SITE DEVELOPMENT PLAN
for
MONTPELIER RESEARCH PARK
PARCEL E-2
At Montpelier Research Park, Howard County, Maryland

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16	RETAINING WALL CONSTRUCTION DETAILS

ADDRESS CHART

Bldg.	Street Address
A	7701 MONTPELIER ROAD
B	7703 MONTPELIER ROAD
C	7705 MONTPELIER ROAD
D	7707 MONTPELIER ROAD

GENERAL NOTES

1. All construction shall be performed in accordance with the latest standards and specifications of Howard County, plus MSHA standards and specifications if applicable or as specified.

2. Approximate location of existing utilities are based solely on available records. Contractor shall verify the location of any utilities which may be impacted by the work. The contractor shall take all necessary precautions to protect the existing utilities and maintain uninterrupted service. Any damage incurred due to contractors operation shall be repaired immediately at the contractor's expense.

3. The contractor shall test pit existing utilities at least five (5) days before starting work shown on these drawings to verify their location and elevation. The contractor shall notify the engineer immediately if location of utilities is other than shown.

4. The contractor shall notify 'Miss Utility' at 1-800-257-7777 at least 48 hours prior to any excavation work being done, and shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.

5. Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be repaired at the Contactors expense.

6. Topo taken from mass grading per SDP 99-92 by Daft McCune Walker, Inc.

7. Public water and sewer provided by contract number 34-3654D and 30-3789-D.

8. The subsurface exploration and geotechnical engineering analysis for this project was made by Hillis Carnes, Inc. on January 1997.

9. All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with AASHTO T-180.

10. Regional stormwater management and water quality are provided in a wetland pond system located on Parcel G1, approved per SDP 99-92.

11. Forest Conservation requirements are provided per SDP 98-11, F98-45, SDP 99-92, F 99-191.

12. There are no wetlands, floodplain, or streams on this site.

13. Traffic Study by Lee Cunningham and Associates was previously approved for this use and square footage per F98-45. Date: December 1997.

14. Operating existing valves, switches, services or start up of new services shall be coordinated with the owners representative.

15. The buildings will be provided with a sprinkler system.

16. Trench compaction for storm drains within the road or street right of way limits shall be in accordance with Howard County Design Manual IV, Std. No. G-2.01.

17. Unless otherwise noted, dimensions from curb are measured at face of curb.

18. Refer to architectural drawings for building dimensions.

19. The Contractor shall coordinate the location of all water, sewer, and drain house connections with the mechanical drawings.

20. The Contractor shall maintain 2.0 feet minimum cover over all utilities during construction.

21. Unless otherwise noted, all utility connections shall be capped or plugged five feet from buildings.

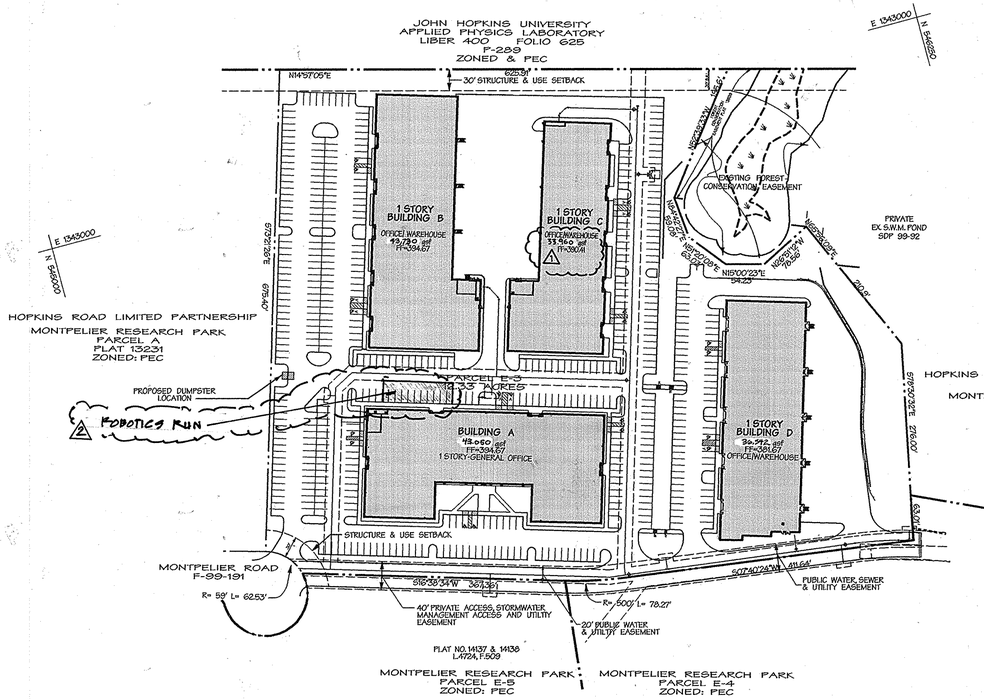
22. Electric, telephone, gas, cable, lighting, and retaining walls to be designed by others. Where those facilities are shown, they are for coordination purposes only.

23. All Curb radii 5' unless otherwise noted.

24. There are no known cemeteries or burial grounds on this site. However, upon discovery of any evidence of burial or graves, the developer will be subject to Section 16.1305 of the Howard County Subdivision and Land Develop Regulations.

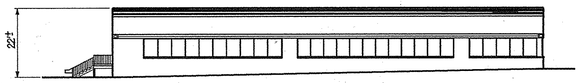
25. All exterior lighting fixtures shall be installed in compliance with Section 134 of the Zoning Regulations.

26. Trash collection will be provided by private contractor.

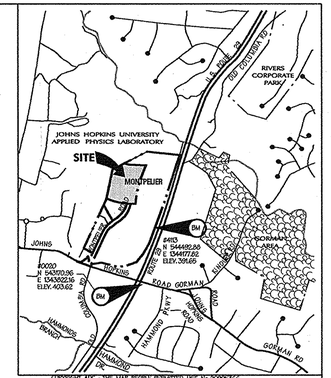


OVERALL PROPERTY OUTLINE
Scale: 1"=100'

NORTH



Side Elevation Buildings 'A' 'B' 'C' & 'D'
SCALE: NTS



LOCATION MAP
SCALE 1" = 2000'

BENCHMARK

Coordinates and bearing shown are referred to the system of coordinates established in the Maryland Coordinate System as projected by Howard County Geodetic Control Stations: NAD 83. Elevations shown hereon are referred to the North American Vertical Datum-NVD 29 and are based on the following Howard County Survey Control Stations: (Translated meters to feet.)

DESIGNATION	NORTH (sFT)	EAST(sFT)	Elevation (sFT)
4113	544492.88	1344177.82	391.65
0020	543170.96	1343822.16	403.62

SITE ANALYSIS DATA CHART

1. General Site Data
   - a. Present Zoning: PEC
   - b. Applicable DPZ File References: F 98-45, SDP 98-11, BA 98-31, WP 87-21 FB 190, VF 86-64, WP 91-93, 25 802 & 76, FDP#1, SDP 88-197, SDP 89-88 &WP 88-12, SDP 99-92, F 99-191, F-00-49
   - c. Proposed Use of Site or Structure(s): Office and Office/ Warehouse
   - d. Proposed Water: Public - X Proposed Sewer: Private- X
   - e. Water and Sewer contract number (34-3654D & 30-3789D)

2. Area Tabulation
   - a. Total Project Area: 12.327 Acres
   - b. Net Area of Site: 12.327 Acres
   - c. Area of This Plan Submission: +/- 12.33 Acres
   - d. Limit of Disturbed Area: +/- 14 Acres
   - e. Building Coverage of Site: +/- 3.6 Acres and +/- 29 % of Gross Area (Proposed)

3. Open Space Data: N / A

4. Parking Space Data
   - a. Floor Space per floor of proposed use on site: 43,050 s.f. Office (Bldgs. A), 114,030 s.f. Off./Warehouse (Bldgs. B,C & D) ⚠1
     - Building 'A' floor 1: 43,050 s.f. Office,
     - Building 'B' floor 1: 43,730 s.f. Office/ Warehouse
     - Building 'C' floor 1: 33,960 s.f. Office/ Warehouse
     - Building 'D' floor 1: 36,542 s.f. Office/ Warehouse
   - b. Number of Parking Spaces Required by Zoning Regulations: 428 (43,050 S.F. General Office @ 3.3/1000 , 114,030 s.f. Office/Warehouse @ 2.5/1000) ⚠1
   - c. Total Number of Parking Spaces Provided On-Site: ⚠2 447
   - d. Number of Handicapped Parking Spaces Provided: 20 (2.5% of Total)

5. Forest Conservation Summary
   - 14.4± Acres Afforestation/ Reforestation Required
   - 10.4± Acres Afforestation/ Reforestation Site Under SDP 98-11
   - 2.8± Acres Afforestation/ Reforestation on Site Under F-98-191
   - 1.2± Acres Fee In-Lieu (Paid)

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/28/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED GFA BUILDING 1 AND PARKING DATA.
10-16-15	2.	REVISED PARKING COUNT DATA

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME				SECTION/ AREA			PARCEL #
Montpelier Research Park				NA			PARCEL E-2
PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.		CENSUS TRACT	
14137	17	PEC	41	5th		6051.02	
WATER CODE		SEWER CODE					
E21		6440000					

TITLE
COVER SHEET

Des By: CSC	Scale: 1"=100'	Proj. No. 94171.12
Drn By: CSC	Date: 8-30-00	1 OF 16
	Approved:	

9/7/00 Date

STATE OF MARYLAND — JOHN W. HANCOCK — No. 10557 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10557

10-16-15

SDP-00-112

Wed Aug 30 14:13:36 2000 m:\94171\12\94171t12.dwr

Johns Hopkins University
Applied Physics Laboratory
4001/0625
P 289

ZONED PEC

Montpelier Research Park
Parcel A
Plat 13251
ZONED PEC
Hopkins Road Limited Partnership
3.83±Ac.±

BUILDING A
43,050 gsf
FF=394.87

BUILDING B
43,730 gsf
FF=394.67

BUILDING C
33,960 gsf
FF=390.91

BUILDING D
36,540 gsf
FF=386.67

6" dia. REMOVABLE BOLLARDS SEE DETAILS 1, THIS SHT

ROBOTICS RUN

PROPOSED DUMPSTER (SEE DETAIL SHEET 12)

DUMPSTER PAD

HANDICAP PARKING

6' CONC. WALK

CONC. STEPS/ NO RAILING

BUILDING RESTRICTION LINE

EX. INLET TO BE MODIFIED TO A MANHOLE

MONTPELIER ROAD
(CUL-DE-SAC SHOWN PER F.P. 99-181)

REMOVE EX. C & G AS NECESSARY TO CONSTRUCT PROPOSED ENTRANCE.

40' PRIVATE ACCESS STORM WATER MANAGEMENT ACCESS AND UTILITY EASEMENT PLAT# 14137 & 14138 FOR PARCELS E-2, E-4, E-5 & TM41, GRID 11, F.289, L.4724 & 5109

20' WATER AND UTILITY EASEMENT

Montpelier Research Park
PARCEL E-5
ZONED PEC

Montpelier Research Park
PARCEL E-4
ZONED PEC

PROP. RETAINING WALL SEE SHEETS 15 & 16

PROP. GUARDRAIL HO. CO. STD. R 7.01

FREED CONSERVATION EASEMENT PLAT# 13839

24' PRIVATE ACCESSAND UTILITY EASEMENT PLAT# 13839

WETLANDS/STREAM BUFFER PLAT# 13232

WETLANDS PLAT# 13232

30' WETLAND BUFFER

50' WETLAND BUFFER

PROP. RETAINING WALL SEE ARCH PLAN FOR DETAIL

30' PUBLIC WATER & SEWER & UTILITY EASEMENT

REMOVE EXISTING 8" CAP AND CONNECT TO EXISTING 8" PIPE STUB

20' SEWER & UTILITY EASEMENT PLAT# 14136

40' PRIVATE ACCESS EASEMENT

20' PUBLIC SEWER EASEMENT

CONTRACT #50-3769-D

RIP-RAP L=24' W=27' d_{50}=9.5" THICKNESS=19"

RIP-RAP L=20' W=22' d_{50}=9.5" THICKNESS=19"

PRIVATE EX. SWM FACILITY SDP 99-92 O.S. PARCEL G-1

Hopkins Road Limited Partnership
Montpelier Research Park
PARCEL G-1
Plat 13939
ZONED PEC

PROP. GUARDRAIL HO. CO. STD. R 7.01

N 24°55'38" E 317.00'

S 21°48'38" W 167.64

N 15°39'34" W 396.54'

S 15°39'34" W 367.36'

S 15°38'34" W 366.11'

S 07°40'24" W 111.64

S 07°40'24" W 231.42

N 07°40'24" E 231.42

R=480.00' L=75.14

R=740.00' L=182.59'

R=700.00' L=182.77

R=59.00' L=49.42'

R=59.00' L=62.53'

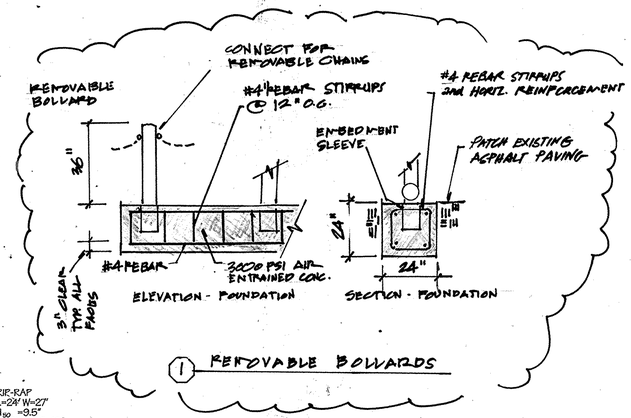
R=152.0' L=81.40'

R=500.00' L=78.27'

NORTH

N 544000
E 1343000
N 543750
E 1343750

1 REMOVABLE BOLLARDS



LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
SHS	STRUCTURE & USE SETBACK
	VAN HANDICAPPED PARKING
	HANDICAPPED PARKING
	PARKING COUNT
	EXISTING STORMDRAIN
	EXISTING SEWER
	EXISTING WATER
	PROPOSED STORM DRAIN
	PROPOSED SAN. SEWER
	PROPOSED WATER
M	STORM DRAIN STRUCTURE
	REVERSE CURB AND GUTTER
	CURB AND GUTTER

Date	No.	Revision Description
10-16-15	3.	ADD BOLLARDS for ROBOTIC RUN + REVISE PARKING
		1st REVISION

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/18/00

DIRECTOR — DATE 9/22/00

Date	No.	Revision Description
10-23-00	1	REVISED RCCP 10 HDPE + BLDG C SIZE
1-22-01	2.	REVISED HHC TO BUILDING A, C & D, SD TO BUILDING C, GHC TO BLDG A. ADDED RETAINING WALL TO BLDG D, REMOVED SEWER TO PARCEL E-4 + E-5, ADDED INLET I-8A & I-8B.

Montpelier Research Park

PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE	
E21		6440000	

TITLE

SITE PLAN

Des By:		Scale: 1"=50'	Proj. No. 94171.12
Drn By:	CSC	Date: 8-30-00	2 OF 16
Chk By:		Approved:	

STATE OF MARYLAND — THOMAS J. GARRETT — 15468 — ARCHITECT

#15468 10-16-15

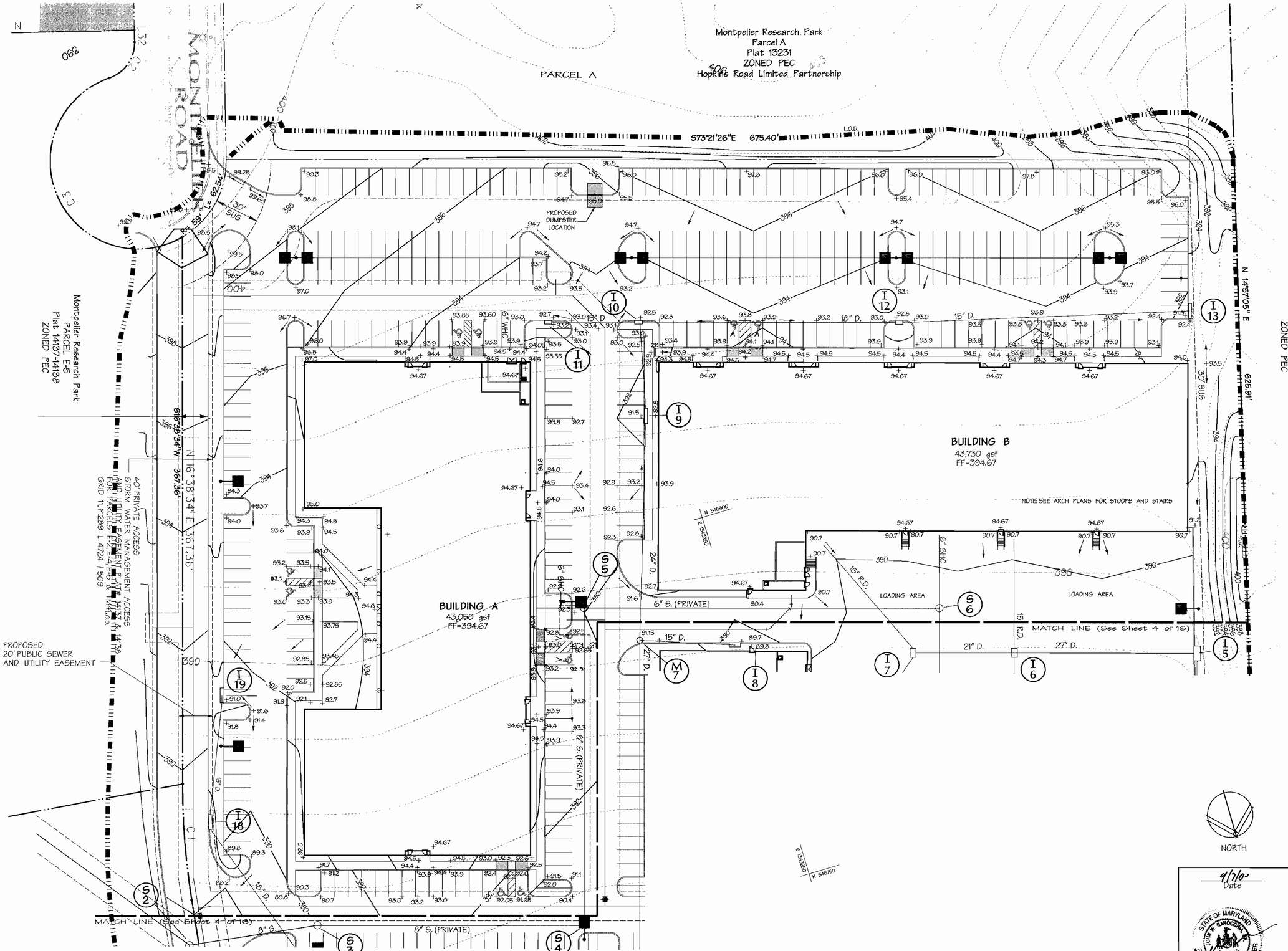
9/7/00 Date

STATE OF MARYLAND — JOHN W. RANCOURT — 10557 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10557

SDP-00-112

Wed Aug 30 14:21:23 2000 n:\94171.12\94171t2.ep1



LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
	FLOODPLAIN
79.3+	SPOT ELEVATION
	FLOW ARROW
	GUARDRAIL
	DOUBLE HEAD LIGHT POLE
	SINGLE HEAD LIGHT POLE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/28/00

DIRECTOR — DATE 9/28/00

Date	No.	Revision Description

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME: Montpelier Research Park			SECTION/ AREA: NA		PARCEL #: PARCEL E-2
PLAT #: 14137	BLOCK #: 17	ZONE: PEC	TAX/ZONE: MAP 41	ELEC. DISTRICT 5th	CENSUS TRACT: 6051.02
WATER CODE: E21			SEWER CODE: 6440000		

TITLE
GRADING PLAN

Des By:	Scale: 1"=30'	Proj. No. 94171.T2	
Drn By: CSC	Date: 8-30-00	3 OF 16	
Chk By:	Approved:		

9/7/00
Date

STATE OF MARYLAND — JOHN W. BANOCZAY — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SDP-00-112

Wed Aug 30 14:28:41 2000 m:\94171\e2\94171t2.sp2

LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
	FLOODPLAIN
79.3+	SPOT ELEVATION
	FLOW ARROW
	GUARDRAIL
	DOUBLE HEAD LIGHT POLE
	SINGLE HEAD LIGHT POLE

BUILDING A
43,050 gsf
FF=394.67

BUILDING C
33,660 gsf
FF=390.41

BUILDING D
36,542 gsf
FF=381.67

JOHNS HOPKINS UNIVERSITY
APPLIED PHYSICS LABORATORY
4001 0625
P 289
ZONED PEC

Hopkins Road Limited Partnership
Montpelier Research Park
PARCEL G-1
Plat 13939
ZONED PEC

Montpelier Research Park
PARCEL E-4
ZONED PEC

40' PRIVATE ACCESS EASEMENT

20' PUBLIC SEWER AND UTILITY EASEMENT PLAT# 14138

30' PUBLIC WATER & SEWER UTILITY EASEMENT

WETLANDS LIMITS PLAT# 13232

WETLANDS/STREAM BUFFER PLAT# 13232

FOREST CONSERVATION EASEMENT PLAT# 13939

MATCH LINE (See Sheet 3 of 16)

NOTE: SEE ARCH PLANS FOR STOOPS AND STAIRS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description

Montpelier Research Park

PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

NORTH

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

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT #	BLOCK # / ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17 / PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E21		6440000		

TITLE
GRADING PLAN

Des By:		Scale: 1"=30'	Proj. No. 94171.T2
Drn By: CSC		Date: 8-30-00	4 OF 16
Chk By:		Approved:	

9/7/00
Date

STATE OF MARYLAND — JOHN M. PANOCCIA — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SDP-00-112

Wed Aug 30 14:25:22 2000 n:\94171.t2\94171t2.dgn

LEGEND

ACREAGE — .15 / .56 — C FACTOR

A — AREA DESIGNATION

100% — PERCENT IMPERVIOUS

Johns Hopkins University
Applied Physics Laboratory
400/0625
P 289

ZONED PEC

Montpellier Research Park
Parcel A-1
Plat 16281
ZONED PEC
Hopkins Road Limited Partnership
5,966,622 sq.ft.

BUILDING A
BUILDING B
BUILDING C
BUILDING D

PRIVATE
EX. SWM FACILITY
SDP 99-92
O.S. PARCEL G-1

FOREST CONSERVATION EASEMENT PLAT# 14135

N 24°56'28" E 317.00'

S 78°50'28" E 278.00'

N 61°00'23" E 76.58'

S 43°59'37" E 54.23'

40' PRIVATE ACCESS EASEMENT

20' SEWER & UTILITY EASEMENT PLAT# 14136

20' PUBLIC EASEMENT

40' PUBLIC WATER & SEWER & UTILITY EASEMENT

40' PRIVATE ACCESS EASEMENT

40' PRIVATE ACCESS
STORM WATER MANAGEMENT ACCESS
AND UTILITY EASEMENT PLAT# 14137 & 14138
FOR PARCELS E-2, E-4, E-5 & 11441
GRID 11, F 289 - L 4724 | 1509

20' WATER AND UTILITY EASEMENT

Montpellier Research Park
PARCEL E-5
ZONED PEC

Montpellier Research Park
PARCEL E-4
ZONED PEC

MONTPELIER DRIVE
Public Road

ALL SOILS HYDROLOGIC GROUP B

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/18/00

DIRECTOR — DATE 9/22/00

Date	No.	Revision Description

Montpellier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME: Montpellier Research Park		ELECTION AREA: NA		PARCEL: PARCEL E-2
PLAT: 14137	BLOCK: 17	ZONE: PEC	TAX ZONE MAP: 41	ELECT. DISTRICT: 5th
CENSUS TRACT: 6051.02				
WATER CODE: E21		SEWER CODE: 6440000		

TITLE
DRAINAGE AREA MAP

Des By:		Scale: 1"=50'	Proj. No. 94171.T2
Drn By: CSC		Date: 8-30-00	5 OF 16
Chk By:		Approved:	

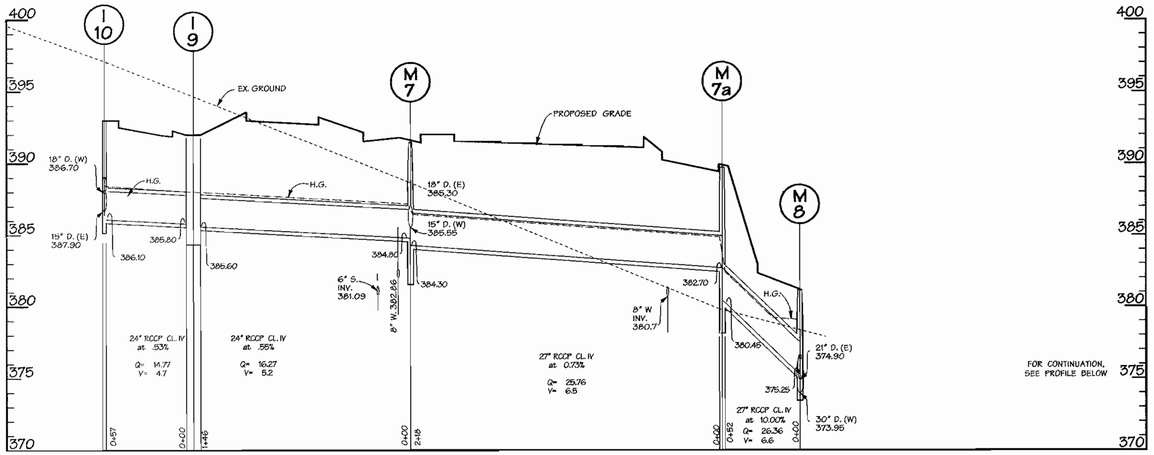
9/7/00
Date

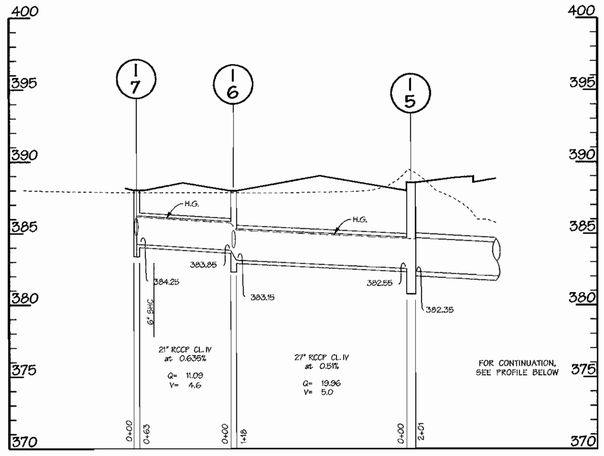
STATE OF MARYLAND — JOHN W. RANCOURT JR. — No. 10550 — REGISTERED PROFESSIONAL ENGINEER

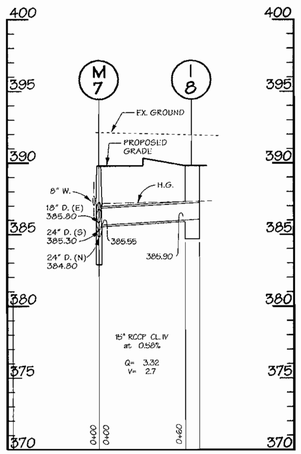
Professional Engr. No. 10550

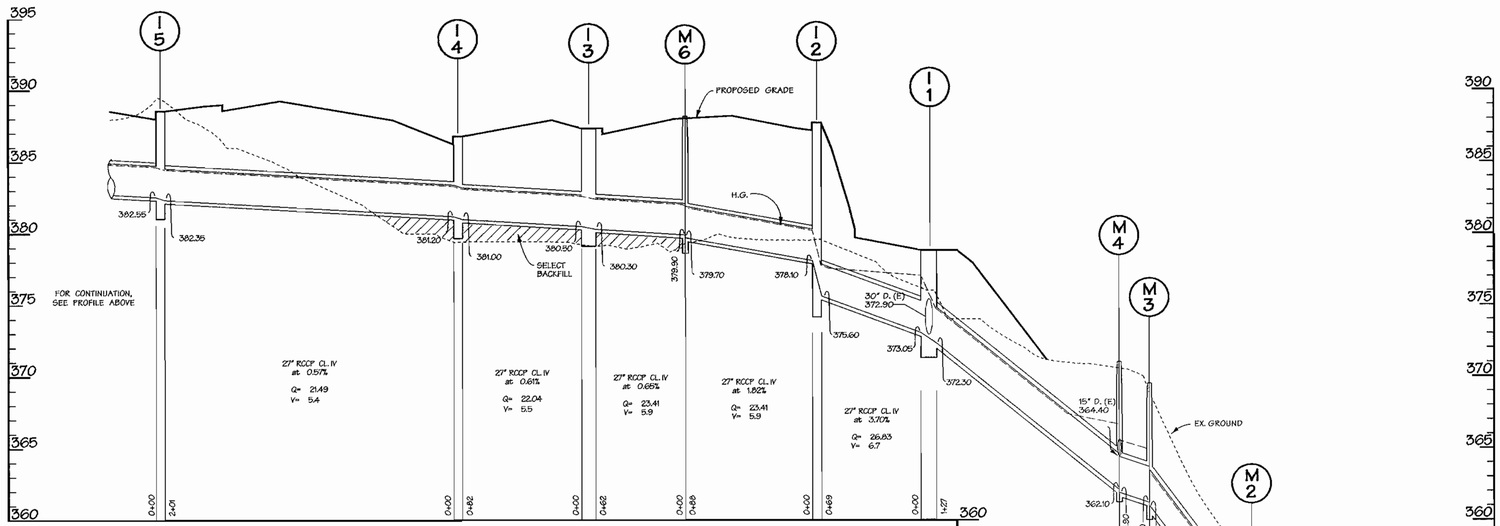
SDP-00-112

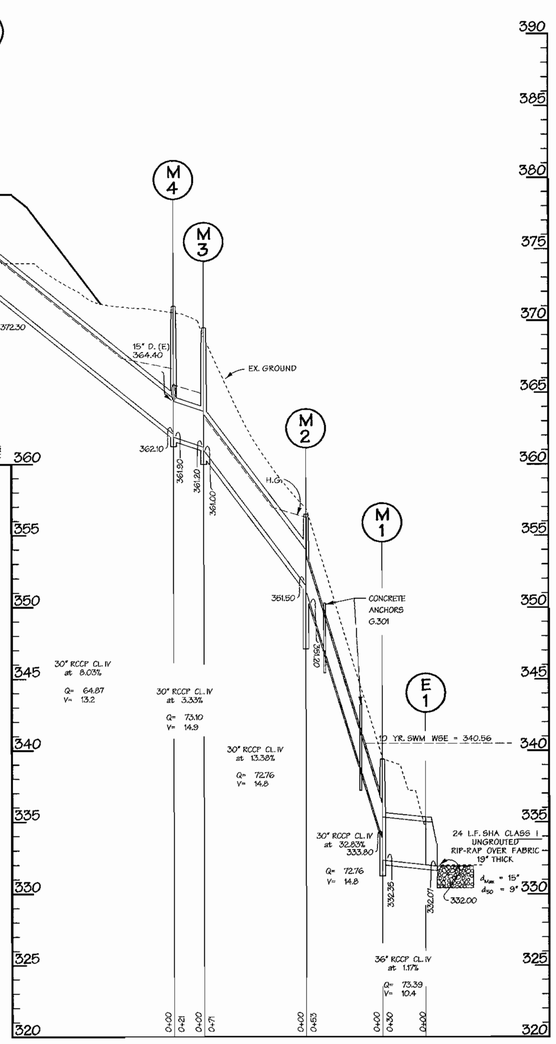
Thu Aug 31 10:49:18 2000 m:\94171.t2\94171t2.dst

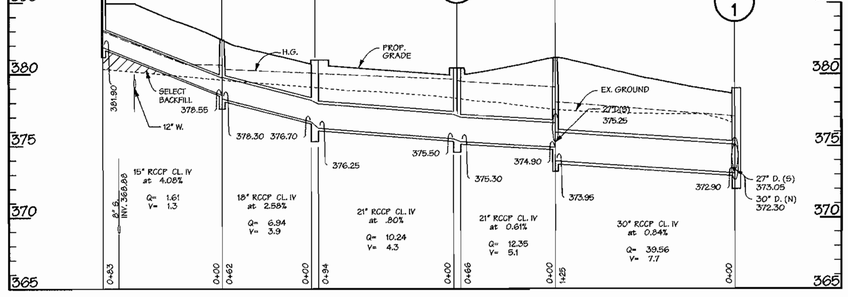












PROFILE

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

STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEV. UPPER	TOP ELEV. LOWER	REMARKS	COORDINATES NORTH	COORDINATES EAST
I-1	A-10	373.05	372.30	379.00	379.00	SD 4.02 W= 3'-9"	545,882.2	1,343,279.4
I-2	A-10	378.10	375.60	387.70	387.70	SD 4.02 W= 3'-0"	545,806.4	1,343,262.0
I-3	A-10	380.50	380.30	387.30	387.30	SD 4.02 W= 3'-0"	545,851.6	1,343,110.9
I-4	A-10	381.20	381.00	386.80	386.80	SD 4.02 W= 3'-0"	545,878.2	1,343,022.0
I-5	A-10	382.55	382.35	388.50	388.50	SD 4.02 W= 3'-0"	545,681.7	1,342,960.5
I-6	DBL. 8	383.85	383.15	388.40	388.40	SD 4.23 -	545,646.9	1,343,075.8
I-7	DBL. 8	-	384.25	388.40	388.40	SD 4.23 -	545,627.6	1,343,140.6
I-8	A-10	-	386.00	389.70	389.70	SD 4.02 W= 2'-6"	545,586.7	1,343,253.14
I-9	A-10	385.80	385.60	392.00	392.00	SD 4.02 W= 2'-6"	545,423.4	1,343,268.0
I-10	A-5	387.90	386.10	393.00	393.00	SD 4.01 W= 2'-6"	545,361.0	1,343,253.1
I-11	A-5	-	389.69	393.20	393.20	SD 4.01 W= 2'-6"	545,343.6	1,343,311.1
I-12	A-5	388.20	387.75	392.90	392.90	SD 4.01 W= 2'-6"	545,411.0	1,343,086.7
I-13	A-10	-	389.15	392.40	392.40	SD 4.02 W= 2'-6"	545,460.2	1,342,898.6
I-14	A-10	-	386.35	390.50	390.50	SD 4.02 W= 2'-6"	545,759.3	1,343,419.6
I-15	A-5	375.50	375.30	380.40	380.40	SD 4.01 W= 2'-6"	545,818.4	1,343,459.2
I-16	A-10	376.70	376.25	381.32	381.10	SD 4.02 W= 2'-6"	545,802.9	1,343,556.4
I-17	A-10	381.83	380.33	393.90	389.90	SD 4.02 W= 2'-6"	545,708.0	1,343,591.1
I-18	A-10	386.00	385.75	389.14	388.92	SD 4.02 W= 2'-6"	545,601.4	1,343,625.6
I-19	A-10	-	388.50	391.50	391.50	SD 4.02 W= 2'-6"	545,522.7	1,343,591.5
I-20	A-10	-	381.90	385.64	385.19	SD 4.02 W= 2'-6"	545,727.1	1,343,673.1
I-21	DBL. '5' COMB.	-	371.15	375.17	375.17	SD 4.34 -	546,058.4	1,343,488.1
I-30	A-10	367.69	367.49	371.66	371.15	SD 4.02 W= 2'-6"	546,040.8	1,343,680.9
I-31	A-10	-	367.80	372.00	371.66	SD 4.02 W= 2'-6"	546,043.1	1,343,726.7
M-1	6' MANHOLE	333.80	332.55	339.75	-	MD 384.05	546,122.4	1,343,336.2
M-2	5' MANHOLE	351.50	351.20	358.00	-	G 5.13	546,072.3	1,343,363.4
M-3	5' MANHOLE	361.20	361.00	369.50	-	G 5.13	546,033.4	1,343,294.1
M-4	5' MANHOLE	362.10	361.80	371.00	-	G 5.13	546,012.3	1,343,235.2
M-6	5' MANHOLE	379.90	379.70	388.16	-	G 5.13	546,219.9	1,343,169.8
M-7	4' MANHOLE	384.80	384.30	391.36	-	G 5.12	545,567.0	1,343,315.7
M-7a	4' MANHOLE	382.70	380.45	389.70		G 5.12	545,776.0	1,343,376.2
M-8	5' MANHOLE	374.90	373.95	381.15	-	G 5.13	545,822.9	1,343,390.2
M-9	4' MANHOLE	378.55	378.30	382.00	-	G 5.12 SHALLOW	545,769.2	1,343,609.4
M-10	4' MANHOLE	370.40	370.20	376.77	-	G 5.12	546,006.5	1,343,421.1
M-11	4' MANHOLE	372.65	372.45	376.79	-	G 5.12	545,989.1	1,343,551.0
M-30	4' MANHOLE	334.73	333.48	338.40	-	G 5.12 SHALLOW	546,154.1	1,343,625.2
M-31	4' MANHOLE	367.41	367.21	372.00	-	G 5.12 SHALLOW	546,042.8	1,343,676.8
				-	-			
WYE	15"X15" TEE FTG.	370.87	370.87			SD 1.11	546,006.5	1,343,421.1
E-1	CONC. END SECT.		332.00	-	-	SD 5.51	546,152.7	1,343,325.8
E-2	CONC. END SECT.		332.00	-	-	SD 5.51	546,185.0	1,343,604.7

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME			SECTION/ AREA		PARCEL #
Montpelier Research Park			NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE			SEWER CODE		
E21			6440000		

TITLE

STORM DRAIN PROFILES

Des By:	Scale: As Shown	Proj. No. 94171.T2	
Drn By: MSS	Date: 8-30-00	6 OF 16	
Chk By:	Approved:		

9/7/00
Date

STATE OF MARYLAND — JOHN W. RANCOCAS JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SDP-00-112

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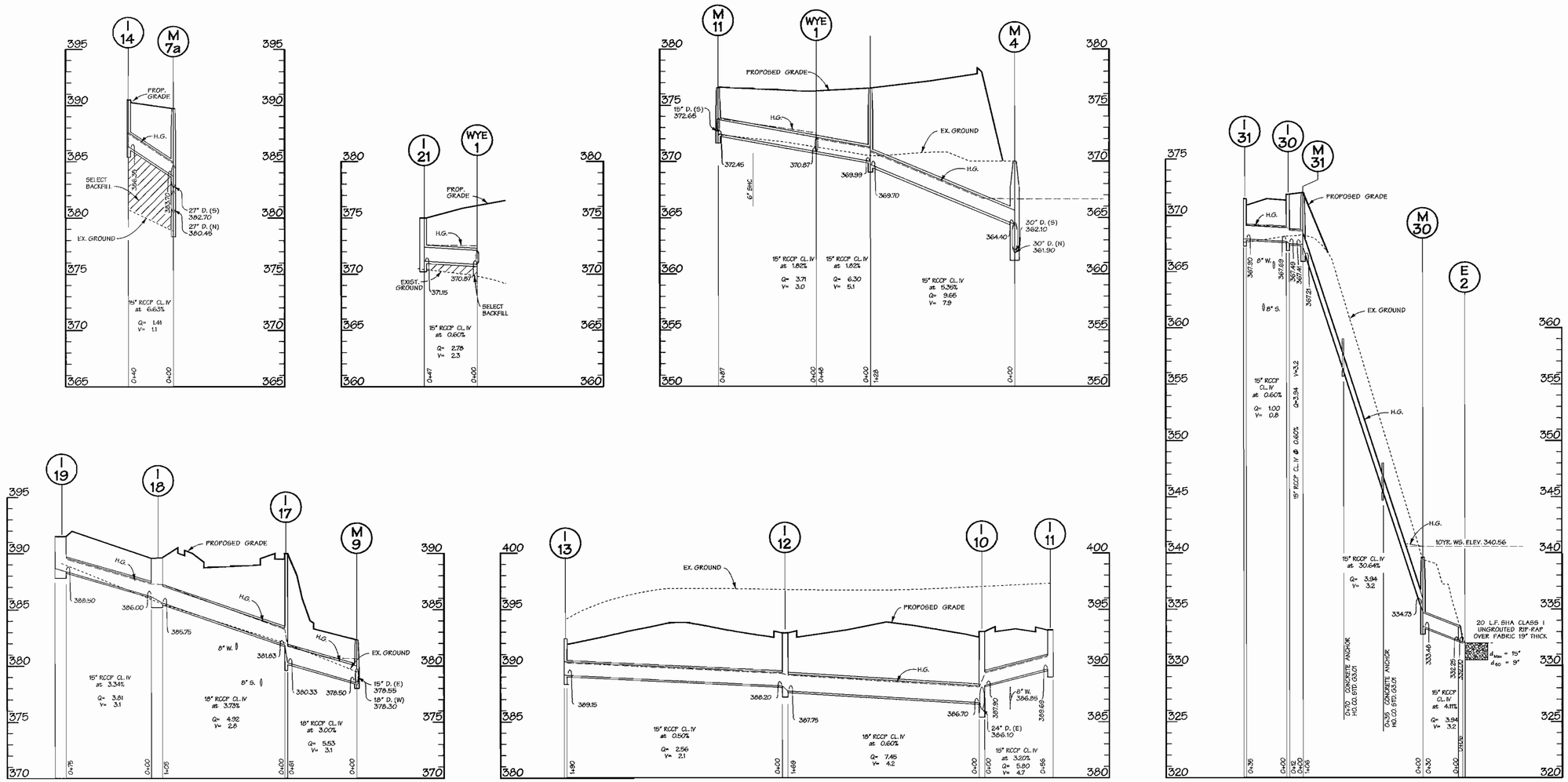


PROFILE

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

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/25/00

Date	No.	Revision Description

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

DMW

Daft · McCune · Walker, Inc.

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

200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME			SECTION AREA		PARCEL #
Montpelier Research Park			NA		PARCEL E-2
PLAT # 14137	BLOCK # 17	ZONE PEC	TAX/ZONE MAP 41	ELECT. DISTRICT 5th	CENSUS TRACT 6051.02
WATER CODE E21			SEWER CODE 6440000		

TITLE

STORM DRAIN PROFILES

Des By:	Scale: As Shown	Proj. No. 94171.T2
Drn By: MSS	Date: 8-30-00	7 OF 16
Chk By:	Approved:	

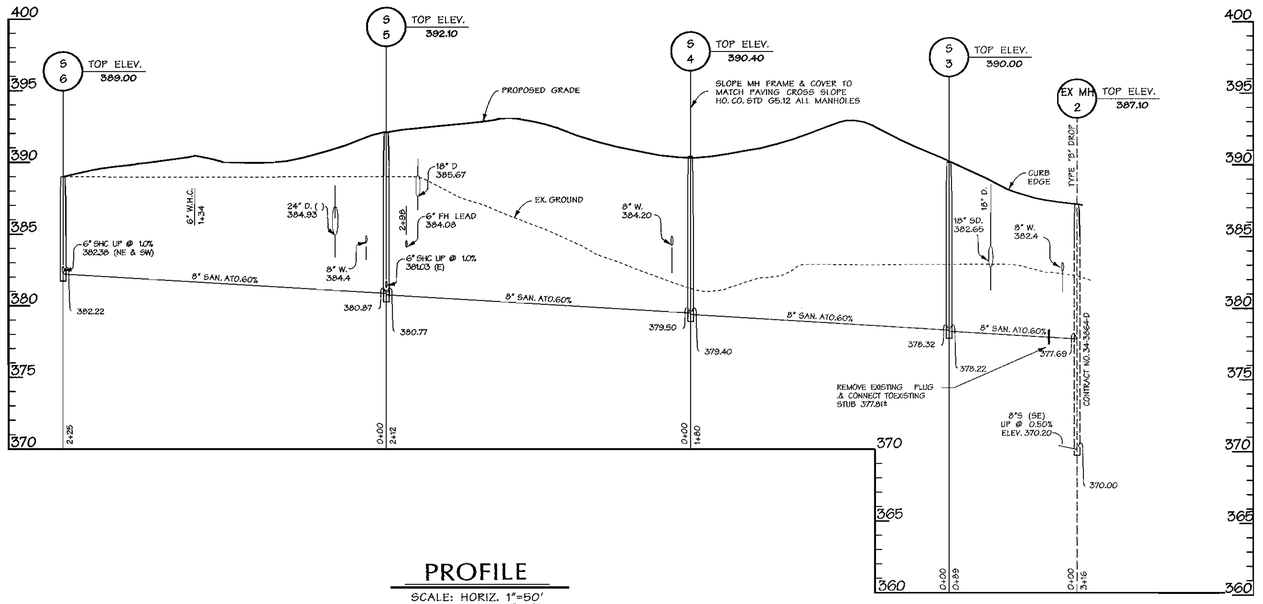
9/7/00
Date

STATE OF MARYLAND — JOHN W. RANOCCHIA, SR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

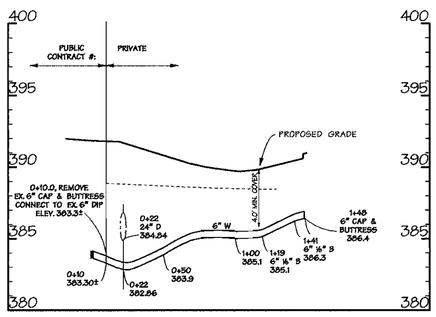
SDP-00-112

Wed Aug 30 14:44:46 2000 n:\94171.t2\94171t2e.dp2

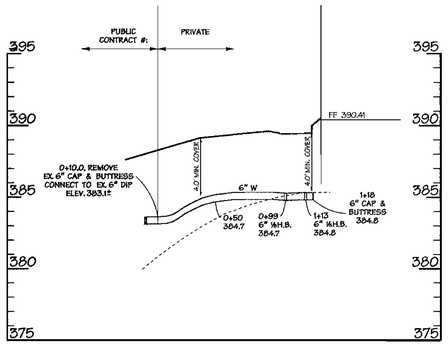


PROFILE

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



6" W. SERVICE TO BLDG. B



6" W. SERVICE TO BLDG. C

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/22/00

Date	No.	Revision Description

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E21		6440000		

TITLE

WATER AND SEWER PROFILES

Des By:	Scale: As Shown	Proj. No. 94171.12	
Drn By: MSS	Date: 8-30-00	8 OF 16	
Chk By:	Approved:		

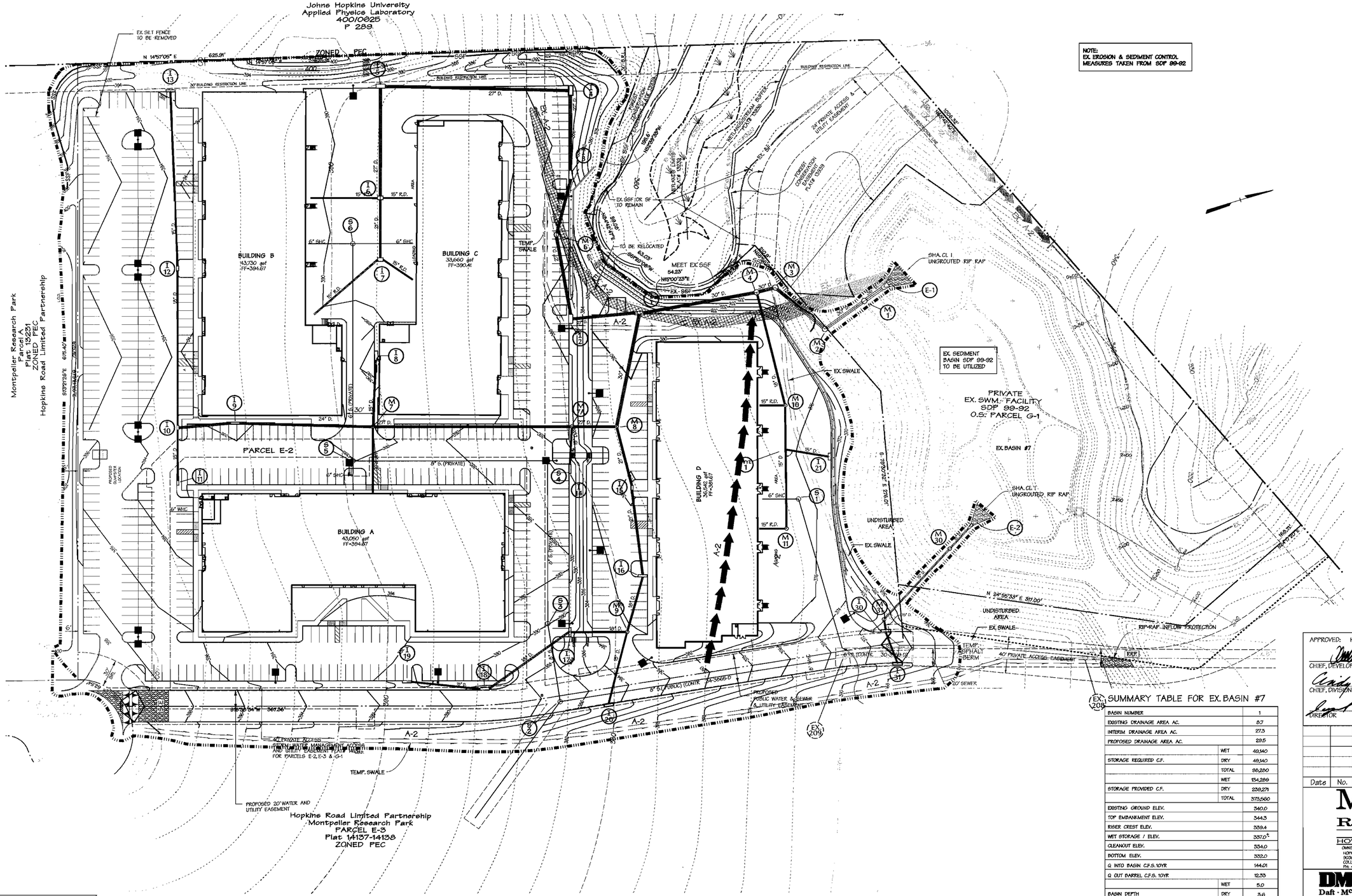
9/7/00
Date

STATE OF MARYLAND — JOHN W. FANOCCHIA — No. 10557 — REGISTERED PROFESSIONAL ENGINEER

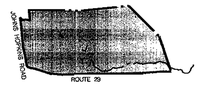
Professional Engr. No. 10557

SDP-00-112

Wed Aug 30 14:45:46 2000 n:\94171\12\94171t12a.dp3



NOTE:
EX. EROSION & SEDIMENT CONTROL MEASURES TAKEN FROM SDP 99-92



KEY SHEET

LEGEND

SYMBOL	DESCRIPTION
	STREAM
SSF	SUPER SILT FENCE
	EXISTING CONTOURS
	EXISTING TREES/ TREE LINE
	WETLAND/ STREAM BUFFER
	WETLAND
400	PROPOSED CONTOURS
	FLOODPLAIN
M	LIMIT OF DISTURBANCE
25'	EXISTING 25' WIDE UTILITY EASEMENT
	SOIL BORING
SCE	SCE- STABILIZED CONSTRUCTION ENTRANCE
	EROSION CONTROL MATTING
A-2	EARTH DIKE
	TEMP. ASPHALT BERM
A-2	TEMP. SWALE
RRIP	RIP RAP INFLOW PROTECTION

SUMMARY TABLE FOR EX. BASIN #7

BASIN NUMBER		1
EXISTING DRAINAGE AREA AC.		8.7
INTERIM DRAINAGE AREA AC.		27.3
PROPOSED DRAINAGE AREA AC.		29.5
STORAGE REQUIRED C.F.	WET	48,140
	DRY	48,140
	TOTAL	96,280
STORAGE PROVIDED C.F.	WET	154,289
	DRY	220,271
	TOTAL	375,560
EXISTING GROUND ELEV.		340.0
TOP EMBANKMENT ELEV.		344.3
RISER CREST ELEV.		339.4
WET STORAGE / ELEV.		337.0'
CLEANOUT ELEV.		334.0
BOTTOM ELEV.		332.0
Q INTO BASIN C.F.S. 10YR		144.01
Q OUT BARREL C.F.S. 10YR		12.33
BASIN DEPTH	WET	5.0
	DRY	3.6
	TOTAL	8.6
DESIGN HIGHWATER 100 yr. Clogged		342.26
FREEBOARD PROVIDED		2.0
BASIN SIDE SLOPES		3:1
BARREL DIAMETER		48"
RISER DIMENSIONS		6X6
WET STORAGE ZONE ELEV.		332-337
DRY STORAGE ZONE ELEV.		337-339.4
BOTTOM DIMENSION		AS SHOWN
DIMENSION FROM CLEANOUT ELEV. TO RISER TOP		5.6'
START PERFORATIONS AT ELEVATION		337.0

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/18/00

DIRECTOR — DATE 9/25/00

Date	No.	Revision Description

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER:
HOPKINS ROAD LIMITED PARTNERSHIP
8000 RIO BRANCH ROAD, SUITE 200
COLUMBIA, MD 21045
PH: 410-997-7722

DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E21		6440000		

TITLE

SEDIMENT & EROSION CONTROL PLAN

Des By:		Scale: 1"=50'	Proj. No. 94171.12
Drn By:	CSC	Date: 7-27-00	9 OF 16
Chk By:		Approved:	

SDP-00-112

9/7/00
Date

STATE OF MARYLAND — JOHN W. RANCCHINO — 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

CERTIFICATION BY THE ENGINEER:

"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. Ranchino, P.E. — DATE 9/7/00

CERTIFICATION BY THE DEVELOPER:

"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 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."

Daniel S. Hudson — DATE 8/1/00

DANIEL S. HUDSON, EVP, TC MIDATLANTIC, INC.

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

Cheryl Simmons 9/13/00
U.S. SOIL CONSERVATION SERVICE — DATE

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

Geoffrey Schrenge 9/13/00
HOWARD S.C.D. — DATE

Thu Jul 27 08:24:27 2000 n:\94171.12\94171t2.sec

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 salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural 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 mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slags, coarse fragments, gravel sticks, roots, trash, and other materials larger 1 1/2 inch in diameter.

ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, 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.

II. For sites having disturbed areas under 5 acres:

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

III. For sites having disturbed areas over 5 acres:

I. On soil meeting Topsoil specifications, obtain test 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 contents 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.

or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization- Section I- 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, Slop 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.

Topsoil Specifications

1. A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL".
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
   A. SEVEN CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1.
   B. FOURTEEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL.1, CHAPTER 12, OF THE "HOWARD COUNTY MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDINGS, SODS, TEMPORARY SEEDING, AND MULCHING (SECTION 2). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL AREA OF SITE	12.33	ACRES
AREA DISTURBED	+/- 14.00	ACRES
AREA TO BE ROOFED OR PAVED	+/- 10.00	ACRES
AREA TO BE VEGETATIVELY STABILIZED	+/- 6.00	ACRES
TOTAL CUT	+/- 16,000	CUBIC YARDS
TOTAL FILL	+/- 16,700	CUBIC YARDS
OFF-SITE WASTE/BORROW AREA LOCATION WASTE =		

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY DPW SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE DAY, WHICHEVER IS SHORTER.

Sediment Control General Notes

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:

1. PREFERRED - APPLY 2 TONS PER ACRES DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 UREAFORM FERTILIZER (9 LBS./1000 SQ.FT.)
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ.FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ.FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 1 THRU OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SQ.FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD MAY 1 THRU JULY 31 SEED WITH 60 LBS. KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ.FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THRU FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. (3) - SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING - APPLY 1½ TO 2 TONS PER ACRE (70 - 90 LBS./1000 SQ.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 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ.FT.) FOR ANCHORING.

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

TEMPORARY SEEDING NOTES

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

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

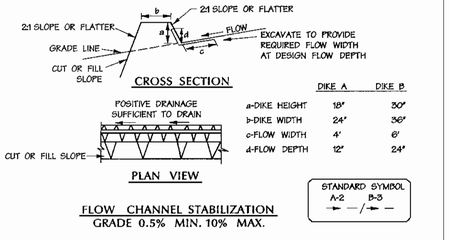
SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ.FT.)

SEEDING - FOR THE PERIODS MARCH 1 THRU APRIL 30, AND AUGUST 16 THRU OCTOBER 15, SEED WITH 2½ BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ.FT.). FOR THE PERIOD MAY 1 THRU AUGUST 14, SEED WITH 5 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ.FT.). FOR THE PERIOD NOVEMBER 16 THRU FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING - APPLY 1½ TO 2 TONS PER ACRE (70 - 90 LBS./1000 SQ.FT.) OF UNROTTED WEED FREE SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL. PER ACRE (5 GAL./1000 SQ.FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES 8 FT. OR HIGHER, USE 348 GAL. PER ACRE (8 GAL./1000 SQ.FT.) FOR ANCHORING.

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

Permanent/Temporary Seeding Notes



CROSS SECTION

	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

PLAN VIEW

STANDARD SYMBOL: A-2

Earth Dike — Not To Scale

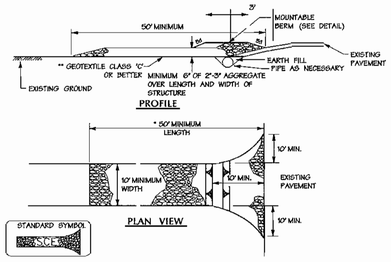
FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. SEED AND COVER WITH STRAW MULCH.
2. 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.

CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY EARTH DIKES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 1%.
2. RUNOFF DIVERTED FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. RUNOFF DIVERTED FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED, STABILIZED AREA AT A NON-EROSIVE VELOCITY.
4. 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.
5. 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.
6. FILL SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE DIKE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED PERIODICALLY AND AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — A - 1 - 8 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



PROFILE

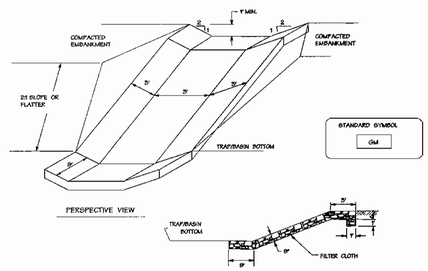
PLAN VIEW

CONSTRUCTION SPECIFICATIONS

1. LENGTH - MINIMUM OF 50' (*50' FOR SINGLE RESIDENCE LOT).
2. WIDTH - 10' MINIMUM, SHOULD BE FLARED AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
3. 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.
4. 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.
5. 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.
6. 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

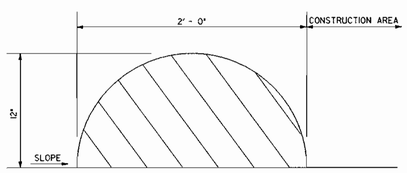


CONSTRUCTION SPECIFICATIONS

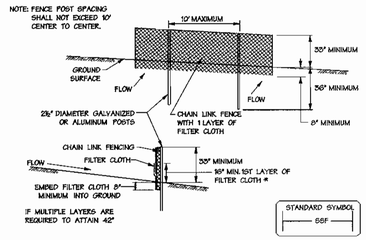
1. GABION INFLOW PROTECTION SHALL BE CONSTRUCTED OF 9'x 3'x 3' GABION BASKETS FORMING A TRAPEZOIDAL CROSS SECTION 1' DEEP, WITH 2:1 SLOPE, AND A 3' BOTTOM WIDTH.
2. GEOTEXTILE CLASS C SHALL BE INSTALLED UNDER ALL GABION BASKETS.
3. THE STONE USED TO FILL THE GABION BASKETS SHALL BE 4" - 7".
4. GABIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
5. 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 — D - 7 - 2 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Gabion Inflow Protection — Not To Scale



Temporary Asphalt Berm — Not To Scale



CONSTRUCTION SPECIFICATIONS

1. 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.
2. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. 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.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE CHAIN LINK FENCE WITH TIES SPACED EVERY 24" AT THE TOP AND MID SECTION.
5. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM OF 8" INTO THE GROUND.
6. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6" AND FOLDED.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE, OR WHEN SILT REACHES 50% OF FENCE HEIGHT.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE — H - 28 - 3 — MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Super Silt Fence — Not To Scale

Sediment Control

SEQUENCE OF CONSTRUCTION *

	NUMBER OF DAYS
1. Obtain grading permit	7
2. Cleanout and repair existing sediment basin and install erosion and sediment control measures	14
3. Relocate temporary swale and earthdike	10
4. Construct storm drain E-1 to M-3, leave top off M-3 and temporarily divert drainage to M-3. Construct retaining walls 1 and 2. backfill retaining walls and rough grade site.	90
5. Construct M-3 to I-4 and E-2 to I-31	30
6. Excavate for building foundation and construct remaining stormdrains	60
7. Construct utilities	60
8 Fine grade and construct paving, buildings and walks.	180
9. Fine grade and stabilize all remaining areas within the limits of disturbance in accordance with etde and specifications	30
10. With approval of the sediment control inspector remove sediment control measures and stabilize.	7
11. With approval of the sediment control inspector cleanout and convert sediment basin to stormwater management facility in accordance with SDP 99-92.	30

*NOTE: SITE HAS BEEN MASS GRADED PER SDP-99-92.

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

U.S. SOIL CONSERVATION SERVICE — 9/13/00 DATE

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

HOWARD S.C.D. — 9/13/00 DATE

CERTIFICATION BY THE ENGINEER:

"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."

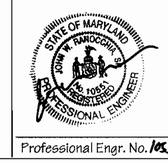
John W. Manoukian, P.E. — 9/7/00 DATE

CERTIFICATION BY THE DEVELOPER:

"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 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."

DANIEL S. HUDSON, EVP, TC MIDATLANTIC, INC. — 8/1/00 DATE

9/7/00 Date



Professional Engr. No. 10551

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/19/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/25/00 DATE

DIRECTOR — 9/29/00 DATE

Date	No.	Revision Description

Montpelier Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER: HOPKINS ROAD LIMITED PARTNERSHIP, 9030 RED BRANCH ROAD, SUITE 200, COLUMBIA, MD 21045, PH: 410-997-7222

DEVELOPER: TRAMMELL CROW COMPANY, 6701 DEMOCRACY BLVD., SUITE 410, BETHESDA, MD 20817

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

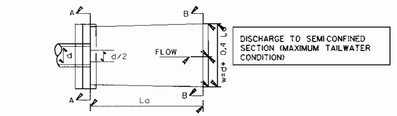
SUBDIVISION NAME: Montpelier Research Park			SECTION/ AREA: NA		PARCEL #: PARCEL E-2
PLAT # 14137	BLOCK # 17	ZONE: PEC	TAX/ZONE MAP: 41	ELEC. DISTRICT: 5th	CENSUS TRACT: 6051.02
WATER CODE: E21			SEWER CODE: 6440000		

TITLE: SEDIMENT & EROSION CONTROL DETAILS

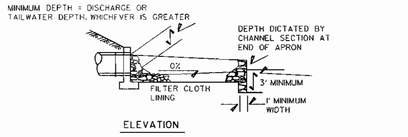
Des By:	Scale: 1"=50'	Proj. No. 94171.12	
Drn By: CSC	Date: 7-27-00	10 OF 16	
Chk By:	Approved:		

SDP-00-112

Wed Jul 26 18:01:54 2000 m:\94171\t2\94171t2.se2

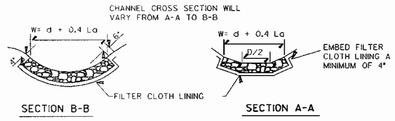


PLAN VIEW



ELEVATION

NOTE: FILTER CLOTH MUST EXTEND A MINIMUM OF 6" BEYOND APRON AND SIDES



SECTION B-B SECTION A-A

F - 18 - 8

NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile class C shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

F - 18 - 8A, 9A, 10A

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Rock Outlet Protection 1

Not To Scale

DUST CONTROL
SPECIFICATIONS

Temporary Methods:

1. Mulches - See Standards for vegetative stabilization with mulches only. Mulch should be crimped or tacked to prevent blowing.
2. Vegetative Cover - See standards for temporary vegetative cover.
3. 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.
4. 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.
5. Barriers - Solid board fences, snow fences, burlap fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 10 times their height are effective in controlling soil blowing.
6. Calcium Chloride - Apply at a rate that will keep surface moist. May need retreatment.

Permanent Methods:

1. 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.
2. Topsoiling - Covering with less erosive soil materials. See standards for topsoiling.
3. Stone - Cover surface with crushed stone or coarse gravel.

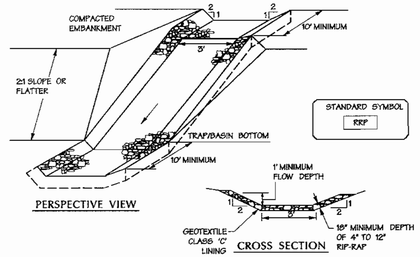
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 30 - 1

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Dust Control Specifications

Not To Scale



PERSPECTIVE VIEW CROSS SECTION

CONSTRUCTION SPECIFICATIONS

1. RIP-RAP LINED INFLOW CHANNELS SHALL BE 1'IN DEPTH, HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND 3' (MIN.) BOTTOM WIDTH. THE CHANNEL SHALL BE LINED WITH 4" TO 12" RIP-RAP TO A DEPTH OF 18".
2. FILTER CLOTH SHALL BE INSTALLED UNDER ALL RIP-RAP. FILTER CLOTH SHALL BE GEOTEXTILE CLASS C.
3. ENTRANCE AND EXIT SECTIONS SHALL BE INSTALLED AS SHOWN ON THE DETAIL SECTION.
4. RIP-RAP USED FOR THE LINING MAY BE RECYCLED FOR PERMANENT OUTLET PROTECTION IF THE BASIN IS TO BE CONVERTED TO A STORMWATER MANAGEMENT FACILITY.
5. GABION INFLOW PROTECTION MAY BE USED IN LIEU OF RIP-RAP INFLOW PROTECTION.
6. RIP-RAP SHOULD BLEND INTO EXISTING GROUND.
7. RIP-RAP INFLOW PROTECTION SHALL BE USED WHERE THE SLOPE IS BETWEEN 4:1 AND 10:1, FOR SLOPES FLATTER THAN 10:1 USE EARTH DIKE OR TEMPORARY SWALE LINING CRITERIA.

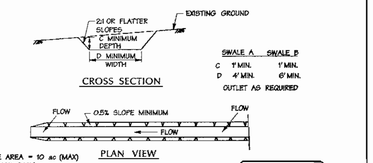
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 30 - 1

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Rip Rap Inflow Protection

Not To Scale



CROSS SECTION

	SWALE A	SWALE B
C	1' MIN.	1' MIN.
D	4' MIN.	6' MIN.

OUTLET AS REQUIRED

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

PLAN VIEW

STANDARD SYMBOL
A - 2 / B - 3

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

1. SEED AND COVER WITH STRAW MULCH.
2. SEED AND COVER WITH EROSION CONTROL MATTING OR LINE WITH SOD.
3. 4"-7" STONE OR RECYCLED CONCRETE EQUIVALENT PRESSED INTO SOIL IN A MINIMUM 7" LAYER.

CONSTRUCTION SPECIFICATIONS

1. ALL TEMPORARY SWALES SHALL HAVE UNINTERRUPTED POSITIVE GRADE TO AN OUTLET. SPOT ELEVATIONS MAY BE NECESSARY FOR GRADES LESS THAN 1%
2. RUNOFF DIVERTED FROM A DISTURBED AREA SHALL BE CONVEYED TO A SEDIMENT TRAPPING DEVICE.
3. RUNOFF DIVERTED FROM AN UNDISTURBED AREA SHALL OUTLET DIRECTLY INTO AN UNDISTURBED STABILIZED AREA AT A NON-EROSIVE VELOCITY.
4. 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 SWALE.
5. 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.
6. FILL, IF NECESSARY, SHALL BE COMPACTED BY EARTH MOVING EQUIPMENT.
7. ALL EARTH REMOVED AND NOT NEEDED FOR CONSTRUCTION SHALL BE PLACED SO THAT IT WILL NOT INTERFERE WITH THE FUNCTIONING OF THE SWALE.
8. INSPECTION AND MAINTENANCE MUST BE PROVIDED PERIODICALLY AND AFTER EACH RAIN EVENT.

U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

H - 30 - 1

MARYLAND DEPARTMENT OF ENVIRONMENT
WATER MANAGEMENT ADMINISTRATION

Temporary Swale

Not To Scale

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/27/00

Date	No.	Revision Description

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

U.S. SOIL CONSERVATION SERVICE — DATE 9/13/00

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

HOWARD S.C.D. — DATE 9/13/00

CERTIFICATION BY THE ENGINEER:

"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. Ramcchin, Jr. — DATE 9/7/00

CERTIFICATION BY THE DEVELOPER:

"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 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."

Daniel L. Hudson — DATE 8/1/00

DANIEL L. HUDSON, EVP, TC MIDATLANTIC, INC.

9/7/00
Date

STATE OF MARYLAND — JOHN W. RAMCCHIN, JR. — No. 10557 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10557

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER:
HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200
COLUMBIA, MD 21045
PH: 410-997-7222

DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD, SUITE 410
BETHESDA, MD 20817

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

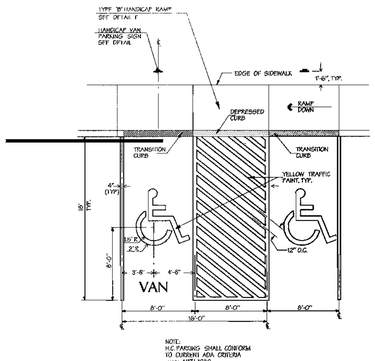
SUBDIVISION NAME			SECTION/ AREA		PARCEL #
Montpelier Research Park			NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE:	E21	SEWER CODE:	6440000		

TITLE
SEDIMENT & EROSION CONTROL DETAILS

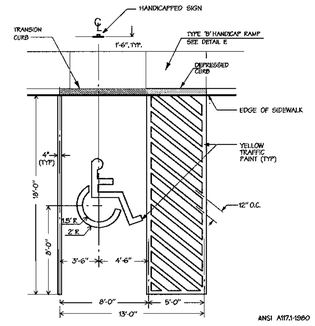
Des By:		Scale: AS NOTED	Proj. No. 94171.T2
Drn By:	CSC	Date: 7-27-00	11 OF 16
Chk By:		Approved:	

SDP-00-112

Wed Jul 26 15:02:25 2000 m:\94171\t2\94171t2.se3



(A) Handicap Parking: Van & Standard
Not To Scale



(D) Handicap Parking Space
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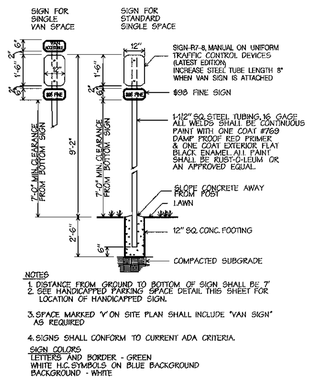
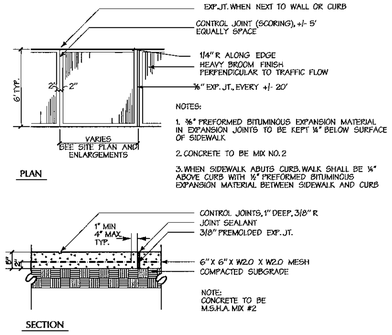
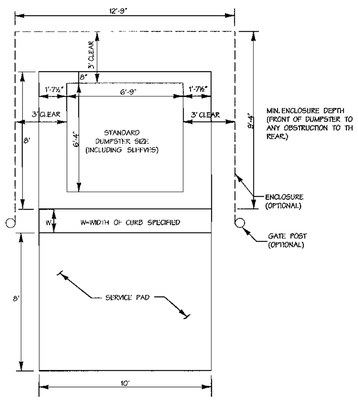


(G) Handicap Parking Signs
Not To Scale



(J) Concrete Walk
Not To Scale



(B) Dumpster Enlosure
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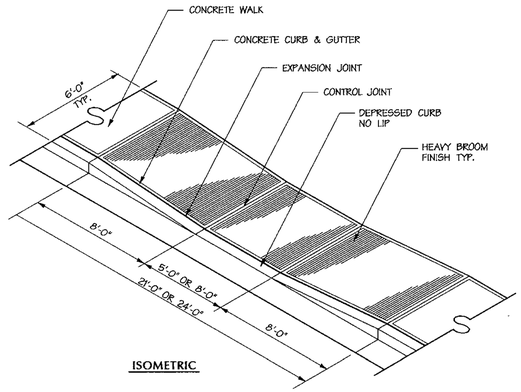

ISOMETRIC

(E) Type "B" Handicapped Ramp
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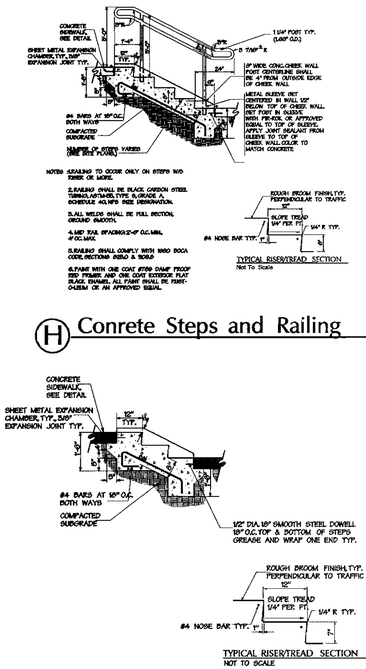
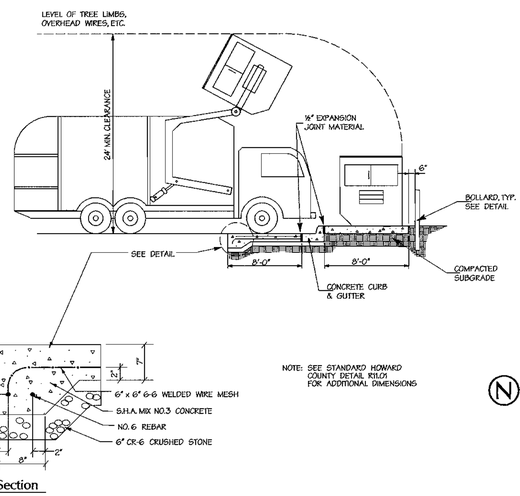
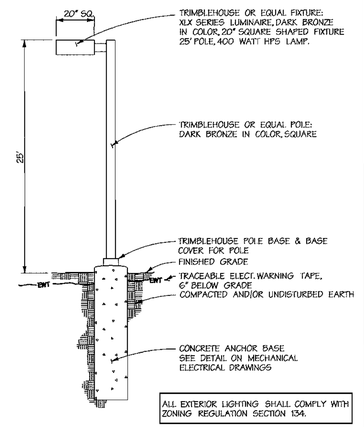


(H) Conrete Steps and Railing

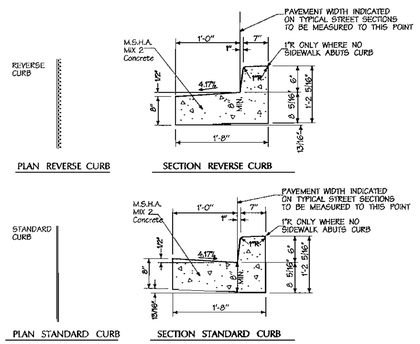
(I) Concrete Steps with 2 Risers/No Railing
Not To Scale



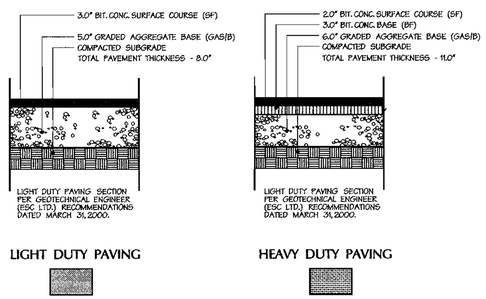
(K) Service Pad & Dumpster Bin
Not To Scale



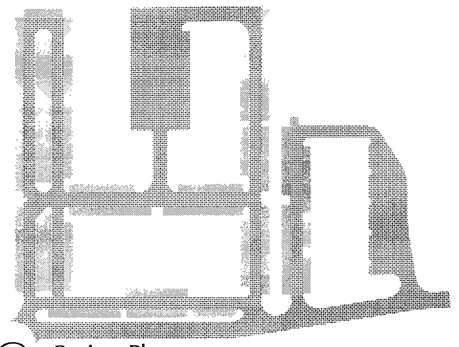
(N) Sharp Cuttoff Area Light
Not To Scale



(C) Concrete Curb, Typical
Not To Scale



(F) Paving
Not To Scale



(L) Paving Plan
Not To Scale

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/28/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

9/7/00
Date

STATE OF MARYLAND — JOHN W. NANOCCHIO — No. 10351 — PROFESSIONAL ENGINEER

Professional Engr. No. 10351

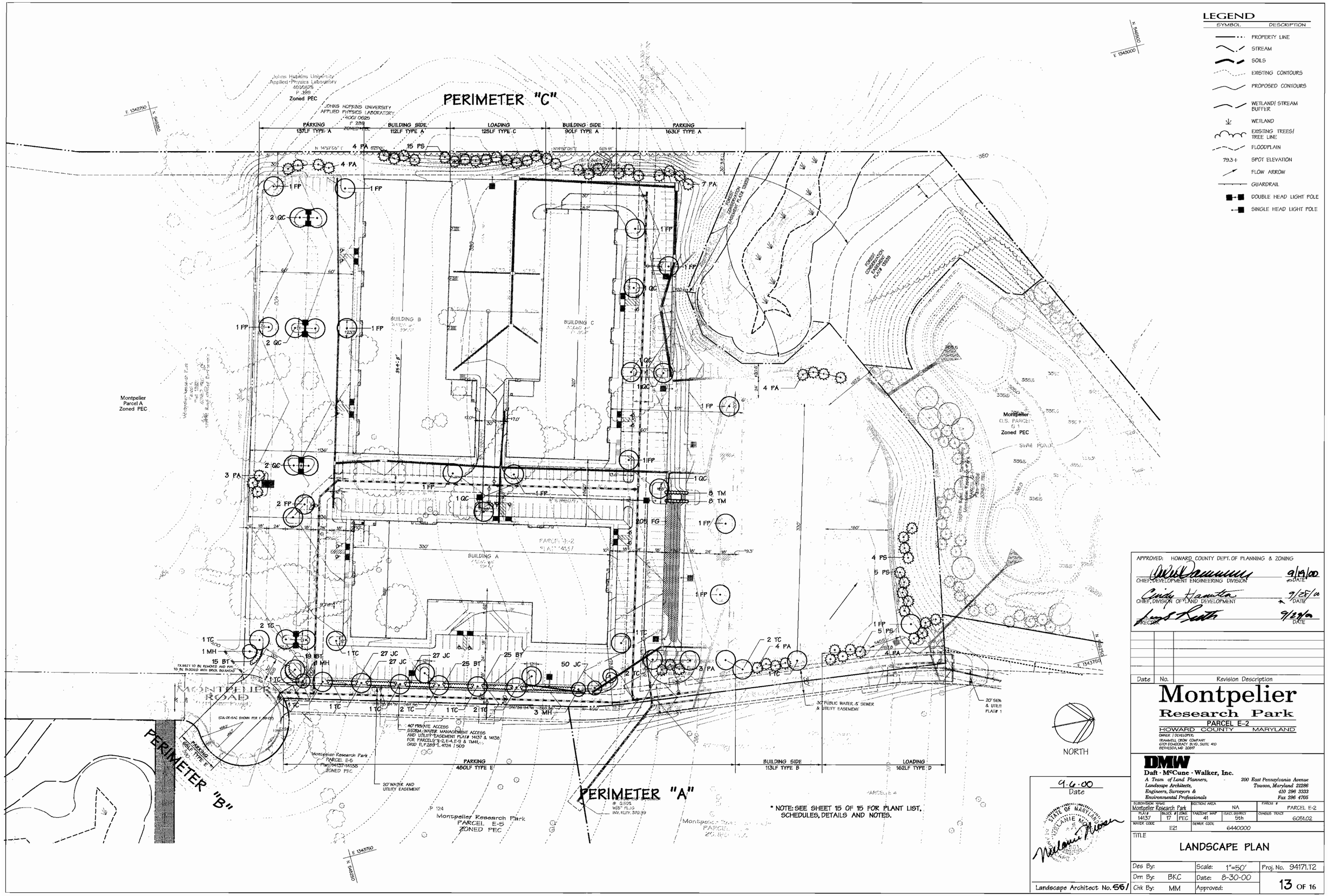
SUBDIVISION NAME: Montpelier Research Park		SECTION/AREA: NA		PARCEL #: PARCEL E-2
PLAT # 14137	BLOCK # 17	ZONE: PEC	TAX/ZONE MAP: 41	ELECT. DISTRICT: 5th
CENSUS TRACT: 6051.02				
WATER CODE: E21		SEWER CODE: 6440000		

TITLE
SITE DETAILS

Des By:	Scale: AS SHOWN	Proj. No. 94171.12	
Drn By: CSC	Date: 8-30-00	12 OF 16	
Chk By:	Approved:		

SDP-00-112

Wed Aug 30 14:47:33 2000 m:\94171.12\94171.12.dtl



LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
	FLOODPLAIN
79.3+	SPOT ELEVATION
	FLOW ARROW
	GUARDRAIL
	DOUBLE HEAD LIGHT POLE
	SINGLE HEAD LIGHT POLE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/19/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/25/00 DATE

DIRECTOR — 9/27/00 DATE

Date	No.	Revision Description

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E21		6440000		

TITLE

LANDSCAPE PLAN

Des By:		Scale: 1"=50'	Proj. No. 94171.12
Drn By:	BKC	Date: 8-30-00	13 OF 16
Chk By:	MM	Approved:	

9.6.00
Date

STATE OF MARYLAND — MELANIE MANN — No. 561

Landscape Architect No. 561

SDP-00-112

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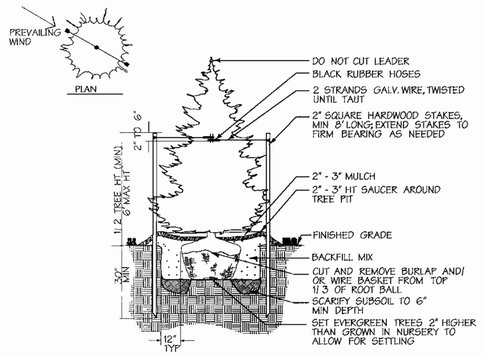
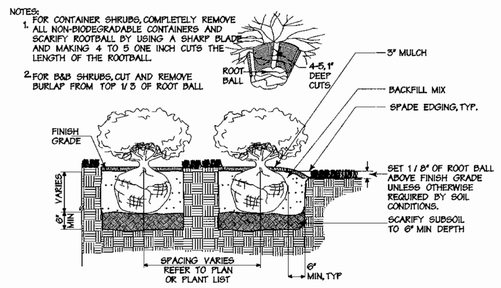
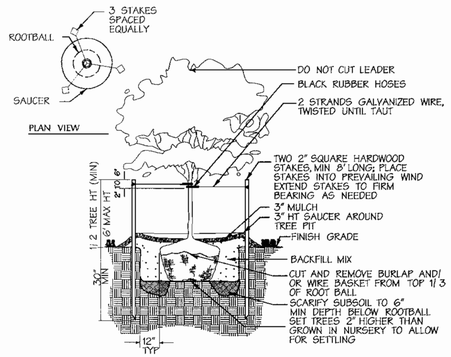


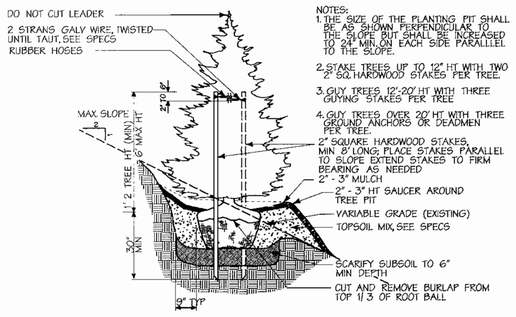
A Evergreen Tree Planting
Not To Scale



A Shrub Bed Planting
Not To Scale



B Less Than 3" Cal. Tree Planting
Not To Scale



C Evergreen Tree Planting on Slope
Not To Scale

Landscape Notes

1. The contractor shall review architectural/engineering plans to become thoroughly familiar with grading and surface utilities.

2. All equipment and tools shall be placed so as not to interfere or hinder the pedestrian and vehicular traffic flow. See Seasonal Plant List for planting times of bulbs and seasonal plants.

3. The contractor shall coordinate with lighting and irrigation contractors regarding timing of installation of plant material.

4. The contractor shall insure that his work does not interrupt established or projected drainage patterns.

5. During planting operations, excess waste materials shall be promptly and frequently removed from the site.

6. The contractor is advised of the existence of underground utilities on the site. Their exact location shall be verified in the field with the owner or general contractor prior to the commencement of any digging operations. In the event they are uncovered, the contractor shall be held responsible for all damage to utilities and such damage shall not result in any additional expenses to the owner.

7. If utility lines are encountered in excavation of tree pits, other locations for trees shall be made by the contractor without additional compensation. No changes of location shall be made without approval of the landscape architect.

8. Maintain positive drainage out of planting beds at a minimum 2% slope. All grades, dimensions, and existing conditions shall be verified by the contractor on site before construction begins. Any discrepancies shall be brought to the attention of the landscape architect or owner.

9. Every possible safeguard shall be taken to protect building surfaces, equipment, and furnishing. The contractor shall be responsible for any damage or injury to person or property which may occur as a result of his negligence in the execution of the work.

10. In the event of variation between quantities shown on the plant list and the plans, the plans shall control. The contractor is responsible for verifying all plant quantities prior to the commencement of work. All discrepancies shall be reported to the landscape architect for clarification prior to bidding. The contractor shall furnish plant material in sizes as specified in plant list.

11. The contractor shall stake all material located on the site for review and/or adjustment by the landscape architect prior to planting. All locations are to be approved by the landscape architect before excavation.

12. Plants shall conform to current "American Standards for Nursery Stock" by American Association of Nurserymen (AAN), particularly with regard to size, growth, size of ball, and density of branch structure. Plant material shall be tagged at the source by the landscape architect unless this requirement is specifically waived.

13. All plants (B&B or container) shall be properly identified by weather-proof labels securely attached thereto before delivery to project site. Labels shall identify plants by name, species, and size. Labels shall not be removed until the final inspection by the landscape architect or agent in charge.

14. Any material and/or work may be rejected by the landscape architect if it does not meet the requirements of the specifications. All rejected materials shall be removed from the site by the contractor.

15. No substitutions shall be made without written consent of the owner or landscape architect.

16. The landscape architect or owner shall have the right, at any stage of the operations, to reject any and all work and material which, in his opinion, does not meet the requirements of these plans and specifications.

17. The contractor shall be wholly responsible for stability and conditions of all trees and shrubs and shall be legally liable for any damage caused by instability of any plant materials.

18. All proposed trees to be installed either entirely in or entirely out of planting beds. Planting bed lines are not to be obstructed. Mulch shall have been shredded within the last six months.

19. All planting beds adjacent to lawn, sod, or seeded areas shall be spade edged.

20. Maintenance shall begin after each plant has been installed and shall continue until 90 days after final acceptance by the architect or owner representative. Maintenance includes mowing of turf, watering, pruning, weeding, fertilizing, mulching, replacement of sick or dead plants, and any other care necessary for the proper growth of the plant material. The contractor must be able to provide continued maintenance if requested by the owner.

21. Upon completion of all landscaping, an acceptance of the work shall be held. The contractor shall notify the landscape architect or owner for scheduling the inspection at least seven (7) days prior to the anticipated inspection date.

22. All trees shall be guaranteed for 12 months from the date of acceptance.

23. The contractor is responsible for testing project soils. The contractor is to provide a certified soils report to the owner. The contractor shall verify that the soils on site are acceptable for the proper growth of the proposed plant material. Should the contractor find poor soil conditions, the contractor shall be required to provide soil amendments as necessary. These amendments shall include, but not be limited to, fertilizers, lime, and topsoil. Proper planting soils must be verified prior to planting of materials.

24. PLANTING MIX:
a. Planting mix shall be prepared at approved on-site staging area using approved on-site existing soil. Mix minimum quantities of 20 cubic yards or sufficient mix for entire job if less than 20 cubic yards is required.

b. Thoroughly mixed in the following proportions for tree and shrub planting mix:
.5 cy existing soil
.2 cy sharp sand
.3 cy wood residuals
4.5 lbs treble superphosphate
5 lbs dolmonite limestone (eliminate for acid loving plants)

c. For bed planting, shrubs and groundcover spaces 24 inches or closer, incorporate the following ingredients per 20 sf and incorporate into top 8 inches of existing soils by rototilling or similar method of incorporation.
.2 cy sharp sand
.3 cy organic material
4.5 lbs treble superphosphate
5 lbs dolmonite limestone (eliminate for acid loving plants)

25. The contractor shall dispose of stumps and major roots of all plants to be removed. Any depressions caused by removal operations shall be refilled with fertile, friable soil placed and compacted so as to reestablish proper grade for new planting and/or lawn areas.

26. The contractor shall insure adequate vertical drainage in all plant beds and planters.

27. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT to ROADWAYS	ADJACENT to PERIMETER PROPERTIES	LANDSCAPE CALCULATIONS
LINEAR FEET OF ROADWAY	PERIMETER A 460' L.F. of LANDSCAPE TYPE 'E'		1 SHADE TREE @ 40' L.F. = 12 SHADE TREE 1 SHRUB @ 4' L.F. = 120 SHRUB
	PERIMETER A 115' L.F. of LANDSCAPE TYPE 'D'		1 SHADE TREE @ 50' L.F. = 2 SHADE TREE 1 EVERGREEN @ 40' L.F. = 3 EVERGREEN
	PERIMETER A 162' L.F. of LANDSCAPE TYPE 'D'		1 SHADE TREE @ 50' L.F. = 3 SHADE TREE 1 EVERGREEN @ 10' L.F. = 16 EVERGREEN
	PERIMETER B 65' L.F. of LANDSCAPE TYPE 'E'		1 SHADE TREE @ 40' L.F. = 2 SHADE TREE 1 SHRUB @ 4' L.F. = 16 SHRUB
FRONTAGE / PERIMETER		PERIMETER C 502' L.F. OF LANDSCAPE TYPE 'A'	1 SHADE TREE @ 60' L.F. =9 SHADE TREES
		PERIMETER C 125' L.F. OF LANDSCAPE TYPE 'C'	1 SHADE TREE @ 40' L.F. = 3 SHADE TREES 1 EVERGREEN @ 20' L.F. = 6 EVERGREENS
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)			NO
CREDIT FOR BERM (DESCRIBE BELOW IF NEEDED)			NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS			24 125 126
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2 :1 SUBSTITUTION) SHRUBS (10 :1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			16 50 5 215

* SUBSTITUTIONS: 50 EVERGREEN TREES HAVE BEEN SUBSTITUTED FOR 15 SHADE TREES

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	510
Number of Trees Required	@ 1/20 sp. = 26
Number of Trees Provided Shade Trees Other Trees (2:1 substitution)	26
Number of Islands Required @ 1/20 sp.	26
Number of Islands Provided	29

Bonding Amount: 57 shade trees @ $300
25 evergreen trees @ $150
136 shrubs @ $50
Total: $24,930

Plant List

QTY	SYM	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
SHADE TREES				
15	FP	FRAXINUS PENNSYLVANICA 'MARSHALL'S SEEDLESS' GREEN ASH	2 1/2" - 3" CAL. 12'-14' HT	B & B FULL HEAD
11	QC	QUERCUS COCCINEA SCARLET OAK	2 1/2" - 3" CAL. 12'-14' HT	B & B FULL HEAD
19	TC	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LINDEN	2 1/2" - 3" CAL. 12'-14' HT	B & B FULL HEAD
FLOWERING TREES				
5	MH	MALUS 'HARGOZAM' HARVEST GOLD CRABAPPLE	8'-10' HT.	B & B LIMBED UP 5'
EVERGREEN TREES				
33	PA	PICEA ABIES NORWAY SPRUCE	6'-8' HT.	B & B UNSHEARED
29	PS	PINUS STROBUS WHITE PINE	6'-8' HT.	B & B UNSHEARED
SHRUBS				
84	BT	BERBERIS THUNBERGII 'CRIMSON PYGMY' CRIMSON PYGMY BARBERRY	18-24" SPD	CONT 3' OC
205	FG	FORSYTHIA 'GOLD TIDE' GOLD TIDE FORSYTHIA	18-24" SPD	CONT 4' OC
131	JC	JUNIPERUS CHINENSIS 'SAN JOSE' SAN JOSE JUNIPER	18-24" SPD	CONT 3' OC
16	TM	TAXUS X MEDIA 'WARDII' SPREADING YEW	18-24" HT	B&B 4' OC

NOTE: FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF $24,930

THIS PROJECT COMPLIES WITH REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION PER SDP 98-11 AND F 98-45

DEVELOPER'S / BUILDER'S CERTIFICATE

THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES & WALLS. ALL PLANT MATERIAL 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.

I / WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL. I / WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME DANIEL S. HUDSON, EVP, TC MIDATLANTIC, INC. 8/1/00 DATE

9.6.00
Date

STATE OF MARYLAND
MELANIE MOSER

Landscape Architect No. 951

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/13/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/18/00 DATE

DIRECTOR — 9/25/00 DATE

Date	No.	Revision Description

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER:
HOPKINS ROAD LIMITED PARTNERSHIP
9020 KEO BRANCH ROAD, SUITE 200
COLUMBIA, MD 21045
PH: 410-997-7222

DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

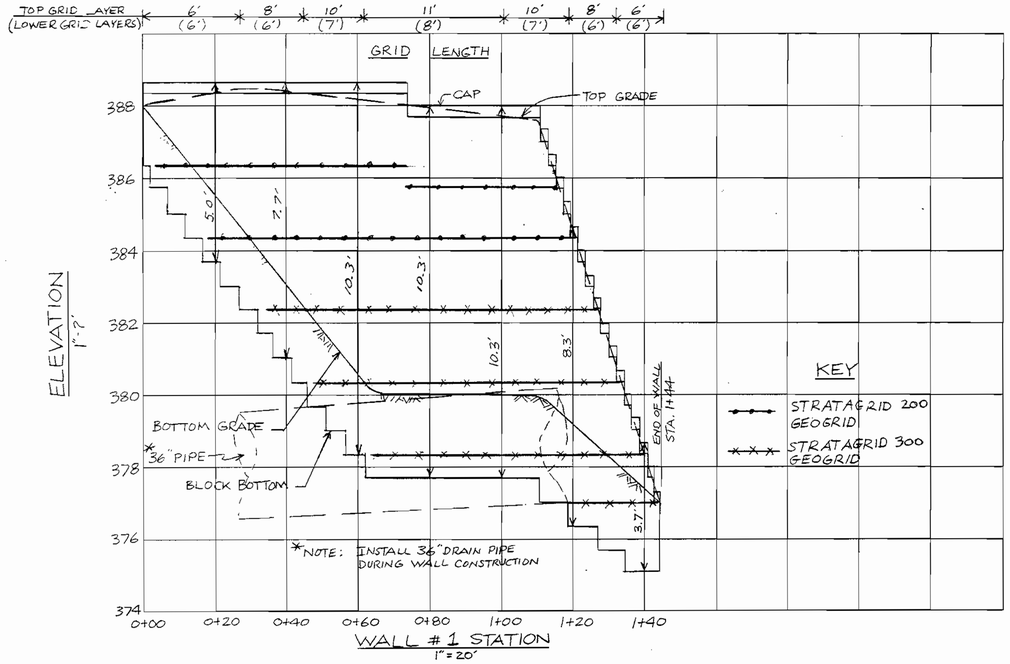
SUBDIVISION NAME: Montpelier Research Park			SECTION/ AREA: NA		PARCEL #: PARCEL E-2
PLAT #: 14157	BLOCK #: 17	ZONE: PEC	TAX/ZONE MAP: 41	ELEC. DISTRICT: 5th	CENSUS TRACT: 6051.02
WATER CODE: E21			SEWER CODE: 6440000		

TITLE
Landscape Notes & Details

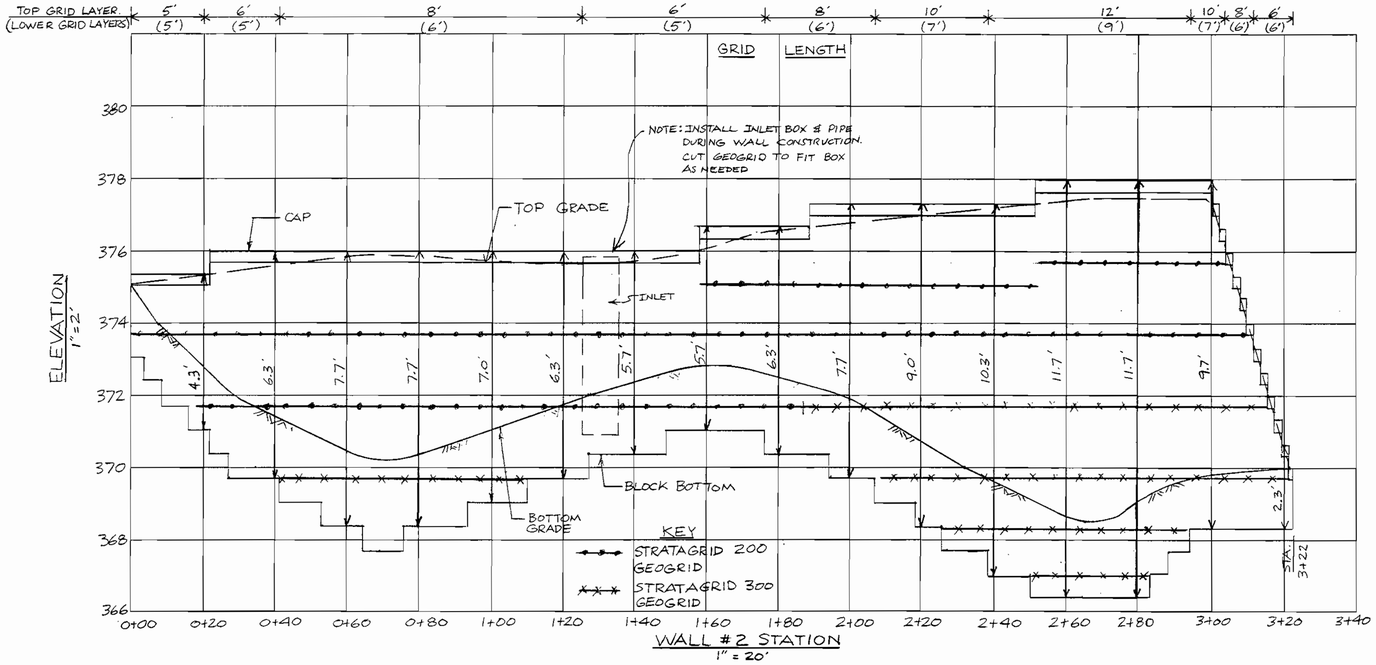
Des By:		Scale: 1"=50'	Proj. No. 94171.12
Drn By:	BKC	Date: 7-27-00	14 OF 16
Chk By:	MM	Approved:	

SDP-00-112

Wed Jul 26 15:00:22 2000 m:\94171\2\94171t2.lyr



WALL #1 PROFILE



WALL #2 PROFILE

SUBDIVISION NAME: MONTPELIER RESEARCH PARK			SECTION AREA NA	PARCEL #: PARCEL E-2
PLAT # 14137	BLOCK # 17	ZONE PEC	TAX/ZONE MAP 41	ELECTION DISTRICT 5TH HOWARD COUNTY, MD
SCALE: AS SHOWN		DATE: 8-9-99		SHEET #: 15 OF 16

OWNER/DEVELOPER
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/28/00

DIRECTOR — DATE 9/29/00

STATE OF MARYLAND — HOWARD WARREN STUTTERHEIM — REGISTERED PROFESSIONAL ENGINEER

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
12011 Guilford Road – Suite 106 (410) 880-4788
Annapolis Junction, Maryland Fax: (410)880-4098

FILE NUMBER:	
JOB NUMBER:	98036-A
SCALE:	AS SHOWN
PAGE	15 OF 16

REVISED DATE:	
DRAWN BY:	RWS
APPROVED BY:	RMH
DATE:	8/9/99

RETAINING WALL CONSTRUCTION DETAILS

MONTPELIER RESEARCH PARK **HOWARD COUNTY, MD.** Sheet 15

SDP-00-112

WALL #1 LOCATION PLAN
1" = 20'

WALL #2 LOCATION PLAN
1" = 20'

SPECIFICATION GUIDELINES
KEYSTONE CONCRETE MODULAR RETAINING WALL

■ PART 1: GENERAL

1.01 DESCRIPTION

A. Work includes furnishing and installing modular block retaining wall units to the lines and grades designated on the construction drawings and as specified herein.

B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit fill and backfill to the lines and grades designated on the construction drawings.

C. Furnishing and installing all appurtenant materials required for construction of the retaining wall as shown on the construction drawings.

1.02 RELATED WORK

A. Section 02275 — Geogrid Soil Reinforcement.

1.03 REFERENCE STANDARDS

A. ASTM C90—85 Hollow Load Bearing Masonry Units.

B. ASTM C140—75 Sampling and Testing Concrete Masonry Units.

C. ASTM C145—85 Solid Load Bearing Concrete Masonry Units.

1.04 DELIVERY, STORAGE AND HANDLING

A. Contractor shall check the materials upon delivery to assure that proper material has been received.

B. Contractor shall prevent excessive mud, wet cement, epoxy, and like materials which may affix themselves, from coming in contact with the materials.

C. Contractor shall protect the materials from damage. Damaged material shall not be incorporated into the retaining wall structure.

1.05 SUBMITTALS

A. Samples of all products used in the work of this section.

B. Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.

1.06 QUALITY ASSURANCE

A. Soil testing and inspection service for quality control testing during earthwork operations will be supplied by the owner.

■ PART 2: PRODUCTS

2.01 CONCRETE UNITS

A. Masonry units shall be KeyStone® Retaining Wall Units as manufactured by: ____

B. Concrete wall units shall have a minimum net 28 day compressive strength of 3000 psi. The concrete shall have a maximum moisture absorption of 6 to 8 lbs/ft³.

C. Exterior dimensions may vary in accordance with ASTM C90—85. Standard and Compac units shall have a minimum of 1 square foot face area each. Mini units shall have a minimum 1/2 square foot face area each.

D. KeyStone Standard units shall provide a minimum of 150 psf of wall face area. Fill which is contained within the dimensions of the units may be considered as 80% effective weight.

E. Units shall have angled sides capable of concave and convex alignment curves with a minimum radius of 3.5 feet.
NOTE: Where applicable, for straight walls use non-angled straight side cap units.

F. Units shall be interlocked with non-corrosive fiberglass pins.

G. Units shall be interlocked as to provide a minimum 1/4 inch setback per each course of wall height.
NOTE: Where applicable, zero setback or one inch setback per course options can be used.

2.02 FIBERGLASS CONNECTING PINS

A. Connecting pins shall be 1/2 inch diameter thermoset isopthalic polyester resin/pultruded fiberglass reinforcement rods.

B. Pins shall have a minimum flexural strength of 128,000 psi and short beam shear of 6400 psi.

2.03 BASE LEVELING PAD MATERIAL

A. Material shall consist of compacted sand, gravel, crushed rock or leveling concrete (non-reinforced) as shown on construction drawing. The compacted leveling pad shall be a minimum 6 inches thick. When using a non-reinforced leveling concrete option, 1" to 3" thick, maintain the total leveling pad thickness.

2.04 UNIT FILL

A. Fill for units shall be free draining crushed stone, 3/8" to 3/4", or coarse gravel (no more than 5% shall pass the No. 200 sieve with a maximum size of 3/4"). Gradation of the fill shall be approved by the Engineer.

B. Place recommended fill behind the retaining wall units.

2.05 BACKFILL

A. Material shall be insitu soils when approved by the engineer unless otherwise specified in the drawings. Unsuitable soils for backfill (heavy clays or organic soils) shall not be used in the backfill or in the reinforced soil mass.

B. Where additional fill is required contractor shall submit sample and specifications to the engineer to determine if acceptable.

■ PART 3: EXECUTION

3.01 EXCAVATION

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Over excavation shall not be paid for and replacement with compacted fill and/or wall system components will be required at contractor expense. Contractor shall be careful not to disturb embankment materials beyond lines shown.

3.02 FOUNDATION SOIL PREPARATION

A. Foundation soil shall be excavated as required for footing dimensions shown on the construction drawings, or as directed by the Engineer.

B. Foundation soil shall be examined by the Engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength. Soils not meeting required strength shall be removed and replaced with acceptable material.

C. Over-excavated areas shall be filled with approved compacted backfill material.

3.03 BASE LEVELING PAD

A. Leveling pad materials shall be placed as shown on the construction drawings, upon undisturbed insitu soils, to a minimum thickness of 6 inches.

B. Material shall be compacted so as to provide a level hard surface on which to place the first course of units. Compaction shall be to 95% of standard proctor for sand or gravel type materials. For crushed rock, material shall be densely compacted.

C. Leveling pad shall be prepared to insure complete contact of retaining wall unit with base.

D. Leveling pad materials shall be to the depths and widths shown. Contractor may opt for using reduced depth of sands, gravel or crushed rock using a concrete topping. Concrete shall be unreinforced and a maximum of 1" to 3" thick.

3.04 UNIT INSTALLATION

A. First course of concrete wall units shall be placed on the base leveling pad. The units shall be checked for level and alignment. The first course is the most important to insure accurate and acceptable results.

B. Insure that units are in full contact with base.

C. Units are placed side by side for full length of wall alignment. Alignment may be done by means of a string line or offset from base line.

D. Install fiberglass connecting pins and fill all voids at units with unit fill material. Tamp fill.

E. Sweep all excess material from top of units and install next course. Insure each course is completely unit filled, backfilled and compacted prior to proceeding to next course.

F. Lay up each course insuring that pins protrude into adjoining courses above a minimum of one inch. Two pins are required per unit. Pull each unit forward, away from the embankment, against pins in the previous course and backfill as the course is completed. Repeat procedure to the extent of wall height.

G. As appropriate where the wall changes elevation, units can be stepped with grade or turned into the embankment with a convex return end. Provide appropriate buried units on compacted leveling pad in area of convex return end.

3.05 CAP INSTALLATION

A. Place KeyStone Cap units over projecting pins from units below. Pull forward to set back position. Back fill and compact to finished grade.

B. As required, provide permanent mechanical connection to wall units with construction adhesive or epoxy. Apply adhesive or epoxy to bottom surface of cap units and install on units below.

3.06 GEOGRID INSTALLATION

A. Follow the requirements of Section 02275, GEOGRID SOIL REINFORCEMENT.

GEOGRID SOIL REINFORCEMENT

■ PART 1: GENERAL

1.01 DESCRIPTION

A. Work includes furnishing and installing geogrid reinforcement, wall fill, and backfill to the lines and grades designated on the construction drawings.

B. Work includes furnishing and installing all appurtenant materials required for construction of the geogrid reinforced soil retaining wall as shown on the construction drawings.

1.02 RELATED WORK

A. Section 02276 . . . . . . KEYSTONE CONCRETE MODULAR RETAINING WALL.

1.03 REFERENCE STANDARDS

A. See specific geogrid manufacturers reference standards.

1.04 DELIVERY, STORAGE AND HANDLING

A. Contractor shall check the geogrid upon delivery to assure that the proper material has been received.

B. Geogrids shall be stored above —20°F.

C. Contractor shall prevent excessive mud, wet cement, epoxy and like materials which may affix themselves to the gridwork, from coming in contact with the geogrid material.

D. Rolled geogrid material may be laid flat or stood on end for storage.

1.05 SUBMITTALS

A. Samples of all products used in the work of this section.

B. Latest edition of manufacturers specifications for proposed materials, method of installation and list of material proposed for use.

1.06 QUALITY ASSURANCE

A. Soil testing and inspection services for quality control testing during earthwork operation will be supplied by the owner.

■ PART 2 PRODUCTS

2.01 DEFINITIONS

A. Geogrid products shall be high density polyethylene expanded sheet or polyester woven fiber materials, specifically fabricated for use as soil reinforcement.

B. Concrete retaining wall units are as detailed on the drawings and are specified under Section: 02276 . . . . . KEYSTONE CONCRETE MODULAR RETAINING WALL.

C. Wall fill is a free draining granular material used within the concrete units.

D. Backfill is the soil which is used as fill for the reinforced soil mass.

E. Foundation soil is the insitu soil.

2.02 GEOGRID

A. Geogrid shall be the type as shown on the drawings having the property requirements as described within the manufacturers specifications.

2.03 ACCEPTABLE MANUFACTURERS

A. A manufacturer's product shall be approved by the Engineer prior to bid opening.

■ PART 3: EXECUTION

3.01 FOUNDATION SOIL PREPARATION

A. Foundation soil shall be excavated to the lines and grades as shown on the construction drawings or as directed by the Engineer.

B. Foundation soil shall be examined by the Engineer to assure that the actual foundation soil strength meets or exceeds assumed design strength.

C. Over-excavated areas shall be filled with approved compacted backfill material.

D. Foundation soil shall be proof rolled prior to fill and geogrid placement.

3.02 WALL ERECTION

A. Wall erection shall be as specified under Section: 02276 . . . . KEYSTONE CONCRETE MODULAR RETAINING WALL.

3.03 GEOGRID INSTALLATION

A. The geogrid soil reinforcement shall be laid horizontally on compacted backfill. Connect to the concrete wall units by hooking geogrid over fiberglass pins. Pull taut, and anchor before backfill is placed on the geogrid.

B. Slack in the geogrid at the wall unit connections shall be removed.

C. Geogrid shall be laid at the proper elevation and orientation as shown on the construction drawings or as directed by the Engineer.

D. Correct orientation (roll direction) of the geogrid shall be verified by the contractor.

E. **To pretension geogrid, pull pinned geogrid taut to eliminate loose folds. Stake or secure back edge of geogrid prior to and during backfill and compaction.**

F. Follow manufacturers guidelines relative to overlap requirements of uniaxial and biaxial geogrids.

3.04 FILL PLACEMENT

A. Backfill material shall be placed in 8 inch lifts and compacted to 95% of Standard Proctor.

B. Backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack or loss of pretension of the geogrid.

C. Only hand-operated compaction equipment shall be allowed within 3 feet of the back surface of the KeyStone units.

D. Backfill shall be placed from the wall rearward into the embankment to insure that the geogrid remains taut.

E. Tracked construction equipment shall not be operated directly on the geogrid. A minimum backfill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

F. Rubber-tired equipment may pass over the geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.

TYPICAL WALL PROFILE
N.T.S.

OWNER/ DEVELOPER
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[signature] 9/19/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

Cindy Hamilton 9/25/00
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 9/29/00
DIRECTOR — DATE

SUBDIVISION NAME: MONTPELIER RESEARCH PARK		SECTION AREA: NA	PARCEL #: PARCEL E-2
PLAT #: 14137	BLOCK #: 17 / ZONE: PEC	TAX/ZONE MAP: 41	ELECTION DISTRICT: 5TH HOWARD COUNTY, MD
SCALE: AS SHOWN	DATE: 8.9.99		SHEET #: 16 OF 16

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
12011 Guilford Road – Suite 106, Annapolis Junction, Maryland
(410) 880–4788, Fax: (410)880–4098

FILE NUMBER:	REVISED DATE:
JOB NUMBER: 98036-A	DRAWN BY: RWS
SCALE: AS SHOWN	APPROVED BY: RMH
PAGE 16 OF 16	DATE: 8/9/99

RETAINING WALL CONSTRUCTION DETAILS

MONTPELIER RESEARCH PARK — HOWARD COUNTY, MD. Sheet 16

SDP-00-112

SITE DEVELOPMENT PLAN
for
MONTPELIER RESEARCH PARK
PARCEL E–2
At Montpelier Research Park, Howard County, Maryland

SHEET INDEX

SHT.	DESCRIPTION
1	COVER SHEET
2	SITE PLAN
3	GRADING PLAN
4	GRADING PLAN
5	DRAINAGE AREA MAP
6	STORM DRAIN PROFILES
7	STORM DRAIN PROFILES
8	WATER AND SEWER PROFILES
9	EROSION & SEDIMENT CONTROL PLAN
10	EROSION & SEDIMENT CONTROL DETAILS
11	EROSION & SEDIMENT CONTROL DETAILS
12	SITE DETAILS
13	LANDSCAPE & LIGHTING PLAN
14	LANDSCAPE PLAN DETAILS
15	RETAINING WALL CONSTRUCTION DETAILS
16	RETAINING WALL CONSTRUCTION DETAILS

ADDRESS CHART

Bldg.	Street Address
A	7701 MONTPELIER ROAD
B	7703 MONTPELIER ROAD
C	7705 MONTPELIER ROAD
D	7707 MONTPELIER ROAD

COPYRIGHT ADC - THE MAP PEOPLE, PERMITTED USE No. 20993366

LOCATION MAP
SCALE: 1" = 2000'

BENCHMARK

Coordinates and bearing shown are referred to the system of coordinates established in the Maryland Coordinate System as projected by Howard County Geodetic Control Stations: NAD 83. Elevations shown hereon are referred to the North American Vertical Datum-NVD 29 and are based on the following Howard County Survey Control Stations: (Translated meters to feet.)

DESIGNATION	NORTH (sFT)	EAST(sFT)	Elevation (sFT)
4113	544492.88	1344177.82	391.65
0020	543170.96	1343822.16	403.62

GENERAL NOTES

1. All construction shall be performed in accordance with the latest standards and specifications of Howard County, plus MSHA standards and specifications if applicable or as specified.

2. Approximate location of existing utilities are based solely on available records. Contractor shall verify the location of any utilities which may be impacted by the work. The contractor shall take all necessary precautions to protect the existing utilities and maintain uninterrupted service. Any damage incurred due to contractors operation shall be repaired immediately at the contractor's expense.

3. The contractor shall test pit existing utilities at least five (5) days before starting work shown on these drawings to verify their location and elevation. The contractor shall notify the engineer immediately if location of utilities is other than shown.

4. The contractor shall notify 'Miss Utility' at 1-800-257-7777 at least 48 hours prior to any excavation work being done, and shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.

5. Any damage caused by the Contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be repaired at the Contactors expense.

6. Topo taken from mass grading per SDP 99-92 by Daft McCune Walker, Inc.

7. Public water and sewer provided by contract number 34-3654D and 30-3789-D.

8. The subsurface exploration and geotechnical engineering analysis for this project was made by Hillis Carnes, Inc. on January 1997.

9. All fill areas shall be compacted to a minimum of 95% of the maximum dry density as determined and verified in accordance with AASHTO T-180.

10. Regional stormwater management and water quality are provided in a wetland pond system located on Parcel G1, approved per SDP 99-92.

11. Forest Conservation requirements are provided per SDP 98-11, F98-45, SDP 99-92, F 99-191.

12. There are no wetlands, floodplain, or streams on this site.

13. Traffic Study by Lee Cunningham and Associates was previously approved for this use and square footage per F98-45. Date: December 1997.

14. Operating existing valves, switches, services or start up of new services shall be coordinated with the owners representative.

15. The buildings will be provided with a sprinkler system.

16. Trench compaction for storm drains within the road or street right of way limits shall be in accordance with Howard County Design Manual IV, Std. No. G-2.01.

17. Unless otherwise noted, dimensions from curb are measured at face of curb.

18. Refer to architectural drawings for building dimensions.

19. The Contractor shall coordinate the location of all water, sewer, and drain house connections with the mechanical drawings.

20. The Contractor shall maintain 2.0 feet minimum cover over all utilities during construction.

21. Unless otherwise noted, all utility connections shall be capped or plugged five feet from buildings.

22. Electric, telephone, gas, cable, lighting, and retaining walls to be designed by others. Where those facilities are shown, they are for coordination purposes only.

23. All Curb radii 5' unless otherwise noted.

24. There are no known cemeteries or burial grounds on this site. However, upon discovery of any evidence of burial or graves, the developer will be subject to Section 16.1305 of the Howard County Subdivision and Land Develop Regulations.

25. All exterior lighting fixtures shall be installed in compliance with Section 134 of the Zoning Regulations.

26. Trash collection will be provided by private contractor.

OVERALL PROPERTY OUTLINE
Scale: 1"=100'

SITE ANALYSIS DATA CHART

1. General Site Data
   - a. Present Zoning: PEC
   - b. Applicable DPZ File References: F 98-45, SDP 98-11, BA 96-31, WP 97-21, PB 190, VP 86-64, WP 91-93, ZB 802 & 76, FDP#1, SDP 88-197, SDP 89-88 &WP 98-12, SDP 99-92, F 99-191, F-00-49
   - c. Proposed Use of Site or Structure(s): Office and Office/ Warehouse
   - d. Proposed Water: Public - X Proposed Sewer: Private- X
   - e. Water and Sewer contract number (34-3654D & 30-3789D)
2. Area Tabulation
   - a. Total Project Area: 12.327 Acres
   - b. Net Area of Site: 12.327 Acres
   - c. Area of This Plan Submission: +/- 12.33 Acres
   - d. Limit of Disturbed Area: +/- 14 Acres
   - e. Building Coverage of Site: +/- 3.6 Acres and +/- 29 % of Gross Area (Proposed)
3. Open Space Data: N / A
4. Parking Space Data
   - a. Floor Space per floor of proposed use on site: 43,050 s.f. Office (Bldgs. A), 114,030 s.f. Off./Warehouse (Bldgs. B,C & D) (1)
     - Building 'A' floor 1: 43,050 s.f. Office.
     - Building 'B' floor 1: 43,730 s.f. Office/ Warehouse
     - Building 'C' floor 1: 33,660 s.f. Office/ Warehouse
     - Building 'D' floor 1: 36,542 s.f. Office/ Warehouse
   - b. Number of Parking Spaces Required by Zoning Regulations: 428 (43,050 S.F. General Office @ 3.3/1000, 114,030 s.f. Office/Warehouse @ 2.5/1000) (1)
   - c. Total Number of Parking Spaces Provided On-Site: 510
   - d. Number of Handicapped Parking Spaces Provided: 20 (2.5% of Total)

5. Forest Conservation Summary
   - 14.4± Acres Afforestation/ Reforestation Required
   - 10.4± Acres Afforestation/ Reforestation Site Under SDP 98-11
   - 2.8± Acres Afforestation/ Reforestation on Site Under F-99-191
   - 1.2± Acres Fee In-Lieu (Paid)

Side Elevation Buildings 'A' 'B' 'C' & 'D'
SCALE: NTS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Signature	Date
CHIEF, DEVELOPMENT ENGINEERING DIVISION	9/19/00
CHIEF, DIVISION OF LAND DEVELOPMENT	9/28/00
DIRECTOR	9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED SF BUILDING 1 AND PARKING DATA.

Montpelier Research Park
PARCEL E–2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

9/7/00
Date

Professional Engr. No. 10551

SUBDIVISION NAME	SECTION/ AREA	PARCEL #
Montpelier Research Park	NA	PARCEL E-2

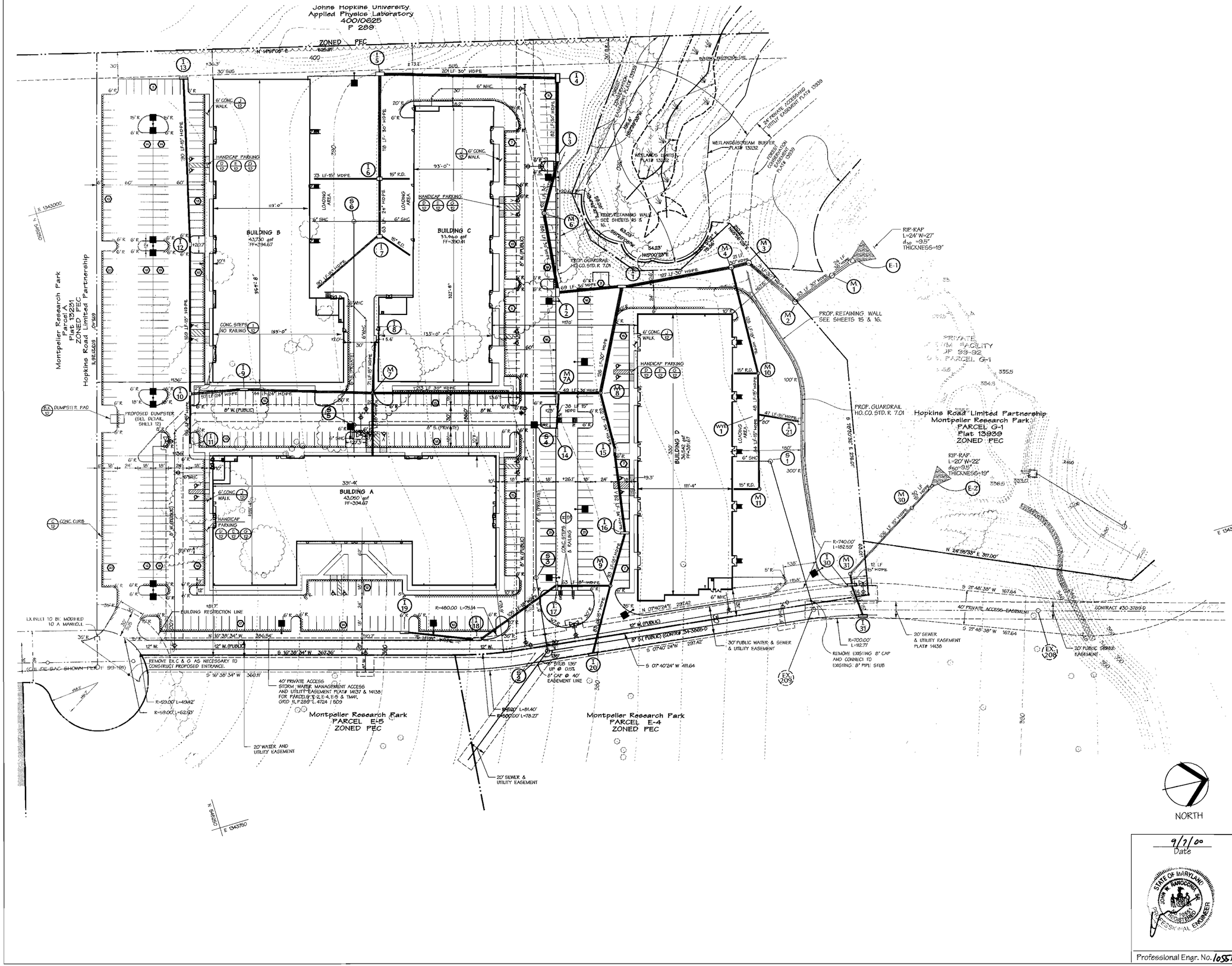
PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DIST.	CENSUS TRACT
14137	17	PEC	41	5th	6051.02

WATER CODE	SEWER CODE
E21	6440000

TITLE
COVER SHEET

Des By: CSC	Scale: 1"=100'	Proj. No. 94171.T2
Drn By: CSC	Date: 8-30-00	1 OF 16
	Approved:	

Wed Aug 30 14:13:36 2000 n:\94171.t2\94171t2.cvr



LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
50S	STRUCTURE & USE SETBACK
	VAN HANDICAPPED PARKING
	HANDICAPPED PARKING
	PARKING COUNT
	EXISTING STORMDRAIN
	EXISTING SEWER
	EXISTING WATER
	PROPOSED STORM DRAIN
	PROPOSED SAN. SEWER
	PROPOSED WATER
M	STORM DRAIN STRUCTURE
	REVERSE CURB AND GUTTER
	CURB AND GUTTER

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/18/00

DIRECTOR — DATE 9/22/00

Date	No.	Revision Description
10-23-00	1	REVISED RCCP 10 HDPE + BLDG C SIZE

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD, SUITE 410
BETHESDA, MD 20817

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

SUBDIVISION NAME			SECTION/ AREA			PARCEL #
Montpeller Research Park			NA			PARCEL E-2
PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT.DISTRICT	CENSUS TRACT	
14137	17	PEC	41	5th	6051.02	
WATER CODE			SEWER CODE			
E21			6440000			

TITLE

SITE PLAN

Des By:	Scale:	1"=50'	Proj. No. 94171.T2
Drn By: CSC	Date:	8-30-00	2 OF 16
Chk By:	Approved:		

9/7/00
Date

Professional Engr. No. 10557

SDP-00-112

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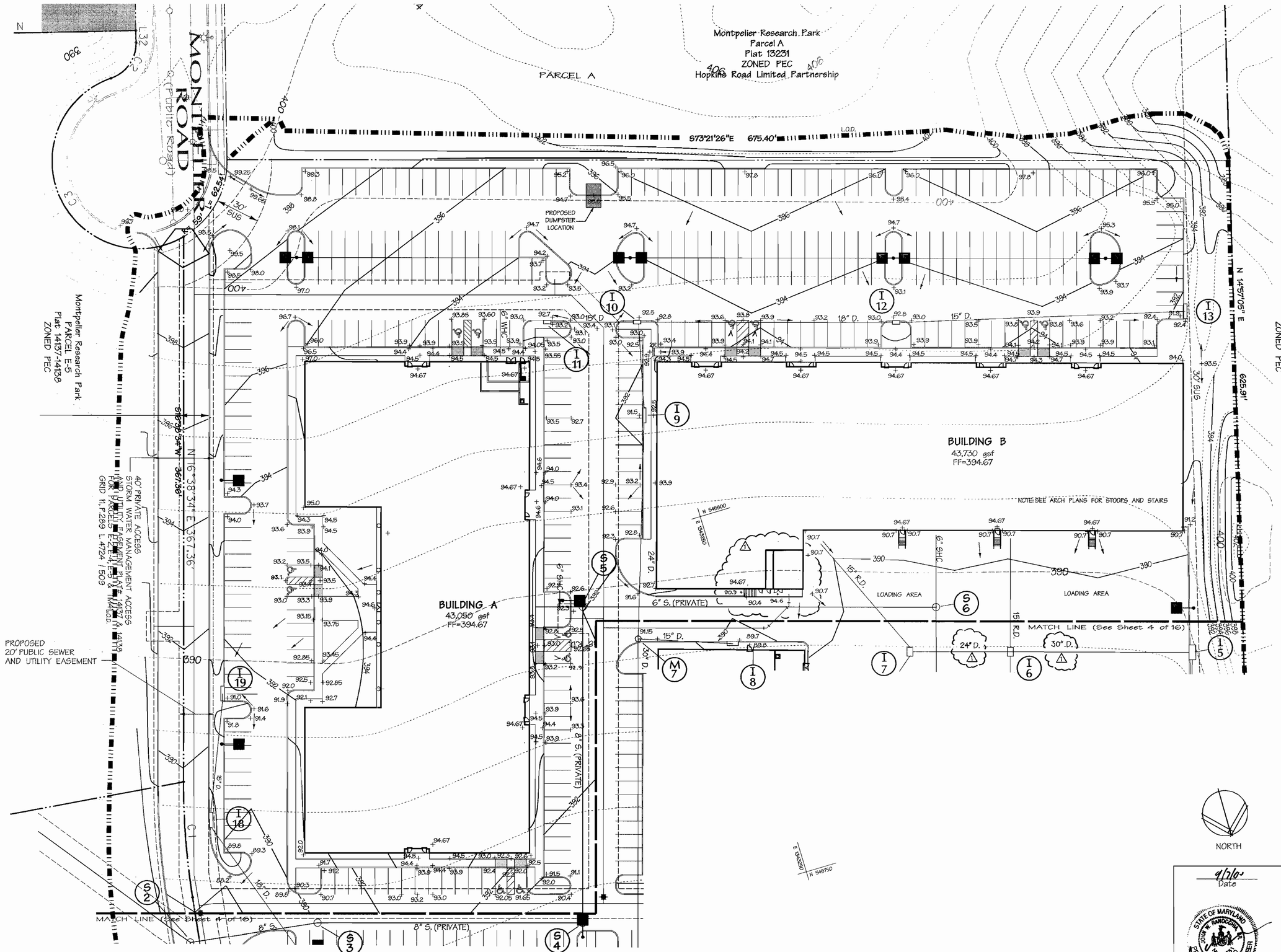

LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
	FLOODPLAIN
79.3+	SPOT ELEVATION
	FLOW ARROW
	GUARDRAIL
	DOUBLE HEAD LIGHT POLE
	SINGLE HEAD LIGHT POLE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/19/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/28/00 DATE

DIRECTOR — 9/28/00 DATE

Date	No.	Revision Description
10-23-00	1	REVISED UTILITY ROOM ENTRANCE

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

NORTH

9/7/00 Date

Professional Engr. No. 10351

DMW
Daft · McCune · Walker, Inc.
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200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME: Montpelier Research Park		SECTION/ AREA: NA	PARCEL #: PARCEL E-2
PLAT #: 14137	BLOCK #: 17	ZONE: PEC	TAX/ZONE MAP: 41
ELECT. DISTRICT: 5th	CENSUS TRACT: 6051.02		
WATER CODE: E21	SEWER CODE: 6440000		

TITLE

GRADING PLAN

Des By:		Scale: 1"=30'	Proj. No. 94171.T2
Drn By: CSC		Date: 8-30-00	3 OF 16
Chk By:		Approved:	

SDP-00-112

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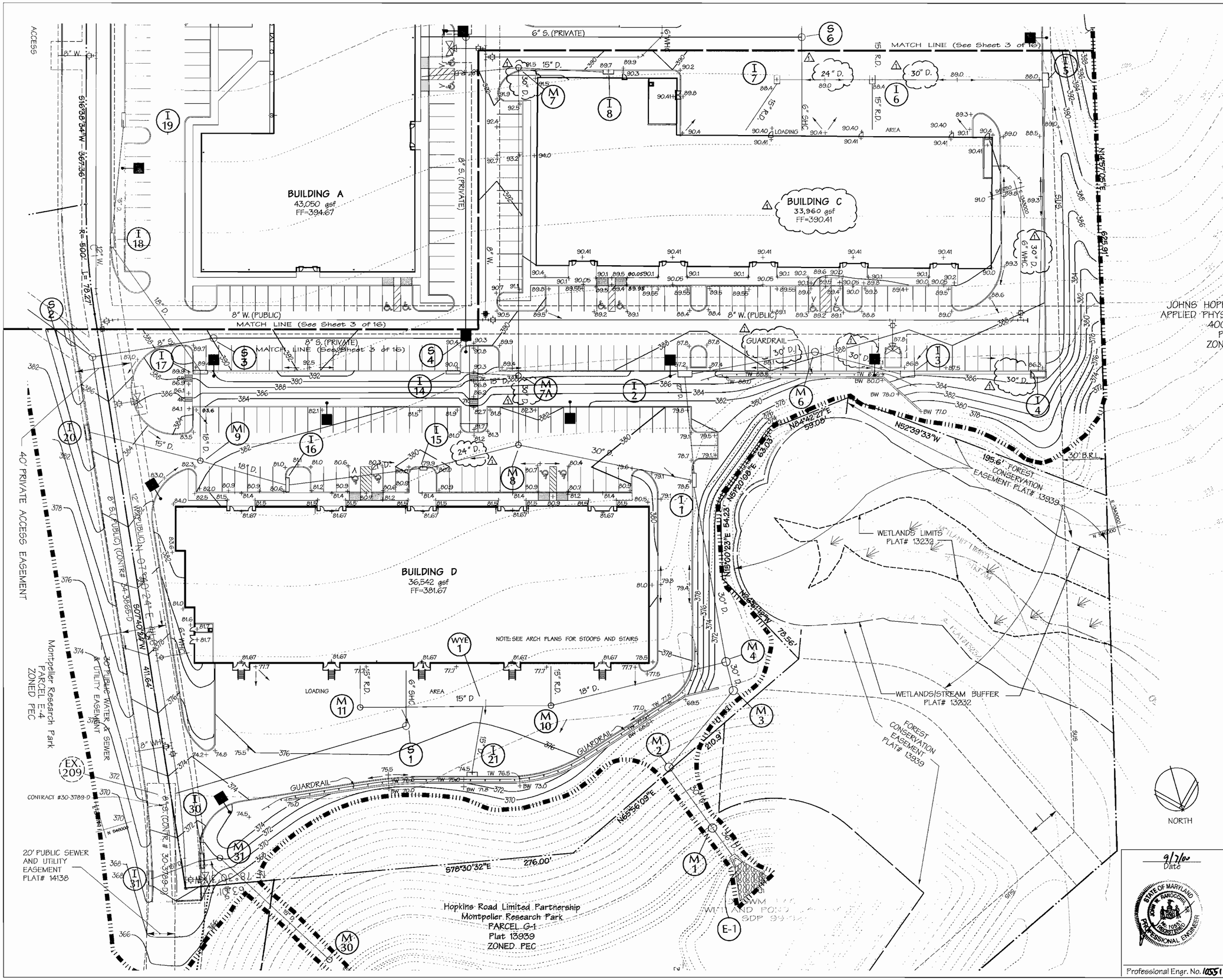


LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
	FLOODPLAIN
79.3+	SPOT ELEVATION
	FLOW ARROW
	GUARDRAIL
	DOUBLE HEAD LIGHT POLE
	SINGLE HEAD LIGHT POLE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED BLDG 'C' SF & SD PIPE SIZES.

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

9/7/00
Date

STATE OF MARYLAND — JOHN W. RAROCCHIA, JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SUBDIVISION NAME	SECTION/ AREA	PARCEL #
Montpelier Research Park	NA	PARCEL E-2

PLAT#	BLOCK #	ZONE	TAXZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02

WATER CODE	SEWER CODE
E21	6440000

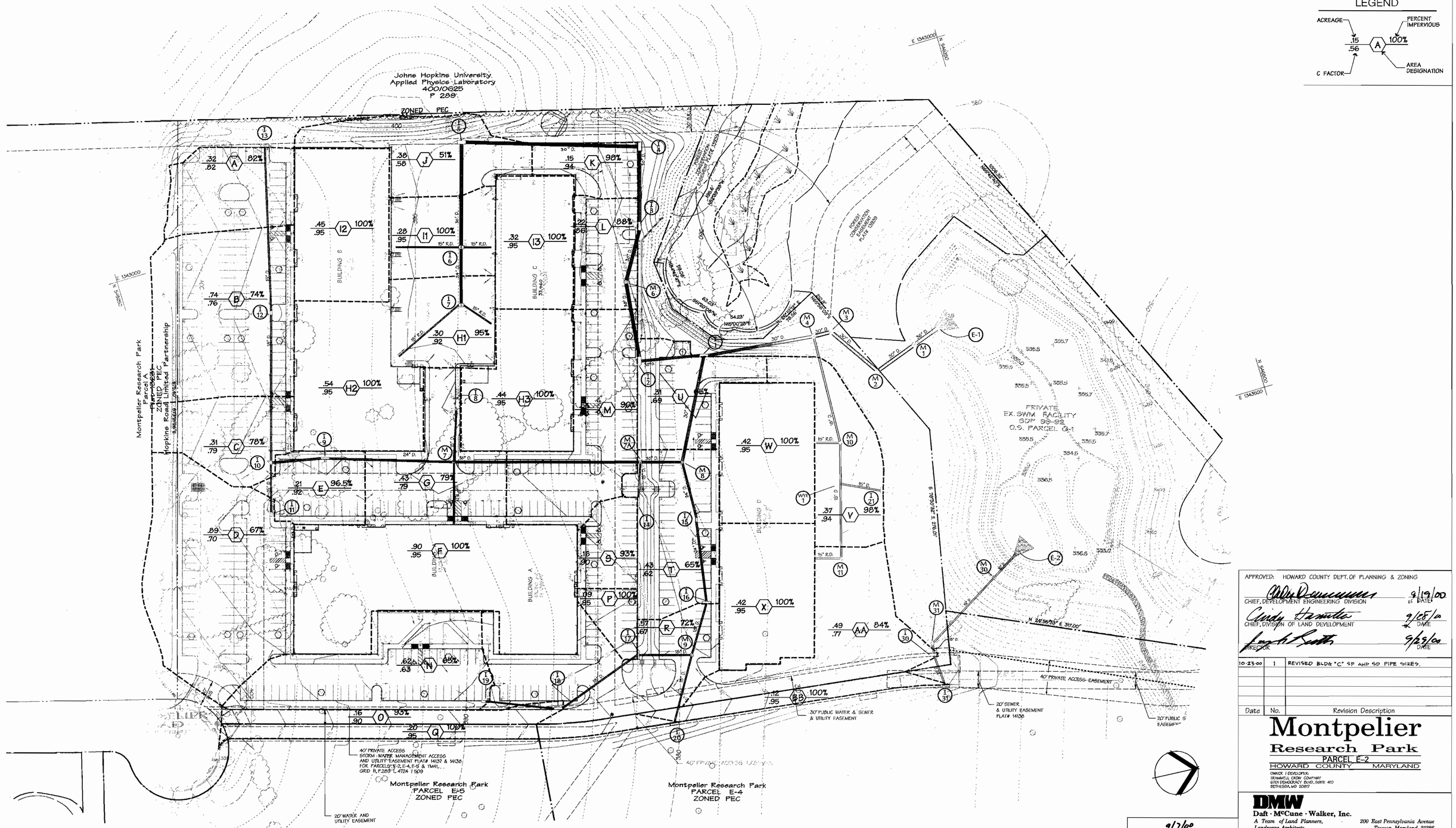
TITLE

GRADING PLAN

Des By:	Scale: 1"=30'	Proj. No. 94171.T2
Drn By: CSC	Date: 8-30-00	4 OF 16
Chk By:	Approved:	

SDP-00-112

Wed Aug 30 14:25:22 2000 m:\94171.t2\94171t2.gpl



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/28/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED BLDG "C" SF AND SD PIPE SIZES.

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

DMW

Daft · McCune · Walker, Inc.

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200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME			SECTION/ AREA		PARCEL
Montpelier Research Park			NA		PARCEL E-2
PLAT	BLOCK	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE			SEWER CODE		
E21			6440000		

TITLE

DRAINAGE AREA MAP

Des By:	Scale: 1"=50'	Proj. No. 94171.T2
Drn By: CSC	Date: 8-30-00	5 OF 16
Chk By:	Approved:	

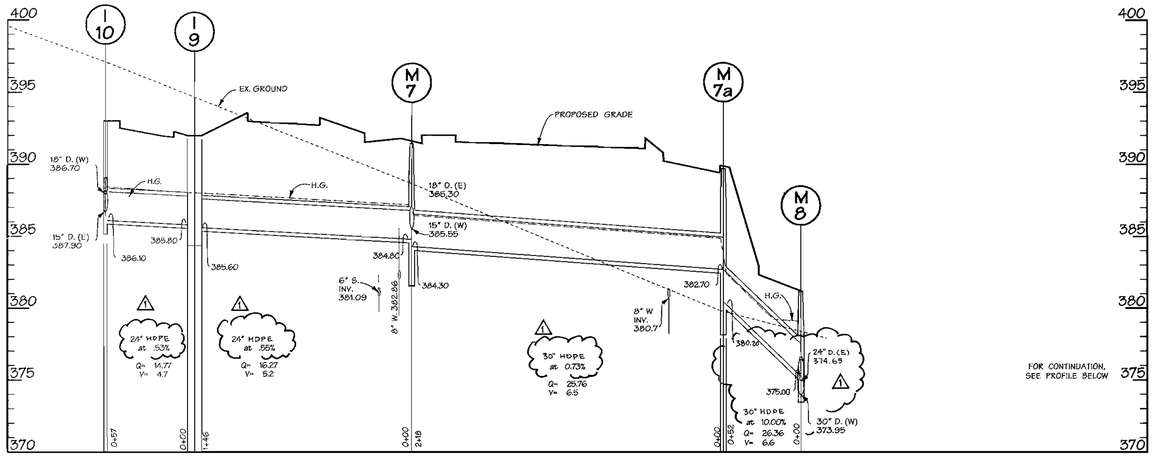
9/7/00
Date

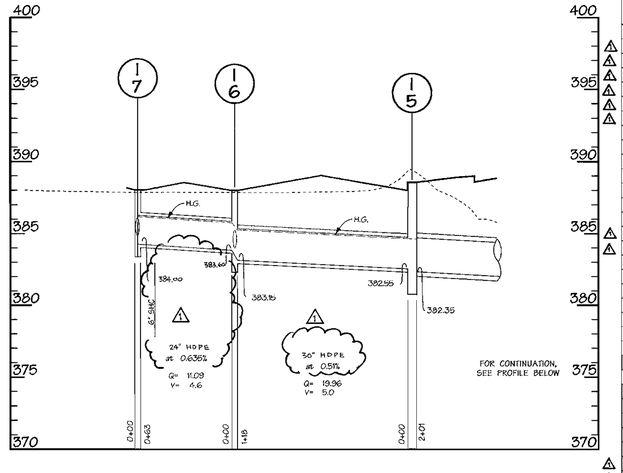
STATE OF MARYLAND — JOHN W. RAROCCHIA, JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

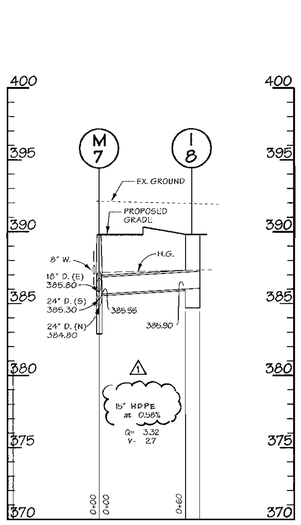
Professional Engr. No. 10551

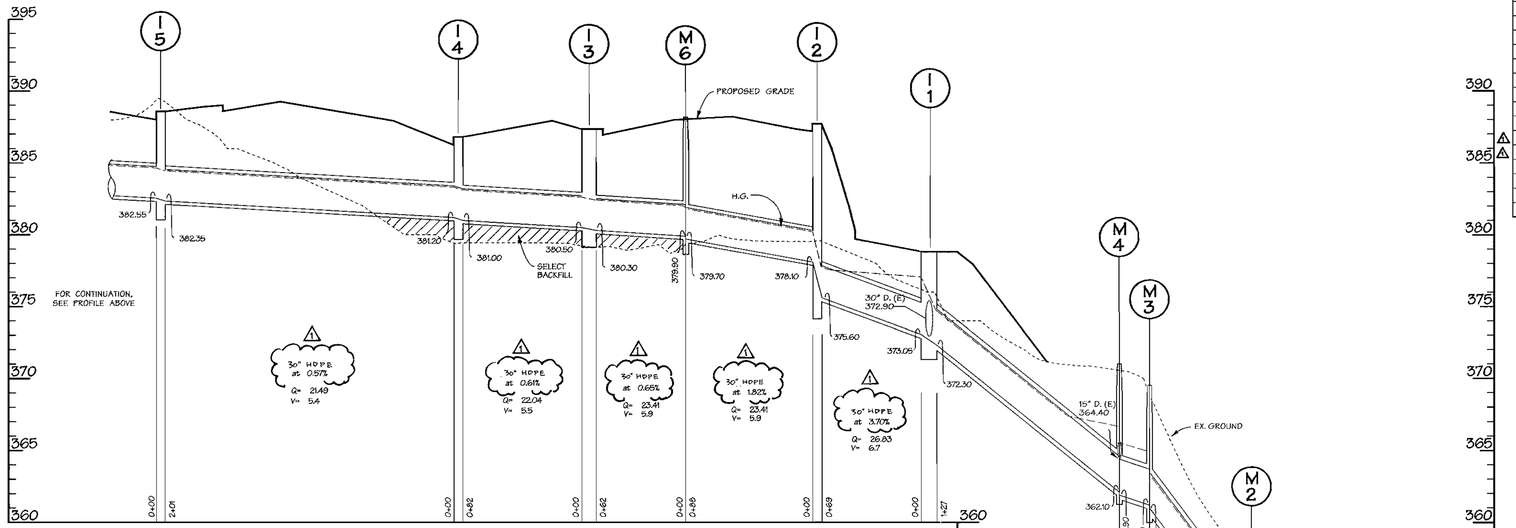
SDP-00-112

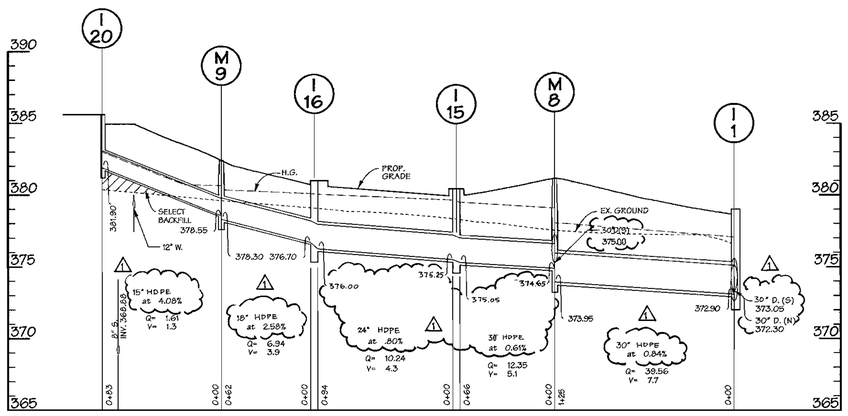
Thu Aug 31 10:49:18 2000 r:\94171.t2\94171t2.dat











PROFILE

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

STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEV. UPPER	TOP ELEV. LOWER	REMARKS	COORDINATES NORTH	COORDINATES EAST
I-1	A-10	373.05	372.30	379.00	379.00	SD 4.02 W= 3'-9"	545,882.2	1,343,279.4
⚠ I-2	A-10	378.10	375.60	387.70	387.70	SD 4.02 W= 3'-9"	545,806.4	1,343,262.0
⚠ I-3	A-10	380.50	380.30	387.30	387.30	SD 4.02 W= 3'-9"	545,851.6	1,343,110.9
⚠ I-4	A-10	381.20	381.00	386.80	386.80	SD 4.02 W= 3'-9"	545,878.2	1,343,022.0
⚠ I-5	A-10	382.55	382.35	388.50	388.50	SD 4.02 W= 3'-9"	545,681.7	1,342,960.5
⚠ I-6	DBL. S	383.60	383.15	388.40	388.40	SD 4.23 -	545,646.9	1,343,075.8
⚠ I-7	DBL. S	-	384.00	388.40	388.40	SD 4.23 -	545,627.6	1,343,140.6
I-8	A-10	-	386.00	389.70	389.70	SD 4.02 W= 2'-6"	545,536.7	1,343,253.14
I-9	A-10	385.80	385.60	392.00	392.00	SD 4.02 W= 2'-6"	545,423.4	1,343,268.0
I-10	A-5	387.90	386.10	393.00	393.00	SD 4.01 W= 2'-6"	545,361.0	1,343,253.1
I-11	A-5	-	389.69	393.20	393.20	SD 4.01 W= 2'-6"	545,343.6	1,343,311.1
I-12	A-5	388.20	387.75	392.90	392.90	SD 4.01 W= 2'-6"	545,411.0	1,343,085.7
I-13	A-10	-	389.15	392.40	392.40	SD 4.02 W= 2'-6"	545,460.2	1,342,898.6
I-14	A-10	-	386.35	390.50	390.50	SD 4.02 W= 2'-6"	545,759.3	1,343,419.6
⚠ I-15	A-5	375.25	375.05	380.40	380.40	SD 4.01 W= 2'-6"	545,818.4	1,343,459.2
⚠ I-16	A-10	376.70	376.00	381.32	381.10	SD 4.02 W= 2'-6"	545,802.9	1,343,556.4
I-17	A-10	381.83	380.33	389.90	389.90	SD 4.02 W= 2'-6"	545,708.0	1,343,591.1
I-18	A-10	386.00	385.75	389.14	388.92	SD 4.02 W= 2'-6"	545,601.4	1,343,625.6
I-19	A-10	-	388.50	391.50	391.50	SD 4.02 W= 2'-6"	545,522.7	1,343,591.3
I-20	A-10	-	381.90	385.64	385.19	SD 4.02 W= 2'-6"	545,727.1	1,343,678.1
I-21	DBL. 'S' COMB.	-	371.15	375.17	375.17	SD 4.34 -	546,038.4	1,343,489.1
I-30	A-10	367.69	367.49	371.66	371.15	SD 4.02 W= 2'-6"	546,040.8	1,343,680.9
I-31	A-10	-	367.80	372.00	371.66	SD 4.02 W= 2'-6"	546,043.1	1,343,728.7
M-1	6' MANHOLE	333.80	332.55	339.75	-	MD 384.05	546,122.4	1,343,336.2
M-2	5' MANHOLE	351.50	351.20	358.00	-	G 5.13	546,072.3	1,343,353.4
M-3	5' MANHOLE	361.20	361.00	369.50	-	G 5.13	546,033.4	1,343,294.1
M-4	5' MANHOLE	362.10	361.90	371.00	-	G 5.13	546,012.3	1,343,293.2
M-6	5' MANHOLE	379.90	379.70	388.16	-	G 5.13	546,819.9	1,343,169.8
M-7	4' MANHOLE	384.80	384.30	391.36	-	G 5.12	545,567.0	1,343,313.7
⚠ M-7a	4' MANHOLE	382.70	380.20	389.70		G 5.12	545,776.0	1,343,376.2
⚠ M-8	5' MANHOLE	374.65	373.95	381.15	-	G 5.13	545,822.9	1,343,390.2
M-9	4' MANHOLE	378.55	378.30	382.00	-	G 5.12 SHALLOW	545,769.2	1,343,609.4
M-10	4' MANHOLE	370.40	370.20	376.77	-	G 5.12	546,006.5	1,343,421.1
M-11	4' MANHOLE	372.65	372.45	376.79	-	G 5.12	545,969.1	1,343,561.0
M-30	4' MANHOLE	334.73	333.48	339.40	-	G 5.12 SHALLOW	546,134.1	1,343,623.2
M-31	4' MANHOLE	367.41	367.21	372.00	-	G 5.12 SHALLOW	546,042.8	1,343,676.8
WYE	15"X15" TEE FTG.	370.87	370.87		-	SD 1.11	546,006.5	1,343,421.1
⚠ E-1	HDPE.		332.00	-	-	SD 5.51	546,152.7	1,343,325.8
⚠ E-2	HDPE.		332.00	-	-	SD 5.51	546,165.0	1,343,604.7

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED RCCP TO HDPE, PIPE SIZE & STRUCTURE INVERTS.

Montpeller Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

9/7/00 Date

STATE OF MARYLAND — JOHN W. BANOCZIE, JR. — No. 10551 — PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E21		6440000		

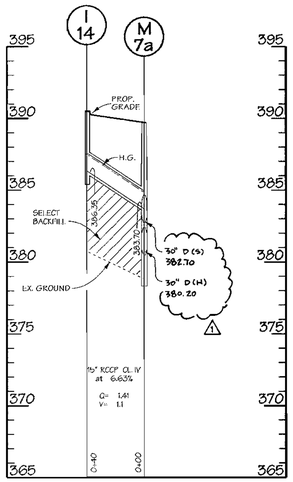
TITLE

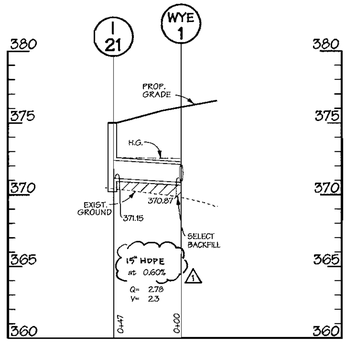
STORM DRAIN PROFILES

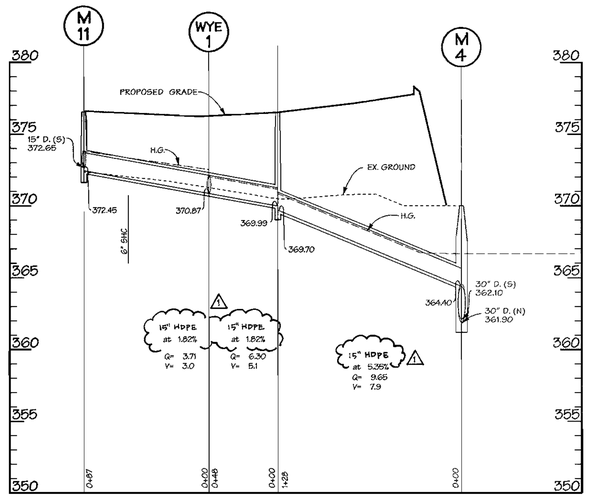
Des By:	Scale: As Shown	Proj. No. 94171.T2
Drn By: MSS	Date: 8-30-00	6 OF 16
Chk By:	Approved:	

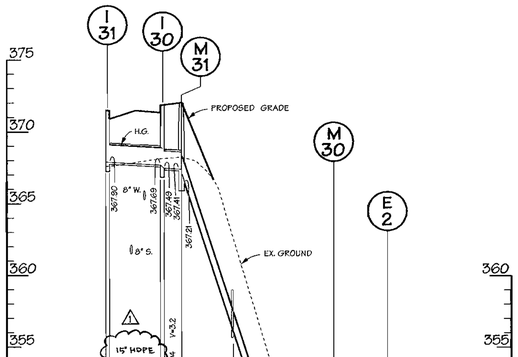
SDP-00-112

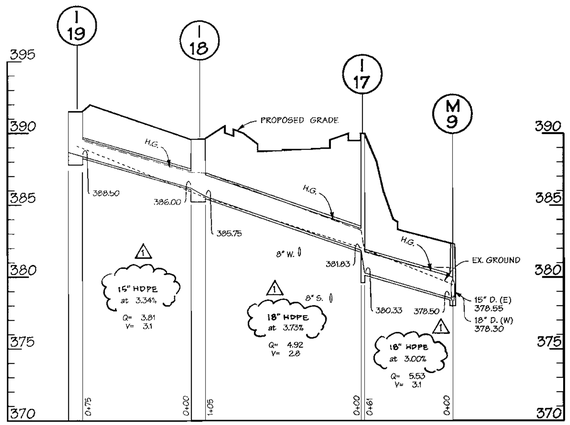
Thu Aug 31 10:52:20 2000 m:\94171.t2\94171t26.dgn

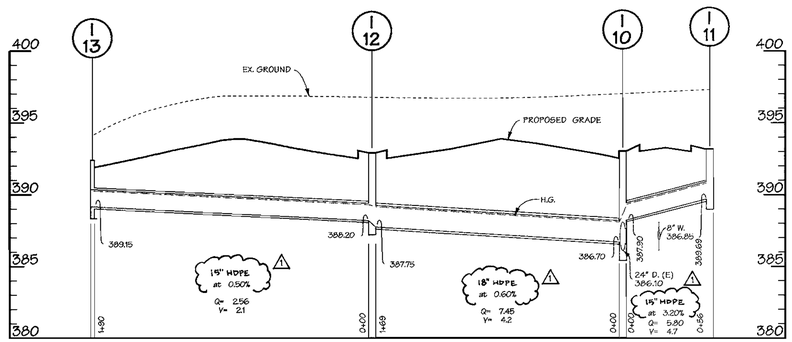












PROFILE

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

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — 9/19/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT — 9/25/00 DATE

DIRECTOR — 9/25/00 DATE

Date	No.	Revision Description
10-23-00	1	REVISED RCCP TO HDPE.

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
WEINBERG GROW COMPANY
6721 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

9/7/00
Date

STATE OF MARYLAND — JOHN W. BARODERMEL JR. — NO. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

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

SUBDIVISION NAME			SECTION/ AREA		PARCEL #
Montpelier Research Park			NA		PARCEL E-2
PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE			SEWER CODE		
E21			6440000		

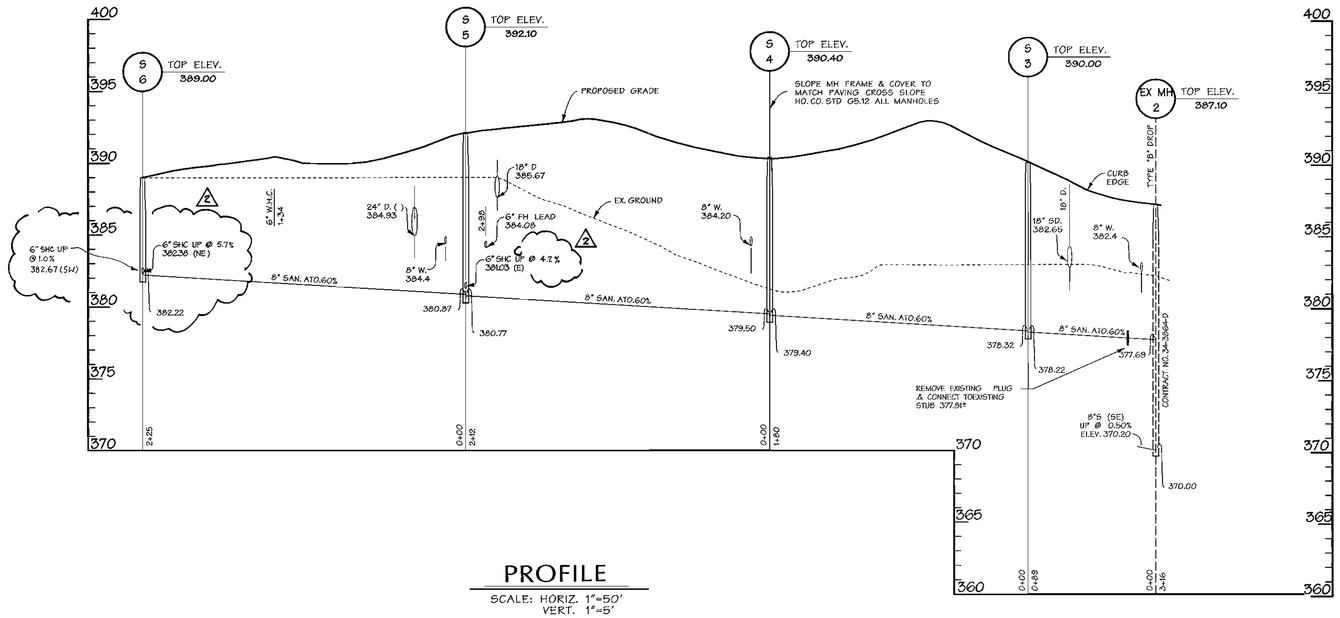
TITLE

STORM DRAIN PROFILES

Des By:		Scale: As Shown	Proj. No. 94171.12
Drn By: MSS		Date: 8-30-00	7 OF 16
Chk By:		Approved:	

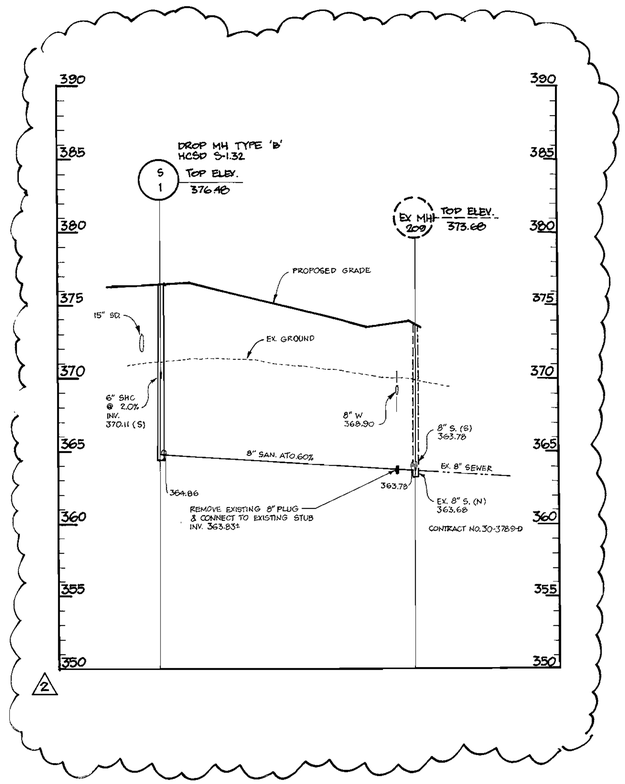
SDP-00-112

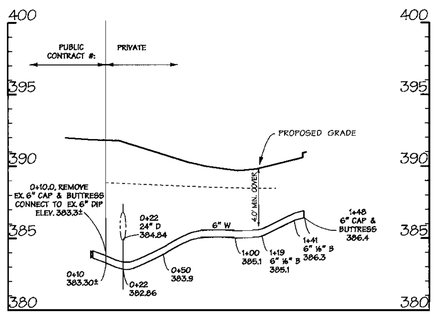
Wed Aug 30 14:44:46 2000 n:\94171\12\94171t2s.dp2



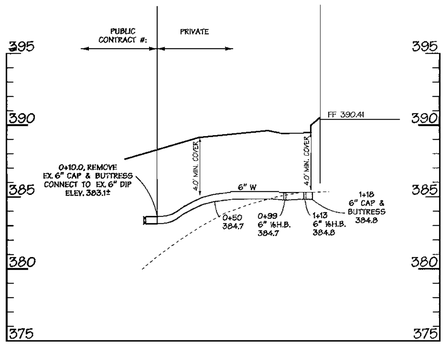
PROFILE

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





6" W. SERVICE TO BLDG. B



6" W. SERVICE TO BLDG. C

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/22/00

Date	No.	Revision Description
11-27-00	2	ADDED SEWER S-1 TO EX. MH 209. REV. 6" WHC BLDG 'C'.

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

9/7/00
Date

STATE OF MARYLAND — JOHN W. MANOCCHIA — NO. 10557 — REGISTERED — PROFESSIONAL ENGINEER

Professional Engr. No. 10557

SUBDIVISION NAME: Montpelier Research Park		SECTION/ AREA: NA	PARCEL #: PARCEL E-2
PLAT # 14137	BLOCK # 17	ZONE PEC	TAX/ZONE MAP 41	ELEC. DISTRICT 5th	CENSUS TRACT 6051.02
WATER CODE: E21		SEWER CODE: G440000			

TITLE
WATER AND SEWER PROFILES

Des By:	Scale: As Shown	Proj. No. 94171.T2	
Drn By: MSS	Date: 8-30-00	8 OF 16	
Chk By:	Approved:		

SDP-00-112

Wed Aug 30 14:45:46 2000 n:\94171\t2\94171t2a.dgn3

Johns Hopkins University
Applied Physeics Laboratory
40010625
P 289

Montpeller Research Park
Parcel A
Plat 13231
ZONED PEC
Hopkins Road Limited Partnership

FX. SILT FENCE TO BE REMOVED

ZONED PEC

BUILDING B
43,730 gsf
FF=394.67

BUILDING C
33,960 gsf
FF=390.41

BUILDING A
43,050 gsf
FF=394.67

BUILDING D
36,540 gsf
FF=386.67

PARCEL E-2

TEMP. SWALE

EX. SGF OR SF TO REMAIN

TO BE RELOCATED

MEET EX. SGF

EX. SILT FENCE

EX. SWALE

EX. SEDIMENT BASIN SDP 99-92 TO BE UTILIZED

PRIVATE EX. SWM FACILITY SDP 99-92 O.S. PARCEL G-1

EX. BASIN #7

SHA. CL. I UNGROUTED RIP RAP

UNDISTURBED AREA

TEMP. ASPHALT BERM

RIP-RAP INFLOW PROTECTION

40' PRIVATE ACCESS EASEMENT

24' PRIVATE ACCESS & UTILITY EASEMENT

FOREST CONSERVATION EASEMENT PLAT# 13232

WETLAND/STREAM BUFFER

WETLANDS PLAT# 13232

PROPOSED PUBLIC WATER & SEWER & UTILITY EASEMENT

PROPOSED 20' WATER AND UTILITY EASEMENT

20' PRIVATE ACCESS, STORM WATER MANAGEMENT ACCESS AND UTILITY EASEMENT PLAT# 14138 FOR PARCELS E-2, E-3 & G-1

Hopkins Road Limited Partnership
Montpeller Research Park
PARCEL E-3
Plat 14137-14138
ZONED PEC

NOTE: SEE SHEET 2 FOR SD PIPE SIZES.

NOTE:
EX. EROSION & SEDIMENT CONTROL MEASURES TAKEN FROM SDP 99-92

ROUTE 29

KEY SHEET

LEGEND

SYMBOL	DESCRIPTION
	STREAM
SGF	SUPER SILT FENCE
	EXISTING CONTOURS
	EXISTING TREES/ TREE LINE
	WETLAND/ STREAM BUFFER
	WETLAND
400	PROPOSED CONTOURS
	FLOODPLAIN
M	LIMIT OF DISTURBANCE
25'	EXISTING 25' WIDE UTILITY EASEMENT
	SOIL BORING
SCE	SCE- STABILIZED CONSTRUCTION ENTRANCE
	EROSION CONTROL MATTING
A-2	EARTH DIKE
	TEMP. ASPHALT BERM
A-2	TEMP. SWALE
RRP	RIP RAP INFLOW PROTECTION

SUMMARY TABLE FOR EX. BASIN #7

BASIN NUMBER		1
EXISTING DRAINAGE AREA AC.		8.7
INTERIM DRAINAGE AREA AC.		27.5
PROPOSED DRAINAGE AREA AC.		23.5
STORAGE REQUIRED C.F.	WET	49,140
	DRY	49,140
	TOTAL	98,280
STORAGE PROVIDED C.F.	WET	154,289
	DRY	220,271
	TOTAL	375,560
EXISTING GROUND ELEV.		340.0
TOP EMBANKMENT ELEV.		344.5
RISER CREST ELEV.		338.4
WET STORAGE / ELEV.		337.0'
CLEANOUT ELEV.		334.0
BOTTOM ELEV.		332.0
Q INTO BASIN C.F.S. 10YR		144.01
Q OUT BARREL C.F.S. 10YR		12.33
BASIN DEPTH	WET	5.0
	DRY	3.6
	TOTAL	8.6
DESIGN HIGHWATER 100 yr. Closed		342.26
FREEBOARD PROVIDED		2.07
BASIN SIDE SLOPES		3:1
BARREL DIAMETER		48"
RISER DIMENSIONS		6X6
WET STORAGE ZONE ELEV.		332-337
DRY STORAGE ZONE ELEV.		337-338.4
BOTTOM DIMENSION		AS SHOWN
DIMENSION FROM CLEANOUT ELEV. TO RISER TOP		8.6'
START PERFORATIONS AT ELEVATION		337.0

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/13/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 7/25/00

DIRECTOR — DATE 9/25/00

Date	No.	Revision Description
10.23.00	1	ADDED NOTE ABOUT PIPE SIZE.

Montpelier Research Park

PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER:
HOPKINS ROAD LIMITED PARTNERSHIP
9030 RED BRANCH ROAD, SUITE 200
COLUMBIA, MD 21045
Ph: 410-997-7222

DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals
200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME		SECTION/ AREA		PARCEL #
Montpelier Research Park		NA		PARCEL E-2
PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14157	17	PEC	41	5th	6051.02
WATER CODE		SEWER CODE		
E21		6440000		

TITLE

SEDIMENT & EROSION CONTROL PLAN

Des By:		Scale: 1"=50'	Proj. No. 94171.12
Drn By:	CSC	Date: 7-27-00	9 OF 16
Chk By:		Approved:	

SDP-00-112

9/7/00
Date

STATE OF MARYLAND — JOHN W. RATCLIFFE, JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

CERTIFICATION BY THE ENGINEER:

"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. Ratcliffe, Jr. — 9/7/00 DATE

CERTIFICATION BY THE DEVELOPER:

"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 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."

Daniel S. Hudson — 8/1/00 DATE
DANIEL S. HUDSON, ENP, TC MIDATLANTIC, INC.

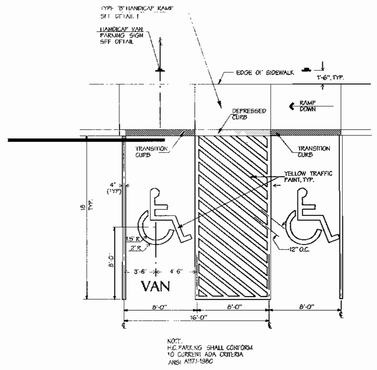
REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.

Cheryl Simmons — 9/13/00 DATE
U.S. SOIL CONSERVATION SERVICE

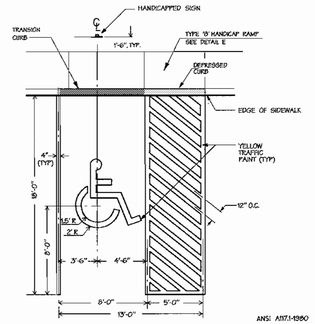
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

Geoffrey Solomon — 9/7/00 DATE
HOWARD S.C.D.

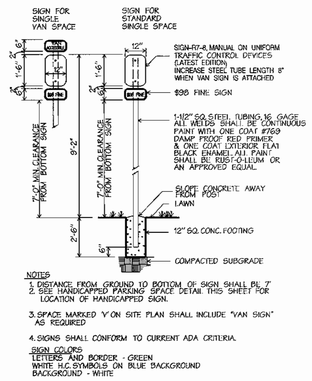
Thu Jul 27 08:24:27 2000 m:\94171\t2\94171s2.sec



A Handicap Parking: Van & Standard
Not To Scale



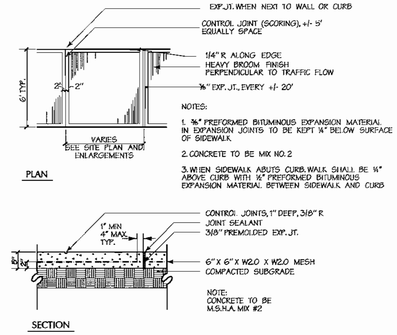
D Handicap Parking Space
Not To Scale



NOTES
1. DISTANCE FROM GROUND TO BOTTOM OF SIGN SHALL BE 7'
2. SEE HANDICAPPED PARKING SPACE DETAIL THIS SHEET FOR LOCATION OF HANDICAPPED SIGN.
3. SPACE MARKED 'V' ON SITE PLAN SHALL INCLUDE "VAN SIGN" AS REQUIRED
4. SIGNS SHALL CONFORM TO CURRENT ADA CRITERIA.

SIGN COLORS
LETTERS AND BORDER - GREEN
WHITE H.C. SYMBOLS ON BLUE BACKGROUND
BACKGROUND - WHITE

G Handicap Parking Signs
Not To Scale

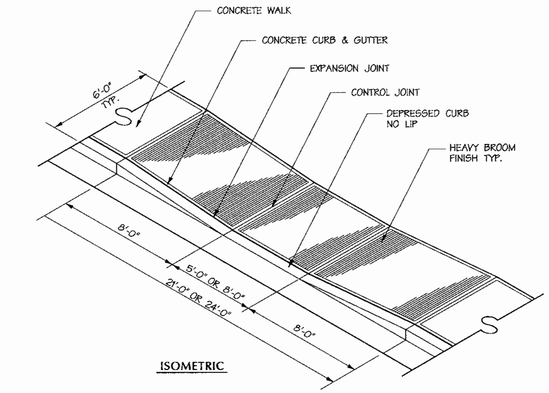


PLAN

NOTES:
1. 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL IN EXPANSION JOINTS TO BE KEPT 1/4" BELOW SURFACE OF SIDEWALK.
2. CONCRETE TO BE MIX NO. 2
3. WHEN SIDEWALK ABUTS CURB, WALK SHALL BE 1/4" ABOVE CURB WITH 1/2" PREFORMED BITUMINOUS EXPANSION MATERIAL BETWEEN SIDEWALK AND CURB

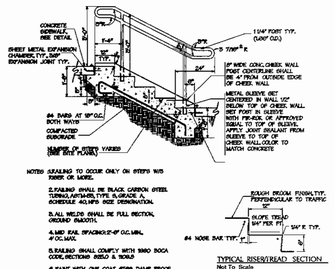
SECTION

J Concrete Walk
Not To Scale

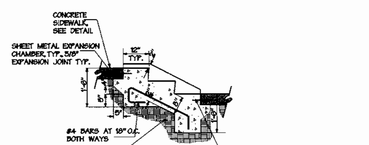


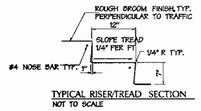
ISOMETRIC

Conrete Steps and Railing

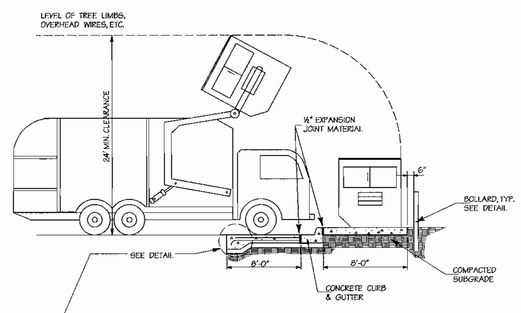


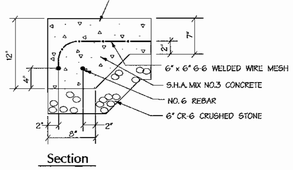
H Conrete Steps and Railing
Not To Scale





E Type "B" Handicapped Ramp
Not To Scale



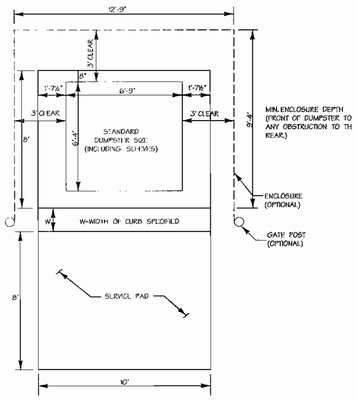


Section

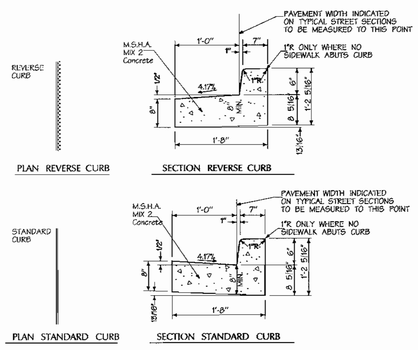
NOTE: SEE STANDARD HOWARD COUNTY DETAIL R11.01 FOR ADDITIONAL DIMENSIONS

Service Pad & Recycling Bins Section
Not To Scale

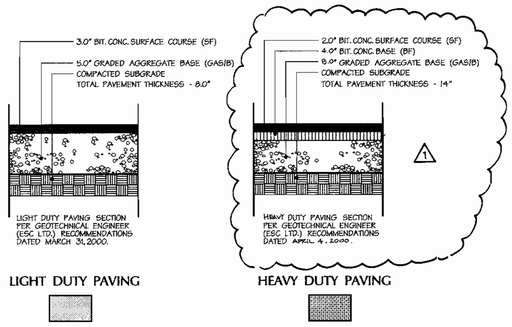
K Service Pad & Dumpster Bin
Not To Scale



B Dumpster Enlosure
Not To Scale

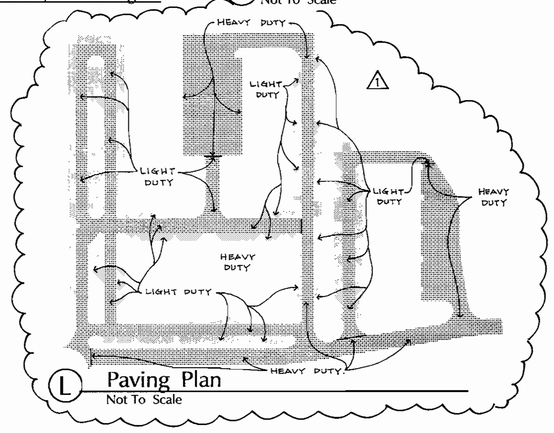


C Concrete Curb, Typical
Not To Scale

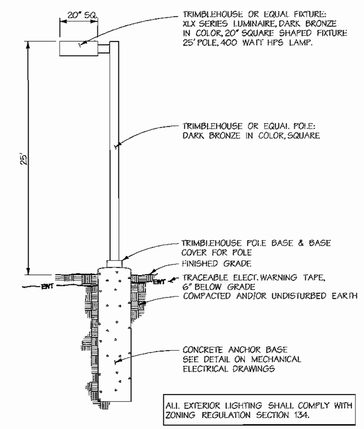


F Paving
Not To Scale

I Concrete Steps with 2 Risers/No Railing
Not To Scale



L Paving Plan
Not To Scale



ALL EXTERIOR LIGHTING SHALL COMPLY WITH ZONING REGULATION SECTION 134.

N Sharp Cuttoff Area Light
Not To Scale

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED HEAVY DUTY PAVING SECTION & PAVING PLAN.

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
HEAMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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

9/7/00
Date

STATE OF MARYLAND — JOHN W. BANOCZIE, III — REG. NO. 19857 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 19857

SUBDIVISION NAME: Montpelier Research Park		SECTION/AREA: NA	PARCEL #: PARCEL E-2
PLAT #: 14137	BLOCK #: 17	ZONE: PEC	TAX/ZONE MAP: 41
ELEC. DISTRICT: 5th	CENSUS TRACT: 6051.02		
WATER CODE: E21	SEWER CODE: 6440000		

TITLE
SITE DETAILS

Des By:	Scale: AS SHOWN	Proj. No. 94171.12	
Drn By: CSC	Date: 8-30-00	12 OF 16	
Chk By:	Approved:		

SDP-00-112

Wed Aug 30 14:47:33 2000 m:\94171.12\94171t2.dtl

(A) Evergreen Tree Planting
Not To Scale

(A) Shrub Bed Planting
Not To Scale

(B) Less Than 3" Cal. Tree Planting
Not To Scale

(C) Evergreen Tree Planting on Slope
Not To Scale

Landscape Notes

1. The contractor shall review architectural/engineering plans to become thoroughly familiar with grading and surface utilities.

2. All equipment and tools shall be placed so as not to interfere or hinder the pedestrian and vehicular traffic flow. See Seasonal Plant List for planting times of bulbs and seasonal plants.

3. The contractor shall coordinate with lighting and irrigation contractors regarding timing of installation of plant material.

4. The contractor shall insure that his work does not interrupt established or projected drainage patterns.

5. During planting operations, excess waste materials shall be promptly and frequently removed from the site.

6. The contractor is advised of the existence of underground utilities on the site. Their exact location shall be verified in the field with the owner or general contractor prior to the commencement of any digging operations. In the event they are uncovered, the contractor shall be held responsible for all damage to utilities and such damage shall not result in any additional expenses to the owner.

7. If utility lines are encountered in excavation of tree pits, other locations for trees shall be made by the contractor without additional compensation. No changes of location shall be made without approval of the landscape architect.

8. Maintain positive drainage out of planting beds at a minimum 2% slope. All grades, dimensions, and existing conditions shall be verified by the contractor on site before construction begins. Any discrepancies shall be brought to the attention of the landscape architect or owner.

9. Every possible safeguard shall be taken to protect building surfaces, equipment, and furnishing. The contractor shall be responsible for any damage or injury to person or property which may occur as a result of his negligence in the execution of the work.

10. In the event of variation between quantities shown on the plant list and the plans, the plans shall control. The contractor is responsible for verifying all plant quantities prior to the commencement of work. All discrepancies shall be reported to the landscape architect for clarification prior to bidding. The contractor shall furnish plant material in sizes as specified in plant list.

11. The contractor shall stake all material located on the site for review and/or adjustment by the landscape architect prior to planting. All locations are to be approved by the landscape architect before excavation.

12. Plants shall conform to current "American Standards for Nursery Stock" by American Association of Nurserymen (AAN), particularly with regard to size, growth, size of ball, and density of branch structure. Plant material shall be tagged at the source by the landscape architect unless this requirement is specifically waived.

13. All plants (B&B or container) shall be properly identified by weather-proof labels securely attached thereto before delivery to project site. Labels shall identify plants by name, species, and size. Labels shall not be removed until the final inspection by the landscape architect or agent in charge.

14. Any material and/or work may be rejected by the landscape architect if it does not meet the requirements of the specifications. All rejected materials shall be removed from the site by the contractor.

15. No substitutions shall be made without written consent of the owner or landscape architect.

16. The landscape architect or owner shall have the right, at any stage of the operations, to reject any and all work and material which, in his opinion, does not meet the requirements of these plans and specifications.

17. The contractor shall be wholly responsible for stability and conditions of all trees and shrubs and shall be legally liable for any damage caused by instability of any plant materials.

18. All proposed trees to be installed either entirely in or entirely out of planting beds. Planting bed lines are not to be obstructed. Mulch shall have been shredded within the last six months.

19. All planting beds adjacent to lawn, sod, or seeded areas shall be spade edged.

20. Maintenance shall begin after each plant has been installed and shall continue until 90 days after final acceptance by the architect or owner representative. Maintenance includes mowing of turf, watering, pruning, weeding, fertilizing, mulching, replacement of sick or dead plants, and any other care necessary for the proper growth of the plant material. The contractor must be able to provide continued maintenance if requested by the owner.

21. Upon completion of all landscaping, an acceptance of the work shall be held. The contractor shall notify the landscape architect or owner for scheduling the inspection at least seven (7) days prior to the anticipated inspection date.

22. All trees shall be guaranteed for 12 months from the date of acceptance.

23. The contractor is responsible for testing project soils. The contractor is to provide a certified soils report to the owner. The contractor shall verify that the soils on site are acceptable for the proper growth of the proposed plant material. Should the contractor find poor soil conditions, the contractor shall be required to provide soil amendments as necessary. These amendments shall include, but not be limited to, fertilizers, lime, and topsoil. Proper planting soils must be verified prior to planting of materials.

24. PLANTING MIX:
a. Planting mix shall be prepared at approved on-site staging area using approved on-site existing soil. Mix minimum quantities of 20 cubic yards or sufficient mix for entire job if less than 20 cubic yards is required.

b. Thoroughly mixed in the following proportions for tree and shrub planting mix:
.5 cy existing soil
.2 cy sharp sand
.3 cy wood residuals
4.5 lbs treble superphosphate
5 lbs dolmonite limestone (eliminate for acid loving plants)

c. For bed planting, shrubs and groundcover spaces 24 inches or closer, incorporate the following ingredients per 20 sf and incorporate into top 8 inches of existing soils by rototilling or similar method of incorporation.
.2 cy sharp sand
.3 cy orgnaic material
4.5 lbs treble superphosphate
5 lbs dolmonite limestone (eliminate for acid loving plants)

25. The contractor shall dispose of stumps and major roots of all plants to be removed. Any depressions caused by removal operations shall be refilled with fertile, friable soil placed and compacted so as to reestablish proper grade for new planting and/or lawn areas.

26. The contractor shall insure adequate vertical drainage in all plant beds and planters.

27. This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual

SCHEDULE A
PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT to ROADWAYS	ADJACENT to PERIMETER PROPERTIES	LANDSCAPE CALCULATIONS
LINEAR FEET OF ROADWAY	PERIMETER A 480' L.F. OF LANDSCAPE TYPE 'E'		1 SHADE TREE @ 40' L.F = 12 SHADE TREE 1 SHRUB @ 4' L.F = 120 SHRUB
	PERIMETER A 113' L.F. of LANDSCAPE TYPE 'B'		1 SHADE TREE @ 50' L.F = 2 SHADE TREE 1 EVERGREEN @ 40' L.F = 3 EVERGREEN
	PERIMETER A 162' L.F. of LANDSCAPE TYPE 'D'		1 SHADE TREE @ 60' L.F = 3 SHADE TREE 1 EVERGREEN @ 10' L.F = 16 EVERGREEN
	PERIMETER B 65' L.F. of LANDSCAPE TYPE 'E'		1 SHADE TREE @ 40' L.F = 2 SHADE TREE 1 SHRUB @ 4' L.F = 16 SHRUB
FRONTAGE / PERIMETER	△1	PERIMETER C 505' L.F. OF LANDSCAPE TYPE 'A'	1 SHADE TREE @ 60' L.F =9 SHADE TREES
		PERIMETER C 125' L.F. OF LANDSCAPE TYPE 'C'	1 SHADE TREE @ 40' L.F = 3 SHADE TREES 1 EVERGREEN @ 20' L.F = 6 EVERGREENS
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)			NO
CREDIT FOR BERM (DESCRIBE BELOW IF NEEDED)			NO
NUMBER OF PLANTS REQUIRED SHADE TREES EVERGREEN TREES SHRUBS			31 25 136
NUMBER OF PLANTS PROVIDED SHADE TREES EVERGREEN TREES OTHER TREES (2 :1 SUBSTITUTION) SHRUBS (10 :1 SUBSTITUTION) (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			16 59 5 215

* SUBSTITUTIONS: 30 EVEGREEN TREES HAVE BEEN SUBSTITUTED FOR 15 SHADE TREES

SCHEDULE B
PARKING LOT INTERNAL LANDSCAPING

Number of Parking Spaces	510
Number of Trees Required	@ 1/20 sp. = 26
Number of Trees Provided Shade Trees Other Trees (2:1 substitution)	26
Number of Islands Required @ 1/20 sp.	26
Number of Islands Provided	29

Bonding Amount: 57 shade trees @ $300
25 evergreen trees @ $150
136 shrubs @ $30

Total: $24,930

Plant List

QTY	SYM	BOTANICAL NAME/COMMON NAME	SIZE	REMARKS
SHADE TREES				
15	FP	FRAXINUS PENNSYLVANICA 'MARSHALL'S SEEDLESS' GREEN ASH	2 1/2" – 3" CAL. 12'-14' HT	B & B FULL HEAD
11	QC	QUERCUS COCCINEA SCARLET OAK	2 1/2" – 3" CAL. 12'-14' HT	B & B FULL HEAD
19	TC	TILIA CORDATA 'GREENSPIRE' GREENSPIRE LINDEN	2 1/2" – 3" CAL. 12'-14' HT	B & B FULL HEAD
FLOWERING TREES				
5	MH	MALUS 'HARGOZAM' HARVEST GOLD CRABAPPLE	8'-10' HT.	B & B LIMBED UP 5'
EVERGREEN TREES				
33	PA	PICEA ABIES NORWAY SPRUCE	6'-8' HT.	B & B UNSHEARED
29	PS	PINUS STROBUS WHITE PINE	6'-8' HT.	B & B UNSHEARED
SHRUBS				
84	BT	BERBERIS THUNBERGII 'CRIMSON PYGMY' CRIMSON PYGMY BARBERRY	18-24" SPD	CONT 3' OC
205	FG	FORSYTHIA 'GOLD TIDE' GOLD TIDE FORSYTHIA	18-24" SPD	CONT 4' OC
131	JC	JUNIPERUS CHINENSIS 'SAN JOSE' SAN JOSE JUNIPER	18-24" SPD	CONT 3' OC
16	TM	TAXUS X MEDIA 'WARDII' SPREADING YEW	18-24" HT	B&B 4' OC

NOTE: FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF $24,930

THIS PROJECT COMPLIES WITH REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOR FOREST CONSERVATION PER SDP 98-11 AND F 98-45

DEVELOPER'S / BUILDER'S CERTIFICATE

THE OWNER, TENANT, AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES & WALLS. ALL PLANT MATERIAL 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.

I / WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY LANDSCAPE MANUAL. I / WE FURTHER CERTIFY THAT UPON COMPLETION A CERTIFICATION OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

NAME DANIEL J. HUDSON, EVP, TC MIDATLANTIC, INC. 8/1/00 DATE

9.6.00
Date

STATE OF MARYLAND (seal)

Landscape Architect No. 551

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION 9/19/00 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT 9/28/00 DATE

DIRECTOR 9/29/00 DATE

Date	No.	Revision Description
10.23.00	1	REV. PERIMETER 'C' INFO.

Montpelier
Research Park
PARCEL E-2
HOWARD COUNTY MARYLAND

OWNER: HOPKINS ROAD LIMITED PARTNERSHIP, 9030 RED BRANCH ROAD, SUITE 200, COLUMBIA, MD 21045, PH: 410-997-7222

DEVELOPER: TRAMMELL CROW COMPANY, 6701 DEMOCRACY BLVD., SUITE 410, BETHESDA, MD 20817

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

SUBDIVISION NAME	SECTION/ AREA	PARCEL #
Montpelier Research Park	NA	PARCEL E-2

PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02

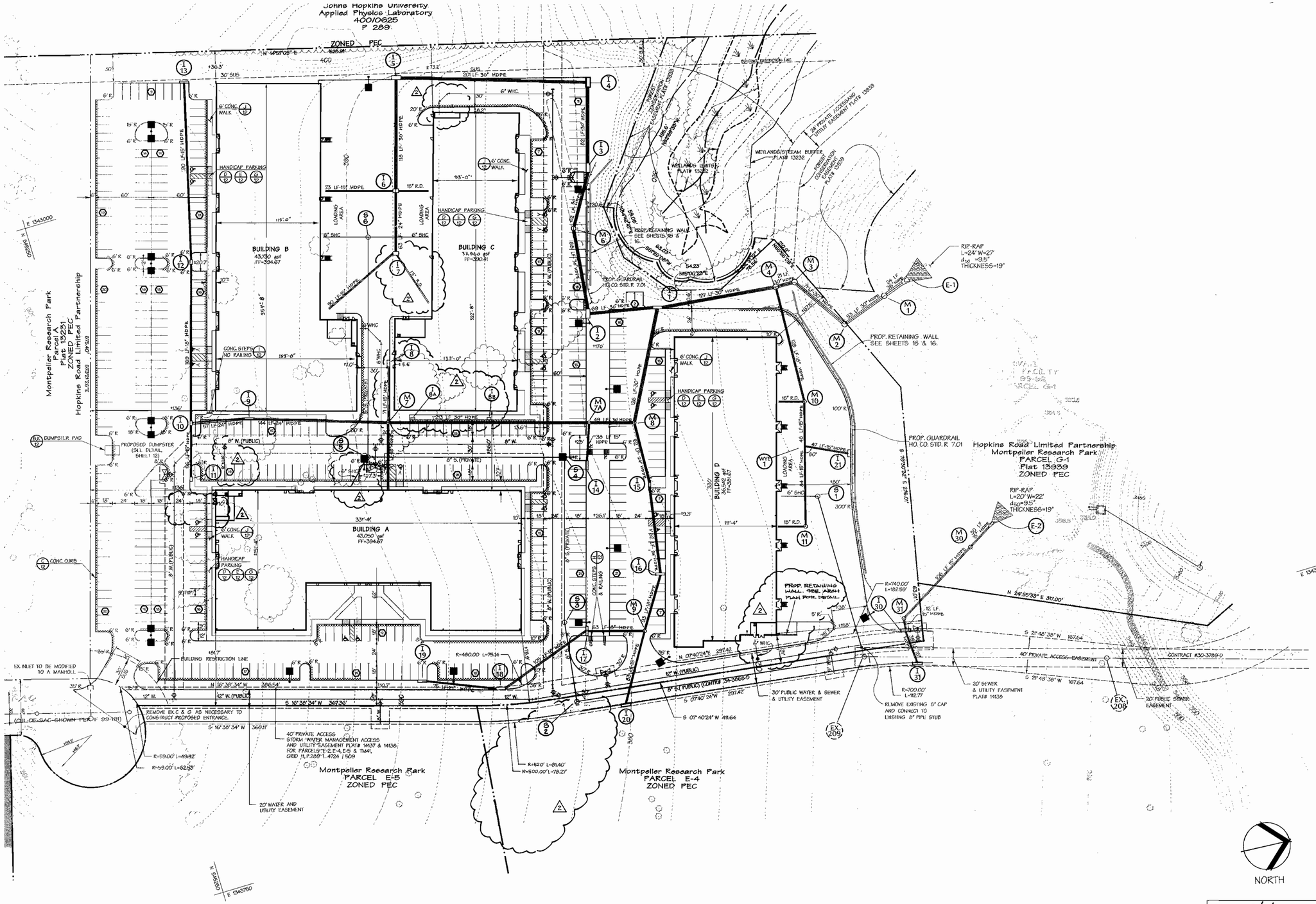
WATER CODE	SEWER CODE
E21	6440000

TITLE
Landscape Notes & Details

Des By:	Scale: 1"=50'	Proj. No. 94171.T2
Drn By: BKC	Date: 7-27-00	14 OF 16
Chk By: MM	Approved:	

SDP-00-112

Wed Jul 26 18:00:22 2000 n:\94171.t2\94171t2.lp2



LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
S.U.S.	STRUCTURE & USE SETBACK
	VAN HANDICAPPED PARKING
	HANDICAPPED PARKING
	PARKING COUNT
	EXISTING STORMDRAIN
	EXISTING SEWER
	EXISTING WATER
	PROPOSED STORM DRAIN
	PROPOSED SAN. SEWER
	PROPOSED WATER
M	STORM DRAIN STRUCTURE
	REVERSE CURB AND GUTTER
	CURB AND GUTTER

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/25/00

Date	No.	Revision Description
10-25-00	1	REVISED RCCP 10 HDPE + BLDG C SIZE
1-22-01	2.	REVISED WHC TO BUILDING A, C, & D, SD TO BUILDING C, GHC TO BLDG A. ADDED RETAINING WALL TO BLDG D, REMOVED SEWER TO PARCEL E-4 + E-5. ADDED INLET I-8A & I-8B.

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD, SUITE 410
BETHESDA, MD 20817

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

9/7/00
Date

STATE OF MARYLAND — JOHN W. PANOCCINO — No. 10557 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10557

SUBDIVISION NAME: Montpelier Research Park		SECTION/ AREA: NA	PARCEL #: PARCEL E-2
PLAT #: 14137	BLOCK #: 17	ZONE: PEC	TAX/ZONE MAP: 41
ELEC. DISTRICT: 5th	CENSUS TRACT: 6051.02		
WATER CODE: E21	SEWER CODE: 6440000		

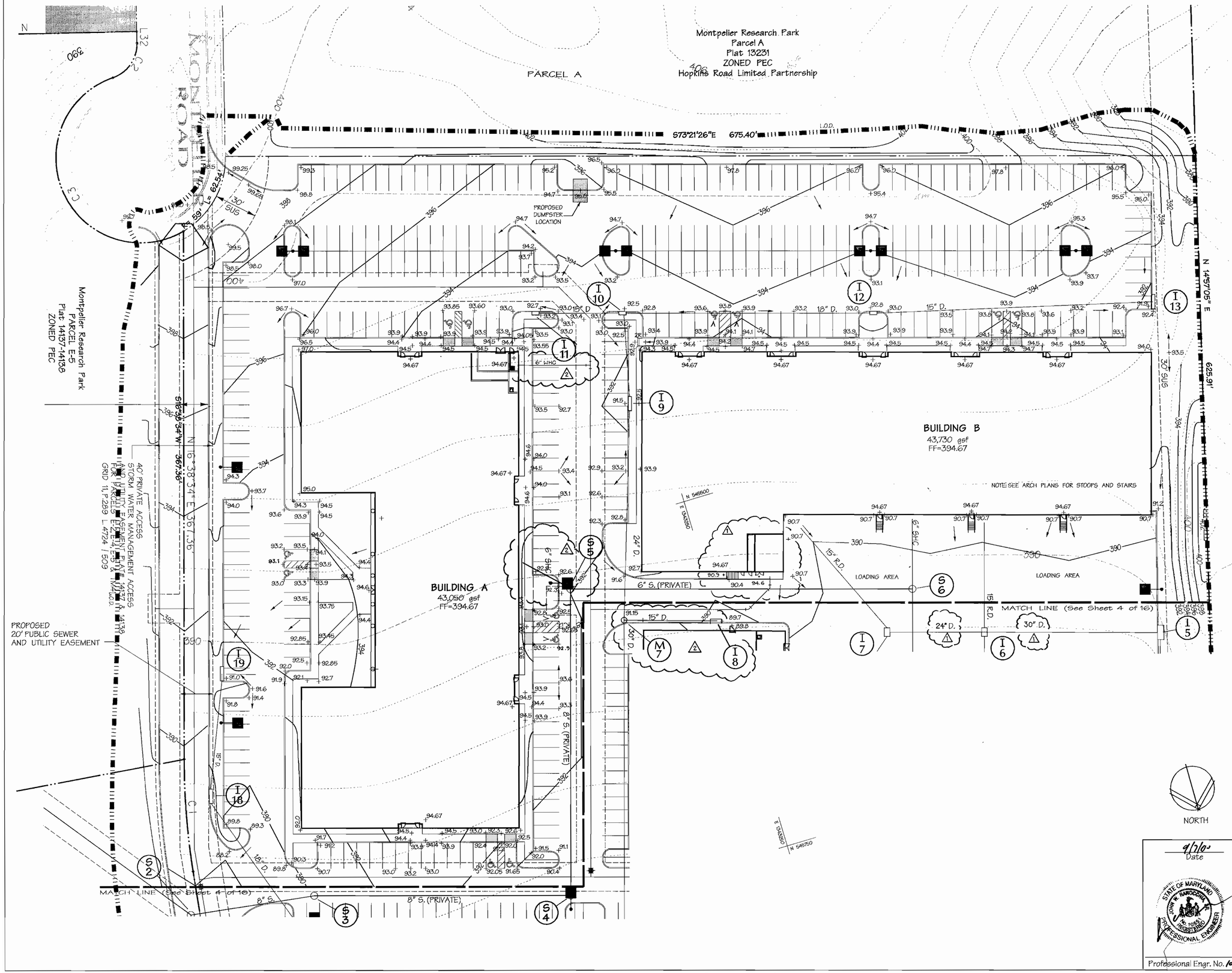
TITLE

SITE PLAN

Des By:	Scale: 1"=50'	Proj. No. 94171.T2	
Drn By: CSC	Date: 8-30-00	2 OF 16	
Chk By:	Approved:		

SDP-00-112

Wed Aug 30 14:21:21 2000 n:\94171.t2\94171t2.syl



LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	STREAM
	SOILS
	EXISTING CONTOURS
	PROPOSED CONTOURS
	WETLAND/ STREAM BUFFER
	WETLAND
	EXISTING TREES/ TREE LINE
	FLOODPLAIN
79.3+	SPOT ELEVATION
	FLOW ARROW
	GUARDRAIL
	DOUBLE HEAD LIGHT POLE
	SINGLE HEAD LIGHT POLE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/18/00

DIRECTOR — DATE 9/18/00

Date	No.	Revision Description
10-23-00	1	REVISED UTILITY ROOM ENTRANCE
11-27-00	2	REVISED WHC TO BLDG A, SHC TO BLDG A I-8

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD, SUITE 410
BETHESDA, MD 20817

NORTH

9/7/00
Date

Professional Engr. No. 10557

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

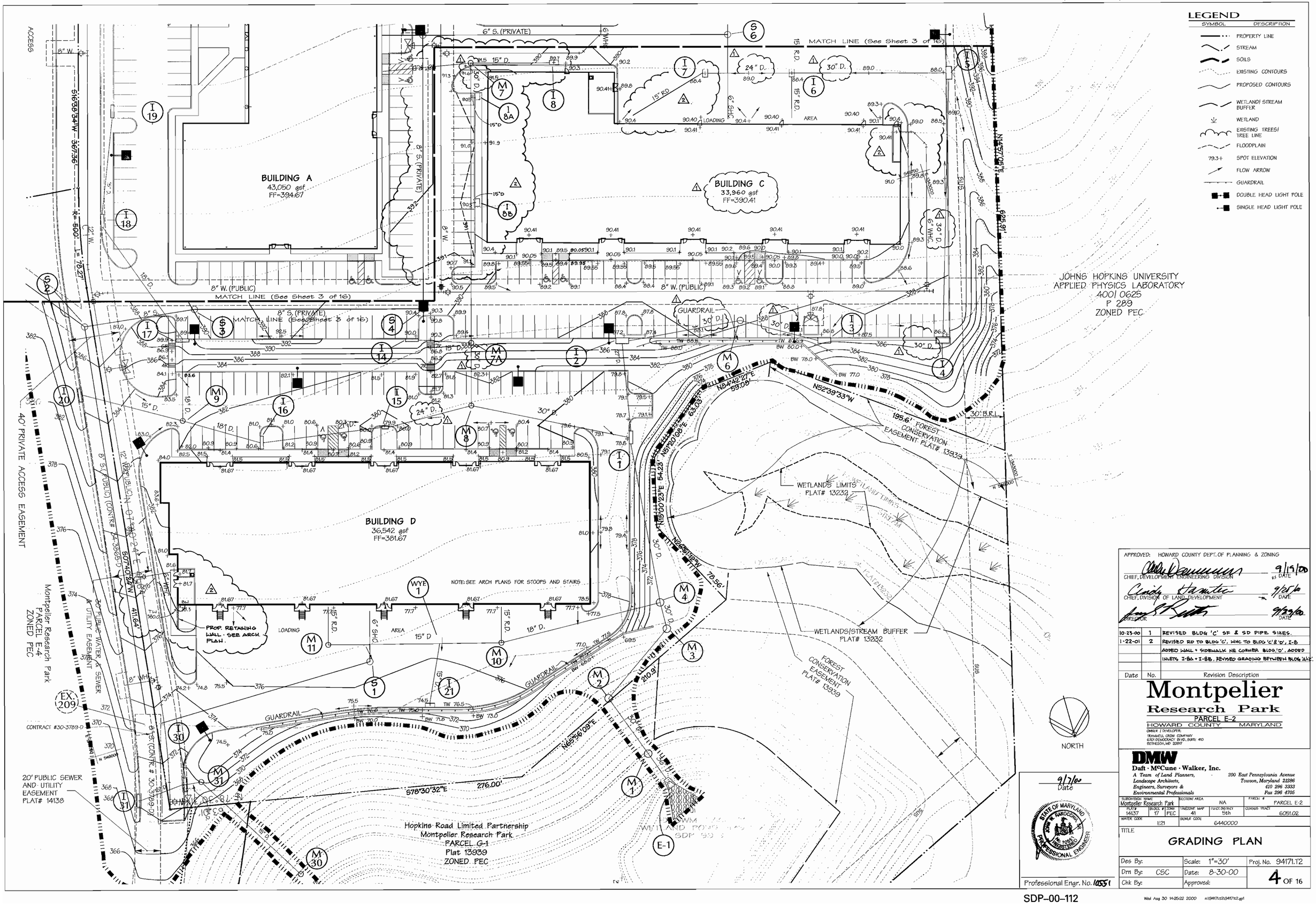
SUBDIVISION NAME: Montpelier Research Park	SECTION/ AREA: NA		PARCEL #: PARCEL E-2
PLAT #: 14137	BLOCK #: 17	ZONE: PEC	TAX/ZONE MAP: 41
ELEC. DISTRICT: 5th	CENSUS TRACT: 6051.02		
WATER CODE: E21	SEWER CODE: 6440000		

TITLE
GRADING PLAN

Des By:	Scale: 1"=30'	Proj. No. 94171.12	
Drn By: CSC	Date: 8-30-00	3 OF 16	
Chk By:	Approved:		

SDP-00-112

Wed Aug 30 14:28:41 2000 m:\94171\12\94171t2.dgn2



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/25/00

DIRECTOR — DATE 9/29/00

Date	No.	Revision Description
10-23-00	1	REVISED BLDG 'C' SF & SD PIPE SIZES.
1-22-01	2	REVISED RD TO BLDG 'C', WHC TO BLDG 'C' & 'D', I-8 ADDED WALL + SIDEWALK NE CORNER BLDG 'D', ADDED INLETS I-8A + I-8B, REVISED GRADING BETWEEN BLDG 'A' & 'C'.

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
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BETHESDA, MD 20817

DMW

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SUBDIVISION NAME	SECTION/ AREA	PARCEL #
Montpelier Research Park	NA	PARCEL E-2

PLAT#	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02

WATER CODE	SEWER CODE
E21	6440000

TITLE

GRADING PLAN

Des By:	Scale: 1"=30'	Proj. No. 94171.T2
Drn By: CSC	Date: 8-30-00	4 OF 16
Chk By:	Approved:	

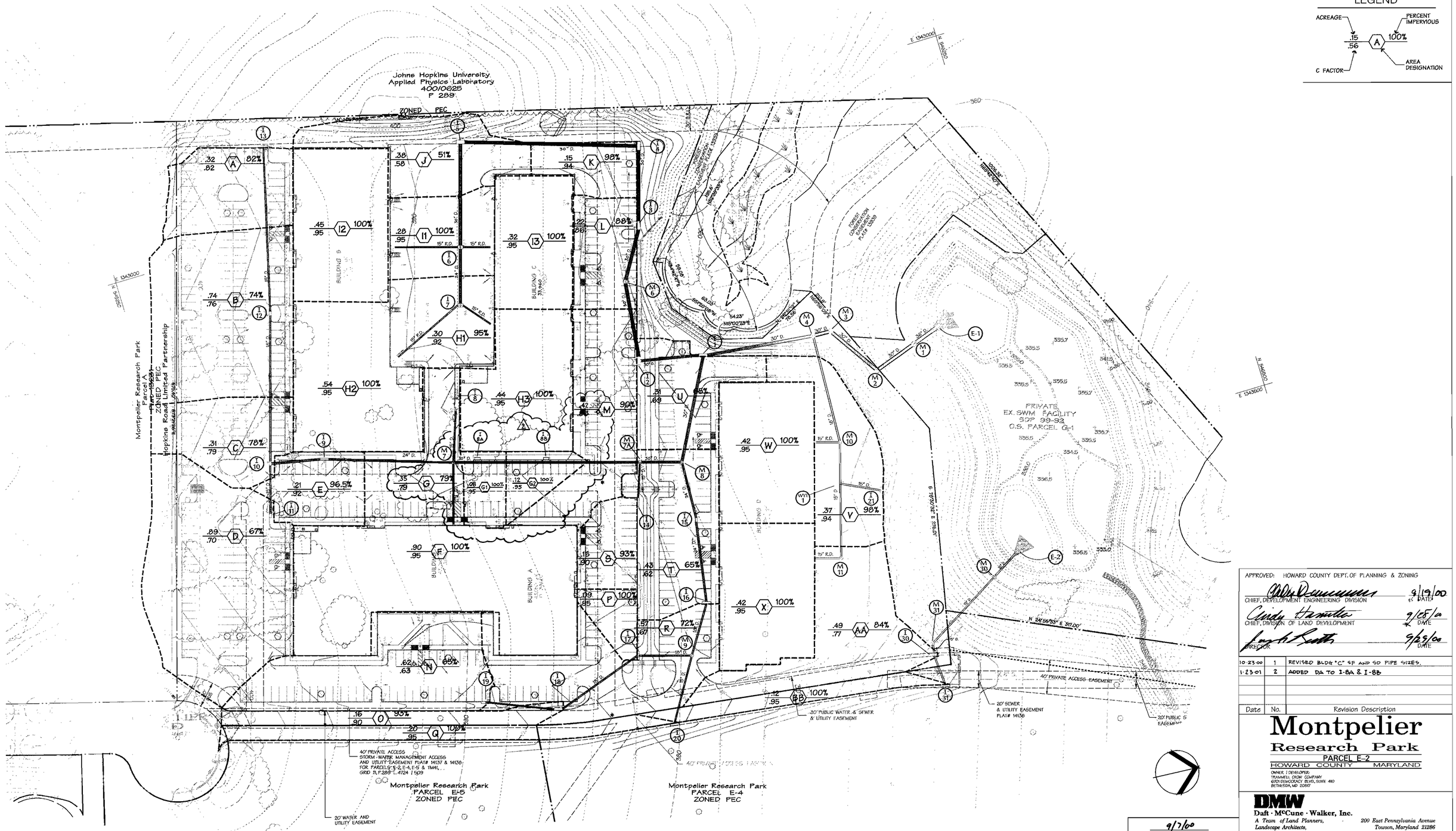
9/7/00
Date

STATE OF MARYLAND — JOHN W. RAROCCHIA, JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SDP-00-112

Wed Aug 30 14:25:22 2000 n:\94171t2\94171t2.gpl



APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE 9/19/00

CHIEF, DIVISION OF LAND DEVELOPMENT — DATE 9/18/00

DIRECTOR — DATE 9/23/00

Date	No.	Revision Description
10-23-00	1	REVISED BLDG "C" SF AND SD PIPE SIZES.
1-23-01	2	ADDED DA TO I-8A & I-8B

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
BETHESDA, MD 20817

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200 East Pennsylvania Avenue
Towson, Maryland 21286
410 296 3333
Fax 296 4705

SUBDIVISION NAME			SECTION/ AREA		PARCEL
Montpelier Research Park			NA		PARCEL E-2
PLAT	BLOCK	ZONE	TAX/ZONE MAP	ELEC. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02
WATER CODE			SEWER CODE		
E21			6440000		

TITLE

DRAINAGE AREA MAP

Des By:	Scale: 1"=50'	Proj. No. 94171.T2	
Drn By: CSC	Date: 8-30-00	5	OF 16
Chk By:	Approved:		

9/12/00
Date

STATE OF MARYLAND — JOHN W. MCCUNE — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SDP-00-112

Thu Aug 31 10:49:18 2000 n:\94171\t2\94171t2.dat

PROFILE

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

STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEV. UPPER	TOP ELEV. LOWER	REMARKS	COORDINATES NORTH	COORDINATES EAST
I-1	A-10	373.05	372.30	379.00	379.00	SD 4.02 W= 3'-9"	545,882.2	1,343,279.4
I-2	A-10	378.10	375.60	387.70	387.70	SD 4.02 W= 3'-9"	545,806.4	1,343,262.0
I-3	A-10	380.50	380.30	387.30	387.30	SD 4.02 W= 3'-9"	545,851.6	1,343,110.9
I-4	A-10	381.20	381.00	386.80	386.80	SD 4.02 W= 3'-9"	545,878.2	1,343,022.0
I-5	A-10	382.55	382.35	388.50	388.50	SD 4.02 W= 3'-9"	545,681.7	1,342,960.5
I-6	DBL. S	383.60	383.15	388.40	388.40	SD 4.23 -	545,646.9	1,343,075.8
I-7	DBL. S	-	384.00	388.40	388.40	SD 4.23 -	545,627.6	1,343,140.6
I-8	DBL.'S' COMB	-	386.00	389.70	389.70	SD 4.34	545,586.7	1,343,253.14
I-9	A-10	385.80	385.60	392.00	392.00	SD 4.02 W= 2'-6"	545,423.4	1,343,268.0
I-10	A-5	387.90	386.10	393.00	393.00	SD 4.01 W= 2'-6"	545,361.0	1,343,253.1
I-11	A-5	-	389.69	393.20	393.20	SD 4.01 W= 2'-6"	545,343.6	1,343,311.1
I-12	A-5	388.20	387.75	392.90	392.90	SD 4.01 W= 2'-6"	545,411.0	1,343,085.7
I-13	A-10	-	389.15	392.40	392.40	SD 4.02 W= 2'-6"	545,460.2	1,342,898.6
I-14	A-10	-	386.35	390.50	390.50	SD 4.02 W= 2'-6"	545,759.3	1,343,419.6
I-15	A-5	375. 25	375.05	380.40	380.40	SD 4.01 W= 2'-6"	545,818.4	1,343,459.2
I-16	A-10	376.70	376.00	381.32	381.10	SD 4.02 W= 2'-6"	545,802.9	1,343,556.4
I-17	A-10	381.83	380.33	389.90	389.90	SD 4.02 W= 2'-6"	545,708.0	1,343,591.1
I-18	A-10	386.00	385.75	389.14	388.92	SD 4.02 W= 2'-6"	545,601.4	1,343,625.6
I-19	A-10	-	388.50	391.50	391.50	SD 4.02 W= 2'-6"	545,522.7	1,343,591.3
I-20	A-10	-	381.90	385.64	385.19	SD 4.02 W= 2'-6"	545,727.1	1,343,679.1
I-21	DBL. 'S' COMB.	-	371.15	375.17	375.17	SD 4.34 -	546,038.4	1,343,489.1
I-30	A-10	367.69	367.49	371.66	371.15	SD 4.02 W= 2'-6"	546,040.8	1,343,690.9
I-31	A-10	-	367.90	372.00	371.66	SD 4.02 W= 2'-6"	546,043.1	1,343,726.7
M-1	6' MANHOLE	333.80	332.35	339.75	-	MD 384.05	546,122.4	1,343,336.2
M-2	5' MANHOLE	351.50	351.20	358.00	-	G 5.13	546,072.3	1,343,353.4
M-3	5' MANHOLE	361.20	361.00	369.50	-	G 5.13	546,033.4	1,343,294.1
M-4	5' MANHOLE	362.10	361.90	371.00	-	G 5.13	546,012.3	1,343,293.2
M-6	5' MANHOLE	379.90	379.70	388.16	-	G 5.13	546,819.9	1,343,169.8
M-7	4' MANHOLE	384.80	384.30	391.36	-	G 5.12	545,567.0	1,343,313.7
M-7a	4' MANHOLE	382.70	380.20	389.70		G 5.12	545,776.0	1,343,376.2
M-8	5' MANHOLE	374.65	373.95	381.15	-	G 5.13	545,822.9	1,343,390.2
M-9	4' MANHOLE	378.55	378.30	382.00	-	G 5.12 SHALLOW	545,769.2	1,343,609.4
M-10	4' MANHOLE	370.40	370.20	376.77	-	G 5.12	546,006.5	1,343,421.1
M-11	4' MANHOLE	372.65	372.45	376.79	-	G 5.12	545,969.1	1,343,551.0
M-30	4' MANHOLE	334.73	333.48	339.40	-	G 5.12 SHALLOW	546,134.1	1,343,623.2
M-31	4' MANHOLE	367.41	367.21	372.00	-	G 5.12 SHALLOW	546,042.8	1,343,676.8
				-	-			
WYE	15"X15" TEE FTG.	370.87	370.87			SD 1.11	546,006.5	1,343,421.1
E-1	HDPE		332.00	-	-	SD 5.51	546,152.7	1,343,325.8
E-2	HDPE		332.00	-	-	SD 5.51	546,165.0	1,343,604.7
I-8A	A-5	—	385.72	391.0	391.0	SD 4.01 W=2'-6"	—	—
I-8B	A-5	—	385.12	391.0	391.0	SD 4.01 W=2'-6"	—	—

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[signature] 9/19/00
CHIEF, DEVELOPMENT ENGINEERING DIVISION — DATE

[signature] 9/28/00
CHIEF, DIVISION OF LAND DEVELOPMENT — DATE

[signature] 9/29/00
DIRECTOR — DATE

Date	No.	Revision Description
10-23-00	1	REVISED RCCP TO HDPE, PIPE SIZE & STRUCTURE INVERTS.
11-27-00	2	REVISED I-8, ADDED I-8A & I-8B.

Montpelier Research Park

PARCEL E-2

HOWARD COUNTY MARYLAND

OWNER / DEVELOPER:
TRAMMELL CROW COMPANY
6701 DEMOCRACY BLVD., SUITE 410
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STATE OF MARYLAND — JOHN W. RANOCCHIA, JR. — No. 10551 — REGISTERED PROFESSIONAL ENGINEER

Professional Engr. No. 10551

SUBDIVISION NAME	SECTION/AREA	PARCEL #
Montpelier Research Park	NA	PARCEL E-2

PLAT #	BLOCK #	ZONE	TAX/ZONE MAP	ELECT. DISTRICT	CENSUS TRACT
14137	17	PEC	41	5th	6051.02

WATER CODE	SEWER CODE
E21	6440000

TITLE

STORM DRAIN PROFILES

Des By:	Scale: As Shown	Proj. No. 94171.T2
Drn By: MSS	Date: 8-30-00	6 OF 16
Chk By:	Approved:	

SDP-00-112