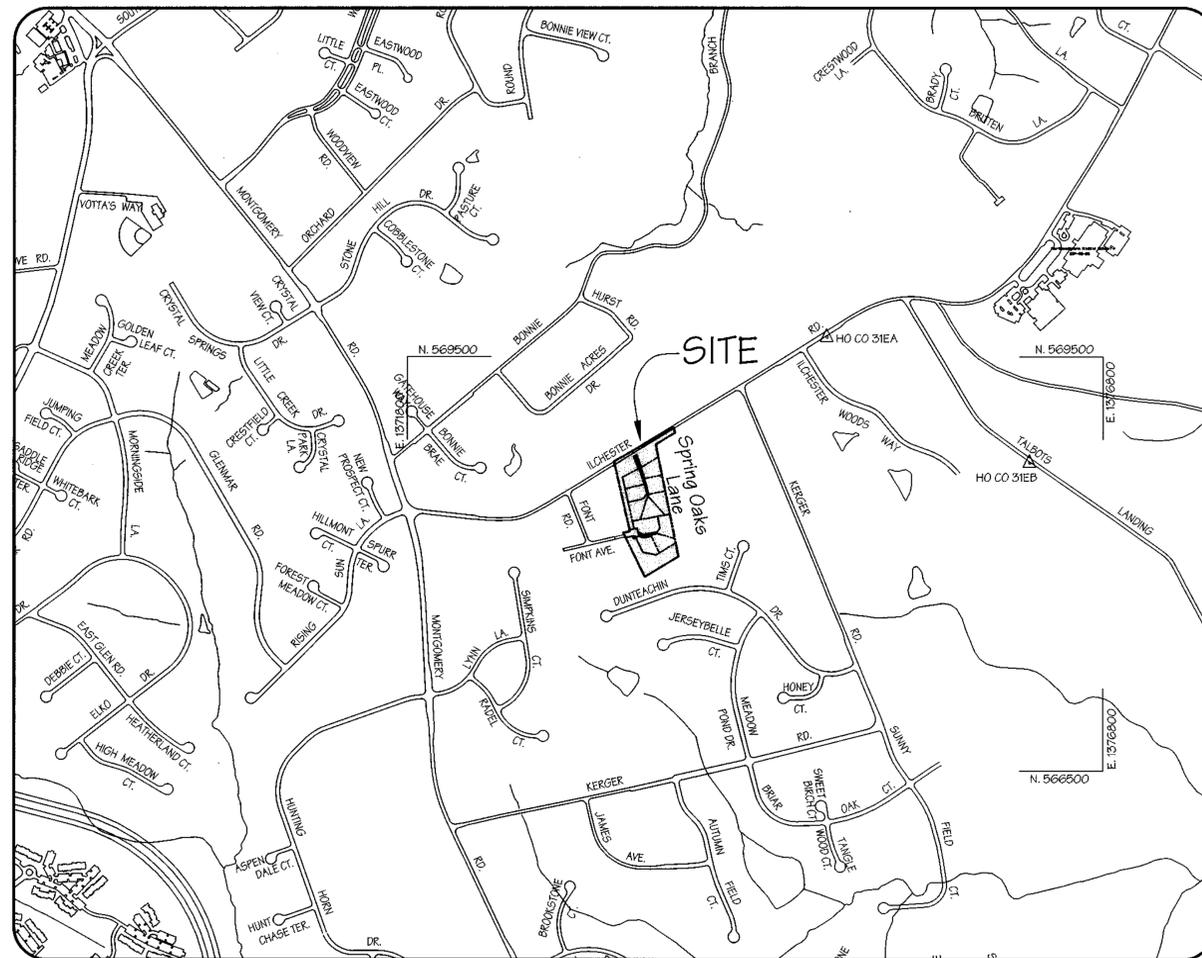


SHEET INDEX	
Sheet Number	Description
1	Cover Sheet
2	Plan and Profile - Spring Oaks Lane & Font Avenue Extension
3	Road Details
4	Storm Drain Profiles
5	Drainage Area Map
6	Grading and Sediment & Erosion Control Plan
7	Grading and Sediment & Erosion Control Plan - Details
8	Stormwater Management Details
9	Landscape & Forest Conservation Planting Plan
10	Landscape & Forest Conservation Planting Plan - Details



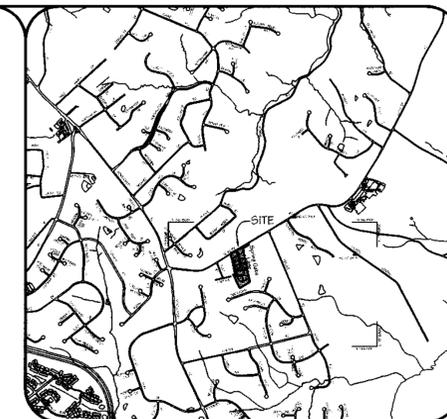
LOCATION MAP

Scale: 1" = 600'

**BENCHMARKS**

Howard County Monument # 31 EA  
Elevation: 469.604  
Standard stamped brass or aluminum disc on  
Concrete Monument; 0.3' Below Surface  
Located S.E. corner of intersection of Ilchester Rd.  
and Ilchester Woods Way 2' from sidewalk.

Howard County Monument # 31 EB  
Elevation: 453.398  
Standard stamped brass or aluminum disc on  
Concrete Monument; 0.3' Below Surface  
Located 19' from E Talbot Landing Rd.  
0.3 miles southeast of Ilchester Rd.  
85' from BGE tower.



VICINITY MAP

Scale: 1" = 2000'

**GENERAL NOTES**

- All aspects of the project are in conformance with the latest standards and specifications of Howard County Design Manual Vol. IV and MSHA standards & specifications unless waivers have been approved.
- The contractor shall notify the Department of Public Works/Bureau of Engineering/Construction Inspection at (410) 313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify "Miss Utility" at 1-800-257-7777 at least forty-eight (48) hours prior to any excavation work.
- Project Background:
  - Location: Elkridge, Maryland
  - Tax Map/Parcel: Maps 31 / 217
  - Zoning: R-20 (Residential: Single) per 10/18/93 Comprehensive Zoning Plan.
  - Election District: 1st
  - Previous Submittals: 500-1, P01-12
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- Any damage caused by the contractor to existing public right-of-way, existing paving, existing curb and gutter, existing utilities, etc. shall be corrected at the contractor's expense.
- The existing utilities shown hereon are located from field surveys and construction drawings of record. The approximate location of existing utilities are shown for the contractor's information and convenience. The contractor shall locate existing utilities to his own satisfaction and well in advance of any construction activities. Additionally, the contractor shall take all necessary precautions to protect all existing utilities and maintain uninterrupted service.
- The topography shown hereon is run by LDE, Inc., August, 2000.
- Horizontal and vertical datum's are related to the Maryland State Plane Coordinate System (NAD83) as projected from Howard County control stations No. 31 EA and No. 31 EB.
- The property shown hereon is based on a field run boundary survey performed by LDE, Inc. dated January 1999.
- The proposed Water and Sewer systems to be extensions of public water contracts #64-W & #511-W and sewer contract #418-S.
- The property is located within the Metropolitan District.
- All private use-in-common driveways shall meet the following specifications:
  - 14 foot width.
  - 6" compacted crusher run base with "tar and chip" coating.
  - Minimum turning radius of 45 feet.
  - Designed to support vehicles with a gross weight of 25 tons.
  - 12 feet of overhead clearance.
  - Maintained for all weather use.
  - Maximum grade is 15%, with the durable and sustained grade of 8%.
  - Where one (1) driveway serves more than one (1) lot, a house number sign must be placed at each lot entrance and a range of street address house numbers sign where the common driveway intersects with the main road.
- See sheet 7 for general construction sequence.
- 95% compaction in all fill areas shall be determined by AASHTO T-160.
- There are no existing contiguous slopes 25% or greater which are greater than 20,000 square feet within the boundaries of the site.
- See Forest Stand Delineation plan filed with 500-01 for steep slope analysis prepared by Dennis J. LaBare, M.S., & Associates dated May 5, 1999.
- The existing structure located on proposed Lot 8 will remain.
- The Sight Distance analysis was compiled as part of the Sketch Plan submission.
- The Traffic Study was completed by Robert L. Morris, Inc. dated May 12, 1999.
- Stormwater management for this development is provided in accordance with Design Manual Waiver approved on February 23, 2001, utilizing the 2000 Maryland Stormwater Design Manual Volumes I & II. Dry swales will be utilized for water quality management. Dry swales on Open Space Lots 12 & 13 are to be maintained by the Homeowners Association.
- The Use-in-Common drive and Private Access Place shall be improved to current standards within a 24' wide Use-in-Common Access Easement.
- The Use-in-Common Maintenance Agreements shall be recorded immediately upon recordation of the plan.
- There are no wetlands or 100 Year floodplain located on this site per a report prepared by Dennis J. LaBare, M.S., & Associates dated May 25, 1999.
- There are no burial grounds, cemeteries, or historic structures located on this site.
- This project is grandfathered to the fourth edition of the Subdivision Regulations.

ROAD & STORM DRAIN CONSTRUCTION PLANS  
**SPRING OAKS**  
 1st Election District - Howard County, Maryland

By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 2/25/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 3/25/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 3-21-02  
 CHIEF, Bureau of Highways

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

*[Signature]* 2/1/02  
 NATURAL RESOURCE CONSERVATION SERVICE

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

*[Signature]* 2/1/02  
 HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 11-8-01  
 SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE

I HAVE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

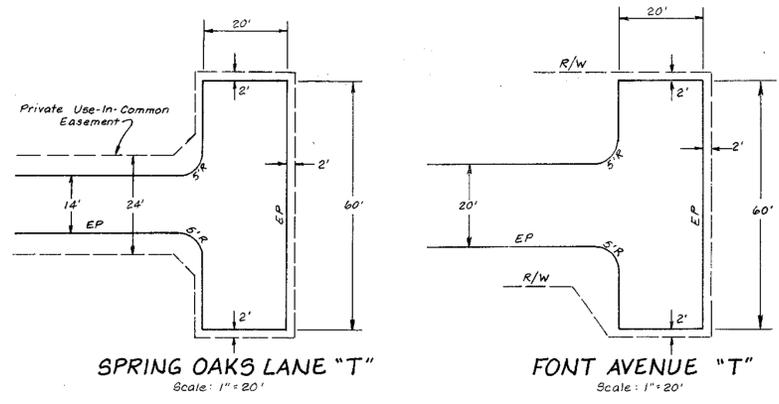
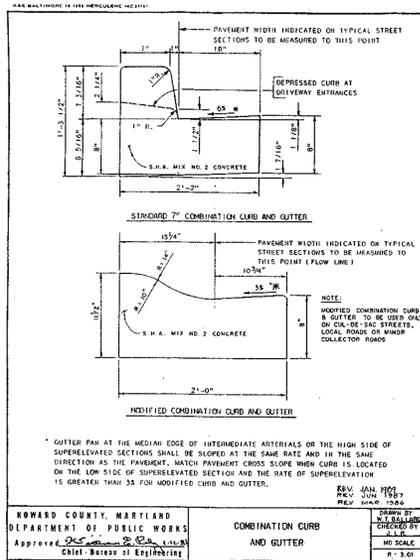
*[Signature]* 2-6-02  
 SIGNATURE OF DEVELOPER



LDE, INC.  
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED SWC	Cover Sheet <b>SPRING OAKS</b>	SCALE As Shown
DRAWN J.D.R.		DRAWINGS 1 of 10
CHECKED SWC	Lots 1 Thru 11 & Open Space Lots 12 Thru 14 1st Election District - Howard County, Maryland Tax Map No. 31 - Grid No. 15 - Parcel 217 Previous Submittals: 500-01, P01-12	JOB NO. 98-090
DATE 8/2001	OWNER/DEVELOPER J.J.M., Inc. 17901 Shaffers Mill Road Mt. Airy, Maryland 21771 (410) 730-0810	FILE NO. F02-22





SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS	
		FULL DEPTH BIT. CONC. ALTERNATE	GRAVELAR ORS. ALTERNATE
P-1	APARTMENTS AND COMMERCIAL INDUSTRIAL ZONES WITH HEAVY TRUCK TRAVELWAYS FOR APARTMENTS AND INDUSTRIAL ZONES WITH HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	2" BIT. CONC. SURFACE 4" GRADED AGGREGATE (BASE) (GAB)
P-2	RESIDENTIAL ZONES LOCAL CUL-DE-SAC STS. ALLEYS AND PRIVATE ROADS SERVING INDIVIDUAL LOTS	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 2 1/2" BIT. CONC. BASE 4" GRADED AGGREGATE (BASE) (GAB)
P-3	RESIDENTIAL ZONES MINOR AND MAJOR COLLECTORS COMMERCIAL-INDUSTRIAL ZONES LOCAL AND CUL-DE-SAC STREETS ALLEYS	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4 1/2" BIT. CONC. BASE 5" GRADED AGGREGATE (BASE) (GAB)
P-4	COMMERCIAL INDUSTRIAL ZONES MINOR COLLECTOR	1 1/2" BIT. CONC. SURFACE 5" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 4 1/2" BIT. CONC. BASE 4" GRADED AGGREGATE (BASE) (GAB)

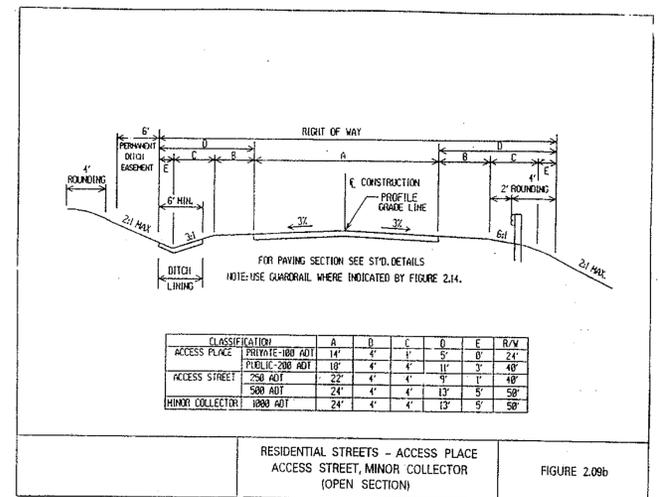
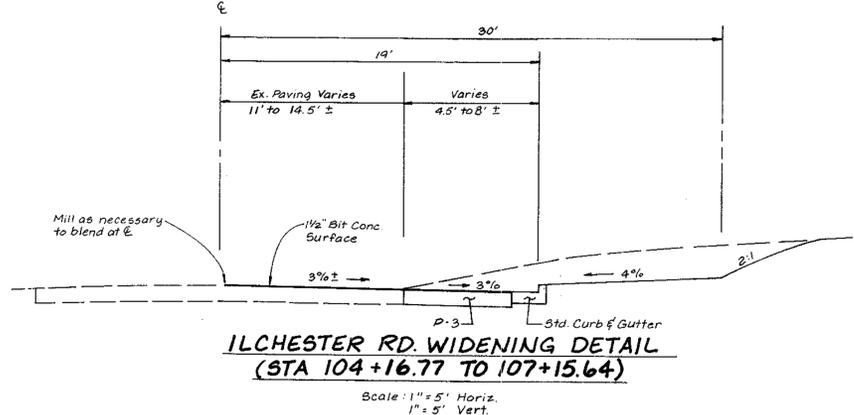
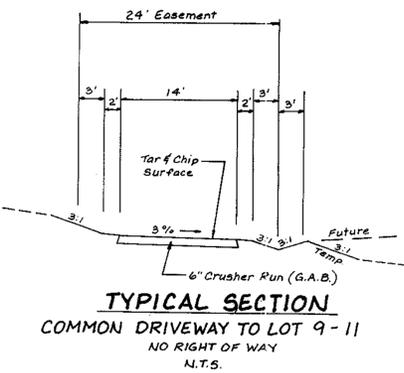
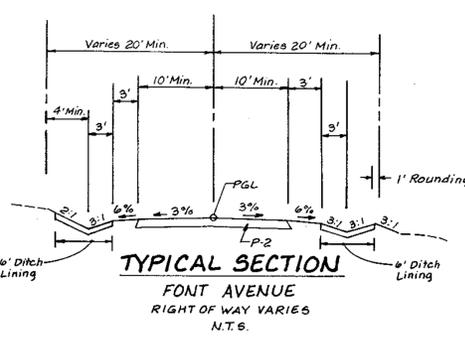
TRAVELWAYS ARE DEFINED AS THE ROADWAYS LEADING TO THE PARKING DAYS  
HEAVY TRUCKS ARE DEFINED AS THOSE WITH 6 WHEEL OR MORE INCLUDING GARBAGE TRUCKS

REV. JAN 1994  
REV. OCT 1993

HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
Approved: *[Signature]* Chief-Dir. of Engr.  
Date: \_\_\_\_\_

PAVING SECTIONS  
P-1 THROUGH P-4

M.T. BALLARD  
CHECKED BY  
NO SCALE  
1" = 20'



TRAFFIC CONTROL SIGN LEGEND			
Symbol	Street Name	@ Station	Offset
4	Spring Oaks Lane		Rt-1 "Stop" Sign, 80"x80" Octagon, w/ Street Name Sign

By	Date	No.	Description

Road Name	Station to Station	Class	R/W	Design Speed	Paving Section
Spring Oaks Lane	0+50.00 to 2+65.02	Private	24'	15 MPH	P-2
Font Avenue	1+94.99 to 3+65.09	Local	40'	15 MPH	P-2
Ilchester Road	103+78.30 to 107+15.75	Minor Collector	60'	40 MPH	P-3

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3/5/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 3/28/02  
CHIEF, DIVISION OF LAND DEVELOPMENT

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 3-21-02  
CHIEF, BUREAU OF HIGHWAYS

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

NATURAL RESOURCE CONSERVATION SERVICE

DATE: 3/27/02

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

HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 2-6-02  
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OF THEIR AUTHORITY AS ARE DEEMED NECESSARY.

*[Signature]* 2-6-02  
SIGNATURE OF DEVELOPER



LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: SWC  
DRAWN: CADD STB  
CHECKED: SWC  
DATE: 8/2001

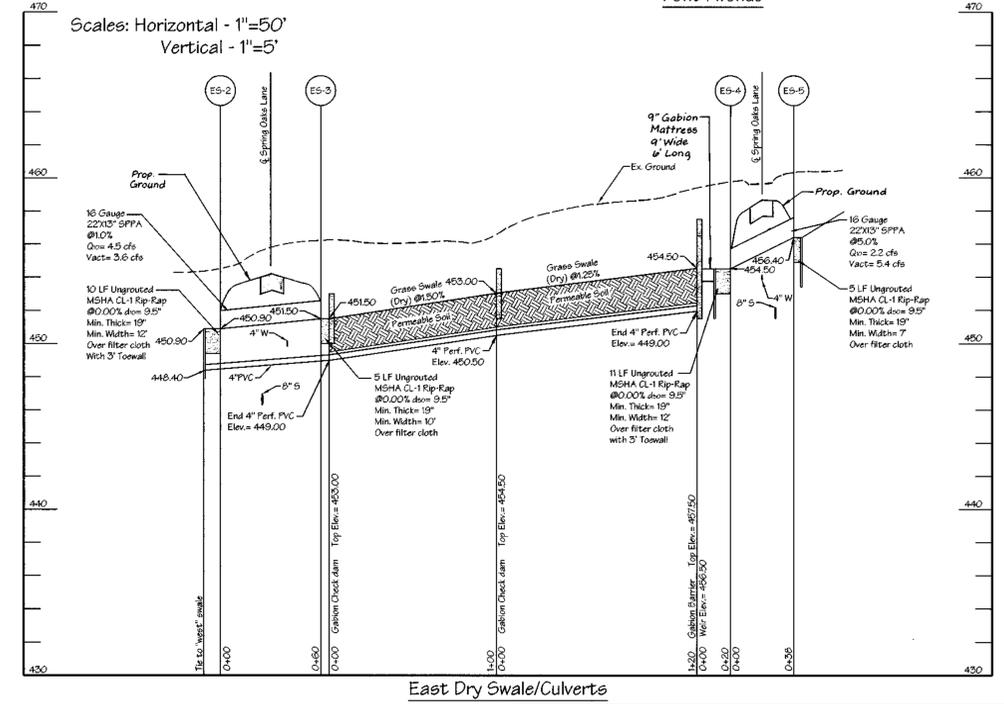
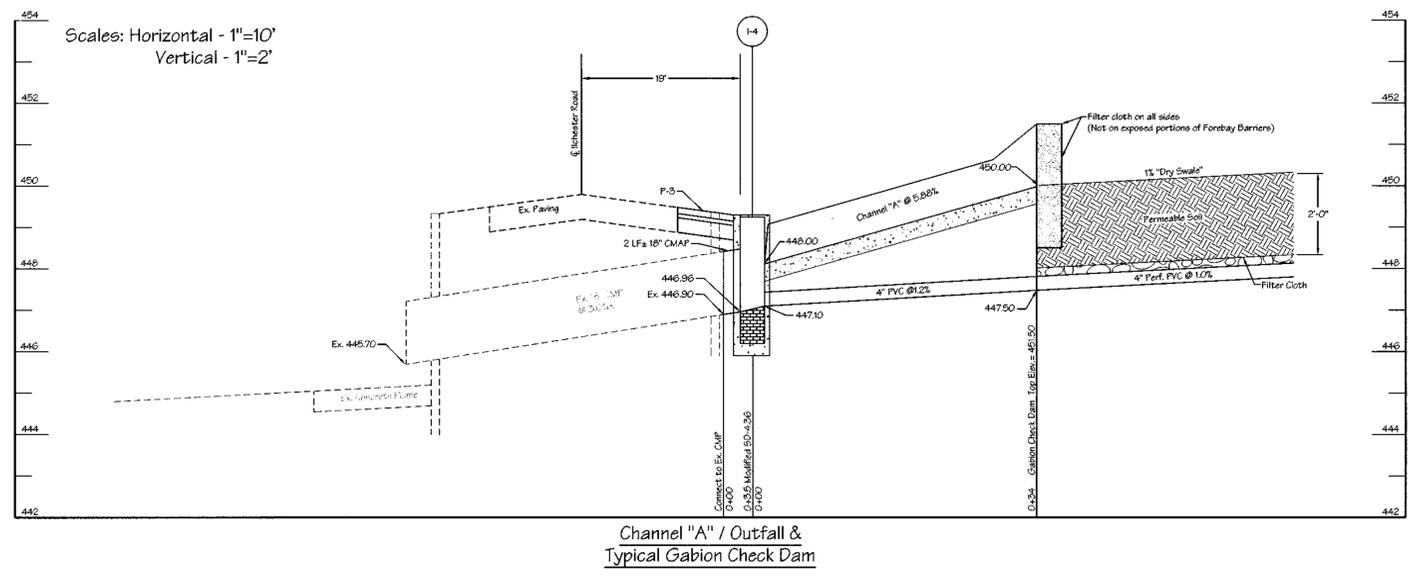
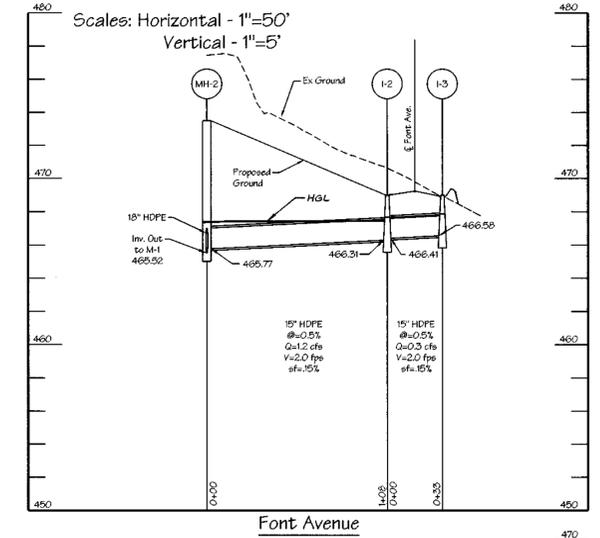
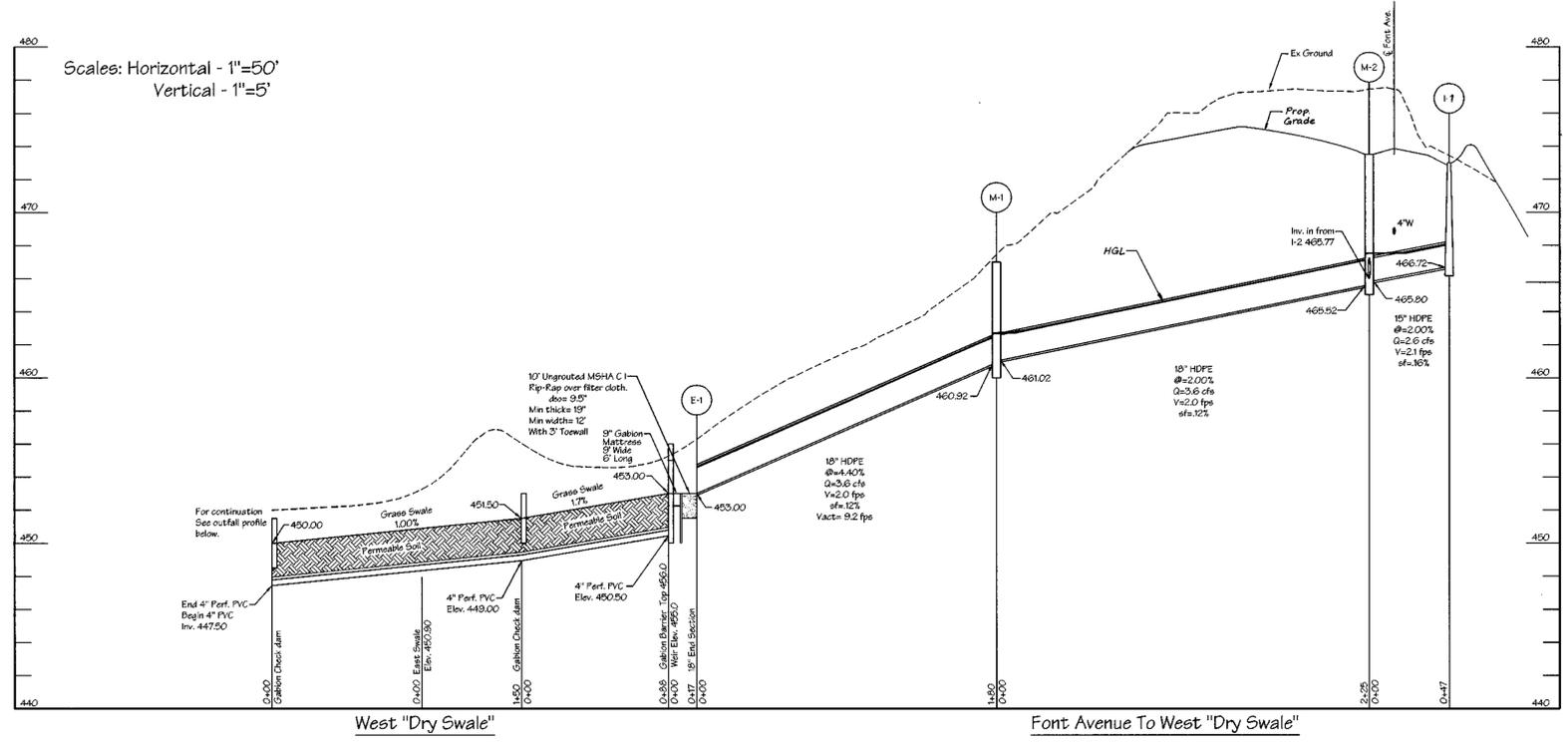
Road Details  
**SPRING OAKS**  
Lots 1 Thru 11 & Open Space  
Lots 12 Thru 14  
1st Election District - Howard County, Maryland  
Tax Map No. 31 - Grid No. 15 - Parcel 217  
Previous Submittals: 900-01, P01-12

OWNER/DEVELOPER: J.J.M., Inc.  
17301 Shaffers Mill Road  
Mt. Airy, Maryland 21771  
(410) 730-0810

SCALE: As Shown  
DRAWING: 3 of 10  
JOB NO.: 98-090  
FILE NO.: F02-22

STRUCTURE SCHEDULE							
Struc. No.	Type	Inv. In	Inv. Out	MH Top or Top Slab Elev	Detail	Location	Remarks
I-1	Inlet	-	-	468.12	SD 4.36	Font Ave. Sta. 3+43.53 RT	No Weir Downhill Side
I-2	Inlet	466.41	466.31	469.00	SD 4.36	Font Ave. Sta. 2+33.15 LT	No Weir Downhill Side
I-3	Inlet	-	-	466.58	SD 4.36	Font Ave. Sta. 2+35.16 RT	No Weir Downhill Side
I-4	Inlet	448.00*	448.96	449.26	Mud SD 4.36	Rich. Rd. Sta. 104+04.62 21 RT	See Detail - Sheet 8
M-1	Manhole	461.02	460.92	467.00	G 5.12	5' off PL 12' off Rear Cor. Lts 58.6	-
M-2	Manhole	465.77	465.52	473.50	G 5.12	Font Ave. Sta. 3+39.81 14' LT	-
ES-1	End Section	-	-	453.00	AB-5	5' off EW Rear Cor. L1.7	Or Equivalent
ES-2	End Section	-	-	450.90	SD 5.63	N 568743.33 E 1373422.24	-
ES-3	End Section	451.50	-	-	SD 5.63	N 568772.49 E 1373489.66	-
ES-4	End Section	-	454.50	-	SD 5.63	N 568707.03 E 1373480.96	-
ES-5	End Section	456.40	-	-	SD 5.63	N 568681.94 E 1373460.15	-

\* Concrete channel invert; 4" PVC Inv. = 447.10



By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 [Signature] 2/25/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.  
 [Signature] 2/27/02  
 NATURAL RESOURCE CONSERVATION SERVICE

ENGINEER'S CERTIFICATE  
 I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 11-8-01  
 STATE OF MARYLAND PROFESSIONAL ENGINEER

DEVELOPER'S CERTIFICATE  
 I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS AFB DEEMED NECESSARY.  
 [Signature] 2-6-02

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 [Signature] 3-21-02  
 CHIEF, BUREAU OF HIGHWAYS

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 [Signature] 3-21-02  
 HOWARD SOIL CONSERVATION DISTRICT

LDE, INC.  
 9250 Rumsby Road, Suite 106, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

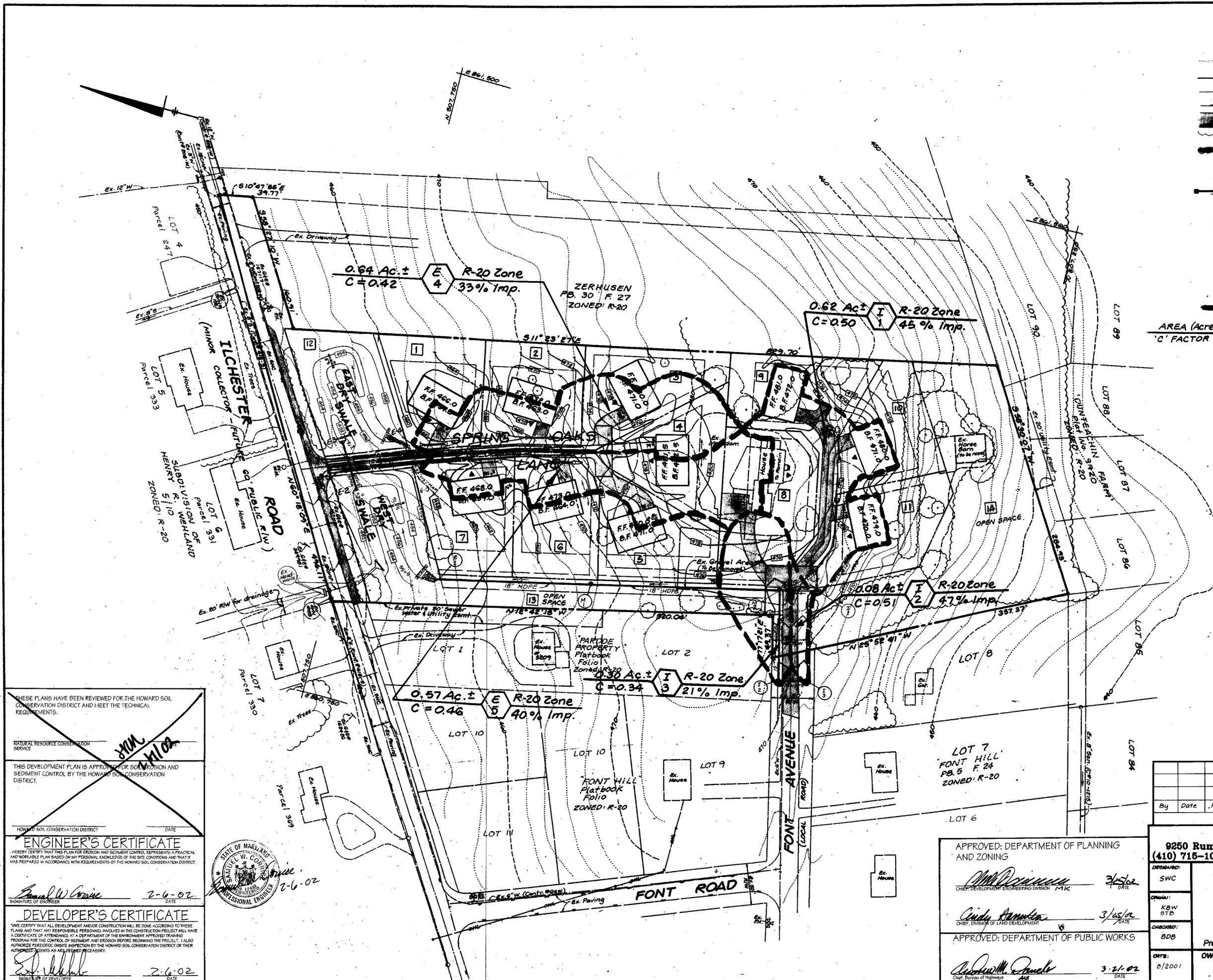
Storm Drain Profiles  
**SPRING OAKS**

DESIGNED: S.W.C. SCALE: As Shown  
 DRAWN: J.D.R. DRAWING: 4 of 10  
 CHECKED: S.W.C. JOB NO.: 98-090  
 DATE: 8/2001 OWNER/DEVELOPER: J.J.M., Inc. 17901 Shaffers Mill Road Mt. Airy, Maryland 21771 (410) 730-0810 FILE NO.: F-02-22

**LEGEND**

- Ex. Ground
- Prop. Grade
- Ex. Paving
- Prop. Paving
- Ex. Tree Line
- Ex. Trees To Remain
- Ex. Storm Drain
- Prop. Storm Drain
- Lot Number Delineation
- Prop. Dwelling w/ Front Orientation
- Prop. Driveways
- Prop. Culverts
- DRAINAGE DIVIDE

AREA (Acres) <sup>3</sup> / INLET No. EX. ZONING  
 'C' FACTOR / % IMPERVIOUS



THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

NATURAL RESOURCE CONSERVATION SERVICE

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

HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**

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*Samuel W. Conice* 2-6-02  
 SIGNATURE OF ENGINEER DATE

**DEVELOPER'S CERTIFICATE**

I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERSONNEL TO BE INSPECTED BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED REPRESENTS AS REQUIRED NECESSARY.

*[Signature]* 2-6-02  
 SIGNATURE OF DEVELOPER DATE



APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3/25/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION, PPK DATE

*[Signature]* 3/15/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 3-21-02  
 CHIEF, BUREAU OF HIGHWAYS DATE

By	Date	No.	Description
REVISIONS			

**LDE, INC.**

9250 Rumsey Road, Suite 108, Columbia, MD. 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED BY: SWC	SCALE: 1" = 50'
DRAWN BY: KBW	DRAWING NO.: 5 of 10
CHECKED BY: BDB	LDE JOB NO.: 98-090
DATE: 8/2001	FILE NO.: F02-22

**STORM DRAIN DRAINAGE AREA MAP**

**SPRING OAKS**

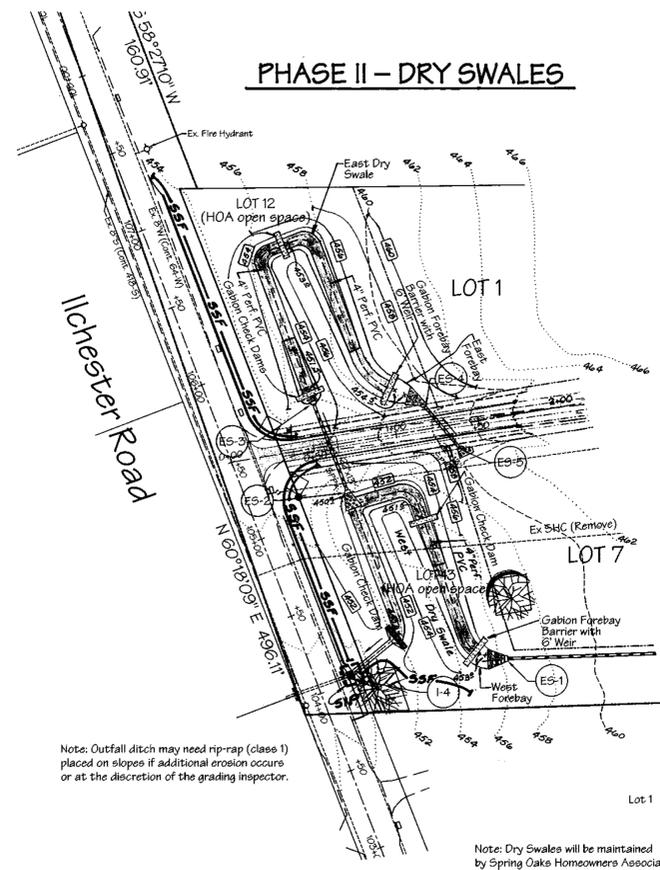
LOTS 1 THRU 11 & OPEN SPACE  
 LOTS 12 THRU 14

Tax Map 31 Grid 15 Parcel 217  
 1<sup>st</sup> Election District Howard County, MD

Previous Submittals: 9-00-01, P01-12

OWNER / DEVELOPER: J.J.M., Inc.  
 17901 Shaffers Mill Road  
 Mt. Airy, Maryland 21771

**PHASE I**



- LEGEND**
- LIMIT OF DISTURBANCE ..... (dotted line)
  - WOODSLINE ~~~~~ (wavy line)
  - TREE PROTECTION FENCE — TPF — (line with 'T' and 'P' markers)
  - SUPER SILT FENCE — SSF — (line with 'S' and 'F' markers)
  - EXISTING CONTOUR ——— (solid line)
  - PROPOSED CONTOUR ——— (dashed line)
  - DRY SWALE ——— (thick solid line)

**OPERATION AND MAINTENANCE**

The Homeowners Association shall be responsible for trash removal and landscape maintenance of the Open Space Lots. This shall include mowing of all areas including side slopes of the "Dry Swales".  
 The Homeowners Association shall also be responsible for siltation removal in the Forebays and behind the Check Dams upon reaching a depth of 6 inches or more.  
 The Homeowners Association shall further be responsible for restoration or replacement of Forebay barriers, Check Dams, underdrains, dry swale soils or any other items deemed necessary by Howard County inspectors.

By	Date	No.	Description
REVISIONS			

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

*John D. ...* 2/25/02  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Cindy ...* 3/25/02  
 CHIEF, DIVISION OF LAND DEVELOPMENT

**APPROVED: DEPARTMENT OF PUBLIC WORKS**

*Robert M. ...* 3-21-02  
 CHIEF, BUREAU OF HIGHWAYS

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

*Jim Meyer* 2/17/02  
 NATURAL RESOURCE CONSERVATION SERVICE

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

*John ...* 2/11/02  
 HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**

I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Samuel W. ...* 11-8-01  
 SIGNATURE OF ENGINEER

**DEVELOPER'S CERTIFICATE**

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

*John ...* 2-6-02  
 SIGNATURE OF DEVELOPER



**LDE, INC.**  
 9250 Rumsey Road, Suite 106, Columbia, MD, 21045  
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED SWC	<b>SPRING OAKS</b> Lots 1 Thru 11 & Open Space Lots 12 Thru 14 1st Election District - Howard County, Maryland Tax Map No. 31 - Grid No. 15 - Parcels 217 Previous Submittals: 500-01, P01-12	SCALE 1"=50'
DRAWN J.D.R. S.T.B.		DRAWING 6 of 10
CHECKED SWC		JOB NO. 98-090
DATE 8/2001		OWNER/DEVELOPER J.J.M., Inc. 17901 Shaffers Mill Road Mt. Airy, Maryland 21771 (410) 730-0810

F:\land Projects\225\p10g\02a\lde\lde\plan\plan2.dwg, Grading and Sediment, 11/01/01 11:35:31 AM

**HOWARD SOIL CONSERVATION DISTRICT  
STANDARD SEDIMENT CONTROL NOTES**

1. A minimum of 48 hours notice must be given to the Howard County Department of Inspections, Licenses and Permits, Sediment Control Division prior to the start of any construction, (203-1850).
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 most current "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", and revisions thereto.
3. Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within a 7 calendar days for all perimeter sediment control structures, dikes, perimeter slopes and all slopes greater than 3:1. It 14 days as to all other disturbed or graded areas on the project site.
4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. I, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (Section G) for permanent seeding, soil, temporary seeding, and mulching. 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:
 

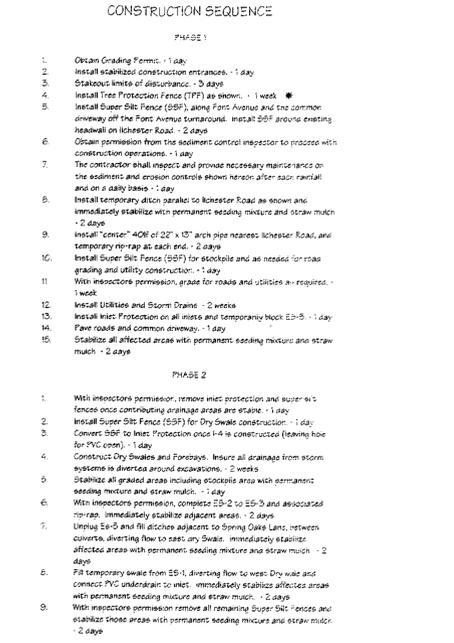
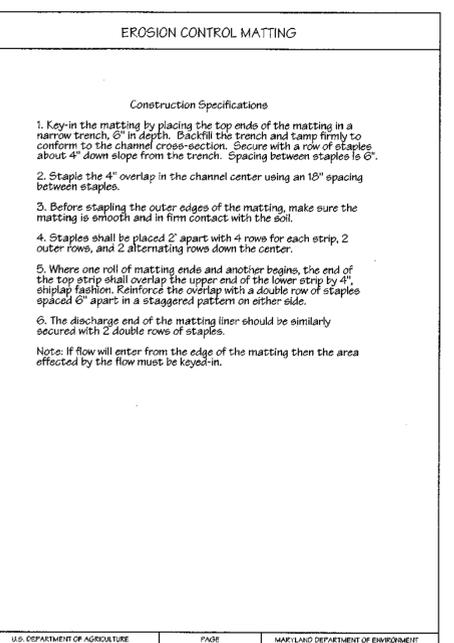
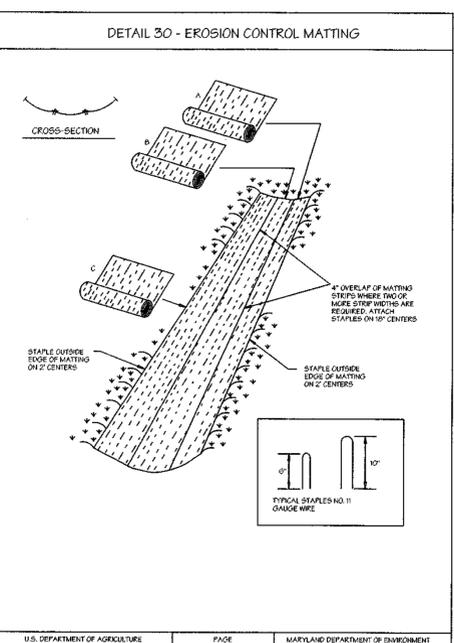
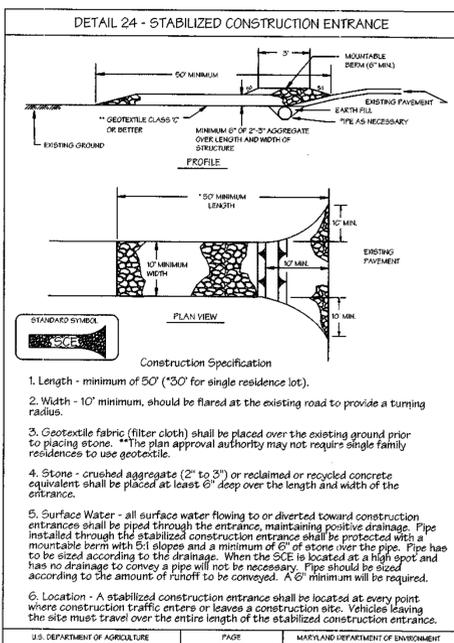
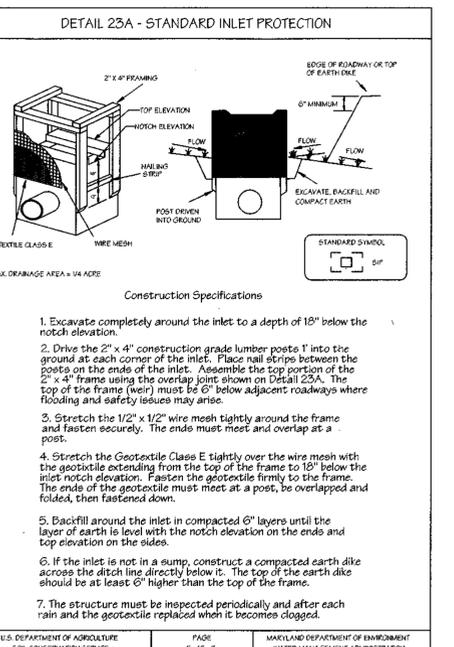
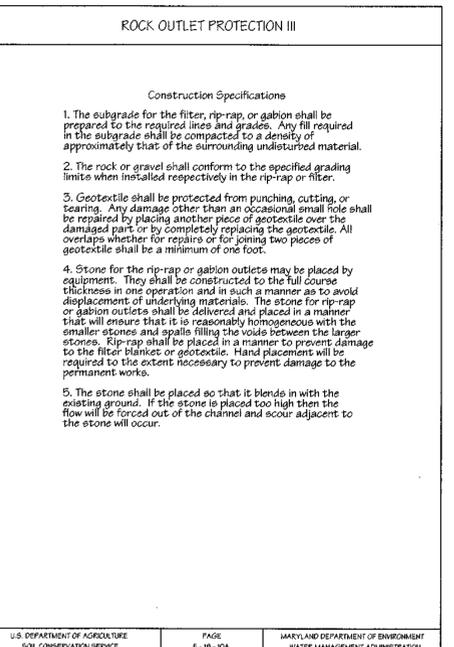
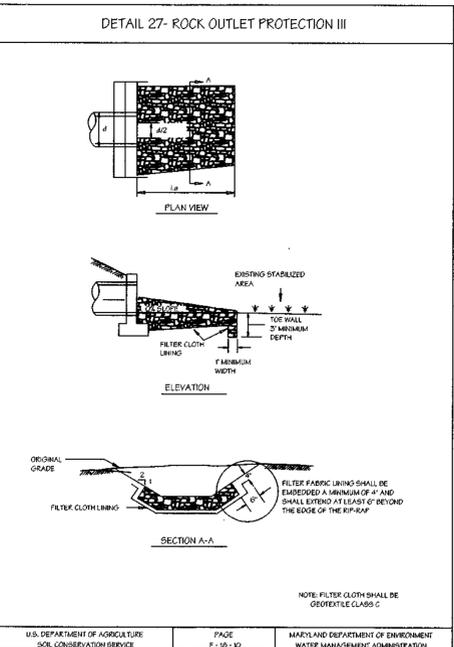
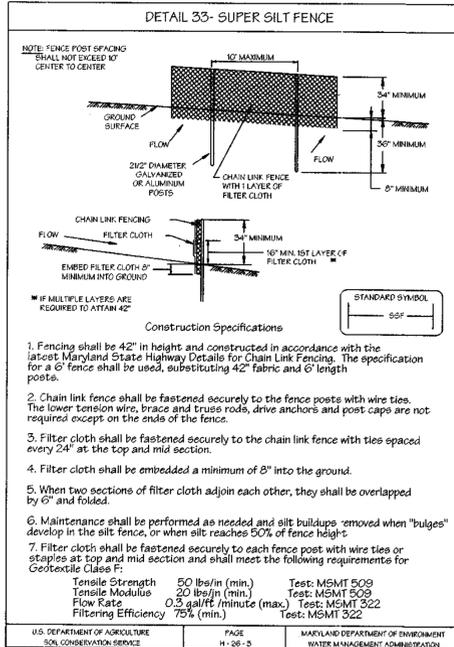
Total Area of Site	6.47	Acres
Area Disturbed	2.50	Acres
Area to be seeded or paved	0.34	Acres
Area to be vegetatively stabilized	2.16	Acres
Total Cur.	1500	Cu. Yds.
Total Fill	292	Cu. Yds.
Off-site waste/borrow area location	LOT 1	
8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
9. Additional sediment control must be provided, if deemed necessary by the Howard County 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 can be back filled and stabilized within one working day, whichever is shorter.

**HOWARD SOIL CONSERVATION DISTRICT  
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 acre dolomitic limestone (32 lbs/1000sq. ft.) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000sq. ft.) before seeding. Harrow or disk into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 urea-form fertilizer (8 lbs/1000sq. ft.)
  - 2) ACCEPTABLE -- Apply 2 tons per acre dolomitic limestone (32 lbs/1000sq. ft.) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000sq. ft.) before seeding. Harrow or disk into upper three inches of soil.
- SEEDING** -- For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (14 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (14 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lbs/1000sq. ft.) of creeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) - 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) - Use sod. Option (3) - Seed with 60 lbs. per acre Kentucky 31 Tall Fescue and mulch 2 tons / acre well anchored straw.
- MULCHING** -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 6 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- MAINTENANCE** -- Inspect all seeding areas and make needed repairs, replacements and reseedings.

**HOWARD SOIL CONSERVATION DISTRICT  
TEMPORARY SEEDING NOTES**

- Apply to graded or cleared areas likely to be not disturbed 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/1000sq. ft.)
- SEEDING** -- For periods March 1 thru April 30, and from August 15 thru October 15 seed with 2-1/2 bushels per acre of annual rye (3.2 lbs/1000sq. ft.). For the period May 1 thru August 14, seed with 3 lbs. per acre of creeping lovegrass (.07 lbs/1000sq. ft.). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.
- MULCHING** -- Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000sq. ft.) of unrotted weed free small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000sq. ft.) of emulsified asphalt on flat areas. On slopes 6 feet or higher, use 348 gallons per acre (8 gal/1000sq. ft.) for anchoring.
- Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL for additional rates and methods not covered.



**210 STANDARD AND SPECIFICATIONS FOR TOPSOIL**

- Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
- Definition**
- 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**
1. This practice is limited to areas having 2:1 or flatter slopes where:
    - a. The texture of the exposed subsoil 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.
  2. 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**
1. 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-NRCS in cooperation with Maryland Agricultural Experimental Station.
  2. Topsoil Specifications - Soil to be used as topsoil must meet the following:
    - i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5 % by volume of cinders, stones, slag, coarse fragments, gravel, sticks, rocks, trash, or other materials larger than 1-1/2" in diameter.
    - ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutgrass, pokeweed, thistle, or others as specified.
    - iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be applied at the rate of 4-8 tons/acre (200-400 pounds per 1000 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 paragraphs.
  3. 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 1 - Vegetative Stabilization Methods and Materials.
  4. 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 content of topsoil shall be not less than 1.5 percent by weight.
      - c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
      - d. No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min) to permit dissipation of phytotoxic materials.
    - ii. 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.
  5. Topsoil Application:
    - i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
    - ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 6" higher in elevation.
    - iii. Topsoil shall be uniformly distributed in a 4" - 6" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that seeding or sodding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
    - iv. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
    - vi. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
      - i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
        - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
        - b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a PI of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
        - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
      - ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.
- References/Guideline Specifications, Soil Preparation and Sodding, MD-VIA, Pub.#1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1973.

By	Date	No.	Description
			REVISIONS

**APPROVED: DEPARTMENT OF PLANNING AND ZONING**

*John D. ...* 2/25/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*Andy ...* 3/25/02  
CHIEF, DIVISION OF LAND DEVELOPMENT

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

*Jim ...* 2/17/02  
NATURAL RESOURCE CONSERVATION

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

*John ...* 2/17/02  
HOWARD SOIL CONSERVATION DISTRICT

**ENGINEER'S CERTIFICATE**

I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*Paul ...* 2-6-02  
SIGNATURE OF ENGINEER

**DEVELOPER'S CERTIFICATE**

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PENNSYLVANIA INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS DEEMED NECESSARY.

*Paul ...* 2-6-02  
SIGNATURE OF DEVELOPER

STATE OF MARYLAND  
JAMES W. COOPER  
PROFESSIONAL ENGINEER

*Paul ...* 2-6-02

**APPROVED: DEPARTMENT OF PUBLIC WORKS**

*Paul ...* 3-21-02  
CHIEF, BUREAU OF HIGHWAYS

**LDE, INC.**  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 536-3424 (410) 715-9540 (Fax)

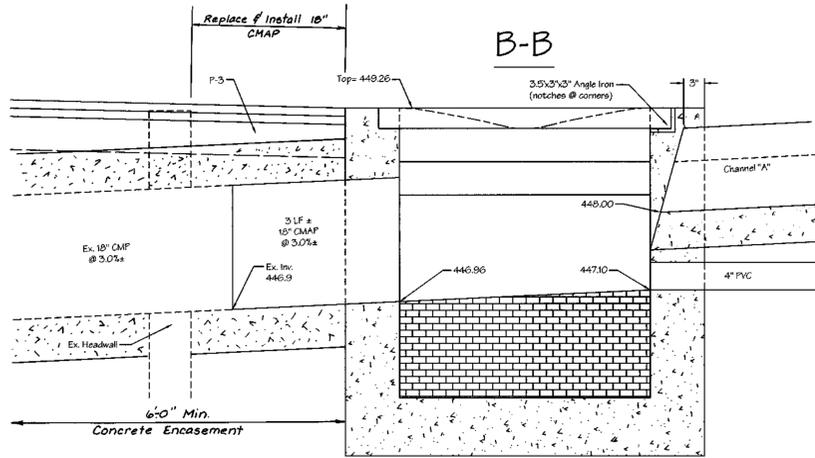
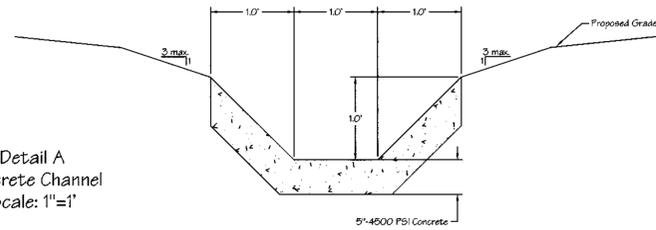
DESIGNED: SWC  
DRAWN: CADD  
CHECKED: SWC  
DATE: 8/2001

Grading and Sediment & Erosion Control Plan - Details  
**SPRING OAKS**  
Lots 1 thru 11 & Open Space  
Lots 12 thru 14  
1st Election District - Howard County, Maryland  
Tax Map No. 31 - Grid No. 15 - Parcelle 217  
Previous Submittal: S00-01, P01-12

SCALE: No Scale  
DRAWINGS: 7 of 10  
JOB NO: 98-090  
FILE NO: F02-22

OWNER/DEVELOPER: J.J.M., Inc.  
17901 Shaffers Mill Road  
Mt. Airy, Maryland 21771  
(410) 783-0810

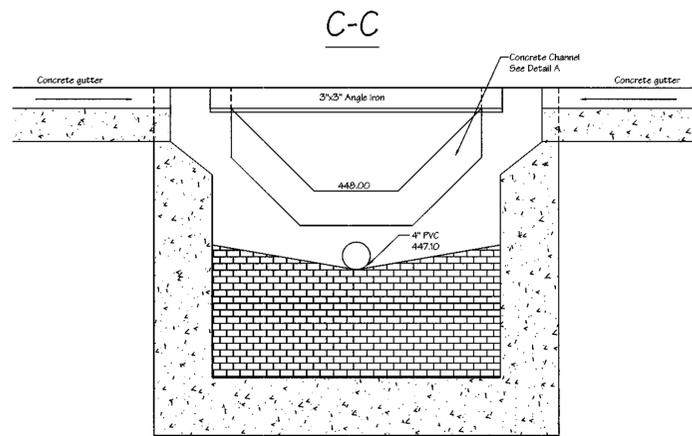
Detail A  
Concrete Channel  
Scale: 1"=1'



NOTE: Concrete Encasement of 18" Corrugated Pipe shall be 4000 psi mix, 6" minimum thickness (per Std. Detail G-2.02)

Note: Remove existing headwall as necessary to provide full pavement depth.

1-4 Detail B  
Modified SD 4.36  
Scale: 1"=1'

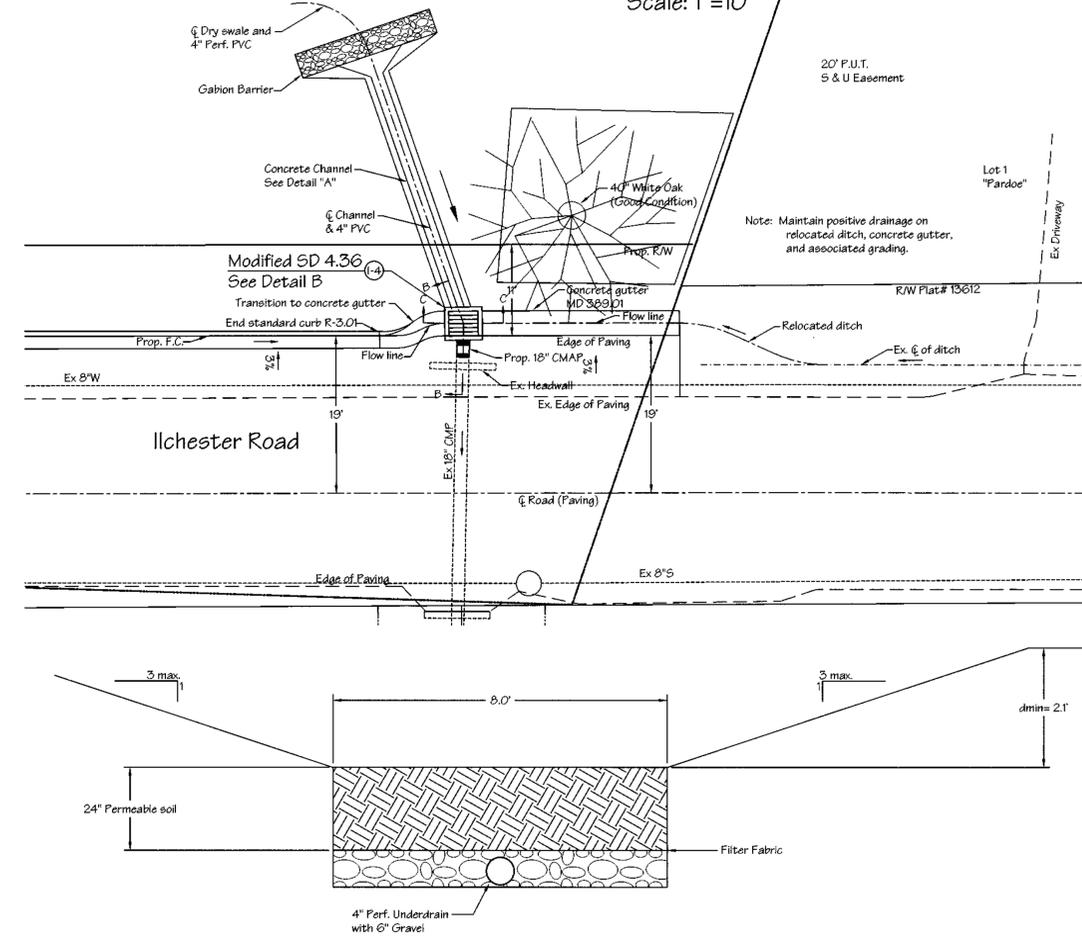


Notes: Standard MD-37B.05 grate reinforcing and concrete per H.C. standard SD 4.36. Bedding and dimensions not shown per H.C. standard SD 4.36.

Bottom of pre-cast structure to be filled with concrete or bricks as necessary.

DRAINAGE OUTFALL DETAIL

Scale: 1"=10'



Typical Section  
Dry Swale  
Scale - 1"=5'

Open Channel System			
Material	Specification	Size	
Dry Swale Soil	USCS: ML, SM, SC	n/a	Soil with a higher percent organic content is preferred.
Dry Swale Sand	ASTM C-33 fine aggregate concrete sand	0.02" to 0.04"	
Planting Soil 2' Deep	Sand 55-60% Silt 30-55% Clay 10-25%	n/a	USDA soil types loamy sand, sandy loam or loam.
Underdrain Gravel	AASHTO M-43	0.25" to 0.75"	
Underdrain	F 75B Type PS 28 or AASHTO M-278	4" to 6" rigid schedule 40 PVC or SDR35	3/8" perf. @ 6" on center, 4 holes per row; minimum of 3" of gravel over pipes; not necessary underneath pipes.
Geotextile	Class "C" apparent opening size (ASTM-D-4751), grab tensile strength (ASTM-D-4632), puncture resistance (ASTM-D-4833)	n/a	

By	Date	No.	Description
REVISIONS			

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 3/25/02  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 3/25/02  
CHIEF, DIVISION OF LAND DEVELOPMENT

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

*[Signature]* 2/7/02  
NATURAL RESOURCE CONSERVATION SERVICE

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

ENGINEER'S CERTIFICATE

I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* 11-8-01  
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

*[Signature]* 2-6-02  
SIGNATURE OF DEVELOPER



APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* 3-21-02  
CHIEF, Bureau of Highways

HOWARD SOIL CONSERVATION DISTRICT

LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED S.W.C.	Stormwater Management Details	SCALE As Shown
DRAWN J.D.R.	<b>SPRING OAKS</b>	DRAWING 8 of 10
CHECKED S.W.C.	Lots 1 Thru 11 & Open Space Lots 12 Thru 14	JOB NO. 98-090
DATE 8/2001	1st Election District - Howard County, Maryland Tax Map No. 31 - Grid No. 15 - Parcel 217 Previous Submittals: S00-01, P01-12	FILE NO. F-02-22
	OWNER/DEVELOPER J.J.M., Inc. 17901 Shaffers Mill Road Mt. Airy, Maryland 21771 (410) 730-0810	

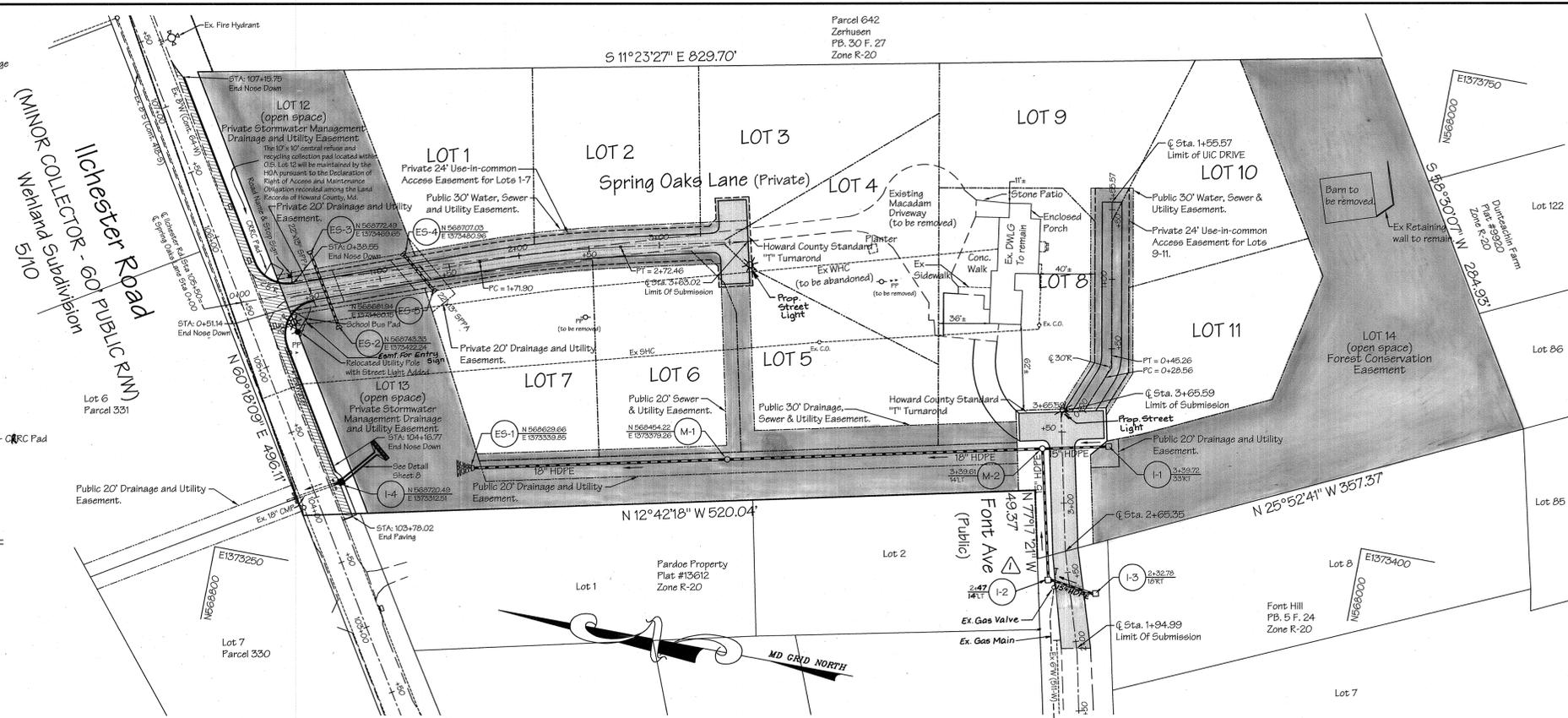




**NOTES:**

1. For street tree locations, see sheet 9.
2. All street trees and/or street signs shall be located 5 feet minimum from proposed drainage and utility structures.
3. For storm drain profiles refer to sheet 4.
4. All future driveway crossings within the Public R/W shall be Approved at the time of Building Permit.
5. There shall be a minimum of 20 feet between street lights and street signs.

- LEGEND:**
- Central Refuse & Recycling Collection Pad - CRRC Pad
  - Drainage Flow
  - Prop. Lot Nos. Lot 2
  - BRL
  - Standard Combination Curb & Gutter
- PAVING LEGEND:**
- P-3 Paving Section (Howard County)
  - P-2 Paving Section (Howard County)
  - Existing Paving FOI-67



**PLAN**  
1" = 50'

Name & Station	Radius	Delta	Length	Tangent	Chord Bearing & Dist.
Spring Oaks Lane - 1+71.90 - 2+72.46	800'	7°12'-6"	100.55'	50.34'	S 16°-51'-37" E - 100.49'

Street Name	Symbol	Station	Offset	Lamp Type	Fixture Type	Pole Type
Ilchester Road	⊙	105+04	22' RT	250 W HPS VAPOR	FRONTIER (cut off)	30' Wood Pole - 12" WPC Mount on enclosed ledgers post.
Spring Oaks Lane	⊙	3+64	18' RT	100 W HPS VAPOR	FRONTIER (cut off)	Black Fiberglass Embedded 1.5" Dia.
Font Avenue	⊙	3+67	1' RT	100 W HPS VAPOR	FRONTIER (cut off)	Black Fiberglass Embedded 1.5" Dia.

NOTE: The private street light on Spring Oaks Lane will require a Private Area Lighting (PAL) agreement with B&E.

Station	Northing	Easting
INTX 0+00	N568814.31	E1373425.99
P.C. 1+71.90	N5688653.26	E1373486.08
P.T. 2+72.46	N5688557.09	E1373515.22
L.O.S. 3+63.02	N5688468.94	E1373536.00

Station	Northing	Easting
L.O.S. 1+94.99	N5688195.15	E1373291.68
BEND 2+65.35	N5688205.98	E1373358.90
L.O.S. 3+65.59	N5688227.71	E1373456.75

APPROVED: Department of Planning & Zoning

*Judy Hamilton* 2/25/02  
Chief, Division of Land Development

*William DeWitt* 2/25/02  
Chief, Development Engineering Division MK

APPROVED: Department of Public Works for Storm Drainage Systems and Roads

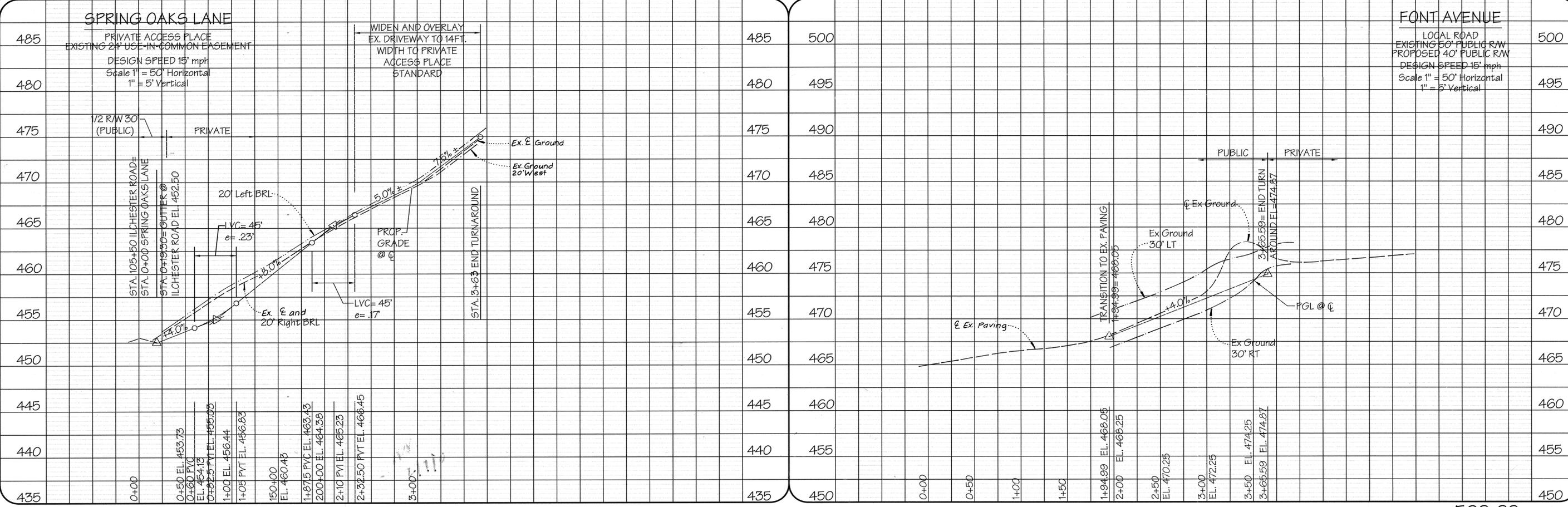
*Richard M. Daulton* 3-21-02  
Chief, Bureau of Highways MS



**LDE, INC.**  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
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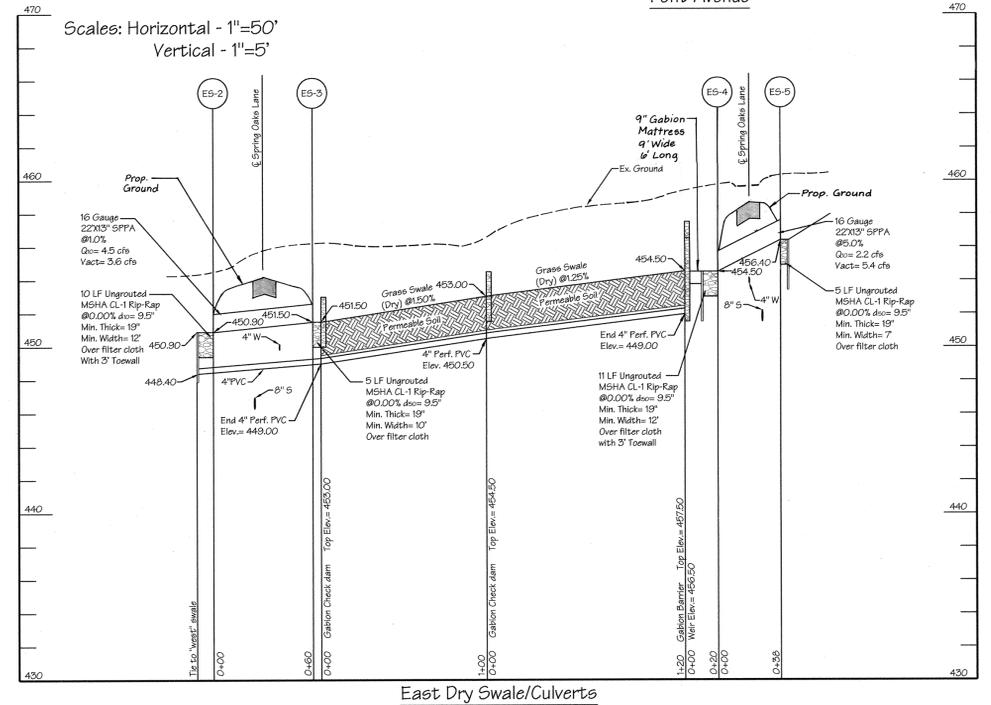
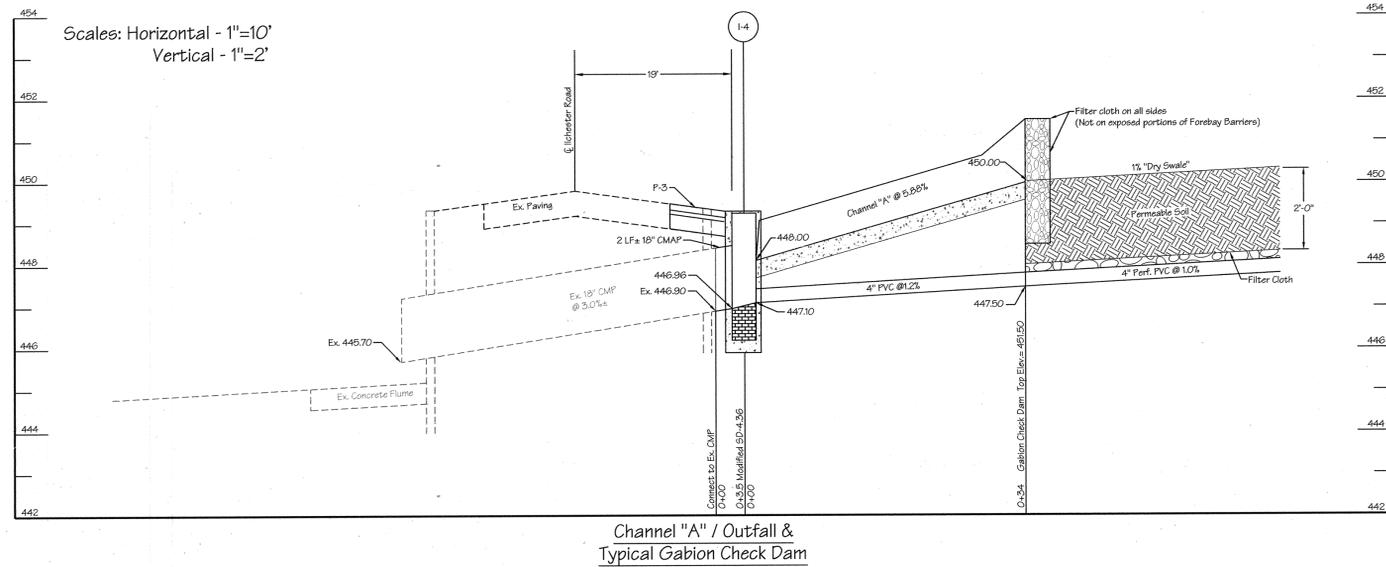
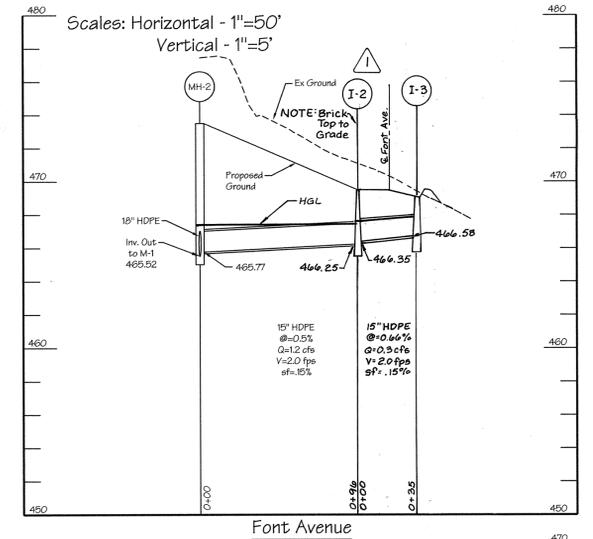
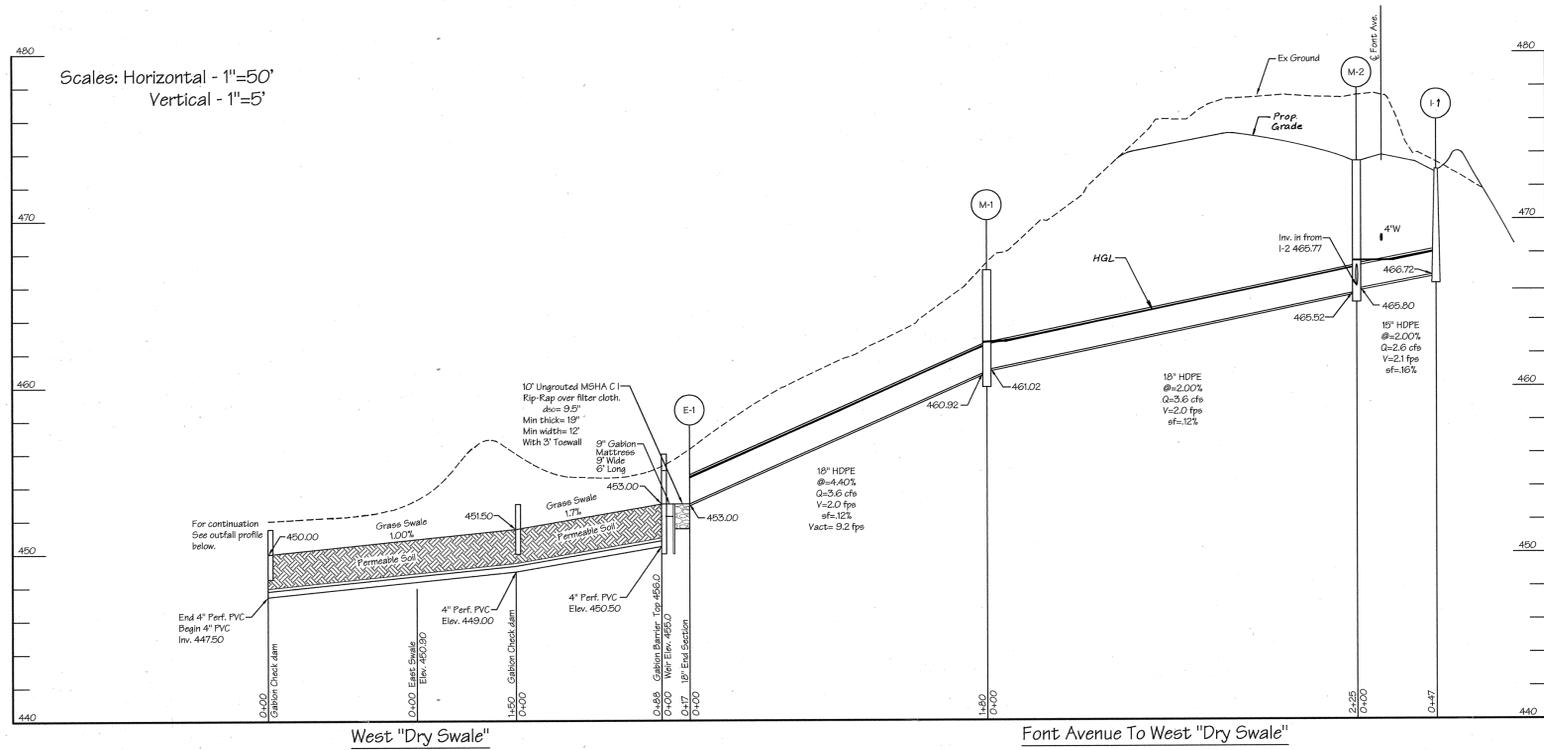
DESIGNED	SCALE
S.W.C.	As Shown
DRAWN	DRAWING
J.D.R.	2 of 10
CHECKED	JOB NO.
S.W.C.	98-090
DATE	FILE NO.
8/2001	F-02-22

By	Date	No.	Description
SC	4/24/03	1	Move I-2 due to gas conflict & future Lot 2. D/W



STRUCTURE SCHEDULE							
Struc. No.	Type	Inv. In	Inv. Out	MH Top or Top Slab Elev	Detail	Location	Remarks
I-1	Inlet	466.35	466.12	473.00	SD 4.36	Font Ave. Sta. 3+43.33 RT	No Weir Downhill Side
I-2	Inlet	466.35	466.25	469.40	SD 4.36	Font Ave. Sta. 2+47.14 LT	No Weir Downhill Side
I-3	Inlet	-	466.58	469.00	SD 4.36	Font Ave. Sta. 2+35.18 RT	No Weir Downhill Side
I-4	Inlet	448.00*	446.96	449.26	Mod SD 4.36	lch. Rd. Sta. 10+04.62 21 RT	See Detail - Sheet B
M-1	Manhole	461.02	460.92	467.00	G 5.12	5' off PL 10' off Rear Cor. Lts 5&6	-
M-2	Manhole	466.77	465.52	473.50	G 5.12	Font Ave. Sta. 3+39.61 14 LT	-
ES-1	End Section	-	453.00	-	AB5-ES	5' off EW Rear Cor. L1 7	Or Equivalent
ES-2	End Section	-	450.90	-	SD 5.63	N 568743.33 E 1373422.24	-
ES-3	End Section	451.50	-	-	SD 5.63	N 568772.49 E 1373468.65	-
ES-4	End Section	-	454.50	-	SD 5.63	N 568707.09 E 1373480.96	-
ES-5	End Section	456.40	-	-	SD 5.63	N 568681.94 E 1373460.15	-

\* Concrete channel invert; 4" PVC Inv.= 447.10



By	Date	No.	Description
SC	4/24/03	1	Move I-2 due to gas conflict f future D/W adj. Lot 2

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* MK  
CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE: 2/5/02

APPROVED: DEPARTMENT OF PUBLIC WORKS

*[Signature]* MK  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE: 3/21/02

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.

*[Signature]* MK  
NATURAL RESOURCE CONSERVATION SERVICE  
DATE: 2/17/02

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

*[Signature]* MK  
HOWARD SOIL CONSERVATION DISTRICT  
DATE: 3-21-02

ENGINEER'S CERTIFICATE

I HEREBY 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 REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

*[Signature]* Paul W. Loring  
SIGNATURE OF ENGINEER  
DATE: 11-8-01

DEVELOPER'S CERTIFICATE

I WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT OR THEIR AUTHORIZED AGENTS AS ARE DEEMED NECESSARY.

*[Signature]* Paul W. Loring  
SIGNATURE OF DEVELOPER  
DATE: 2-6-02

STATE OF MARYLAND

PAUL W. LORING  
PROFESSIONAL ENGINEER  
11-8-01

LDE, INC.  
9250 Rumsey Road, Suite 106, Columbia, MD. 21045  
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

Storm Drain Profiles

DESIGNED: S.W.C.

DRAWN: J.D.R.

CHECKED: S.W.C.

DATE: 8/2001

OWNER/DEVELOPER: J.J.M., Inc.  
17301 Shaffers Mill Road  
Mt. Airy, Maryland 21771  
(410) 730-0810

SCALE: As Shown

DRAWING: 4 of 10

JOB NO.: 98-090

FILE NO.: F-02-22