

SHEET INDEX

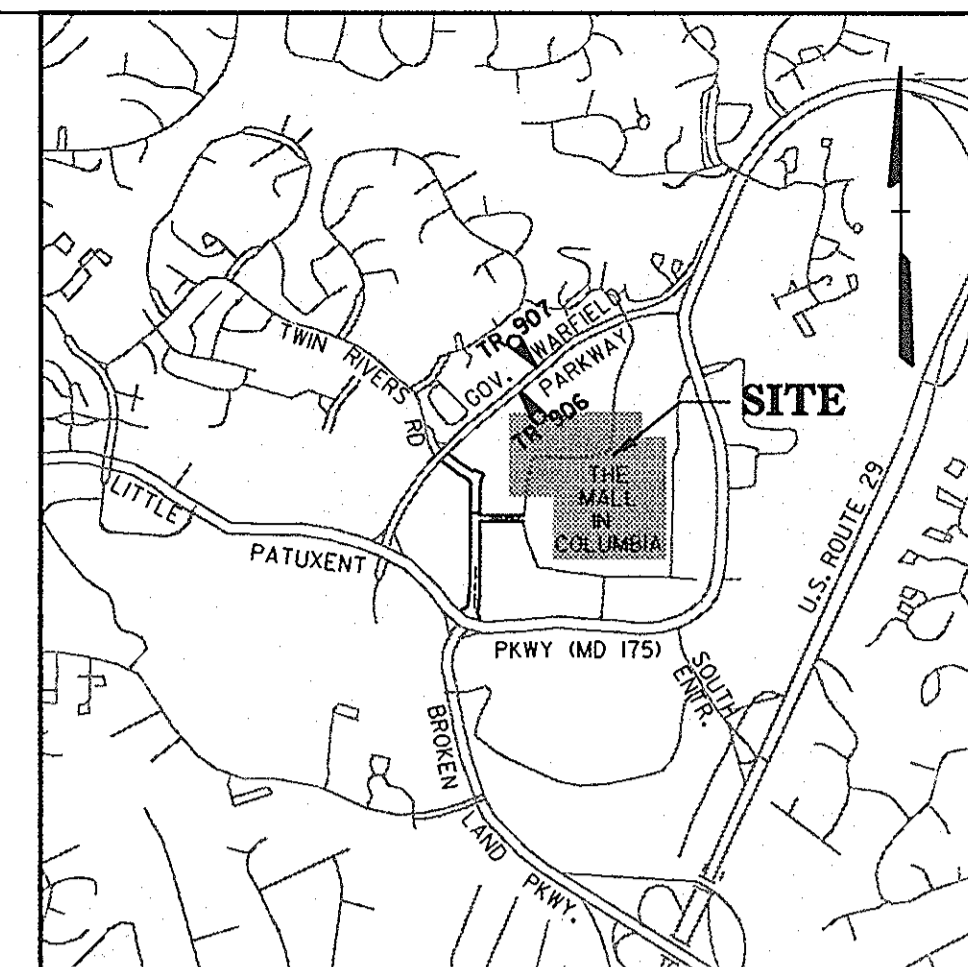
SHEET	DESCRIPTION
1	COVER SHEET
2	SITE DEVELOPMENT PLAN
3	SITE DEVELOPMENT PLAN
4	SITE DEVELOPMENT PLAN
5	SITE DEVELOPMENT PLAN
6	SITE DEVELOPMENT PLAN
7	SITE DEVELOPMENT PLAN
8	SITE DETAILS
9	PAVING LEGEND & SITE DETAILS
10	STORM DRAINAGE AREA AND SOLS MAP
11	STORM DRAIN PROFILES
12	STORM DRAIN PROFILES
13	STORM DRAINAGE & SEWER PROFILES
14	STORM DRAINAGE & SEWER PROFILES
15	WATER PROFILES
16	EROSION AND SEDIMENT CONTROL PLAN STAGE I
17	EROSION AND SEDIMENT CONTROL PLAN STAGE II
18	EROSION AND SEDIMENT CONTROL PLAN (S. ENT.)
19	EROSION AND SEDIMENT CONTROL DETAILS
20	EROSION AND SEDIMENT CONTROL DETAILS
21	EROSION AND SEDIMENT CONTROL DETAILS
22	PARKING DECK LAYOUT
23	PARKING DECK AND BUILDING ELEVATIONS

ADDRESS CHART

LOT / PARCEL	STREET ADDRESS
42	10300 LITTLE PATUXENT PARKWAY

GENERAL NOTES

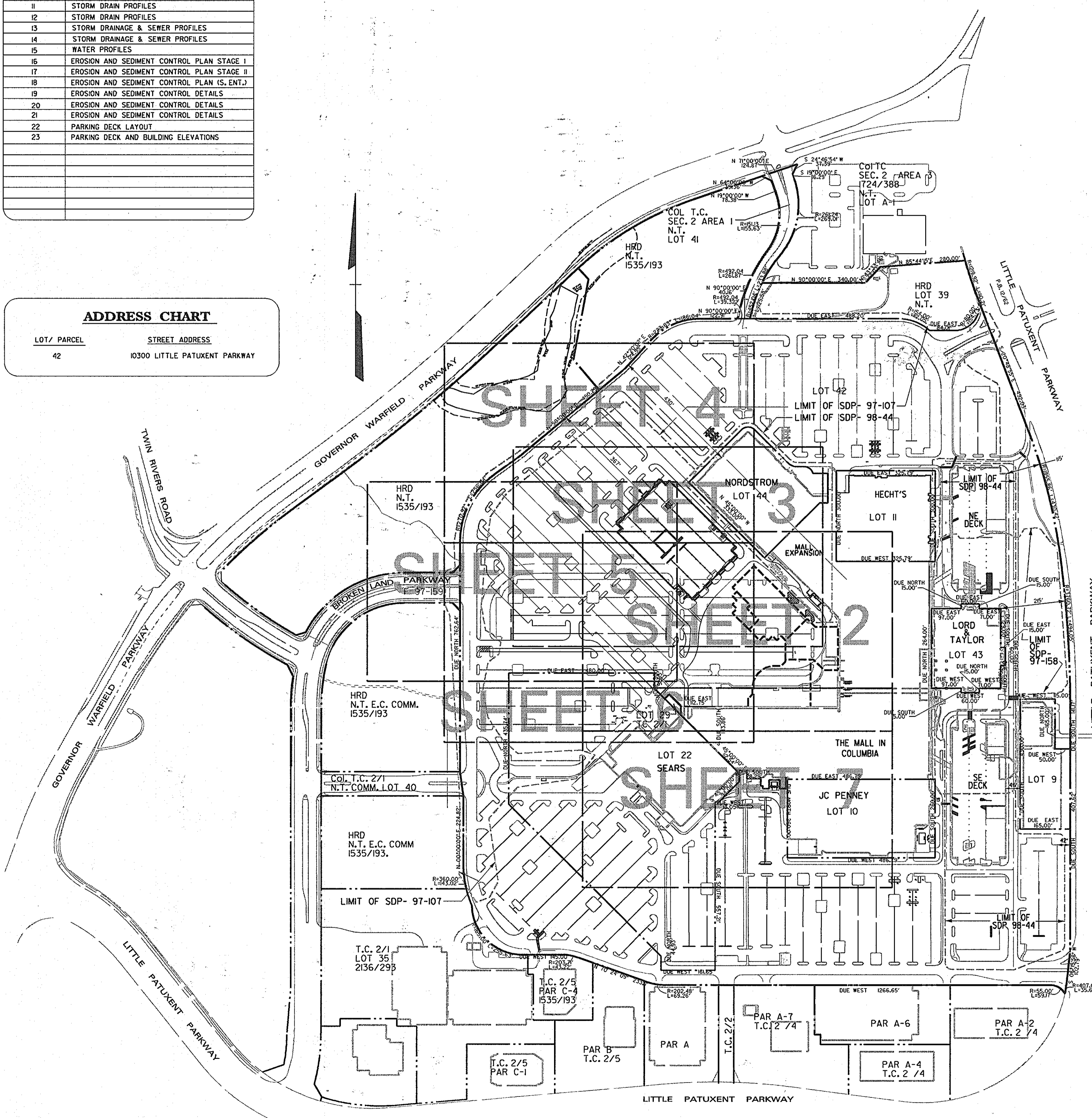
- All construction shall be in accordance with the latest standards and specifications of Howard County plus MSHA standards and specifications, if applicable.
- The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410) 315-880 at least five (5) working days prior 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 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 Deft-McCune-Walker, Inc. in July 1995, and Fisher, Collins & Carter in 1994, Expanded Per SDP 97-107 & SDP 97-258.
- Coordinates and bearings shown herein are referred to the Maryland Coordinate system (NAD 27) as projected from the following Whitman, Reardon & Assoc. traverse stations:
TR 102 N 503630.8550 E 83902.2760
TR 102 N 503690.7000 E 83894.2860
- Stormwater management is provided on-site by an underground detention facility for quantity, per SDP 97-107. Quality control provided by stormceptors, per SDP 97-107.
- Stormwater 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 Deft-McCune-Walker, Inc. The contractor must dig test pits, by hand, at utility crossings and connection points of least 5 days prior to starting work to verify exact location.
- The soils analysis was prepared by R. Balter Group.
- 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 02.02.
- Department of Planning and Zoning reference file numbers:
FDP Ph. 47-A-VI, FDP Ph. 10A, FDP Phase 22A, SDP 80-01, F-97-19, F-97-153, F-97-155, F-97-159, S-98-03, SDP-97-107, SDP-97-158, SDP-98-44, WP 98-81.
- 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 47-A-VI.
- All on-site driveways and parking areas to be privately maintained.
- All curb radii are five foot unless otherwise labeled.
- 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.
- Existing lights per SDP 97-107 & SDP 97-158 to be relocated as necessary. See sheets for proposed lights. Outdoor lighting shall conform to Section 154 of the Zoning Regulations.
- There is no floodplain on this site.
- Traffic study was prepared by Wells and Assoc. dated 10-28-97.
- Public Water and Sewer is utilized for this site.



LOCATION MAP

SCALE: 1" = 200'

ELEVATIONS SHOWN HEREON ARE BASED ON THE FOLLOWING TRAVERSE STATIONS ESTABLISHED BY FISHER, COLLINS AND CARTER, INC. (NGVD 29 VERTICAL DATUM)
TR 906 N 504280.1630 E 838550.3680 ELEV. 381.500
TR 907 N 504400.6701 E 838647.7701 ELEV. 394.150



SITE ANALYSIS

- Zoning: New Town - Commercial (Per FDP Ph. 47-A-VI)
- Phase III Expansion Area/Limit of Disturbance = 20 Ac.
- Proposed Use: Parking Deck, Parking Lot, & Retail.
- Area Tabulation

A. Proposed Phase III Expansion	2,260 SF
B. Existing Mall & Dept. Store	1,261,800 SF
C. Total G.L.A.	1,264,060 SF
D. Office Space	5,480 SF
- Parking Tabulation

A. Parking Spaces Required	= 6,331 SP (73 HC)
1. Total Mall G.L.A. (4,264,060 SF)	= 6,320 SP (5 SP/1,000 SF)
2. Total Office Space (5,480 SF)	= 11 SP (2 SP/1,000 SF)
B. Parking Spaces Provided	
Existing Parking Per SDP-98-44	6,704 (86 HC)
Parking Deleted Per Phase III Construction	1,549 (8 HC)
Proposed Parking Phase III	1,810 (8 HC)
Total	6,965 (96 HC)
- Lot Tabulation

Lot	Owner	Area	Plot Reference
22	Sears Roebuck and Company	11.433 AC.	4859
29	Sears Roebuck and Company	0.033 AC.	4859
42	The Howard Research and Development Corp. and Columbia Mall, Inc.	70.285 AC.	
44	The Howard Research and Development Corp. and Columbia Mall, Inc.	2.373 AC.	

Total Project Area = 84,124 A.C.

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE July 2, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] 7/2/98 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] 8/4/98 DATE
DIRECTOR: [Signature] 8/4/98 DATE

Date No. Revision Description
THE MALL IN COLUMBIA
PHASE III EXPANSION
TOWN CENTER
SECTION 2 AREA 1
HOWARD COUNTY, MD
LOTS 22, 29, 42, 44
OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Deft-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-3239
Fax 296-4705
A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

7-17-98
Date

SECTION NAME COLUMBIA TOWN CTR.	SECTION NO. 21	OFFICIAL #
TWP 3054A-442	TOWNSHIP MAP 30,35	BLK. DISTRICT 5TH
WATER CODE	SEWER CODE	PERMITS TRACT 6054

TITLE: **PHASE III SITE DEVELOPMENT PLAN COVER SHEET**

Des By	MJP	Scale	AS SHOWN	Proj. No.	95019B
Dm By	FJZ	Date	7-16-98		
Chk By	JWR	Approved			

Professional Engr. No. 10531

1 OF 27

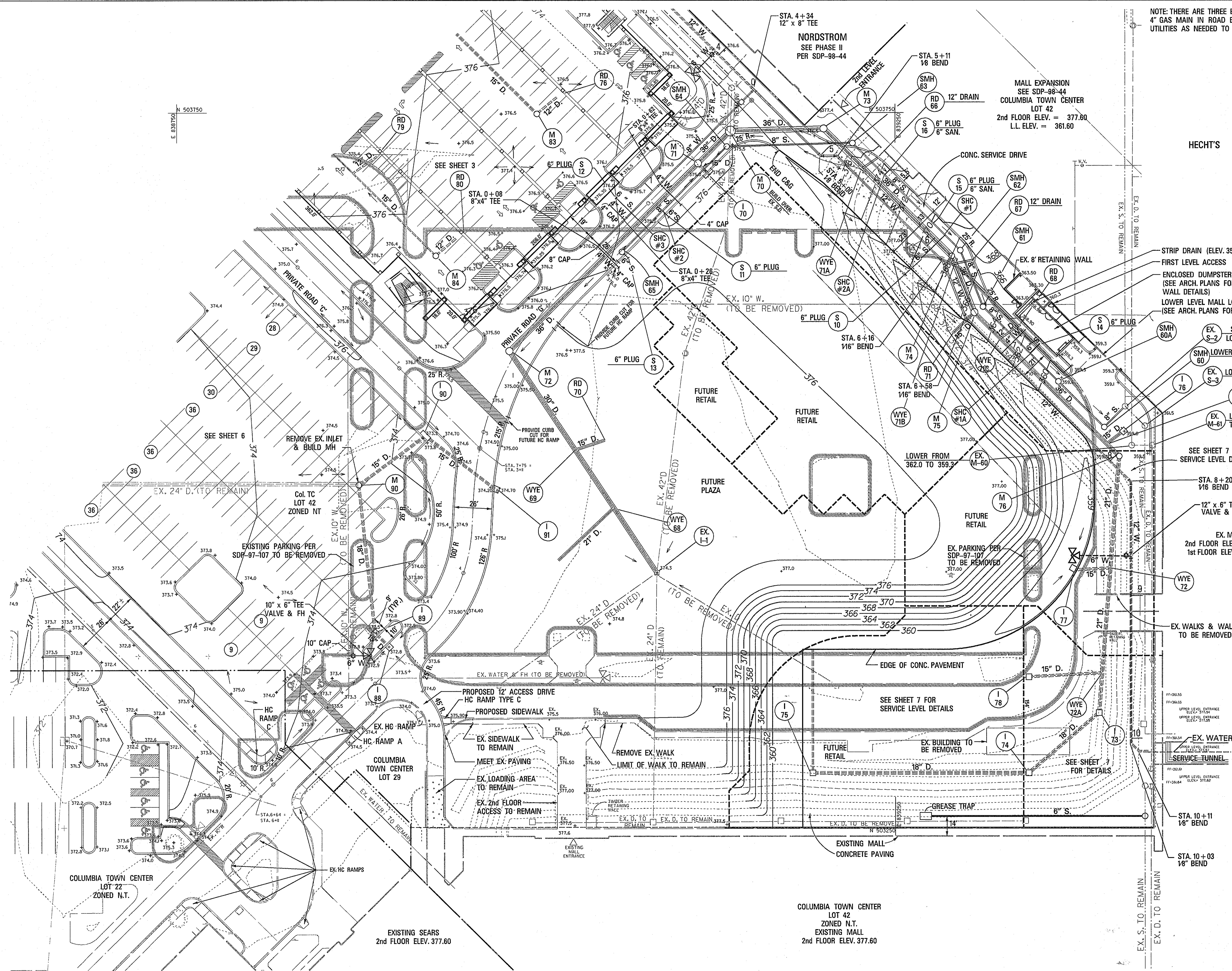
SDP-98-124

VICINITY MAP
1" = 200'

NOTE: THERE ARE THREE EXISTING DUCTBANKS AND A TEMP. 4" GAS MAIN IN ROAD B. LOCATIONS ARE UNKNOWN. ADJUST UTILITIES AS NEEDED TO AVOID EX. DUCTBANKS AND GAS MAIN.

LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- CONC. LIGHT POLE ISLAND
- CONCRETE
- EX. CURB TO BE REMOVED
- FUTURE BUILDING



- STRIP DRAIN (ELEV. 359.0)
- FIRST LEVEL ACCESS
- ENCLOSED DUMPSTER (17' x 34')
(SEE ARCH. PLANS FOR WALL DETAILS)
- LOWER LEVEL MALL LOADING DOCK
(SEE ARCH. PLANS FOR DETAILS)
- EX. SDP-98-158 LOWER FROM 362.0 TO 359.2
- EX. SMH-60 LOWER FROM 362.0 TO 359.2
- EX. S-3 LOWER FROM 362.0 TO 359.4
- EX. WYE-71 LOWER INLET TO 360.0
- EX. M-61 LOWER INLET TO 360.0
- SEE SHEET 7 FOR SERVICE LEVEL DETAILS
- STA. 8+20 1/16" BEND
- 12" x 6" TEE VALVE & FH
- EX. MALL 2nd FLOOR ELEV. = 377.60
1st FLOOR ELEV. = 361.60
- EX. WALKS & WALLS TO BE REMOVED
- EDGE OF CONC. PAVEMENT
- SEE SHEET 7 FOR SERVICE LEVEL DETAILS
- EX. BUILDING TO BE REMOVED
- SEE SHEET 7 FOR DETAILS
- EX. WATER
- EX. SERVICE TUNNEL
- GREASE TRAP
- STA. 10+11 1/8" BEND
- STA. 10+03 1/8" BEND
- EX. S. TO REMAIN
- EX. D. TO REMAIN

1/16/98
Date

Professional Engr. No. 10594

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE July 2, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 7/16/98 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 8/14/98 DATE
DIRECTOR *[Signature]* 8/14/98 DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

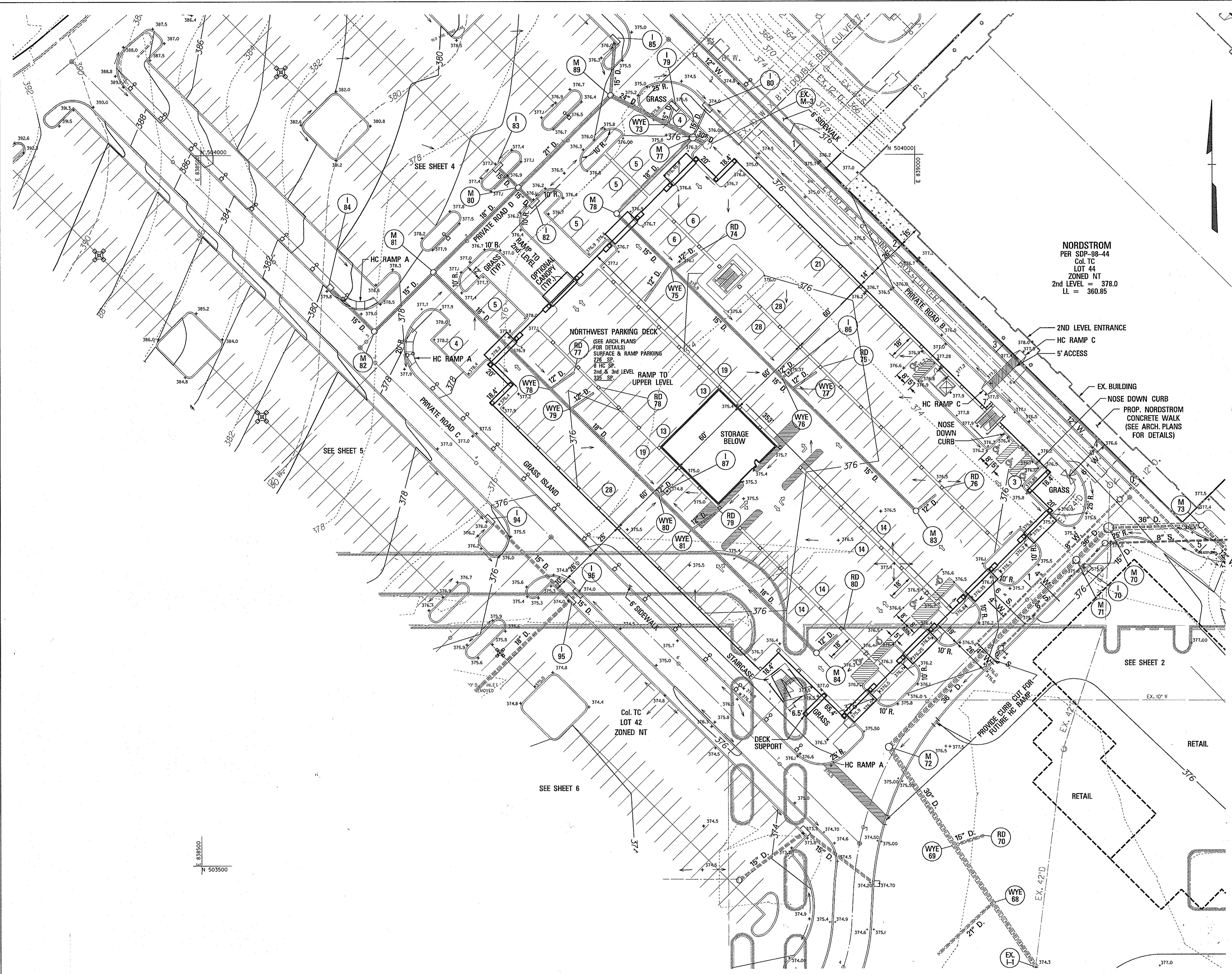
DMW
Duff McCune Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3388
Fax 296-4708

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

TITLE
**PHASE III
SITE DEVELOPMENT PLAN
TOWN CENTER AREA**

Des By MJP Scale 1" = 30' Proj. No. 95019B
Dwn By KDE,FJZ Date 7-6-98
Chk By JWR Approved

2 OF 27



- LEGEND**
- EX. CONTOUR
 - 8" W. EX. WATER
 - 8" S. EX. SANITARY SEWER
 - 15" D. EX. STORM DRAIN
 - GAS EX. GAS
 - EX. EDGE OF ROAD
 - PROP. CONTOUR
 - PROP. UTILITIES
 - 6" STANDARD COMB. C&G
 - 6" REV. COMB. C&G
 - CONG. LIGHT POLE ISLAND
 - CONCRETE
 - LIGHT POLES (BY OTHERS)
 - EX. CURB TO BE REMOVED

NORDSTROM
 PER SDP-98-44
 Col. TC
 LOT 44
 ZONED NT
 2nd LEVEL = 378.0
 LL = 360.85

7-13-98
 Date

Professional Engr. No. 10551

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE July 2, 1998
 12B

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/7/98	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	8/4/98	DATE
DIRECTOR	8/4/98	DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

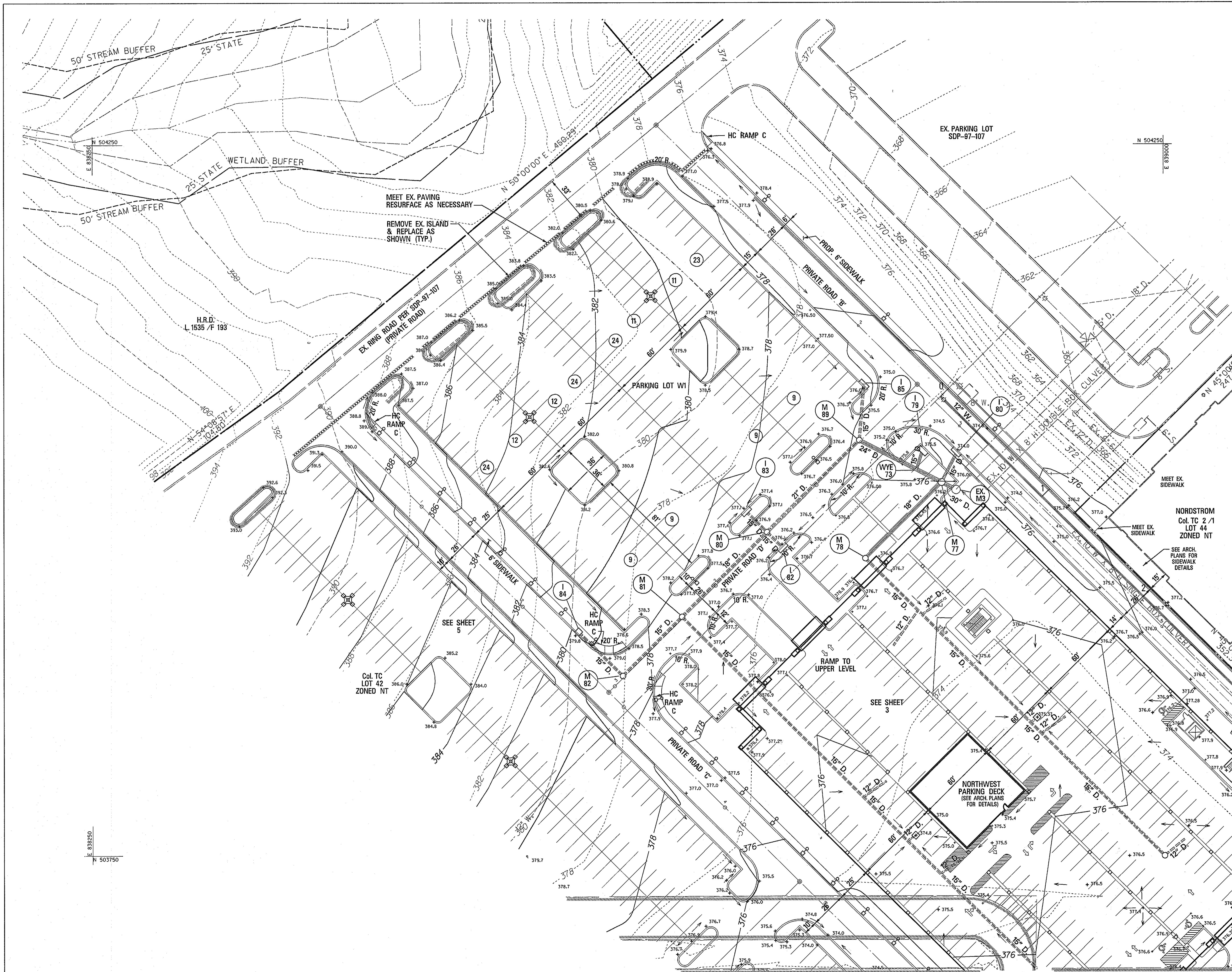
DMW
 Draft McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4705

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

TITLE

**PHASE III
 SITE DEVELOPMENT PLAN
 NW PARKING DECK**

Des By	MJP	Scale	1" = 30'	Proj. No.	95019B
Dwn By	FJZ	Date	7-16-98	3 OF 27	
Chk By	JWR	Approved			



- LEGEND**
- EX. CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. CONTOUR
 - PROP. UTILITIES
 - 6" STANDARD COMB. C&G
 - 6" REV. COMB. C&G
 - CONC. LIGHT POLE ISLAND
 - CONCRETE
 - LIGHT POLES (BY OTHERS)
 - EX. CURB TO BE REMOVED

7/16/98
Date

Professional Engr. No. 10523

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE JULY 2, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF DEVELOPMENT ENGINEERING DIVISION	9	7/2/98	DATE
CHIEF DIVISION OF LAND DEVELOPMENT	8/4/98	8/4/98	DATE
DIRECTOR	8/4/98	8/4/98	DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr McCune-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-2859
Fax 286-4705

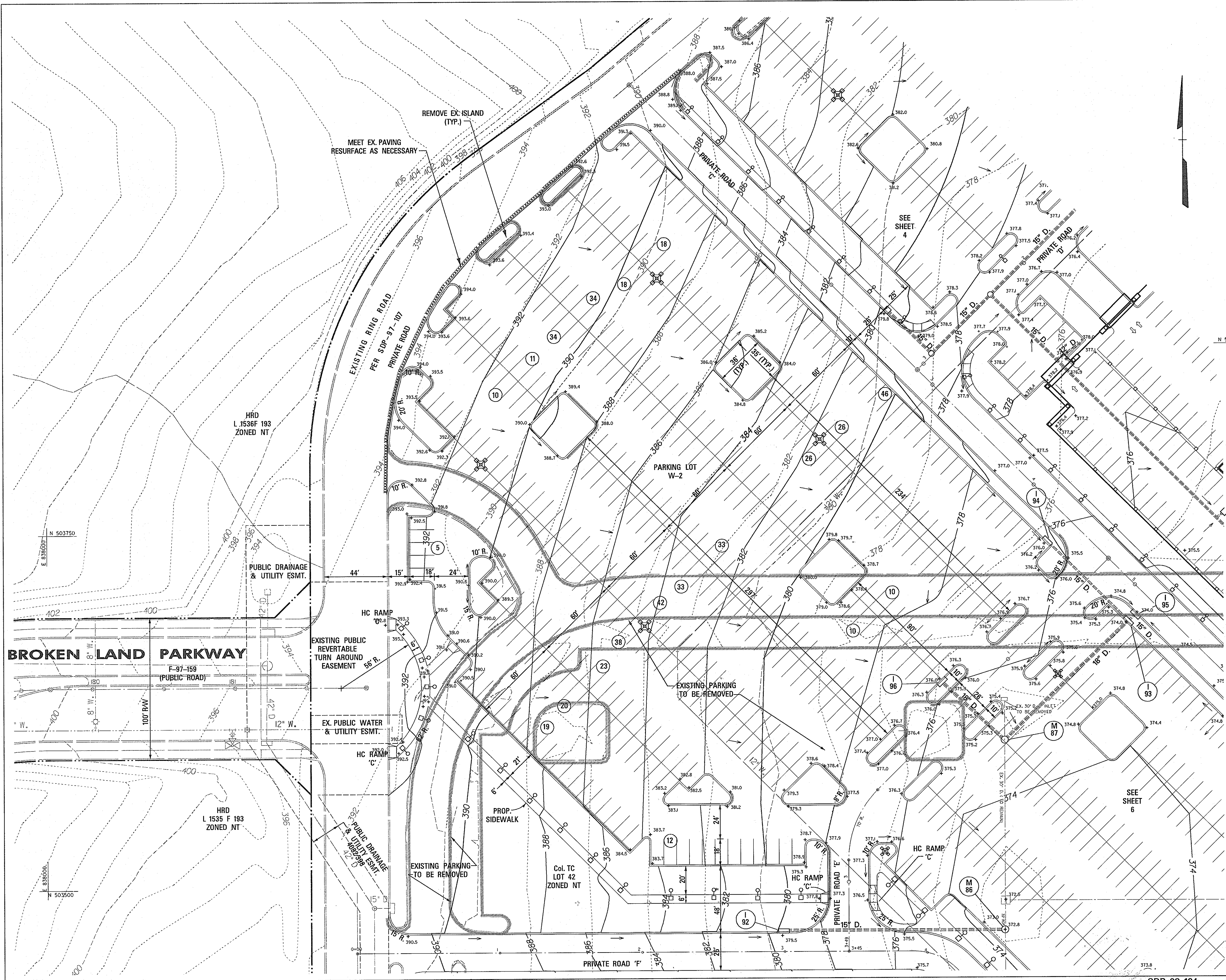
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

TITLE

**SITE DEVELOPMENT PLAN
PARKING LOT W1**

Des By	MJP	Scale	1" = 30'	Proj. No.	95019B
Dim By	FJZ	Date	7-16-98		
Chk By	JWR	Approved			4 OF 27

SDP-98-124



LEGEND

- EX. CONTOUR
- 8" W. EX. WATER
- 8" S. EX. SANITARY SEWER
- 15" D. EX. STORM DRAIN
- GAS
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- ◆ CONC. LIGHT POLE ISLAND CONCRETE
- □ □ □ LIGHT POLES (BY OTHERS)
- EX. CURB TO BE REMOVED

N 503750
E 838750

10/98
Date

Professional Engr. No. 10991

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 2, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *J. W. J.* 7/2/98
DATE

Andy Hamilton 8/4/98
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David S. Smith 8/4/98
DIRECTOR DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

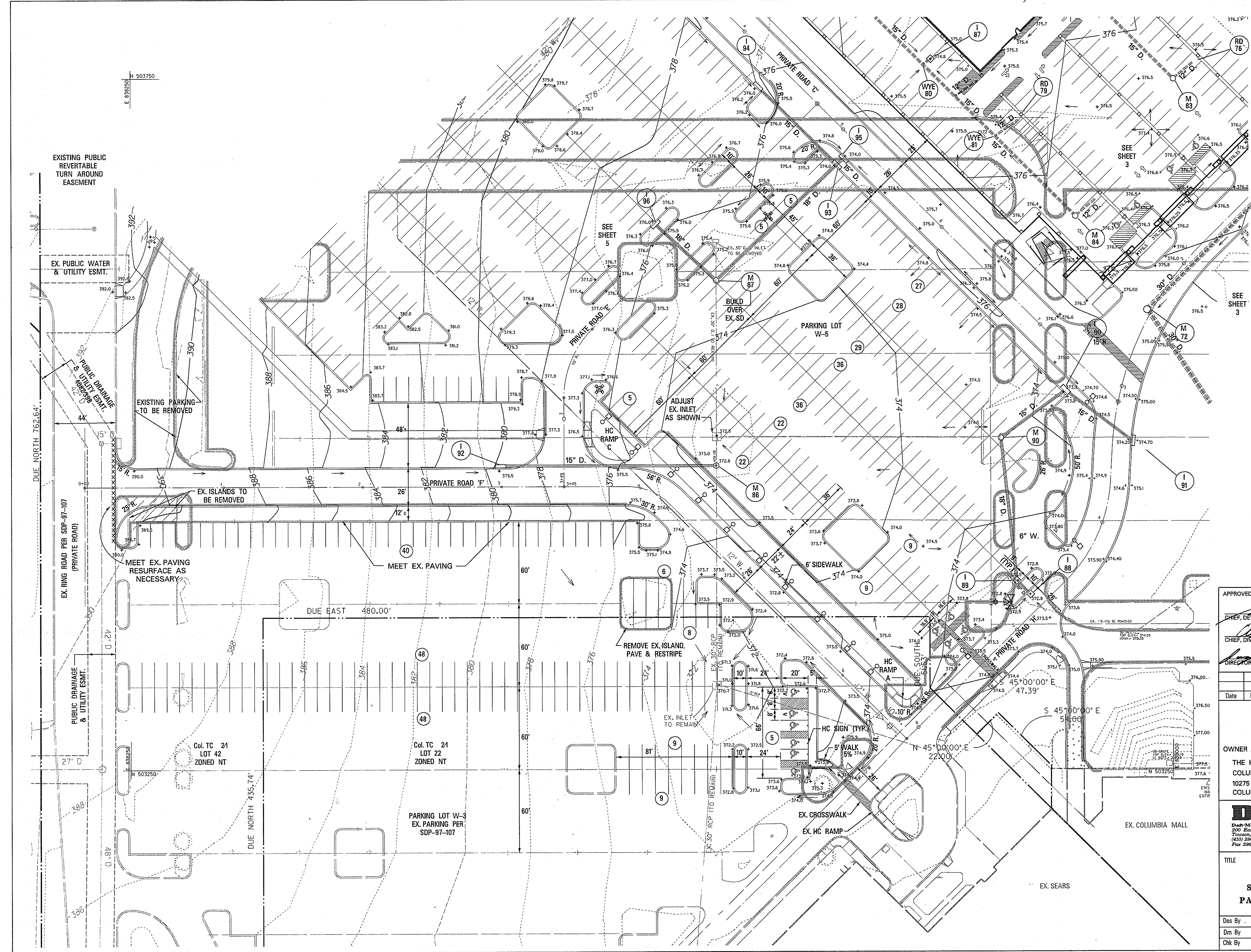
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Duff 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

TITLE
**PHASE III
SITE DEVELOPMENT PLAN
PARKING LOT W-2**

Des By	MJP	Scale	1" = 30'	Proj. No.	95019B
Dwn By	KDE, FJZ	Date	746-98	5 OF 27	
Chk By	JWR	Approved			



- LEGEND**
- EX. CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. CONTOUR
 - PROP. UTILITIES
 - 6" STANDARD COMB. C&G
 - 6" REV. COMB. C&G
 - CONC. LIGHT POLE ISLAND
 - CONCRETE
 - EX. CURB TO BE REMOVED

7/16/98
Date

STATE OF MARYLAND
JAMES W. HANCOCK
Professional Engineer
Professional Engr. No. 10991

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 2, 1998
E.B.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 7/16/98 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 8/1/98 DATE

DIRECTOR *[Signature]* 8/1/98 DATE

Date No. Revision Description

THE MALL IN COLUMBIA
PHASE III EXPANSION
TOWN CENTER
SECTION 2 AREA 1
HOWARD COUNTY, MD
LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr McCune-Walkers, Inc.
300 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3353
Fax: 296-4705

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

TITLE

**PHASE III
SITE DEVELOPMENT PLAN
PARKING LOT W-3 AND W-5**

Des By: MJP Scale: 1" = 30' Proj. No. 95019B

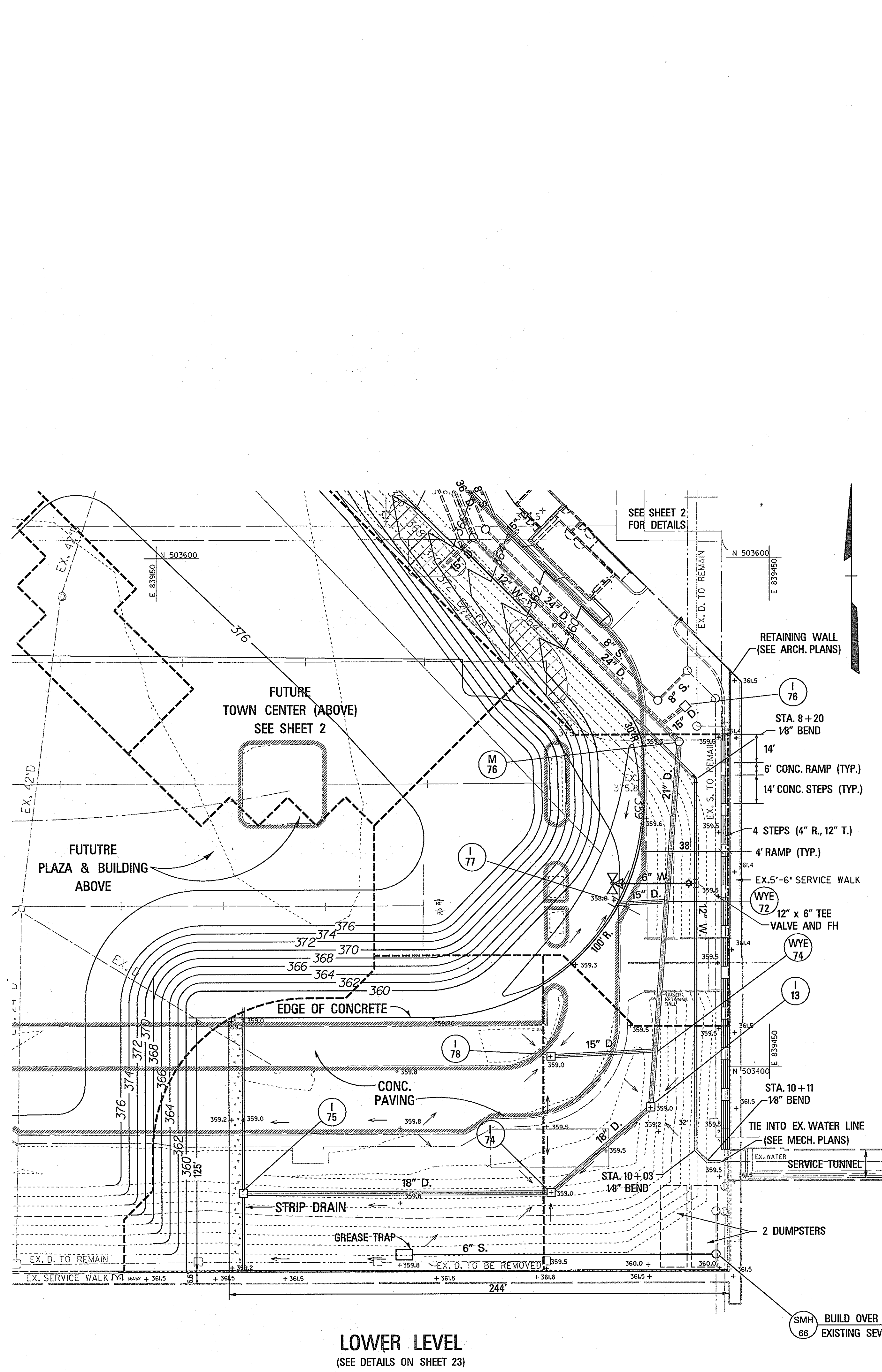
Drn By: FJZ Date: 7-16-98

Chk By: JWV Approved

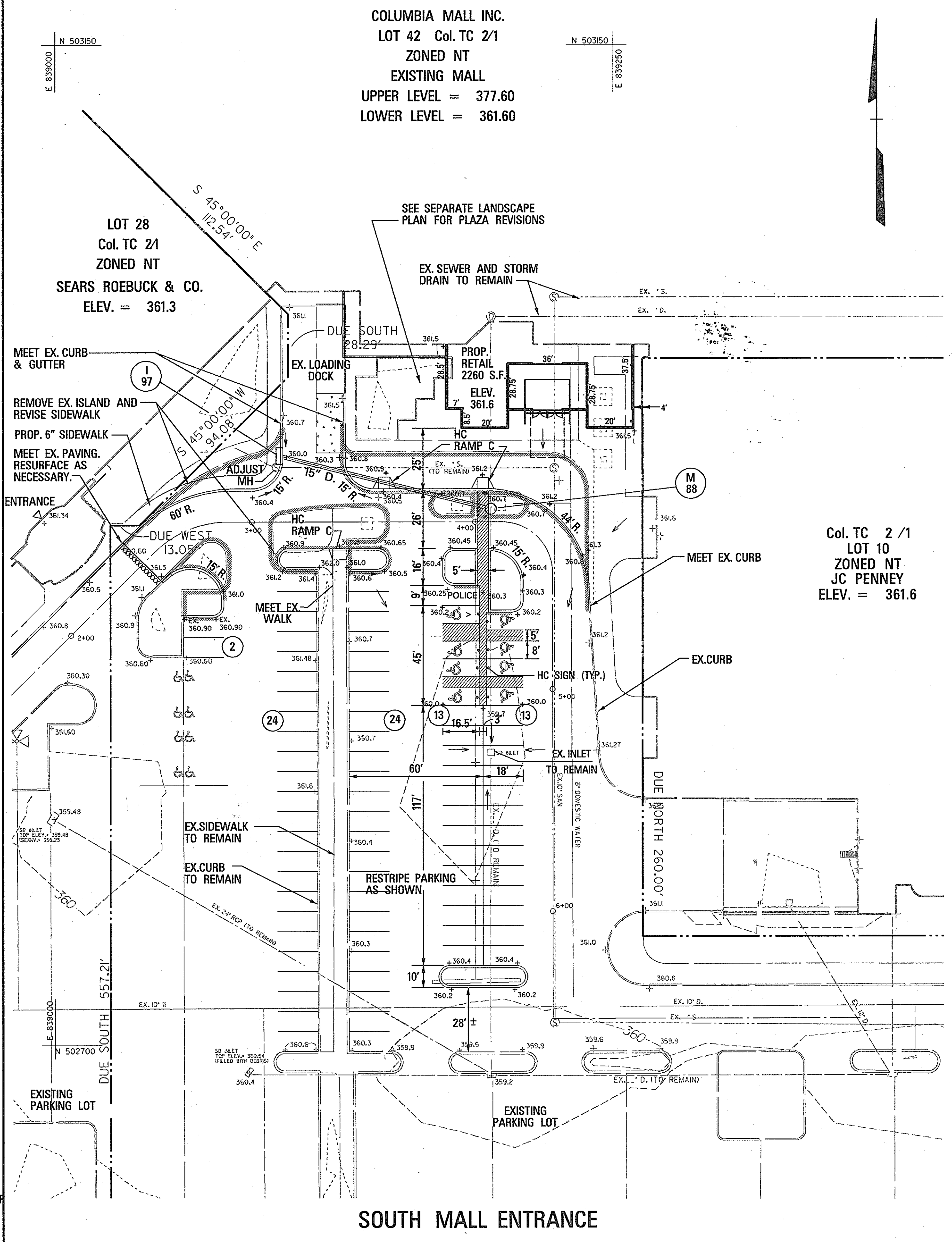
6 OF 27

LEGEND

- EX. CONTOUR
- - - EX. WATER
- - - EX. SANITARY SEWER
- - - EX. STORM DRAIN
- - - EX. GAS
- - - EX. EDGE OF ROAD
- - - PROP. CONTOUR
- - - PROP. UTILITIES
- ==== 6" STANDARD COMB. C&G
- ==== 6" REV. COMB. C&G
- ◆ CONC. LIGHT POLE ISLAND
- CONCRETE
- EX. CURB TO BE REMOVED



LOWER LEVEL
(SEE DETAILS ON SHEET 23)



SOUTH MALL ENTRANCE

7/16/98
Date

Professional Engr. No. 10994

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 2, 1998
RB

Col. TC 2/1
LOT 10
ZONED NT
JC PENNEY
ELEV. = 361.6

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/16/98 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	8/4/98 DATE
DIRECTOR	8/14/98 DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

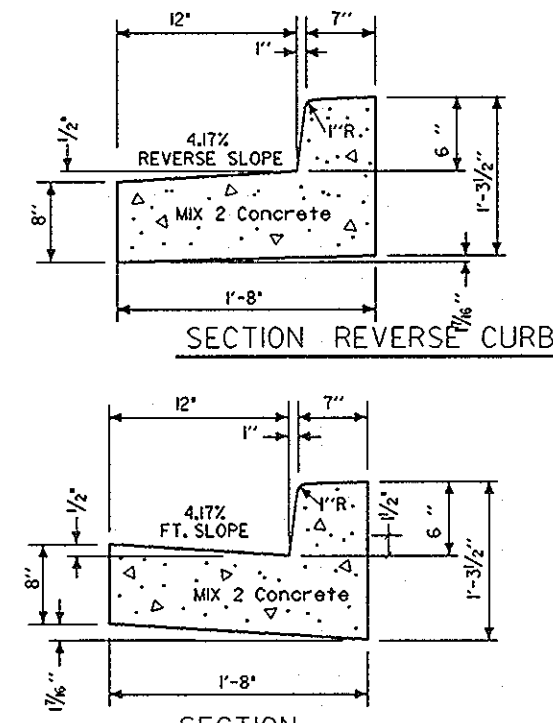
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Dan McCreary-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3088
Fax 296-4706

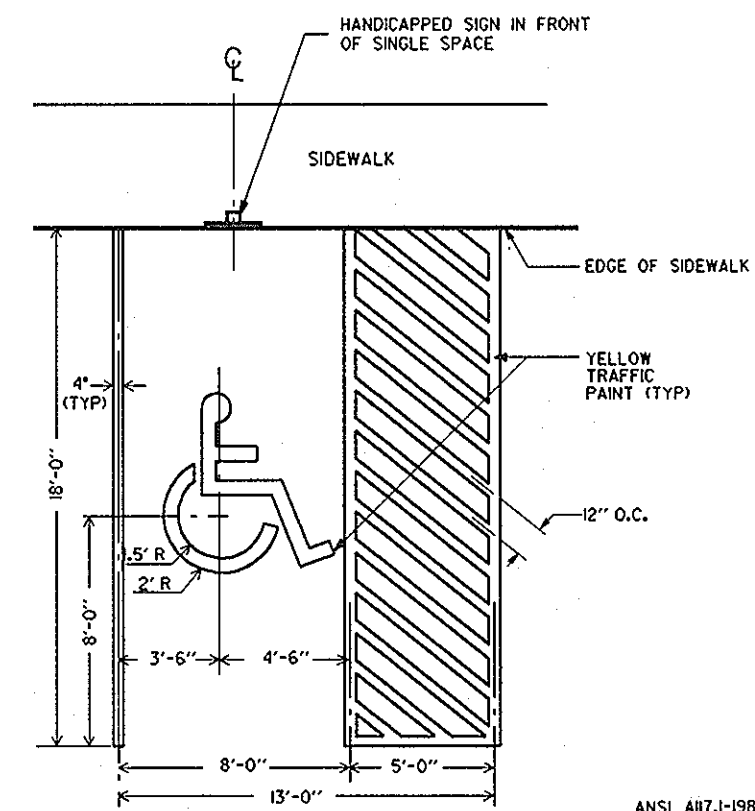
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

TITLE
**SITE DEVELOPMENT PLAN
SOUTH MALL ENTRANCE
AND LOWER LEVEL**

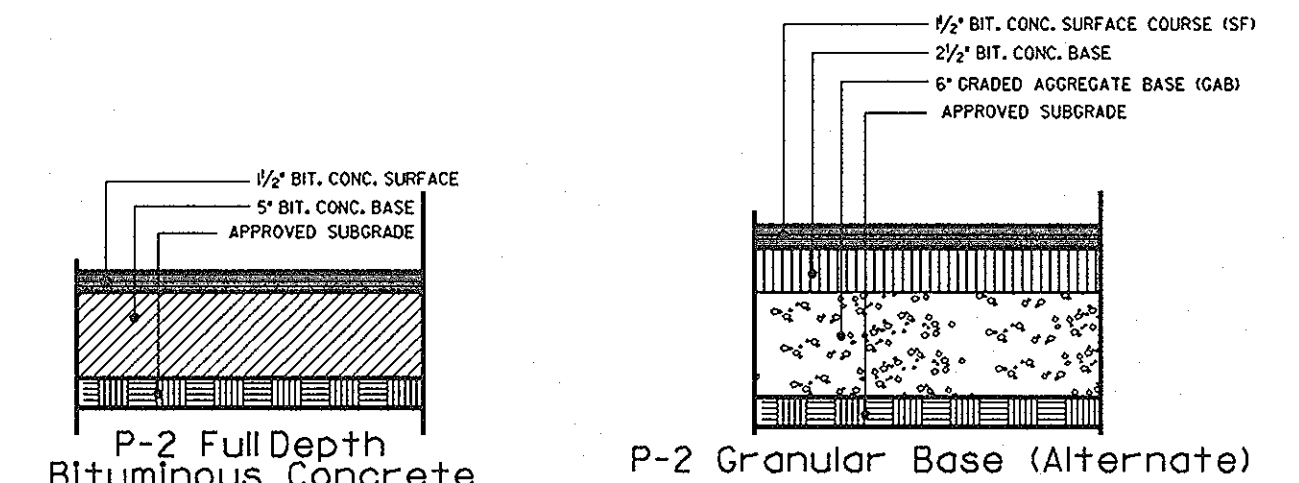
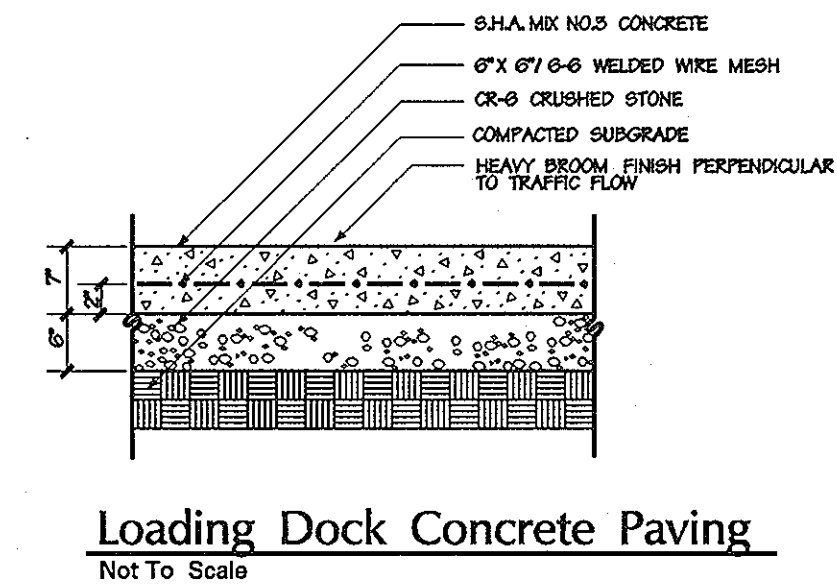
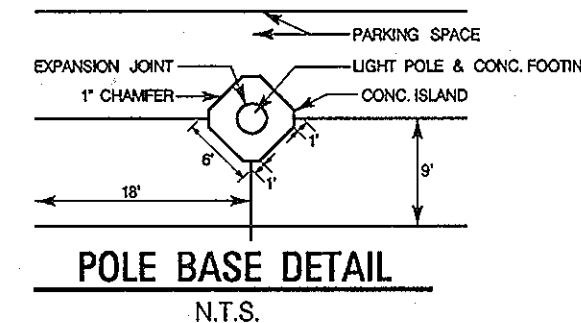
Des By	MJP	Scale	1" = 30'	Proj. No.	95019B
Drn By	FJZ	Date	7-16-98		
Chk By	JWR	Approved			7 OF 27



Concrete Curb, Typ.
Not To Scale

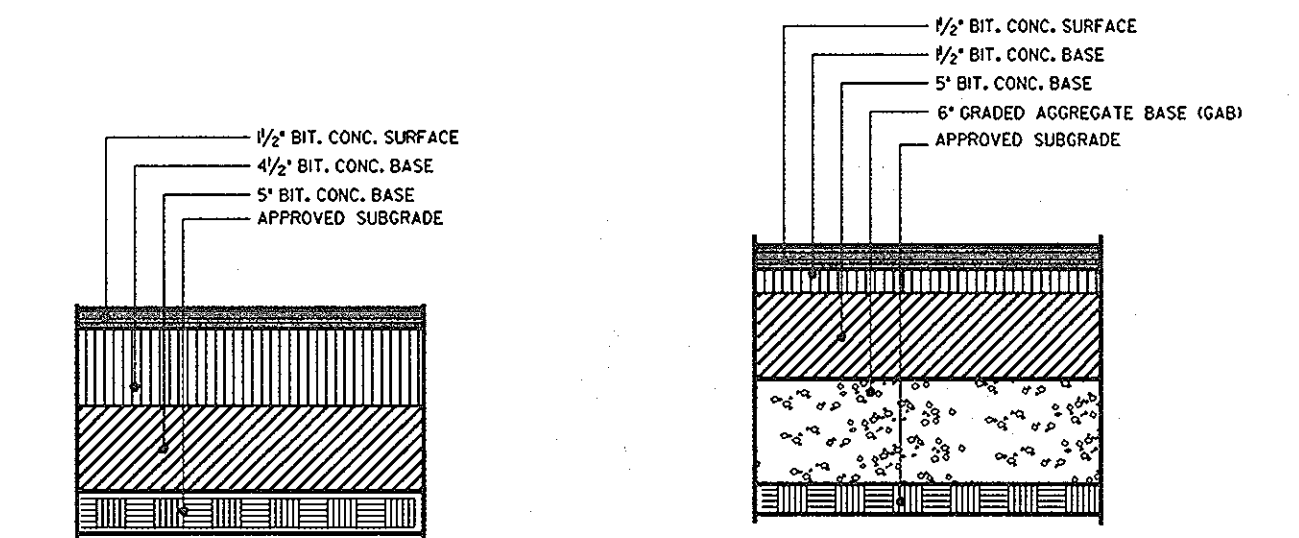


Handicapped Parking Space
Not To Scale



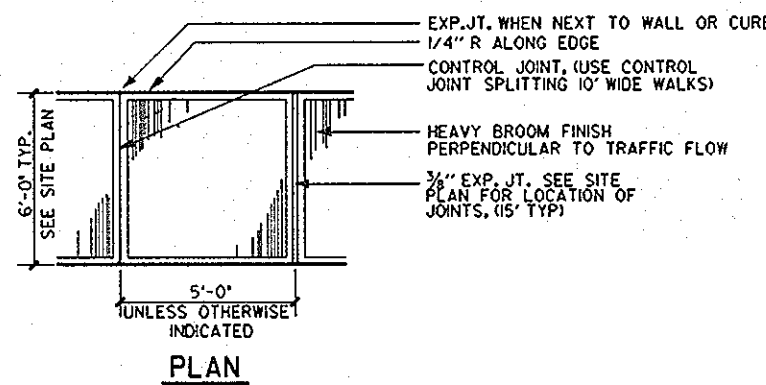
Typical Paving Section (P-2)
Not To Scale

See Sheet 9 For Paving Legend

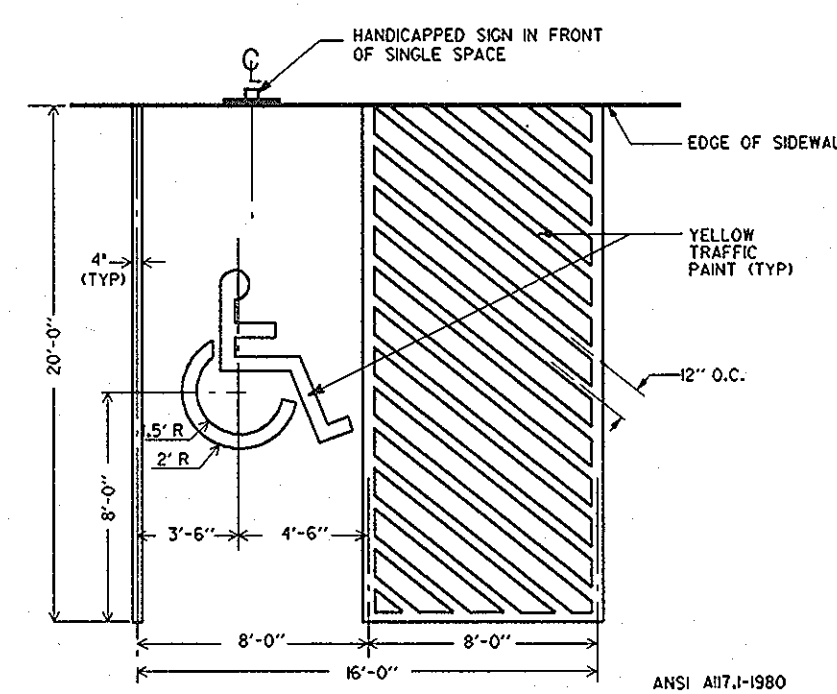


Typical Paving Section (P-5)
Not To Scale

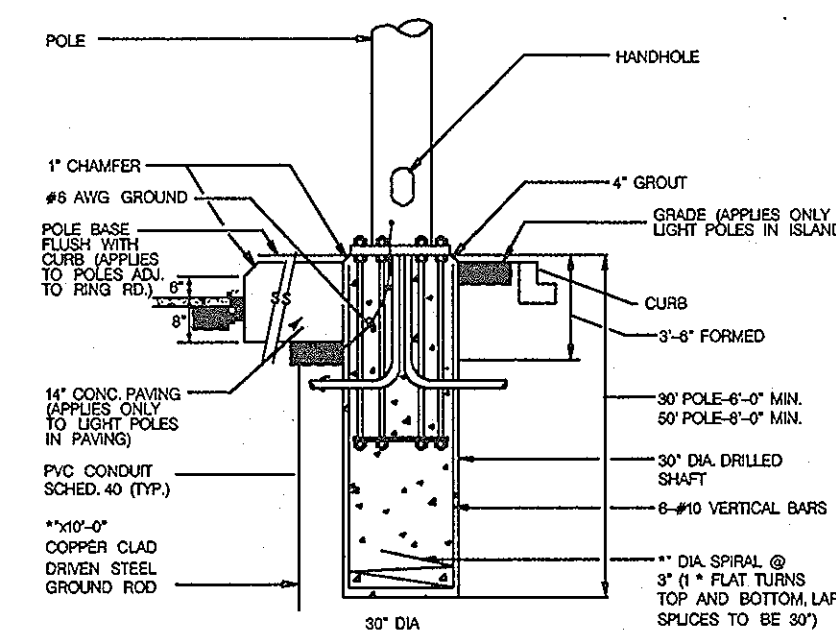
- NOTES:
- 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL OR EXPANSION JOINTS TO BE KEPT 1/2" BELOW SURFACE OF SIDEWALK
 - CONCRETE TO BE MIX NO. 2
 - WHEN SIDEWALK ADJUTS CURB, WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB
 - CONCRETE WALK WITHIN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



PLAN

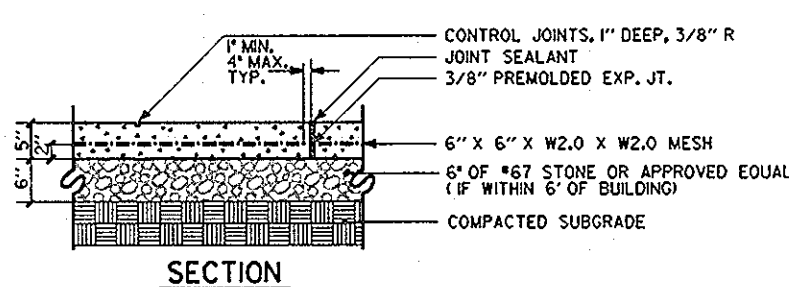


Handicapped Van Parking Space
Not To Scale



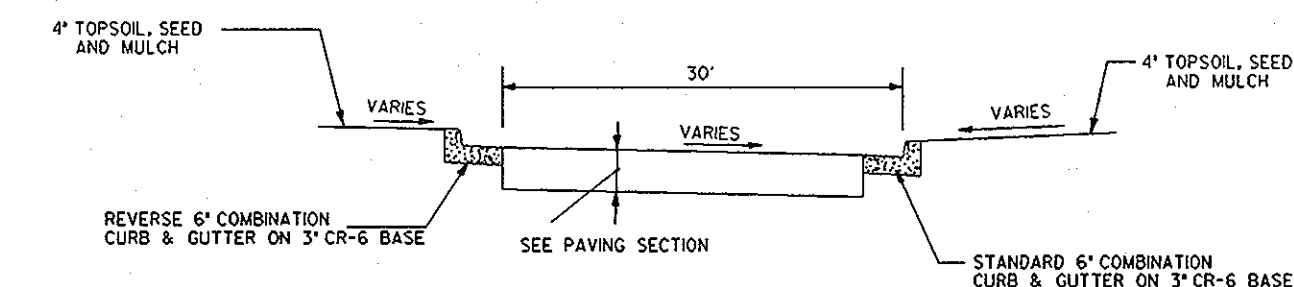
- DESIGN NOTES:
- CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 5000 P.S.I. IN 28 DAYS.
 - REINFORCING STEEL SHALL BE ASTM A-615 GRADE 60.
 - ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2".

NOTE: WHEN WALK IS ADJACENT TO THE CURB, TOTAL WIDTH FROM FACE OF CURB TO EDGE OF WALK IS 6'-0"



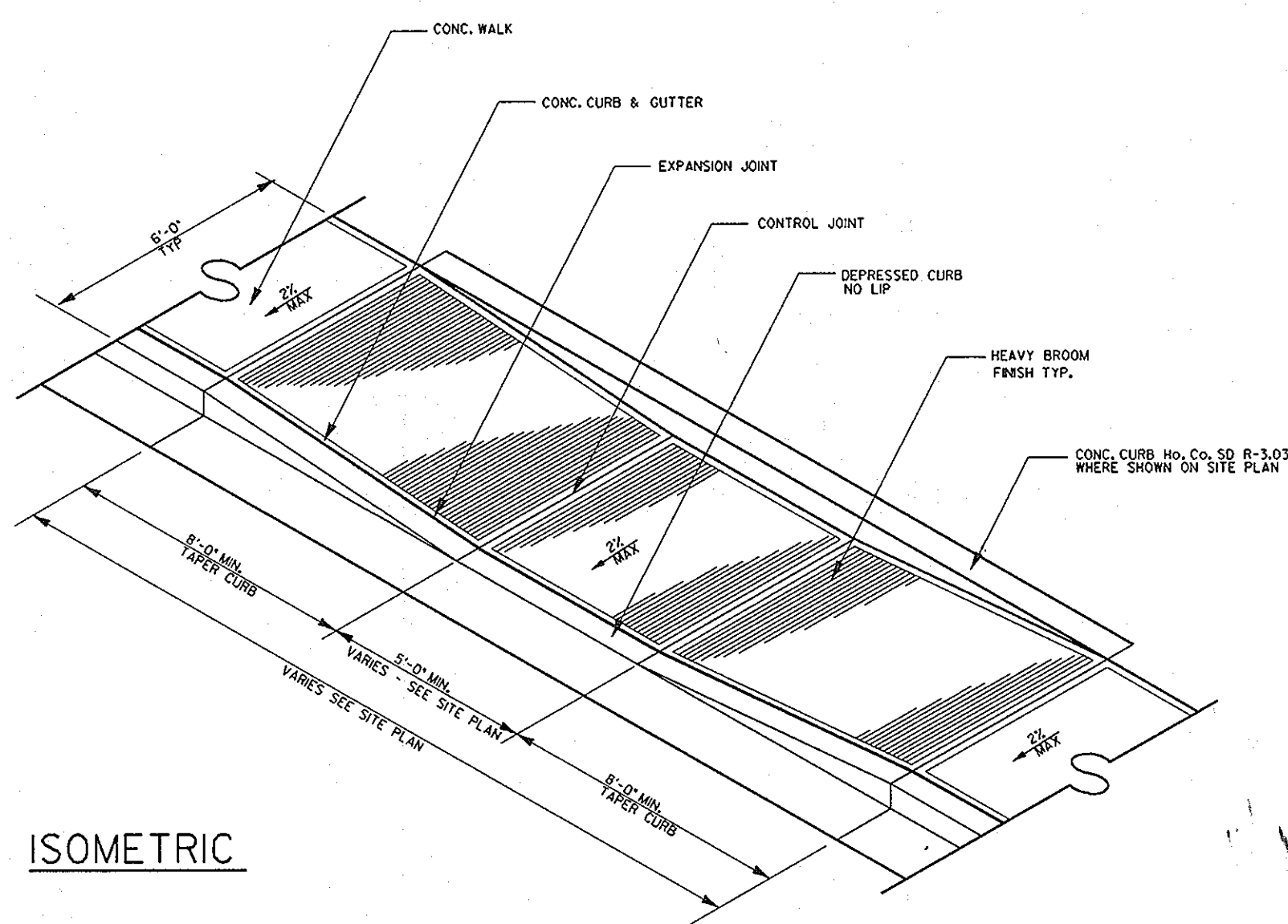
SECTION

Concrete Walk
Not To Scale



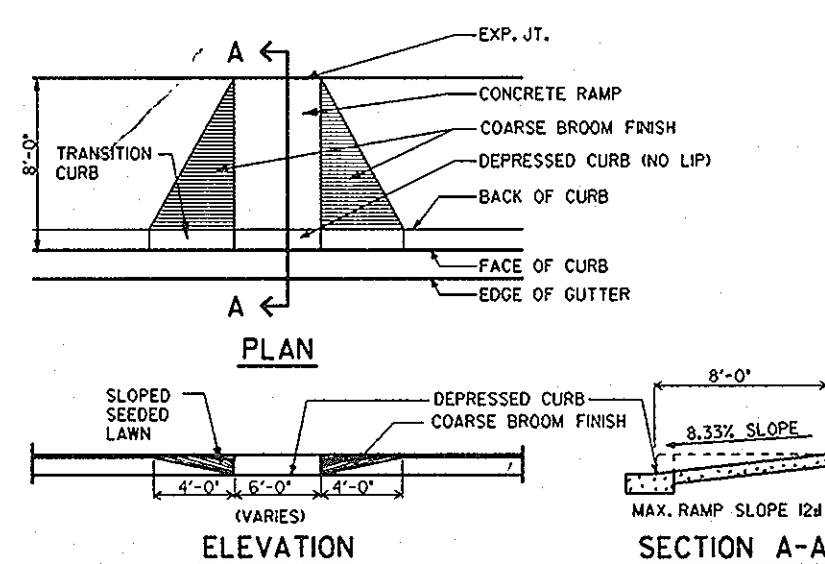
Typical Section
Ring Road (Private Drive)
Not To Scale

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: July 2, 1998
RB



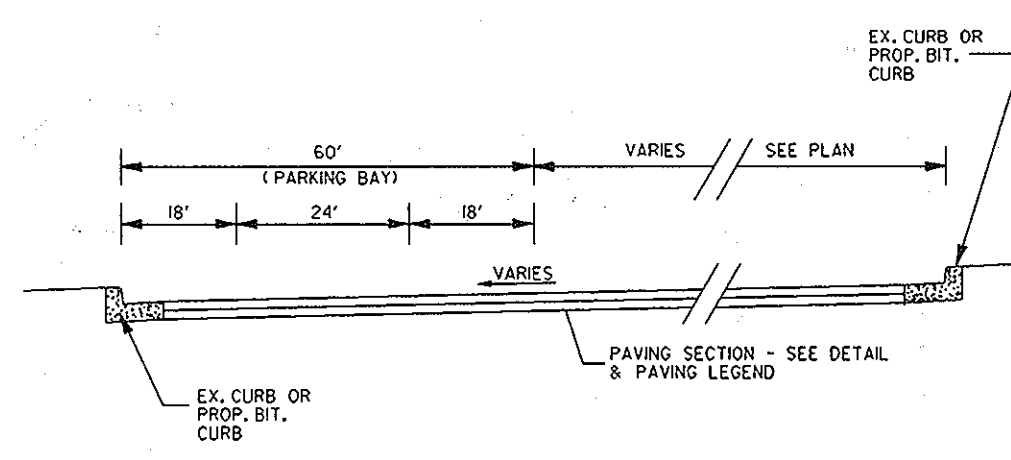
ISOMETRIC

Handicapped Ramp - A
Not To Scale

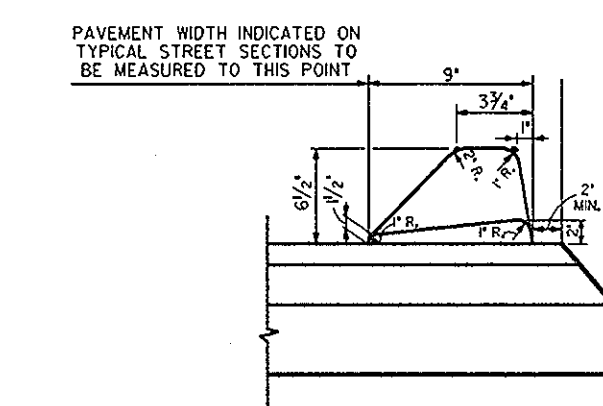


Handicapped Ramp - C
Not To Scale

Standard Parking Space
Not To Scale



Typical Section
Private Parking
Not To Scale



Standard Bituminous Curb
Not To Scale

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 7/14/98

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 8/14/98

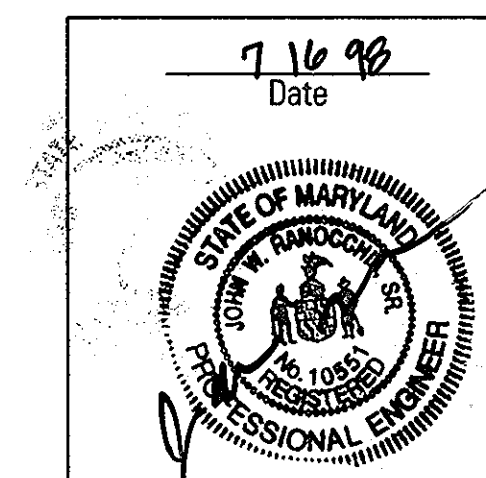
DIRECTOR: *[Signature]* DATE: 8/14/98

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2, AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA, MARYLAND, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Duff-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3833
Fax 296-4705

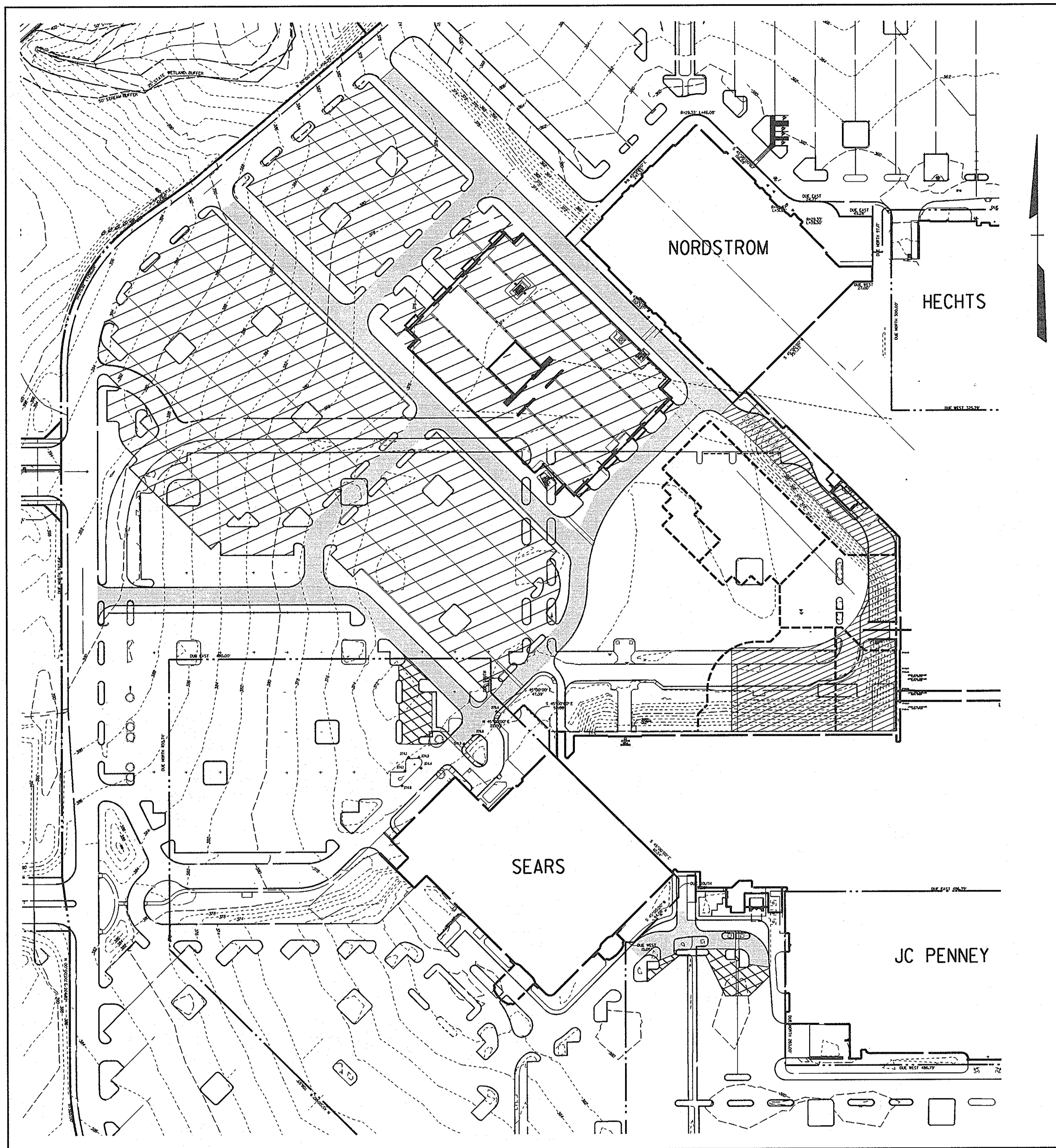
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals



Professional Engr. No. *[Signature]*
Date: 7/16/98

TITLE			
PHASE III SITE DETAILS			
Des By	MJP	Scale	AS SHOWN
Proj. No.	95019 B		
Drn By	FJZ	Date	7-16-98
Chk By	JWR	Approved	
			8 OF 27

SDP-98-124

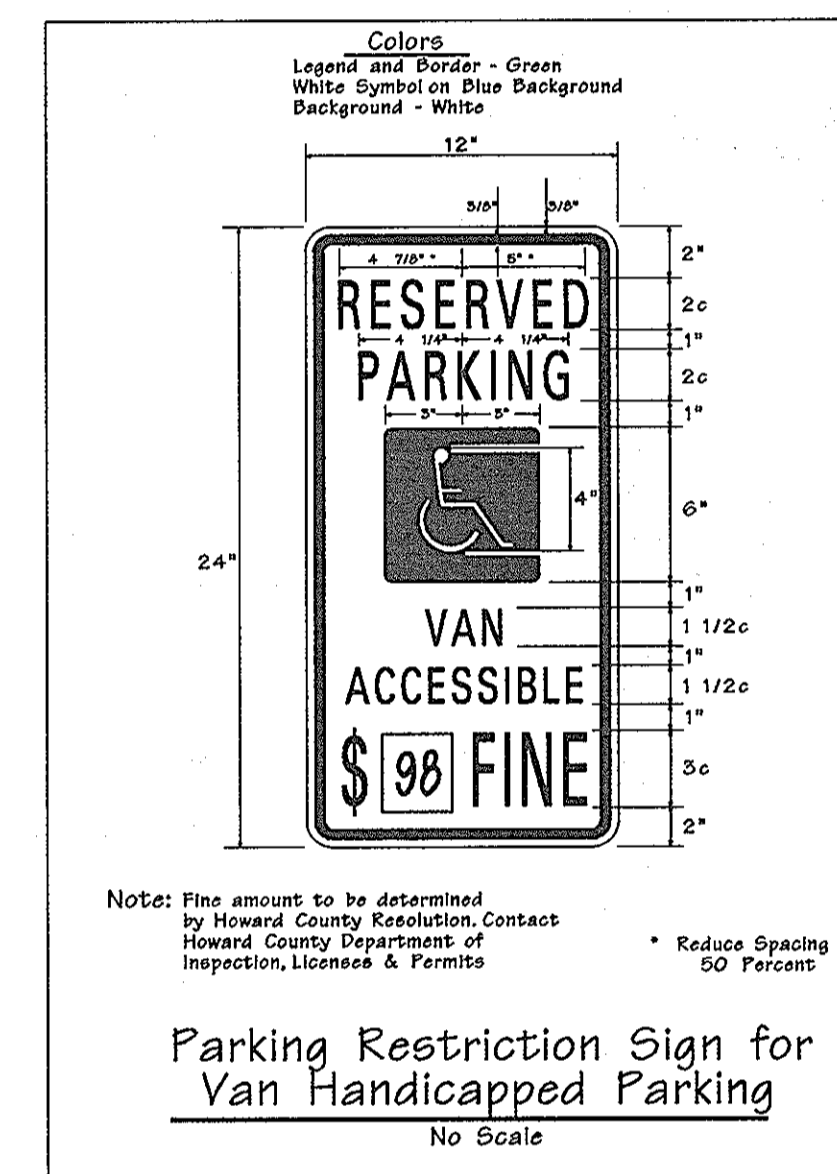
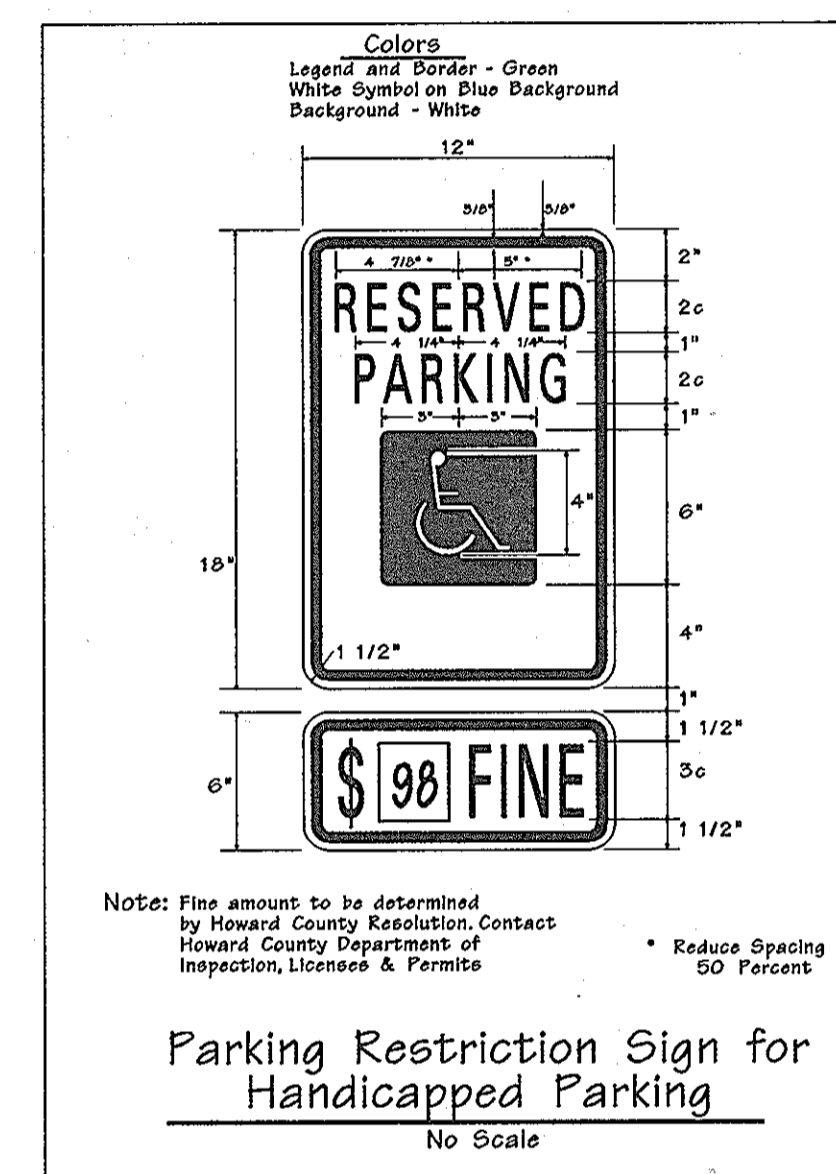
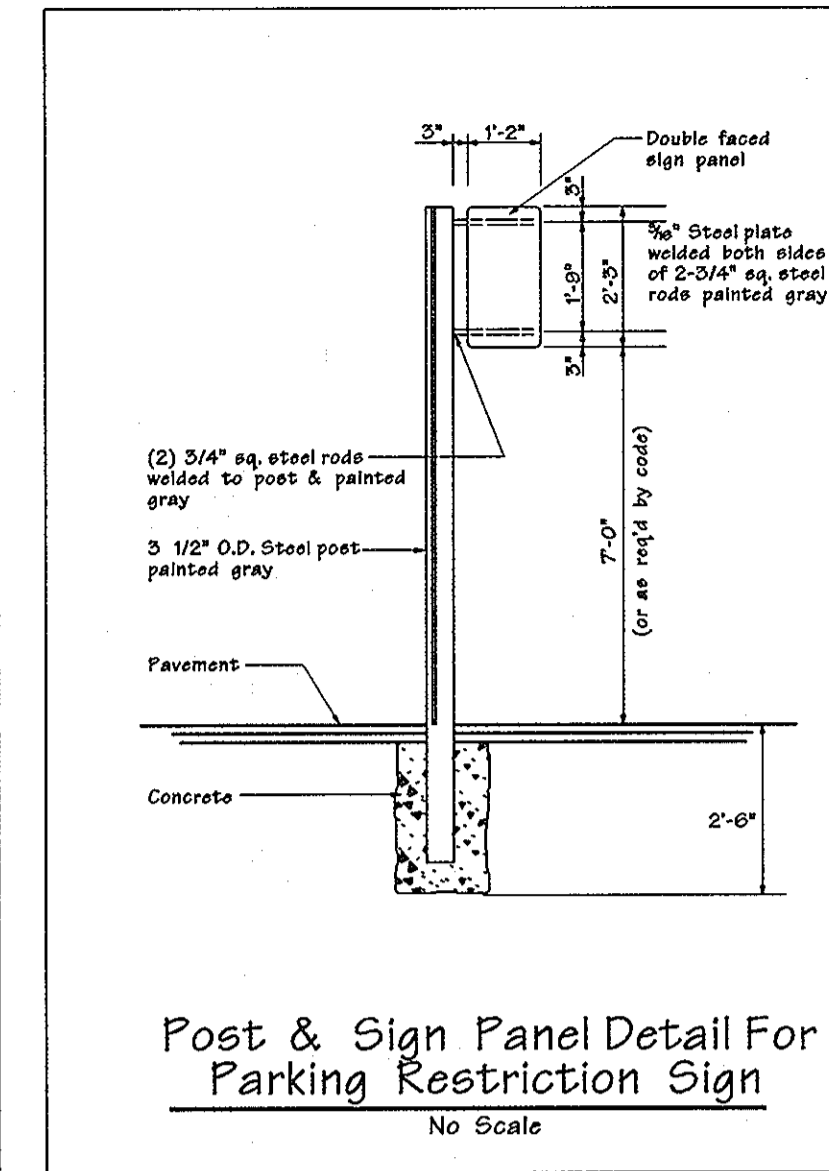
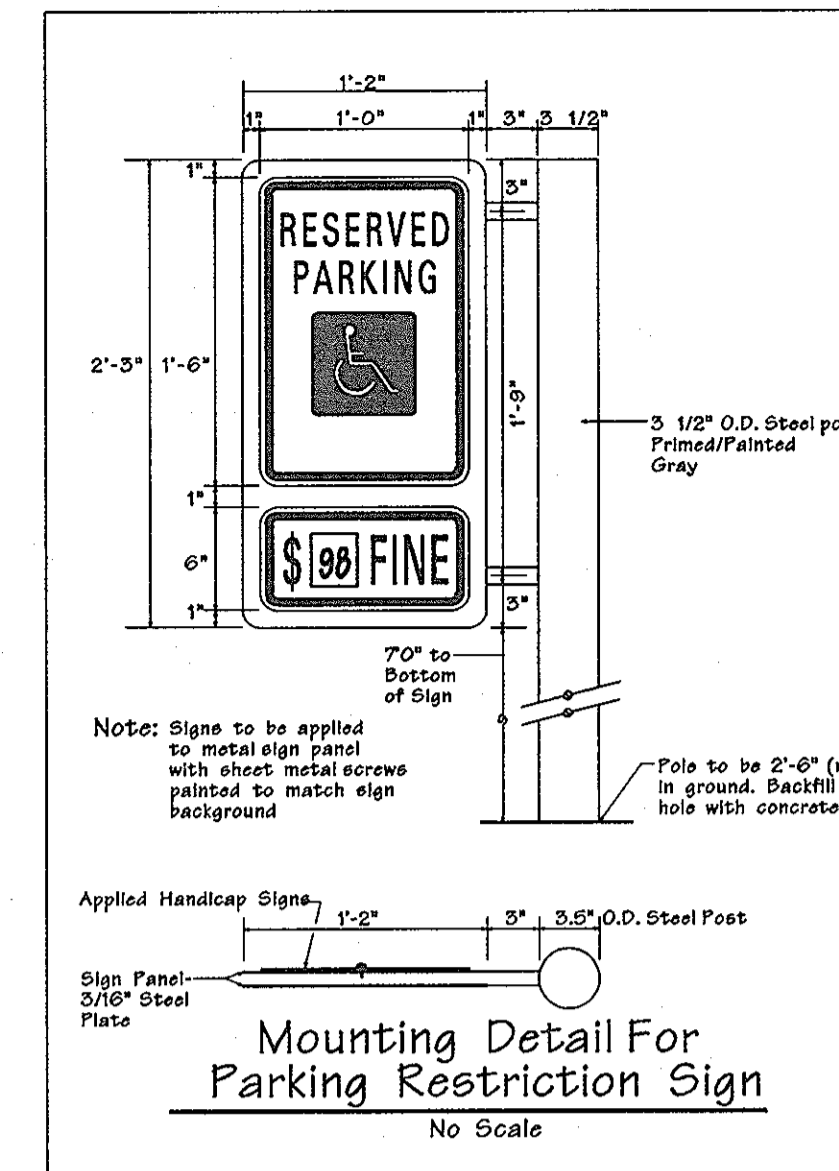
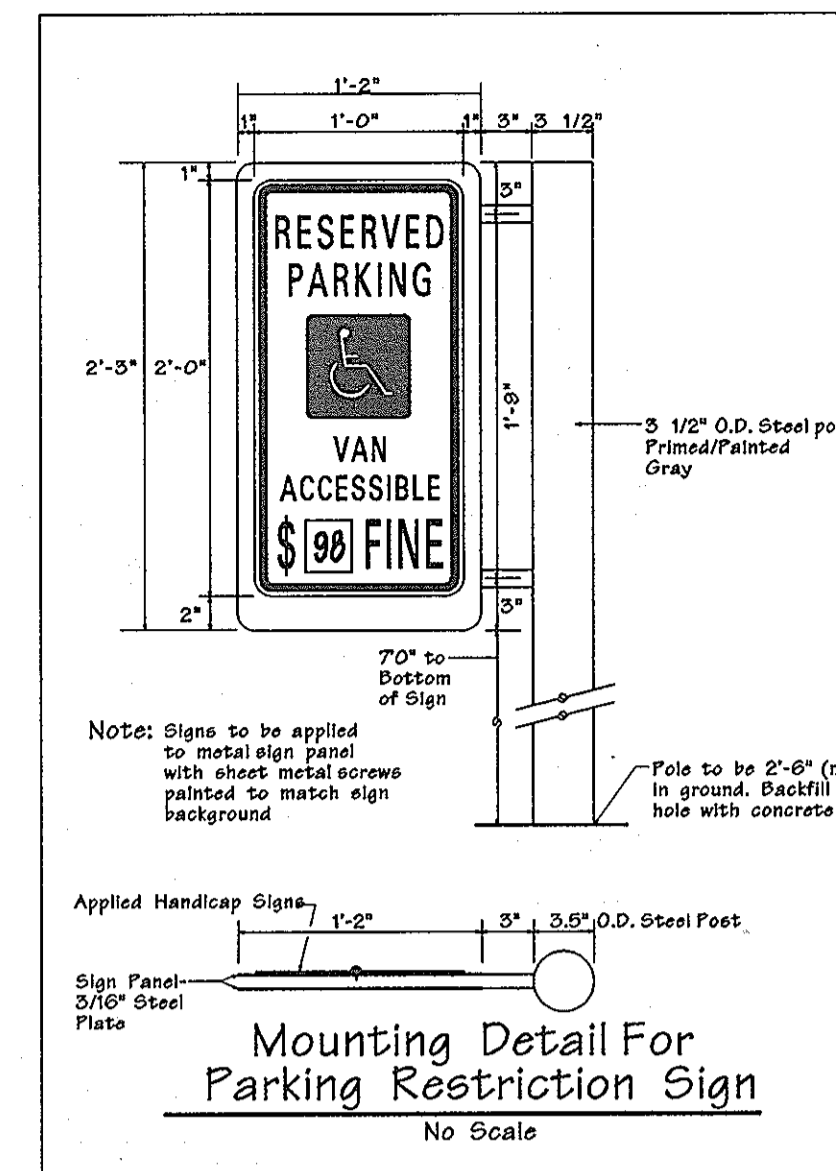


PAVING LEGEND

SCALE: 1" = 100'
SEE SHEETS 2-6 FOR SAW CUT LOCATIONS

SYMBOL	DESCRIPTION
	P-5 PAVING
	P-2 PAVING
	1" ± OVERLAY
	CONCRETE

SEE SHEET 9 FOR PAVING DETAILS.



APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 2, 1998
R.S.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT-ENGINEERING DIVISION	<i>[Signature]</i>	7/1/98	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>[Signature]</i>	8/1/98	DATE
DIRECTOR	<i>[Signature]</i>	8/14/98	DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2, AREA 1 HOWARD COUNTY, MD LOTS 22, 28, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Duff McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3338
Fax: 296-4702

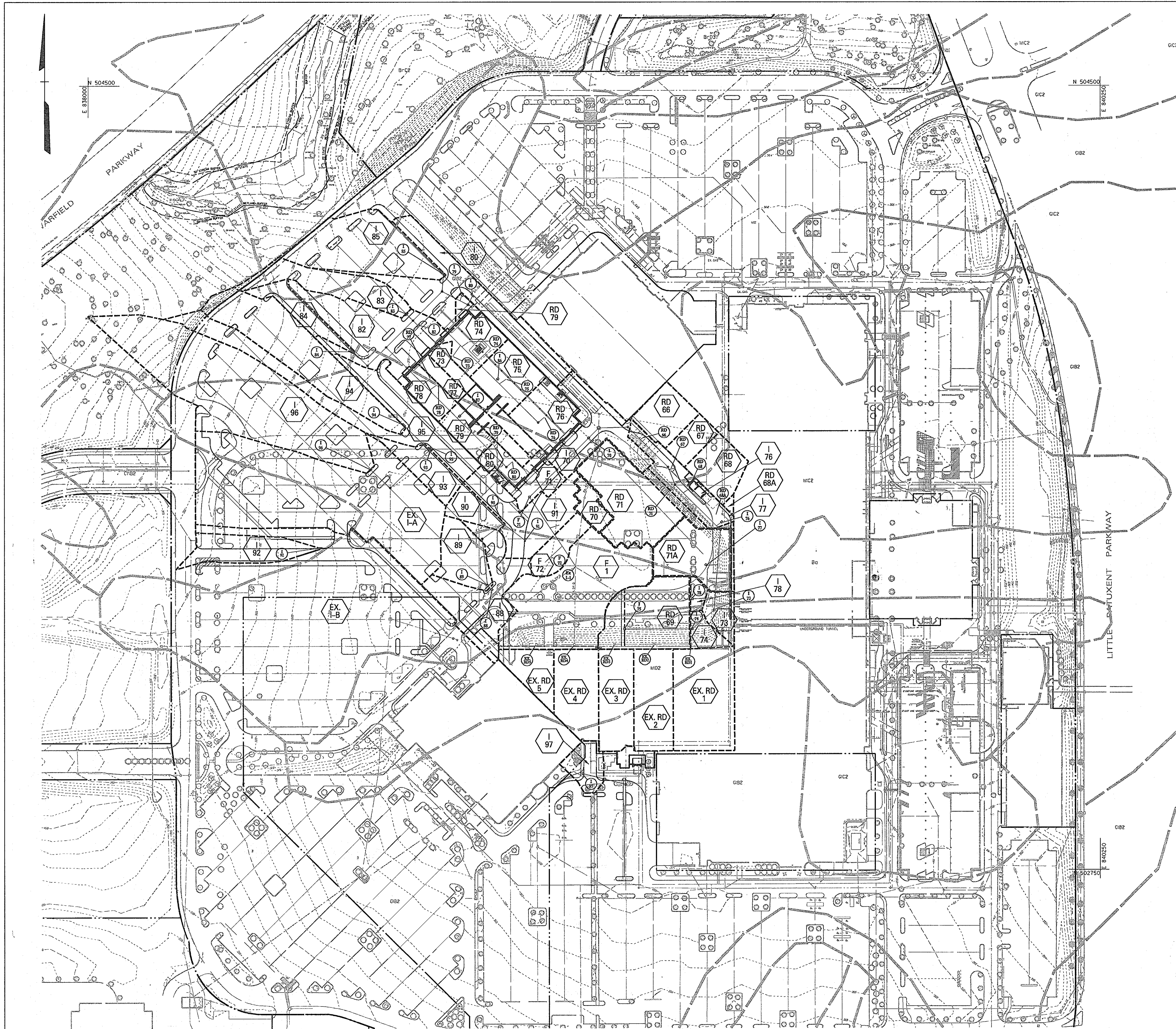
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

7/16/98
Date

Professional Engr. No. *[Signature]*

TITLE
**PHASE III
PAVING LEGEND & SITE DETAILS**

Des By	MJP	Scale	AS SHOWN	Proj. No.	95019 B
Dm By	FJZ	Date	7-16-98		
Chk By	JWR	Approved			9 OF 27



SOILS LEGEND

HYDROLOGIC SOILS	KEY	NAME	SLOPE
D	Ba	BAILE SILT LOAM	
C	BrC2	BRANDYWINE LOAM	8 TO 15 PERCENT SLOPES, MODERATELY ERODED
C	BrD3	BRANDYWINE LOAM	15 TO 25 PERCENT SLOPES, SEVERELY ERODED
B	ChB2	CHESTER SILT LOAM	3 TO 8 PERCENT SLOPES, MODERATELY ERODED
B	GlB2	GLENELG LOAM	3 TO 8 PERCENT SLOPES, MODERATELY ERODED
B	GlC2	GLENELG LOAM	8 TO 15 PERCENT SLOPES, MODERATELY ERODED
C	GrB2	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES, MODERATELY ERODED
B	MbC2	MANOR LOAM	8 TO 15 PERCENT SLOPES, MODERATELY ERODED
B	Md2	MANOR LOAM	15 TO 25 PERCENT SLOPES, MODERATELY ERODED

SEE SOILS MAP 24

NOTE: DRAINAGE AREA IS FOR ULTIMATE CONDITION.

NO.	AREA	C	% IMP
RD 66	0.28	0.95	100
RD 67	0.15	0.95	100
RD 68	0.28	0.95	100
RD 69	0.64	0.95	100
RD 70	0.11	0.95	100
RD 71	0.76	0.95	100
RD 71A	0.49	0.95	100
RD 73	0.21	0.95	100
RD 74	0.26	0.95	100
RD 75	0.33	0.95	100
RD 76	0.28	0.95	100
RD 77	0.21	0.95	100
RD 78	0.14	0.95	100
RD 79	0.33	0.95	100
RD 80	0.21	0.95	100
EX. RD1	0.72	0.95	100
EX. RD2	0.45	0.95	100
EX. RD3	0.40	0.95	100
EX. RD4	0.42	0.95	100
EX. RD5	0.23	0.95	100
I-1	1.25	0.95	100
I-3		0.95	100
I-4		0.95	100
Cl-D1		0.88	90
I-70	0.50	0.80	80
F-71	0.16	0.88	90
F-72	0.19	0.84	85
I-73	0.14	0.95	100
I-74	0.11	0.95	100
I-75			
I-76	0.36	0.95	100
I-77	0.02	0.95	100
I-78	0.05	0.95	100
I-79	0.04	0.95	100
I-80	0.81	0.77	75
I-82	0.78	0.88	90
I-83	0.42	0.91	95
I-84	0.20	0.91	95
I-85	0.76	0.91	95
I-86			
I-87			
I-88	0.63	0.88	90
I-89	0.31	0.95	100
I-90	0.17	0.91	95
I-91	0.55	0.91	95
I-92	0.34	0.91	95
I-93	0.25	0.91	95
I-94	0.89	0.88	90
I-95	0.89	0.91	95
I-96	1.94	0.80	80
I-97	0.17	0.72	70
EX. I-A	2.39	0.88	90
EX. I-B			

APPROVED
PLANNING BOARD
of HOWARD COUNTY
 DATE July 2, 1998
 R.B.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 7/2/98 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 8/4/98 DATE

DIRECTOR *[Signature]* 8/14/98 DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 LOTS 22, 29, 42, 44 OWNER / DEVELOPER: THE HOWARD RESEARCH & DEVELOPMENT CORP. COLUMBIA MALL, INC. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MARYLAND 21044

DMW
 Draft-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4706

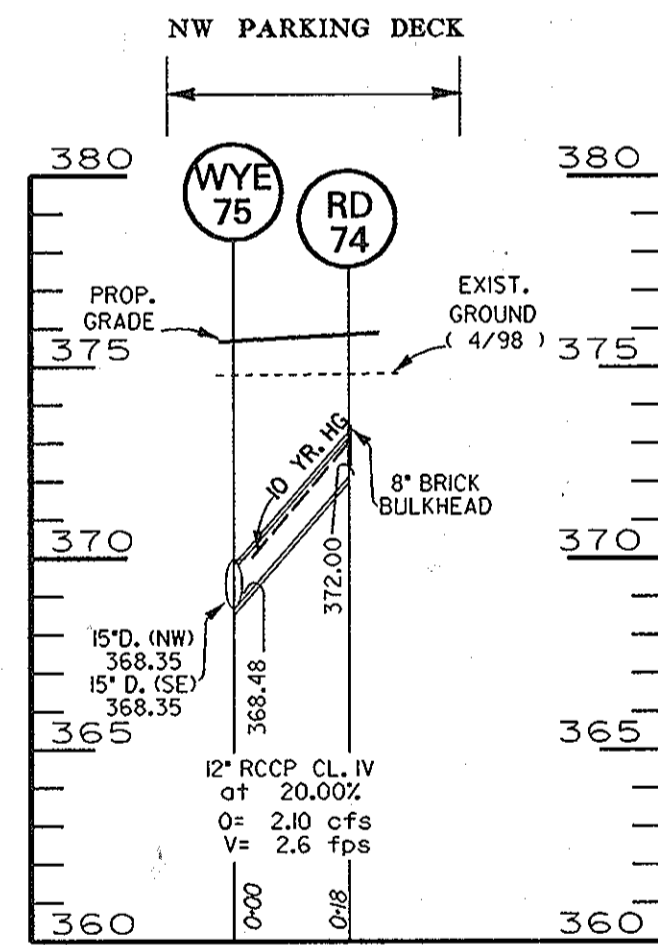
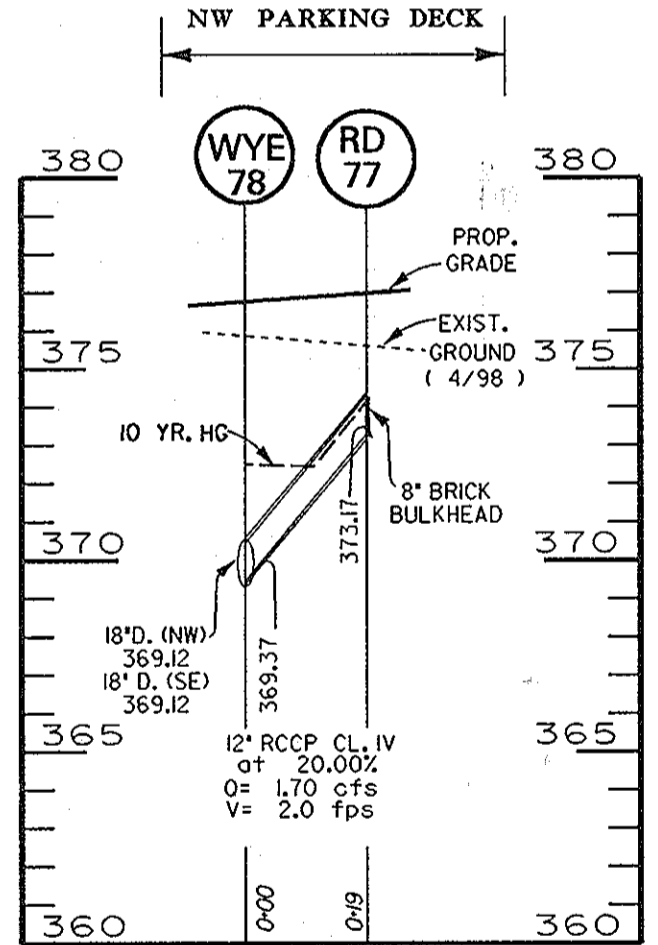
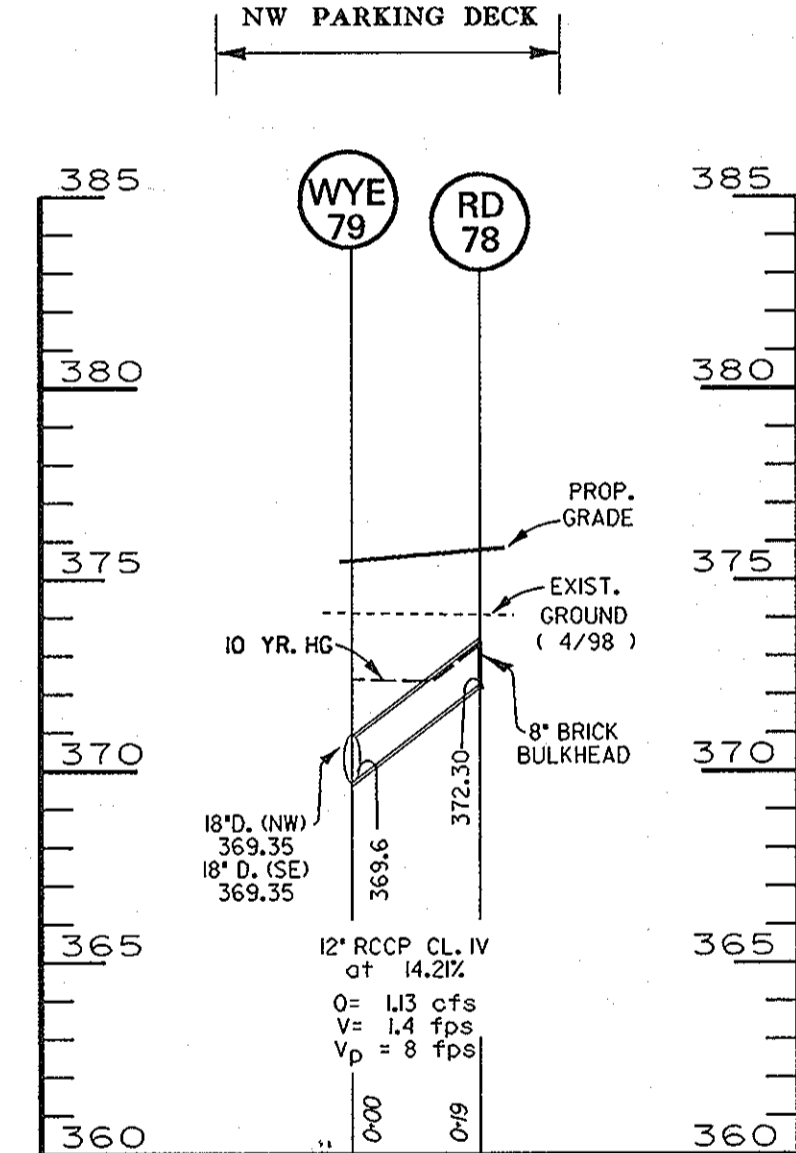
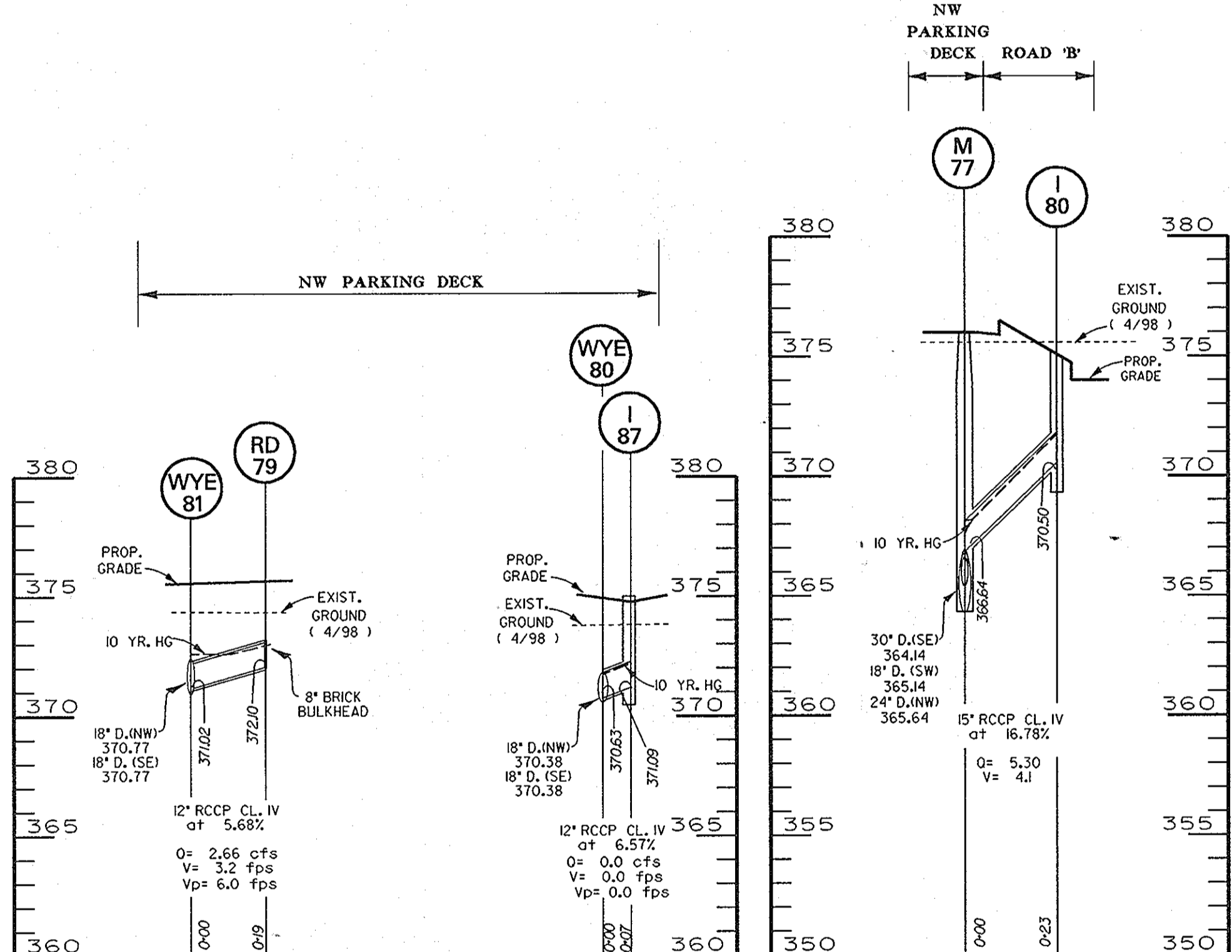
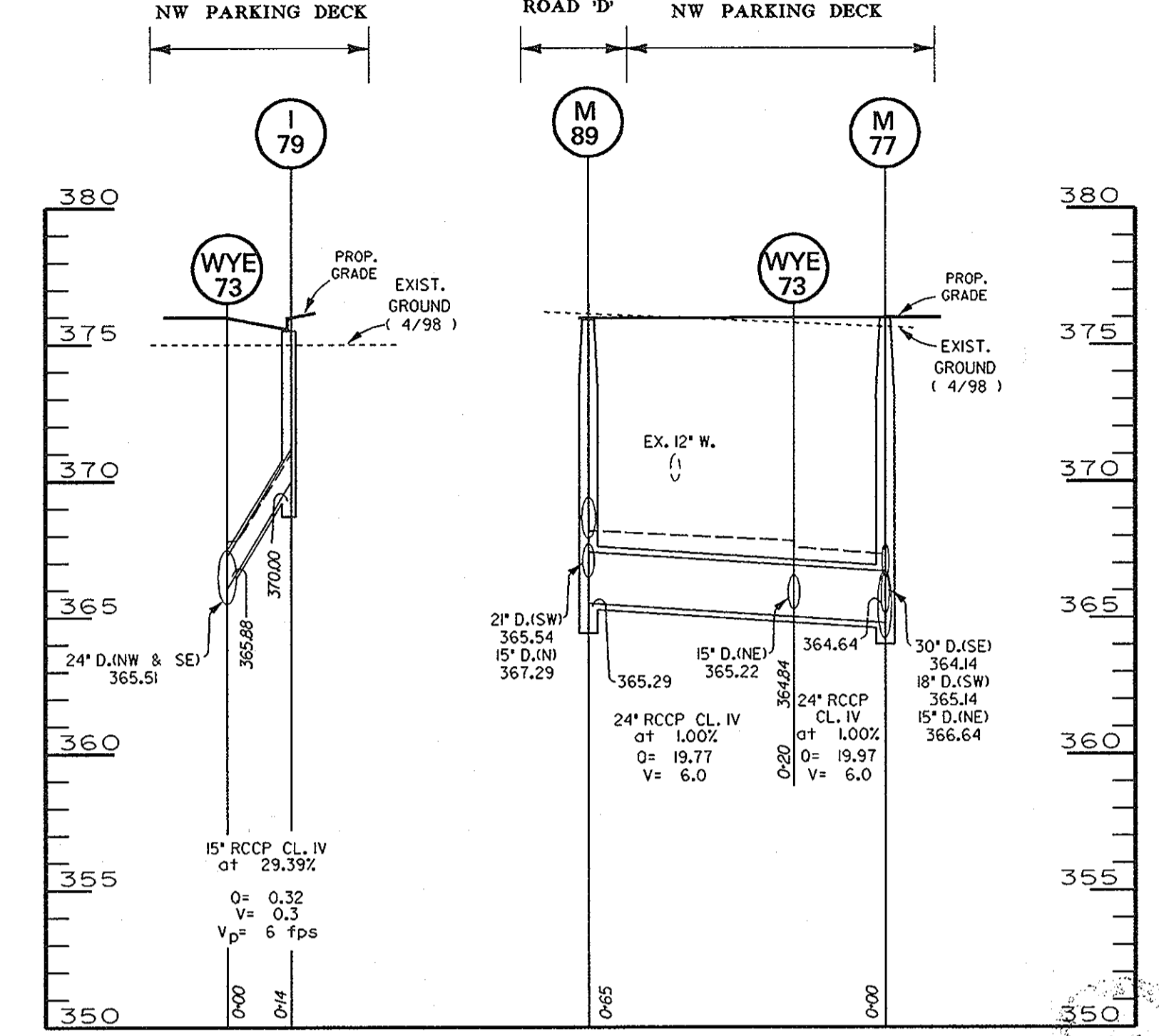
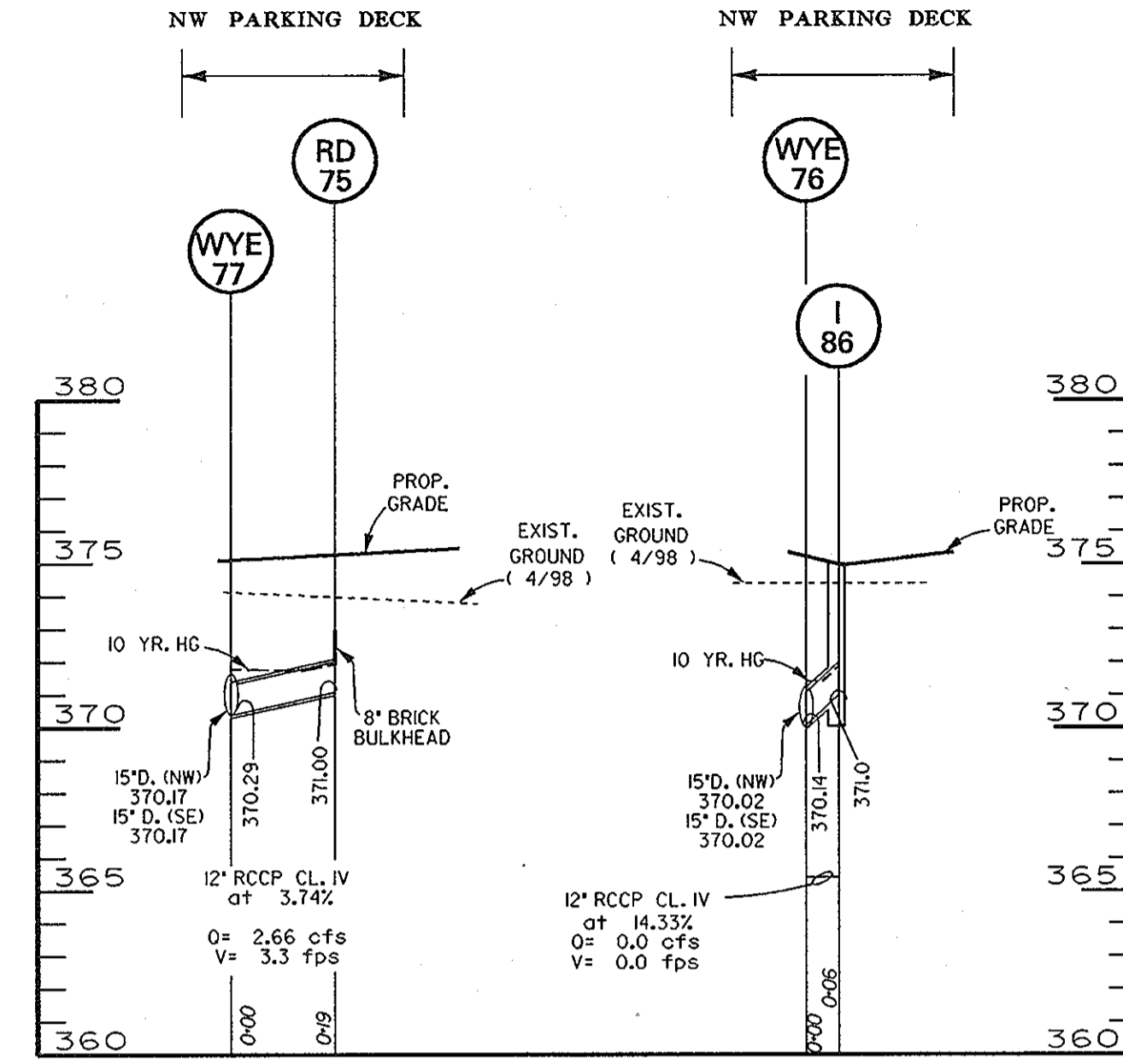
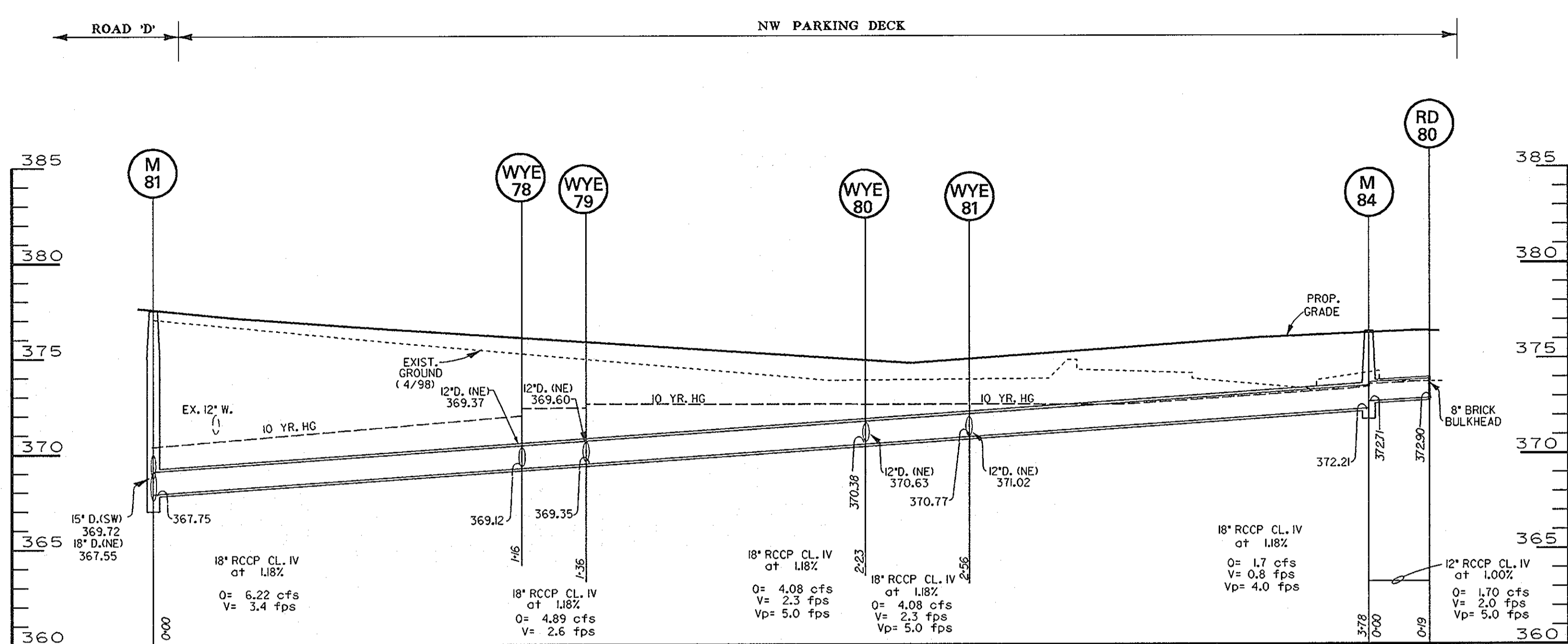
A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

7/16/98
 Date

Professional Engr. No. 10551

PHASE III
STORM DRAIN
DRAINAGE AREA MAP

Des By	JS	Scale	1" = 100'	Proj. No.	95019B
Dwn By	FJZ	Date	7-16-98		
Chk By	JWR	Approved			10 OF 27



APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE July 2, 1998
D.B.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 7/2/98
CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 8/18/98
DIRECTOR: [Signature] DATE: 8/18/98

STRUCTURE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	DETAIL
WYE 68	WYE CONNECTION	15 x 30	354.80	HO. CO. SD LII
WYE 69	WYE CONNECTION	15 x 30	354.51	HO. CO. SD LII
WYE 71	WYE CONNECTION	15 x 36	354.21	HO. CO. SD LII
WYE 71A	WYE CONNECTION	15 x 36	352.92	HO. CO. SD LII
WYE 71B	WYE CONNECTION	15 x 36	353.65	HO. CO. SD LII
WYE 71C	WYE CONNECTION	15 x 36	353.69	HO. CO. SD LII
WYE 71D	WYE CONNECTION	15 x 36	354.00	HO. CO. SD LII
WYE 72	WYE CONNECTION	15 x 21	354.66	HO. CO. SD LII
WYE 73	WYE CONNECTION	15 x 24	364.84	HO. CO. SD LII
WYE 72A	WYE CONNECTION	15 x 21	355.03	HO. CO. SD LII
WYE 74	WYE CONNECTION	15 x 15	368.29	HO. CO. SD LII
WYE 75	WYE CONNECTION	12 x 15	369.35	HO. CO. SD LII
WYE 76	WYE CONNECTION	12 x 15	370.02	HO. CO. SD LII
WYE 77	WYE CONNECTION	12 x 15	370.17	HO. CO. SD LII
WYE 78	WYE CONNECTION	12 x 18	369.12	HO. CO. SD LII
WYE 79	WYE CONNECTION	12 x 18	369.35	HO. CO. SD LII
WYE 80	WYE CONNECTION	12 x 18	370.38	HO. CO. SD LII
WYE 81	WYE CONNECTION	12 x 18	371.02	HO. CO. SD LII

MANHOLE SCHEDULE

NO.	TYPE	SIZE	INV. OUT	TOP ELEV.	DETAIL	LOCATION
EX. M-3				375.8		
M-70	84" DIA.		352.4 ±	375.5	**	ROAD 'G' STA. 0+26 ± 4.7' LT.
M-71	60" DIA.		352.69	375.1	** G 5J3	ROAD 'G' STA. 0+57 4.7' LT.
M-72	60" DIA.		353.91	375.2	** G 5J3	ROAD 'G' STA. 2+41 4' RT.
M-73	60" DIA.		352.72	376.7	** G 5J3	ROAD 'B' STA. 7+72 20' LT.
M-74	48" DIA.		353.35	368.0	G 5J2	ROAD 'B' STA. 8+97 0.8' LT.
M-75	60" DIA.		353.56	366.3	G 5J3	ROAD 'B' STA. 9+40 0.4' RT.
M-76	48" DIA.		354.27	359.5	G 5J2	ROAD 'B' STA.
M-77	60" DIA.		364.14	376.0	G 5J3	ROAD 'D' STA. 14+48 1' RT.
M-78	48" DIA.		367.24	376.6	G 5J2	N 503958.7 E 838844.6
M-80	48" DIA.		366.46	376.5	G 5J2	ROAD 'D' STA. 14+48 1' RT.
M-81	48" DIA.		367.55	377.6	G 5J2	ROAD 'D' STA. 2+32 1' RT.
M-82	48" DIA.		372.51	378.4	G 5J2	ROAD 'D' STA. 2+91 1' RT.
M-83	48" DIA.		372.05	376.9	G 5J2	N 503749.2 E 839000.6
M-84	48" DIA.		372.21	376.4	G 5J2	N 503650.0 E 838930.2
M-86	48" DIA.		365.7 ±	372.8	G 5J3	N 503469.6 ± E 838671.4 ±
M-87	48" DIA.		367.4 ±	375.0	G 5J2	ROAD 'E' STA. 42 38' LT.
M-88	48" DIA.		352.0 ±	360.6	G 5J2	ROAD 'J' STA. 4+07 ± 6 ± LT.
M-89	48" DIA.		365.96	365.29	G 5J2	ROAD 'D' STA. 0+57 1' RT.
M-90	48" DIA.		368.00	374.6	G 5J2	ROAD 'C' STA. 7+38 ± 78 ± RT.

INLET SCHEDULE

NO.	TYPE	Q 2YR	INV. OUT	TOP ELEV.	DETAIL	WIDTH	LOCATION
I-70	A-10	2.36	371.00	375.5	SD 4.41	2'-6"	ROAD 'C' STA. 0+57
I-73	DOUBLE 'S'	0.77	355.17	359.0	GRATE		ROAD 'B' STA.
I-74	DOUBLE 'S'	0.59	355.53	359.0	GRATE		ROAD 'B' STA.
I-75	TRENCH DRAIN		356.39	359.0	GRATE		ROAD 'B' STA.
I-76	'S'	2.01	355.00	359.0	GRATE		ROAD 'B' STA.
I-77	A-5	0.12	355.50	359.6		2'-6"	ROAD 'B' STA.
I-78	'S'	0.30	356.00	359.0	GRATE		ROAD 'B' STA.
I-79	A-5		370.0	376.0		2'-6"	IN CORNER
I-80	A-10	3.68	370.5	374.5		2'-6"	ROAD 'B' STA. 3+11
I-82	A-10	3.63	371.41	376.6		2'-6"	ROAD 'D' STA. 14+8
I-83	A-10	2.25	372.21	377.6		2'-6"	ROAD 'D' STA. 14+8
I-84	A-10	1.06	375.9	380.3		2'-6"	ROAD 'C' STA. 2+40
I-85	A-10	4.07	372.5	376.5		2'-6"	ROAD 'C' STA. 2+40
I-86	'S'		371.0	375.37		2'-6"	N 503846.5 E 838911.4
I-87	'S'		371.09	374.8		2'-6"	N 503763.5 E 838826.3
I-88	A-10	3.24	369.05	373.3		2'-6"	ROAD ' ' STA. 4+75
I-89	A-10	1.71	368.81	373.0		2'-6"	ROAD ' ' STA. 4+75
I-90	A-5	0.89	369.04	373.8		2'-6"	
I-91	A-10	2.95	369.80	379.9		2'-6"	ROAD 'H' STA. 3+39
I-92	A-10	1.83	375.50	374.7		2'-6"	ROAD 'F' STA. 2+99
I-93	A-10	1.36	369.44	374.5		2'-6"	ROAD 'C' STA. 5+15
I-94	A-10	4.60	372.00	376.5		2'-6"	
I-95	A-10	5.25	370.00	374.5		2'-6"	ROAD 'C' STA. 5+15
I-96	A-10	3.14	372.00	376.0		2'-6"	ROAD 'E' STA. 14+4
I-97	A-5	0.71	356.00	376.5		2'-6"	

NO. LOCATION

RD 66	N 503718.5 E 839238.3
RD 67	N 503646.8 E 839304.0
RD 68	N 503601.6 E 839331.2
RD 70	N 503520.9 E 839047.9
RD 71	N 503595.9 E 839290.5
RD 72	N 503987.6 E 838795.7
RD 74	N 503930.9 E 838844.5
RD 75	N 503846.1 E 838929.8
RD 76	N 503761.0 E 839014.8
RD 77	N 503846.2 E 838760.0
RD 78	N 503832.0 E 838774.2
RD 79	N 503741.2 E 838859.0
RD 80	N 503662.0 E 838944.2

EXISTING GRADING BASED ON SDP 97-107, 98-44 & 98-158

ALL INVERTS TO BE FULLY DEVELOPED
* PROVIDE GRANITE BOTTOM
** PROVIDE INTERMEDIATE LANDING DETAIL 'G' 5J5

NOTE: AT ALL ROOF DRAIN CONNECTIONS, CONNECT WITH
* FERNOCO COUPLING OR APPROVED EQUAL.

ALL INVERTS TO BE FULLY DEVELOPED
* PROVIDE GRANITE BOTTOM
** PROVIDE RETICULAR GRATE TOP ELEV. = GRATE

UNENHANCED R-4995 A-1 FLAT GRATE
HEAVY DUTY, WITH CATCH BASIN

7/16/98
Date
Professional Engr. No. 10001

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

THE MALL IN COLUMBIA
PHASE III EXPANSION
TOWN CENTER
SECTION 2 AREA 1
HOWARD COUNTY, MD
LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr-McCune-Walkers, Inc.
300 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3233
Fax: 296-4705

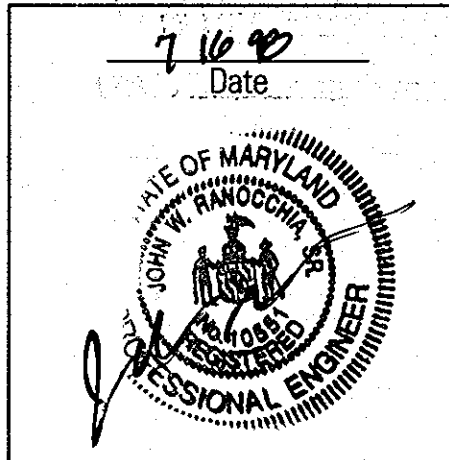
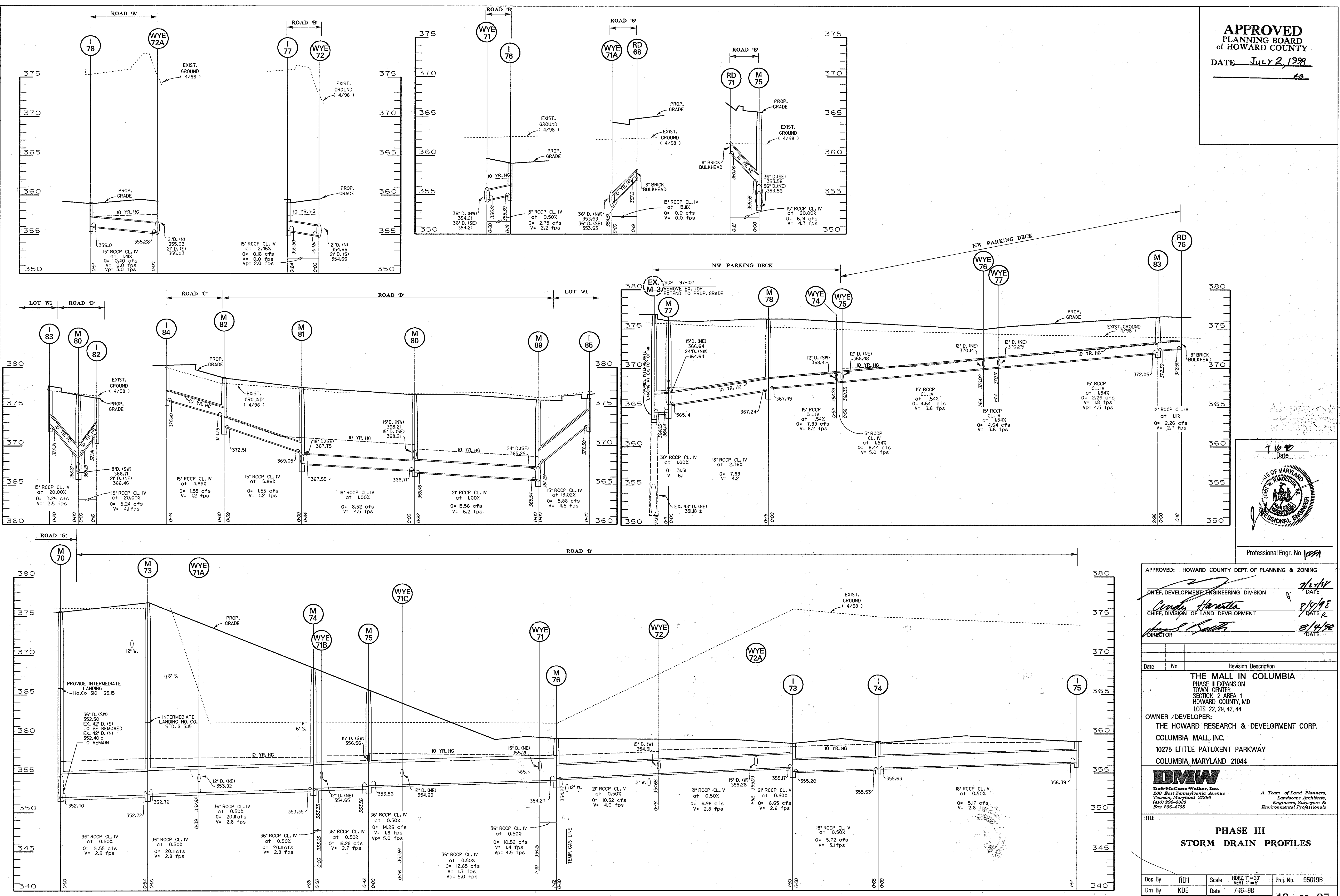
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

**PHASE III
STORM DRAIN PROFILES**

Des By: RLH Scale: HORIZ. 1"=30'
Dm By: KDE Date: 7-16-98 VERT. 1"=5'
Chk By: JWR Approved: 11 OF 27

Proj. No. 95019B

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY
 DATE July 2, 1998
 LG



Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/2/98
CHIEF, DIVISION OF LAND DEVELOPMENT	8/4/98
DIRECTOR	8/14/98

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

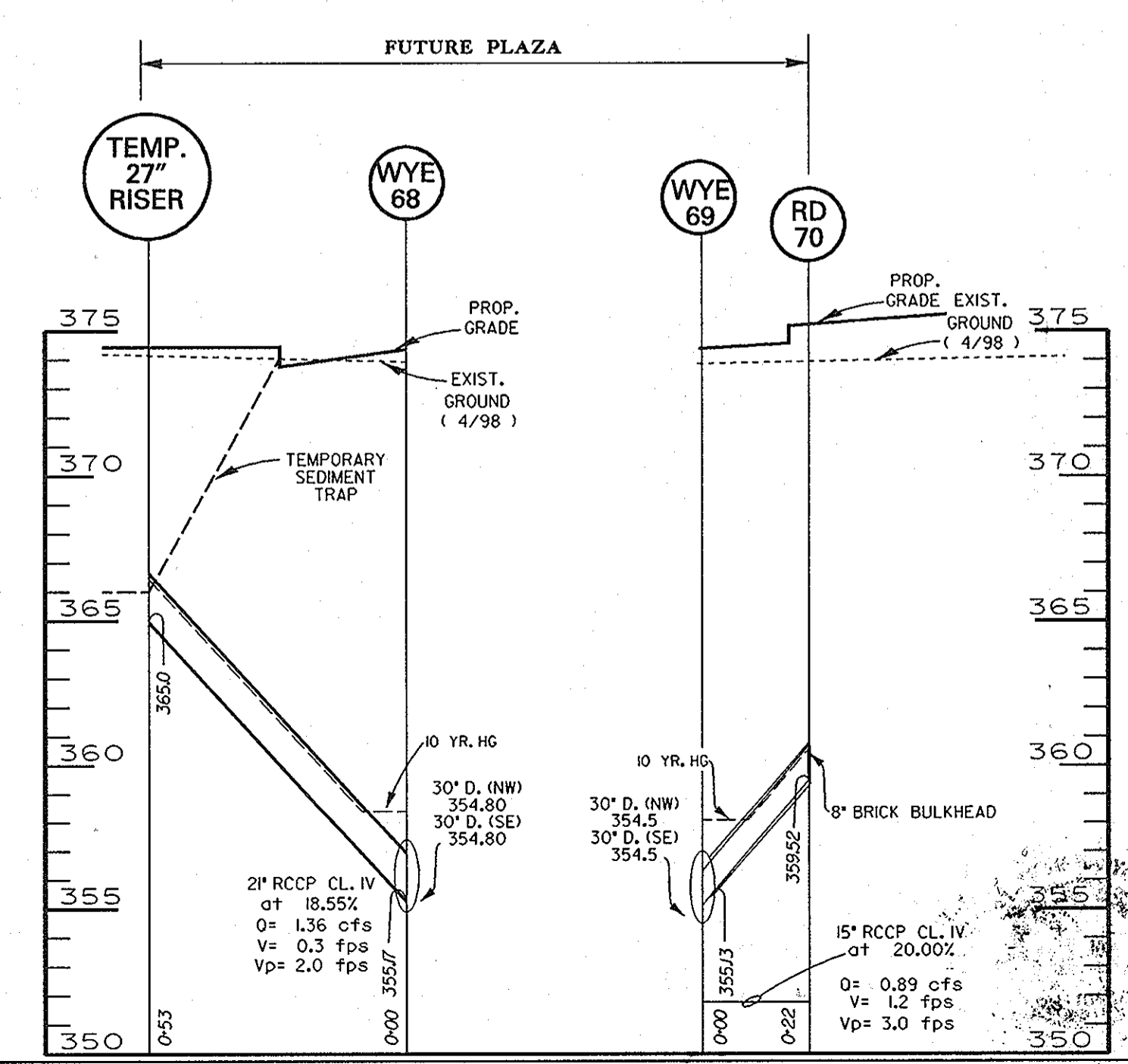
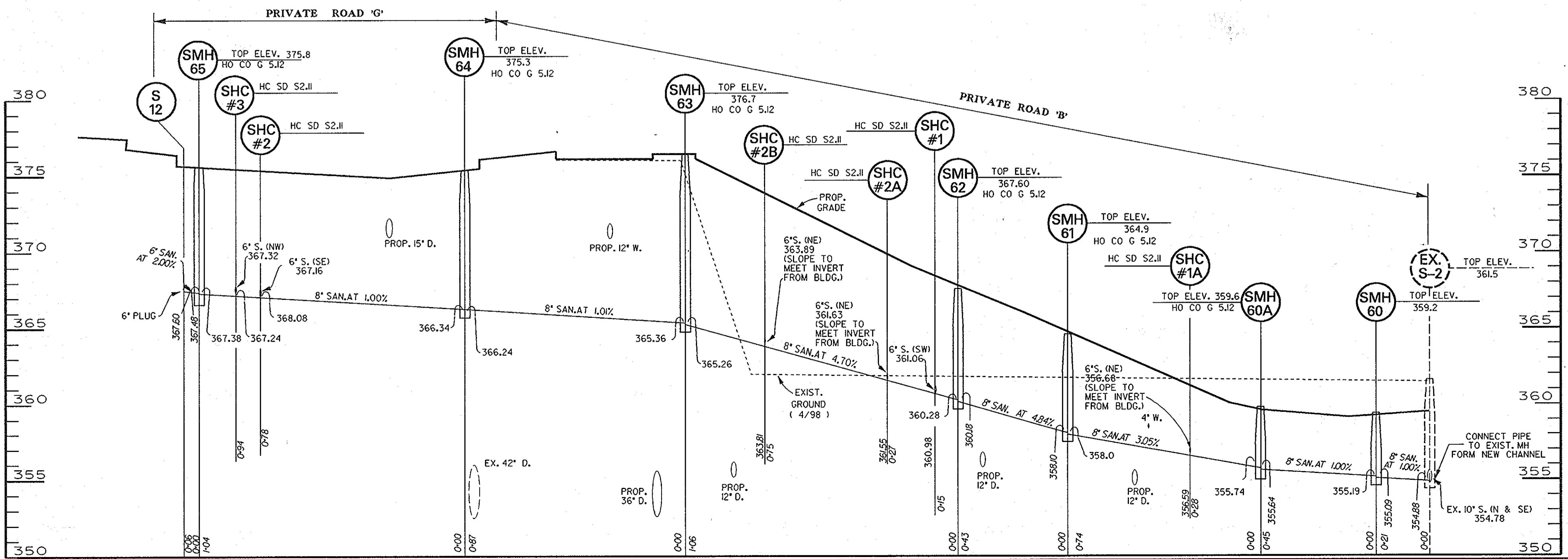
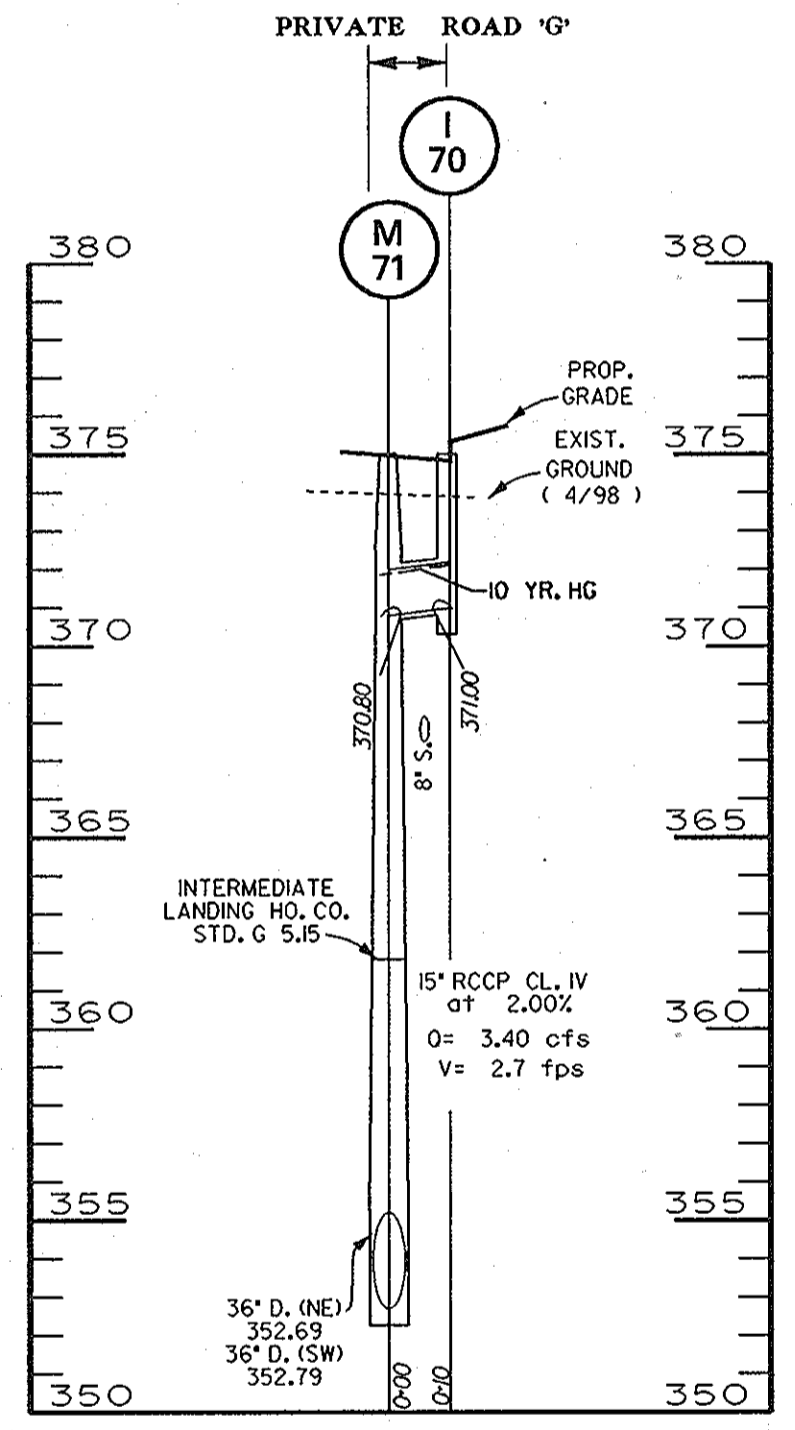
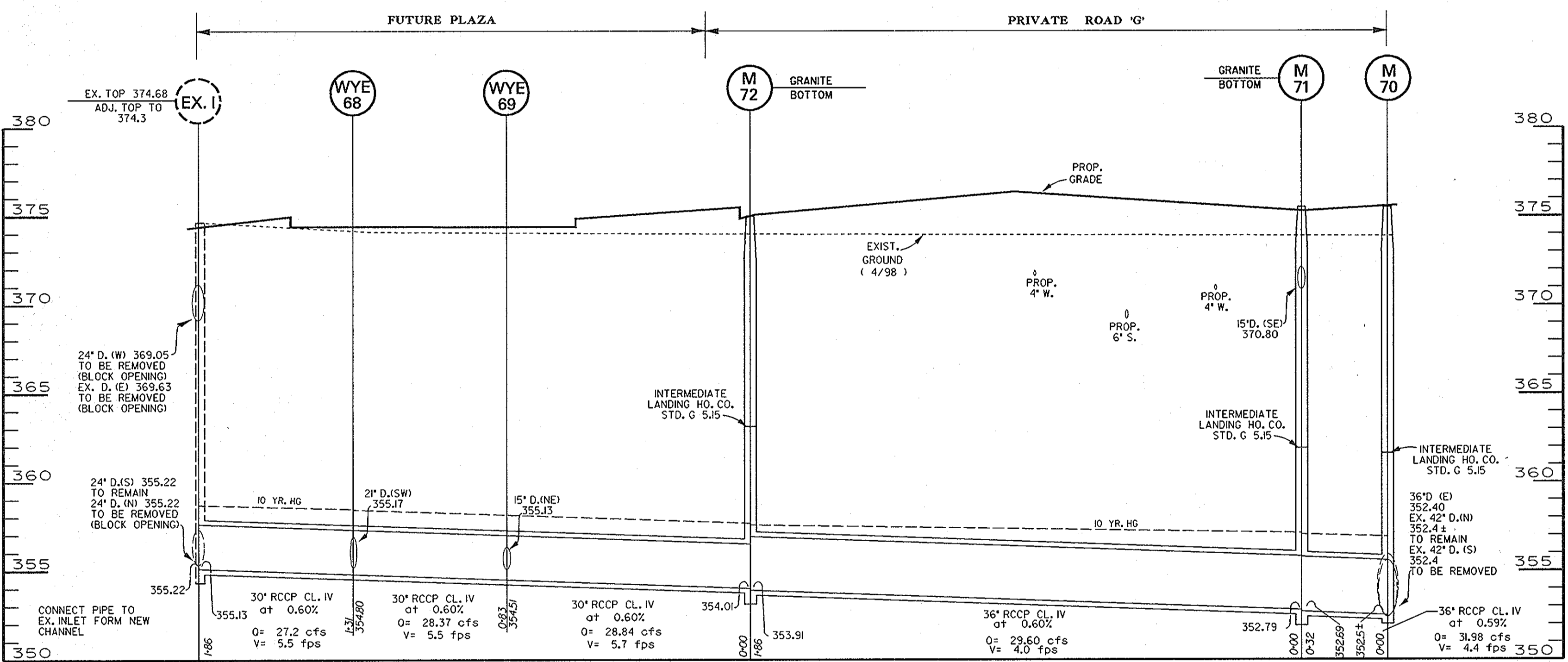
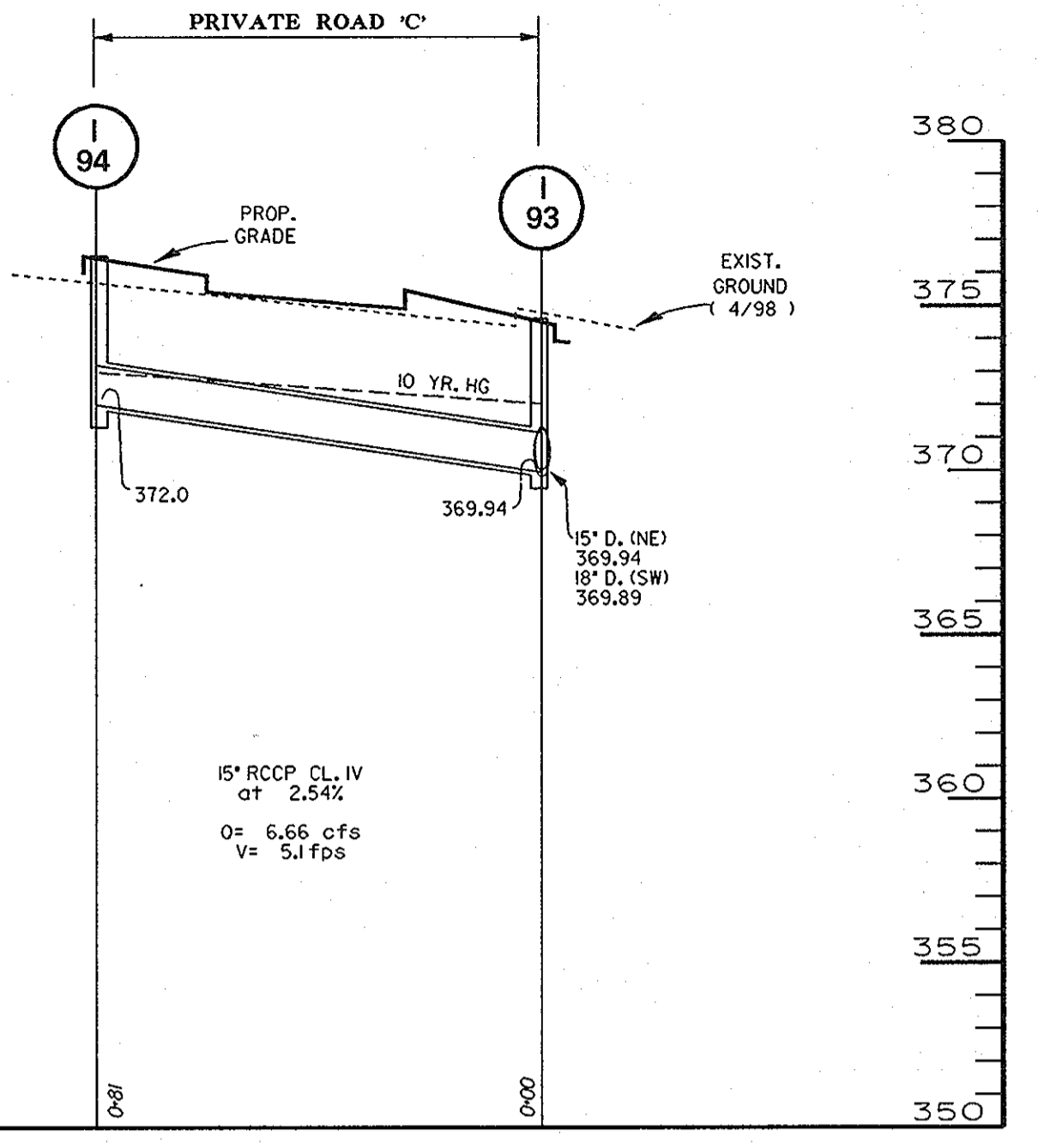
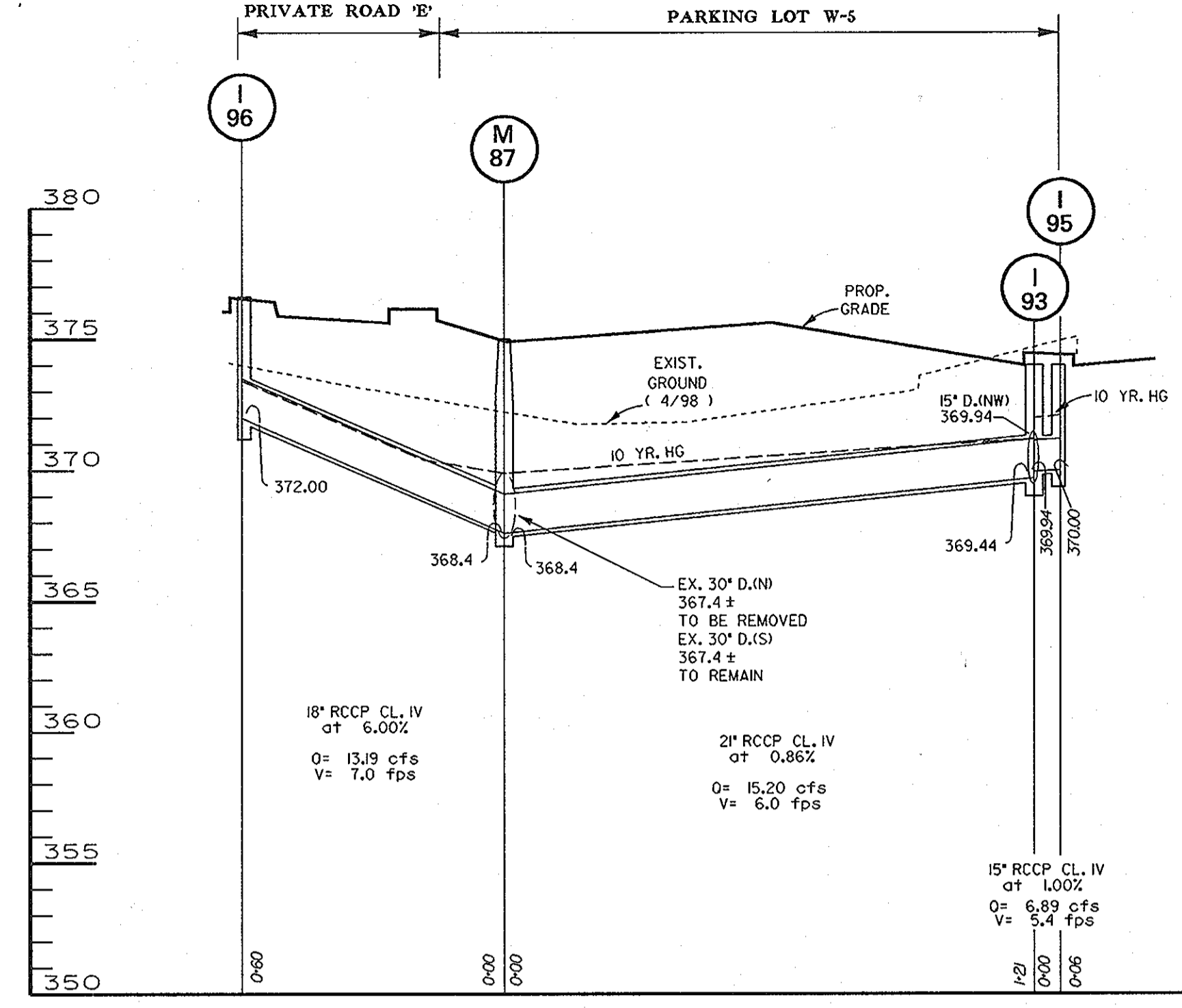
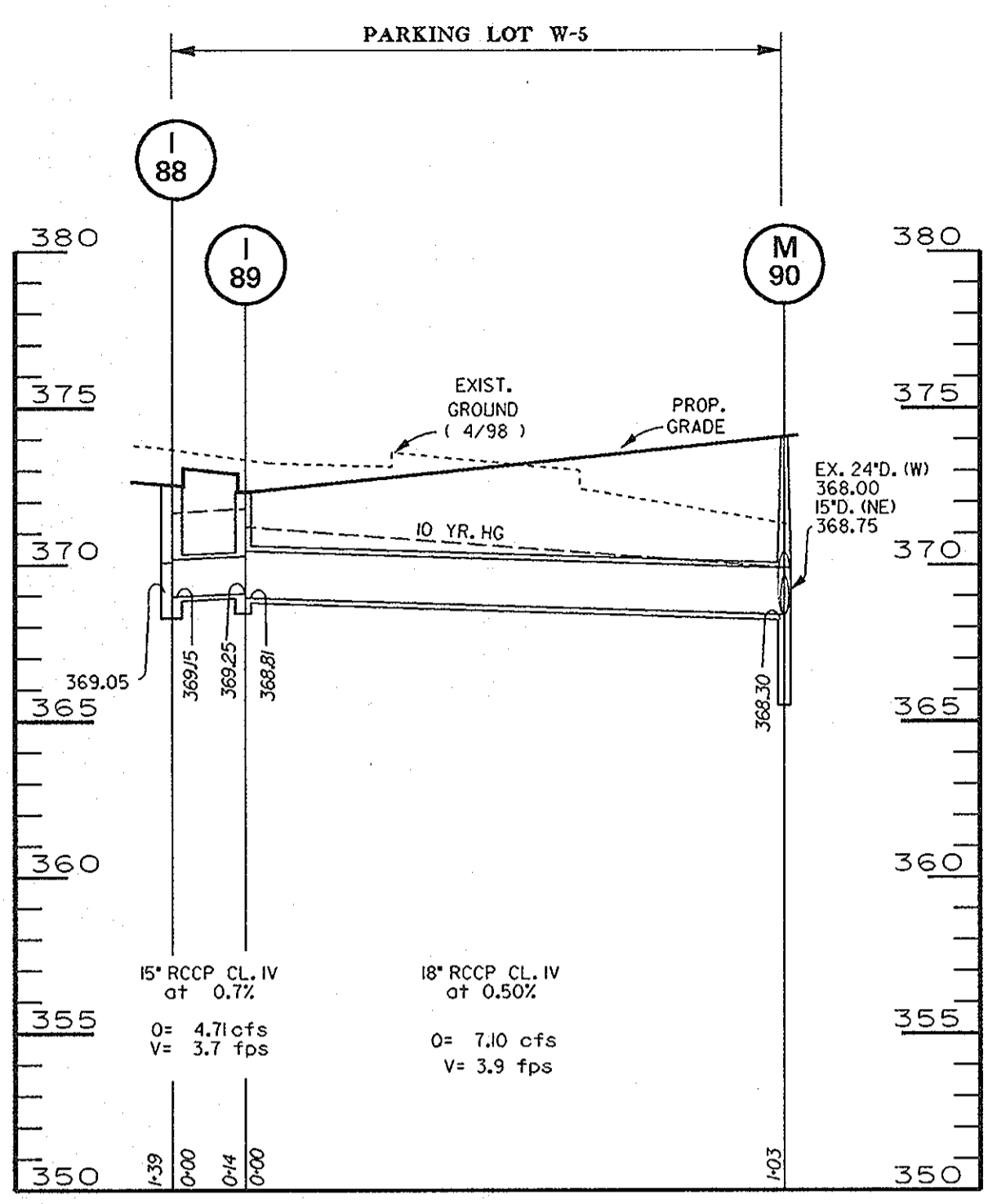
OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Darr McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3339
 Fax 296-4705

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

TITLE
**PHASE III
 STORM DRAIN PROFILES**

Des By	RLH	Scale	HORIZ 1" = 30'	Proj. No.	95019B
Dim By	KDE	Date	7-6-98		
Chk By	JWR	Approved			12 OF 27



SANITARY MANHOLE SCHEDULE

NO.	LOCATION
SMH 60	ROAD 'B' STA.10+60 8' LT.
SMH 60A	ROAD 'B' STA.10+15 7' LT.
SMH 61	ROAD 'B' STA.9+40 6.7' LT.
SMH 62	ROAD 'B' STA.8+97 7.9' LT.
SMH 63	ROAD 'B' STA.8+03 16' LT.
SMH 64	ROAD 'C' STA.0+35 10.5' LT.
SMH 65	ROAD 'C' STA.1+37 10.5' LT.
S-10	ROAD 'B' 16' RT.
S-11	ROAD 'C' 17' RT.
S-12	ROAD 'C' 18' RT.
S-13	ROAD 'C' 17' RT.
S-14	ROAD 'B' STA.9+87 17' LT.
S-15	ROAD 'B' STA.8+73 13' LT.
S-16	ROAD 'B' STA.8+24 13' LT.

1/6/98
Date

Professional Engr. No. 19991

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE July 2, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 7/2/98 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 8/4/98 DATE

DIRECTOR *[Signature]* 8/14/98 DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 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

TITLE
**PHASE III
STORM DRAIN &
SEWER PROFILES**

Des By	RLH	Scale	HORIZ. 1"=30' VERT. 1"=5'	Proj. No.	95019B
Drn By	KDE	Date	7-16-98	13 OF 27	
Chk By	JWR	Approved			

21.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

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

PURPOSE

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

CONDITIONS WHERE PRACTICE APPLIES

- I. This practice is limited to areas having 2:1 or flatter slopes where:
 - a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
 - c. The original soil to be vegetated contains material toxic to plant growth.
 - d. The soil is so acidic that treatment with limestone is not feasible.
- II. 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

I. Topsoil salvages 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 Experimental Station.

II. Topsoil Specifications - Soil to be used as topsoil must meet the following:

- I. 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 a mixture of contrasting textures and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1-1/2" in diameter.
- II. Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutcracker, poison ivy, thistle, or others as specified.

III. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. LIME shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

IV. For sites having disturbed areas under 5 acres:

- I. On soil meeting Topsoil specifications, obtain best results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - a. 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.
 - b. Organic content of topsoil shall be not less than 1.5 percent by weight.
 - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - d. No seed or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.

Notes: 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.

II. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.

V. Topsoil Application

- I. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- II. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4% - 8% higher in elevation.
- III. 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.
- IV. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

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

- I. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
 - a. Composted eludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
 - b. Composted eludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - c. Composted eludge shall be applied at a rate of 1 ton/1,000 square feet.
 - iv. Composted eludge shall be amended with a potassium fertilizer applied at a rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guidelines Specifications, Soil Preparation and Sodding, MD-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

SEQUENCE OF CONSTRUCTION

STAGE 1

1. OBTAIN GRADING PERMIT. (2 DAYS)
2. INSTALL STAGE 1 EROSION AND SEDIMENT CONTROL MEASURES, INCLUDING 30" DRAIN FROM EX. M-3 TO M-77, 24" DRAIN FROM M-77 TO M-89 AND 21" DRAIN FROM RISER TO M-89. ONCE STAGE 1 EROSION AND SEDIMENT CONTROLS ARE OPERATIONAL, AND WITH PERMISSION OF INSPECTOR, REMOVE EXISTING CONTROLS EXCEPT PORTION OF TEMPORARY SWALE USED IN STAGE 1. (21 DAYS)
3. CLEAR SITE DRAINING TO STAGE 1 CONTROLS. (7 DAYS)
4. ROUGH GRADE SITE DRAINING TO STAGE 1 CONTROLS. ADJUST EROSION AND SEDIMENT CONTROLS AS NECESSARY TO MAINTAIN POSITIVE FLOW TO TRAPS. CONSTRUCT UTILITIES AND PROPOSED PARKING GARAGE AND ASSOCIATED ACCESS ROADS. PROVIDE INLETS WITH INLET PROTECTION. (120 DAYS)
5. AFTER STAGE 1 GRADING IS COMPLETE, INSTALL STAGE 2 EROSION AND SEDIMENT CONTROL MEASURES. ONCE STAGE 2 EROSION AND SEDIMENT CONTROLS ARE OPERATIONAL, AND WITH PERMISSION OF INSPECTOR, REMOVE ALL STAGE 1 CONTROLS EXCEPTING TRAP 3.2 AND ITS ASSOCIATED DIKES AND SWALES AND THE TEMPORARY BITUMINOUS BERMS. (21 DAYS)

STAGE 2

1. BEGIN STAGE 2 GRADING OF PROPOSED PARKING LOT AND MALL EXPANSION (21 DAYS).
2. CONSTRUCT STORM DRAINAGE AND INSTALL INLET PROTECTION. (30 DAYS)
3. CONSTRUCT WATER, SEWER, AND UTILITIES. (30 DAYS)
4. FINE GRADE AND CONSTRUCT PROPOSED PARKING LOTS AND MALL EXPANSION. (120 DAYS)
5. FLUSH STORM DRAIN SYSTEM. (1 DAY)
6. UPON APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE EROSION AND SEDIMENT CONTROL MEASURES AND STABILIZE. (7 DAYS)

* CONTRACTOR TO BLOCK ALL UNCONNECTED & UNPROTECTED STORM DRAINS FROM RUNOFF AT ALL TIMES AND BRICK SHUT ALL ROOF DRAIN CONNECTIONS (RD).

STORM DRAIN ABANDONMENT

1. IF PIPE IS TO BE LEFT IN PLACE:

- a) PLACE ANY DISTURBED SOIL ON UPSTREAM SIDE OF TRENCH
- b) BULKHEAD AND GROUT PIPES
- c) REFILL TRENCH & STABILIZE

2. IF PIPE IS TO BE MOVED:

- a) ONLY DISTURB AREA WHICH CAN BE STABILIZED AT END OF EACH DAY.
- b) PLACE ANY DISTURBED SOIL ON UPSTREAM SIDE OF TRENCH
- c) REMOVE PIPE
- d) BACKFILL & STABILIZE

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 of a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I also authorize periodic site inspection by the Howard Soil Conservation District."

Frank C. Ziesler 7-17-98 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. Ranuech, S.E. 7/16/98 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

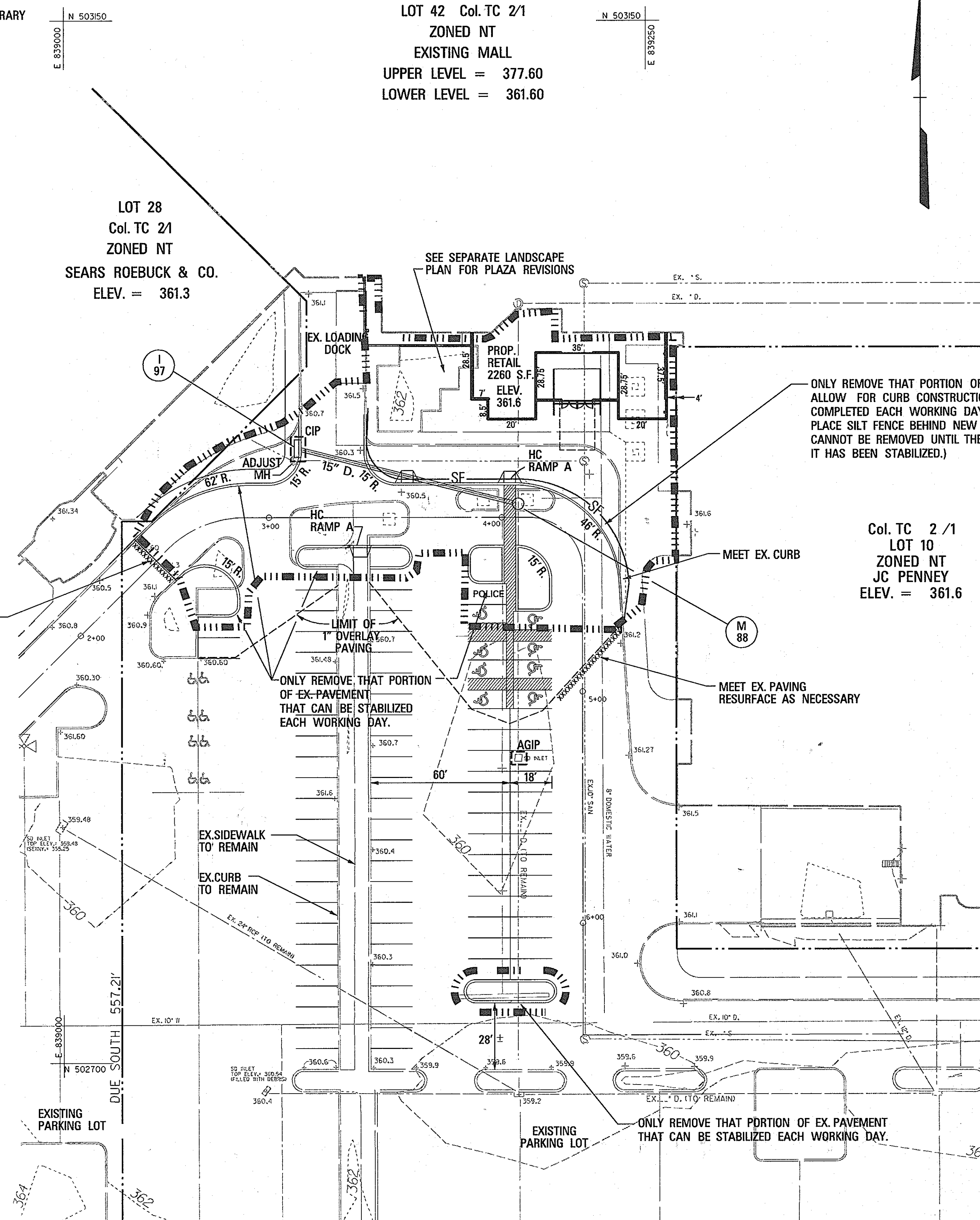
Cheryl Simon 7/20/98 Date
Natural Resources Conservation Service

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

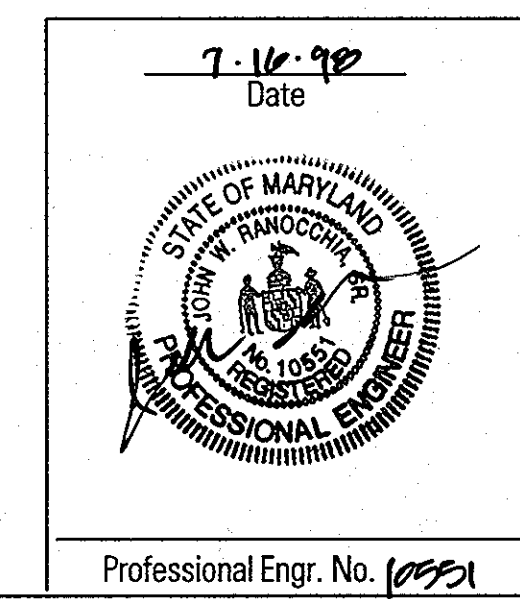
John W. Ranuech 7/20/98 Date
Howard Soil Conservation District

LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- 6" STANDARD COMB. C&G
- CONC. LIGHT POLE ISLAND
- CONCRETE
- INLET PROTECTION
- LIMIT OF DISTURBANCE
- EARTH DIKE
- TEMPORARY SWALE
- SILT FENCE



SOUTH MALL ENTRANCE



APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE July 2, 1998

APPROVED:	HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>Julie V. Kelly</i> / DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>Charles Hamilton</i> / DATE
DIRECTOR	<i>William J. Smith</i> / DATE

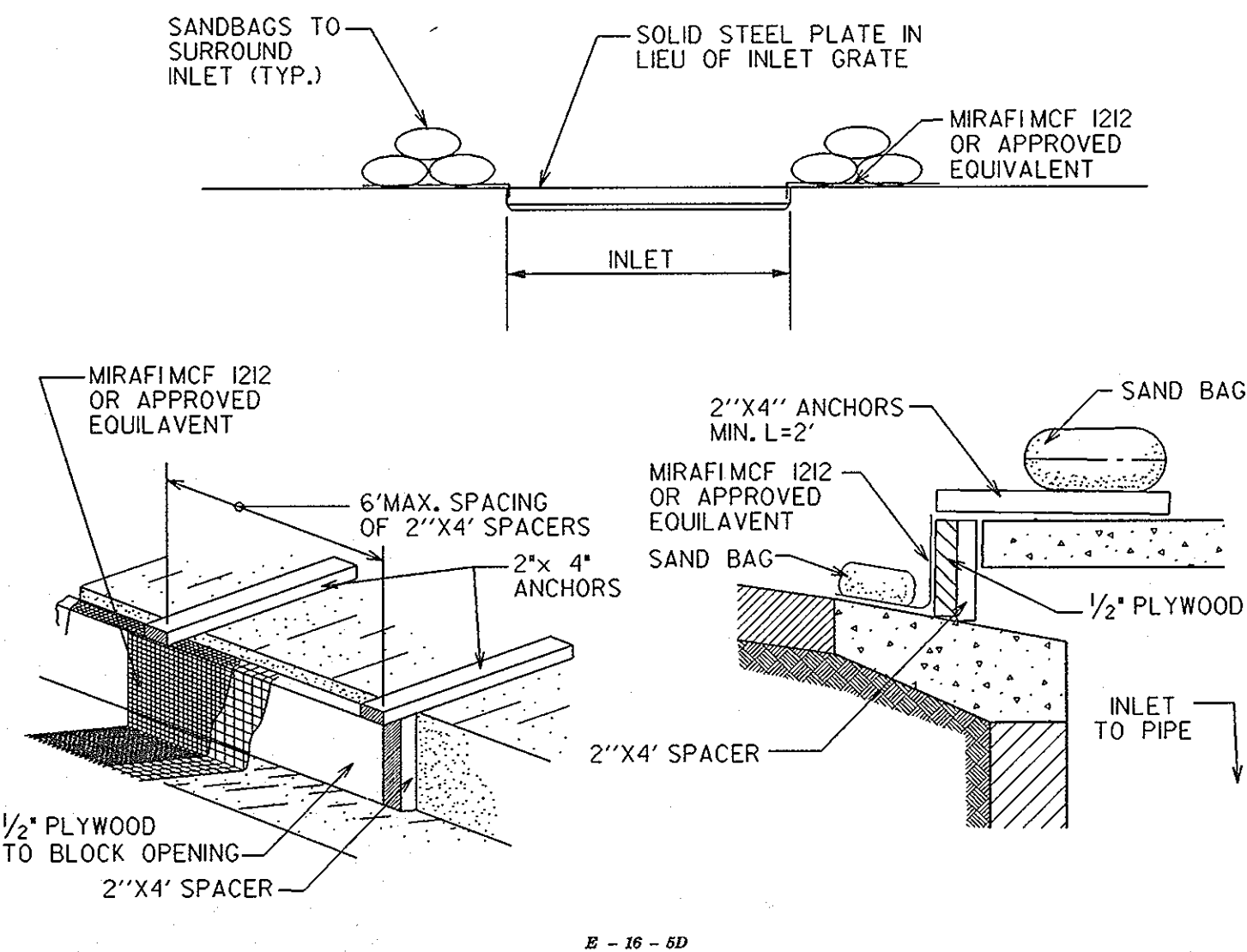
Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 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

TITLE	PHASE III EROSION & SEDIMENT CONTROL PLAN (SOUTH ENTRANCE)		
Des By	MJP	Scale	1" = 30'
Drn By	KDE	Date	7-6-98
Chk By	JWR	Approved	18 OF 27



INLET CAPPING /BLOCKING DETAIL

Table 28 Stone Size

NUMBER	SIZE RANGE	D ₅₀	D ₁₀₀	AASHTO	WEIGHT
NUMBER 57*	3/8" - 1/2"	1/2"	1/2"	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	9.5"	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 ever small rip-rap is required. The State Highway Administration designation for this stone is Stone For Gabions (905.0L04)

Stone For Gabion Baskets

BASKET THICKNESS		SIZE OF INDIVIDUAL STONES	
INCHES	MM	INCHES	MM
6	150	3 - 5	75 - 125
9	225	4 - 7	100 - 175
12	300	4 - 7	100 - 175
18	460	4 - 7	100 - 175
36	910	4 - 12	100 - 300

NOTE: Recycled concrete equivalent may be substituted for all stone classifications. Recycled concrete 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.

MATERIALS SPECIFICATIONS H - 24 - 1

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 ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SO.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SO.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 SO.FT.)
- ACCEPTABLE - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SO.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SO.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 SO.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 SO.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SO.FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATIONS USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GAL/1000 SO.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SO.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 SO.FT.)

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 15 OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SO.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SO.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1-1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SO.FT.) OF UNROTTED WEEF SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL/1000 SO.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL/1000 SO.FT.) FOR ANCHORING.

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

PERMANENT SEEDING NOTES

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 right angles to prevailing currents of air 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 re-treatment.

- 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.
 - Topsolling - Covering with less erosive soil materials. See standards for topsolling.
 - 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

Table 27 Geotextile Fabrics

CLASS	APPARENT OPENING SIZE MM. MAX.	GRAB TENSILE STRENGTH LB. MIN.	BURST STRENGTH PSI. 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

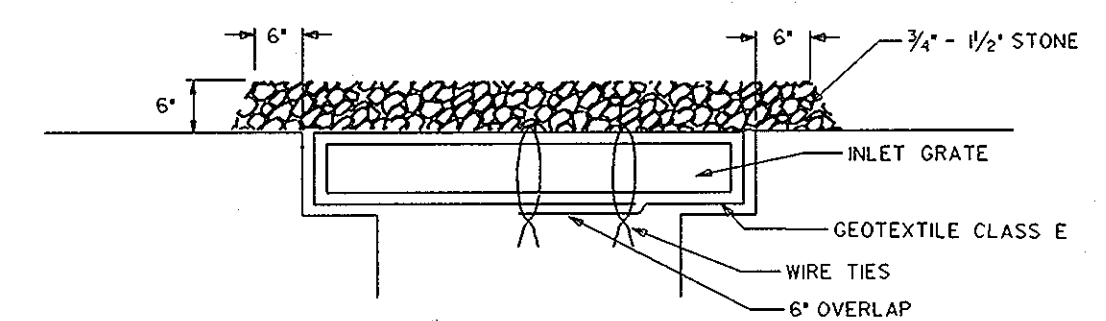
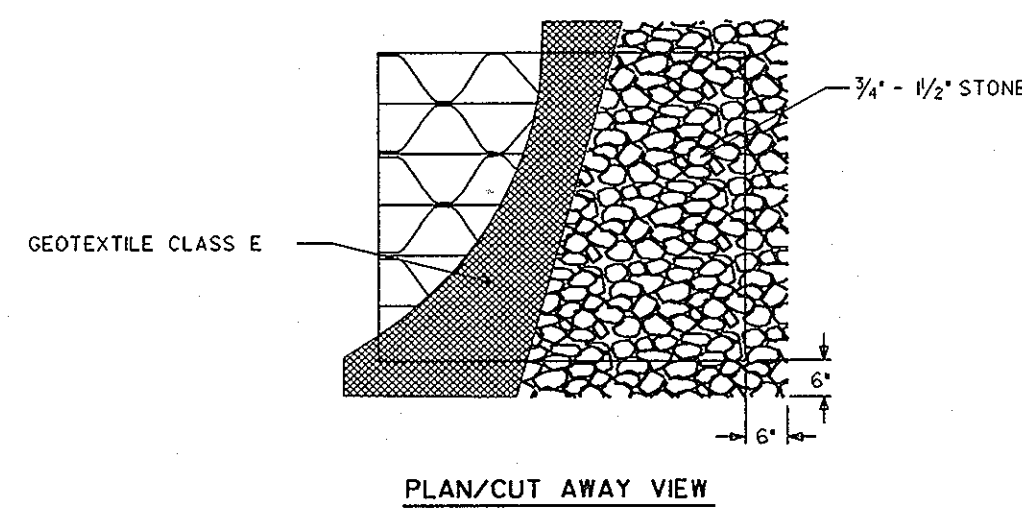
* US Std. Sieve CW-02215 ** .50 mm max. for Super Silt Fence

The properties shall be determined in accordance with the following procedures:
 - Apparent opening size MSMT 323
 - Grab tensile strength ASTM 1682; 4x8" specimen, 1x2" 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 polyolefins, polyesters, or polyamides. 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 20 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.



STANDARD SYMBOL
AGIP

CROSS SECTION

Construction Specifications

- Lift grate and wrap with Geotextile Class E to completely cover all openings. Then set grate back in place.
- Place 3/4" to 1/2" stone, 4'-6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 16 - 6A

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

AT GRADE INLET PROTECTION

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 of a Department of the Environment Approved Training Program for the Control of Sediment and Erosion before beginning the project. I/We authorize periodic on-site inspection by the Howard Soil Conservation District."

Fernando Ziegler 7-17-92 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 V. Rancuch, Jr. 7/16/92 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.
Cheryl S. Jones 7/20/92 Date
 Natural Resources Conservation Service

This Development Plan is Approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.
John V. Rancuch, Jr. 7/20/92 Date
 Howard Soil Conservation District

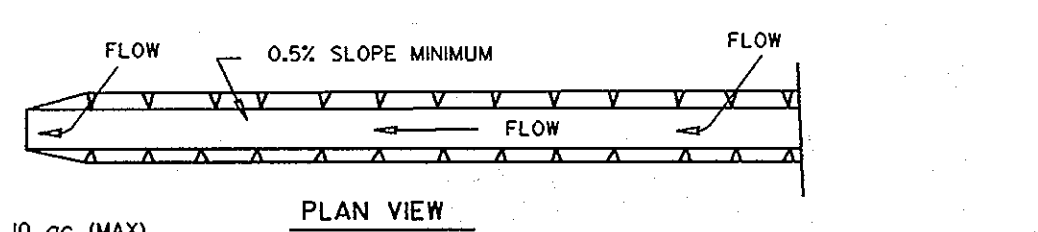
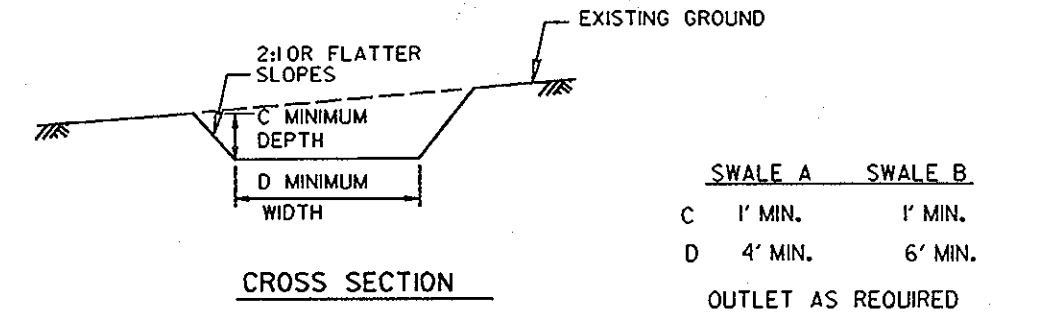
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

A - 2 - 4

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

TEMPORARY SWALE

NOT TO SCALE



PLAN VIEW

DRAINAGE AREA = 10 ac (MAX)
SLOPE = 10% (MAX)

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

STANDARD SYMBOL
A - 2 / B - 3

- Seed and cover with straw mulch.
- Seed and cover with Erosion Control Matting or line with sod.
- 4"-7" stone or recycled concrete equivalent pressed into soil in a minimum 7" layer.

Construction Specifications

- All temporary swales 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 objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the swale.
- The swale 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, if necessary, 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 swale.
- Inspection and maintenance must be provided periodically and after each rain event.

APPROVED PLANNING BOARD OF HOWARD COUNTY

DATE July 2, 1998

[Signature] RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 7/16/92 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] 8/11/98 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] 8/11/98 DATE
 DIRECTOR

THE MALL IN COLUMBIA
 PHASE III EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1
 HOWARD COUNTY, MD
 LOTS 23, 29, 42, 44
 OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Draft: McCune-Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3238
 Fax 296-4705
 A Team of Land Planners,
 Landscape Architects,
 Engineers, Surveyors &
 Environmental Professionals

7/16/98 Date
 Professional Engr. No. 12291

PHASE III EROSION & SEDIMENT CONTROL DETAIL SHEET

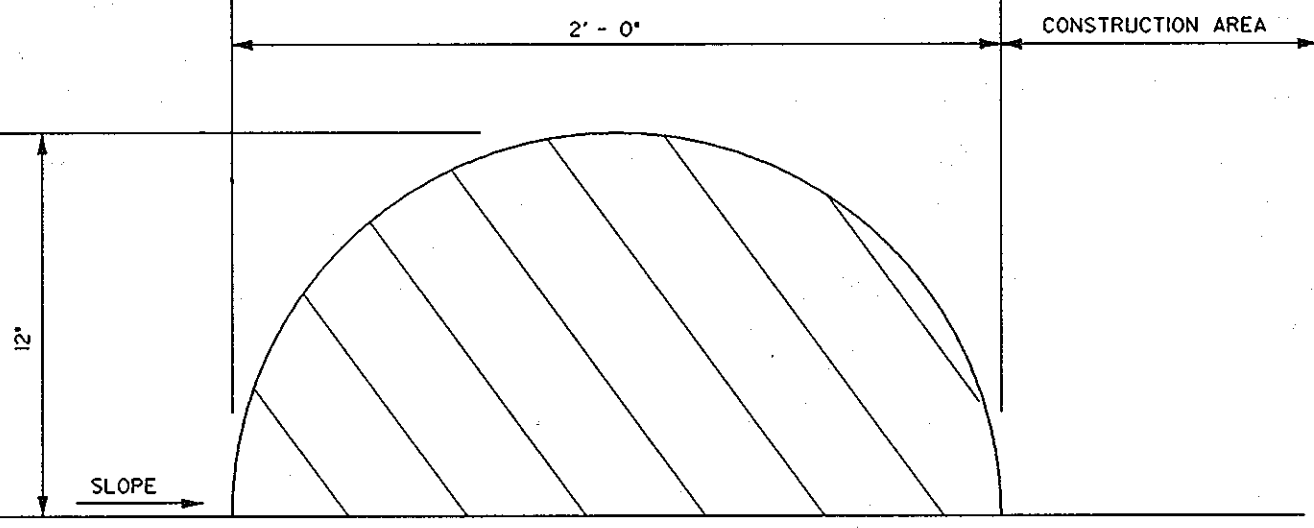
Des By CRW/JLS Scale AS SHOWN Proj. No. 950198
 Dm By FJZ Date 7-16-98
 Chk By JWR Approved 19 OF 27

SEDIMENT CONTROL GENERAL NOTES

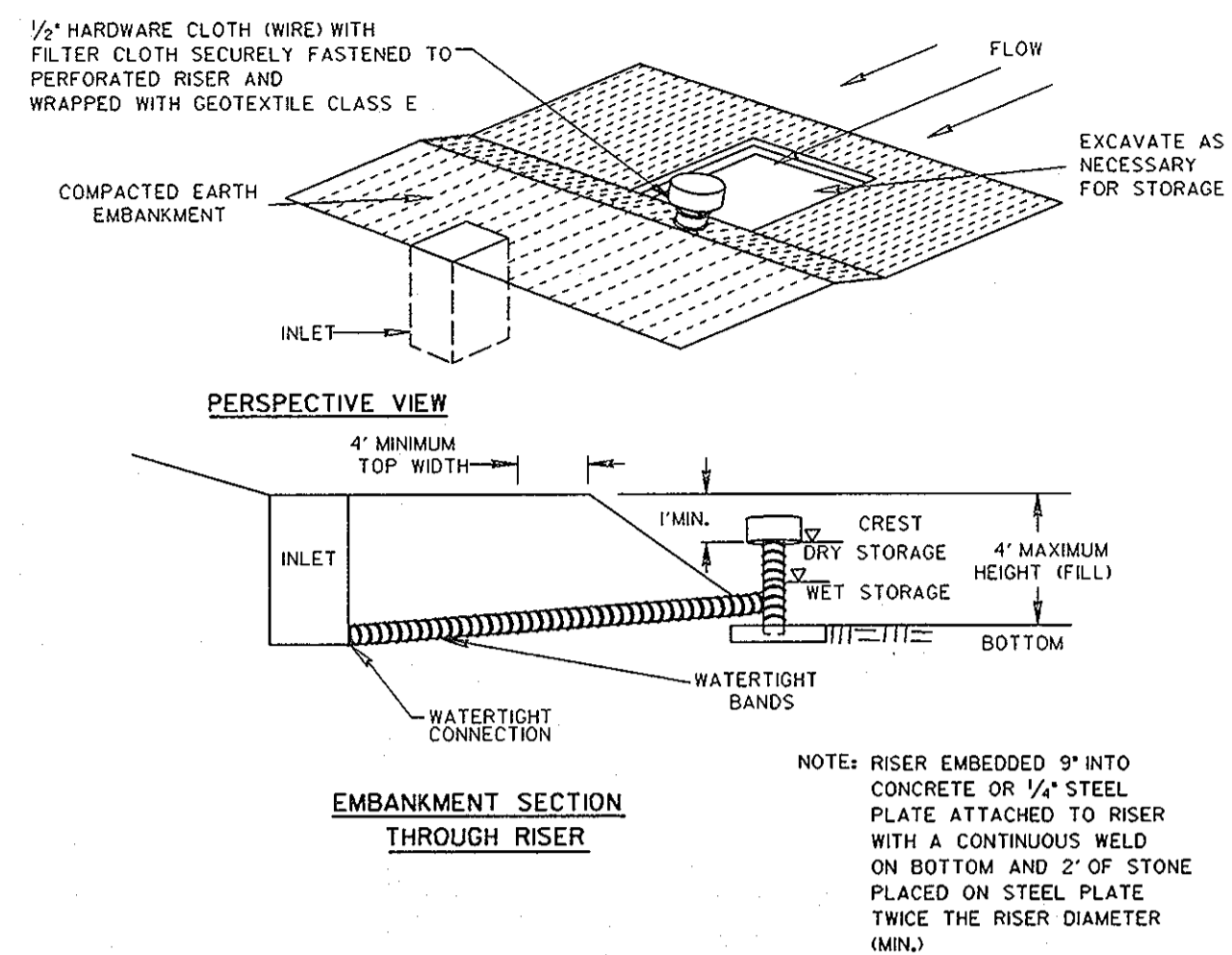
* SITE PREVIOUSLY MASS GRADED PER SDP 97-107 & SDP 97-158 & 98-44 EXCESS MATERIAL SHALL BE HAULED TO AN APPROVED SITE WITH A CURRENT GRADING PERMIT. NO TEMP. SWM IS REQUIRED. PERMANENT SWM IN PLACE AS PER SDP-97-107.

UTILITY CONSTRUCTION OUTSIDE SEDIMENT CONTROL

- 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 SODDED 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.



BITUMINOUS CURB DIVERSION

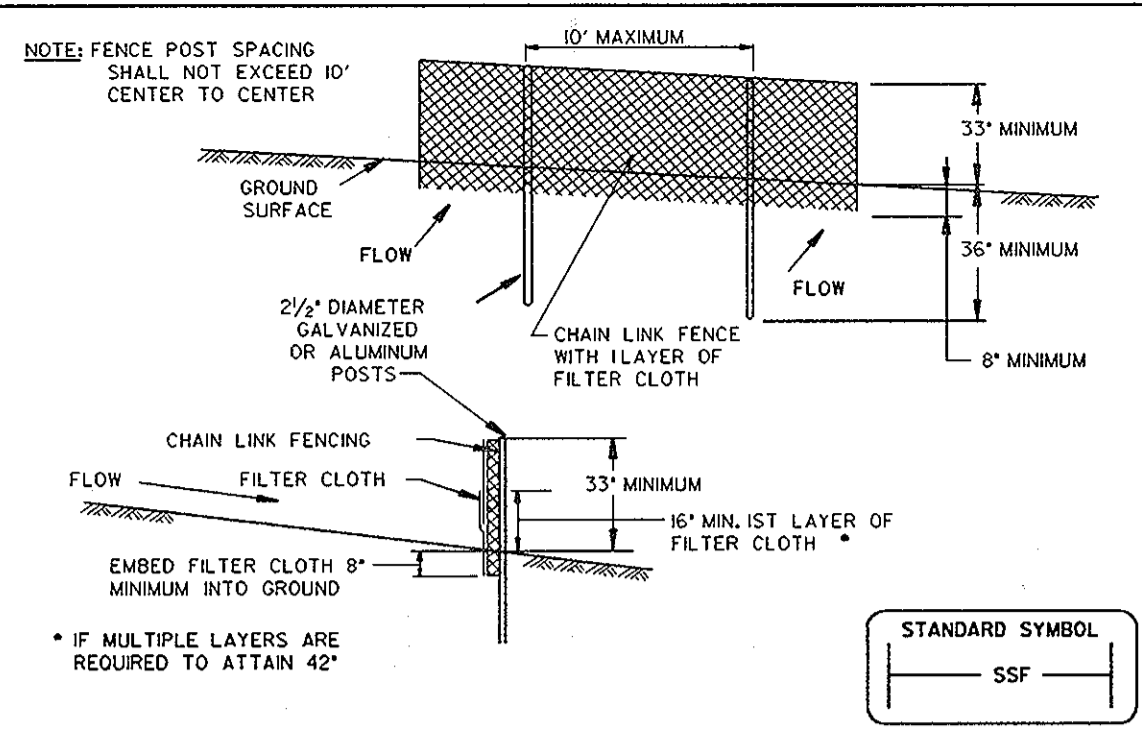


U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-7
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
PIPE OUTLET SEDIMENT TRAP - ST 1

Construction Specifications

- The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
- The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
- The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be $\geq 1'$ above the riser crest elevation.
- Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (300cf/acre). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.
- The structure shall be inspected periodically and after each rain and repairs made as necessary.
- Construction operations shall be carried out in such a manner that erosion and water pollution are abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentrated inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized one time with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
- The structure shall be removed and area stabilized when the drainage area has been properly stabilized.
- All cut and fill slopes shall be 2:1 or flatter.
- Pipe connections shall be watertight.
- Above the wet storage elevation, the riser shall be perforated with 1/2" wide by 6" long slits or 1" diameter holes spaced 6" vertically and horizontally. No perforations will be allowed within 6" of the horizontal barrel.
- The riser shall be wrapped with 1/2" hardware cloth, wire then wrapped with Geotextile Class E. The filter cloth shall extend 6" above the highest slit and 6" below the lowest slit. Where ends of filter cloth come together, they shall be overlapped, folded and fastened to prevent bypass. Filter cloth shall be replaced as necessary to prevent clogging.
- Straps or connecting bands shall be used to hold the filter cloth and wire fabric in place. They shall be placed at the top and bottom of the cloth.
- Filter material around the pipe spillway shall be hand compacted in 2" layers. A minimum of 2" of hand-compacted backfill shall be placed over the pipe spillway before crossing it with construction equipment.
- The riser shall be anchored with either a concrete base or steelplate base to prevent flotation. Concrete bases shall be at least twice the riser diameter and 12" deep with the riser embedded 9". Steelplate bases shall be at least twice the riser diameter, 1/4" minimum thickness and attached to the bottom of the riser by a continuous weld to form a watertight connection. Then place 2" of stone, gravel or tamped earth on the plate.
- Concentric trash rack and anti-vortex device design details are on Detail C-10-26 and C-10-26A.
- Refer to Section D for dewatering requirements of sediment traps.
- Outlet - An outlet shall be provided, which includes a means of conveying the discharge in an erosion free manner to an existing stable channel.
- Where discharge occurs at the property line, local ordinances and drainage easement requirements shall be met.

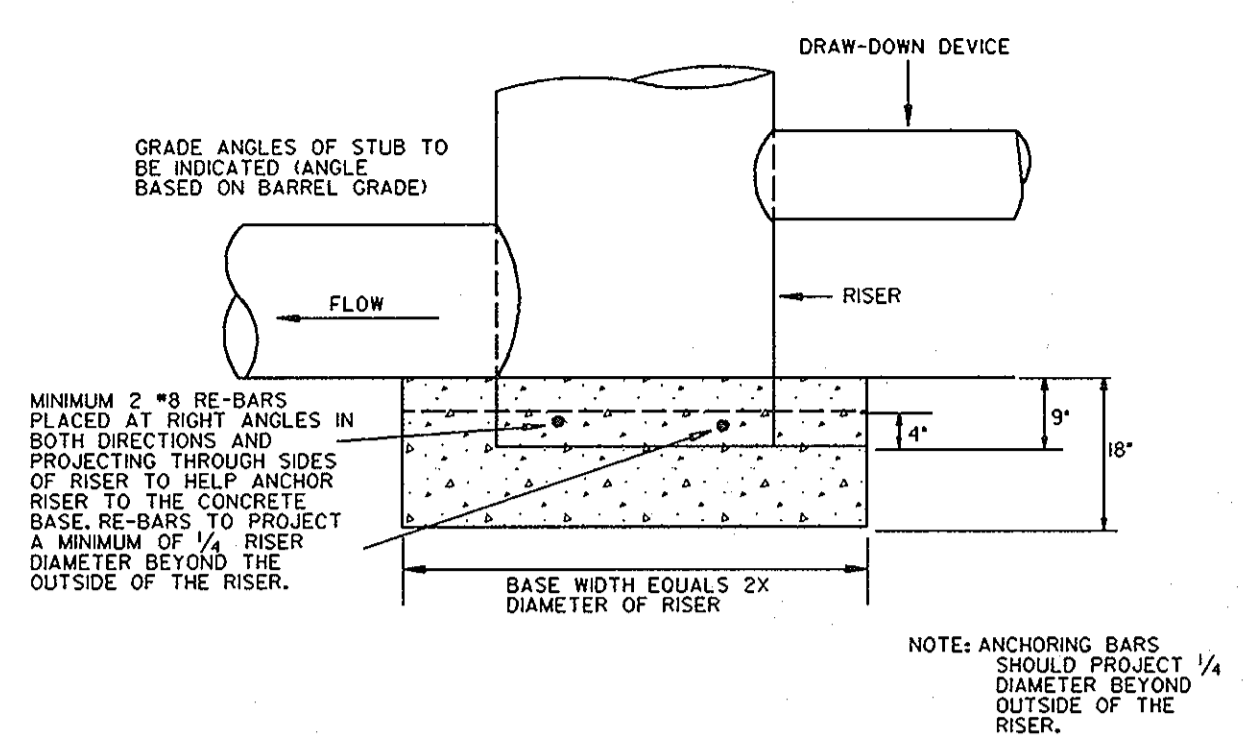
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-7A
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
PIPE OUTLET SEDIMENT TRAP - ST 1 NOT TO SCALE



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 slit bulkups removed when 'bulges' develop in the slit fence, or when slit reaches 50% of fence height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE H-26-3
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
SUPER SILT FENCE NOT TO SCALE



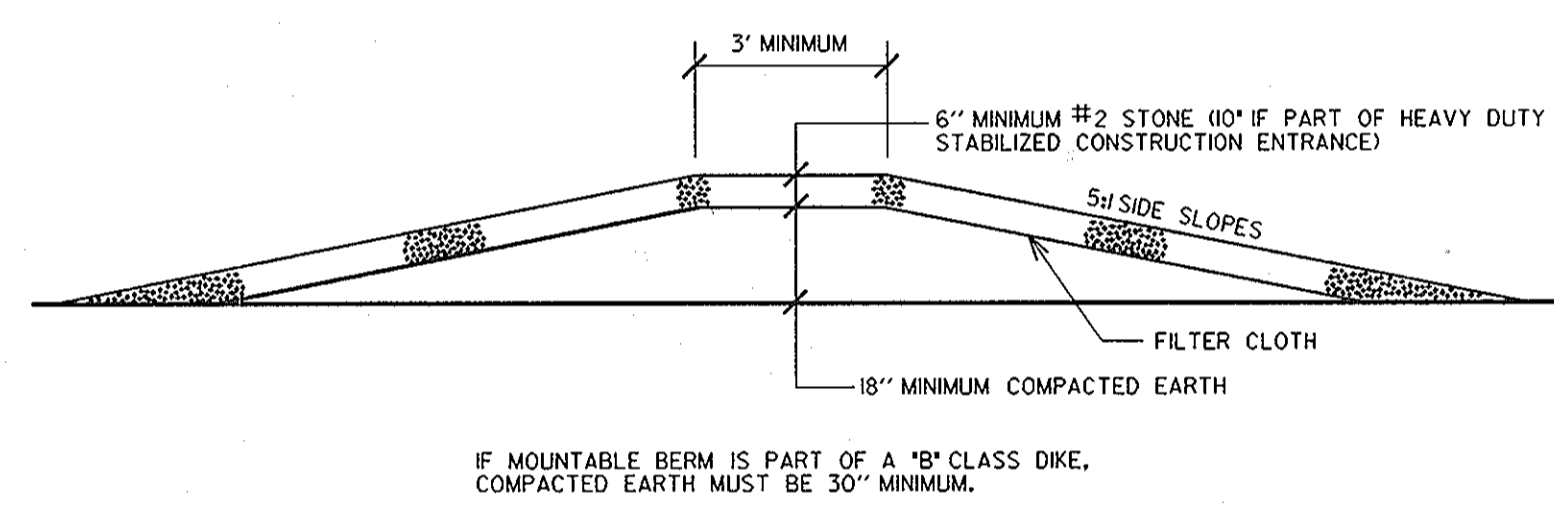
Construction Specifications

The riser shall have a base attached with a watertight connection and shall have sufficient weight to prevent flotation of the riser. Two approved bases for risers 10' or less in height are:

- A concrete base 18" thick with the riser embedded 9" in the base.
- A 1/4" minimum thickness steelplate attached to the riser by a continuous weld around the circumference of the riser to form a watertight connection. The plate shall have 2" of stone, gravel or compacted earth placed on it to prevent flotation. In either case, each side of the square base shall be twice the riser diameter.

Note: For risers greater than ten feet high computations shall be made to design a base which will prevent flotation. The minimum factor of safety shall be 1.20 (downward forces = 1.20 x upward forces).

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-26
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
RISER BASE DETAIL



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-9-7A
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
PIPE OUTLET SEDIMENT TRAP - ST 1 NOT TO SCALE

DEVELOPERS CERTIFICATION:

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

Francis W. Ziegler 7-17-98 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. Ramechka Sr. 7/16/98 Date

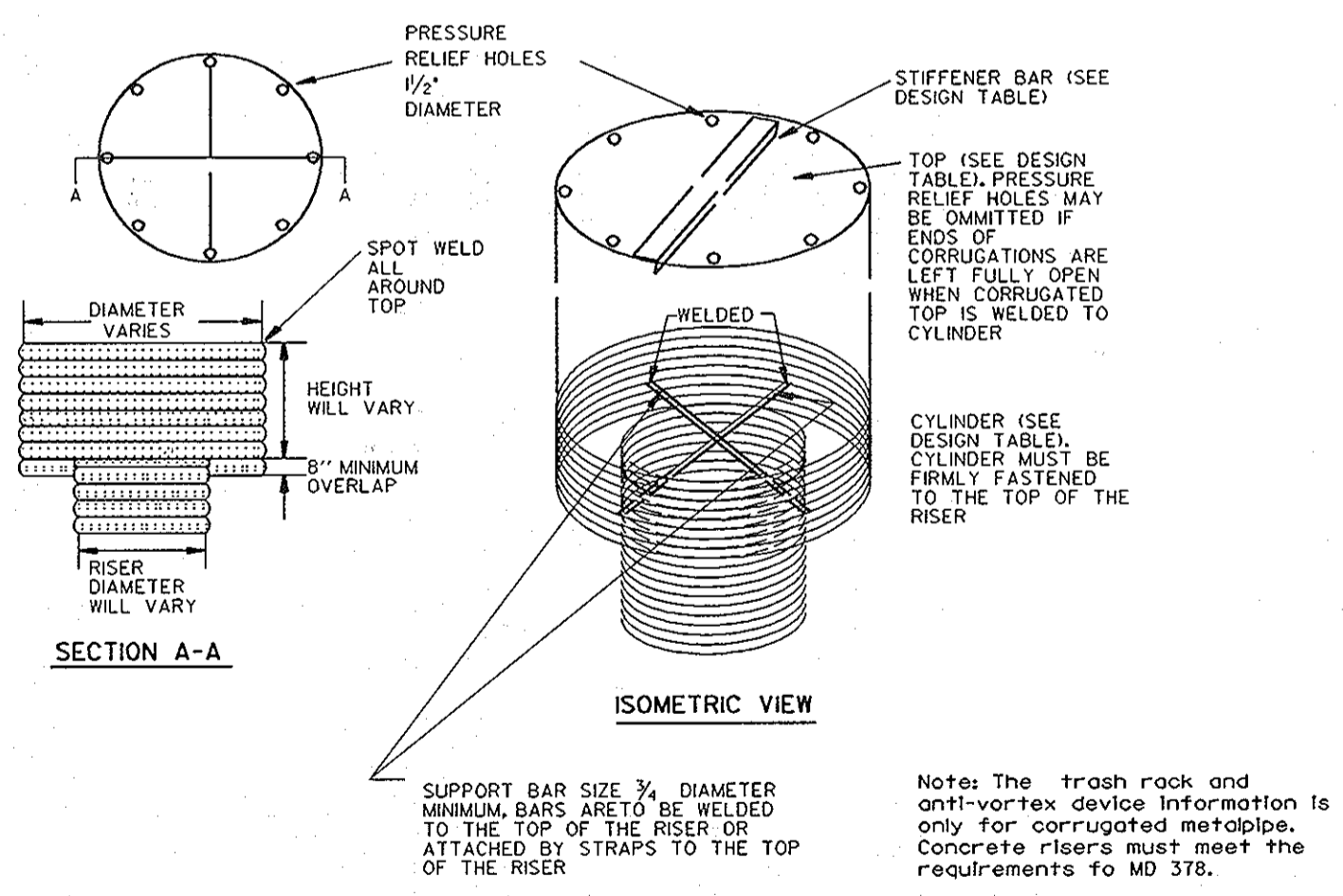
Reviewed for Howard Soil Conservation District and meets Technical Requirements.

Carol Siam 7/20/98 Date
 Natural Resources Conservation Service

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

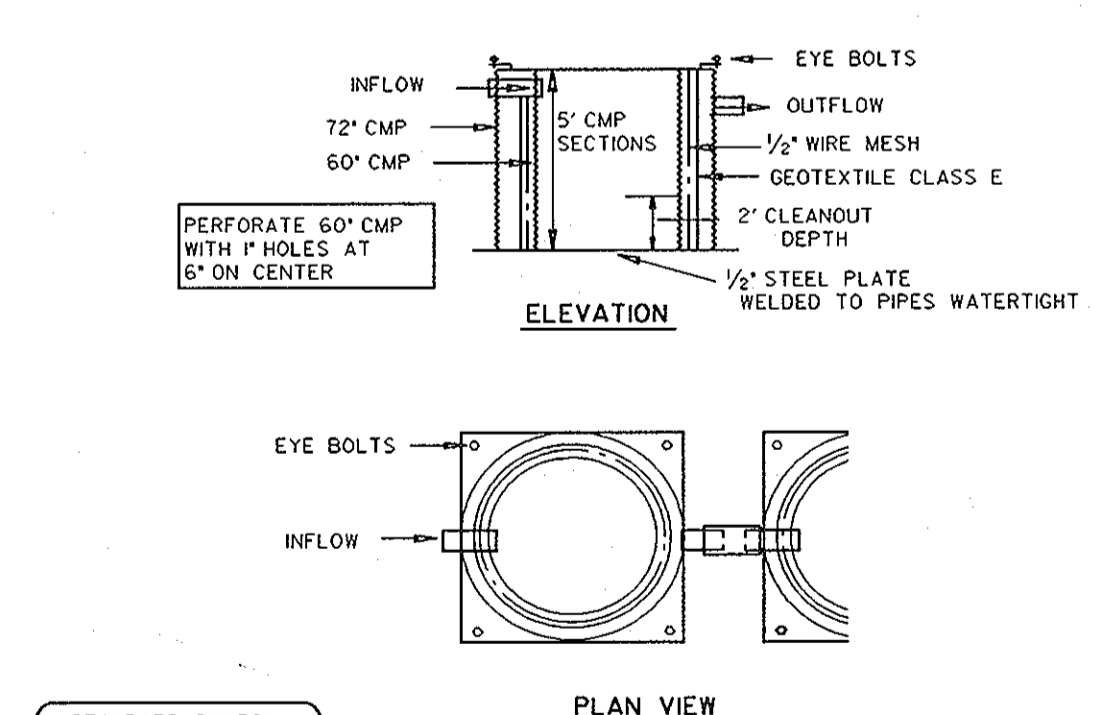
John W. Ramechka Sr. 7/29/98 Date
 Howard Soil Conservation District

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE July 2, 1998
 RB



Riser Diam., In.	Trash Rack Cylinder Diam., In.	Trash Rack Cylinder Thick., In.	H., In.	Minimum Size Support Bar	Minimum Top Thickness	Stiffener
12	18	16	6	#6 Rebar	16 ga.	--
15	21	16	7	"	"	--
18	27	16	8	"	"	--
21	30	16	11	"	"	--
24	36	16	13	"	14 ga.	--
27	42	16	15	"	14 ga.	--
36	54	14	17	#8 Rebar	12 ga.	--
42	60	14	19	"	"	--
48	72	12	21	1-1/4" pipe or 1-1/4" x 1/4" angle	10 ga.	--
54	78	12	25	"	"	--
60	90	12	29	1-1/2" pipe or 1-1/2" x 1/4" angle	8 ga.	--
66	96	10	33	2" pipe or 2x2x3/16 angle	8 ga.	2x2x1/4 angle w/stiffener
72	102	10	36	"	"	2-1/2x2-1/2x1/4 angle
78	114	10	39	2-1/2" pipe or 2x2x1/4 angle	"	"
84	120	10	42	2-1/2" pipe or 2-1/2x2-1/2x1/4 angle	"	"

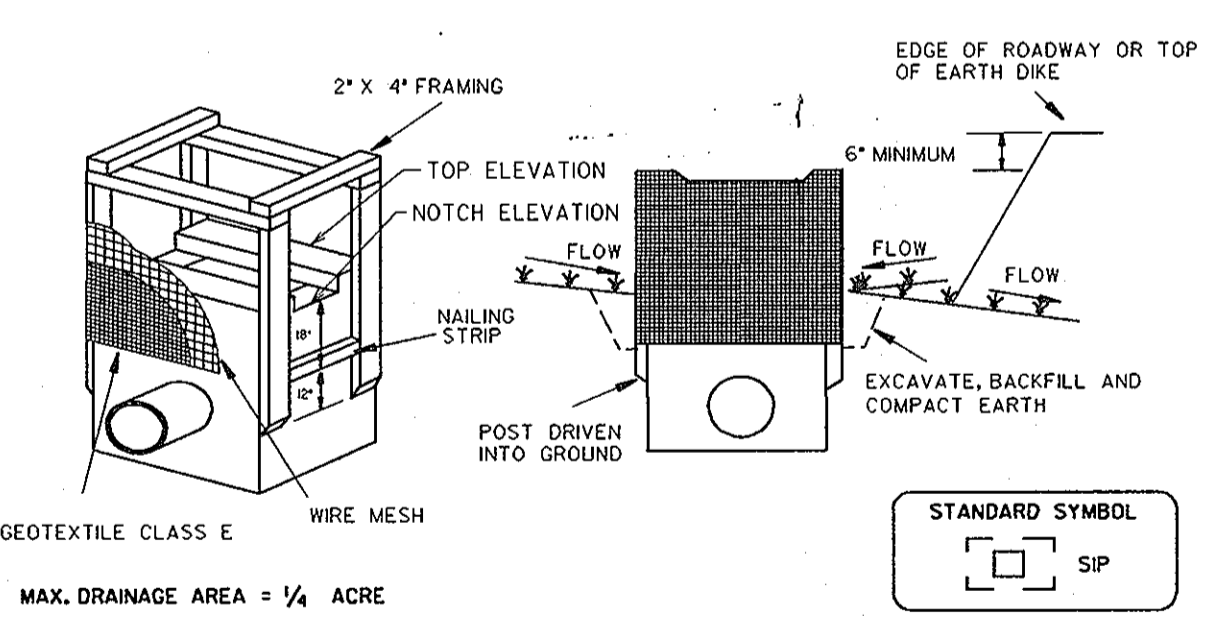
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE C-10-26
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
CONCENTRIC TRASH RACK AND ANTI-VORTEX DEVICE NOT TO SCALE



Construction Specifications

- The following formula should be used in determining the storage volume of the sediment tank: cubic foot of storage for each gallon per minute of pump discharge capacity.
- An example of a typical sediment tank is shown above. Other container designs can be used if the storage volume is adequate and approvals obtained from the local approving agency.
- Tanks may be connected in series.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE D-14-2
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
PORTABLE SEDIMENT TANK



Construction Specifications

- Excavate completely around the inlet to a depth of 18" below the notch elevation.
- Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nailstrips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on detail. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.
- Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.
- Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.
- Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.
- If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.
- The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE E-16-5
 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION
STANDARD INLET PROTECTION NOT TO SCALE

7-16-98 Date
 Professional Engr. No. 10591
 SDP-98-124

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *Carol Siam* 7/20/98 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT *John W. Ramechka Sr.* 7/29/98 DATE
 DIRECTOR *John W. Ramechka Sr.* 8/14/98 DATE

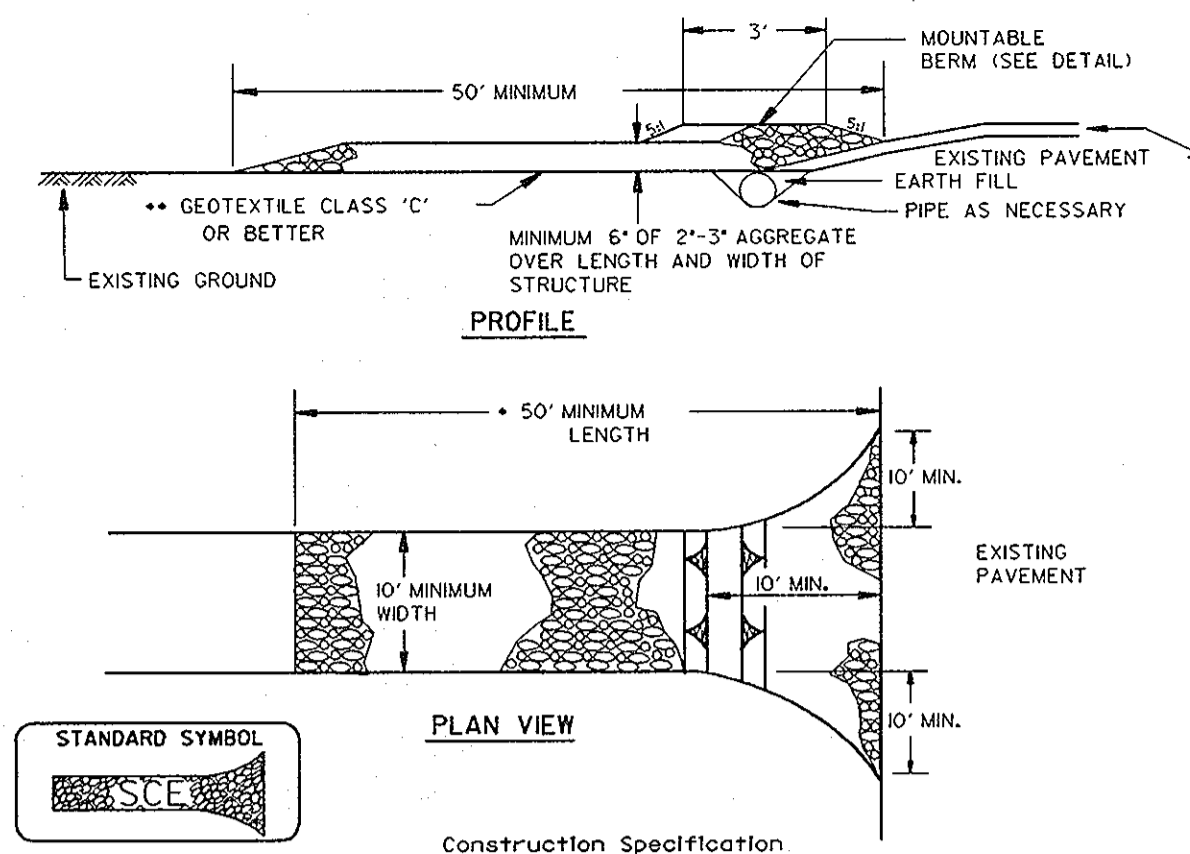
THE MALL IN COLUMBIA
 PHASE III EXPANSION
 TOWN CENTER
 SECTION 2 AREA 1
 HOWARD COUNTY, MD
 LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Dan 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

TITLE
**PHASE III
 EROSION & SEDIMENT CONTROL
 DETAIL SHEET**

Des By CRWJLS Scale AS SHOWN Proj. No. 95019B
 Dwn By FJZ Date 7-46-98
 Chk By JWR Approved
20 OF 27



- Construction Specifications
- 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 equivalent 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.

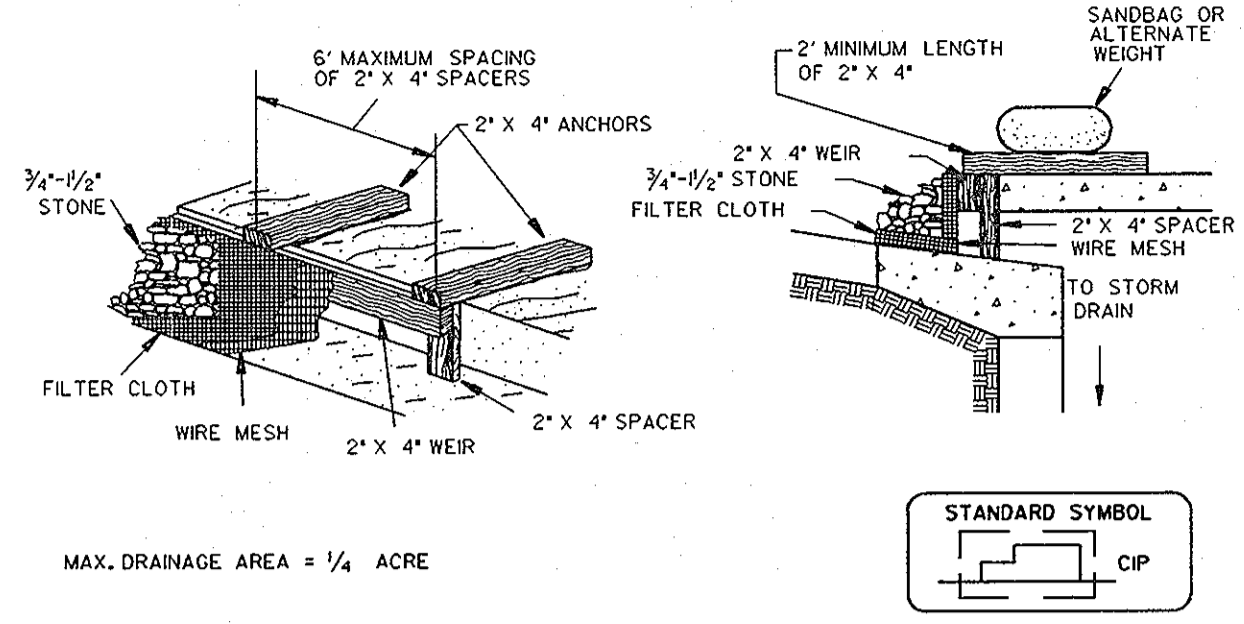
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

F - 17 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

STABILIZED CONSTRUCTION ENTRANCE

NOT TO SCALE



- Construction Specifications
- MAX. DRAINAGE AREA = 1/4 ACRE
- Attach a continuous piece of 1/2" x 1/2" wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.
 - Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
 - Securely nail the 2" x 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4" apart).
 - Place the assembly against the inlet throat and nail minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations. These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.
 - The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.
 - Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.
 - This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
 - Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

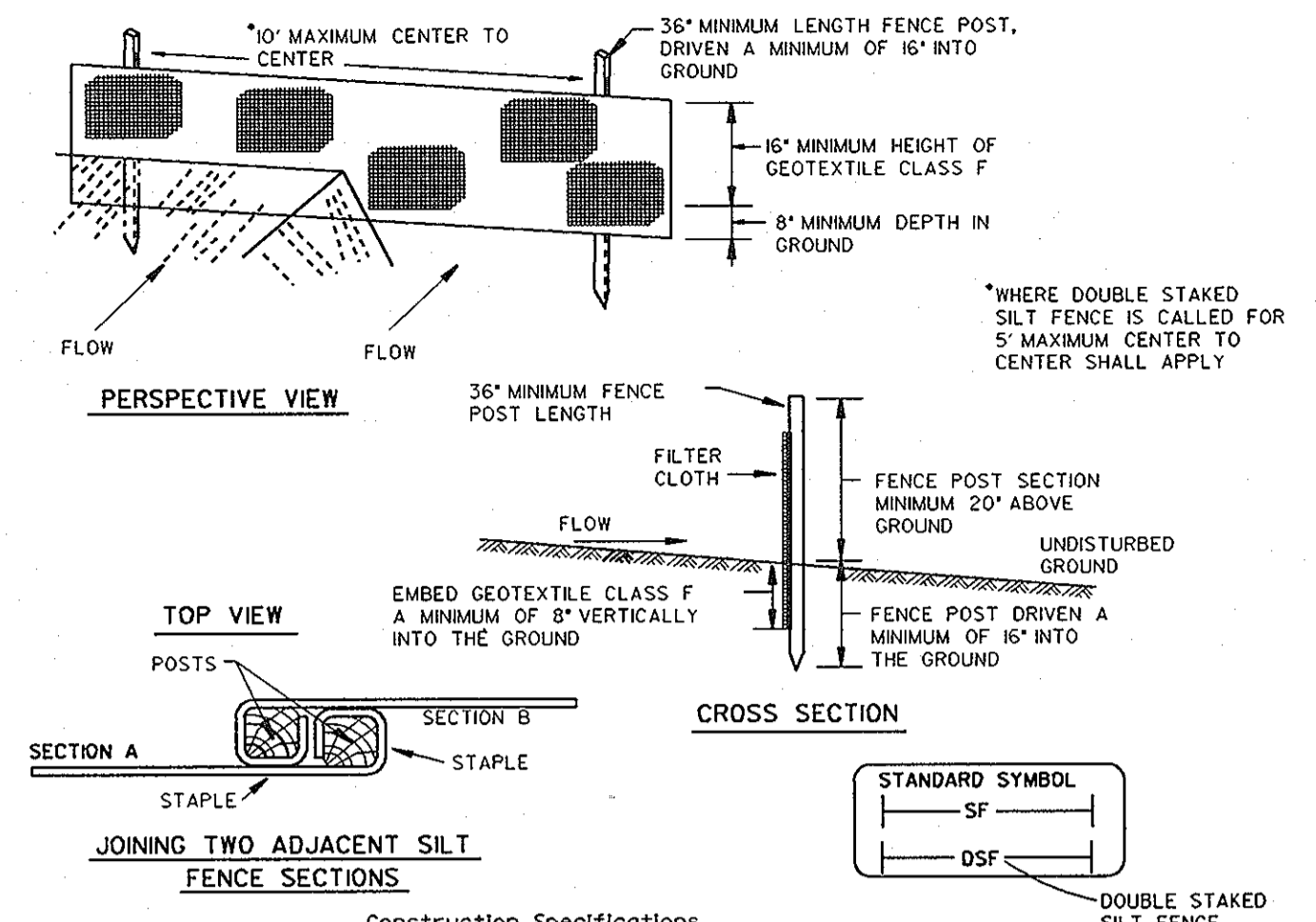
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 16 - 6B

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

CURB INLET PROTECTION (COG OR COS INLETS)

NOT TO SCALE



- Construction Specifications
- Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1/2" x 1/2" square (minimum) 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 ft/minute (max.) | Test: MSTM 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.

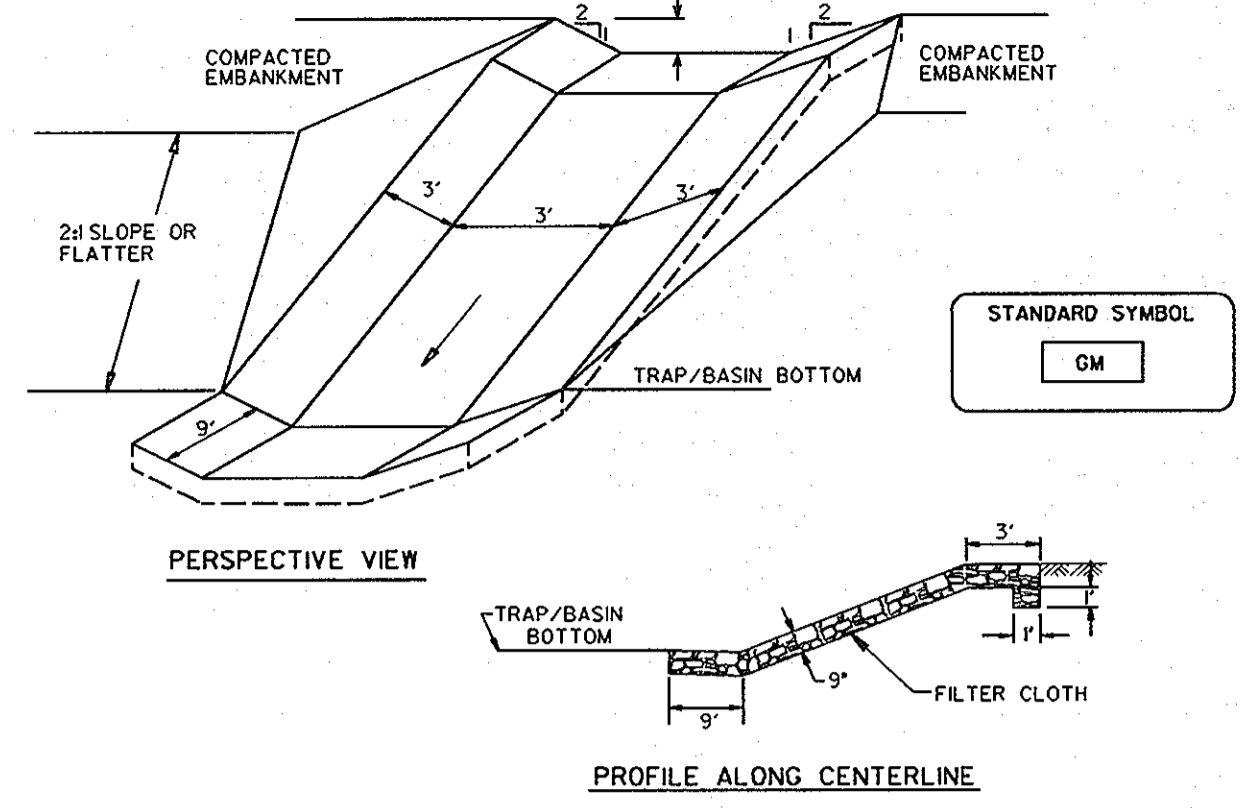
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

E - 15 - 3

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

SILT FENCE

NOT TO SCALE



- Construction Specifications
- Gabion inflow protection shall be constructed of 9' x 3' x 3' gabion baskets forming a trapezoidal cross section 1' deep, with 2:1 side slopes, and a 3' bottom width.
 - Geotextile Class C shall be installed under all gabion baskets.
 - The stone used to fill the gabion baskets shall be 4" - 7".
 - Gabions shall be installed in accordance with manufacturers recommendations.
 - Gabion Inflow Protection shall be used where concentrated flow is present on slopes steeper than 4:1.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

B - 7 - 2

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

GABION INFLOW PROTECTION

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 also authorize periodic on-site inspection by the Howard Soil Conservation District.

Francis W. Ziegler 7-17-98 Date

Reviewed for Howard Soil Conservation District and meets Technical Requirements.

Cheryl Simms 7/20/98 Date
Natural Resources Conservation Service

ENGINEER'S CERTIFICATION

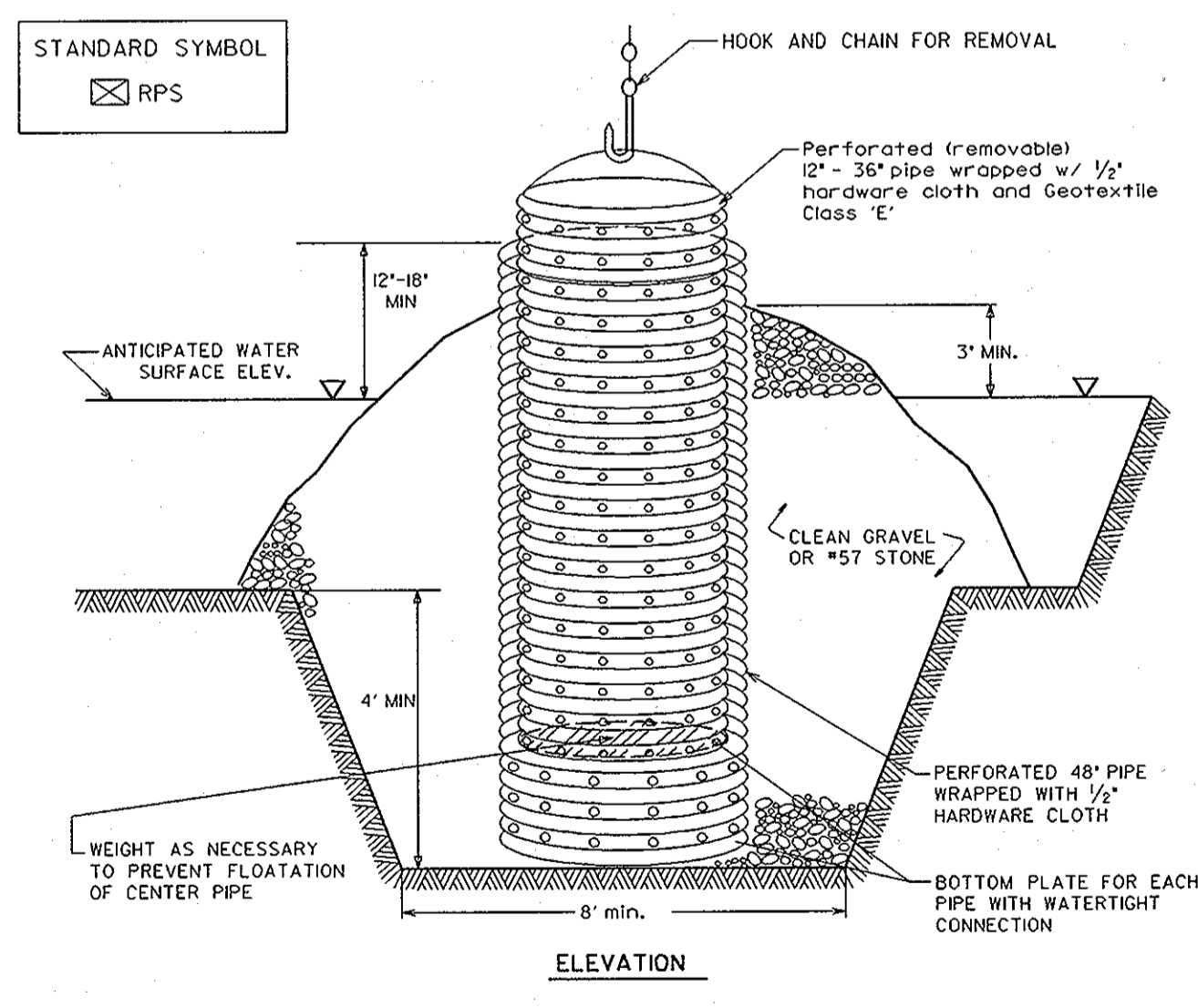
I certify that this plan for erosion and sediment control represents a practical and workable plan based on my personal knowledge of the site conditions and that it was prepared in accordance with the requirements of the Howard Soil Conservation District.

John W. Ranocchia, Jr. 7/16/98 Date

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

John W. Ranocchia, Jr. 7/20/98 Date
Howard Soil Conservation District

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE July 2, 1998



- Construction Specifications
- The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth and geotextile Class E.
 - After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.
 - The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" x 6" slots or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class E.
 - The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

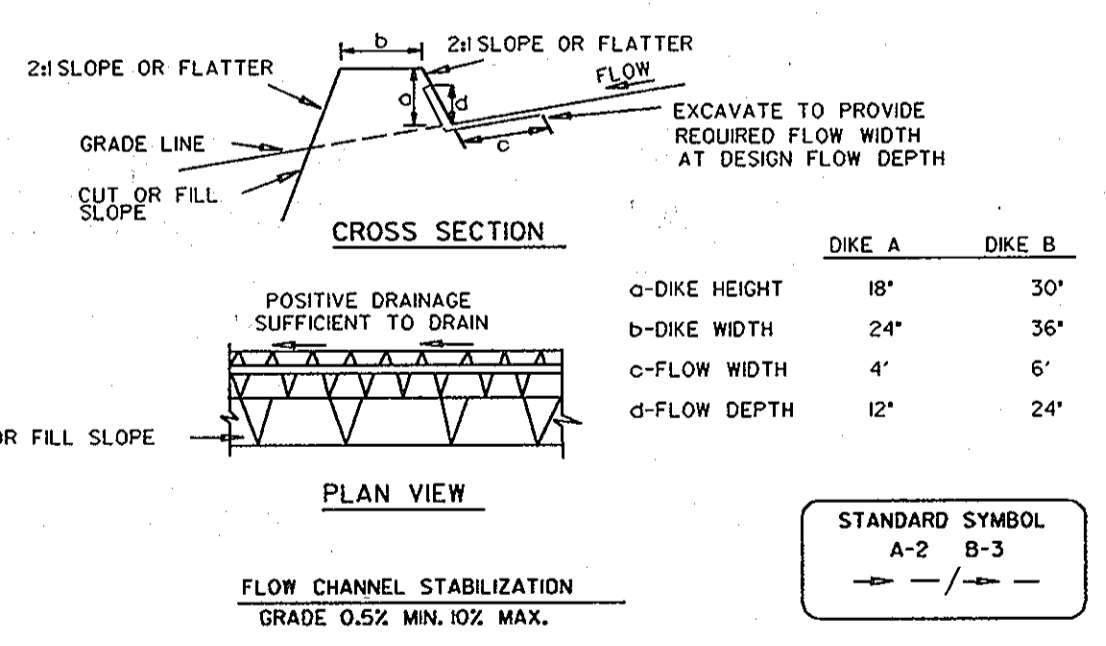
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

D - 12 - 6

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

REMOVABLE PUMPING STATION

NOT TO SCALE



- Construction Specifications
- Seed and cover with straw mulch.
 - Seed and cover with Erosion Control Matting or line with sod.
 - 3.4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum.
- | | DIKE A | DIKE B |
|---------------|--------|--------|
| a-DIKE HEIGHT | 18" | 30" |
| b-DIKE WIDTH | 24" | 36" |
| c-FLOW WIDTH | 4' | 6' |
| d-FLOW DEPTH | 12" | 24" |
- 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.

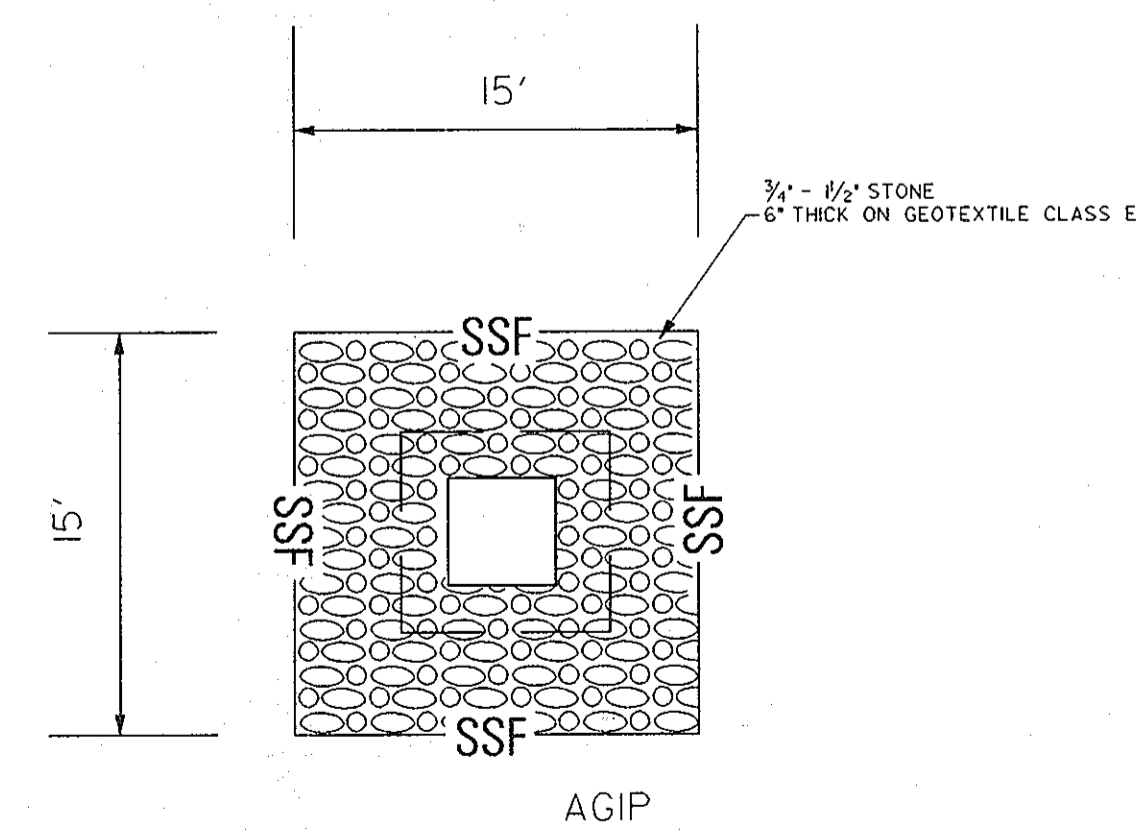
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

A - 1 - 6

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

EARTH DIKE

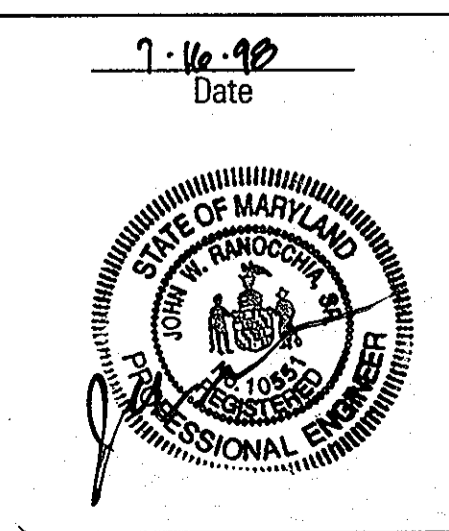
NOT TO SCALE



After fine grading area draining to low point inlet immediately stabilize with erosion control matting and seed or stone subbase.

LOW POINT INLET PROTECTION

NOT TO SCALE



Professional Engr. No. 10050
SDP-98-124

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING	
CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>John W. Ranocchia, Jr.</i> 7/20/98 DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>Cheryl Simms</i> 8/19/98 DATE
DIRECTOR	<i>John W. Ranocchia, Jr.</i> 8/19/98 DATE

THE MALL IN COLUMBIA
PHASE III EXPANSION
TOWN CENTER
SECTION 2 AREA 1
HOWARD COUNTY, MD
LOTS 22, 28, 42, 44

OWNER/DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Dell McCune Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4706

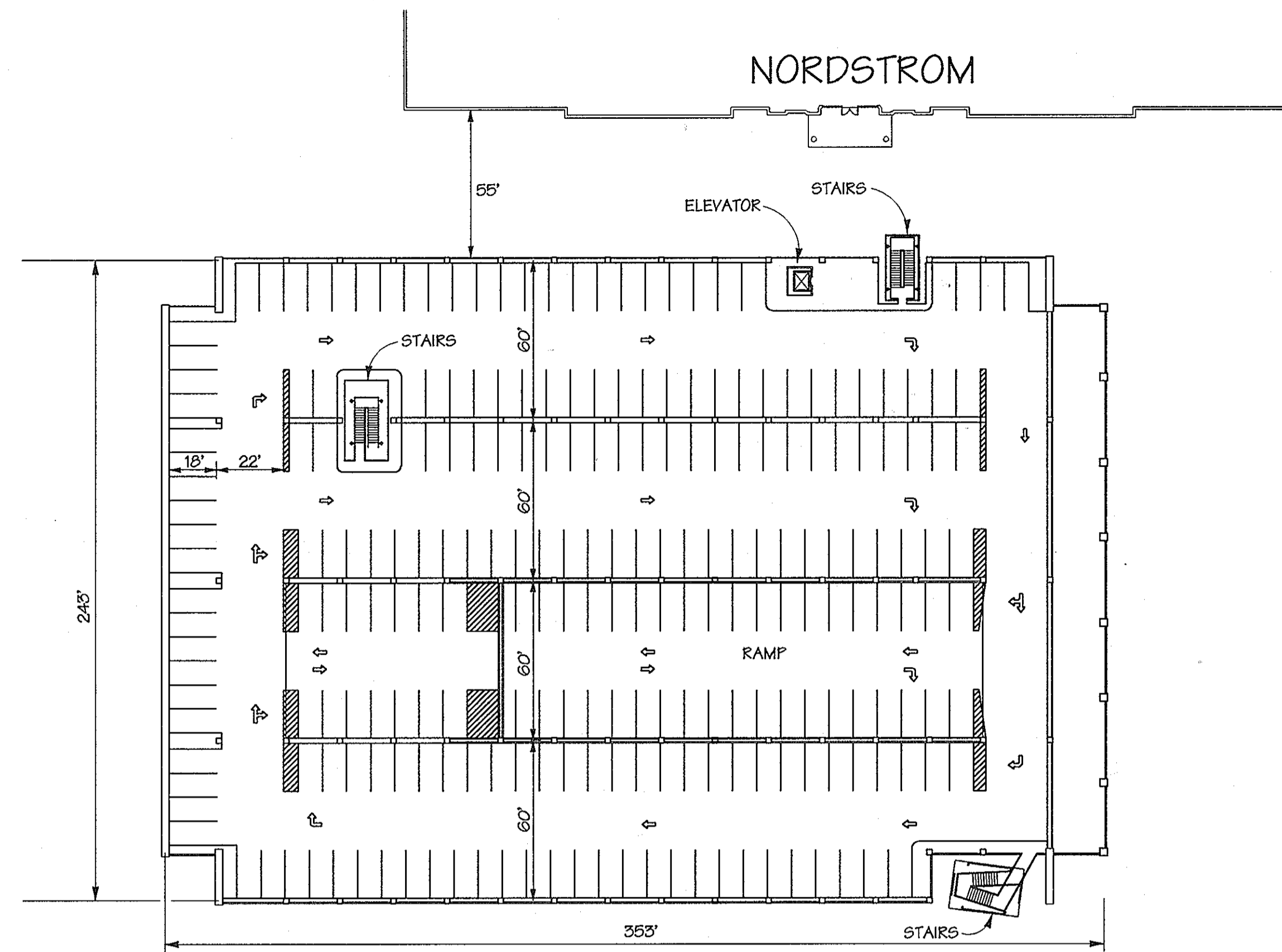
A Team of Land Planners,
Engineers, Surveyors &
Landscape Architects,
Environmental Professionals

TITLE
**PHASE III
EROSION & SEDIMENT CONTROL
DETAIL SHEET**

Des By	CRW/JLS	Scale	AS SHOWN	Proj. No.	95019B
Dm By	FJZ	Date	7-16-98		
Chk By	JWR	Approved			21 OF 27

N.W. DECK LEVEL 3

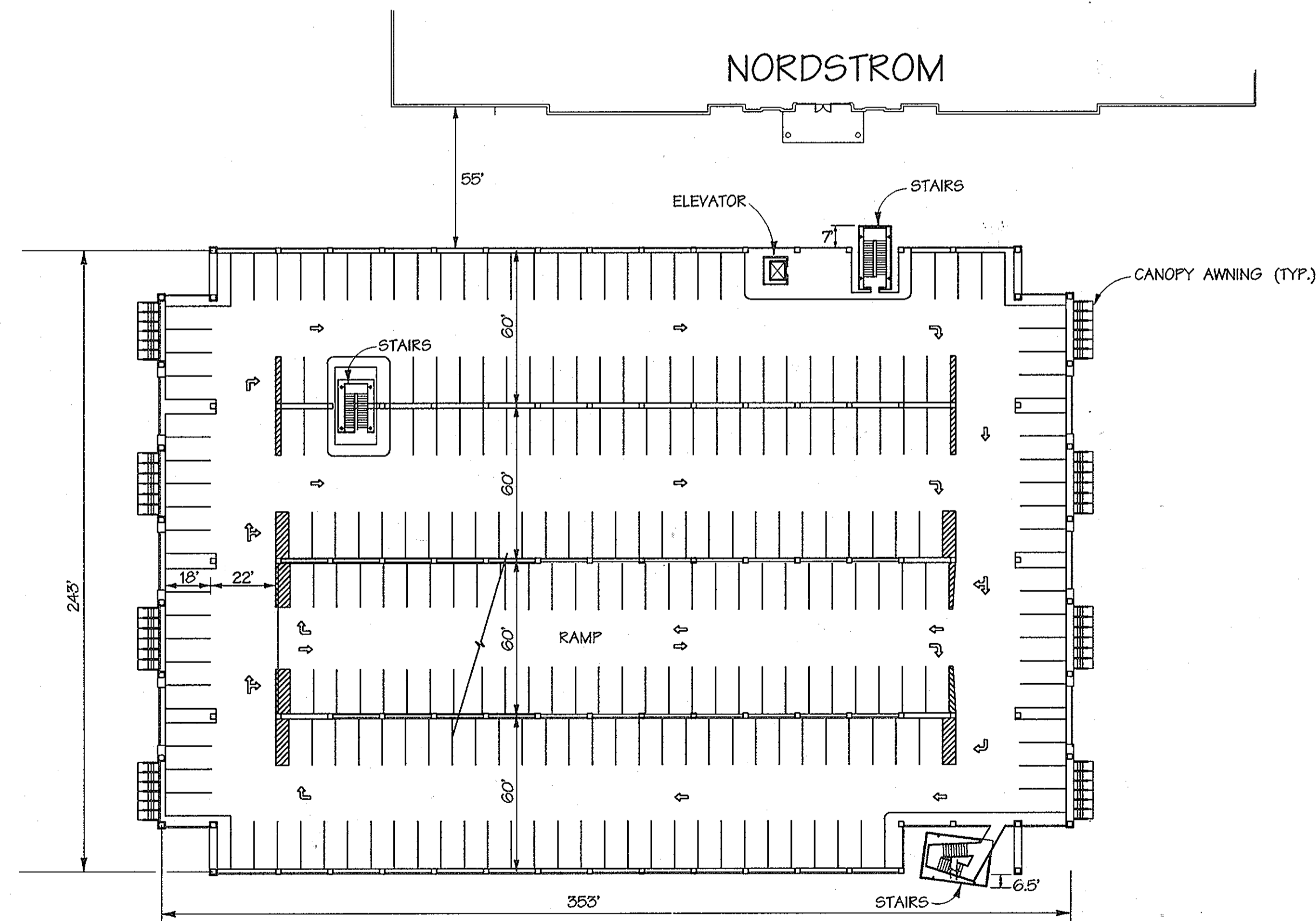
PARKING PROVIDED 196
 DECK 102
 RAMP LV 3/LV 4 14



REFER TO ARCH. PLANS
 FOR DECK CONSTRUCTION AND DETAILS

N.W. DECK LEVEL 2

PARKING PROVIDED 324
 DECK 202
 RAMP LV 1/LV 2 66
 RAMP LV 2/LV 3 56



APPROVED
 PLANNING BOARD
 of HOWARD COUNTY

DATE July 2, 1998

RB

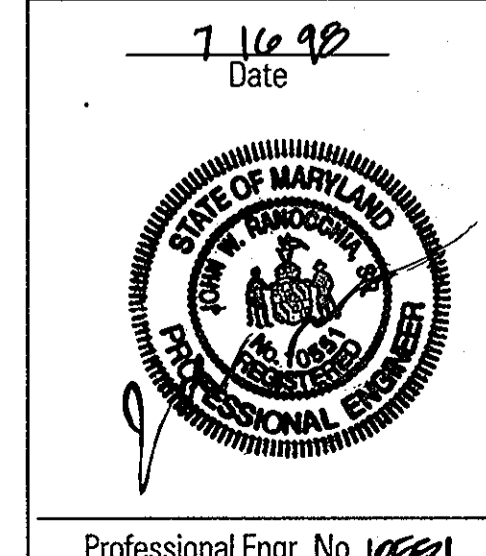
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/2/98 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT 8/4/98 DATE
 DIRECTOR 8/4/98 DATE

Date	No.	Revision Description
		PHASE III EXPANSION
		COLUMBIA MALL
		SECTION 2 AREA 1
		HOWARD COUNTY, MD
		LOTS 22, 29, 42, 44

OWNER /DEVELOPER:
 THE HOWARD RESEARCH & DEVELOPMENT CORP.
 COLUMBIA MALL, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MARYLAND 21044

DMW
 Draft/Re-Cause-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

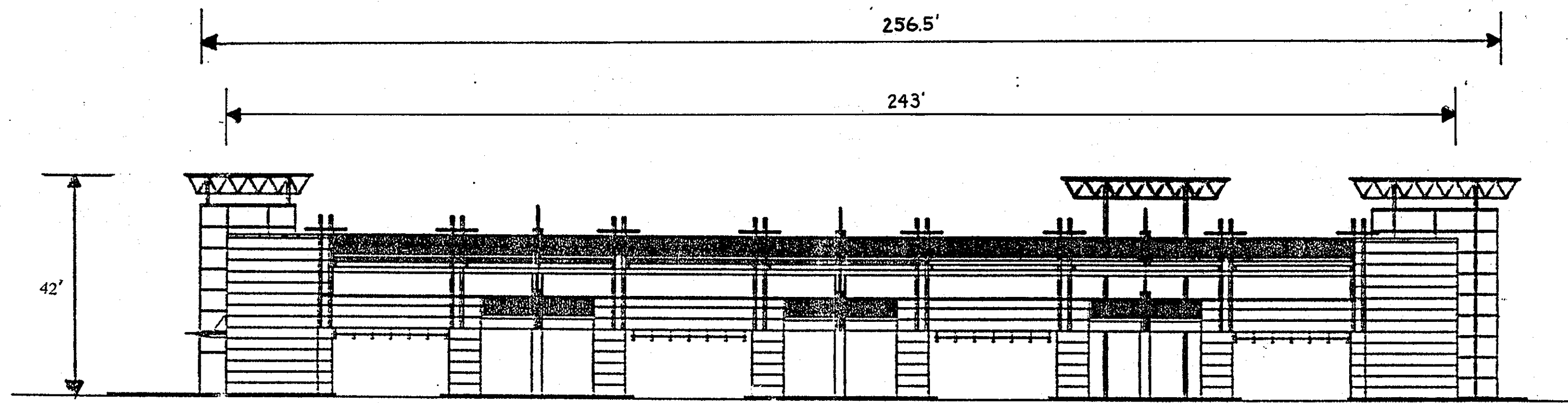


SUBDIVISION NAME COLUMBIA TOWN CTR.	SECTION AREA 21	EDIFICES # SEE SITE ANALYSIS #6
LOT # 3054A-442	TAX MAP 18,208, 124	BLK # N.T.
DATE N.T.	TAX MAP 30,36	BLK # 5TH
WATER CODE	SEWER CODE	CONDS TRACT 6054

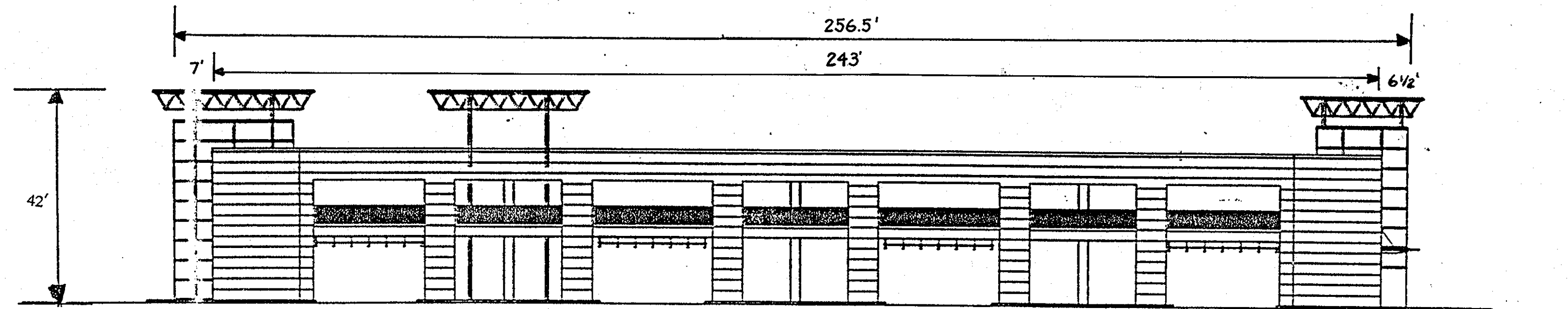
TITLE
**PHASE III
 PARKING DECK LAYOUT PLAN**

Des By	MJP	Scale	1" = 40'	Proj. No.	95019B
Dm By	KDE	Date	7-16-98		
Chk By	JWR	Approved			22 OF 27

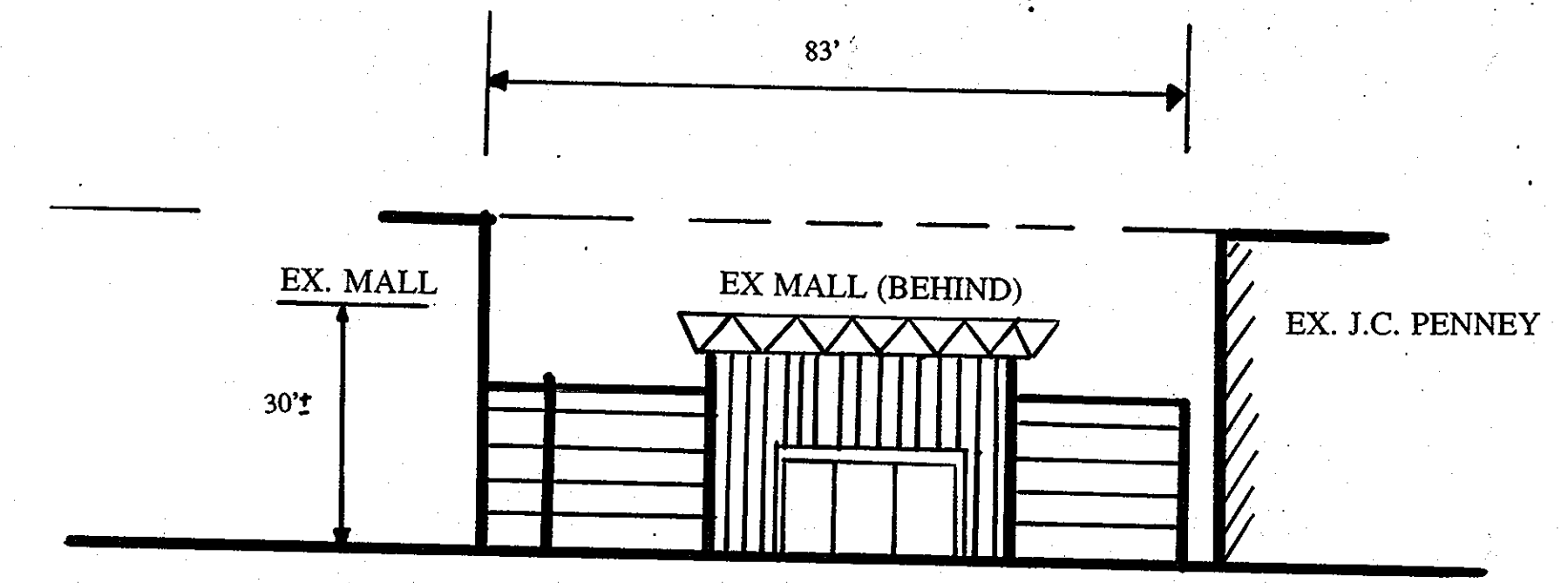
Professional Engr. No. 10921



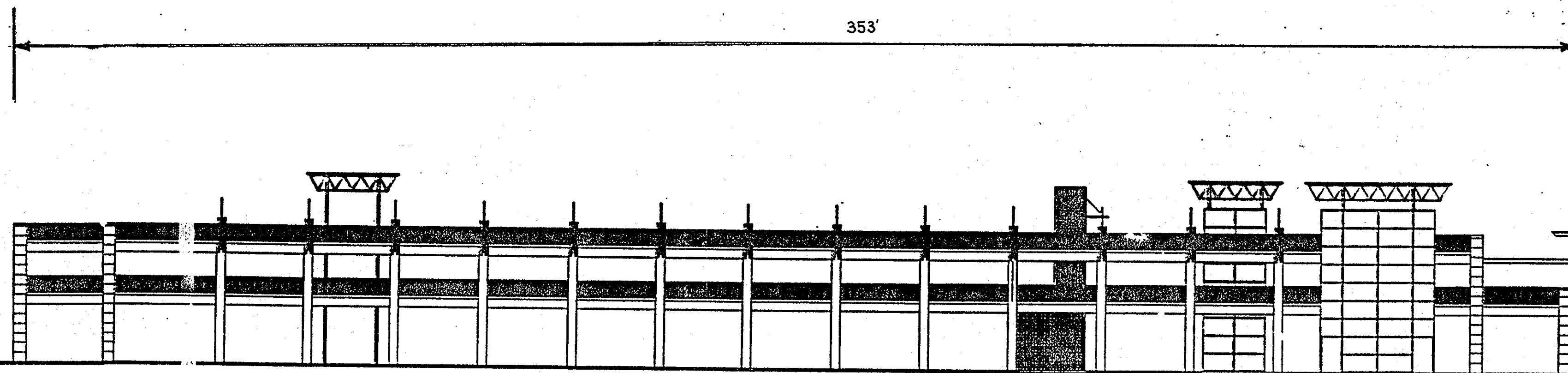
PARKING DECK SOUTH ELEVATION 1"=20'



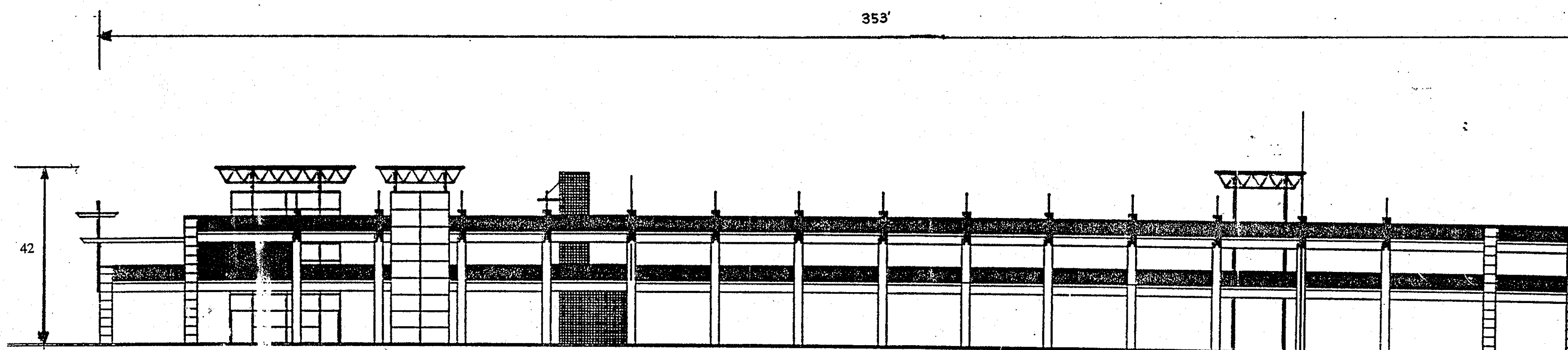
PARKING DECK NORTH ELEVATION 1"=20'



SOUTH MALL ENTRANCE 1"=20'



PARKING DECK WEST ELEVATION 1"=20'



PARKING DECK EAST ELEVATION 1"=20'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 21, 1998

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/21/98
CHIEF, DIVISION OF LAND DEVELOPMENT 7/14/98
DIRECTOR 8/14/98

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III EXPANSION COLUMBIA MALL SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

OWNER /DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

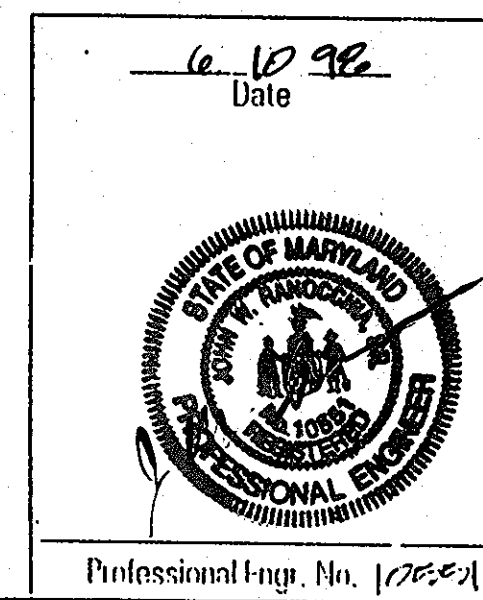
DMW
DRAFT-McCune-Walker, Inc.
210 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

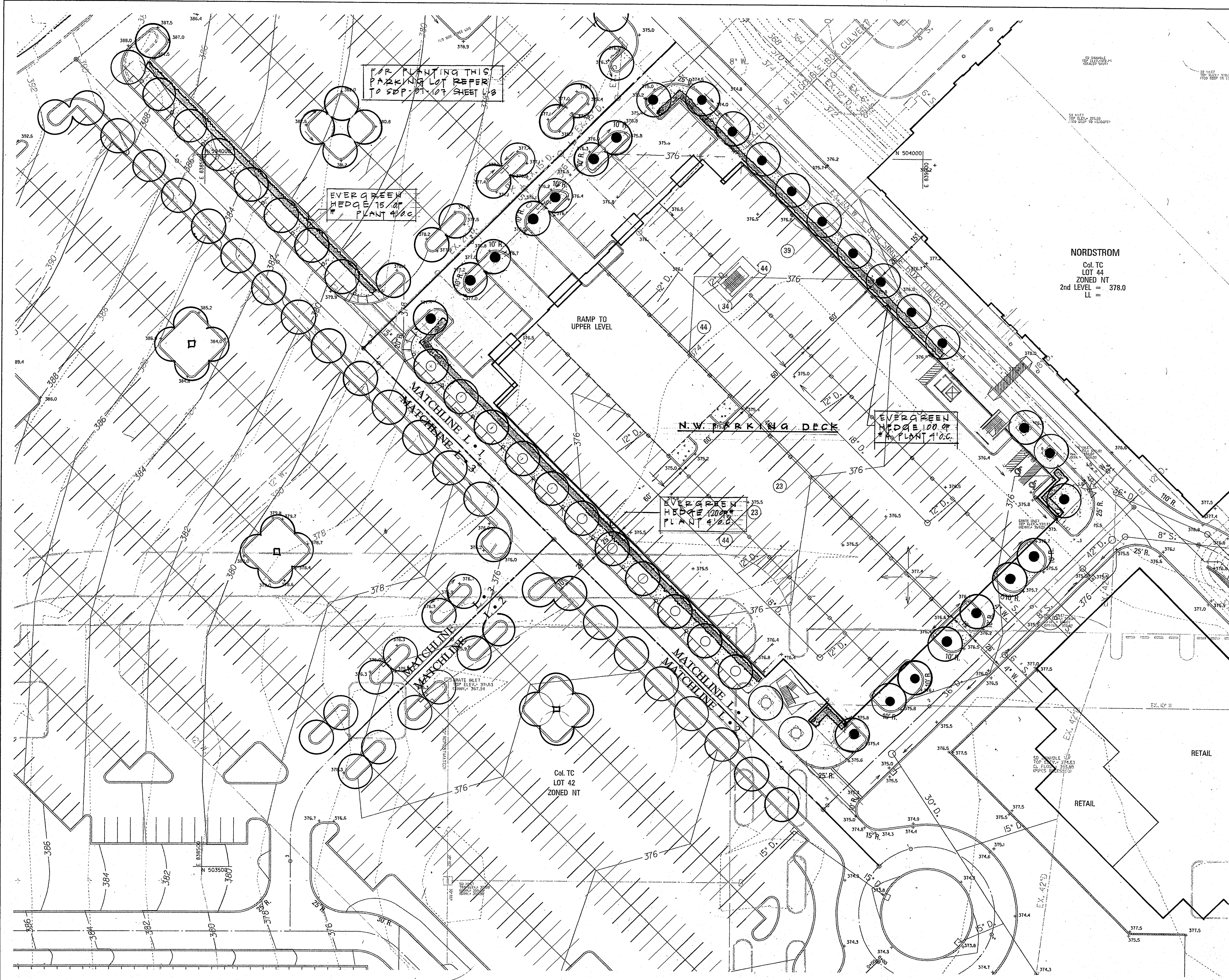
A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

SUBJECT: COLUMBIA MALL	YORR: CIVIL	REVISION: 21	DATE: 7/14/98
PROJECT: 3054A-442	TRK: 1.2	DATE: N.T.	DATE: 7/14/98
DATE: 12/28/94	DATE: 1.2	DATE: N.T.	DATE: 7/14/98

TITLE: PHASE III DECK & BUILDING ELEVATIONS

Des By: MJP	Scale: AS SHOWN	Proj. No.: 950190
Drn By: FJZ	Date: 7-16-98	
17k By: JWH	Approved:	





- LEGEND**
- EX. CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. CONTOUR
 - PROP. UTILITIES
 - 6" STANDARD COMB. C&G
 - 6" REV. COMB. C&G
 - ◆ CONC. LIGHT POLE ISLAND
 - CONCRETE

NOTE :
SEE SHEET 27
FOR LANDSCAPING
NOTES AND DETAILS

April 17, 1998
Date

STATE OF MARYLAND
CHARLES H. SHAW, JR.
LANDSCAPE ARCHITECT
NO. 219
APPROVED
219

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 2, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 7/14/98 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 8/4/98 DATE

DIRECTOR 8/4/98 DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 23, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

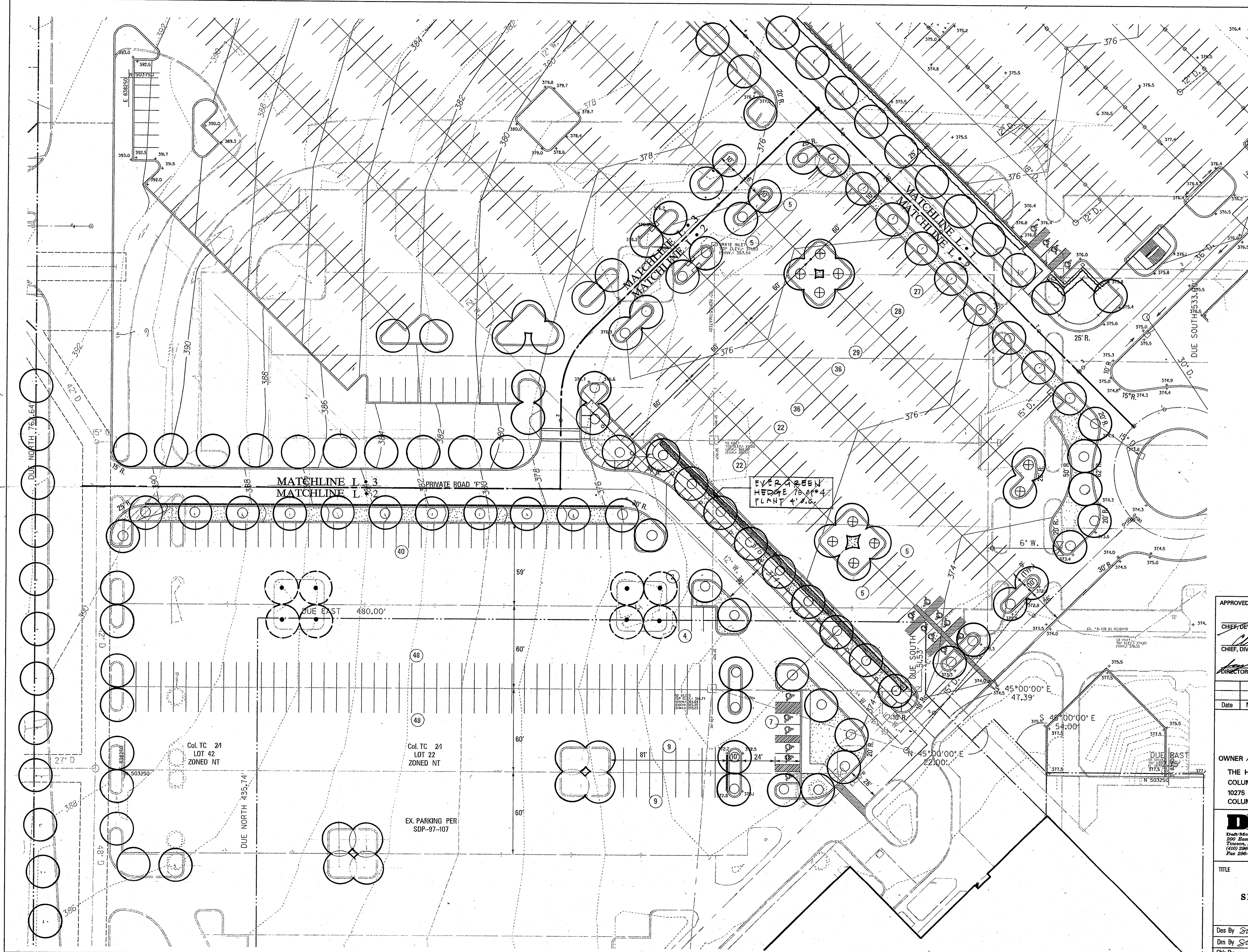
DMW
Dan McCaskey-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 286-3853
Fax 286-4705

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

TITLE

**PHASE III
SITE DEVELOPMENT PLAN
NW PARKING DECK
• PLANTING PLAN •**

Des By Shaw	Scale 1" = 30'	Proj. No. 95019B
Drn By	Date 7-16-98	L1
Chk By	Approved	24 OF 27



- LEGEND**
- EX. CONTOUR
 - EX. WATER
 - EX. SANITARY SEWER
 - EX. STORM DRAIN
 - EX. GAS
 - EX. EDGE OF ROAD
 - PROP. CONTOUR
 - PROP. UTILITIES
 - 6" STANDARD COMB. C&G
 - 6" REV. COMB. C&G
 - CONC. LIGHT POLE ISLAND
 - CONCRETE

NOTE:
SEE SHEET 27
FOR LANDSCAPING
NOTES AND DETAILS

April 17, 1998
Date

STATE OF MARYLAND
CHARLES H. SHAW, JR.
REGISTERED
LANDSCAPE ARCHITECT
NO. 219

Charles H. Shaw, Jr.
219

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE July 2, 1998
R.B.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *J. J. Juler* DATE *8/1/98*

CHIEF, DIVISION OF LAND DEVELOPMENT *Charles H. Shaw, Jr.* DATE *8/4/98*

DIRECTOR *James R. Smith* DATE *8/4/98*

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

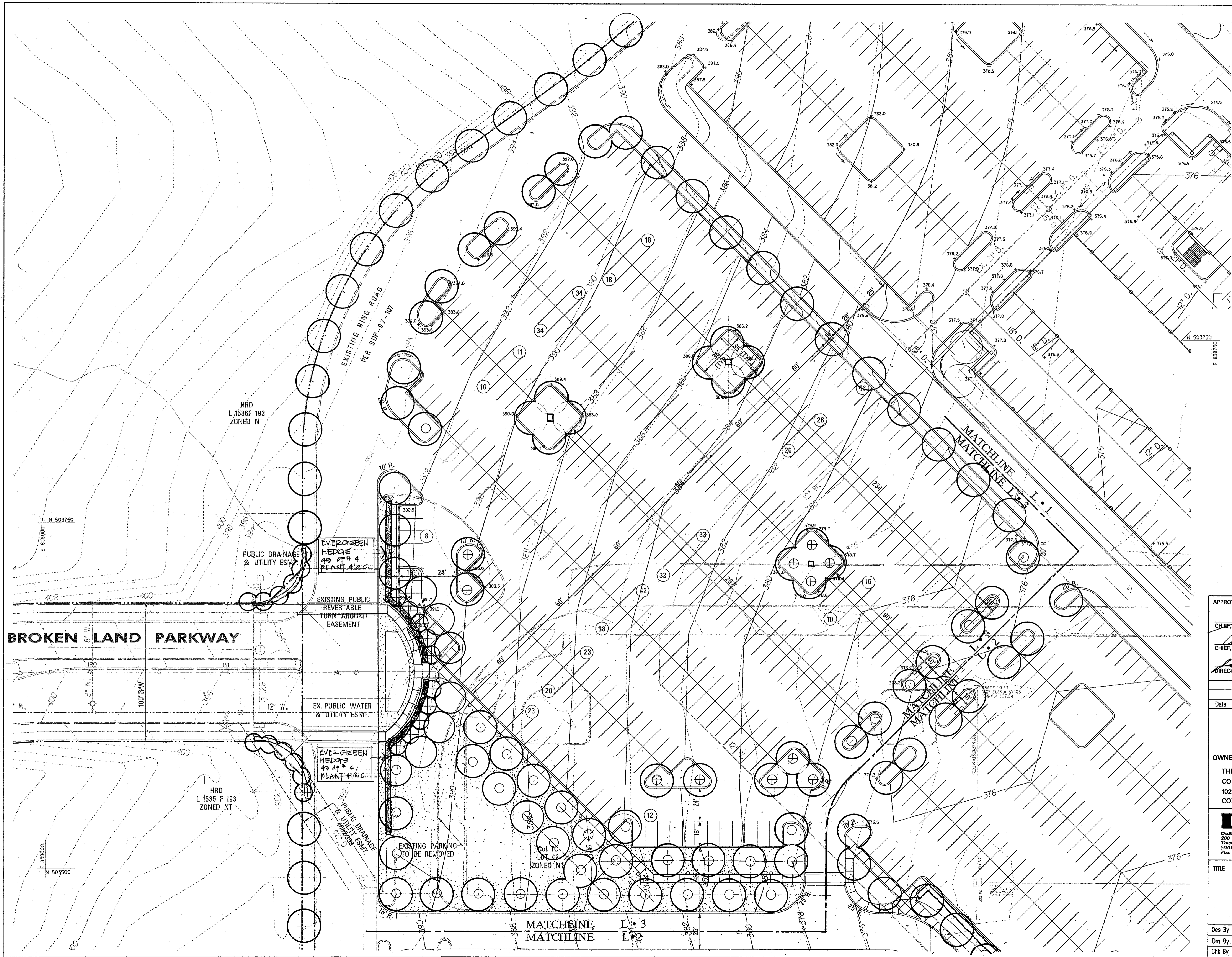
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Duff-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-5833
Fax 296-4706

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

TITLE
**PHASE III
SITE DEVELOPMENT PLAN
PARKING LOT W-5
PLANTING PLAN**

Des By <i>Shaw</i>	Scale 1" = 30'	Proj. No. 95019B
Dm By <i>Shaw</i>	Date 7-16-98	L2
Chk By	Approved	25 OF 27



LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- CONC. LIGHT POLE ISLAND
- CONCRETE

NOTE:
SEE SHEET 27
FOR LANDSCAPING
NOTES AND DETAILS

April 17, 1998
Date

STATE OF MARYLAND
CHARLES H. SHANKER
REGISTERED LANDSCAPE ARCHITECT
NO. 219

Charles Shanker
Professional Engr. No. 219

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: July 21, 1998
RB

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	7/1/98	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	8/1/98	DATE
DIRECTOR	8/1/98	DATE

Date	No.	Revision Description
		THE MALL IN COLUMBIA PHASE III TOWN CENTER SECTION 2 AREA 1 HOWARD COUNTY, MD LOTS 22, 29, 42, 44

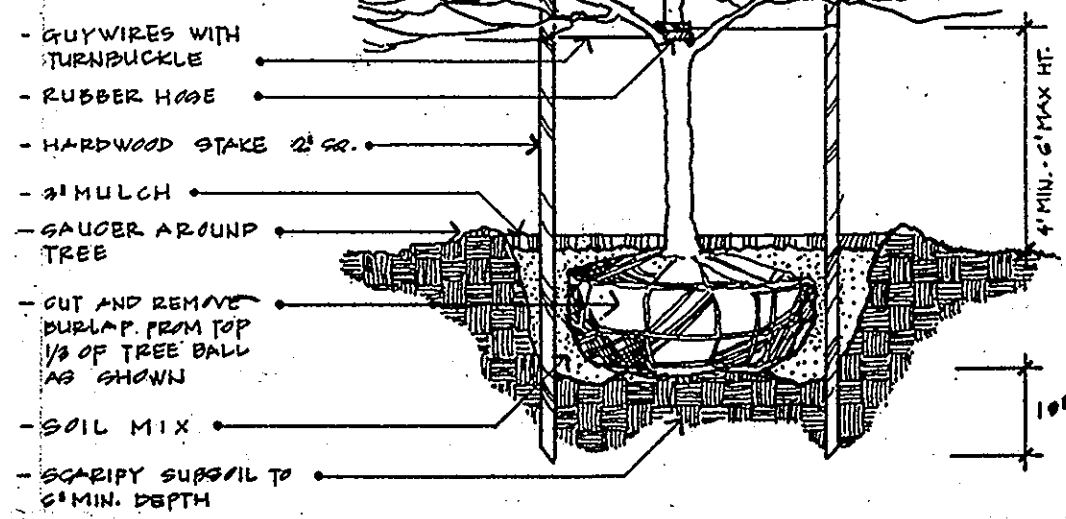
OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr-McCune-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-2823
Fax: 296-2702

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

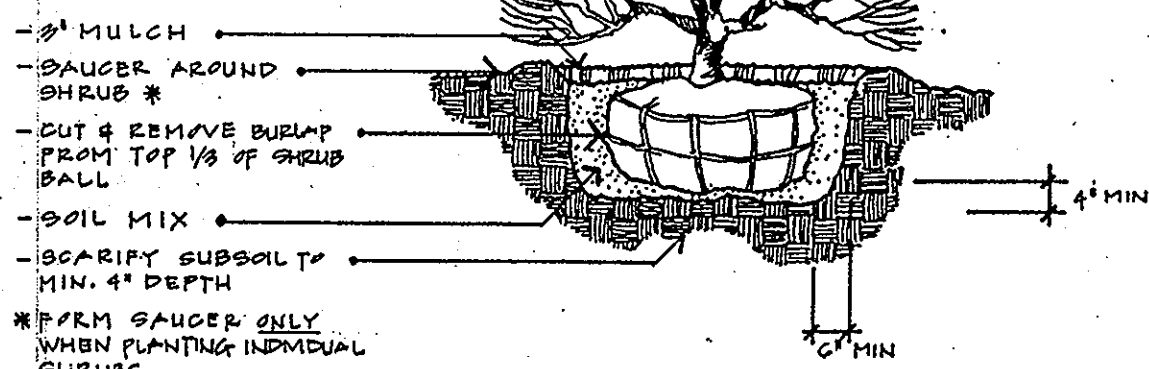
TITLE PHASE III SITE DEVELOPMENT PLAN • PLANTING PLAN •		
Des By Shaw	Scale 1" = 30'	Proj. No. 95019B
Dm By Shaw	Date 7-16-98	26 OF 27
Chk By	Approved	

- GUY TREES UP TO 9" DBH WITH STAKES & GUY WIRES
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION
- NEVER CUT LEADER OUT OF TREE



TYPICAL DECIDUOUS TREE PLANTING DETAIL

- SHRUB SHALL BEAT SAME RESOLUTION TO FINISH GRADE AS IT BORN TO PREVIOUSLY EXISTING GRADE
- THIN BRANCHED AND FLANGE (NOT ALL END TIPS) BY 1/3, RESTAINING NORMAL PLANT SHAPE
- REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION



TYPICAL SHRUB PLANTING DETAILS

PLANT LIST - SHEETS L1, L2, L3, & L4

NO.	SYMBOL	QUAN	PLANT NAMES	SIZE	ROOT	REMARK
1.	⊕	10	MALUS 'SNOWDRIFT' SNOWDRIFT CRABAPPLE	2-2 1/2" CAL	B & B	FULL HEADS
2.	⊙	118	PLATANUS ACERIFOLIA LONDON PLANETREE	2 1/2" - 3" CAL 12-14' HT	B & B	FULL HEADS
3.	⊕	21	QUERCUS PALUSTRIS PIN OAK	2 1/2" - 3" CAL 12-14' HT	B & B	FULL HEADS
4.	⊕	306	TAXUS MEDIA 'PENSIFORMIS' DENSIFORMIS YEW	30" SPR HEDGE	B & B	FULL SHAPE
5.	⊙	27	ZELKOVA SERRATA 'GREEN VASE' GREEN VASE ZELKOVA	2 1/2" - 3" CAL 12-14' HT	B & B	FULL HEADS
6.						
7.	⊙		INDICATES TREES SHOWN ON PHASE II SDP 91-107; NOT INCLUDED IN PLANT COUNT THIS PHASE			
8.	⊙		EXISTING TREES TO REMAIN - CONTRACTOR TO PROTECT DURING CONSTRUCTION			
			ALL DISTURBED AREAS TO BE FINE GRADED & SEEDED; REFER TO SEDIMENT EROSION CONTROL PLAN			

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 LCMW
- 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 Owners 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 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 Miss Utility 72 hours prior to construction.

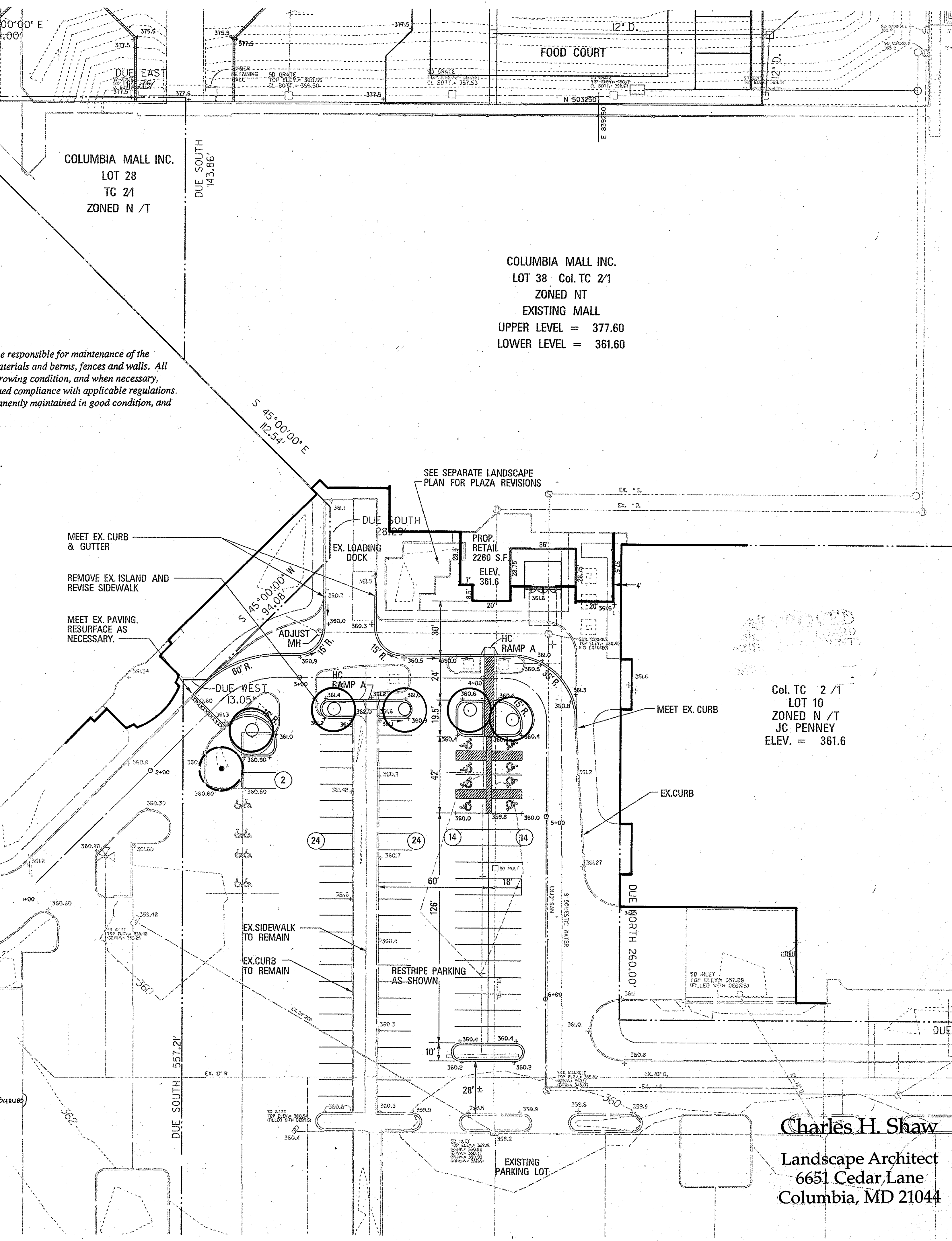
- SITE LIGHTING TO BE IN ACCORDANCE WITH MECH./ELECT. DRAWINGS IN ENGINEER'S SITE PLAN SET
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECT 16.124 OF THE HOWARD COUNTY CODE & THE LANDSCAPE MANUAL FOLLOWING THE ALTERNATIVE COMPLIANCE METHOD. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPE TREES IN THE AMOUNT OF \$62,850.00 MUST BE POSTED AS PART OF THE GRADING PERMIT (160 TREES, 10 SPECIES TOTAL @ 385 \$/TREE) PLANS L1, L2, L3 & L4 ARE FOR LANDSCAPING ONLY
-

9. 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.

10. 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

Charles H. Shaw 11-28-97
NAME DATE



LEGEND

- EX. CONTOUR
- EX. WATER
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. GAS
- EX. EDGE OF ROAD
- PROP. CONTOUR
- PROP. UTILITIES
- 6" STANDARD COMB. C&G
- 6" REV. COMB. C&G
- CONC. LIGHT POLE ISLAND
- CONCRETE

April 17, 1998
Date

STATE OF MARYLAND
CHARLES H. SHAW, P.L.L.C.
REGISTERED LANDSCAPE ARCHITECT
No. 319
Charles H. Shaw
219

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: July 2, 1998
P.B.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 7/14/98

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 8/14/98

DIRECTOR: [Signature] DATE: 8/14/98

THE MALL IN COLUMBIA
PHASE III
TOWN CENTER
SECTION 2 AREA 1
HOWARD COUNTY, MD
LOTS 22, 29, 42, 44

OWNER / DEVELOPER:
THE HOWARD RESEARCH & DEVELOPMENT CORP.
COLUMBIA MALL, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MARYLAND 21044

DMW
Darr McConne-Walkers, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 286-3339
Fax 286-4705

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

TITLE
PHASE III
SITE DEVELOPMENT PLAN
• PLANTING PLAN •

Des By: Shaw Scale: 1" = 30' Proj. No. 95018B
Dn By: Shaw Date: 7-16-98 L4
Chk By: Approved 27 OF 27

Charles H. Shaw
Landscape Architect
6651 Cedar Lane
Columbia, MD 21044