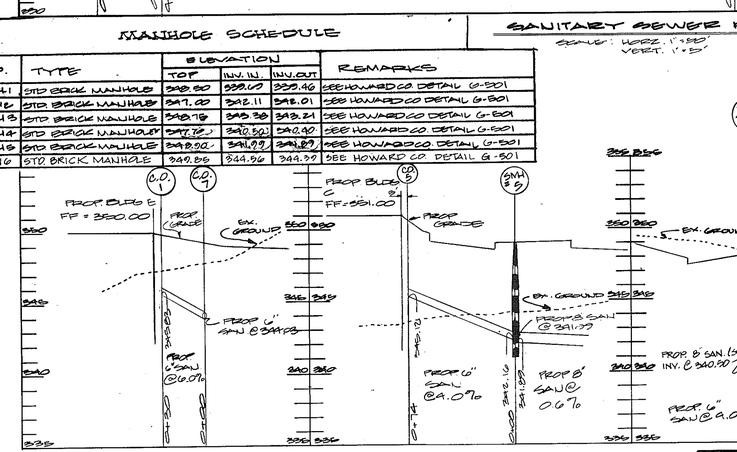


MANHOLE SCHEDULE

NO.	TYPE	ELEVATION TOP	INV. IN	INV. OUT	REMARKS
SMH1	STD BRICK MANHOLE	358.60	339.49	339.46	SEE HOWARD CO DETAIL G-501
SMH2	STD BRICK MANHOLE	347.00	342.11	342.01	SEE HOWARD CO DETAIL G-501
SMH3	STD BRICK MANHOLE	348.78	343.30	343.21	SEE HOWARD CO DETAIL G-501
SMH4	STD BRICK MANHOLE	347.70	340.50	340.40	SEE HOWARD CO DETAIL G-501
SMH5	STD BRICK MANHOLE	349.80	341.99	341.89	SEE HOWARD CO DETAIL G-501
SMH6	STD BRICK MANHOLE	349.86	344.96	344.39	SEE HOWARD CO DETAIL G-501

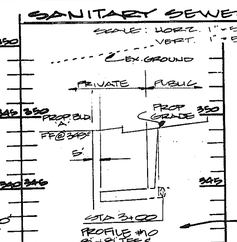
SANITARY SEWER PROFILE

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



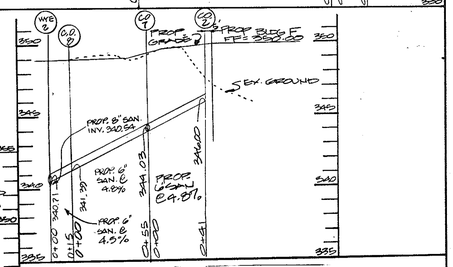
PROFILE #8

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



SANITARY SEWER PROFILES

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



APPROVED

DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
USDA SOIL CONSERVATION SERVICE — 8-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Ziehm, HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231 PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS, HOWARD CO. HEALTH DEPARTMENT.
COUNTY HEALTH OFFICER — 8-7-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
DIRECTOR — 8-18-86 DATE
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-13-86 DATE
CHIEF BUREAU OF ENGINEERING — 8-18-86 DATE

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

ENGINEER

Tapagata Charrabarti 8930 4/16/86
SIGNATURE TAPAGATA CHARRABARTI REG. No. DATE

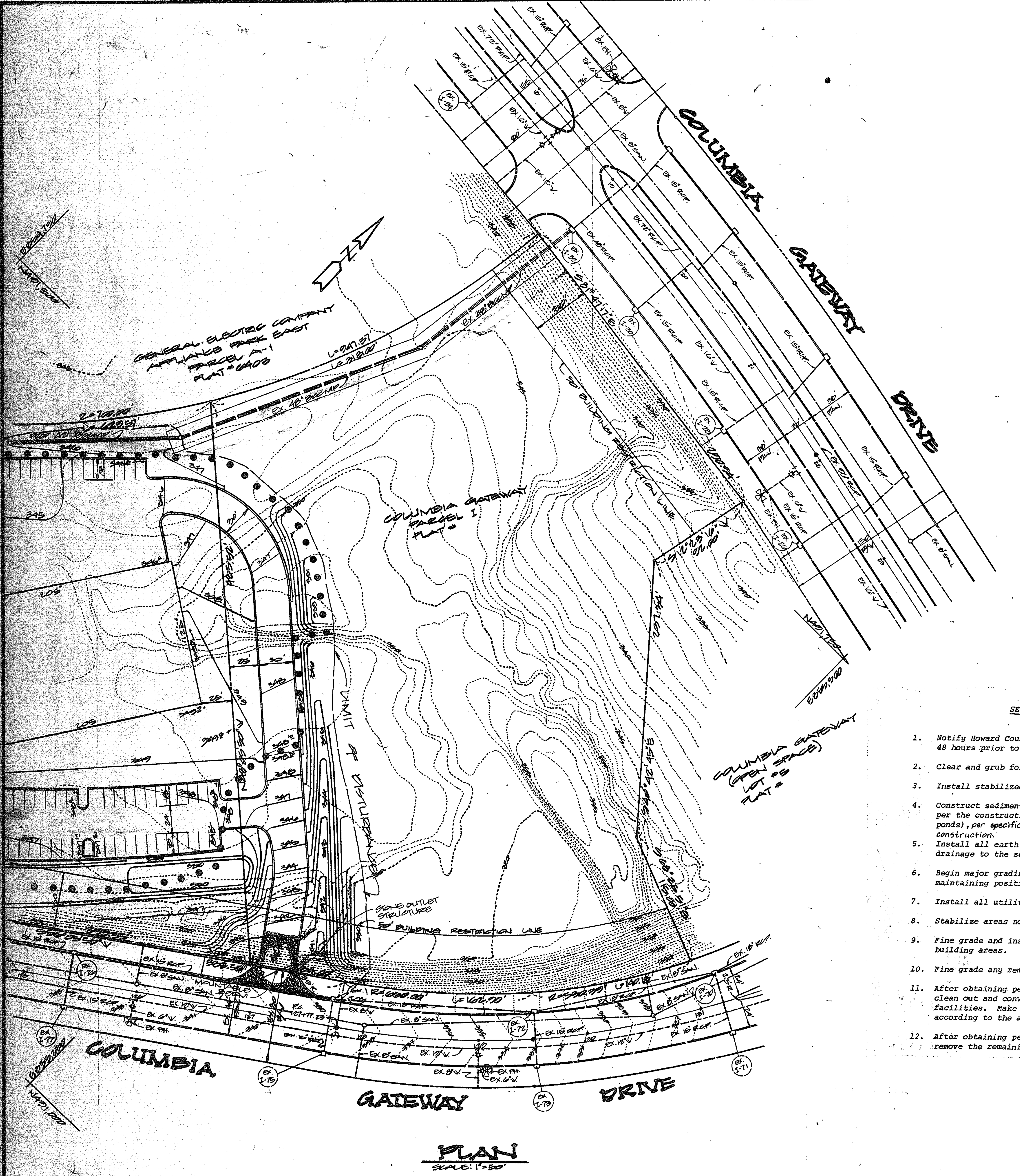
OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033
CONTRACT PURCHASER
MCR. XXXVIII PARTNERSHIP
% MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21045 (301) 995-1670

DEVELOPER
SIGNATURE — ASST. V.P. — 4-14-86 DATE

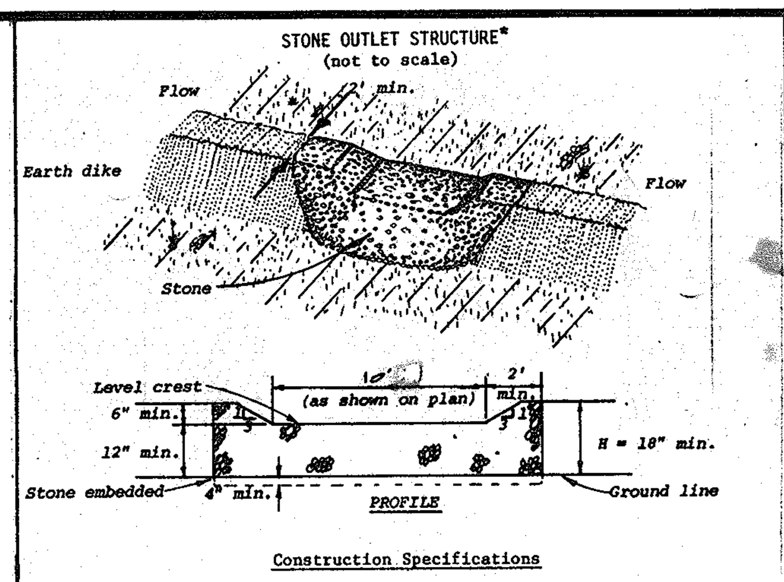
DESIGNED BY: K.B./ O.B.
DRAWN BY: K.B. / J.B.
CHECKED BY: T.C.
REVISIONS
9/4/86 - Reloc. concrete encasement.

PROFILES AND DETAILS
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — APRIL 2, 1986
P.I. 25453 — SHEET 6 OF 11

SDP # 86-231



PLAN
SCALE: 1"=50'



Construction Specifications

1. The stone shall be crushed stone. Gravel may be used if crushed stone is not available. The stone shall meet MSHA Size No. 2 or AASHTO designation M43 Size No. 2 or 24.
2. The crest of the stone dike shall be at least six inches lower than the lowest elevation of the top of the earth dike and shall be level.
3. The stone outlet structure shall be embedded into the soil a minimum of four inches.
4. The minimum length, in feet, of the crest of the stone outlet structure shall be equal to six times the number of acres of contributing drainage area.
5. The stone outlet structure shall be inspected after each rain, and the stone shall be replaced when the structure ceases to function as intended due to silt accumulation among the stone, washout, construction traffic damage, etc.

Standard Symbol SOS L = 10'

* Drainage area less than 5 acres

PERMANENT SEEDING NOTES

Seedbed Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

Soil Amendments: Use one of the following schedules:

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

2) Acceptable - Apply 2 tons per acre dolomitic limestone (92 lbs./1000 sq.ft.) and 1000 lbs. per acre 10-10-10 fertilizer (23lbs./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 1½ to 2 tons per acre (70 to 90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 ga./1000 sq.ft.) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal./1000 sq.ft.) for anchoring.

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

TEMPORARY SEEDING NOTES

Seedbed Preparation: Loosen upper 3 inches of soil by raking, discing or other acceptable means before seeding.

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 Nov. 15, seed with 2½ bu. per acre of annual rye (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 1½ to 2 tons per acre (70-90 lbs./1000 sq.ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal. per acre (5gal./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.

GENERAL NOTES

1) Refer to "1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control" for standard details and detailed specifications of each practice specified herein.

2) With the approval of the sediment control inspector, minor field adjustments can and will be made to insure the control of any sediment. Changes in sediment control practices require prior approval of the sediment control inspector and the Baltimore County Soil Conservation District.

3) At the end of each working day, all sediment control practices will be inspected and left in operational condition.

4) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a.) seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and b.) fourteen days as to all other disturbed or graded areas on the project site.

5) Any change to the grading proposed on this plan requires re-submission to Baltimore County Soil Conservation District for approval.

6) Dust control will be provided for all disturbed areas. Refer to 1983 Maryland Standards and Specifications for Soil Erosion and Sediment Control, pp 62.01 and 62.02 for acceptable methods and specifications for dust control.

7) Any variation from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the Baltimore County Soil Conservation District prior to the initiation of the change.

SEDIMENT CONTROL NOTES

1) 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)

2) All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

3) Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4) All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chaper 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5) All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings (Sec. 51) sod (Sec. 54), temporary seeding (Sec. 50) and mulching (Sec. 52.) Temporary stabilization with mulch alone can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6) All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector

7) Site Analysis:
   - Total Area of Site 20.85 Acres±
   - Area Disturbed 21.75 Acres±
   - Area to be roofed or paved 13.10 Acres±
   - Area to be vegetatively stabilized 8.65 Acres±
   - Total Cut 63,000 Cu. yds (INCL. 12,000 CY. TOP SOIL)
   - Total Fill 51,000 Cu. yds (INCL. 10% SHRINKAGE)
   - Offsite waste/borrow area location TO BE DETERMINED *

8) Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9) Additional sediment controls must be provided, if deemed necessary by the Howard County DPW sediment control inspector.

10) 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.

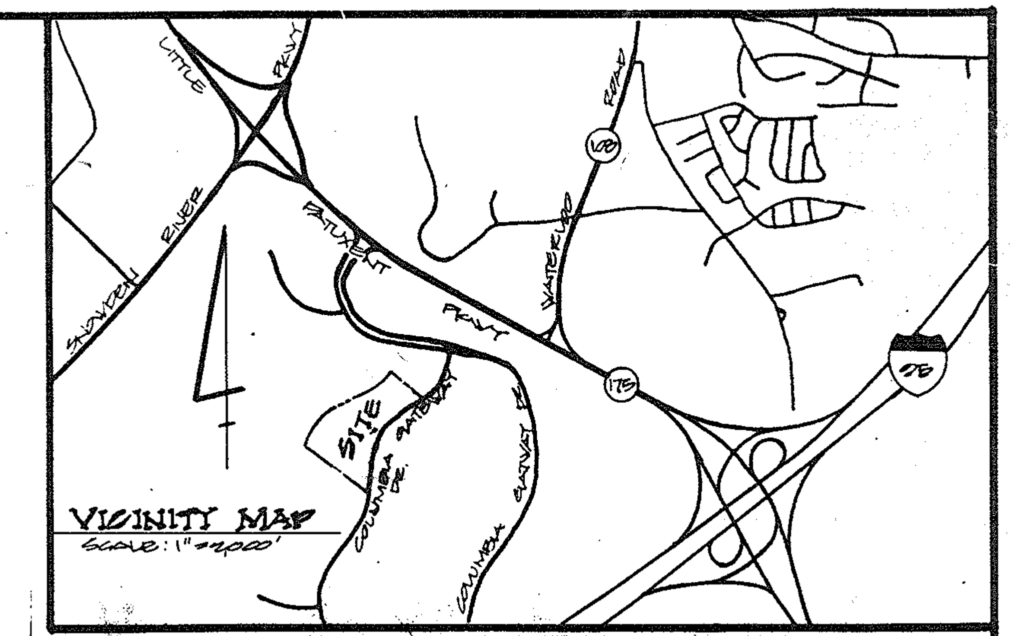
* EXCESS TOPSOIL WILL BE SOLD OR HAULED AWAY TO A SITE WITH APPROVED SEDIMENT & EROSION CONTROL PLAN.

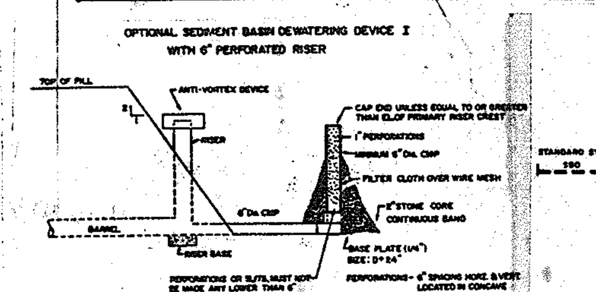
SEQUENCE OF CONSTRUCTION

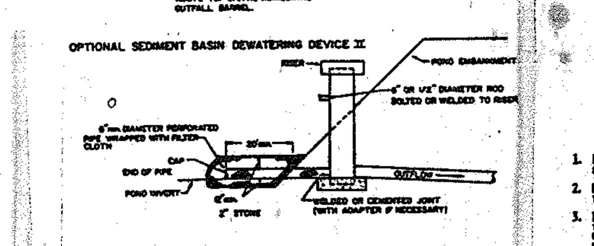
1.	Notify Howard County, Department of Inspections, Permit Inspector 48 hours prior to beginning work.	2 Days
2.	Clear and grub for sediment control measures only.	2 Days
3.	Install stabilized construction entrances.	1 Day
4.	Construct sediment basins (sediment basins shall be constructed per the construction specifications of storm water management ponds), per specifications as shown on sheet 9 of 11 for initial construction.	10 Days
5.	Install all earth dikes and straw bale dikes maintaining positive drainage to the sediment basins at all times.	2 Days
6.	Begin major grading and adjust diversion dikes as work progresses maintaining positive drainage to the sediment basins at all times.	12 Days
7.	Install all utilities.	20 Days
8.	Stabilize areas not receiving paving.	2 Days
9.	Fine grade and install subbase material in parking and building areas.	14 Days
10.	Fine grade any remaining areas and stabilize.	7 Days
11.	After obtaining permission from the Sediment Control Inspector, clean out and convert the sediment basins to storm water management facilities. Make the necessary changes to the release structures according to the approved storm water management plans.	7 Days
12.	After obtaining permission from the Sediment Control Inspector, remove the remaining sediment control devices and stabilize.	3 Days

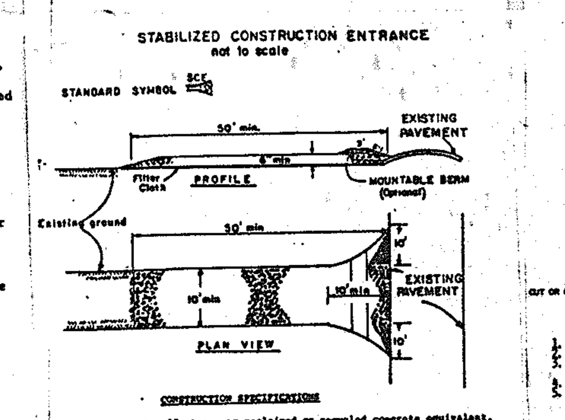
KEY

- ●●●●●●●●● PROPOSED DRAINAGE AREA
- ——— LIMIT OF DISTURBANCE
- S.B.D. ——— STRAW BALE DIKE
- S.C.E. STABILIZED CONSTRUCTION ENTRANCE
- ➡ ■ ■ ➡ EARTH DIKE



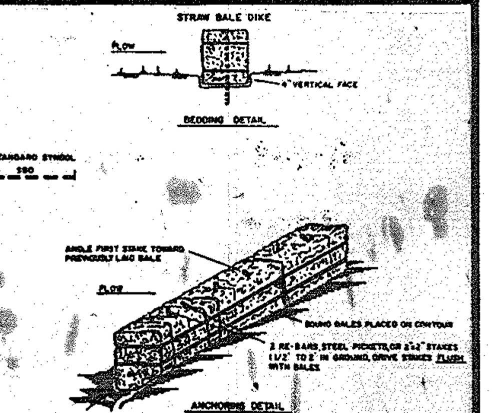






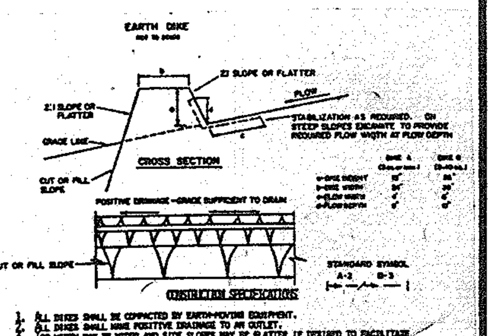
CONSTRUCTION SPECIFICATIONS

1. Stone Size - Use 2" stone, or reclaimed or recycled concrete equivalent.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than six (6) inches.
4. Width - Ten (10) foot minimum, but not less than the full width at points where ingress or egress occurs.
5. Filter Cloth - Will be placed over the entire area prior to placing of stone. Filter will not be required on a single family residence lot.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Wheels shall be cleaned to remove sediment prior to entrance onto public rights-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.
9. Periodic inspection and needed maintenance shall be provided after each rain.



CONSTRUCTION SPECIFICATIONS

1. Bales shall be placed at the toe of a slope or on the contour and in a row with ends tightly abutting the adjacent bales.
2. Each bale shall be embedded in the soil a minimum of (4) inches, and placed so the bindings are horizontal.
3. Bales shall be securely anchored in place by either two stakes or re-bars driven through the bale. The first stake in each bale shall be driven toward the previously laid bale at an angle to force the bales together. Stakes shall be driven flush with the bale.
4. Inspection shall be frequent and repair replacement shall be made promptly as needed.
5. Bales shall be removed when they have served their usefulness so as not to block or impede storm flow or drainage.



CONSTRUCTION SPECIFICATIONS

1. All dikes shall be compacted by earth-moving equipment.
2. All dikes shall have positive drainage to an outlet.
3. Top width may be wider and side slopes may be flatter if desired to facilitate crossing by construction traffic.
4. Field location should be adjusted as needed to utilize a stabilized safe outlet.
5. Earth dikes shall have an outlet that functions with a minimum of erosion. Runoff shall be conveyed to a sediment trapping device such as a sediment trap or sediment basin where either the dike channel or the drainage area above the dike are not adequately stabilized.
6. Stabilization shall be: (a) in accordance with standard specifications for seed and straw mulch or straw mulch if not in seeding season, (b) flow channel as per the chart below.

FLOW CHANNEL STABILIZATION

Type of Treatment	Channel Grade	Dike A	Dike B
1	.5-3.0%	Seed and Straw Mulch	Seed and Straw Mulch
2	3.1-5.0%	Seed and Straw Mulch	Seed using Jute, or Excelsior; Sod; 2" Stone
3	5.1-8.0%	Seed with Jute, or Sod; 2" Stone	Lined Rip-Rap 4-8"
4	8.1-20%	Lined Rip-Rap 4-8"	Engineering Design

A. Stone to be 2 inch stone, or recycled concrete equivalent, in a layer at least 3 inches in thickness and be pressed into the soil with construction equipment.
B. Rip-Rap to be 4-8 inches in a layer at least 8 inches thickness and pressed into the soil.
C. Approved equivalents can be substituted for any of the above materials.
7. Periodic inspection and required maintenance must be provided after each rain event.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHINAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
James M. [signature] U.S. SOIL CONSERVATION SERVICE — 8-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Zielinski HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT.
[signature] COUNTY HEALTH OFFICER — 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
Acting [signature] DIRECTOR — 8-18-86 DATE
[signature] CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
[signature] DIRECTOR — 8-13-86 DATE
[signature] CHIEF BUREAU OF ENGINEERING — 8-13-86 DATE

APPROVED
DIVISION OF LAND DEVELOPMENT &
ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86
[signature]

ADDRESS CHART

BUILDING #	STREET ADDRESS
A	
B	
C	
D	
E	
F	

SUBDIVISION NAME:				SECT./AREA	LOT/PARCEL #
PLAT# OR L/F	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
WATER CODE			SEWER CODE		

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301)825-8120

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENT A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
[signature] 8930 — 4/16/86
ENGINEER TAPOBRATA CHAKRABARTI REG. NO. — DATE

OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044
(301) 992-6033
CONTRACT PURCHASER
M.O.R. XXXVIII PARTNERSHIP
% MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

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I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
DEVELOPER: [signature] ASST. V.P. DATE: 4-14-86

DESIGNED: TC
DRAWN: DU/DB
CHECKED: TC
REVISIONS:

EROSION & SEDIMENT CONTROL PLAN & DETAILS
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY
PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT # 6
SCALE: AS SHOWN — APRIL 3, 1986
F.N. 05433 — SHEET 7 OF 11

SDP # 86-231

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
USDA SOIL CONSERVATION SERVICE — 8-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: Robert W. Zielman, HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231 PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD CO. HEALTH DEPT.
CHIEF, BUREAU OF ENVIRONMENTAL HEALTH SERVICES — 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
DIRECTOR — 8-19-86 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-13-86
CHIEF, BUREAU OF ENGINEERING — 8-12-86 DATE

STATE OF MARYLAND — EUGENE L. FEGLEY — 14299 — PROFESSIONAL ENGINEER — 7/22/16
FOR REVISION 7 DATED 7/22/16

GENERAL ELECTRIC COMPANY
APPLIANCE PARK EAST
PARCEL A-1
PLAT # 6408

PROP. D.A. TO SEDIMENT BASIN #2 = 14.84 AC±

PROP. D.A. TO SEDIMENT BASIN #1 = 4.50 AC±

BUILDING 'B' FF 351.00 70,300 SQ FT

BUILDING 'C' FF 351.00 94,975 SQ FT

BUILDING 'A' FF 340.00 40,250 SQ. FT

BUILDING 'E' FF 350.00 12,016.5 SQ FT (OVERALL)

BUILDING 'F' FF 350.00 12,016.5 SQ FT (OVERALL)

BUILDING 'D' FF 350.00 61,375 SQ FT

SEDIMENT BASIN #1 ELEV. 334

SEDIMENT BASIN #2

MOUNTABLE BERM

PROP. RAMP SEE DETAIL THIS SHEET

PROP. 20'x18' CONC. DUMPSTER PAD (SEE HO. CO. DETAIL R8.03 & R8.05)

NO PARKING

18" OD HDPE SLIPLINING

STONE OUTLET STRUCTURE

LIMIT OF DISTURBANCE

BUILDING RESTRICTION LINE

EX. 20' STORM DRAIN EASEMENT

COLUMBIA GATEWAY PARCEL 'J' PLAT # 6409

COLUMBIA GATEWAY DRIVE

PLAN
SCALE: 1"=80'

NOTE: FOR FINE GRADING SEE SITE PLAN (SHEET 1 OF 11)

LEGEND
- EARTH DIKE
- STRAW BALE DIKE
- DRAINAGE AREA
- LIMIT OF DISTURBANCE
- STONE OUTLET STRUCTURE
- STABILIZED CONSTRUCTION ENTRANCE

NOTE:
MAINTAIN POSITIVE DRAINAGE TO SEDIMENT BASINS AT ALL TIMES.

For Rev 6
Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.
License No. 14289, Expiration Date: 8/09/2017
REVISION 7 7-22-16 SUITE A CHANGE OF USE FROM OFFICE TO DAY CARE, AND PLAY AREA, REARRANGE PARKING SPOTS.

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

STATE OF MARYLAND — CHARLES RAMSEY — 8930 — 4/16/86

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ENGINEER: TAPPAREDDA CHAKRABARTI 8930 — 4/16/86 DATE

OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6099

CONTRACT PURCHASER
M.C.R. XXXVIII PARTNERSHIP
C/O MANEKIN CORPORATION
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COLUMBIA, MARYLAND 21046 (301) 995-1670

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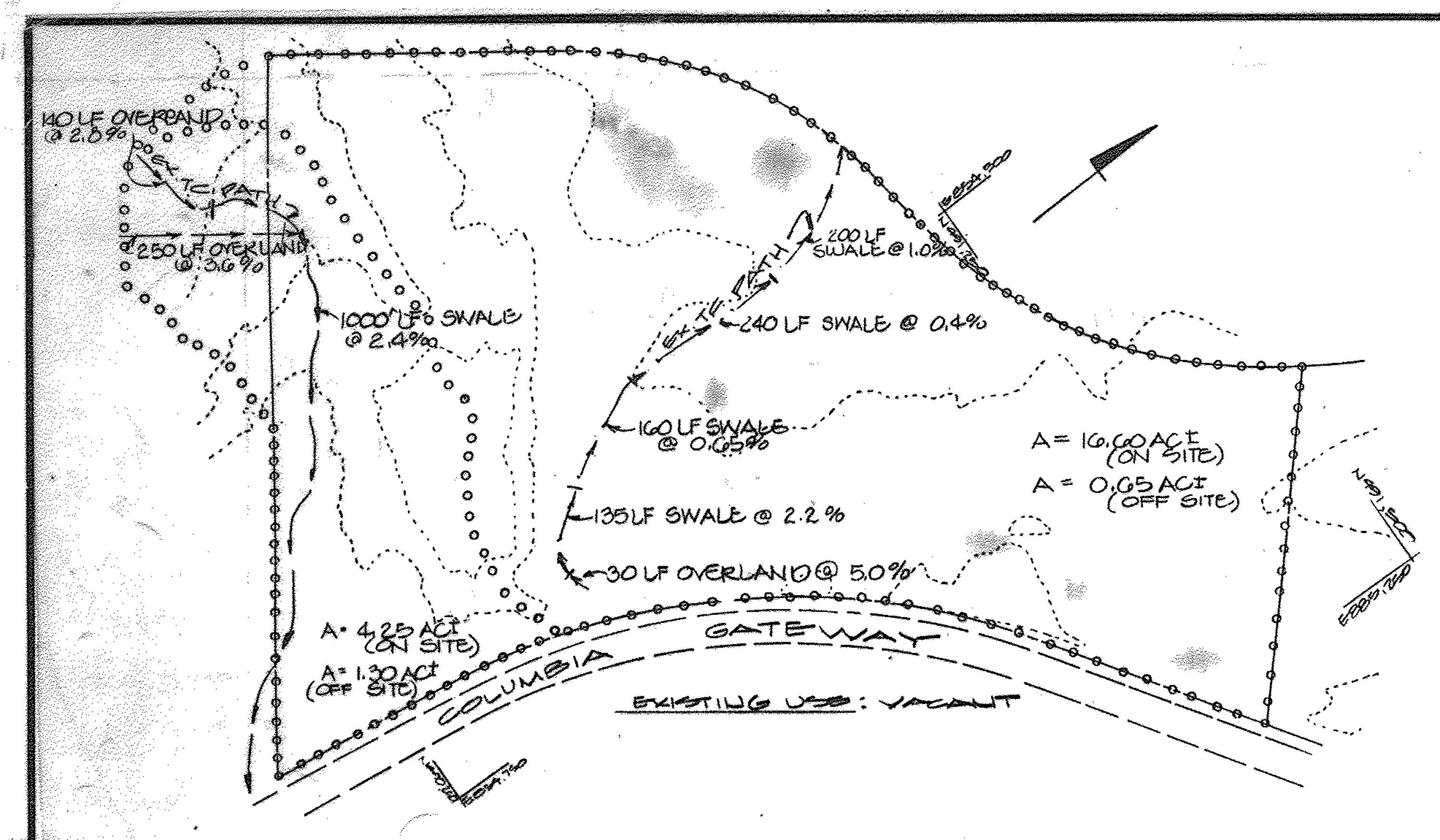
DEVELOPER: ASST. V.P. DATE: 4-11-86

DESIGNED: TC
DRAWN: DL/EB
CHECKED: TC
REVISIONS:
6 07-18-16 SWM 1 OUTFALL BARREL SLIPLINING
* 9-28-2015 SURVEY

EROSION & SEDIMENT CONTROL PLAN
FOR
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY PARCEL 'J'
TAX MAP # 12 & 13
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT # 6
SCALE: AS SHOWN — APRIL 7, 1986
P.U. 05163 — SHEET 8 OF 11

P.U. 05163
SDP # 86-231

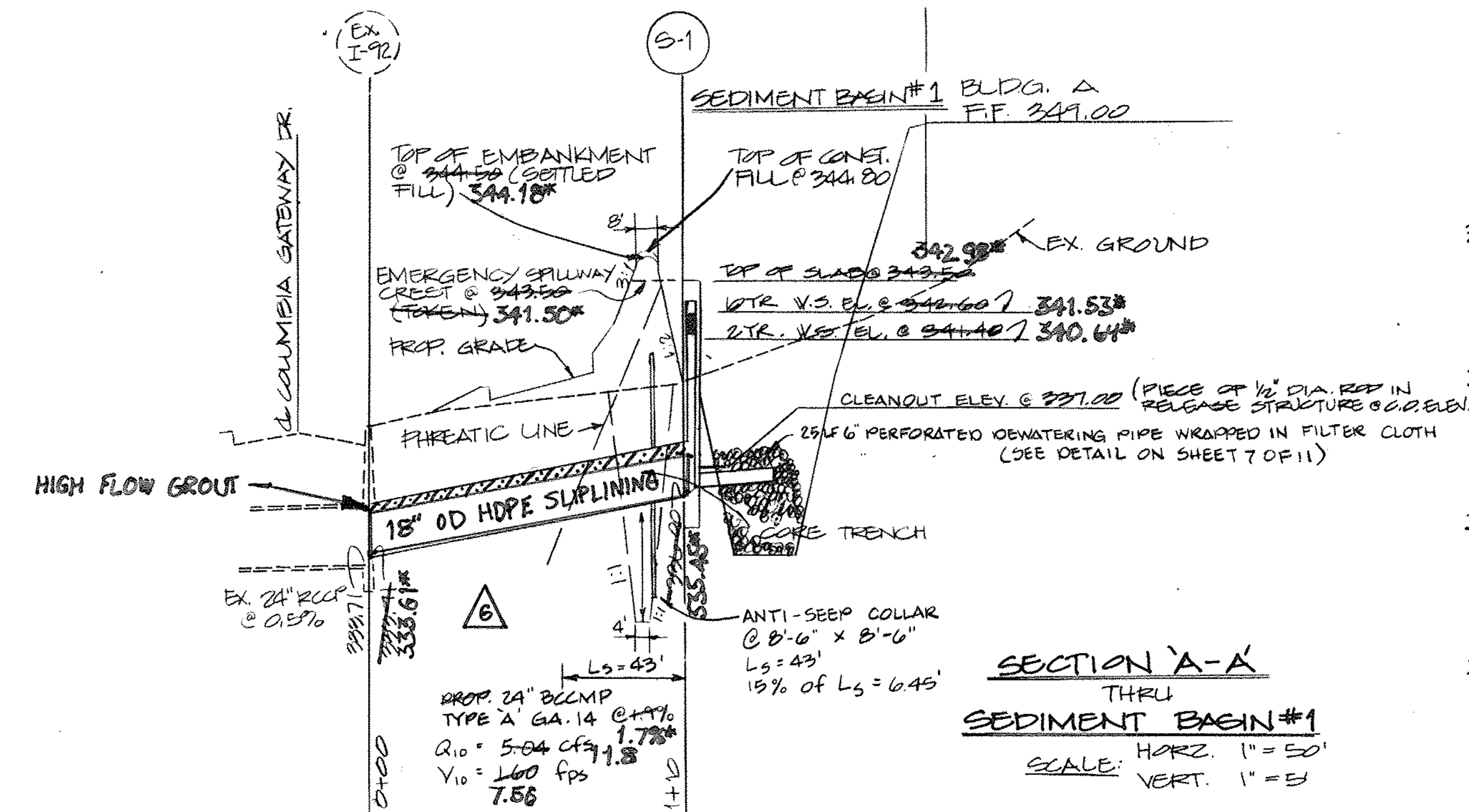


EXISTING SWM DRAINAGE AREA MAP

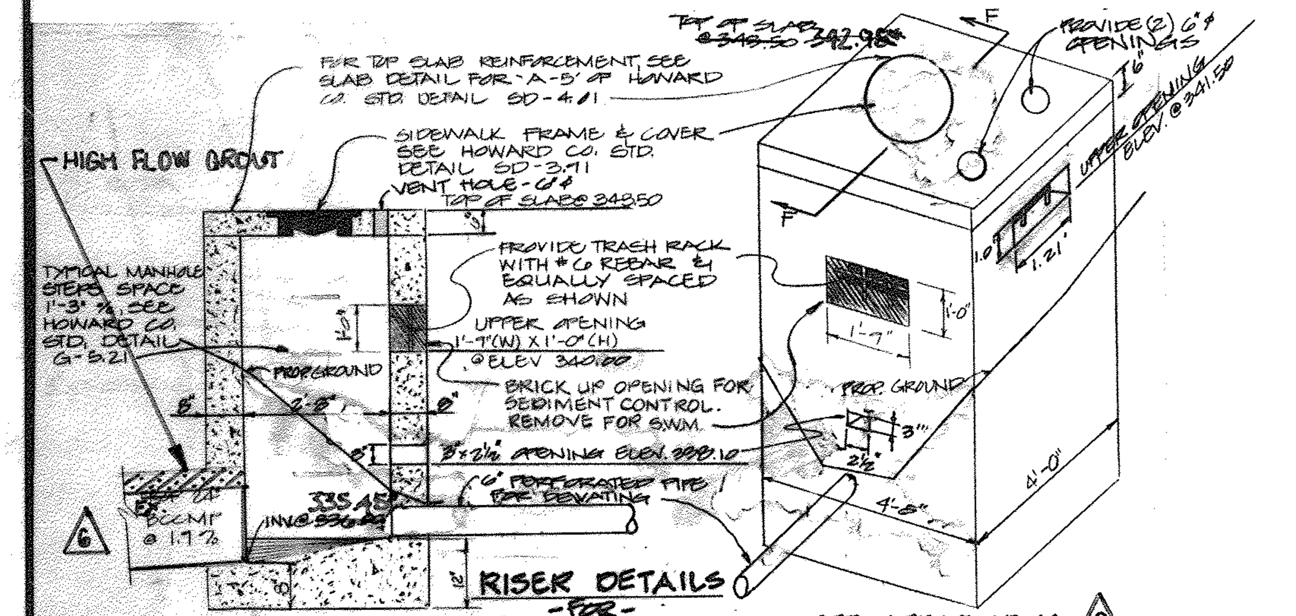
SCALE: 1" = 200'

→ → → TC PATH

○○○○○○○○○○○○○ EX. D.A.



SECTION 'A-A'
THRU
SEDIMENT BASIN #1
SCALE: HORZ. 1" = 50' VERT. 1" = 5'



RISER DETAILS
-FOR-
BASIN #1

SECTION 'F-F'
NO SCALE

18" OD (16.89" ID) HDPE SLIPLINING

NOTES:
1. THIS STRUCTURE SHALL BE BUILT OF REINFORCED CONCRETE.
2. FOR REINFORCEMENT OF THIS STRUCTURE SHALL BE PER HOWARD CO. STD. DETAIL SD-4.01
3. SEE HOWARD CO. STD. DETAIL SD-4.22 FOR THE CONSTRUCTION OF THE STRUCTURE
4. TRASH RACKS SHALL BE EQUALLY SPACED AS SHOWN AND SHALL BE PAINTED WITH NON-CORROSIVE PAINT OR EPOXY.

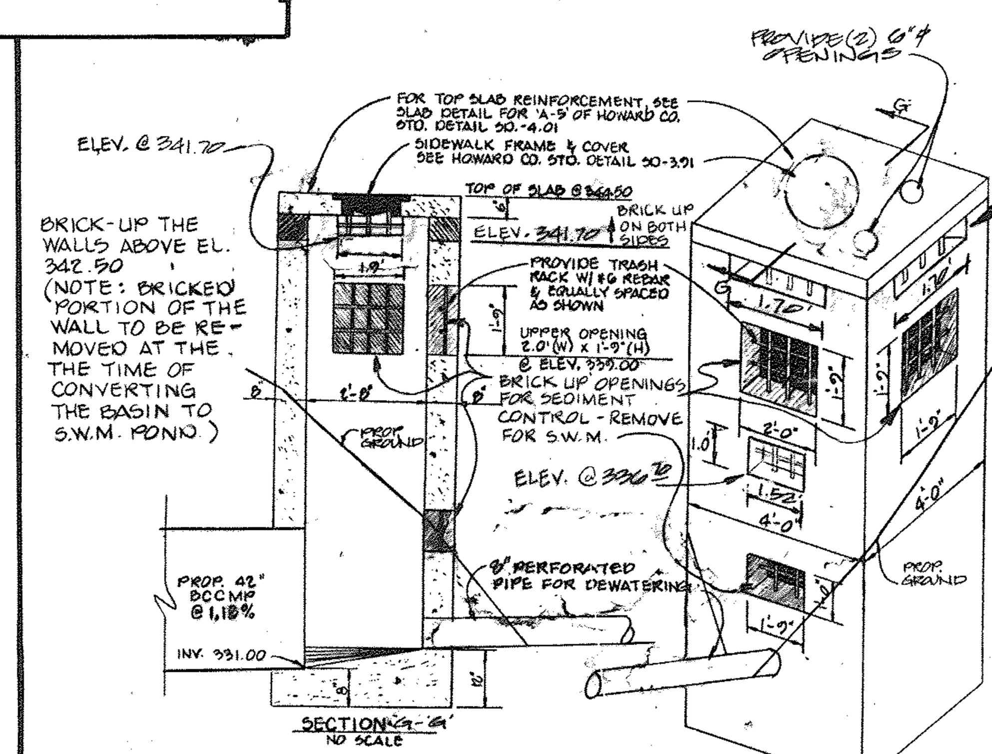
SEE SHEET 3 OF 11 ⚠6

DETAIL for S-1

SHOWING CONVERSION OF RELEASE STRUCTURE FROM SEDIMENT CONTROL TO STORMWATER MANAGEMENT

NO SCALE

NOTE: CONSTRUCT RELEASE STRUCTURE ACCORDING TO S.W.M. DETAIL



SECTION 'G-G'
NO SCALE

RISER DETAILS
-FOR-
BASIN #2

NOTES:
1. THIS STRUCTURE SHALL BE BUILT OF REINFORCED CONCRETE.
2. REINFORCEMENT OF THIS STRUCTURE SHALL BE PER HOWARD CO. STD. DETAIL SD-4.01.
3. SEE HOWARD CO. STD. DETAIL SD-4.22 FOR THE CONSTRUCTION OF THE STRUCTURE.
4. TRASH RACKS SHALL BE EQUALLY SPACED AND SHALL BE PAINTED WITH NON-CORROSIVE PAINT OR EPOXY.
5. PROVIDE TYPICAL MANHOLE STEPS ON NORTHWEST INNER STRUCTURE WALL SPACED 1'-3", SEE HOWARD CO. STD. DETAIL G-5.21.

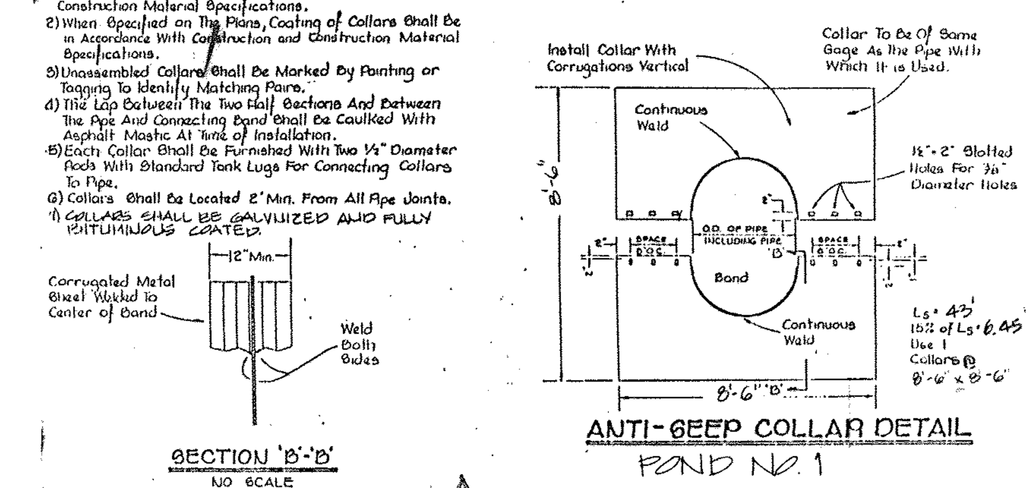
DETAIL for S-2

SHOWING CONVERSION OF RELEASE STRUCTURE FROM SEDIMENT CONTROL TO STORMWATER MANAGEMENT

NO SCALE

NOTE: CONSTRUCT RELEASE STRUCTURE ACCORDING TO SWM DETAILS

NOTES: ANTI-SEEP COLLARS
1) All Materials To Be in Accordance With Construction and Construction Material Specifications.
2) When Specified on The Plans, Coating of Collars Shall Be in Accordance With Construction and Construction Material Specifications.
3) Unassembled Collars Shall Be Marked By Painting or Tagging To Identify Matching Pairs.
4) The Lap Between The Two Half Sections And Between The Pipe And Connecting Band Shall Be Caulked With Asphalt Mastic At Time of Installation.
5) Each Collar Shall Be Furnished With Two ½" Diameter Rods With Standard Tank Lugs For Connecting Collars To Pipe.
6) Collars Shall Be Located 2' Min. From All Pipe Joints.
7) COLLARS SHALL BE GALVANIZED AND FULLY BITUMINOUS COATED.



ANTI-SEEP COLLAR DETAIL
POND NO. 1

18" OD SLIPLINING INSTALLATION ⚠6

1. DEWATER THE POND AS NECESSARY FOR SLIPLINING INSTALLATION.
2. SAWCUT RISER FRONT FACE FOR THE FULL WIDTH OR AS DIRECTED BY THE ENGINEER.
3. REMOVE SEDIMENT AND DEBRIS FROM THE OUTFALL BARREL AS REQUIRED FOR SLIPLINING.
4. PER THE MANUFACTURER'S SPECIFICATIONS INSTALL THE SLIPLINING PIPE INNERFLOW 18" OD (16.89" ID) OR APPROVED EQUAL ALL SLIPLINING PIPE SHALL MEET AASHTO M 326-08 SPECIFICATION AND HAVE A MANNINGS N VALUE OF .009.
5. SEAL BARREL ENDS AND GROUT THE ANNULAR SPACE BETWEEN THE BARREL LINER AND EXISTING BARREL.
6. GROUT SHALL BE US GROUT 715 OR APPROVED EQUAL. GROUT SHALL BE FLOWABLE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
7. RECONSTRUCT RISER FRONT FACE BY DRILLING 1/8" Ø LARGER THAN EXISTING REBAR AT EACH SAWCUT REBAR LOCATION. ANCHORING HOLES LENGTHS SHALL BE PER THE ANCHORING COMPOUND MANUFACTURER'S SPECIFICATIONS.
8. ANCHOR REBAR (MATCH EXISTING DIAMETER) INTO EXISTING STRUCTURE WITH QUIKRETE 8620-1 OR APPROVED EQUAL. ALL REBAR SHALL CONFORM TO GRADE 60 AND SHALL BE EPOXY COATED. BAR LAP SPLICES SHALL BE PER AASHTO SPECIFICATIONS.
9. CLEAN EXISTING CONCRETE SURFACES BY REMOVING LOST AND DETERIORATED MATERIALS BY SAND BLASTING AND REMOVING ALL BOND-INHIBITING MATERIALS DIRT, OIL, STANDING WATER, ETC ON CONCRETE SURFACE.
10. INSTALL SIKASWELL A WITH SIKASWELL S-2/S-3 WATERSTOP OR APPROVED EQUAL AS PER THE MANUFACTURER'S SPECIFICATIONS TO FORM WATERTIGHT JOINTS BETWEEN ALL EXISTING AND NEW CONCRETE.
11. APPLY QUICKRETE BONDING ADHESIVE PRODUCT NO, 9902 TYPE II PER MANUFACTURER'S INSTRUCTIONS PRIOR TO POUR.
12. MIX 6 CONCRETE SHALL BE USED FOR THE RISER FRONT FACE RECONSTRUCTION.
13. WIDEN EMERGENCY SPILLWAY TO 8 FOOT WIDE PER MD-378 REGULATIONS.

NOTES

* FOR REV ⚠6 INDICATES PLAN ELEVATIONS AND DATA REFLECTING SURVEY PERFORMED BY FSH ASSOCIATES ON 9-28-2015 FOR AS-BUILT INFORMATION. AS-BUILTS WILL BE PROVIDED FOR SWM 1 UPON COMPLETION OF SLIPLINING PROJECT.

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

CONSTRUCTION SPECIFICATIONS

I. SITE PREPARATION
The fill area and borrow area shall be cleared and grubbed to remove all trees, vegetation, roots and other objectionable material. The topsoil from the embankment area and borrow area shall be removed and stockpiled. The topsoil shall be spread on the completed fill area.

II. EARTH FILL
A) FILL MATERIAL shall be obtained from on-site under the supervision of a soils engineer. It shall be free from roots, stumps, wood rubbish, oversized stones frozen or other objectionable material. Fill areas shall be constructed to the elevation shown on the plan to allow for anticipated settlement.
B) PLACEMENT: Areas on which fill will be placed shall be scarified prior to placement of fill. Fill materials shall be placed in layers 6" thick maximum (before compaction) and shall be continuous over the entire length of fill. The most porous material shall be placed in areas not adjacent to ponded water.
C) COMPACTION: The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be compacted to the specified density. Fill material shall contain sufficient moisture so that the required degree of compaction can be obtained with the equipment used.
D) CORE TRENCH shall be made of SC or CL material compacted to 95% of A.A.S.H.T.O. T-99 density.

III STRUCTURAL BACKFILL
Backfill material shall be the type and quality specified for the adjoining fill material. The fill shall be placed in horizontal layers 4" thick maximum and compacted by hand tamping or manually directed power tampers or plate vibrators. At no time during backfilling operations shall driven equipment by allowed to operate any closer than four feet measured horizontally to any part of a structure. Under no circumstances shall the contractor drive equipment over any part of a concrete structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Materials shall fill completely all spaces under and adjacent to newly installed pipe.

IV. CONCRETE
Concrete shall meet the minimum requirements set forth in the Maryland State Highway Administration "Specifications for Construction and Materials" January 1982 Section 918.06 - "Portland Cement Concrete Mixtures", Mix No. 3 Reinforcing steel shall be A.S.T.M. A 615, Grade 60.

V. STABILIZATION
The storm water management facility will be stabilized with "Permanent Slope Seeding" as follows:
After spreading 4" topsoil seed with a mixture of 30% innoculated crown vetch and 70% Kentucky 31 Tall Fescue applied at a rate of 60 lbs./Ac., 10-10-20 fertilizer shall be applied at a rate of 25 lbs./1000 square feet, lime at a rate of 92 lbs./1000 square feet, mulch area with unweathered small grain straw at a rate of 1.5 T/Ac., anchor with rapid curing asphalt (R.C.-70, R.C.-250 or R.C.-800) at a rate of 0.1 Gal. S.Y.

VI. PIPE CONDUITS
24" B.C.C.M.P. TYPE 'A', GA. 14 @ FACILITY #1
42" B.C.C.M.P. TYPE 'A', GA. 12 @ FACILITY #2

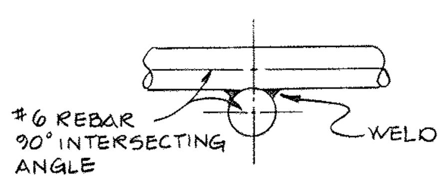
A. Corrugated Metal Pipe
1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-90 with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.
2. Connections - All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Watertight coupling bands or flanges shall be used at all joints. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.
3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.
4. Laying pipe - The pipe shall be placed with inside circumferential laps pointing downstream and with the longitudinal laps at the sides.
5. Backfilling shall conform to structural backfill as shown above.
6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

VII. FILTER CLOTH
MIRAFI 1405 or equivalent shall be used.

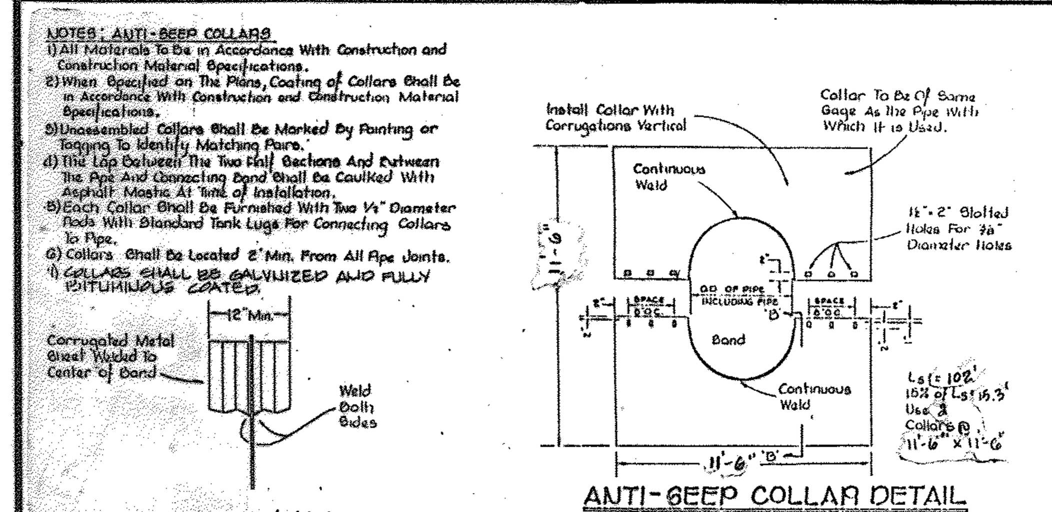
VIII. SEDIMENT CONTROL
Construction to be in accordance with "1983 Maryland Standards and Specifications For Soil Erosion and Sediment Control". In release structure install dewatering device by connecting 25 L.F. of 12" perforated underdrain to the low flow pipe. The 12" underdrain shall be wrapped in filter cloth and covered with minimum 12" thick #2 stone.

NOTE: (SPECIFIED DENSITY)
SUITABLE MATERIAL SHALL BE USED FOR THE EMBANKMENT AND ROLLED TO A MINIMUM DEGREE OF COMPACTION OF 95% OF THE DRY UNIT WEIGHT AS DETERMINED BY A.A.S.H.T.O. T-99. CONSTRUCTION OF SWM POND SHALL BE PERFORMED UNDER STRICT SUPERVISION OF A SOILS ENGINEER.

NOTES:
1. NO RUST SHALL BE PERMITTED ON REBAR SURFACES TO BE WELDED.
2. BITUMINOUS COATING SHALL BE REPAIRED UPON COMPLETION OF WELDING.

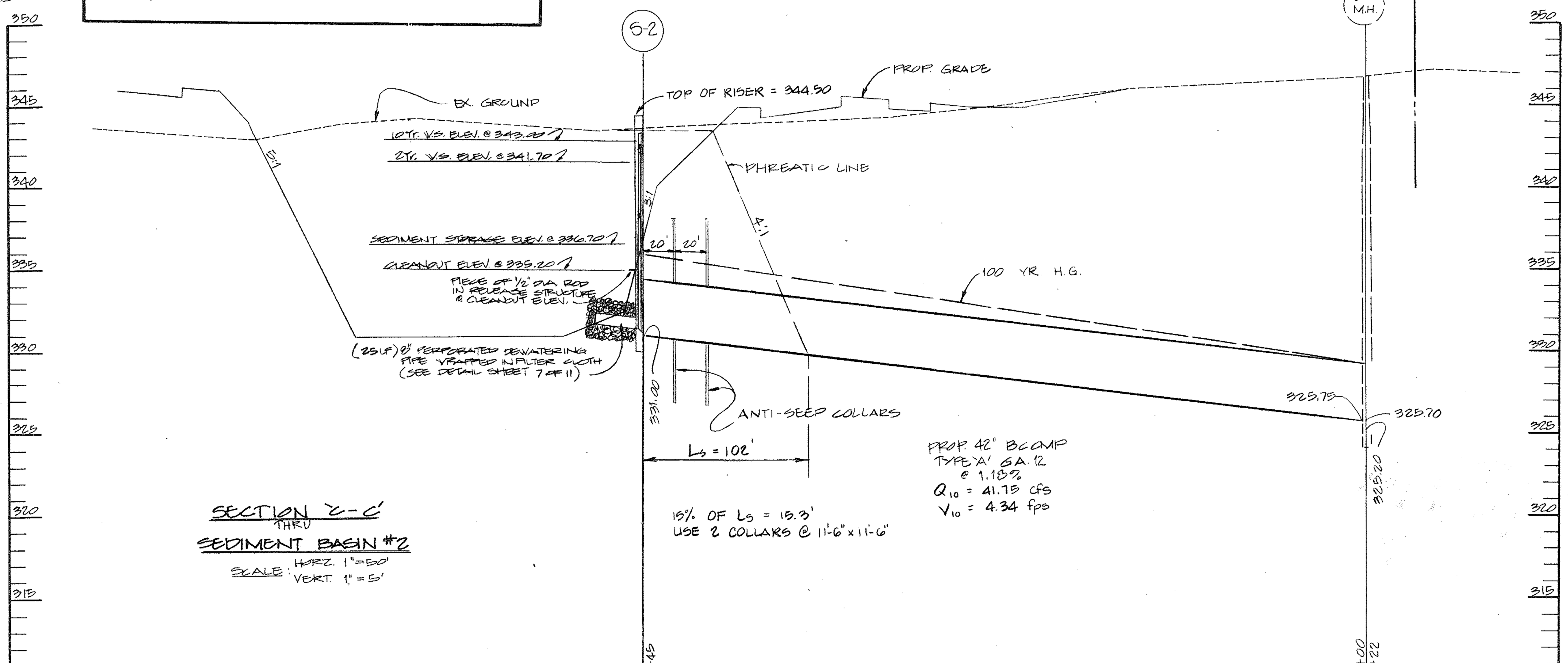


WELDING DETAIL
NO SCALE



SECTION 'B'-'B'
NO SCALE

ANTI-SEEP COLLAR DETAIL
POND #2



SECTION 'C-C'
THRU
SEDIMENT BASIN #2
SCALE: HORZ. 1" = 50' VERT. 1" = 5'

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
U.S. SOIL CONSERVATION SERVICE — 8-6-86 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: HOWARD SOIL CONSERVATION DISTRICT — 8-6-86 DATE
SDP-86-231
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
COUNTY HEALTH OFFICER — 8-15-86 DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
DIRECTOR — 8-18-86 DATE
CHIEF DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — 8-18-86 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE, STORM DRAINAGE SYSTEMS AND PUBLIC ROADS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
DIRECTOR — 8-13-86 DATE
CHIEF BUREAU OF ENGINEERING — 8-12-86 DATE

STATE OF MARYLAND EUGENE L. FLEAGLE 44289 PROFESSIONAL ENGINEER 7/18/2016

For Rev ⚠6

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 44289, Expiration Date: 8/08/2017

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
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ENGINEER TAPOBRATA CHAKRABARTI REG. NO. 8920 — 4/16/86 DATE

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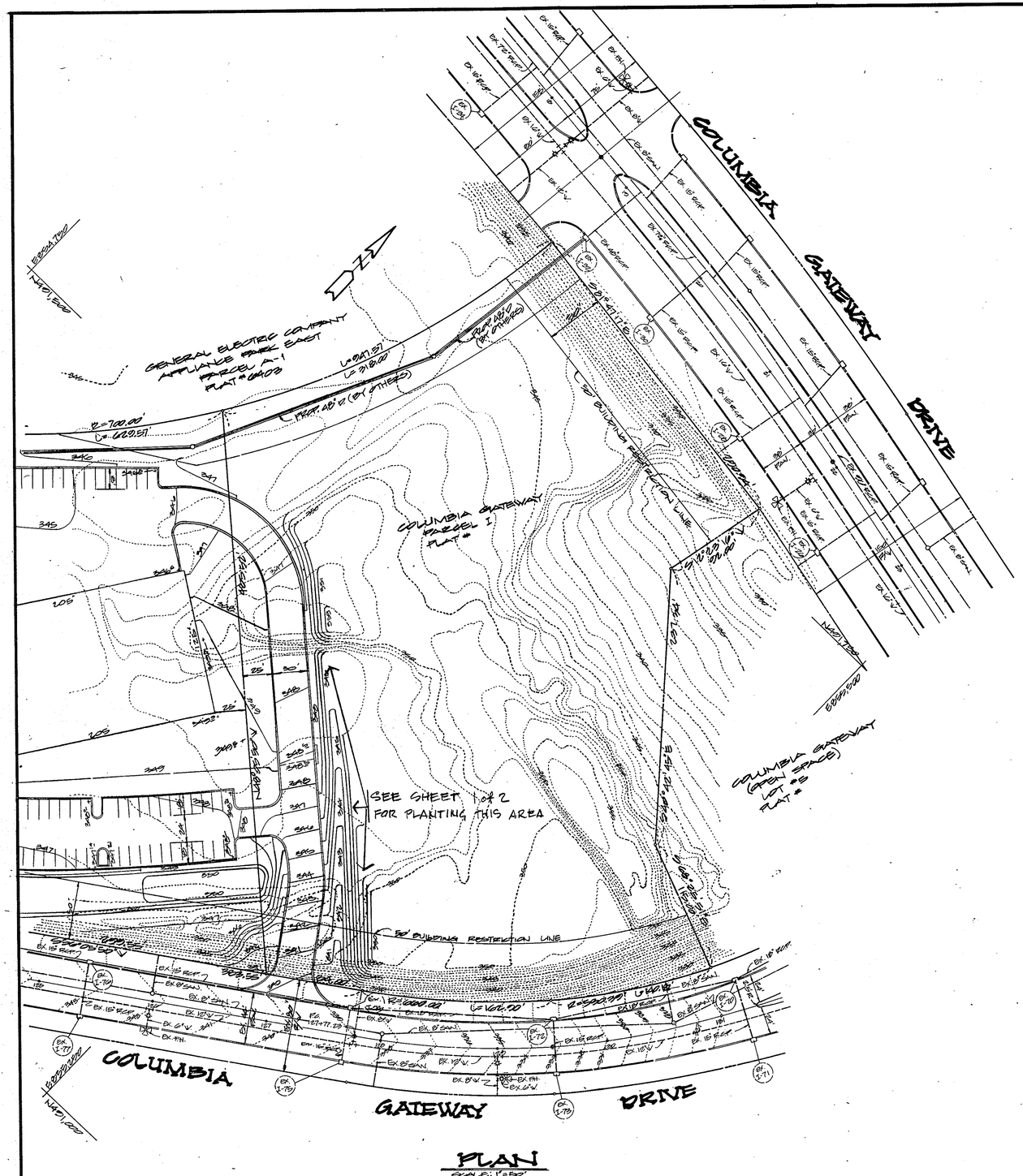
DEVELOPER: ASST. V.P. DATE: 4-18-86

DESIGNED BY: D.B. / K.B.
DRAWN BY: D.L. / K.B.
CHECKED BY: T.C.

REVISIONS
⚠6 07-18-16 SWM 1 OUTFALL BARREL SLIPLINING

SEDIMENT & EROSION CONTROL PROFILES & DETAILS
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY
PARCEL 'J'
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — APRIL 3, 1986
F.N. 05453 — SHEET 9 OF 11

SDP # 86-231

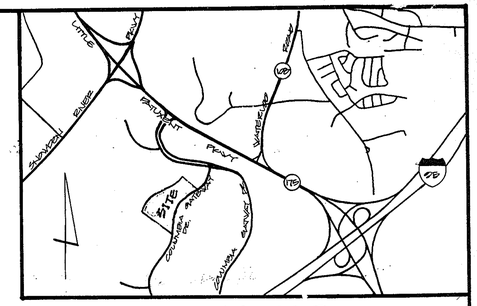


PLAN
SCALE: 1"=80'

PLANT SCHEDULE

KEY	PLANT NAME	SIZE	QUANT	REMARKS
	ACER RUBRUM 'RED SUNSET' RED SUNSET MAPLE	2½-3" CAL 12-14' HT	59	B&B HEAVY HEADS
	FRAXINUS P. LANCEOLATA SEEDLESS GREEN ASH	"	37	
	ZELKOVA SERRATA 'VILLAGE GREEN' VILLAGE GREEN ZELKOVA #2337	"	74	
	GLEDITSIA T. INERMIS 'SHADEMASTER' SHADEMASTER LOCUST	"	36	
	QUERCUS PALUSTRIS PIN OAK	"	38	
	SALIX BABILONICA BABILON WEEPING WILLOW	"	11	
		"		
	CORNUS KOUSA KOUSA DOGWOOD	2-2½" CAL 8-10' HT.	38	
	CRATAEGUS OXYACANTHA 'SUPERBA' CRIMSON CLOUD HAWTHORN	"	14	
	PRUNUS YEDOENSIS YOSHINO CHERRY	"	21	
	PRUNUS SERRULATA 'KWANZAN' KWANZAN CHERRY	"	43	
	PYRUS CAL. WHITEHOUSE WHITEHOUSE PEAR	"	16	
		"		
P	PINUS NIGRA AUSTRIAN PINE	6-8' HT	89	
W	PINUS STROBUS WHITE PINE	"	153	
C	TSUGA CANADENSIS CANADIAN HEMLOCK	"	32	

NOTES:
- CONTRACTOR SHALL VERIFY UNDERGROUND UTILITIES BEFORE DIGGING
- ALL PLANTING TO BE IN ACCORDANCE WITH HRD COLUMBIA PLANTING SPECIFICATIONS.
- SUBSTITUTIONS MAY BE PERMITED DEPENDING ON AVAILABILITY AND ON APPROVAL OF LANDSCAPE ARCHITECT.



VICINITY MAP
SCALE: 1"=2000'

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

STATE OF MARYLAND
MATTHEW C. ANGELOU
NO. 296
REGISTERED LANDSCAPE ARCHITECT
7.22.86

These plans have been reviewed for the Howard Soil Conservation District meet the technical requirements for small pond construction, soil erosion and sediment control.
U.S. Soil Conservation Service — 8-6-86 Date

These plans for small pond construction, soil erosion and sediment control meet the requirements of Howard Soil Conservation District.
Approved: Robert W. Ziehn, Howard Soil Conservation District — 8-6-86 Date
SDA-86-231 Plan Number

APPROVED: For public water and public sewerage systems Howard County Health Department.
County Health Officer — 8-15-86 Date

APPROVED: Howard County Office of Planning and Zoning
Acting Director — 8-18-86 Date
Chief, Division of Land Development and Zoning Administration — 8-18-86 Date

APPROVED: For public water and public sewerage, storm drainage systems and public roads Howard County Department of Public Works
Director — 8-13-86 Date
Chief Bureau of Engineering — 8-13-86 Date

ADDRESS CHART

BUILDING #	STREET ADDRESS
A	
B	
C	
D	
E	
F	

SUBDIVISION NAME: | SECT./AREA | LOT/PARCEL #
PLAT # OR L/F | BLOCK # | ZONE | TAX/ZONE MAP | ELECT. DIST. | CENSUS TRACT
WATER CODE | SEWER CODE

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

STATE OF MARYLAND — TAPOBRATA CHAKRABARTI — REGISTERED PROFESSIONAL ENGINEER

ENGINEER'S CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR ROAD CONSTRUCTION, DRAINAGE AND SEDIMENT CONTROL REPRESENT A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
ENGINEER: TAPOBRATA CHAKRABARTI REG. NO. — DATE

OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033
CONTRACT PURCHASER:
MGR. XXXVIII PARTNERSHIP
C/O MISEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

DEVELOPER'S CERTIFICATE:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS-BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
DEVELOPER: — ASST. V.P. — DATE: 4-14-86

DESIGNED:
DRAWN:
CHECKED:
REVISIONS:

LANDSCAPE PLANTING PLAN
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY PARCEL J
TAX MAP # 42 & 43
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — AREA: 3 ± ACRES
P.I. 85-153 — SHEET 10 OF 11

SDP # 86-231

APPROVED
DIVISION OF LAND DEVELOPMENT & ZONING ADMINISTRATION
HOWARD COUNTY, MARYLAND
DATE 7-2-86

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND ARE FOUND TO MEET THE TECHNICAL REQUIREMENTS FOR SOIL AND WATER CONSERVATION AND SEDIMENT CONTROL.
James M. Hetz — 8-6-86
USDA SOIL CONSERVATION SERVICE — DATE

THESE PLANS FOR SOIL AND WATER CONSERVATION AND EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED Robert W. Ziehm — 8-6-86
HOWARD SOIL CONSERVATION DISTRICT — DATE
SDP-86-281
PLAN NUMBER

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS HOWARD COUNTY HEALTH DEPARTMENT
8-15-86
COUNTY HEALTH OFFICER — DATE

APPROVED: HOWARD COUNTY OFFICE OF PLANNING AND ZONING
8-18-86
DIRECTOR — DATE
8-18-86
CHIEF, DIVISION OF LAND DEVELOPMENT AND ZONING ADMINISTRATION — DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS AND PUBLIC STORM DRAINAGE SYSTEMS HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS
8-13-86
DIRECTOR — DATE
8-13-86
CHIEF, BUREAU OF ENGINEERING — DATE

BUILDING 'B' FF 351.00 32,500 SQ FT
BUILDING 'C' FF 351.00 24,075 SQ FT
BUILDING 'A' FF 348.00 48,250 SQ FT
BUILDING 'F' FF 350.00 12,900 SQ FT
BUILDING 'E' FF 350.00 12,900 SQ FT
BUILDING 'D' FF 350.00 61,375 SQ FT
PROP. 50' 20'x18' CONC. DUMPSTER PAD (SEE HO. CO. DETAILS R8.03 & R8.05
PLAY AREA
PROP. FENCE
PROP. SWALE
PROP. CURB DRAIN
PROP. STORM DRAIN
PROP. SCREENING WALL
CONSTRUCTION LINE
GENERAL ELECTRIC COMPANY APPLIANCE PARK EAST PARCEL A-1 PLAT #6403
COLUMBIA GATEWAY PARCEL 'J' PLAT #
COLUMBIA GATEWAY DRIVE
COLUMBIA ENTERPRISE DRIVE (PRIVATE) 50' R/W PLAT #
50' U/D STORM DRAIN EASEMENT
EX. 20' STORM DRAIN EASEMENT
EX. 20' STORM DRAIN EASEMENT
EX. 24" STORM DRAIN
EX. 18" STORM DRAIN
EX. 12" STORM DRAIN
EX. 8" SANITARY SEWER
EX. 8" WATER
EX. 6" WATER
EX. 1" GAS
EX. UTILITIES
EX. CONTOURS
PROP. CONTOURS
EX. TREE LINE
EX. FENCE
EX. GUARD RAIL
EX. CURB & GUTTER
EX. PAVEMENT
EX. CONCRETE
EX. BUILDING
EX. SIGN
EX. LIGHT
EX. TELEPHONE POLE
EX. INLET
EX. MANHOLE
EX. HYDRANT
EX. VALVE
EX. GAS VALVE
EX. WATER METER
EX. GAS METER
EX. TELEPHONE MANHOLE
EX. TELEPHONE PEDESTAL
EX. TELEPHONE BOX
EX. ELECTRIC MANHOLE
EX. ELECTRIC BOX
EX. ELECTRIC METER
EX. ELECTRIC TRANSFORMER
EX. ELECTRIC VAULT
EX. ELECTRIC PEDESTAL
EX. ELECTRIC HANDHOLE
EX. ELECTRIC CONDUIT
EX. ELECTRIC LINE
EX. TELEPHONE CONDUIT
EX. TELEPHONE LINE
EX. GAS LINE
EX. STORM DRAIN
EX. SANITARY SEWER
EX. WATER LINE
EX. UTILITY POLE
EX. GUY WIRE
EX. FLOOD LIGHT
EX. TRAFFIC SIGNAL
EX. TRAFFIC SIGNAL CONTROL BOX
EX. TRAFFIC SIGNAL PEDESTAL
EX. TRAFFIC SIGNAL CONDUIT
EX. TRAFFIC SIGNAL LINE
EX. TRAFFIC SIGNAL HANDHOLE
EX. TRAFFIC SIGNAL MANHOLE
EX. TRAFFIC SIGNAL VAULT
EX. TRAFFIC SIGNAL METER
EX. TRAFFIC SIGNAL TRANSFORMER
EX. TRAFFIC SIGNAL BOX
EX. TRAFFIC SIGNAL PEDESTAL
EX. TRAFFIC SIGNAL CONDUIT
EX. TRAFFIC SIGNAL LINE
EX. TRAFFIC SIGNAL HANDHOLE
EX. TRAFFIC SIGNAL MANHOLE
EX. TRAFFIC SIGNAL VAULT
EX. TRAFFIC SIGNAL METER
EX. TRAFFIC SIGNAL TRANSFORMER

PLAN
SCALE: 1"=50'

STATE OF MARYLAND — MARYLAND YOUNGKIN — NO. 20818 — PROFESSIONAL ENGINEER
FOR REVISION 1 DATED 7/22/86

STATE OF MARYLAND — MATHEW C. ARACICH — NO. 396 — REGISTERED LANDSCAPE ARCHITECT
7.22.86

4/16/86

REVISION 7-22-86	SUITE A CHANGE OF USE FROM OFFICE TO DAY CARE, ADD PLAY AREA, REARRANGE PARKING SPOTS.

4/14/86

SEE SHEET 2 of 2 FOR PLANT LIST.

GEORGE WILLIAM STEPHENS, JR. AND ASSOCIATES, INC.
CIVIL ENGINEERS & LAND SURVEYORS
303 ALLEGHENY AVENUE
TOWSON, MARYLAND 21204
(301) 825-8120

ENGINEER'S CERTIFICATE
I CERTIFY THAT THIS PLAN FOR SOIL CONSERVATION, EROSION AND SEDIMENT CONTROL REPRESENT A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS THAT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE MUST PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS BUILT" OF THE POND WITHIN 30 DAYS OF COMPLETION.
ENGINEER'S SIGNATURE & CHARLES A. GARDENHOUR — DATE

OWNER / DEVELOPER
THE HOWARD RESEARCH & DEVELOPMENT CORP.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND, 21044
(301) 992-6033
CONTRACT PURCHASER
M.C.R. XXXVIII PARTNERSHIP
% MANEKIN CORPORATION
10270 OLD COLUMBIA RD.
COLUMBIA, MARYLAND, 21046 (301) 995-1670

DEVELOPER'S CERTIFICATE:
I CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPT. OF NATURAL RESOURCES 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 OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY. DEVIATION FROM THIS PLAN WILL NOT BE MADE UNLESS AUTHORIZED BY THE HOWARD SOIL CONSERVATION DISTRICT. I WILL PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH A RED-LINED "AS BUILT" OF THIS FIELD WITHIN 30 DAYS OF COMPLETION.
DEVELOPER: ASST. V.P. — DATE: 4-10-86

DESIGNED:
DRAWN:
CHECKED:
REVISED:

LANDSCAPE PLANTING PLAN
— for —
PROPOSED OFFICE FOR RESEARCH & DEVELOPMENT PARK
COLUMBIA GATEWAY PARCEL 'J'
TAX MAP # 42 & 48
HOWARD COUNTY, MARYLAND — ELECTION DISTRICT #6
SCALE: AS SHOWN — APRIL 2, 1986
TAX NO. 05488 — SHEET 11 OF 11

TAX SHEET
SDP # 86-281