

SHEET INDEX

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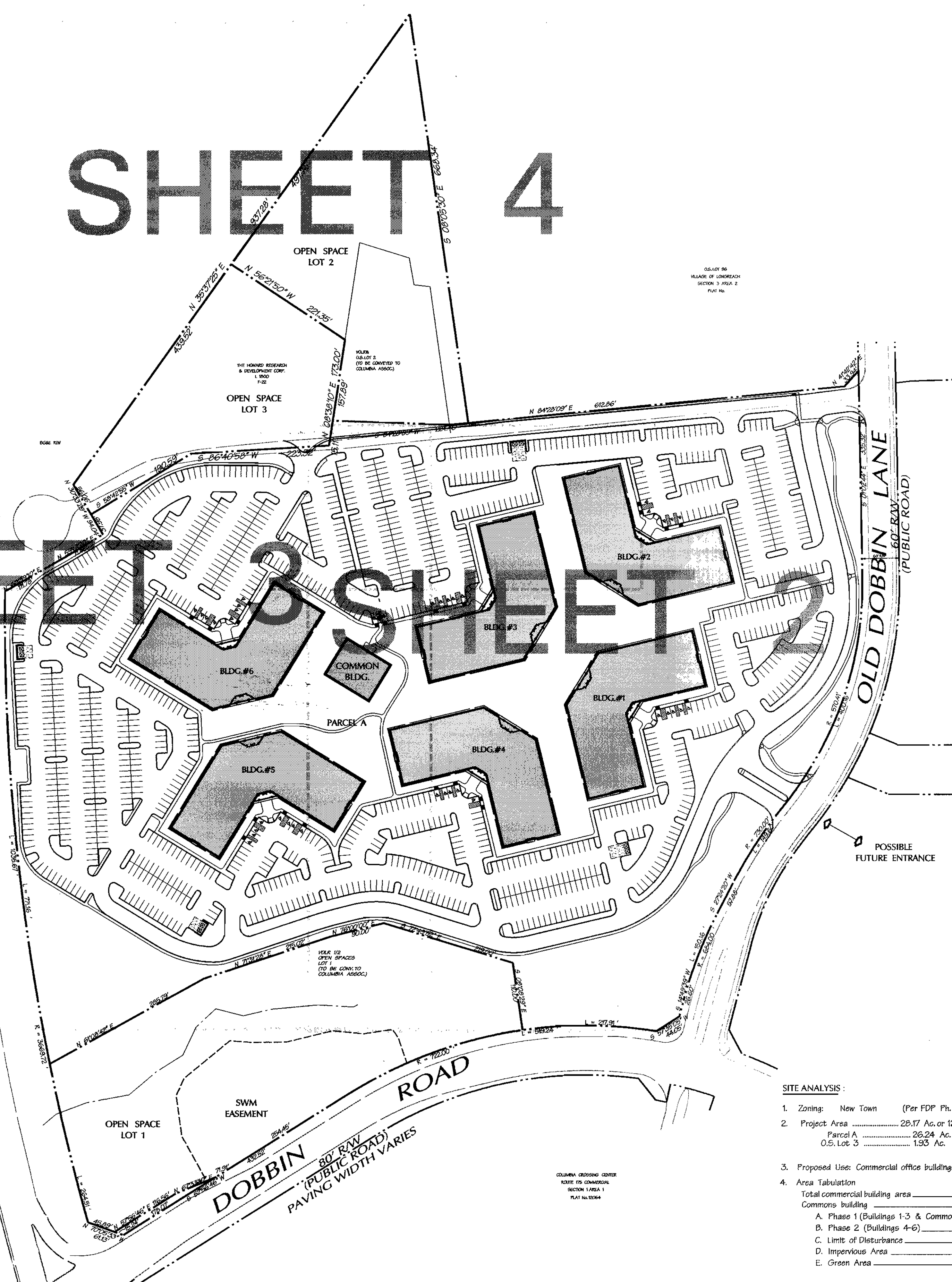
**LEGEND**

	10' EXISTING CONTOUR
	2' EXISTING CONTOURS
	10' PROPOSED CONTOUR
	2' PROPOSED CONTOUR
	REVERSE CURB & GUTTER R-3.01
	DEPRESSED CURB R-3.01
	STANDARD CURB & GUTTER
	PROPOSED STORM DRAIN
	PROPOSED SEWER
	PROPOSED WATER
	PARKING COUNT
	VAN HANDICAPPED PARKING
	HANDICAPPED PARKING
	HANDICAP RAMP

# SHEET 4

# SHEET 3

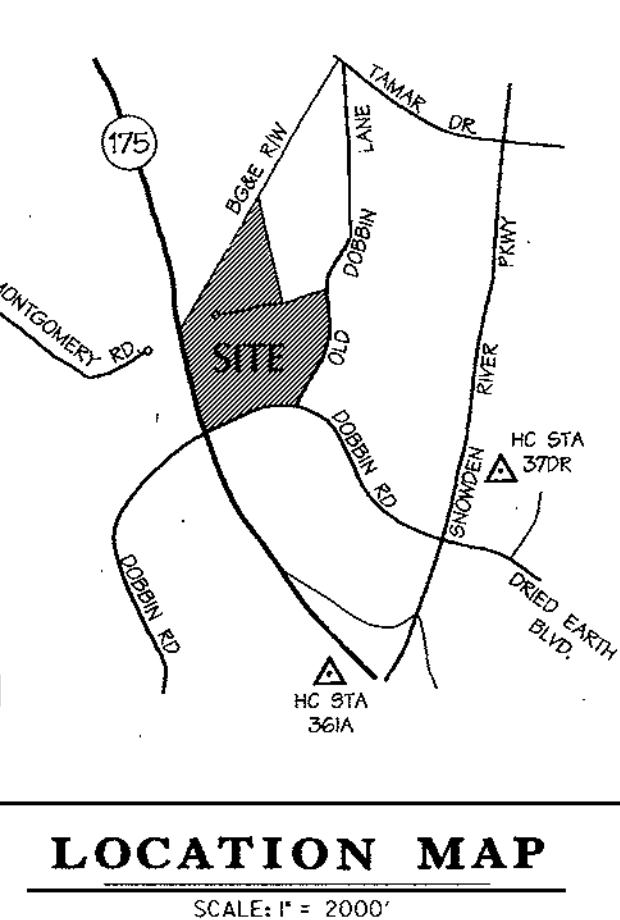
MARYLAND ROUTE 175  
MSHA RW PLAT 42988 & 43566  
(300' R/W)



- GENERAL NOTES**
- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
  - The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410) 313-1900 at least five (5) working days prior to the start of work.
  - The contractor shall notify 'Miss Utility' at 1-800-251-7771 at least 48 hours prior to any excavation work.
  - Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
  - All plan dimensions are to the face of curb unless otherwise noted.
  - Topography was field run surveyed by Gutcheck, Little & Weber on February, 1999.
  - Coordinates and bearings shown hereon are referred to the Maryland Coordinate system (NAD 83) as projected by Howard County Geodetic Control stations No. 361A & 37 DR.
  - Storm water management is provided on-site by extended detention facilities for quantity and quality.
  - Storm water management facilities are privately maintained.
  - No wetlands exist within the limits of disturbance.
  - The existing utilities were located from available records and field survey prepared by Duff-McCune-Walker, Inc. The contractor must dig test pits, by hand, at all utility crossings and connection points at least 5 days prior to starting work to verify exact location.
  - The Soils analysis report was prepared by Hillis, Carnes & Assoc.
  - Handicap parking details shall be in accordance with the 'Maryland Building Code for the Handicapped', Section 5.01-7.05.
  - Any damage to County owned right-of-way to be corrected at the contractor's expense.
  - All sidewalks shall be cross sloped at 1/4" per foot.
  - Trench bedding for storm drainage structures shall be in accordance with Howard County Standard G2.01.
  - Department of Planning and Zoning reference file numbers: F-96-41, FDP-Ph-235, S-99-05, WP-99-117 (waiver of SEC-16-114(f) allowing the preliminary plan not to be submitted.) F-00-20
  - All inlets shall be constructed in accordance with Howard County standards or MSHA Standards as specified on the structure schedule.
  - All materials and construction is to be in accordance with the Howard County Design Manual Volume IV.
  - The building setback restrictions from the property lines and right-of-way lines of any public roads shall be in accordance with FDP Phase 235.
  - All on-site driveways and parking areas to be privately maintained.
  - All curb radii are five foot unless otherwise labeled all curbs to be 6" in height.
  - All equipment and tools shall be placed as not to interfere with vehicular or pedestrian movement unless specified.
  - The contractor shall be responsible for any damage to existing property which may occur as a result of his negligence in the execution of this work.
  - All paving areas indicated are private.
  - All proposed handicap ramps shall be in accordance with the current A.D.A. Standards.
  - There is no floodplain on this site.
  - Traffic study was prepared by Wells and Assoc. dated 12-28-99.
  - Public Water is utilized for this site.
  - This plan is exempt from Forest Conservation in accordance with Section 16-1202 (10) (1) (v).
  - This property is located within the Metropolitan District.
  - Wetlands shown are per F-00-20.
  - There are no slopes greater than 25% greater than 10,000 contiguous S.F.
  - All exterior lighting shall comply with Section 134 of the Howard County Zoning Regulations.

**ADDRESS CHART**

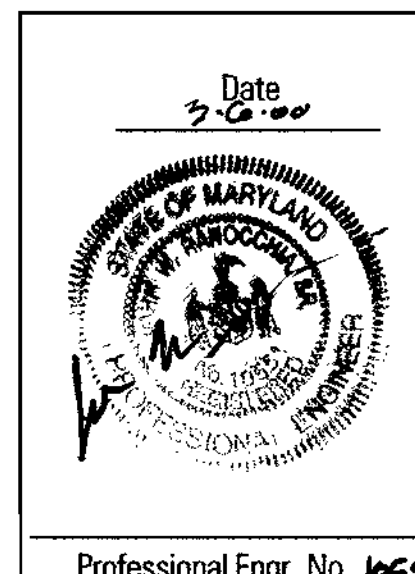
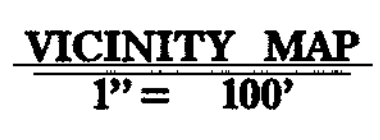
BUILDING #	STREET ADDRESS
1	6250 Old Dobbin Lane
2	6200 Old Dobbin Lane
3	6210 Old Dobbin Lane
4	6240 Old Dobbin Lane
5	6230 Old Dobbin Lane
6	6220 Old Dobbin Lane
COMMONS	6216 Old Dobbin Lane



**SITE ANALYSIS:**

- Zoning: New Town (Per FDP Ph. 235)
- Project Area: 28.17 Ac. or 1227085 sq. ft.  
Parcel A: 26.24 Ac.  
O.S. Lot 3: 1.93 Ac.
- Proposed Use: Commercial office buildings and parking.
- Area Tabulation:
 

Total commercial building area	256,000 sf
Commons building	5,950 sf
A. Phase 1 (Buildings 1-3 & Commons Building)	101,950 sf
B. Phase 2 (Buildings 4-6)	160,000 sf
C. Limit of Disturbance	28 Ac.
D. Impervious Area	16.5 Ac.
E. Green Area	11.5 Ac.
- Parking Required: 523 sp. (2 sp./1000 sf)  
A. Phase 1: 203 sp. (INC 16 HC)  
B. Phase 2: 320 sp. (INC 19 HC)
- Parking Provided: 1216 SF.  
A. Phase 1: 536 SF. (INC 17 HC)  
B. Phase 2: 680 SF. (INC 22 HC)



**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

	5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
	5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
	5/12/00
DIRECTOR	DATE

Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL
		SECTION 1 AREA 2 PARCEL A & O.S. LOT 3
		OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044
		CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD. 21046

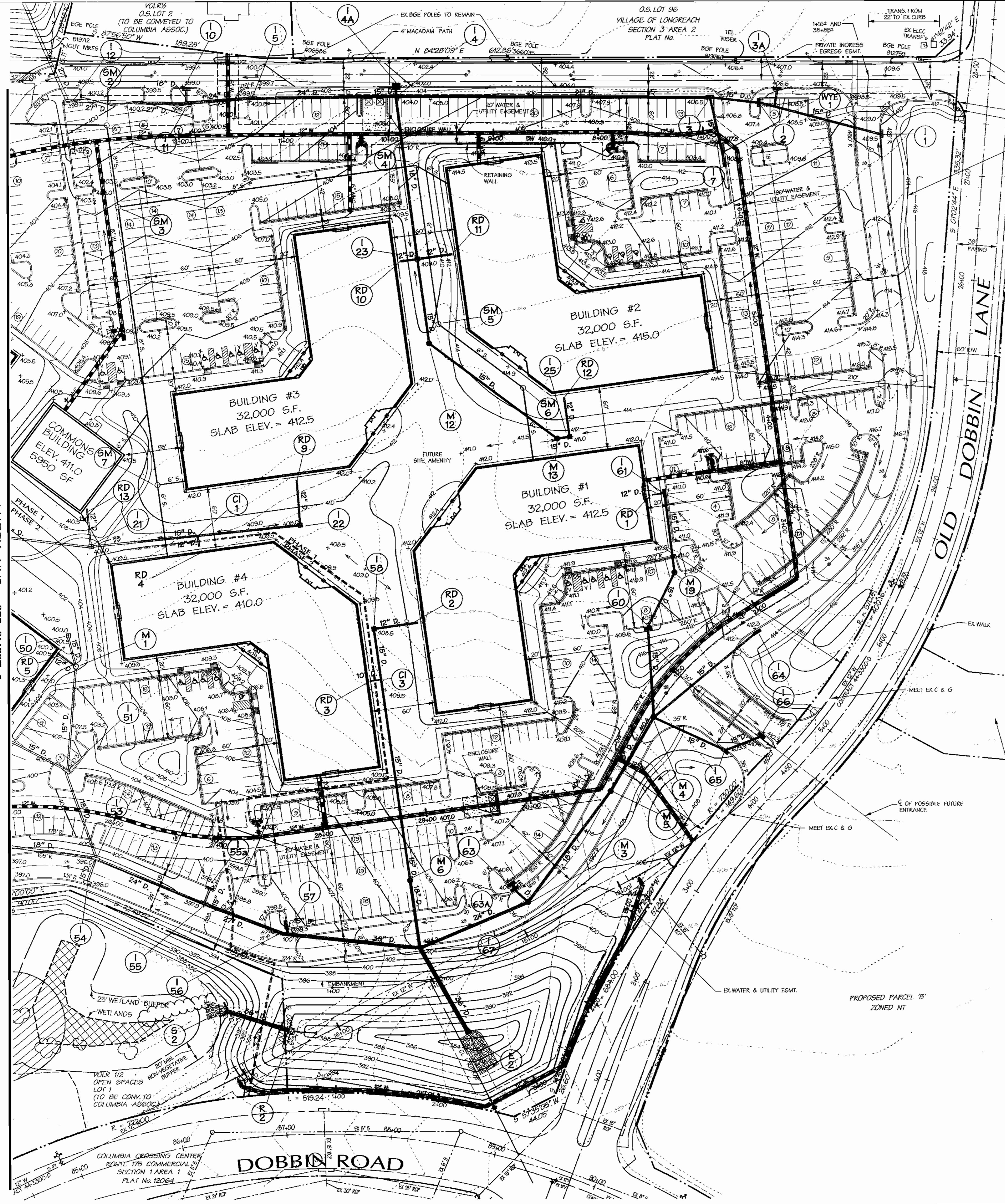
**DMW**  
Duff-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

SECTION NAME COL. RT. 175 COMMERCIAL	SECTION AREA 2.1141 ac (0.0000)	DATE 2/14/00	DATE 2/14/00	DATE 2/14/00
BY PH 235	DATE 12/28/99	DATE 2/14/00	DATE 2/14/00	DATE 2/14/00
WATER CODE	SEWER CODE	DATE	DATE	DATE

TITLE  
COVER SHEET

Des By	MJP	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	KDE	Date	3-3-00		
Chk By	Approved				1 OF 31



MEET EX.C & G  
 STATION 0+00 - 27+95  
 EX.C & G TO BE REMOVED  
 EX SIGNS TO BE REMOVED  
 4' MACADAM PATH (typ)

N 559250  
 E 1265500

PARCEL C-1  
 VILLAGE OF LONGREACH  
 SECTION 4 AREA 3  
 PLAT No. 11060  
 ZONED NT

OPEN SPACE LOT 3  
 VILLAGE OF LONGREACH  
 SECTION 4 AREA 3  
 PLAT No. 12130  
 ZONED NT

PROPOSED PARCEL 'B'  
 ZONED NT

MATCH LINE - SEE SHEET 3

**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>William M. K...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	5/12/00 DATE
<i>Richard Blosser</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>James Butler</i> DIRECTOR	5/12/00 DATE

Date	No.	Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION PARTNERSHIP  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD  
 SUITE 100  
 COLUMBIA, MD. 21046

**DMW**  
 Dan McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3338  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

2-2-00  
 Date



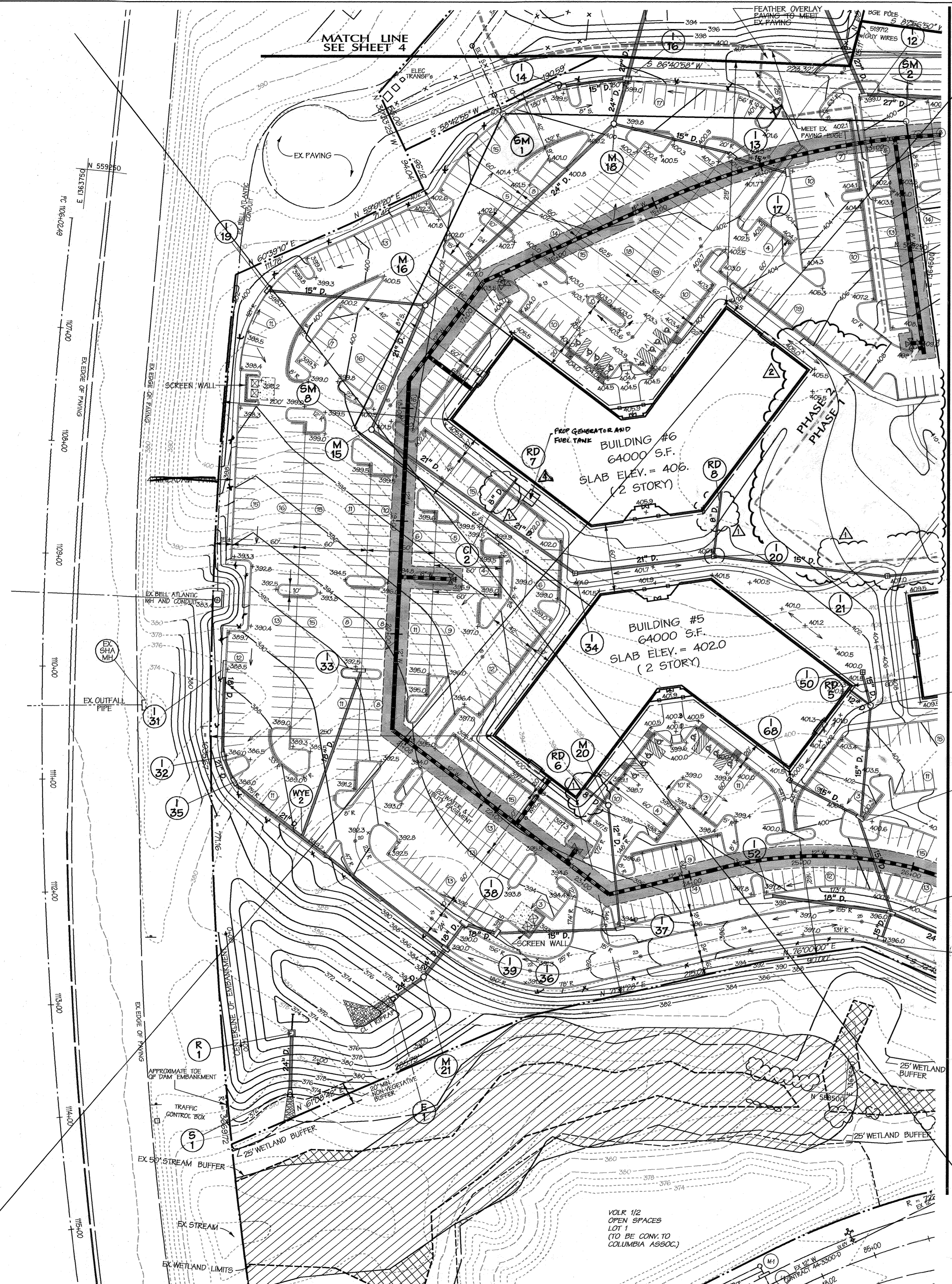
AREA: ROUTE 175 COMMERCIAL  
 TAX MAP: 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **SITE DEVELOPMENT PLAN**

Des By	MJP	Scale	1" = 50'	Proj. No.	89088.M
Dm By	KDE	Date	3-3-00		
Chk By	ap	Approved			2 OF 31

DATE	REV. NO.	REVISION DESCRIPTION
1/30/24	4	GENERATOR AND FUEL TANK

MARYLAND ROUTE 175  
MSHA RAW PLAT 42988 & 43566  
(300' RAW)  
INTERMEDIATE ARTERIAL ROAD



MATCH LINE - SEE SHEET 2

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING		
<i>[Signature]</i>	5/12/00	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK		
<i>[Signature]</i>	5/12/00	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT		
<i>[Signature]</i>	5/12/00	DATE
DIRECTOR		
3-20-01	2	DELETE COMMONS BLDG & 4' MAG. PATH
6-21-00	1	REV. ROOF DRAIN CONN. TO B', REV. FUME LINE.
Date	No.	Revision Description

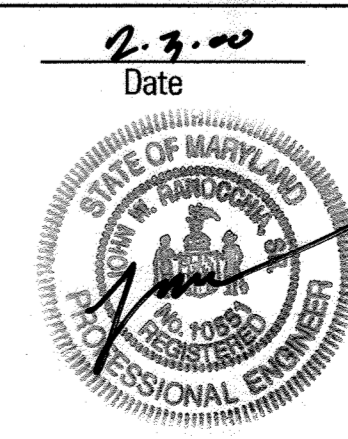
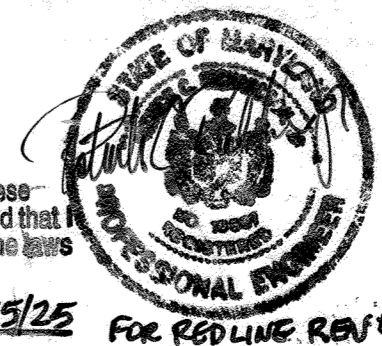
COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
9145 GUILFORD ROAD  
SUITE 100  
COLUMBIA, MD. 21046

<b>DMW</b> Dan McCune-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3329 Fax 296-4705		A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
AREA	ROUTE 175 COMMERCIAL	TAX MAP 36 & 37	PARCEL 27, 122, 244, 282
TITLE	SITE DEVELOPMENT PLAN		
Des By	MJP	Scale	1" = 50'
Drn By	KDE	Date	3-3-00
Proj. No.	89088.M		
Chk By	Approved	3 OF 31	

DATA SOURCES:  
TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS  
PREPARED BY GUTSCHICK, LITTLE & WEBER

\* SEE SUBSTITUTE SHEETS 31A & 31B  
FOR DETAILS.

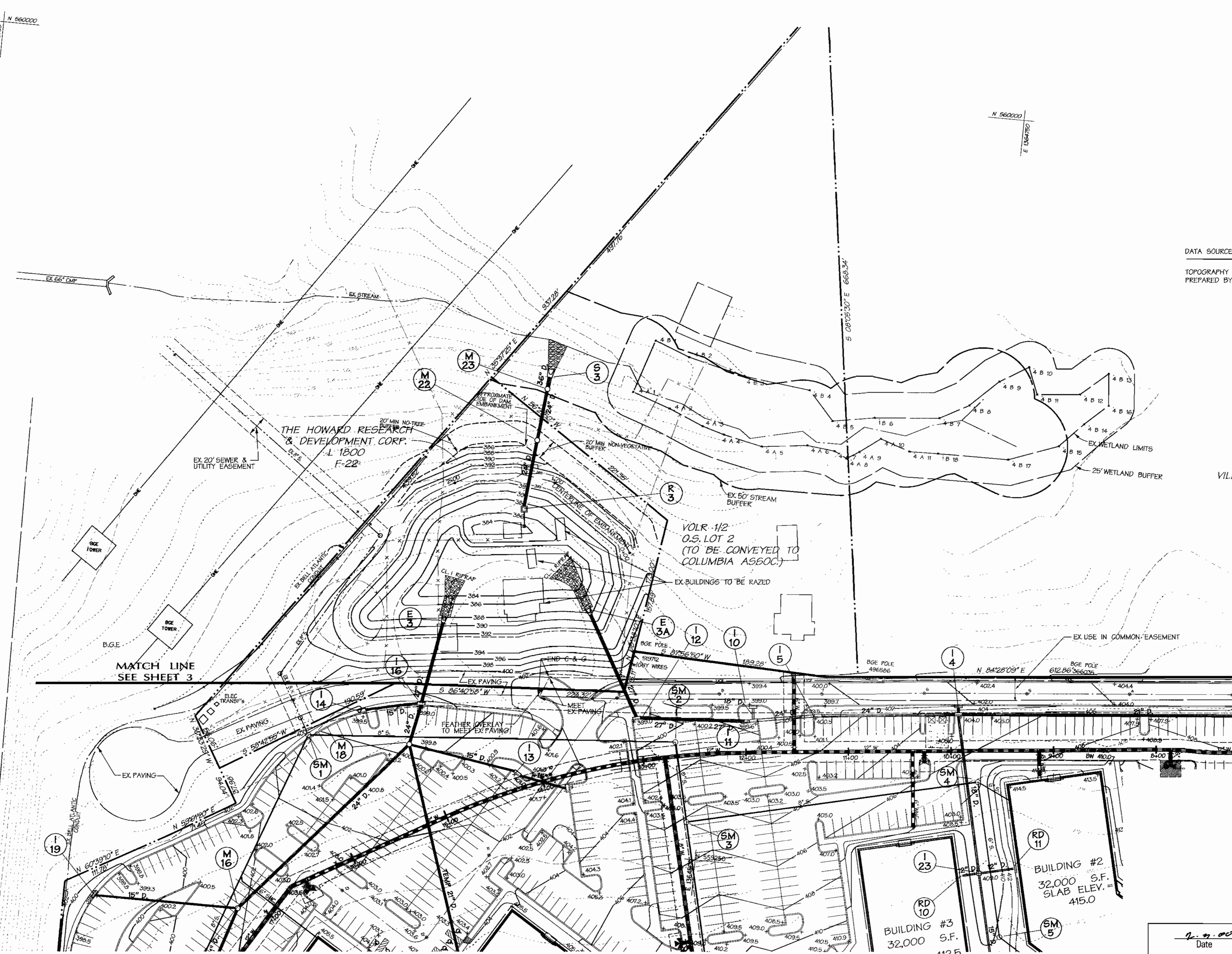
Professional Certificate: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.  
License No. 16547, Expiration Date: 8/15/25  
FOR REV. LINE REV. 4 ONLY 1/30/24



12-19-03 3 REV. BLDGS. 5+6 & ADJACENT PKG. LOTS  
REV. UTILITIES & GRADES

Professional Engr. No. 10951

**MARYLAND ROUTE 175**  
 NSHA RW PLAT 42988 & 43566  
 (300' RAW)



DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS  
 PREPARED BY GUTSCHICK LITTLE & WEBER.

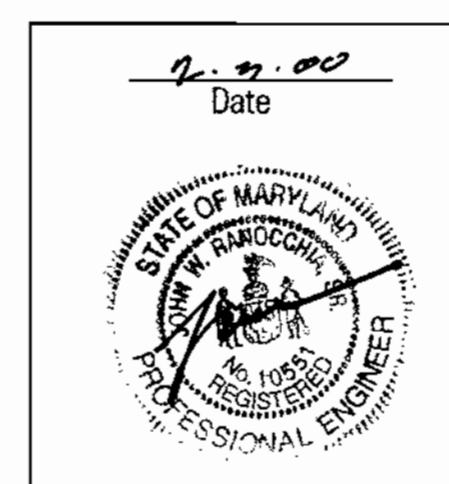
O.S. LOT 96  
 VILLAGE OF LONGREACH  
 SECTION 3 AREA 2  
 PLAT No.

**APPROVED**  
**PLANNING BOARD**  
**OF HOWARD COUNTY**  
 DATE FEB 23, 2000

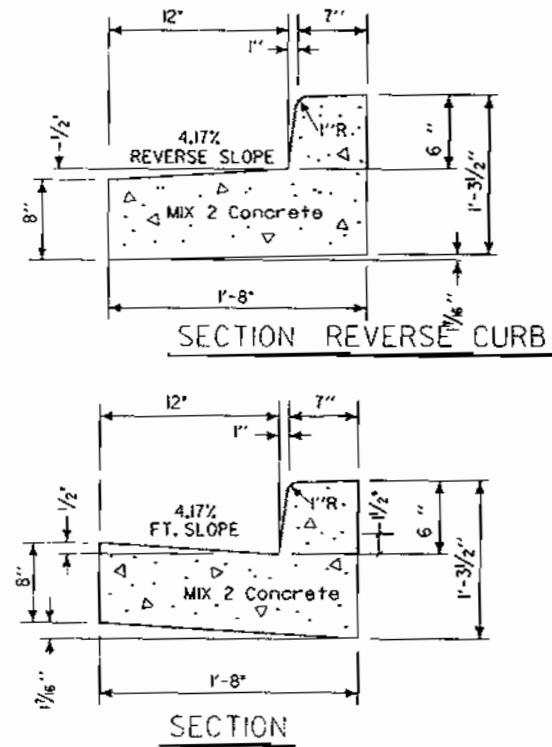
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK (DATE)  
*[Signature]* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT (DATE) R  
*[Signature]* 5/12/00  
 DIRECTOR (DATE)

Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL SECTION 1, AREA 2 PARCEL A & O.S. LOT 3 OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP 10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD 21044

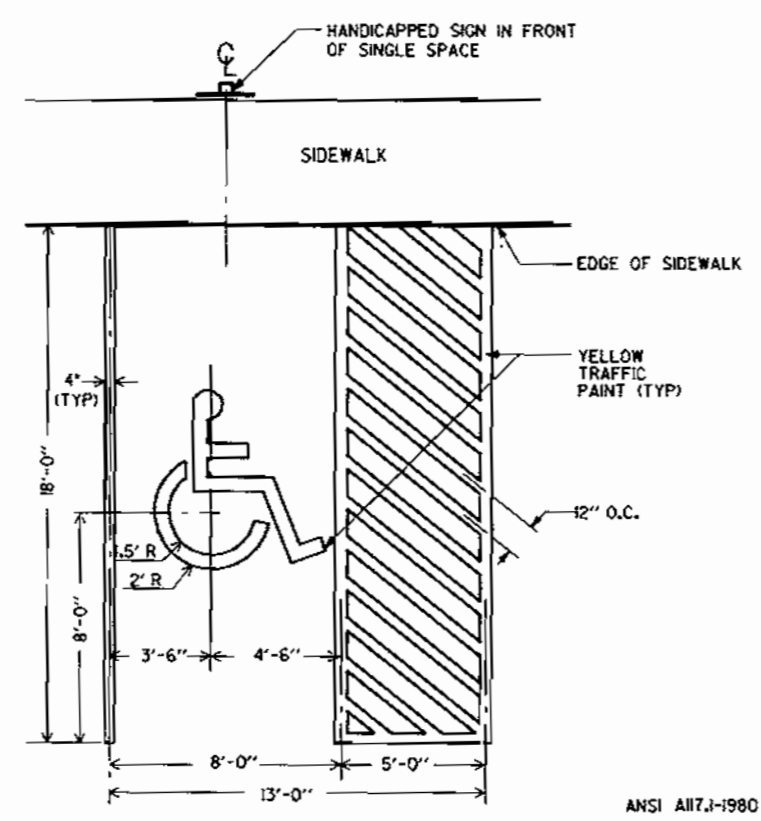
**DMW**  
 Draft-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax: 296-4708  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



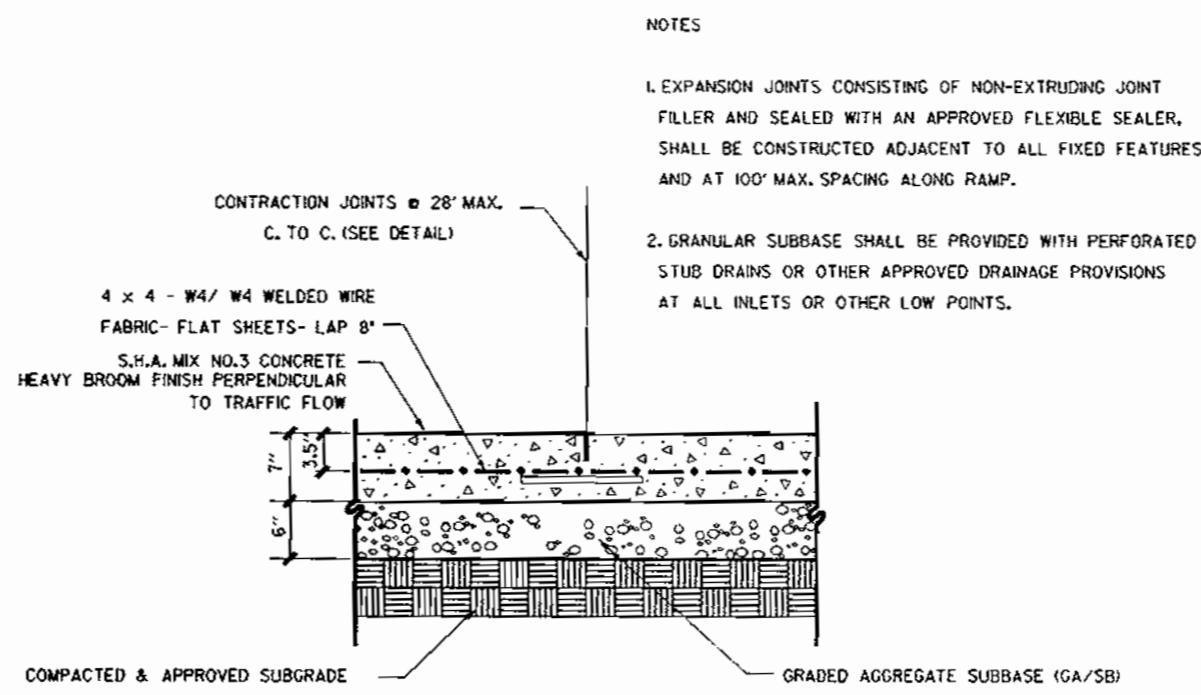
AREA	ROUTE 175 COMMERCIAL				
TAX MAP 36 & 37	PARCEL 27, 122, 244, 282				
6TH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND				
TITLE	SITE DEVELOPMENT PLAN				
Des By	MPJ	Scale	1" = 50'	Proj. No.	89088.17
Dm By	KDE	Date	3-3-00		
Chk By	Approved				4 OF 31



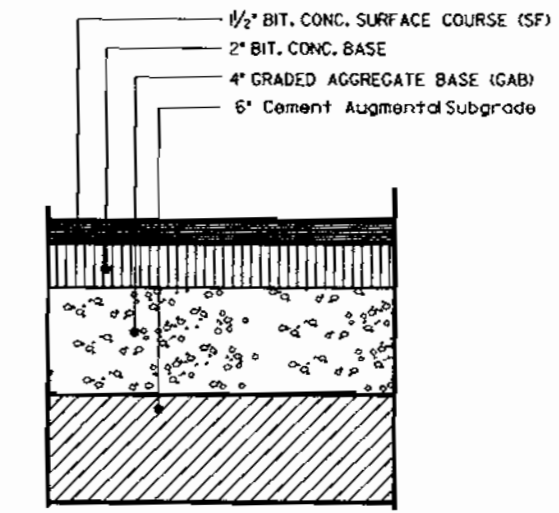
**Concrete Curb, Typ.**  
Not To Scale



**Handicapped Parking Space**  
Not To Scale

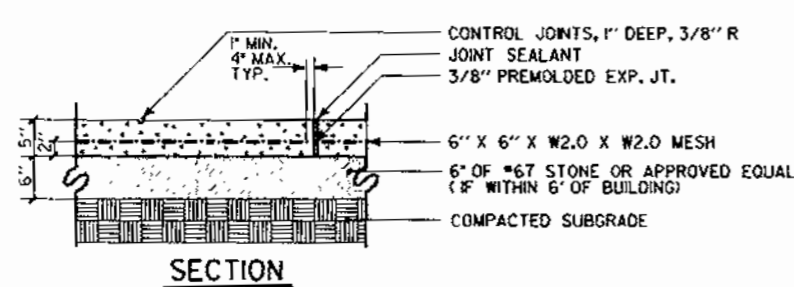
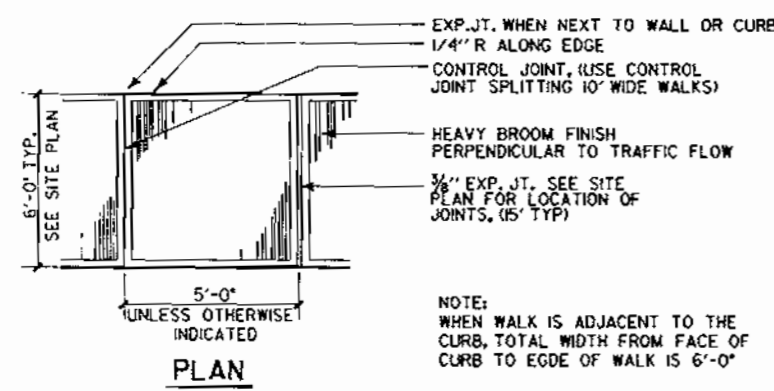


**Ramp/Loading Dock Concrete Paving**  
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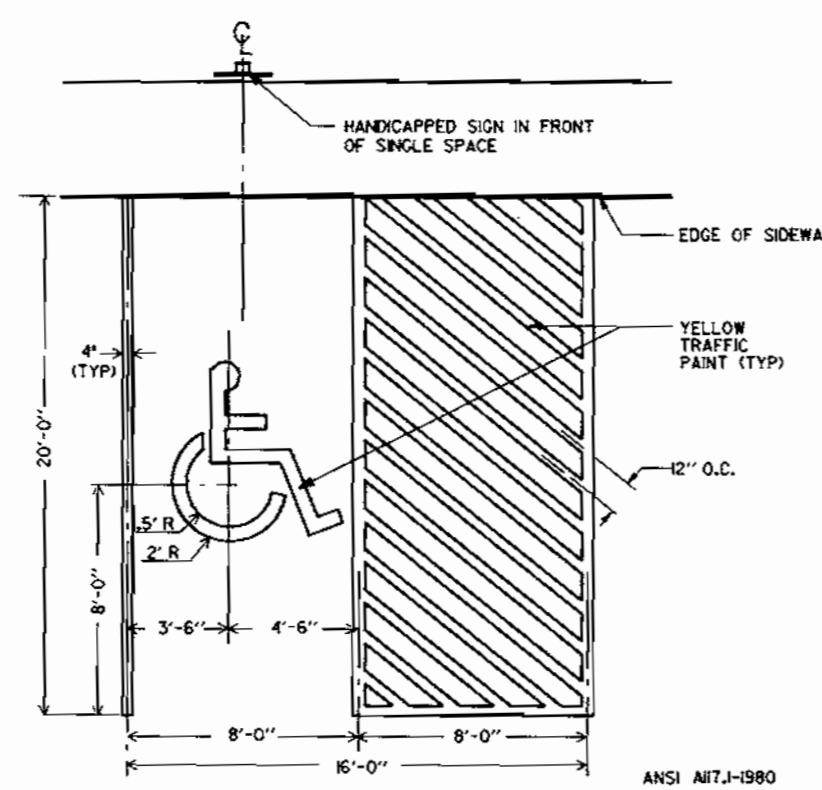


**Light Duty Typical Paving Section**  
Not To Scale

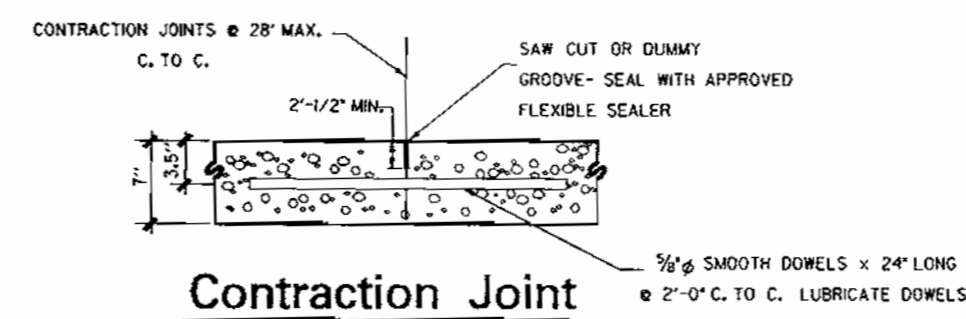
- NOTES:  
1. 1/2\"/>



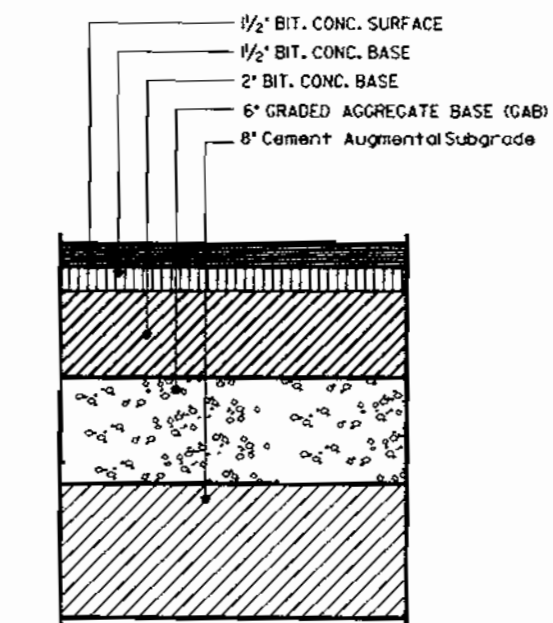
**Concrete Walk**  
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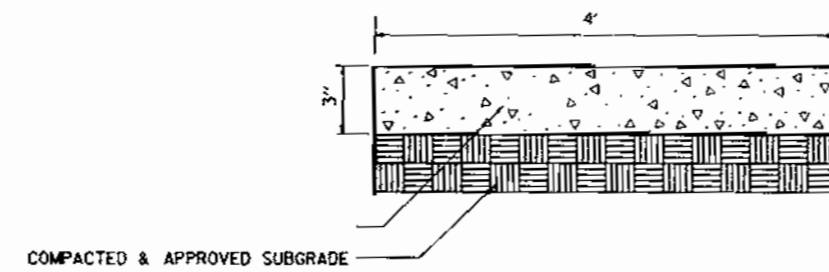
**Handicapped Van Parking Space**  
Not To Scale



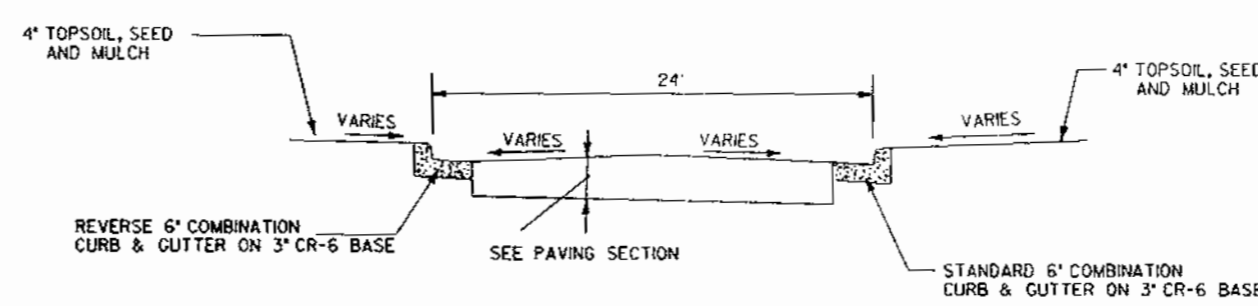
**Contraction Joint**  
Not To Scale



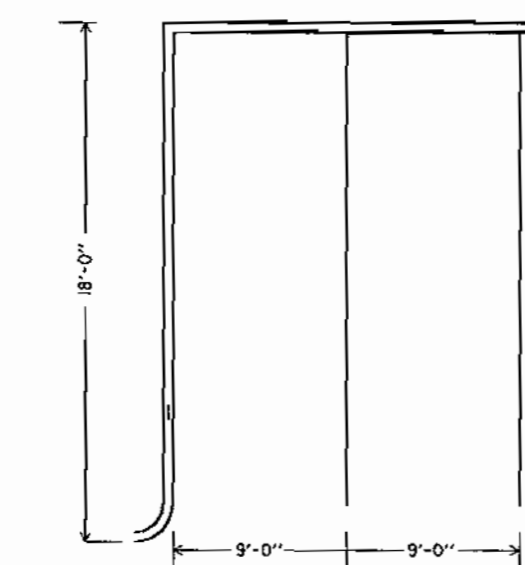
**Heavy Duty Typical Paving Section**  
Not To Scale



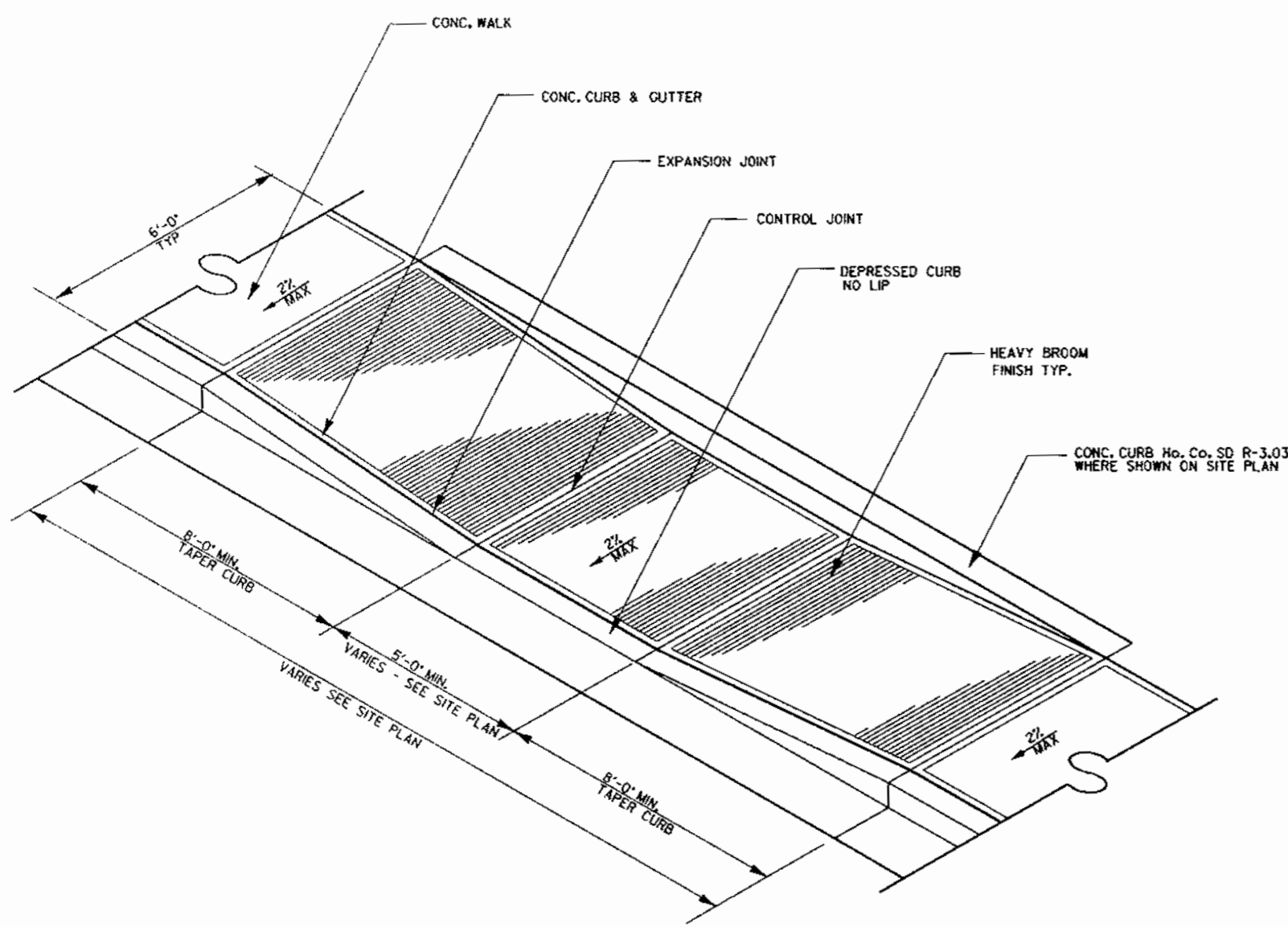
**Macadam Path Detail**  
Not To Scale



**Typical Section Ring Road (Private Drive)**  
Not To Scale

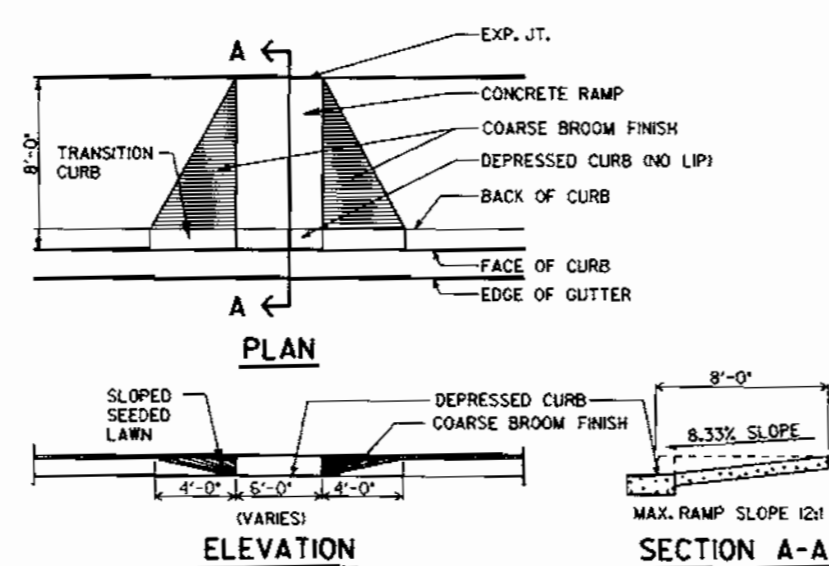


**Standard Parking Space**  
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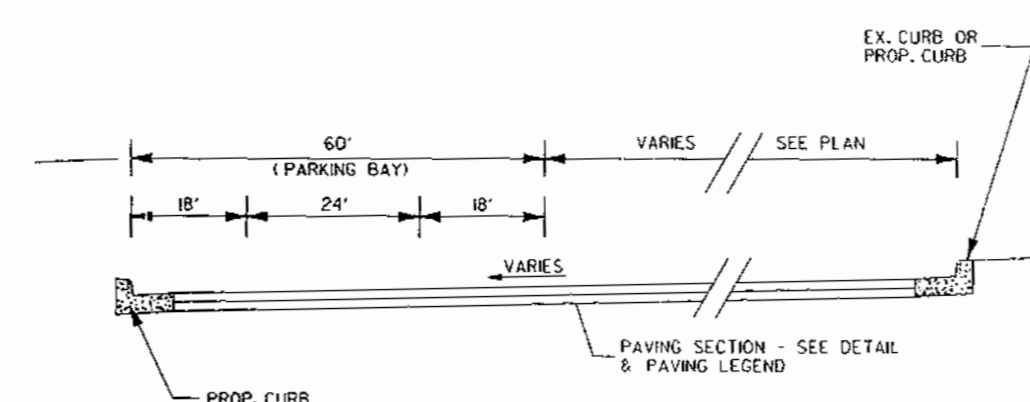


**ISOMETRIC**

**Handicapped Ramp - A**  
Not To Scale



**Handicapped Ramp - C**  
Not To Scale



**Typical Section Private Parking**  
Not To Scale

Note: Paving Section copied from Geotechnical Engineering Study. Prepared by Hills-Carnes Engineering. Sept. 8 1999.

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
Richard Blood  
CHIEF, DIVISION OF LAND DEVELOPMENT  
5/12/00  
DATE

Chief Development Engineering Division  
5/12/00  
DATE  
5/12/00  
DATE

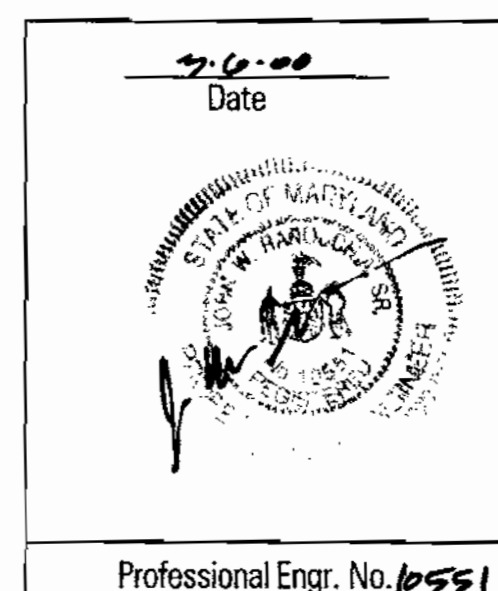
Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL SECTION 1 AREA 2 PARCEL A & O.S. LOT 3
		OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044
		CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTM. 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

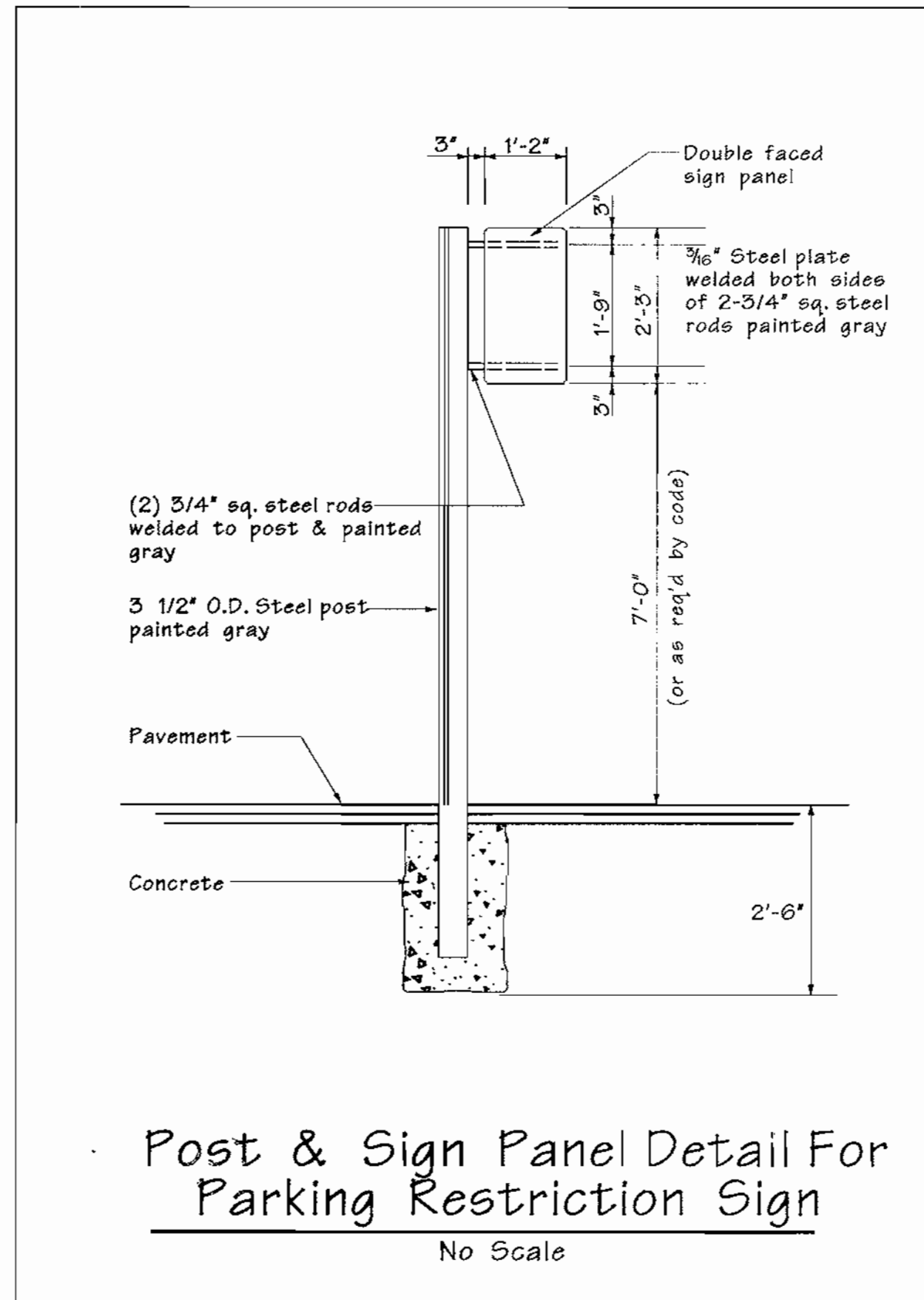
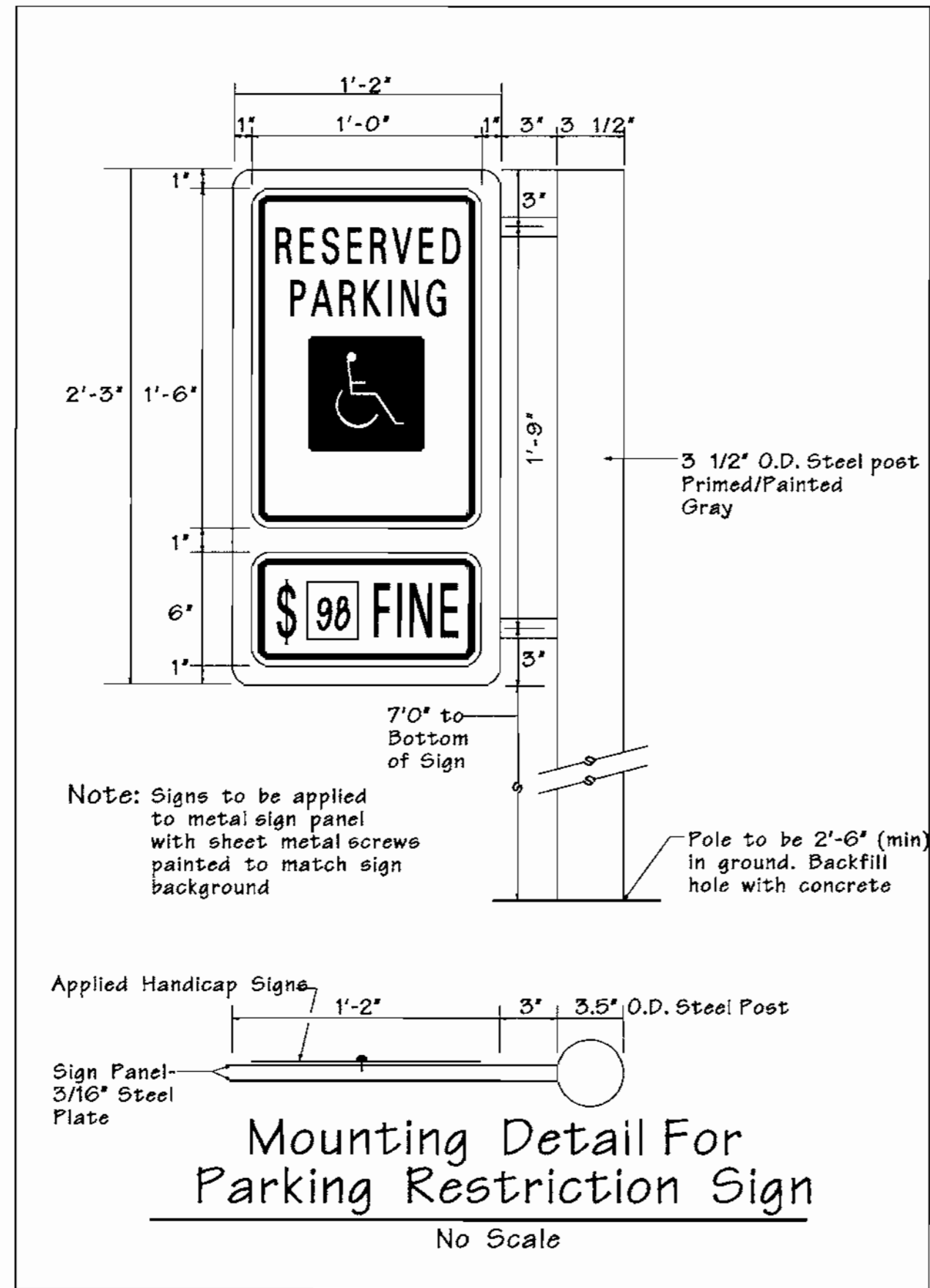
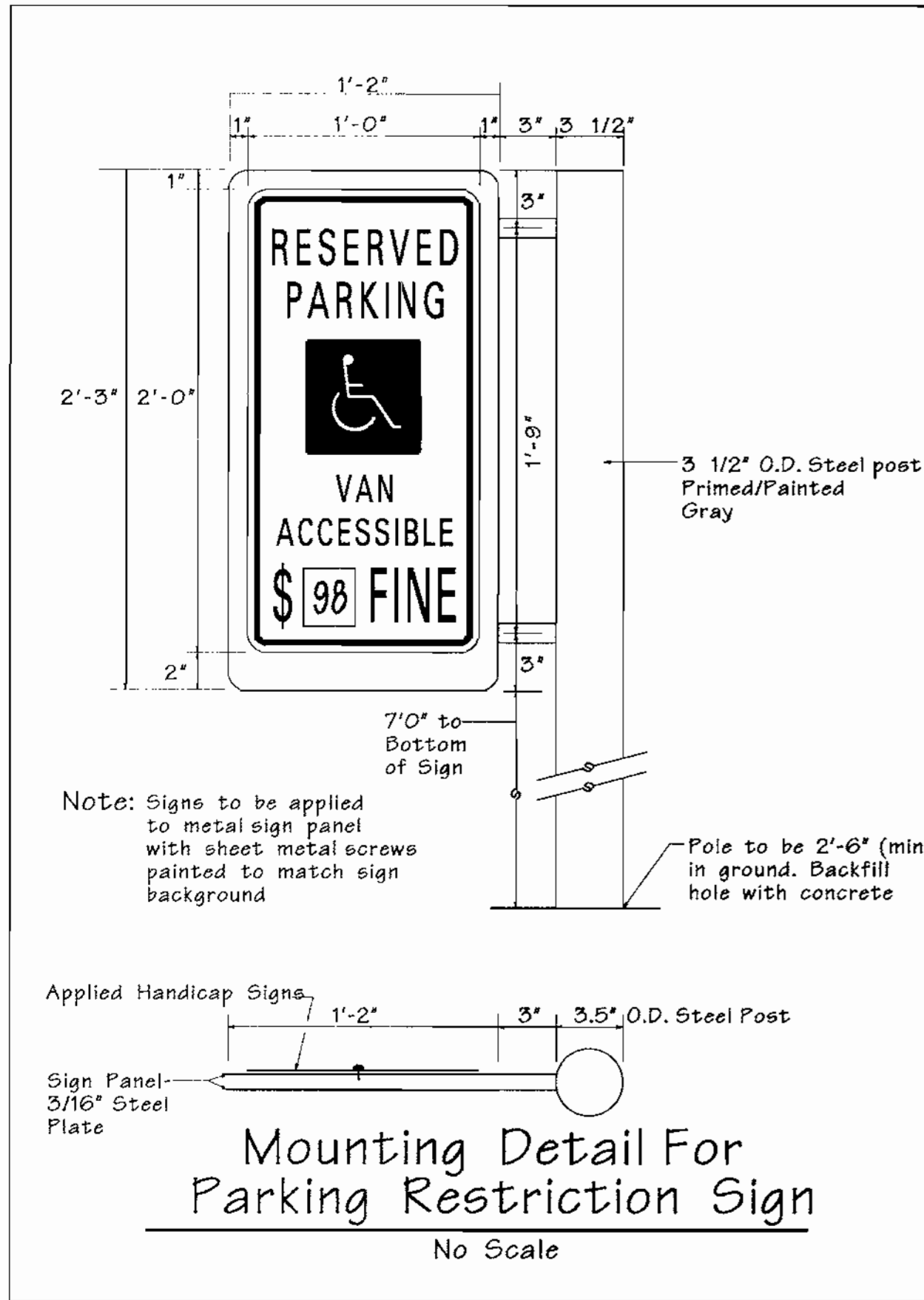
**DMW**  
Dahl, McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
8 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: **SITE DETAILS**

Des By	MJP	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	BKC	Date	3-3-00		
Chk By		Approved			5 OF 31





MANHOLE SCHEDULE

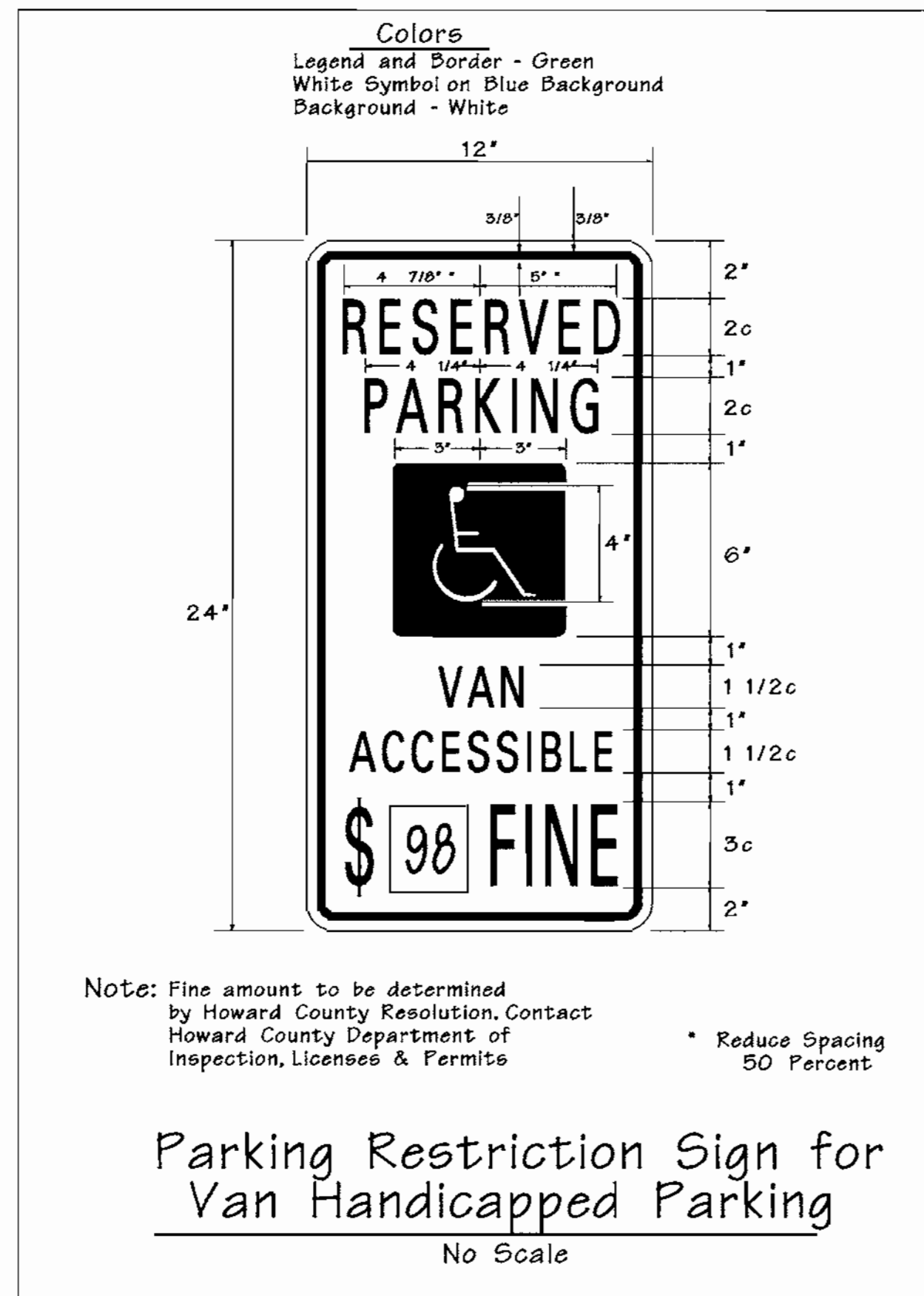
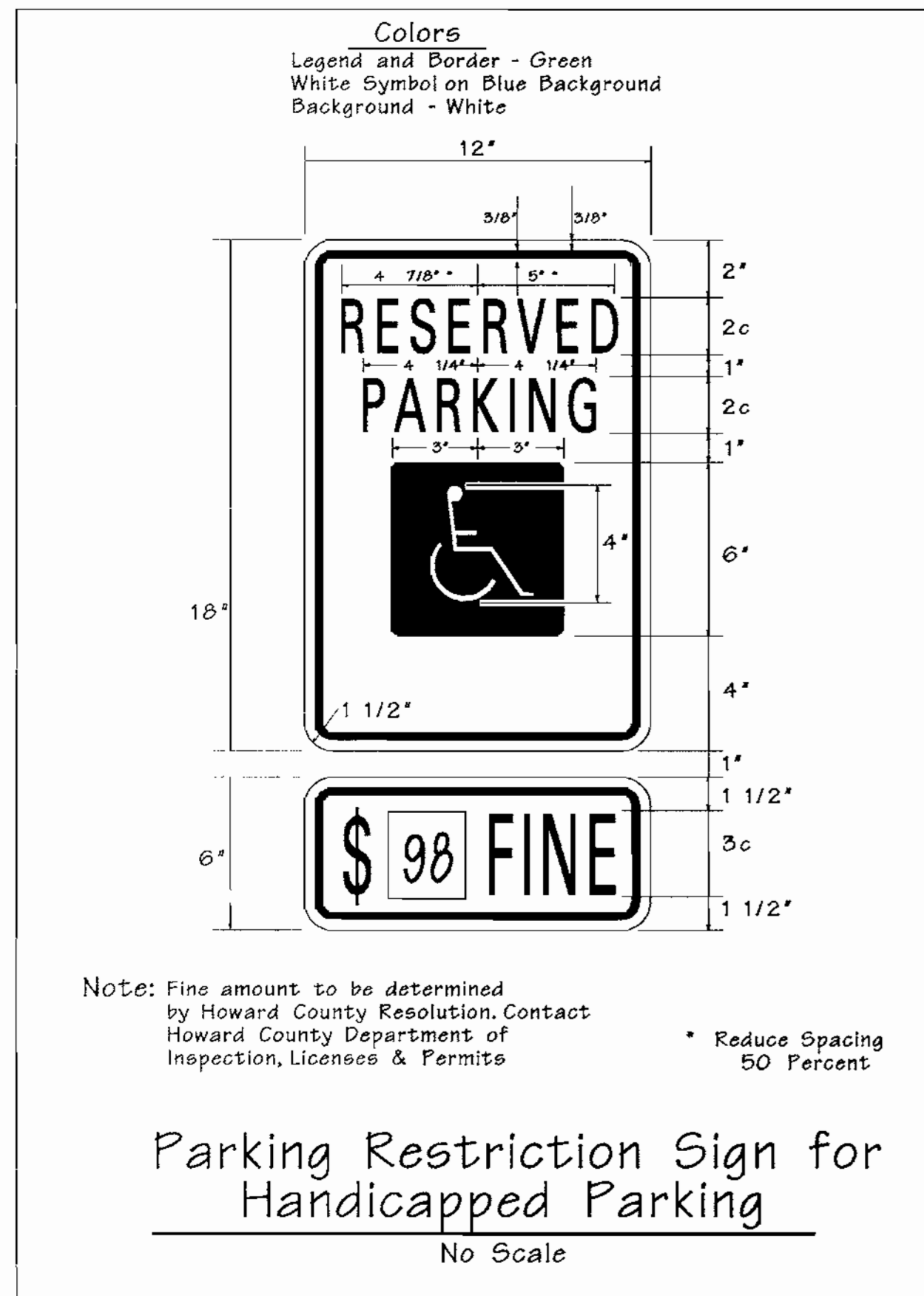
NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL	LOCATION
M-1	'C'	48"	396.10	405.0	G 512	
M-3	'C'	48"	397.50	406.30	G 512	
M-4	'C'	48"	402.00	410.50	G 512	
M-5	'C'	48"	400.50	408.9	G 512	
M-6	'C'	48"	398.55	405.25	G 512	
M-12	'C'	48"	405.45	410.60	G 512	
M-13	'C'	48"	406.65	411.20	G 512	
M-15	'C'	48"	391.95	400.50	G 512	
M-16	'C'	48"	391.10	401.50	G 512	
M-18	'C'	48"	388.25	399.80	G 513	
M-19	'C'	48"	404.65	410.75	G 512	
M-20	'C'	48"	394.80	398.10	G 513	
M-22	'C'	48"	379.61	386.00	G 512	
M-23	'C'	60"	371.83	381.30	G 513	

STRUCTURE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	DETAIL
WYE 1	WYE CONNECTION	15" X 15"	403.65	H.O. CO. SD 1.11
WYE 2	WYE CONNECTION	21" X 15"	380.49	H.O. CO. SD 1.11
Q1	FIELD CONNECTION	15" X 12"	403.95	H.O. CO. SD 2.01
Q2	FIELD CONNECTION	15" X 12"	393.86	H.O. CO. SD 2.01
Q3	FIELD CONNECTION	15" X 12"	403.88	H.O. CO. SD 2.01
E-1	CONCRETE END SECTION	24"	375.00	H.O. CO. SD 5.52
E-2	CONCRETE END SECTION	36"	384.00	H.O. CO. SD 5.52
E-3	CONCRETE END SECTION	27"	387.00	H.O. CO. SD 5.52
E-3A	CONCRETE END SECTION	27"	387.00	H.O. CO. SD 5.52
S-1	TYPE 'A' HEADWALL	24"	368.39	H.O. CO. SD 5.11
S-2	TYPE 'A' HEADWALL	36"	379.81	H.O. CO. SD 5.11
S-3	TYPE 'A' HEADWALL	36"	371.75	H.O. CO. SD 5.11

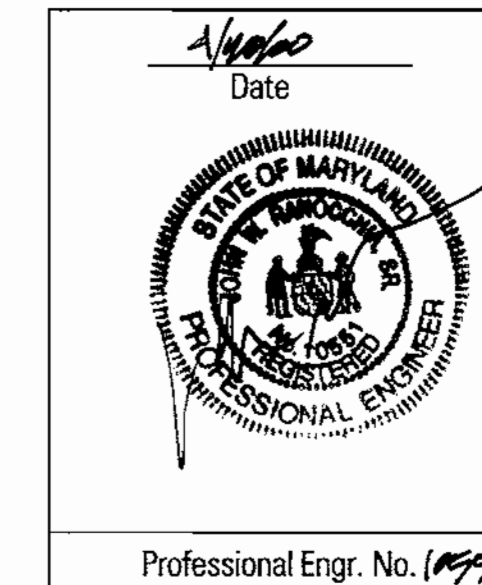
INLET SCHEDULE

NO.	TYPE	INV. OUT	TOP ELEV.	DETAIL	WIDTH	LOCATION
I-1	A-10	406.25	410.00	SD 4.41	2'-6"	
I-2	A-5	404.10	408.10	SD 4.40	2'-6"	
I-3	A-5	401.60	407.00	SD 4.40	2'-6"	
I-3A	A-5	403.80	407.50	SD 4.41	2'-6"	
I-4	A-5	397.70	404.50	SD 4.40	2'-6"	
I-4A	A-10	398.20	402.20	SD 4.41	2'-6"	
I-5	A-5	396.00	401.00	SD 4.40	2'-6"	
I-7	COB 15	404.70	409.00	SHA MD 374.61	2'-6"	
I-10	A-10	395.00	399.15	SD 4.41	2'-9"	
I-11	A-5	394.70	400.10	SD 4.40	2'-9"	
I-12	A-5	392.80	399.5	SD 4.01	2'-6"	
I-13	A-5	396.90	401.50	SD 4.40	2'-6"	
I-14	A-5	396.70	402.00	SD 4.40	2'-6"	
I-16	A-5	388.10	399.50	SD 4.01	2'-6"	
I-17	A-5	399.40	402.80	SD 4.40	2'-6"	
I-19	A-5	394.30	398.50	SD 4.40	2'-6"	
I-20	SINGLE 'S'	396.20	400.00	SD 4.22		
I-21	SINGLE 'S'	401.60	407.00	SD 4.22		
I-22	SINGLE 'S'	405.00	408.00	SD 4.22		
I-23	SINGLE 'S'	401.65	409.00	SD 4.22		
I-25	SINGLE 'S'	407.30	411.00	SD 4.22		
I-31	COB 15	384.70	389.00	SHA MD 374.61	2'-6"	
I-32	A-10	382.40	386.5	SD 4.41	2'-6"	
I-33	A-10	399.30	393.00	SD 4.41	2'-6"	
I-34	SINGLE 'S'	394.90	401.00	SD 4.23	2'-6"	
I-35	A-10	381.50	386.60	SD 4.41	2'-6"	
I-36	A-10	387.70	392.00	SD 4.41	2'-6"	
I-37	A-10	390.30	384.50	SD 4.41	2'-6"	
I-38	A-10	384.70	390.50	SD 4.41	2'-6"	
I-39	A-10	376.70	380.50	SD 4.02	2'-6"	
I-50	SINGLE 'S'	396.30	400.00	SD 4.22		
I-51	A-5	393.45	400.80	SD 4.01	2'-6"	
I-52	A-5	395.00	398.30	SD 4.40	2'-6"	
I-53	A-5	391.25	396.50	SD 4.40	2'-6"	
I-54	A-5	392.95	396.50	SD 4.40	2'-6"	
I-55	A-10	389.65	398.40	SD 4.02	2'-6"	
I-55A	A-5	393.50	399.50	SD 4.40	2'-9"	
I-56	A-10	388.60	399.90	SD 4.02	3'-6"	
I-57	A-5	391.85	399.80	SD 4.01	2'-6"	
I-58	SINGLE 'S'	404.50	408.90	SD 4.22		
I-60	A-5	403.60	410.00	SD 4.40	2'-6"	
I-61	A-5	406.20	410.50	SD 4.40	2'-6"	
I-63	A-10	401.25	406.40	SD 4.41	2'-6"	
I-63A	A-5	402.95	406.20	SD 4.40	2'-6"	
I-64	A-5	409.40	412.50	SD 4.40	2'-6"	
I-65	A-5	406.30	410.40	SD 4.40	2'-6"	
I-66	A-5	407.50	410.80	SD 4.40	2'-6"	
I-67	A-10	384.70	404.65	SD 4.02	3'-6"	
I-68	SINGLE 'S'	397.10	400.10	SD 4.22		



ALL INVERTS TO BE FULLY DEVELOPED  
NOTE: AT ALL ROOF DRAIN CONNECTIONS, CONNECT WITH "TERNCO" COUPLING OR APPROVED EQUAL.

\* TOP OF CURB ELEV. UNLESS NOTED  
\*\* PROVIDE RECTILINEAR GRADE TOP ELEV. - GRADE



APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: Feb 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
A/ Richard Blouel  
CHIEF, DIVISION OF LAND DEVELOPMENT 5/12/00  
DATE

CHIEF DEVELOPMENT ENGINEERING DIVISION MK  
5/12/00  
DATE

Date No. Revision Description

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTIF. 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW**  
Dawn McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Toussou, Maryland 21286  
(410) 296-3333  
Fax: 296-4706  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

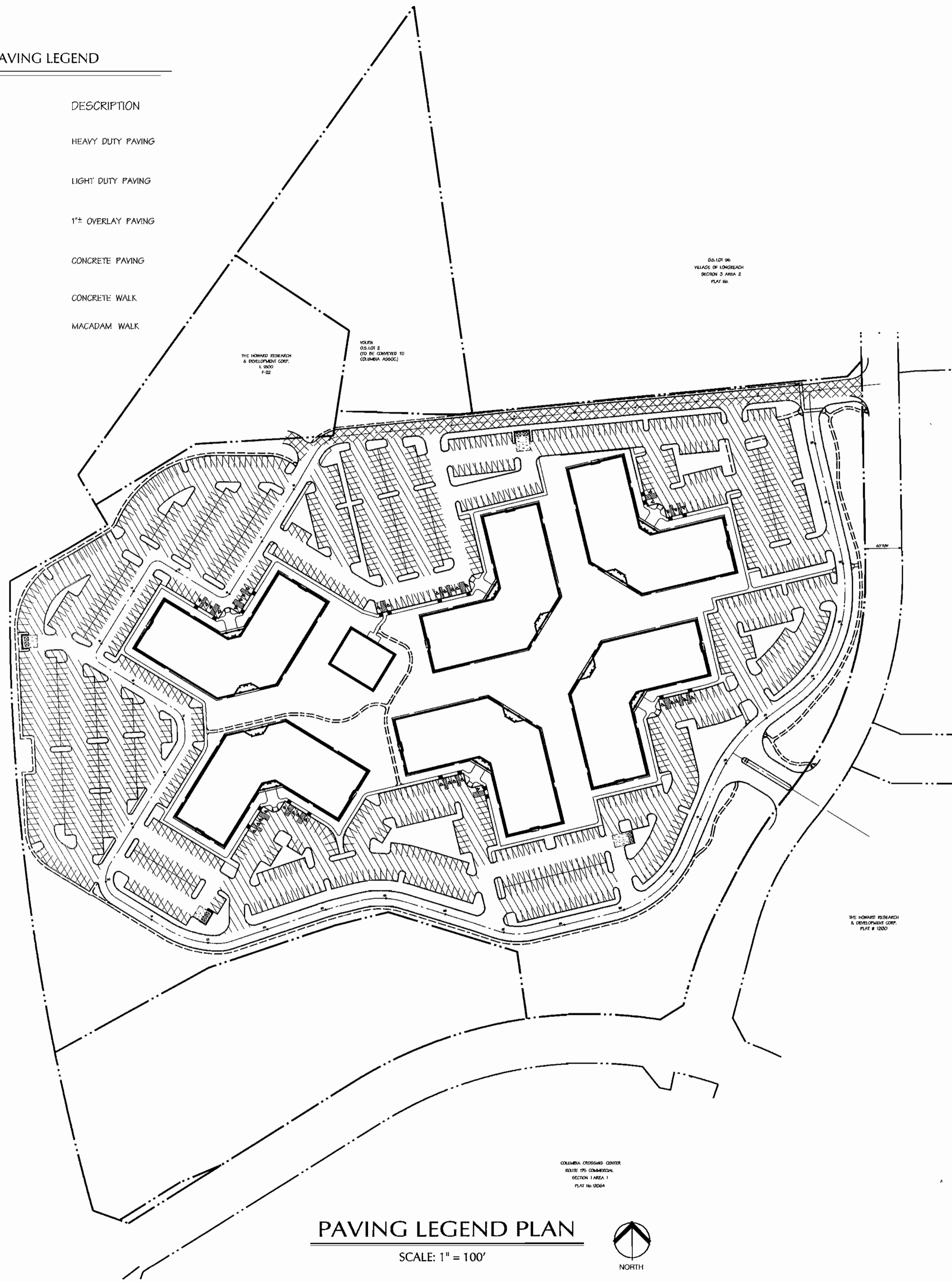
AREA: ROUTE 175 COMMERCIAL  
TAX MAP 38 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: SITE DETAILS & STORM DRAIN STRUCTURE SCHEDULE

Des By: Scale: Proj. No. 89088.M  
Dwn By: BKC Date: 4-26-00  
Chk By: Approved: 6 OF 31

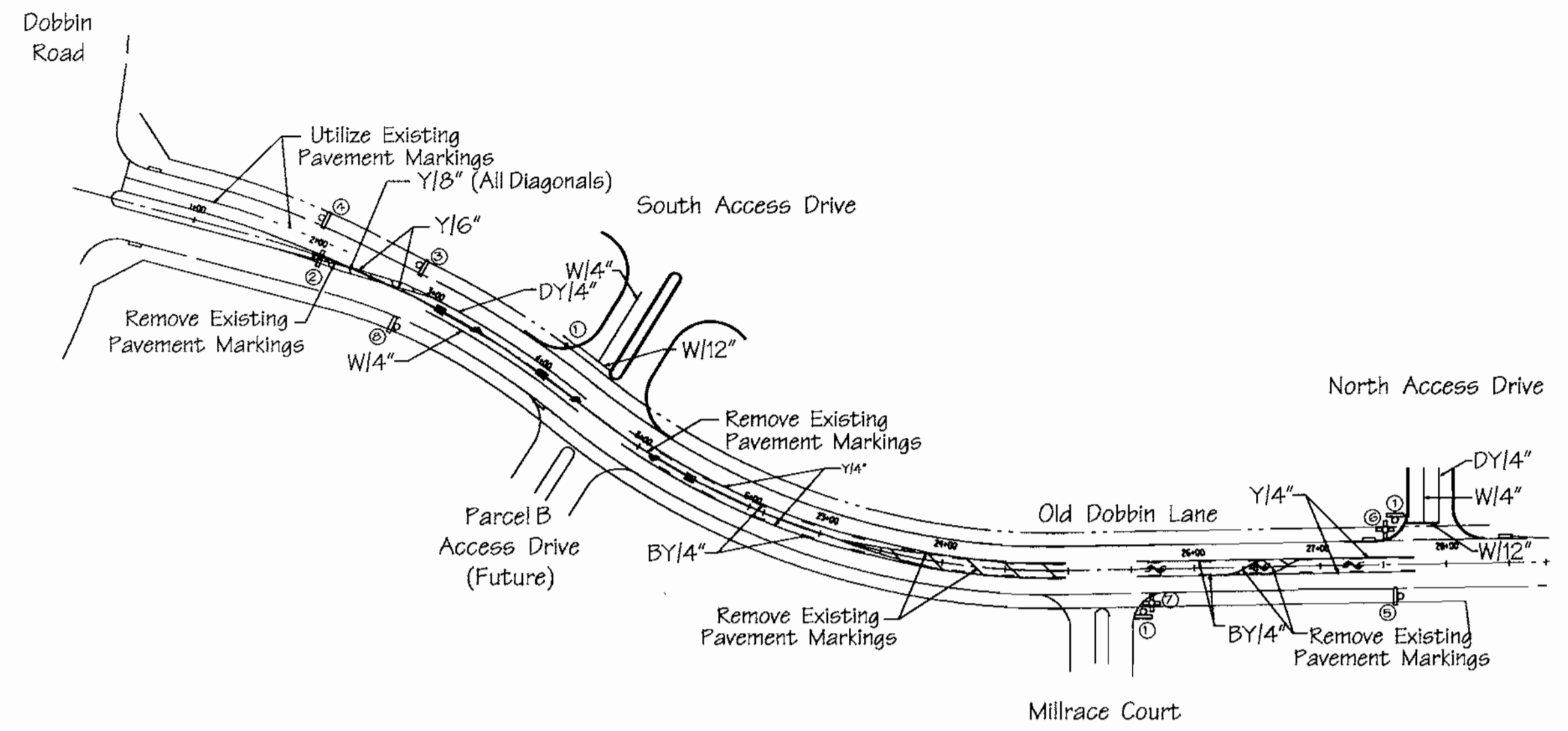
PAVING LEGEND

SYMBOL	DESCRIPTION
	HEAVY DUTY PAVING
	LIGHT DUTY PAVING
	1"± OVERLAY PAVING
	CONCRETE PAVING
	CONCRETE WALK
	MACADAM WALK



PAVING LEGEND PLAN

SCALE: 1" = 100'



STRIPING PLAN

SCALE: 1" = 100'



LEGEND:

- Sign Legend:**  
 (Symbol) - Proposed Sign, Support and Sign Identification  
 (Symbol) - Existing Sign and Support - To Remain
- Pavement Marking Legend:**  
**Y18"** - Retroreflective Yellow Pavement Marking Paint/Width  
**DY14"** - Retroreflective Double Yellow Pavement Marking Paint/Width  
**BY14"** - Retroreflective Broken Yellow Pavement Marking Paint/Width (10 foot line, 30 foot gap)  
**W14"** - Retroreflective White Pavement Marking Paint/Width

Sign Legend:

- (Symbol) R1-1 30" X 30"
- (Symbol) R4-7 (Existing)
- (Symbol) W3-3 (Existing)
- (Symbol) R3-5 (Existing)
- (Symbol) S1-1 (Existing)
- (Symbol) Street Name (Existing)
- (Symbol) Street Name (Existing)
- (Symbol) R2-1 (Existing)

GENERAL NOTES:

- The Contractor shall be governed by the standards and requirements of the following publications:
  - Manual on Uniform Traffic Control Devices (MUTCD), 1988 Edition and subsequent revisions.
  - AASHTO - Specifications for the Design and Construction of Structural Supports for Highway Signs, April 1975 Edition.
  - AASHTO - Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, April 1985 Edition.
- Standard sign panel layouts shall be based on the MUTCD.
- Signs shall be located as shown on the plans. Any required changes in the locations of signs necessary due to field conditions shall have the prior approval of the Engineer.
- Wells and Associates, LLC does not warrant or guarantee the accuracy or completeness of the information shown on the plans. It shall be the responsibility of the Contractor to locate and protect all existing facilities that may be affected by this work.
- All new signs shown on this plan shall have Non Reflective (Black Copy) or High Intensity Reflective Sheeting (All Other Colors) background and copy. Reflective Sheeting shall be Type III-A Encapsulated Lens Reflective Element Material.
- All new sheet aluminum signs shall have Non-Demountable Copy.
- The following minimum thicknesses shall be used for the appropriate size of Sheet aluminum sign blanks:
 

Longest Dimension (Inches) - Minimum Thickness	Thickness
Up to 12"	0.040"
12" to 24"	0.063"
24" to 36"	0.080"
36" to 48"	0.100"
Over 48"	0.125"
- All traffic control signs shall be mounted on Howard County standard posts. A single post shall be provided for signs with an area of 9.0 square feet or less. For signs with an area of greater than 9.0 square feet, two (2) posts shall be provided. Sign posts shall be installed in the ground to a minimum depth of 3.0 feet and the sign post shall extend to the top of the sign panel.
- Signs shall be mounted such that the clearance to the bottom edge of the sign panel is a minimum of six (6) feet above finished grade.

**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE Feb 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*William D. ...* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 1 DATE

*Richard B. ...* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

*...* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**

SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

**DMW**  
 Dawn McCusker-Walsh, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3352 Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

Date 5-6-00

Professional Engr. No. 10551

OWNER NAME	SECTION/PARA	US/PARCEL #
CDL RT. 175 COMMERCIAL	2/1	27, 122, 244, 282
PH 235	BOX # 36 & 37	BLK/DISTRICT 8 TH
WATER CODE	SEWER CODE	DESIGN TRACT

TITLE: STRIPING AND PAVING LEGEND PLAN

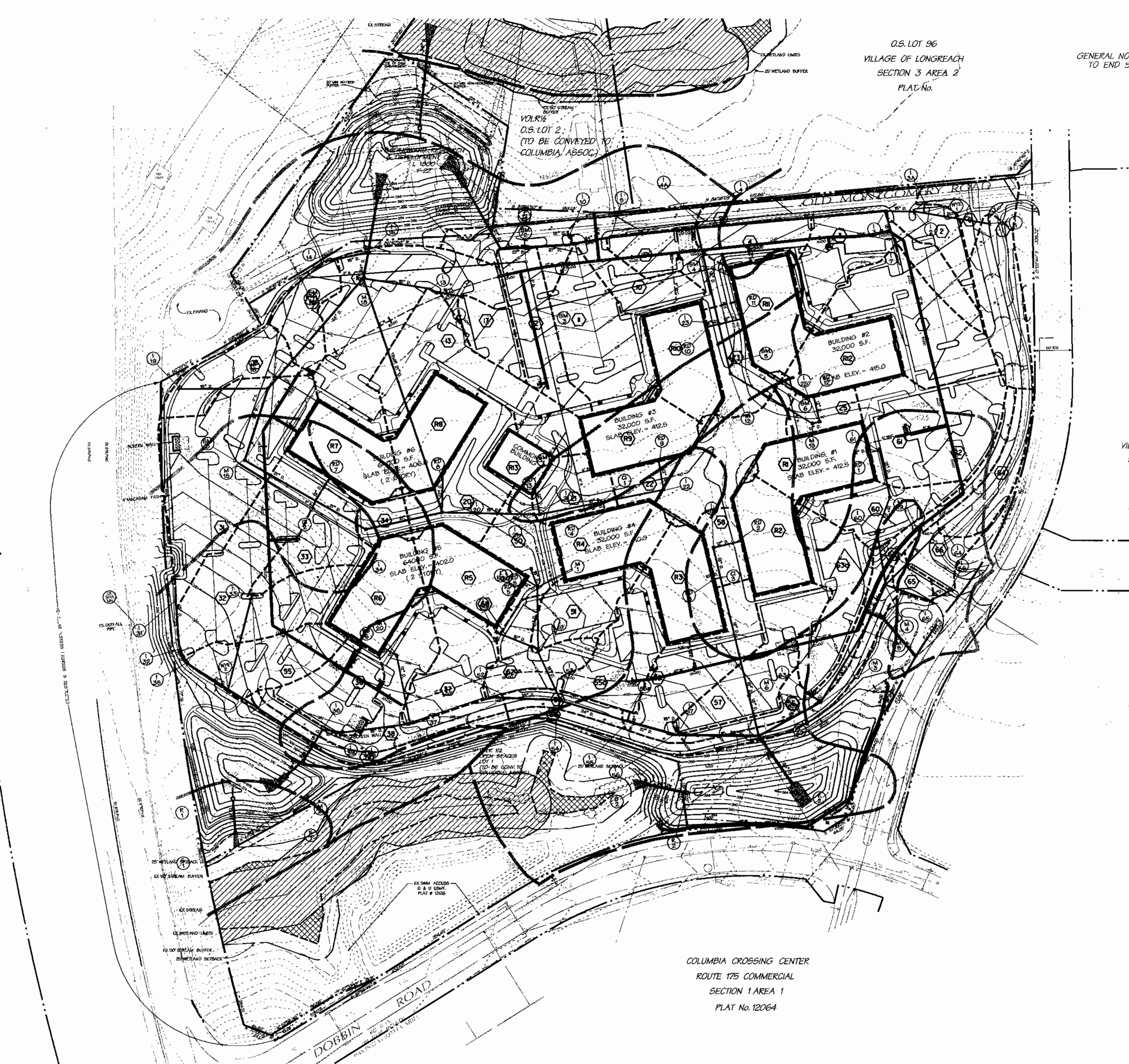
Des By: MJP Scale: AS SHOWN Proj. No.: 89088.M  
 Dm By: KDE Date: 3-3-00  
 Chk By: Approved

7 OF 31

DRAINAGE AREAS

DRAINAGE AREA	AREA (AC)	"C" FACTOR	% IMPERVIOUS
1	0.41	0.5	50
2	0.165	0.72	79
3	0.48	0.70	76
4	0.24	0.71	75
5	0.255	0.67	71
6	0.21	0.58	57
7	0.64	0.69	73
8	0.64	0.64	67
9	0.395	0.78	87
10	0.855	0.72	78
11	0.37	0.75	81
12	0.645	0.76	84
13	0.22	0.74	82
14	1.00	0.75	83
15	0.16	0.695	75
16	0.33	0.73	82
17	0.405	0.20	0
18	0.37	0.20	0
19	0.60	0.20	0
20	0.29	0.20	0
21	0.474	0.40	10
22	0.15	0.20	0
23	0.88	0.74	82
24	0.35	0.73	80
25	0.10	0.2	0
26	0.36	0.77	86
27	0.54	0.64	67
28	0.41	0.73	80
29	0.38	0.81	92
30	0.12	0.95	100
31	0.29	0.49	45
32	0.33	0.43	45
33	0.30	0.62	65
34	0.14	0.48	43
35	0.33	0.62	65
36	0.56	0.63	65
37	0.42	0.69	74
38	0.47	0.95	100
39	0.475	0.78	88
40	0.22	0.20	0
41	0.34	0.63	65
42	0.88	0.65	68
43	0.445	0.68	73
44	0.29	0.655	69
45	0.28	0.70	75
46	0.06	0.64	67
47	0.14	0.53	50
48	0.16	0.58	66
49	0.05	0.20	0
50	0.36	0.95	100
51	0.15	0.95	100

GENERAL NOTE: ALL 12" PVC DRAIN PIPES TO END 5' FROM BUILDING WALLS.



**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE Feb 23, 2000

DATA SOURCES:  
RECEIVED AUTOCAD FILE VIA E-MAIL: 2/19/99  
FROM GUTSCHICK LITTLE & WEBER.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
 [Signature] 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 5/12/00  
 DIRECTOR DATE

Date No. Revision Description  
**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD 21044

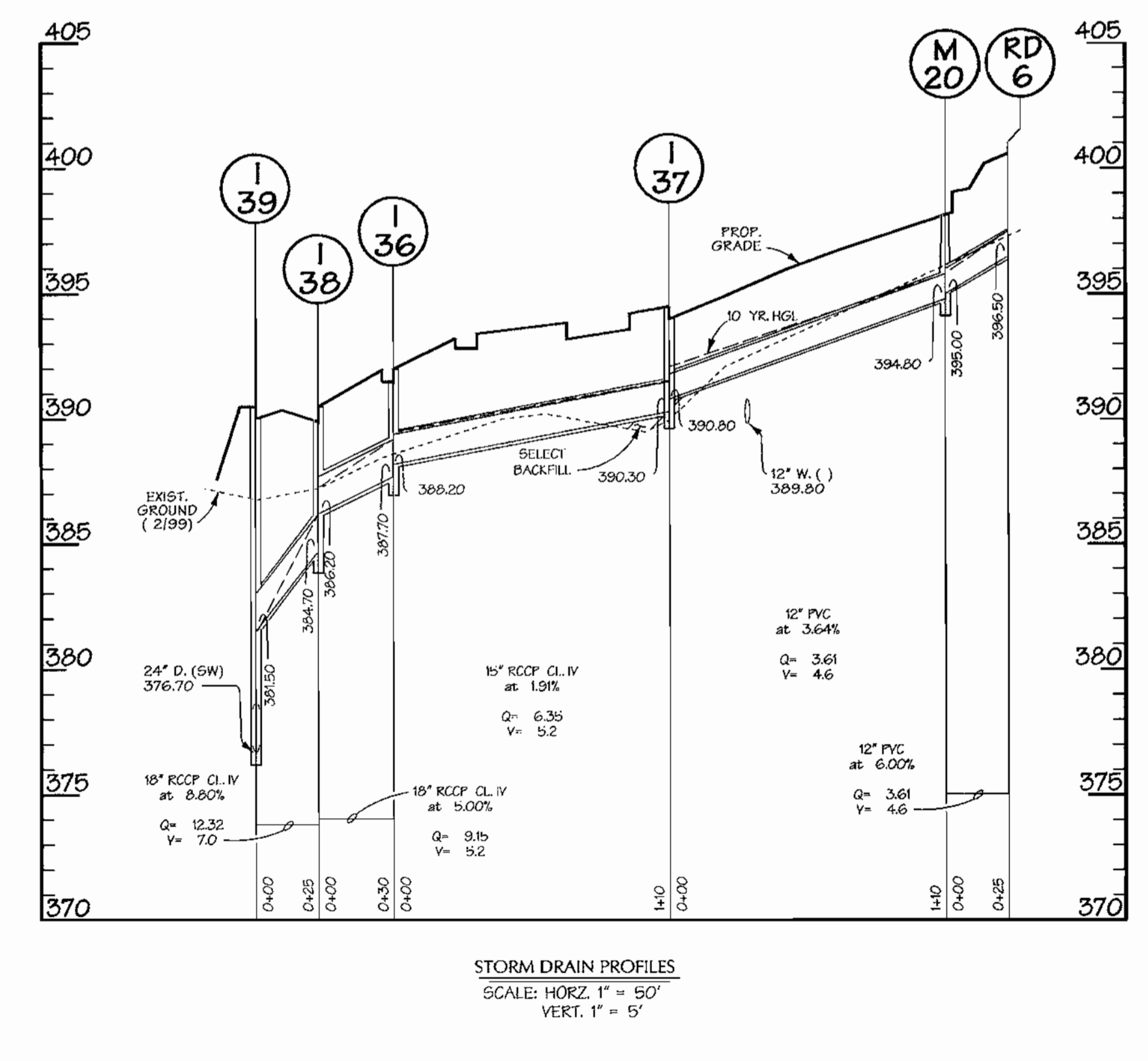
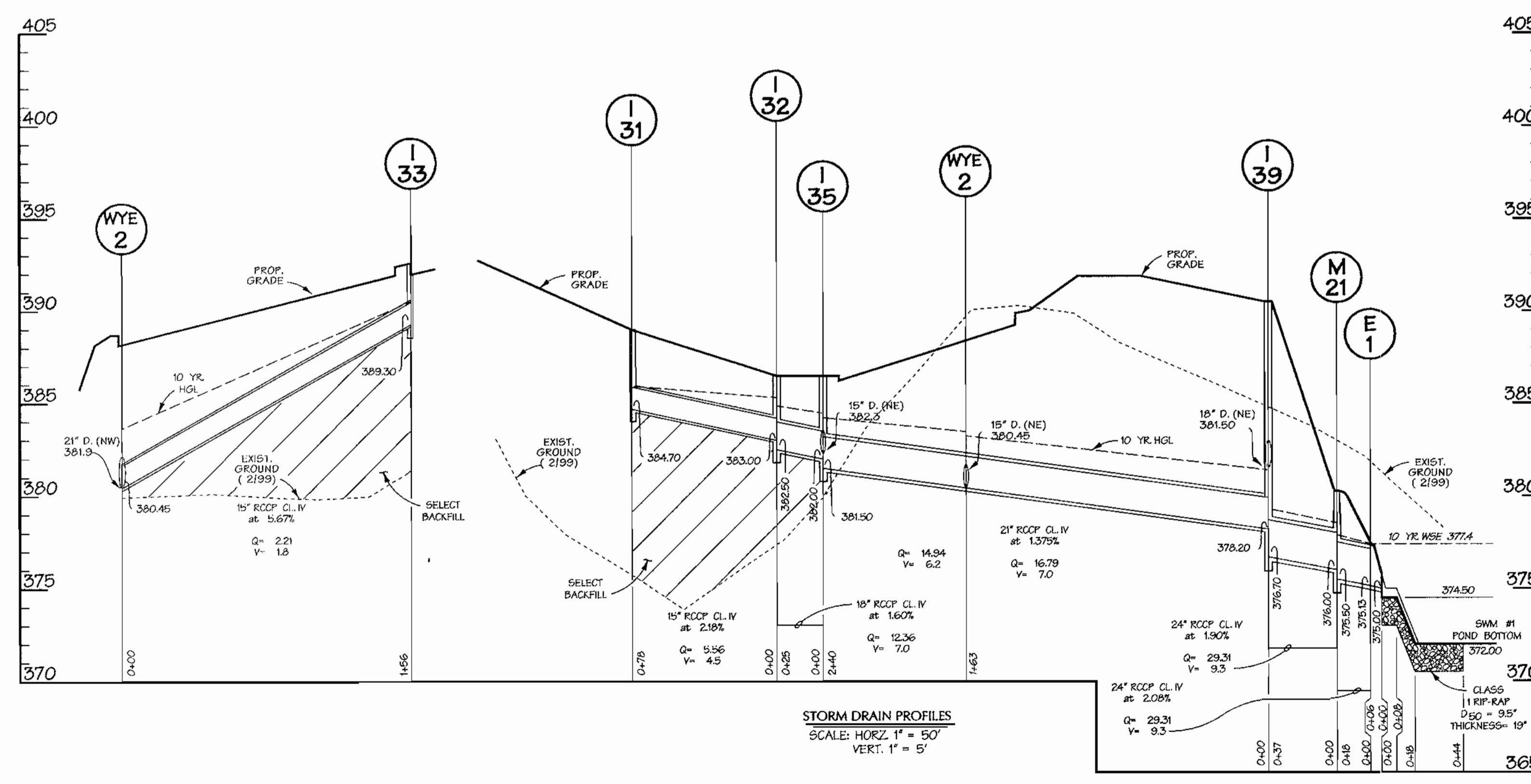
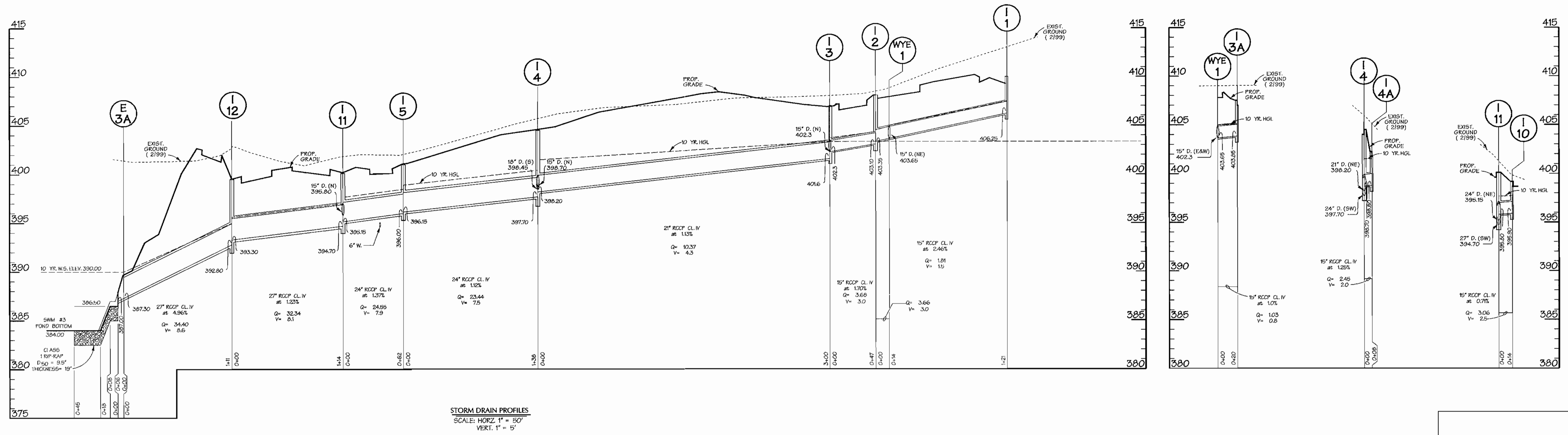
**DMW**  
 Duff, McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3833  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

9-6-00  
 Date  
 STATE OF MARYLAND  
 PROFESSIONAL ENGINEER  
 Professional Engr. No. 10951

AREA ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TITLE STORM DRAIN DRAINAGE AREA MAP  
 Des By MRT Scale 1" = 100' Proj. No. 89088.17  
 Dwn By MRT Date 3-3-00  
 Chk By Approved 8 OF 31

Pl. Mar. 3 10:03:00 2000 Pl. 090888m (890888.dwg)





**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: FEB 12, 2000

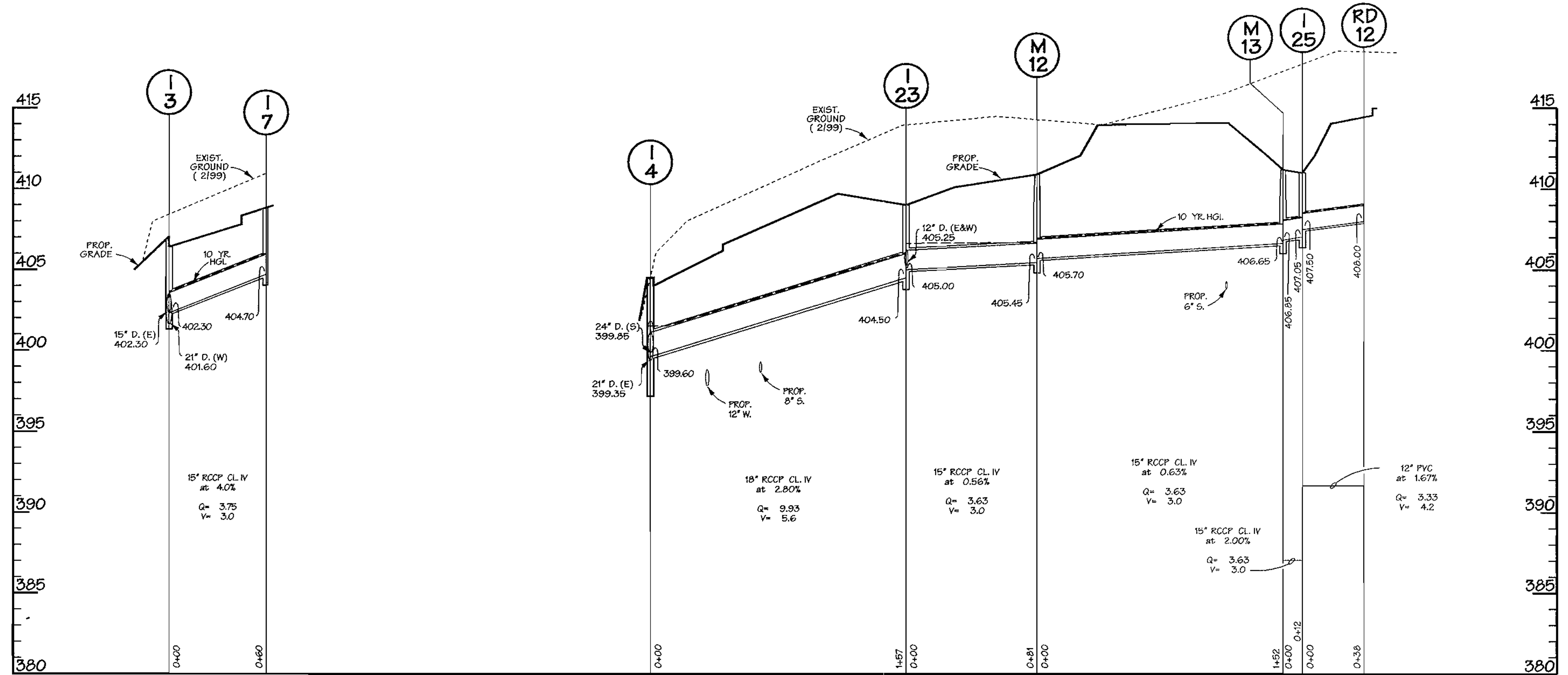
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief Development Engineering Division M.K. DATE 5/12/00  
 Chief, Division of Land Development DATE 5/12/00  
 Director DATE 5/12/00

Revision Description  
 Date No. Description  
 COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTM.P. CONTRACT PURCHASER:  
 DEVELOPMENT CORPORATION 9145 GUILDFORD ROAD SUITE 100 COLUMBIA, MD 21046  
 10275 LITTLE PATENT PARKWAY  
 COLUMBIA, MD 21044

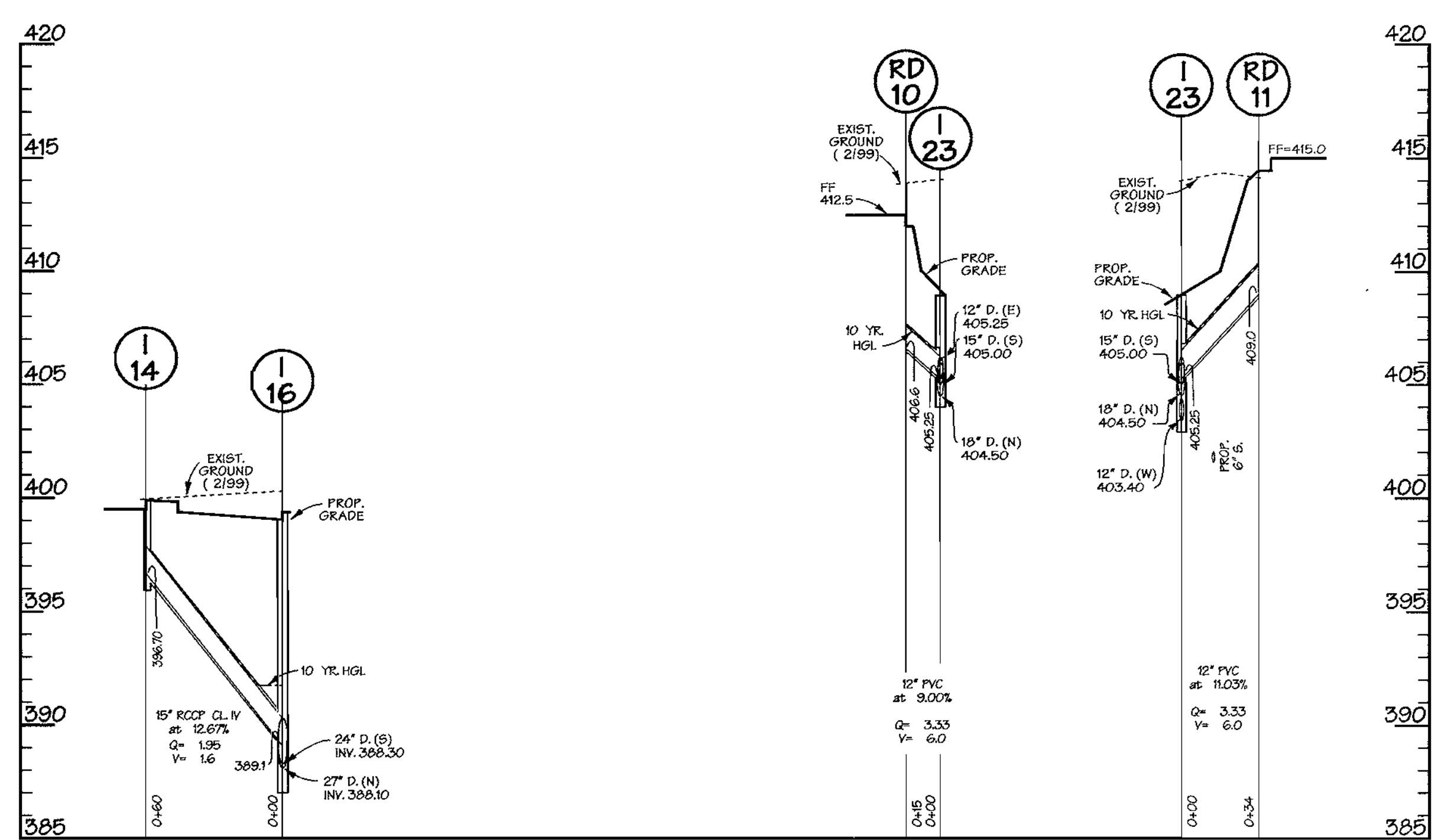
**DMW**  
 Dan McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

Professional Engr. No. 10551  
 Date 7.6.00

AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: STORM DRAIN PROFILES  
 Des By: Scale AS SHOWN Proj. No. 89088.M  
 Dwn By: KDE Date 3-3-00  
 Chk By: Approved 9 OF 31



STORM DRAIN PROFILES  
 SCALE: HORIZ. 1" = 50'  
 VERT. 1" = 5'



STORM DRAIN PROFILES  
 SCALE: HORIZ. 1" = 50'  
 VERT. 1" = 5'

**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE: FEB 12, 2000

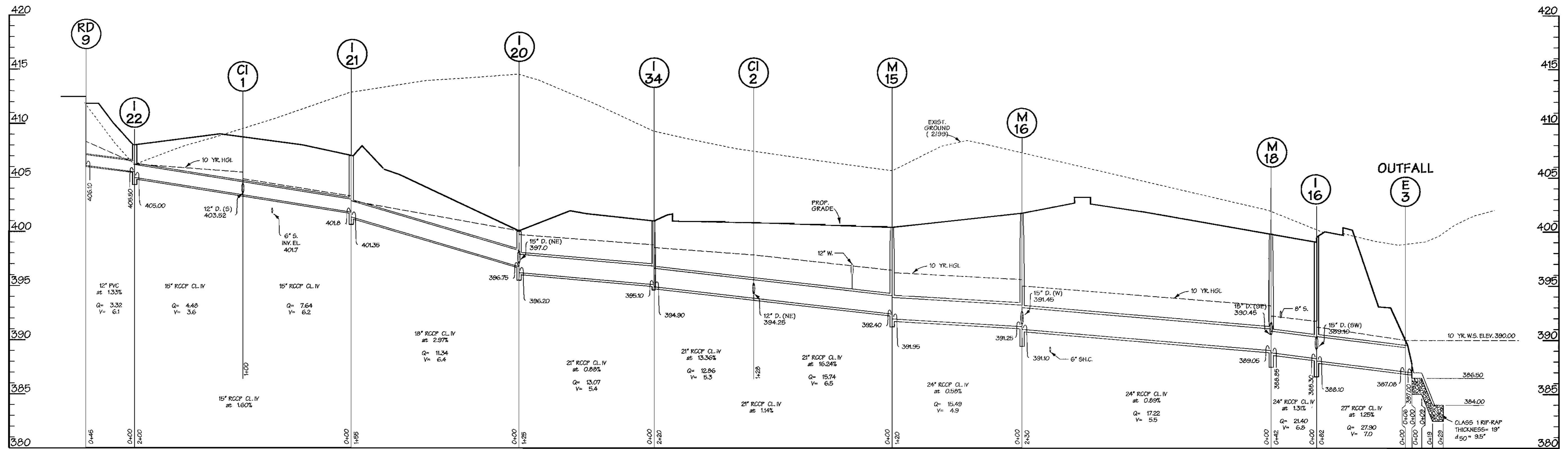
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DIRECTOR

DATE No. Revision Description  
 COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTNP, DEVELOPMENT CORPORATION 9145 GUILFORD ROAD 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
 CONTRACT PURCHASER: SUITE 100 COLUMBIA, MD 21044

**DMW**  
 Duff McCause Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4708  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

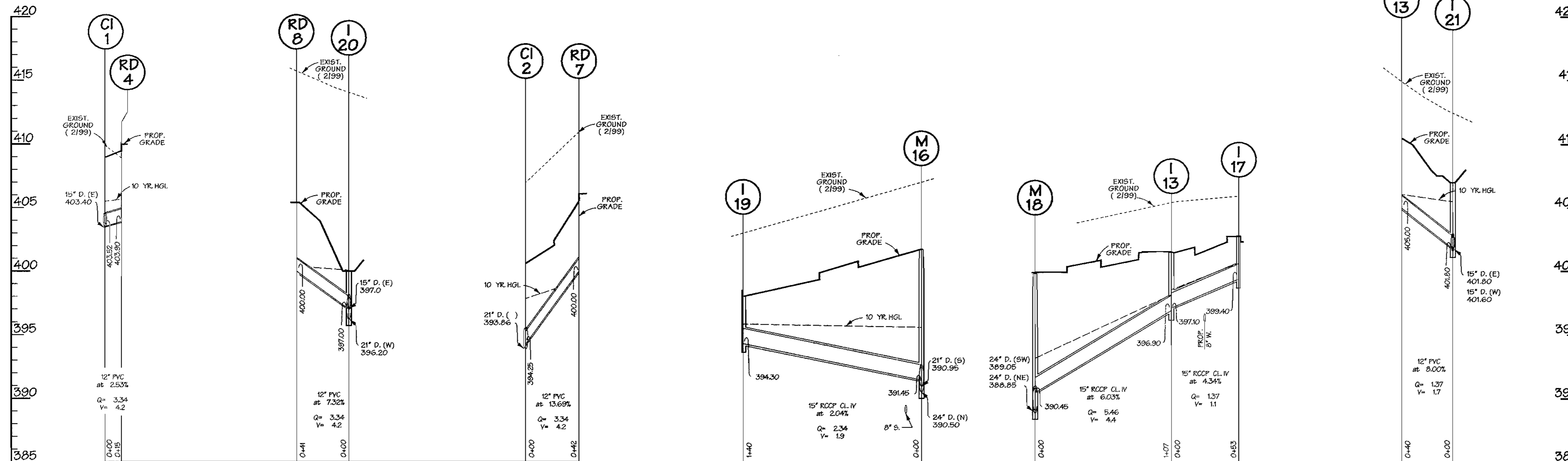


AREA ROUTE 175 COMMERCIAL		
TAX MAP 36 & 37		PARCEL 27, 122, 244, 282
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND		
TITLE STORM DRAIN PROFILES		
Des By	Scale AS SHOWN	Proj. No. 89088.M
Drm By KDE	Date 3-3-00	
Chk By	Approved	10 OF 31



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE Feb 23, 2000

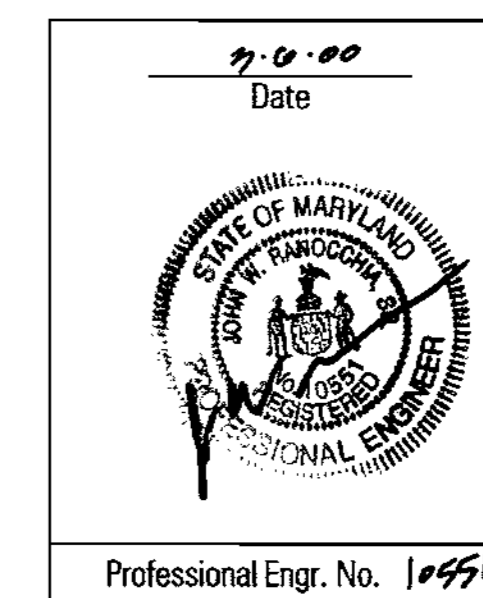


STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief, Development Engineering Division M.K. 5/12/00  
 Chief, Division of Land Development 5/12/00  
 Director 5/12/00

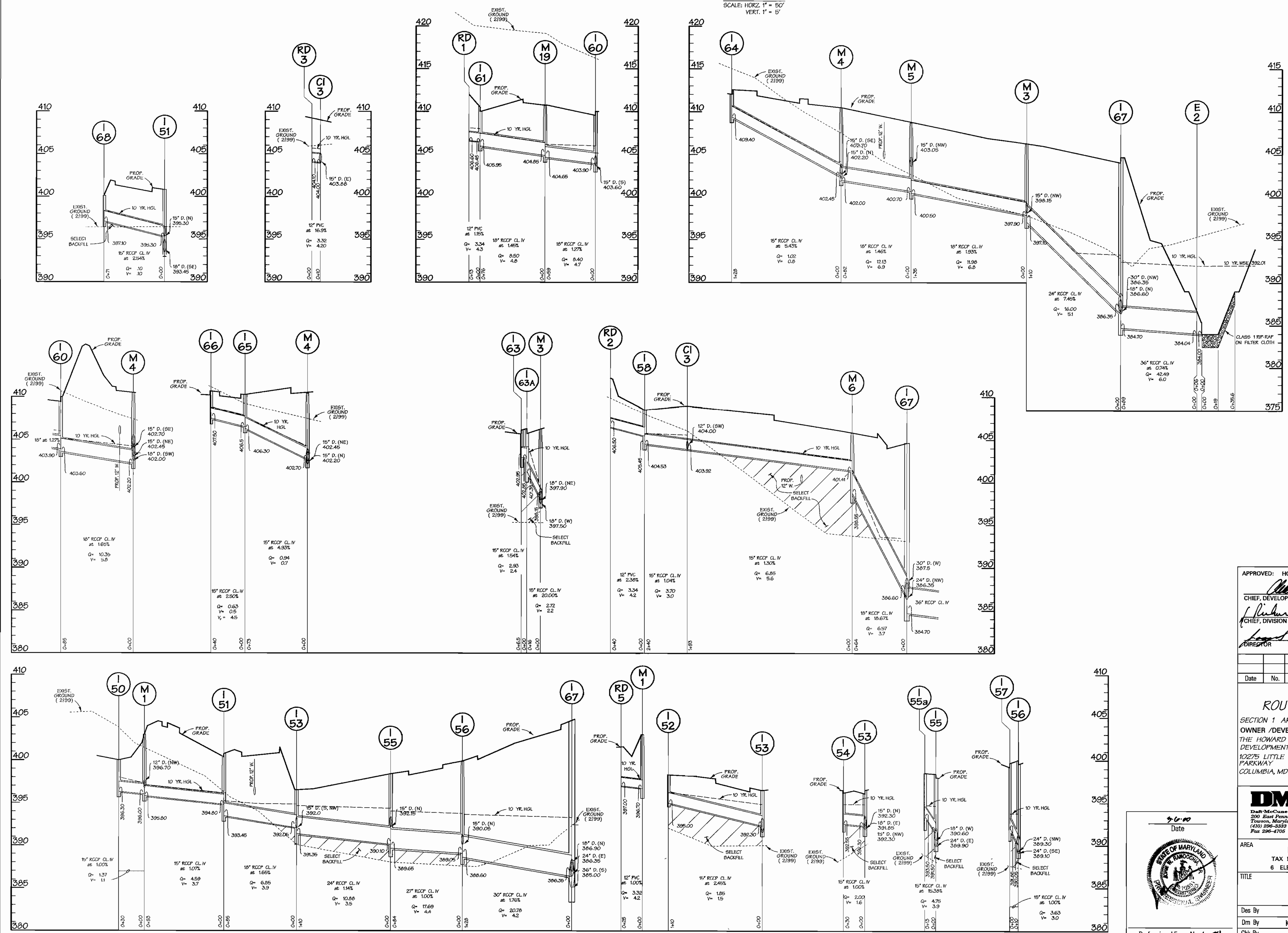
Revision Description  
 COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTM.P.  
 DEVELOPMENT CORPORATION 3145 GULLFORD ROAD  
 10275 LITTLE PATUXENT PARKWAY SUITE 100  
 COLUMBIA, MD 21044

**DMW**  
 Dean McCusker-Walkers, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 286-3353  
 Fax: 286-4705  
 A Team of Land Planners,  
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 Environmental Professionals



AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: STORM DRAIN PROFILES  
 Des By: MRT Scale: AS SHOWN Proj. No.: 89088.M  
 Dwn By: KDE Date: 3-3-00  
 Chk By: Approved 11 OF 31

STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



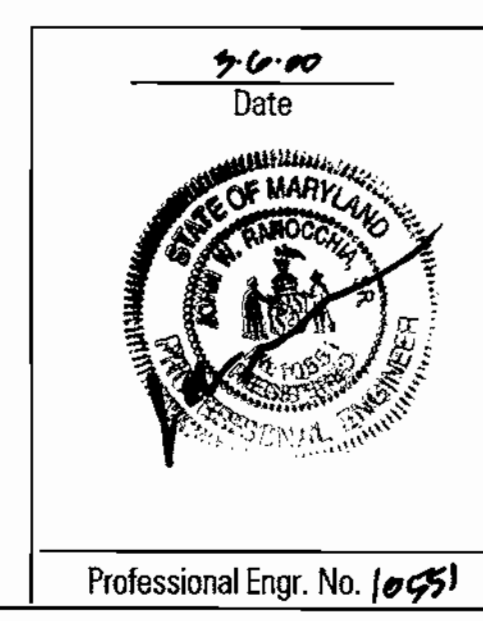
APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE Feb 23, 2000

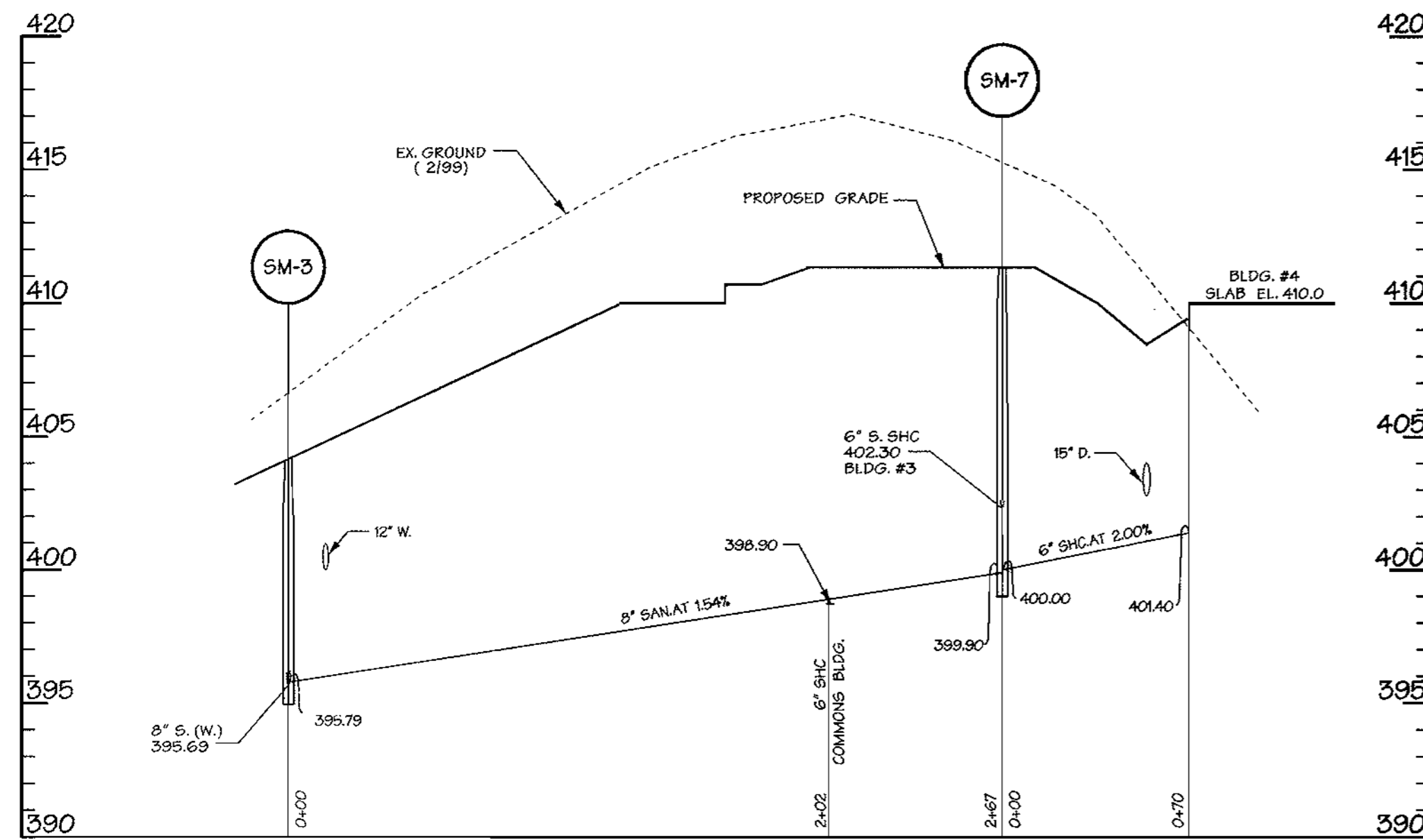
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Mike Dammann* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION M-K DATE  
*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Joseph Butler* 5/12/00  
 DIRECTOR DATE

Date No. Revision Description  
 COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: CONTRACT PURCHASER:  
 THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTNG. DEVELOPMENT CORPORATION 9145 GUILFORD ROAD  
 10275 LITTLE PATUXENT SUITE 100  
 PARKWAY COLUMBIA, MD 21046

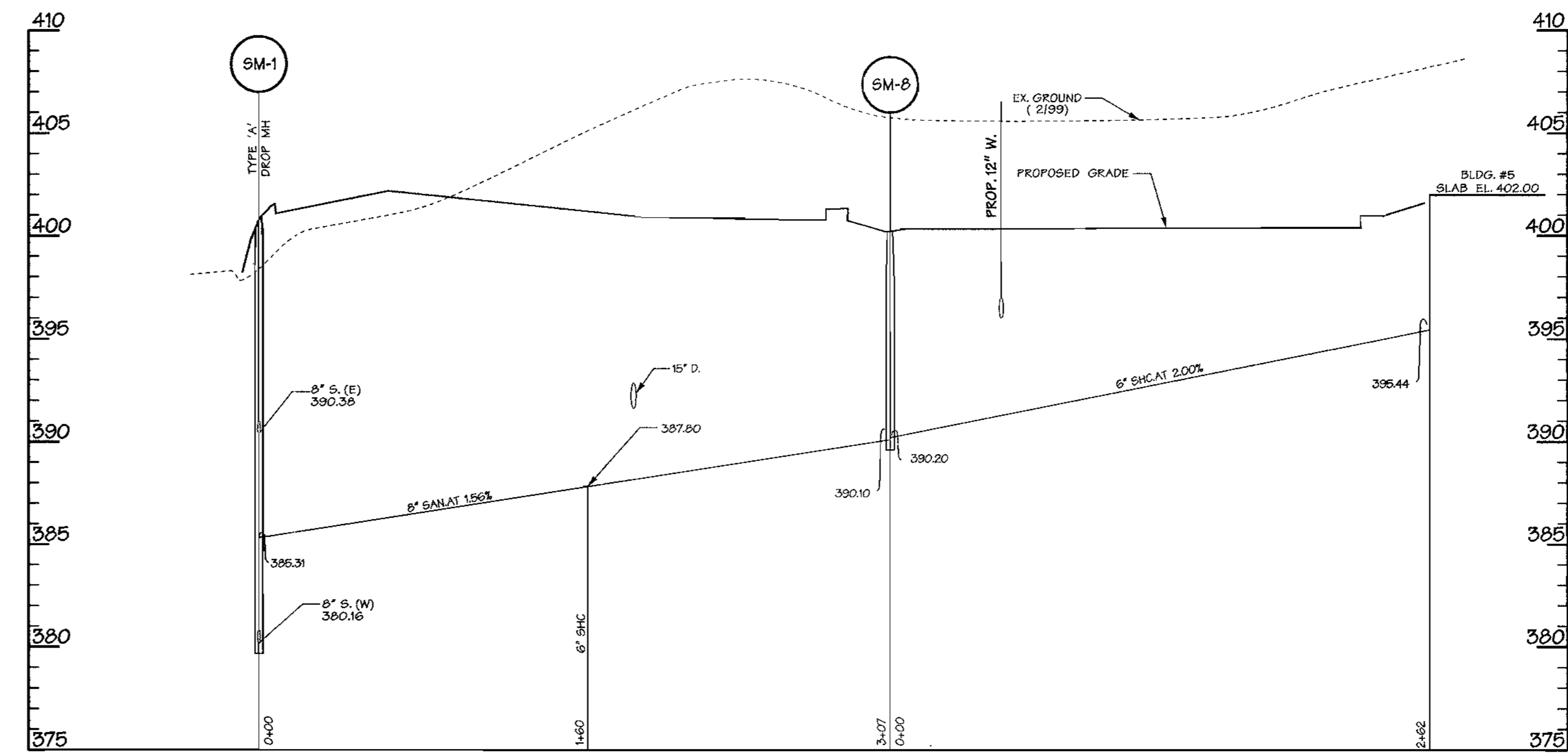
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AREA  
 ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE  
 STORM DRAIN PROFILES  
 Des By Scale AS SHOWN Proj. No. 89088.M  
 Dm By KDE Date 3-3-00  
 Chk By Approved 12 OF 31

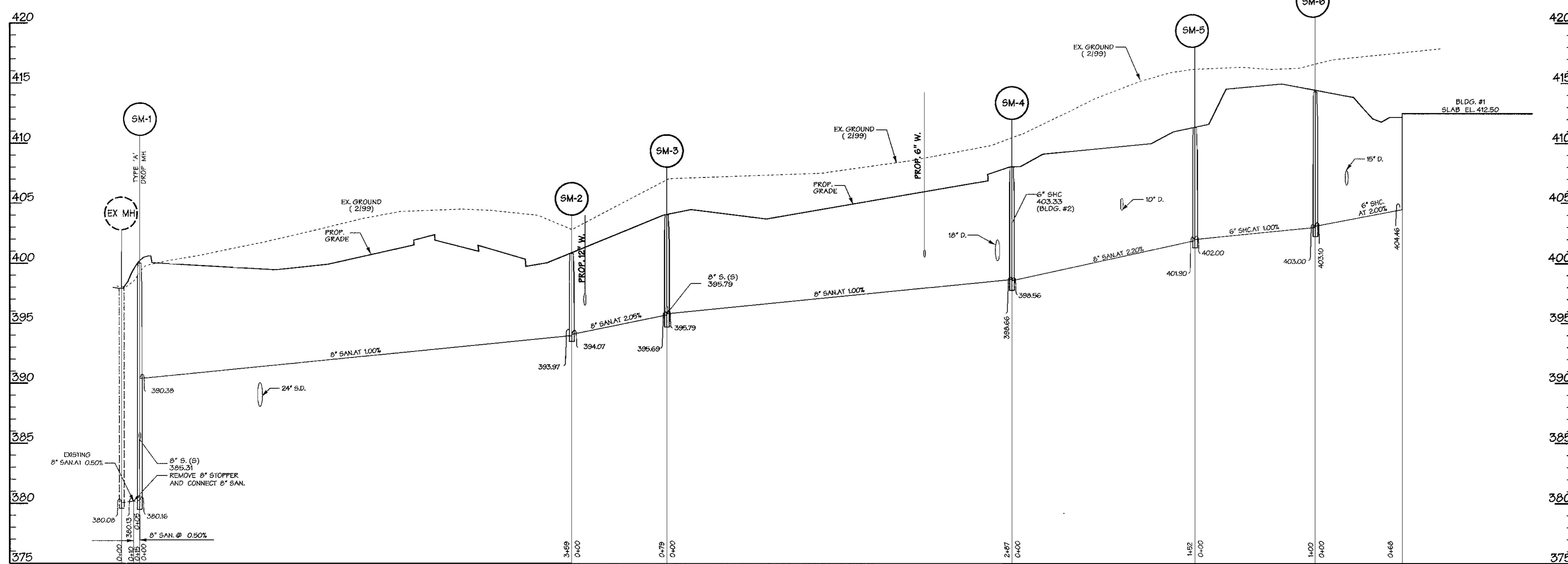




SANITARY SEWER PROFILES  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



SANITARY SEWER PROFILES  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



SANITARY SEWER PROFILES  
SCALE: 1"=50' HORZ.  
1"=5' VERT.

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
*[Signature]* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*[Signature]* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP.  
 10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD 21046

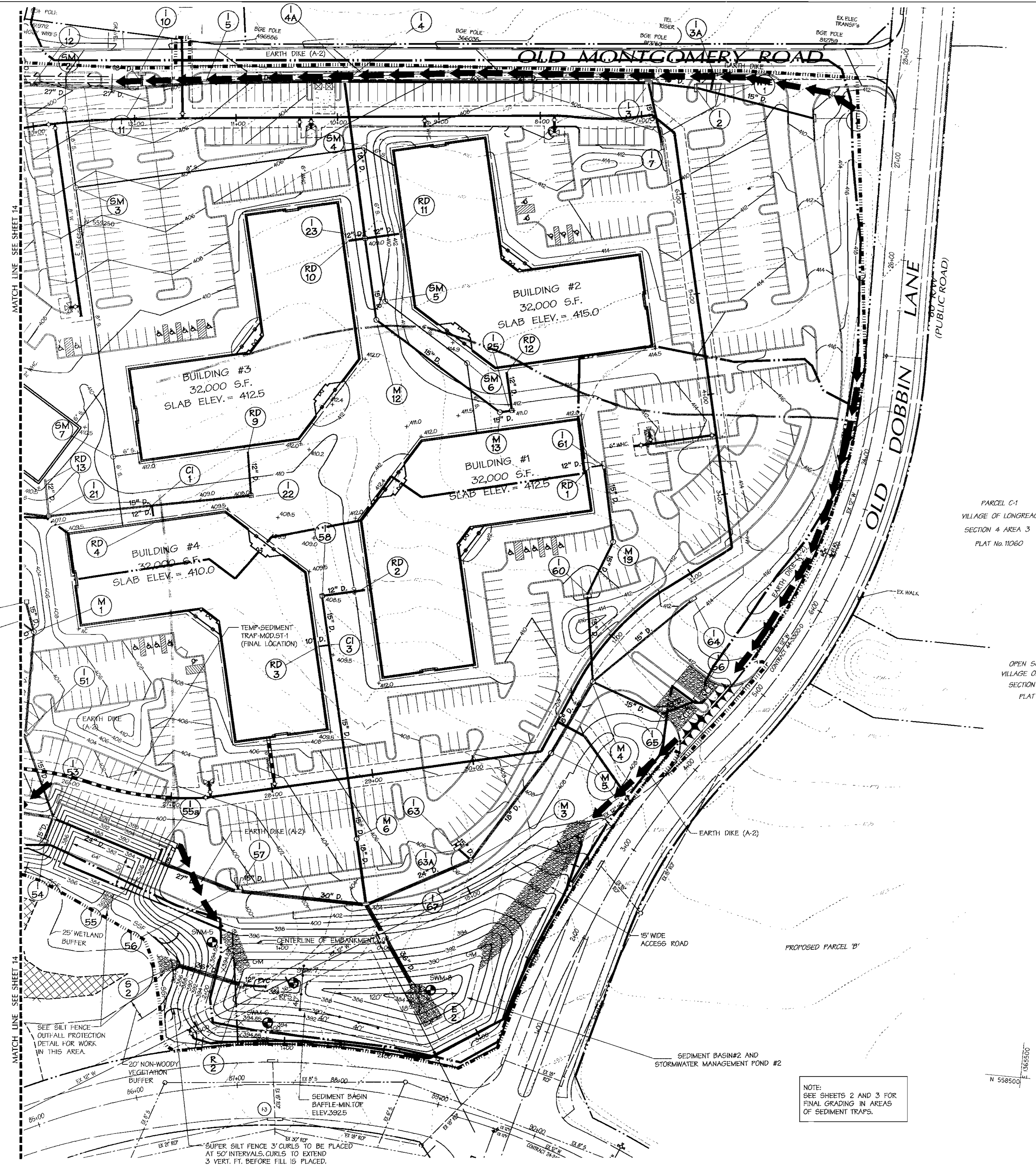
**DMW**  
 Darr McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4706  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

3-6-00  
 Date

AREA: **ROUTE 175 COMMERCIAL**  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 16TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: **SANITARY SEWER PROFILES**

Des By	SDS	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	ADL	Date	3-3-00		
Chk By		Approved			13 OF 31





**LEGEND**

- 5' Silt Fence
- Earth Dike
- Limit of Disturbance
- Super Silt Fence
- Temporary Swale
- Proposed ESC Drainage Area
- Existing ESC Drainage Area
- Gabion Matriess
- Soil Boring
- Removable Pumping Station

**BASIN TABLE**

BASIN NUMBER	2
EXISTING DRAINAGE AREA AC.	7.4
INTERIM DRAINAGE AREA AC.	6.1
PROPOSED DRAINAGE AREA AC.	6.1
STORAGE REQUIRED C.F.	WET 13,320 DRY 13,320 TOTAL 26,640
STORAGE PROVIDED C.F.	WET 22,394 DRY 36,774 TOTAL 59,168
EXISTING GROUND ELEV.	368.0
TOP EMBANKMENT ELEV.	394.26
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	390.5
WET STORAGE ELEV.	388.5
CLEARDUT ELEV.	387.5
BOTTOM ELEV.	366.0
Q INTO BASIN (C.F.S.) TO YR. CLOGGED	41.2
Q OUT BARREL (C.F.S.) TO YR. CLOGGED	31.13
Q OUT EMERGENCY SPILLWAY	N/A
BASIN DEPTH	WET 2.5' DRY 2.0' TOTAL 4.5'
DESIGN HIGHWATER 10 YR. CLOGGED	392.49
FREEBOARD PROVIDED	2.36'
BARREL DIAMETER	36"
RISER DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	386.0-388.5
DRY STORAGE ZONE ELEV.	388.5-390.5
BOTTOM DIMENSIONS	120' X 30'
EXISTING 2 YR. Q	6.19
PROPOSED 2 YR. Q	1.44

\* UNDER TSWM CONDITIONS:  
 OUTFLOW POND # 2 WILL COMBINE WITH OUTFLOW POND # 1  
 EXISTING DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 EXISTING DRAINAGE AREAS  
 DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 DEVELOPED DRAINAGE AREAS

**POND #2 DESIGN FLOW SUMMARY PROPOSED CONDITIONS**

Existing D.P. (cfs) - Allowable Flow	2-YEAR		10 YEAR	100 YEAR CLOGGED
	6.57**	24.76**	48.84**	
Existing Flow from Pond #1 DA (cfs)	0.38	3.20	7.67	
Existing Flow from Pond #2 DA (cfs)	6.19	21.56	41.17	
Developed Inflow (cfs)	23.41	41.42	62.87	
Developed Outflow (cfs)	1.68*	12.66*	12.66*	
Developed Outflow D.P. (cfs)	2.53***	23.67***	23.67***	
Water Surface Elevation	391.09	392.18	392.21	
Water Quality Storage (ac.ft.)	0.266	0.266	0.266	
Quantity Storage (ac.ft.)	1.000	1.99	1.99	
Total Storage (ac.ft.)	1.266	1.424	1.900	

**DETECTION**

Structure Type	WET POND
Water Quality Type	'A'
Structure Classification	
Storage Height Product 2 year	7.59
Storage Height Product 10 year	8.68
Storage Height Product 100 year	9.31
Watershed Area to Facility	0.0125 SQ MI.
Level of Management Required	2, 10
Level of Management Provided	2, 10
Minimum Top Width Provided	12'
Maximum Height of Fill	7.2'
Freeboard Required	2.0'
Freeboard Provided	2.0'

\* OUTFLOW POND # 2 WILL COMBINE WITH OUTFLOW POND # 1  
 \*\* EXISTING DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 EXISTING DRAINAGE AREAS  
 \*\*\* DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 DEVELOPED DRAINAGE AREAS

**Trap Table**

TRAP NUMBER	2
TRAP TYPE	5T-11
EXISTING DRAINAGE AREA AC.	1.6
INTERIM DRAINAGE AREA AC.	1.4
PROPOSED DRAINAGE AREA AC.	1.4
STORAGE REQUIRED C.F.	WET 2250 DRY 2250 TOTAL 4500
STORAGE PROVIDED C.F.	WET 3610 DRY 3610 TOTAL 7220
EXISTING GROUND ELEVATION	206.0
TOP EMBANKMENT ELEVATION	206.0
WEIR CREST ELEVATION	206.0
WET STORAGE ELEVATION	205.5
CLEARDUT ELEVATION	202.8
BOTTOM ELEVATION	202.0
DEPTH OF CHANNEL (ft)	1.0
OUTLET WIDTH (ft)	6.5'
BOTTOM DIMENSION	64' X 30'
TRAP SIDESLOPES	2:1
TRAP DEPTH	WET 1.5' DRY 1.5' TOTAL 3.0'
BARREL DIAMETER	N/A
RISER DIAMETER	N/A
WET STORAGE ZONE ELEVATION	202.0 - 205.5
DRY STORAGE ZONE ELEVATION	200.5 - 205.0
EXISTING 2 YR. Q	0.27 CFS
PROPOSED 2 YR. Q	0.25 CFS

DATA SOURCES:  
 RECEIVED AUTOCAD FILE VIA E-MAIL 2/19/99 FROM GUTSCHICK LITTLE & WEBER.

DEVELOPER'S CERTIFICATION:  
 "I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 4/29/00  
 PRINT NAME BELOW: *John W. Ravacchia, Sr.*

ENGINEER'S CERTIFICATION:  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 4/29/00  
 PRINT NAME BELOW: *John W. Ravacchia, Sr.*

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
 SIGNATURE: *[Signature]* DATE: 5/14/00  
 U.S. NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE: *[Signature]* DATE: 5/14/00  
 HOWARD S.C.D.

**APPROVED**  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE: FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK: *[Signature]* DATE: 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 5/12/00  
 DIRECTOR: *[Signature]* DATE: 5/12/00

COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
 10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD 21046

**DMW**  
 DataMcGowan-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 410) 296-3333 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN  
 Des By: SDS, BIS Scale: 1" = 50' Proj. No.: 89088.M  
 Dwn By: ADL Date: 4-26-00  
 Chk By: *[Signature]* Approved: 15 OF 31



FOND #3  
DESIGN FLOW SUMMARY PROPOSED CONDITIONS

	2-YEAR	10 YEAR	100 YEAR CLOGGED
Existing D.P. (cfs)	2.70	13.70	29.47
Allowable Release (cfs)	2.70	13.70	29.47
Developed Inflow (cfs)	28.83	93.91	93.91
Developed Outflow (cfs)	0.94	11.1	43.69
Developed D.P. (cfs)	388.86	390.06	391.88
Water Surface Elevation	0.394	0.394	0.394
Water Quality Storage (ac. ft.)	1.21	1.781	1.781
Quantity Storage (ac. ft.)	1.605	2.175	3.386
Total Storage (ac. ft.)			

Structure Type	DRY DETENTION
WET POND	'A'
Structure Classification	
Storage Height Product 2 year	6.86
Storage Height Product 10 year	7.97
Storage Height Product 100 year	8.89
Watershed Area to Facility	0.96 Sq. Miles
Level of Management Required	2, 10
Level of Management Provided	2, 10
Minimum Top Width Provided	12'
Maximum Height of Fill	5.5'
Floodproof Required	2.5'
Floodproof Provided	2.19'

BASIN TABLE

BASIN NUMBER	3
EXISTING DRAINAGE AREA AC.	10.1
INTERIM DRAINAGE AREA AC.	9.7
PROPOSED DRAINAGE AREA AC.	12.4
STORAGE REQUIRED C.F.	
WET	22,320
DRY	22,320
TOTAL	44,640
STORAGE PROVIDED C.F.	
WET	22,320
DRY	70,803
TOTAL	93,123
EXISTING GROUND ELEV.	383.0
TOP EMBANKMENT ELEV.	394.00
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	390.0
WET STORAGE ELEV.	386.14
CLEANOUT ELEV.	386.1
BOTTOM ELEV.	384.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	95.91
Q OUT BARREL (C.F.S.) 10 YR. CLOGGED	37.22
Q OUT EMERGENCY SPILLWAY	N/A
BASIN DEPTH	
WET	2.4'
DRY	5.66'
TOTAL	7.8'
DESIGN HIGHWATER 10 YR. CLOGGED	391.19
FREEBORD PROVIDED	2.8'
BARREL DIAMETER	24"
RISER DIMENSION	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	384.0-386.14
DRY STORAGE ZONE ELEV.	386.14-391.8
BOTTOM DIMENSIONS	18' X 40'
2 YR. Q. EXISTING	2.70
2 YR. Q. PROPOSED	1.41

LEGEND

- SF SILT FENCE
- ← EARTH DIKE
- LIMIT OF DISTURBANCE
- SSF SUPER SILT FENCE
- ← TEMPORARY SWALE
- PROPOSED ESC DRAINAGE AREA
- EXISTING ESC DRAINAGE AREA
- GM GABION MATRESS
- SWM-4 SOIL BORING
- RFS REMOVABLE PUMPING STATION

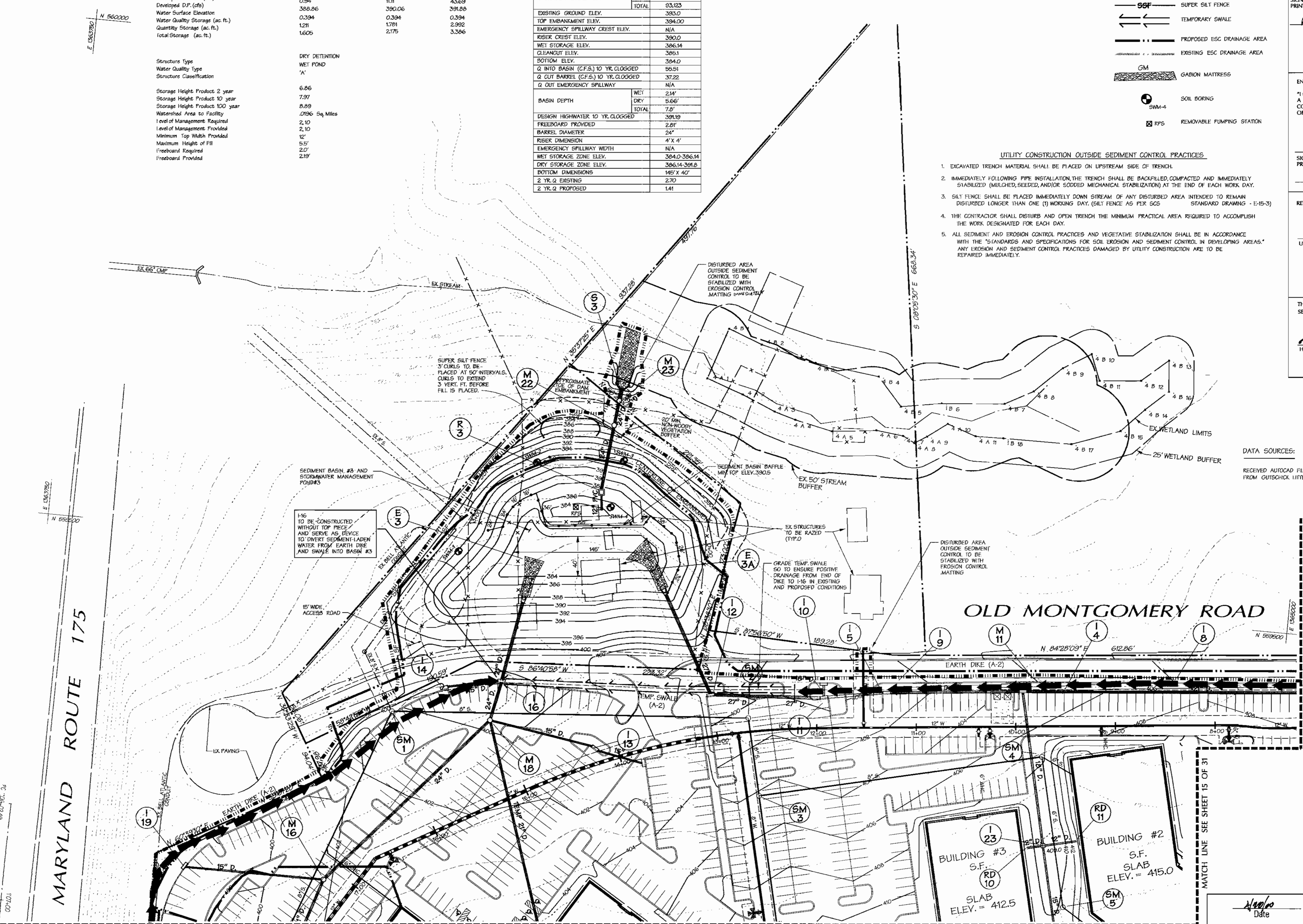
DEVELOPER'S CERTIFICATION:  
"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* DATE *4/22/00*

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* DATE *4/22/00*

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*[Signature]* DATE *5/19/00*  
U.S. NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* DATE *5/19/00*

- UTILITY CONSTRUCTION OUTSIDE SEDIMENT CONTROL PRACTICES
- EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON UPSTREAM SIDE OF TRENCH.
  - IMMEDIATELY FOLLOWING PIPE INSTALLATION THE TRENCH SHALL BE BACKFILLED, COMPACTED AND IMMEDIATELY STABILIZED (MULCHED, SEEDED, AND/OR SOILED MECHANICAL STABILIZATION) AT THE END OF EACH WORK DAY.
  - SILT FENCE SHALL BE PLACED IMMEDIATELY DOWN STREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED LONGER THAN ONE (1) WORKING DAY. (SILT FENCE AS PER SCS STANDARD DRAWING - E-15-3)
  - THE CONTRACTOR SHALL DISTURB AND OPEN TRENCH THE MINIMUM PRACTICAL AREA REQUIRED TO ACCOMPLISH THE WORK DESIGNATED FOR EACH DAY.
  - ALL SEDIMENT AND EROSION CONTROL PRACTICES AND VEGETATIVE STABILIZATION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS. ANY EROSION AND SEDIMENT CONTROL PRACTICES DAMAGED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.



DATA SOURCES:  
RECEIVED AUTOCAD FILE VIA E-MAIL 2/19/99 FROM GUTSCHICK, LITTLE & WEBER.

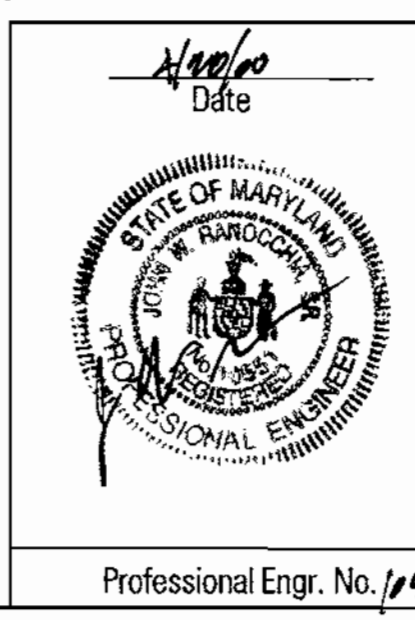
APPROVED PLANNING BOARD of HOWARD COUNTY  
DATE FEB 03, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* DATE *5/12/00*  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK  
*[Signature]* DATE *5/12/00*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* DATE *5/12/00*  
DIRECTOR

Revision Description  
Date No. Description  
COLUMBIA ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN  
10275 LITTLE PATUNENT PARKWAY COLUMBIA, MD 21044

DMW  
Darr McCase-Walkers, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3833  
Fax 296-4706  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA ROUTE 175 COMMERCIAL  
TAX MAP 38 & 37 PARCEL 27, 122, 244, 282  
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
TITLE EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN  
Des By SDS,BIS Scale 1" = 50' Proj. No. 89088.M  
Dm By ADL Date 4-26-00  
Chk By *[Signature]* Approved 16 OF 31





**LEGEND**

- SILT FENCE
- EARTH DIKE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- TEMPORARY SWALE
- SOILS
- MOUNTABLE BERM
- PROPOSED ESC DRAINAGE AREA
- EXISTING ESC DRAINAGE AREA

N 960000  
E 1562500

SEDIMENT BASIN #3  
EX. D.A. = 10.1 AC  
INT. D.A. = 9.7 AC  
PROP. D.A. = 12.4 AC

SEDIMENT TRAP #1  
EX. D.A. = 3.7 AC  
INT. D.A. = 3.9 AC  
PROP. D.A. = N/A

SEDIMENT BASIN #1  
EX. D.A. = 3.4 AC  
INT. D.A. = 5.6 AC  
PROP. D.A. = 2.9 AC

SEDIMENT TRAP #2  
EX. D.A. = 3.7 AC  
INT. D.A. = 3.9 AC  
PROP. D.A. = N/A

SEDIMENT BASIN #2  
EX. D.A. = 7.4 AC  
INT. D.A. = 6.1 AC  
PROP. D.A. = 6.1 AC

MARYLAND ROUTE 175  
SECTION 1 AREA 2



PARCEL 014.02  
VILLAGE OF LONGBRIDGE  
SECTION 4 AREA 3  
PLAT NO. 10500

OPEN SPACE LOT 3  
VILLAGE OF LONGBRIDGE  
SECTION 4 AREA 3  
PLAT NO. 10500

THE HOWARD RESEARCH  
& DEVELOPMENT CORP.  
PLAT 10500

COLUMBIA CROSSING CENTER  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 1  
PLAT NO. 8204

N 960000  
E 1562500

DEVELOPER'S CERTIFICATION:  
"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE BY A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
  
SIGNATURE OF DEVELOPER  
PRINT NAME BELOW SIGNATURE  
**Muller C. Woodruff, Liberty Property Ltd. Pct.**  
DATE: 4/20/00

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE  
**John W. Rancich, Sr.**  
DATE: 4/20/00

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
  
U.S. NATURAL RESOURCE CONSERVATION SERVICE  
DATE: 5/1/00

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
  
HOWARD S.C.D.  
DATE: 5/1/00

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: FEB 23, 2000

LIMIT OF DISTURBANCE 1,219,680 S.F./28.0 AC ±

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MKC  
DATE: 5/12/00  
  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 5/12/00  
  
DIRECTOR  
DATE: 5/12/00

ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2  
PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN.P.  
9145 GULLFORD ROAD  
SUITE 100  
COLUMBIA, MD 21046

**DMW**  
Dart McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax: 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

Professional Engr. No. 10951  
  
Date: 4/20/00

Date	No.	Revision Description

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27,122, 244, 282  
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: COMPOSITE EROSION AND SEDIMENT CONTROL PLAN

Des By	SDS, BIS	Scale	1" = 100'	Proj. No.	89088.M
Drn By	ADL	Date	4-26-00		
Chk By	my	Approved			17 OF 31

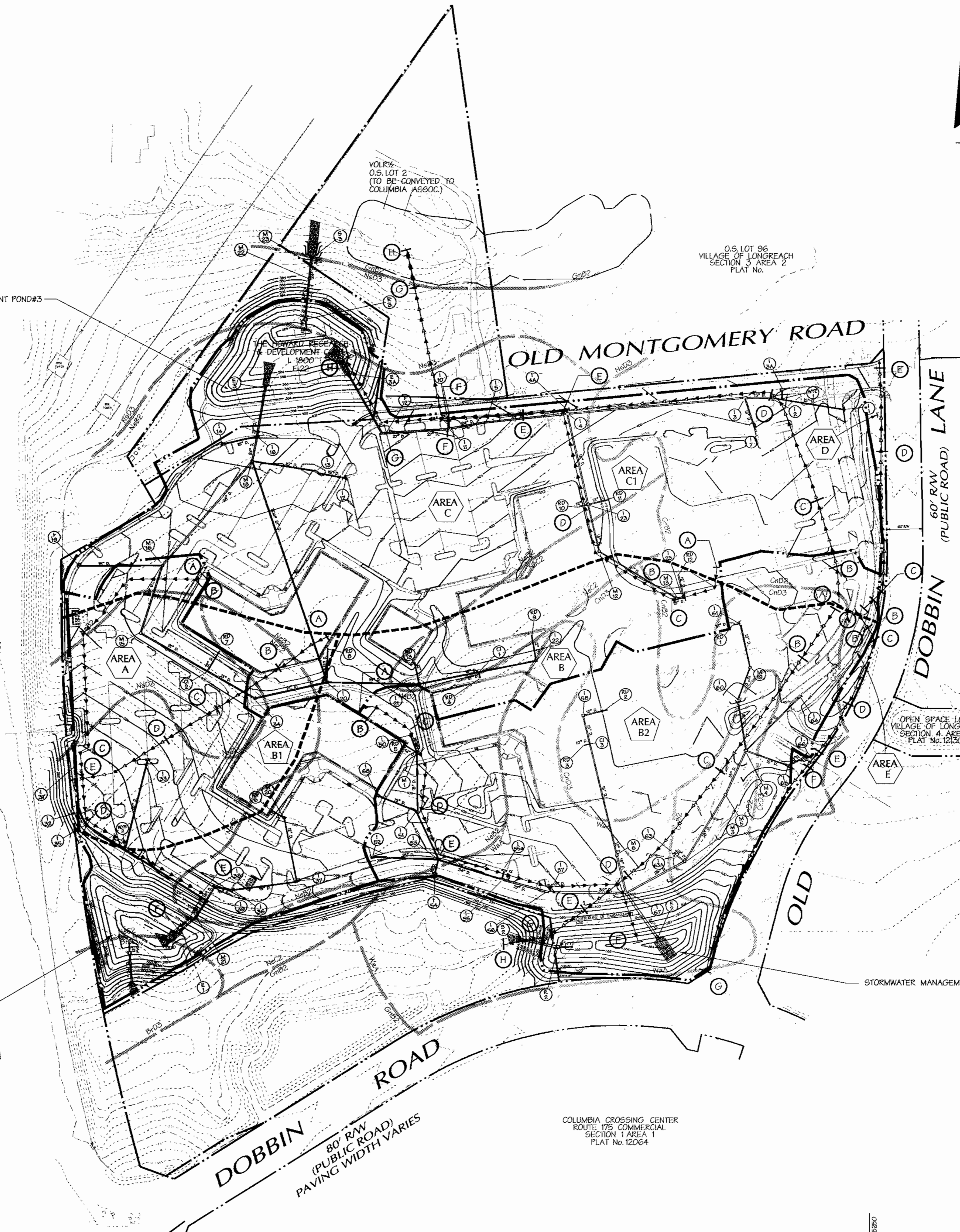


**LEGEND**

- PROPOSED SWM DRAINAGE AREA
- EXISTING SWM DRAINAGE AREA
- SOILS
- PROPOSED TO PATH
- EXISTING TO PATH
- PROPOSED TO PATH CALLOUT
- EXISTING TO PATH CALLOUT
- EXISTING DRAINAGE AREA LABEL
- PROPOSED DRAINAGE AREA LABEL

N 960000  
E 1362900

N 958000  
E 1362900



DEVELOPER'S CERTIFICATION:  
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 4/20/00  
DATE  
SIGNATURE OF DEVELOPER  
PRINT NAME BELOW SIGNATURE  
Michael C. [Name], Liberty Property Ltd. Part.

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 4/20/00  
DATE  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE  
John W. Ranachis, Sr.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*[Signature]* 5/19/00  
DATE  
U.S. NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 5/19/00  
DATE  
HOWARD S.C.

**APPROVED**  
**PLANNING BOARD**  
**OF HOWARD COUNTY**  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MWK  
*[Signature]* 5/12/00  
DATE  
R  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* 5/12/00  
DATE  
DIRECTOR

Date	No.	Revision Description

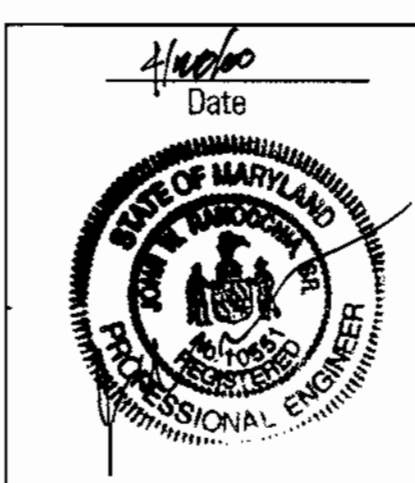
**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP.  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

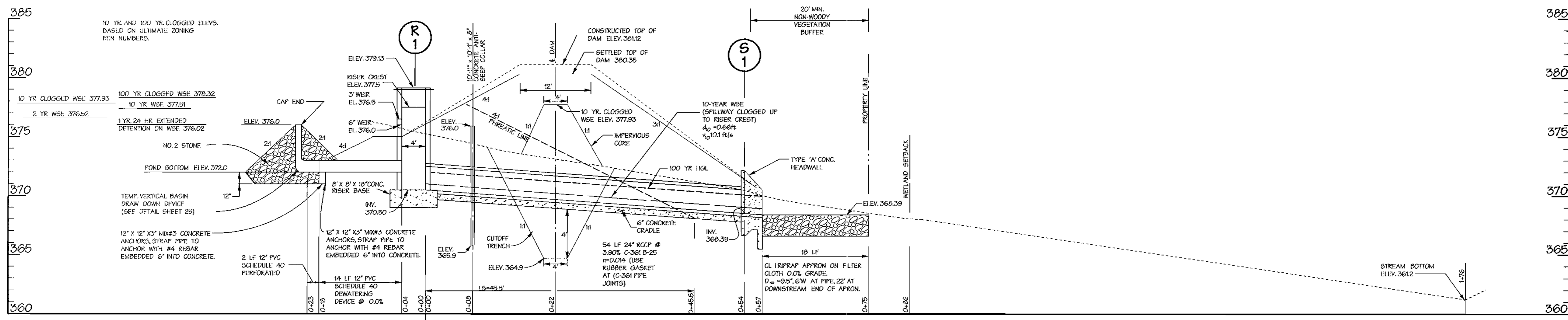
**DMW**  
Darr McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4708  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA **ROUTE 175 COMMERCIAL**  
TAX MAP 36 & 37 PARCEL 27,122, 244, 282  
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

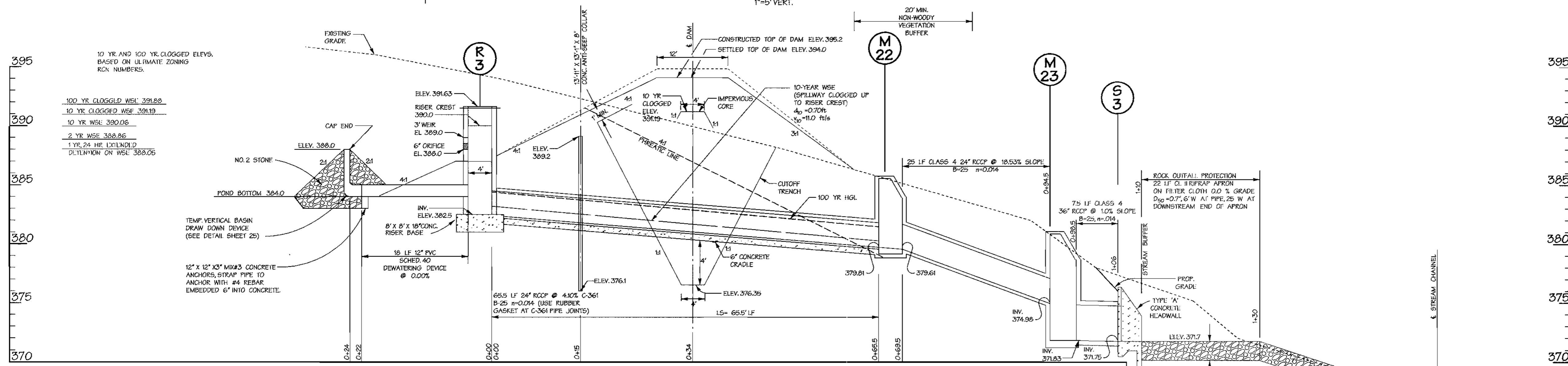
TITLE **STORMWATER MANAGEMENT DRAINAGE AREA MAP**

Des By	SDS, BIS	Scale	1" = 100'	Proj. No.	89088.M
Drn By	ADL	Date	4-26-00		
Chk By		Approved			19 OF 31

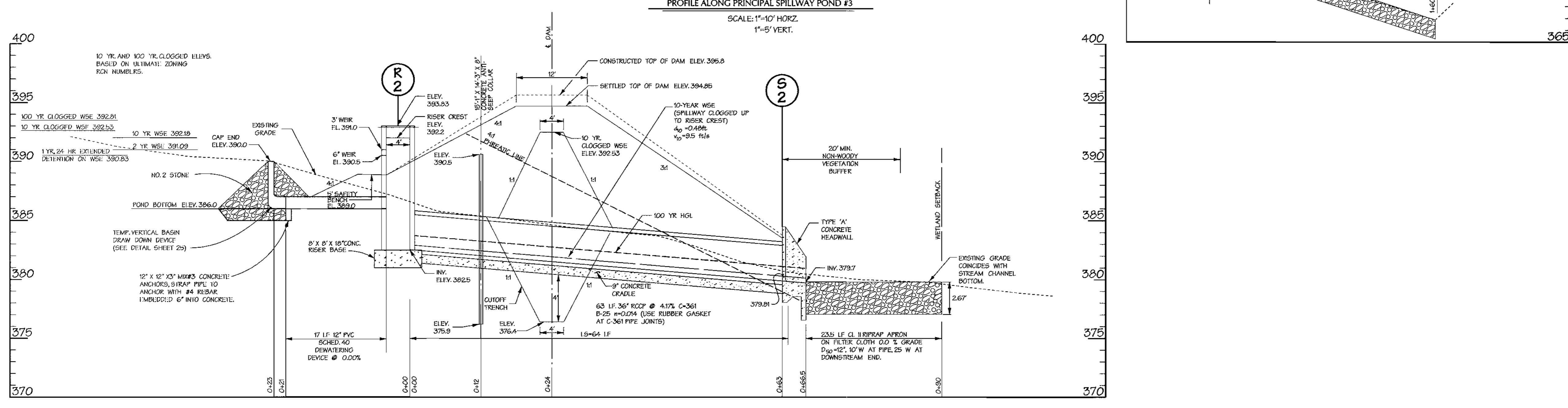




PROFILE ALONG PRINCIPAL SPILLWAY POND #1  
SCALE: 1"=10' HORIZ.  
1"=5' VERT.



PROFILE ALONG PRINCIPAL SPILLWAY POND #3  
SCALE: 1"=10' HORIZ.  
1"=5' VERT.



PROFILE ALONG PRINCIPAL SPILLWAY POND #2  
SCALE: 1"=10' HORIZ.  
1"=5' VERT.

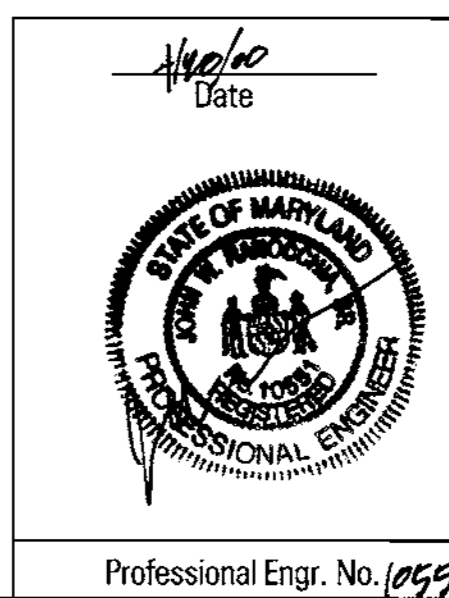
**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 03, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Richard Blum* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
*Richard Blum* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE R  
*James R. Smith* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL SECTION 1 AREA 2 PARCEL A & O.S. LOT 3 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN.P. 3145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW**  
 Dan McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3833  
 Fax 296-4705  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: STORMWATER MANAGEMENT  
 PRINCIPAL SPILLWAY PROFILES  
 Des By: MRT Scale: AS SHOWN Proj. No.: 89088.M  
 Dwn By: ADLWDE Date: 4-26-00  
 Chk By: Approved 20 OF 31

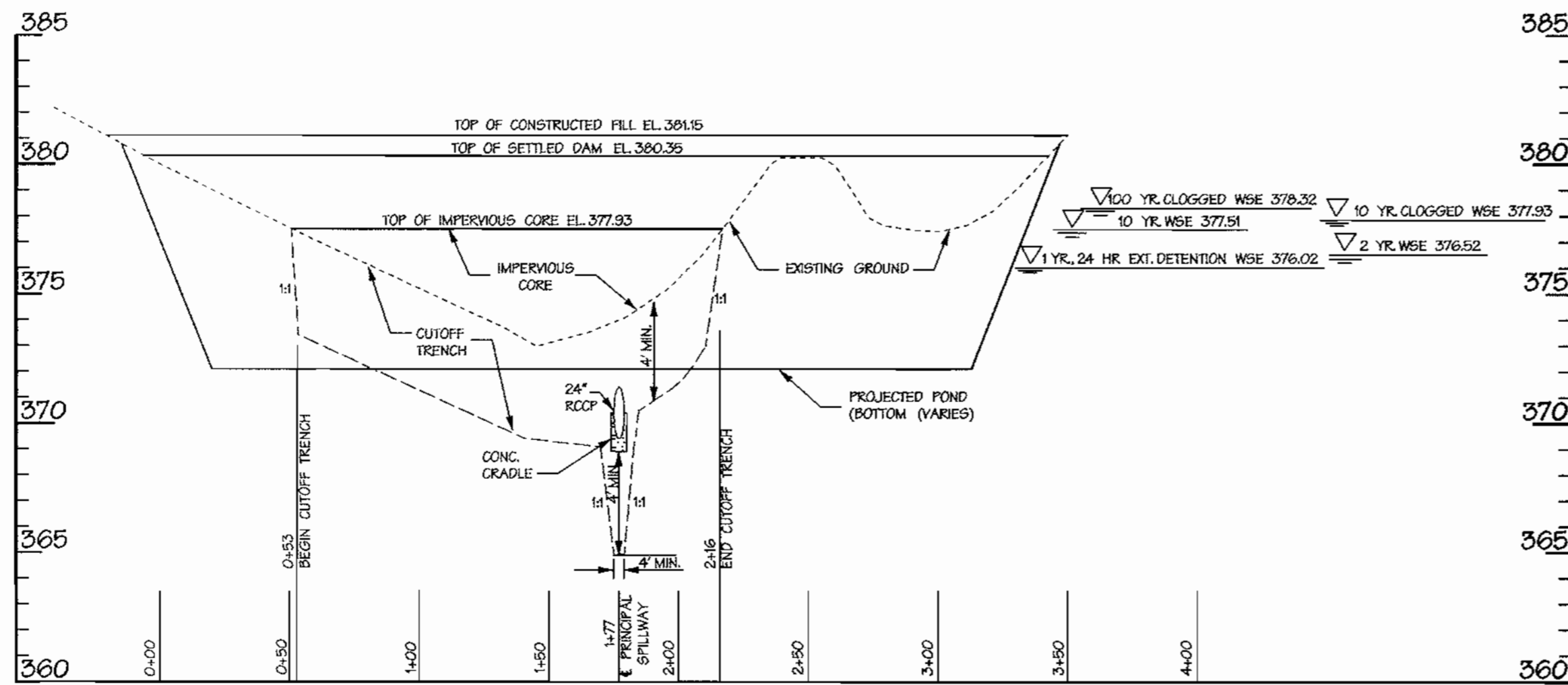


THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
*John Sim* 5/9/00  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE  
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.  
*John Sim* 5/9/00  
 APPROVED: HOWARD SOIL CONSERVATION DISTRICT DATE  
 PLAN NUMBER

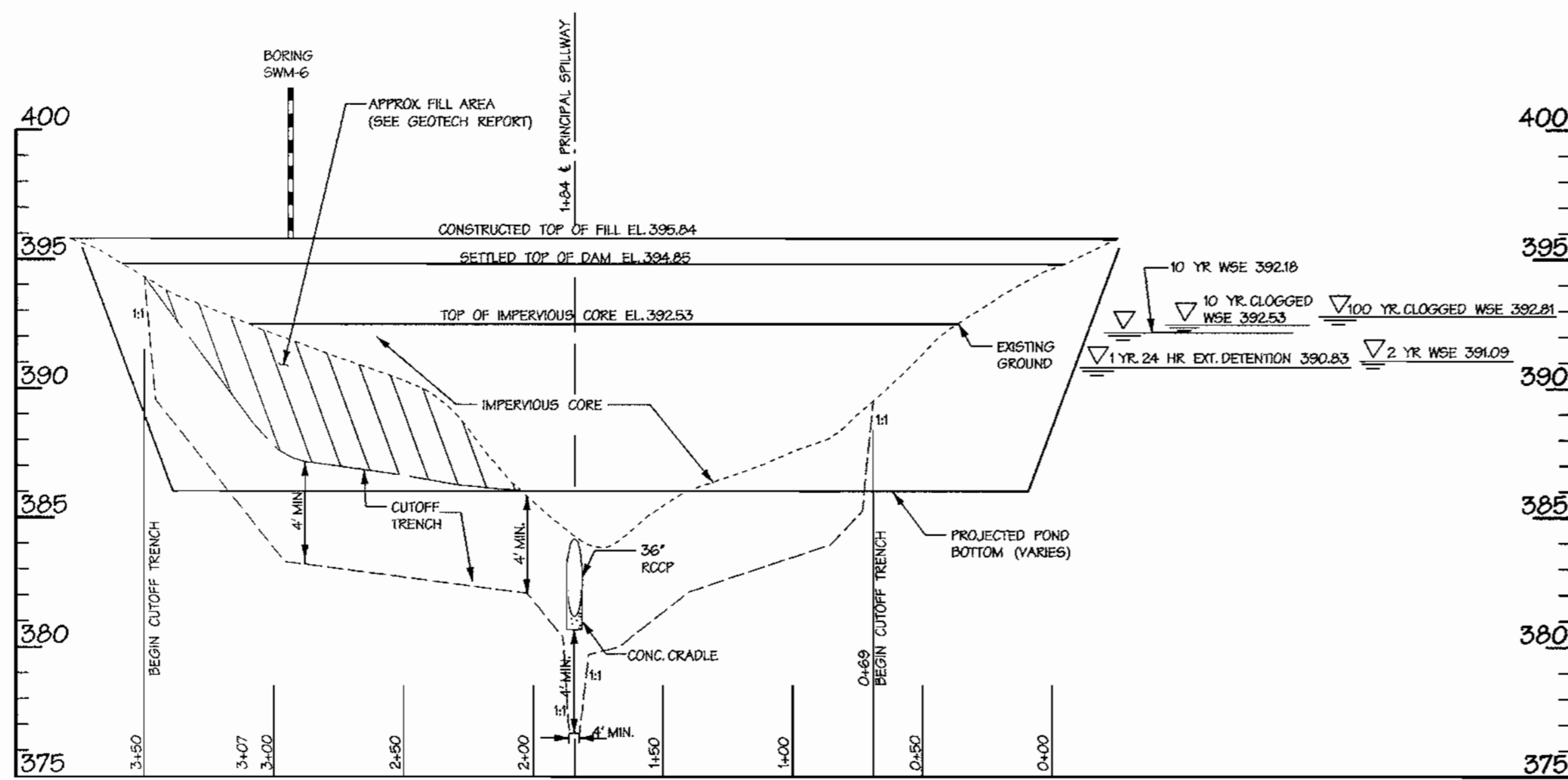
DEVELOPERS CERTIFICATE:  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Richard Blum* 4/26/00  
 SIGNATURE OF DEVELOPER DATE  
 Richard Blum, Director, Liberty Property Ltd. Part

ENGINEERS CERTIFICATE:  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
*John W. Ranocchia, Sr.* 4/26/00  
 SIGNATURE OF ENGINEER DATE  
 John W. Ranocchia, Sr.

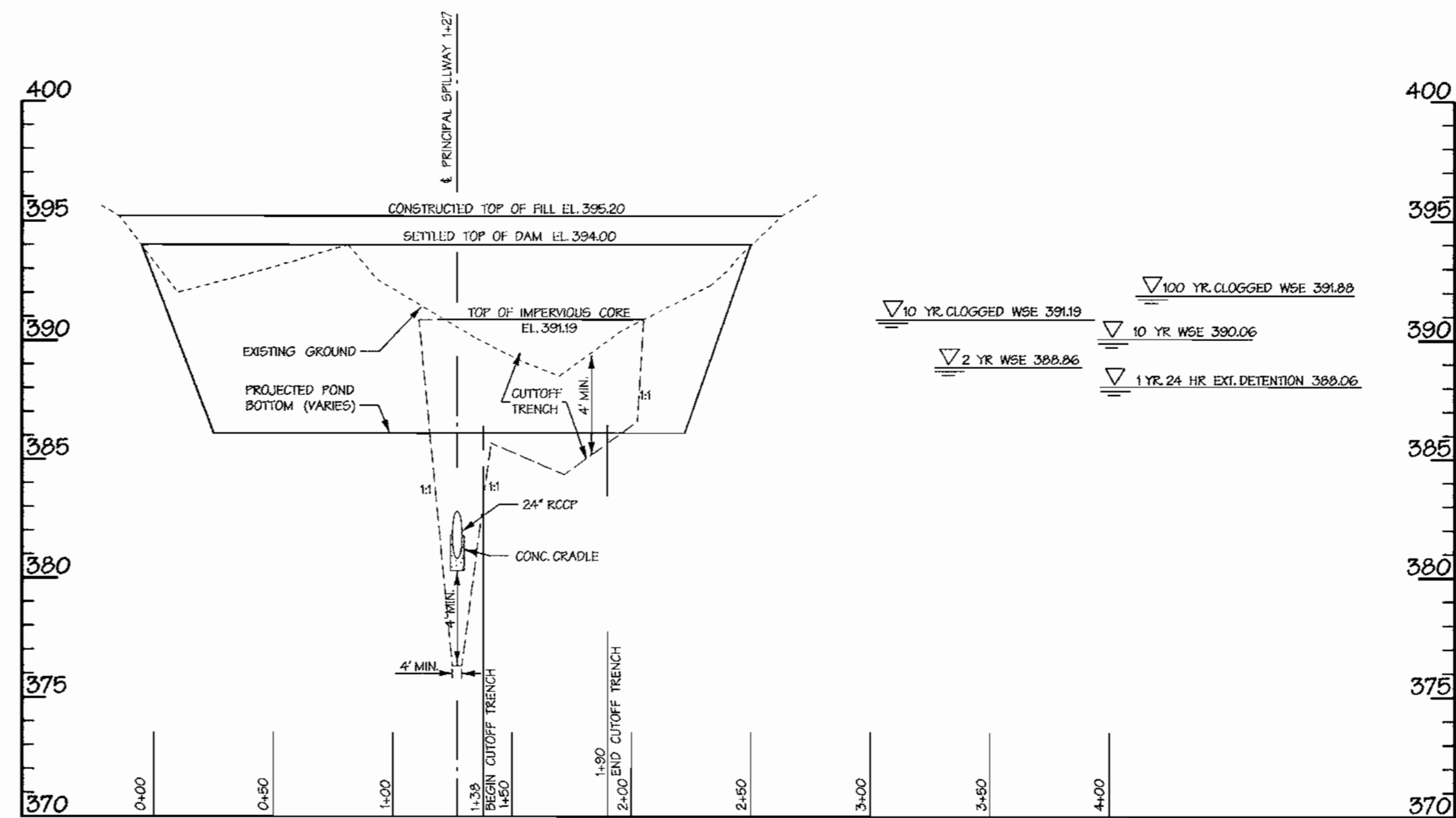
Thu Apr 27 10:33:24 2000 from 193.088.9m (93088.m)



PROFILE ALONG CENTERLINE OF DAM FOR POND #1  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.



PROFILE ALONG CENTERLINE OF DAM FOR POND #2  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.



PROFILE ALONG CENTERLINE OF DAM FOR POND #3  
SCALE: 1"=50' HORIZ.  
1"=5' VERT.

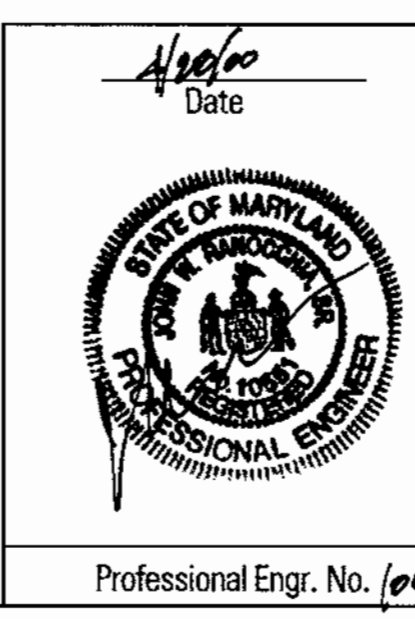
**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
 [Signature] 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description

COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & 0.5 LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN.P.  
 9145 GUILFORD ROAD  
 SUITE 100  
 COLUMBIA, MD 21046

**IDMW**  
 Darr McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
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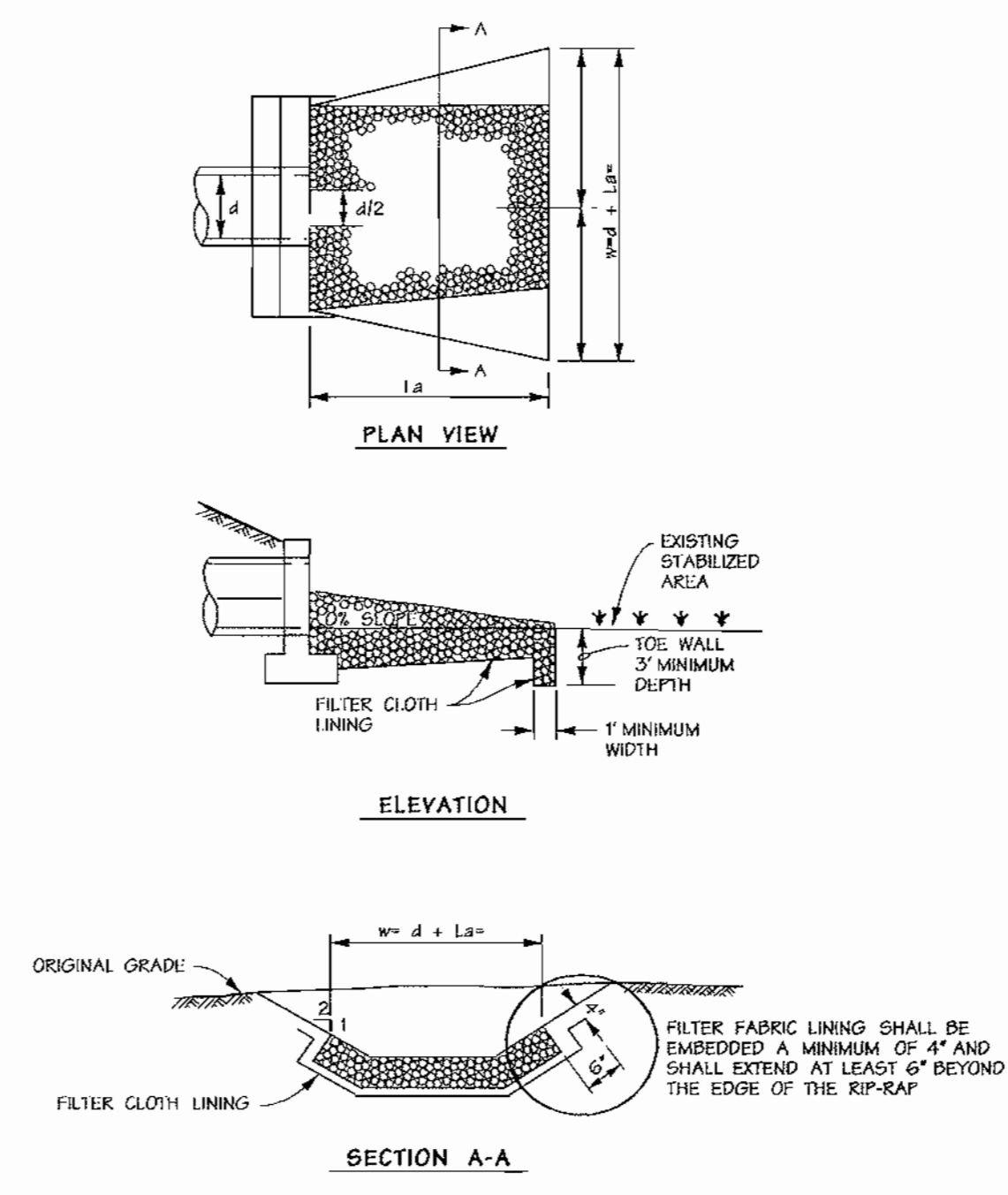
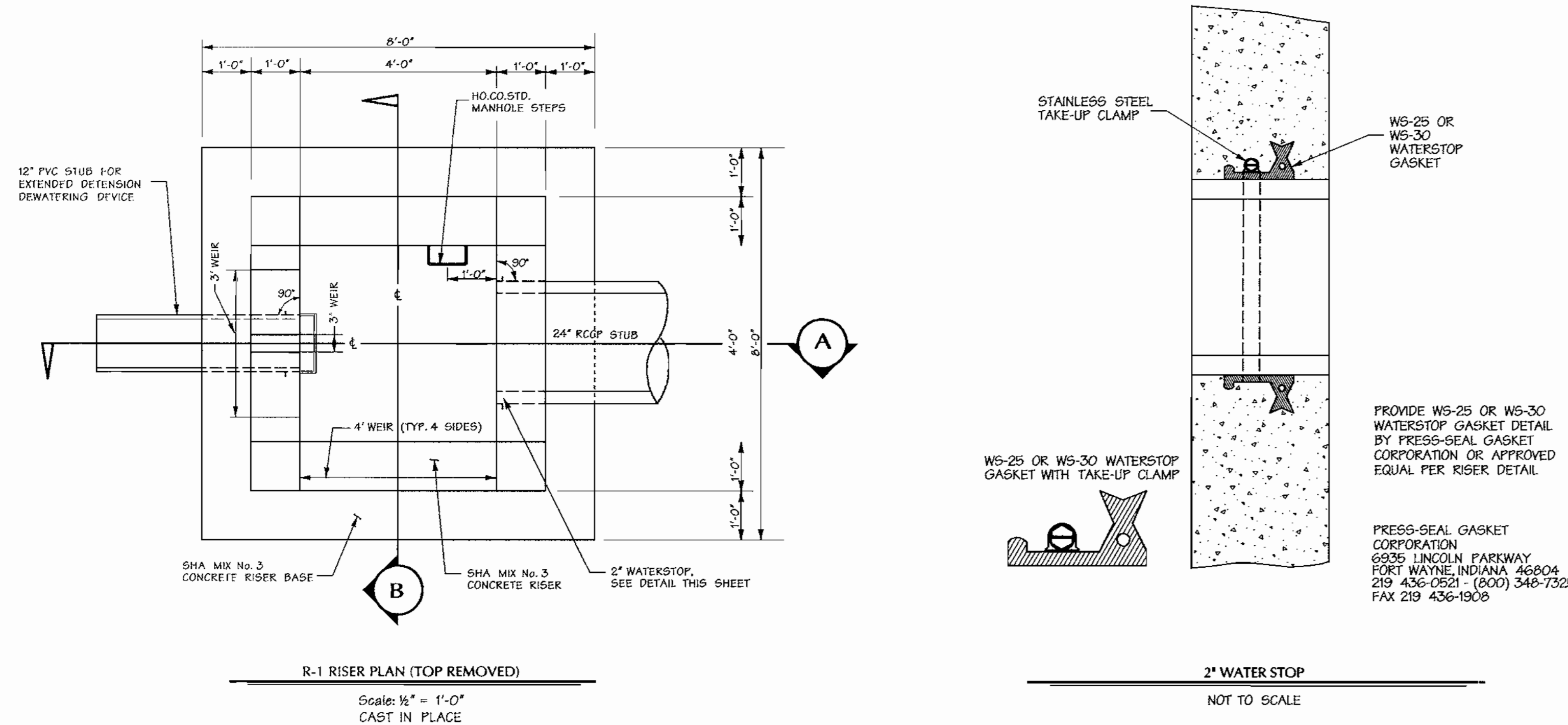


THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
 [Signature] 5/9/00  
 U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE  
 THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 5/9/00  
 APPROVED: HOWARD SOIL CONSERVATION DISTRICT DATE  
 PLAN NUMBER

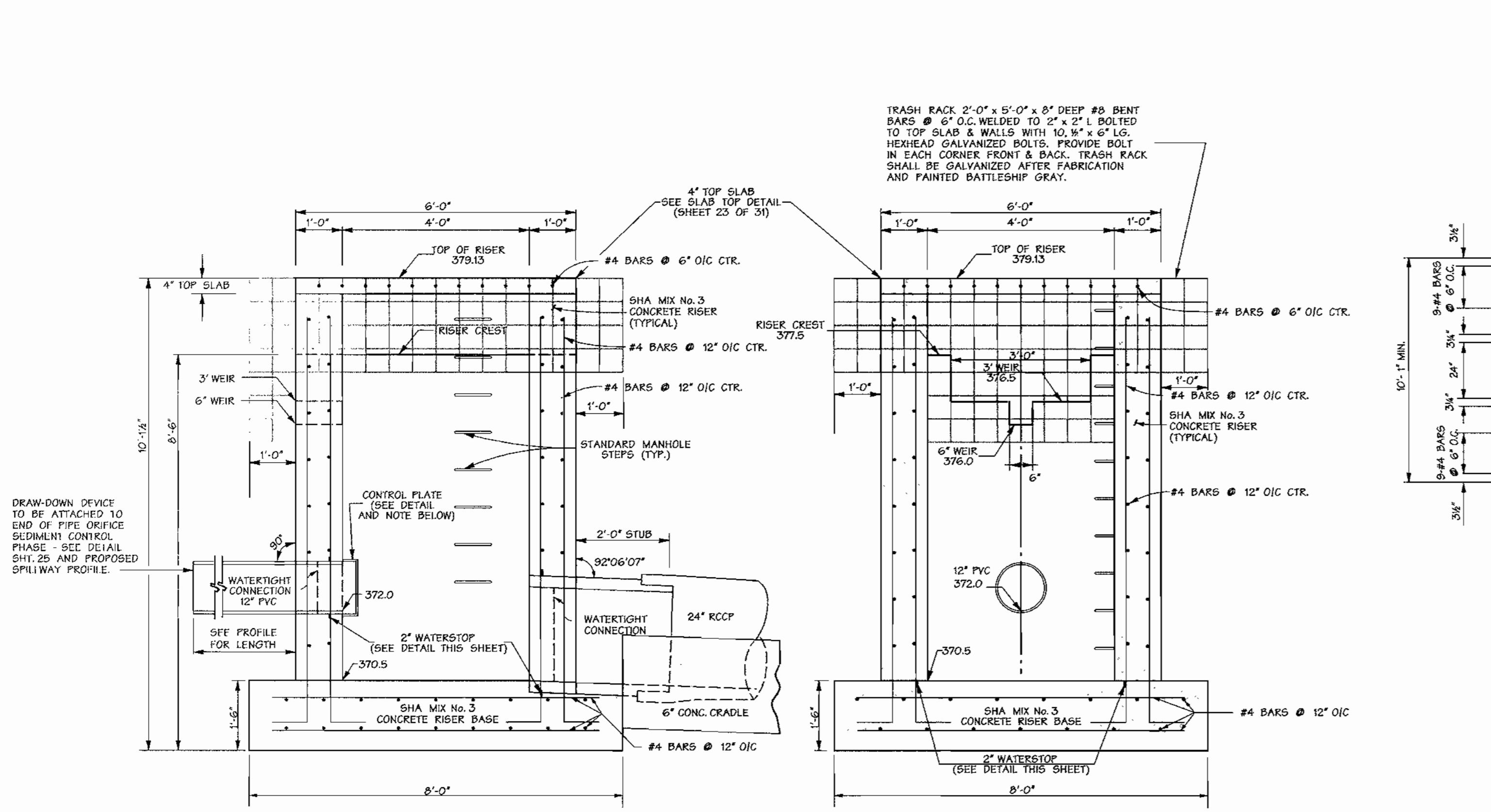
**DEVELOPERS CERTIFICATE:**  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 4/20/00  
 SIGNATURE OF DEVELOPER DATE  
 PRINT NAME BELOW SIGNATURE: [Name], Liberty Property Ltd

**ENGINEERS CERTIFICATE:**  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
 [Signature] 4/20/00  
 SIGNATURE OF ENGINEER DATE  
 PRINT NAME BELOW SIGNATURE: John W. Ranachin, Sr.

Thu, Apr 27 11:05 AM 2000 c:\p09088m\p09088m.dwg

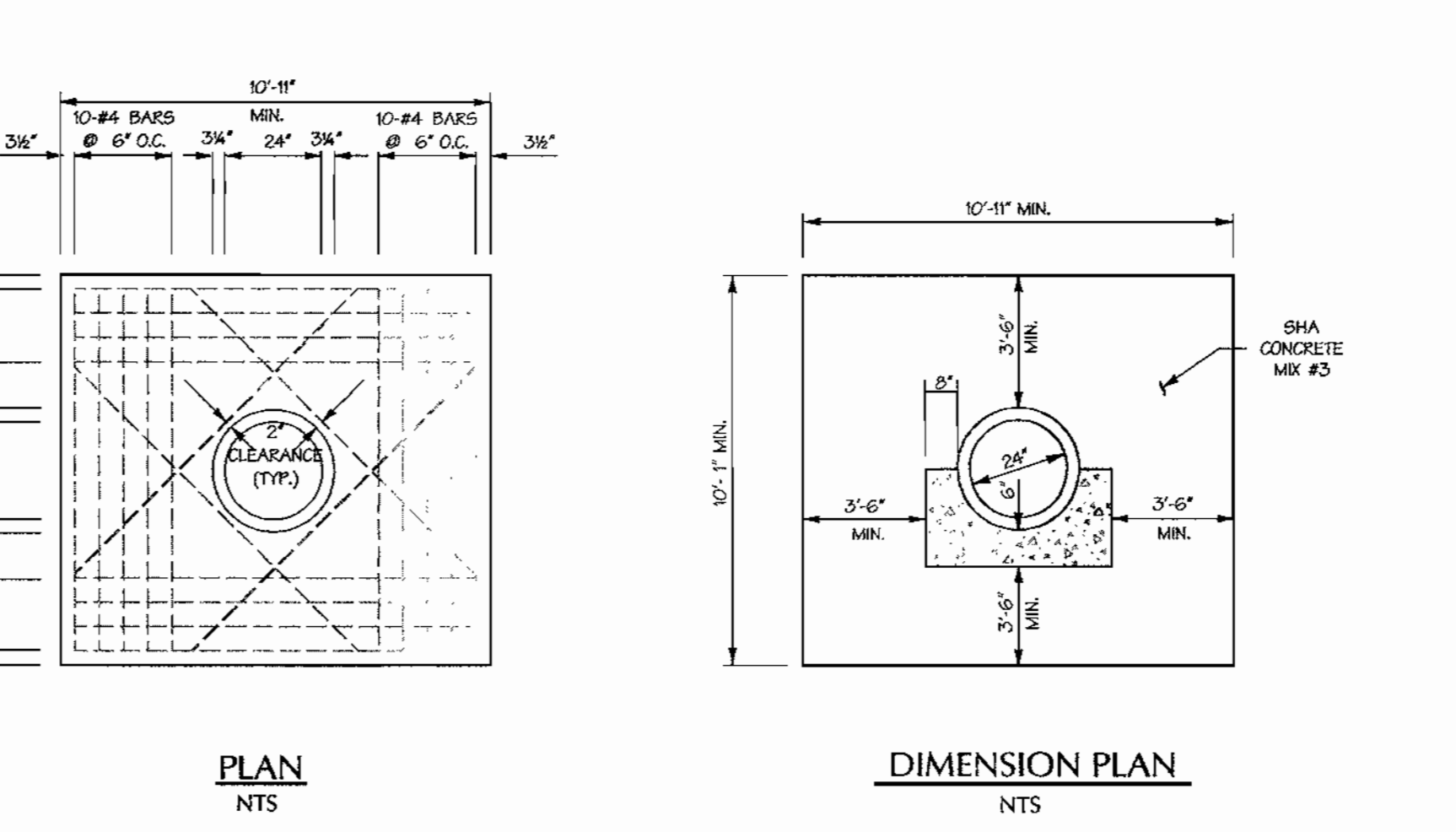


- CONSTRUCTION SPECIFICATIONS**
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
  3. GEOTEXTILE CLASS C SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
  4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
  5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



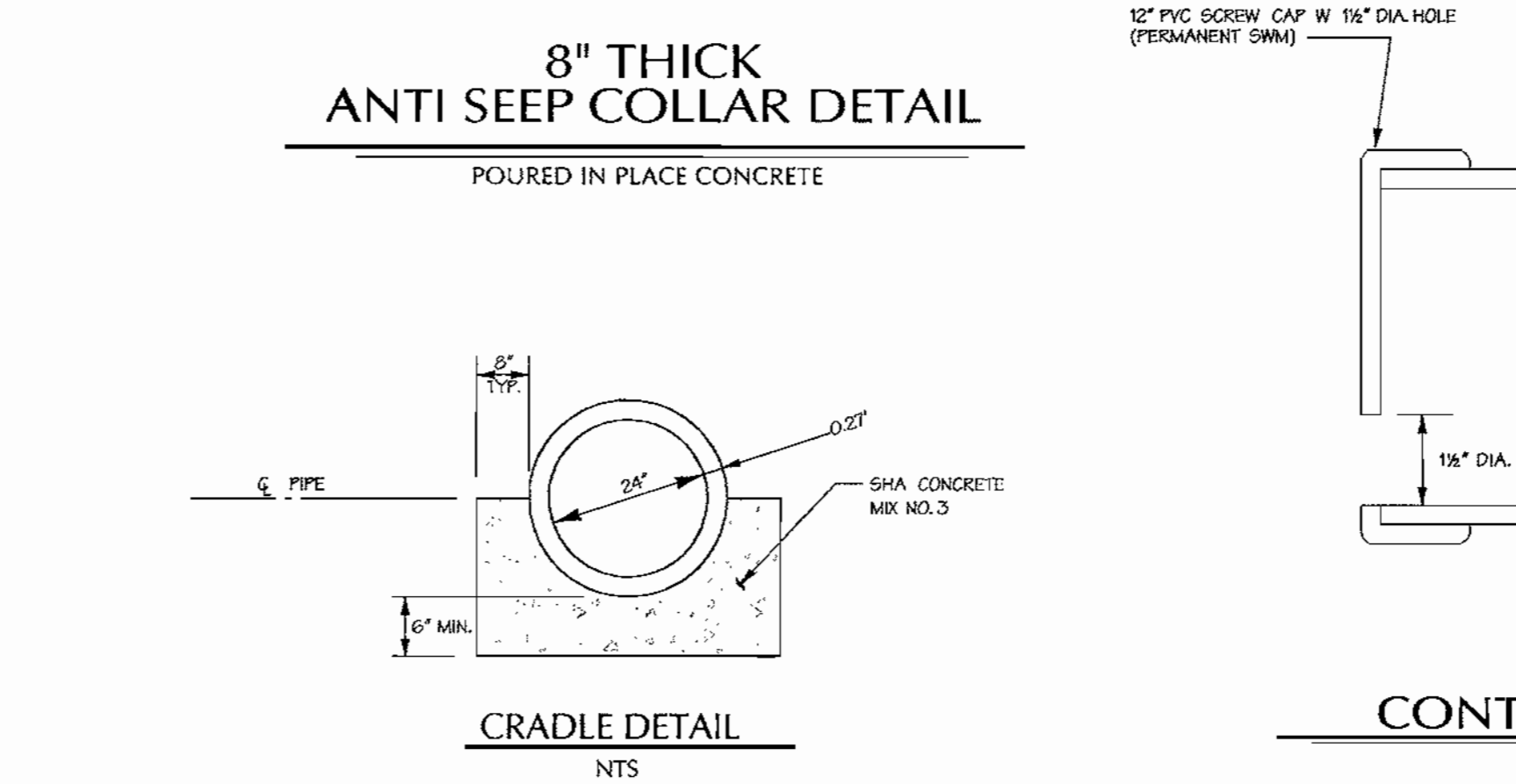
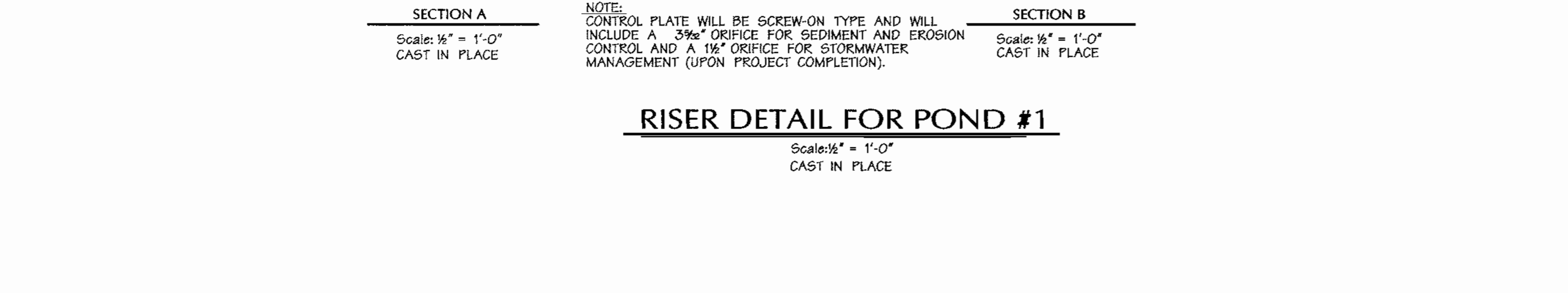
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE F-18-10 (HEAD) MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION F-18-5A, 9A, 10A

**ROCK OUTLET PROTECTION III** NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE F-18-5A, 9A, 10A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**ROCK OUTLET PROTECTION SPECIFICATIONS**



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

APPROVED: *John W. Ranocchia, S.* DATE: 5/16/00

PLANNING BOARD OF HOWARD COUNTY DATE: FEB 23, 2000

**DEVELOPERS CERTIFICATE:**

I, the undersigned, 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 Department of Environment approved training program for the control of sediment and erosion before beginning the project. I shall engage a registered professional engineer to supervise pond construction and provide the Howard Soil Conservation District with an "AS-BUILT" plan of the pond within 30 days of completion. I also authorize periodic on-site inspections by the Howard Soil Conservation District.

SIGNATURE OF DEVELOPER: *John W. Ranocchia, S.* DATE: 4/20/00

**ENGINEERS CERTIFICATE:**

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: *John W. Ranocchia, S.* DATE: 4/20/00

**APPROVED PLANNING BOARD OF HOWARD COUNTY**

DATE: FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

<i>Michael Blood</i>	5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
<i>John W. Ranocchia, S.</i>	5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE R
<i>John W. Ranocchia, S.</i>	5/12/00
DIRECTOR	DATE

**COLUMBIA ROUTE 175 COMMERCIAL**

SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER/DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUENT PARKWAY COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP. 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW** Duff McCune Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3333 Fax 296-4708

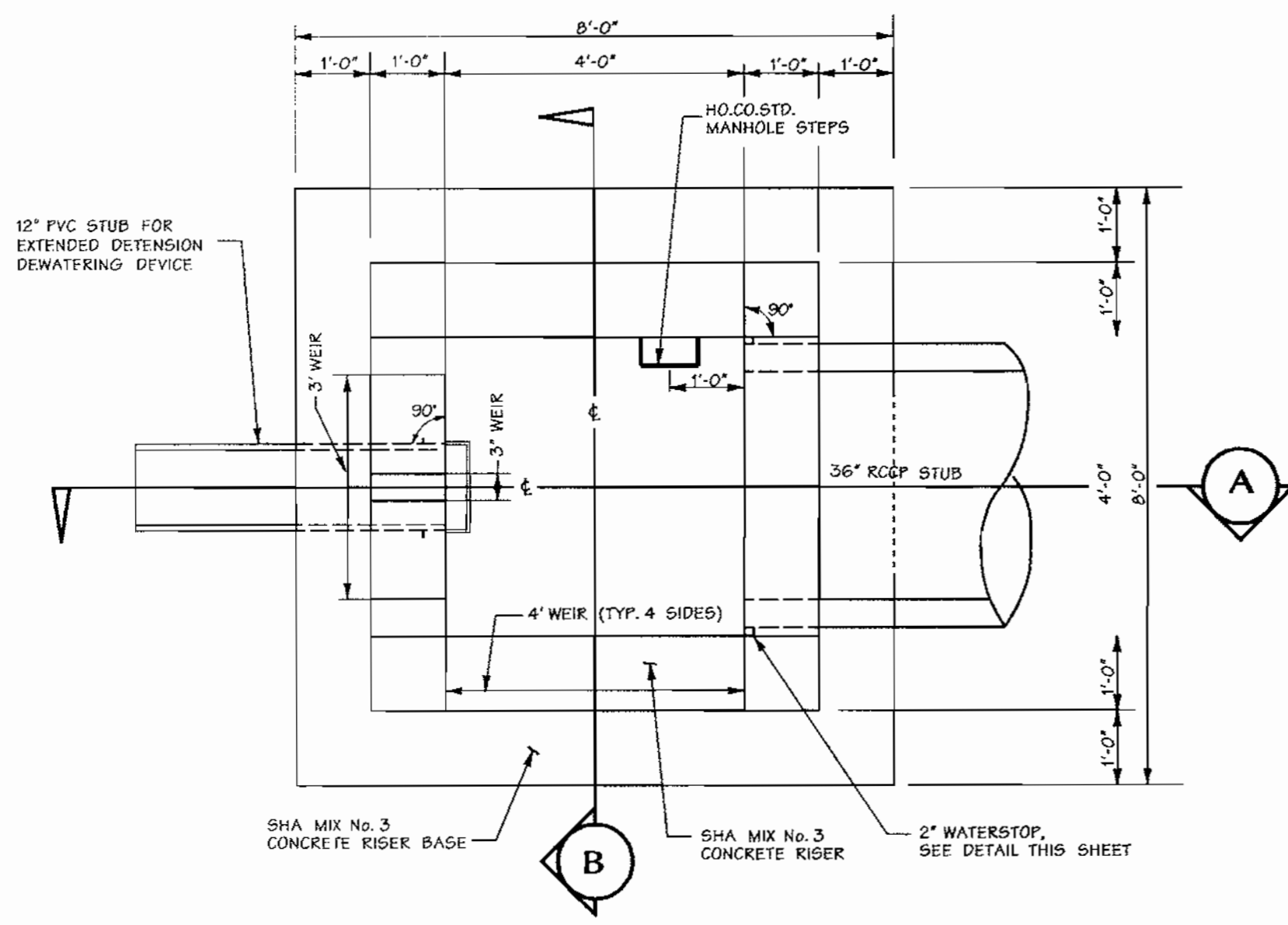
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL TAX MAP 36 & 37 PARCEL 27, 122, 244, 282 6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: STORMWATER MANAGEMENT RISER DETAIL FOR POND #1

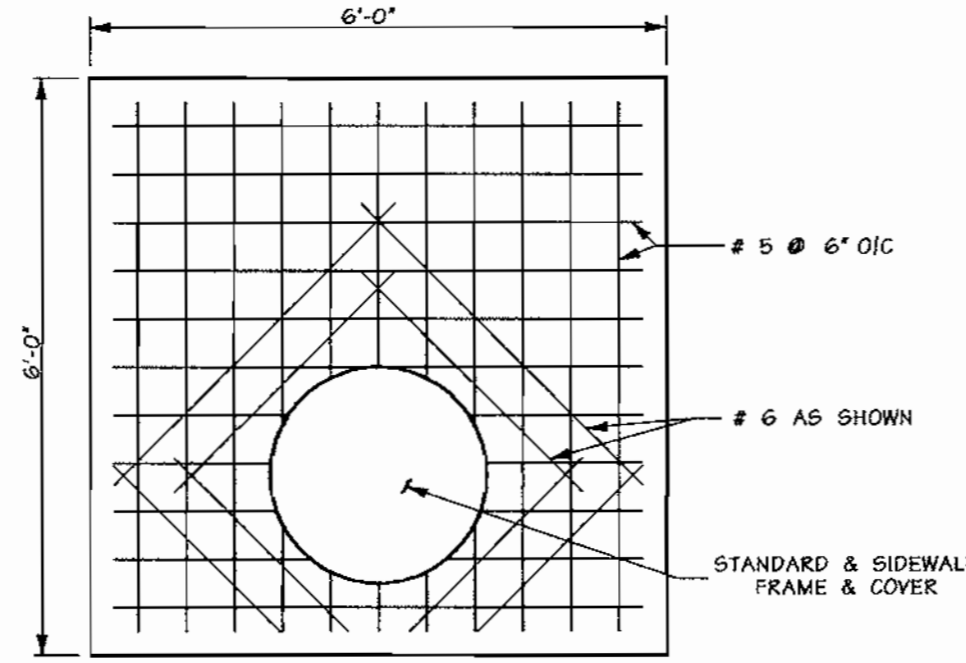
Des By	MRT	Scale	AS SHOWN	Proj. No.	89088.M
Dwn By	ADL	Date	4-26-00		
Chk By	Approved				22 OF 31

Professional Engr. No. 10951



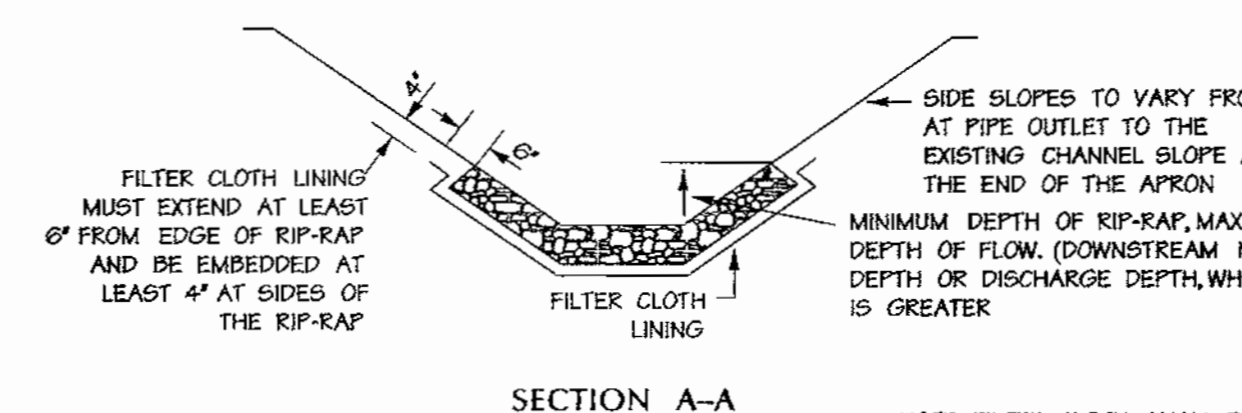
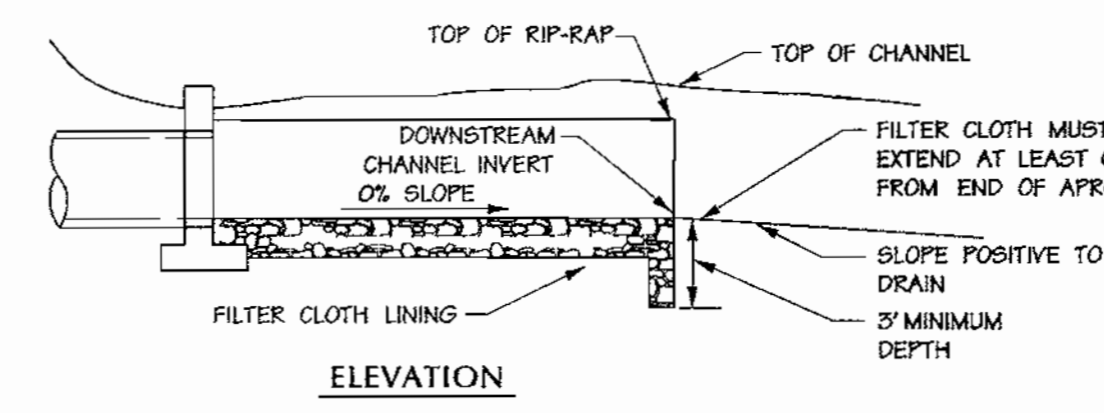
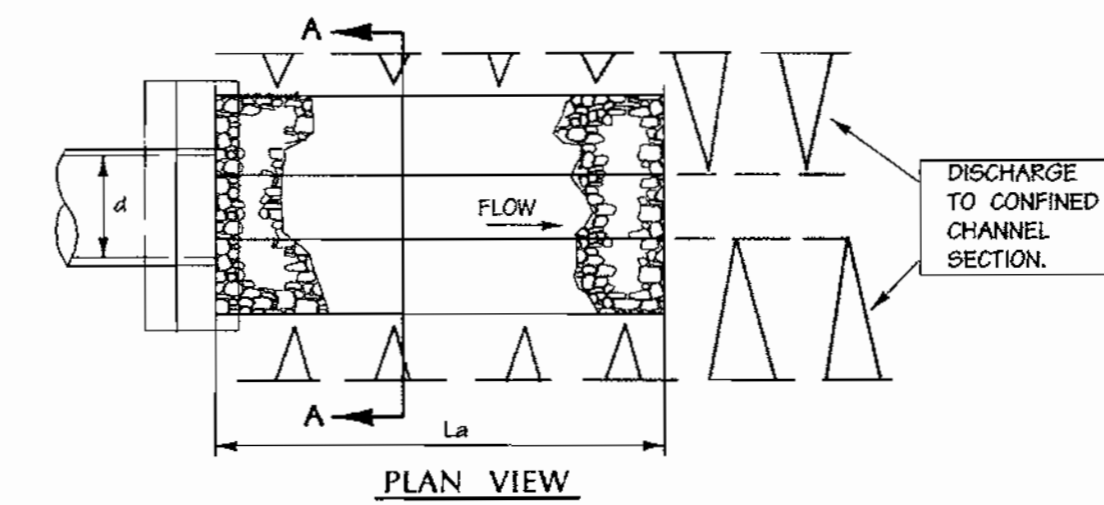
**R-2 RISER PLAN (TOP REMOVED)**

Scale: 1/2" = 1'-0"  
CAST IN PLACE



**TOP SLAB**

Scale: 1/2" = 1'-0"  
CAST IN PLACE



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

**CONSTRUCTION SPECIFICATIONS**

1. THE SUBGRADE FOR THE FILTER, RIP-RAP OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS C SHALL BE PROTECTED FROM PUNCHING, CUTTING OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE Voids BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

F-18-9A

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

F-18-9A, 9A, 10A

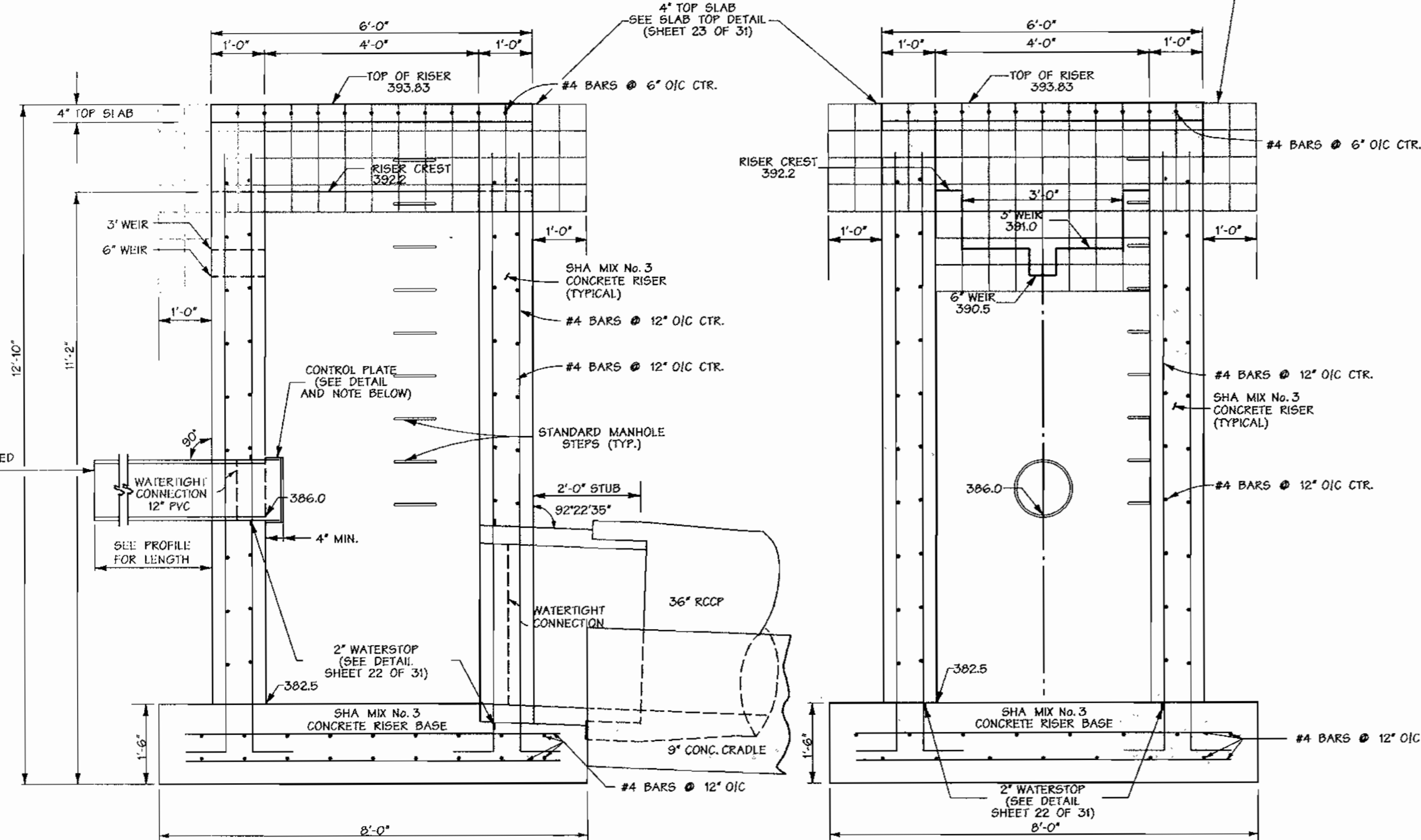
MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

**Rock Outlet Protection II**

Not To Scale

**ROCK OUTLET PROTECTION SPECIFICATIONS**

TRASH RACK 2'-0" x 5'-0" x 8" DEEP #8 BENT BARS @ 6" O.C. WELDED TO 2" x 2" L BOLTED TO TOP SLAB & WALLS WITH 10, 16" x 6" LG. HENHEAD GALVANIZED BOLTS. PROVIDE BOLT IN EACH CORNER FRONT & BACK. TRASH RACK SHALL BE GALVANIZED AFTER FABRICATION AND PAINTED BATTLESHIP GRAY.



**SECTION A**

Scale: 1/2" = 1'-0"  
CAST IN PLACE

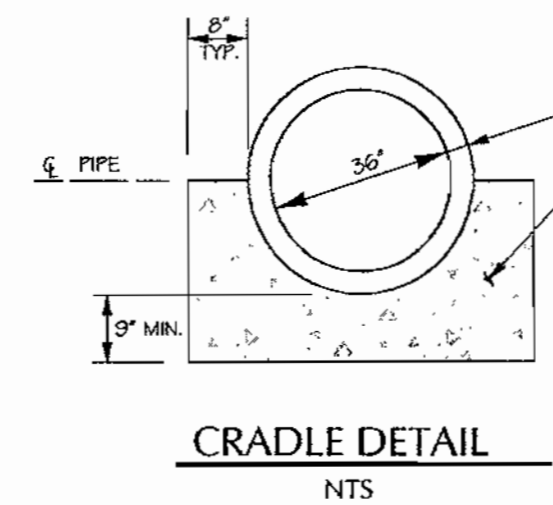
**SECTION B**

Scale: 1/2" = 1'-0"  
CAST IN PLACE

NOTE: CONTROL PLATE WILL BE SCREW-ON TYPE AND WILL INCLUDE A 3/4" ORIFICE FOR SEDIMENT AND EROSION CONTROL AND A 1/2" ORIFICE FOR STORMWATER MANAGEMENT (UPON PROJECT COMPLETION).

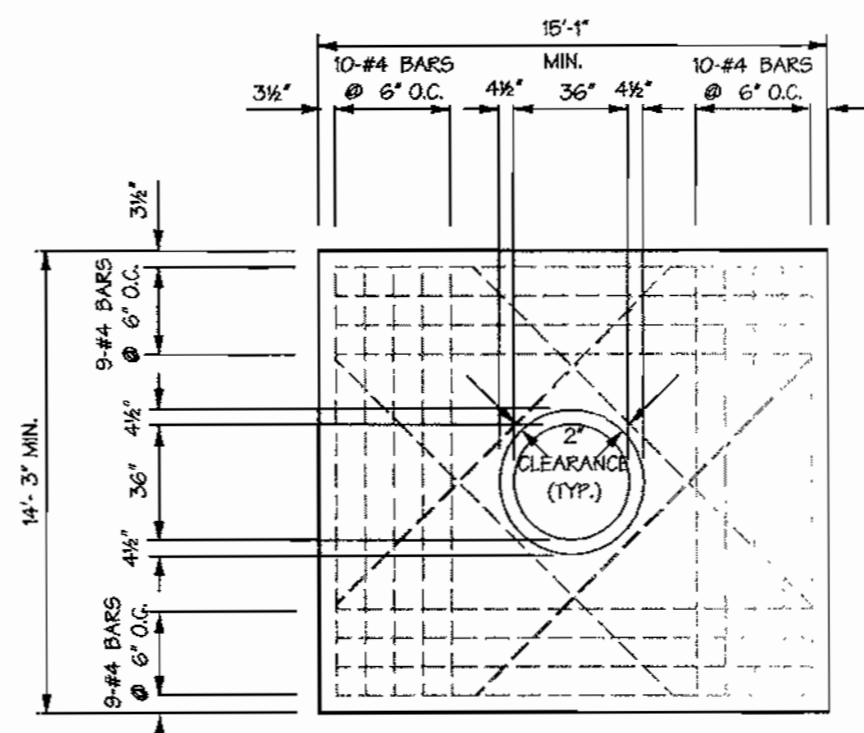
**RISER DETAIL FOR POND #2**

Scale: 1/2" = 1'-0"  
CAST IN PLACE



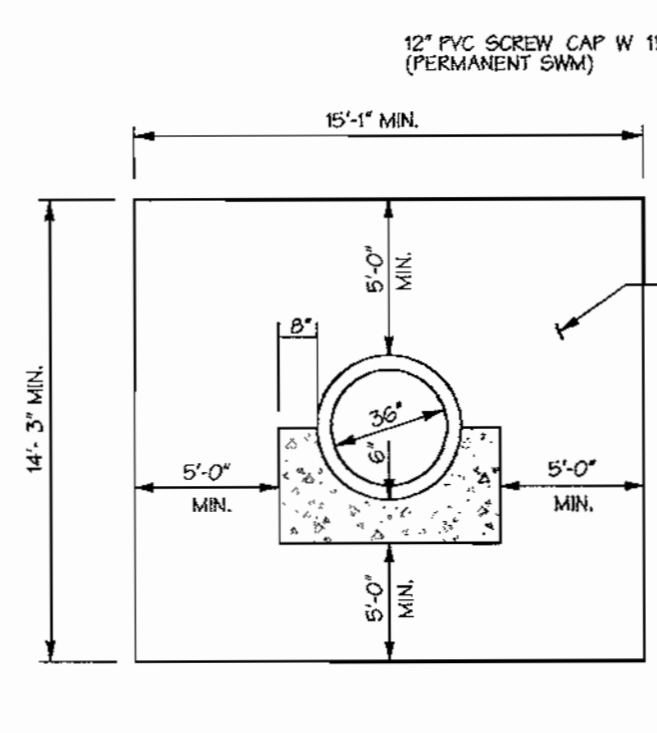
**CRADLE DETAIL**

NTS



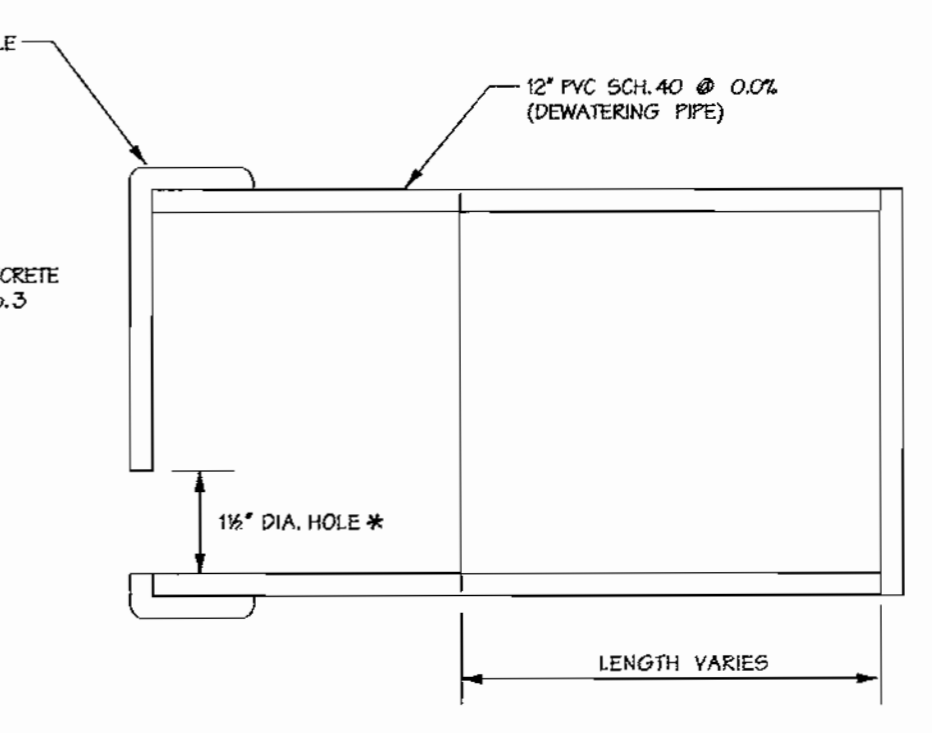
**PLAN**

NTS



**DIMENSION PLAN**

NTS



**CONTROL PLATE DETAIL**

NOT TO SCALE

**8" THICK ANTI SEEP COLLAR DETAIL**

POURED IN PLACE CONCRETE

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Richard Blood* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Joseph Smith* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description

**COLUMBIA ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER/DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW**  
 Dan McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333 Fax 296-4706  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
*Cheryl Simms* 5/9/00  
 U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.  
*Joseph Smith* 5/9/00  
 HOWARD SOIL CONSERVATION DISTRICT DATE

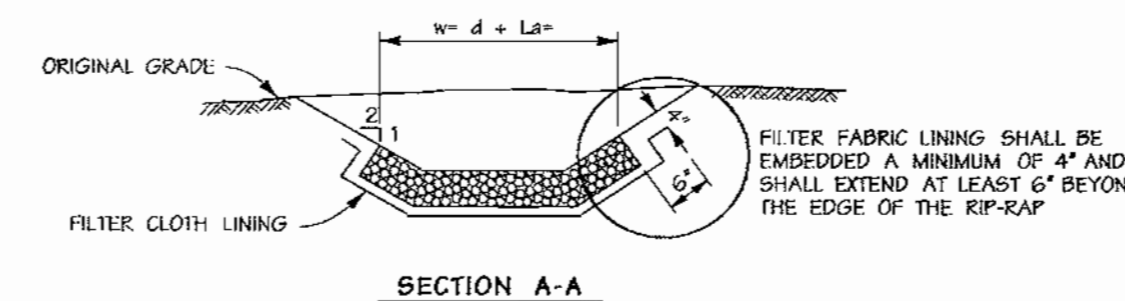
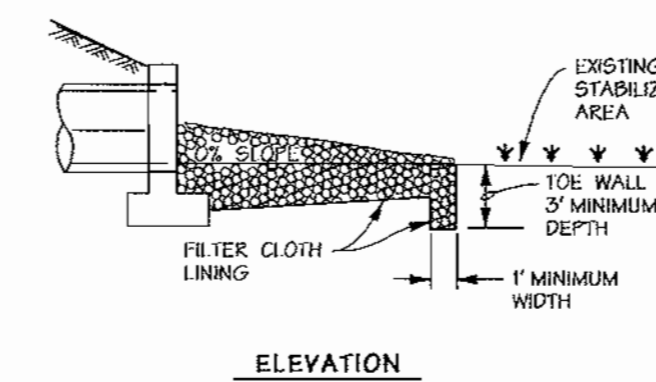
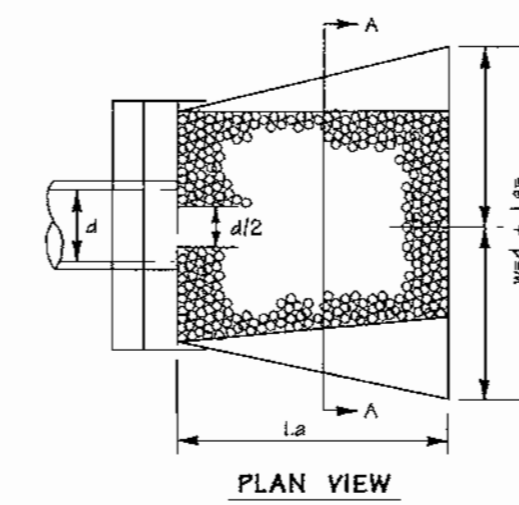
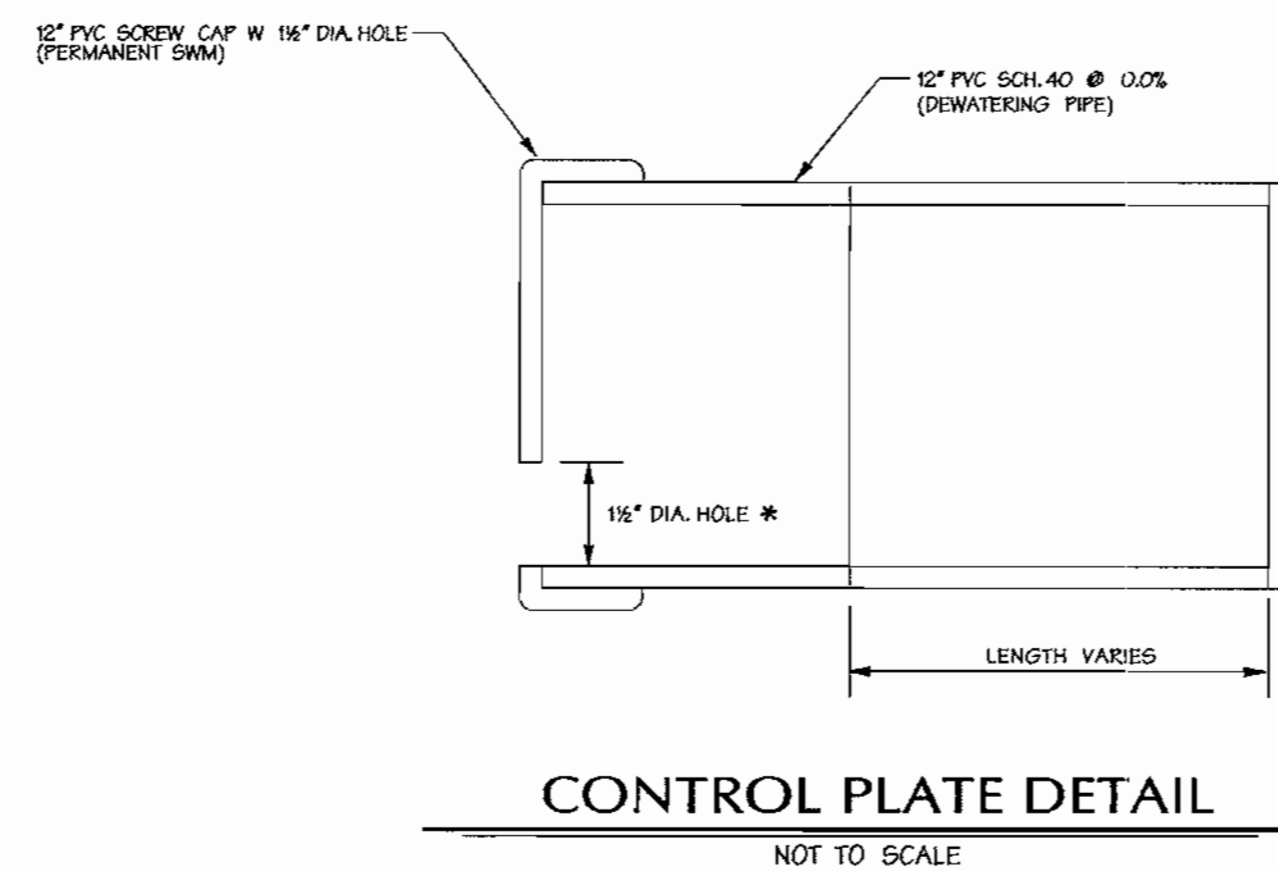
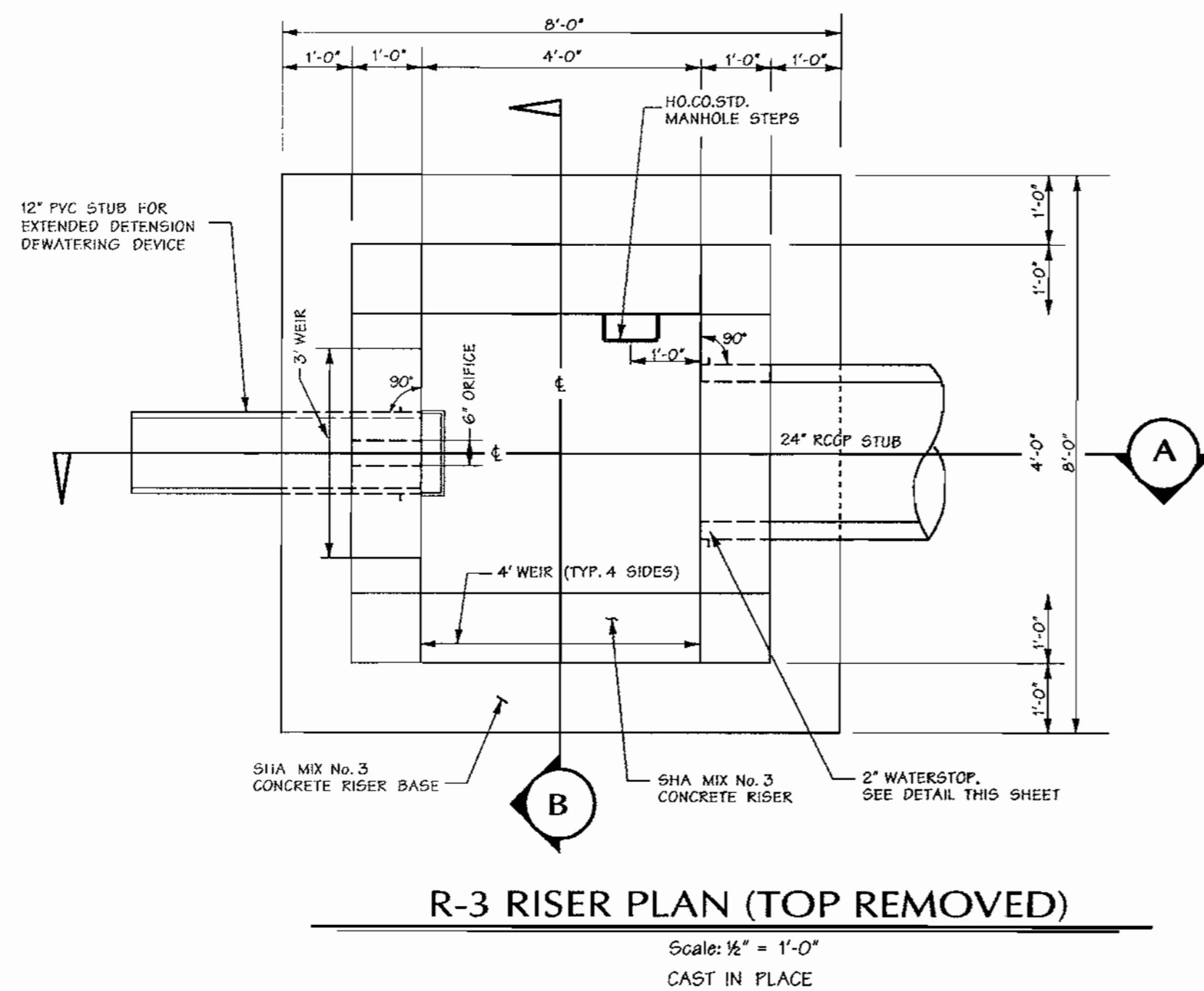
PLAN NUMBER

**DEVELOPERS CERTIFICATE:**  
 I/WE 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 DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*Melissa C. Waples* 4/28/00  
 SIGNATURE OF DEVELOPER DATE  
 PRINT NAME BELOW SIGNATURE  
 Melissa C. Waples, Liberty Property Ltd. Pct

**ENGINEERS CERTIFICATE:**  
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*Joseph Smith* 4/28/00  
 SIGNATURE OF ENGINEER DATE  
 PRINT NAME BELOW SIGNATURE  
 Joseph Smith



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

F-18-10 (HEAD)

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

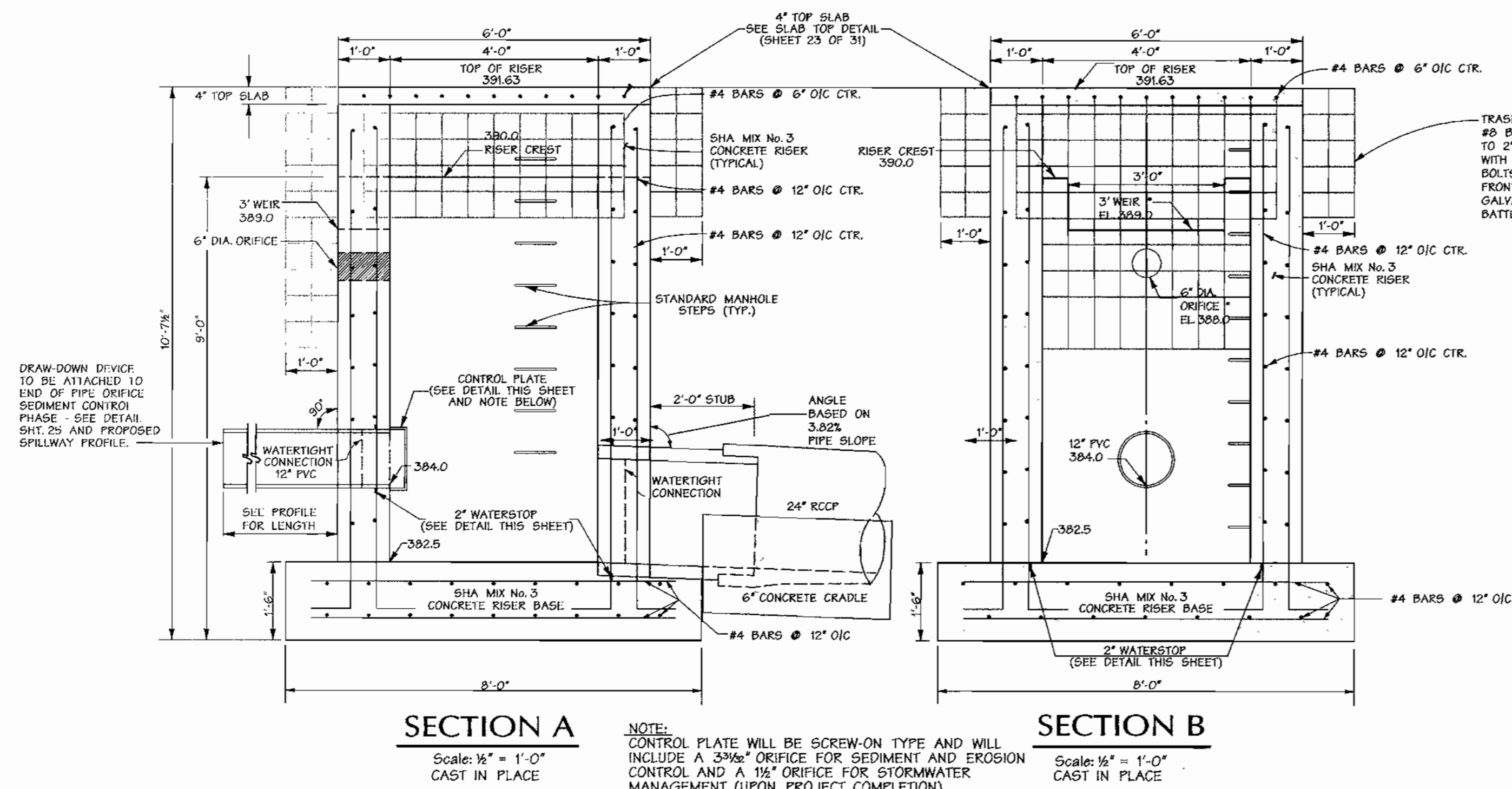
F-18-10, 9A, 10A

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

**ROCK OUTLET PROTECTION III**

NOT TO SCALE

**ROCK OUTLET PROTECTION SPECIFICATIONS**

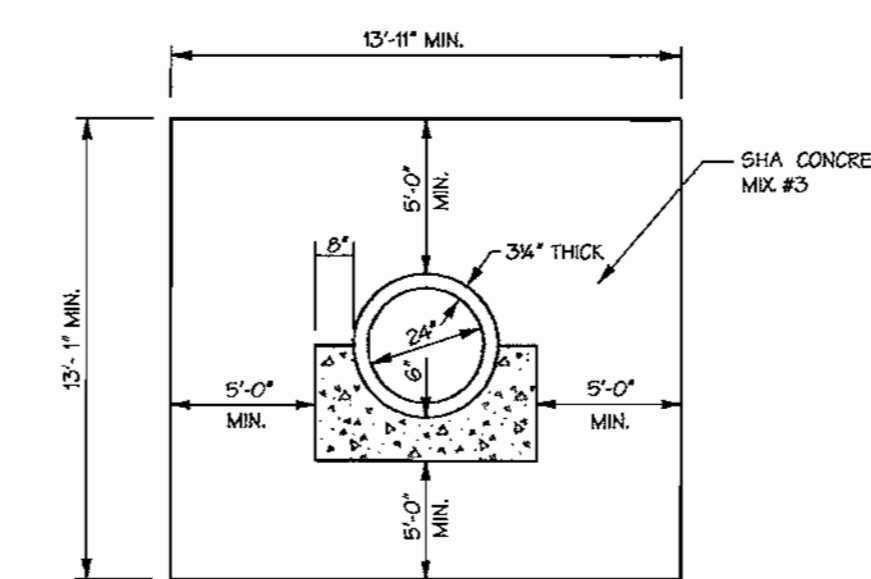
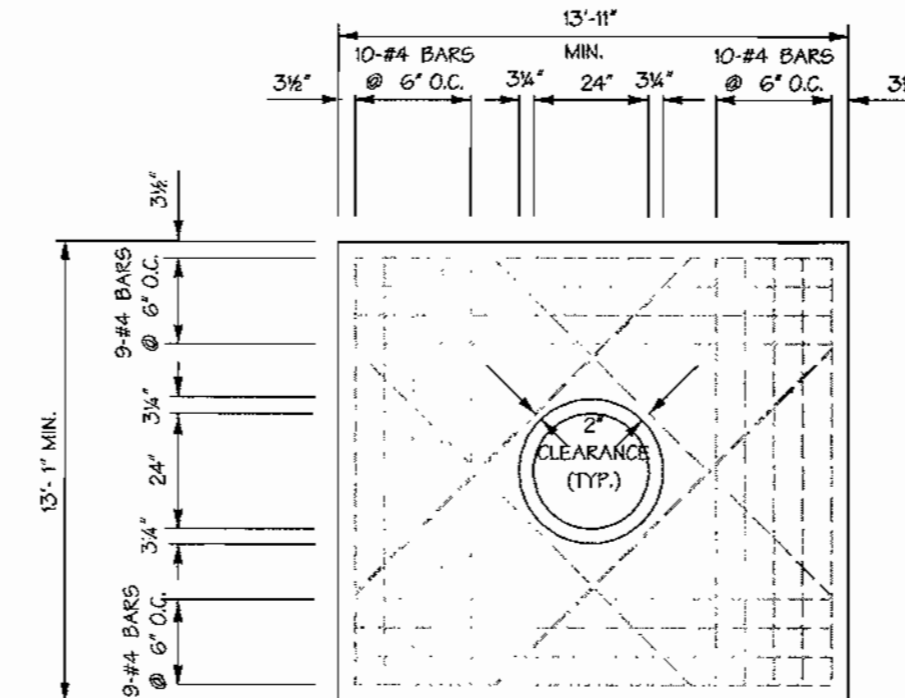


**RISER DETAIL FOR POND #3**

Scale: 1/8" = 1'-0"  
CAST IN PLACE

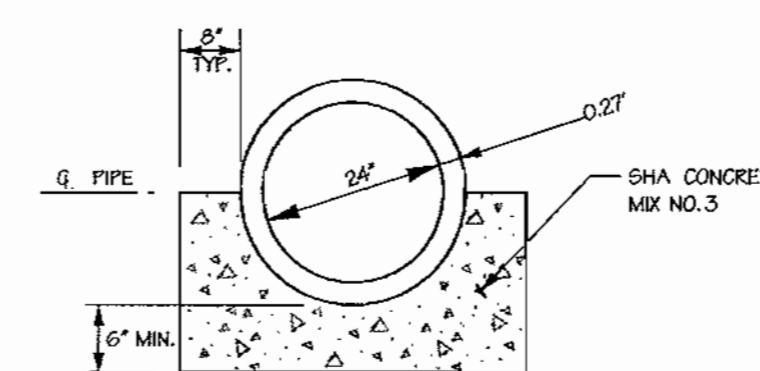
\* 6" ORIFICE AND 3" WEIR UP TO ELEV. 390.0 WILL BE BLOCKED WHEN POND #3 IS FUNCTIONING AS A SEDIMENT CONTROL BASIN. THE ORIFICE AND WEIR WILL BE RE-OPENED FOR THE PERMANENT CONDITION WHEN POND #3 IS CONVERTED TO A STORMWATER MANAGEMENT FACILITY.

WATERSTOP DETAIL  
SEE SHEET 22 OF 31



**8" THICK ANTI SEEP COLLAR DETAIL**

POURED IN PLACE CONCRETE

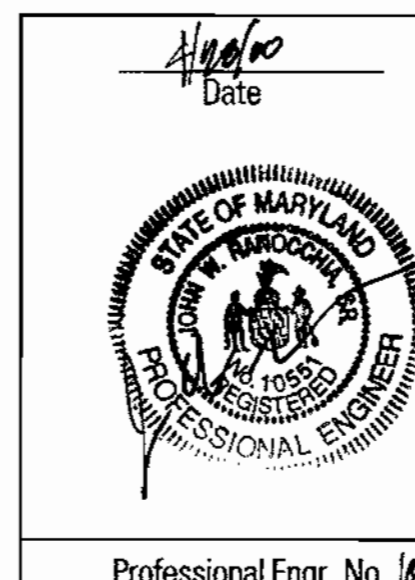


**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 5/12/00  
CHIEF, DIVISION OF LAND DEVELOPMENT 5/12/00  
DIRECTOR 5/12/00

Revision Description  
COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN.P. 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW**  
Duff-McCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Thousand Oaks, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



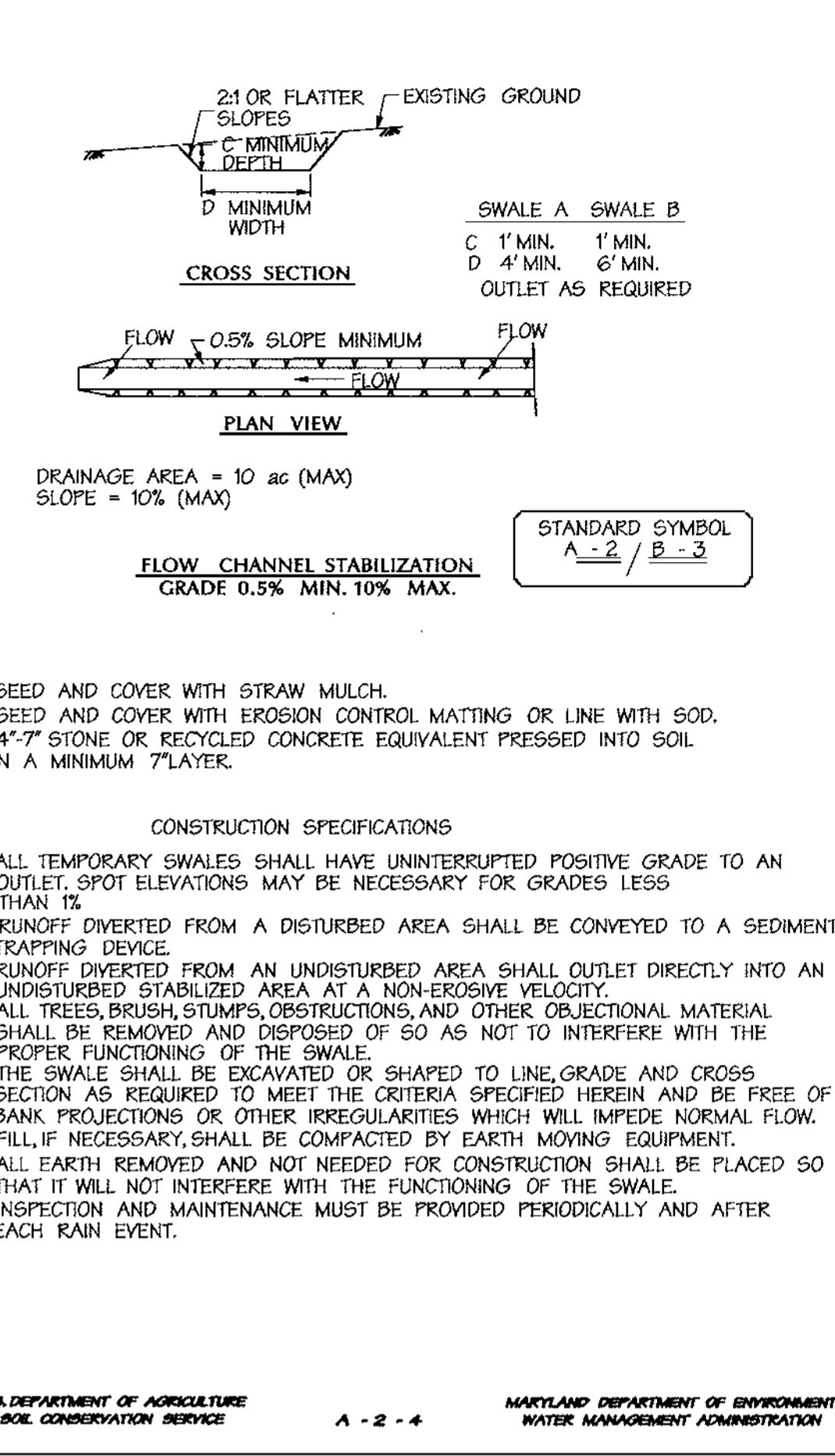
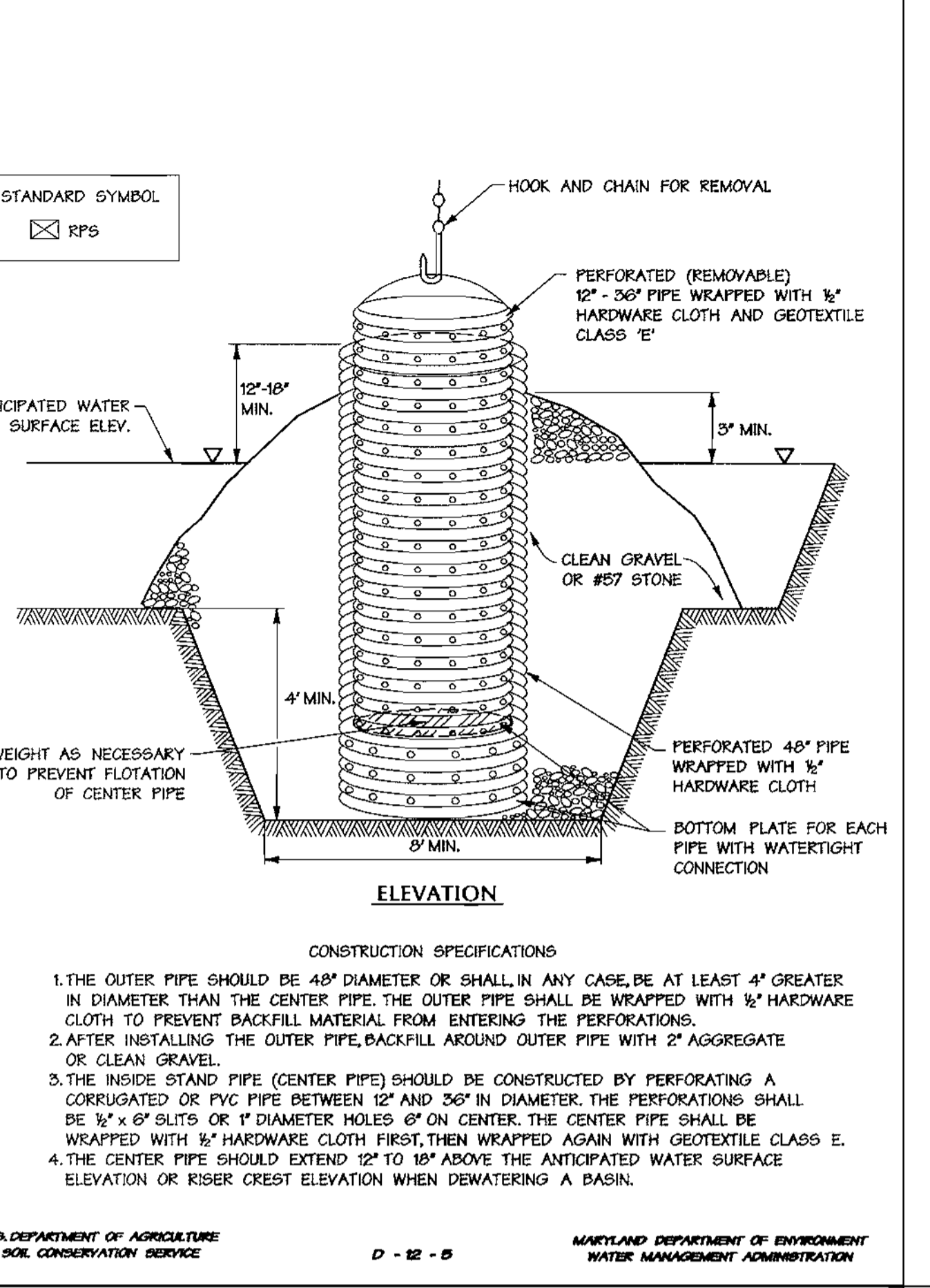
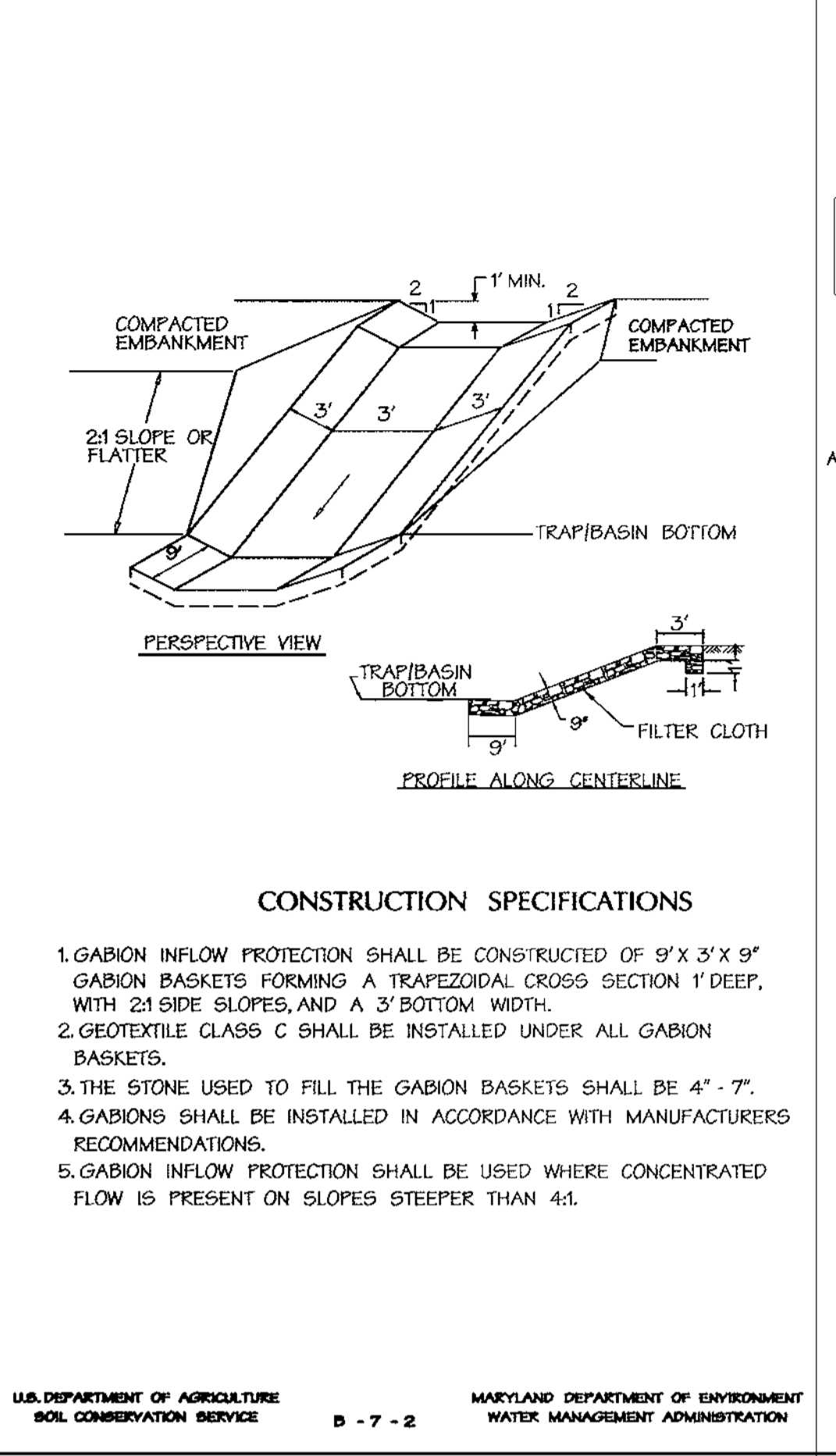
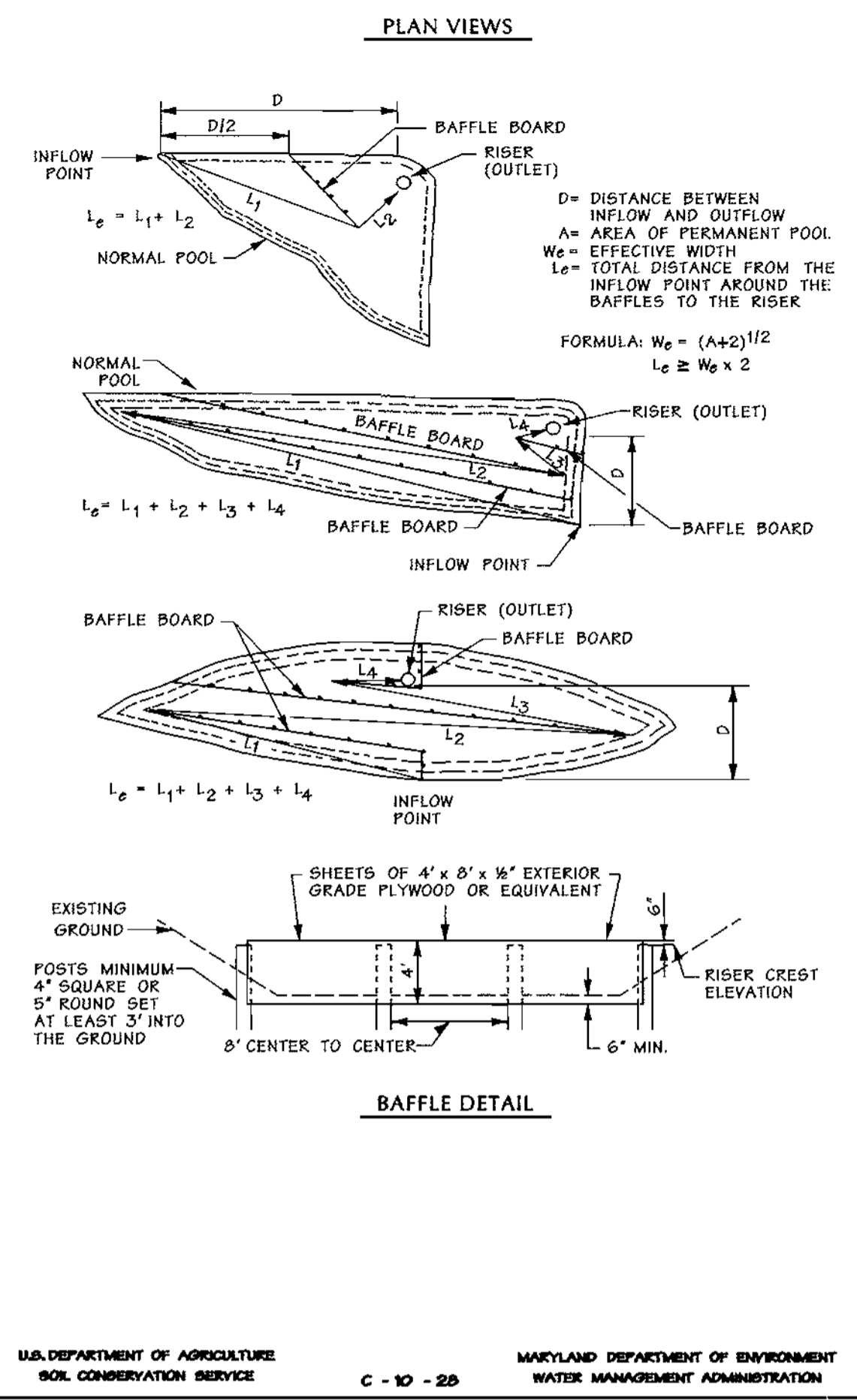
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE 5/9/00  
DATE  
APPROVED: [Signature] 5/9/00  
DATE  
PLAN NUMBER

**DEVELOPERS CERTIFICATE:**  
I/WE 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 DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.  
[Signature] DATE 4/28/00  
SIGNATURE OF DEVELOPER  
PRINT NAME BELOW SIGNATURE  
[Signature] DATE 4/28/00  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE

**ENGINEERS CERTIFICATE:**  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.  
[Signature] DATE 4/28/00  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE



SEQUENCE	NO. OF DAYS
1. OBTAIN A GRADING PERMIT AND NOTIFY ALL APPROPRIATE AGENCIES 48 HOURS PRIOR TO BEGINNING ANY WORK	7
2. CLEAR AND GRUB FOR AND INSTALL SUPER SILT FENCE BELOW ALL BASIN EMBANKMENT FILLS AND ALSO ALONG RT.175 RIGHT OF WAY AND ALONG ENTIRE SOUTHERN PROPERTY LINE	10
3. CLEAR AND GRUB FOR AND CONSTRUCT SEDIMENT BASINS #1,2 AND 3 AND SEDIMENT TRAPS #1 AND 2, INSTALL STORM DRAIN STRUCTURES I-16, M-14 AND E-3 AND CONNECTING PIPES, INSTALL EARTH DIKES AND TEMPORARY SWALE ALONG OLD MONTGOMERY ROAD, DIRECTING ALL FLOWS TO I-16	30
4. CLEAR AND GRUB FOR AND INSTALL ALL REMAINING SEDIMENT CONTROL MEASURES	14
5. WITH PERMISSION TO PROCEED FROM THE SEDIMENT CONTROL INSPECTOR, CLEAR GRUB AND MASS GRADE SITE PROVIDE DUST CONTROL PER SPECIFICATIONS THIS SHEET	21
6. ROUGH GRADE AND EXCAVATE FOUNDATIONS FOR BLDGS. #1,2 AND 3 AND COMMONS BUILDING	21
7. CONSTRUCT WATER MAINS TO SERVE BUILDINGS #1,2 AND 3 AND SEWER FROM EXISTING PUBLIC CONNECTION AT OLD MONTGOMERY ROAD TO SERVE BUILDINGS #1,2 AND 3	45
8. CONSTRUCT STORM DRAIN STRUCTURES AND CONNECTING PIPES ALONG OLD MONTGOMERY ROAD AND ALSO STRUCTURES AND PIPES FROM I-1-2, I-3, I-7, I-4, I-23, M-12, I-25, I-11 AND I-2. CONSTRUCT STRUCTURES AND PIPES FROM BLDG. #3 TO SEDIMENT BASIN #2, STRUCTURES E-2, M-2 THRU M-6 AND I-5B	45
9. FINE GRADE AND CONSTRUCT PAVING FOR ROADS AND PARKING FOR BLDGS. #1,2 AND 3 AND COMMONS BLDG.	45
10. ROUGH GRADE AND EXCAVATE FOR BLDGS. #4, 5, AND 6	21
11. CONSTRUCT REMAINDER OF WATER AND SEWER MAINS AND AS MUCH STORM DRAIN AS POSSIBLE, BUT BLOCKING ANY WATER FLOW INTO BASINS #1 AND 2 FROM INLETS ABOVE TRAPS #1 AND 2. SEDIMENT TRAPS ARE TO CONTAIN THESE FLOWS UNTIL ALL AREAS BELOW BOTH TRAPS ARE CONSTRUCTED AND STABILIZED	45
12. CONSTRUCT REMAINDER OF ROADS AND PARKING AND STABILIZE	45
13. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASINS #1 AND 2 INTO EXTENDED DETENTION FACILITIES (SWM PONDS #1 AND 2)	14
14. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT TRAPS, COMPLETE PAVING AND STORM DRAIN CONSTRUCTION AND ACTIVATE STORM DRAIN SYSTEM INTO PONDS #1 AND 2	14
15. CONSTRUCT SIDEWALKS AND INSTALL SURFACE PAVING FOR SITE	30
16. FINE GRADE AND STABILIZE DISTURBED AREAS ONSITE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS	14
17. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN #3 TO EXTENDED DETENTION FACILITY (SWM POND #3)	14
18. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING DISTURBED AREAS ONSITE	14



**Sequence of Construction**

**Sediment Basin Baffles** Not to Scale

**Gabion Inflow Protection** Not to Scale

**Removable Pumping Station** Not to Scale

**Temporary Swale** Not to Scale

**2.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

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

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

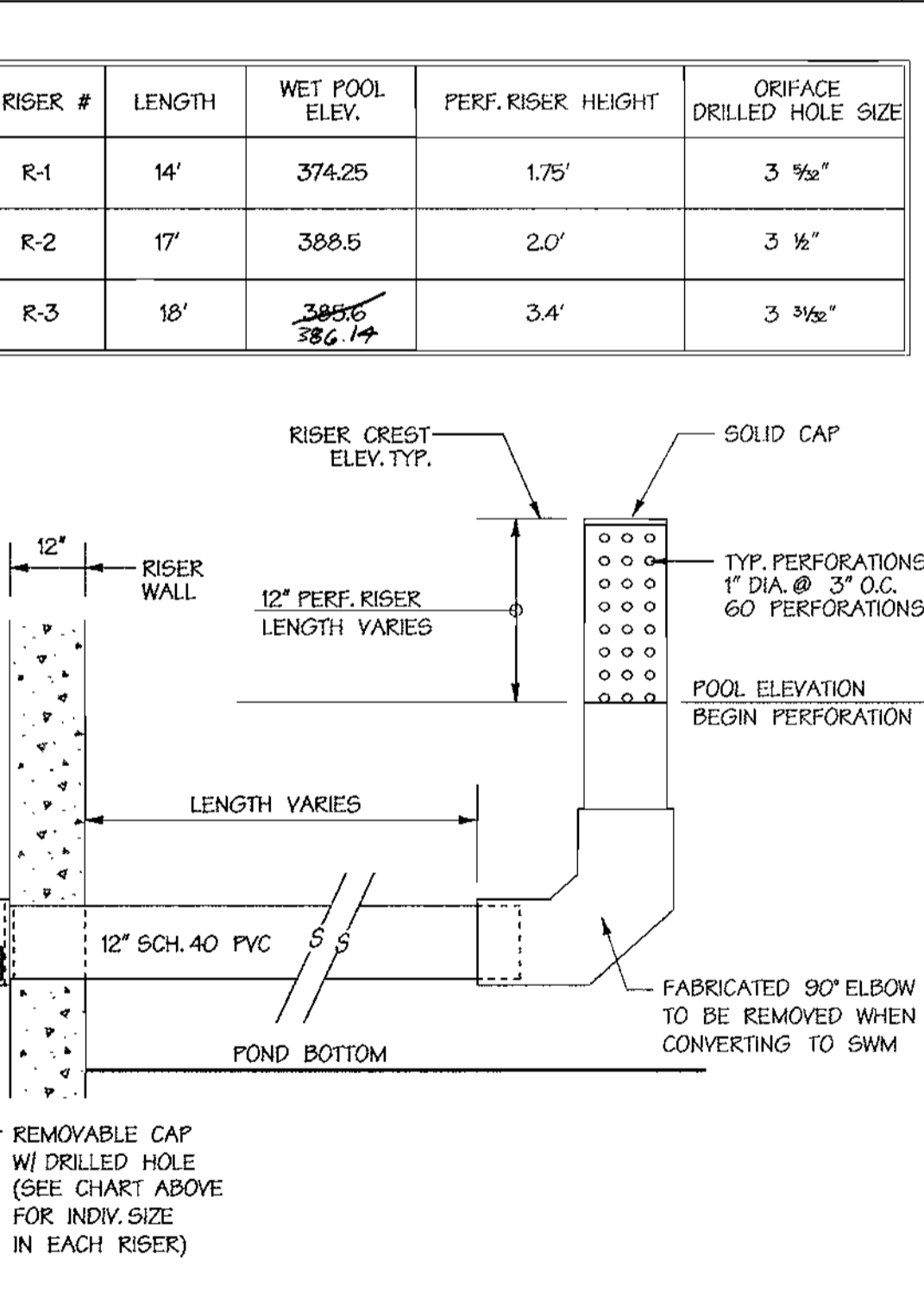
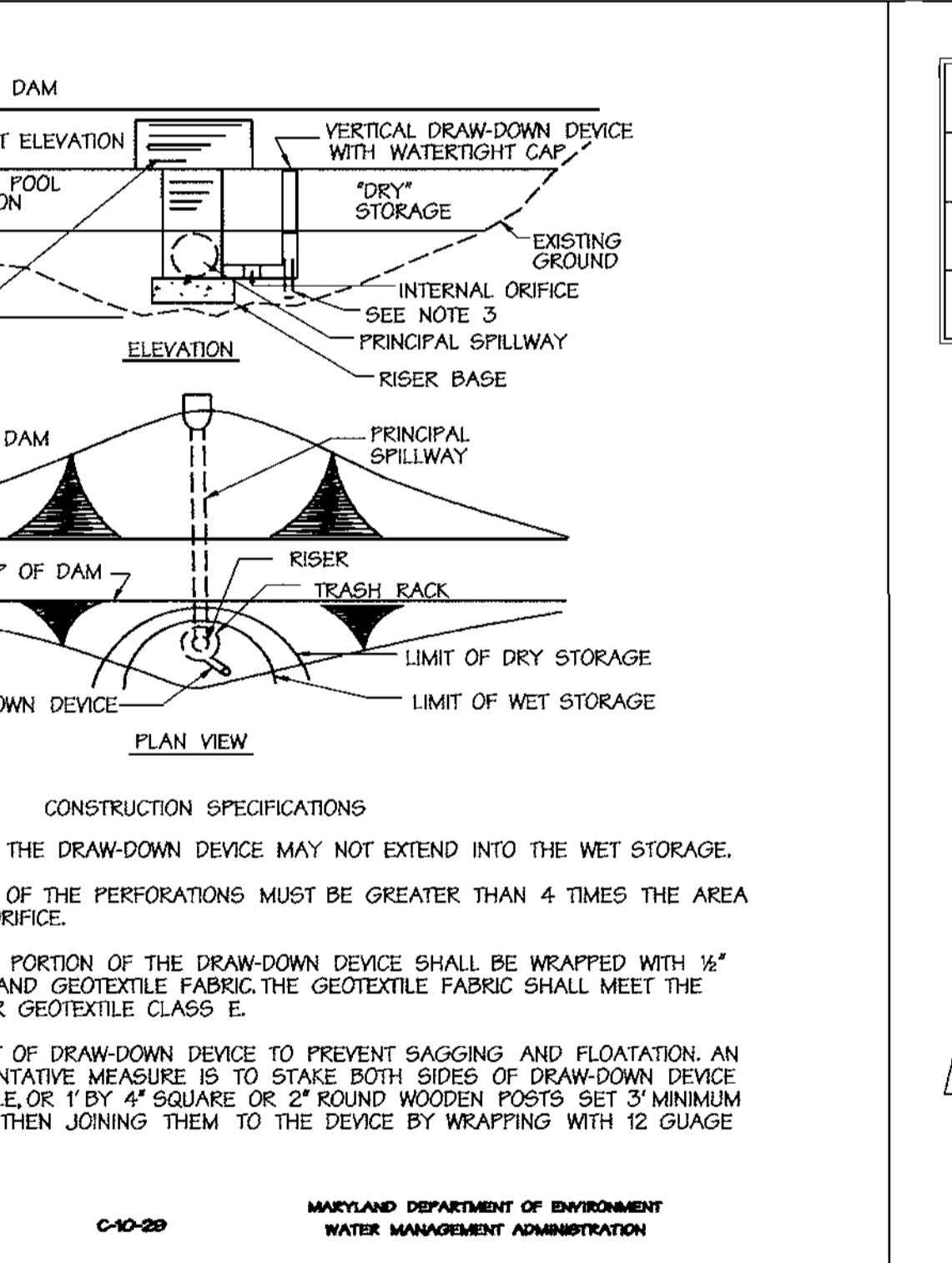
**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be made of contrasting textured subsoils and shall contain less than 5% by volume of chiders, stones, slags, coarse fragments, gravel sticks, roots, trash, and other materials larger than 1 1/2" in diameter.
  - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nuttallgrass, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-5 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. The lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 2.0.1 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
  - On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
    - Organic contents of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
  - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
  - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4% - 5% higher in elevation.
  - Topsoil shall be uniformly distributed in a 4% - 5% layer and lightly compacted to a minimum thickness of 4%. Spreading shall be performed in such a manner that sodding or seeding is not required. A minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-20 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



**DUST CONTROL SPECIFICATIONS**

**TEMPORARY METHODS:**

- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.
- VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
- TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED. AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THE RUNOFF BEGINS TO FLOW.
- BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
- CALCIUM CHLORIDE - APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

**PERMANENT METHODS:**

- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD, EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
- TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
- STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE H-20-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**APPROVED PLANNING BOARD OF HOWARD COUNTY**

DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF DEVELOPMENT ENGINEERING DIVISION MK

CHIEF, DIVISION OF LAND DEVELOPMENT

DIRECTOR

DATE 5/12/00

DATE 5/14/00

DATE 5/16/00

Date No. Revision Description

**COLUMBIA ROUTE 175 COMMERCIAL**

SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY TRUST  
LIBERTY PROPERTY LTD. PTNIP.  
9145 GUILFORD ROAD  
COLUMBIA, MD. 21046

**DMW**  
Duff McCreary-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3553  
Fax 296-4706

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

**Basin Schematic Vertical Draw-Down Device** Not to Scale

**Sediment Control Draw-Down** Not To Scale

**Dust Control Specifications** Not To Scale

**DEVELOPERS CERTIFICATION:**

I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ALSO AUTHORIZE PERSONS ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: Michael C. (Wasserman) J. Lumsden, Proprietor, L&L  
Date: 5/12/00

**ENGINEER'S CERTIFICATION:**

I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

Signature: John H. Ranocchia, Sr.  
Date: 4/24/00

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

Signature: Cheryl Simms / G.S.  
Date: 5/14/00

U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

Signature: John H. Ranocchia, Sr.  
Date: 5/12/00



**AREA**

**ROUTE 175 COMMERCIAL**

TAX MAP 38 & 37 PARCEL 27, 122, 244, 282

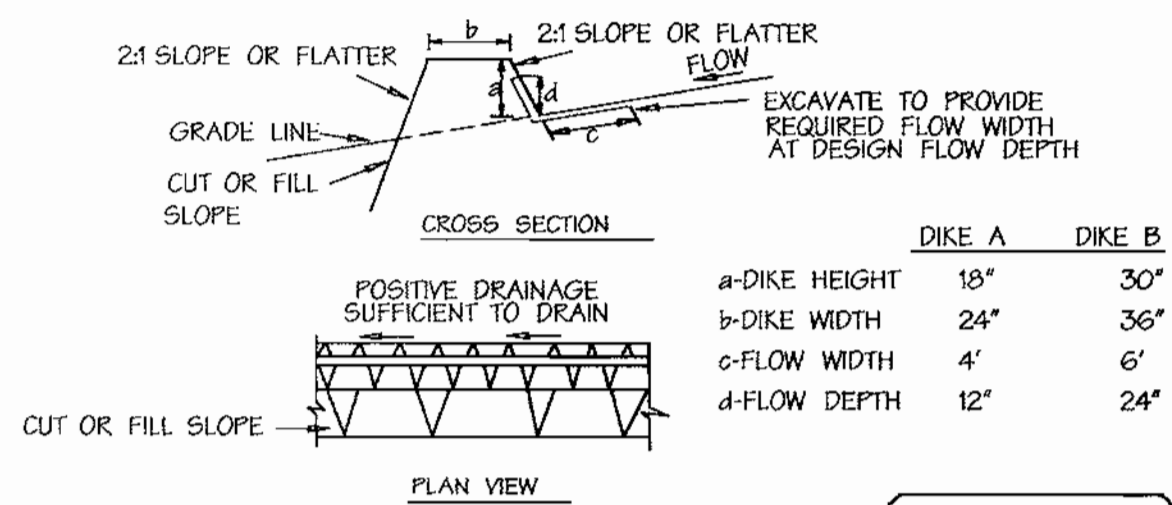
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**TITLE**

**SEDIMENT AND EROSION CONTROL DETAILS**

Des By	MRT	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	WDE	Date	4-26-00		
Chk By	Approved				25 OF 31

**Top Soil Specifications**



**CROSS SECTION**

2:1 SLOPE OR FLATTER

EXCAVATE TO PROVIDE REQUIRED FLOW DEPTH AT DESIGN FLOW WIDTH

GRADE LINE

CUT OR FILL SLOPE

POSITIVE DRAINAGE SUFFICIENT TO DRAIN

PLAN VIEW

FLOW CHANNEL STABILIZATION GRADE 0.5% MIN. 10% MAX.

STANDARD SYMBOL

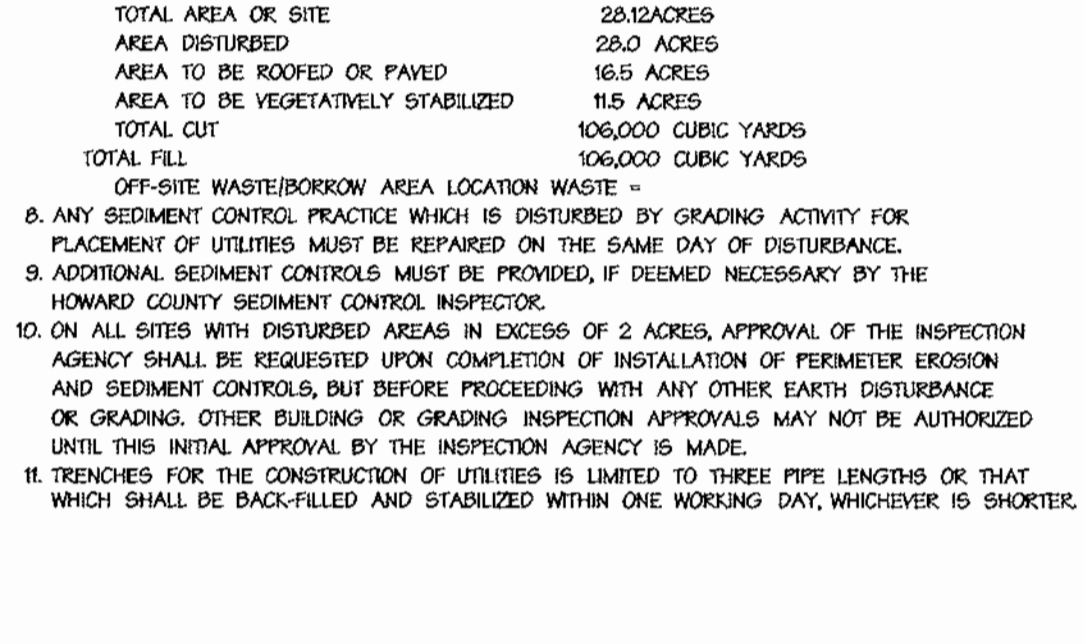
A-2 B-3

- Construction Specifications**
- All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
  - Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
  - Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
  - All trees, brush, stumps, obstructions, and other objectional material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
  - The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
  - Fill shall be compacted by earth moving equipment.
  - All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
  - Inspection and maintenance must be provided periodically and after each rain event.

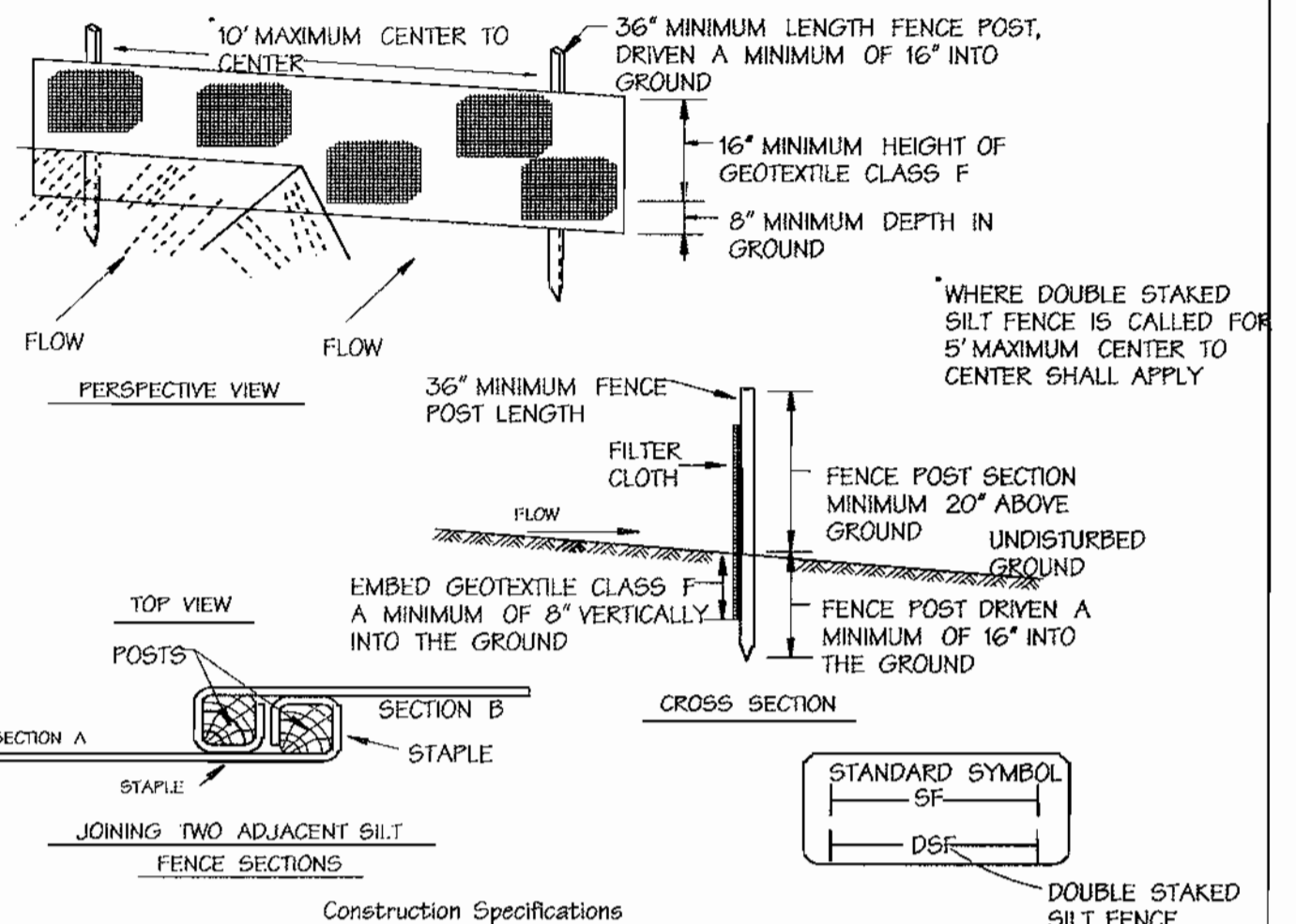
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE A-1-6 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

- A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1856).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MAXLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, AND REVISIONS THERETO.
- FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
  - SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1.
  - FOURTEEN DAYS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPPING DEVICES MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE "HOWARD COUNTY DESIGN MANUAL," STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, FOR PERMANENT SEEDINGS (SEC. 51), SOGS (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.
- ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- SITE ANALYSIS:
 

TOTAL AREA OR SITE	2812ACRES
AREA DISTURBED	28.0 ACRES
AREA TO BE ROOFED OR PAVED	16.5 ACRES
AREA TO BE VEGETATIVELY STABILIZED	11.5 ACRES
TOTAL CUT	106,000 CUBIC YARDS
TOTAL FILL	106,000 CUBIC YARDS
- OFF-SITE WASTE/BORROW AREA LOCATION WASTE =
  - ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
  - ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  - ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE 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.
  - TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.



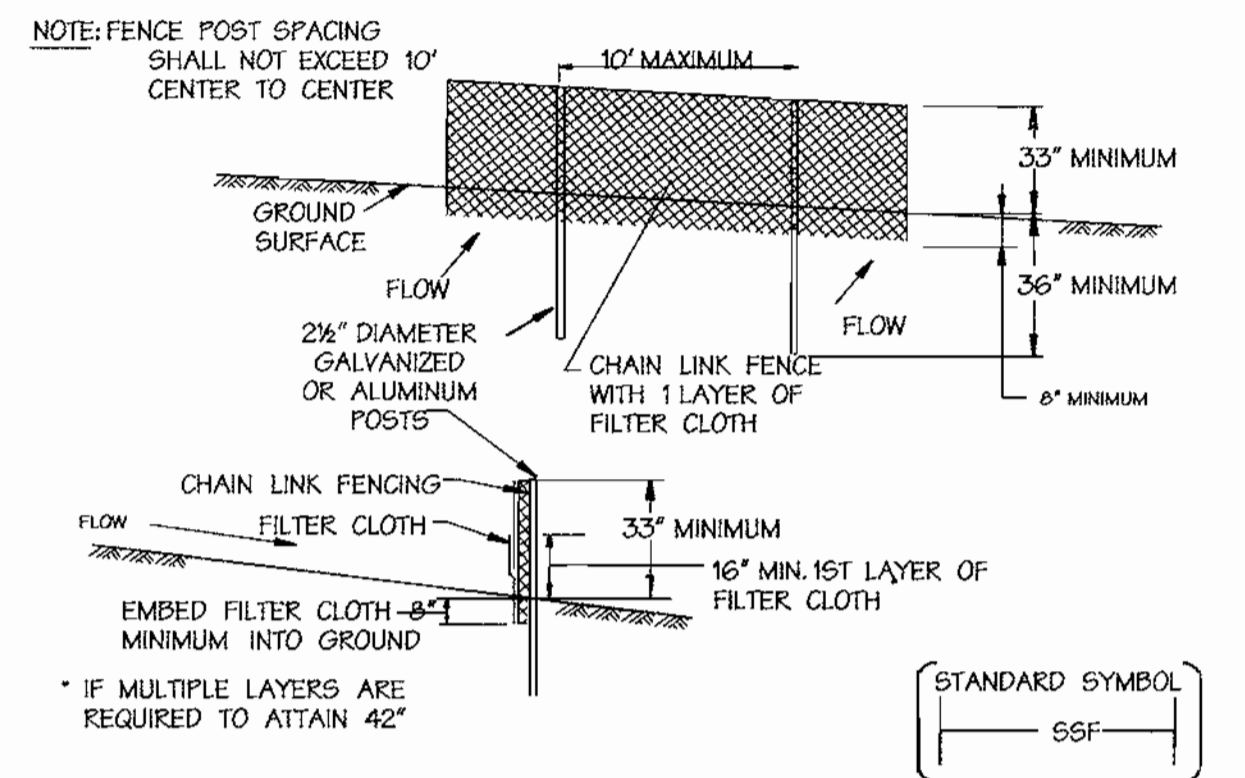
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- Construction Specifications**
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 1/2" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 100 pound per linear foot.
  - Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
  - Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
  - Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE E-15-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



- Construction Specifications**
- Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway (SHA) Details for Chain Link Fencing. The specification for a 6' fence shall be used substituting 42" fabric and 6' length posts.
  - The posts do not need to be set in concrete.
  - Chain link fence shall be fastened securely to the fence posts with wire ties or staples. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence. The chain link fencing shall be six (6) gauge or heavier.
  - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
  - Filter cloth shall be embedded a minimum of 8" into the ground.
  - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
  - Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE H-26-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Earth Dike** Not to Scale

**Howard County Sediment Control General Notes**

**Silt Fence** Not to Scale

**Super Silt Fence** Not to Scale

**PERMANENT SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK 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.)
- ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK 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 (14 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 SOG, OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GALLONS PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.

**TEMPORARY SEEDING NOTES**

APPLY TO GRADED OR CLEARED AREAS LIKELY TO BE REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

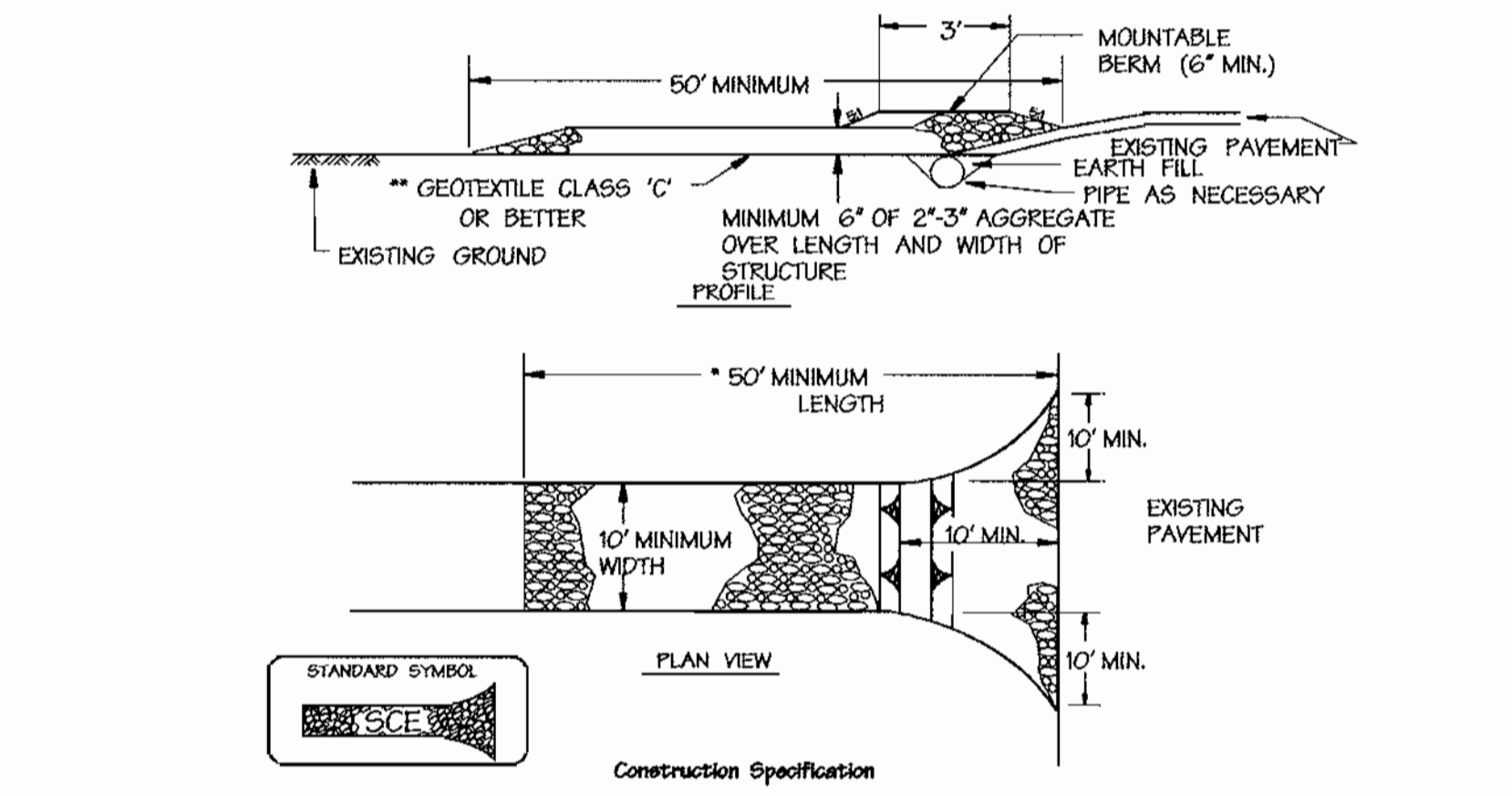
SEEDBED PREPARATION - LOOSEN UPPER THREE INCHES OF SOIL BY RAKING, DISKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 15 THRU OCTOBER 15, SEED WITH 2-1/2 BUSHEL 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 SOG.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 210 GAL. PER ACRE (5 GAL/1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS, ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR ADDITIONAL RATES AND METHODS NOT COVERED.



- Construction Specification**
- Length - minimum of 50' (\*30' for single residence lot).
  - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
  - Geotextile fabric Class C (filter cloth) shall be placed over the existing ground prior to placing stone. \*\*The plan approval authority may not require single family residences to use geotextile.
  - Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalents shall be placed at least 6" deep over the length and width of the entrance.
  - Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
  - Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Temporary And Permanent Seeding Notes**

**Stabilized Construction Entrance** Not to Scale

**Table 26. Stone Size**

NUMBER	SIZE RANGE	D <sub>50</sub>	D <sub>100</sub>	AASHTO	WEIGHT
NUMBER 57*	3/8" - 1 1/4"	3/8"	1 1/4"	M-43	N/A
NUMBER 1	2" - 3"	2 1/2"	3"	M-43	N/A
RIP-RAP**	4" - 7"	5 1/2"	7"	N/A	N/A
CLASS I	N/A	9 1/2"	15"	N/A	150lb max.
CLASS II	N/A	16"	24"	N/A	700lb max.
CLASS III	N/A	23"	34"	N/A	2000lb max.

\* This classification is to be used on the inside face of stone outlets and check dams.  
 \*\* This classification is to be used when over small rip-rap is required. The State highway Administration designation for this stone is Stone For Gaskets (305/01/04)

**Table 27. Geotextile Fabrics**

BASKET THICKNESS	SIZE OF INDIVIDUAL STONES	INCHES	MM
6	3 - 5	75 - 125	
9	4 - 7	100 - 175	
12	4 - 7	100 - 175	
18	4 - 7	100 - 175	
36	4 - 12	100 - 300	

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete equivalent shall be concrete broken into the sizes meeting the appropriate classification, shall contain no steel reinforcement, and shall have a density of 150 pounds per cubic foot.

**Table 27. Geotextile Fabrics**

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSL. MIN.
A	0.30 **	250	500
B	0.60	200	320
C	0.30	200	320
D	0.60	90	145
E	0.30	90	145
F (SILT FENCE)	0.40-0.80*	90	190

\* US Std. Sieve CW-02215 \*\* .50 mm max. for Super Silt Fence

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE F-17-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

The properties shall be determined in accordance with the following procedures:

- Apparent opening size MSMT 323
- Grab tensile strength ASTM D 1682: 4x8" specimen, 1/2" clamps, 12" min. strain rate in both principal directions of geotextile fabric.
- Burst strength ASTM D 3786

The fabric shall be inert to commonly encountered chemicals and hydrocarbons, and will be rot and mildew resistant. It shall be manufactured from fibers consisting of long chain synthetic polymers, and composed of a minimum of 85% by weight of polyethylene, polyester, or polypropylene. The geotextile fabric shall resist deterioration from ultraviolet exposure.

In addition, Classes A through E shall have a 0.01 cm/sec. minimum permeability when tested in accordance with MSMT 507, and an apparent minimum elongation of 20 percent (20%) when tested in accordance with the grab tensile strength requirements listed above.

**Silt Fence**  
 Class F geotextile fabrics for silt fence shall have a 50 lb./in. minimum tensile strength and a 23 lb./in. minimum tensile modulus when tested in accordance with MSMT 509. The material shall also have a 0.3 gal./ft. min. flow rate and seventy-five percent (75%) minimum filtering efficiency when tested in accordance with MSMT 322. Geotextile fabrics used in the construction of silt fence shall resist deterioration from ultraviolet exposure. The fabric shall contain sufficient amounts of ultraviolet ray inhibitors and stabilizers to provide a minimum of 12 months of expected usable construction life at a temperature range of 0 to 120 degrees F.

**APPROVED**  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE Feb 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Michael J. Blood* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MJB DATE

*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE R

*Paul R. Smith* 5/12/00  
 DIRECTOR DATE

**COLUMBIA ROUTE 175 COMMERCIAL**

SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: CONTRACT PURCHASER:  
 THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTM. DEVELOPMENT CORPORATION 9145 GUILDFORD ROAD SUITE 100 COLUMBIA, MD 21046  
 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044

**DMW**  
 Duff-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4708

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA  
 ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE  
**SEDIMENT AND EROSION CONTROL DETAILS**

Des By	MRT	Scale	AS SHOWN	Proj. No.	89088.M
Dwn By	WDE	Date	4-26-00		
Chk By	Approved				26 OF 31

**DEVELOPER'S CERTIFICATION:**

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*William C. Winters* 4/28/00  
 SIGNATURE OF DEVELOPER DATE  
 PRINT NAME BELOW SIGNATURE

**ENGINEER'S CERTIFICATION:**

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*John V. Rancuchia, Sr.* 4/28/00  
 SIGNATURE OF ENGINEER DATE  
 PRINT NAME BELOW SIGNATURE

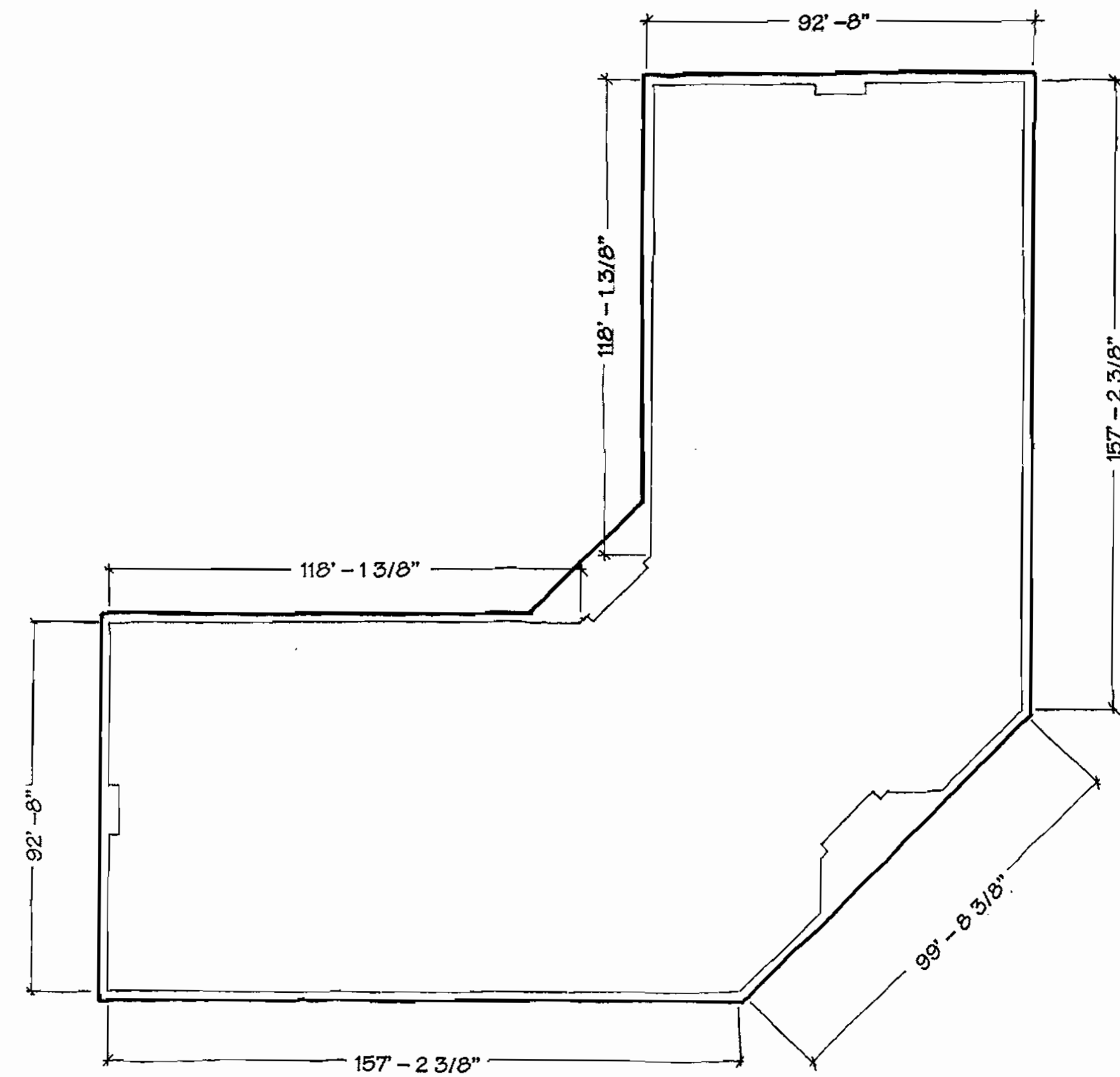
REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

*Cheryl S. Smith* 5/16/00  
 U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

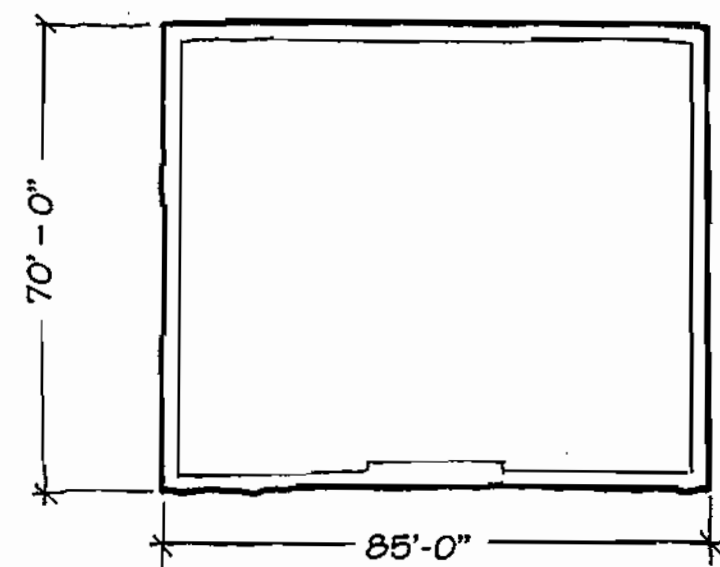
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

*John V. Rancuchia, Sr.* 5/16/00  
 HOWARD S.C.D. DATE

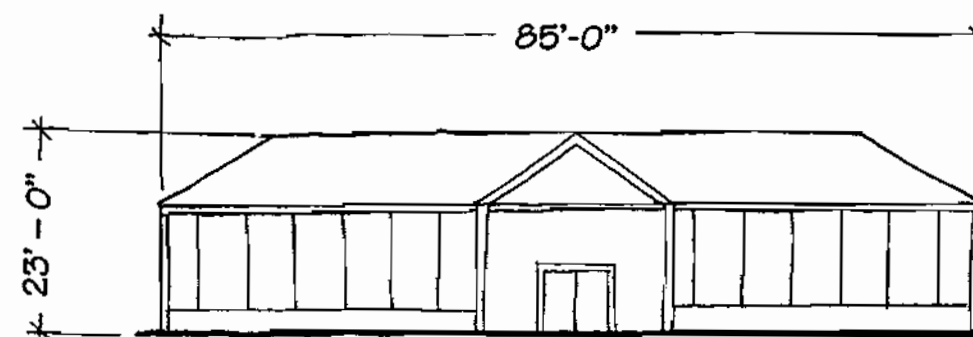




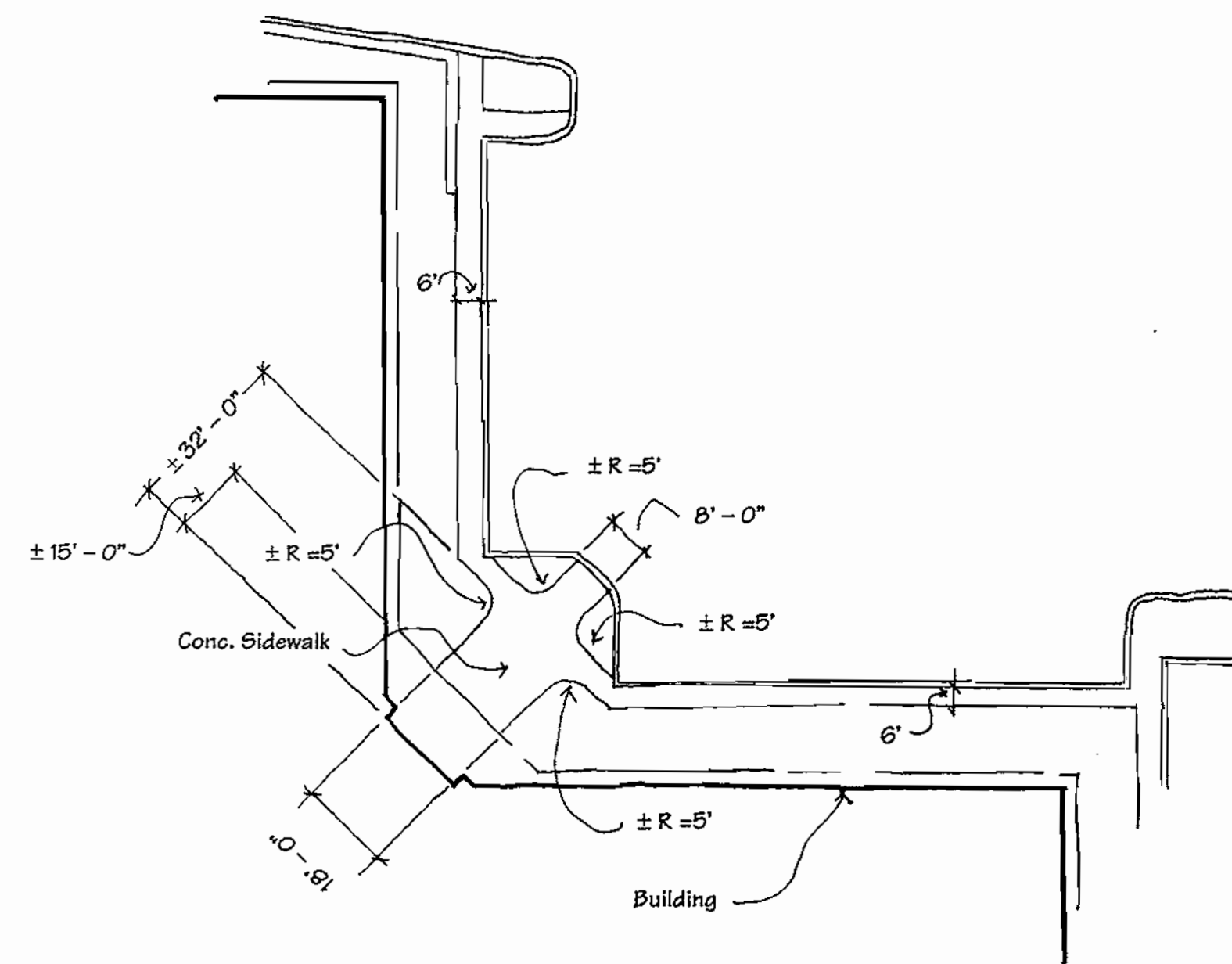
Plan view, Buildings # 1 - 6  
1" = 30'



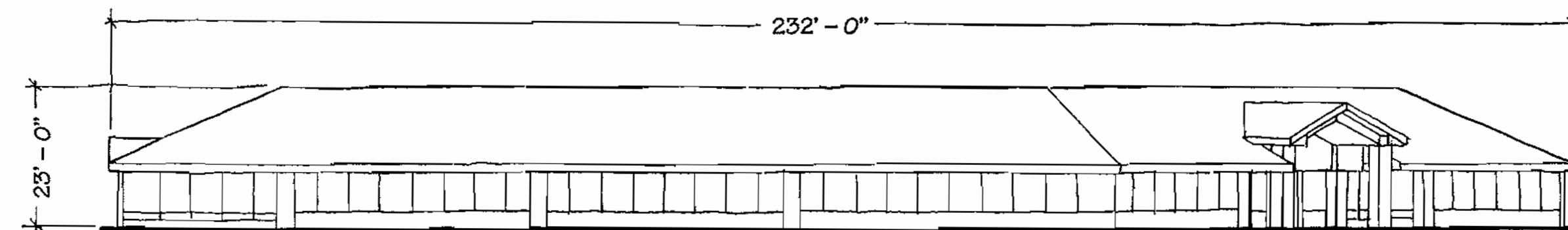
Plan View, Commons Building  
1" = 30'



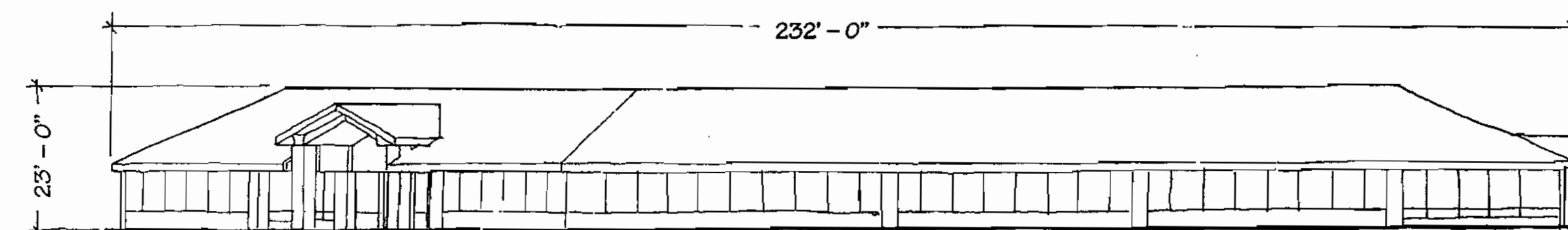
West Elevation, Commons Building  
1" = 20'



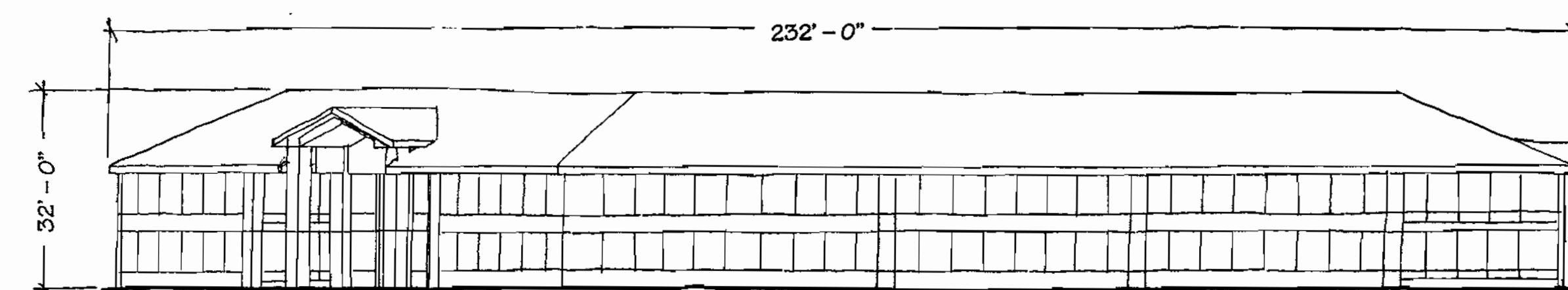
Typical Entrance Detail  
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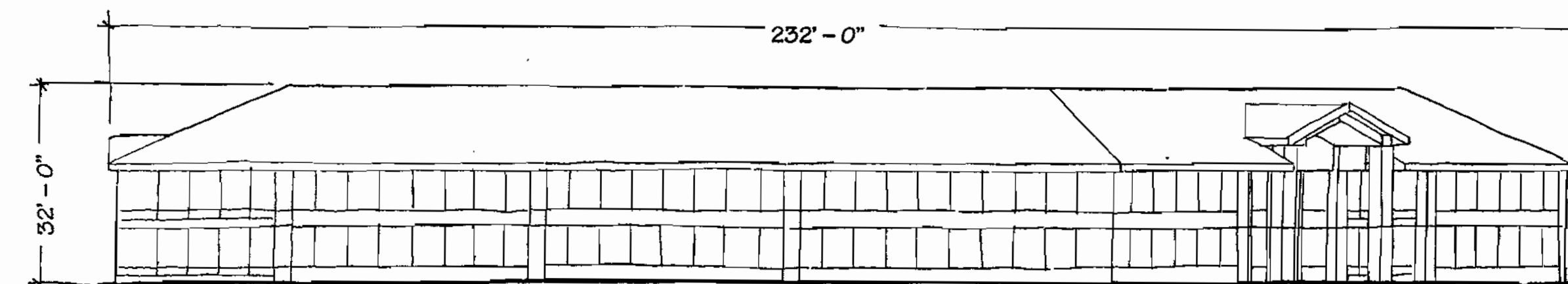
North Elevation, Buildings # 1 - 4  
1" = 20'



West Elevation, Buildings # 1 - 4  
1" = 20'



West Elevation, Buildings # 5 & 6 (2-Story)  
1" = 20'



North Elevation, Buildings # 5 & 6 (2-Story)  
1" = 20'

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Richard Blood* 5/12/00  
A/CHIEF, DIVISION OF LAND DEVELOPMENT DATE R

*[Signature]* 5/12/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

*[Signature]* 5/12/00  
DATE

Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL SECTION 1 AREA 2 PARCEL A OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PPA 9145 GUILFORD RD. SUITE 100 COLUMBIA, MD 21046

4-6-00  
Date

Professional Engr. No. 10951

**DMW**  
Dart McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705

A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA

TITLE Building Elevations

Des By	Scale: As Shown	Proj. No. 89088.M
Drn By MJP	Date 3-3-00	27 OF 31
Chk By MJP	Approved	

Tue Dec 28 10:14:57 1999 n:\p2008em\p2008em.dwg

SDP-00 75



Plant List:

Key	Qty	Botanical Name	Common Name	Size	Condition	Remarks
<b>Major Deciduous Trees:</b>						
AR	174	Acer rubrum 'October Glory'	Red Maple	3'-3 1/2' Cal.	B&B	Full
ARR	11	Acer rubrum 'Red Sunset'	Red Sunset Red Maple	3'-3 1/2' Cal.	B&B	Full
FP	14	Fraxinus pennsylvanica 'Patmore'	Patmore Green Ash	3'-3 1/2' Cal.	B&B	Full
GT	90	Gleditsia triacanthos 'Shademaster'	Shademaster Honeylocust	3'-3 1/2' Cal.	B&B	Full
PA	147	Platanus acerifolia	London Plane Tree	3'-3 1/2' Cal.	B&B	Full
<b>Minor Deciduous Trees:</b>						
BN	71	Betula nigra	River Birch	2'-2 1/2' Cal.	B&B	Multi-stem
MH	30	Malus hupenhensis 'Snowdrift'	Snowdrift Crabapple	2'-2 1/2' Cal.	B&B	Full
PO	37	Prunus Okame	Okame Cherry	2'-2 1/2' Cal.	B&B	Full
PY	30	Prunus x yedoensis	Yoshino Cherry	2'-2 1/2' Cal.	B&B	Full
<b>Evergreens:</b>						
CL	28	Cupressocyparis leylandii	Leyland Cypress	7-9' Ht.	Cont. Only	Full
IA	35	Ilex attenuata	Foster Holly	7-9' Ht.	B&B	Full
OG	20	Ilex opaca 'Greenleaf'	Greenleaf American Holly	7-9' Ht.	B&B	Full
PAE	52	Picea abies excelsa	Norway Spruce	7-9' Ht.	B&B	Full
PS	96	Pinus strobus	White Pine	7-9' Ht.	B&B	Full
<b>Shrub &amp; Groundcover:</b>						
EP	399	Euonymus kiautschovicus 'Manhattan Paul'	Manhattan Euonymus	24'	Cont.	2 1/2' O.C.
EF	1650	Euonymus fortunei 'Coloratus'	Wintercreeper		Cont.	10' O.C.

PLANTING TABULATION:

SCHEDULE A	SCHEDULE B
PERIMETER LANDSCAPE EDGE	PARKING LOT INTERNAL LANDSCAPING
Number of Parking Spaces	1234
Number of Trees Required	62
Number of Trees Provided	62
Shade Trees	
Other Trees (2:1 substitution)	
Number of Islands Required @ 1/20 spaces	
Number of Islands Provided @ 2+	
<b>SCHEDULE D</b>	
<b>STORMWATER MANAGEMENT AREA LANDSCAPING</b>	
Linear Feet of Perimeter	1130
Number of Trees Required	
Shade Trees	22
Evergreen Trees	28
Credit for Existing Vegetation (No, Yes and %)	
Credit for Other Landscaping (No, Yes and %)	
Number of Trees Provided	22
Shade Trees	
Evergreen Trees	28
Other Trees (2:1 substitution)	

- General Planting Notes
- All plant material to meet A.A.N. Standards.
  - Landscape Contractor to follow landscape specification guidelines for Baltimore Washington Metro area approved by LCAMW.
  - No substitutions to be made without consent of Landscape Architect or Owner.
  - All beds to be topped with three inches of hardwood mulch.
  - Landscape Contractor to verify location of utilities with Owner before planting.
  - Landscape Architect/Owner shall select, verify and/or approve all plant material. At Owner's discretion, specimen and other plant material will be selected.
  - Landscape Contractor shall coordinate plant bed filling operations and plant material installation with General Contractor and Utilities Contractor. At the time of final inspection with acceptance, all electric, water, drainage, and fountain utilities, as well as all plant materials, shall remain undamaged. Likewise, Landscape Contractor and Utilities Contractor shall coordinate efforts to ensure that surface utilities are at the proper elevation relative to final grades.
  - Contractor shall notify Mies Utility 72 hours prior to construction.
  - The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
  - All exterior lighting shall comply with Section 174 of the Howard County Zoning Regulations.
  - This plan has been prepared in accordance with the provisions of Section 16.124 of the Ho.Co. code per the new town alternative compliance method. Financial surety for the required landscaping in the amount of \$25,050.00 must be posted as part of the developer's agreement. (135 shade, 28 evergreen, 345 shrubs)
  - Developer's/Builder's Certificate

I/we certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County code and the Howard County Landscape Manual. I/we further certify that upon completion, a certification of landscape installation, accompanied by an executed one-year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

NAME: *[Signature]* DATE: 4/20/00

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*[Signature]* 5/12/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

*[Signature]* 5/12/00  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE R

*[Signature]* 5/12/00  
DIRECTOR DATE

Revision Description

Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL

SECTION 1 AREA 2 PARCEL A  
OWNER / DEVELOPER: THE HOWARD RESEARCH AND LIBERTY PROPERTY LTD. PTM DEVELOPMENT CORPORATION 9145 GUILFORD ROAD 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
CONTRACT PURCHASER: SUITE 100 COLUMBIA, MD 21046

**DMW**  
Darrin McCaskey-Walkers, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-4335  
Fax 296-4706

A Team of Land Planners,  
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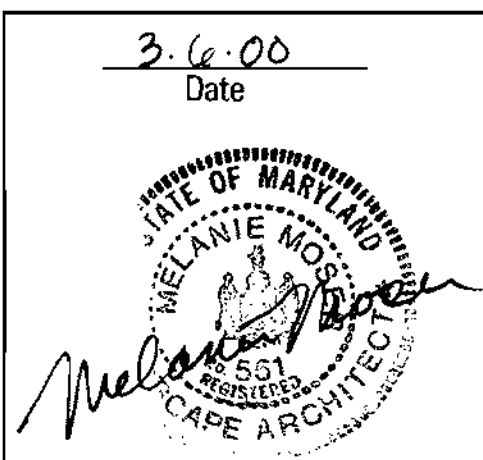
AREA: ROUTE 175 COMMERCIAL  
TAX MAP: 36 & 37 PARCEL  
6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

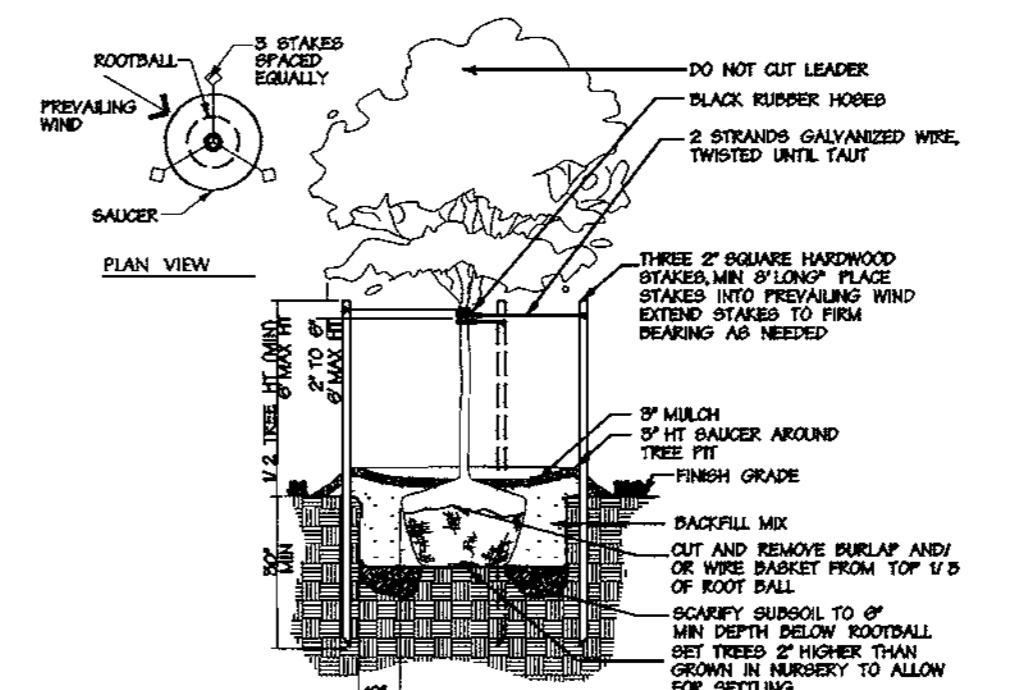
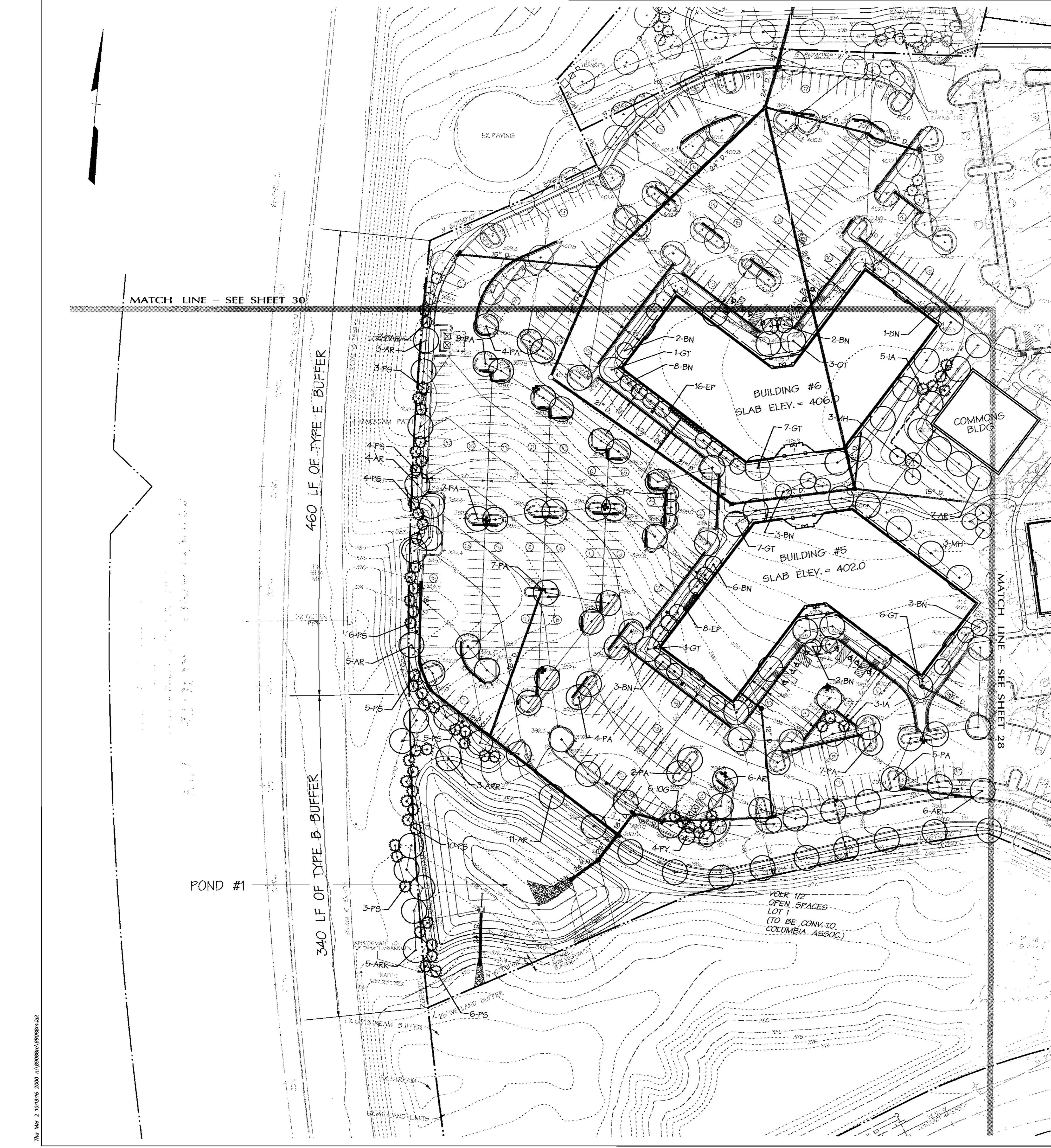
TITLE: FINAL LANDSCAPE PLAN

Des By: MJP Scale: 1" = 50'  
Dwn By: FWK Date: 3-3-00  
Chk By: MJP Approved

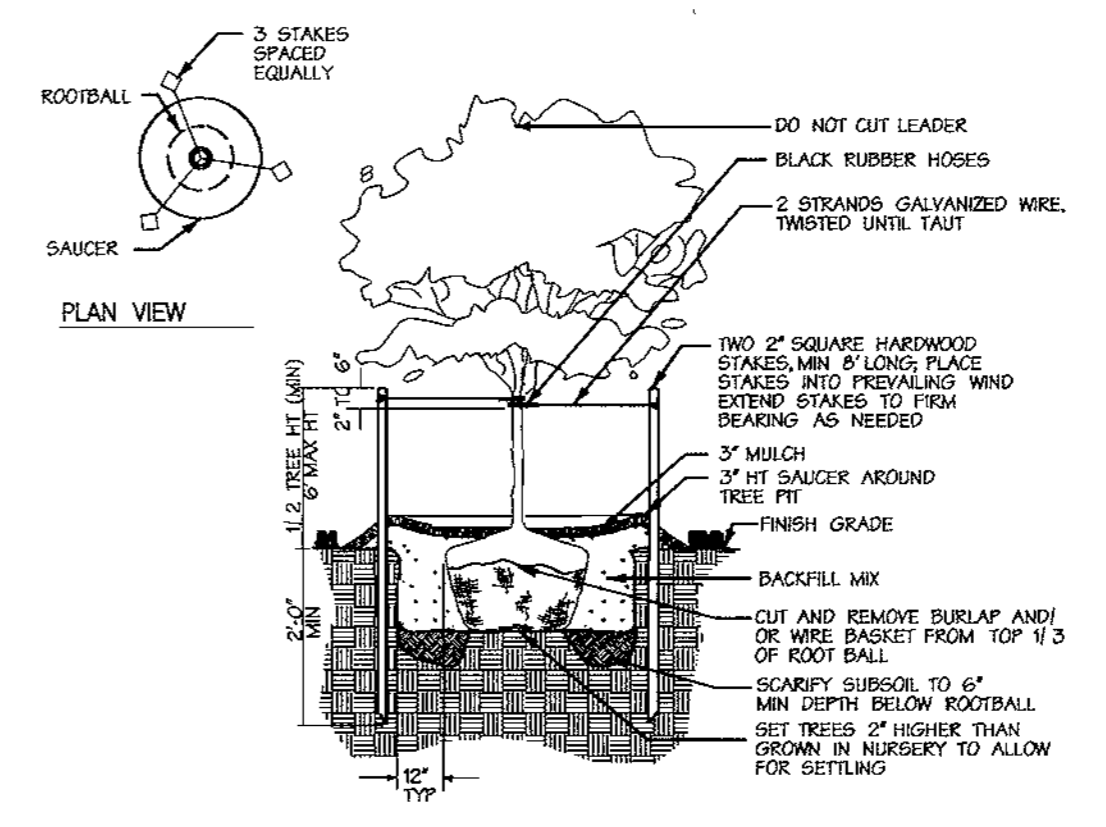
Proj. No. 89088.M  
28 OF 31

NOTE:  
THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.

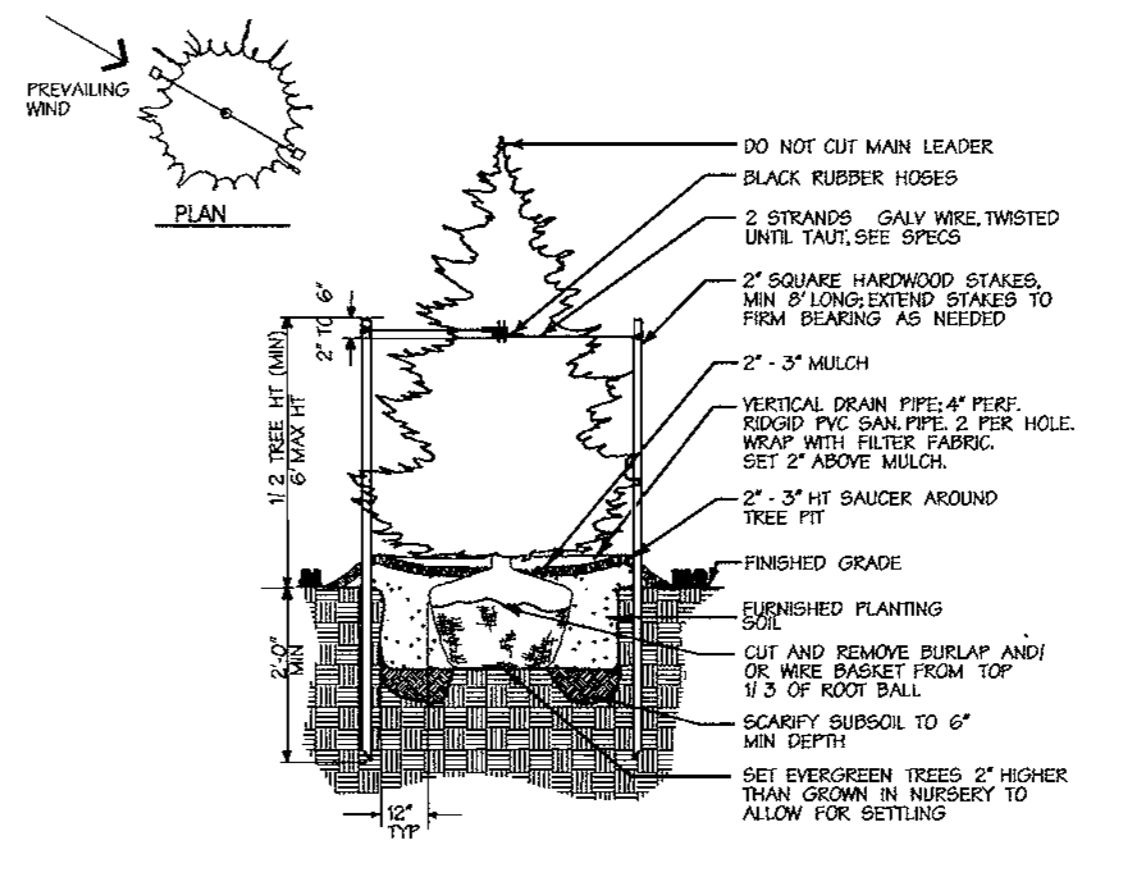




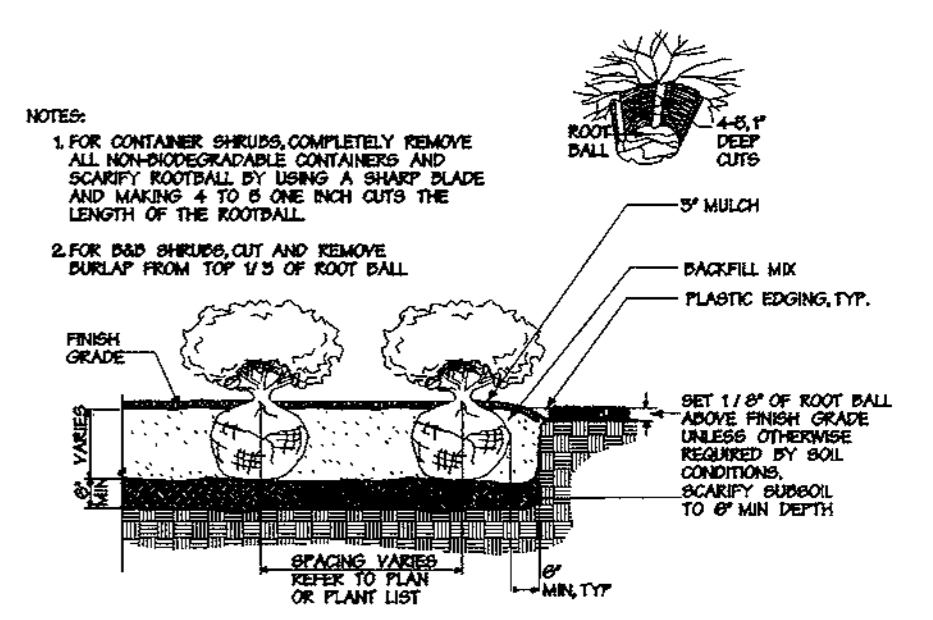
**TREE PLANTING - Greater Than 3" Caliper**  
NOT TO SCALE



**TREE PLANTING - Less Than 3" Caliper**  
NOT TO SCALE



**EVERGREEN TREE PLANTING**  
NOT TO SCALE



**SHRUB BED PLANTING**  
NOT TO SCALE

NOTES:  
1. FOR CONTAINER SHRUBS, COMPLETELY REMOVE ALL NON-Biodegradable CONTAINERS AND SCARIFY ROOTBALL BY USING A SHARP BLADE AND MAKING 4 TO 6 ONE INCH CUTS THE LENGTH OF THE ROOTBALL.  
2. FOR BIRD NESTING, CUT AND REMOVE DURLAP FROM TOP U.S. OF ROOT BALL.  
3. SET 1/4" OF ROOT BALL ABOVE FINISH GRADE UNLESS OTHERWISE REQUIRED BY SOIL CONDITIONS.  
4. SCARIFY SUBSOIL TO 6" MIN DEPTH.

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Michael Blum* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE R  
*Paul Smith* 5/12/00  
 DIRECTOR DATE

Date No. Revision Description  
**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A  
 OWNER /DEVELOPER: CONTRACT PURCHASER:  
 THE HOWARD RESEARCH AND LIBERTY PROPERTY LTD. PTM.P.  
 DEVELOPMENT CORPORATION 5145 GUILFORD ROAD  
 10275 LITTLE PATUXENT SUITE 100  
 PARKWAY COLUMBIA, MD 21046  
 COLUMBIA, MD 21044

**DMW**  
 Dawn McCanna-Walker, Inc.  
 2000 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4708  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

3-6-00  
 Date  
  
 Professional LA. No. 051

AREA: **ROUTE 175 COMMERCIAL**  
 TAX MAP 36 & 37 PARCEL  
 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TITLE: **FINAL LANDSCAPE PLAN**  
 Des By: MJP Scale: 1" = 50'  
 Drn By: FWK Date: 3-3-00  
 Chk By: MJP Approved  
 Proj. No. 89088.M  
 29 OF 31



STORMWATER MANAGEMENT POND  
GENERAL CONSTRUCTION SPECIFICATIONS

1. **GENERAL**  
All stormwater management facilities shall be constructed in accordance with Howard County's Design Manual, Volume 1 - Storm Drainage (1995) and the M.D.C.S. Maryland "Standard and Specifications for Ponds" (MD-378, 1992).

These specifications are appropriate to all ponds within the scope of the Standard Practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

2. **SITE PREPARATION**  
Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 50 foot radius around the wet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner. When specified, a sufficient quantity of topsoil will be stockpiled at a suitable location for use on the embankment and other designated areas.

**EARTH FILL**

**MATERIAL** The fill material shall be taken from approved designated borrow area. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH or CL Consideration may be given to the use of other materials in the embankment if design and construction are supervised by a geotechnical engineer.

**PLACEMENT** Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8 inch thick (before compaction) layers which will be to continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

**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 traversed by not less than one track tread of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet be so wet that water can be squeezed out.

All compaction is to be not less than 95 percent of the maximum dry density as determined by AASHTO Specification T-99 (Standard Proctor) or the content within  $\pm 2$  percent of optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction.

**CUTOFF TRENCH AND IMPERVIOUS CORE** The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least 4 feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The top width of the impervious core shall be 4 feet minimum. The height of the core shall be as shown on the plans. The side slopes of the core shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

**STRUCTURAL BACKFILL**  
Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjacent fill material. The fill shall be placed in horizontal layers not to exceed 4 inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than 4 feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24 inches or greater over the structure or pipe.

**REMOVAL AND REPLACEMENT OF DEFECTIVE FILL**  
Fill placed at densities lower than specified minimum density or at moisture contents outside the specified acceptable range of moisture content or otherwise not conforming to the specifications shall be removed and replaced with the correct material. The rip-rap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the rip-rap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all rip-rap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 901.02.

**PIPE CONDUITS**  
All pipes shall be circular in cross section. All perforated pipe shall have a minimum of 3.31 square inches of opening per square foot of pipe surface (ex. 30 3/8 inch holes per square foot). Perforations are to be uniformly spaced around the full periphery of the pipe. Any holes blocked or partially blocked by bituminous coating shall be opened prior to installation.

**CORRUGATED METAL PIPE** All of the following criteria shall apply for corrugated metal pipe:

- 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-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. The following coatings or an approved equal may be used: Nexon, Plasticoat, Sloc-Koat, and Bath-Co-Loy. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.
- Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-195 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

- Coupling bands, anti-seep collars, and sections, etc., must be composed of the same material as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.
- 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. 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.

- All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of rotations to accommodate the band width. The following type connections are acceptable for pipes less than 24 inches in diameter: flanges on both ends of the pipe, a 12 inch wide standard lap type band with 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket; and a 12 inch wide hugger type band with O-ring gaskets having a minimum diameter of 1/2 inch greater than the connection depth. Pipes 24 inches in diameter and larger shall be connected by a 48 inch long annular corrugated band using rods and lugs. A 12 inch wide by 3/8 inch thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24 inches. Helically corrugated pipe shall have either continuously welded seams or have lock seams.
- All aluminum surfaces in contact with concrete shall be painted with inorganic zinc rich primer (see AASHTO Specification M300-86).
- 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 compaction to provide adequate support.
- Backfilling shall conform to "Structural Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**REINFORCED CONCRETE PIPE** All of the following criteria shall apply for reinforced concrete pipe:

- Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-301.
- Cradle - All reinforced concrete pipe conduits shall be laid in a concrete cradle for their entire length. This cradle shall consist of high slump concrete placed under the sides of the pipe at least 10 percent of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.
- Laying Pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the cradle shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.
- Backfilling shall conform to "Structural Backfill".
- Connections - All connections to (anti-seep collars, riser, etc.) shall be watertight.
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**Polyvinyl Chloride (PVC) Pipe** - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

- Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.
- Joints and connections to anti-seep collars shall be completely watertight.
- 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 compaction to provide adequate support.
- Backfilling shall conform to "Structural Backfill".
- Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

**CONCRETE**  
Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Sections 414 and 902, Mix No. 3.

Contractor shall color mix at plant in accordance with manufacturers recommendation "C-12 Mixela Belgie" as manufactured by L. M. Scofield Company (213) 723-5285.

Supply mixture for approval prior to application. Contractor shall supply load and mix tickets for each truckload. No partial field mixes shall be allowed.

**ROCK RIP-RAP**  
Rock rip-rap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 901.02.

The rip-rap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the rip-rap in place shall be reasonably homogeneous with the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all rip-rap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09.

**CARE OF WATER DURING CONSTRUCTION**

All work on permanent structures shall be carried out in areas free from water. The contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from the various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom of required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water to sumps from which the water shall be pumped.

**STABILIZATION**  
All borrow areas shall be graded to provide proper drainage and left in a slightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and borrow shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Maryland Soil Conservation Service Standards and Specifications for Critical Area Planning (MD-342) or as shown on the accompanying drawings.

**EROSION AND SEDIMENT CONTROL**  
Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures to be employed during the construction process.

All disturbed areas shall be controlled by an Erosion and Sediment Control Plan which has been approved by the Howard Soil Conservation District (H.S.C.D.).

**SEEDING**  
Seeding, fertilizing and mulching shall be as follows:

- Seed Mix: 90% Forager Tall Fescue, 10% Kentucky Bluegrass. Applied at a rate of 300 lbs. per acre. (or) 70% Forager Tall Fescue, 30% Chemung Crownvetch, inoculated. Applied at a rate of 55 lbs. per acre. Optimum seeding dates: March 1 to April 30.
- Lime: 2 tons/acre Dolomitic Limestone.
- Fertilizer: 600 lbs./acre 10-10-10 fertilizer before seeding, 400 lbs./acre 30-0-0 ureaform fertilizer at time of seeding.
- Mulch: Straw at 4,000 lbs. per acre.
- Anchoring: Mulching tool or emulsified asphalt binder at a rate of 8 gal. per 1,000 square feet.

**FILTER CLOTH**  
All filter cloth shall conform to Mirfil 140N, Dupont Typer 3341 or 3401, Supac SP or approved equal.

**FILTER DRAINAGE DIAPHRAGM**  
The filter drainage diaphragm shall be constructed in accordance with this section and as shown on the plans. The material shall be placed in continuous, approximately horizontal layers not more than 4 inches in loose thickness. The water content of the drainage material before and during compaction shall be uniform throughout each layer of the material. The water content shall be sufficient to attain the required density of the material in place when compacted. The filter drainage diaphragm must be constructed with a combination of compaction as specified in Section 3. EARTH FILL, and flooding to attain the required density of the material.

Care should be taken so that the filter drainage diaphragm does not become contaminated. Contaminated drainage material shall be removed and replaced with suitable material at the contractor's expense. During periods of shutdown and at all equipment crossings, the drainage material should be protected by protective covering material such as polyethylene sheeting, PVC sheeting or equal. All equipment crossings, the sheeting material shall be covered with a sufficient amount of embankment material to prevent damage to the sheeting by the equipment, or a minimum of 12 inches, whichever provides greater protection. Prior to placing additional drainage material after shutdown at equipment crossings, the contractor shall remove any protective coverings and replace any materials that may have become contaminated.

**GABIONS**  
All gabions shall be P.V.C. coated wire baskets. Stone size shall be 4 inches to 7 inches.

**FENCE**  
Fencing shall be constructed in accordance with State Highway Administration Details 690.01 and 690.02. The specifications for a 6'-0" fence shall be used, substituting 42" fabric and 8'-8" line posts. The gate shall be constructed in accordance with SHA, Standard Detail 692.01 with 42" fabric. The fabric used for the fence and gate shall conform to AASHTO, Designation M-174. Black vinyl coating is required for the fence posts and wire fabric in accordance with the Landscape Manual adopted by Resolution 56-90, October 1, 1990.

**CONSTRUCTION INSPECTION BY DESIGNATED ENGINEERS**  
The construction of the pond and embankment, and certification that the pond and embankment have been built in accordance with the plans shall be under the supervision of a Registered Professional Engineer. The Engineer shall be notified sufficiently in advance of construction in order that arrangements can be made for (1) inspection of pipe trench and bedding, (2) inspection of riser and anti-seep collars and (3) supervision of embankment construction and compaction testing. The Engineer shall direct the handling of water during construction, minor changes not affecting the integrity of the dam in order to compensate for unusual soil conditions, and the removal and replacement of defective fill.

**INSPECTION SCHEDULE**

1. Prior notification shall be given to the engineer so that inspections may be made at the following stages:
  - (a) Upon completion of excavation to reinforcement and where required, installation of structural supports or foundation for construction, including but not limited to:
    - (i) Core trenches for structural embankments
    - (ii) Installation of structural and anti-seep structures, watertight connectors on pipe and
    - (iii) Removal for enclosed storm drainage facilities.
  - (b) During placement of structural fill, bedding and concrete, and installation of pipe and catch basins
  - (c) During backfilling
  - (d) During embankment construction and
  - (e) Upon completion of final grading and establishment of permanent

No work shall proceed until the engineer inspects and approves the work previously completed.

2. Geotechnical compaction testing of the facility embankment is required. Certification must be provided to the designated engineer in charge of the work.
3. A copy of all material supply tickets must be given to the designated engineer in charge of the work.

**MAINTENANCE SCHEDULE**

1. The facility shall be inspected twice annually, March and September, in accordance with the checklist and requirements contained within USDA, SCS "Standards and Specifications for Ponds" (MD-378). The pond owner(s) and any heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid discharge, slumps, or sloughing.
2. Vegetated cover shall be maintained at all times.
3. Rills on the slopes of the dam and washed in the earth spillway shall be filled with suitable material and thoroughly compacted. These areas shall be reseeded or reseeded, limed, and fertilized as needed.
4. All appurtenances shall be kept free of trash.
5. Sediment shall be removed from forebays when the depth exceeds 1'.
6. Trash and debris shall be removed as necessary.
7. Vegetation on embankment and access bench shall not exceed 10' in height.

**Geotechnical Recommendation for Embankment and Cut-Off Trench Construction (See Addendum 320000 Hills-Carnes Reopn. 9/8/99)**

The site should be stripped of topsoil and any other unsuitable materials from the embankment or structure area in accordance with Soil Conservation Guidelines. After stripping operations have been completed, the exposed subgrade materials should be profiled with a loaded dump truck or similar equipment in the presence of a geotechnical engineer or his representative. For areas that are not accessible to a dump truck, the exposed materials should be observed and tested by a geotechnical engineer or his representative using a Dynamic Cone Penetrometer. Any excessively soft or loose materials identified by preloading or penetrometer testing should be excavated to suitable firm soil, and then grades re-established by backfilling with suitable soil.

A representative of the Geotechnical Engineer should be present to monitor placement and compaction of fill for the embankment and cut-off trench. In accordance with Maryland Soil Conservation Specification 378 soils considered suitable for the center of embankment and cut-off trench shall conform to Unified Soil Classification GC, SC, CH, or CL. All fill materials must be placed and compacted in accordance with MD SCS 378 specifications.

HILLS-CARNES ENGINEERING ASSOCIATES, INC. RECORD OF SOIL EXPLORATION

DATE	NO.	DEPTH	SOIL DESCRIPTION	WATER	REMARKS
05/11/99	1	0-12"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	2	12-24"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	3	24-36"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	4	36-48"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	5	48-60"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	6	60-72"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	7	72-84"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	8	84-96"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	9	96-108"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	10	108-120"	Light gray silty clay with thin sand streaks	0	18" Topsoil

STANDARD PENETRATION TEST (SPT) OF SAMPLER WITH HAMMER FALLING 30" COUNT MADE AT 2' INTERVALS

DEPTH	SPT
0-12"	10
12-24"	10
24-36"	10
36-48"	10
48-60"	10
60-72"	10
72-84"	10
84-96"	10
96-108"	10
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05/11/99	1	0-12"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	2	12-24"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	3	24-36"	Light gray silty clay with thin sand streaks	0	18" Topsoil
05/11/99	4	36-48"	Light gray silty clay with thin sand streaks	0	18" Topsoil

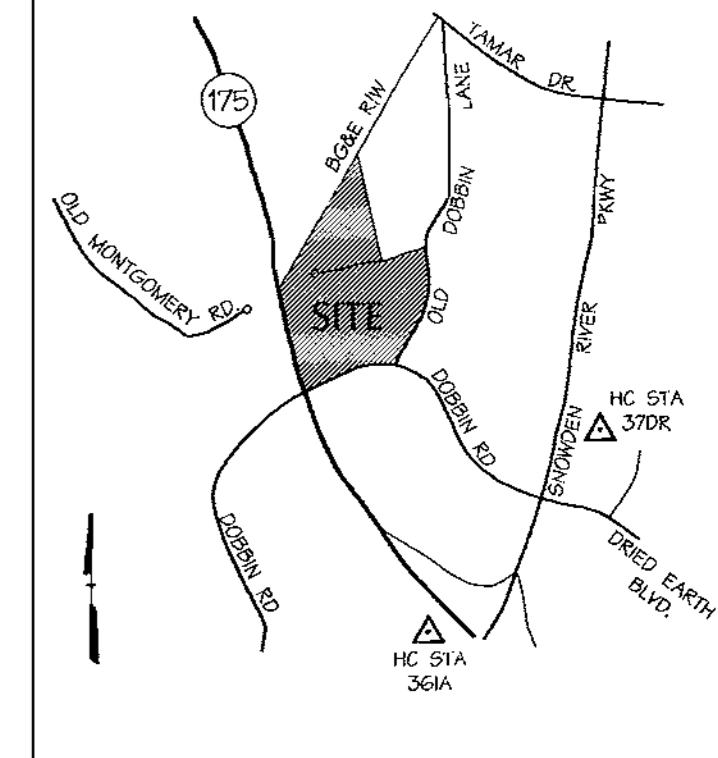
SHEET INDEX

SHEET	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	SITE DEVELOPMENT PLAN
4	SITE DEVELOPMENT PLAN
5	SITE DETAILS
6	SITE DETAILS & SUD SCHEDULE
7	PAVING LEGEND
8	STORM DRAINAGE AREA AND SOILS MAP
9	STORM DRAIN PROFILES
10	STORM DRAIN PROFILES
11	STORM DRAIN PROFILES
12	STORM DRAIN PROFILES
13	SEWER PROFILES
14	EROSION & SEDIMENT CONTROL PLAN & SWM PLAN
15	EROSION & SEDIMENT CONTROL PLAN & SWM PLAN
16	EROSION & SEDIMENT CONTROL PLAN & SWM PLAN
17	EROSION & SEDIMENT CONTROL PLAN COMPOSITE
18	EROSION & SEDIMENT CONTROL DRAINAGE AREA MAP
19	SWM DRAINAGE AREA MAP
20	SWM PRINCIPAL SPILLWAY PROFILES
21	SWM PROFILES
22	SWM RISER DETAIL POND # 1
23	SWM RISER DETAIL POND # 2
24	SWM RISER DETAIL POND # 3
25	SWM & EROSION & SEDIMENT CONTROL DETAILS
26	SWM & EROSION & SEDIMENT CONTROL DETAILS
27	BUILDING ELEVATIONS & DETAILS
28	LANDSCAPE PLAN
29	LANDSCAPE PLAN
30	LANDSCAPE PLAN
31	SOIL BORING LOGS AND SPECIFICATIONS PLAN

# SHEET 4

GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410) 513-1900 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- All plan dimensions are to the face of curb unless otherwise noted.
- Topography was field run surveyed by Gutcheck, Little & Weber on February, 1999.
- Coordinates and bearings shown hereon are referred to the Maryland Coordinate system (NAD 83) as projected by Howard County Geodesic Control stations No. 361A & 37 DR.
- Storm water management is provided on-site by extended detention facilities for quantity and quality.
- Storm water management facilities are privately maintained.
- No wetlands exist within the limits of disturbance.
- The existing utilities were located from available records and field survey prepared by Duff-McCune-Walker, Inc. The contractor must dig test pits, by hand, at all utility crossings and connection points at least 5 days prior to starting work to verify exact location.
- The Soils analysis report was prepared by Hillis, Carnes & Assoc.
- Handicap parking details shall be in accordance with the Maryland Building Code for the Handicapped, Section 5-01-7.05.
- Any damage to County owned right-of-way to be corrected at the contractor's expense.
- All sidewalks shall be cross sloped at 1/4 inch per foot.
- Trench bedding for storm drainage structures shall be in accordance with Howard County Standard 62.01.
- Department of Planning and Zoning reference file numbers: F-96-41, FDP-Ph-235, S-99-05, WP-99-117 (waiver of SEC-16-114(f) allowing the preliminary plan not to be submitted.) F-00-20
- All inlets shall be constructed in accordance with Howard County standards or MSHA Standards as specified on the structure schedule.
- All materials and construction is to be in accordance with the Howard County Design Manual Volume IV.
- The building setback restrictions from the property lines and right-of-way lines of any public road shall be in accordance with FDP Phase 235.
- All on-site driveways and parking areas to be privately maintained.
- All curb radii are five foot unless otherwise labeled all curbs to be 6" in height.
- All equipment and tools shall be placed as not to interfere with vehicular or pedestrian movement unless specified.
- The contractor shall be responsible for any damage to existing property which may occur as a result of his negligence in the execution of the work.
- All paving areas indicated are private.
- All proposed handicap ramps shall be in accordance with the current A.D.A. Standards.
- There is no floodplain on this site.
- Traffic study was prepared by Wells and Assoc. dated 12-28-99.
- Public Water is utilized for this site.
- This plan is exempt from Forest Conservation in accordance with Section 16-1202 (b) (1) (i).
- This property is located within the Metropolitan District.
- Wetlands shown are per F-00-20.
- There are no slopes greater than 25% greater than 10,000 contiguous S.F.
- All exterior lighting shall comply with Section 134 of the Howard County Zoning Regulations.

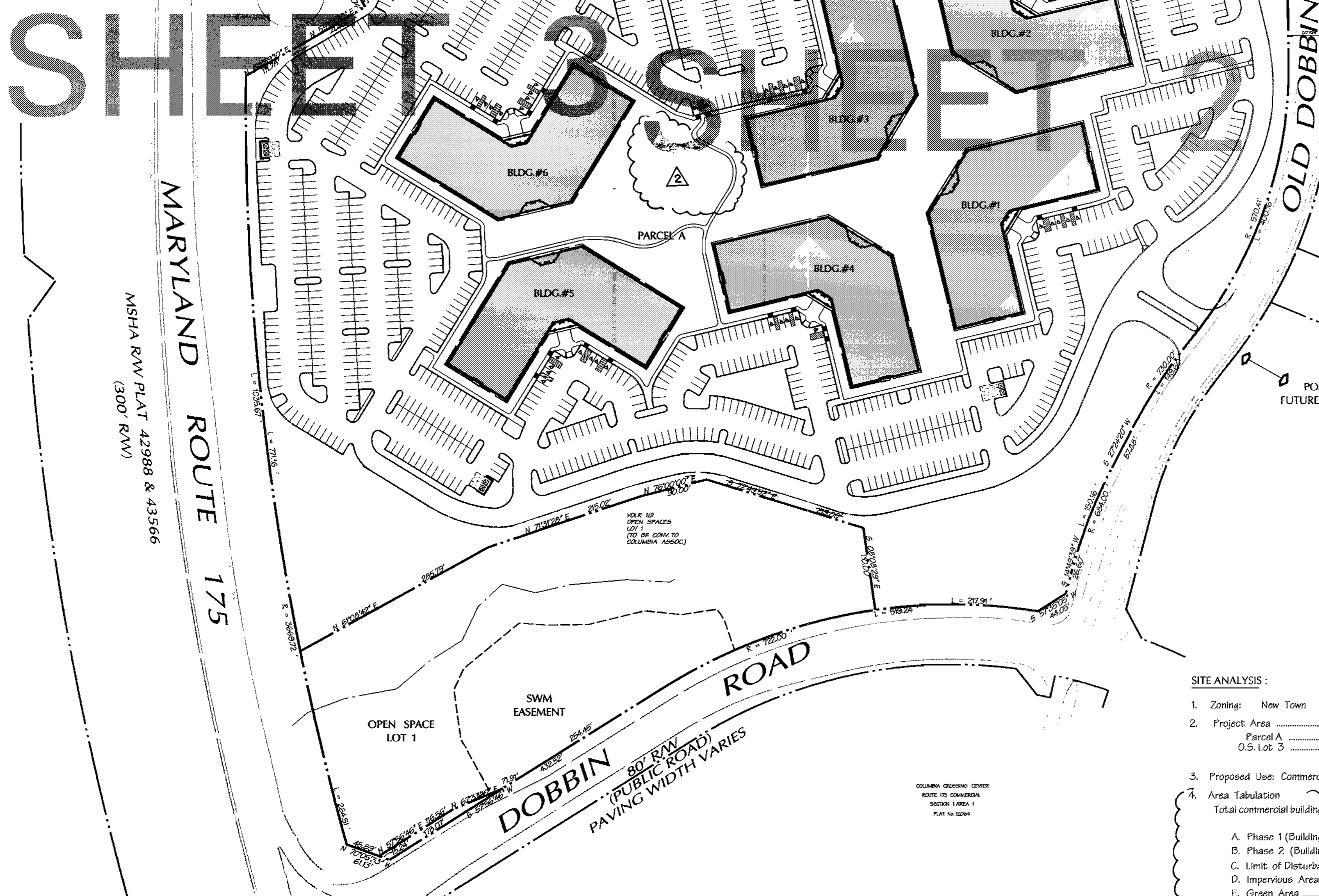


LOCATION MAP

SCALE: 1" = 200'

**LEGEND**

	10' EXISTING CONTOUR
	2' EXISTING CONTOURS
	10' PROPOSED CONTOUR
	2' PROPOSED CONTOUR
	REVERSE CURB & GUTTER R-3.01
	DEPRESSED CURB R-3.01
	STANDARD CURB & GUTTER R-3.01
	24" SD PROPOSED STORM DRAIN
	8" S PROPOSED SEWER
	8" W PROPOSED WATER
	PARKING COUNT
	VAN HANDICAPPED PARKING
	HANDICAPPED PARKING
	HANDICAP RAMP



**ADDRESS CHART**

BUILDING #	STREET ADDRESS
1	6250 Old Dobbin Lane
2	6200 Old Dobbin Lane
3	6210 Old Dobbin Lane
4	6240 Old Dobbin Lane
5	6230 Old Dobbin Lane
6	6220 Old Dobbin Lane

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: FEB 23, 2000

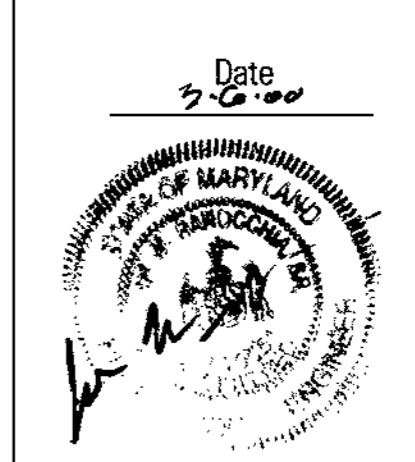
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

	5/12/00
CHIEF DEVELOPMENT ENGINEERING DIVISION MK	DATE
	5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
	5/12/00
DIRECTOR	DATE

Date	No.	Revision Description
3-20-01	2	REV. SITE ANALYSIS TO COMPLETE COMMONS BLDG.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD 21044

**DMW**  
Duff-McCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
410 296-3333  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



Professional Engr. No. 16551

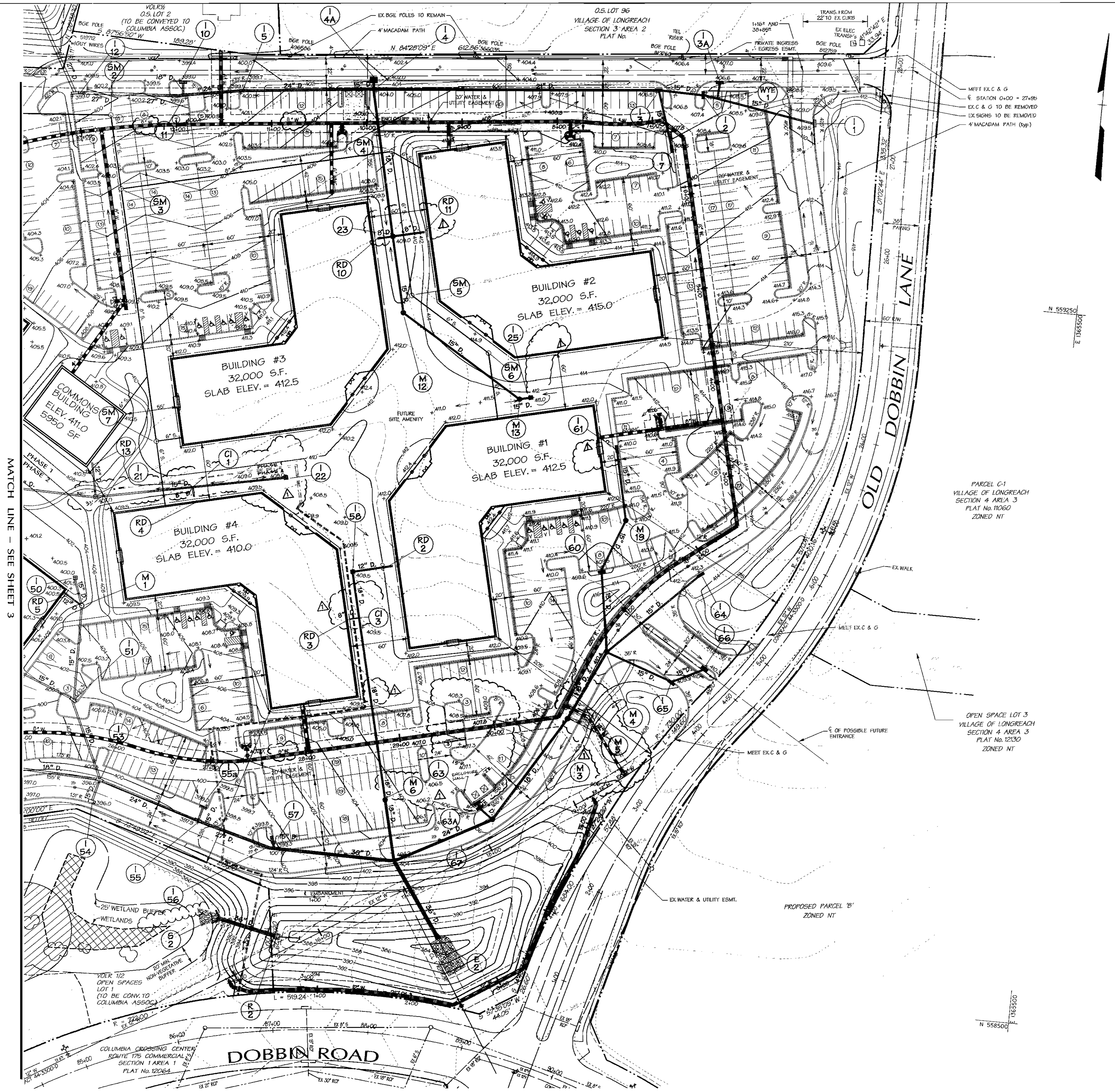
**SITE ANALYSIS:**

- Zoning: New Town (Per FDP Ph. 235)
- Project Area: 28.17 Ac. or 1227085 sq. ft.  
Parcel A: 26.24 Ac.  
O.S. Lot 3: 1.93 Ac.
- Proposed Use: Commercial office buildings and parking.
- Area Tabulation:
 

Total commercial building area	256,000 sf
A. Phase 1 (Buildings 1-3)	96,000 sf
B. Phase 2 (Buildings 4-6)	160,000 sf
C. Limit of Disturbance	28. Ac.
D. Impervious Area	16.5 Ac.
E. Green Area	11.5 Ac.
- Parking Required: 612 sp. (2 sp./1000 sf)  
A. Phase 1: 192 sp. (INC 16 HC)  
B. Phase 2: 320 sp. (INC 19 HC)
- Parking Provided: 1216 SF.  
A. Phase 1: 536 SF. (INC 17 HC)  
B. Phase 2: 680 SF. (INC 22 HC)

**VICINITY MAP**  
1" = 100'





MATCH LINE - SEE SHEET 3

N 559250  
E 1865500

N 558500  
E 1863500

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*John D. ...* 5/12/00  
 CHIEF DEVELOPMENT ENGINEERING DIVISION MK DATE  
*Richard Blouel* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE R  
*James Butler* 5/12/00  
 DIRECTOR DATE

No.	Date	Revision Description
1	5/12/00	DELETE RD 1, 4 & 12, REV. PHASING LINE, REV. 12' W TO 8' W.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD  
 SUITE 100  
 COLUMBIA, MD. 21046

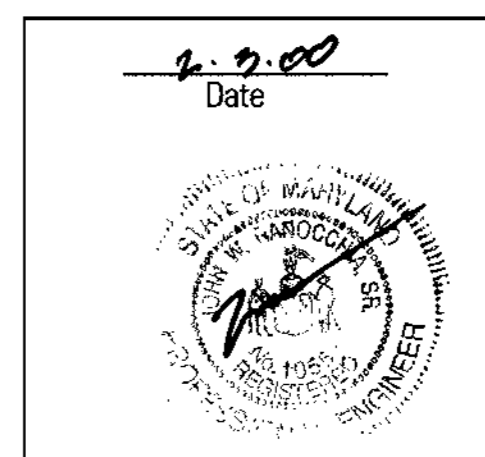
**DMW**  
Datt McCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Potosi, Maryland 21850  
(410) 296-3333  
Fax: 296-4706  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
 TAX MAP: 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

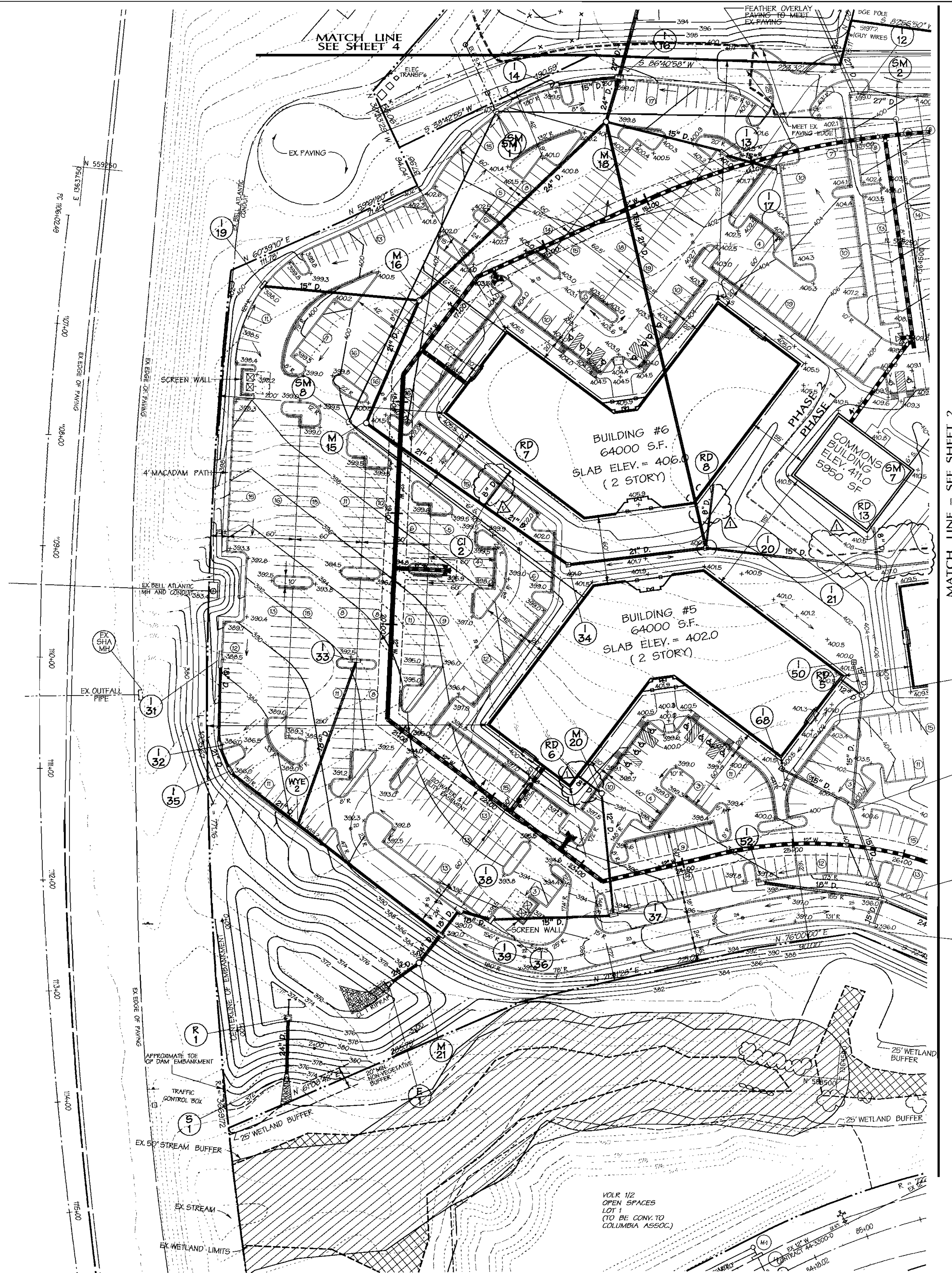
TITLE: **SITE DEVELOPMENT PLAN**

Des By: MJP Scale: 1" = 50' Proj. No.: 89088.M  
 Dwn By: KDE Date: 3-3-00  
 Chk By: *JP* Approved: 2 OF 31

DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS PREPARED BY GUTSCHICK, LITTLE & WEBER.



MARYLAND ROUTE 175  
 MSHA RW PLAT 42988 & 43566  
 (300' RM)  
 INTERMEDIATE ARTERIAL ROAD



MATCH LINE - SEE SHEET 2

MATCH LINE  
SEE SHEET 4

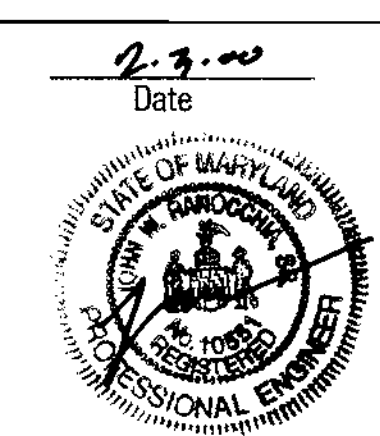
**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE Feb 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF DEVELOPMENT ENGINEERING DIVISION MK 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT 5/12/00  
 DIRECTOR 5/12/00

Date	No.	Revision Description
6-21-00	1	REV. ROOF DRAIN CONT. TO 6", REV. PHASE LINE.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & 0.5 LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
 9145 GUILFORD ROAD COLUMBIA, MD. 21046

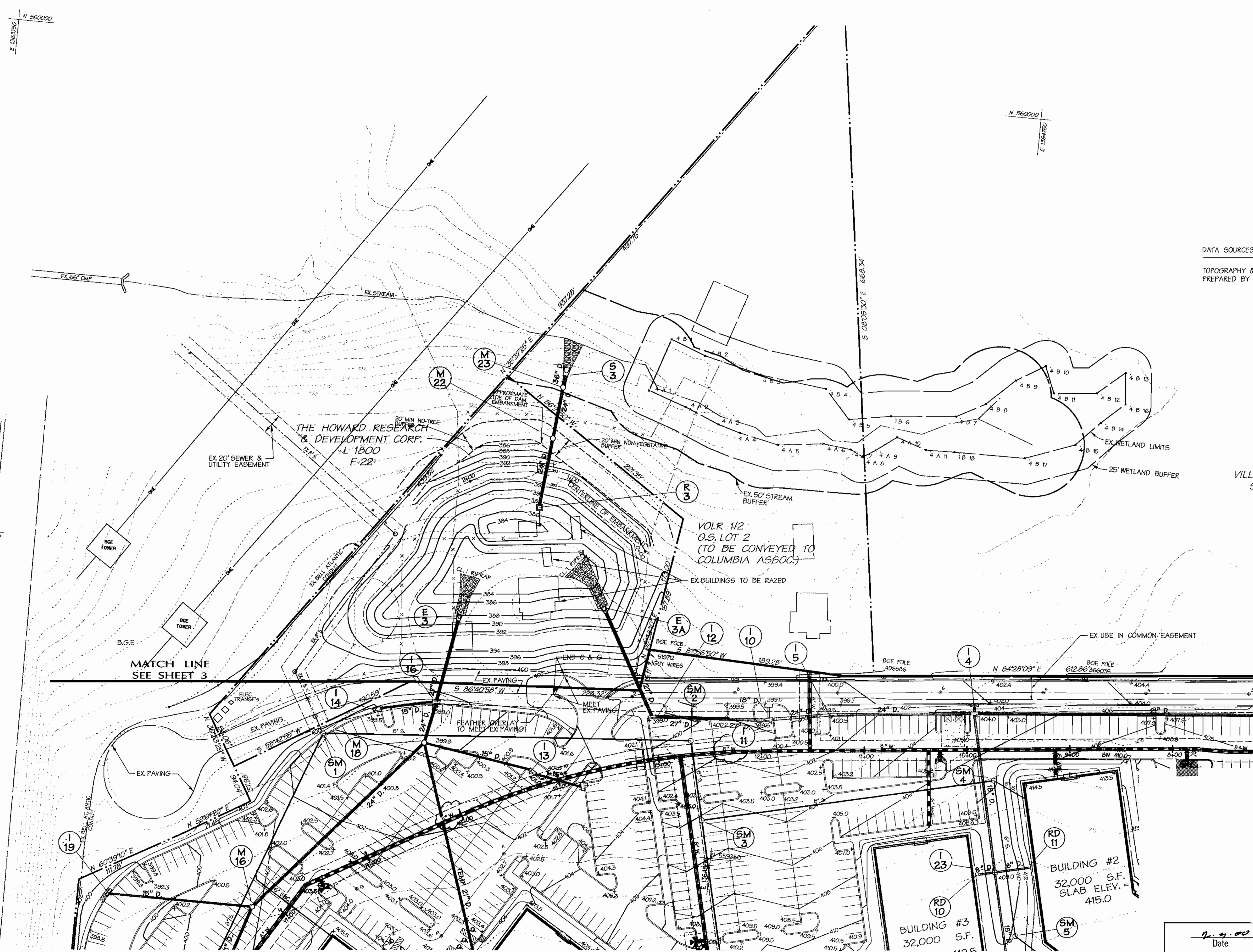
**DMW**  
 Draft-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



AREA	ROUTE 175 COMMERCIAL	TAX MAP 36 & 37	PARCEL 27, 122, 244, 282
TITLE	SITE DEVELOPMENT PLAN		
Des By	MJP	Scale	1" = 50'
Dim By	KDE	Date	3-3-00
Chk By		Approved	
Professional Engr. No.	10951	Proj. No.	89088.M
			3 OF 31

DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS PREPARED BY GUTSCHICK LITTLE & WEBER

**MARYLAND ROUTE 175**  
 MSHA RW PLAT 42988 & 43566  
 (300' R/W)



DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS  
 PREPARED BY GUTSCHICK LITTLE & WEBER.

O.S. LOT 96  
 VILLAGE OF LONGREACH  
 SECTION 3 AREA 2  
 PLAT No.

**APPROVED**  
**PLANNING BOARD**  
 of HOWARD COUNTY  
 DATE FEB 13, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	5/12/00 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>[Signature]</i> DIRECTOR	5/12/00 DATE

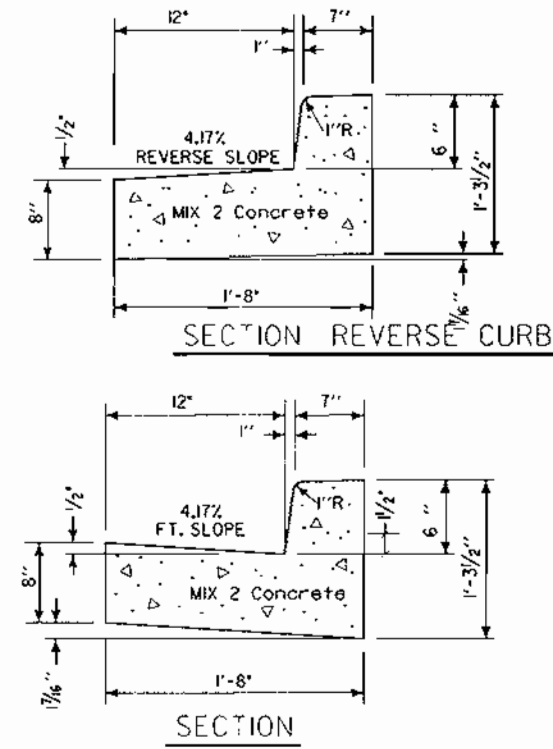
6-18-00	REV. 12" WATER LINE TO 8"
Date	No. Revision Description
<b>COLUMBIA</b>	
<b>ROUTE 175 COMMERCIAL</b>	
SECTION 1, AREA 2	PARCEL A & O.S. LOT 3
OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044	CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD. 21046

**DMW**  
 Deft McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Potosi, Maryland 21086  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

Date 2-9-00

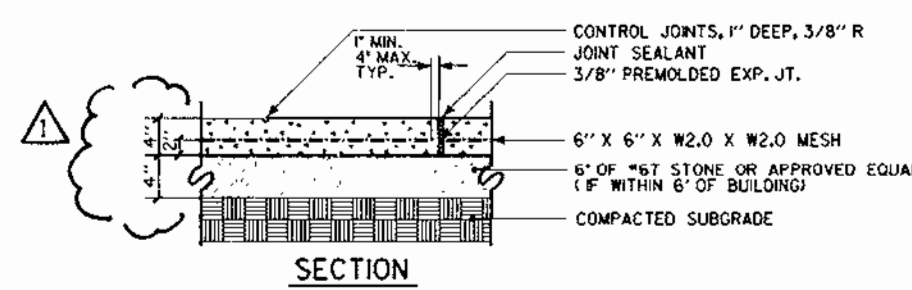
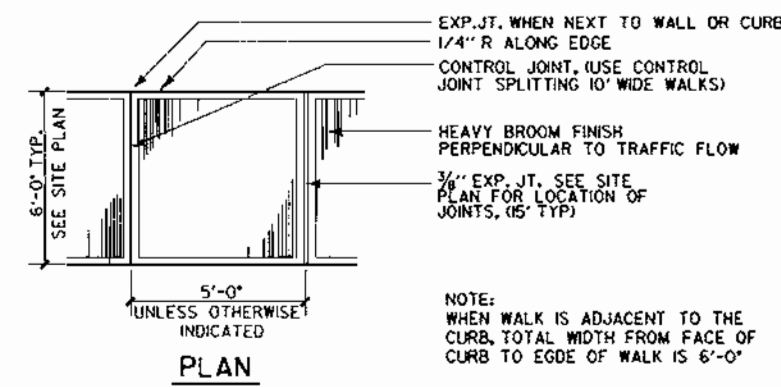
Professional Engr. No. 10551

AREA	ROUTE 175 COMMERCIAL	
	TAX MAP 36 & 37	PARCEL 27, 122, 244, 282
TITLE	6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
	SITE DEVELOPMENT PLAN	
Des By	MPJ	Scale 1" = 50'
Dm By	KDE	Date 3-3-00
Chk By		Approved
Proj. No.	89088.17	
	4 OF 31	

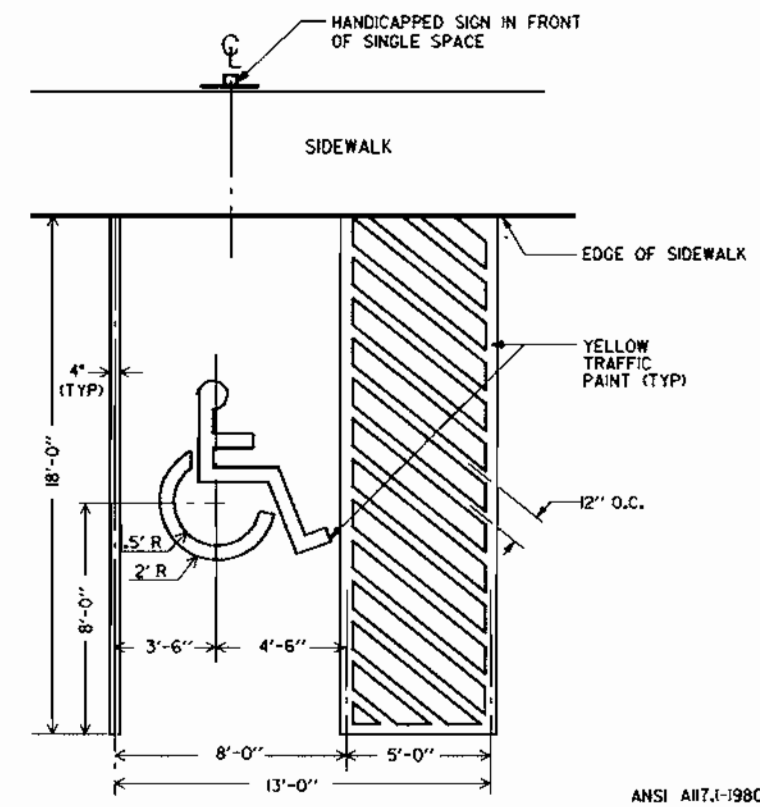


Concrete Curb, Typ.  
Not To Scale

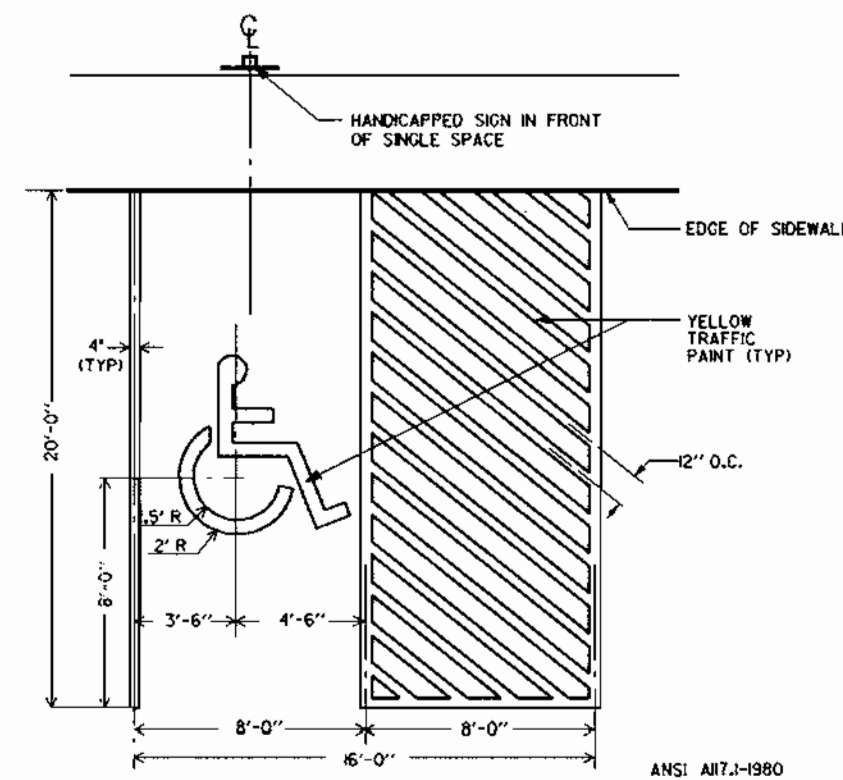
- NOTES:
1. 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/2" BELOW SURFACE OF SIDEWALK.
  2. CONCRETE TO BE MIX NO. 2
  3. WHEN SIDEWALK ADJUTS CURB WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB
  4. CONCRETE WALK WITHIN 6' OF BUILDING SHALL HAVE 6" OF #4 STONE OR APPROVED EQUAL AS A BASE COURSE



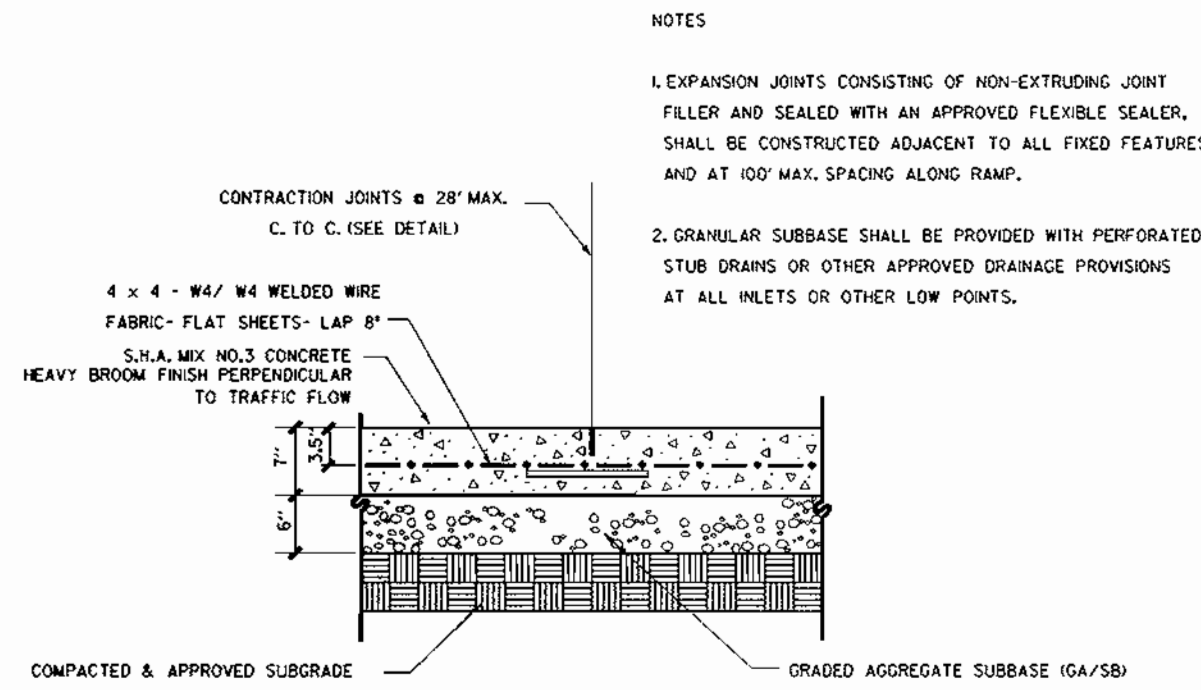
Concrete Walk  
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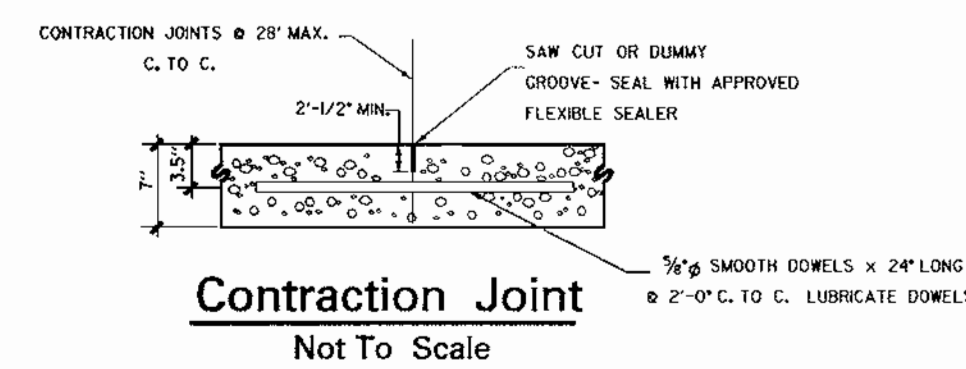
Handicapped Parking Space  
Not To Scale



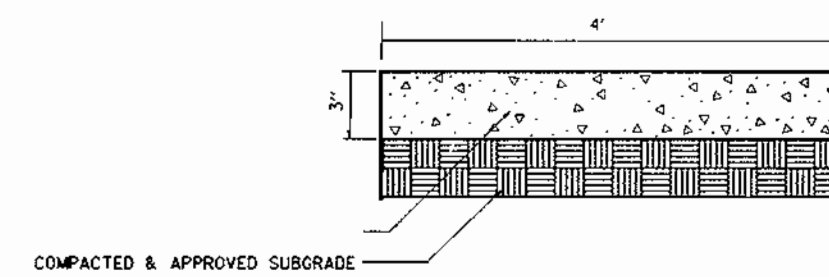
Handicapped Van Parking Space  
Not To Scale



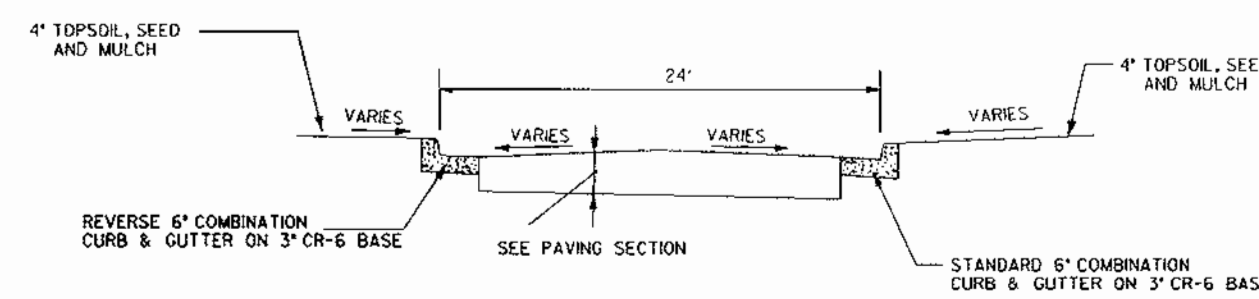
Ramp Loading Dock Concrete Paving  
Not To Scale



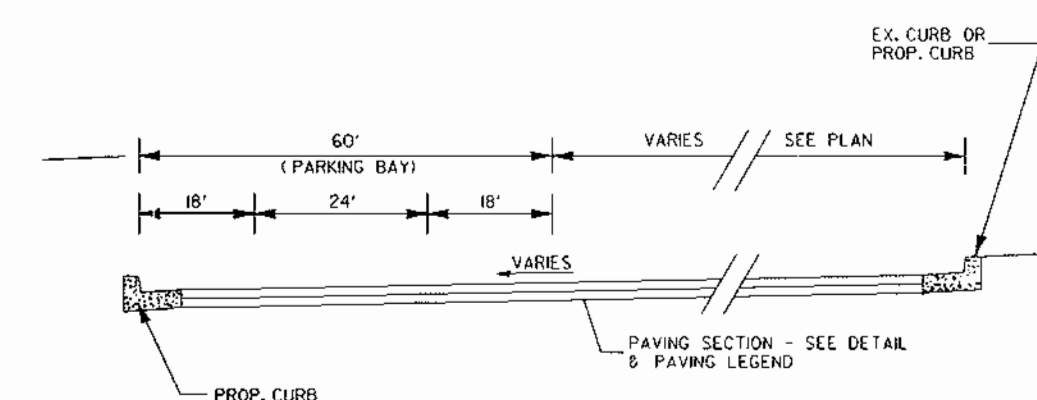
Rigid Pavement Details



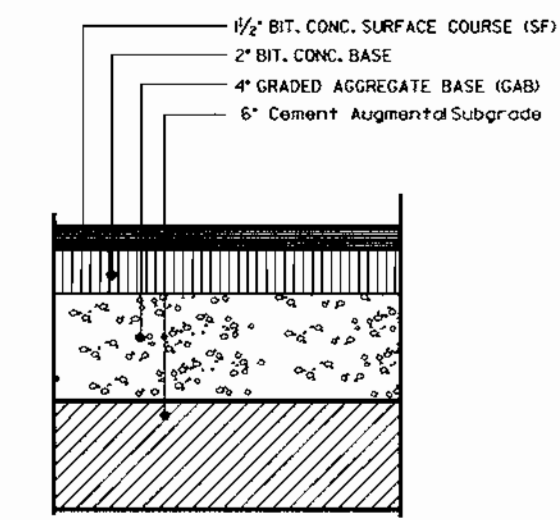
Macadam Path Detail  
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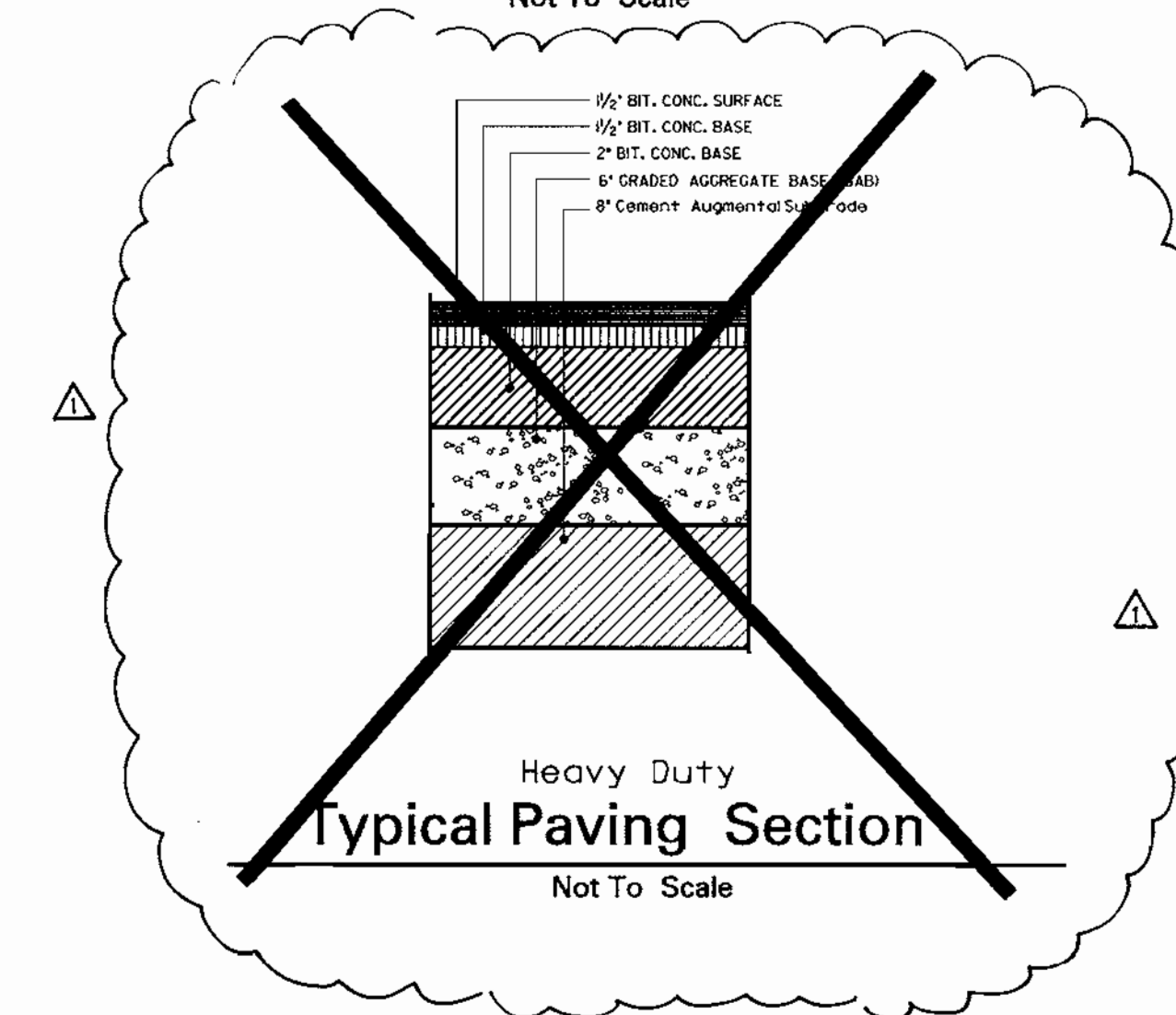
Typical Section  
Ring Road (Private Drive)  
Not To Scale



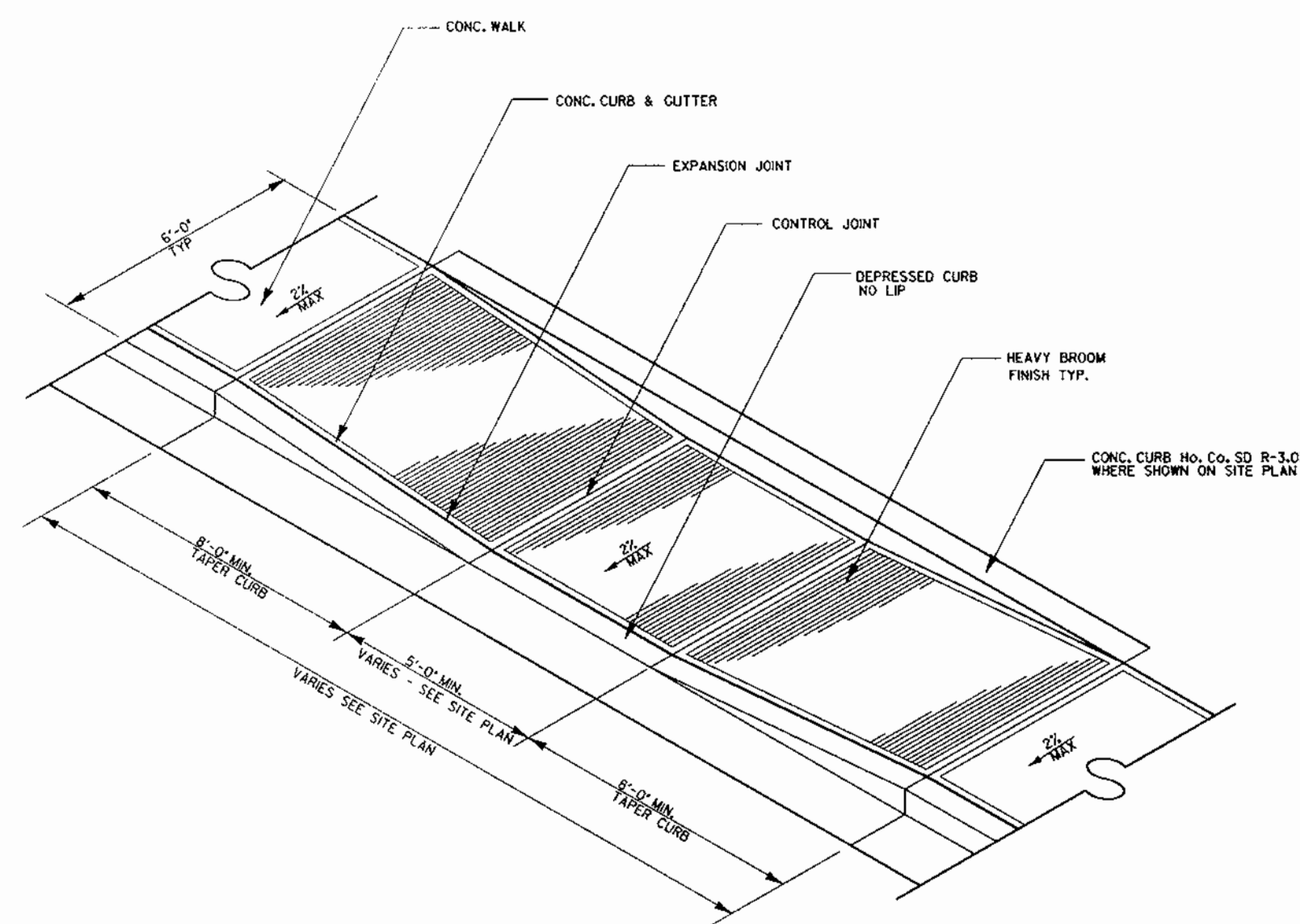
Typical Section  
Private Parking  
Not To Scale



Light Duty  
Typical Paving Section  
Not To Scale

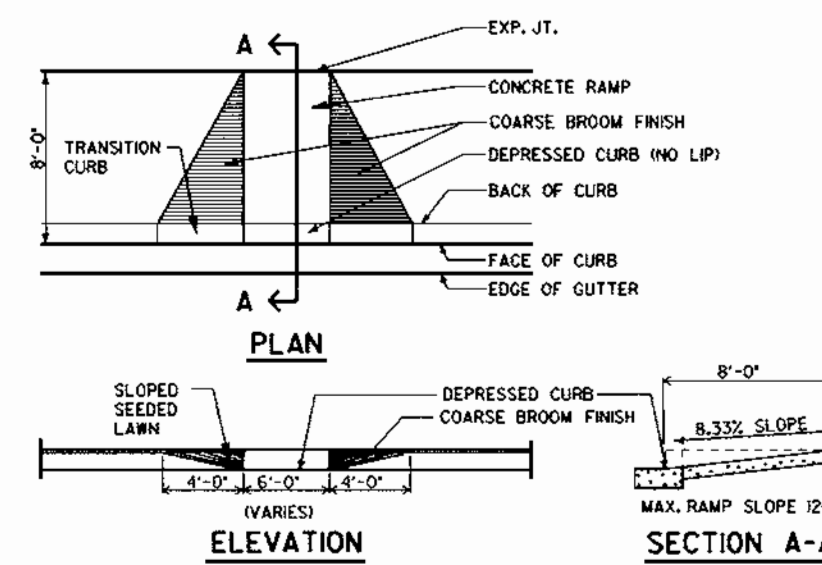


Note: Paving Section copied from Geotechnical Engineering Study, Prepared by Hills-Carnes Engineering, Sept. 8 1999.

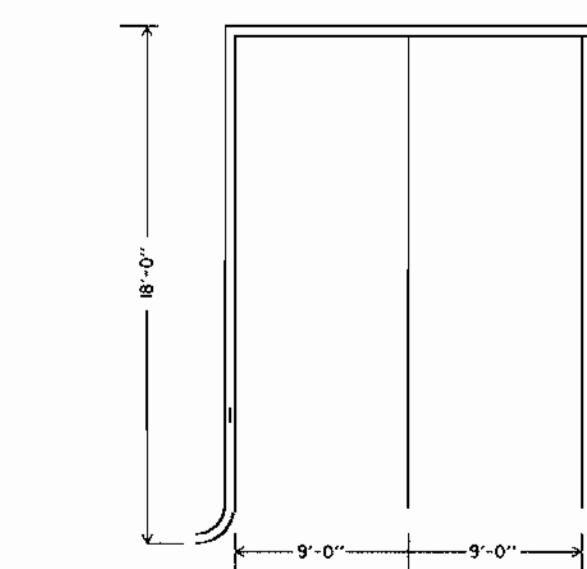


ISOMETRIC

Handicapped Ramp - A  
Not To Scale



Handicapped Ramp - C  
Not To Scale



Standard Parking Space  
Not To Scale

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
A/ *Richard Blouel* 5/12/00  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Michael P. ...* 5/12/00  
CHIEF DEVELOPMENT ENGINEERING DIVISION MK DATE  
*...* 5/12/00  
DIRECTOR DATE

Date	No.	Revision Description
	1	ELIMINATE HEAVY DUTY PAVING DETAIL.

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTIN.  
10275 LITTLE PATUXENT PARKWAY SUITE 100  
COLUMBIA, MD 21044

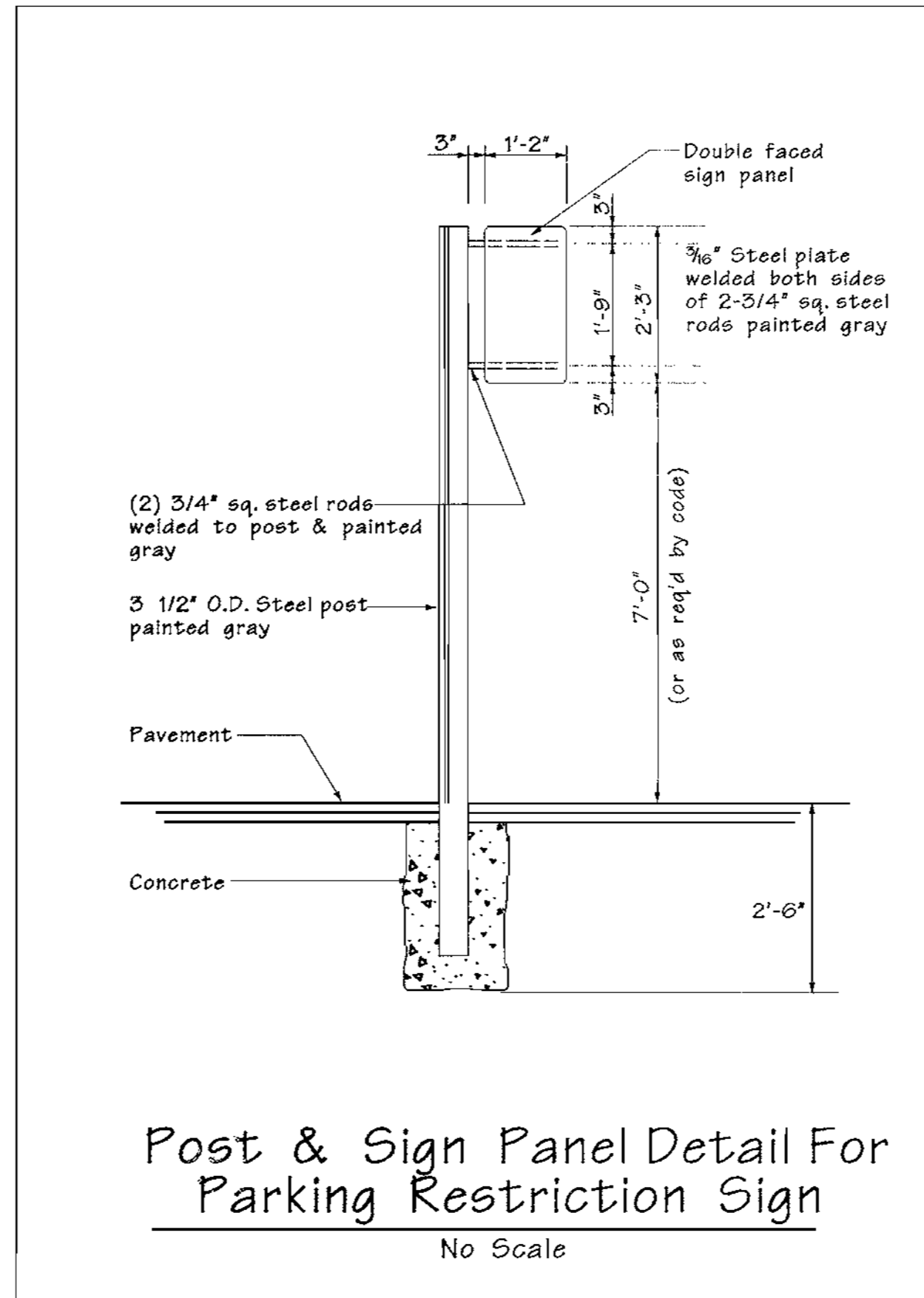
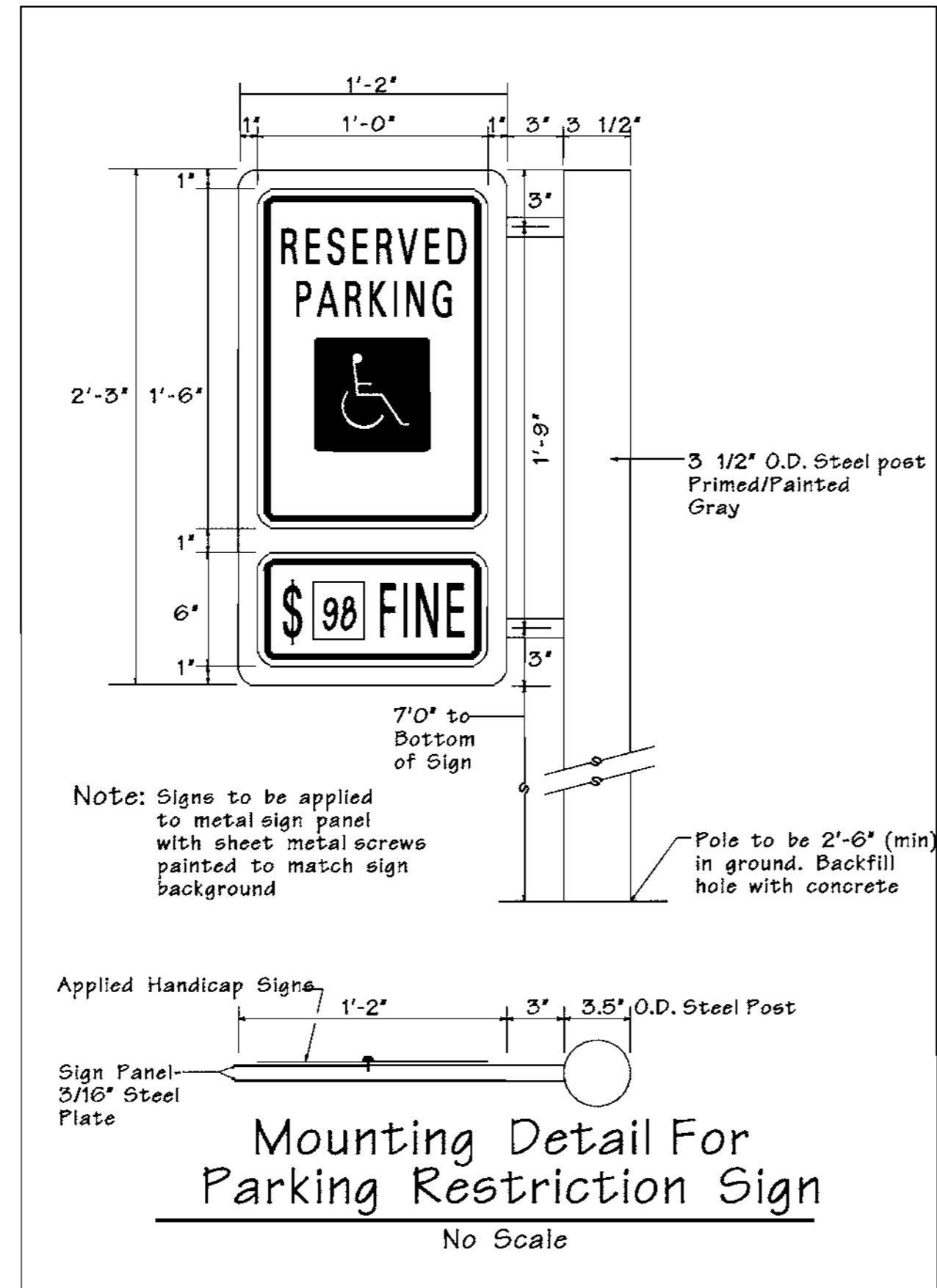
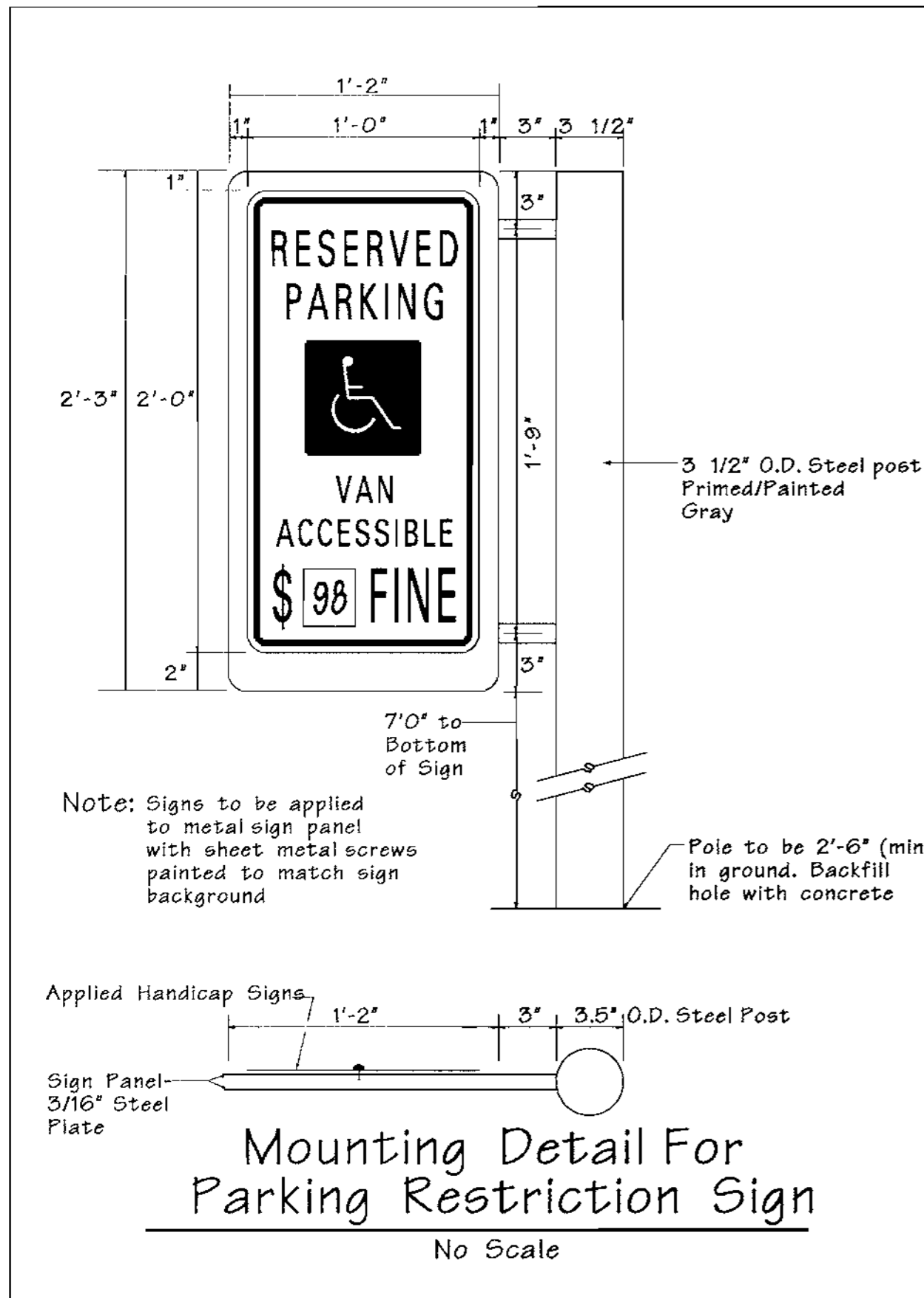
**DMW**  
Darr McCaskey-Walkers, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705

A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE SITE DETAILS

Des By	MJP	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	BKC	Date	3-3-00		
Chk By		Approved			5 OF 31

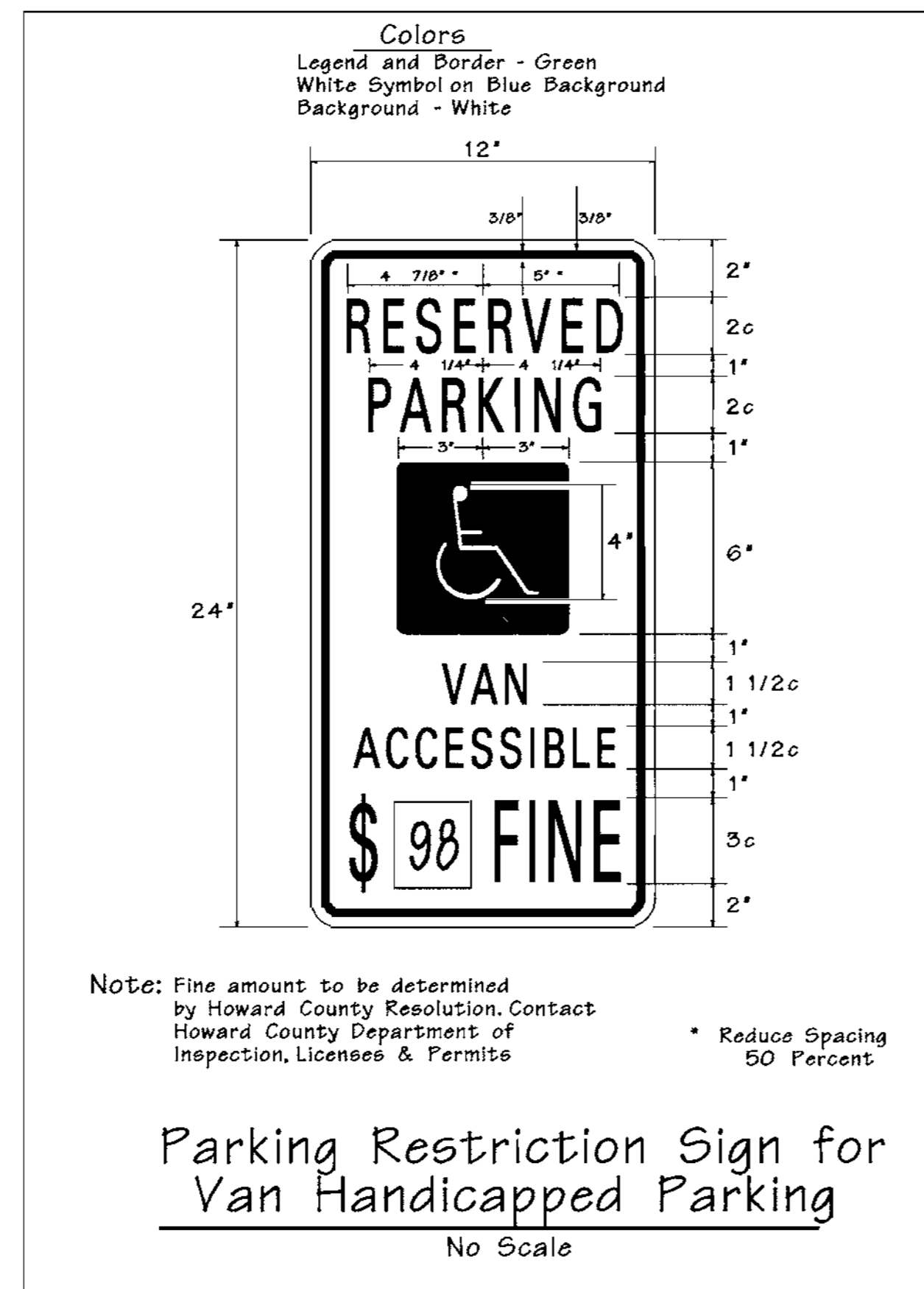
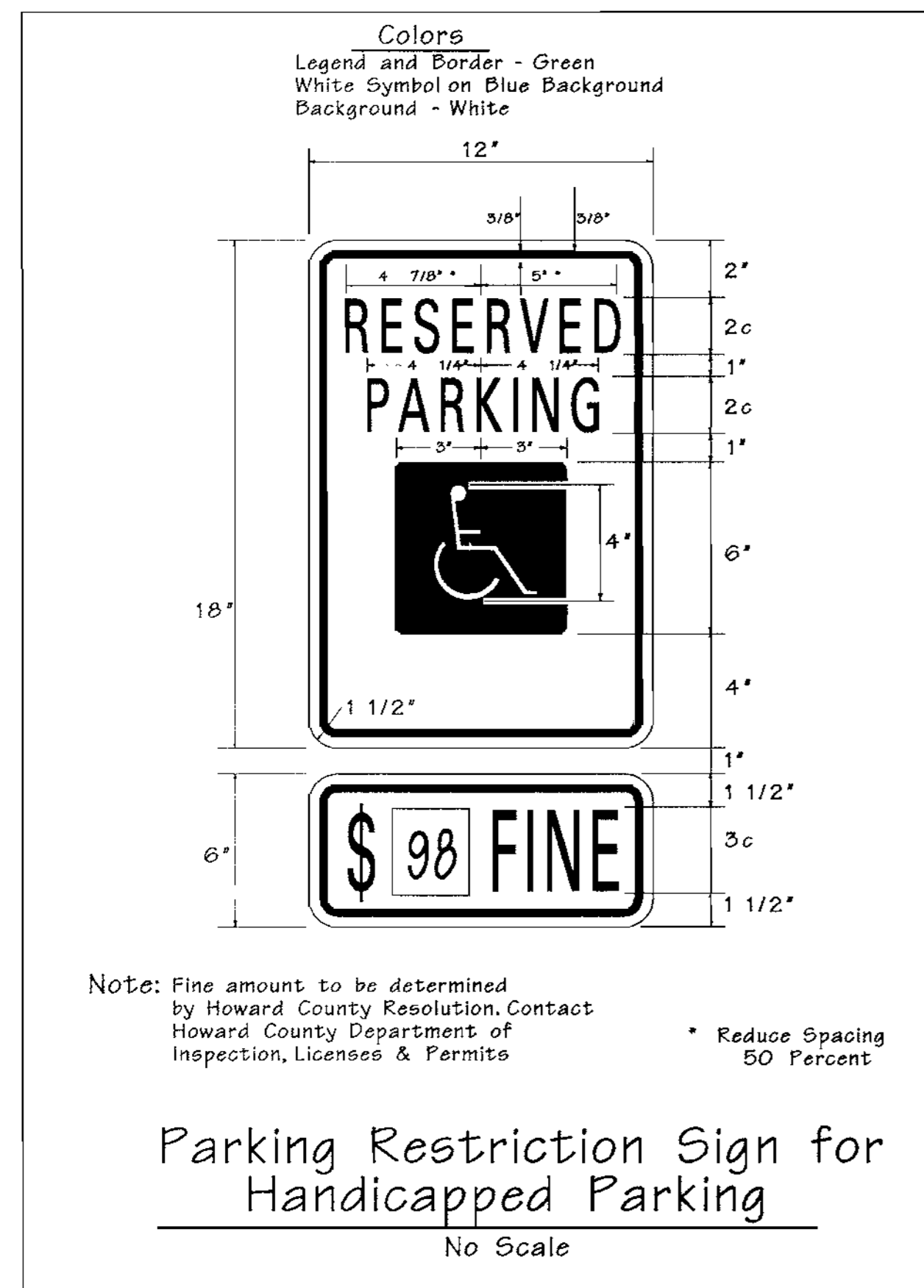


MANHOLE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL	LOCATION
M-1	'C'	48"	396.10	405.0	G 5.12	
M-3	'C'	48"	397.50	406.30	G 5.12	
M-4	'C'	48"	402.00	410.50	G 5.12	
M-5	'C'	48"	400.50	408.9	G 5.12	
M-6	'C'	48"	398.55	406.25	G 5.12	
M-12	'C'	48"	405.45	410.60	G 5.12	
M-13	'C'	48"	406.65	411.20	G 5.12	
M-15	'C'	48"	391.95	400.50	G 5.12	
M-16	'C'	48"	399.10	401.80	G 5.12	
M-18	'C'	48"	388.85	399.80	G 5.13	
M-19	'C'	48"	404.65	410.75	G 5.12	
M-20	'C'	48"	394.20	398.10	G 5.13	
M-22	'C'	48"	379.61	386.00	G 5.12	
M-23	'C'	60"	371.83	381.30	G 5.13	

STRUCTURE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	DETAIL
WYE 1	WYE CONNECTION	15" X 15"	403.69	HO. CO. SD 1.11
WYE 2	WYE CONNECTION	21" X 15"	380.46	HO. CO. SD 1.11
O-1	FIELD CONNECTION	15" X 8"	403.95	HO. CO. SD 2.01
O-2	FIELD CONNECTION	21" X 8"	393.86	HO. CO. SD 2.01
O-3	FIELD CONNECTION	18" X 8"	403.88	HO. CO. SD 2.01
E-1	CONCRETE END SECTION	24"	375.00	HO. CO. SD 5.12
E-2	CONCRETE END SECTION	36"	384.00	HO. CO. SD 5.12
E-3	CONCRETE END SECTION	27"	387.00	HO. CO. SD 5.12
E-3A	CONCRETE END SECTION	27"	387.00	HO. CO. SD 5.12
S-1	TYPE 'A' HEADWALL	24"	368.39	HO. CO. SD 5.11
S-2	TYPE 'A' HEADWALL	36"	379.81	HO. CO. SD 5.11
S-3	TYPE 'A' HEADWALL	36"	371.75	HO. CO. SD 5.11



INLET SCHEDULE

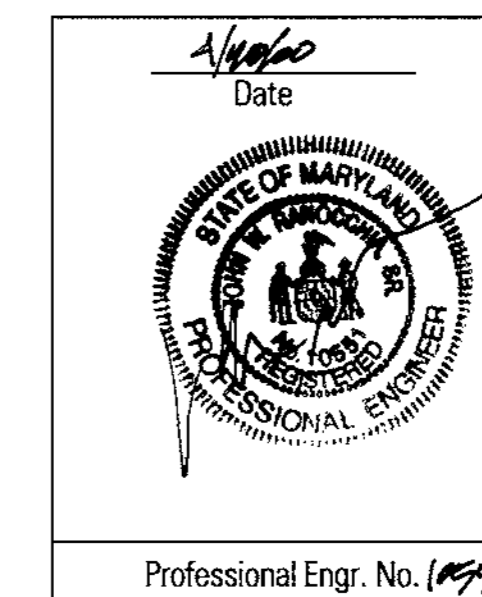
NO.	TYPE	INV. OUT	TOP ELEV.	DETAIL	WIDTH	LOCATION
I-1	A-10	406.25	410.00	SD 4.41	2'-6"	
I-2	A-5	404.10	408.10	SD 4.40	2'-6"	
I-3	A-5	401.60	407.00	SD 4.40	2'-6"	
I-3A	A-5	403.80	407.50	SD 4.41	2'-6"	
I-4	A-5	397.70	404.50	SD 4.40	2'-6"	
I-4A	A-10	398.20	402.20	SD 4.41	2'-6"	
I-5	A-5	396.00	401.00	SD 4.40	2'-6"	
I-7	CO5 15	404.70	409.00	SHA MD 374.61	2'-6"	
I-10	A-10	395.00	399.15	SD 4.41	2'-9"	
I-11	A-5	394.70	400.10	SD 4.40	2'-9"	
I-12	A-5	392.80	399.5	SD 4.01	2'-6"	
I-13	A-5	396.90	401.50	SD 4.40	2'-6"	
I-14	A-5	396.70	400.00	SD 4.40	2'-6"	
I-16	A-5	388.10	399.50	SD 4.01	2'-6"	
I-17	A-5	389.40	402.80	SD 4.40	2'-6"	
I-19	A-5	384.30	398.50	SD 4.40	2'-6"	
I-20	SINGLE 'S'	396.20	400.00	SD 4.22	---	
I-21	SINGLE 'S'	401.60	407.00	SD 4.22	---	
I-22	SINGLE 'S'	405.00	408.00	SD 4.22	---	
I-23	SINGLE 'S'	401.60	409.00	SD 4.22	---	
I-25	SINGLE 'S'	407.30	411.00	SD 4.22	---	
I-31	CO5 15	384.70	389.00	SHA MD 374.61	2'-6"	
I-32	A-10	382.50	386.5	SD 4.41	2'-6"	
I-33	A-10	389.30	393.00	SD 4.41	2'-6"	
I-34	SINGLE 'S'	394.90	401.00	SD 4.23	2'-6"	
I-35	A-10	381.50	386.60	SD 4.41	2'-6"	
I-36	A-10	387.70	392.00	SD 4.41	2'-6"	
I-37	A-10	390.30	394.50	SD 4.41	2'-6"	
I-38	A-10	384.70	390.50	SD 4.41	2'-6"	
I-39	A-10	376.70	390.50	SD 4.02	2'-6"	
I-50	SINGLE 'S'	396.30	400.00	SD 4.22	---	
I-51	A-5	393.45	400.80	SD 4.01	2'-6"	
I-52	A-5	395.00	398.30	SD 4.40	2'-6"	
I-53	A-5	391.35	396.50	SD 4.40	2'-6"	
I-54	A-5	392.35	396.50	SD 4.40	2'-6"	
I-55	A-10	389.65	398.40	SD 4.02	2'-6"	
I-55A	A-5	393.50	399.50	SD 4.40	2'-9"	
I-56	A-10	388.60	399.30	SD 4.02	3'-6"	
I-57	A-5	391.85	399.80	SD 4.01	2'-6"	
I-58	SINGLE 'S'	404.50	408.50	SD 4.22	---	
I-60	A-5	403.60	410.00	SD 4.40	2'-6"	
I-61	A-5	406.20	410.50	SD 4.40	2'-6"	
I-63	A-10	401.35	406.40	SD 4.41	2'-6"	
I-63A	A-5	402.95	406.20	SD 4.40	2'-6"	
I-64	A-5	409.40	412.50	SD 4.40	2'-6"	
I-65	A-5	406.30	410.40	SD 4.40	2'-6"	
I-66	A-5	407.50	410.80	SD 4.40	2'-6"	
I-67	A-10	384.70	404.60	SD 4.02	3'-6"	
I-68	SINGLE 'S'	397.10	400.10	SD 4.22	---	

ALL INVERTS TO BE FULLY DEVELOPED

NOTE: AT ALL ROOF DRAIN CONNECTIONS, CONNECT WITH 'FERRO' COUPLING OR APPROVED EQUAL.

• TOP OF CURB ELEV. UNLESS NOTED

•• PROVIDE RECTANGULAR GRATE TOP ELEV. = GRATE



APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: Feb 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING

*Richard Blouel*  
CHIEF, DIVISION OF LAND DEVELOPMENT 5/12/00 DATE

*John Smith*  
DIRECTOR 5/12/00 DATE

6-28-00 1 REV. STRUCTURE SCHEDULE

Date No. Revision Description

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP. 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW**  
Duff MacCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4706

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

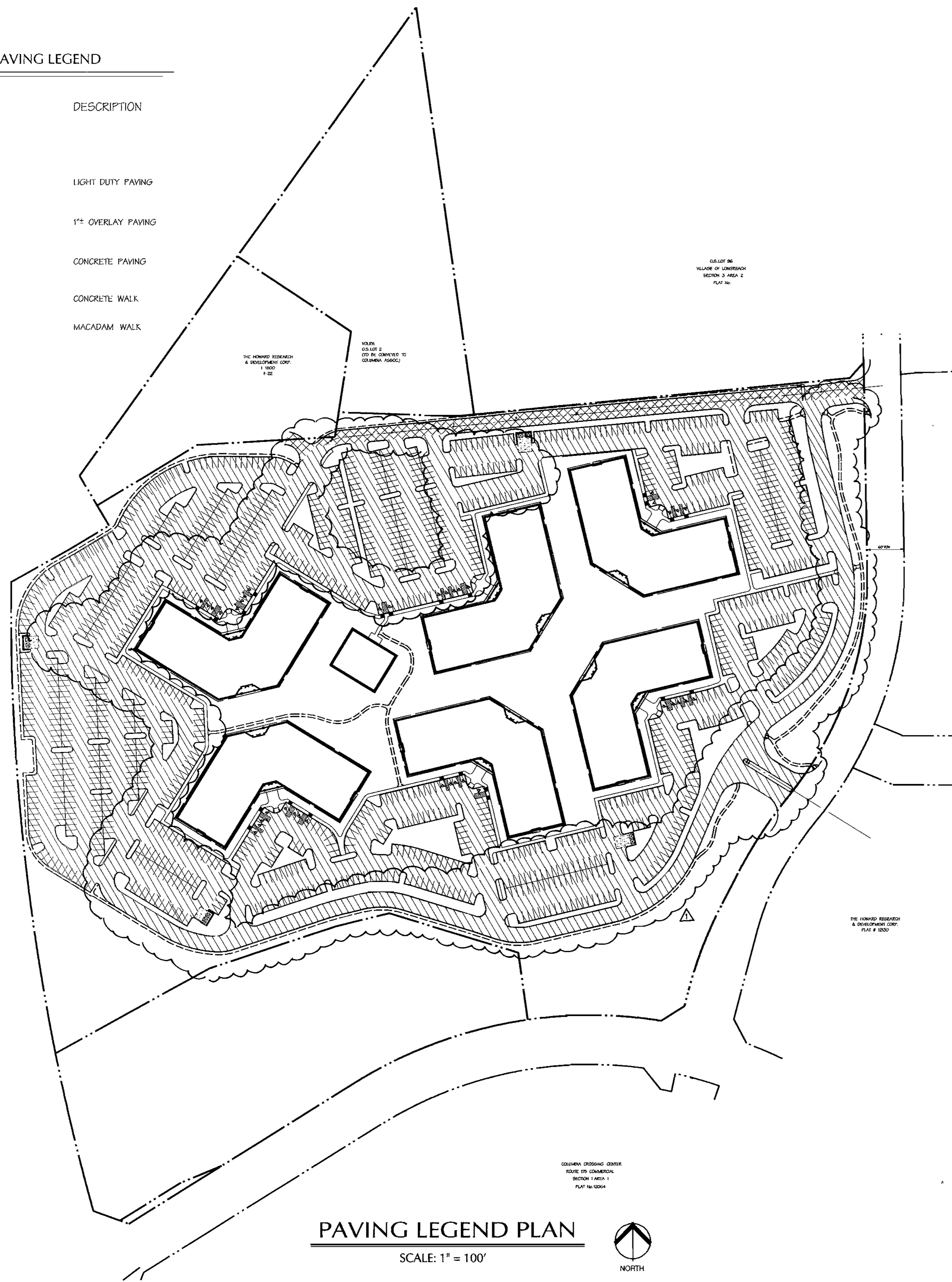
AREA: ROUTE 175 COMMERCIAL TAX MAP 36 & 37 PARCEL 27, 122, 244, 282 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: SITE DETAILS & STORM DRAIN STRUCTURE SCHEDULE

Des By Scale Proj. No. 89088.M  
Dri By BKC Date 4-26-00  
Chk By Approved 6 OF 31

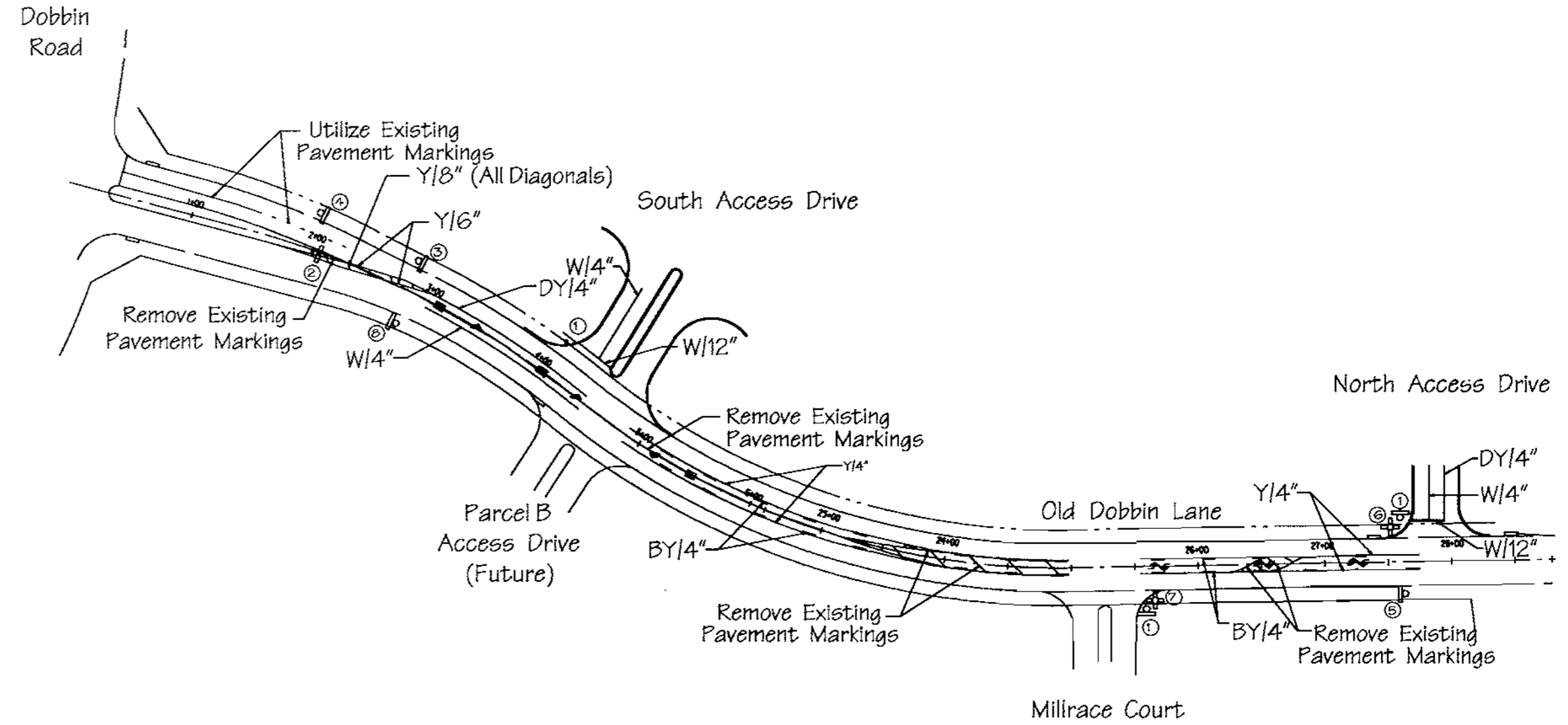
PAVING LEGEND

SYMBOL	DESCRIPTION
	LIGHT DUTY PAVING
	1" OVERLAY PAVING
	CONCRETE PAVING
	CONCRETE WALK
	MACADAM WALK



PAVING LEGEND PLAN

SCALE: 1" = 100'



STRIPING PLAN

SCALE: 1" = 100'



LEGEND:

- Sign Legend:  
 (Symbol) - Proposed Sign, Support and Sign Identification  
 (Symbol) - Existing Sign and Support - To Remain
- Pavement Marking Legend:  
 Y1/8" - Retroreflective Yellow Pavement Marking Paint/Width  
 DY1/4" - Retroreflective Double Yellow Pavement Marking Paint/Width  
 BY1/4" - Retroreflective Broken Yellow Pavement Marking Paint/Width (10 foot line, 30 foot gap)  
 W1/4" - Retroreflective White Pavement Marking Paint/Width

Sign Legend:

- (Symbol) R1-1 30" X 30"
- (Symbol) R4-7 (Existing)
- (Symbol) W3-3 (Existing)
- (Symbol) R3-5 (Existing)
- (Symbol) S1-1 (Existing)
- (Symbol) Street Name (Existing)
- (Symbol) Street Name (Existing)
- (Symbol) R2-1 (Existing)

GENERAL NOTES:

- The Contractor shall be governed by the standards and requirements of the following publications:  
 - Manual on Uniform Traffic Control Devices (MUTCD), 1988 Edition and subsequent revisions.  
 - AASHTO - Specifications for the Design and Construction of Structural Supports for Highway Signs, April 1975 Edition.  
 - AASHTO - Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, April 1985 Edition.
- Standard sign panel layouts shall be based on the MUTCD.
- Signs shall be located as shown on the plans. Any required changes in the locations of signs necessary due to field conditions shall have the prior approval of the Engineer.
- Wells and Associates, LLC does not warrant or guarantee the accuracy or completeness of the information shown on the plans. It shall be the responsibility of the Contractor to locate and protect all existing facilities that may be affected by this work.
- All new signs shown on this plan shall have Non Reflective (Black Copy) or High Intensity Reflective Sheeting (All Other Colors) background and copy. Reflective Sheeting shall be Type III-A Encapsulated Lens Reflective Element Material.
- All new sheet aluminium signs shall have Non-Demountable Copy.
- The following minimum thicknesses shall be used for the appropriate size of Sheet aluminium sign blanks:  
 Longest Dimension (Inches) - Minimum Thickness  
 Up to 12" - 0.040"  
 12" to 24" - 0.063"  
 24" to 36" - 0.080"  
 36" to 48" - 0.100"  
 Over 48" - 0.125"
- All traffic control signs shall be mounted on Howard County standard posts. A single post shall be provided for signs with an area of 9.0 square feet or less. For signs with an area of greater than 9.0 square feet, two (2) posts shall be provided. Sign posts shall be installed in the ground to a minimum depth of 3.0 feet and the sign post shall extend to the top of the sign panel.
- Signs shall be mounted such that the clearance to the bottom edge of the sign panel is a minimum of six (6) feet above finished grade.

APPROVED  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>Richard Bloued</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION M1K	5/12/00 DATE
<i>Richard Bloued</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>Leah Rutter</i> DIRECTOR	5/12/00 DATE

6-28-00	1	REV. HEAVY DUTY TO LIGHT DUTY PAVING
Date	No.	Revision Description

COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

**DMW**  
 Draft McCune-Walker, Inc.  
 2010 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

Date 3-6-00

Professional Engr. No. 10551

SECTION NAME COL. RT. 175 COMMERCIAL	SECTION NO. 2/1	OFFICER # 27,122,244,282
REV. PH 235	BLOCK # NT	ZONE 6 TH
WATER CODE	SURVEY CODE	GENRES INDEX
TITLE STRIPING AND PAVING LEGEND PLAN		
Des By MJP	Scale AS SHOWN	Proj. No. 89088.M
Dwn By KDE	Date 3-3-00	
Chk By	Approved	7 OF 31

**DRAINAGE AREAS**

DRAINAGE AREA	AREA (AC)	"C" FACTOR	% IMPERVIOUS
1	0.41	0.5	50
2	0.165	0.72	79
3	0.48	0.70	76
4	0.24	0.71	75
5	0.285	0.67	71
6	0.21	0.58	57
7	0.64	0.69	73
9	0.45	0.64	67
10	0.395	0.78	87
11	0.855	0.72	78
12	0.37	0.75	81
13	0.645	0.76	84
14	0.22	0.74	92
16	1.00	0.75	83
17	0.16	0.695	75
19	0.33	0.73	82
20	0.405	0.20	0
21	0.37	0.20	0
22	0.60	0.20	0
23	0.29	0.20	0
24	0.474	0.40	10
25	0.15	0.20	0
31	0.88	0.74	82
32	0.95	0.76	85
33	0.35	0.73	80
34	0.10	0.2	0
35	0.36	0.77	85
36	0.54	0.64	67
37	0.41	0.73	80
38	0.38	0.81	92
39	0.12	0.95	100
50	0.29	0.49	45
51	0.33	0.43	85
52	0.30	0.62	65
53	0.14	0.48	43
54	0.33	0.62	64
55	0.56	0.63	65
55a	0.42	0.69	74
56	0.427	0.95	100
57	0.475	0.78	88
58	0.22	0.20	0
60	0.34	0.63	65
61	0.88	0.65	68
63	0.445	0.68	73
63a	0.29	0.68	69
64	0.28	0.70	75
65	0.06	0.64	67
66	0.14	0.53	50
67	0.16	0.58	66
68	0.05	0.20	0
ROOF 3-8	0.36	0.95	100
ROOF 13	0.15	0.95	100
ROOF 10	0.72	0.95	100
ROOF 11	0.72	0.95	100
ROOF 2	0.72	0.95	100

**APPROVED**  
**PLANNING BOARD**  
**OF HOWARD COUNTY**

DATA SOURCE:  
RECEIVED AUTOCAD FILE VIA E-MAIL 2/19/99  
FROM GUTSCHICK LITTLE & WEBER.

DATE FEB 23, 2000



GENERAL NOTE: ALL 12" PVC DRAIN PIPES TO END 5' FROM BUILDING WALLS.

O.S. LOT 96  
VILLAGE OF LONGREACH  
SECTION 3 AREA 2  
PLAT No.

PARCEL C-1 & C-2  
VILLAGE OF LONGREACH  
SECTION 4 AREA 3  
PLAT No. 11060

OPEN SPACE LOT 3  
VILLAGE OF LONGREACH  
SECTION 4 AREA 3  
PLAT No. 12130

THE HOWARD RESEARCH  
& DEVELOPMENT CORP.  
PLAT # 12130

COLUMBIA CROSSING CENTER  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 1  
PLAT No. 12064

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
 [Signature] 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description
6-28-00	1	DELETE PD 1, 9 & 12, REV. DRAINAGE AREAS

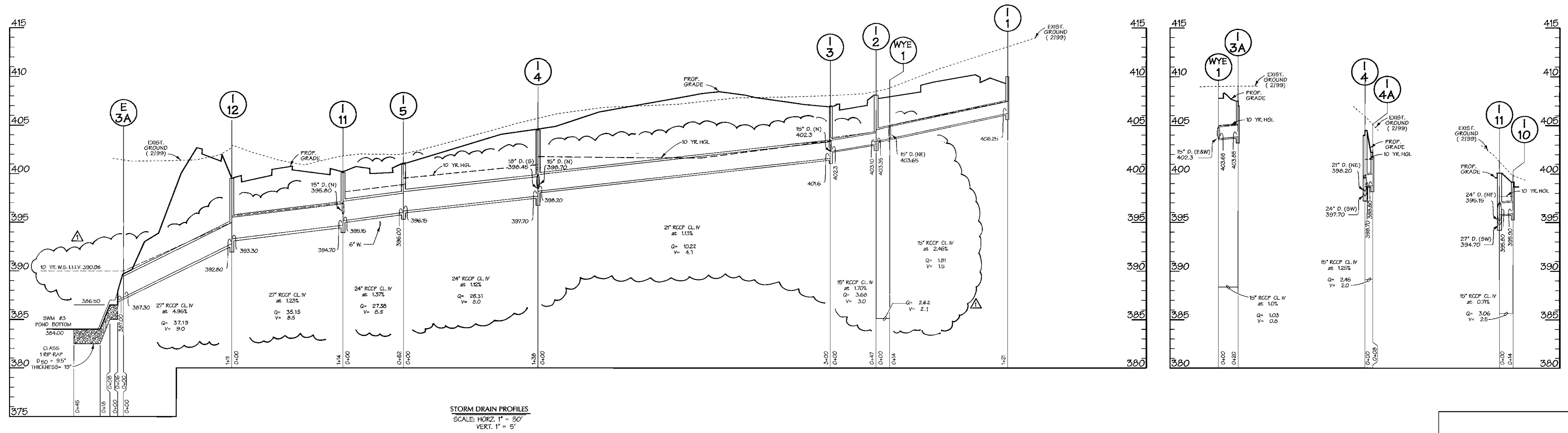
**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
**OWNER /DEVELOPER:** THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
**CONTRACT PURCHASER:** LIBERTY PROPERTY LTD. PARTNERSHIP  
 3145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

**DMW**  
DRAFT-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

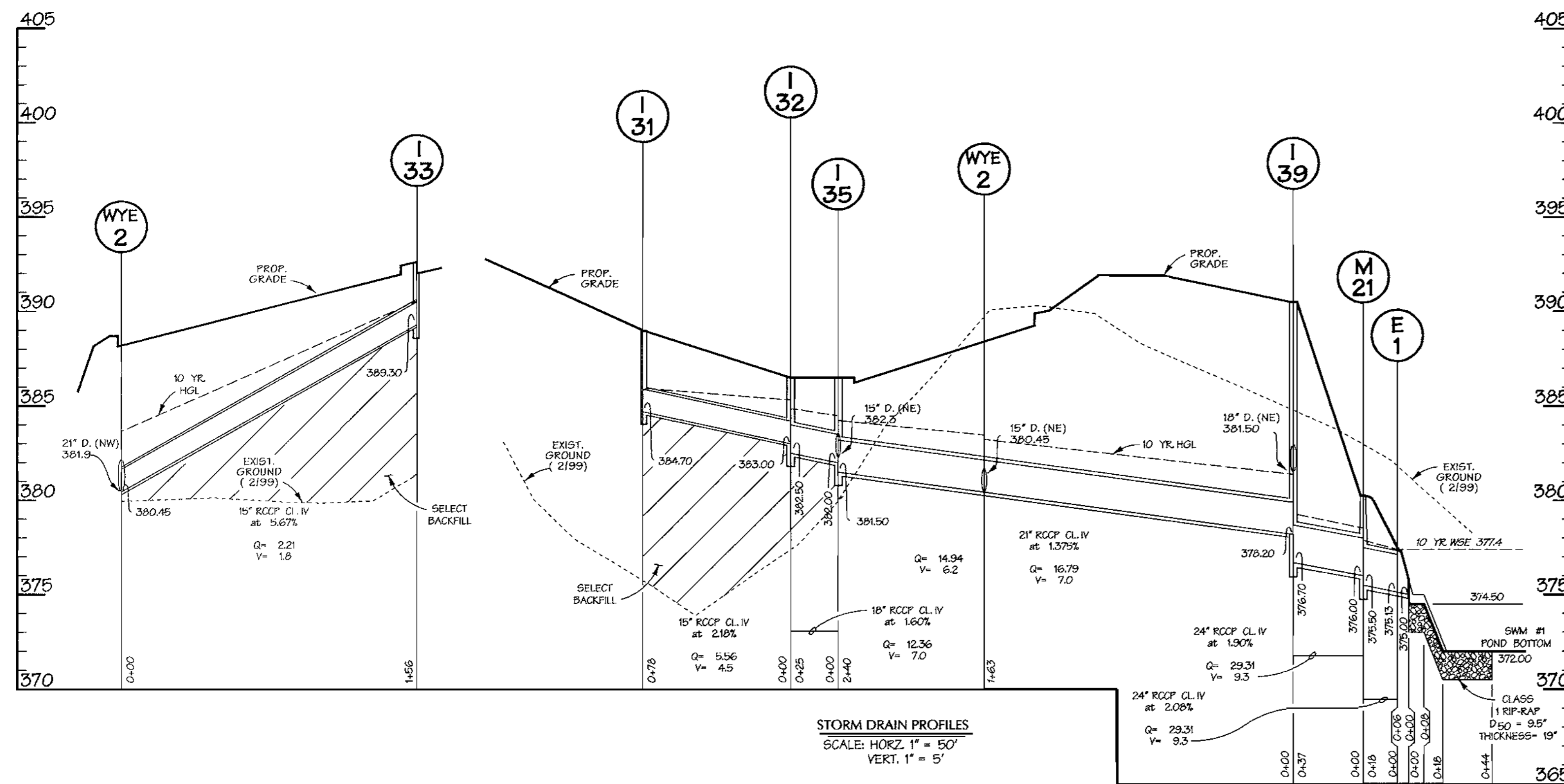
36.00  
Date

Professional Engr. No. 10951

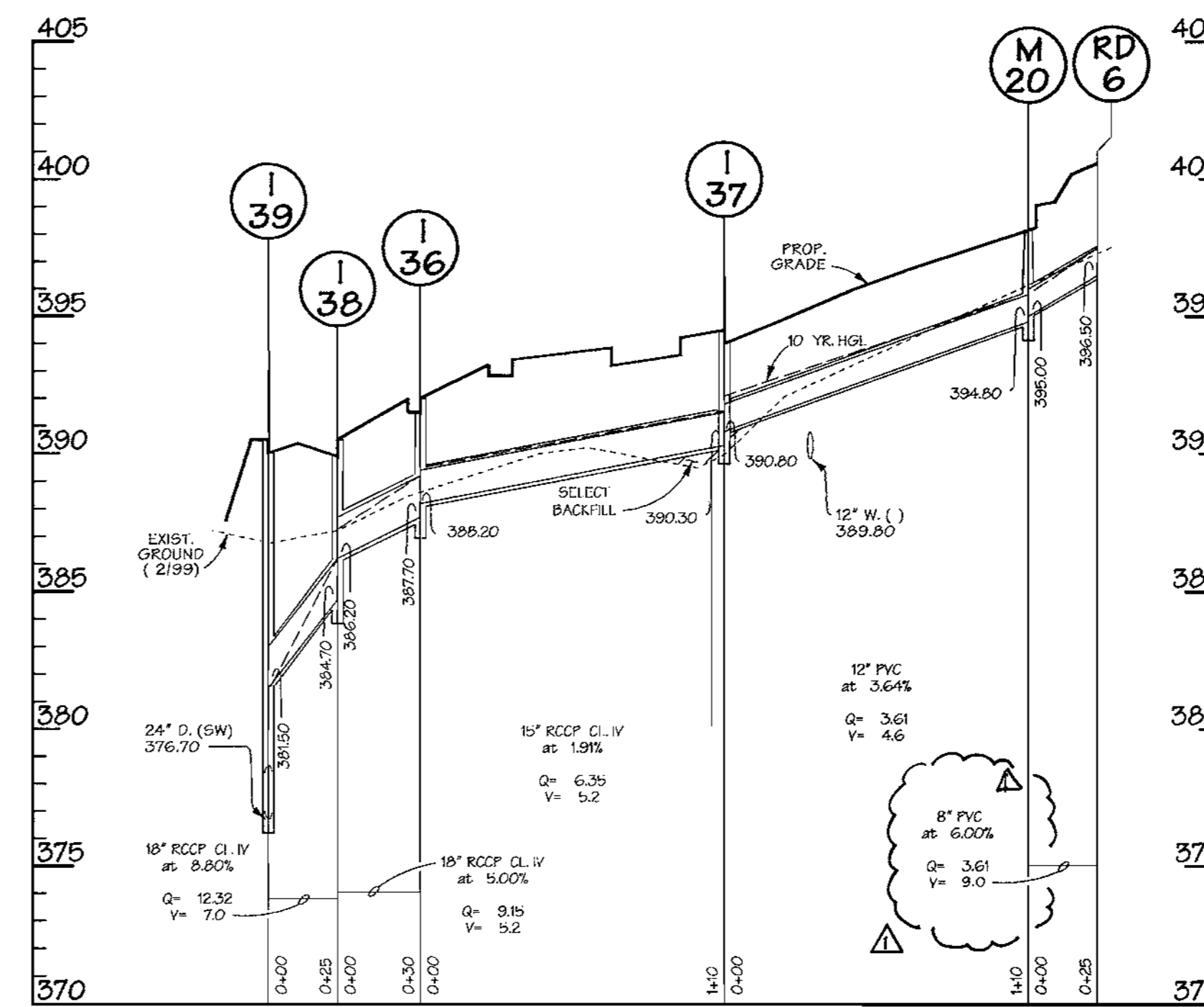
AREA ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 TITLE STORM DRAIN DRAINAGE AREA MAP  
 Des By MRT Scale 1" = 100' Proj. No. 89088.17  
 Dm By MRT Date 3-3-00  
 Chk By Approved 8 OF 31



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

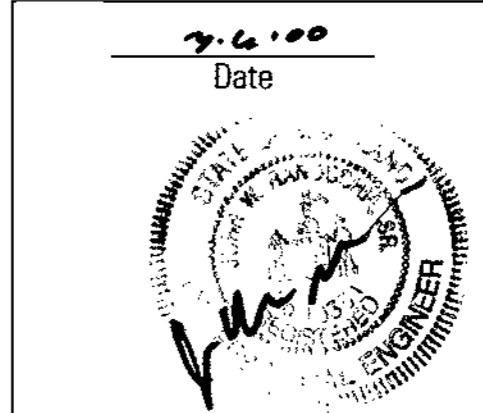
APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 12, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
CHIEF, DEVELOPMENT ENGINEERING DIVISION M.K. 5/12/00  
DATE  
Richard Blood 5/12/00  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE R  
Joseph L. Smith 5/12/00  
DIRECTOR DATE

Date	No.	Revision Description
6-28-00	1	REV. STORM DRAIN PROFILES.

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTM. DEVELOPMENT CORPORATION 9145 GUILFORD ROAD 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
CONTRACT PURCHASER: SUITE 100 COLUMBIA, MD 21046

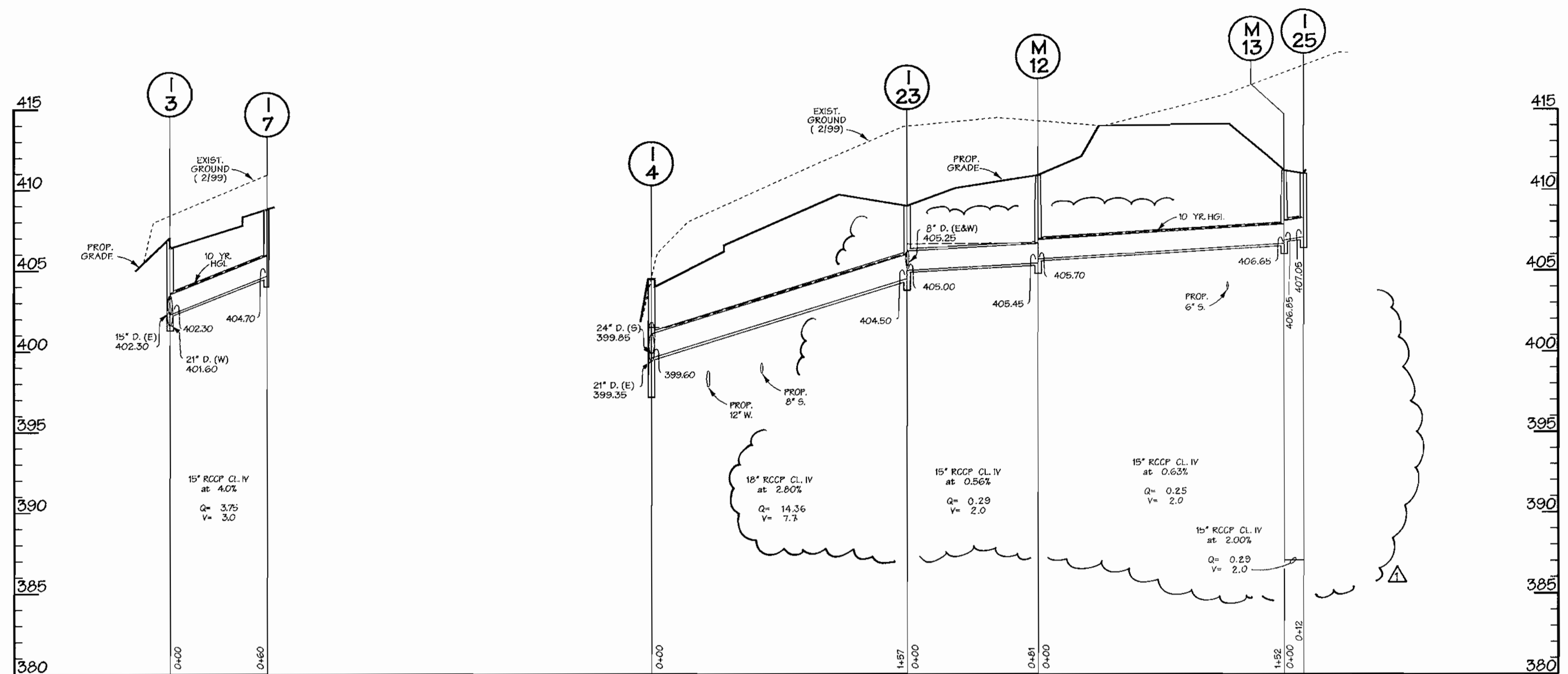
**DMW**  
Darr-McCune-Walkers, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals



Professional Engr. No. 10551

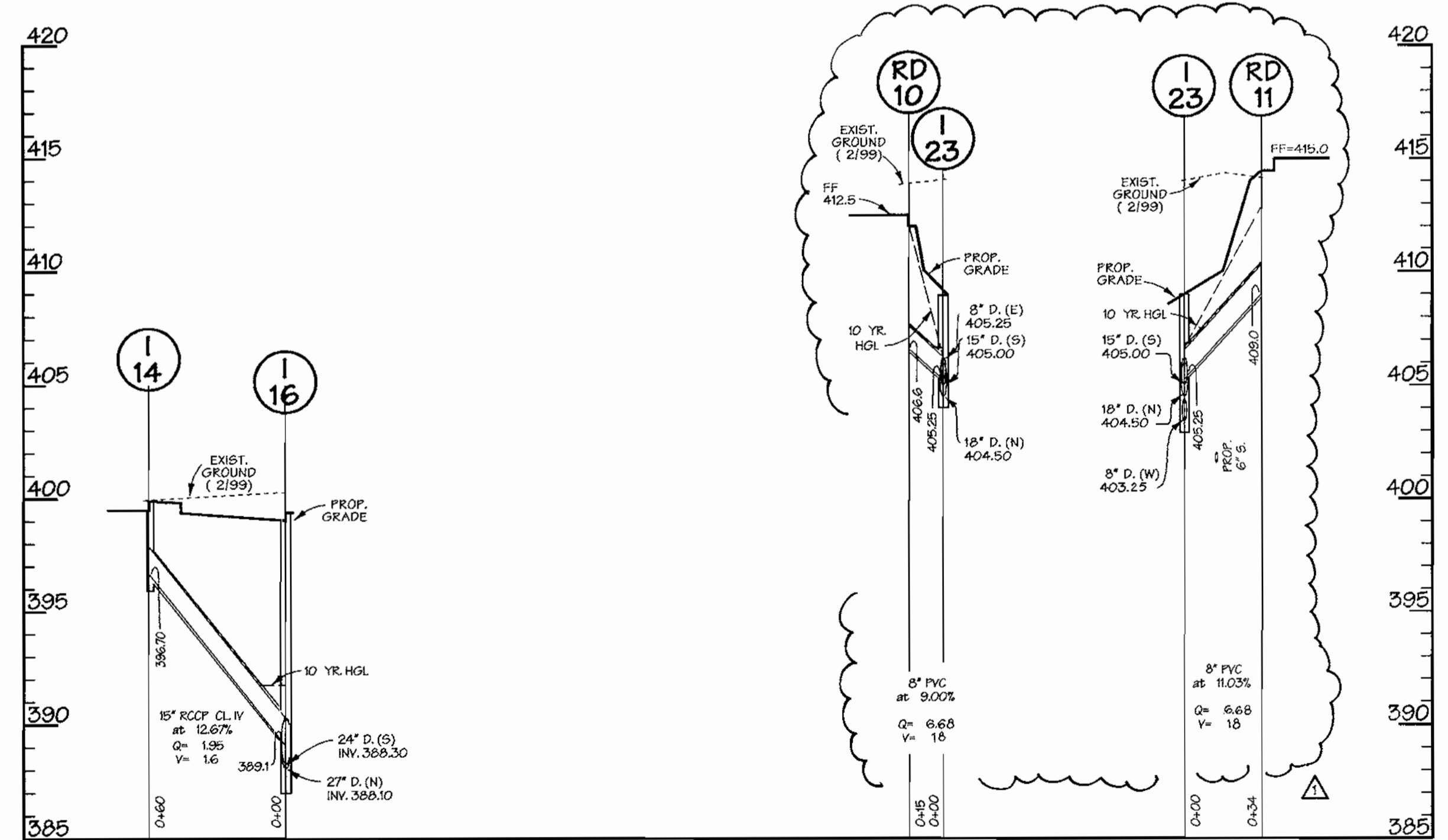
AREA	ROUTE 175 COMMERCIAL	
TITLE	STORM DRAIN PROFILES	
Des By	Scale	Proj. No.
DM By	AS SHOWN	89088.M
Chk By	Date	
	3-3-00	
	Approved	9 OF 31





STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 12, 2000



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK: *[Signature]* 5/12/00 DATE  
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 5/12/00 DATE  
 DIRECTOR: *[Signature]* 5/12/00 DATE

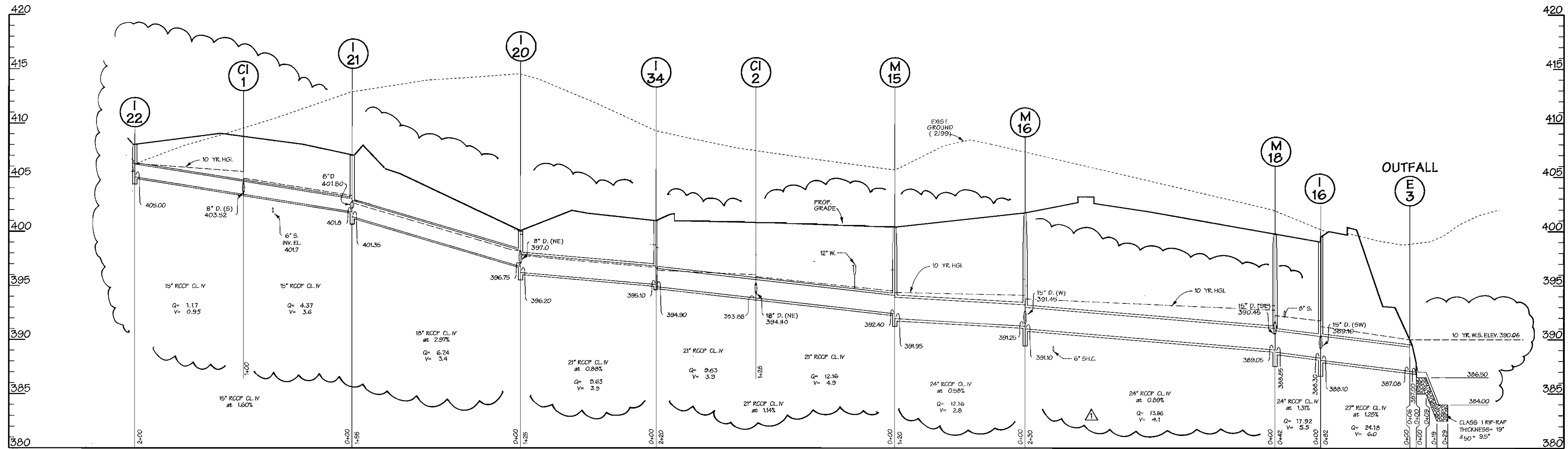
Date	No.	Revision Description
6-28-00	1	REV. STORM DRAIN PROFILES.

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTM.P. DEVELOPMENT CORPORATION 9145 GUILFORD ROAD 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
CONTRACT PURCHASER: 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21044

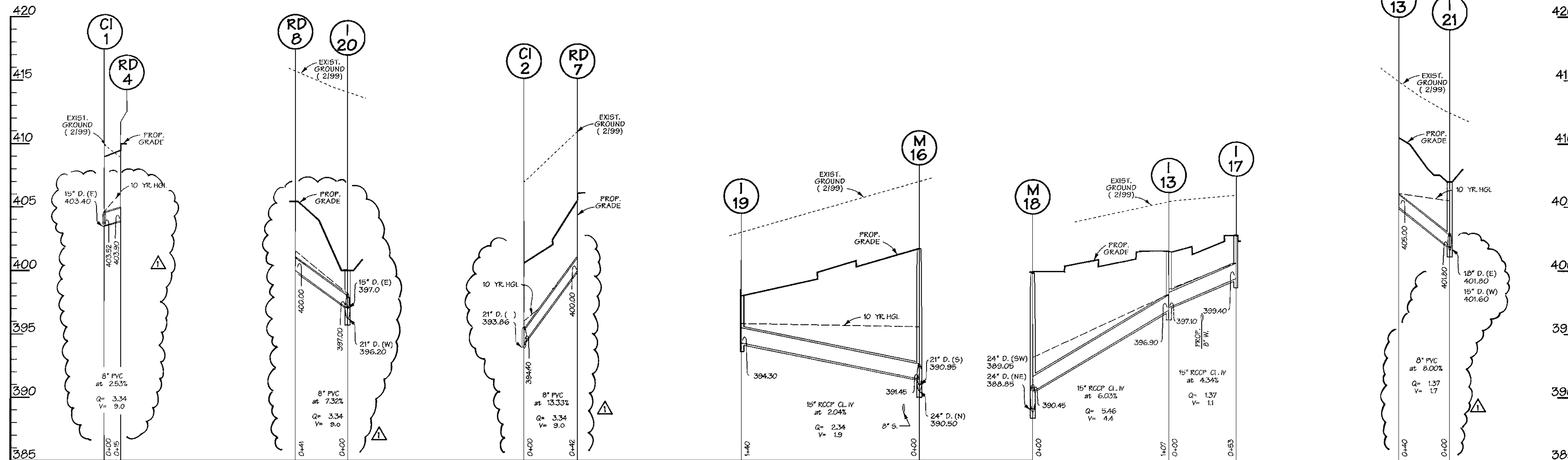
**DMW**  
Darr McNamee-Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

9-0-00  
Date  
  
 Professional Engr. No. 10451

AREA	ROUTE 175 COMMERCIAL	
TITLE	STORM DRAIN PROFILES	
Des By	Scale AS SHOWN	Proj. No. 89088.M
Drn By KDE	Date 3-3-00	
Chk By	Approved	10 OF 31



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Richard Blood* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION M.K. DATE  
*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*John Smith* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description
6-28-00	1	REV. STORM DRAIN PROFILES

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTNP. CONTRACT PURCHASER: DEVELOPMENT CORPORATION 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044

**DMW**  
Darr McQuinn Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4708

A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

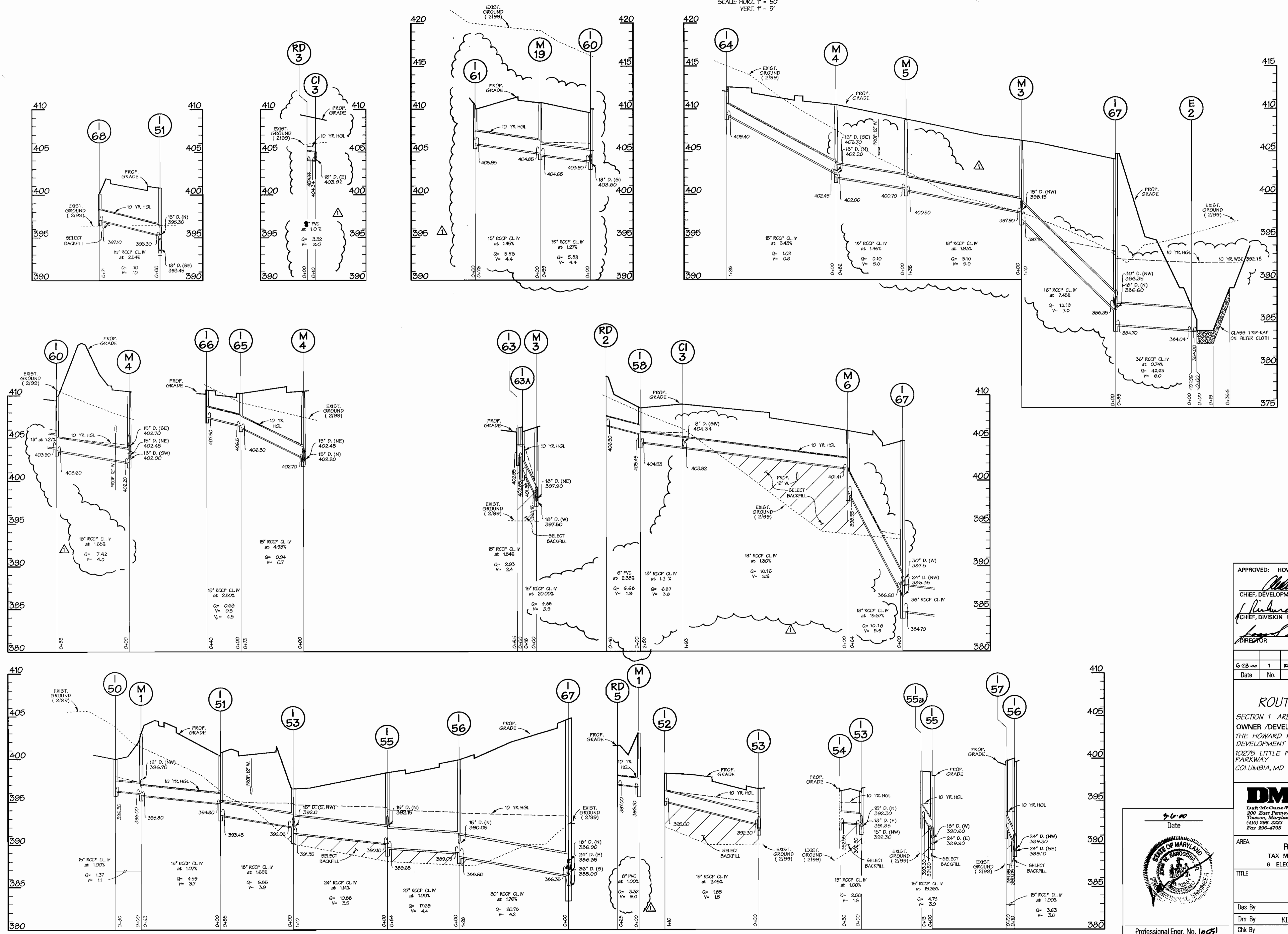
AREA: **ROUTE 175 COMMERCIAL**  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: **STORM DRAIN PROFILES**

Des By: MRT Scale: AS SHOWN Proj. No.: 89088.M  
 Dwn By: KDE Date: 3-3-00  
 Chk By: Approved 11 OF 31

9-0-00  
Date  
Professional Engr. No. 10951

STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

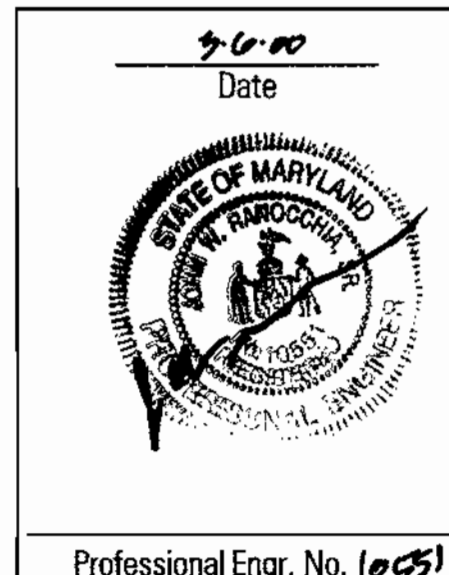


APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 13, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>Richard Blood</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION M-K	5/12/00 DATE
<i>Richard Blood</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>Joseph J. Smith</i> DIRECTOR	5/12/00 DATE
6-28-00	1 REV. STORM DRAIN PROFILES
Date	No. Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & Q.S. LOT 3  
OWNER/DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTN. DEVELOPMENT CORPORATION 9145 GUILFORD ROAD 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
CONTRACT PURCHASER: SUITE 100 COLUMBIA, MD 21044

**DMW**  
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Environmental Professionals

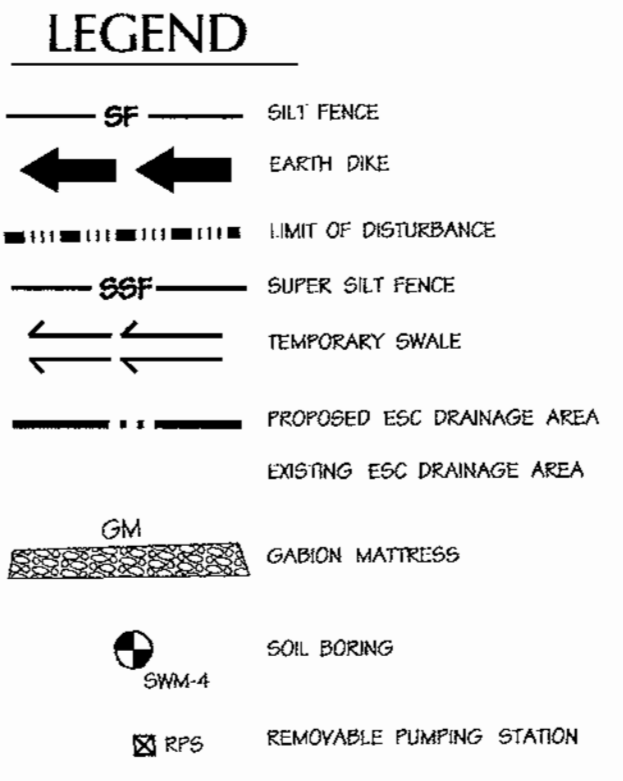
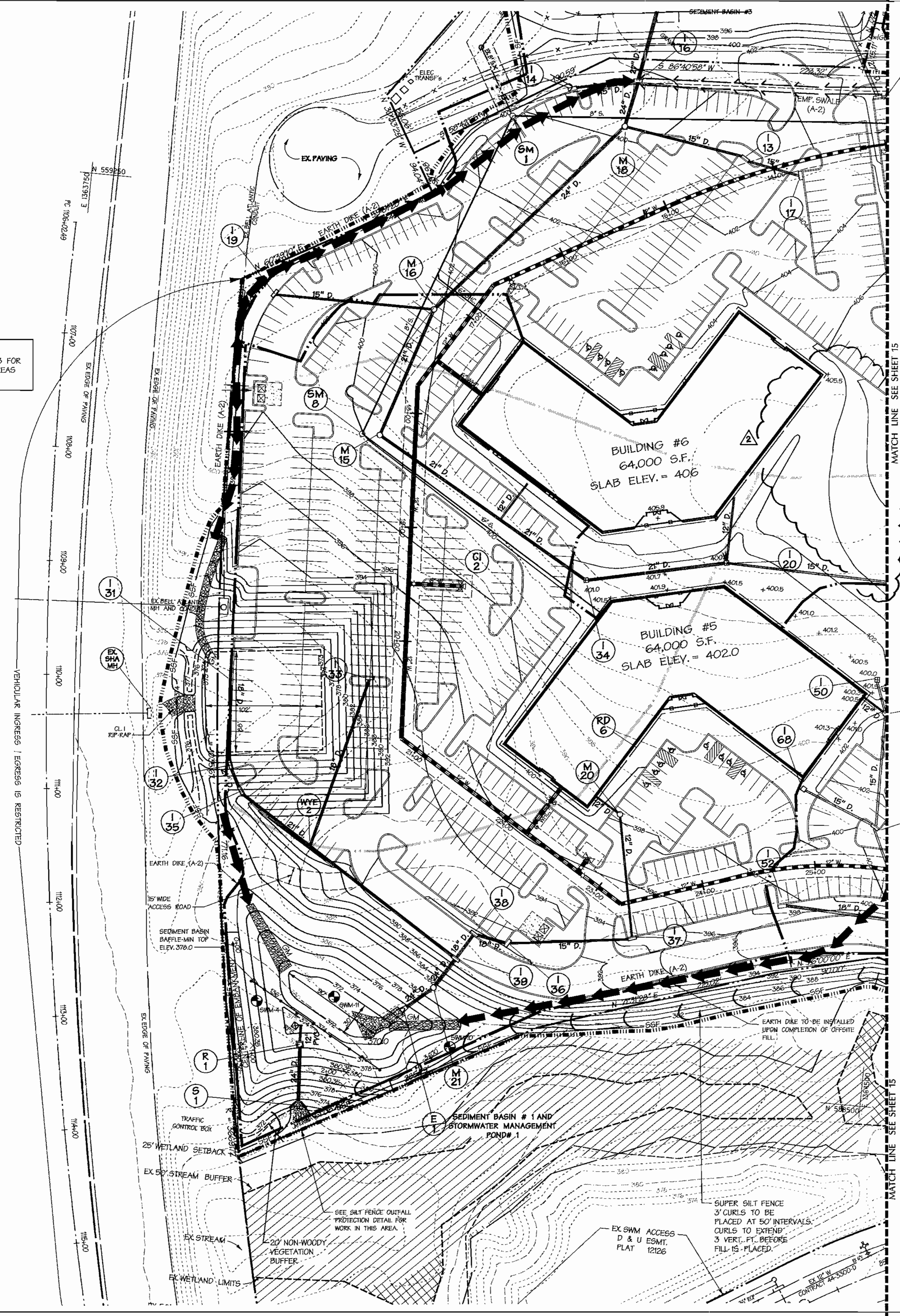


AREA	ROUTE 175 COMMERCIAL	
TITLE	STORM DRAIN PROFILES	
Des By	Scale	AS SHOWN
Drn By	Date	3-3-00
Proj. No.	89088.M	
12 OF 31		

NOTE:  
SEE SHEETS 2 AND 3 FOR  
FINAL GRADING IN AREAS  
OF SEDIMENT TRAPS.

MARYLAND ROUTE 175  
MISHA RV PLAT 42988 & 43566  
(300' R/W)

Thu Apr 27 10:08:39 2000 (c:\p00000000\p00000000.dwg)



**BASIN TABLE**

BASIN NUMBER	1
EXISTING DRAINAGE AREA AC.	3.4
INTERIM DRAINAGE AREA AC.	5.6
PROPOSED DRAINAGE AREA AC.	5.6
STORAGE REQUIRED C.F.	WET 10,080
	DRY 10,080
	TOTAL 20,160
STORAGE PROVIDED C.F.	WET 24,275
	DRY 14,195
	TOTAL 38,470
EXISTING GROUND ELEV.	376.0
TOP EMBANKMENT ELEV.	390.35
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	377.5
WET STORAGE ELEV.	374.25
CLEANOUT ELEV.	373.25
BOTTOM ELEV.	372.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	29.93
Q OUT BASIN (C.F.S.) 10 YR. CLOGGED	25.66
Q OUT EMERGENCY SPILLWAY	N/A
	WET 2.25
	DRY 1.75
	TOTAL 4.0
DESIGN HIGHWATER 10 YR. CLOGGED	377.87
FREEBORD PROVIDED	2'4"
BARREL DIAMETER	24"
RISER DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	372.0-374.25
DRY STORAGE ZONE ELEV.	374.25-376.0
BOTTOM DIMENSIONS	90' X 30'
EXISTING 2-YR. Q	0.38 CFS
PROPOSED 2-YR. Q	3.60 CFS

DEVELOPER'S CERTIFICATION:  
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 4/20/00  
DATE

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 4/29/00  
DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*[Signature]* 5/19/00  
U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 5/19/00  
DATE

**POND #1 DESIGN FLOW SUMMARY PROPOSED CONDITIONS**

	2-YEAR	10 YEAR	100 YEAR CLOGGED
Existing D.P. (cfs) - Allowable Release	6.57**	24.78**	46.84**
Existing Flow from Pond #2 DA (cfs)	6.19	21.56	41.17
Existing Flow from Pond #1 DA (cfs)	0.38	3.20	7.67
Developed Inflow (cfs)	16.48	29.93	47.13
Developed Outflow (cfs)	0.86*	11.21*	34.48*
Developed Outflow D.P. (cfs)	23.33***	23.67***	88.16***
Water Surface Elevation	376.52	377.91	378.32
Water Quality Storage (ac. ft.)	0.240	2.40	2.40
Quantity Storage (ac. ft.)	0.633	0.908	1.040
Total Storage (ac. ft.)	0.903	1.148	1.280

**DETENTION WET POND 'A'**

Structure Type	Water Quality Type	Structure Classification
Storage Height Product 2 year	6.52	7.51
Storage Height Product 10 year	8.32	0.0092 SQ. MI.
Storage Height Product 100 year	2.10	Level of Management Required
Waterless Area to Facility	2.10	Minimum Top Width Provided
Level of Management Required	12'	Maximum Height of Fill
Level of Management Required	7.2'	Freeboard Required
Minimum Top Width Provided	2.2'	Freeboard Provided
Maximum Height of Fill	2.2'	

**Trap Table**

TRAP NUMBER	1
TRAP TYPE	91" R
EXISTING DRAINAGE AREA AC.	3.7
INTERIM DRAINAGE AREA AC.	5.9
PROPOSED DRAINAGE AREA AC.	5.9
STORAGE REQUIRED C.F.	WET 6,660
	DRY 6,660
	TOTAL 13,320
STORAGE PROVIDED C.F.	WET 15,970
	DRY 17,250
	TOTAL 33,220
EXISTING GROUND ELEVATION	375.0
TOP EMBANKMENT ELEVATION	377.0
WEIR CREST ELEVATION	376.0
WET STORAGE ELEVATION	374.25
CLEANOUT ELEVATION	373.25
BOTTOM ELEVATION	375.0
DEPTH OF CHANNEL (d)	1.0'
OUTLET WIDTH (b)	15.6'
BOTTOM DIMENSION	102' X 88'
TRAP SIDESLOPES	2:1
TRAP DEPTH	WET 2'
	DRY 1'
	TOTAL 3'
BARREL DIAMETER	N/A
RISER DIAMETER	N/A
WET STORAGE ZONE ELEVATION	373.0-374.25
DRY STORAGE ZONE ELEVATION	374.25-376.0
EXISTING 2-YR. Q	0.37 CFS
PROPOSED 2-YR. Q	13.92 CFS

APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB 23, 2000

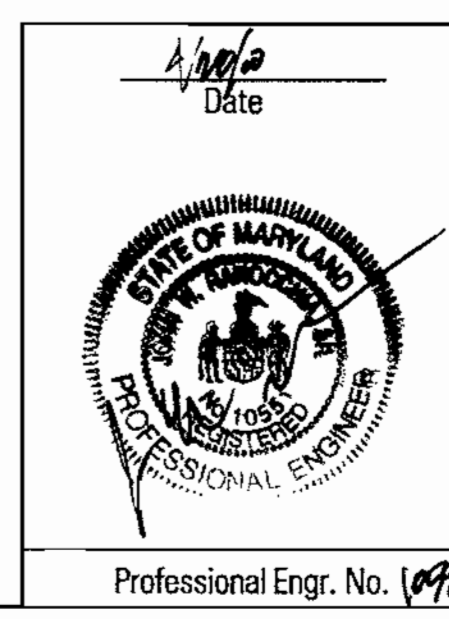
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
*[Signature]* 5/12/00  
CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*[Signature]* 5/12/00  
DIRECTOR DATE

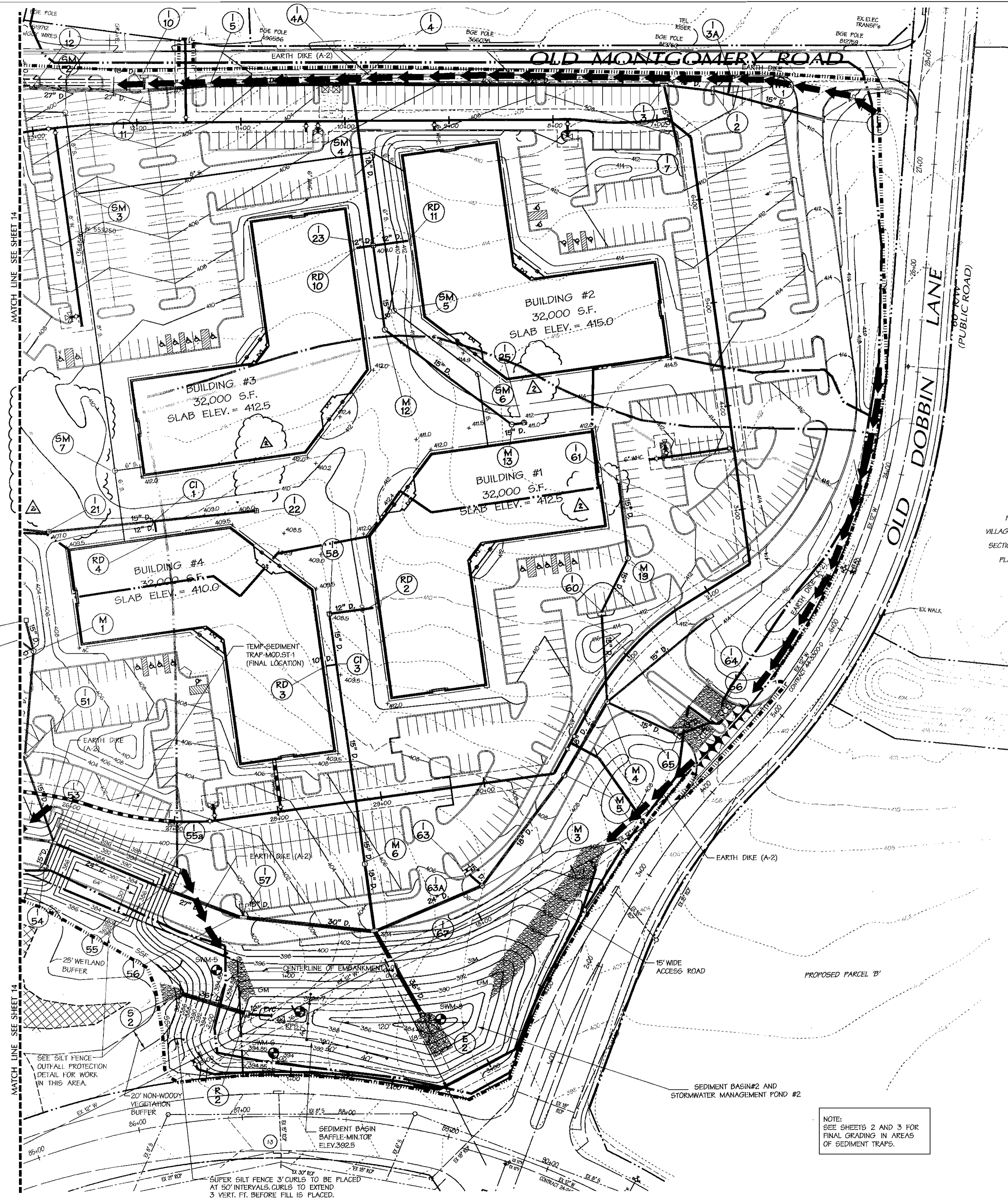
Date	No.	Revision Description
3-20-01	2	DELETE COMMONS BLDG & TEMP. 21" D

**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
9145 GUILFORD ROAD  
SUITE 100  
COLUMBIA, MD 21046

**DMW**  
Dunn, McCune & Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4706  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: **ROUTE 175 COMMERCIAL**  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
TITLE: **EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN**  
Des By: BIS, SDS Scale: 1" = 50' Proj. No. 89088.M  
Dwn By: ADL Date: 4-26-00  
Chk By: *[Signature]* Approved: 14 OF 31





**LEGEND**

- SF — SILT FENCE
- ← EARTH DIKE
- LIMIT OF DISTURBANCE
- SF — SUPER SILT FENCE
- ← TEMPORARY SWALE
- PROPOSED ESC DRAINAGE AREA
- EXISTING ESC DRAINAGE AREA
- GM GABION MATRESS
- SWM-4 SOIL BORING
- RPS REMOVABLE PUMPING STATION

**BASIN TABLE**

BASIN NUMBER	2
EXISTING DRAINAGE AREA AC.	7.4
INTERIM DRAINAGE AREA AC.	6.1
PROPOSED DRAINAGE AREA AC.	6.1
STORAGE REQUIRED C.F.	WET 13,320
	DRY 26,640
	TOTAL 40,000
STORAGE PROVIDED C.F.	WET 13,320
	DRY 22,394
	TOTAL 35,714
EXISTING GROUND ELEV.	388.0
TOP EMBANKMENT ELEV.	394.86
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	390.5
WET STORAGE ELEV.	389.5
CLEANOUT ELEV.	387.5
BOTTOM ELEV.	386.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	41.42
Q OUT BARREL (C.F.S.) 10 YR. CLOGGED	31.43
Q OUT EMERGENCY SPILLWAY	2.5
BASIN DEPTH	WET 2.7
	DRY 2.7
	TOTAL 4.5
DESIGN HIGHWATER 10 YR. CLOGGED	392.49
FREEDBOARD PROVIDED	2.36'
BARREL DIAMETER	36"
RISER DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	386.0-389.5
DRY STORAGE ZONE ELEV.	386.5-390.5
BOTTOM DIMENSIONS	120' X 30'
EXISTING 2 YR. Q	6.19
PROPOSED 2 YR. Q	1.44

\* UNDER ISWM CONDITIONS:  
 OUTFLOW POND # 2 WILL COMBINE WITH OUTFLOW POND # 2  
 EXISTING DESIGN POINT = COMBINED FLOW FROM POND # 1 +  
 POND # 2 EXISTING DRAINAGE AREAS  
 DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND # 1 +  
 POND # 2 DEVELOPED DRAINAGE AREAS

**POND #2 DESIGN FLOW SUMMARY PROPOSED CONDITIONS**

	2-YEAR	10 YEAR	100 YEAR CLOGGED
Existing D.P. (cfs) - Allowable Flow	6.57**	24.76**	48.84**
Existing Flow from Pond #1 DA (cfs)	0.38	3.20	7.67
Existing Flow from Pond #2 DA (cfs)	6.19	21.56	41.17
Developed Inflow (cfs)	22.41	41.42	62.87
Developed Outflow (cfs)	1.65*	12.66*	12.66*
Developed Outflow D.P. (cfs)	2.53***	23.67***	88.15***
Water Surface Elevation	390.09	392.18	392.81
Water Quality Storage (ac-ft)	0.266	0.266	0.266
Quantity Storage (ac-ft)	1.000	1.000	1.000
Total Storage (ac-ft)	1.266	1.266	1.266
Structures Type	DETENTION		
Water Quality Type	WET POND		
Structures Classification	A'		
Storage Height Product 2 year	7.59		
Storage Height Product 10 year	8.68		
Storage Height Product 100 year	3.31		
Watershed Area to Facility	0.0125 SQ. MI.		
Level of Management Required	2, 10		
Level of Management Provided	2, 10		
Minimum Top Width Provided	12'		
Maximum Height of Fill	7.2'		
Freeboard Required	2.0'		
Freeboard Provided	2.0'		

\* OUTFLOW POND # 2 WILL COMBINE WITH OUTFLOW POND # 1  
 \*\* EXISTING DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 EXISTING DRAINAGE AREAS  
 \*\*\* DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 DEVELOPED DRAINAGE AREAS

**Trap Table**

TRAP NUMBER	2
TRAP TYPE	87-11
EXISTING DRAINAGE AREA AC.	1.6
INTERIM DRAINAGE AREA AC.	1.4
PROPOSED DRAINAGE AREA AC.	1.4
STORAGE REQUIRED C.F.	WET 2990
	DRY 2990
	TOTAL 5980
STORAGE PROVIDED C.F.	WET 3960
	DRY 3960
	TOTAL 7920
EXISTING GROUND ELEVATION	388.0
TOP EMBANKMENT ELEVATION	386.0
WEIR CREST ELEVATION	386.0
WET STORAGE ELEVATION	385.5
CLEANOUT ELEVATION	382.8
BOTTOM ELEVATION	382.0
DEPTH OF CHANNEL (d)	1.0
OUTLET WIDTH (D)	6.5'
BOTTOM DIMENSION	64' X 30'
TRAP SIDESLOPES	2:1
TRAP DEPTH	WET 1.5'
	DRY 1.5'
	TOTAL 3.0'
BARREL DIAMETER	N/A
RISER DIAMETER	N/A
WET STORAGE ZONE ELEVATION	382.0 - 385.5
DRY STORAGE ZONE ELEVATION	385.5 - 386.0
EXISTING 2 YR. Q	0.27 CFS
PROPOSED 2 YR. Q	6.26 CFS

**DATA SOURCES:**

RECEIVED AUTOCAD FILE VIA E-MAIL 2/19/99 FROM GUTSCHICK LITTLE & WEBER.

DEVELOPER'S CERTIFICATION:  
 "I CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 4/28/00  
 PRINT NAME BELOW SIGNATURE: *John W. Ranaoche, Sr.*

ENGINEER'S CERTIFICATION:  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 4/29/00  
 PRINT NAME BELOW SIGNATURE: *John W. Ranaoche, Sr.*

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*Chaf Simms / G.S.* 5/19/00  
 U.S. NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 5/19/00  
 HOWARD S.C.D. DATE

**APPROVED PLANNING BOARD OF HOWARD COUNTY**  
 DATE: FEB 13 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
 CHIEF DEVELOPMENT ENGINEERING DIVISION MK  
*[Signature]* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
*[Signature]* 5/12/00  
 DIRECTOR

2001 2 ELIM. PD 1, 9 & 12 & 13  
 Date No. Revision Description  
 COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & Q.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. P/T/N  
 3145 GUILFORD ROAD  
 SUITE 100  
 COLUMBIA, MD 21046

**DMW**  
 Data McCune-Walkers, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

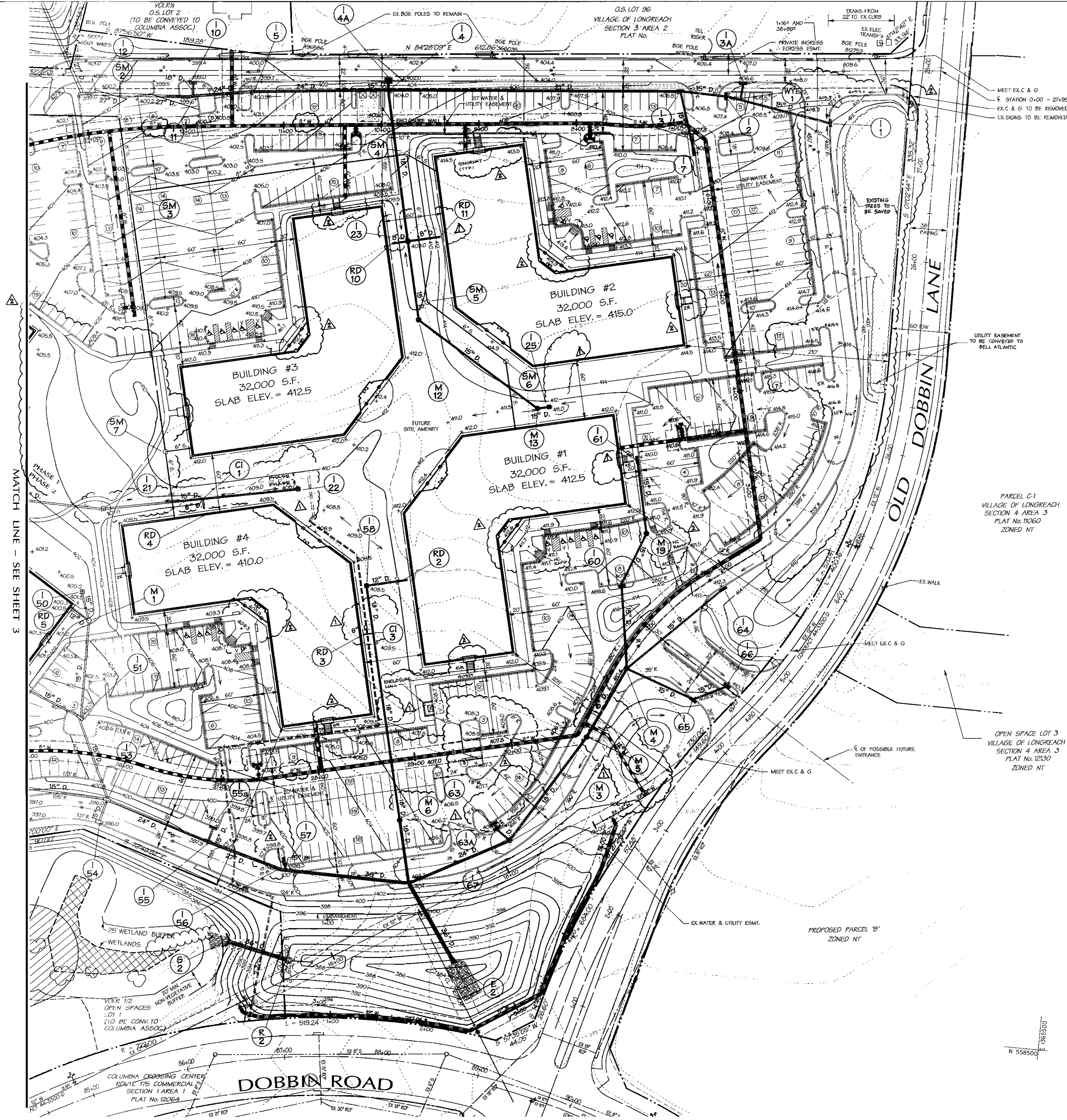


AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN  
 Des By: SDS, BIS Scale: 1" = 50' Proj. No.: 89088.M  
 Dwn By: ADL Date: 4-26-00  
 Chk By: *[Signature]* Approved: 15 OF 31

Professional Engr. No. 1365500







MATCH LINE - SEE SHEET 3

MEET EX. C & G  
 EX. STATION 0+00 - 27+95  
 EX. C & G TO BE REMOVED  
 EX. SIGNS TO BE REMOVED

UTILITY EASEMENT  
 TO BE CONVEYED TO  
 BELL ATLANTIC

PARCEL C-1  
 VILLAGE OF LONGREACH  
 SECTION 4 AREA 3  
 PLAT NO. 11060  
 ZONED NT

OPEN SPACE LOT 3  
 VILLAGE OF LONGREACH  
 SECTION 4 AREA 3  
 PLAT NO. 12130  
 ZONED NT

DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS PREPARED  
 BY GUTSCHICK LITTLE & WEBER.

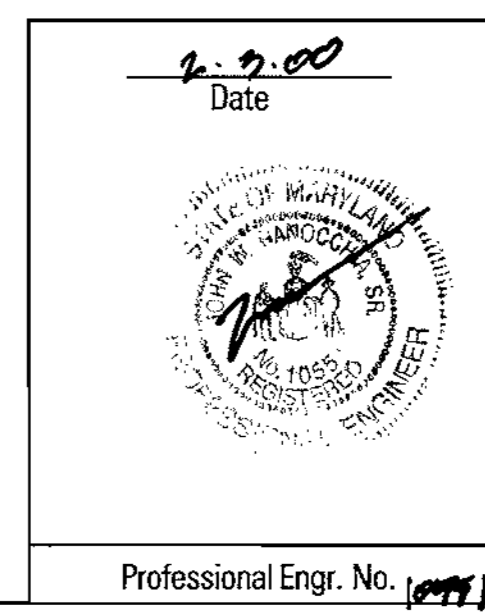
**APPROVED**  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
 CHIEF DEVELOPMENT ENGINEERING DIVISION MK DATE  
*[Signature]* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE R  
*[Signature]* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description
3-20-01	2	DELETE COMMONS BLOCK, REV. EIT, WALKS, REV. PARKING ADD. STAIRS
6-28-00	1	DELETE RD. 1, 4 & 12, REV. PHASING LINE, REV. 12' W TO 8' W.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

**DMW**  
 Dan McCune-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



AREA	ROUTE 175 COMMERCIAL	TAX MAP	36 & 37	PARCEL 27, 122, 244, 282	
TITLE	SITE DEVELOPMENT PLAN				
Des By	MJP	Scale	1" = 50'	Proj. No.	89088.M
Drn By	KDE	Date	3-3-00		
Professional Engr. No.	(signature)	Chk By	Approved		2 OF 31



Mon Mar 6 09:21:37 2000 m:\190088\190088.dwg

MARYLAND ROUTE 175  
 MSHA RWY PLAT 42988 & 43566  
 (300' RWY)  
 INTERMEDIATE ARTERIAL ROAD



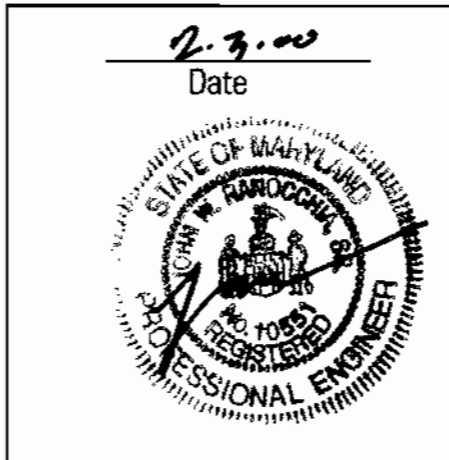
APPROVED  
 PLANNING BOARD  
 of HOWARD COUNTY  
 DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief Development Engineering Division MK 5/12/00  
 Chief, Division of Land Development 5/12/00  
 Director 5/12/00

Date	No.	Revision Description
3-20-01	2	DELETE COMMONS BLDG #4 & MAC. PATH
6-21-00	1	REV. ROOF DRAIN CONN. TO B", REV. PHASE LINE.

COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
 9145 GUILFORD ROAD COLUMBIA, MD 21046

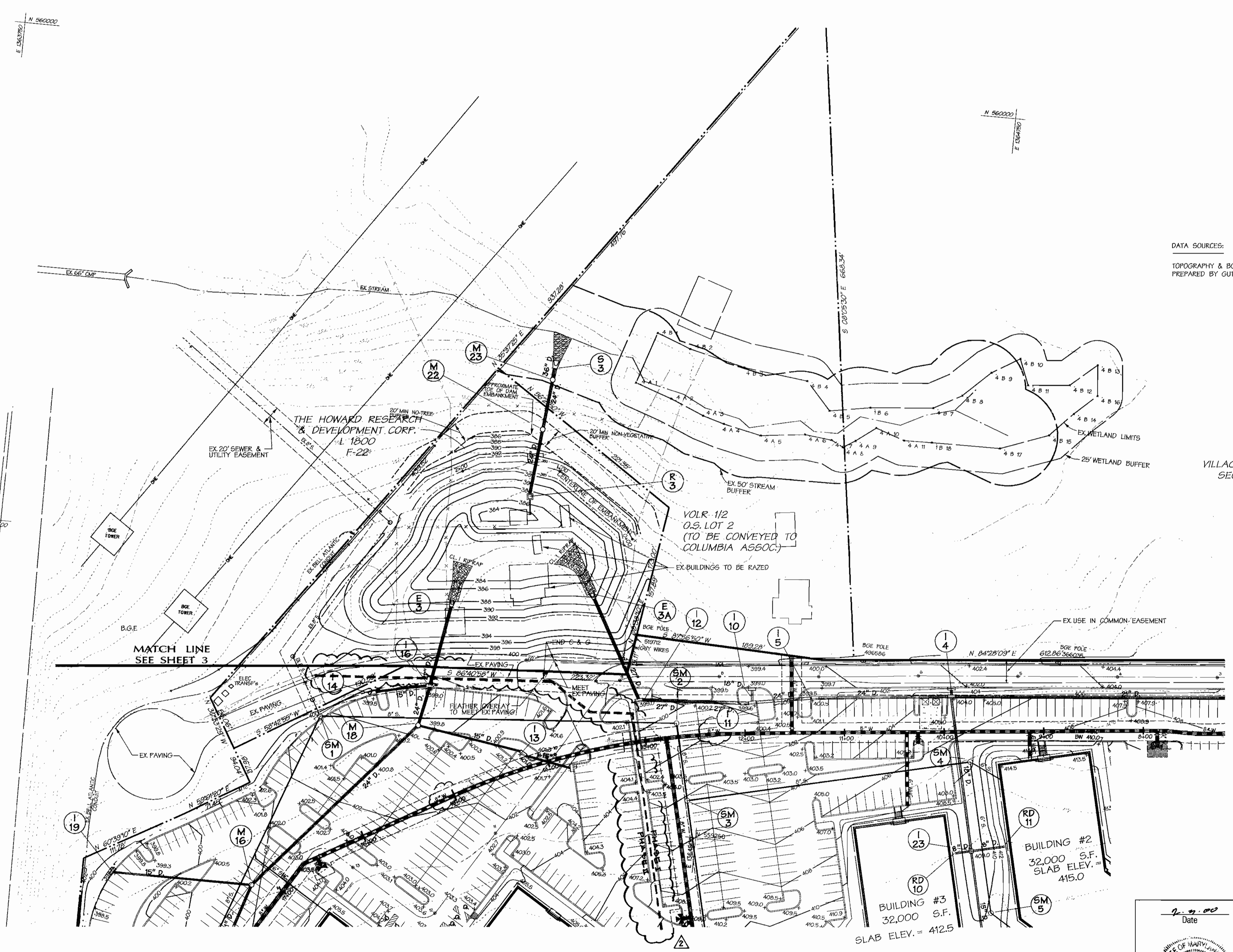
**DMW**  
 Draft-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Poolesville, Maryland 21086  
 (410) 296-3353  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



AREA	ROUTE 175 COMMERCIAL	TAX MAP 36 & 37	PARCEL 27, 122, 244, 282
TITLE	SITE DEVELOPMENT PLAN		
Des By	MJP	Scale	1" = 50'
Dim By	KDE	Date	3-3-00
Chk By	Approved	Proj. No.	89088.M
Professional Engr. No.	10951	Approved	3 OF 31

DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS  
 PREPARED BY GUTSCHICK LITTLE & WEBER

MARYLAND ROUTE 175  
 MSHA RAW PLAT 42988 & 43566  
 (300' RW)



DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS  
 PREPARED BY GUTSCHICK, LITTLE & WEBER.

O.S. LOT 96  
 VILLAGE OF LONGREACH  
 SECTION 3 AREA 2  
 PLAT No.

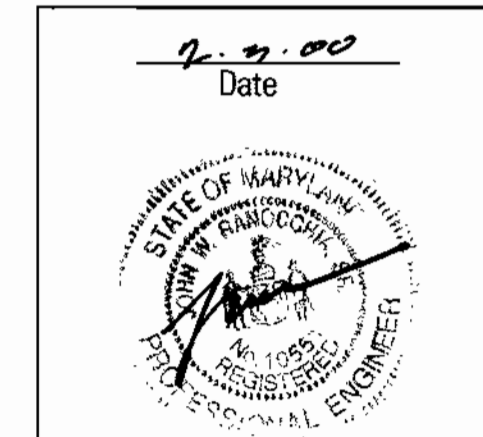
**APPROVED**  
**PLANNING BOARD**  
**of HOWARD COUNTY**  
 DATE FEB 13, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT 5/12/00  
 DIRECTOR 5/12/00

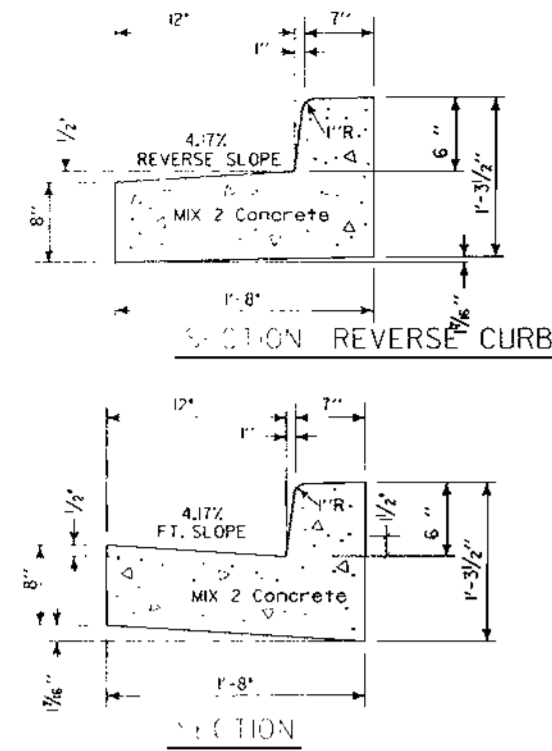
Date	No.	Revision Description
6-28-00	1	REV. 12" WATER LINE TO "B"
3-20-01	2	REV. PLANNING LINE, REV. CURB & STA. 9+00

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1, AREA 2 PARCEL A & O.S. LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

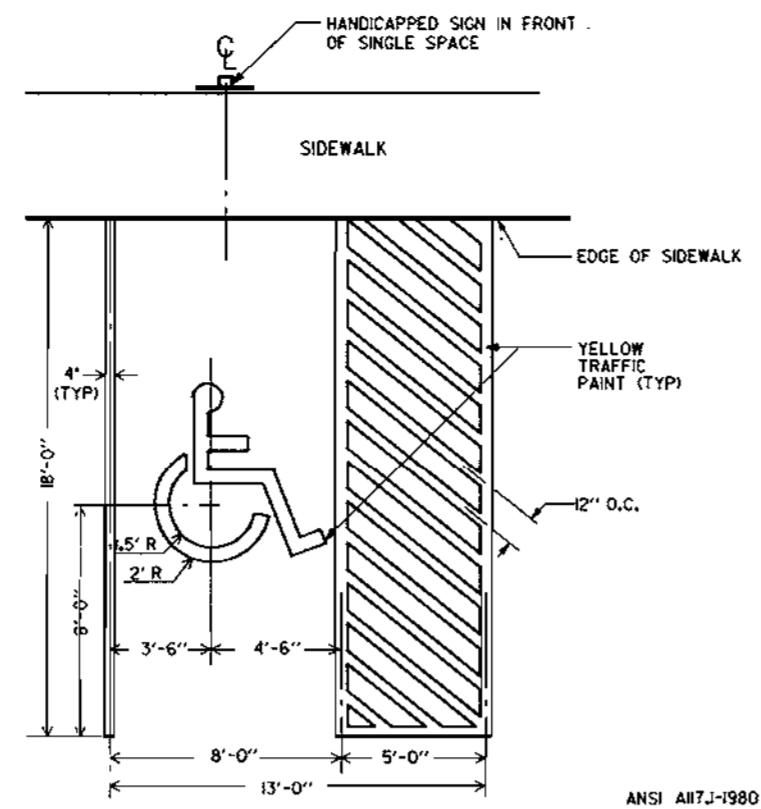
**DMW**  
 Deft. McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
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 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals



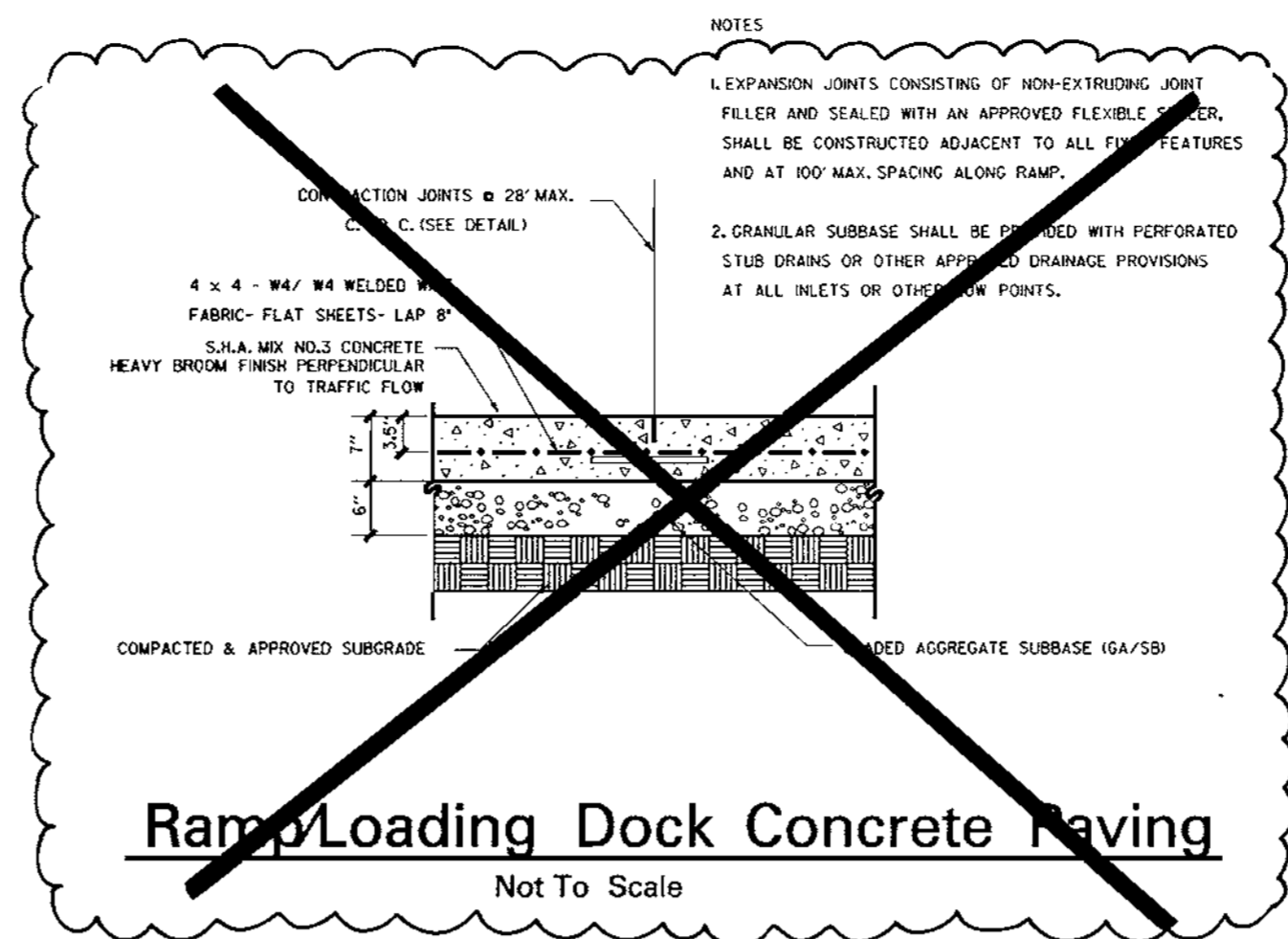
AREA	ROUTE 175 COMMERCIAL	
	TAX MAP 36 & 37	PARCEL 27, 122, 244, 282
	6TH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND
TITLE	SITE DEVELOPMENT PLAN	
Des By	MPJ	Scale 1" = 50'
Drn By	KDE	Date 3-3-00
Chk By	Approved	Proj. No. 89088.17
Professional Engr. No. 10951		4 OF 31



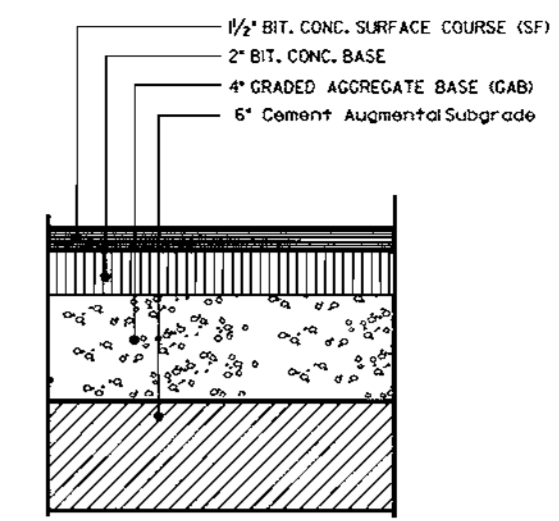
**Concrete Curb, Typ.**  
Not To Scale



**Handicapped Parking Space**  
Not To Scale



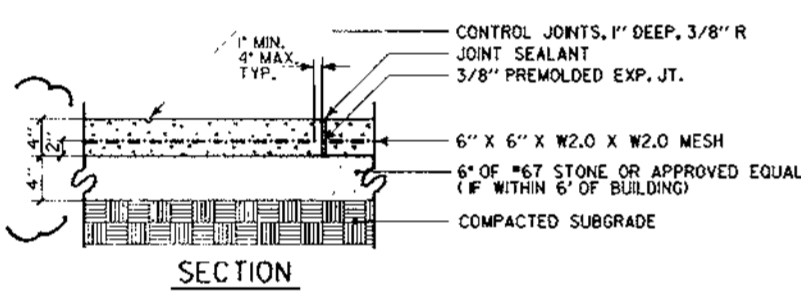
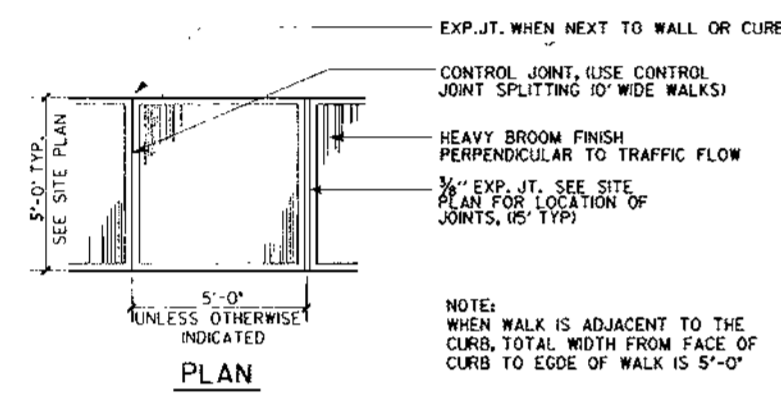
**Ramp Loading Dock Concrete Paving**  
Not To Scale



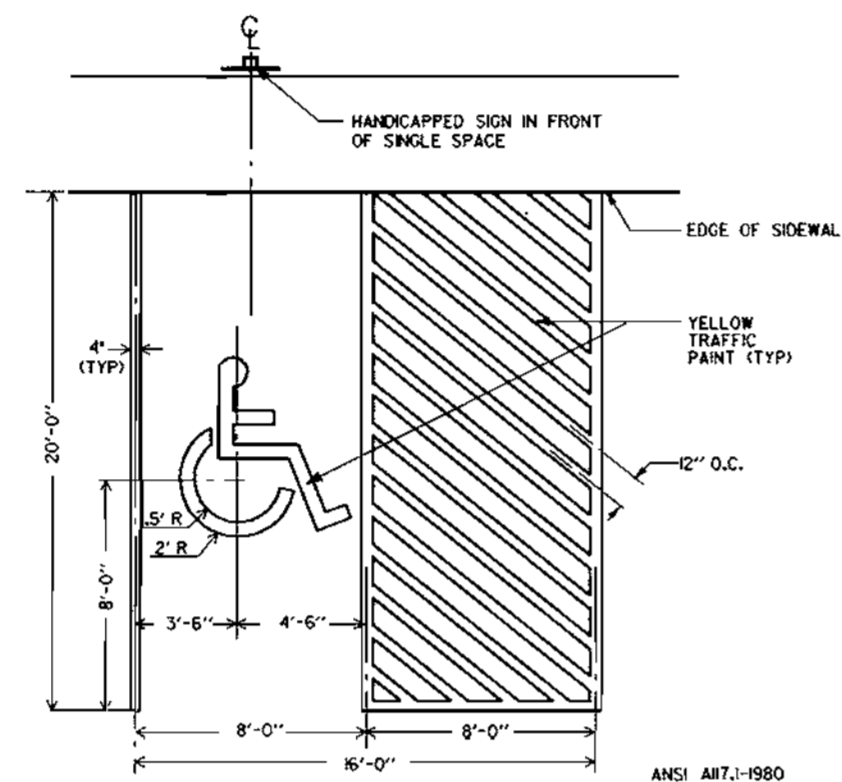
**Light Duty Typical Paving Section**  
Not To Scale

Note: Paving Section copied from Geotechnical Engineering Study, Prepared by Hills-Carnes Engineering, Sept. 8 1999.

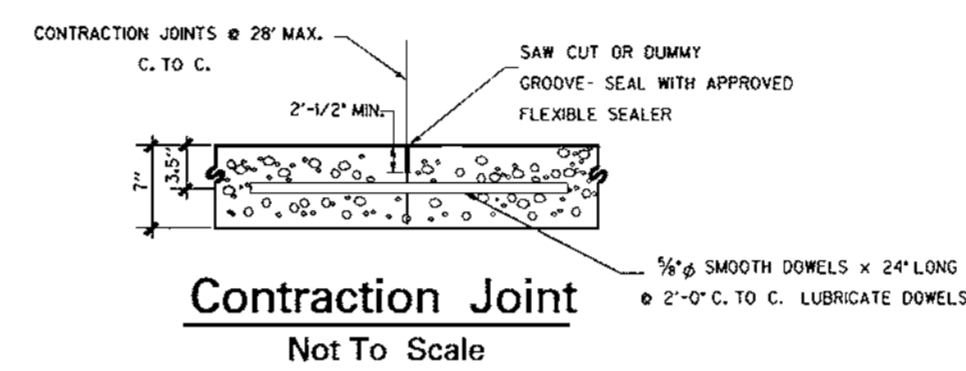
- NOTES:
- 1/2\"/>



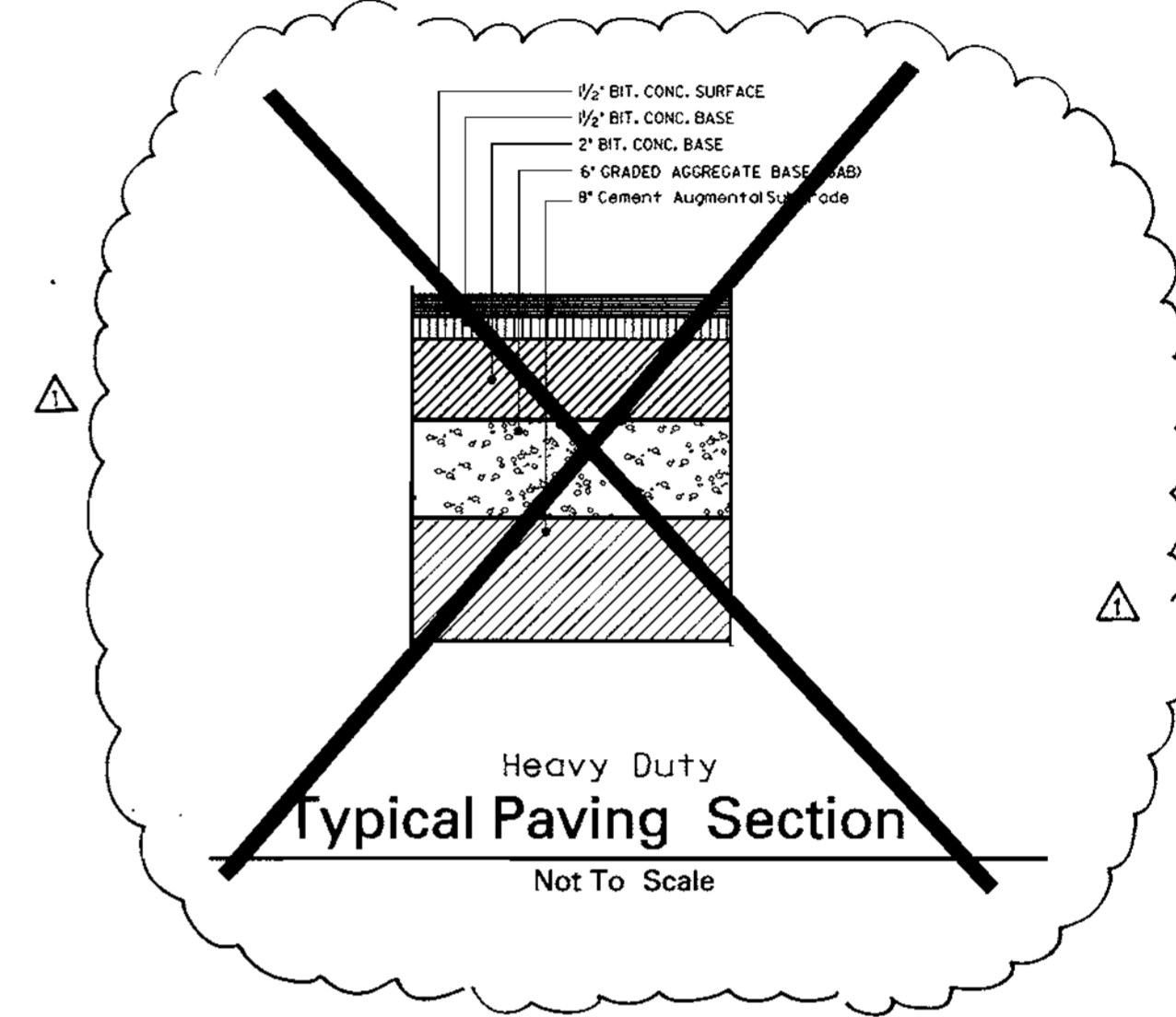
**Concrete Walk**  
Not To Scale



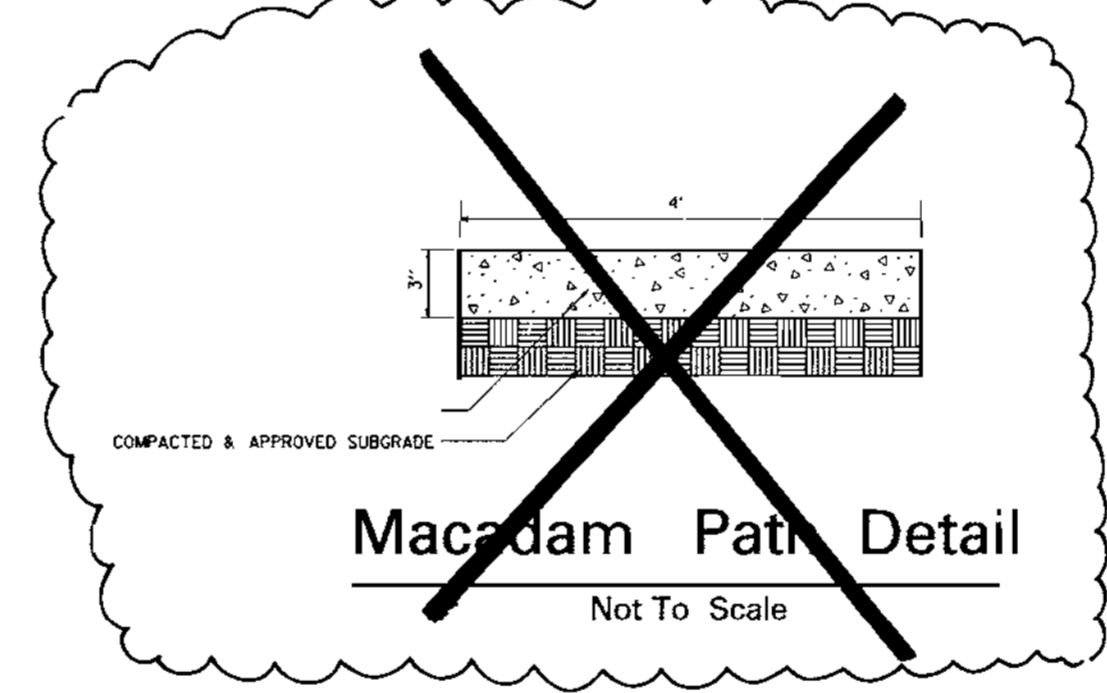
**Handicapped Van Parking Space**  
Not To Scale



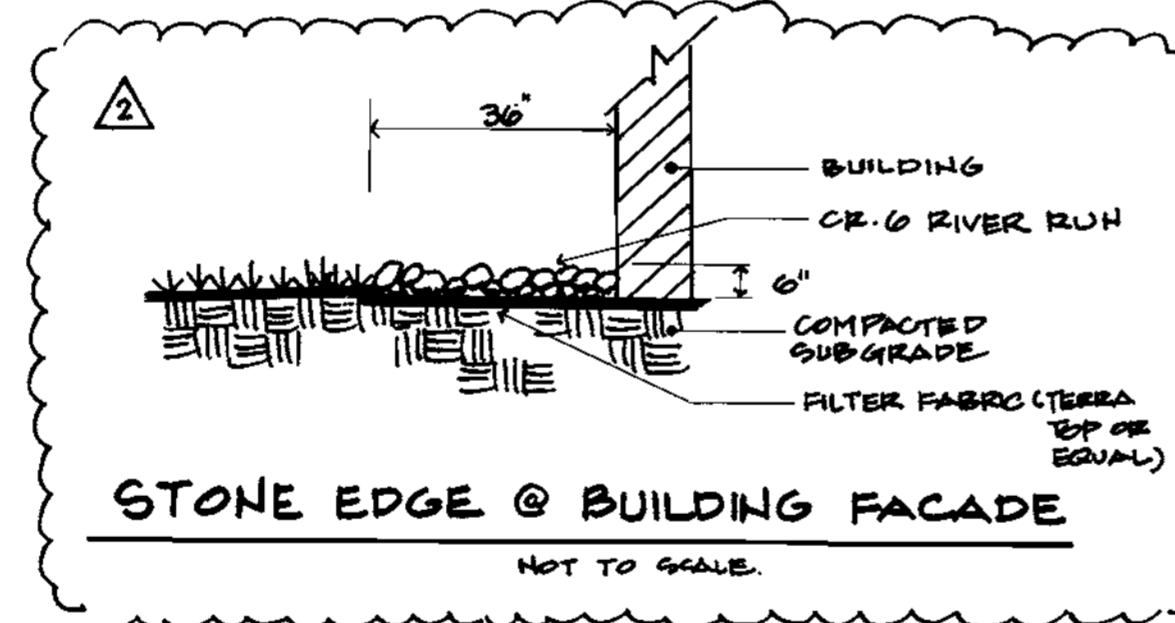
**Contraction Joint**  
Not To Scale



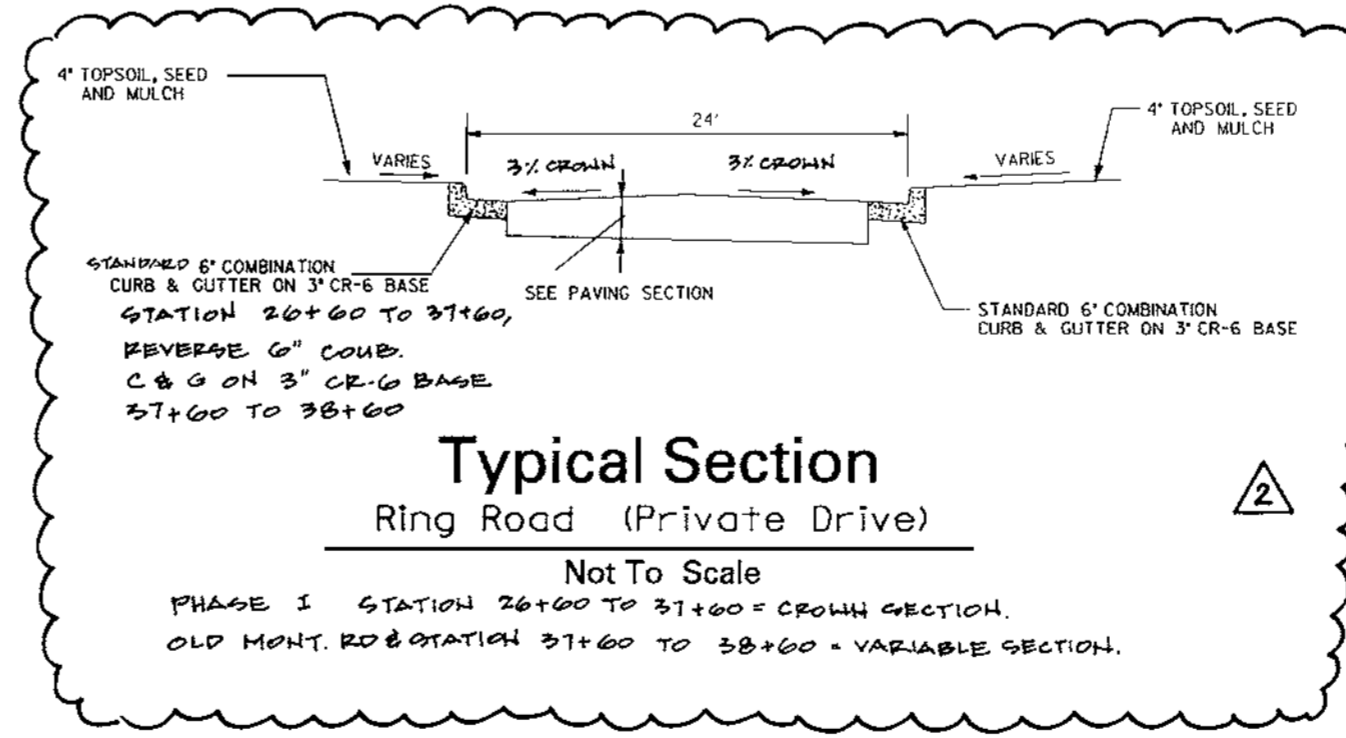
**Heavy Duty Typical Paving Section**  
Not To Scale



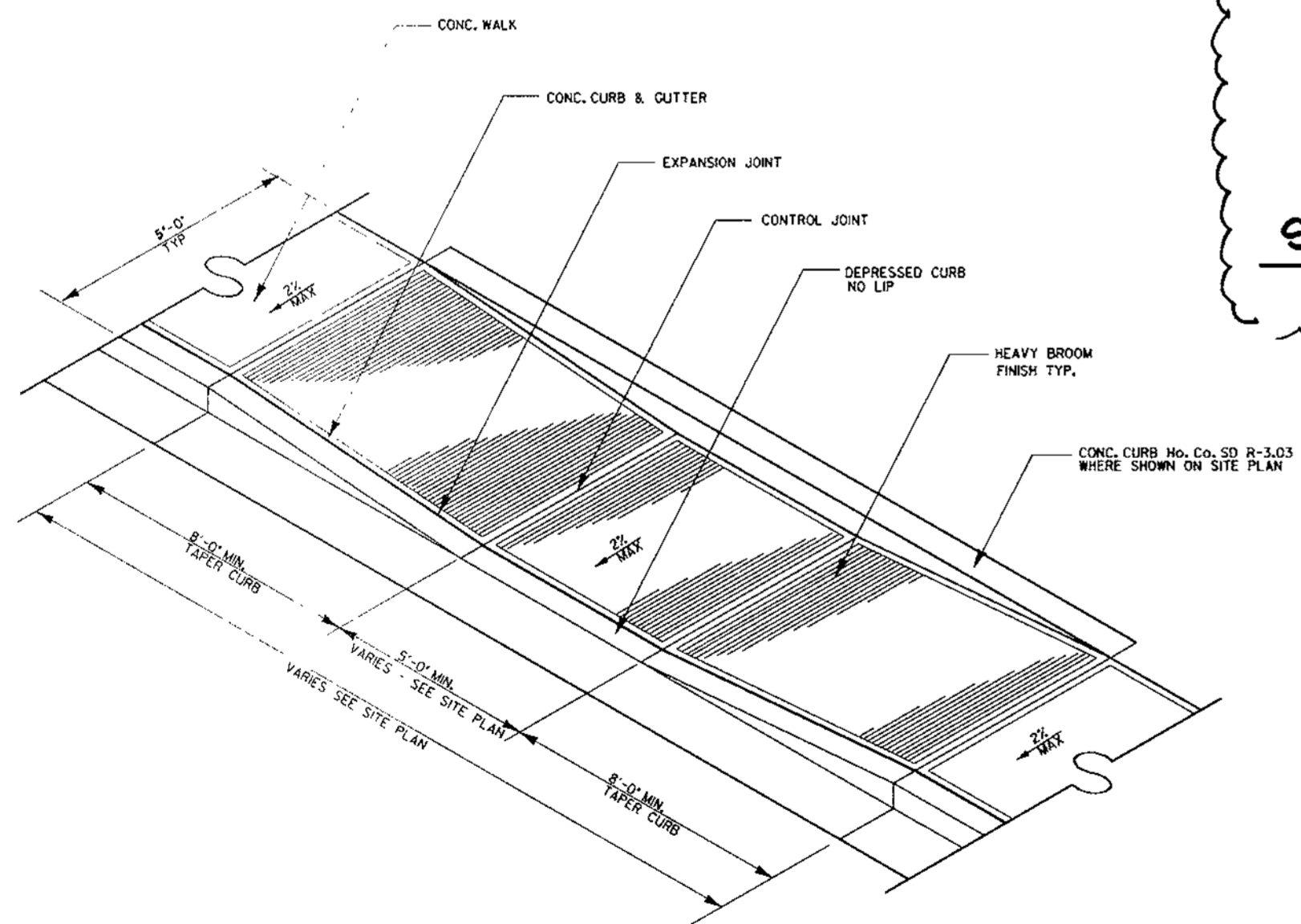
**Macadam Path Detail**  
Not To Scale



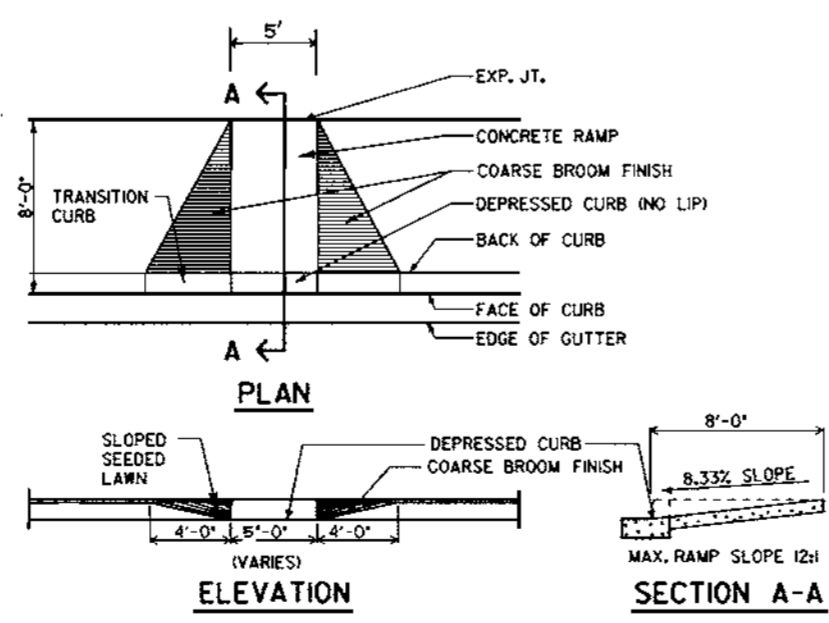
**STONE EDGE @ BUILDING FACADE**  
NOT TO SCALE.



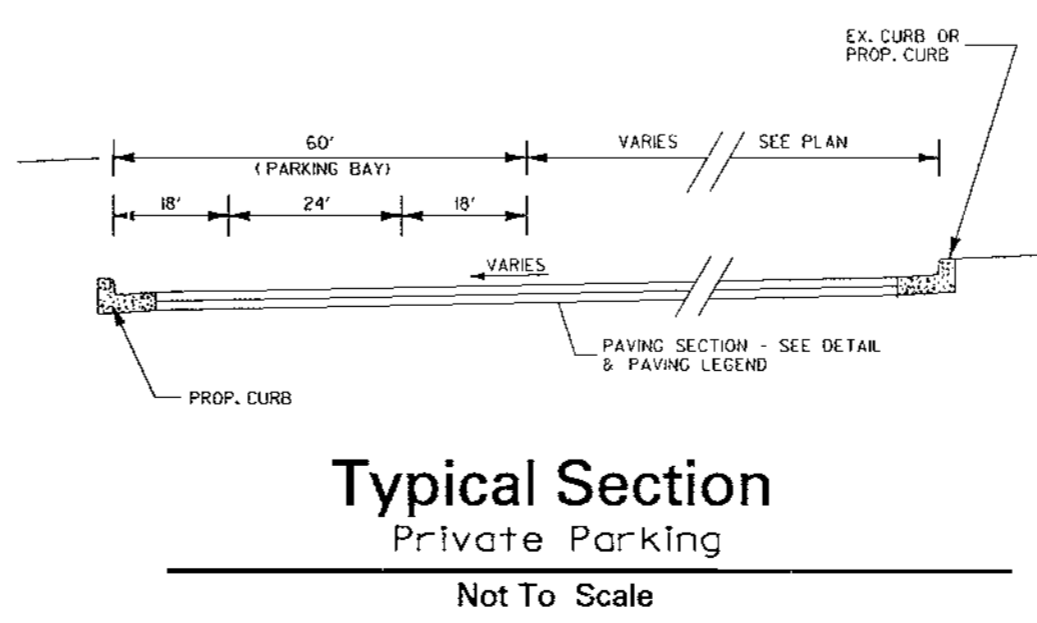
**Typical Section**  
Ring Road (Private Drive)  
Not To Scale



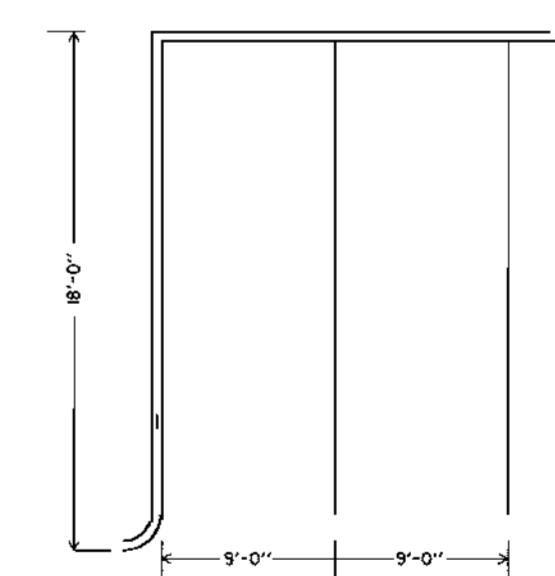
**Handicapped Ramp - A**  
Not To Scale



**Handicapped Ramp - C**  
Not To Scale



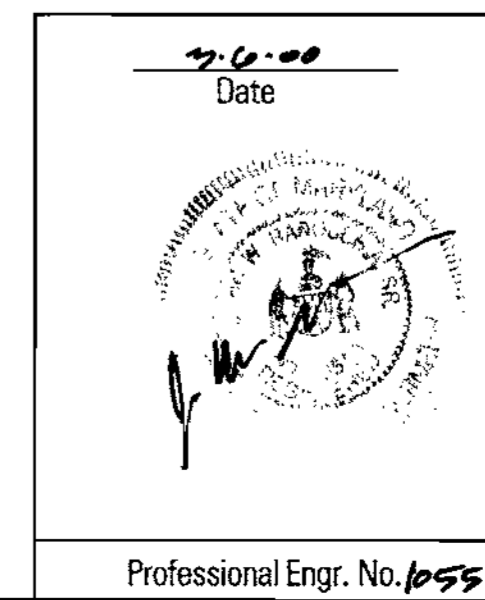
**Typical Section**  
Private Parking  
Not To Scale



**Standard Parking Space**  
Not To Scale

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

2 REV. TYP. ROAD SECTION.	
APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING	
<i>Richard Blouel</i> A/ CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>Michael P. ...</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	5/12/00 DATE
<i>...</i> DIRECTOR	5/12/00 DATE
Date	No. Revision Description
3/20/01	1 ELIMINATE HEAVY DUTY PAVING DETAIL.
<b>COLUMBIA</b> <b>ROUTE 175 COMMERCIAL</b> SECTION 1 AREA 2 PARCEL A & O.S. LOT 3 OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 9145 GUILFORD ROAD COLUMBIA, MD 21046	
<b>DMW</b> Dan McCarone-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3533 Fax 296-4705 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
AREA	ROUTE 175 COMMERCIAL TAX MAP 36 & 37 PARCEL 27, 122, 244, 282 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND
TITLE	SITE DETAILS
Des By	MJP Scale AS SHOWN Proj. No. 89088.M
Drn By	BKC Date 3-3-00
Chk By	Approved 5 OF 31



DRAINAGE AREAS

DRAINAGE AREA	AREA (AC)	"C" FACTOR	% IMPERVIOUS
1	0.41	0.5	50
2	0.165	0.72	79
3	0.48	0.70	76
4	0.24	0.71	75
5	0.255	0.67	71
6	0.21	0.58	57
7	0.64	0.69	73
9	0.45	0.64	67
10	0.395	0.78	87
11	0.895	0.72	78
12	0.37	0.75	81
13	0.645	0.76	84
14	0.22	0.74	92
16	1.00	0.75	83
17	0.16	0.695	75
19	0.33	0.73	82
20	0.555	0.20	0
21	0.39	0.20	0
22	0.60	0.20	0
23	0.29	0.20	0
24	0.474	0.40	10
25	0.15	0.20	0
31	0.88	0.74	82
32	0.95	0.76	85
33	0.35	0.73	80
34	0.10	0.2	0
35	0.35	0.77	86
36	0.54	0.64	67
37	0.41	0.73	80
38	0.38	0.81	92
39	0.12	0.95	100
50	0.29	0.49	45
51	0.33	0.43	35
52	0.30	0.62	65
53	0.14	0.48	43
54	0.33	0.62	64
55	0.56	0.63	65
55a	0.42	0.69	74
56	0.427	0.95	100
57	0.475	0.78	88
58	0.22	0.20	0
60	0.34	0.63	65
61	0.88	0.65	68
63	0.445	0.68	73
63a	0.29	0.68	69
64	0.28	0.70	75
65	0.06	0.64	67
66	0.14	0.53	50
67	0.16	0.58	66
68	0.05	0.20	0
ROOF 9-B	0.36	0.95	100
ROOF 10	0.72	0.95	100
ROOF 11	0.72	0.95	100
ROOF 2	0.72	0.95	100

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: Feb 23, 2000

DATA SOURCES:  
RECEIVED AUTOCAD FILE VIA E-MAIL: 2/19/99  
FROM GUTSCHICK LITTLE & WEBER.



GENERAL NOTE: ALL 12" PVC DRAIN PIPES TO END 5' FROM BUILDING WALLS.

O.S. LOT 96  
VILLAGE OF LONGREACH  
SECTION 3 AREA 2  
PLAT No.

PARCEL C-1 & C-2  
VILLAGE OF LONGREACH  
SECTION 4 AREA 3  
PLAT No. 11060

OPEN SPACE LOT 3  
VILLAGE OF LONGREACH  
SECTION 4 AREA 3  
PLAT No. 12130

THE HOWARD RESEARCH  
& DEVELOPMENT CORP.  
PLAT # 12130

COLUMBIA CROSSING CENTER  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 1  
PLAT No. 12064

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 [Signature] 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION /M/K DATE  
 [Signature] 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
 [Signature] 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description
6-28-00	1	DELETE PD 1, 9&12, REV. DRAINAGE AREAS
8-20-01	2	ELIM. COMM. BLDG. & REV. DRAINAGE AREA.

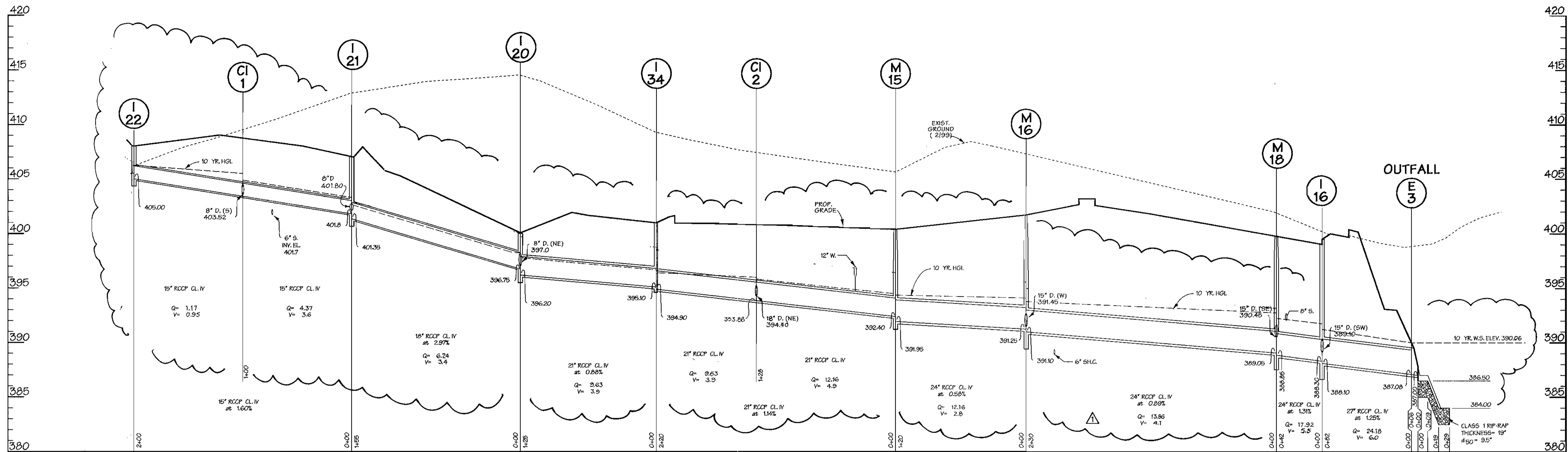
COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD. 21046

**DMW**  
Daft McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

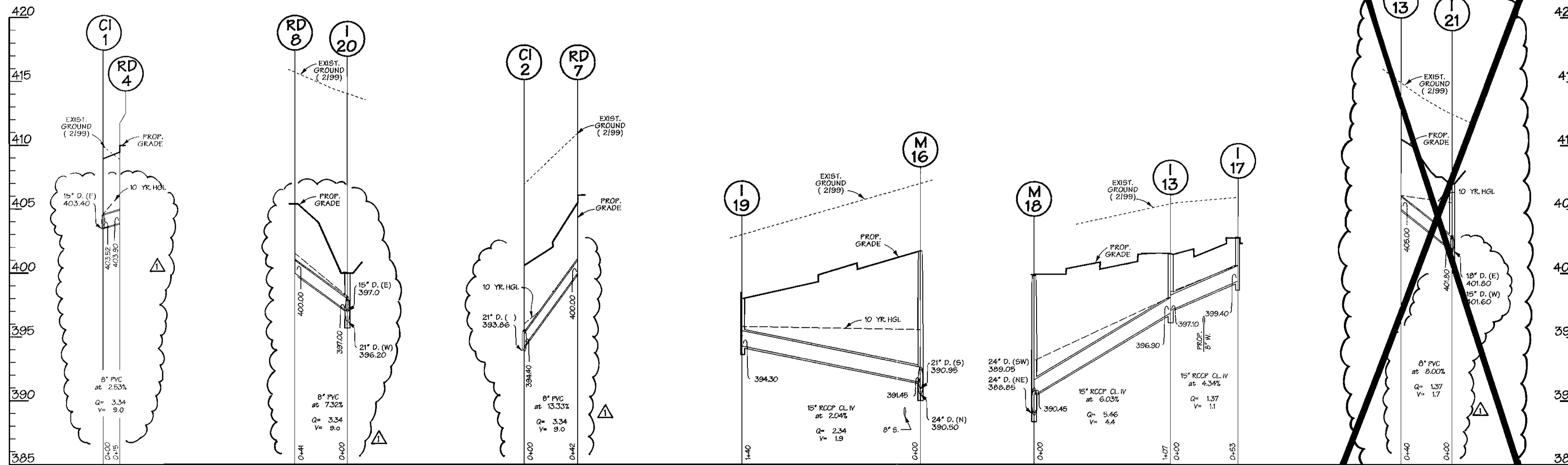
3-6-00  
Date

Professional Engr. No. 10551

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
TITLE: STORM DRAIN DRAINAGE AREA MAP  
Des By: MRT Scale: 1" = 100' Proj. No.: 89088.17  
Dm By: MRT Date: 3-3-00  
Chk By: Approved  
8 OF 31



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
 Chief, Development Engineering Division MKC 5/12/00  
 Richard Blood 5/12/00  
 Chief, Division of Land Development 2  
 Director 5/12/00

Date	No.	Revision Description
6-26-00	1	REV. STORM DRAIN PROFILES.

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTNP.  
CONTRACT PURCHASER: DEVELOPMENT CORPORATION 9145 GULFORD ROAD SUITE 100  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21046

**DMW**  
Darr McCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax: 296-4705  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: STORM DRAIN PROFILES

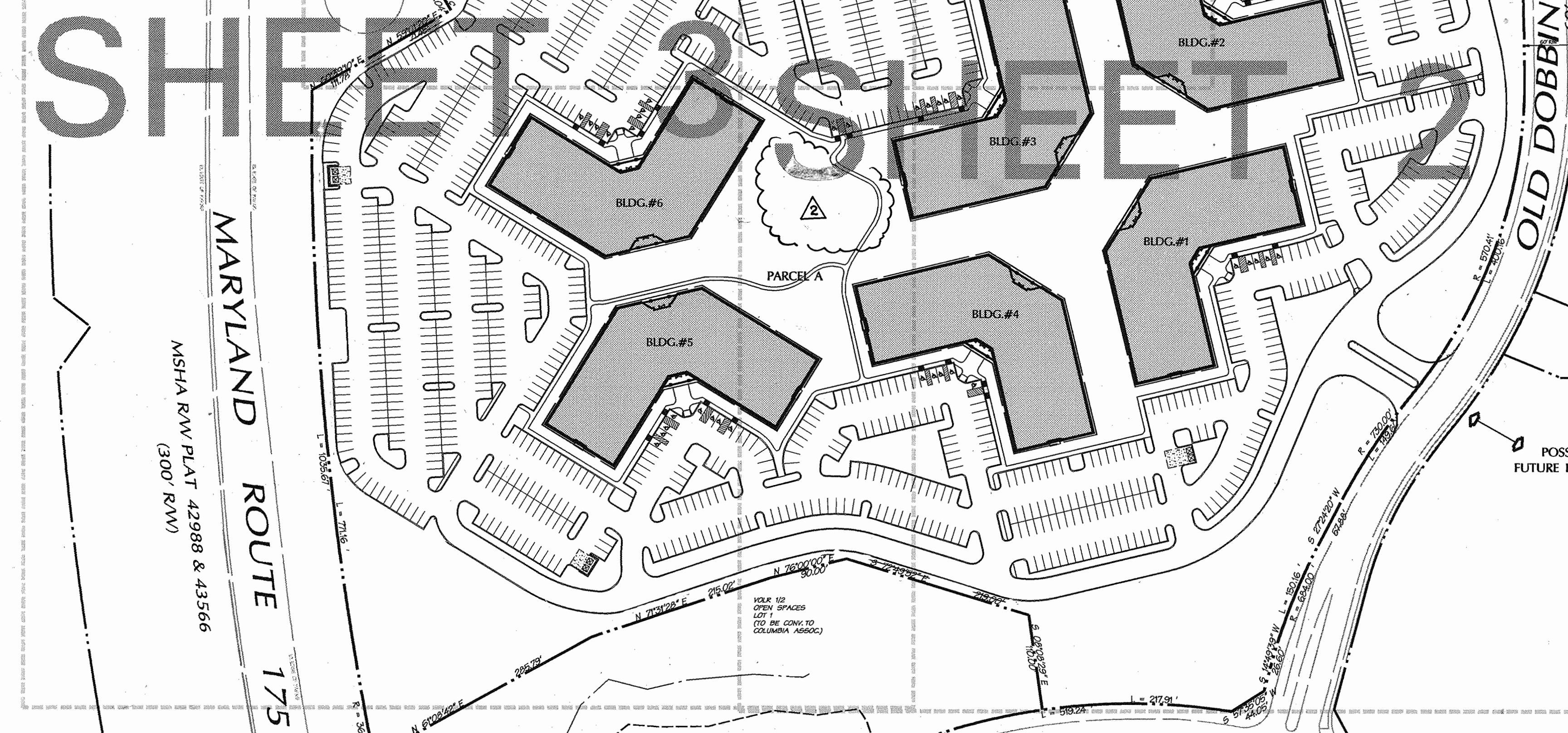
Des By: MRT Scale: AS SHOWN Proj. No.: 89088.M  
 Dm By: KDE Date: 3-3-00  
 Chk By: Approved 11 OF 31

Professional Engr. No. 10951  
 Date: 3-0-00  
 STATE OF MARYLAND  
 PROFESSIONAL ENGINEER

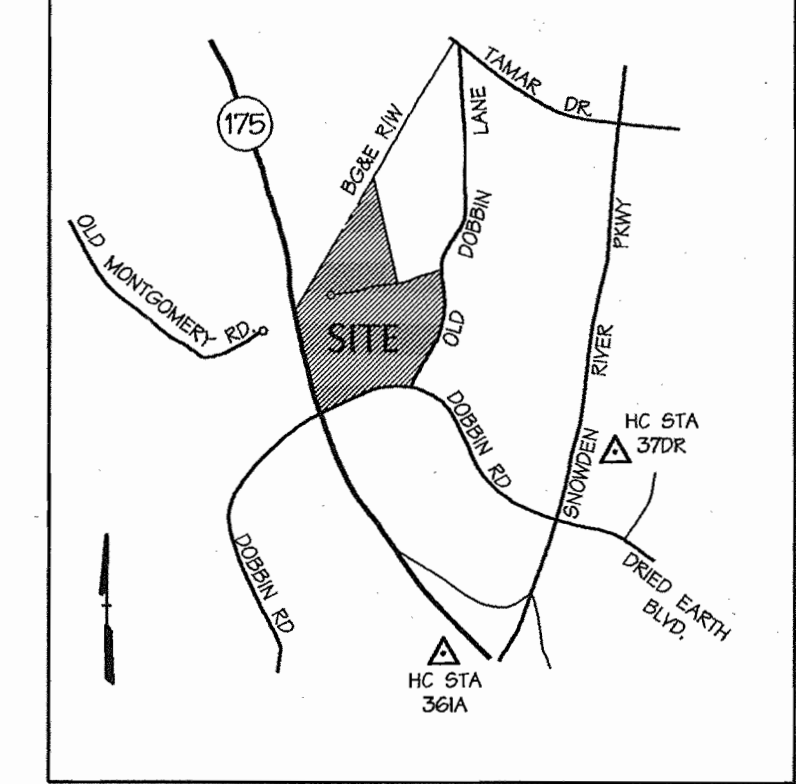
SHEET INDEX	
SHEET	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	SITE DEVELOPMENT PLAN
4	SITE DEVELOPMENT PLAN
5	SITE DETAILS
6	SITE DETAILS & S.D. STRUCTURE SCHEDULE
7	PAVING LEGEND
8	STORM DRAINAGE AREA AND SOILS MAP
9	STORM DRAIN PROFILES
10	STORM DRAIN PROFILES
11	STORM DRAIN PROFILES
12	STORM DRAIN PROFILES
13	SEWER PROFILES
14	EROSION & SEDIMENT CONTROL PLAN & SWM PLAN
15	EROSION & SEDIMENT CONTROL PLAN & SWM PLAN
16	EROSION & SEDIMENT CONTROL PLAN & SWM PLAN
17	EROSION & SEDIMENT CONTROL PLAN COMPOSITE
18	EROSION & SEDIMENT CONTROL DRAINAGE AREA MAP
19	SWM DRAINAGE AREA MAP
20	SWM PRINCIPAL SPILLWAY PROFILES
21	SWM PROFILES
22	SWM RISER DETAIL POND # 1
23	SWM RISER DETAIL POND # 2
24	SWM RISER DETAIL POND # 3
25	SWM & EROSION & SEDIMENT CONTROL DETAILS
26	SWM & EROSION & SEDIMENT CONTROL DETAILS
27	BUILDING ELEVATIONS & DETAILS
28	LANDSCAPE PLAN
29	LANDSCAPE PLAN
30	LANDSCAPE PLAN
31	SOIL BORING LOGS AND SPECIFICATIONS PLAN
31A	SITE PLAN - SUBSTITUTION SHEET
31B	GRADING PLAN - SUBSTITUTION SHEET

LEGEND	
370	10' EXISTING CONTOUR
372	2' EXISTING CONTOUR
370	10' PROPOSED CONTOUR
372	2' PROPOSED CONTOUR
	REVERSE CURB & GUTTER R-3.01
	DEPRESSED CURB R-3.01
	STANDARD CURB & GUTTER
24" SD	PROPOSED STORM DRAIN
18" S	PROPOSED SEWER
6" W	PROPOSED WATER
12	PARKING COUNT
	VAN HANDICAPPED PARKING
	HANDICAPPED PARKING
	HANDICAP RAMP

# SHEET 4



- GENERAL NOTES**
- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
  - The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
  - The contractor shall notify 'Miss Utility' at 1-800-257-7777 at least 48 hours prior to any excavation work.
  - Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
  - All plan dimensions are to the face of curb unless otherwise noted.
  - Topography was field run hereon by Gutcheck, Little & Weber on February, 1999.
  - Coordinates and bearings shown hereon are referred to the Maryland Coordinate system (NAD 83) as projected by Howard County Geodetic Control Stations No. 361A & 37 DR.
  - Storm water management is provided on-site by extended detention facilities for quantity and quality.
  - Storm water management facilities are privately maintained.
  - No wetlands exist within the limits of disturbance.
  - The existing utilities were located from available records and field survey prepared by Daft-McCune-Walker, Inc. The contractor must dig test pits, by hand, at all utility crossings and connection points at least 5 days prior to starting work to verify exact location.
  - The Soils analysis report was prepared by Hills, Carnes & Assoc.
  - Handicap parking details shall be in accordance with the 'Maryland Building Code for the Handicapped', Section 5.01-7.05.
  - Any damage to County owned right-of-way to be corrected at the contractor's expense.
  - All sidewalks shall be cross sloped at 1/4 inch per foot.
  - Trench bedding for storm drainage structures shall be in accordance with Howard County Standard G2.01.
  - Department of Planning and Zoning reference file numbers: F-06-41, FDP Ph-235, S-99-05, WP-99-117 (waiver of SEC-16-114(F) allowing the preliminary plan not to be submitted.) F-00-20, LP-04-89, P-04-108
  - All inlets shall be constructed in accordance with Howard County standards or MSHA Standards as specified on the structure schedule.
  - All materials and construction is to be in accordance with the Howard County Design Manual Volume IV.
  - The building setback restrictions from the property lines and right-of-way lines of any public road shall be in accordance with FDP Phase 235.
  - All on-site driveways and parking areas to be privately maintained.
  - All curb radii are five feet unless otherwise labeled all curbs to be 6" in height.
  - All equipment and tools shall be placed as not to interfere with vehicular or pedestrian movements unless specified.
  - The contractor shall be responsible for any damage to existing property which may occur as a result of his negligence in the execution of the work.
  - All paving areas indicated are private.
  - All proposed handicap ramps shall be in accordance with the current A.D.A. Standards.
  - There is no floodplain on this site.
  - Traffic study was prepared by Wells and Assoc. dated 12-28-99.
  - Public Water is utilized for this site.
  - This plan is exempt from Forest Conservation in accordance with Section 16-1202 (b) (1) (i).
  - This property is located within the Metropolitan District.
  - Wetlands shown are per F-00-20.
  - There are no slopes greater than 25% greater than 10,000 contiguous S.F.
  - All exterior lighting shall comply with Section 134 of the Howard County Zoning Regulations.
- AS A WAIVER OF SECTION 16.106.1.1 (ii) WAS APPROVED ON 2/18/04 PERMITTING SUBMISSION OF THE BUILDING PERMIT APPLICATION FOR BUILDINGS 1-6 ON 12/18/04. (LP-04-89)**



**LOCATION MAP**  
SCALE: 1" = 200'

BUILDING #	STREET ADDRESS
1	6250 Old Dobbin Lane
2	6200 Old Dobbin Lane
3	6210 Old Dobbin Lane
4	6240 Old Dobbin Lane
5	6230 Old Dobbin Lane
6	6220 Old Dobbin Lane

**APPROVED**  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE: FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>Richard Blood</i>	5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
<i>Richard Blood</i>	5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>David R. Kutt</i>	5/12/00
DIRECTOR	DATE

Date	No.	Revision Description
12-19-03	3	REV. SITE ANALYSIS
3-20-04	2	REV. SITE ANALYSIS TO DELETE COMMONS BLDG.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**

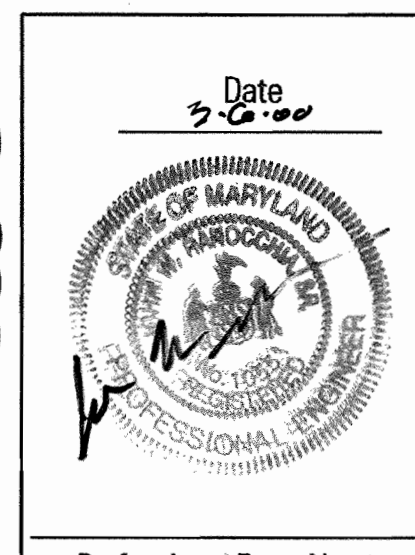
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD 21044

<b>DMW</b> Daft-McCune-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3333 Fax 296-4705		A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
SUBDIVISION NAME COL. RT. 175 COMMERCIAL	SECTION/AREA 2/1 (A) (O) (F-00-20)	DATE 2/23/00	PROJECT # 27,122,244,282
PLAT # PH 235	BLOCK # 12816	TOWNSHIP NT	SECTION 6 TH
WARRANT CODE P.00	OWNER CODE 6334400	TITLE COVER SHEET	
Des By MJP	Scale AS SHOWN	Proj. No. 89088.M	
Dwn By KDE	Date 3-3-00		
Chk By	Approved		1 OF 31

**SITE ANALYSIS:**

- Zoning: New Town (Per FDP Ph. 235)
- Project Area: 28.17 Ac. or 1227085 sq. ft.  
Parcel A: 26.24 Ac.  
O.S. Lot 3: 1.93 Ac.
- Proposed Use: Commercial office buildings and parking.
- Area Tabulation  
Total commercial building area: 241,000 sq. ft.  
A. Phase 1 (Buildings 1-3): 96,000 sq. ft.  
B. Phase 2 (Buildings 4-6): 145,000 sq. ft.  
C. Limit of Disturbance: 28 Ac.  
D. Impervious Area: 16.5 Ac.  
E. Green Area: 11.5 Ac.
- Parking Required: 522 sp. (2 sp./1000 sq. ft.)  
A. Phase 1: 192 sp. (INC 16 HC)  
B. Phase 2: 330 sp. (INC 21 HC)
- Parking Provided: 1216 sp.  
A. Phase 1: 536 sp. (INC 17 HC)  
B. Phase 2: 680 sp. (INC 22 HC)



Professional Engr. No. 1551

**VICINITY MAP**  
1" = 100'



**APPROVED**  
**PLANNING BOARD**  
**OF HOWARD COUNTY**  
 DATE FEB 23, 2000


APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

<i>[Signature]</i>	5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
<i>[Signature]</i>	5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i>	5/12/00
DIRECTOR	DATE

5-20-01	2	DELETE COMMON'S DRIVE, REV. EXIST. WALKS, REV. FIN. RD. ADJ. STAIRS
6-28-00	1	DELETE RD. 1, 18 & 19, REV. PHASING LINE, REV. 12' W TO 8' W.
Date	No.	Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & 0.5 LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 9145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

<b>DMW</b> <small>Draft-McCrone-Walker, Inc.        200 East Pennsylvania Avenue        Potosi, Maryland 21786        (410) 296-3523        Fax: 296-4705</small>		<small>A Team of Land Planners,        Landscape Architects,        Engineers, Surveyors &amp;        Environmental Professionals</small>	
AREA	ROUTE 175 COMMERCIAL	TAX MAP	36 & 37
		PARCEL	27, 122, 244, 282
		6TH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND
TITLE	SITE DEVELOPMENT PLAN		
Des By	MJP	Scale	1" = 50'
Dim By	KDE	Date	3-3-00
Proj. No.	69088.M		
Chk By	<i>[Signature]</i>	Approved	
Professional Engr. No.	10771		

2-9-00  
 Date  
  
 Professional Engr. No. 10771

DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS PREPARED BY GUTSCHICK, LITTLE & WEBER.



**APPROVED**  
**PLANNING BOARD**  
**of HOWARD COUNTY**  
 DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i>	5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE
<i>[Signature]</i>	5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
<i>[Signature]</i>	5/12/00
DIRECTOR	DATE

Date	No.	Revision Description
2-20-01	2	DELETE COMMONS BLDG & 4' MAG. PATH
6-29-00	1	REV. ROOF DRAIN CONN. TO 8" REV. PHASE LINE.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044  
 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD. 21046

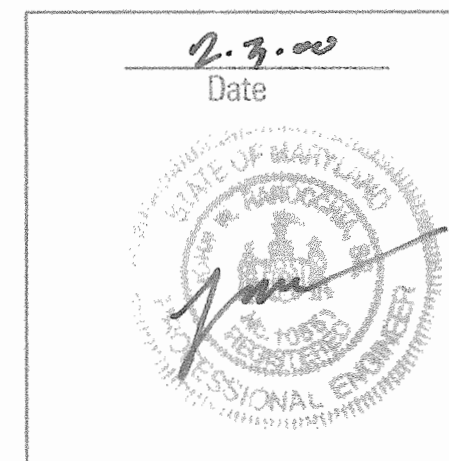
**DMW**  
 Draft McCallum-Walker, Inc.  
 300 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4706  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: **SITE DEVELOPMENT PLAN**

Des By	MJP	Scale	1" = 50'	Proj. No.	89088.M
Dwn By	KDE	Date	3-3-00		
Chk By		Approved			3 OF 31

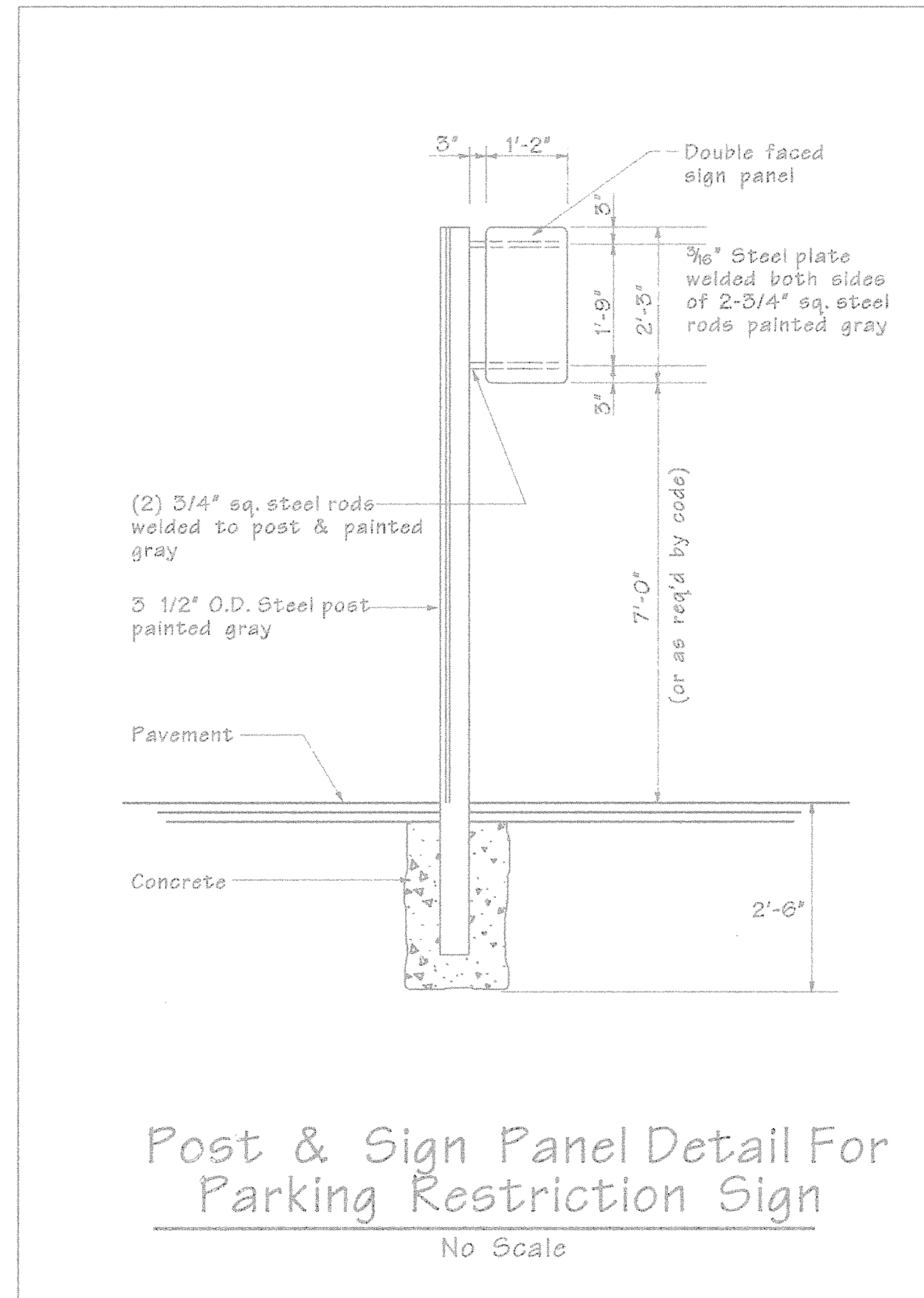
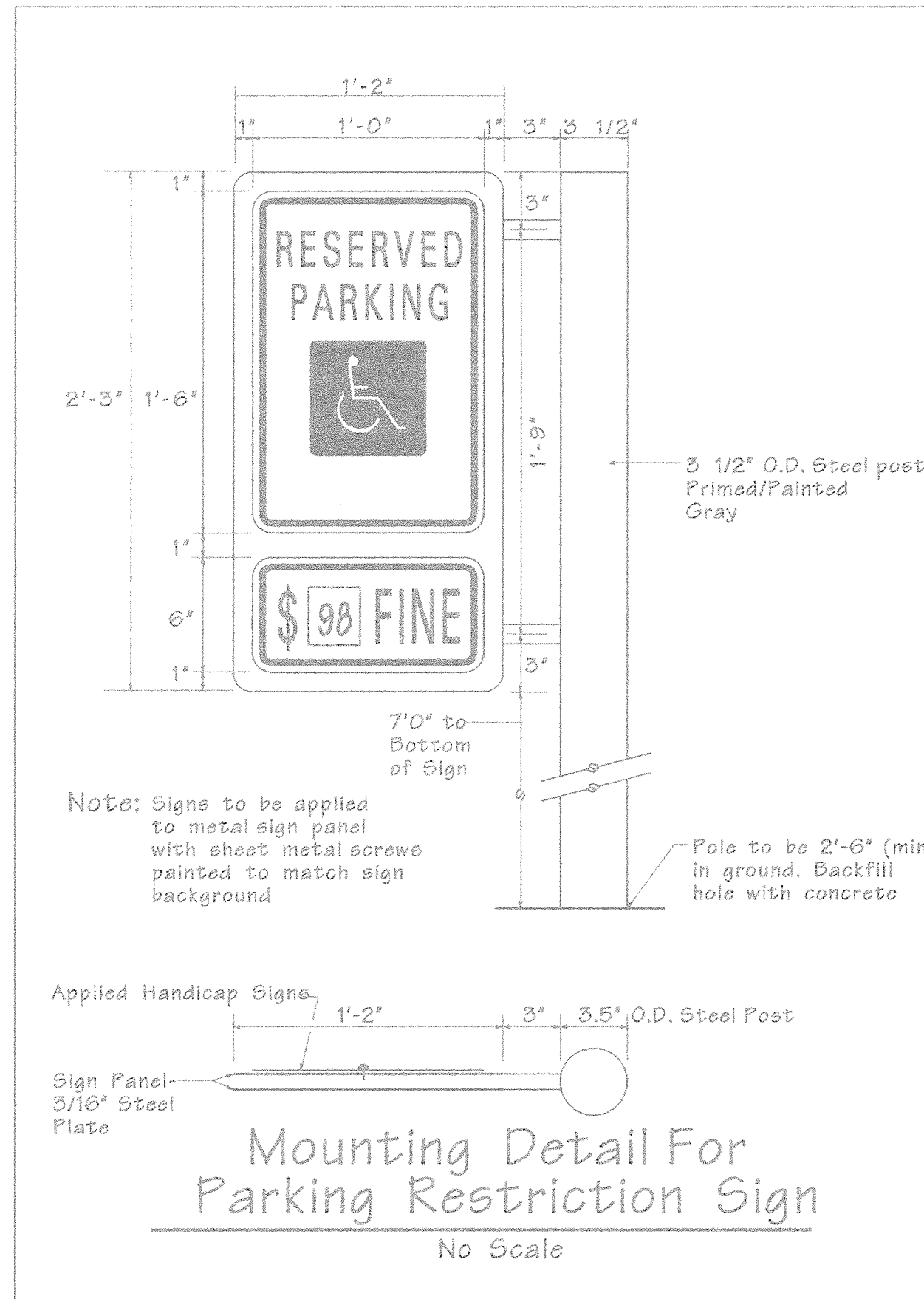
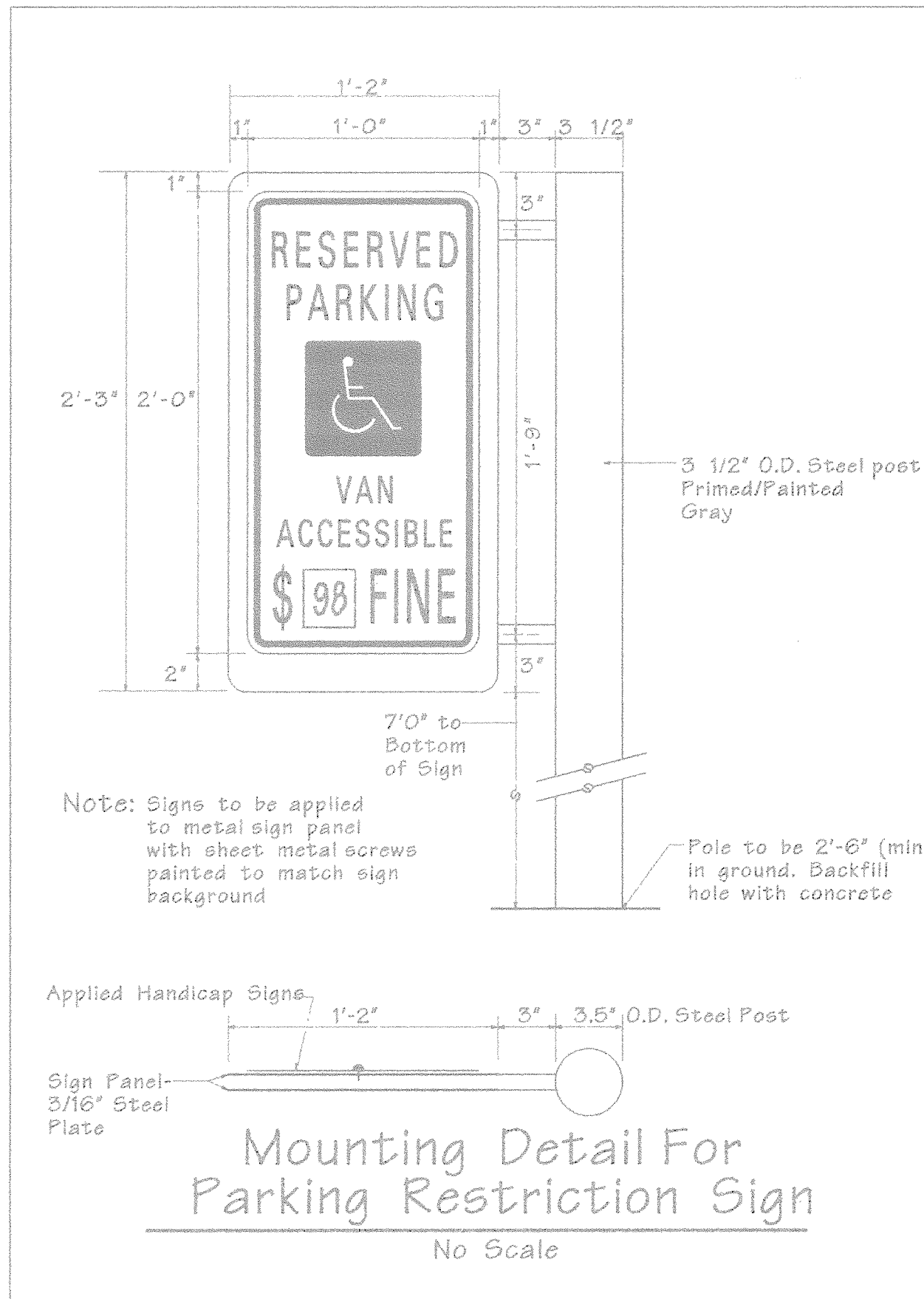
DATA SOURCES:  
 TOPOGRAPHY & BOUNDARY TAKEN FROM PLANS  
 PREPARED BY GUTSCHICK LITTLE & WEBER



\* SEE SUBSTITUTE SHEETS 31A & 31B FOR DETAILS.

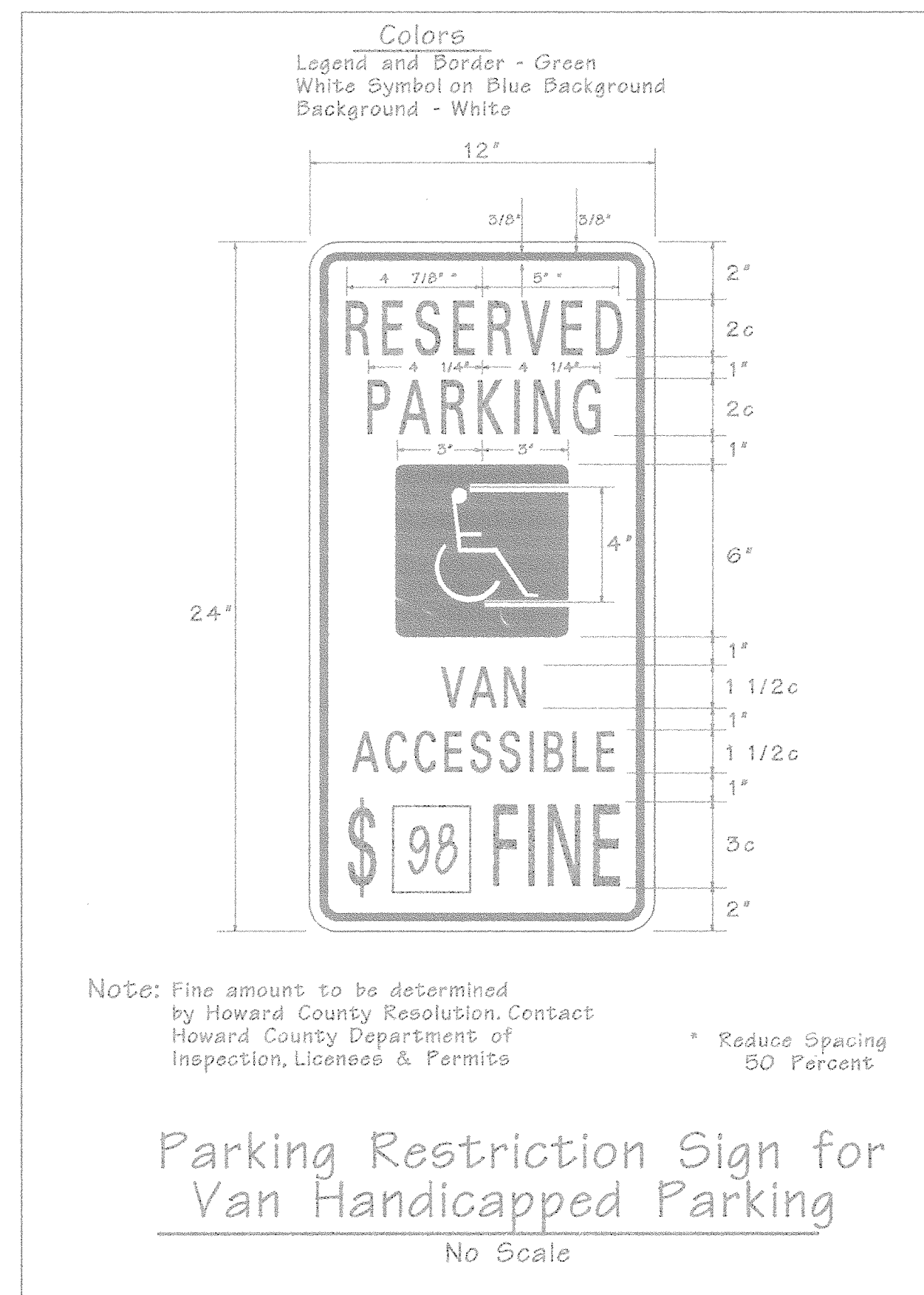
12-19-03	3	REV. BLDGS. 5 & 6 & ADJACENT PKG. LOTS REV. UTILITIES & GRADES
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NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL	LOCATION
M-1	'C'	48"	396.10	409.0	G 5.12	
M-3	'C'	48"	397.50	406.30	G 5.12	
M-4	'C'	48"	402.00	410.50	G 5.12	
M-5	'C'	48"	400.50	408.9	G 5.12	
M-6	'C'	48"	398.55	409.25	G 5.12	
M-12	'C'	48"	405.45	410.60	G 5.12	
M-13	'C'	48"	406.05	410.00	G 5.12	
M-15	'C'	48"	391.87	400.10	G 5.12	
M-16	'C'	48"	391.10	401.60	G 5.12	
M-18	'C'	48"	388.85	388.80	G 5.13	
M-19	'C'	48"	404.65	410.75	G 5.12	
M-20	'C'	48"	379.48	378.60	G 5.13	
M-22	'C'	48"	379.61	386.00	G 5.12	
M-23	'C'	60"	371.03	381.50	G 5.13	

NO.	TYPE	SIZE	INV. OUT	DETAIL
WYE 1	WYE CONNECTION	18" X 18"	403.65	H.O.CO.SD 1.11
WYE 2	WYE CONNECTION	21" X 18"	380.45	H.O.CO.SD 1.11
G-1	FIELD CONNECTION	18" X 8"	403.55	H.O.CO.SD 2.01
G-2	FIELD CONNECTION	21" X 8"	393.86	H.O.CO.SD 2.01
G-3	FIELD CONNECTION	18" X 8"	403.55	H.O.CO.SD 2.01
E-1	CONCRETE END SECTION	24"	375.00	H.O.CO.SD 5.52
E-2	CONCRETE END SECTION	36"	384.00	H.O.CO.SD 5.52
E-3	CONCRETE END SECTION	27"	387.00	H.O.CO.SD 5.52
E-3A	CONCRETE END SECTION	27"	387.00	H.O.CO.SD 5.52
S-1	TYPE 'A' HEADWALL	24"	368.39	H.O.CO.SD 5.11
S-2	TYPE 'A' HEADWALL	36"	379.81	H.O.CO.SD 5.11
S-3	TYPE 'A' HEADWALL	36"	371.75	H.O.CO.SD 5.11



NO.	TYPE	INV. OUT	TOP ELEV.	DETAIL	WIDTH	LOCATION
I-1	A-10	406.25	410.00	SD 4.41	2'-6"	
I-2	A-5	404.10	408.10	SD 4.40	2'-6"	
I-3	A-5	401.60	407.00	SD 4.40	2'-6"	
I-3A	A-5	403.80	407.50	SD 4.41	2'-6"	
I-4	A-5	397.70	404.50	SD 4.40	2'-6"	
I-4A	A-10	398.80	402.20	SD 4.41	2'-6"	
I-5	A-5	386.00	401.00	SD 4.40	2'-6"	
I-7	COB 15	404.70	409.00	SHA MD 374.61	2'-6"	
I-10	A-10	395.00	399.15	SD 4.41	2'-9"	
I-11	A-5	394.70	400.10	SD 4.40	2'-9"	
I-12	A-5	392.80	399.5	SD 4.01	2'-6"	
I-13	A-5	396.90	401.80	SD 4.40	2'-6"	
I-14	A-5	396.70	400.00	SD 4.40	2'-6"	
I-16	A-5	395.10	399.50	SD 4.01	2'-6"	
I-17	A-5	398.40	402.80	SD 4.40	2'-6"	
I-19	A-5	394.30	398.50	SD 4.40	2'-6"	
I-20	SINGLE 'S'	396.20	400.00	SD 4.22	---	
I-21	SINGLE 'S'	401.60	407.00	SD 4.22	---	
I-22	SINGLE 'S'	405.00	408.00	SD 4.22	---	
I-23	SINGLE 'S'	401.65	408.00	SD 4.22	---	
I-25	SINGLE 'S'	407.00	411.00	SD 4.22	---	
I-31	COB 15	384.70	388.00	SHA MD 374.61	2'-6"	
I-32	A-10	382.50	386.5	SD 4.41	2'-6"	
I-33	A-10	393.30	383.00	SD 4.41	2'-6"	
I-34	SINGLE 'S'	394.74	400.50	SD 4.23	2'-6"	
I-35	A-10	391.50	396.60	SD 4.41	2'-6"	
I-36	A-5	387.25	391.50	SD 4.41	2'-6"	
I-37	A-5	391.00	395.50	SD 4.40	2'-6"	
I-38	A-10	389.48	394.40	SD 4.41	2'-6"	
I-39	A-10	378.70	380.50	SD 4.02	2'-6"	
I-40	SINGLE 'S'	396.30	400.00	SD 4.22	---	
I-41	A-5	383.45	400.80	SD 4.01	2'-6"	
I-42	A-5	396.00	396.30	SD 4.40	2'-6"	
I-43	A-5	391.35	396.50	SD 4.40	2'-6"	
I-44	A-5	392.55	386.80	SD 4.40	2'-6"	
I-45	A-10	389.65	394.40	SD 4.02	2'-6"	
I-45A	A-5	393.50	398.50	SD 4.40	2'-9"	
I-46	A-10	388.60	389.90	SD 4.02	3'-6"	
I-47	A-5	391.85	389.80	SD 4.01	2'-6"	
I-48	SINGLE 'S'	404.90	408.80	SD 4.22	---	
I-60	A-5	403.60	410.00	SD 4.40	2'-6"	
I-61	A-5	406.20	410.50	SD 4.40	2'-6"	
I-63	A-10	401.25	406.40	SD 4.41	2'-6"	
I-63A	A-5	400.95	406.20	SD 4.40	2'-6"	
I-64	A-5	409.40	412.50	SD 4.40	2'-6"	
I-65	A-5	406.30	410.40	SD 4.40	2'-6"	
I-66	A-5	407.50	410.80	SD 4.40	2'-6"	
I-67	A-10	384.70	404.65	SD 4.02	3'-6"	
I-68	SINGLE 'S'	397.10	400.10	SD 4.22	---	
I-19A	A-5	378.98	400.30	SD 4.40	---	

ALL INVERTS TO BE FULLY DEVELOPED  
 NOTE: AT ALL RISE DRAIN CONNECTIONS, CONNECT WITH TERNOD COUPLING OR APPROVED EQUAL.

\* TOP OF CURB ELEV. UNLESS NOTED  
 \*\* PROVIDE REGULAR GRATE TOP ELEV. = GRATE

Professional Engr. No. 10999  
 Date

APPROVED  
 PLANNING BOARD  
 OF HOWARD COUNTY  
 DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING AND ZONING  
 Richard Bloedel  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 5/12/00  
 DATE

5/12/00  
 DATE

5/12/00  
 DATE

6-28-00 1 REV. STRUCTURE SCHEDULE.  
 Revision Description

COLUMBIA  
 ROUTE 175 COMMERCIAL  
 SECTION 1 AREA 2 PARCEL A & 0.5 LOT 3  
 OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 LITTLE PATUMENT PARKWAY  
 COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
 3485 GULFORD ROAD  
 SUITE 100  
 COLUMBIA, MD 21045

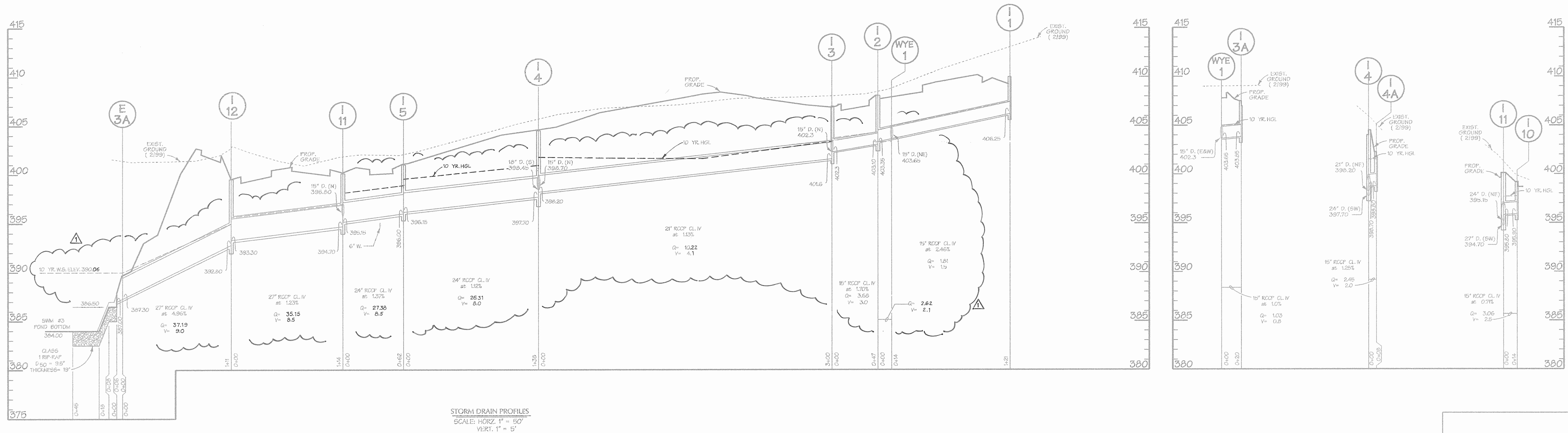
DMW  
 Date

AREA ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

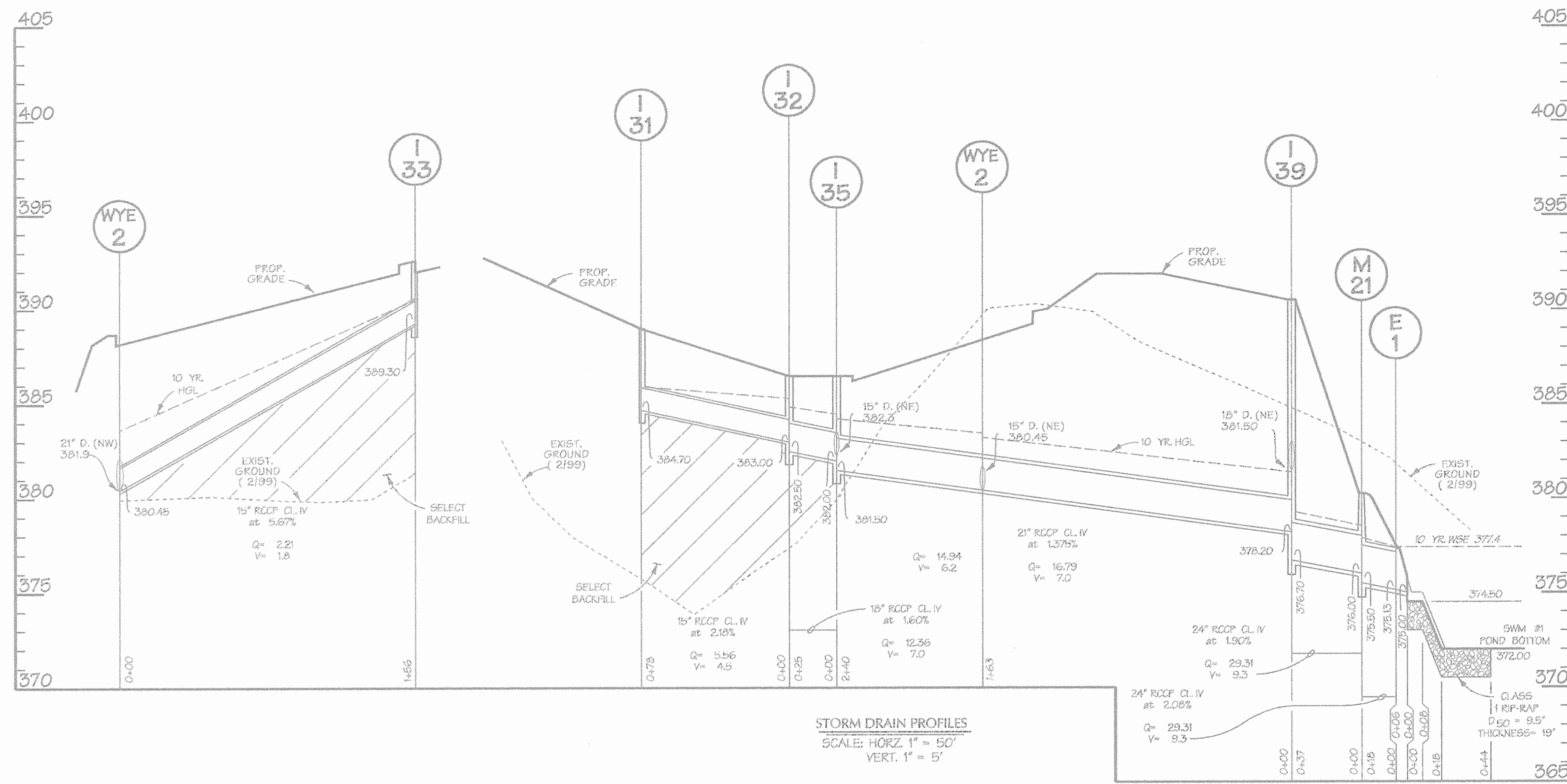
TITLE SITE DETAILS & STORM DRAIN STRUCTURE SCHEDULE

Des By Scale Proj. No. 89088.M  
 Dwn By BKC Date 4-28-00  
 Chk By Approved 6 OF 31

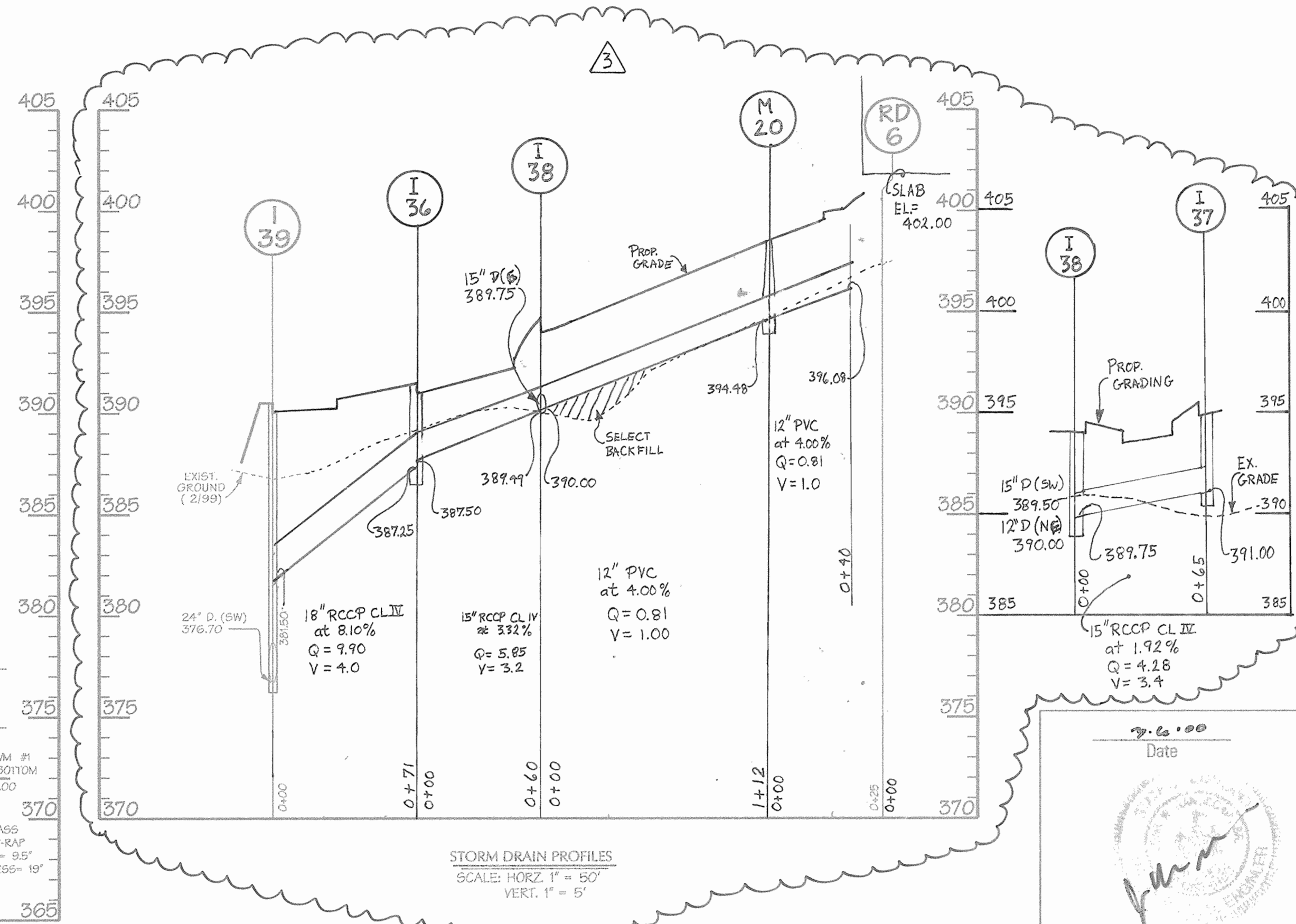
12-17-03 3 REV INLET & MANHOLE SCHEDULES  
 DATE No. REVISION DESCRIPTION



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB 12, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION M.I.C.	5/12/00 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>[Signature]</i> DIRECTOR	5/12/00 DATE
12-1102-02 6-2800-1	REV. STORM DRAIN PROFILES. REV. STORM DRAIN PROFILES.
Date	No.
Revision Description	

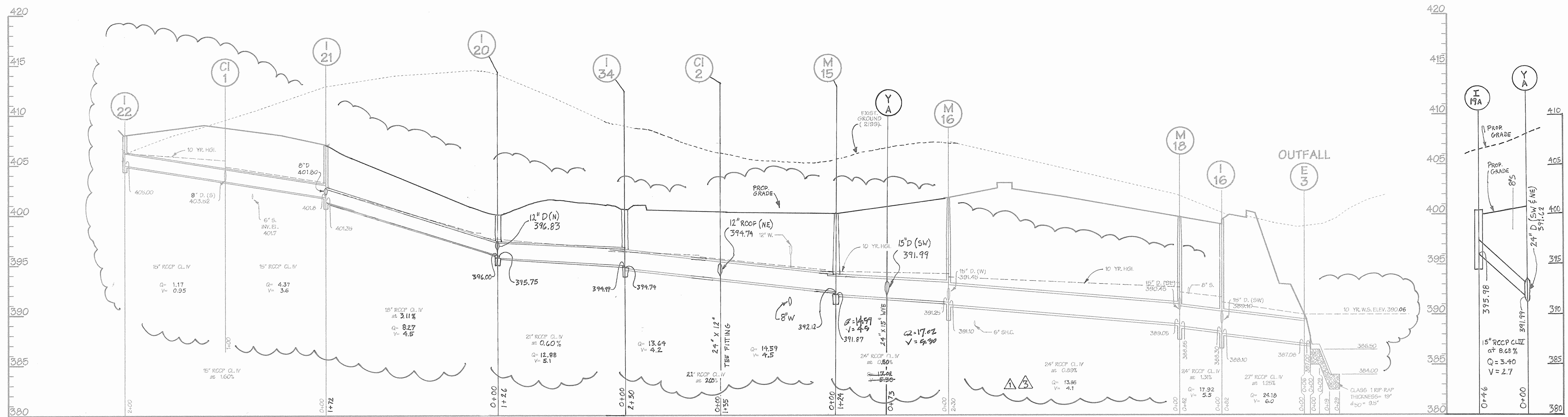
COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & LIBERTY PROPERTY LTD. PTNP.  
DEVELOPMENT CORPORATION 9145 GUILFORD ROAD  
SUITE 100 COLUMBIA, MD 21046  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044

**DMW**  
Duff-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 286-3333  
Fax 286-4706  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

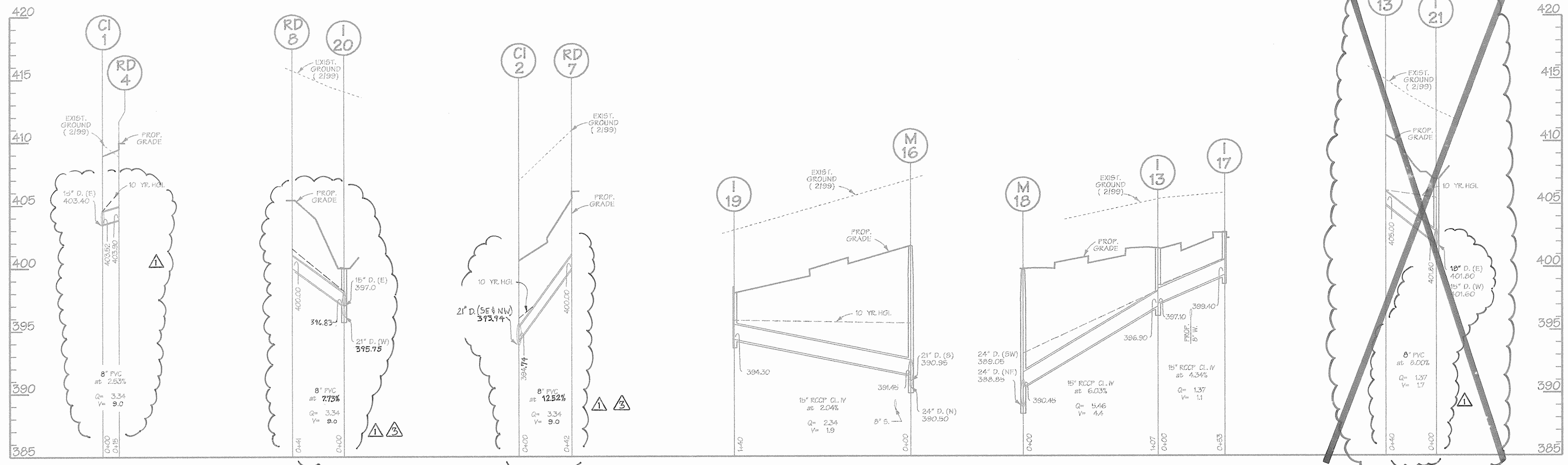
TITLE STORM DRAIN PROFILES

Des By	Scale AS SHOWN	Proj. No. 89088.M
Dm By KDE	Date 3-3-00	9 OF 31
Chk By	Approved	



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB 23, 2000



STORM DRAIN PROFILES  
SCALE: HORIZ. 1" = 50'  
VERT. 1" = 5'

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	MK 5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00
DIRECTOR	5/12/00
2-50-01	2 DEBATE RD 15
6-26-00	1 REV. STORM DRAIN PROFILES
Date	No.
Revision Description	
COLUMBIA ROUTE 175 COMMERCIAL	
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3	
OWNER / DEVELOPER:	CONTRACT PURCHASER:
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION	LIBERTY PROPERTY LTD. PTN.
10275 LITTLE PATUXENT PARKWAY	SUITE 100 COLUMBIA, MD 21046
COLUMBIA, MD 21044	

**DMW**  
Dan-McCune-Walker, Inc.  
300 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 286-2323  
Fax 286-4709  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

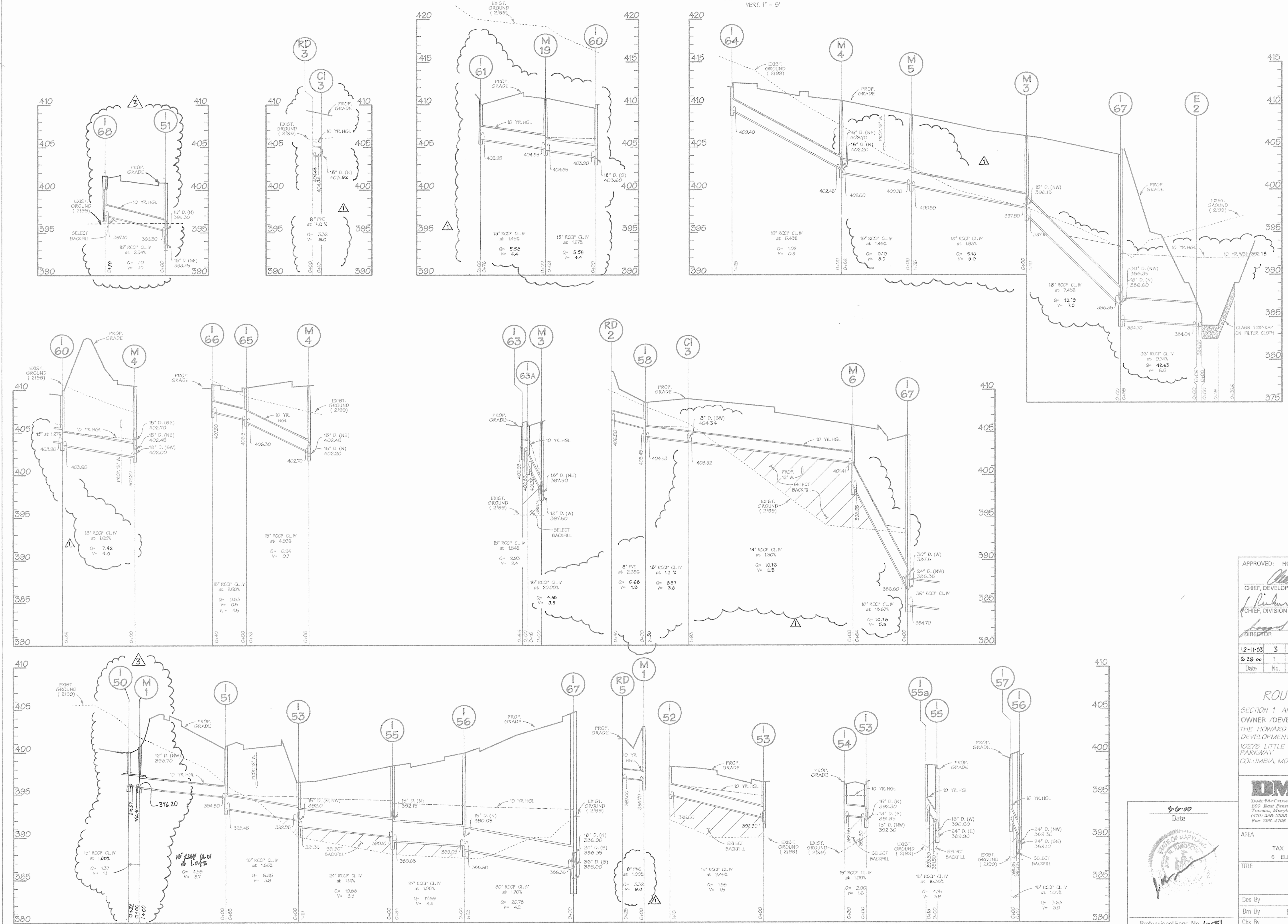
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Date  
Professional Eng. No. 10951

12-17-03	3	REV. PROFILES
DATE	No.	REVISION DESCRIPTION

AREA	ROUTE 175 COMMERCIAL		
	TAX MAP 36 & 37	PARCEL 27, 122, 244, 282	
	6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND		
TITLE	STORM DRAIN PROFILES		
Des By	MRT	Scale AS SHOWN	Proj. No. 89088.M
Drn By	KDE	Date 3-3-00	
Chk By		Approved	11 OF 31

STORM DRAIN PROFILES

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



APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: Feb 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*John Damman* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION M-1K DATE  
*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*David Smith* 5/12/00  
 DIRECTOR DATE

Date	No.	Revision Description
12-11-03	3	REV. PROFILES
6-28-00	1	REV. STORM DRAIN PROFILES.

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER/DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 9145 GUILFORD ROAD 10275 LITTLE PATUXENT FARMWAY COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTINP SUITE 100 COLUMBIA, MD 21046

**DMW**  
 Dea-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 286-3333  
 Fax 286-4705  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

AREA: **ROUTE 175 COMMERCIAL**  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

TITLE: **STORM DRAIN PROFILES**

Des By	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	KDE	Date	3-3-00	
Chk By		Approved		12 OF 31

Professional Engr. No. 10951  
 Date: 3-0-00



# LEGEND

- 370 10' EXISTING CONTOUR
- 372 2' EXISTING CONTOURS
- PROPERTY LINE
- 370 10' PROPOSED CONTOUR
- 372 2' PROPOSED CONTOUR
- REVERSE CURB & GUTTER R-3.01
- DEPRESSED CURB R-3.01
- STANDARD CURB & GUTTER
- 24" S.D. PROPOSED STORM DRAIN
- 12" S.D. PROPOSED SEWER
- 12" S.D. PROPOSED WATER
- PARKING COUNT
- VAN HANDICAPPED PARKING
- HANDICAPPED PARKING
- HANDICAP RAMP
- UTILITY CONDUITS

MARYLAND ROUTE 175  
 MSHA RAW PLAT 42988 & 43566  
 (300' RAW)



NOTE:  
 THE PURPOSE OF THIS PLAN IS TO  
 REPLACE INFORMATION PREVIOUSLY  
 SHOWN ON SHEET #3.

7/16/04  
 Date

*J. M. Johnson*  
 Professional Engr. No. 10951

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

*Michael M. K...* 7/23/04  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE

*Clara Hemida* 7/23/04  
 CHIEF, DIVISION OF LAND DEVELOPMENT CB DATE

*Stephen L. ...* 7/27/04  
 DIRECTOR OF PLANNING DATE

Date	No.	Revision Description

**COLUMBIA  
 ROUTE 175 COMMERCIAL**

SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
 3145 GUILFORD ROAD SUITE 100  
 COLUMBIA, MD. 21046

**DMW**  
 Duff McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3355  
 Fax 296-4705

A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: REPLACEMENT SHEET  
 SITE PLAN

Des By: MJP Scale: 1" = 50' Proj. No. 89088.M  
 Dm By: AJS, JSN Date: 4-5-04  
 Chk By: Approved 31A OF 31

MARYLAND ROUTE 175  
 MSHA R/W PLAT 42988 & 43566  
 (300' R/W)



**LEGEND**

- 370 10' EXISTING CONTOUR
- 372 2' EXISTING CONTOURS
- PROPERTY LINE
- 370 10' PROPOSED CONTOUR
- 372 2' PROPOSED CONTOUR
- REVERSE CURB & GUTTER R-3.01
- DEPRESSED CURB R-3.01
- STANDARD CURB & GUTTER
- PROPOSED STORM DRAIN
- PROPOSED SEWER
- PROPOSED WATER
- ⊙ PARKING COUNT
- ⊙ VAN HANDICAPPED PARKING
- ⊙ HANDICAPPED PARKING
- HANDICAP RAMP
- UTILITY CONDUITS



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/23/04 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	7/26/04 DATE
<i>[Signature]</i> DIRECTOR (PLANNING)	7/27/04 DATE

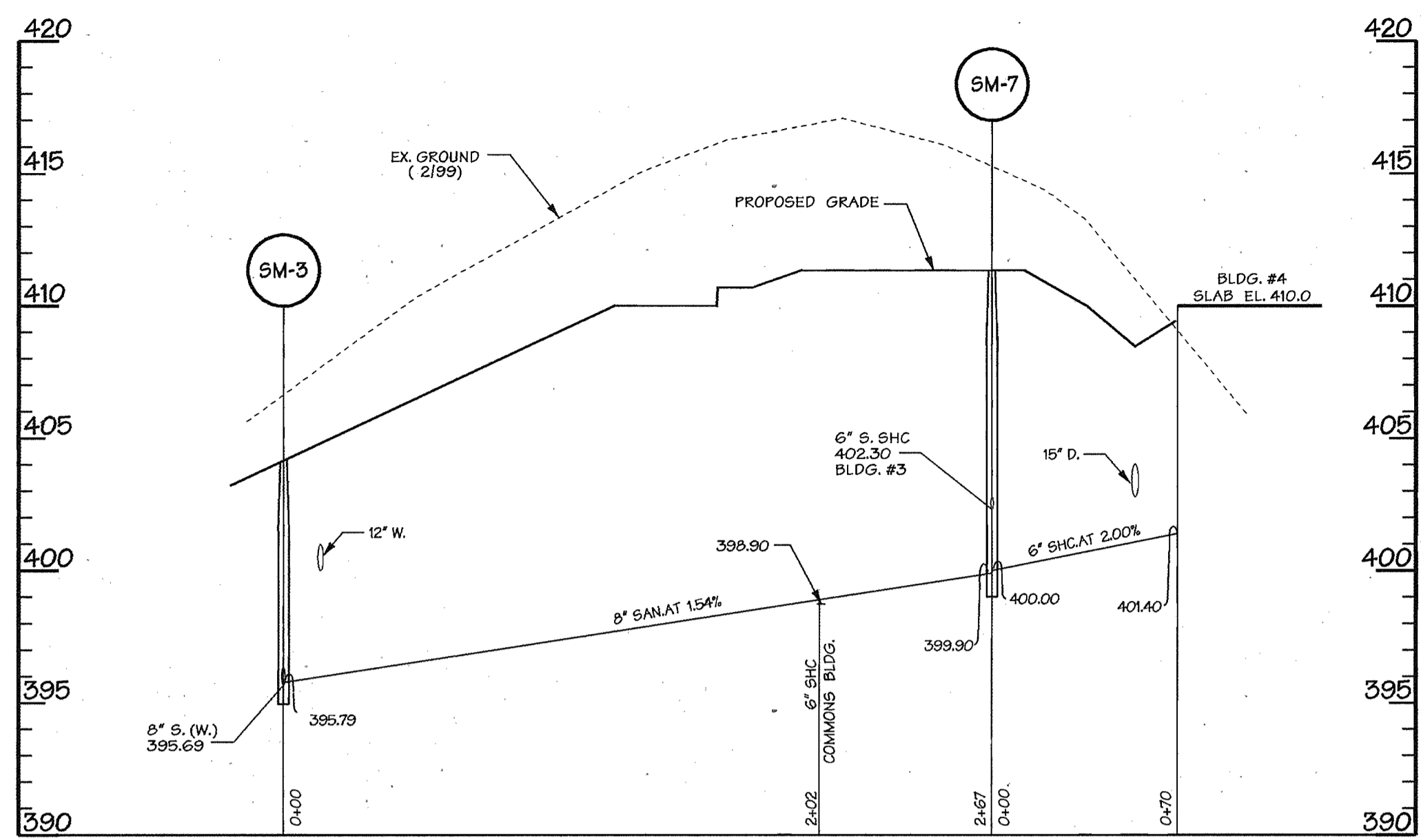
Date	No.	Revision Description
<b>COLUMBIA</b>		
<b>ROUTE 175 COMMERCIAL</b>		
SECTION 1 AREA 2		PARCEL A & O.S. LOT 3
OWNER /DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT FARMWAY COLUMBIA, MD 21044	CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046	

NOTE:  
 THE PURPOSE OF THIS PLAN IS TO  
 REPLACE INFORMATION PREVIOUSLY  
 SHOWN ON SHEET #3.

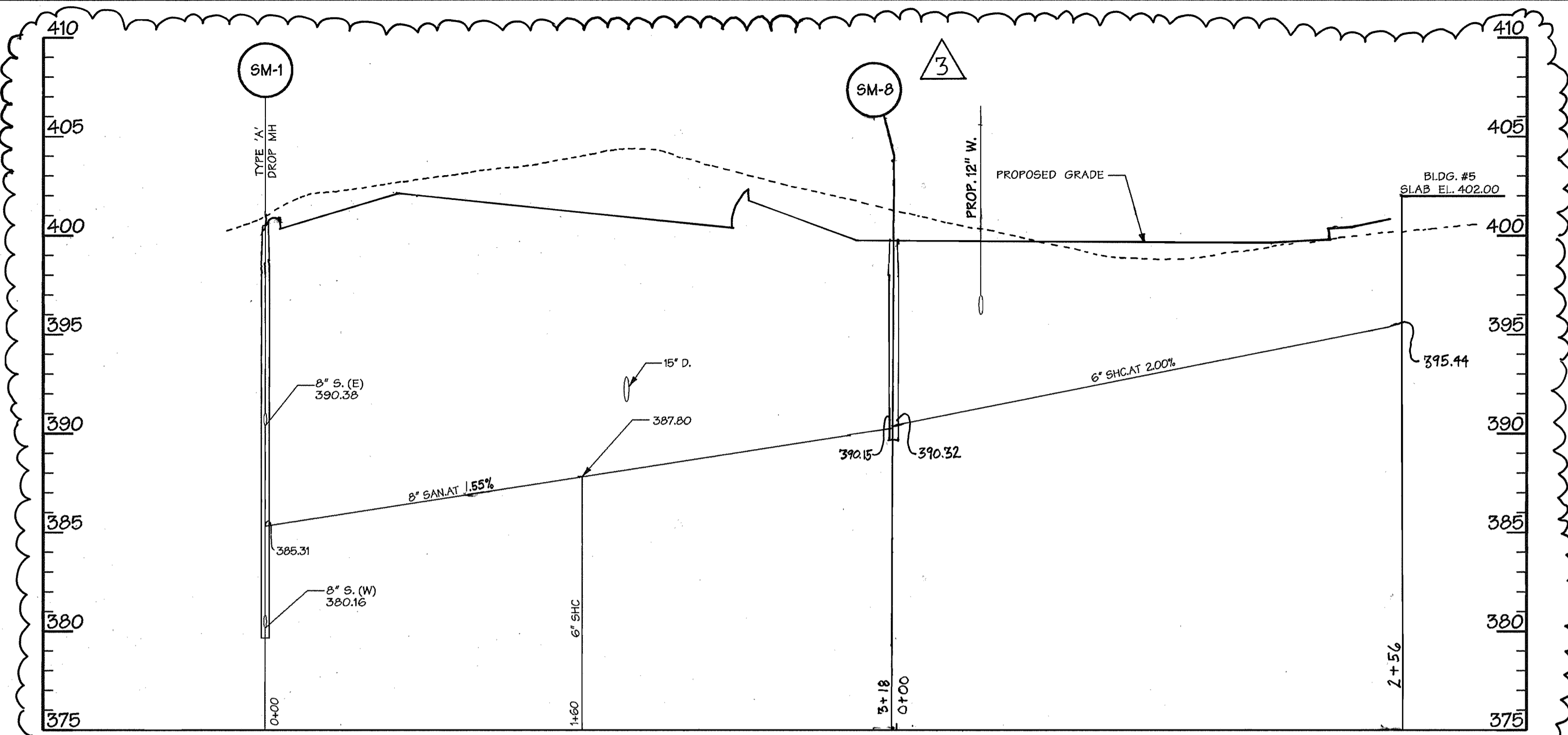
*[Signature]*  
Date

Professional Engr. No. 10597

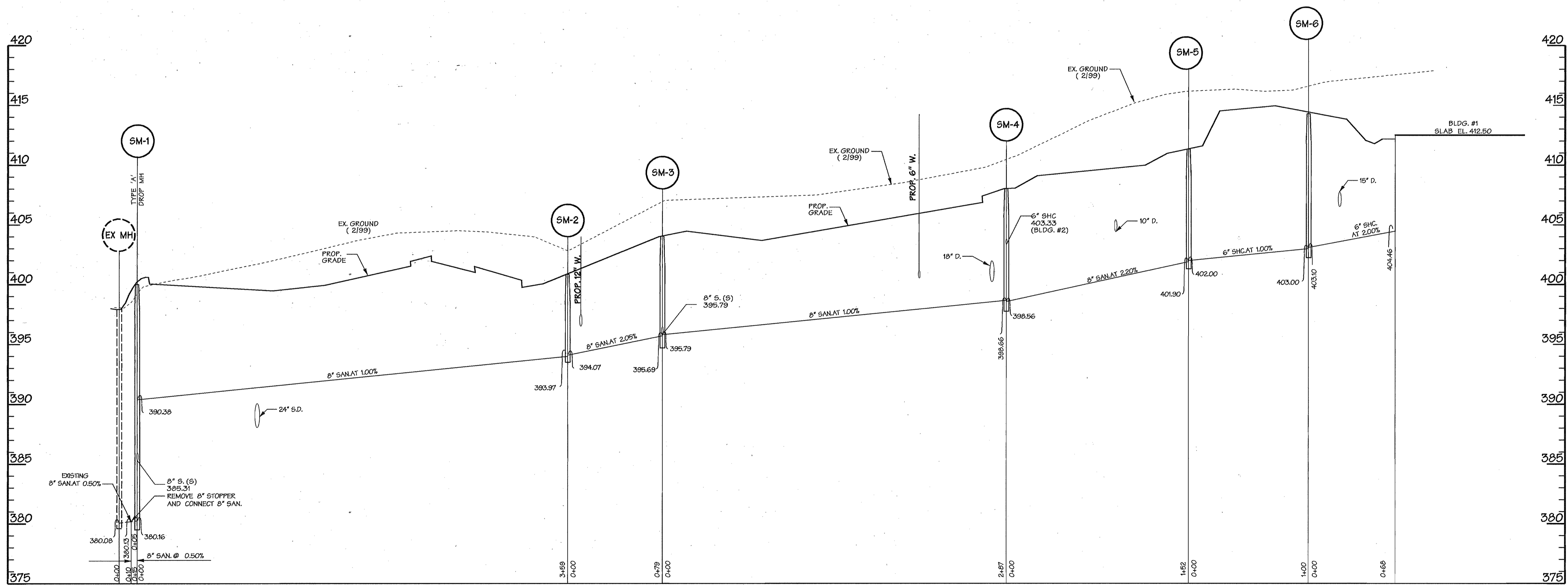
<b>DMW</b> Darr McCaskey-Walkers, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3333 Fax 296-4705		A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
AREA	ROUTE 175 COMMERCIAL		
TAX MAP	36 & 37	PARCEL 27, 122, 244, 282	
6TH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND		
TITLE	REPLACEMENT SHEET GRADING PLAN		
Des By	MJP	Scale 1" = 50'	Proj. No. 89088.M
Drn By	AJS, JSN	Date 4-5-04	
Chk By	Approved		31B OF 31



SANITARY SEWER PROFILES  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



SANITARY SEWER PROFILES  
SCALE: 1"=50' HORZ.  
1"=5' VERT.



SANITARY SEWER PROFILES  
SCALE: 1"=50' HORZ.  
1"=5' VERT.

**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Chieff Development Engineering Division MK* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK DATE  
*Richard Blood* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE  
*Director* 5/12/00  
 DIRECTOR DATE

Date	No.	REV. PROFILE	Revision Description
12-11-03	3	REV. PROFILE	

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
 OWNER/DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 10275 LITTLE PATUXENT PARKWAY  
 COLUMBIA, MD 21044  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
 9145 GUILFORD ROAD  
 SUITE 100  
 COLUMBIA, MD 21046

**DMW**  
 Draft-McCann-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 286-3333  
 Fax 296-4705  
 A Team of Land Planners,  
 Landscape Architects,  
 Engineers, Surveyors &  
 Environmental Professionals

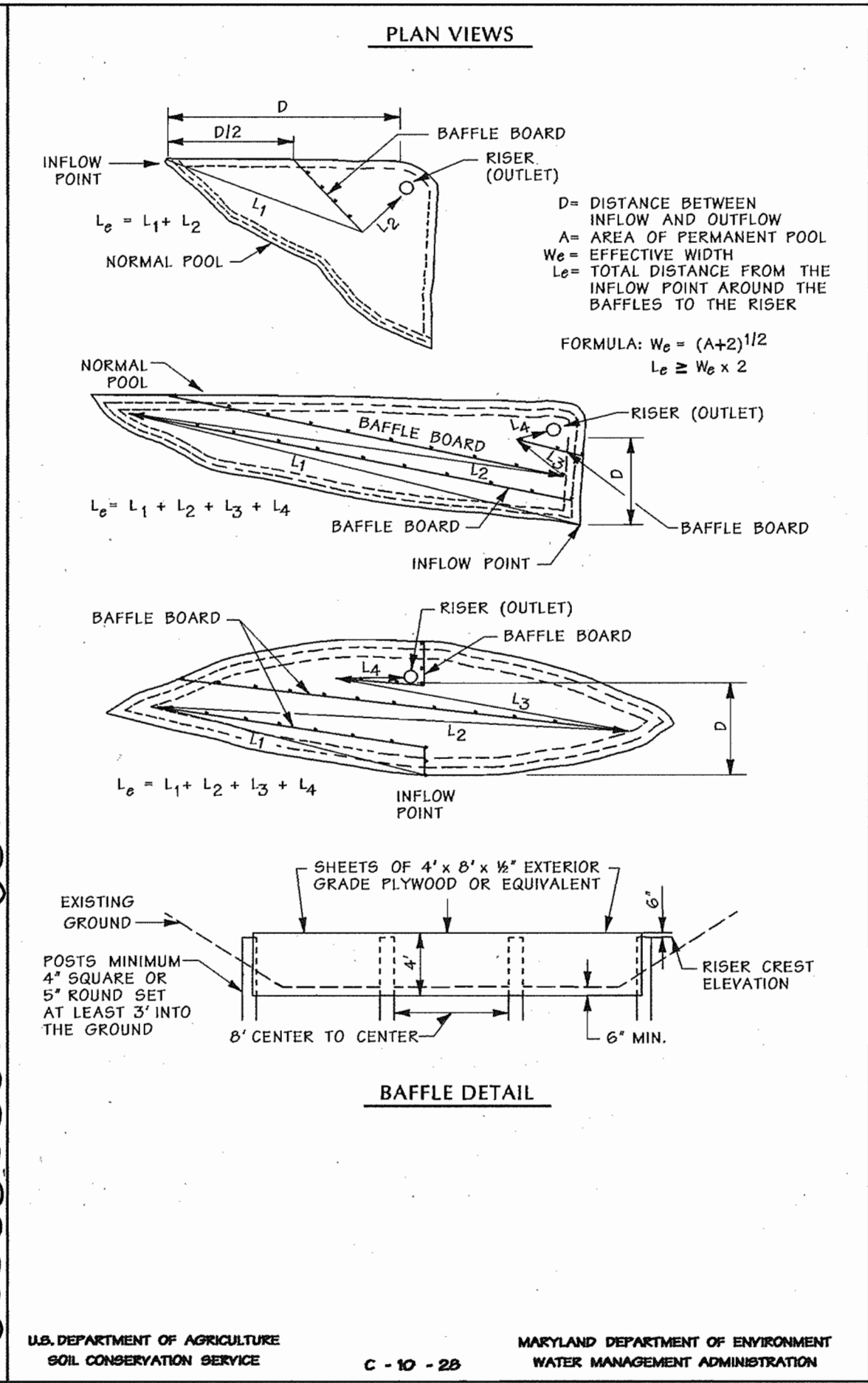
3-6-00  
 Date  
  
 Professional Engr. No. 10951

AREA	ROUTE 175 COMMERCIAL		
TAX MAP	36 & 37	PARCEL	27, 122, 244, 282
16TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND			
TITLE	SANITARY SEWER PROFILES		
Des By	SDS	Scale	AS SHOWN
Dm By	ADL	Date	3-3-00
Chk By	Approved	Proj. No.	89088.M
			13 OF 31

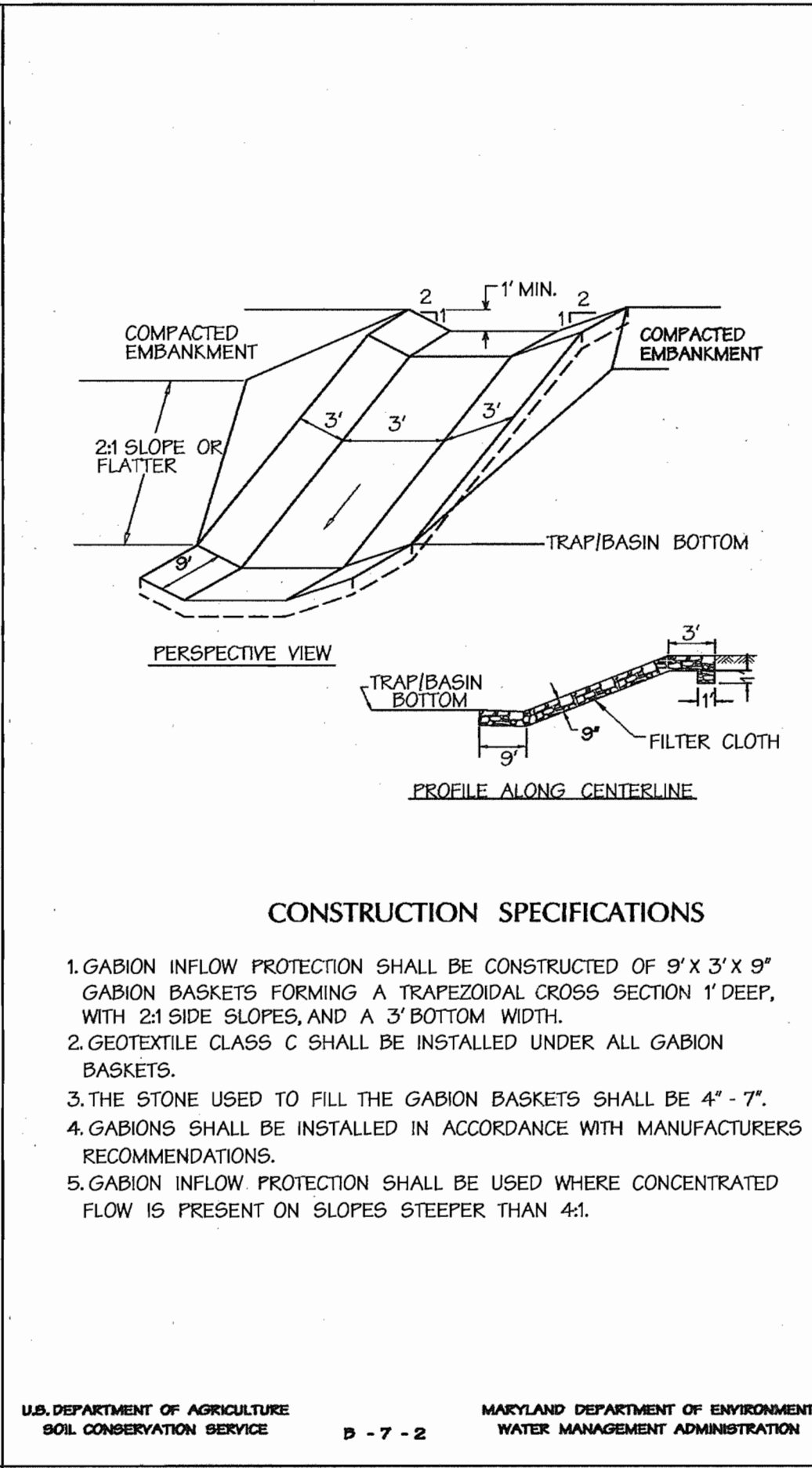


SEQUENCE	NO. OF DAYS
1. OBTAIN A GRADING PERMIT AND NOTIFY ALL APPROPRIATE AGENCIES 48 HOURS PRIOR TO BEGINNING ANY WORK	7
2. CLEAR AND GRUB FOR AND INSTALL SUPER SILT FENCE BELOW ALL BASIN EMBANKMENT FILLS AND ALSO ALONG RT.175 RIGHT OF WAY AND ALONG ENTIRE SOUTHERN PROPERTY LINE	10
3. CLEAR AND GRUB FOR AND CONSTRUCT SEDIMENT BASINS #1, 2 AND 3 AND SEDIMENT TRAPS #1 AND 2. INSTALL STORM DRAIN STRUCTURES I-6, M-14 AND E-3 AND CONNECTING PIPES. INSTALL EARTH DIKES AND TEMPORARY SWALE ALONG OLD MONTGOMERY ROAD, DIRECTING ALL FLOWS TO I-6.	90
4. CLEAR AND GRUB FOR AND INSTALL ALL REMAINING SEDIMENT CONTROL MEASURES.	14
5. WITH PERMISSION TO PROCEED FROM THE SEDIMENT CONTROL INSPECTOR, CLEAR, GRUB AND MASS GRADE SITE PROVIDE DUST CONTROL PER SPECIFICATIONS THIS SHEET.	21
6. ROUGH GRADE AND EXCAVATE FOUNDATIONS FOR BLDGS. #1, 2 AND 3 AND COMMONS BUILDING.	21
7. CONSTRUCT WATER MAINS TO SERVE BUILDINGS #1, 2 AND 3 AND SEWER FROM EXISTING PUBLIC CONNECTION AT OLD MONTGOMERY ROAD TO SERVE BUILDINGS #1, 2 AND 3.	45
8. CONSTRUCT STORM DRAIN STRUCTURES AND CONNECTING PIPES ALONG OLD MONTGOMERY ROAD AND ALSO STRUCTURES AND PIPES FROM I-1, I-2, I-3, I-7, I-4, I-23, M-12, I-25, I-1 AND I-2. CONSTRUCT STRUCTURES AND PIPES FROM BLDG. #3 TO SEDIMENT BASIN #2, STRUCTURES E-2, M-2 THRU M-6 AND I-50.	45
9. FINE GRADE AND CONSTRUCT PAVING FOR ROADS AND PARKING FOR BLDGS. #1, 2 AND 3 AND COMMONS BLDG.	45
10. ROUGH GRADE AND EXCAVATE FOR BLDGS. #4, 5, AND 6.	21
11. CONSTRUCT BUILDING #4, RELATING PARKING AND UTILITIES AS APPROVED BY HCSD.	120
12. EXTEND S&F AND MAKE CONTINUOUS BELOW OUTFALL TO TRAP #1. REMOVE OUTFALL AND BACKFILL WITH STOCKPILE MATERIAL. INSTALL EARTH DIKE OR SUPER SILT FENCE DIVERSION TO CONNECT EXISTING DIKES NORTH AND SOUTH OF TRAP #1. POSITIVE FLOW TO SEDIMENT BASIN #1 MUST BE MAINTAINED AT ALL TIMES.	21
13. CONSTRUCT REMAINDER OF WATER AND SEWER MAINS. CONSTRUCT STORM DRAIN IN AREA OF BUILDING #6.	45
14. CONSTRUCT BUILDING #6, RELATED ROADS AND PARKING AND STABILIZE.	120
15. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN #3 INTO EXTENDED DETENTION FACILITY (SWM POND #3).	14
16. COMPLETE PAVING AND STORM DRAIN CONSTRUCTION AND ACTIVATE STORM DRAIN SYSTEM INTO POND #3.	14
17. CONSTRUCT REMAINDER OF STORM DRAIN SYSTEM FOR SITE.	21
18. CONSTRUCT BUILDING #5, REMAINING ROADS AND PARKING, AND STABILIZE.	120
19. FINE GRADE AND STABILIZE DISTURBED AREAS ONSITE IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS.	14
20. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, CONVERT SEDIMENT BASIN #1 TO EXTENDED DETENTION FACILITY (SWM POND #1).	14
21. WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL MEASURES AND STABILIZE ANY REMAINING DISTURBED AREAS ONSITE.	14

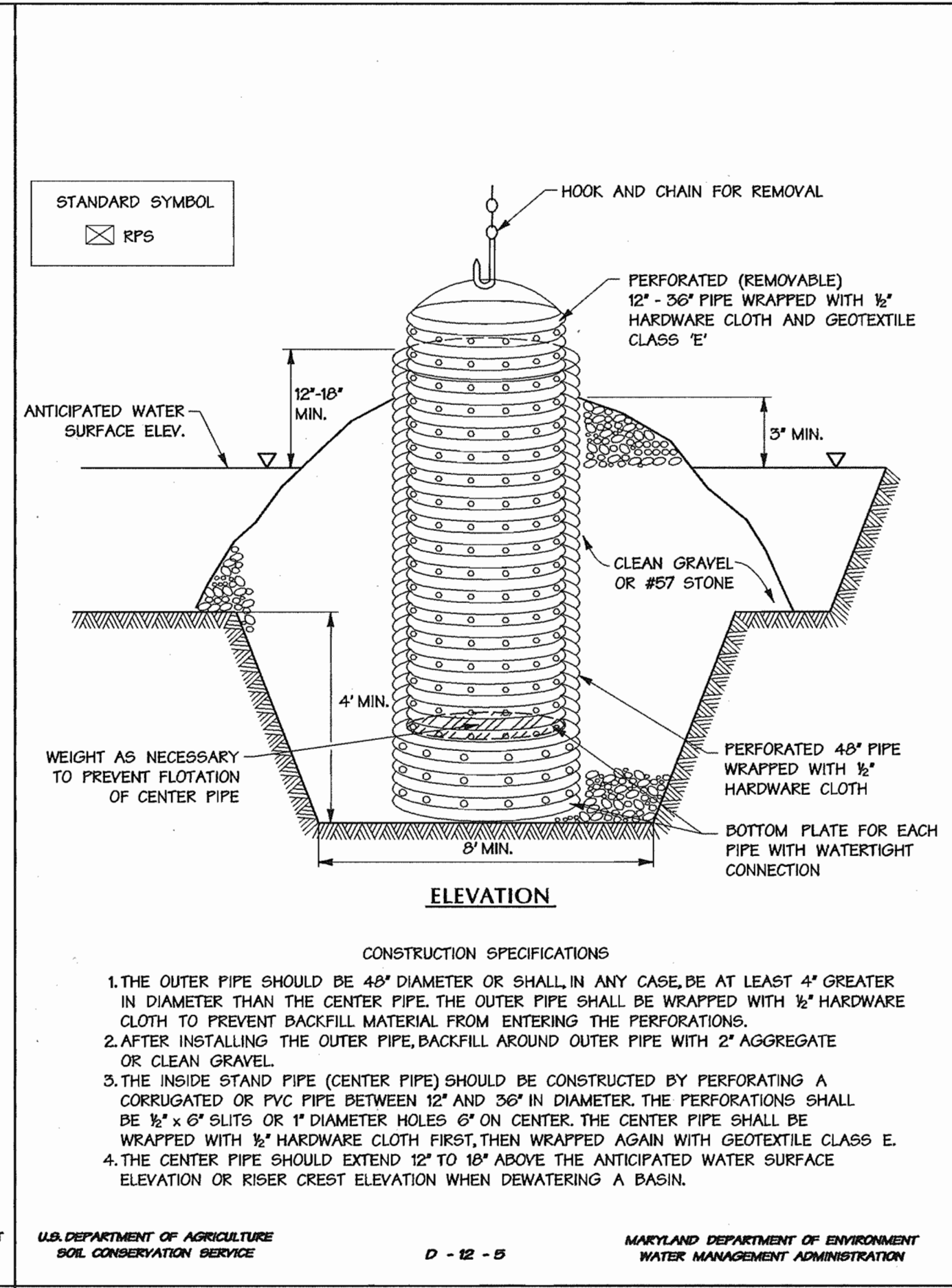
**Sequence of Construction**



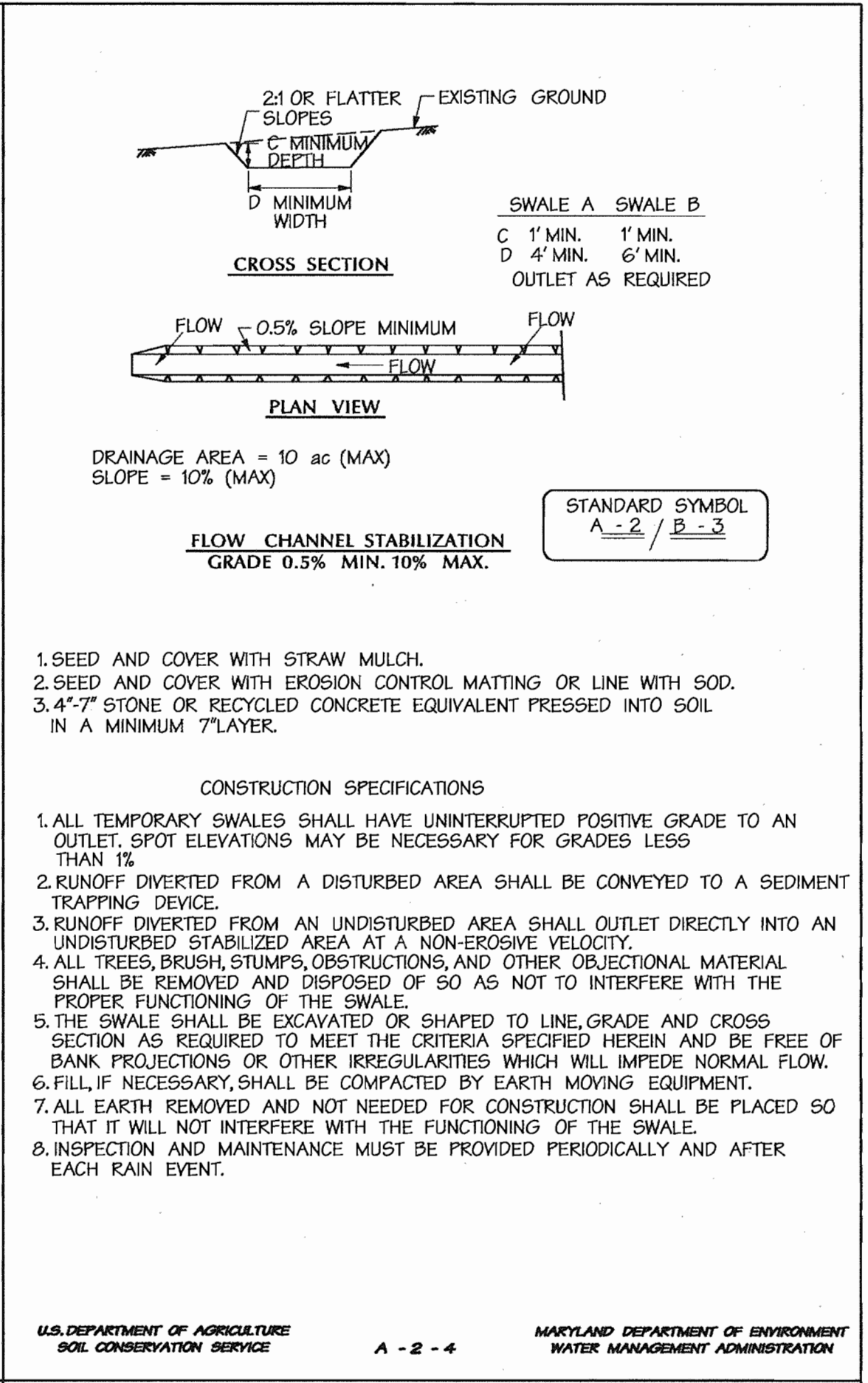
**Sediment Basin Baffles** Not to Scale



**Gabion Inflow Protection** Not to Scale



**Removable Pumping Station** Not To Scale



**Temporary Swale** Not to Scale

**210 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

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

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

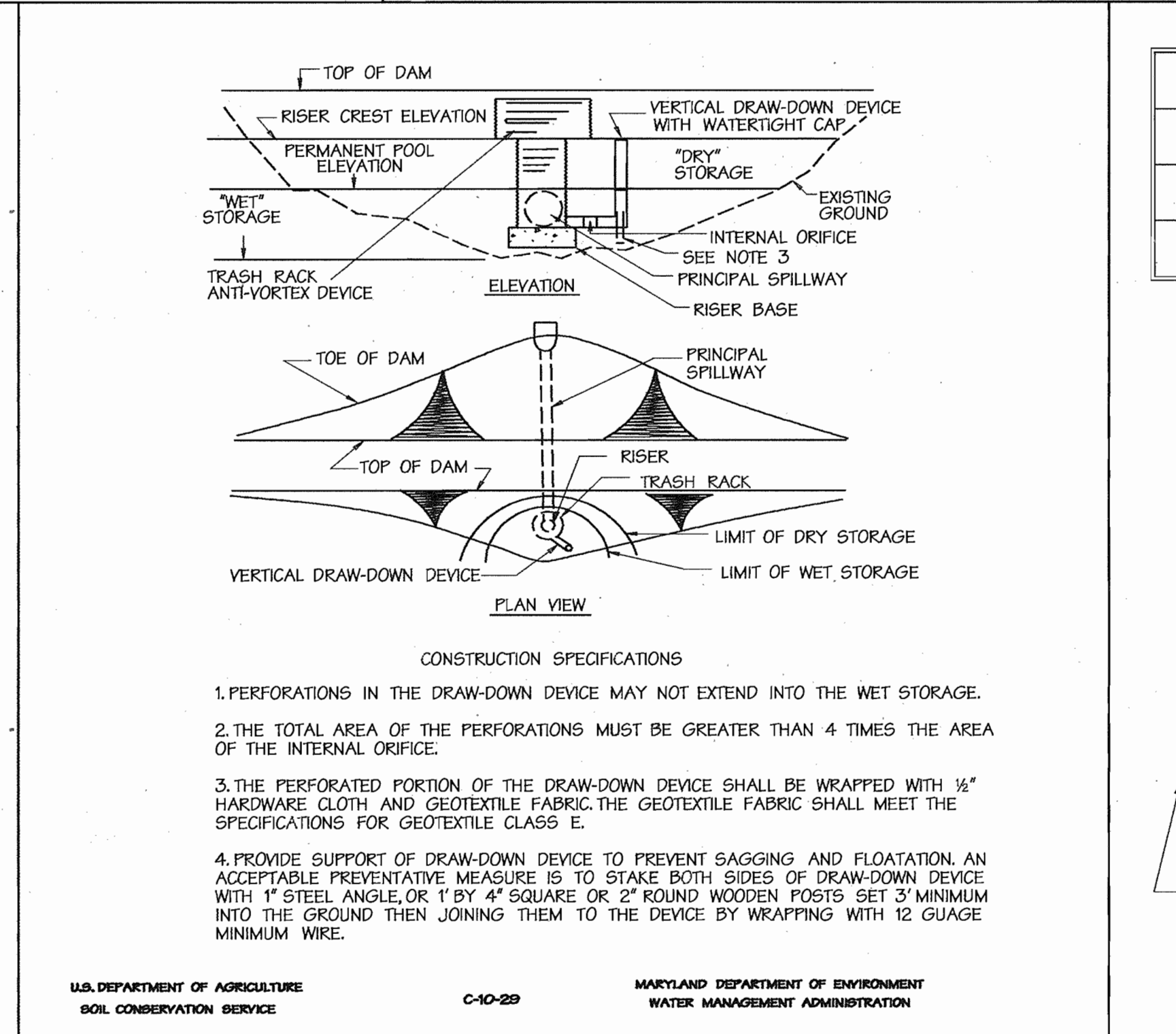
**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.
- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experiment Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
  - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be mixture of contrasting textures and shall contain less than 1% by volume of cinders, stones, slag, coarse fragments, gravel sticks, roots, trash, and other materials larger than 1 inch in diameter.
  - Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistle, or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-6 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
  - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 Vegetative Stabilization Methods and Materials.
- For sites having disturbed areas over 5 acres:
  - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
    - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, subsoil shall be prescribed to raise the pH to 6.0 or higher.
    - Organic contents of topsoil shall be not less than 1.5 percent by weight.
    - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
  - or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.
- Note: Topsoil substitutes or amendments as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.
- Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 Vegetative Stabilization Methods and Materials.
- Topsoil Application
  - When topsoiling, maintain needed erosion and sediment control practices such as diversion, grade stabilization structures, earth dikes, silt fence and sediment traps and basins.
  - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4% - 8% higher in elevation.
  - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
  - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

**Top Soil Specifications**



**Basin Schematic Vertical Draw-Down Device** Not to Scale

RISER #	LENGTH	WET POOL ELEV.	PERF. RISER HEIGHT	ORIFACE DRILLED HOLE SIZE
R-1	14'	374.25	1.75'	3 9/16"
R-2	17'	388.5	2.0'	3 1/2"
R-3	18'	395.0 386.14	3.4'	3 9/16"

**CONSTRUCTION SPECIFICATIONS**

- PERFORATIONS IN THE DRAW-DOWN DEVICE MAY NOT EXTEND INTO THE WET STORAGE.
- THE TOTAL AREA OF THE PERFORATIONS MUST BE GREATER THAN 4 TIMES THE AREA OF THE INTERNAL ORIFICE.
- THE PERFORATED PORTION OF THE DRAW-DOWN DEVICE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH AND GEOTEXTILE FABRIC. THE GEOTEXTILE FABRIC SHALL MEET THE SPECIFICATIONS FOR GEOTEXTILE CLASS E.
- PROVIDE SUPPORT OF DRAW-DOWN DEVICE TO PREVENT SAGGING AND FLOATION. AN ACCEPTABLE PREVENTATIVE MEASURE IS TO STAKE BOTH SIDES OF DRAW-DOWN DEVICE WITH 1" STEEL ANGLE, OR 1" BY 4" SQUARE OR 2" ROUND WOODEN POSTS SET 3' MINIMUM INTO THE GROUND THEN JOINING THEM TO THE DEVICE BY WRAPPING WITH 12 GAUGE MINIMUM WIRE.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Sediment Control Draw-Down** Not To Scale

**DUST CONTROL SPECIFICATIONS**

**TEMPORARY METHODS:**

- MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE COMBED OR TACKED TO PREVENT BLOWING.
- VEGETATIVE COVER - SEE STANDARDS FOR TEMPORARY VEGETATIVE COVER.
- TILLAGE - TO ROUGHEN SURFACE AND BRING CLODS TO THE SURFACE. THIS IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE SOIL BLOWING STARTS. BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHESEL-TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING-TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- IRRIGATION - THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS MOIST. REPEAT AS NEEDED, AT NO TIME SHOULD THE SITE BE IRRIGATED TO THE POINT THE RUNOFF BEGINS TO FLOW.
- BARRIERS - SOLID BOARD FENCES, SNOW FENCES, BURLAP FENCES, STRAW BALES, AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 10 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING SOIL BLOWING.
- CALCIUM CHLORIDE - APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

**PERMANENT METHODS:**

- PERMANENT VEGETATION - SEE STANDARDS FOR PERMANENT VEGETATIVE COVER, AND PERMANENT STABILIZATION WITH SOD. EXISTING TREES OR LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.
- TOPSOILING - COVERING WITH LESS EROSION SOIL MATERIALS. SEE STANDARDS FOR TOPSOILING.
- STONE - COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE H-30-1 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**Dust Control Specifications** Not To Scale

**APPROVED PLANNING BOARD OF HOWARD COUNTY**

DATE: FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 5/12/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 5/14/00 DATE

DIRECTOR: *[Signature]* 5/16/00 DATE

Date	No.	Revision Description
4-5-04	3	REV. SEQUENCE OF CONSTRUCTION

**COLUMBIA ROUTE 175 COMMERCIAL**

SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY TRUST  
LIBERTY PROPERTY LTD. PTN.  
3145 GULLFORD ROAD  
SUITE 100  
COLUMBIA, MD. 21046

**DMW**  
Darr McNamee-Walkers, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3329  
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE: SEDIMENT AND EROSION CONTROL DETAILS

Des By	MRT	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	WDE	Date	4-26-00		
Chk By	Approved				25 OF 31

Professional Engr. No. 09991

The Apr 27 13:26:37 2000 on: 89088.mxd

**DEVELOPERS CERTIFICATION:**

"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. ALSO AUTHORIZED PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

*[Signature]* 4/29/00  
MICHAEL C. [Signature], Liberty Property, Ltd. Inc.

**ENGINEER'S CERTIFICATION:**

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

*[Signature]* 4/29/00  
John H. Ranocchio, Sr.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

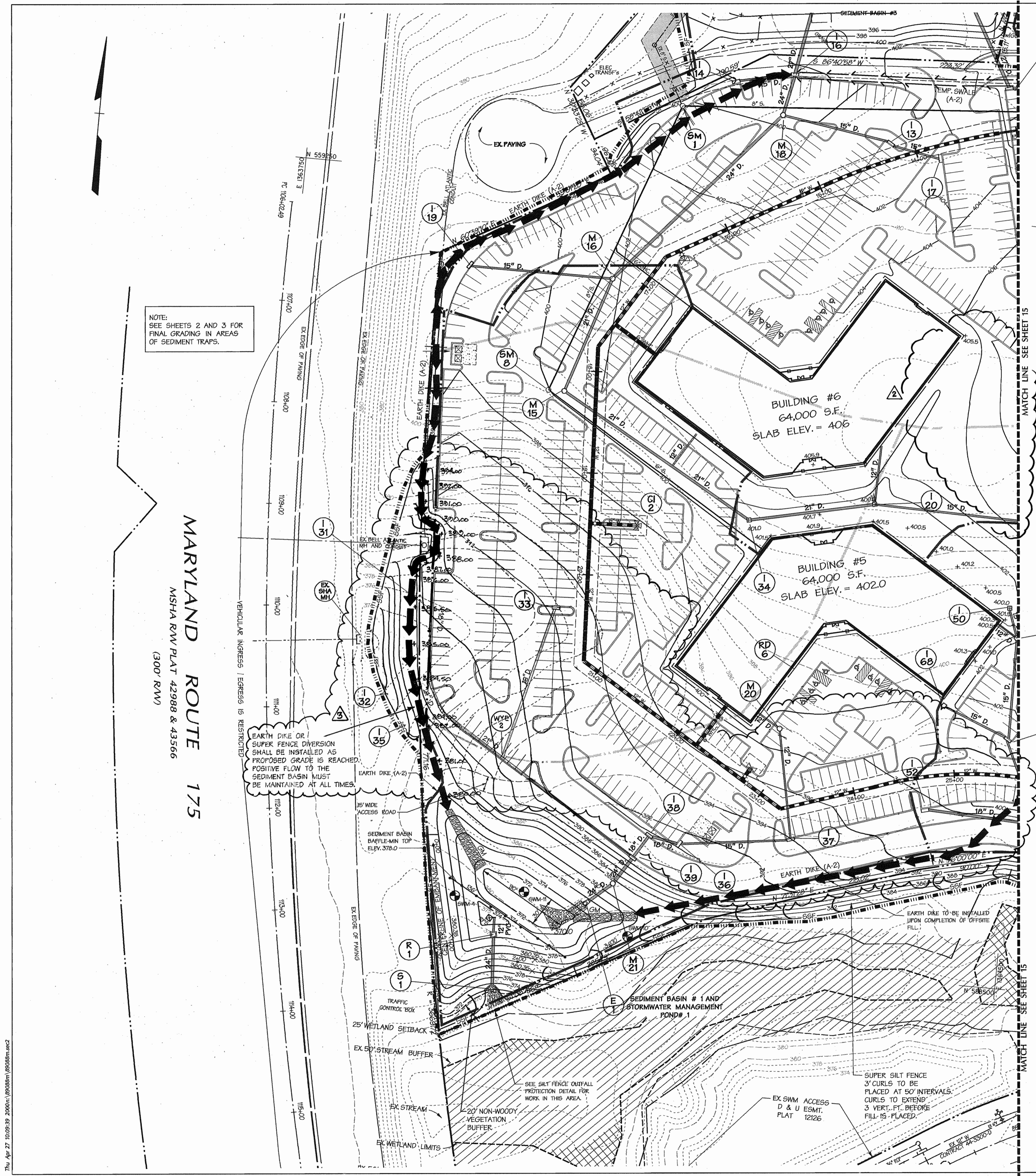
*[Signature]* 5/14/00  
U.S. NATURAL RESOURCES CONSERVATION SERVICE DATE

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

*[Signature]* 5/19/00  
HOWARD S.C.D. DATE

APR 10 2000

Professional Engr. No. 09991



NOTE: SEE SHEETS 2 AND 3 FOR FINAL GRADING IN AREAS OF SEDIMENT TRAPS.

MARYLAND ROUTE 175  
MISHA RW PLAT 42988 & 43566  
(300' RW)

EARTH DIKE OR SUPER FENCE DIVERSION SHALL BE INSTALLED AS PROPOSED GRADE IS REACHED POSITIVE FLOW TO THE SEDIMENT BASIN MUST BE MAINTAINED AT ALL TIMES.

SEE SILT FENCE OUTFALL PROTECTION DETAIL FOR WORK IN THIS AREA.

SUPER SILT FENCE 3' CURLS TO BE PLACED AT 50' INTERVALS. CURLS TO EXTEND 3 VERT. FT. BEFORE FILL IS PLACED.

**LEGEND**

- SF — SILT FENCE
- ← EARTH DIKE
- ||||| LIMIT OF DISTURBANCE
- SF — SUPER SILT FENCE
- ← TEMPORARY SWALE
- PROPOSED ESC DRAINAGE AREA
- EXISTING ESC DRAINAGE AREA
- GM GABION MATRESS
- SWM-4 SOIL BORING
- RPS REMOVABLE PUMPING STATION

**BASIN TABLE**

BASIN NUMBER	1
EXISTING DRAINAGE AREA AC.	3.4
PROPOSED DRAINAGE AREA AC.	5.6
STORAGE REQUIRED C.F.	WET 10,080 DRY 10,080 TOTAL 20,160
STORAGE PROVIDED C.F.	WET 10,080 DRY 14,195 TOTAL 24,275
EXISTING GROUND ELEV.	376.0
TOP EMBANKMENT ELEV.	390.35
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	377.5
WET STORAGE ELEV.	374.25
CLEANOUT ELEV.	373.25
BOTTOM ELEV.	372.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	29.93
Q OUT BASIN (C.F.S.) 10 YR. CLOGGED	25.65
Q OUT EMERGENCY SPILLWAY	N/A
BASIN DEPTH	WET 2.25 DRY 1.75 TOTAL 4.0
DESIGN HIGHWATER 10 YR. CLOGGED	377.87
FREEBOARD PROVIDED	2.49'
BARREL DIAMETER	24"
RISER DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	372.0-374.25
DRY STORAGE ZONE ELEV.	374.25-376.0
BOTTOM DIMENSIONS	30' X 30'
EXISTING 2-YR. Q	0.59 CFS
PROPOSED 2-YR. Q	3.60 CFS

**POND #1 DESIGN FLOW SUMMARY PROPOSED CONDITIONS**

	2-YEAR	10 YEAR	100 YEAR CLOGGED
Existing D.P. (cfs) - Allowable Release	6.57**	24.76**	48.84**
Existing Flow from Pond #2 DA (cfs)	6.19	21.56	41.17
Existing Flow from Pond #1 DA (cfs)	0.38	3.20	7.67
Developed Inflow (cfs)	16.48	29.93	47.13
Developed Outflow (cfs)	0.89*	11.21*	34.46*
Developed Outflow D.P. (cfs)	2.53**	23.67**	65.95**
Water Surface Elevation	376.52	377.51	378.32
Water Quality Storage (ac. ft.)	0.240	240	240
Quantity Storage (ac. ft.)	0.633	0.908	1.040
Total Storage (ac. ft.)	0.903	1.148	1.280

Structure Type: DETENTION  
Water Quality Type: WET POND  
Structure Classification: 'A'

Storage Height Product 2 year: 6.52  
Storage Height Product 10 year: 7.51  
Storage Height Product 100 year: 8.32  
Watershed Area to Facility: 0.0092 SQ. MI.  
Level of Management: Required: 2.10  
Level of Management: Provided: 2.10  
Minimum Top Width Provided: 12'  
Maximum Height of Fill: 7.8'  
Freeboard Required: 2.0'  
Freeboard Provided: 2.0'

\* OUTFLOW POND # 1 WILL COMBINE WITH OUTFLOW POND # 2  
\*\* EXISTING DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 EXISTING DRAINAGE AREAS  
\*\*\* DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND # 1 + POND # 2 DEVELOPED DRAINAGE AREAS

**Trap Table**

TRAP NUMBER	1
TRAP TYPE	ST-11
EXISTING DRAINAGE AREA AC.	3.7
INTERIM DRAINAGE AREA AC.	3.9
PROPOSED DRAINAGE AREA AC.	3.9
STORAGE REQUIRED C.F.	WET 6,660 DRY 6,660 TOTAL 13,320
STORAGE PROVIDED C.F.	WET 15,970 DRY 17,258 TOTAL 33,228
EXISTING GROUND ELEVATION	373.0
TOP EMBANKMENT ELEVATION	377.0
WEIR CREST ELEVATION	376.0
WET STORAGE ELEVATION	374.25
CLEANOUT ELEVATION	373.82
BOTTOM ELEVATION	373.0
DEPTH OF CHANNEL (d)	1.0'
OUTLET WIDTH (b)	15.6'
BOTTOM DIMENSION	102' X 88'
TRAP SIDESLOPES	25:31
TRAP DEPTH	WET 2' DRY 1' TOTAL 3'
BARREL DIAMETER	N/A
RISER DIAMETER	N/A
WET STORAGE ZONE ELEVATION	373.0-374.25
DRY STORAGE ZONE ELEVATION	374.25-376.0
EXISTING 2-YR. Q	0.37 CFS
PROPOSED 2-YR. Q	15.92 CFS

TRAP SIZED FOR 15MIN 2-YEAR STORM EVENT

DEVELOPER'S CERTIFICATION:  
"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 4/10/00  
SIGNATURE OF DEVELOPER DATE  
PRINT NAME BELOW SIGNATURE

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*[Signature]* 4/29/00  
SIGNATURE OF ENGINEER DATE  
PRINT NAME BELOW SIGNATURE  
John W. Radonich, Sr.

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*[Signature]* 5/1/00  
S.U.S. NATURAL RESOURCE CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*[Signature]* 5/1/00  
HOWARD S.C.D. DATE

APPROVED  
PLANNING BOARD  
APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*[Signature]* 5/12/00  
CHIEF DEVELOPMENT ENGINEERING DIVISION MK DATE  
*[Signature]* 5/12/00  
CHIEF DIVISION OF LAND DEVELOPMENT DATE  
*[Signature]* 5/12/00  
DIRECTOR DATE

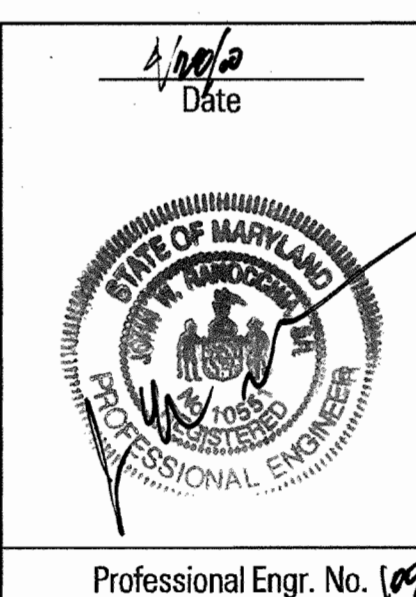
4.5.04	3	REV. SED. CTRL. MEASURES
3.20-01	2	DELETE COMMONS BLDG & TEMP. 21" D

Date No. Revision Description

**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. FTM, 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044

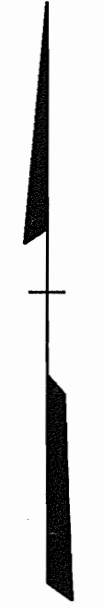
**DMW**  
Dart-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3833  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: **ROUTE 175 COMMERCIAL**  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
TITLE: **EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN**  
Des By: BIS, SDS Scale: 1" = 50' Proj. No.: 89088.M  
Dwn By: ADL Date: 4-26-00  
Chk By: WJ Approved 14 OF 31



**LEGEND**

- 370 --- 10' EXISTING CONTOUR
- 372 --- 2' EXISTING CONTOURS
- --- PROPERTY LINE
- 370 --- 10' PROPOSED CONTOUR
- 372 --- 2' PROPOSED CONTOUR
- --- REVERSE CURB & GUTTER R-3.01
- --- DEPRESSED CURB R-3.01
- --- STANDARD CURB & GUTTER
- --- PROPOSED STORM DRAIN
- --- PROPOSED SEWER
- --- PROPOSED WATER
- Ⓛ --- PARKING COUNT
- ♿ --- VAN HANDICAPPED PARKING
- ♿ --- HANDICAPPED PARKING
- --- HANDICAP RAMP
- --- UTILITY CONDUITS



MARYLAND ROUTE 175  
MSHA RW PLAT 42988 & 43566  
(300' R.W.)

NOTE:  
THE PURPOSE OF THIS PLAN IS TO  
REPLACE INFORMATION PREVIOUSLY  
SHOWN ON SHEET #3.

*JWS*  
Date  
Professional Engr. No. 10591

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>Mike</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	7/23/04 DATE
<i>David</i> CHIEF, DIVISION OF LAND DEVELOPMENT HB	7/26/04 DATE
<i>Stephen</i> DIRECTOR (PLANNING) JPT	7/27/04 DATE

1029-04	A	REV. BLDG #6 W.H.C.
Date	No.	Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
9145 GUILFORD ROAD  
SUITE 100  
COLUMBIA, MD. 21046

**DMW**  
Duff McCune Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax: 296-4705  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6TH ELECTION DISTRICT HOWARD COUNTY, MARYLAND

TITLE  
**REPLACEMENT SHEET**  
**GRADING PLAN**

Des By	MJP	Scale	1" = 50'	Proj. No.	89088.M
Dm By	AJS, JSN	Date	4-5-04		
Chk By		Approved			31B OF 31

# LEGEND

- 370 --- 10' EXISTING CONTOUR
- 372 --- 2' EXISTING CONTOURS
- --- PROPERTY LINE
- 370 --- 10' PROPOSED CONTOUR
- 372 --- 2' PROPOSED CONTOUR
- --- REVERSE CURB & GUTTER R-3.01
- --- DEPRESSED CURB R-3.01
- --- STANDARD CURB & GUTTER
- --- PROPOSED STORM DRAIN
- --- PROPOSED SEWER
- --- PROPOSED WATER
- --- PARKING COUNT
- --- VAN HANDICAPPED PARKING
- --- HANDICAPPED PARKING
- --- HANDICAP RAMP
- --- UTILITY CONDUITS

MARYLAND ROUTE 175  
MSHA RAW PLAT 42988 & 43566  
(300' R/W)



NOTE:  
THE PURPOSE OF THIS PLAN IS TO  
REPLACE INFORMATION PREVIOUSLY  
SHOWN ON SHEET #3.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	7/23/04 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT HB	7/16/04 DATE
<i>[Signature]</i> DIRECTOR (CALTING)	7/27/04 DATE

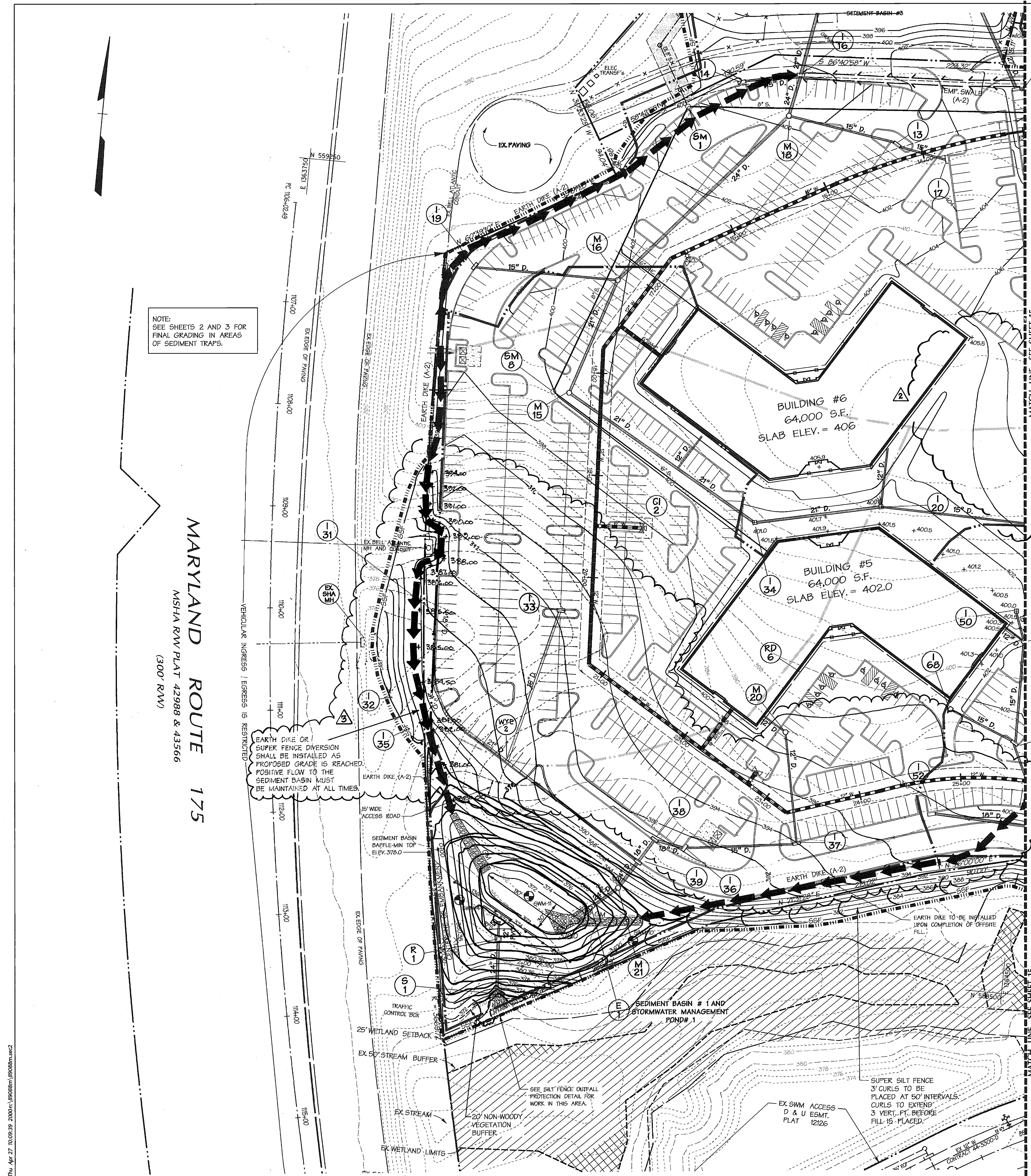
10/28/04	REV. BLDG #6 WHC
8/17/04	REPLACE PUBLIC WATER & SEWER SERVICE
Date	No. Revision Description

**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH AND DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PARTNERSHIP  
10275 LITTLE PATUXENT PARKWAY SUITE 100 COLUMBIA, MD. 21044

**DMW**  
Daft-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

*[Signature]*  
Date  
*[Signature]*

AREA	ROUTE 175 COMMERCIAL
TAX MAP	38 & 37 PARCEL 27, 122, 244, 282
6TH ELECTION DISTRICT	HOWARD COUNTY, MARYLAND
TITLE	REPLACEMENT SHEET SITE PLAN
Des By	MJP Scale 1" = 50'
Dm By	AJS, JSN Date 4-5-04
Proj. No.	89088.M
Chk By	Approved
Professional Engr. No.	10551
	31A OF 31



NOTE:  
SEE SHEETS 2 AND 3 FOR  
FINAL GRADING IN AREAS  
OF SEDIMENT TRAPS.

MARYLAND ROUTE 175  
MSHA RW PLAT 42988 & 43566  
(300' ROW)

EARTH DIKE OR  
SUPER FENCE DIVERSION  
SHALL BE INSTALLED AS  
PROPOSED GRADE IS REACHED.  
POSITIVE FLOW TO THE  
SEDIMENT BASIN MUST  
BE MAINTAINED AT ALL TIMES.

SEDIMENT BASIN #1 AND  
STORMWATER MANAGEMENT  
POND #1

SEE SILT FENCE OFFFALL  
PROTECTION DETAIL FOR  
WORK IN THIS AREA.

SUPER SILT FENCE  
3' CURLS TO BE  
PLACED AT 50' INTERVALS.  
CURLS TO EXTEND  
3 VERT. FT. BEFORE  
FILL IS PLACED.

**LEGEND**

- SF — SILT FENCE
- ← EARTH DIKE
- ||||| LIMIT OF DISTURBANCE
- SSF — SUPER SILT FENCE
- ← TEMPORARY SWALE
- PROPOSED ESC DRAINAGE AREA
- EXISTING ESC DRAINAGE AREA
- GM GABION MATRESS
- SWM-4 SOIL BORING
- RPS REMOVABLE PUMPING STATION

**BASIN TABLE**

BASIN NUMBER	1
EXISTING DRAINAGE AREA AC.	3.4
INTERIM DRAINAGE AREA AC.	5.6
PROPOSED DRAINAGE AREA AC.	5.6
STORAGE REQUIRED C.F.	WET 10,080
	DRY 10,080
	TOTAL 20,160
STORAGE PROVIDED C.F.	WET 24,275
	DRY 14,195
	TOTAL 38,470
EXISTING GROUND ELEV.	376.0
TOP EMBANKMENT ELEV.	390.35
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	377.5
WET STORAGE ELEV.	374.25
CLEANOUT ELEV.	373.25
BOTTOM ELEV.	372.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	28.93
Q OUT BARREL (C.F.S.) 10 YR. CLOGGED	25.65
Q OUT EMERGENCY SPILLWAY	N/A
BASIN DEPTH	WET 2.25
	DRY 1.75
	TOTAL 4.0
DESIGN HIGHWATER 10 YR. CLOGGED	377.87
FREEBORD PROVIDED	2.48'
BARREL DIAMETER	24"
RISER DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	372.0-374.25
DRY STORAGE ZONE ELEV.	374.25-376.0
BOTTOM DIMENSIONS	30' X 30'
EXISTING 2-YR. Q	0.38 CFS
PROPOSED 2-YR. Q	3.60 CFS

UNDER 15MM CONDITIONS:  
\* OUTFLOW POND #1 WILL COMBINE WITH OUTFLOW POND #2  
\* EXISTING DESIGN POINT = COMBINED FLOW FROM POND #1 +  
POND #2 EXISTING DRAINAGE AREAS  
\* DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND #1 +  
POND #2 DEVELOPED DRAINAGE AREAS

**POND #1  
DESIGN FLOW SUMMARY PROPOSED CONDITIONS**

	2-YEAR	10 YEAR	100 YEAR CLOGGED
Existing D.P. (cfs) = Allowable Release	6.57**	24.76**	48.84**
Existing Flow from Pond #2 DA (cfs)	6.19	21.56	41.17
Existing Flow from Pond #1 DA (cfs)	0.38	3.20	7.67
Developed Inflow (cfs)	16.48	29.93	47.13
Developed Outflow (cfs)	0.88*	11.2*	34.40*
Developed Outflow D.P. (cfs)	2.53***	23.57***	38.11***
Water Surface Elevation	376.52	377.51	378.32
Water Quality Storage (ac. ft.)	0.240	240	240
Quantity Storage (ac. ft.)	0.633	0.908	1.040
Total Storage (ac. ft.)	0.903	1.148	1.280

	DETENTION
Structure Type	"WET POND"
Water Quality Type	"A"
Structure Classification	6.52
Storage Height Product 2 year	7.51
Storage Height Product 10 year	8.32
Storage Height Product 100 year	10.092 SQ. MI.
Watershed Area to Facility	2.10
Level of Management Required	2.10
Level of Management Provided	12'
Minimum Top Width Provided	7.8'
Maximum Height of Fill	2.0'
Freeboard Required	2.0'
Freeboard Provided	2.0'

\* OUTFLOW POND #1 WILL COMBINE WITH OUTFLOW POND #2  
\*\* EXISTING DESIGN POINT = COMBINED FLOW FROM POND #1 + POND #2 EXISTING DRAINAGE AREAS  
\*\*\* DEVELOPED DESIGN POINT = COMBINED FLOW FROM POND #1 + POND #2 DEVELOPED DRAINAGE AREAS

**Trap Table**

TRAP NUMBER	1
TRAP TYPE	51-1
EXISTING DRAINAGE AREA AC.	3.7
INTERIM DRAINAGE AREA AC.	3.9
PROPOSED DRAINAGE AREA AC.	3.9
STORAGE REQUIRED C.F.	WET 6,660
	DRY 6,660
	TOTAL 13,320
STORAGE PROVIDED C.F.	WET 15,970
	DRY 17,256
	TOTAL 33,226
EXISTING GROUND ELEVATION	373.0
TOP EMBANKMENT ELEVATION	377.0
WEIR CREST ELEVATION	376.0
WET STORAGE ELEVATION	374.53
CLEANOUT ELEVATION	373.52
BOTTOM ELEVATION	373.0
DEPTH OF CHANNEL (ft)	1.0'
OUTLET WIDTH (ft)	15.6'
BOTTOM DIMENSION	122' X 88'
TRAP SIDESLOPES	2:1
TRAP DEPTH	WET 2'
	DRY 1'
	TOTAL 3'
BARREL DIAMETER	N/A
RISER DIAMETER	N/A
WET STORAGE ZONE ELEVATION	373.0-374.53
DRY STORAGE ZONE ELEVATION	374.53-376.0
EXISTING 2-YR. Q	0.27 CFS
PROPOSED 2-YR. Q	13.92 CFS
TRAP SIZED FOR 15MM 2-YEAR STORM EVENT	

*John J. Schmidt*  
Professional Engineer  
For SWM AS BUILT

SWM AS BUILT

DEVELOPER'S CERTIFICATION:  
"I WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
*John W. Remouchie, Sr.*  
4/28/00  
DATE

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
*John W. Remouchie, Sr.*  
4/28/00  
DATE

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*Cheryl S. Smith*  
5/9/00  
DATE  
U.S. NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*John J. Schmidt*  
5/9/00  
DATE  
HOWARD S.C.D.

APPROVED  
PLANNING BOARD  
OF HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Richard Blount*  
5/12/00  
DATE  
CHIEF, DEVELOPMENT ENGINEERING DIVISION MKC  
*David Smith*  
5/12/00  
DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT  
*David Smith*  
5/12/00  
DATE  
DIRECTOR

4.5.04 3 REV. SED. CTRL. MEASURES  
3.20.01 2 PELETE COMMONS BLDG & TEMP. 21'D  
Date No. Revision Description

**ROUTE 175 COMMERCIAL**  
SECTION 1 AREA 2 PARCEL A & Q.S. LOT 3

OWNER /DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044

CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
3145 GUILFORD ROAD  
SUITE 100  
COLUMBIA, MD 21046

**DMW**  
Dat-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Poolesville, Maryland 21086  
(410) 296-3333  
Fax 296-4705  
A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA: **ROUTE 175 COMMERCIAL**  
TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

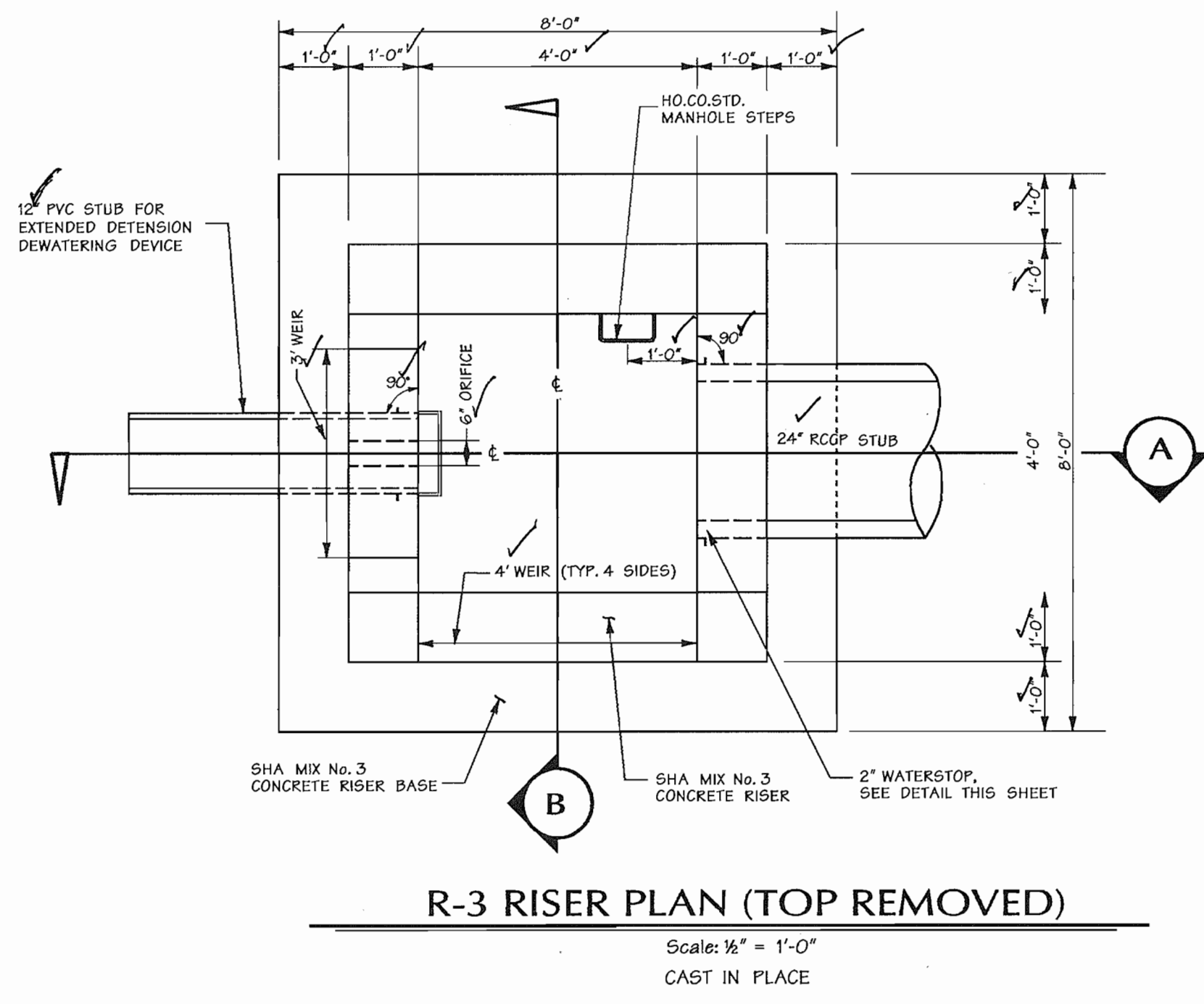
TITLE: **EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN**

Des By: BIS,SDS Scale: 1"=50' Proj. No.: 89088.M  
Dwn By: ADL Date: 4-26-00  
Chk By: ut Approved 14 OF 31

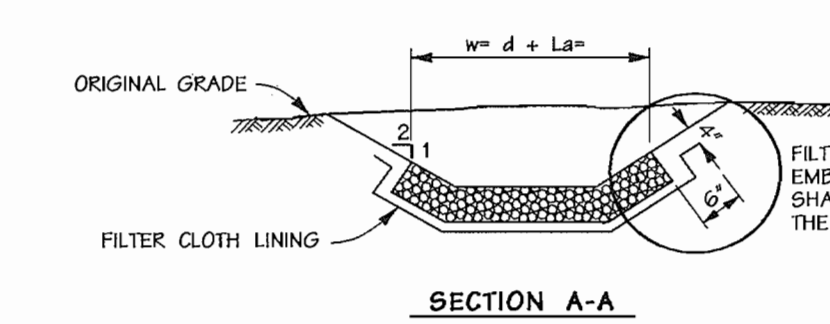
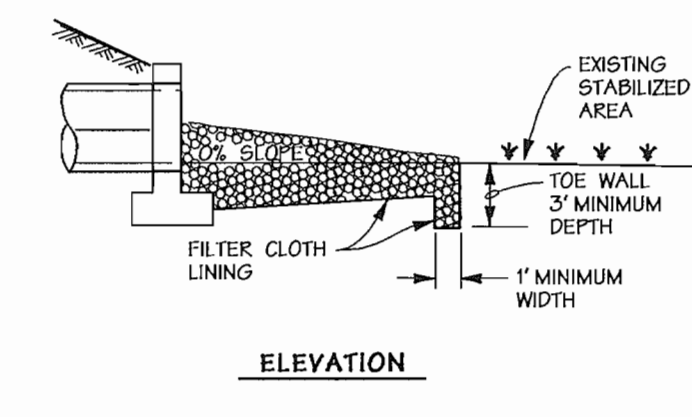
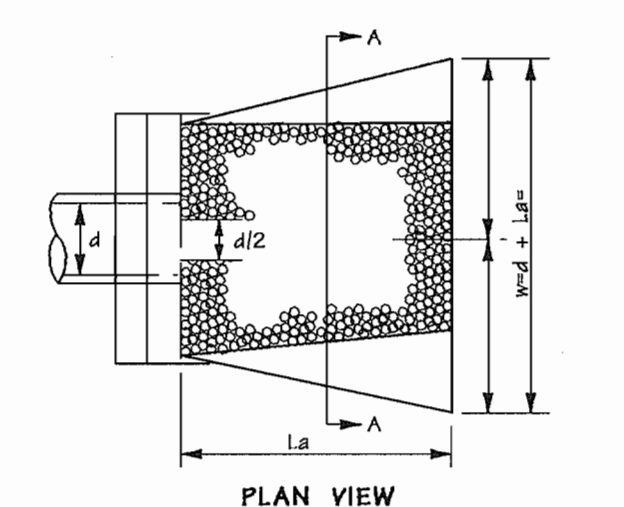
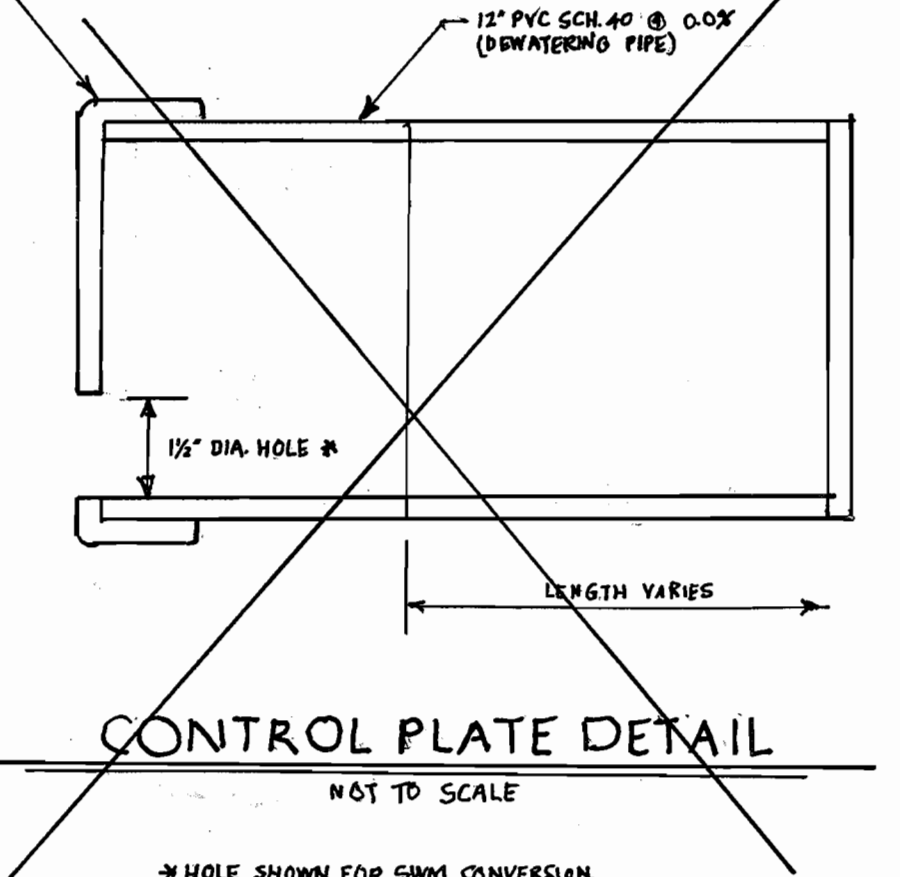
"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

*John J. Schmidt*  
14230  
REG. NO.  
6/19/06  
DATE  
SIGNATURE OF ENGINEER  
(PRINT NAME BELOW SIGNATURE)  
John J. Schmidt

Professional Engr. No. 10711  
Date: 6/19/06

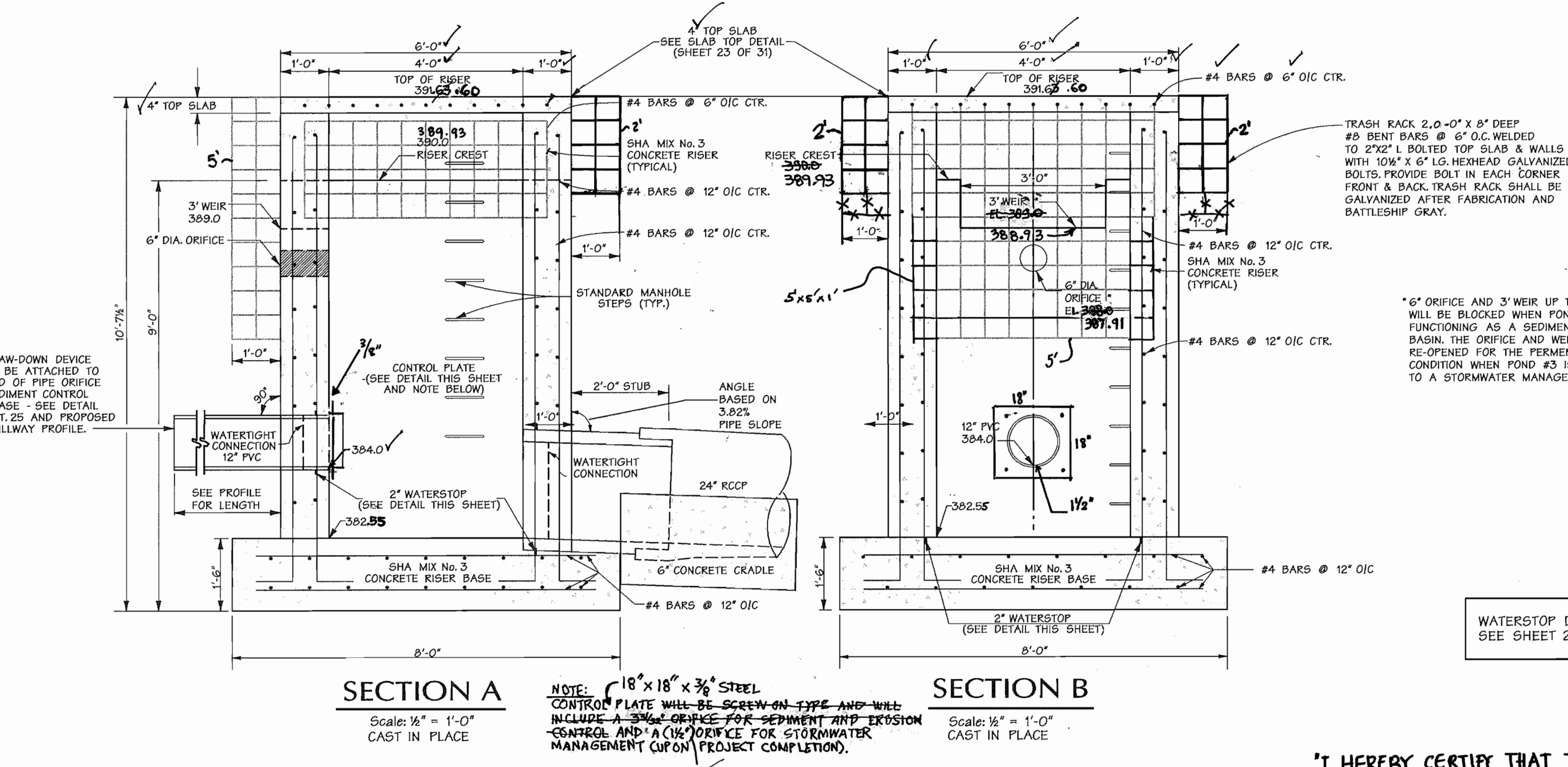


CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATIONS RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED PRACTICES.

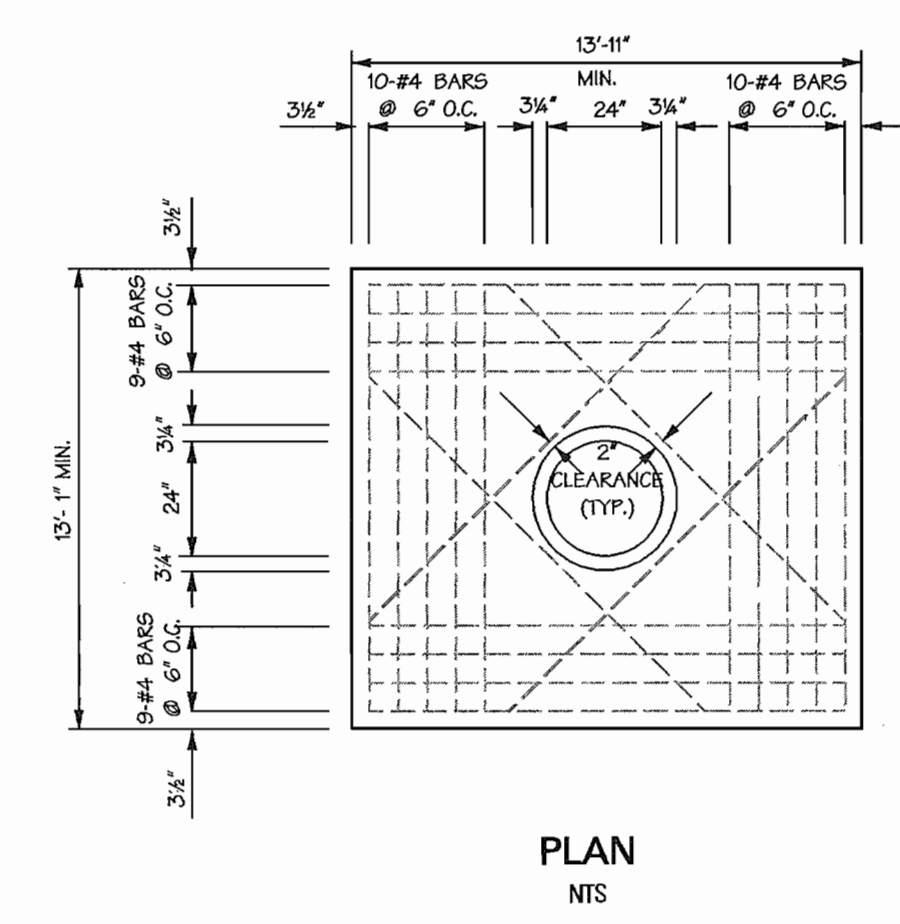


NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

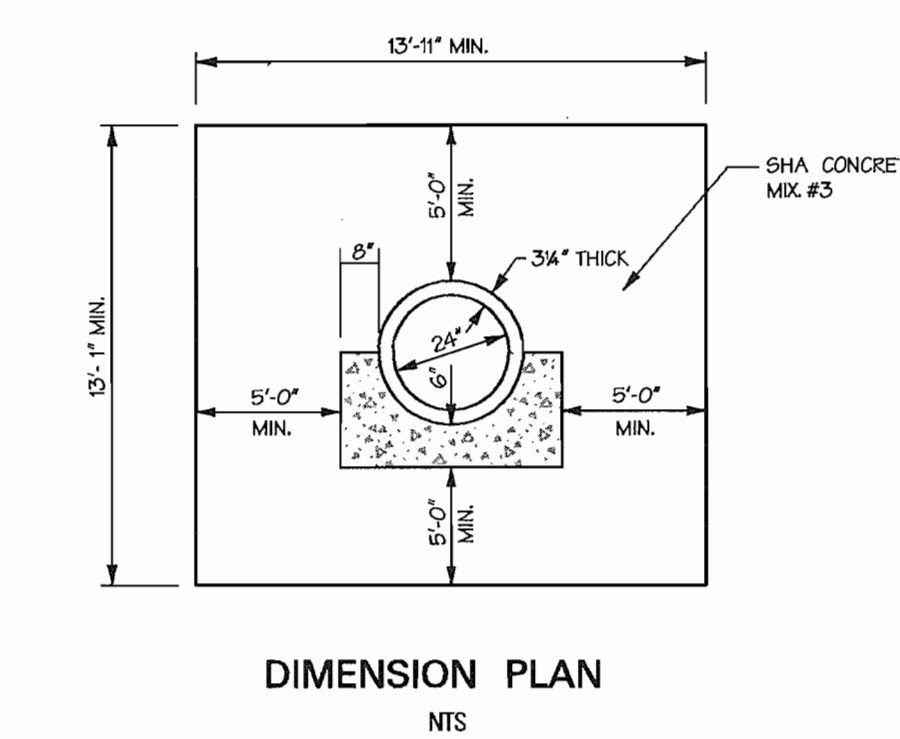
- CONSTRUCTION SPECIFICATIONS**
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
  3. GEOTEXTILE CLASS C SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
  4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE Voids BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
  5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.



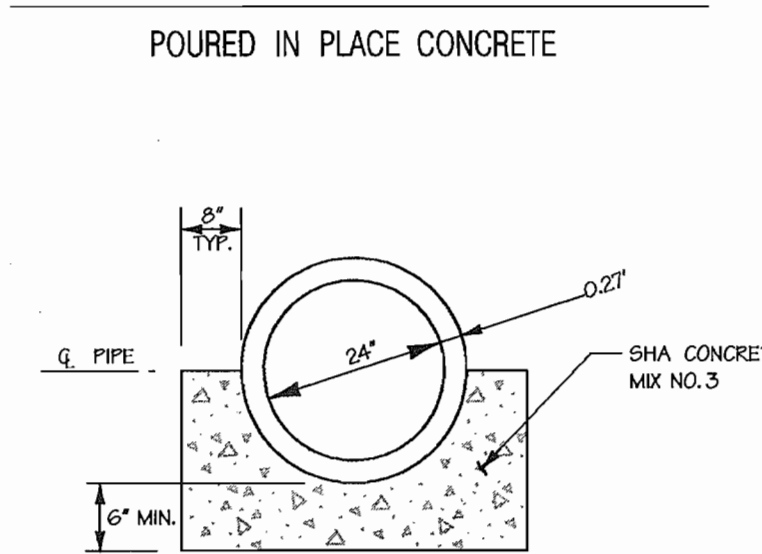
**ROCK OUTLET PROTECTION III**  
NOT TO SCALE



**ROCK OUTLET PROTECTION SPECIFICATIONS**



**8" THICK ANTI SEEP COLLAR DETAIL**



APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
CHIEF DEVELOPMENT ENGINEERING DIVISION MK  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DIRECTOR

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

Signature of Engineer: Jeffrey L. Schaub  
REG. NO. 14230  
DATE 6/21/06

**DEVELOPERS CERTIFICATE:**  
I/WE 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 DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

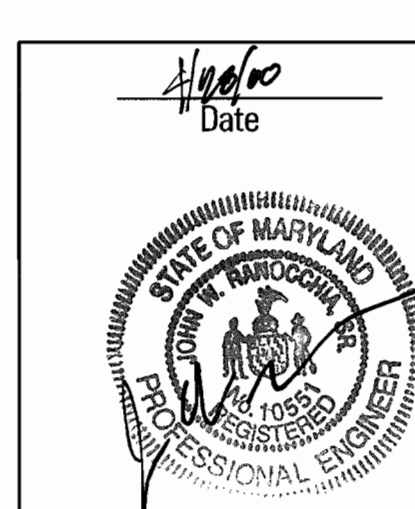
**ENGINEERS CERTIFICATE:**  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE  
DATE 5/9/00

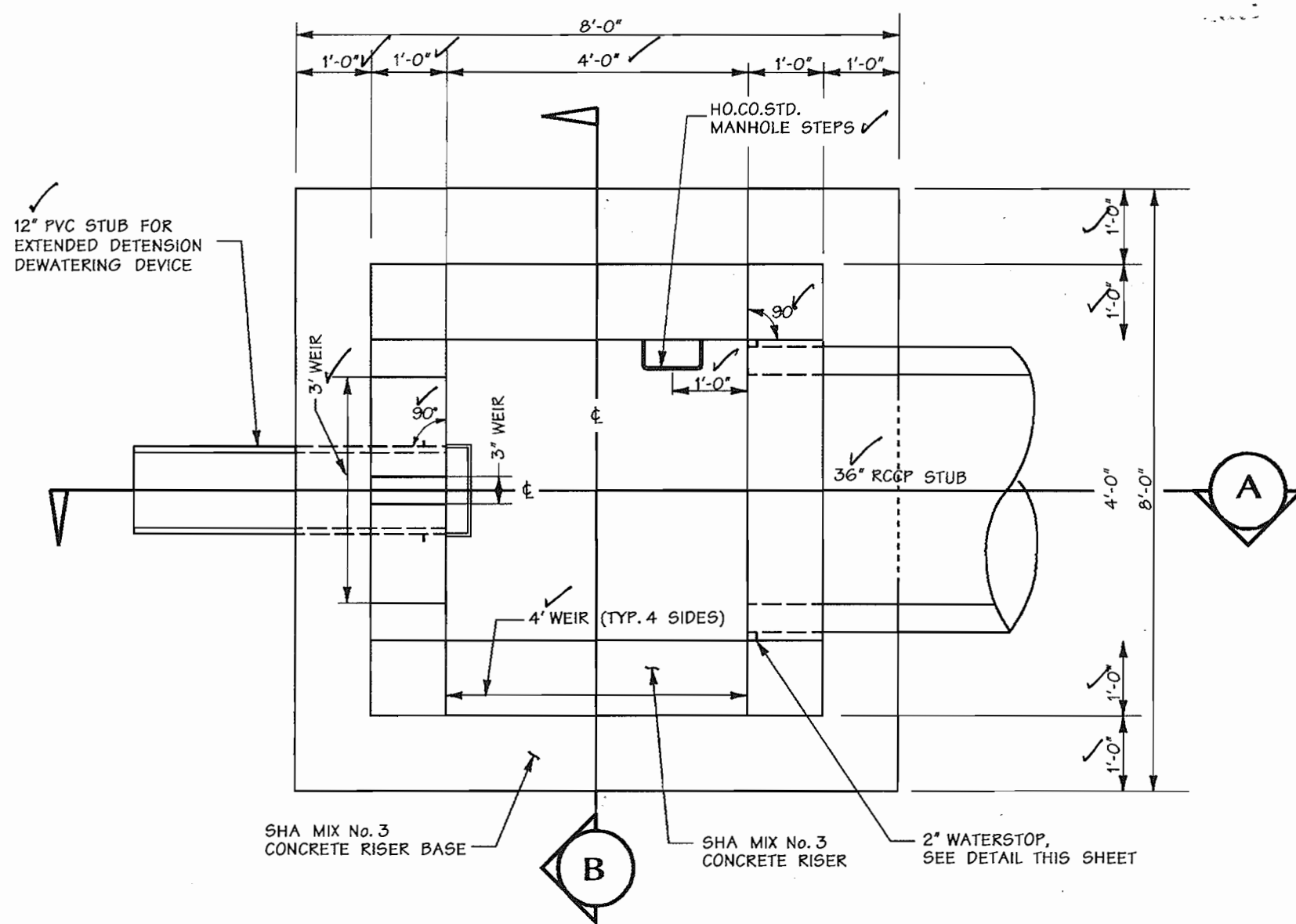
Date	No.	Revision Description
		COLUMBIA ROUTE 175 COMMERCIAL SECTION 1 AREA 2 PARCEL A & O.S. LOT 3
		OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044
		CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTIN# 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046

**DMW**  
Duff McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Poussin, Maryland 21286  
(410) 296-3333  
Fax 296-4705

AREA	ROUTE 175 COMMERCIAL
TAX MAP	36 & 37
PARCEL	27,122, 244, 282
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND	
TITLE	STORMWATER MANAGEMENT RISER DETAIL FOR POND #3
Des By	MRT
Scale	AS SHOWN
Proj. No.	89088.M
Dm By	ADL
Date	4-26-00
Chk By	Approved
Professional Engr. No.	10591
Page	24 OF 31

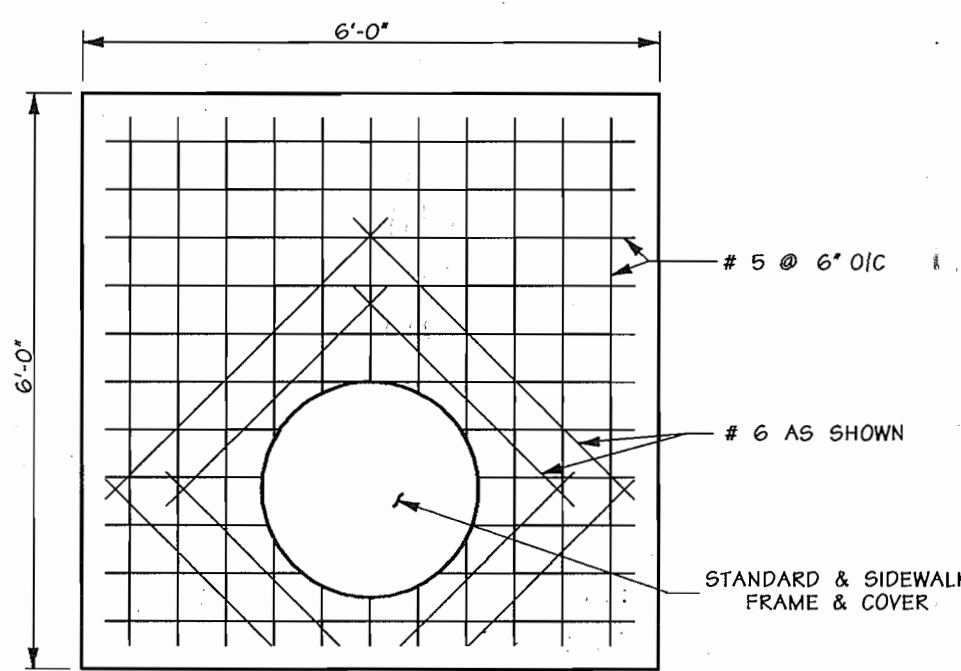


CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATIONS RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED PRACTICES.



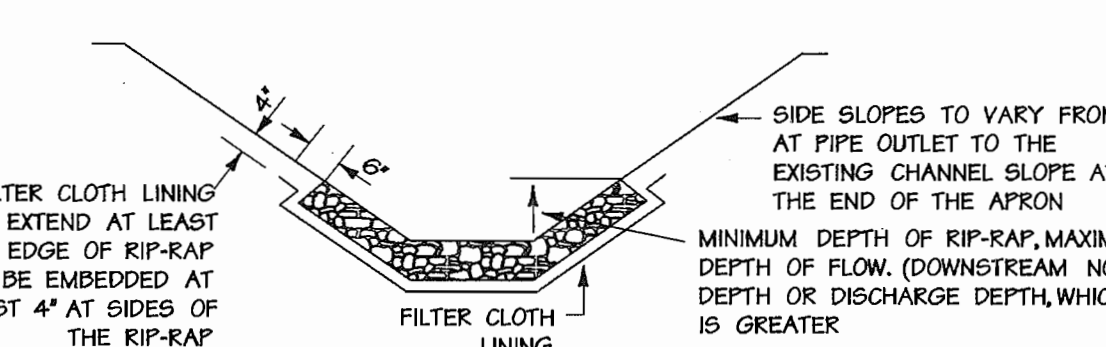
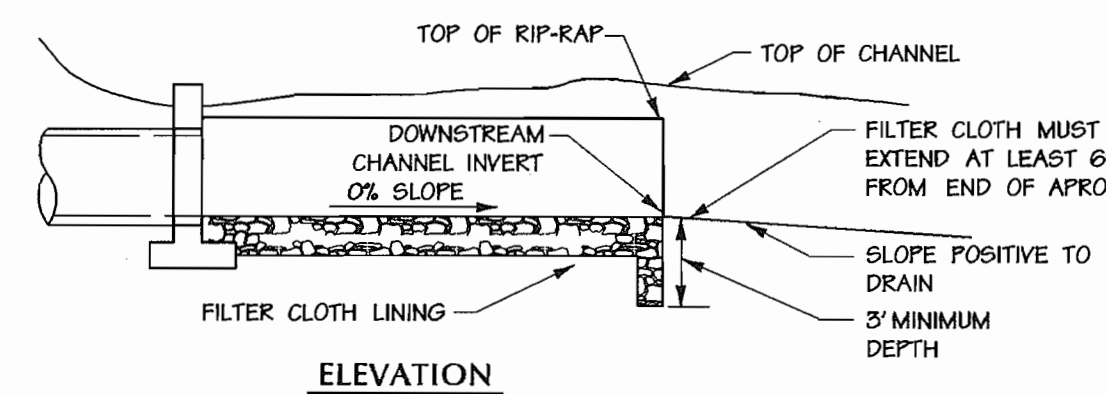
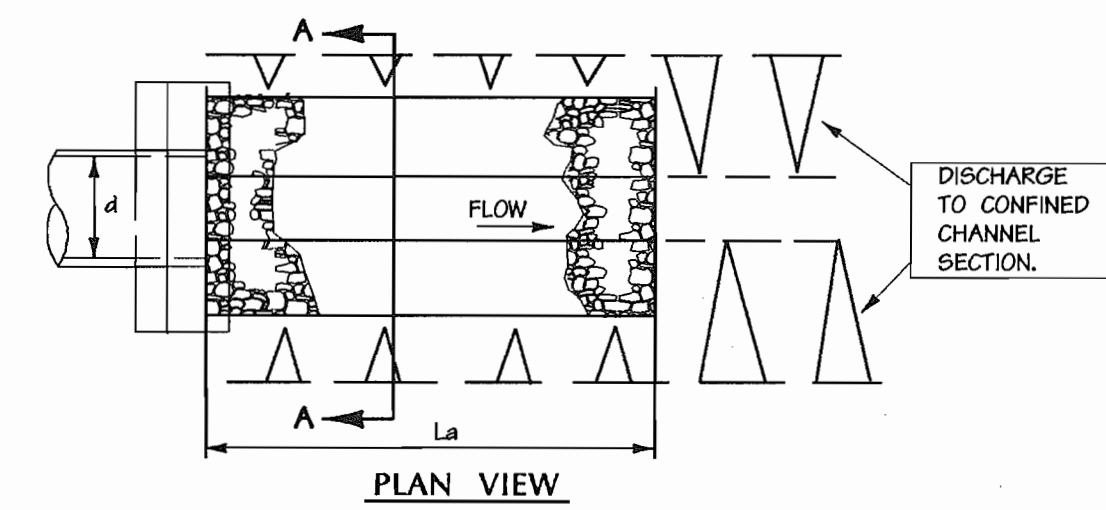
R-2 RISER PLAN (TOP REMOVED)

Scale: 1/8" = 1'-0"  
CAST IN PLACE



TOP SLAB

Scale: 1/8" = 1'-0"  
CAST IN PLACE



SECTION A-A

NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

CONSTRUCTION SPECIFICATIONS

1. THE SUBGRADE FOR THE FILTER RIP-RAP OR GABION SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
3. GEOTEXTILE CLASS C SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING. ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

Rock Outlet Protection II

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

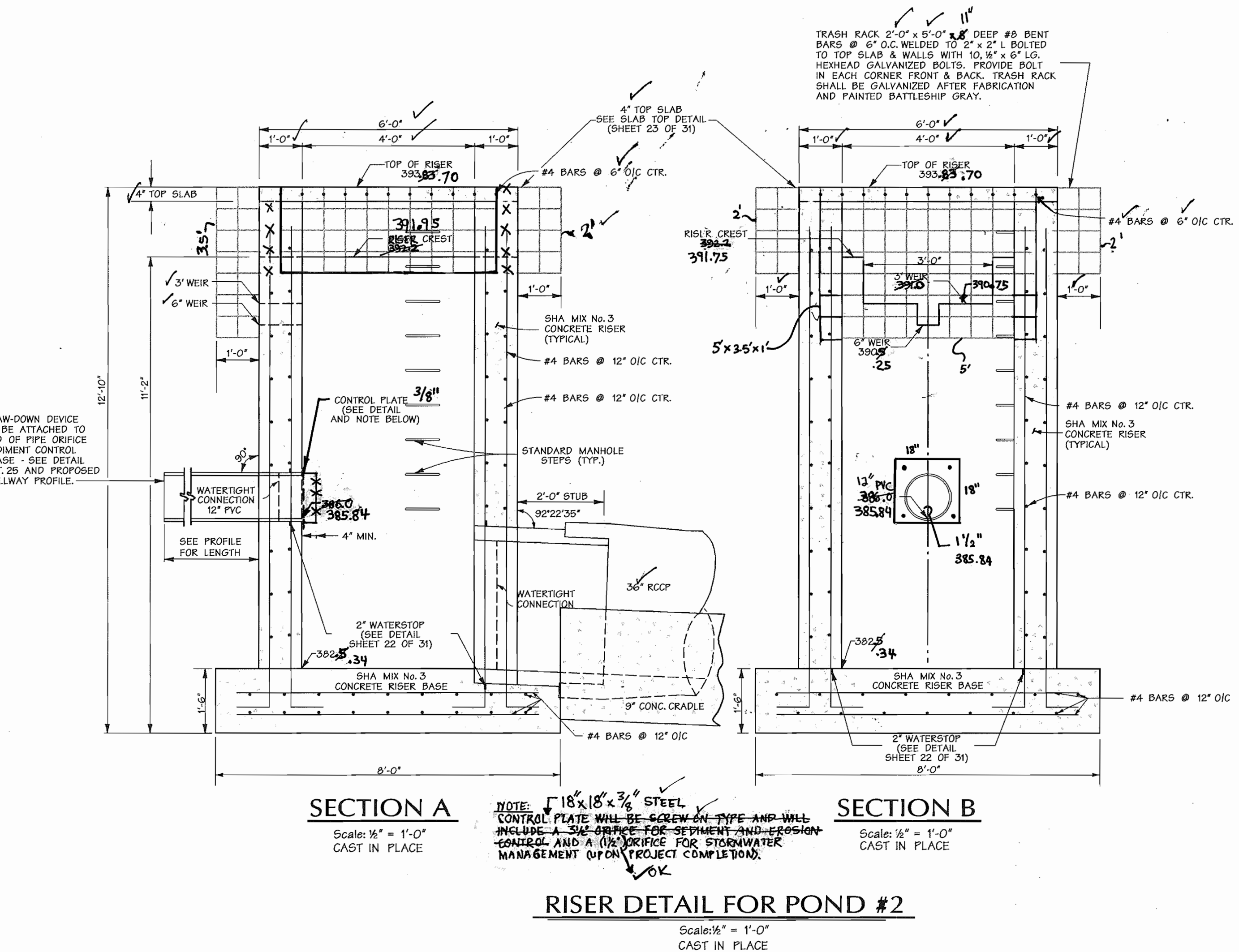
Not To Scale

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

ROCK OUTLET PROTECTION SPECIFICATIONS

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

F-10-BA, 9A, 10A



SECTION A

Scale: 1/8" = 1'-0"  
CAST IN PLACE

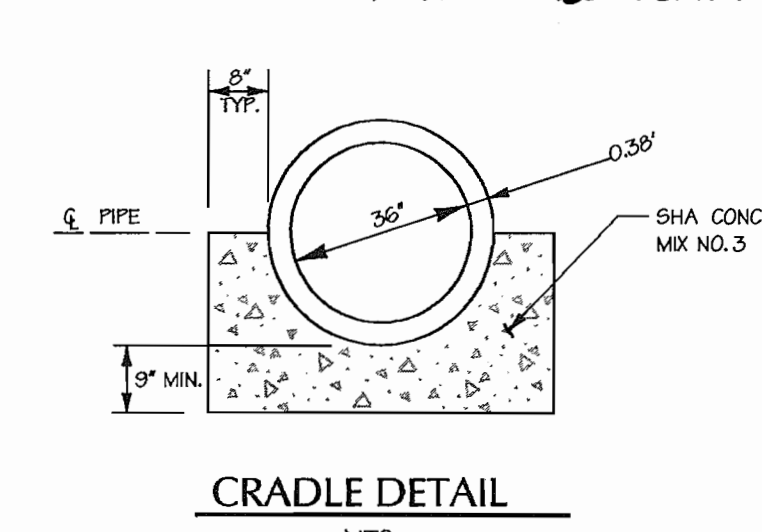
SECTION B

Scale: 1/8" = 1'-0"  
CAST IN PLACE

RISER DETAIL FOR POND #2

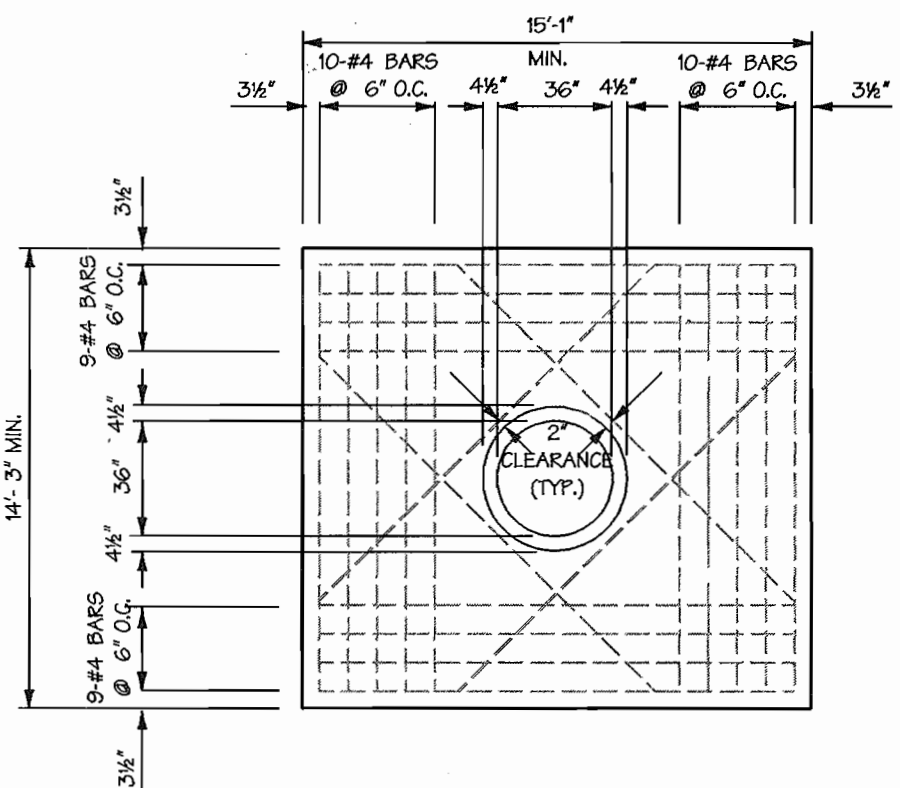
Scale: 1/8" = 1'-0"  
CAST IN PLACE

Rock Outlet Protection II



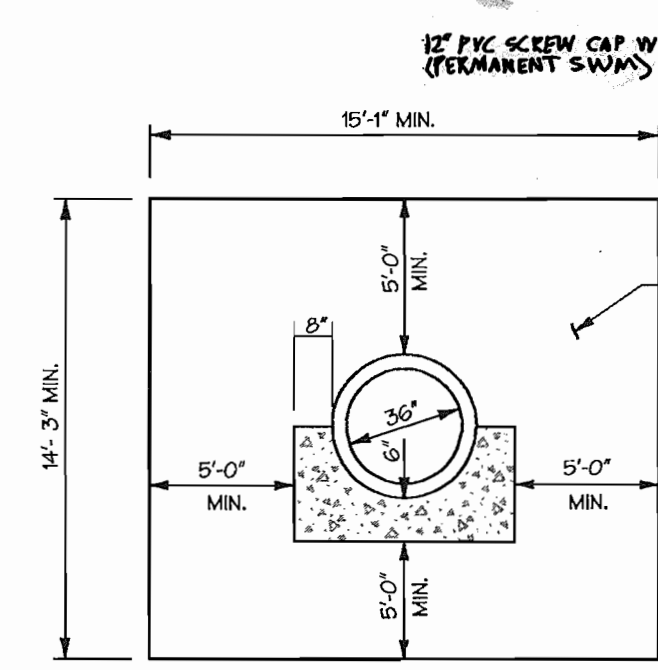
CRADLE DETAIL

NTS



PLAN

NTS



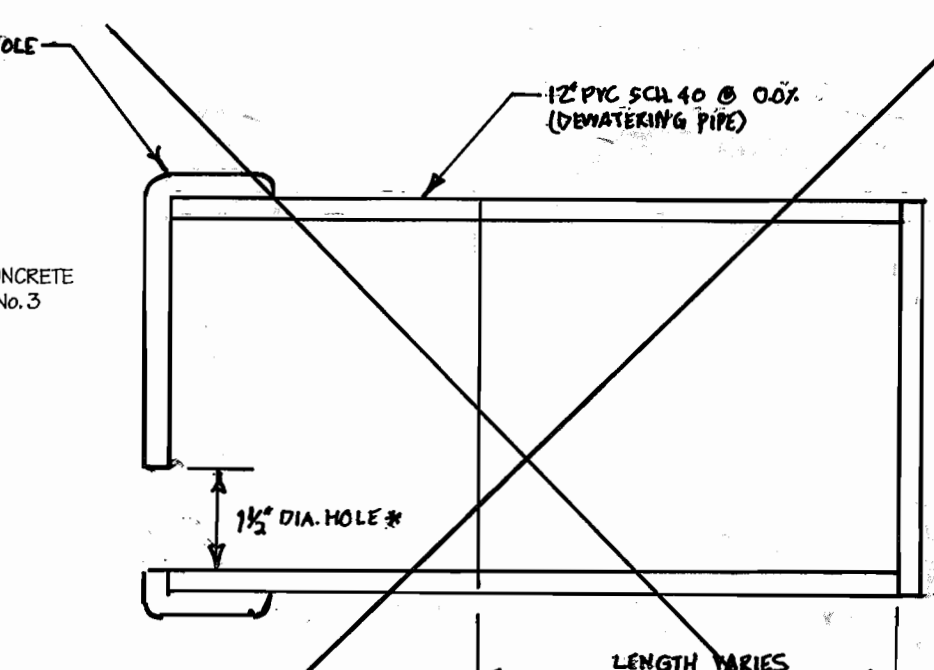
DIMENSION PLAN

NTS

8" THICK ANTI SEEP COLLAR DETAIL

POURED IN PLACE CONCRETE

SEE HILLIS-CARNES REPORT



CONTROL PLATE DETAIL

NOT TO SCALE

\* HOLE SHOWN FOR SWM CONVEYANCE HOWEVER SEDIMENT CONTROL WILL REQUIRE A REMOVABLE CAP WITH A 3/4" DRILLED HOLE PER TABLE, SHEET 25 OF 31



SWM AS BUILT

For SWM AS BUILT

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
<i>[Signature]</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	5/12/00 DATE
<i>[Signature]</i> CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
<i>[Signature]</i> DIRECTOR	5/12/00 DATE

Date	No.	Revision Description

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3

OWNER /DEVELOPER:  
THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUENT PARKWAY  
COLUMBIA, MD 21044

CONTRACT PURCHASER:  
LIBERTY PROPERTY LTD. PTN.  
3145 GUILFORD ROAD  
SUITE 100  
COLUMBIA, MD 21046

**DMW**  
Dart-McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 286-5853  
Fax 296-4705

A Team of Land Planners,  
Landscape Architects,  
Engineers, Surveyors &  
Environmental Professionals

AREA	ROUTE 175 COMMERCIAL TAX MAP 36 & 37 PARCEL 27, 122, 244, 282 6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND
TITLE	STORMWATER MANAGEMENT RISER DETAIL FOR POND #2
Des By	MRT Scale AS SHOWN Proj. No. 89088.M
Drn By	ADL Date 4-26-00
Chk By	Approved 23 OF 31

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

*[Signature]* 5/9/00  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 5/9/00  
APPROVED: HOWARD SOIL CONSERVATION DISTRICT DATE

PLAN NUMBER

DEVELOPERS CERTIFICATE:

I/WE 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 DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 5/9/00  
SIGNATURE OF DEVELOPER DATE

*[Signature]* 5/9/00  
MULLEN C. HANZEMANN, Liberty Property Ltd. Pct

ENGINEERS CERTIFICATE:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

*[Signature]* 4/28/00  
SIGNATURE OF ENGINEER DATE

*[Signature]* 4/28/00  
SIGNATURE OF ENGINEER DATE

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

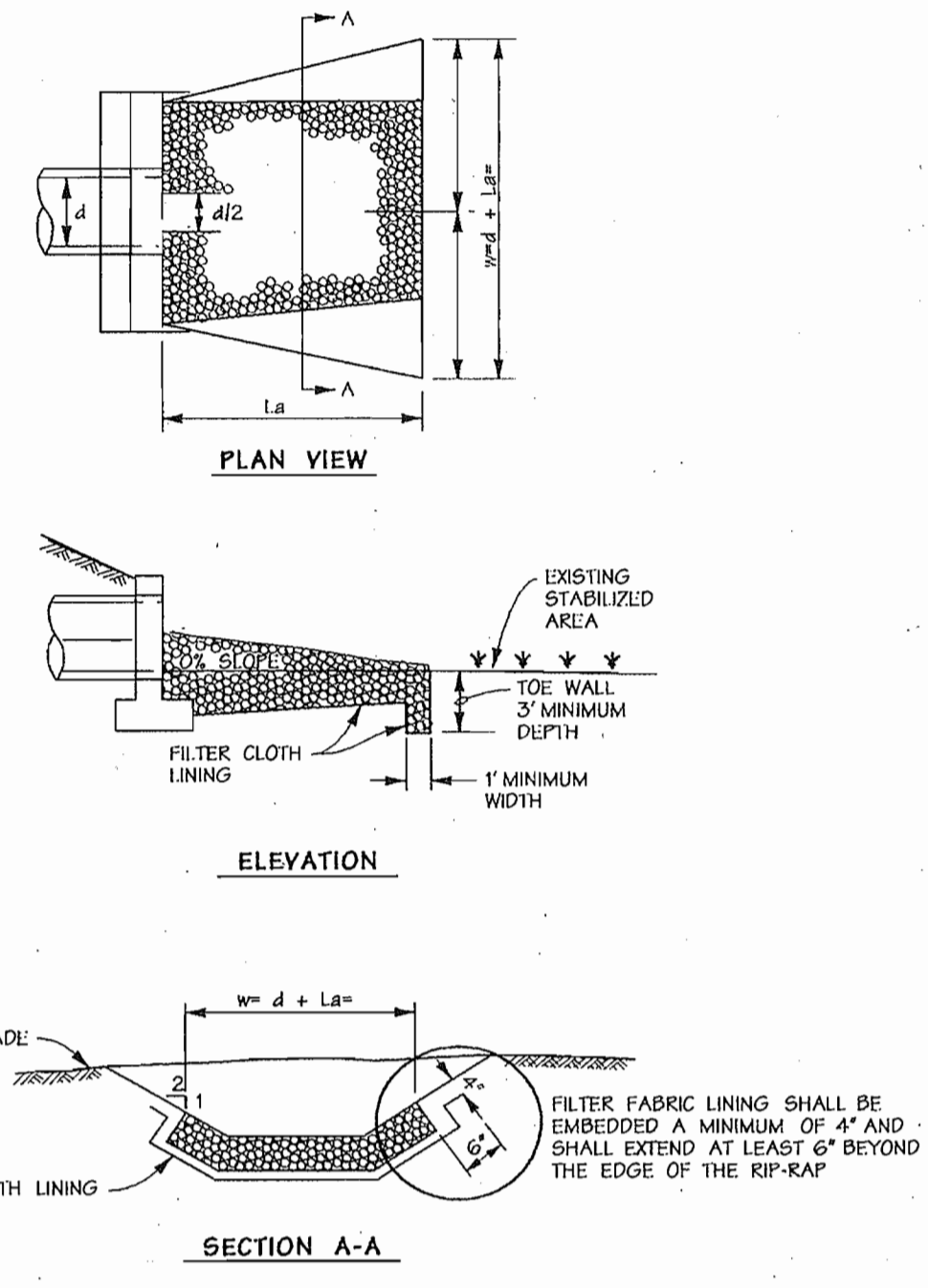
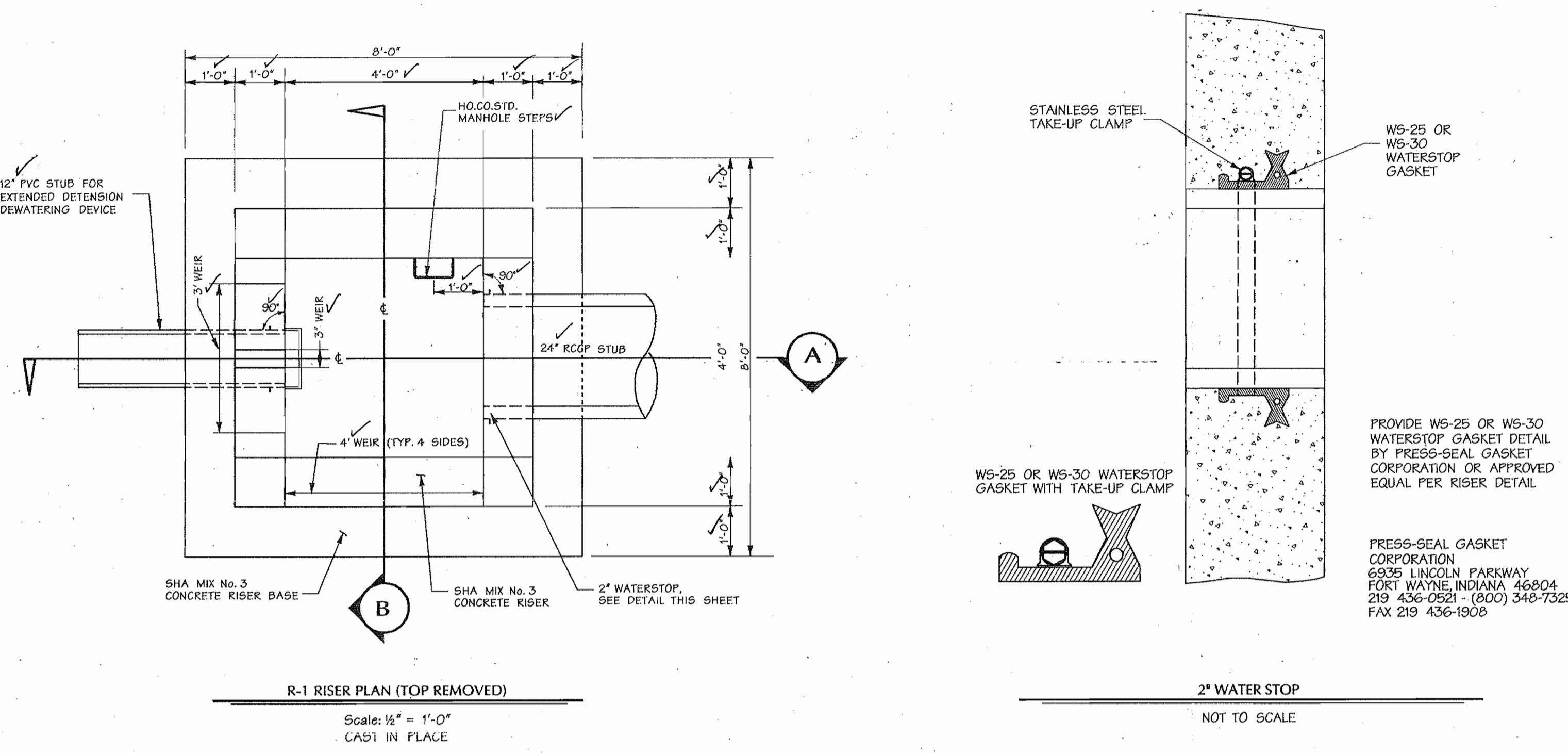
*[Signature]* 4/28/00  
SIGNATURE OF ENGINEER DATE

*[Signature]* 4/28/00  
SIGNATURE OF ENGINEER DATE

*[Signature]* 4/28/00  
DATE

*[Signature]* 4/28/00  
DATE

Professional Engr. No. 10991



- CONSTRUCTION SPECIFICATIONS**
1. THE SUBGRADE FOR THE FILTER, RIP-RAP, OR GABION SHALL BE PREPARED TO THE REQUIRED LIMITS AND GRADES. ANY FILL REQUIRED IN THE SUBGRADE SHALL BE COMPACTED TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
  2. THE ROCK OR GRAVEL SHALL CONFORM TO THE SPECIFIED GRADING LIMITS WHEN INSTALLED RESPECTIVELY IN THE RIP-RAP OR FILTER.
  3. GEOTEXTILE CLASS C SHALL BE PROTECTED FROM PUNCHING, CUTTING, OR TEARING BY ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE. SHALL BE REPAIRED BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. ALL OVERLAPS WHETHER FOR REPAIRS OR FOR JOINING TWO PIECES OF GEOTEXTILE SHALL BE A MINIMUM OF ONE FOOT.
  4. STONE FOR THE RIP-RAP OR GABION OUTLETS MAY BE PLACED BY EQUIPMENT. THEY SHALL BE CONSTRUCTED TO THE FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. THE STONE FOR RIP-RAP OR GABION OUTLETS SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. RIP-RAP SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACEMENT WILL BE REQUIRED TO THE EXTENT NECESSARY TO PREVENT DAMAGE TO THE PERMANENT WORKS.
  5. THE STONE SHALL BE PLACED SO THAT IT BLENDS IN WITH THE EXISTING GROUND. IF THE STONE IS PLACED TOO HIGH THEN THE FLOW WILL BE FORCED OUT OF THE CHANNEL AND SCOUR ADJACENT TO THE STONE WILL OCCUR.

PROVIDE WS-25 OR WS-30 WATERSTOP GASKET DETAIL BY PRESS-SEAL GASKET CORPORATION OR APPROVED EQUAL PER RISER DETAIL

PRESS-SEAL GASKET CORPORATION  
6335 LINCOLN PARKWAY  
FORT WAYNE, INDIANA 46804  
219 436-0521 - (800) 348-7325  
FAX 219 436-1906

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

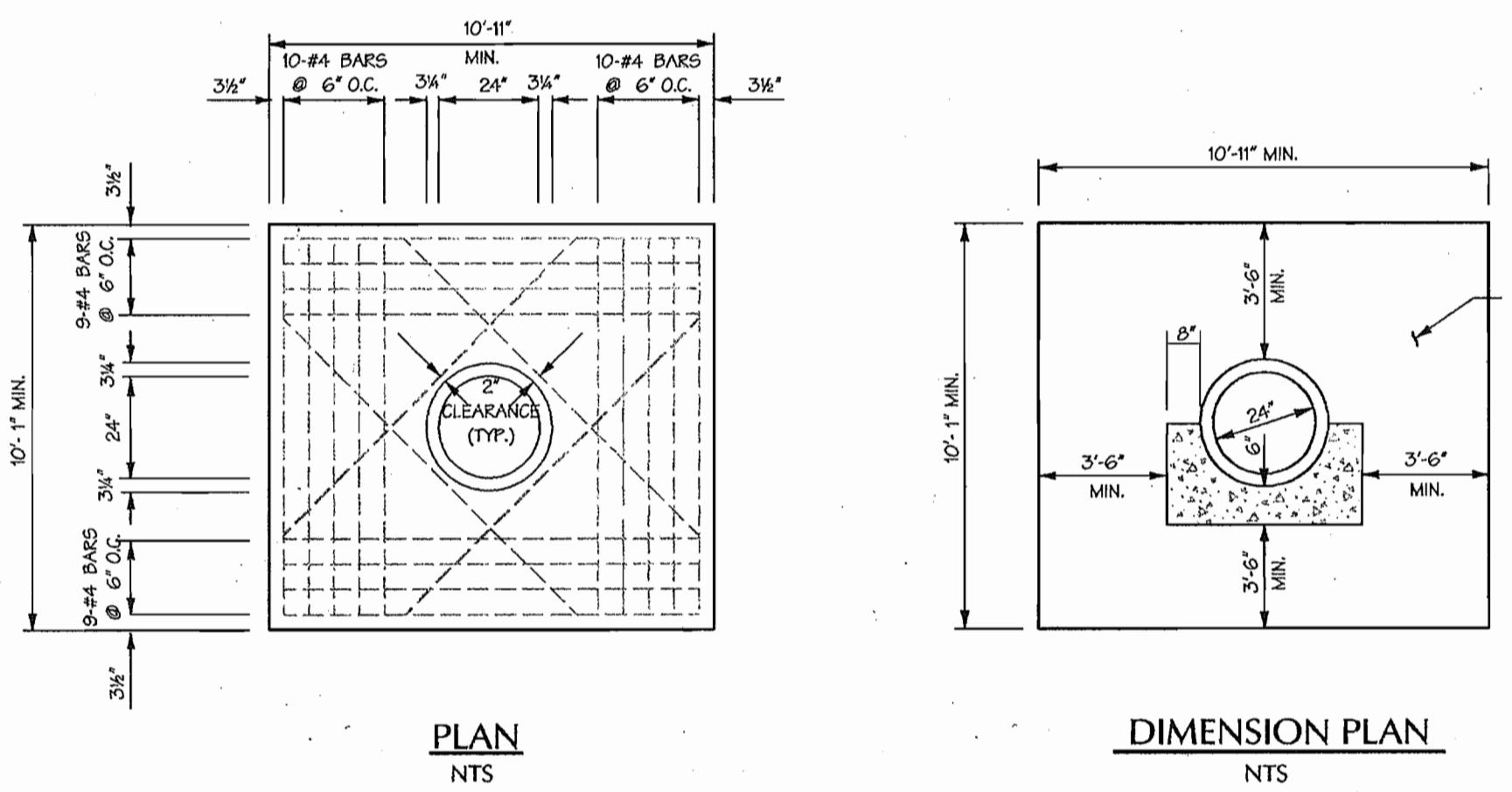
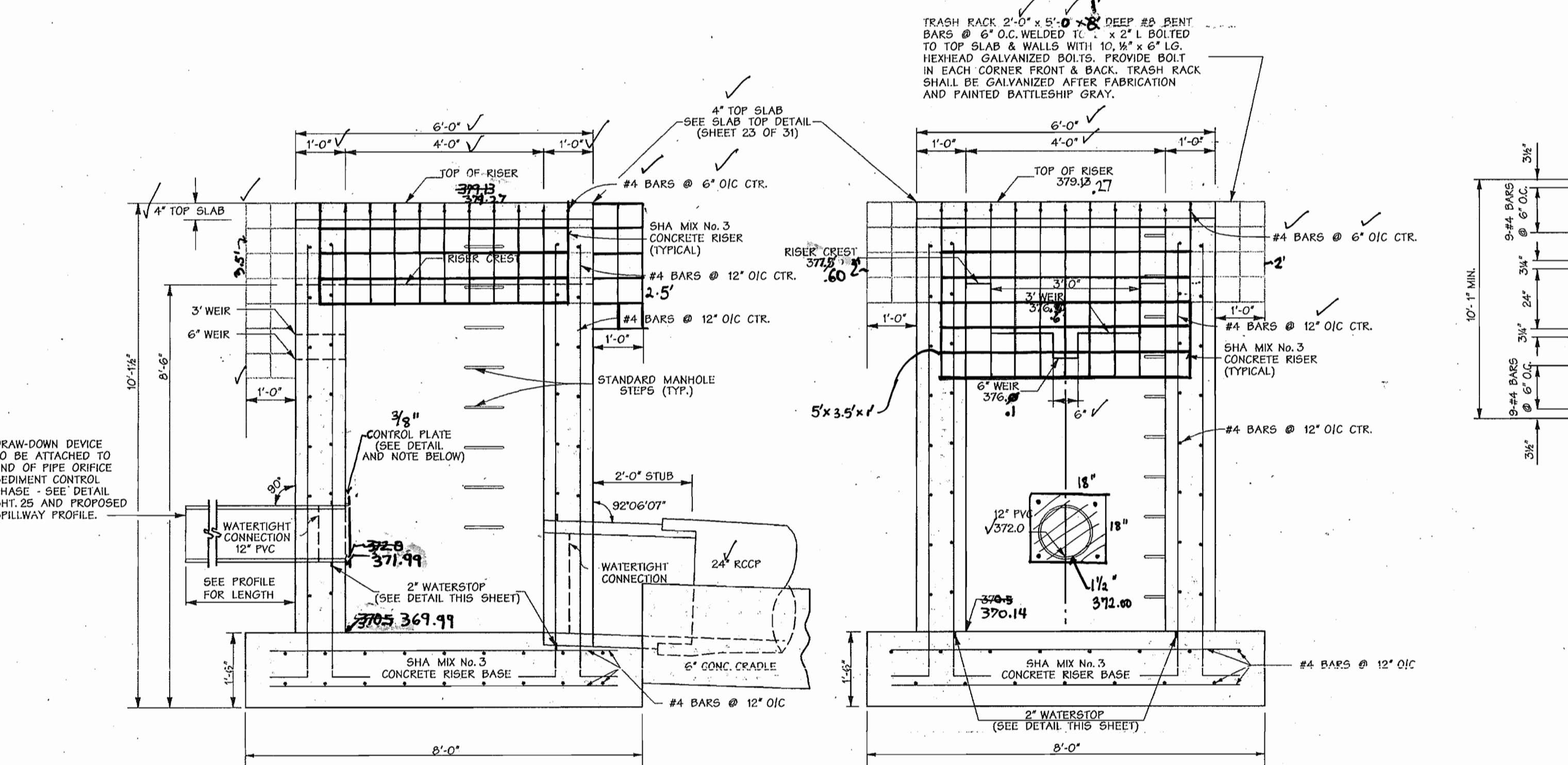
MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

U.S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT  
WATER MANAGEMENT ADMINISTRATION

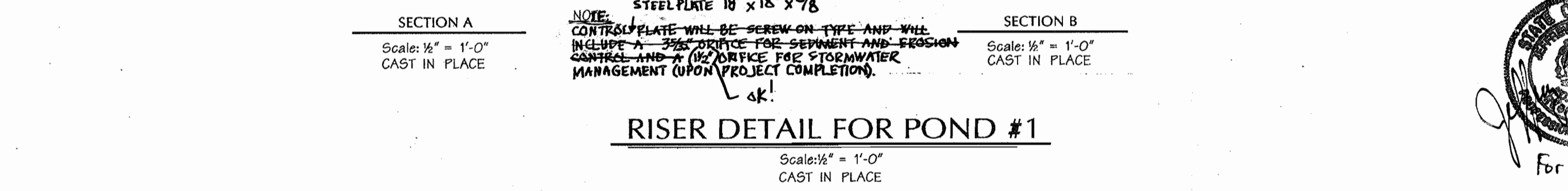
**ROCK OUTLET PROTECTION III**

**ROCK OUTLET PROTECTION SPECIFICATIONS**



CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATIONS RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED PRACTICES.

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB 23, 2000



SWM AS BUILT

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

U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE  
5/19/00 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: 5/19/00 DATE

PLAN NUMBER

**DEVELOPERS CERTIFICATE:**

I/WE 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 DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I/WE ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

SIGNATURE OF DEVELOPER: [Signature]  
DATE: 4/20/00

PRINT NAME BELOW SIGNATURE: Michael C. Wozniak, Lawrence P. [Signature]

**ENGINEERS CERTIFICATE:**

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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 NOTICED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

SIGNATURE OF ENGINEER: [Signature]  
DATE: 4/20/00

PRINT NAME BELOW SIGNATURE: John W. Ranocchini, S.

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

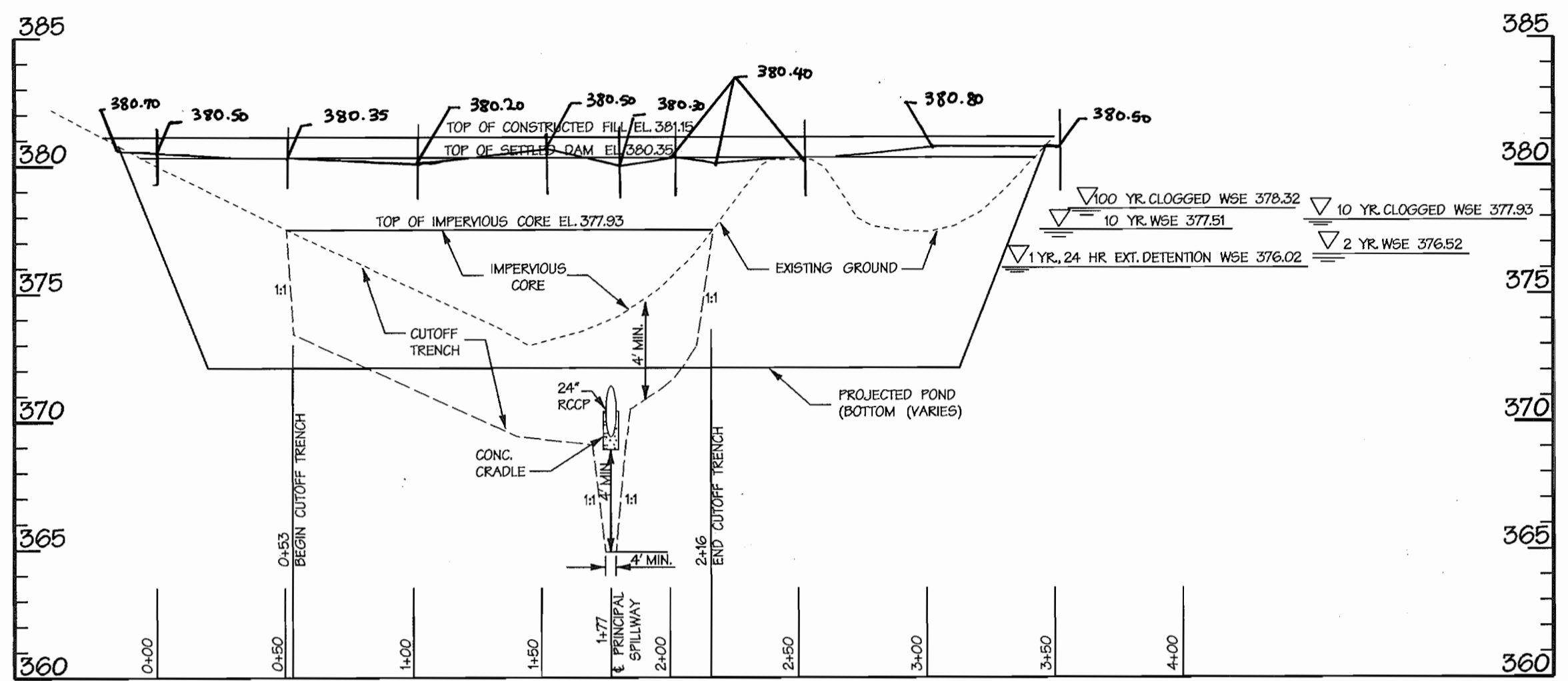
SIGNATURE OF ENGINEER: [Signature]  
DATE: 6/19/06

PRINT NAME BELOW SIGNATURE: Jeffrey L. Schaub

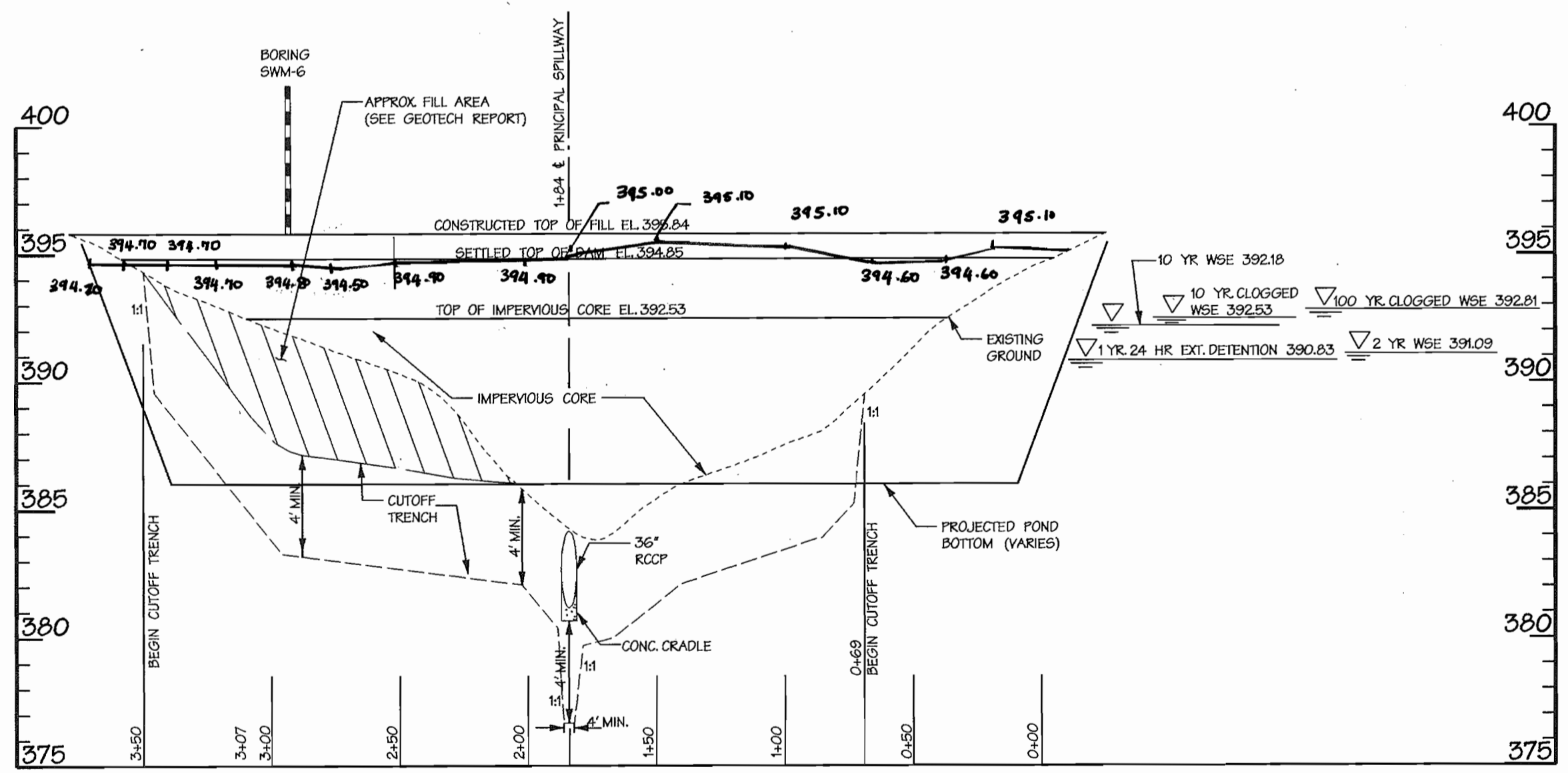
REG. NO. 14230

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	DATE: 5/12/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	DATE: 5/12/00
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE: 5/12/00
DIRECTOR	DATE: 5/12/00
Date	No.
Revision Description	
COLUMBIA ROUTE 175 COMMERCIAL	
SECTION 1 AREA 2	PARCEL A & O.S. LOT 3
OWNER/DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044	CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTINP. 9145 GUILFORD ROAD SUITE 100 COLUMBIA, MD 21046
<b>DMW</b> Daft McCune-Walker, Inc. 200 East Pennsylvania Avenue Thousand, Maryland 21286 (410) 296-3333 Fax 296-4705	
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
AREA: ROUTE 175 COMMERCIAL	TAX MAP 36 & 37
PARCEL 27, 122, 244, 282	
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND	
TITLE: STORMWATER MANAGEMENT RISER DETAIL FOR POND #1	
Des By: MRT	Scale: AS SHOWN
Dwn By: ADL	Date: 4-26-00
Proj. No.: 89088.M	22 OF 31
Professional Engr. No. 10591	Approved

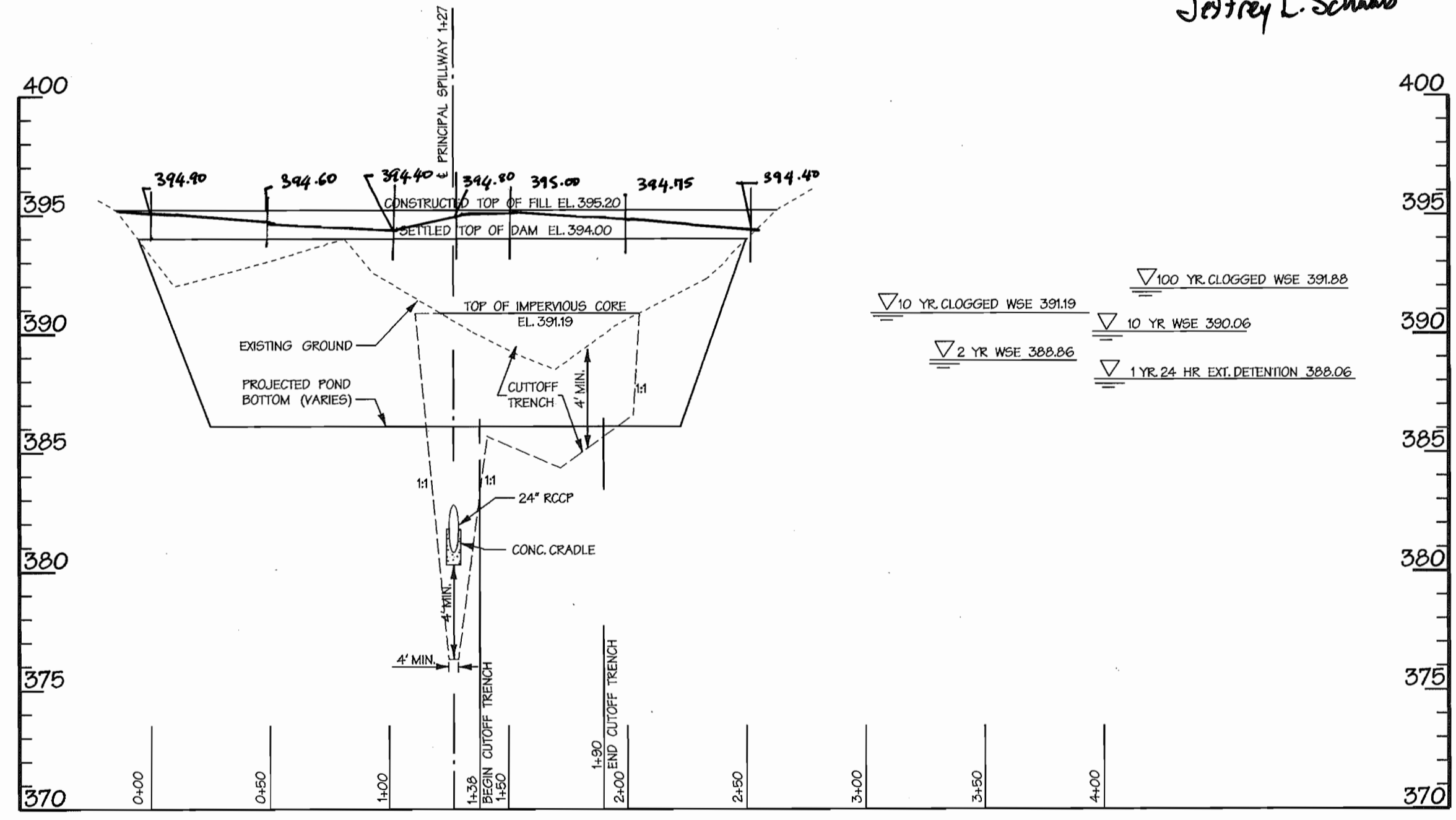




PROFILE ALONG CENTERLINE OF DAM FOR POND #1  
SCALE: 1"=50' HORZ  
1"=5' VERT.



PROFILE ALONG CENTERLINE OF DAM FOR POND #2  
SCALE: 1"=50' HORZ  
1"=5' VERT.



PROFILE ALONG CENTERLINE OF DAM FOR POND #3  
SCALE: 1"=50' HORZ  
1"=5' VERT.

SWM AS BUILT



"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE 'AS-BUILT' PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

Signature of Jeffrey L. Schaub  
SIGNATURE OF ENGINEER  
(PRINT NAME BELOW SIGNATURE)  
JEFFREY L. SCHAUB

14230  
REG. NO.

6/19/06  
DATE

APPROVED  
PLANNING BOARD  
of HOWARD COUNTY  
DATE FEB. 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION MK	5/12/00 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5/12/00 DATE
DIRECTOR	5/12/00 DATE

Date	No.	Revision Description

COLUMBIA  
ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2 PARCEL A & O.S. LOT 3  
OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP.  
10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044

**DMW**  
DRAFT McCAUSE-WALKER, INC.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax: 296-4705  
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA	ROUTE 175 COMMERCIAL				
TAX MAP	36 & 37				
6TH ELECTION DISTRICT	OF HOWARD COUNTY, MARYLAND				
TITLE	STORMWATER MANAGEMENT PROFILES				
Des By	MRT	Scale	AS SHOWN	Proj. No.	89088.M
Drn By	ADL	Date	4-26-00		
Chk By		Approved			21 OF 31



ENGINEERS CERTIFICATE:  
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS 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/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of John W. Ranocchia, Sr.  
SIGNATURE OF ENGINEER  
PRINT NAME BELOW SIGNATURE  
DATE: 4/22/00

DEVELOPERS CERTIFICATE:  
I/WE 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 DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

Signature of Howard Research & Development Corporation  
SIGNATURE OF DEVELOPER  
PRINT NAME BELOW SIGNATURE  
DATE: 4/22/00

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

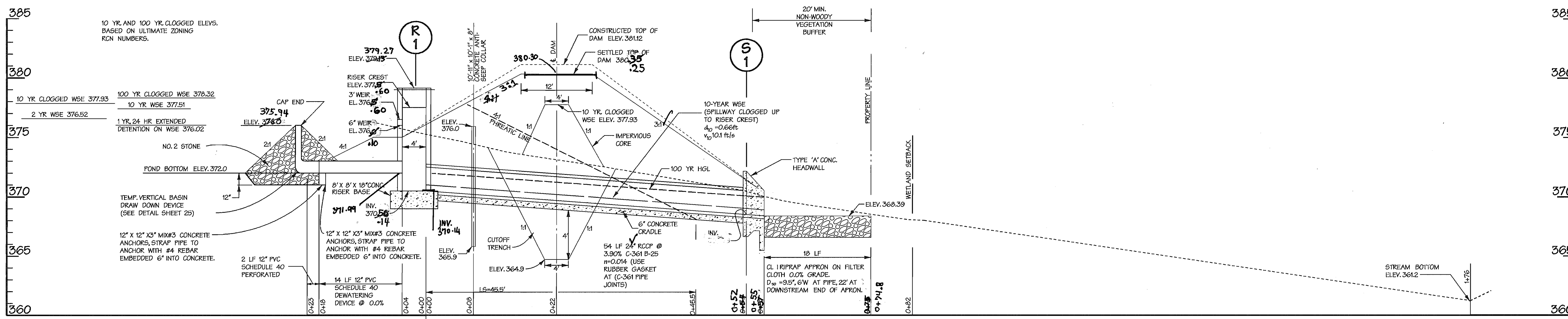
Signature of Chad Sims  
U.S.D. NATURAL RESOURCES CONSERVATION SERVICE  
DATE: 5/9/00

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

Signature of Howard Research & Development Corporation  
APPROVED: HOWARD SOIL CONSERVATION DISTRICT  
DATE: 5/9/00

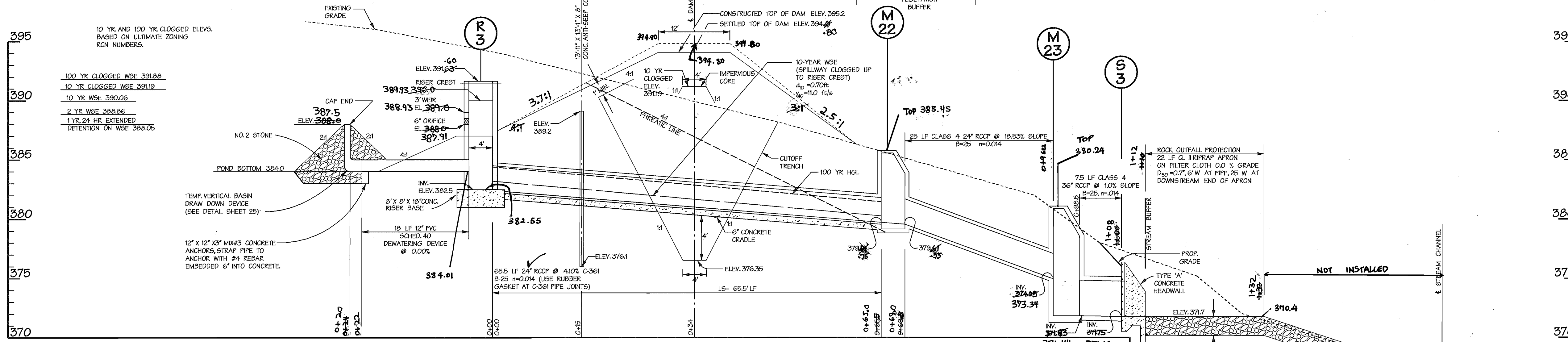
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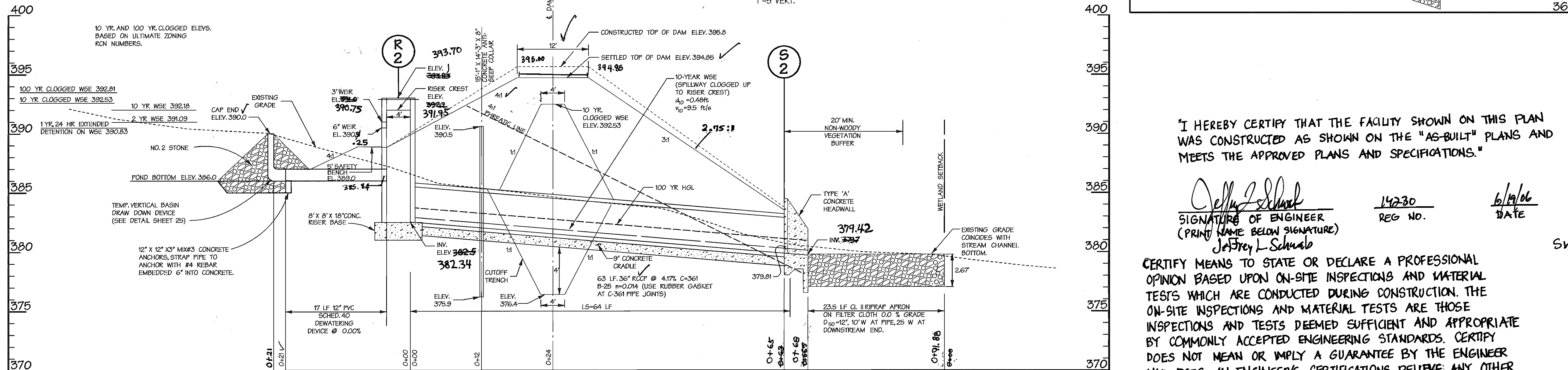
PROFILE ALONG PRINCIPAL SPILLWAY POND #1

SCALE: 1"=10' HORIZ.  
1"=5' VERT.



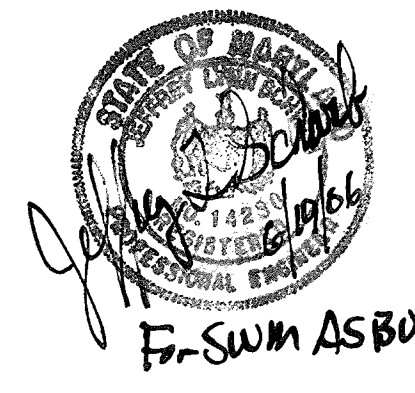
PROFILE ALONG PRINCIPAL SPILLWAY POND #3

SCALE: 1"=10' HORIZ.  
1"=5' VERT.



PROFILE ALONG PRINCIPAL SPILLWAY POND #2

SCALE: 1"=10' HORIZ.  
1"=5' VERT.



**APPROVED**  
PLANNING BOARD  
of HOWARD COUNTY  
DATE: FEB 03, 2000

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

*Jeffrey L. Schmalz*  
SIGNATURE OF ENGINEER  
(PRINT NAME BELOW SIGNATURE)  
Jeffrey L. Schmalz  
14230 REG NO.  
6/19/06 DATE

SWM AS BUILT

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATIONS RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED PRACTICES.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.  
*John Simon*  
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE  
5/19/00 DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.  
*John Simon*  
APPROVED: HOWARD SOIL CONSERVATION DISTRICT  
5/19/00 DATE

PLAN NUMBER

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*John W. Ranocchia, Sr.*  
SIGNATURE OF DEVELOPER  
(PRINT NAME BELOW SIGNATURE)  
John W. Ranocchia, Sr.  
4/28/00 DATE

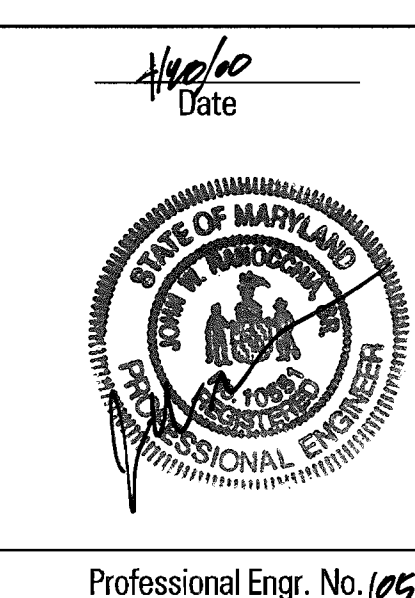
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*John W. Ranocchia, Sr.*  
SIGNATURE OF ENGINEER  
(PRINT NAME BELOW SIGNATURE)  
John W. Ranocchia, Sr.  
4/28/00 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*Richard Blood*  
CHIEF, DIVISION OF LAND DEVELOPMENT  
5/12/00 DATE  
*Paul Rutter*  
DIRECTOR  
5/12/00 DATE

AREA: ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2  
OWNER/DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044  
PARCEL A & O.S. LOT 3  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTNP  
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A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37  
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
TITLE: STORMWATER MANAGEMENT  
PRINCIPAL SPILLWAY PROFILES  
Des By: MRT Scale: AS SHOWN Proj. No.: 89088.M  
Dwn By: ADLWDE Date: 4-26-00  
Chk By: Approved 20 OF 31



POND #3  
DESIGN FLOW SUMMARY PROPOSED CONDITIONS

	2-YEAR	10 YEAR	100 YEAR CLOGGED
Existing D.P. (cfs)	2.70	13.70	29.47
Allowable Release (cfs)	2.70	13.70	29.47
Developed Inflow (cfs)	28.83	95.51	93.89
Developed Outflow (cfs)	0.94	11.11	43.69
Developed D.P. (cfs)	388.96	390.06	391.28
Water Surface Elevation	0.394	0.394	0.394
Water Quality Storage (ac. ft.)	1.21	1.781	2.992
Quantity Storage (ac. ft.)	1.605	2.175	3.366
Total Storage (ac. ft.)			

Structure Type  
Water Quality Type  
Structure Classification

Storage Height Product 2 year  
Storage Height Product 10 year  
Storage Height Product 100 year  
Watershed Area to Facility  
Level of Management Required  
Level of Management Provided  
Minimum Top Width Provided  
Maximum Height of Fill  
Freeboards Required  
Freeboard Provided

	DRY DETENTION WET POND
Structure Type	DRY DETENTION
Water Quality Type	WET POND
Structure Classification	W
Storage Height Product 2 year	6.86
Storage Height Product 10 year	7.97
Storage Height Product 100 year	8.89
Watershed Area to Facility	0.096 Sq. Miles
Level of Management Required	2, 10
Level of Management Provided	2, 10
Minimum Top Width Provided	12'
Maximum Height of Fill	5.5'
Freeboards Required	2.0'
Freeboard Provided	2.15'

BASIN TABLE

BASIN NUMBER	3
EXISTING DRAINAGE AREA AC.	10.1
INTERIM DRAINAGE AREA AC.	9.7
PROPOSED DRAINAGE AREA AC.	12.4
STORAGE REQUIRED C.F.	WET 22,320
	DRY 22,320
	TOTAL 44,640
STORAGE PROVIDED C.F.	WET 22,320
	DRY 70,203
	TOTAL 92,523
EXISTING GROUND ELEV.	393.0
TOP EMBANKMENT ELEV.	394.00
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	390.0
WET STORAGE ELEV.	396.14
CLEANOUT ELEV.	395.1
BOTTOM ELEV.	394.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	55.51
Q OUT BARREL (C.F.S.) 10 YR. CLOGGED	37.22
Q OUT EMERGENCY SPILLWAY	N/A
BASIN DEPTH	WET 2.14'
	DRY 5.66'
	TOTAL 7.8'
DESIGN HIGHWATER 10 YR. CLOGGED	391.9
FREEBOARD PROVIDED	2.8'
BARREL DIAMETER	24"
RISER DIMENSION	4' x 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	394.0-396.14
DRY STORAGE ZONE ELEV.	396.14-391.9
BOTTOM DIMENSIONS	145' x 40'
2 YR. Q. EXISTING	2.70
2 YR. Q. PROPOSED	1.41

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATIONS RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED PRACTICES.

LEGEND

- SF — SILT FENCE
- ← ← ← EARTH DIKE
- — — — — LIMIT OF DISTURBANCE
- SF — SUPER SILT FENCE
- ← ← ← TEMPORARY SWALE
- — — — — PROPOSED ESC DRAINAGE AREA
- — — — — EXISTING ESC DRAINAGE AREA
- GM GABION MATRESS
- ⊕ SOIL BORING
- ⊕ SWM-4
- ⊕ RPS REMOVABLE PUMPING STATION

UTILITY CONSTRUCTION OUTSIDE SEDIMENT CONTROL PRACTICES

- EXCAVATED TRENCH MATERIAL SHALL BE PLACED ON UPSTREAM SIDE OF TRENCH.
- IMMEDIATELY FOLLOWING PIPE INSTALLATION, THE TRENCH SHALL BE BACKFILLED, COMPACTED AND IMMEDIATELY STABILIZED (MULCHED, SEED, AND/OR SOILED MECHANICAL STABILIZATION) AT THE END OF EACH WORK DAY.
- SILT FENCE SHALL BE PLACED IMMEDIATELY DOWN STREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED LONGER THAN ONE (1) WORKING DAY. SILT FENCE AS PER SCS STANDARD DRAWING - (E-15-3)
- THE CONTRACTOR SHALL DISTURB AND OPEN TRENCH THE MINIMUM PRACTICAL AREA REQUIRED TO ACCOMPLISH THE WORK DESIGNATED FOR EACH DAY.
- ALL SEDIMENT AND EROSION CONTROL PRACTICES AND VEGETATIVE STABILIZATION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL IN DEVELOPING AREAS. ANY EROSION AND SEDIMENT CONTROL PRACTICES DAMAGED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.

DEVELOPER'S CERTIFICATION:  
"I HEREBY CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Signature: *[Signature]*  
Date: *[Date]*

ENGINEER'S CERTIFICATION:  
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

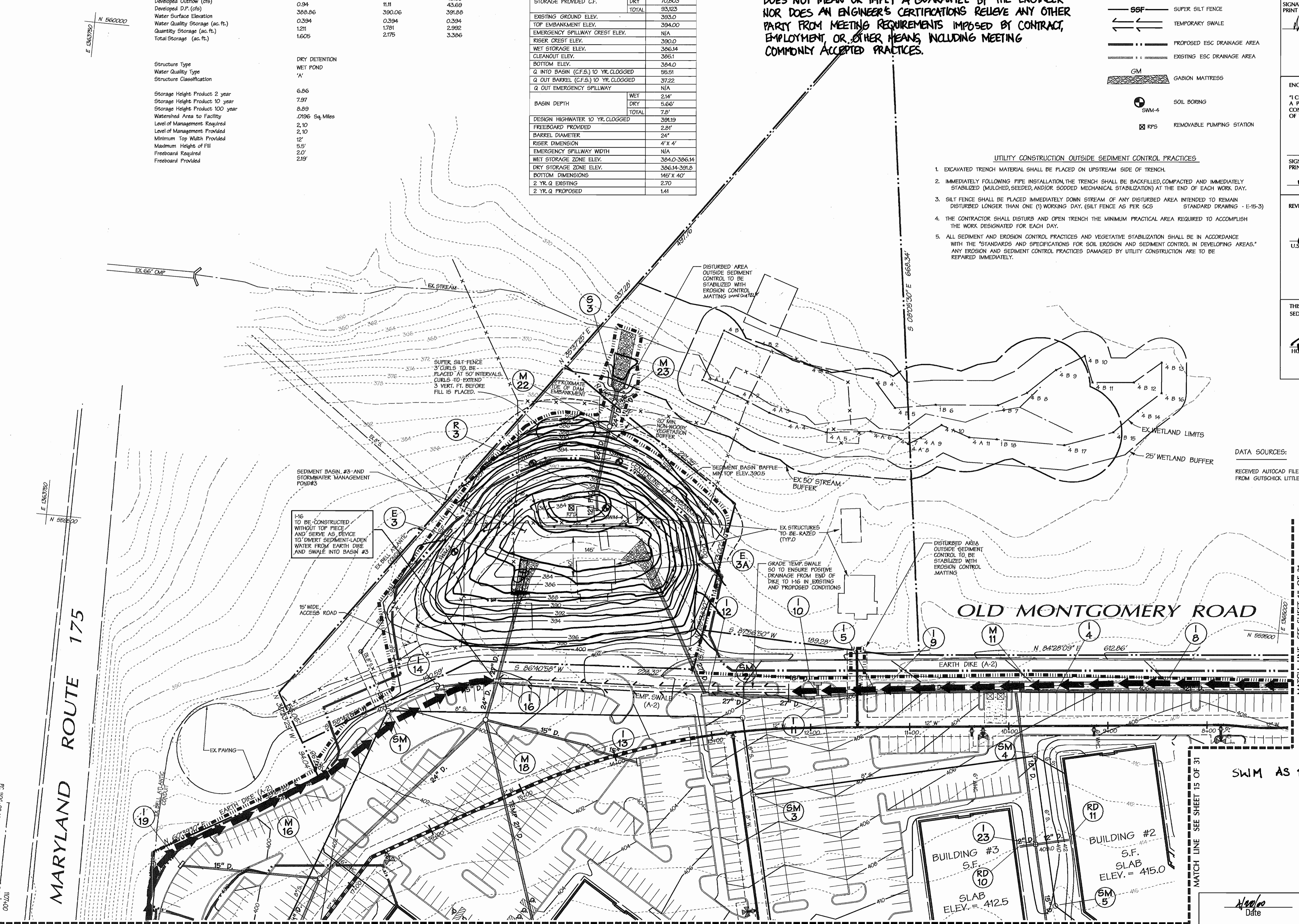
Signature: *[Signature]*  
Date: *[Date]*

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS

Signature: *[Signature]*  
Date: *[Date]*

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

Signature: *[Signature]*  
Date: *[Date]*



DATA SOURCES:  
RECEIVED AUTOCAD FILE VIA E-MAIL 2/19/99 FROM GUTSCHICK LITTLE & WEBER.

APPROVED PLANNING BOARD OF HOWARD COUNTY  
DATE FEB 23, 2000

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature: *[Signature]*  
Date: *[Date]*

Signature: *[Signature]*  
Date: *[Date]*

Signature: *[Signature]*  
Date: *[Date]*

ROUTE 175 COMMERCIAL  
SECTION 1 AREA 2  
PARCEL A & O.S. LOT 3

OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN

10275 LITTLE PATUXENT PARKWAY  
COLUMBIA, MD 21044

DMW  
Duff McCune-Walker, Inc.  
200 East Pennsylvania Avenue  
Towson, Maryland 21286  
(410) 296-3333  
Fax 296-4705

A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

AREA: ROUTE 175 COMMERCIAL  
TAX MAP 36 & 37  
6TH ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND

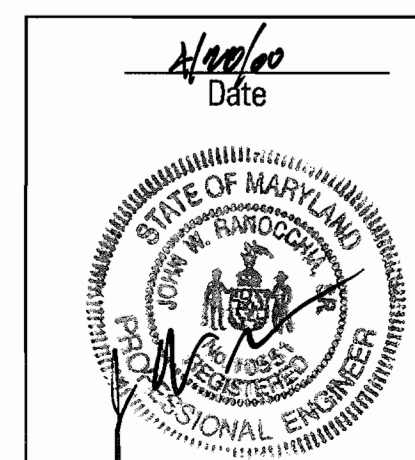
TITLE: EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN

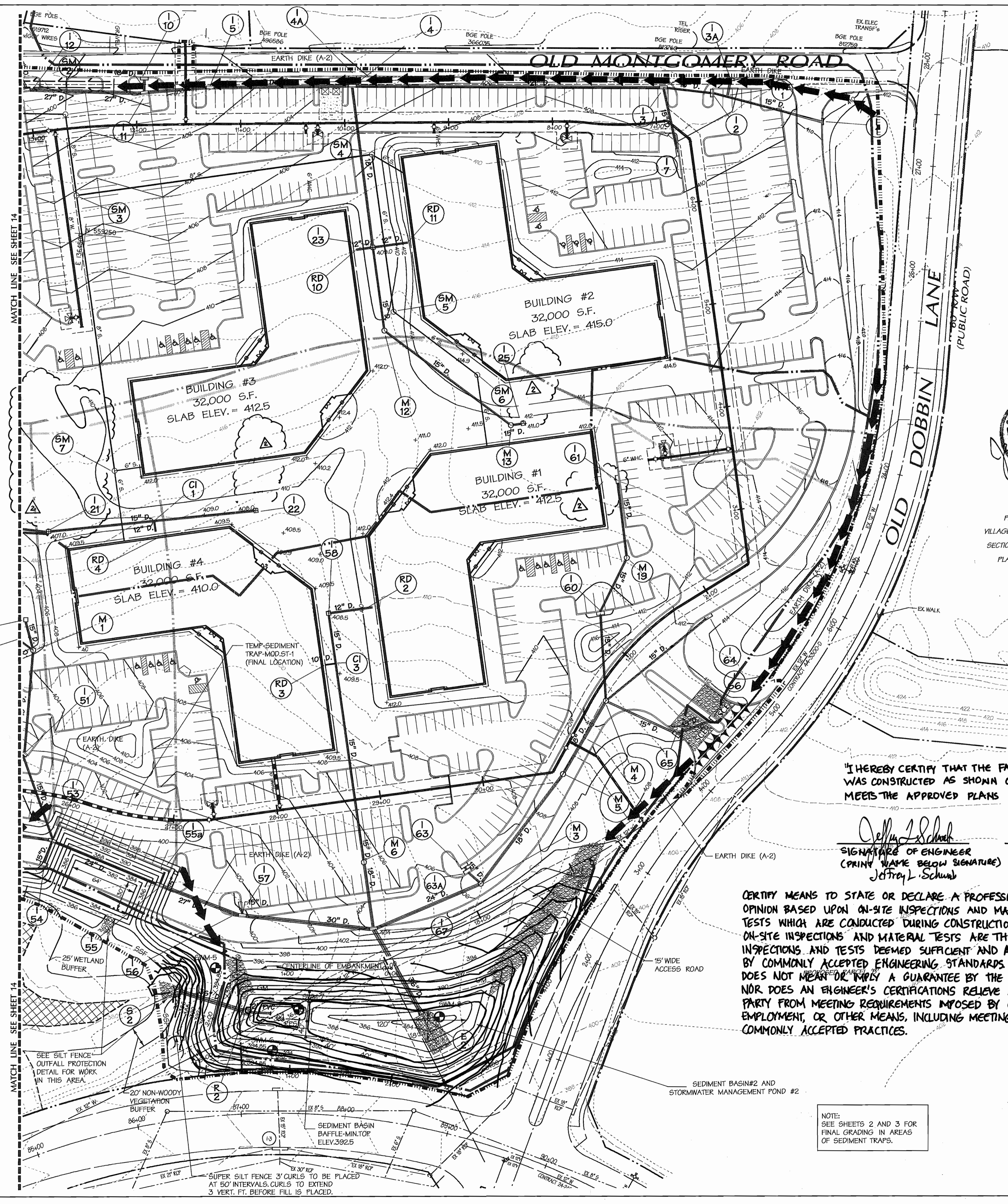
Des By: SDS, BIS Scale: 1" = 50' Proj. No.: 89088.M  
Dm By: ADL Date: 4-26-00  
Chk By: *[Signature]* Approved: 16 OF 31

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS."

Signature: *[Signature]*  
Date: *[Date]*

Professional Engr. No. 1951





**LEGEND**

- SF — SILT FENCE
- ← EARTH DIKE
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE
- TEMPORARY SWALE
- PROPOSED ESC DRAINAGE AREA
- EXISTING ESC DRAINAGE AREA
- GM GABION MATTRESS
- ⊕ SWM-4 SOIL BORING
- ⊠ RPS REMOVABLE PUMPING STATION

**BASIN TABLE**

BASIN NUMBER	2
EXISTING DRAINAGE AREA AC.	7.4
INTERIM DRAINAGE AREA AC.	6.1
PROPOSED DRAINAGE AREA AC.	6.1
STORAGE REQUIRED C.F.	WET 13,320
	DRY 13,320
	TOTAL 26,640
STORAGE PROVIDED C.F.	WET 13,320
	DRY 22,394
	TOTAL 35,714
EXISTING GROUND ELEV.	399.0
TOP EMBANKMENT ELEV.	394.85
EMERGENCY SPILLWAY CREST ELEV.	N/A
RISER CREST ELEV.	390.5
WET STORAGE ELEV.	388.5
CLEANOUT ELEV.	387.4
BOTTOM ELEV.	386.0
Q INTO BASIN (C.F.S.) 10 YR. CLOGGED	41.42
Q OUT BARREL (C.F.S.) 10 YR. CLOGGED	31.13
Q OUT EMERGENCY SPILLWAY	N/A
BASIN DEPTH	WET 2.5'
	DRY 2.7'
	TOTAL 4.5'
DESIGN HIGHWATER 10 YR. CLOGGED	TOTAL 392.49
FREEDBOARD PROVIDED	2.36'
BARREL DIAMETER	36"
RISER DIMENSIONS	4' X 4'
EMERGENCY SPILLWAY WIDTH	N/A
WET STORAGE ZONE ELEV.	386.0-388.5
DRY STORAGE ZONE ELEV.	388.5-390.5
BOTTOM DIMENSIONS	120' X 30'
EXISTING 2 YR. Q	6.19
PROPOSED 2 YR. Q	1.44

\* UNDER TSSM CONDITIONS:  
 OUTFLOW POND # 1 WILL COMBINE WITH OUTFLOW POND # 2  
 EXISTING DESIGN POINT - COMBINED FLOW FROM POND # 1 + POND # 2 EXISTING DRAINAGE AREAS  
 DEVELOPED DESIGN POINT - COMBINED FLOW FROM POND # 1 + POND # 2 DEVELOPED DRAINAGE AREAS

**POND #2 DESIGN FLOW SUMMARY PROPOSED CONDITIONS**

DESIGN FLOW	2-YEAR		10 YEAR	100 YEAR CLOGGED
	EXISTING	DEVELOPED		
Existing D.P. (cfs) - Allowable Flow	6.57**	6.57**	24.76**	48.84**
Existing Flow from Pond #1 DA (cfs)	0.38	0.38	3.20	7.67
Existing Flow from Pond #2 DA (cfs)	6.19	6.19	21.56	41.17
Developed Inflow (cfs)	23.41	23.41	41.42	62.97
Developed Outflow (cfs)	1.65*	1.65*	12.66*	53.67
Developed Outflow D.P. (cfs)	2.53***	2.53***	23.67***	88.15***
Water Surface Elevation	391.09	391.09	392.18	392.21
Water Quality Storage (ac.ft.)	0.2866	0.2866	0.2866	0.2866
Quantity Storage (ac.ft.)	1.000	1.000	1.158	1.634
Total Storage (ac.ft.)	1.2866	1.2866	1.424	1.900

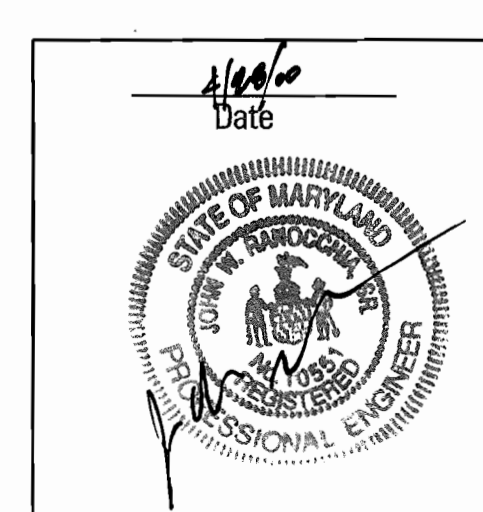
Structure Type: WET POND  
 Water Quality Type: 'A'  
 Structure Classification: 'A'  
 Storage Height Product 2 year: 7.59  
 Storage Height Product 10 year: 6.66  
 Storage Height Product 100 year: 9.31  
 Watershed Area to Facility: 0.0125 SQ. MI.  
 Level of Management Required: 2, 10  
 Minimum Top Width Provided: 2, 10  
 Minimum Height of Fill: 2, 10  
 Freedboard Required: 2, 10  
 Freedboard Provided: 2, 10

**Trap Table**

TRAP NUMBER	2
TRAP TYPE	SF-II
EXISTING DRAINAGE AREA AC.	1.6
INTERIM DRAINAGE AREA AC.	1.4
PROPOSED DRAINAGE AREA AC.	1.4
STORAGE REQUIRED C.F.	WET 2880
	DRY 2880
	TOTAL 5760
STORAGE PROVIDED C.F.	WET 3040
	DRY 3040
	TOTAL 7080
EXISTING GROUND ELEVATION	386.0
TOP EMBANKMENT ELEVATION	386.0
WEIR CREST ELEVATION	386.0
WET STORAGE ELEVATION	385.5
CLEANOUT ELEVATION	382.8
BOTTOM ELEVATION	382.0
DEPTH OF CHANNEL (ft)	1.0
OUTLET WIDTH (ft)	6.5'
BOTTOM DIMENSION	64' X 30'
TRAP SLOPES	WET 1:1
	DRY 1:1
	TOTAL 3:1
BARREL DIAMETER	N/A
RISER DIAMETER	N/A
WET STORAGE ZONE ELEVATION	382.0 - 385.5
DRY STORAGE ZONE ELEVATION	385.5 - 386.0
EXISTING 2 YR. Q	0.27 CFS
PROPOSED 2 YR. Q	6.26 CFS

DATA SOURCES:  
 RECEIVED AUTOCAD FILE VIA E-MAIL 2/19/99  
 FROM GUTSCHICK LITTLE & WEBER.

**SWM AS BUILT**



Professional Engr. No. 14230

"I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS!"

Jeffrey L. Schumb  
 SIGNATURE OF ENGINEER  
 (PRINT NAME BELOW SIGNATURE)  
 Jeffrey L. Schumb  
 14230 REG. NO.  
 6/19/06 DATE

CERTIFY MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED UPON ON-SITE INSPECTIONS AND MATERIAL TESTS WHICH ARE CONDUCTED DURING CONSTRUCTION. THE ON-SITE INSPECTIONS AND MATERIAL TESTS ARE THOSE INSPECTIONS AND TESTS DEEMED SUFFICIENT AND APPROPRIATE BY COMMONLY ACCEPTED ENGINEERING STANDARDS. CERTIFY DOES NOT MEAN OR IMPLY A GUARANTEE BY THE ENGINEER NOR DOES AN ENGINEER'S CERTIFICATIONS RELIEVE ANY OTHER PARTY FROM MEETING REQUIREMENTS IMPOSED BY CONTRACT, EMPLOYMENT, OR OTHER MEANS, INCLUDING MEETING COMMONLY ACCEPTED PRACTICES.

NOTE:  
 SEE SHEETS 2 AND 3 FOR FINAL GRADING IN AREAS OF SEDIMENT TRAPS.

DEVELOPER'S CERTIFICATION:  
 "WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."  
 Signature of Developer: *Mullner C. W...*  
 DATE: 4/28/00

ENGINEER'S CERTIFICATION:  
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."  
 Signature of Engineer: *John W. Ranocchia, Sr.*  
 DATE: 4/28/00

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS  
*Cheryl Simon / G.S.* 5/17/00  
 U.S. NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
*Howard S.C.D.* 5/16/00  
 DATE

**APPROVED**  
**PLANNING BOARD**  
**OF HOWARD COUNTY**  
 DATE: FEB 23 2000  
 HOWARD COUNTY

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING  
*William Blouin* 5/12/00  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK  
 DATE  
*Richard Blouin* 5/12/00  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE  
*Paul R...* 5/12/00  
 DIRECTOR  
 DATE

SECTION 1 AREA 2  
**COLUMBIA**  
**ROUTE 175 COMMERCIAL**  
 PARCEL A & Q, LOT 3  
 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORPORATION  
 CONTRACT PURCHASER: LIBERTY PROPERTY LTD. PTN.  
 9145 GUILDFORD ROAD SUITE 100  
 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21046

**DMW**  
 Draft-McCune-Walker, Inc.  
 200 East Pennsylvania Avenue  
 Towson, Maryland 21286  
 (410) 296-3333  
 Fax 296-4705  
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals  
 AREA: ROUTE 175 COMMERCIAL  
 TAX MAP 36 & 37 PARCEL 27, 122, 244, 282  
 6 ELECTION DISTRICT OF HOWARD COUNTY, MARYLAND  
 TITLE: EROSION AND SEDIMENT CONTROL & STORMWATER MANAGEMENT PLAN  
 Des By: SDS, BIS Scale: 1" = 50' Proj. No. 89088.M  
 Dwn By: ADL Date: 4-26-00  
 Chk By: *ADL* Approved: 15 OF 31