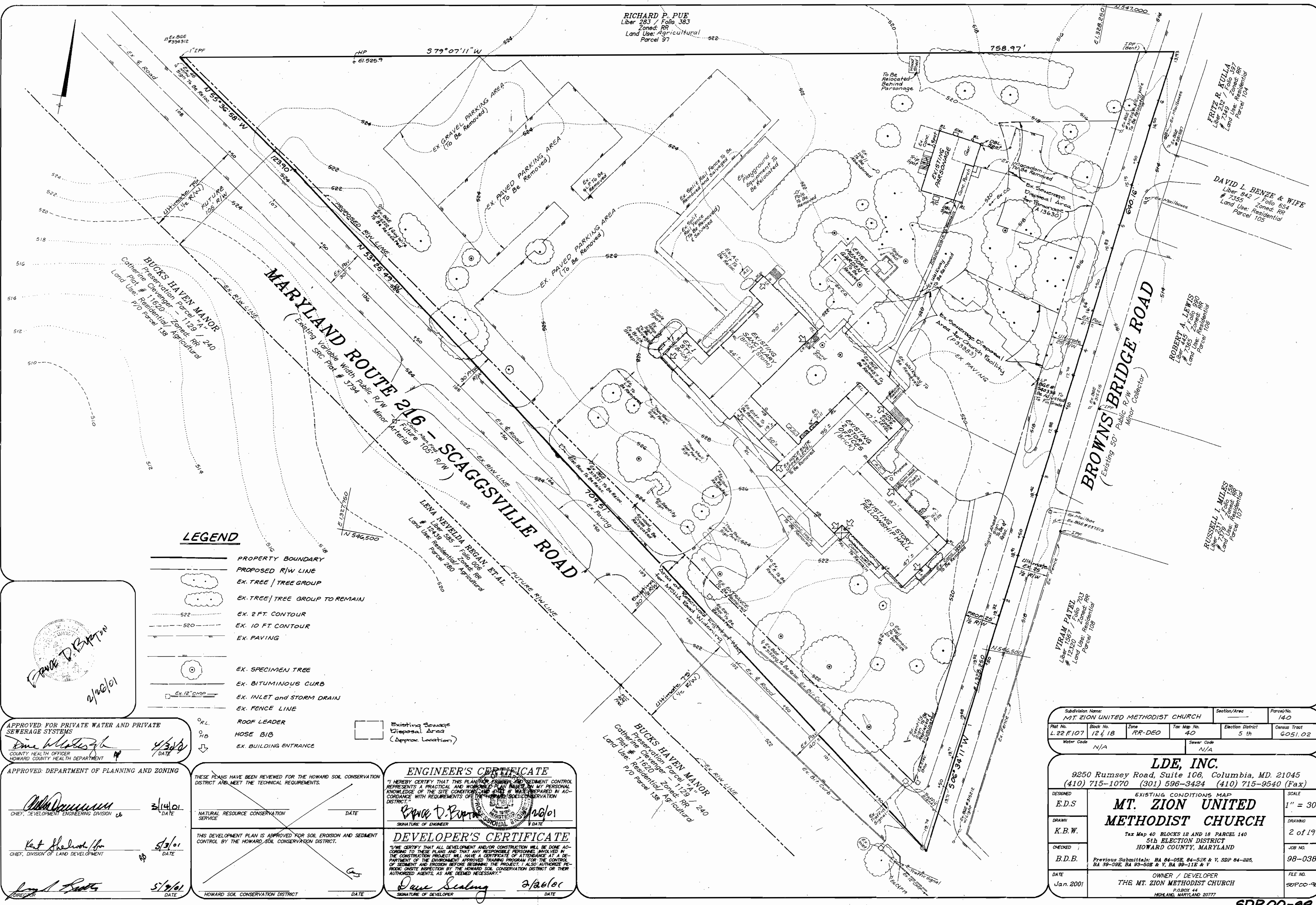


RICHARD P. PUE
 Liber 283 / Folio 383
 Zoned: RR
 Land Use: Agricultural
 Parcel 97



LEGEND

- PROPERTY BOUNDARY
- PROPOSED R/W LINE
- EX. TREE / TREE GROUP
- EX. TREE / TREE GROUP TO REMAIN
- EX. 2 FT. CONTOUR
- EX. 10 FT. CONTOUR
- EX. PAVING
- EX. SPECIMEN TREE
- EX. BITUMINOUS CURB
- EX. INLET and STORM DRAIN
- EX. FENCE LINE
- ROOF LEADER
- HOSE BIB
- EX. BUILDING ENTRANCE

Frank D. Burton
 2/26/01

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
Eric Whitely
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 4/3/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John D. ...
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 3/14/01
Kat ...
 CHIEF, DIVISION OF LAND DEVELOPMENT
 5/3/01
...
 5/9/01

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
 NATURAL RESOURCE CONSERVATION SERVICE
 DATE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT
 DATE

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."
Frank D. Burton
 SIGNATURE OF ENGINEER
 2/26/01
DEVELOPER'S CERTIFICATE
 "I HAVE CERTIFIED 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."
David Sealing
 SIGNATURE OF DEVELOPER
 2/26/01

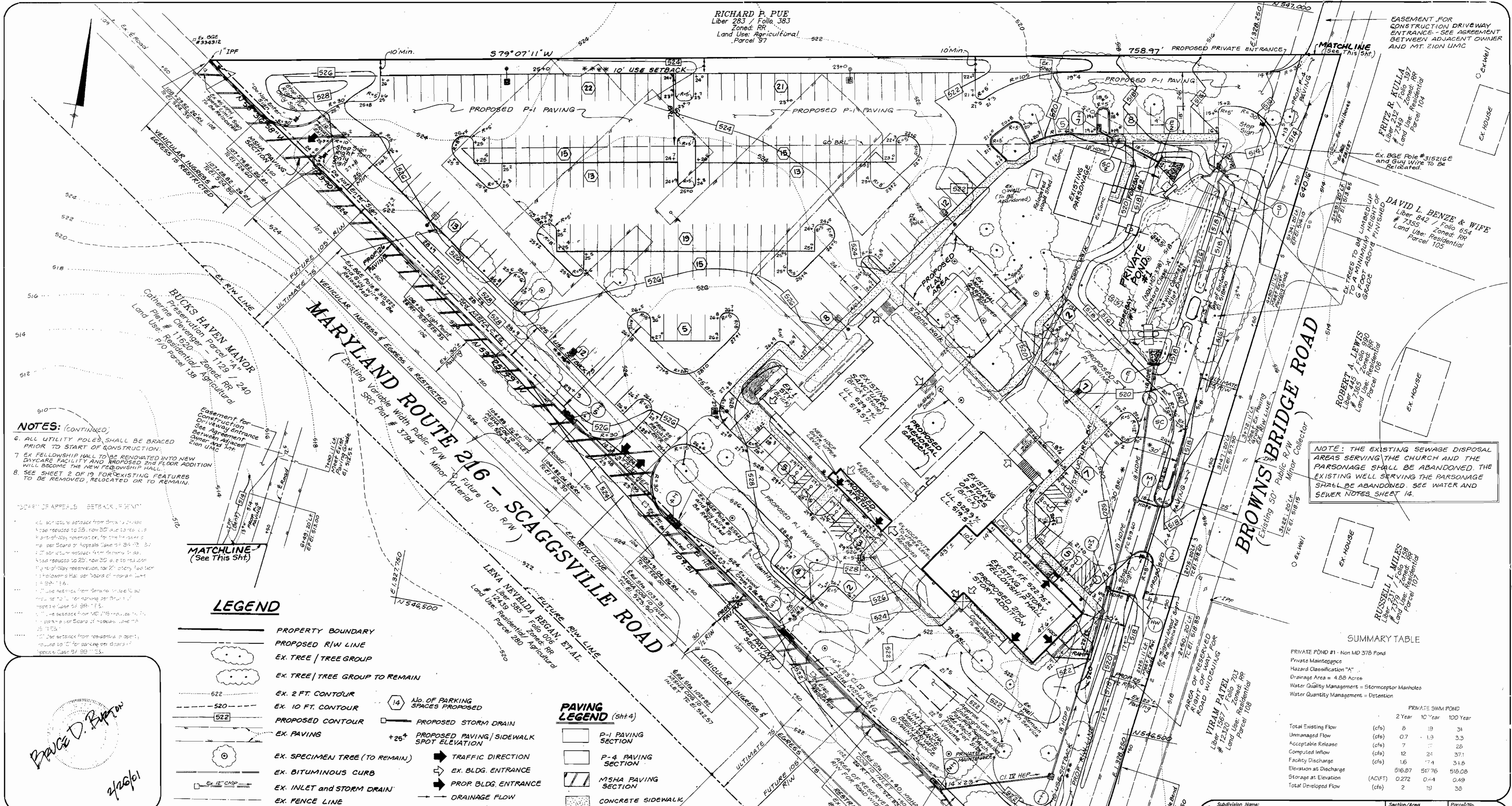
Subdivision Name: MT ZION UNITED METHODIST CHURCH		Section/Area	Parcel No.
Plot No. L22 F107	Block No. 12 & 18	Zone RR-DEO	Tax Map No. 40
Water Code N/A		Election District 5 th	Census Tract 6051.02
Sewer Code N/A			

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

DESIGNED E.D.S.	EXISTING CONDITIONS MAP	SCALE 1" = 30'
DRAWN K.B.W.	MT. ZION UNITED METHODIST CHURCH	DRAWING 2 of 19
CHECKED B.D.B.	Tax Map 40 BLOCKS 12 AND 18 PARCEL 140 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO. 98-038
DATE Jan. 2001	OWNER / DEVELOPER THE MT. ZION METHODIST CHURCH	FILE NO. SDP00-98

Previous Submittals: BA 84-05E, 84-53R & V, SDP 84-225, BA 99-09E, BA 99-50B & V, BA 99-11B & V
 P.O. BOX 44
 HOWARD, MARYLAND, 20777

RICHARD P. PUE
 Liber 283 / Folio 383
 Zoned: RR
 Land Use: Agricultural
 Parcel 97



NOTES: (CONTINUED)
 6. ALL UTILITY POLES SHALL BE BRACED PRIOR TO START OF CONSTRUCTION.
 7. EX. FELLOWSHIP HALL TO BE RENOVATED INTO NEW DAYCARE FACILITY AND PROPOSED 2ND FLOOR ADDITION WILL BECOME THE NEW FELLOWSHIP HALL.
 8. SEE SHEET 2 OF 19 FOR EXISTING FEATURES TO BE REMOVED, RELOCATED OR TO REMAIN.

LEGEND

	PROPERTY BOUNDARY
	PROPOSED R/W LINE
	EX. TREE / TREE GROUP
	EX. TREE / TREE GROUP TO REMAIN
	EX. 2 FT. CONTOUR
	EX. 10 FT. CONTOUR
	PROPOSED CONTOUR
	EX. PAVING
	EX. SPECIMEN TREE (TO REMAIN)
	EX. BITUMINOUS CURB
	EX. INLET and STORM DRAIN
	EX. FENCE LINE
	No. of PARKING SPACES PROPOSED
	PROPOSED STORM DRAIN
	PROPOSED PAVING/SIDEWALK SPOT ELEVATION
	TRAFFIC DIRECTION
	EX. BLDG. ENTRANCE
	PROP. BLDG. ENTRANCE
	DRAINAGE FLOW
	P-1 PAVING SECTION
	P-4 PAVING SECTION
	MSHA PAVING SECTION
	CONCRETE SIDEWALK

NOTE: THE EXISTING SEWAGE DISPOSAL AREAS SERVING THE CHURCH AND THE PARSONAGE SHALL BE ABANDONED. THE EXISTING WELL SERVING THE PARSONAGE SHALL BE ABANDONED. SEE WATER AND SEWER NOTES SHEET 14.

SUMMARY TABLE

	PRIVATE SWM POND		
	2 Year	10 Year	100 Year
Total Existing Flow	(cfs) 8	19	31
Unmanaged Flow	(cfs) 0.7	1.3	3.3
Acceptable Release	(cfs) 7	17	28
Computed Inflow	(cfs) 12	24	37.1
Facility Discharge	(cfs) 1.6	7.4	31.6
Elevation at Discharge	516.87 @ 517.76 @ 518.08		
Storage at Elevation	(ACFT) 0.272	0.4	0.49
Total Developed Flow	(cfs) 2	19	38

Trace D. Burton
 2/26/01

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
Dina M. Miller 2/26/01
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John A. ... 3/14/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Kat ... 4/3/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

Paul ... 5/26/01
 DIRECTOR

MD STATE HIGHWAY ADMIN. (MSHA)
 TYPE 'A' COMB. CURB & GUTTER - DETAIL # 620.02
 HO. CO. STD. 7" COMB. CURB & GUTTER - DETAIL R. 3.01

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
Dina ... 3/7/01
 NATURAL RESOURCE CONSERVATION SERVICE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
Mark ... 3/7/01
 HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE
 "I HEREBY CERTIFY THAT THIS PLAN FOR SOIL EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE DESIGN AND THAT MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS IS SHOWN AND SHARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
Trace D. Burton 2/26/01
 SIGNATURE OF ENGINEER

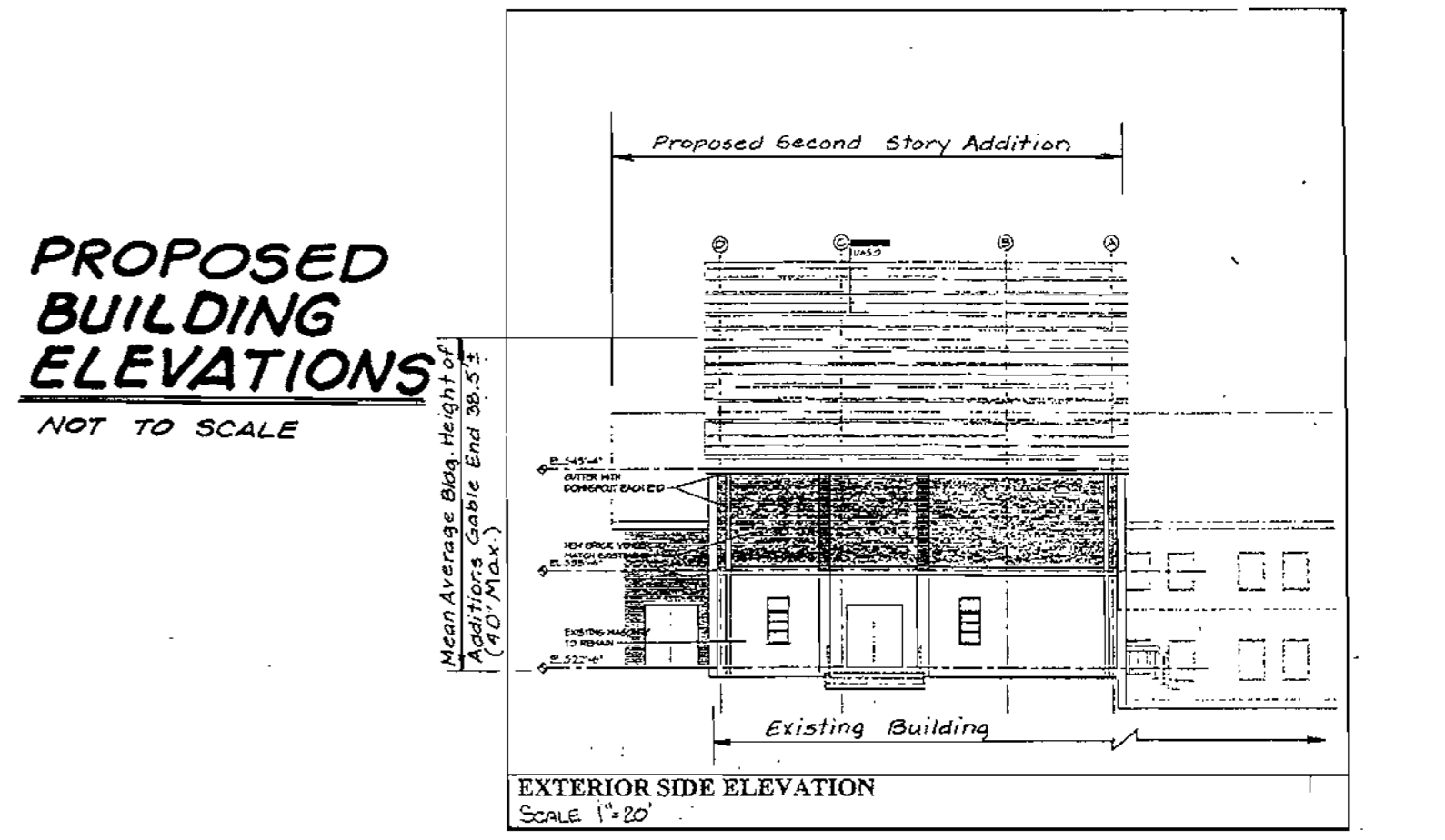
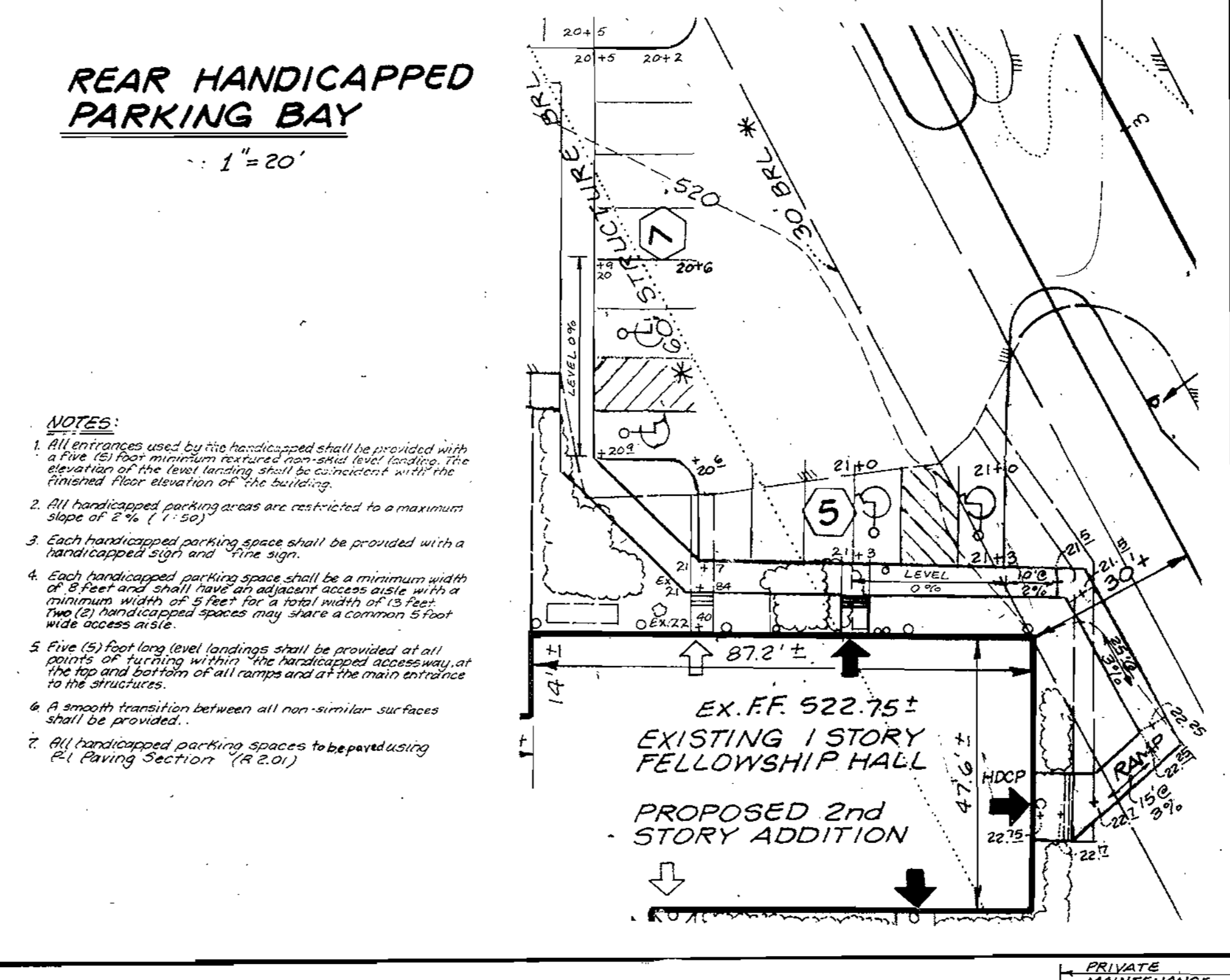
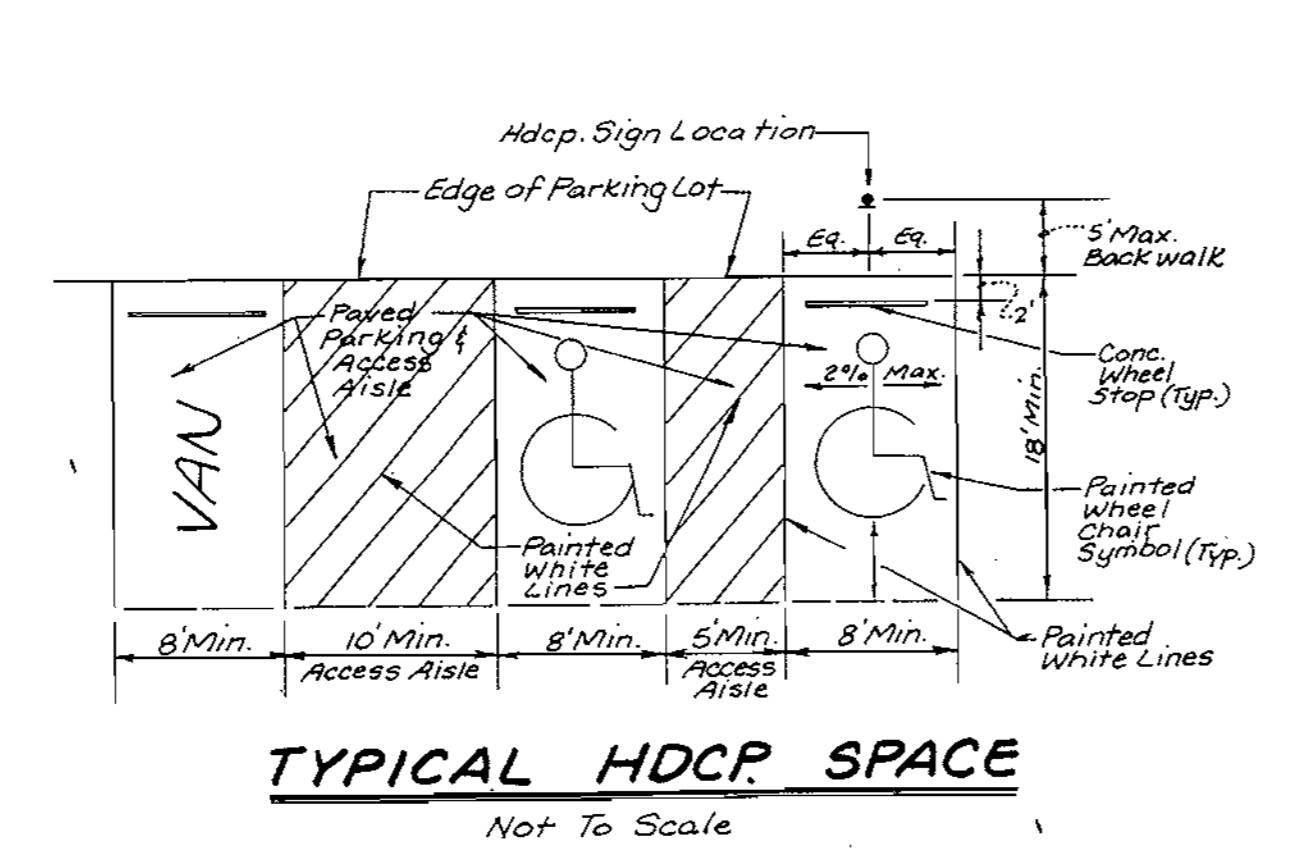
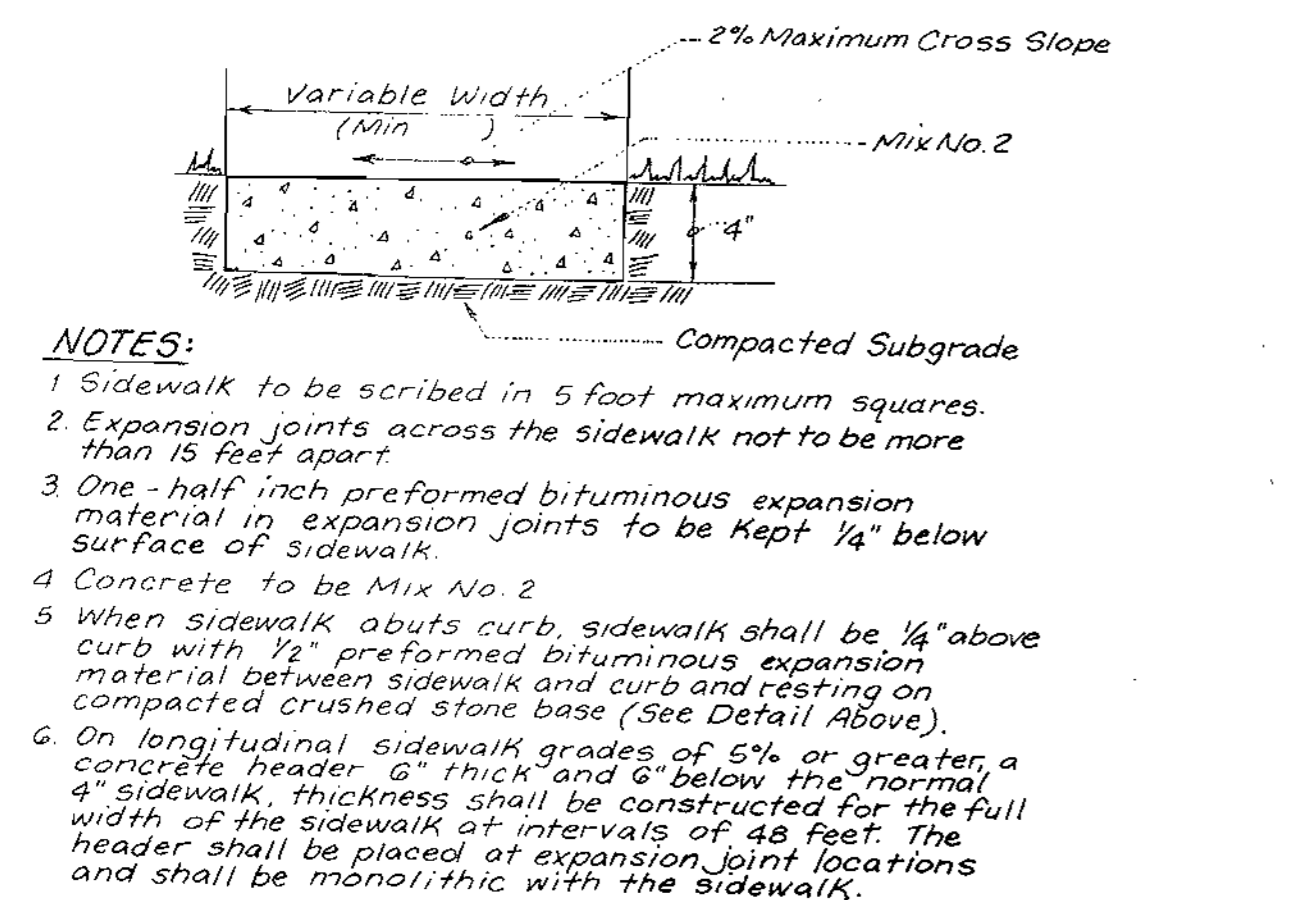
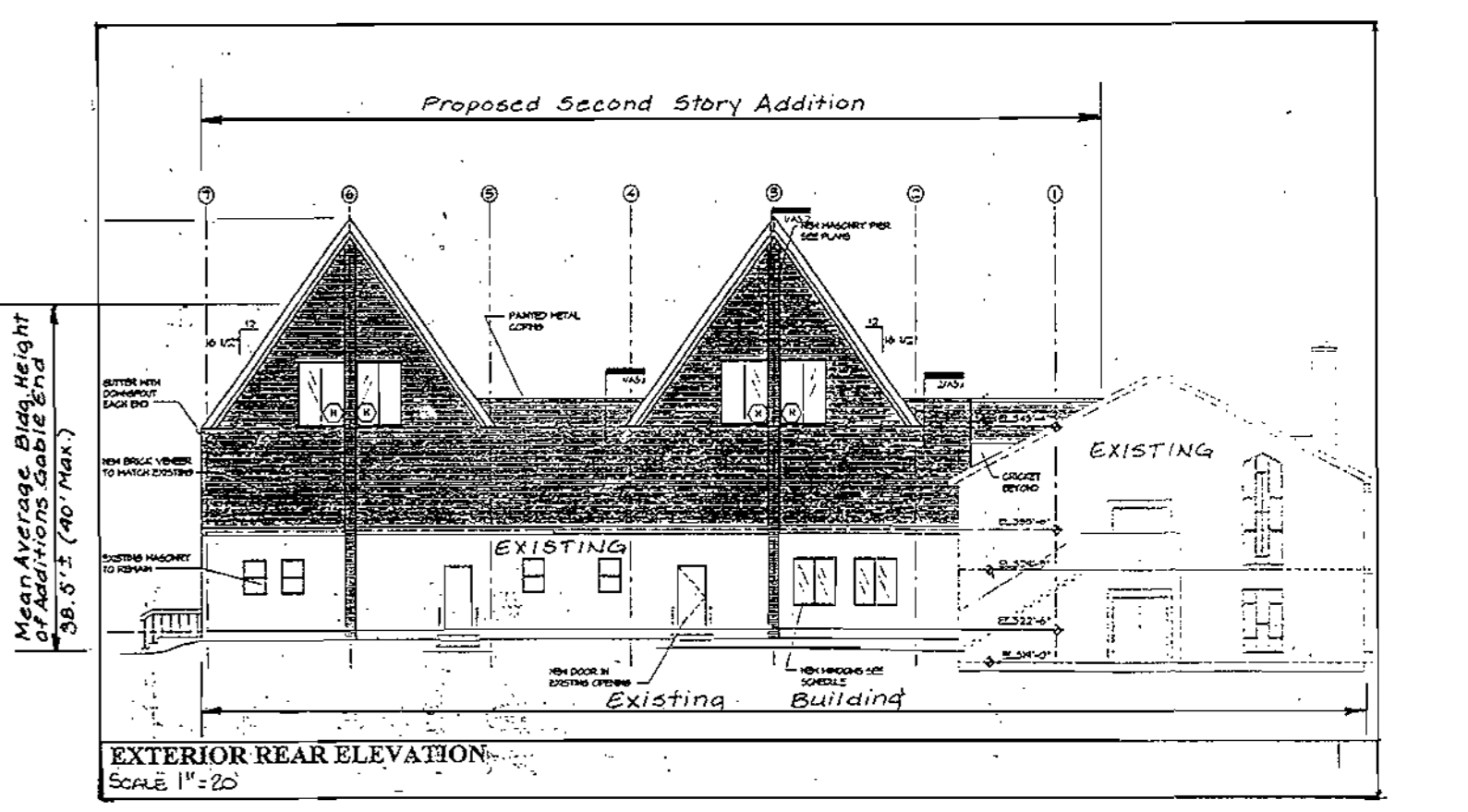
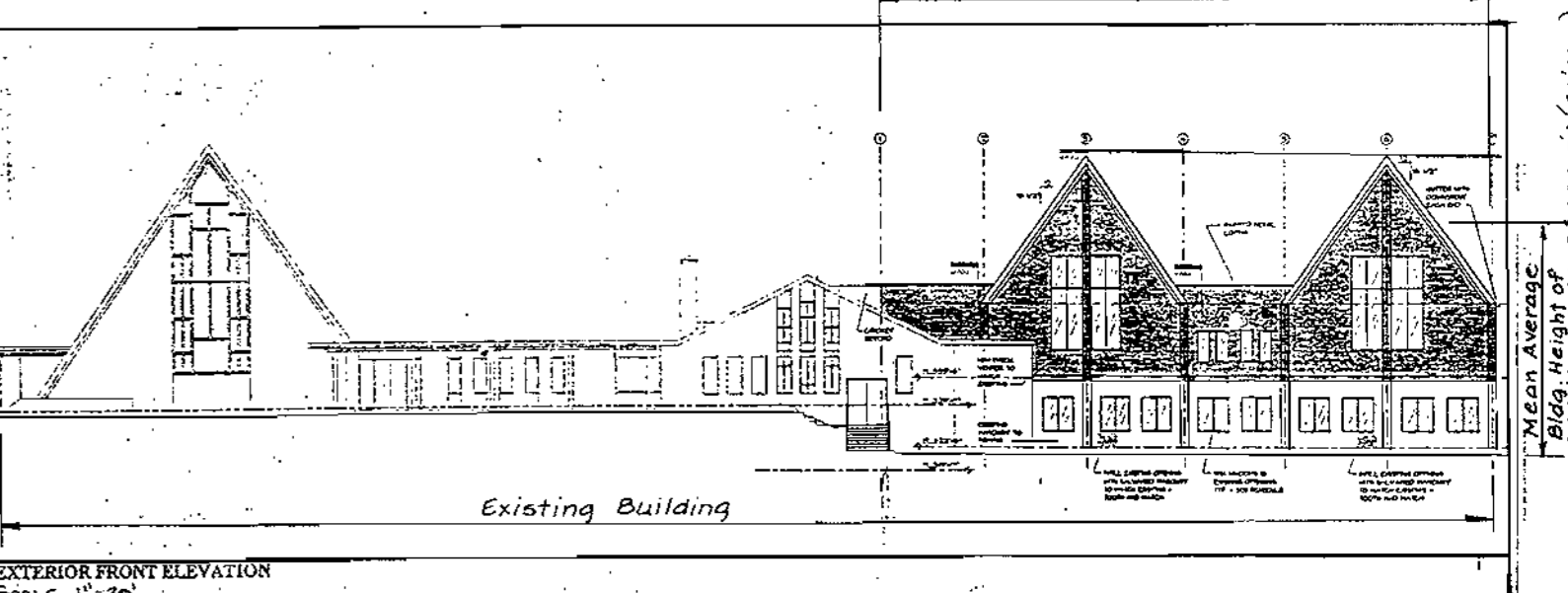
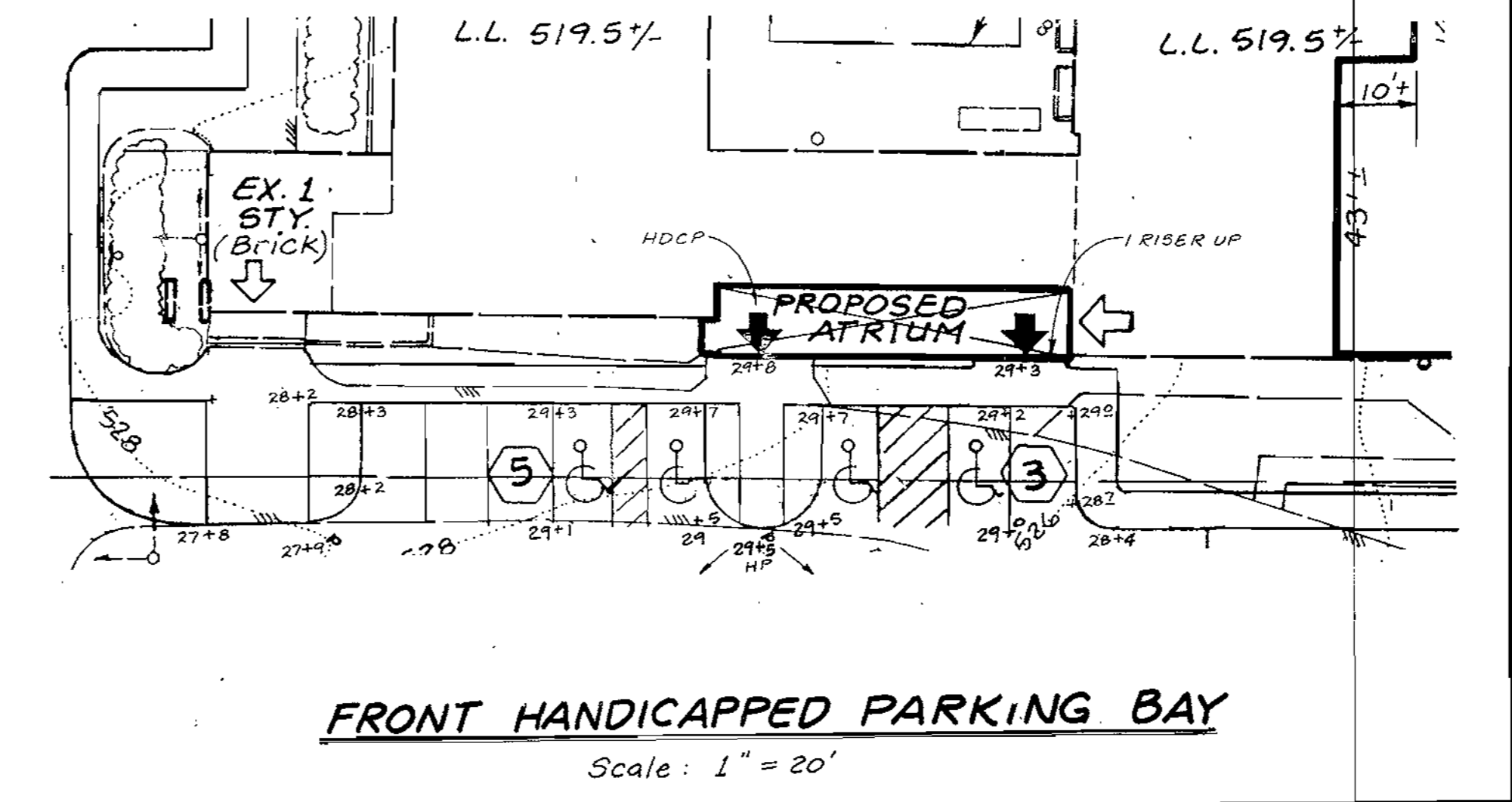
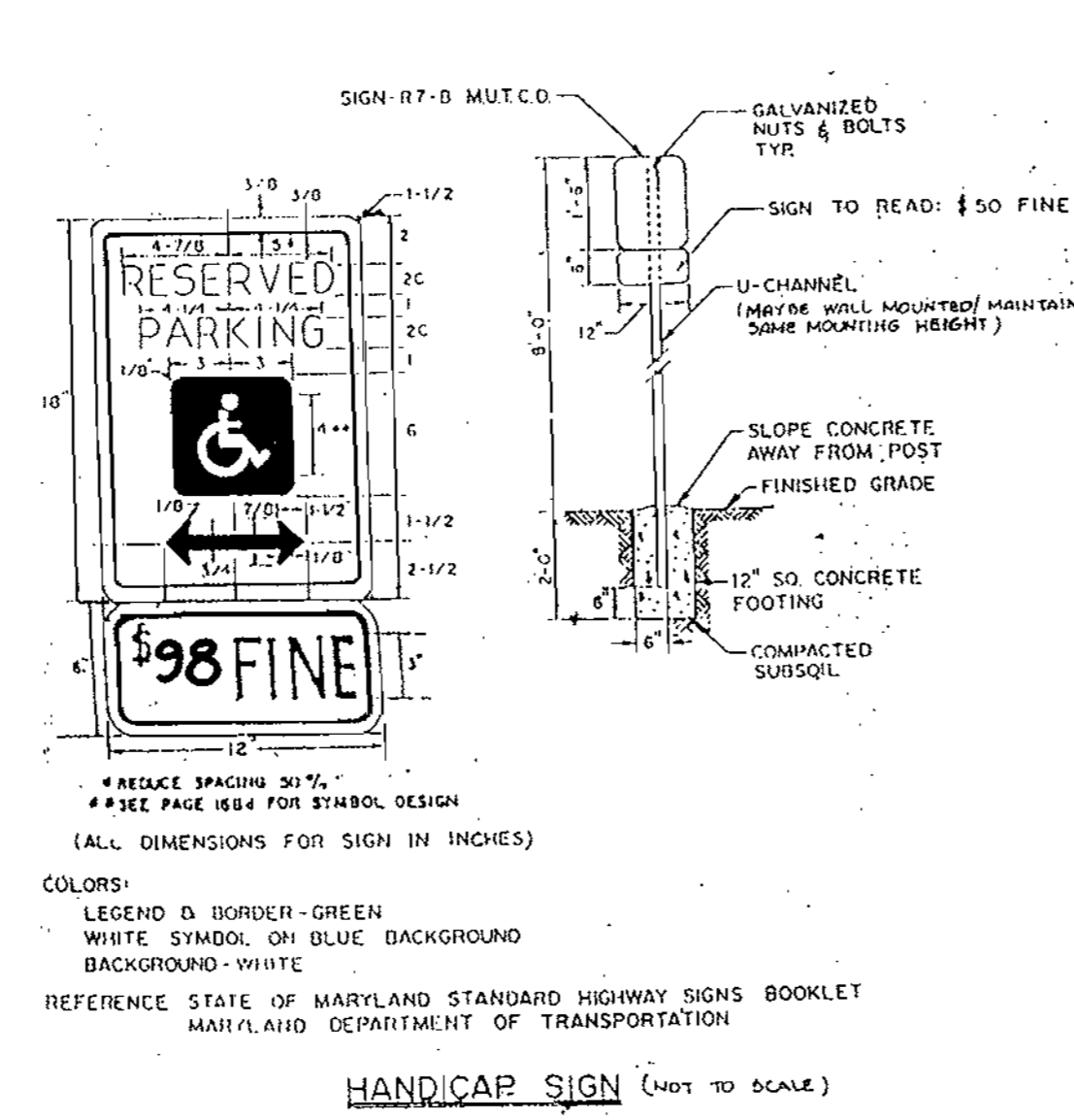
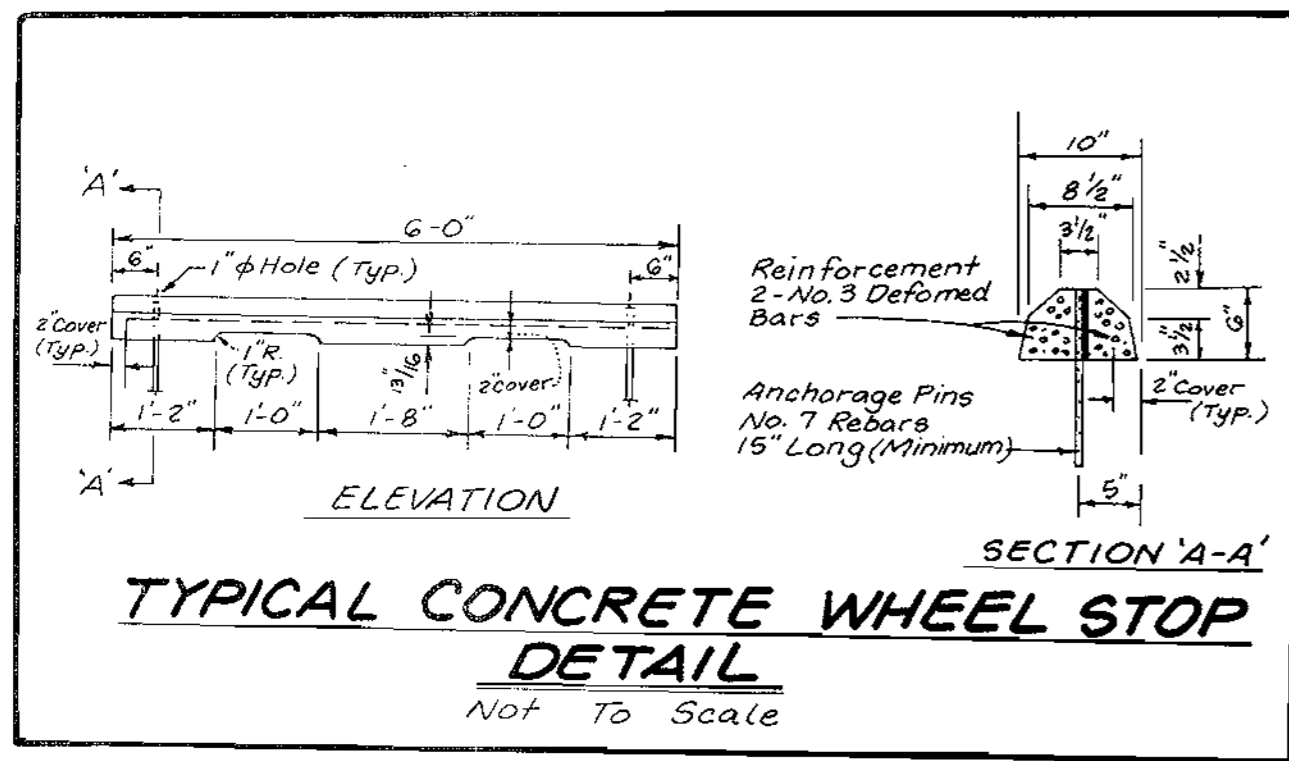
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Dina ... 2/26/01
 SIGNATURE OF DEVELOPER

NOTES:
 1. REFER TO SHEET 4 FOR DETAILS OF HANDICAPPED PARKING AREAS.
 2. REFER TO SHEET 4 FOR STORM DRAIN PROFILES AND STRUCTURE SCHEDULE.
 3. FOR SOIL BORING LOCATIONS & INFORMATION, REFER TO SHEET 10.
 4. REFER TO SHEET 4 FOR STD. CURB DETAILS
 5. SEE SHEET 18 FOR PARKING LOT LIGHT DETAILS.

Subdivision Name:	MT. ZION UNITED METHODIST CHURCH			Section/Area:		Parcel No.:	140
Plot No.:	L-22 F.107	Block No.:	12 & 18	Zone:	RR-DEO	Tax Map No.:	40
Water Code:	N/A	Sewer Code:	N/A	Election District:	5th	Census Tract:	6051.02

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

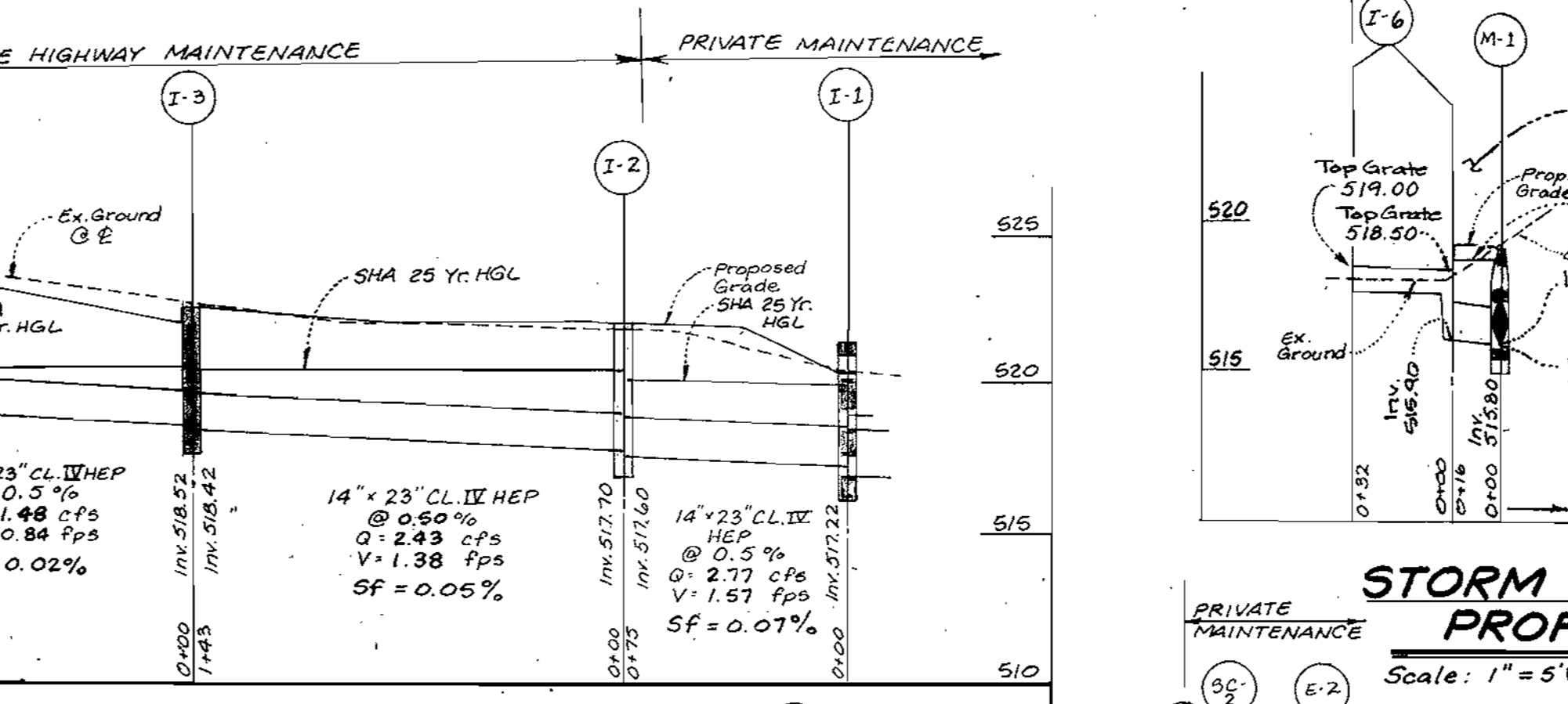
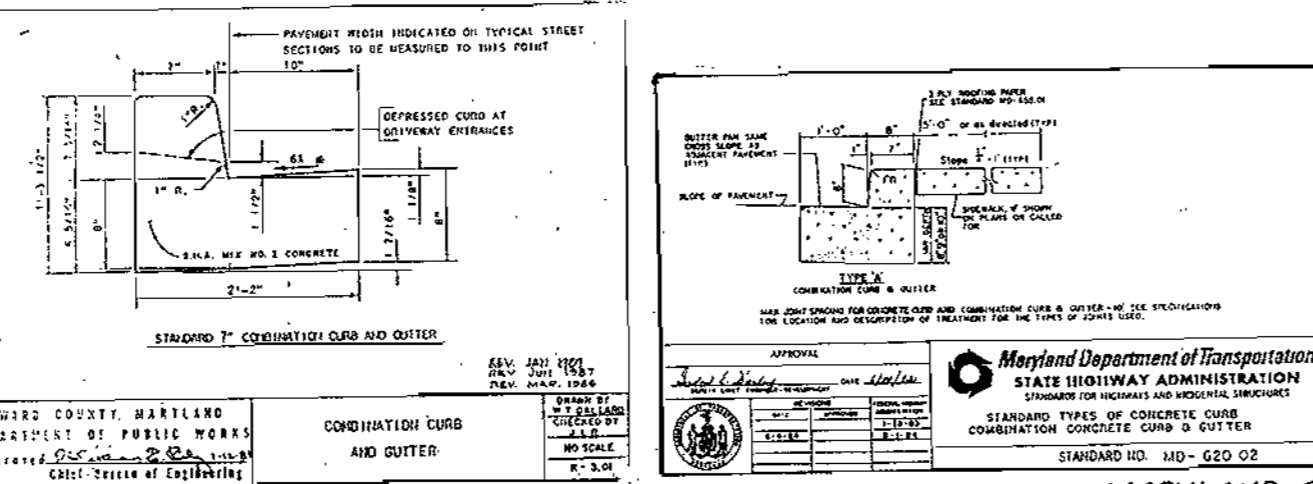
DESIGNED	E.D.S.	SCALE	1" = 30'
DRAWN	K.B.W.	DRAWING	3 of 19
CHECKED	B.D.B.	JOB NO.	98-038
DATE	Jan. 2001	OWNER / DEVELOPER	THE MT. ZION METHODIST CHURCH P.O. BOX 44 HIGHLAND, MARYLAND 20777
FILE NO.	SDP 07-98		



- NOTES:**
- Sidewalk to be scribed in 5 foot maximum squares.
 - Expansion joints across the sidewalk not to be more than 15 feet apart.
 - One-half inch preformed bituminous expansion material in expansion joints to be kept 1/4" below surface of sidewalk.
 - Concrete to be Mix No. 2.
 - When sidewalk abuts curb, sidewalk shall be 1/4" above curb with 1/2" preformed bituminous expansion material between sidewalk and curb and resting on compacted crushed stone base (See Detail Above).
 - On longitudinal sidewalk grades of 5% or greater, a concrete header 6" thick and 6" below the normal 4" sidewalk, thickness shall be constructed for the full width of the sidewalk at intervals of 48 feet. The header shall be placed at expansion joint locations and shall be monolithic with the sidewalk.

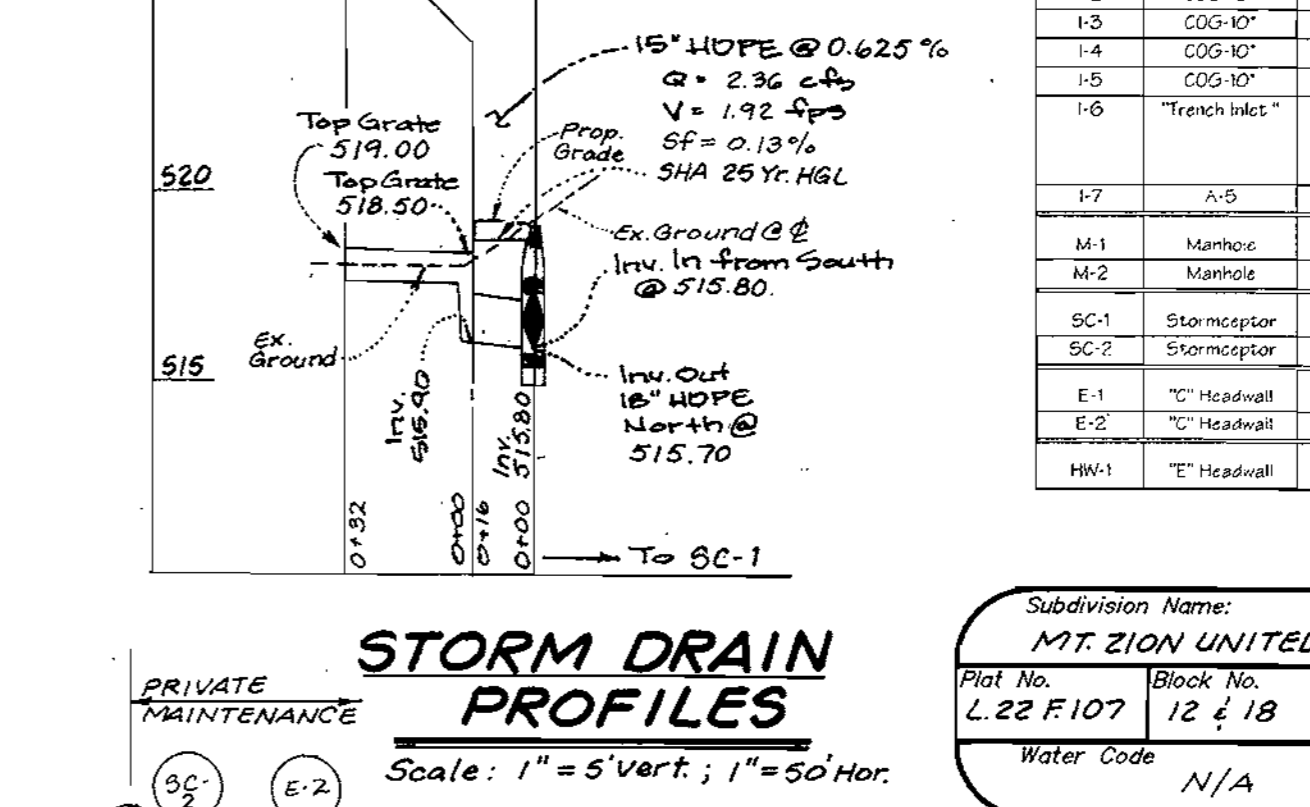
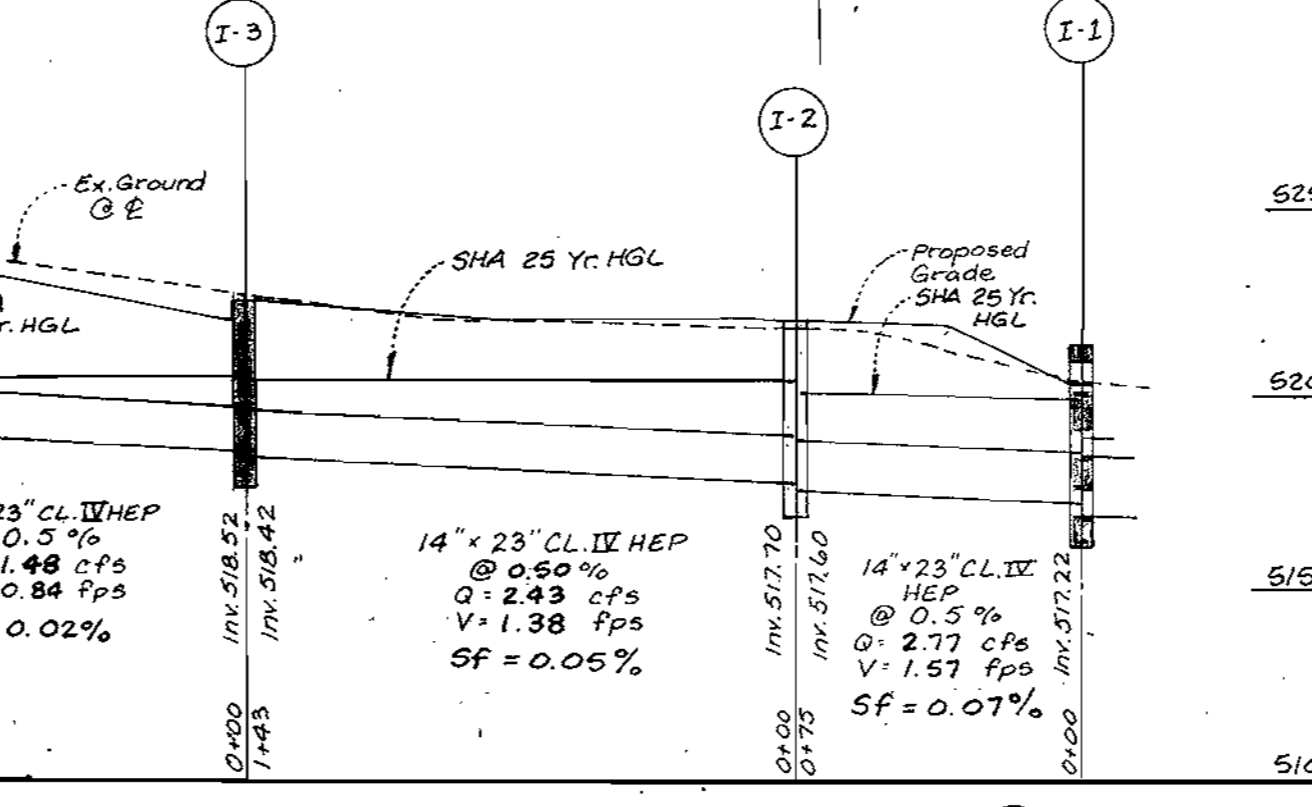
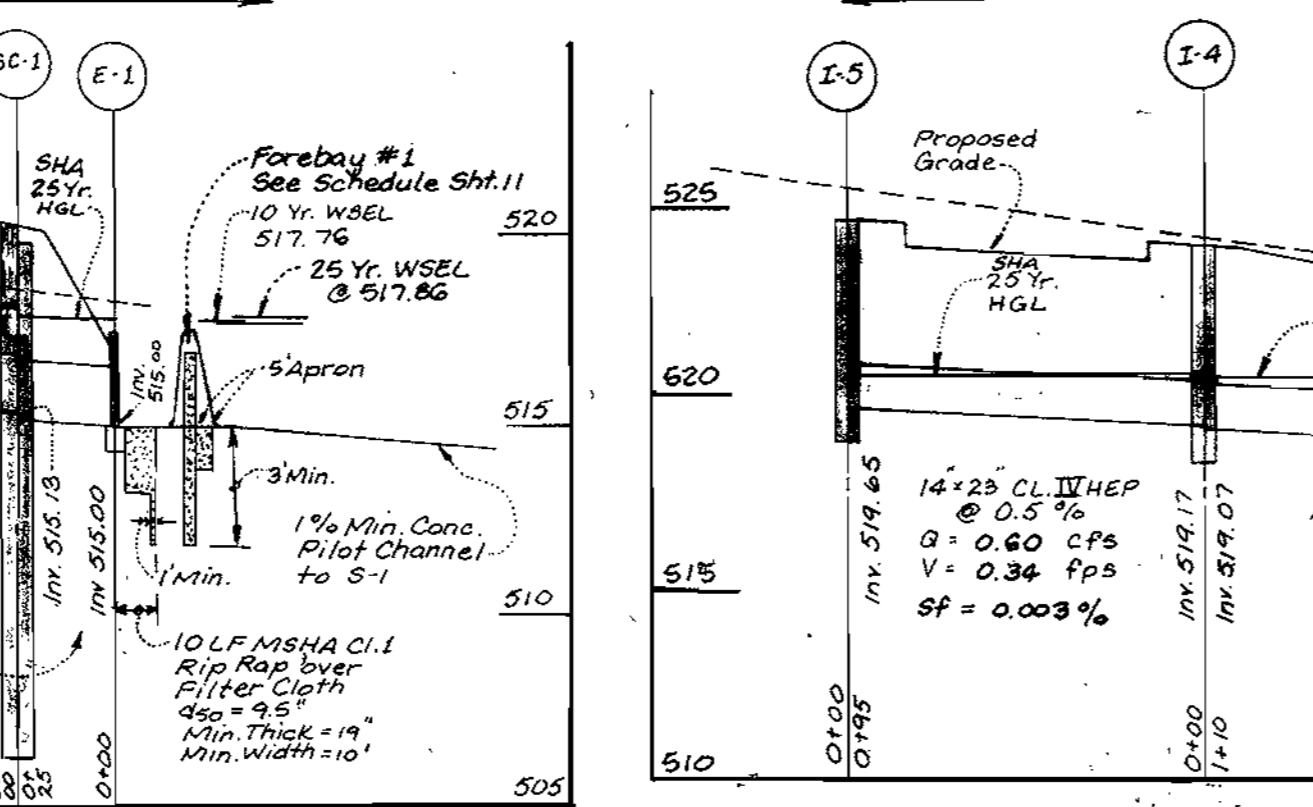
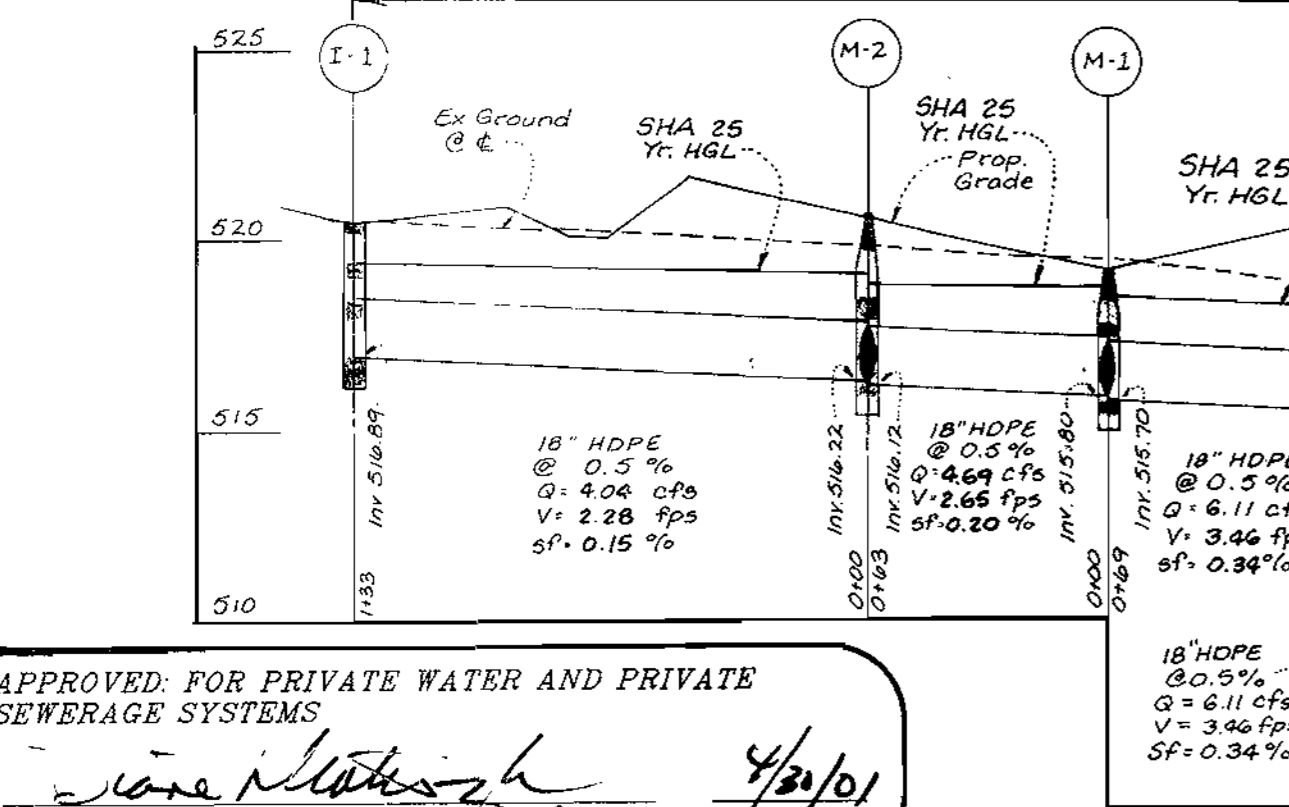
STATE HIGHWAY FULL DEPTH PAVEMENT SECTION

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIALS	GRAVEL BASE ALTERNATES
P-1	PARKING BAYS, APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE	1" BIT. CONC. SURFACE 4" BIT. CONC. BASE
P-2	TRAVELWAYS FOR APARTMENTS AND COMMERCIAL-INDUSTRIAL ZONES WITH NO HEAVY TRUCKS	1 1/2" BIT. CONC. SURFACE 3 1/2" BIT. CONC. BASE	4" GRADED AGGREGATE BASE (GAB)
P-3	COMMERCIAL-INDUSTRIAL ZONES MAJOR COLLECTOR	1 1/2" BIT. CONC. SURFACE 3 1/2" BIT. CONC. BASE	1 1/2" BIT. CONC. SURFACE 1 1/2" BIT. CONC. BASE 5" BIT. CONC. BASE 4" GRADED AGGREGATE BASE (GAB)



STRUCTURE SCHEDULE

Inlet No.	Type	In. In.	In. Out.	Top Elevation	Detail	Remarks
I-1	Type 'D'	517.22	516.89	521.33	SD-411	Throat 4' dia
I-2	COG-10"	517.70	517.60	521.85 / 522.80	MD 574.51*	*modified Std. Inset
I-3	COG-10"	518.52	518.42	522.63 / 522.50	MD 574.51*	See Detail Sht. 5
I-4	COG-10"	519.17	519.07	523.54 / 522.45	MD 574.51*	
I-5	COG-10"	519.85	519.75	524.43 / 524.30	MD 574.51*	
I-6	"French" Inlet	519.90	519.00	519.50		See Detail Sht. 10
I-7	A-5	519.30	519.60	519.40	SD-401	See Detail Sht. 10
M-1	Manhole	516.74	516.46	519.20	G-6.12	
M-2	Manhole	516.84	516.34	520.50	G-3.12	
SC-1	Stormceptor	519.35	519.15	520.10	STC 1800	Detail Sht. 10
SC-2	Stormceptor	519.20	519.10	519.20	STC 1800	
E-1	10" Headwall	519.00	519.00	517.25	SD-5.21	
E-2	10" Headwall	514.50	514.50	516.75	SD-5.21	
HW-1	10" Headwall	516.80	516.05	516.50	SD-5.31	



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

[Signature] 4/2/01
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 3/14/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 5/3/01
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 5/9/01
DIRECTOR

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

[Signature] _____ DATE _____
NATURAL RESOURCE CONSERVATION SERVICES

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

[Signature] _____ DATE _____
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PROGRAM BY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND DATA PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

[Signature] _____ DATE _____
SIGNATURE OF ENGINEER

DEVELOPER'S CERTIFICATE

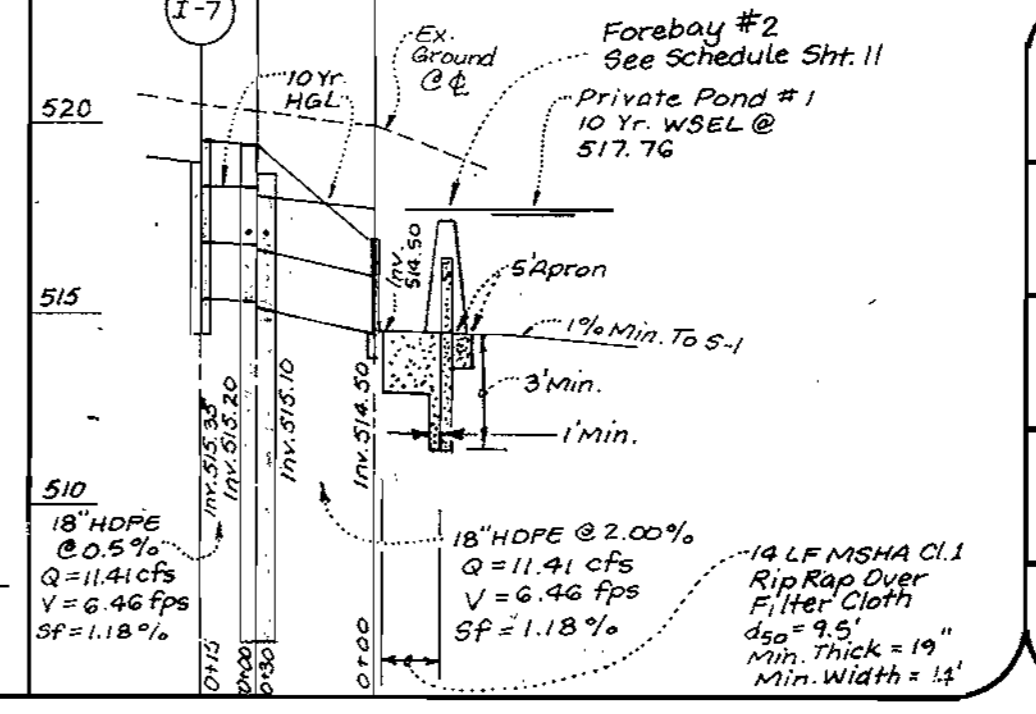
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[Signature] _____ DATE _____
SIGNATURE OF DEVELOPER

STATE OF MARYLAND

DEPARTMENT OF TRANSPORTATION

[Signature] _____ DATE _____
STATE ENGINEER



Subdivision Name: **MT. ZION UNITED METHODIST CHURCH** Section/Area: **140** Parcel No. **140**

Plot No. **L22 F107** Block No. **12 I 18** Zone **RR-DEO** Tax Map No. **40** Election District **5 th** Census Tract **60S1.02**

Water Code **N/A** Sewer Code **N/A**

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

DESIGNED: **E.D.S.** SCALE: **As Shown**

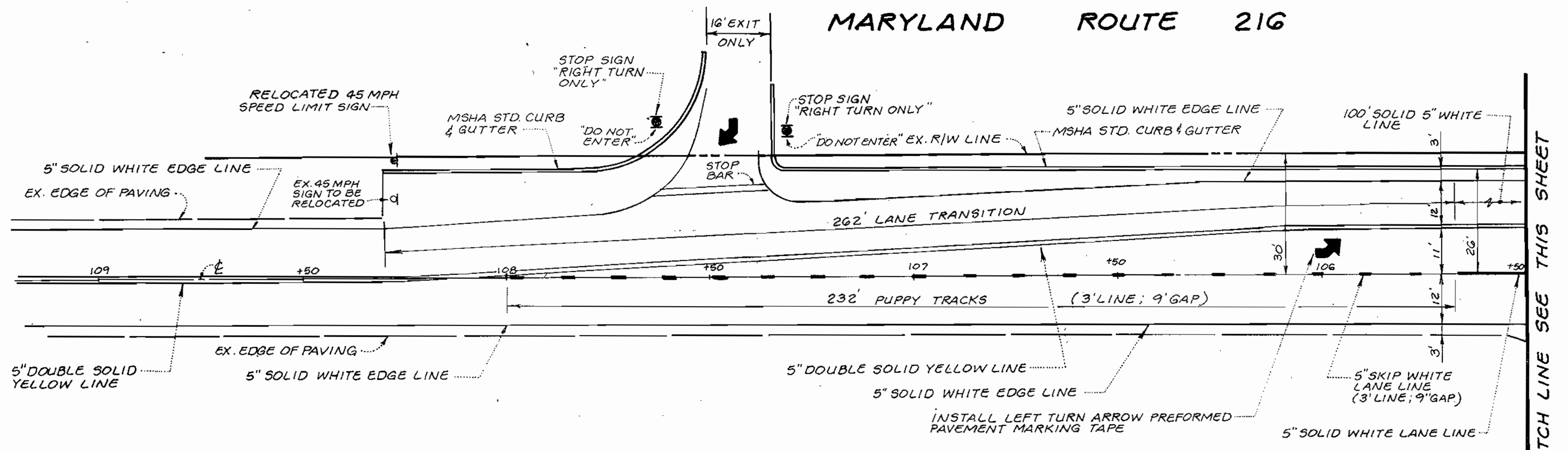
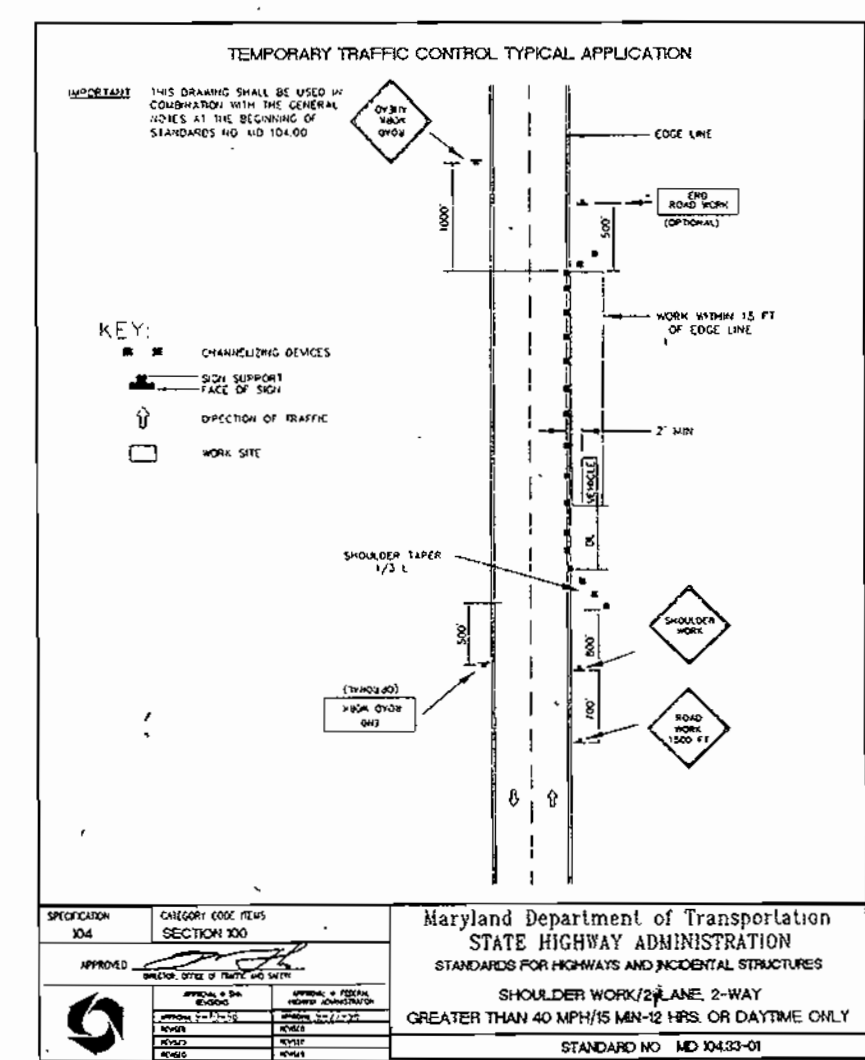
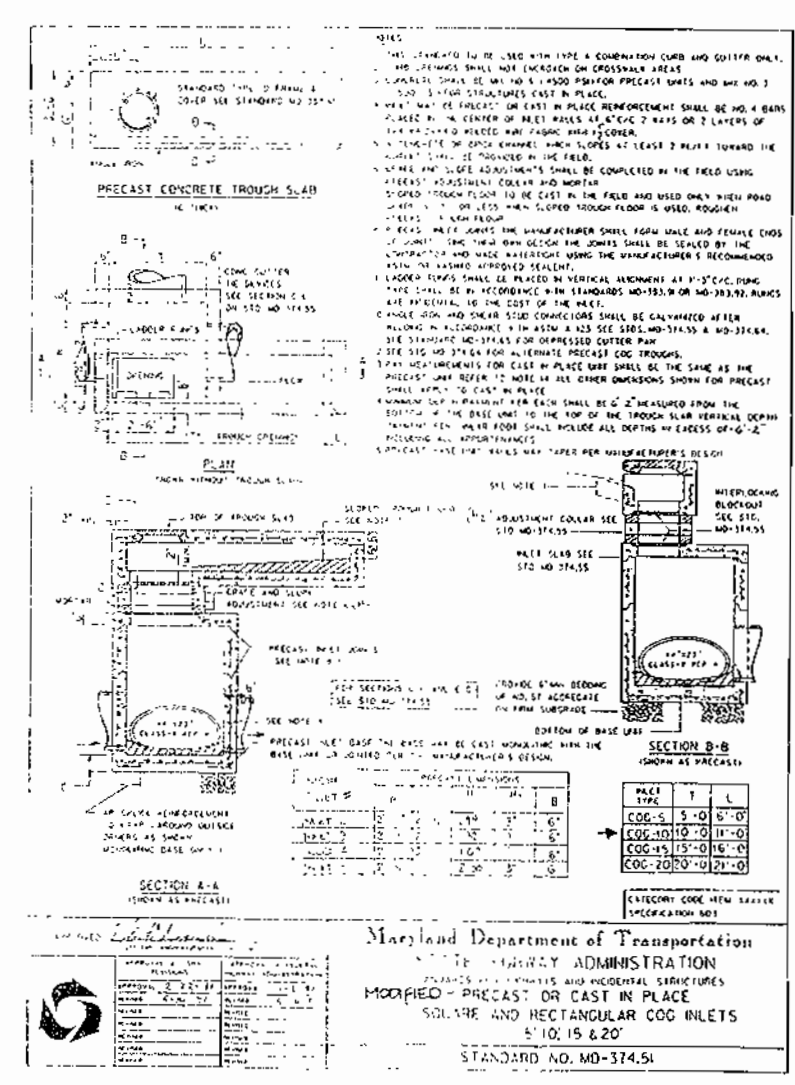
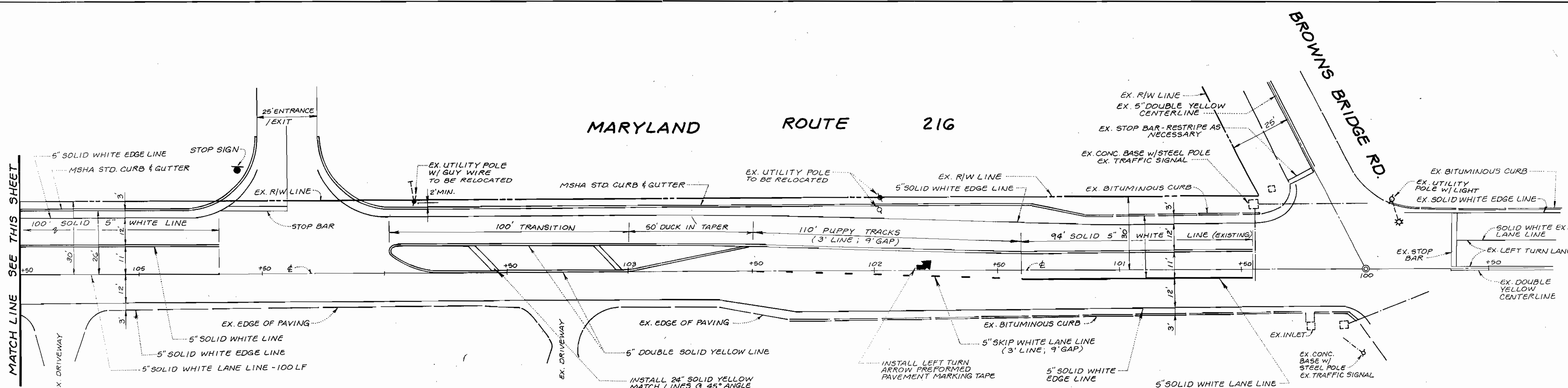
DRAWN: **K.B.W.** DRAWING: **4 of 13**

CHECKED: **B.D.B.** JOB NO.: **98-038**

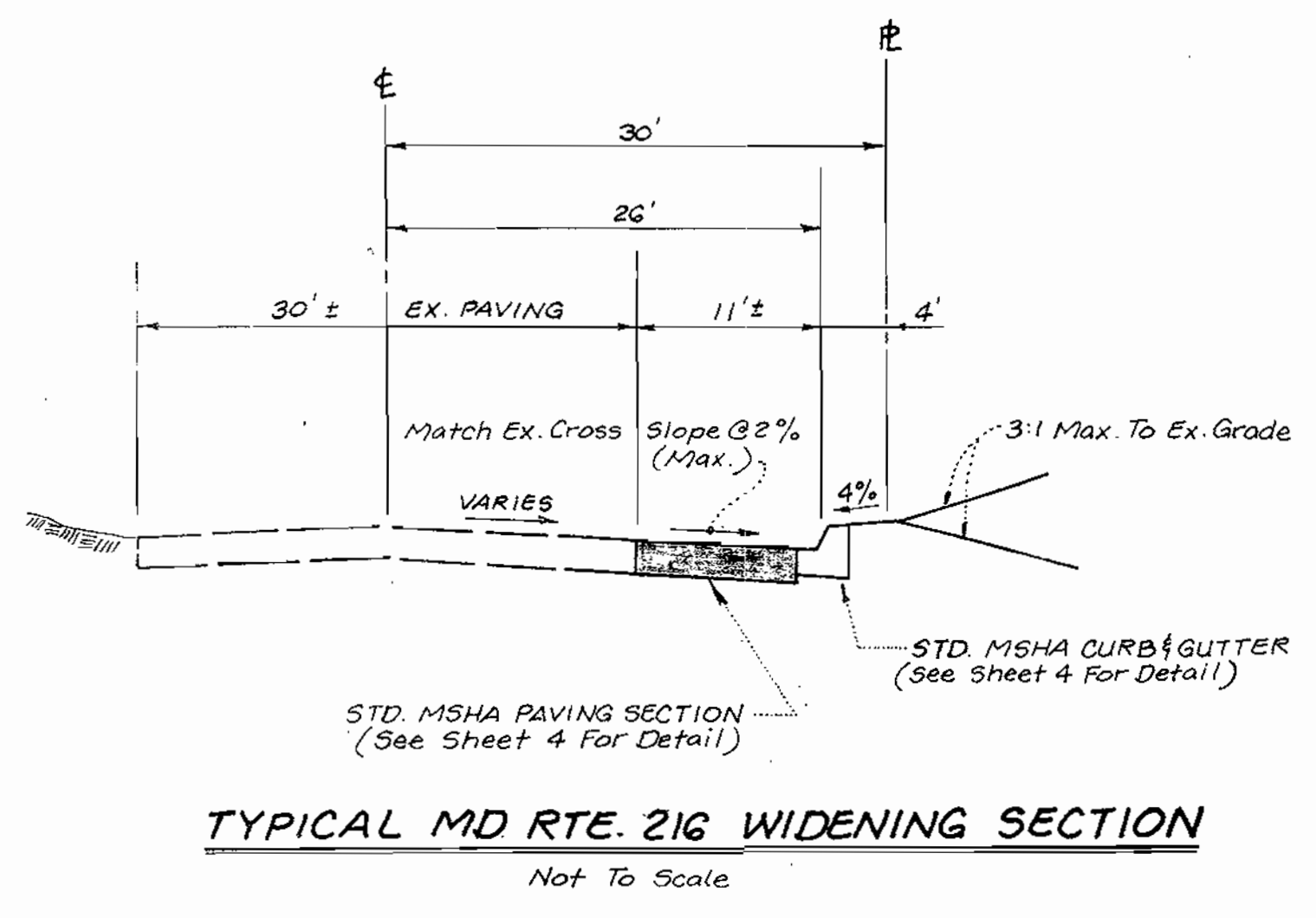
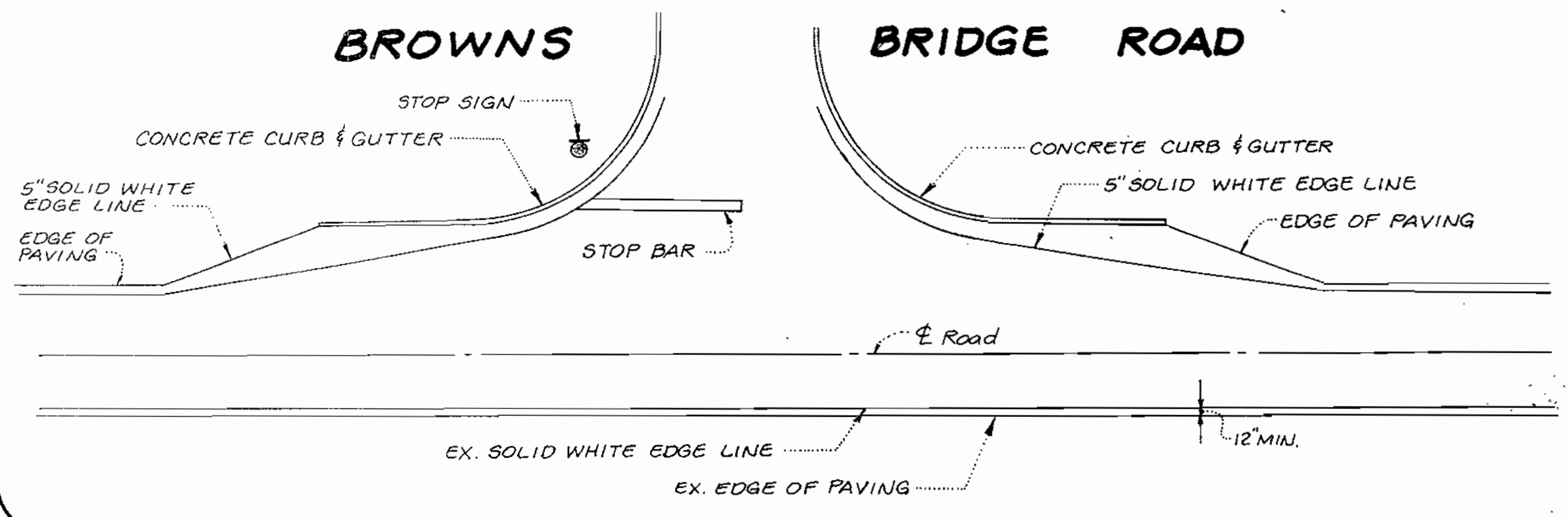
DATE: **Jan. 2001** FILE NO.: **SDP 00-98**

Miscellaneous Details
MT. ZION UNITED METHODIST CHURCH
Tax Map 40 BLOCKS 12 AND 18 PARCEL 140
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

OWNER / DEVELOPER
THE MT. ZION METHODIST CHURCH
P.O. BOX 44
HIGHLAND, MARYLAND 20777



PLAN
SCALE: 1" = 20'



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

Dave M... 4/20/01

COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Kat... 5/3/01

CHIEF, DIVISION OF LAND DEVELOPMENT AND RESEARCH

David... 5/2/01

DIRECTOR

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

NATURAL RESOURCE CONSERVATION SERVICE

DATE

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

HOWARD SOIL CONSERVATION DISTRICT

DATE

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."

Bruce D. Brown 2/26/01

SIGNATURE OF ENGINEER

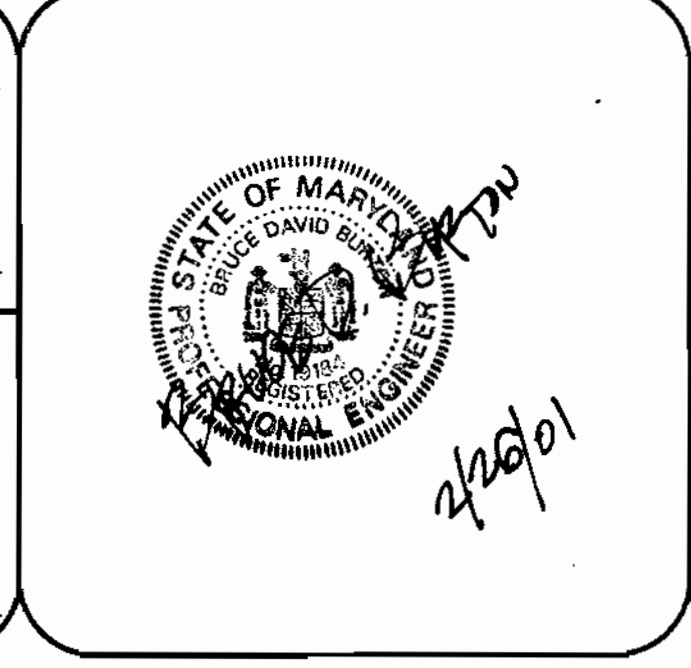
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Dave... 2/26/01

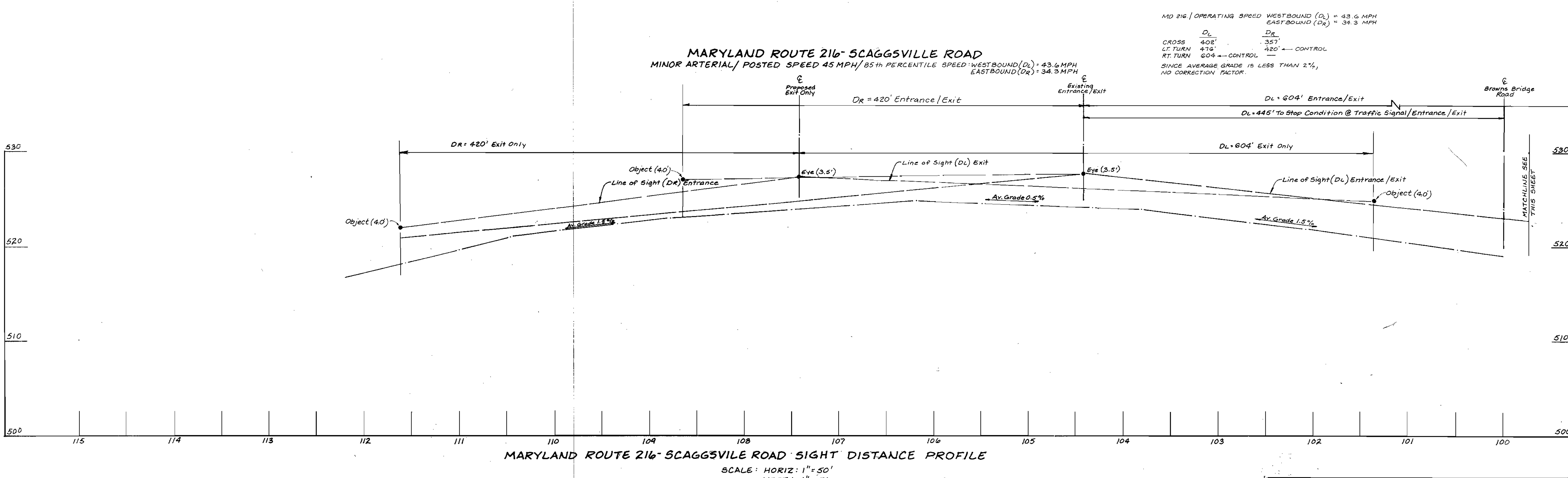
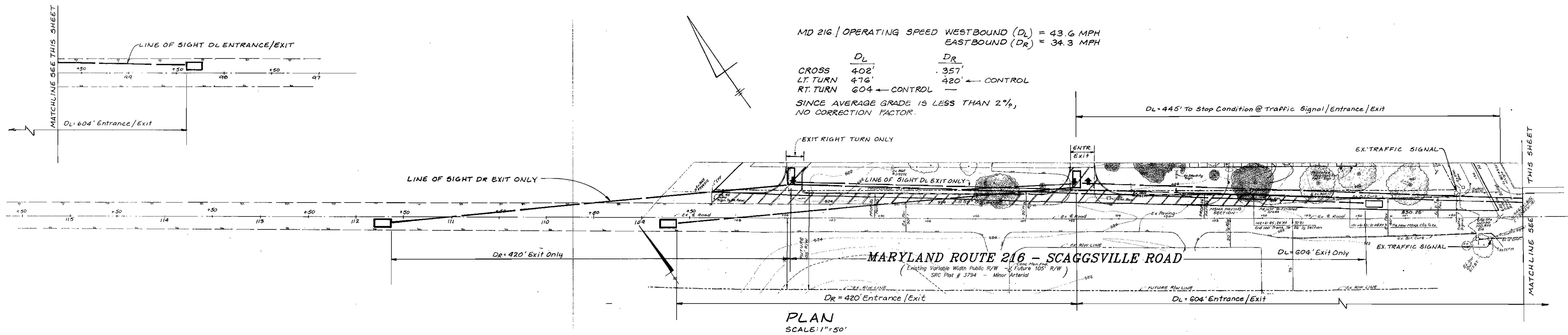
SIGNATURE OF DEVELOPER

DATE



Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area: 140	Parcel/No. 140
Plot No. L 22 F 107	Block No. 12 & 18	Zone RR-DEO	Fax Map No. 40
Water Code N/A		Election District 5 th	Census Tract 6081-02
Sewer Code N/A			

DESIGNED E.D.S.		STRIPING PLAN		SCALE 1" = 20'
DRAWN K.B.W.		MT. ZION UNITED METHODIST CHURCH		DRAWING 5 of 19
CHECKED B.D.B.		Tax Map 40 BLOCKS 12 AND 18 PARCEL 140 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		JOB NO. 98-038
DATE Jan. 2001		OWNER / DEVELOPER THE MT. ZION METHODIST CHURCH P.O. BOX 44 HIGHLAND, MARYLAND 20777		FILE NO. SDP 00-98



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
Donald M. ... 4/30/01
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
... 3/14/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

... 4/7/01
 CHIEF, DIVISION OF LAND DEVELOPMENT

... 5/19/01
 DIRECTOR

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

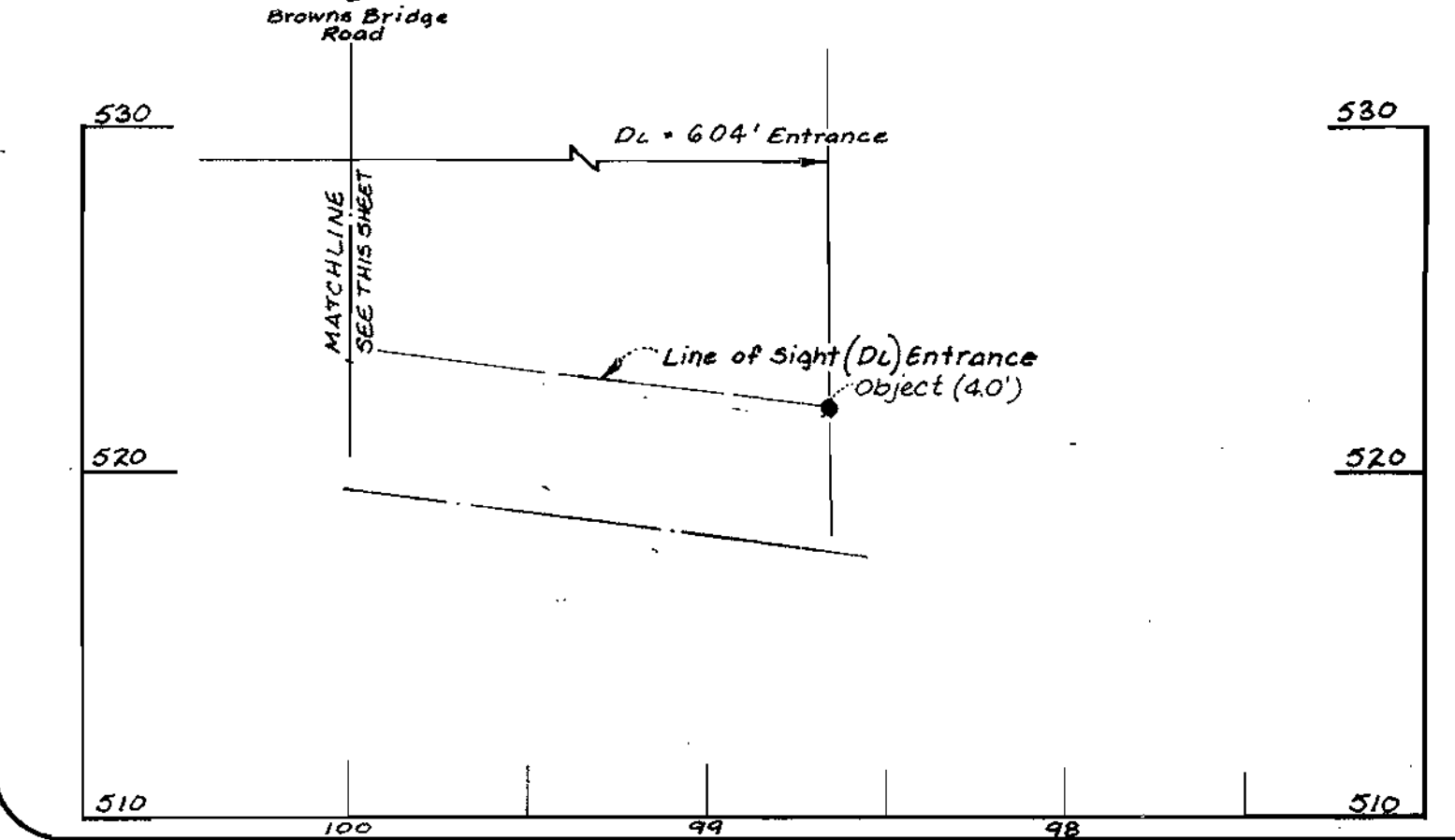
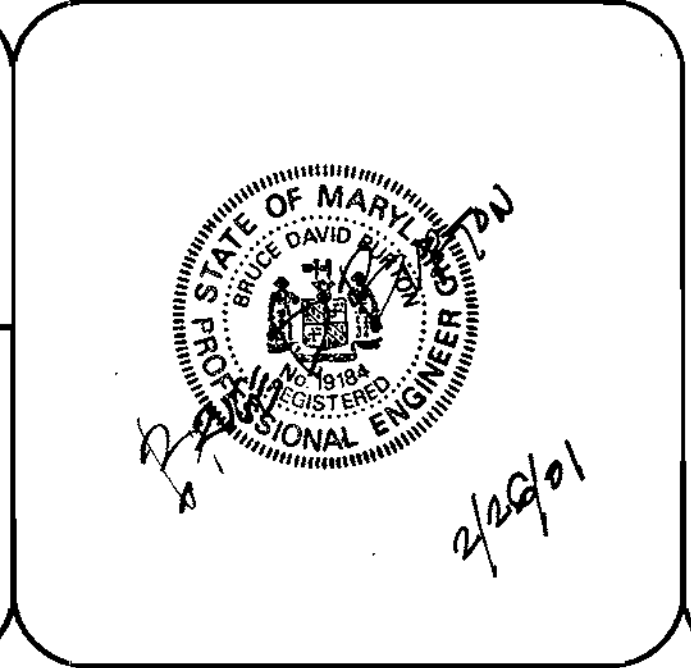
NATURAL RESOURCE CONSERVATION SERVICE

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HOWARD SOIL CONSERVATION DISTRICT

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Prince D. ... 2/26/01
 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."
Daniel ... 2/26/01
 SIGNATURE OF DEVELOPER



Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area	Parcel No. 140
Plot No. L 22 F107	Block No. 12 & 18	Zone RR-DEO	Tax Map No. 40
Water Code N/A		Sewer Code N/A	

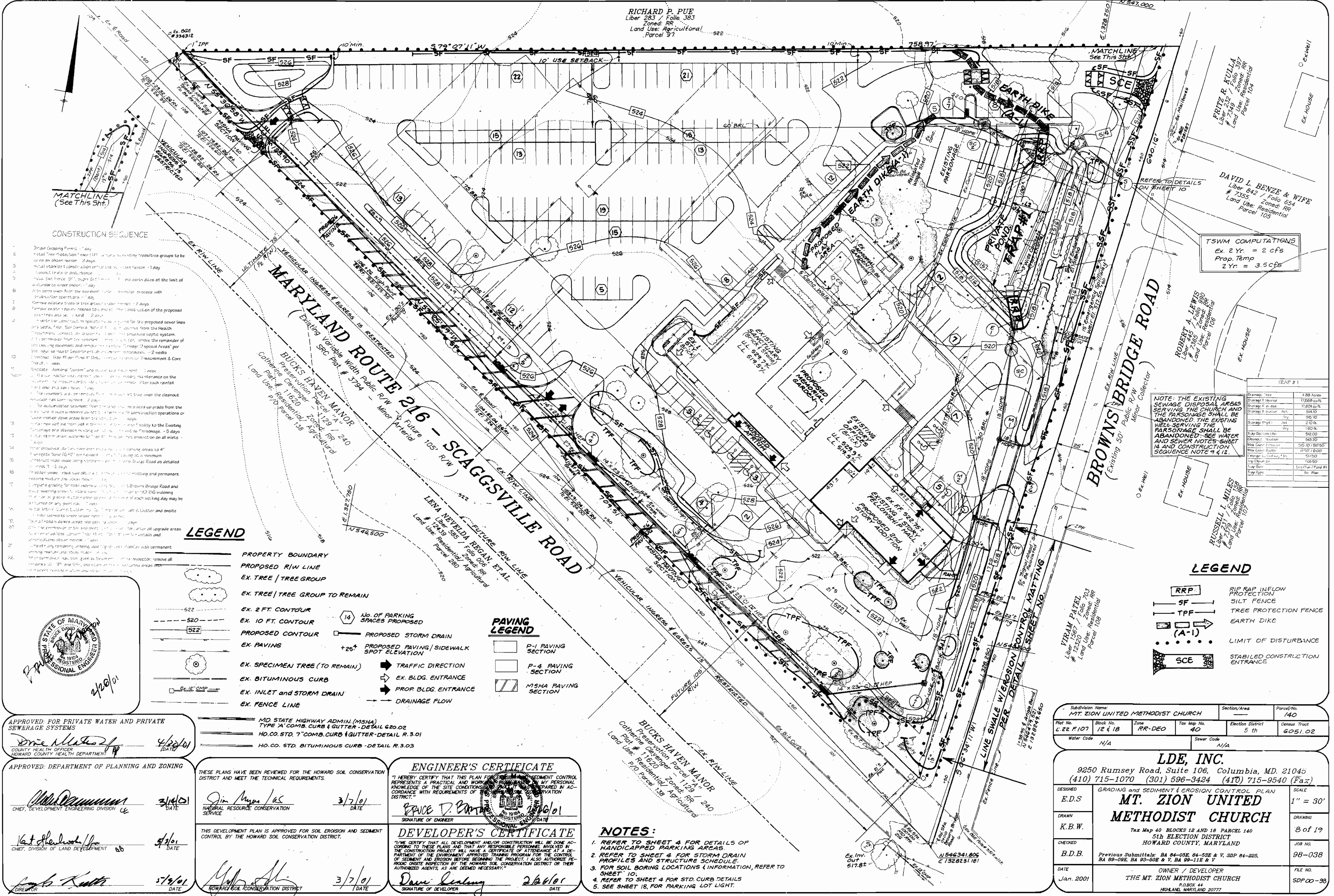
LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

MT. ZION UNITED METHODIST CHURCH
 Tax Map 40 BLOCKS 12 AND 18 PARCEL 140
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DESIGNED: E.D.S. SCALE: AS SHOWN
 DRAWN: S.T.B. DRAWING: 6 of 19
 CHECKED: B.D.B. JOB NO.: 98-038
 DATE: Jan. 2001 FILE NO.: SDP 00-98

OWNER / DEVELOPER: THE MT. ZION METHODIST CHURCH
 HIGHLAND, MARYLAND 20777

RICHARD P. PUE
 Liber 283 / Folio 383
 Zoned: RR
 Land Use: Agricultural
 Parcel 97



CONSTRUCTION SEQUENCE

1. Detail Grading Permit - 1 day
2. Install Tree Protection 1 week
3. Install storm sewer construction materials - 1 day
4. Excavate for storm sewer - 1 day
5. Install storm sewer - 1 day
6. Remove existing storm sewer - 1 day
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LEGEND

- PROPERTY BOUNDARY
- PROPOSED R/W LINE
- EX. TREE / TREE GROUP
- EX. TREE / TREE GROUP TO REMAIN
- EX. 2 FT. CONTOUR
- EX. 10 FT. CONTOUR
- PROPOSED CONTOUR
- EX. PAVING
- EX. SPECIMEN TREE (TO REMAIN)
- EX. BITUMINOUS CURB
- EX. INLET AND STORM DRAIN
- EX. FENCE LINE
- MD STATE HIGHWAY ADMIN. (MSHA) TYPE 'A' COMB. CURB & GUTTER - DETAIL R.3.01
- HO. CO. STD. 7" COMB. CURB & GUTTER - DETAIL R.3.01
- HO. CO. STD. BITUMINOUS CURB - DETAIL R.3.03
- NO. OF PARKING SPACES PROPOSED
- PROPOSED STORM DRAIN
- PROPOSED PAVING / SIDEWALK SPOT ELEVATION
- TRAFFIC DIRECTION
- EX. BLDG. ENTRANCE
- PROP. BLDG. ENTRANCE
- DRAINAGE FLOW
- P-1 PAVING SECTION
- P-4 PAVING SECTION
- MSHA PAVING SECTION

NOTE: THE EXISTING SEWAGE DISPOSAL AREAS SERVING THE CHURCH AND THE PARSONAGE SHALL BE ABANDONED. THE EXISTING WELLS SERVING THE PARSONAGE SHALL BE ABANDONED. SEE WATER AND SEWER NOTES SHEET 14 AND CONSTRUCTION SEQUENCE NOTE 9 & 12.

TSWM COMPUTATIONS
 Ex. 2 Yr. = 2 cfs
 Prop. Temp. 2 Yr. = 3.5 cfs

TRAP #1	Flow	Capacity
1	1.00 cfs	1.00 cfs
2	1.00 cfs	1.00 cfs
3	1.00 cfs	1.00 cfs
4	1.00 cfs	1.00 cfs
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LEGEND

- RRP RIP RAP INFLOW PROTECTION
- SF SILT FENCE
- TPF TREE PROTECTION FENCE
- (A-1) EARTH DIKE
- LIMIT OF DISTURBANCE
- SCE STABILIZED CONSTRUCTION ENTRANCE



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 Dina M. [Signature]
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 4/22/01 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 3/14/01 DATE

[Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 4/3/01 DATE

[Signature]
 DIRECTOR
 5/19/01 DATE

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
 Jim [Signature]
 NATURAL RESOURCE CONSERVATION SERVICE
 3/7/01 DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature]
 HOWARD SOIL CONSERVATION DISTRICT
 3/7/01 DATE

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN FOR THE PROPOSED CONSTRUCTION REPRESENTS A PRACTICAL AND WORKABLE DESIGN AND THAT MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS IS SUFFICIENT TO GUARANTEE IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 RICHARD P. PUE
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF MARYLAND
 LICENSE NO. 12345
 4/26/01 DATE

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 WE DEEMED NECESSARY.
 Dave [Signature]
 DEVELOPER
 2/26/01 DATE

NOTES:

1. REFER TO SHEET 4 FOR DETAILS OF HANDICAPPED PARKING AREAS.
2. REFER TO SHEET 4 FOR STORM DRAIN PROFILES AND STRUCTURE SCHEDULE.
3. FOR SOIL BORING LOCATIONS & INFORMATION, REFER TO SHEET 10.
4. REFER TO SHEET 4 FOR STD. CURB DETAILS.
5. SEE SHEET 18, FOR PARKING LOT LIGHT.

Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area	Parcel No. 140
Plot No. 22 F107	Block No. 12 & 18	Zone RR-DEO	Tax Map No. 40
Water Code N/A		Election District 5 th	Census Tract 6051.02
Sewer Code N/A			

DESIGNED: E.D.S.		SCALE: 1" = 30'
DRAWN: K.B.W.		DRAWING: 8 of 19
CHECKED: B.D.B.		JOB NO.: 98-038
DATE: Jan. 2001		FILE NO.: SDPOO-98
OWNER / DEVELOPER: THE MT. ZION METHODIST CHURCH HOWARD COUNTY, MARYLAND 9250 Rumsey Road, Suite 106, Columbia, MD. 21046 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)		

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

- 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. (315-1855).
- 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.
- Following initial soil disturbance or redistribution, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.
- All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. 1, Chapter 7, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.
- All disturbed areas must be stabilized within the time period specified above in accordance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (Section C) - Permanent seeding, sod, 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.
- All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.
- Site Analysis:

Total Area of Site	4.61	Acres + Road Widening
Area Disturbed	3.16	Acres
Area to be graded or paved	2.40	Acres
Area to be vegetatively stabilized	0.75	Acres
Total Cut	1111	Cu. Yds.
Total Fill	1111	Cu. Yds.
Offsite waste/borrow area location	N/A	
- Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.
- Additional sediment control must be provided, if deemed necessary by the Howard County Sediment Control Inspector.
- On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.
- Tranches 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:

- PREFERRED** — Apply 2 tons per acre dolomitic limestone (92 lbs/1000sq. ft.) and 600 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/1000sq. ft.).
- ACCEPTABLE** — Apply 2 tons per acre dolomitic limestone (92 lbs/1000sq. 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 15 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs per acre (1.4 lbs/1000sq. ft.) of Kentucky 31 Tall Fescue and 2 lbs. per acre (.05 lbs/1000sq. ft.) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) — 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) — Use sod. Option (3) — Seed with 60 lbs 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 8 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.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redistributed 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 2-12 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 weeping 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 8 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.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

Don Platner 4/26/01
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 3/14/01
Chief, Division of Land Development 4/3/01

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

Don Myers 3/16/01
NATURAL RESOURCE CONSERVATION SERVICE

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

John 3/7/01
HOWARD SOIL CONSERVATION DISTRICT

ENGINEER'S CERTIFICATE

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

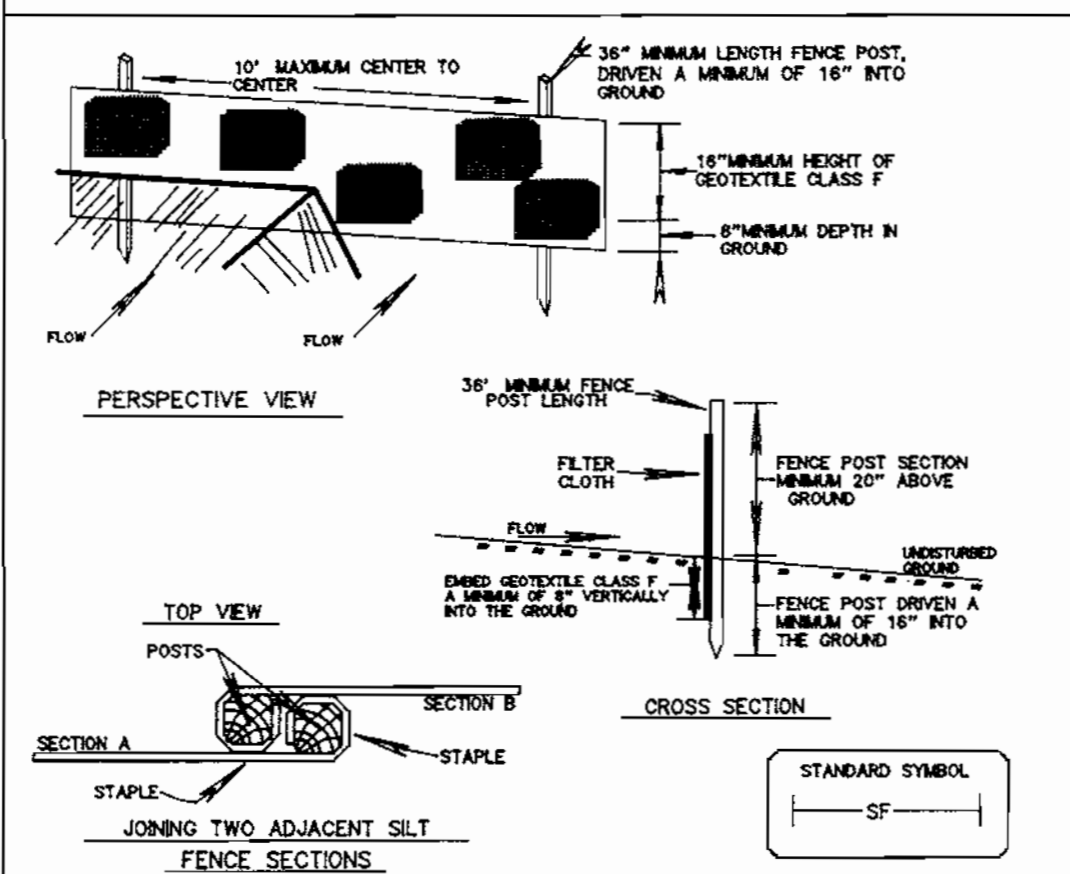
Bruce T. Brown 4/26/01
REGISTERED PROFESSIONAL ENGINEER

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."

David Sealey 2/26/01
SIGNATURE OF DEVELOPER

DETAIL 22 - SILT FENCE



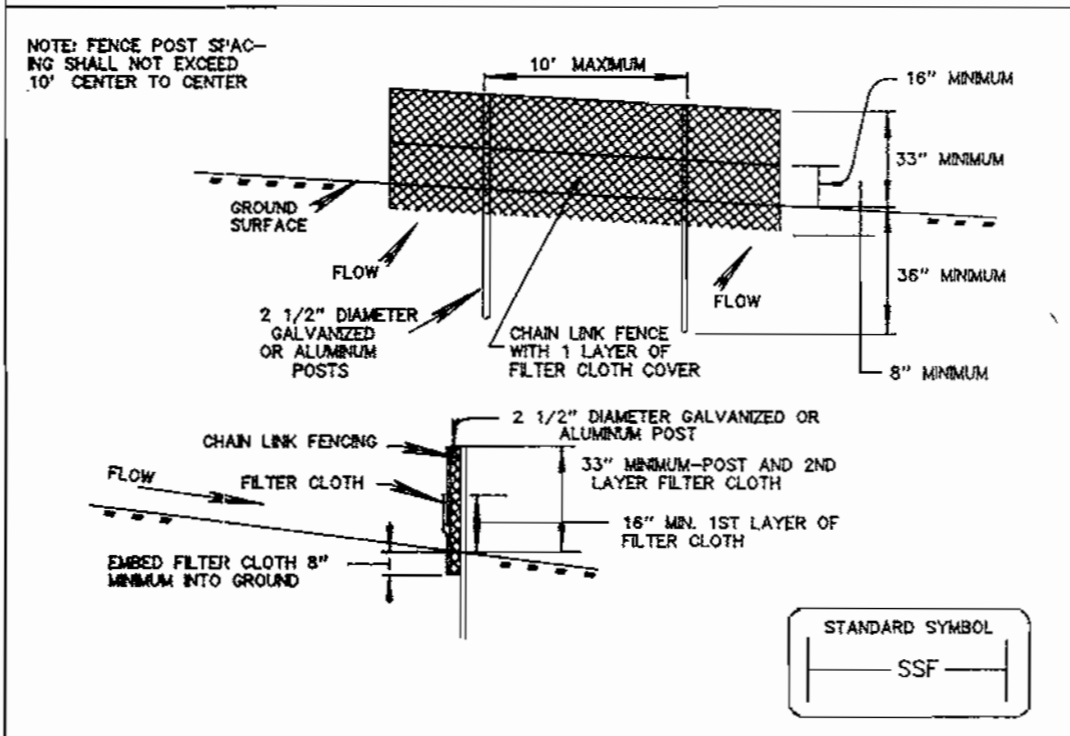
Construction Specifications

- Fence posts shall be a minimum of 36" long driven 18" minimum into the ground. Wood posts shall be 1 1/2" x 4" square (minimum) cut or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard 1" or 1 1/2" U section weighing not less than 1.00 pound per linear foot.
- Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements:

Tensile Strength	50 lb/ft (min)	Test: MSMT 509
Tensile Modulus	10 lb/ft (min)	Test: MSMT 509
Flow Rate	0.3 gal R / minute (max)	Test: MSMT 322
Filtering Efficiency	75% (min)	Test: MSMT 322
- Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
- Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE E-19-3 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 - SUPER SILT FENCE



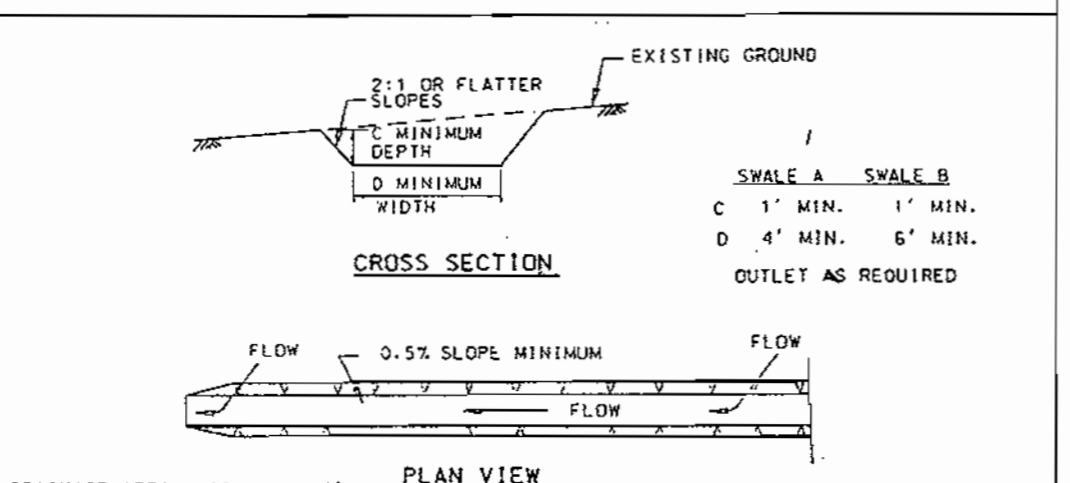
Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

- The poles do not need to be set in concrete.
- Chain link fence shall be fastened securely to the fence posts with wire ties or staples.
- Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
- Filter cloth shall be embedded a minimum of 8" into the ground.
- When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
- Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence.

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

DETAIL 2 - TEMPORARY SWALE

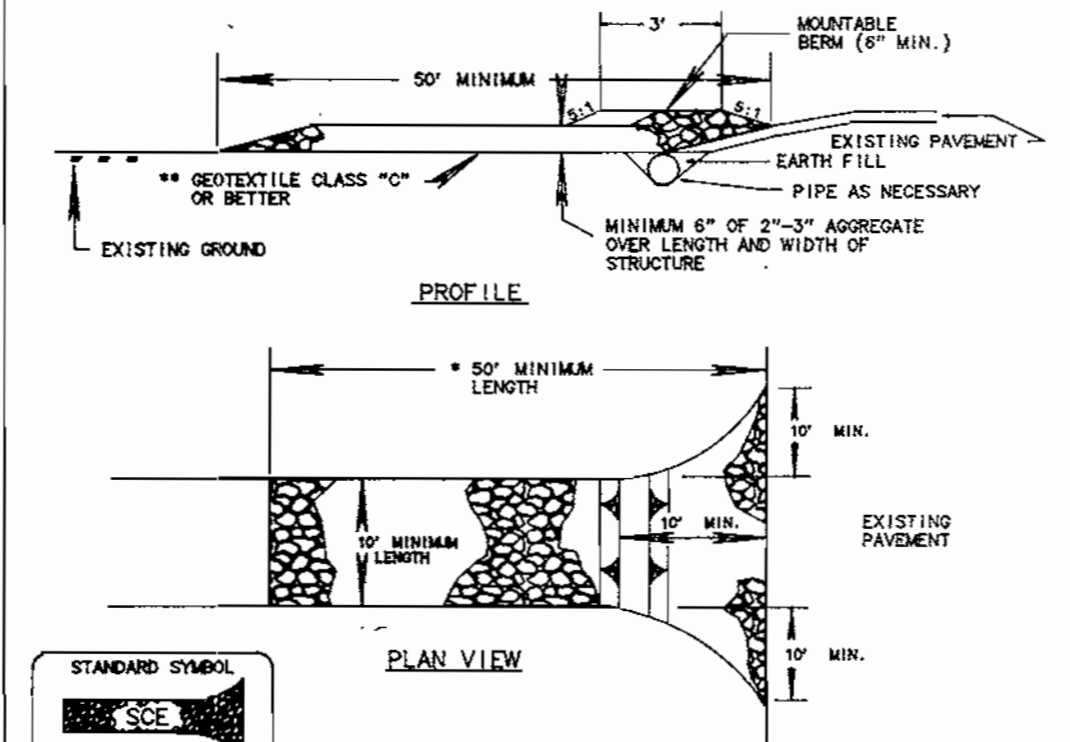


Construction Specifications

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE A-2-4 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

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

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

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

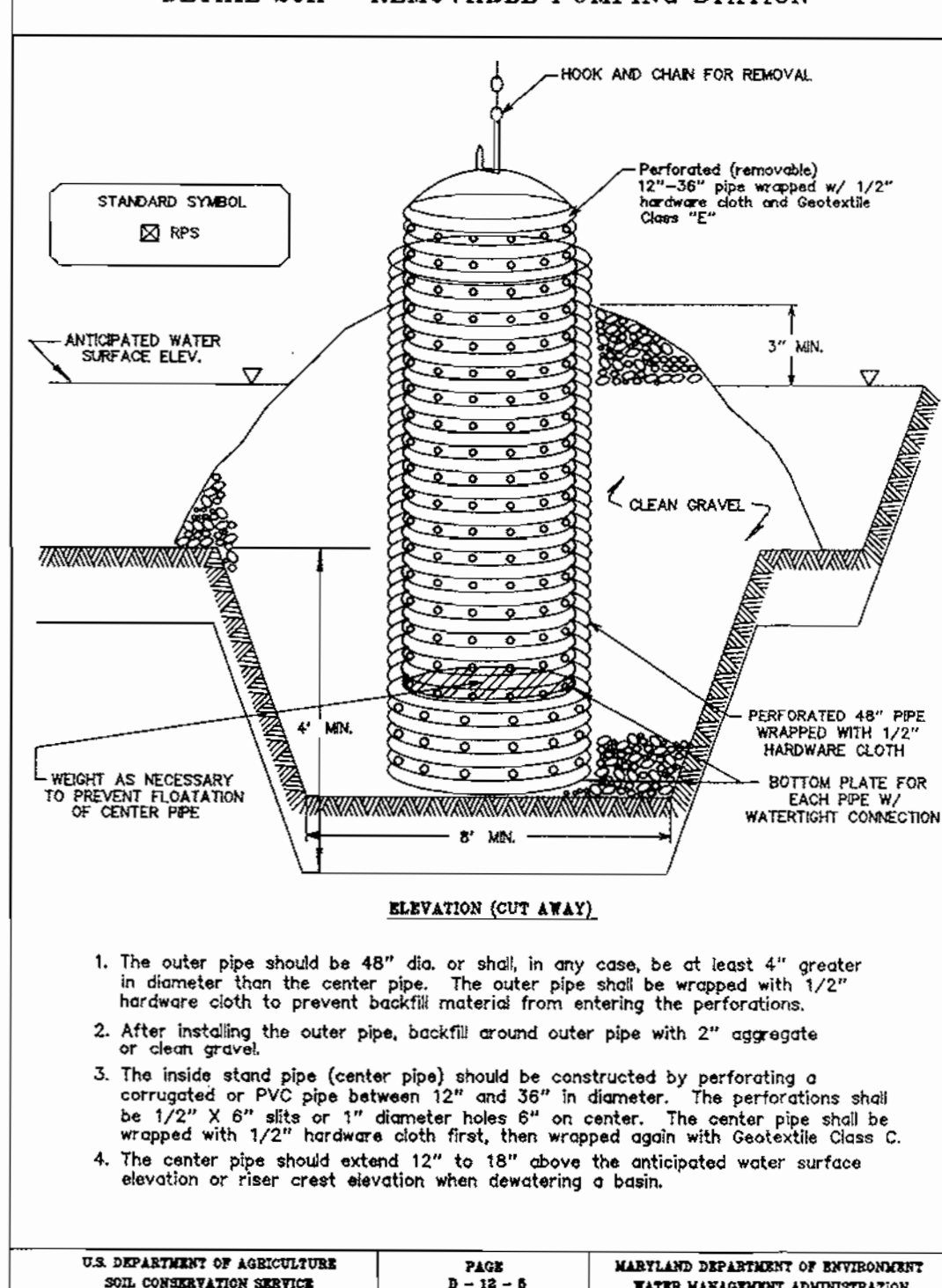
- This practice is limited to areas having 2:1 or flatter slopes where:
 - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
 - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture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

Construction and Material Specifications

- Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 - Topsoil must be free of plants or plant parts such as bermuda grass, quackgrass, johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 - 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 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section 1 - Vegetative Stabilization Methods and Materials.
 - For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results indicating fertilizer and lime amendments required to bring the soil into compliance with the following:
 - pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
 - Organic content of topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - 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.
 - 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.
- Topsoil Application
 - When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 - Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.
 - Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
 - Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- 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:
 - 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:
 - Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the sludge) by the Maryland Department of the Environment under COMAR 26.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
 - 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-VA, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institute, Revised 1973.

DETAIL 20A - REMOVABLE PUMPING STATION

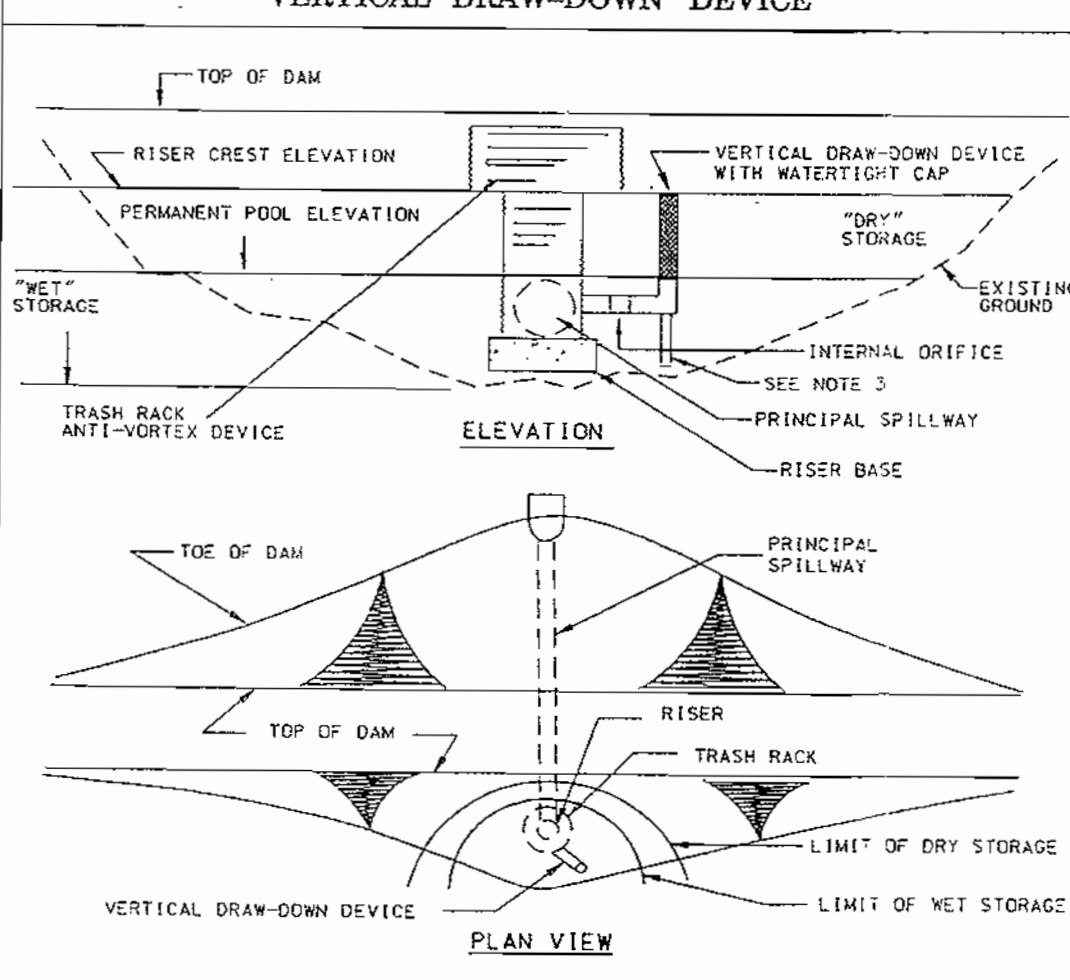


Construction Specifications

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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE D-18-8 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

**BASIN DRAWDOWN SCHEMATIC
VERTICAL DRAW-DOWN DEVICE**

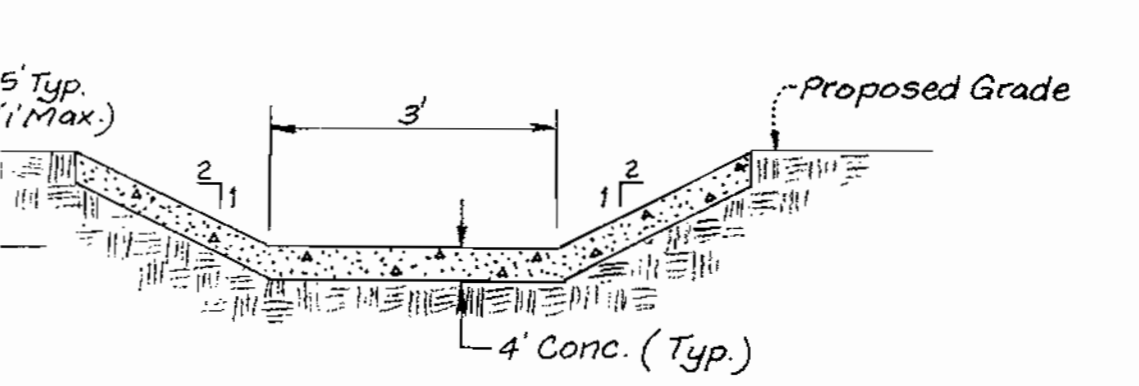


Construction Specifications

- Perforations in the draw-down device may not extend into the wet storage.
- The total area of the perforations must be greater than 2 times the area of the internal orifice.
- The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class C.
- Provide support of draw-down device to prevent sagging and flotation. An acceptable preventative measure is to stake both ends of draw-down device with 1" steel angle, or 1" by 4" square or 2" round wood posts set 3' minimum into the ground then joining them to the device by wrapping with 12 gauge minimum wire.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE G-19-30 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

NOTE: Channel Slope = 1.0% From Forebay #1 Toward S-1



TYPICAL CONCRETE PILOT CHANNEL DETAIL

Scale: 1" = 2'

Subdivision Name: MT. ZION UNITED METHODIST CHURCH	Section/Area: 140	Parcel No. 140
Plot No. L-22-F107	Block No. 12 & 18	Zone RR-DEO
Water Code: N/A	Sewer Code: N/A	Far Map No. 40
		Election District 5th
		Census Tract 6051.02

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

Soil Erosion & Sediment Control Plan - Details

MT. ZION UNITED METHODIST CHURCH

Tax Map 40 BLOCKS 12 AND 18 PARCEL 140
5th ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

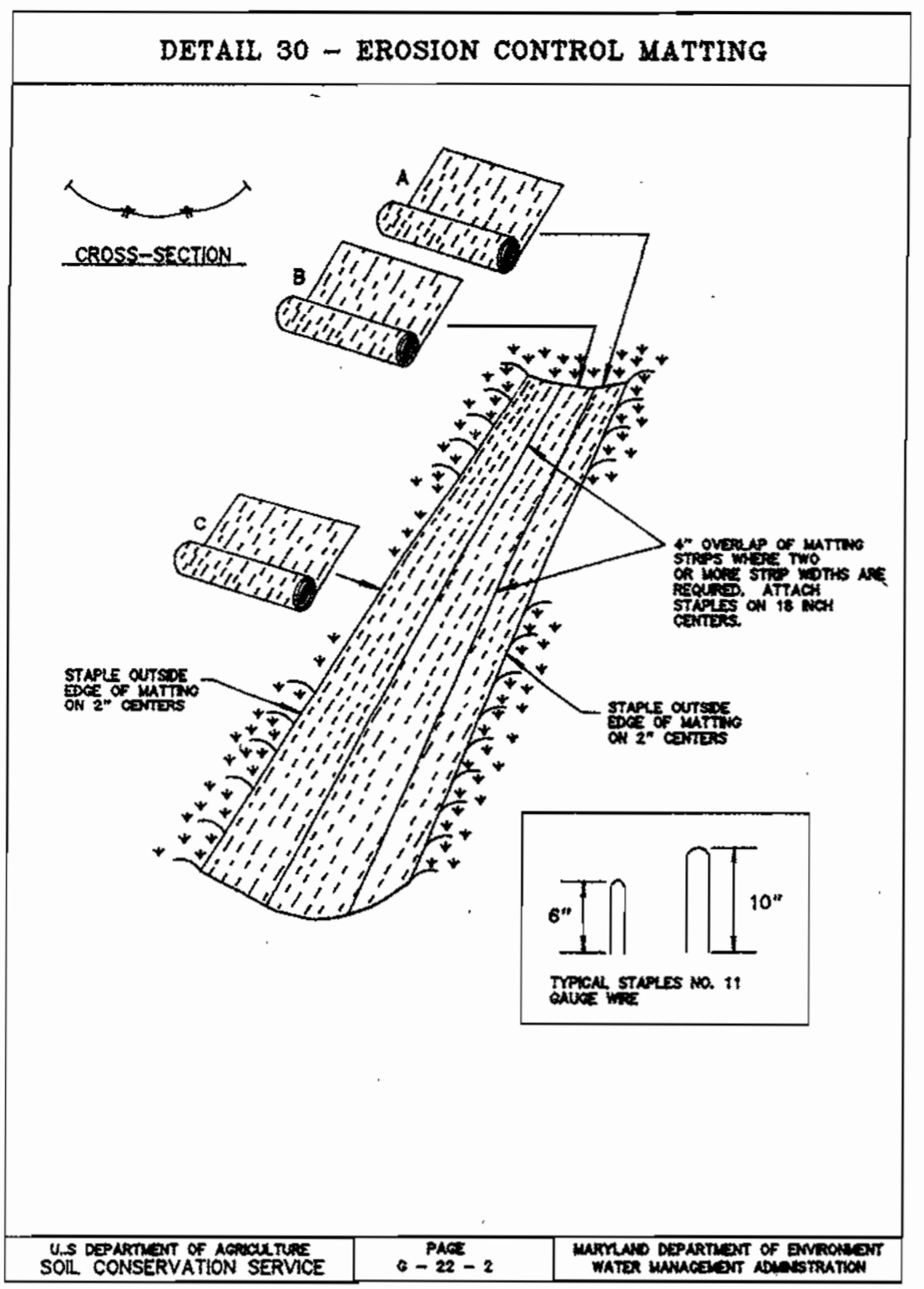
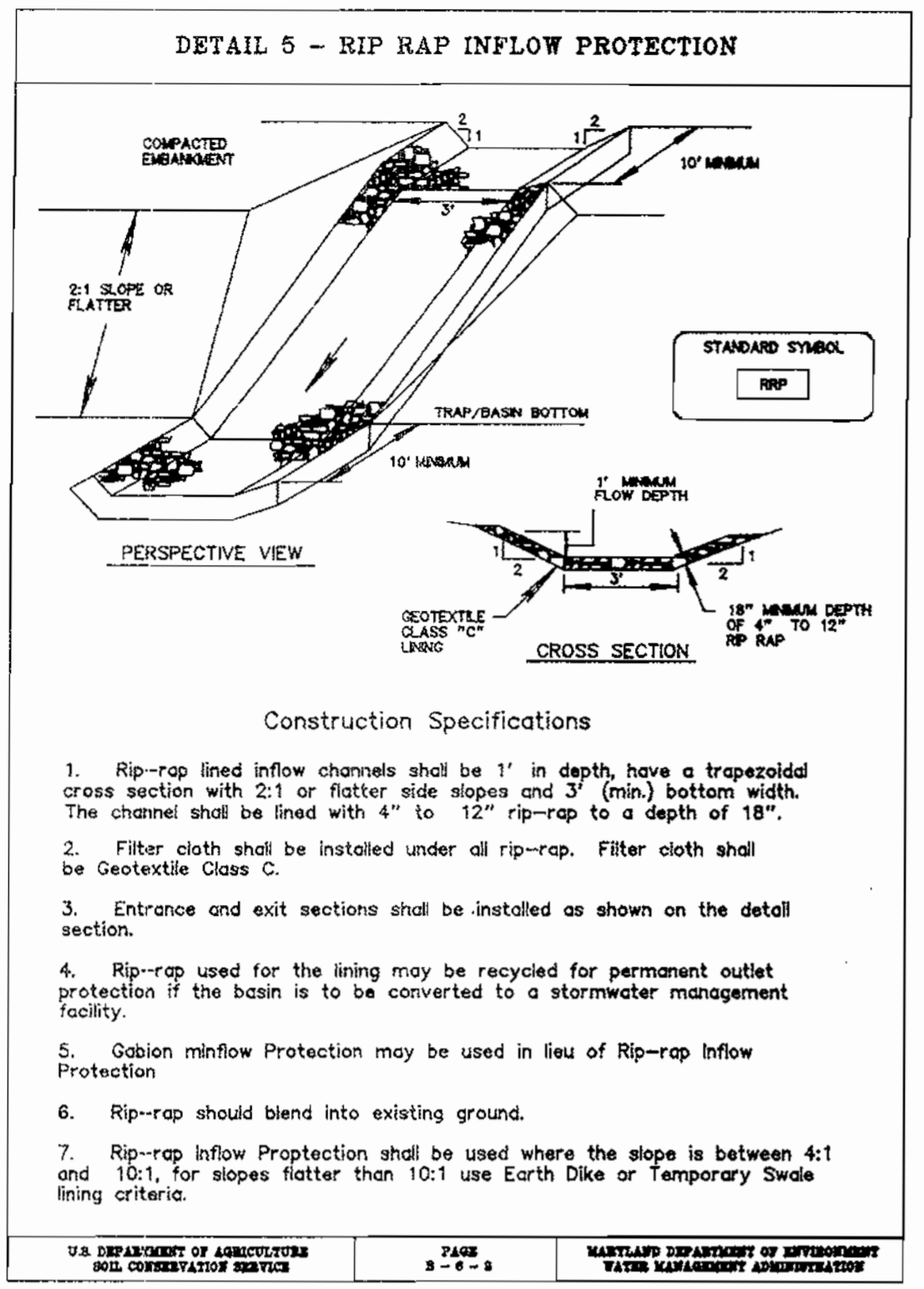
DESIGNED: E.D.S. SCALE: As Shown

DRAWN: K.B.W. DRAWING: 9 of 19

CHECKED: B.D.B. JOB NO.: 98-038

DATE: Jan. 2001 FILE NO.: SDP 00-98

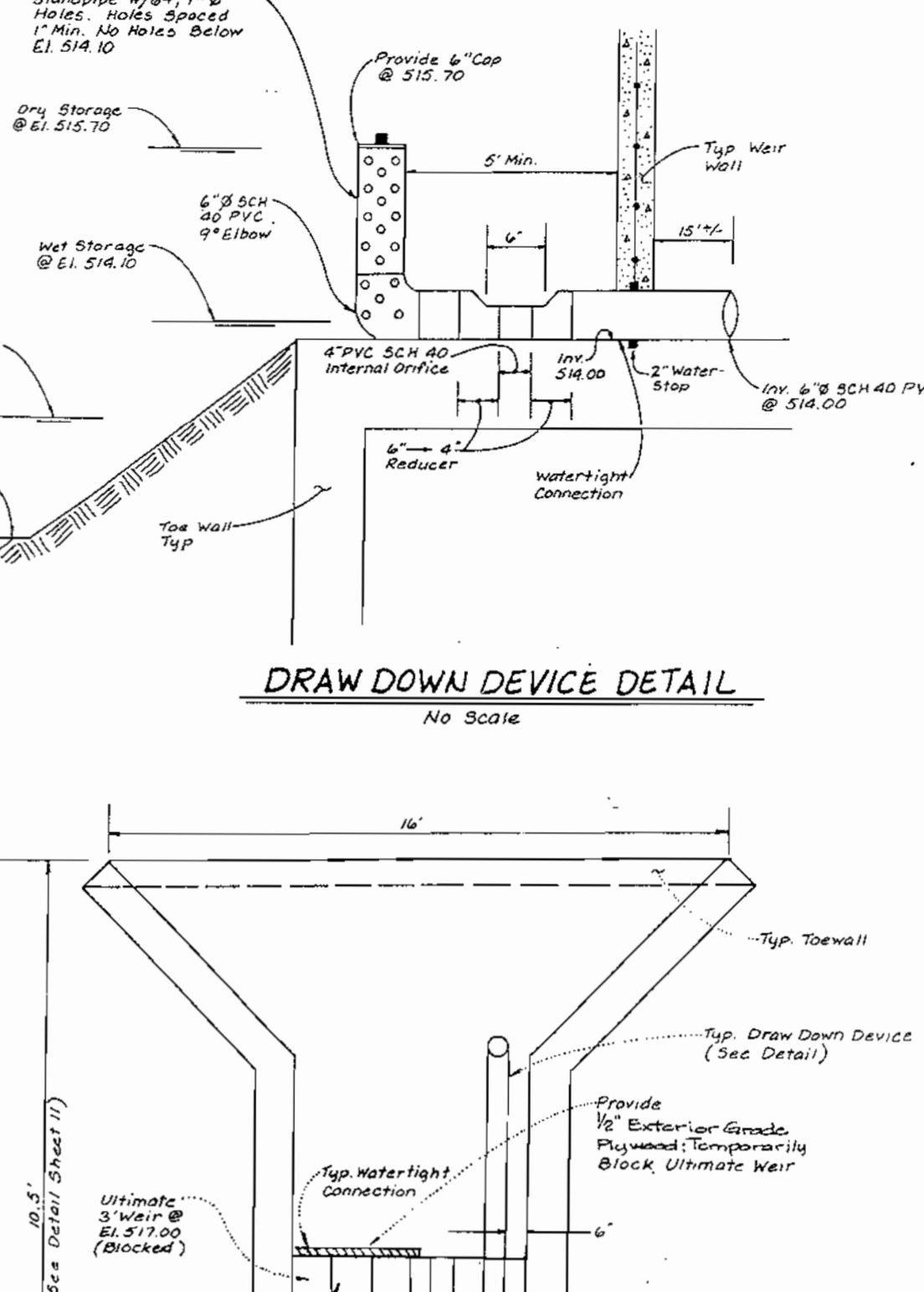
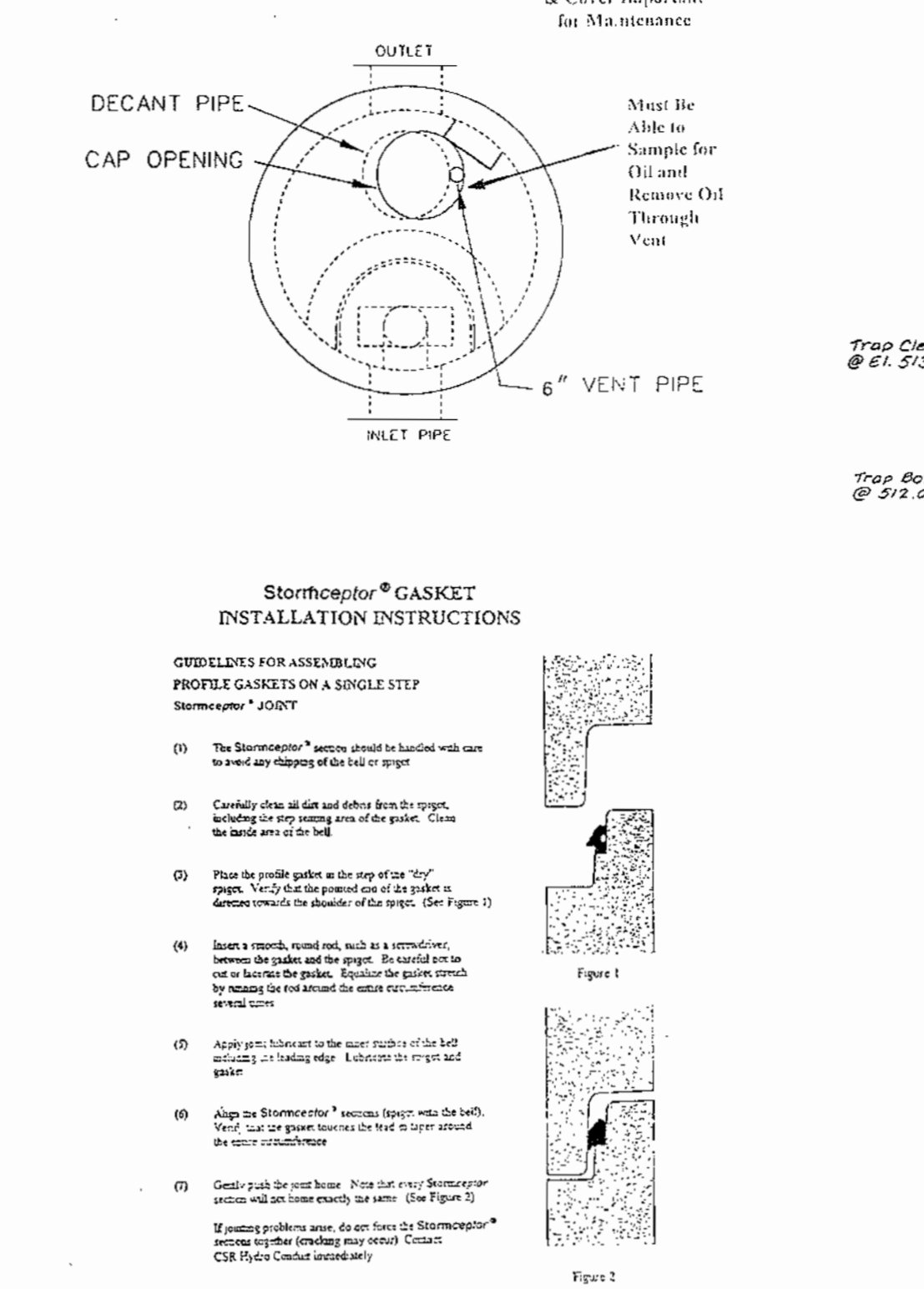
OWNER / DEVELOPER: THE MT. ZION METHODIST CHURCH
P.O. BOX 44
HIGHLAND, MARYLAND 20777



Stormceptor® GASKET INSTALLATION INSTRUCTIONS

PRELIMINARY CONSTRUCTION INSTRUCTIONS:

- Excavate the stormceptor area to the specified depth and width. The excavation shall be 12 inches deep for the stormceptor and 18 inches deep for the outlet pipe. The excavation shall be 18 inches wide for the stormceptor and 24 inches wide for the outlet pipe. The excavation shall be 18 inches deep for the stormceptor and 24 inches deep for the outlet pipe. The excavation shall be 18 inches wide for the stormceptor and 24 inches wide for the outlet pipe.
- Place the stormceptor in the excavation. The stormceptor shall be placed in the excavation with the outlet pipe pointing in the direction of flow. The stormceptor shall be placed in the excavation with the outlet pipe pointing in the direction of flow.
- Place the outlet pipe in the excavation. The outlet pipe shall be placed in the excavation with the outlet pipe pointing in the direction of flow. The outlet pipe shall be placed in the excavation with the outlet pipe pointing in the direction of flow.
- Place the gasket in the excavation. The gasket shall be placed in the excavation with the gasket pointing in the direction of flow. The gasket shall be placed in the excavation with the gasket pointing in the direction of flow.
- Place the concrete in the excavation. The concrete shall be placed in the excavation with the concrete pointing in the direction of flow. The concrete shall be placed in the excavation with the concrete pointing in the direction of flow.



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

Station	Depth (ft)	Soil Description	Moisture (%)	Specific Gravity	Unit Weight (pcf)	Classification
10+00	0-12	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	12-18	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	18-24	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	24-30	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	30-36	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	36-42	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	42-48	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	48-54	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	54-60	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	60-66	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	66-72	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	72-78	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	78-84	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	84-90	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	90-96	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	96-102	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	102-108	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	108-114	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	114-120	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	120-126	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	126-132	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	132-138	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	138-144	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	144-150	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	150-156	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	156-162	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	162-168	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	168-174	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	174-180	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	180-186	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	186-192	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	192-198	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	198-204	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	204-210	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	210-216	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	216-222	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	222-228	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	228-234	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	234-240	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	240-246	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	246-252	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	252-258	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	258-264	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	264-270	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	270-276	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	276-282	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	282-288	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	288-294	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	294-300	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	300-306	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	306-312	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	312-318	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	318-324	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	324-330	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	330-336	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	336-342	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	342-348	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	348-354	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	354-360	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	360-366	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	366-372	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	372-378	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	378-384	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	384-390	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	390-396	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	396-402	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	402-408	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	408-414	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	414-420	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	420-426	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	426-432	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	432-438	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	438-444	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	444-450	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	450-456	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	456-462	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	462-468	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	468-474	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	474-480	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	480-486	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	486-492	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	492-498	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	498-504	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	504-510	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	510-516	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	516-522	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	522-528	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	528-534	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	534-540	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	540-546	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	546-552	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	552-558	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	558-564	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	564-570	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	570-576	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	576-582	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	582-588	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	588-594	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	594-600	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	600-606	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	606-612	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	612-618	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	618-624	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	624-630	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	630-636	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	636-642	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	642-648	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	648-654	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	654-660	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	660-666	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	666-672	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	672-678	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	678-684	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	684-690	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	690-696	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	696-702	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	702-708	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	708-714	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	714-720	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	720-726	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	726-732	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML
10+00	732-738	Dark gray silty clay with sand and silt (CL-ML)	25	2.70	115	CL-ML

POND CONSTRUCTION SPECIFICATIONS

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

SITE PREPARATION

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

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

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

EARTH FILL

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

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

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one track of the equipment or compaction shall be achieved by a minimum of four complete passes of a sheepfoot, rubber tired, or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble yet not be so wet that water can be squeezed out.

Where a minimum required density is specified, it shall not be less than 95% of maximum dry density with a moisture content within +/- 2% of the optimum. Each layer of fill shall be compacted to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99.

Cut off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for the excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1:1 or flatter. The backfill shall be compacted with the construction equipment, rammers, and rollers to assure maximum density and minimum permeability.

STRUCTURAL BACKFILL

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

PIPE CONDUITS

All pipes shall be circular in cross section.

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

1. Materials - (Steel Pipe) - This pipe and its appurtenances shall be galvanized and fully bituminous coated and shall conform to the requirements of AASHTO Specification M-190 Type A with watertight coupling bands. Any bituminous coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Steel pipes with polymeric coatings have a minimum coating thickness of 0.010 inch (0.25 mil) on both sides of the pipe. The following coating or an approved equal may be used: Nexon, Plasticoat, Bloc-Klad, and Beth-Coat. Coated corrugated steel pipe shall meet the requirements of AASHTO M-245 and M-246.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound.

Materials - (Aluminum Pipe) - This pipe and appurtenances shall conform to the requirements of AASHTO Specifications M-196 or M-211 with watertight coupling bands or flanges. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

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

3. Connections - All connections with pipes must be completely watertight. The drain or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the following type connections are acceptable for pipes less than 24" in diameter: flanges on both ends of the pipe, a 12 inch wide standard lap type band with 1/2" wide by 3/8" thick closed cell circular neoprene gasket; and a 12 inch wide hanger type band with O-ring gaskets having a minimum diameter of 1/2 inch greater than the corrugated depth. Pipes 24" in diameter and larger shall be connected by a 24" long annular corrugated band using rods and nuts. A 12" wide by 3/8" thick closed cell circular neoprene gasket will be installed on the end of each pipe for a total of 24".

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length, where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill."

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

Dimin... 4/20/01
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division
3/14/01
DATE

Chief, Division of Land Development
5/3/01
DATE

These plans have been reviewed for the HOWARD SOIL CONSERVATION DISTRICT and MEET THE TECHNICAL REQUIREMENTS.

3/7/01
DATE

3/7/01
DATE

3/2/01
DATE

3/2/01
DATE

3/2/01
DATE

3/2/01
DATE

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

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM Designation C-361.

2. Bedding - All reinforced concrete pipe conduits shall be laid in a concrete bedding for their entire length. This bedding shall consist of high slump concrete placed under the pipe and up the side of the pipe at least 10% of its outside diameter with a minimum thickness of 3 inches, or as shown on the drawings.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell and upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 2 feet from the riser.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

POLYVINYL CHLORIDE (PVC) PIPE - All of the following criteria shall apply for polyvinyl chloride (PVC) pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length, where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill."

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

CONCRETE

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 608, Mix No. 3.

ROCK RIPRAP

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 905.

The riprap shall be placed to the required thickness in one operation. The rock shall be delivered and placed in a manner that will insure the riprap in place shall be of a uniform size and the larger rocks uniformly distributed and firmly in contact one to another with the smaller rocks filling the voids between the larger rocks. Filter cloth shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 919.12.

CARE OF WATER DURING CONSTRUCTION

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

STABILIZATION

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

EROSION AND SEDIMENT CONTROL

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

OPERATION, MAINTENANCE, AND INSPECTION

Inspection of the pond shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, 565 "Standards and Specifications for Ponds" (MD 378). The pond owner(s) and their heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

* Please note: POND #1 shown herein is not a "MD 378 POND", as it meets the definition of exemption as set on page POND 378-1 of Code 378. Operation, Maintenance and Inspection should be a regular annual practice per the aforementioned checklist.

NOTE: Refer To Forebay Schedule (This Sheet) For Forebay Top, Crest and Bottom Elevations

OPERATION, MAINTENANCE, AND INSPECTION

Inspection of the pond shown herein shall be performed at least annually, in accordance with the checklist and requirements contained within USDA, 565 "Standards and Specifications for Ponds" (MD 378). The pond owner(s) and their heirs, successors, or assigns shall be responsible for the safety of the pond and the continued operation, surveillance, inspection, and maintenance thereof. The pond owner(s) shall promptly notify the Soil Conservation District of any unusual observations that may be indications of distress such as excessive seepage, turbid seepage, sliding or slumping.

* Please note: POND #1 shown herein is not a "MD 378 POND", as it meets the definition of exemption as set on page POND 378-1 of Code 378. Operation, Maintenance and Inspection should be a regular annual practice per the aforementioned checklist.

ENGINEER'S CERTIFICATE

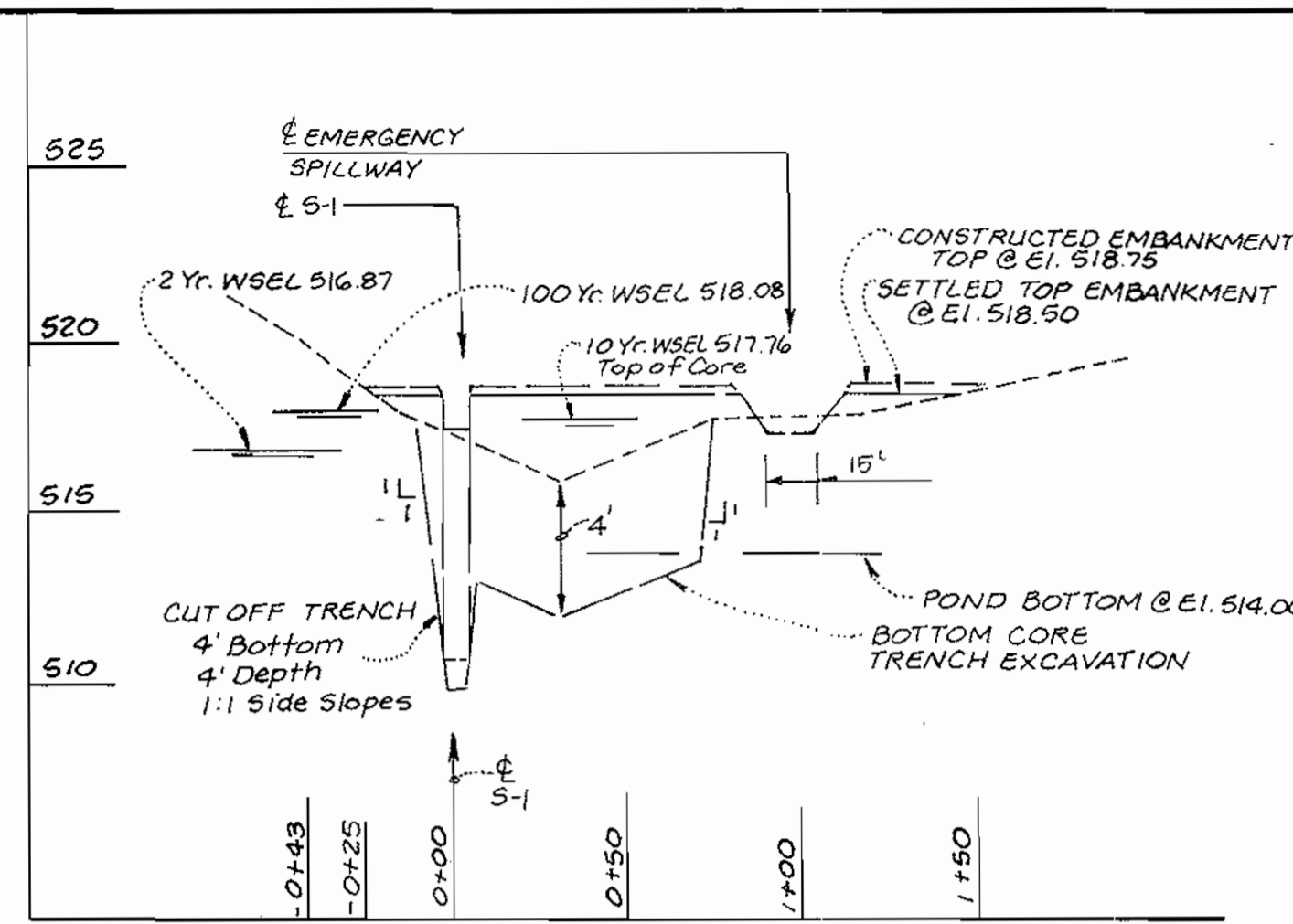
I HEREBY CERTIFY THAT THIS PLAN AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE DESIGN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT I WAS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

Signature of Engineer: Bruce D. Brown
DATE: 4/26/01

DEVELOPER'S CERTIFICATE

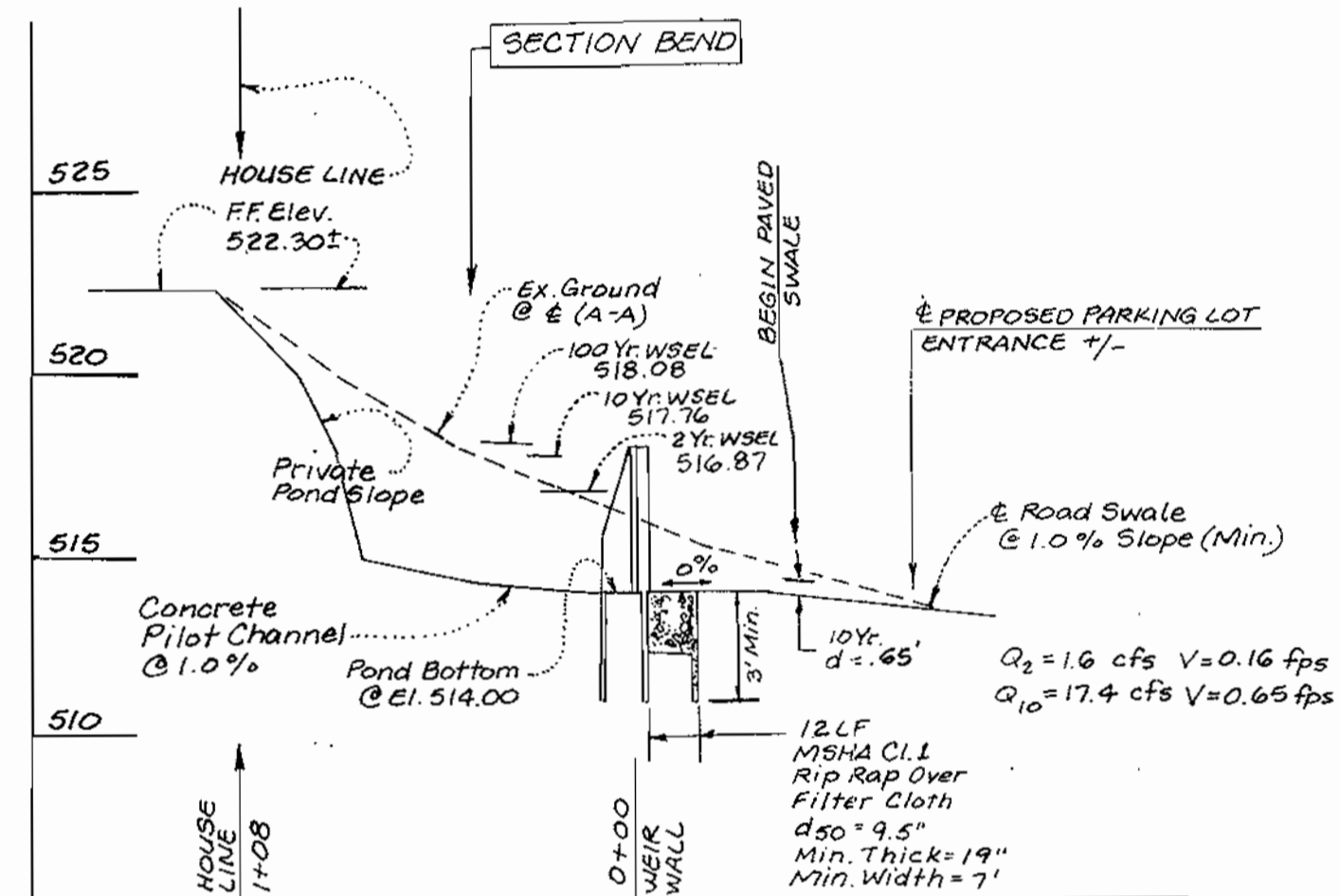
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY REQUIRED PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEVELOPMENT AND EROSION PREVENTION PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING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

Signature of Developer: Dave Sealing
DATE: 4/26/01



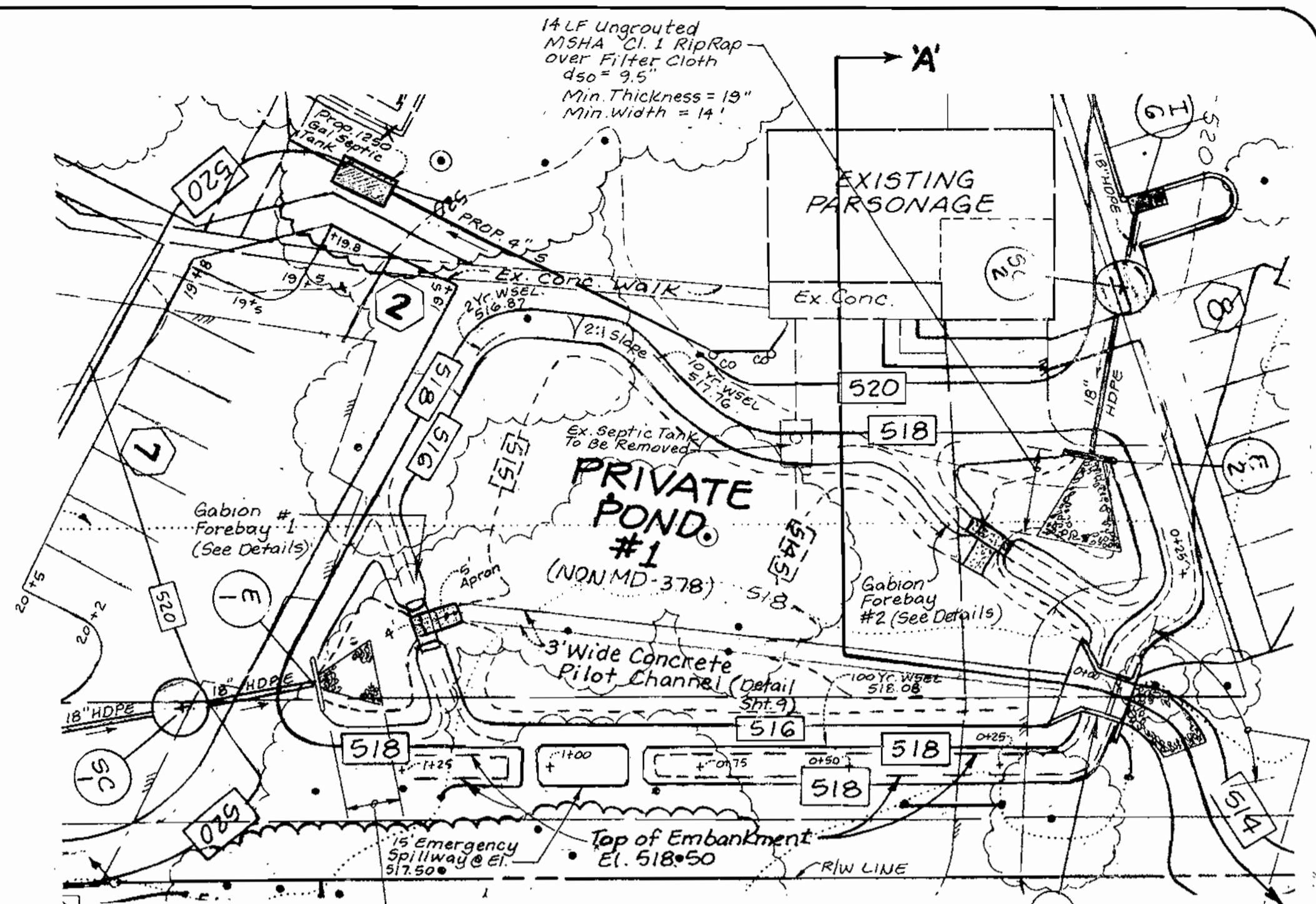
PROFILE ALONG EMBANKMENT

Scale: 1" = 50' Hor.
1" = 5' Vert.



PROFILE ALONG CONTROL (A-A) STRUCTURE

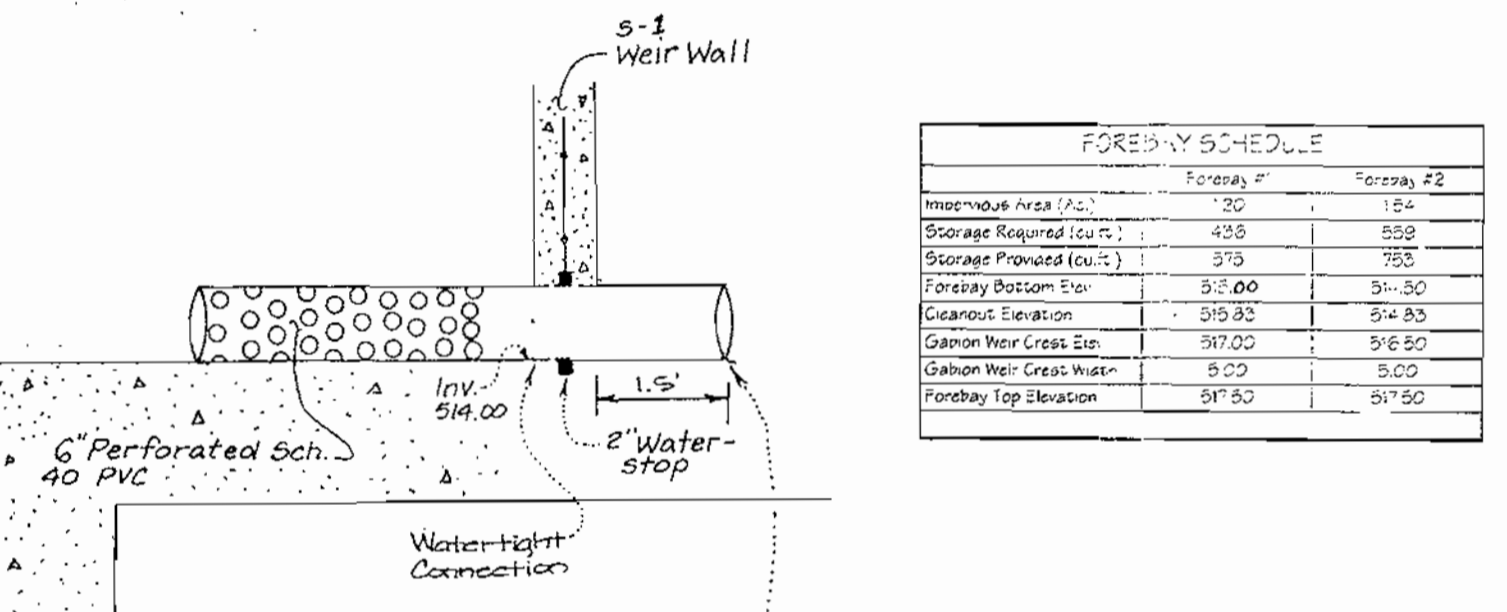
Scale: 1" = 50' Hor.
1" = 5' Vert.



PRIVATE SWM DETENTION FACILITY #1

PLAN VIEW

SCALE: 1" = 20'

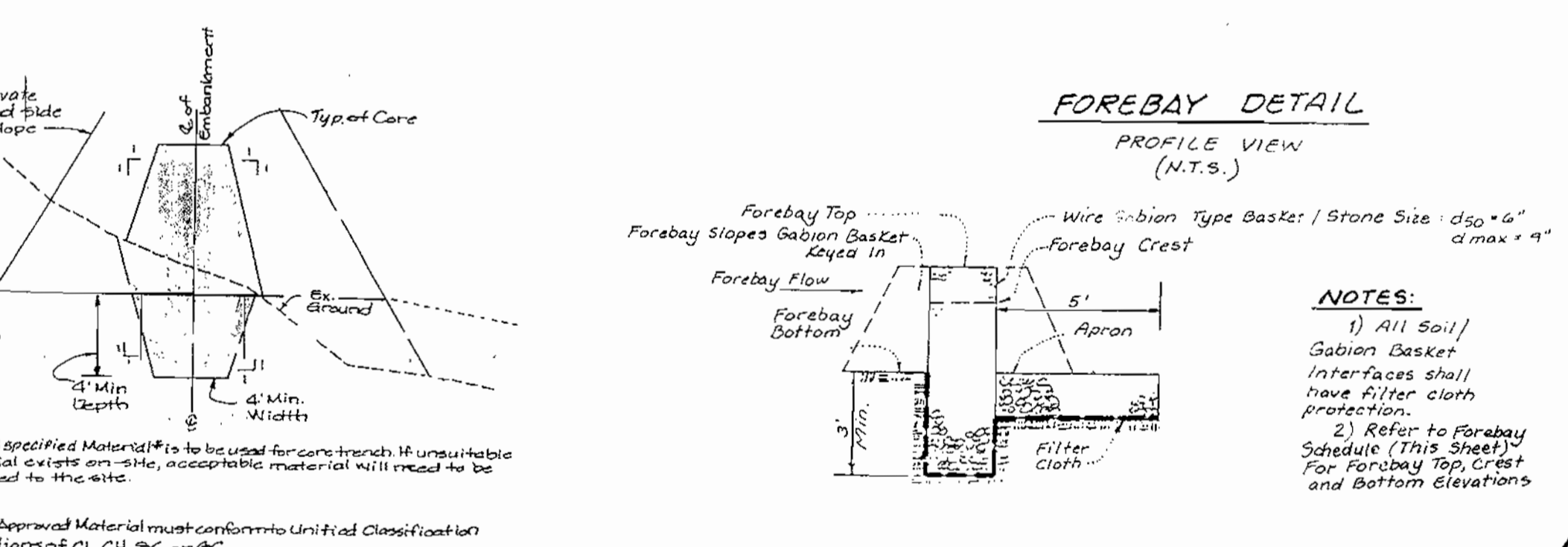


LOW FLOW DEVICE DETAIL

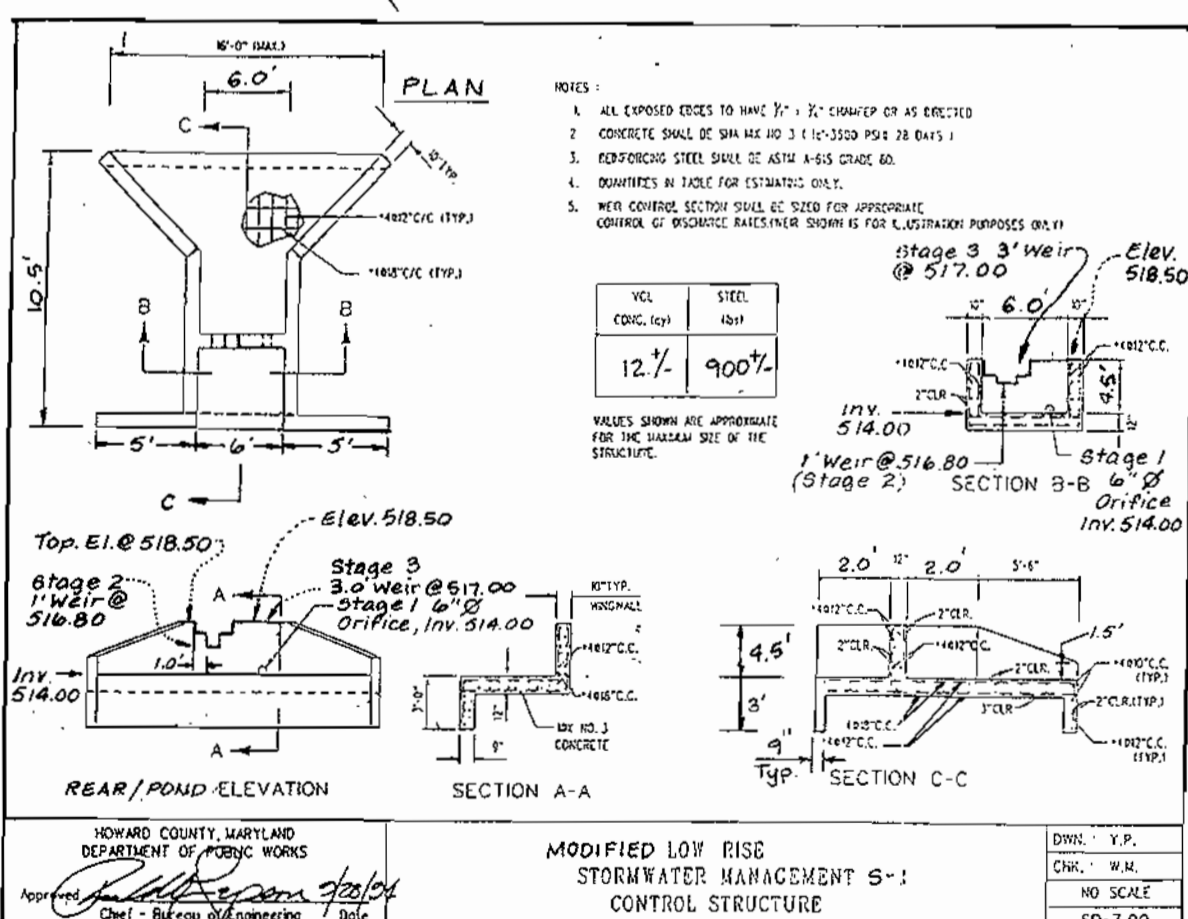
No Scale

FOREBAY DETAIL

PROFILE VIEW (N.T.S.)

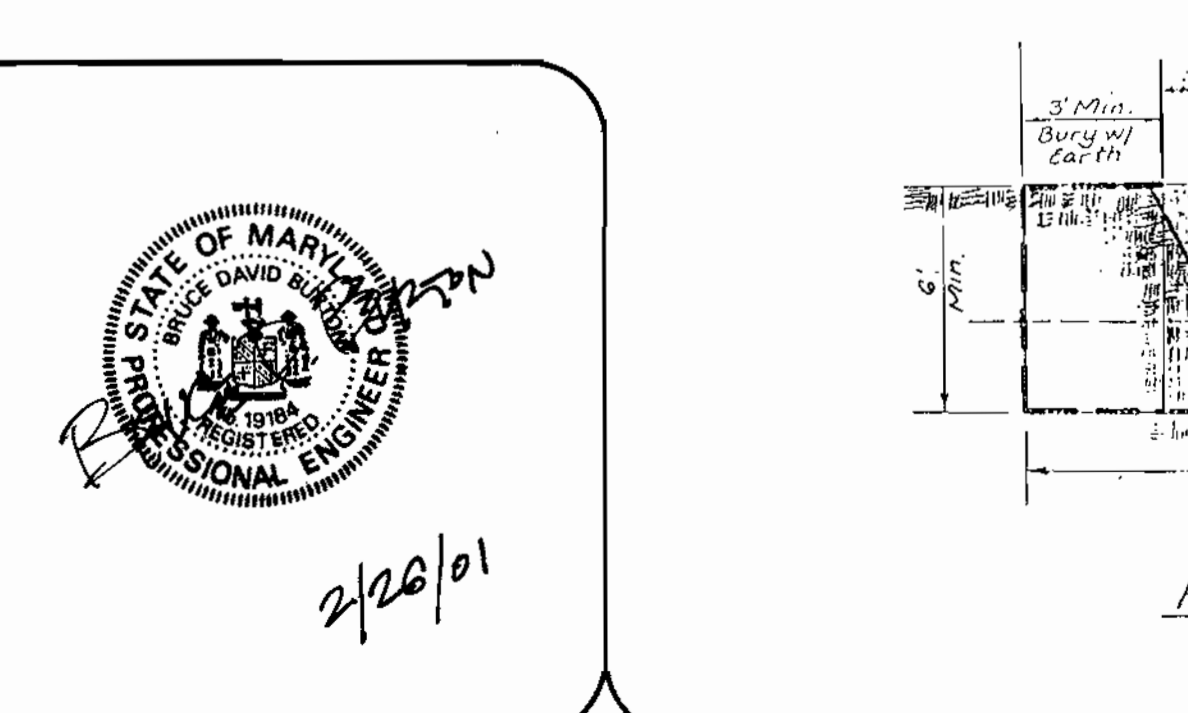


NOTES:
1) All Soil/Gabion Basket Interfaces shall have Filter Cloth Protection.
2) Refer to Forebay Schedule (This Sheet) For Forebay Top, Crest and Bottom Elevations.



MODIFIED LOW FLOW CONTROL STRUCTURE

Subdivision Name:		Section/Area	Parcel No.
MT. ZION UNITED METHODIST CHURCH		140	140
Plot No.	Block No.	Zone	Tax Map No.
L 22 F107	12 & 18	RR-DEO	40
Water Code		Election District	Census Tract
N/A		5 th	6051.02
Sewer Code		N/A	



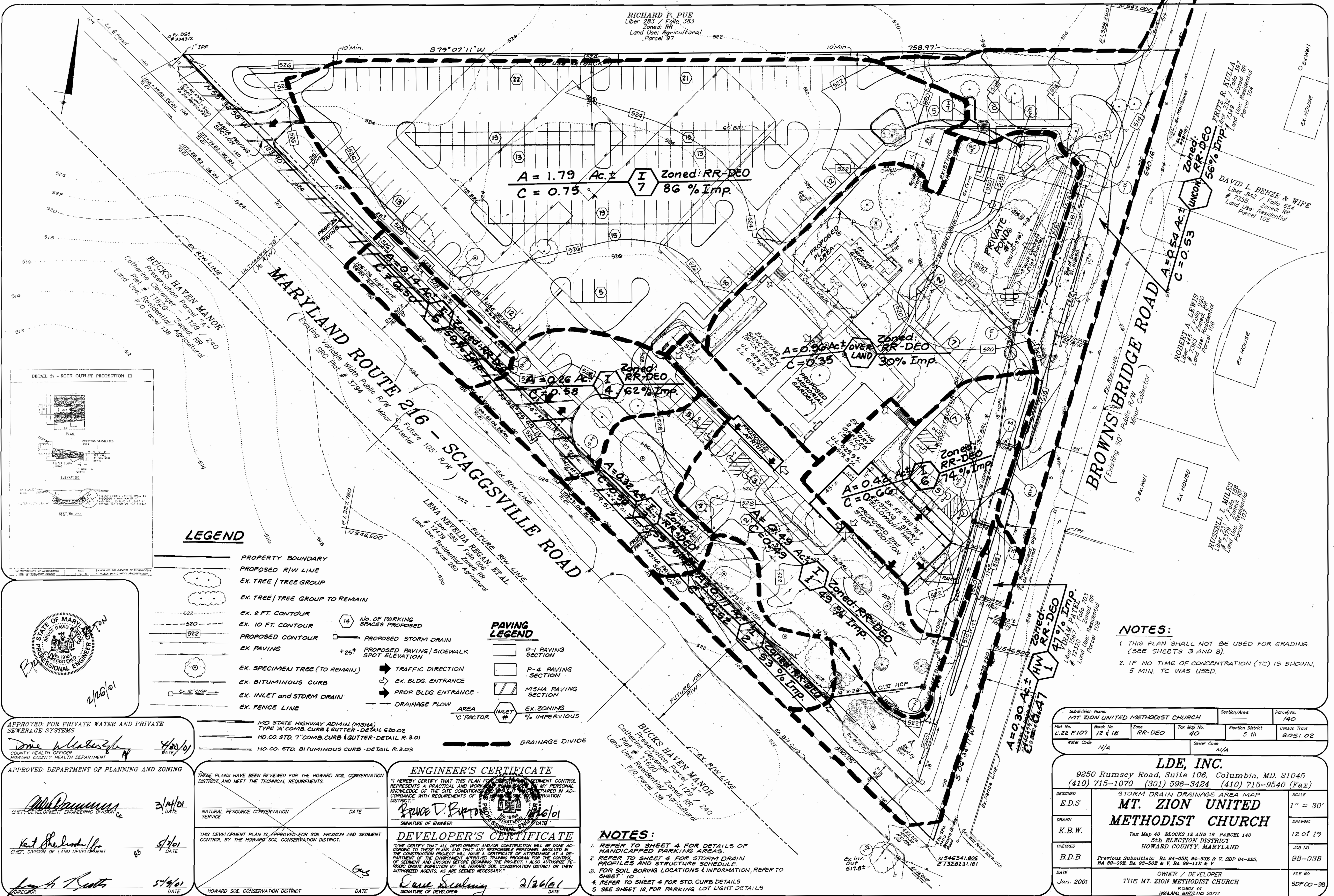
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: E.D.S.
DRAWN: K.B.W.
CHECKED: B.D.B.
DATE: Jan. 2001

SCALE: As Shown
DRAWING: 11 of 19
JOB NO.: 98-038
FILE NO.: SDP 00-98

OWNER / DEVELOPER:
MT. ZION METHODIST CHURCH
P.O. BOX 44
HIGHLAND, MARYLAND 20777

RICHARD P. PUE
 Liber 283 / Folio 383
 Zoned: RR
 Land Use: Agricultural
 Parcel 97



$A = 1.79$ Ac. ±
 $C = 0.75$
 Zoned: RR-DEO
 86% Imp.

$A = 0.56$ Ac. ±
 $C = 0.35$
 Zoned: RR-DEO
 30% Imp.

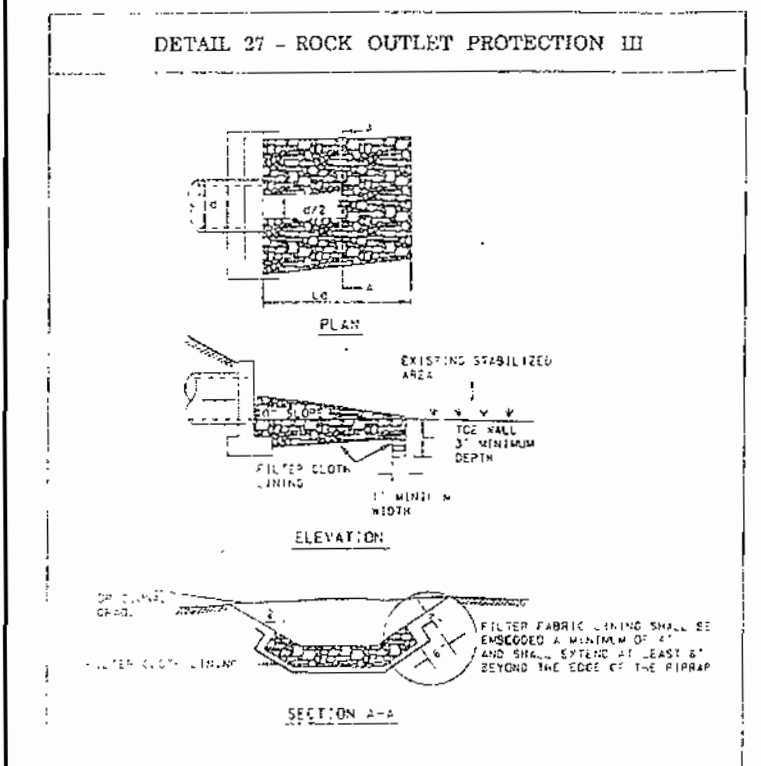
$A = 0.26$ Ac. ±
 $C = 0.58$
 Zoned: RR-DEO
 62% Imp.

$A = 0.40$ Ac. ±
 $C = 0.40$
 Zoned: RR-DEO
 74% Imp.

$A = 0.19$ Ac. ±
 $C = 0.34$
 Zoned: RR-DEO
 49% Imp.

$A = 0.30$ Ac. ±
 $C = 0.47$
 Zoned: RR-DEO
 47% Imp.

$A = 0.54$ Ac. ±
 $C = 0.53$
 Zoned: RR-DEO
 56% Imp.



LEGEND

- PROPERTY BOUNDARY
- PROPOSED R/W LINE
- EX. TREE / TREE GROUP
- EX. TREE / TREE GROUP TO REMAIN
- EX. 2 FT. CONTOUR
- EX. 10 FT. CONTOUR
- PROPOSED CONTOUR
- EX. PAVING
- EX. SPECIMEN TREE (TO REMAIN)
- EX. BITUMINOUS CURB
- EX. INLET AND STORM DRAIN
- EX. FENCE LINE
- MD. STATE HIGHWAY ADMIN. (MSHA) TYPE 'A' COMB. CURB & GUTTER - DETAIL 620.02
- HO. CO. STD. 7" COMB. CURB & GUTTER - DETAIL R. 3.01
- HO. CO. STD. BITUMINOUS CURB - DETAIL R. 3.03

PAVING LEGEND

- P-1 PAVING SECTION
- P-4 PAVING SECTION
- MSHA PAVING SECTION
- AREA INLET #
- % IMPERVIOUS

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN FOR DEVELOPMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN IN MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT IS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF DISTRICT."

Signature: *Bruce D. Burt* DATE: 2/26/01

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AS 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: *David Sealing* DATE: 2/26/01

NOTES:

1. REFER TO SHEET 4 FOR DETAILS OF HANDICAPPED PARKING AREAS.
2. REFER TO SHEET 4 FOR STORM DRAIN PROFILES AND STRUCTURE SCHEDULE.
3. FOR SOIL BORING LOCATIONS & INFORMATION, REFER TO SHEET 10.
4. REFER TO SHEET 4 FOR STD. CURB DETAILS.
5. SEE SHEET 18, FOR PARKING LOT LIGHT DETAILS.

NOTES:

1. THIS PLAN SHALL NOT BE USED FOR GRADING. (SEE SHEETS 3 AND 8).
2. IF NO TIME OF CONCENTRATION (TC) IS SHOWN, 5 MIN. TC WAS USED.



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

Signature: *David M. Blumberg* DATE: 4/20/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *Keith Shelton* DATE: 5/3/01

Signature: *James H. Smith* DATE: 5/4/01

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

NATURAL RESOURCE CONSERVATION SERVICE DATE: _____

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

HOWARD SOIL CONSERVATION DISTRICT DATE: _____

Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area: _____	Parcel No.: 140
Plot No.: L. 22 F. 107	Block No.: 12 & 18	Zone: RR-DEO	Tax Map No.: 40
Water Code: N/A		Sewer Code: N/A	
Election District: 5 th		Census Tract: 6051.02	

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

DESIGNED: E.D.S. SCALE: 1" = 30'

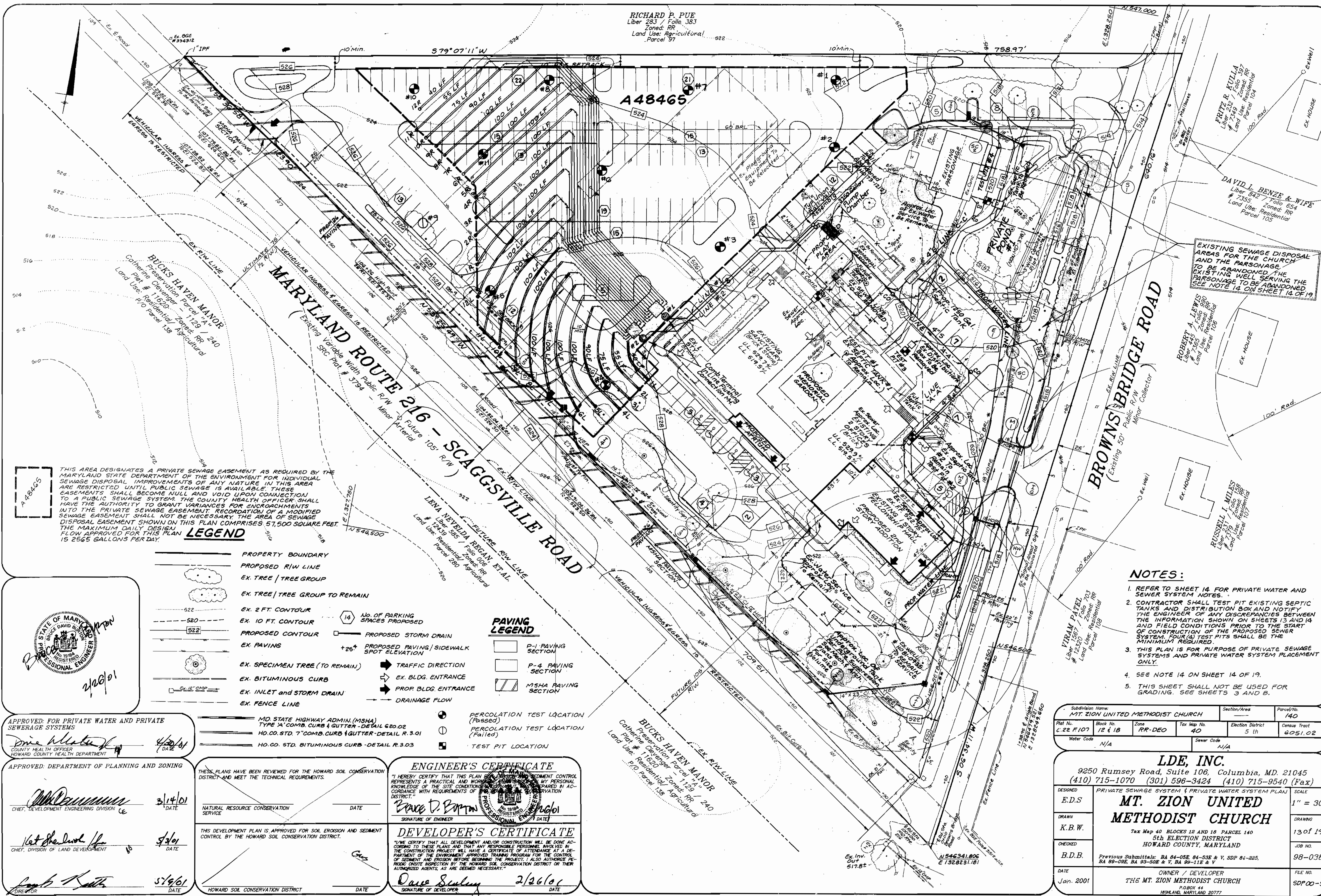
DRAWN: K.B.W. DRAWING: 12 of 19

CHECKED: B.D.B. JOB NO.: 98-038

DATE: Jan. 2001 FILE NO.: SDPOO-98

OWNER / DEVELOPER: THE MT. ZION METHODIST CHURCH
 P.O. BOX 44
 HIGHLAND, MARYLAND 20777

RICHARD P. PUE
 Liber 283 / Folio 383
 Zoned: RR
 Land Use: Agricultural
 Parcel 37



THIS AREA DESIGNATES A PRIVATE SEWAGE EASEMENT AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWAGE IS AVAILABLE. THESE EASEMENTS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT VARIANCES FOR ENCROACHMENTS INTO THE PRIVATE SEWAGE EASEMENT RECORDATION OF A MODIFIED SEWAGE DISPOSAL EASEMENT SHALL NOT BE NECESSARY. THE AREA OF SEWAGE DISPOSAL EASEMENT SHOWN ON THIS PLAN COMPRISES 51,500 SQUARE FEET. THE MAXIMUM DAILY DESIGN FLOW APPROVED FOR THIS PLAN IS 2565 GALLONS PER DAY.

LEGEND

- PROPERTY BOUNDARY
- PROPOSED R/W LINE
- EX. TREE / TREE GROUP
- EX. TREE / TREE GROUP TO REMAIN
- EX. 2 FT. CONTOUR
- EX. 10 FT. CONTOUR
- PROPOSED CONTOUR
- EX. PAVING
- EX. SPECIMEN TREE (TO REMAIN)
- EX. BITUMINOUS CURB
- EX. INLET AND STORM DRAIN
- EX. FENCE LINE
- NO. OF PARKING SPACES PROPOSED
- PROPOSED STORM DRAIN
- ▲ PROPOSED PAVING / SIDEWALK SPOT ELEVATION
- ➔ TRAFFIC DIRECTION
- ➔ EX. BLDG. ENTRANCE
- ➔ PROP. BLDG. ENTRANCE
- ➔ DRAINAGE FLOW
- PERCOLATION TEST LOCATION (Passed)
- PERCOLATION TEST LOCATION (Failed)
- TEST PIT LOCATION

PAVING LEGEND

- P-1 PAVING SECTION
- P-4 PAVING SECTION
- ▨ MSHA PAVING SECTION

NOTES:

1. REFER TO SHEET 14 FOR PRIVATE WATER AND SEWER SYSTEM NOTES.
2. CONTRACTOR SHALL TEST PIT EXISTING SEPTIC TANKS AND DISTRIBUTION BOX AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE INFORMATION SHOWN ON SHEETS 13 AND 14 AND FIELD CONDITIONS PRIOR TO THE START OF CONSTRUCTION OF THE PROPOSED SEWER SYSTEM. FOUR (4) TEST PITS SHALL BE THE MINIMUM REQUIRED.
3. THIS PLAN IS FOR PURPOSE OF PRIVATE SEWAGE SYSTEMS AND PRIVATE WATER SYSTEM PLACEMENT ONLY.
4. SEE NOTE 14 ON SHEET 14 OF 19.
5. THIS SHEET SHALL NOT BE USED FOR GRADING. SEE SHEETS 3 AND B.



APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 David M. Blanton
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 4/20/01

APPROVED DEPARTMENT OF PLANNING AND ZONING
 [Signature]
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 3/14/01
 [Signature]
 CHIEF, DIVISION OF LAND DEVELOPMENT
 5/3/01
 [Signature]
 DIRECTOR
 5/16/01

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
 NATURAL RESOURCE CONSERVATION SERVICE
 DATE
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
 HOWARD SOIL CONSERVATION DISTRICT
 DATE

ENGINEER'S CERTIFICATE
 I HEREBY CERTIFY THAT THIS PLAN AND THE CONSTRUCTION CONTROL REPRESENTS A PRACTICAL AND WORKABLE DESIGN AND THAT MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THE INFORMATION PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 [Signature]
 PROFESSIONAL ENGINEER
 DATE 2/26/01

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]
 DATE 2/26/01

Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area: ---	Parcel No: 140
Plot No: C.22 F.107	Block No: 12 & 18	Zone: RR-DEO	Tax Map No: 40
Water Code: N/A		Sewer Code: N/A	
Election District: 5 th		Census Tract: 6051.02	

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

DESIGNED	E.D.S.	PRIVATE SEWAGE SYSTEM & PRIVATE WATER SYSTEM PLAN	SCALE	1" = 30'
DRAWN	K.B.W.		DRAWING	13 of 19
CHECKED	B.D.B.	Tax Map 40 BLOCKS 12 AND 18 PARCEL 140 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND	JOB NO.	98-038
DATE	Jan. 2001	Previous Submittals: BA 04-05E, 04-53E & Y, SDP 04-825, BA 09-09E, BA 09-50E & Y, BA 09-11E & Y	FILE NO.	SDP00-98

OWNER / DEVELOPER
 THE MT. ZION METHODIST CHURCH
 HESLOND, MARYLAND 20777

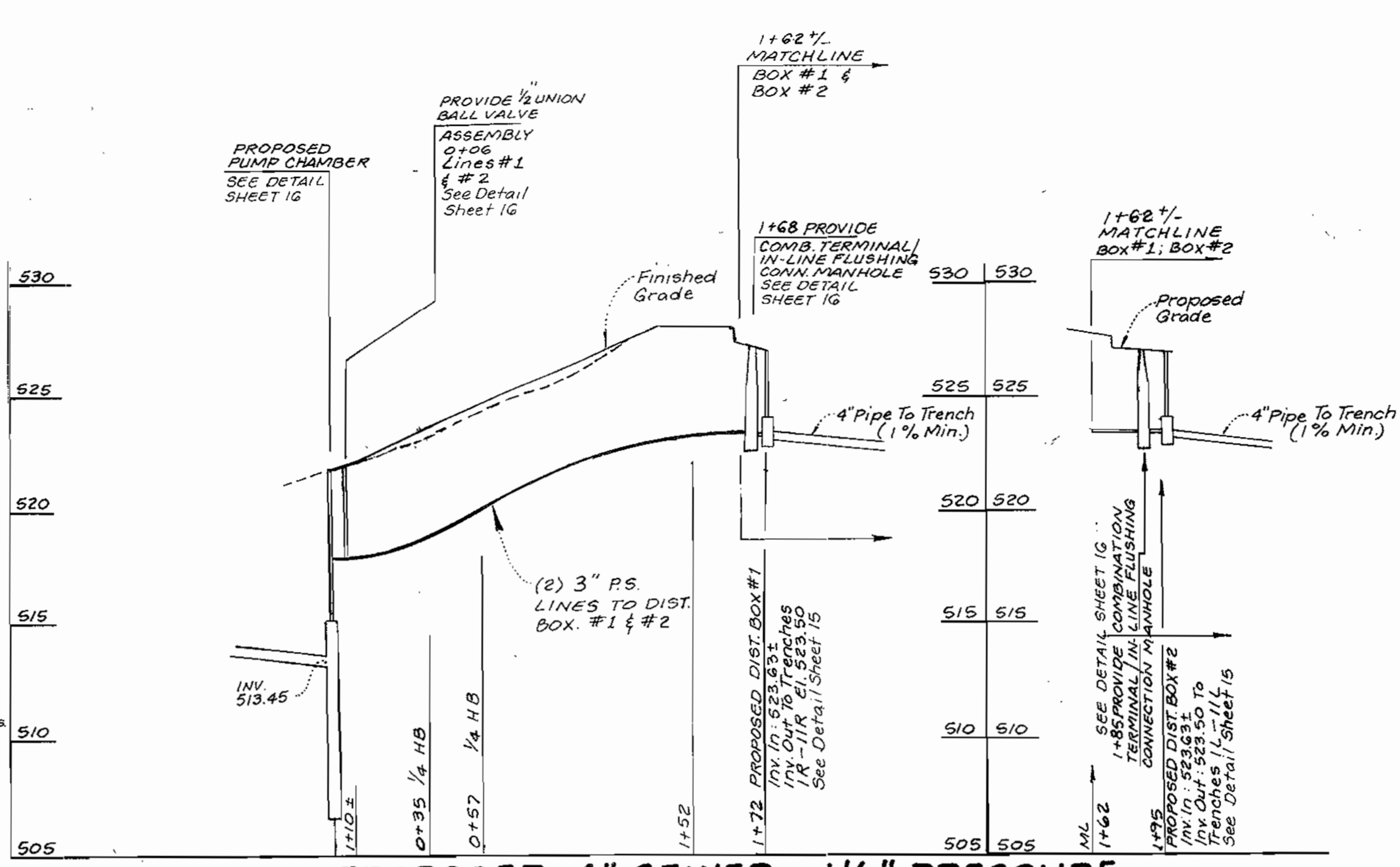
WATER & SEWER NOTES

- PART I: GENERAL**
- Approximate location of existing mains are shown. The Contractor shall take all necessary precautions to protect existing mains and services and maintain uninterrupted supply. Any damage incurred shall be repaired immediately to the satisfaction of the Contractor at the Contractor's expense.
 - All horizontal controls are based on Maryland State Coordinates.
 - All vertical controls are based on U.S.G.S. data.
 - All pipe elevations shown are approximate invert elevations.
 - Clear all utilities by a minimum of 6". Clear all poles by 2'0" minimum or tunnel as required. The contractor shall contact the utility companies and make arrangements for bracing of poles as shown on the drawings. In the event the Contractor's work requires the bracing of additional poles, any cost incurred by the Owner for bracing of additional poles or damages shall be deducted from money owed the Contractor. The Contractor shall coordinate with the utility companies to schedule the bracing of the poles, if required.
 - For details not shown on the drawings and for materials and construction methods, use Howard County Design Manual, Volume IV, Standard Specifications and Details for Construction (latest edition). The Contractor shall have a copy of Volume IV on the job.
 - Where test pits have been made on existing utilities, they are noted by the symbol at the location of the test pit. A note or notes containing the results of the test pit or pits will be included on the drawings upon completion. Existing utilities in the vicinity of the proposed work for which test pits have not been dug shall be located by the Contractor two weeks in advance of construction operations at his own expense.
 - Contractor shall notify the following utility companies or agencies at least five (5) working days before starting work shown on the plans:
 - a. SHA (410) 531-5533
 - b. BGE (Contractor Services) (410) 850-4620
 - c. BGE (Underground Damage Control) (410) 287-9068
 - d. Miss Utility: 1-800-257-7777
 - e. Ho. Co. Construction Inspections: (410) 313-1880
 - f. Chesapeake & Potomac Telephone: (410) 597-8525
 - g. Howard County Health Dept.: (410) 313-2640
 - Trees and shrubs are to be protected from damage to maximum extent. Trees and shrubs within the construction area are not to be removed or damaged by the Contractor.
 - Contractor shall remove trees, stumps and roots along line of excavation. Payment for such removal shall be included in the unit price bid for construction of the main.

- PART II: WATER**
- Copper tubing shall comply with the latest Standard Specifications for seamless Water Tube, ASTM Designation: B-88 soft temper, Type K unless otherwise shown or directed.
 - Unions, couplings and other fittings for copper tubing shall be the copper service thread type as manufactured by the Mueller Company, Ford Meter Box Company, A.V. McDonald Manufacturing Company, Zurn Industries Hays Water Service Products, or approved equal, unless otherwise shown or directed. Three part unions will be used in lieu of two part unions and will be Mueller H-15405, Ford C22 series, McDonald 4758, Hays 5615, or approved equal.
 - A water meter shall be installed on an accessible location.
 - An amended groundwater Appropriations permit application (HO 81-0935) is to be submitted prior to the approval of the issuance of a building permit.
 - The existing well (HO 73-1212) servicing the existing Parsonage shall be abandoned in accordance with approved Howard County Health Department procedures.

- PART III: SEWER**
- All sewer mains to be D.I.P. and P.V.C. unless otherwise noted.
 - The Contractor shall provide a joint in all sewer mains within 2'-0" of exterior manhole wall.
 - All manholes shall be 4'-0" inside diameter unless otherwise noted.
 - Force mains shall be SDR 21 PVC.
 - All manholes are to be constructed on undisturbed earth.
 - Manholes shown with 12" and 16" walls are for brick manholes only.

- ADDITIONAL NOTES:**
- All pressure sewer shall be SDR 21, PVC, solvent welded. A 6-gauge tracer wire shall be wrapped around or attached to the PVC pipe.
 - Existing septic tanks shall be vacuum tested on-site by the contractor. Existing septic tanks shall be inspected by the Howard County Environmental Health Department prior to any new construction.
 - All pressure sewer is to be pressure tested according to the Howard County Department of Public Works Standards and Specifications.
 - The contractor shall notify Howard County Department at (410) 313-2640 at least five (5) working days before any pressure test of pressure sewers, and any septic tanks vacuum or water testing is performed.
 - The contractor shall be responsible for the requirements and method of installation of pump chamber and all of its appurtenances.
 - The contractor shall as-built the septic trench portion and the collection portion with the private septic system, and receive approval from the Howard County Health Department prior to the connection to the existing buildings for service.
 - Where pumps are required, they shall:
 - 1.) The control panel or the pump shall be mounted on the side of the building nearest to the pump.
 - 2.) Clear view of the pump chamber shall be maintained.
 - 3.) The electrical service to the panel and the buried cables to the pump chamber shall be installed by the contractor.
 - 4.) The electric service to the panel and the buried cables to the pump chamber shall be installed by the contractor.
 - 5.) A disconnect panel, separate from the pump panel must be located on the outside of the building adjacent to the pump control panel. This disconnect shall only feed the pump control panel, and shall be outfitted with a lock.
 - 6.) The pump shall be installed by a County approved utility contractor prior to final building inspection.
 - 7.) Tested by the manufacturer prior to issuance of a Use & Occupancy for the new addition.
 - 8.) In the event there is water or debris in the pump chamber prior to setting of the pump, the contractor shall pay for the chamber to be pumped.
 - 9.) All cost associated with the maintenance of the pump shall be borne by the owner - Mt. Zion United Methodist Church.
 - The vertical elevation of the proposed parking lot within the proposed private sewage disposal easement will be restricted to a minimum of four feet from the trench inlet to the bottom of the proposed paved surface.
 - The existing Sanctuary and Fellowship Hall addition, which utilizes the new sewage disposal area, provides a maximum seating capacity of 410 parishioners per service (2 services on Sunday) at a 3 gallon per day per seat loading rate. The design flow for the existing facility is 1230 gallons per day. The design flow will not change for the Phase 1 construction of the Fellowship Hall addition. The future Phase 2 expansion of the Sanctuary will provide a maximum seating capacity of 552 parishioners per service (2 services on Sunday) at a 3 gallon per day per seat loading rate. The design flow for the future Phase 2 Sanctuary expansion will be 1686 gallons per day. The design flow for the existing parsonage will be 450 gallons per day for all phases.
 - The relocated sewage disposal system will require a dual lift pump system with visual and audible alarms at time of installation. The pump size will be determined by the manufacturer prior to issuance of the septic system.
 - All trenches shall have aeration vents installed. All vents within paving shall be traffic bearing capacity.
 - Zion United Methodist Church may elect to increase the size of the initial trench installation by 50% or 475 linear feet. If the owner elects not to increase the initial trench length, the sewage disposal easement shown should provide sufficient lateral capacity to install two (2) secondary replacement systems. The system installation shown herein provides for the future Phase 2 - Sanctuary expansion (552 parishioners per service) with the additional 50% system expansion or a total 1925 linear feet of trench (568 cfd).
 - The existing sewage disposal system (P33383) shall remain in service until testing, inspection and approval of the new sewage disposal system by the Howard County Health Department. The existing sewage disposal system shall be removed to facilitate installation of Sediment Trap #1.
 - The existing sewage disposal system servicing the church complex (P33383) and the parsonage A13030 shall be abandoned. The existing distribution box shall be removed, any distribution trenches within the existing system may remain in place, however, any lines cut or otherwise disturbed and any associated discharge or contaminated soil shall be disposed of in accordance with approved Howard County Health Department and/or Maryland Department of the Environment (MDE) procedures. The septic tank and distribution box shall be pumped and collapsed. The location of any drain fields shall also require removal in accordance with approved Health Department procedures. If sewage filled soils are encountered, these soils cannot be transported off-site, but may be removed and immediately buried elsewhere onsite, as long as a public health nuisance is not created. The Contractor shall be responsible for proper abandonment procedures, notification, reporting to the Howard County Health Department of the existing septic systems and proper connection of the sewer from the existing Sanctuary, parsonage and Fellowship Hall to the new septic system.



PROPOSED 4" SEWER : 1 1/2" PRESSURE SEWER PROFILES

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

Zabel® Recommendation: Any configuration of Filters used should not exceed 48" in height.

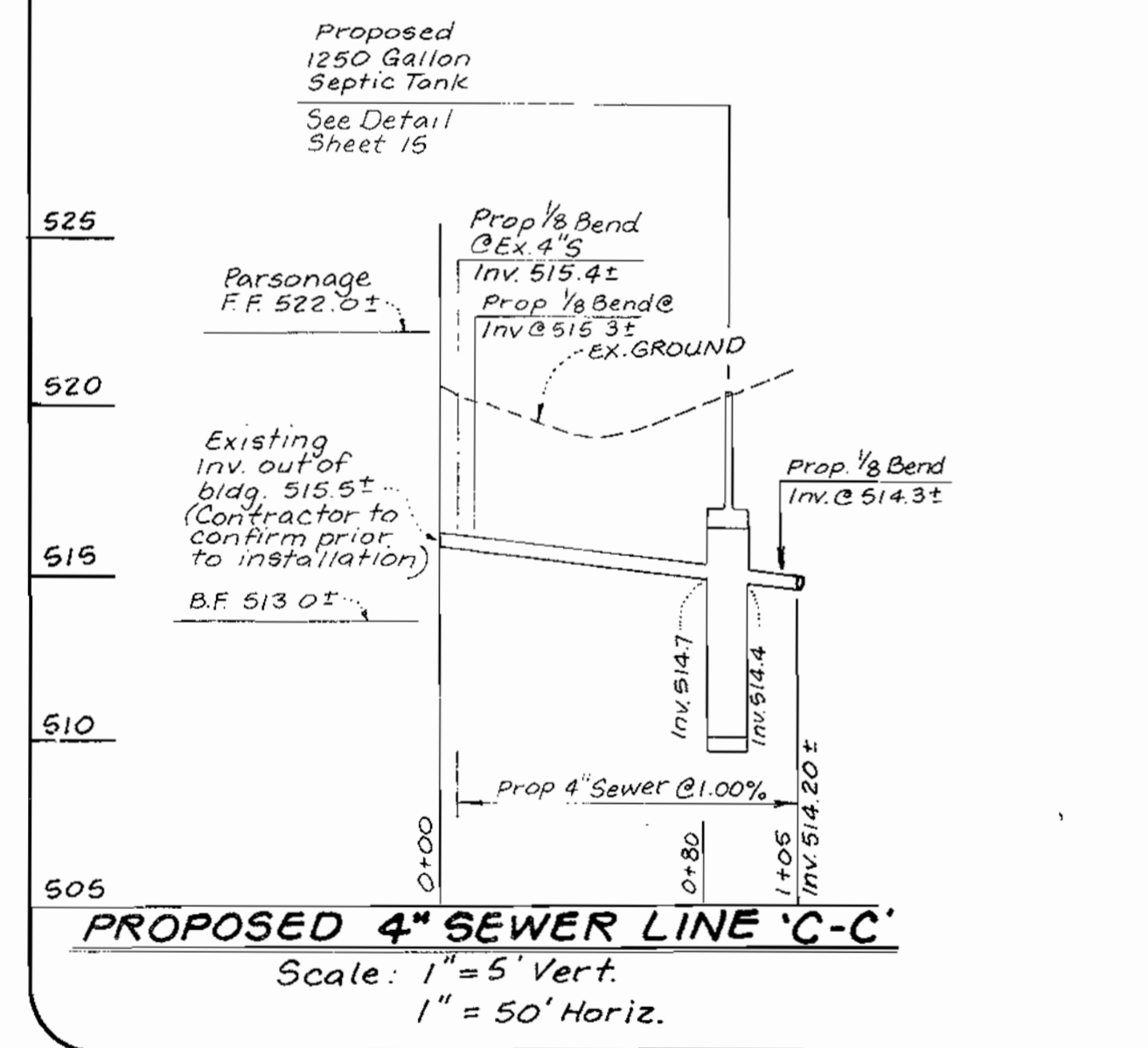
The product(s) shown are covered by one or more of the following patents:
U.S. 5,382,357; 5,482,621; 5,683,577; 5,880,453; 5,882,716; 5,981,331; 4,710,255; 5,593,534;
U.S. Des. 386,241; 349,067; 460,501; 500,988; Des. 309,007; Canadian: 2,135,937; New Zealand: 264,824;
Other Patents Pending

Zabel® A100 Series Commercial & Residential Effluent Filter Product Specification

- Product Name: Zabel® A100 Commercial & Residential Effluent Filter, U.S. Patent: 4,710,255
- Model Numbers: A100 Case & Cartridge; A101 Cartridge Only; A100-HIP Case & Cartridge; A101-HIP Cartridge Only
- Applications: Apartments; trailer parks; schools; churches; shopping centers; and offices; Septic dump stations and community treatment plants; Single and Multi-family homes
- Performance Specification
 - 4.1. Model A100, 3,000 gpd
 - 4.2. Model A100-HIP, 4,500 gpd
 - 4.3. Multiple filters may be installed in manifolds to handle larger flows. Use a Zabel Flow Control Plate Model FC100 to set the effluent flow to predetermined limits.
 - 4.4. TSS: Reductions in TSS within six months of installation - 50 to 90 percent. The higher the pre-filtered TSS the greater the percentage of reduction.
 - 4.5. BOD: Reduction in BOD within six months of installation - 20 to 45 percent is dependent on the make-up of the wastewater.
- Materials: All materials are non-corrosive. Case & Lid - PVC; Filter discs - Polystyrene; Flods - Polyethylene; Nuts - Nylon; A100-HIP rods and nuts are stainless steel.
- New System Installation: Center the top of the 12 inch Filter Case under an outlet access opening at least 16 inches in diameter. PVC solvent weld the ball coupling to the 4 inch Schedule 40 PVC exit pipe of the tank as required by local code. The PVC outlet pipe should extend at least 16 inches beyond the outlet face of the tank wall. If required to meet depth requirements, install a Zabel® Extension Receiver and 4-inch Schedule 40 pipe to the bottom of the filter case. A tear to grade is recommended. High performance double stack (Model A100-HIP) filters and multiple filters installed in manifolds will require additional support and access.
- Existing System Installation: The filter may be installed in an existing septic tank if an outlet access opening already exists and the filter can be installed without damaging the existing tank. If a 4 inch Schedule 40 PVC pipe does not extend into the tank, the filter can be installed utilizing a plumbing flange. If the existing septic tank cannot be used, the filter can be installed using a Zabel® Assembly Model A100 or Zabel® Basin System.
- Service: A professional onsite service company should perform all onsite system service.
- Service Method: Grasp the filter handle and pull the filter cartridge upward. A Zabel® 36" T-Handle is available if required to reach filters more than 12 inches below grade. Holes of the cartridge into the tank and reinsert into the case. If required, the filter may be disassembled for further cleaning.
- Service Frequency: The filter requires cleaning when the septic tank is normally inspected and pumped as required by local regulation. The A100s are designed to slough most normal solids off the inside of the vertical disc dam walls and back into the tank when the effluent flow is in a resting state. Installation of an effluent filter may increase the frequency of service if the homeowner discharges materials that are harmful to the system.
- Warranty: The A100s are warranted to be free from defects in material and workmanship for the life of the original purchaser. Zabel's liability is limited to repair or replacement of the part and in no event shall Zabel® be liable for any consequential damages of any kind.
- Dimensions:

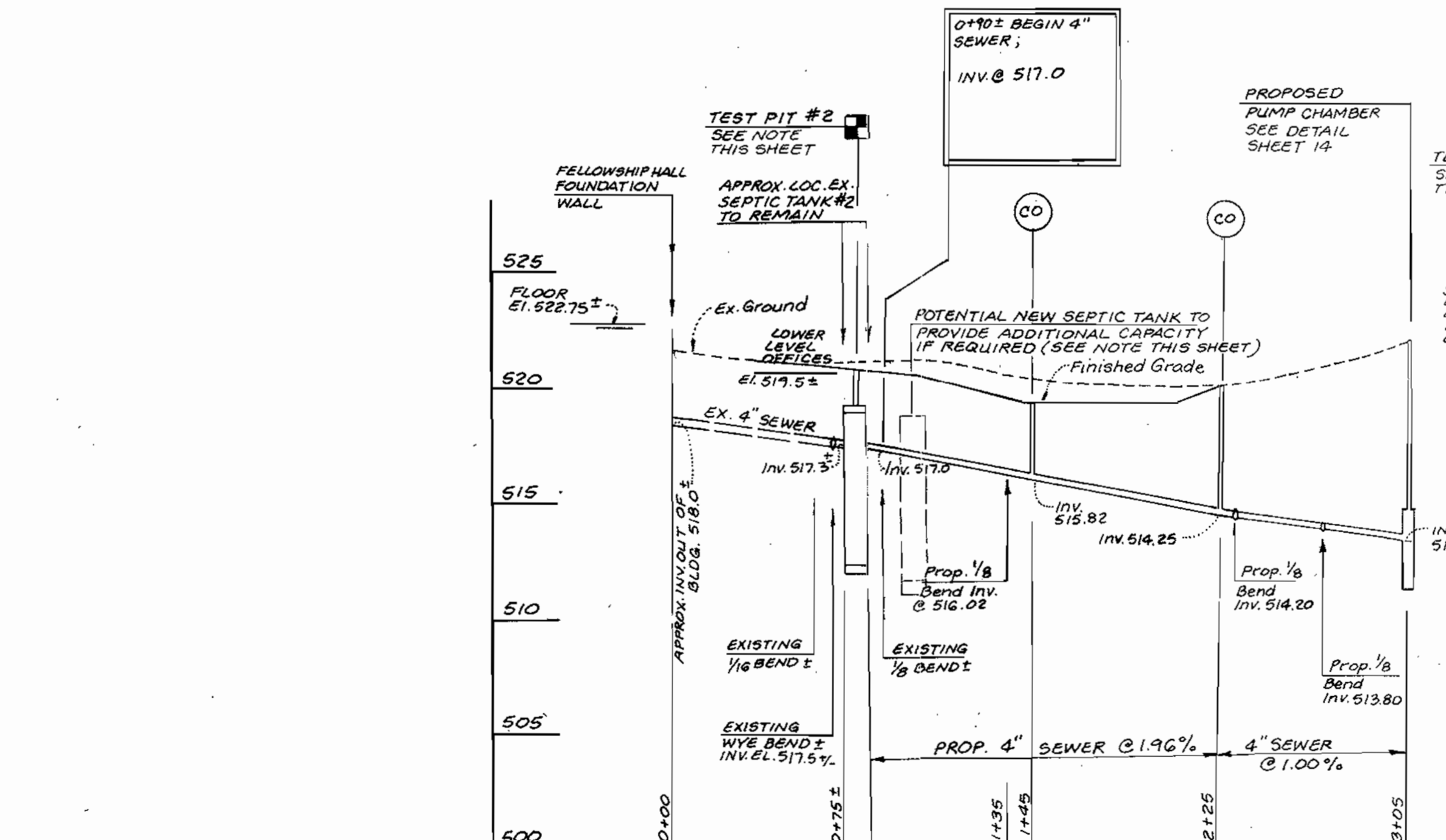
Model	12"	26"	1/16"	1,018.08 in ³	2,908.8 in ³	297
A100-HIP						

NOTE: EFFLUENT FILTER TO BE INSTALLED ON ALL SEPTIC TANKS AT OUTLET LOCATION.



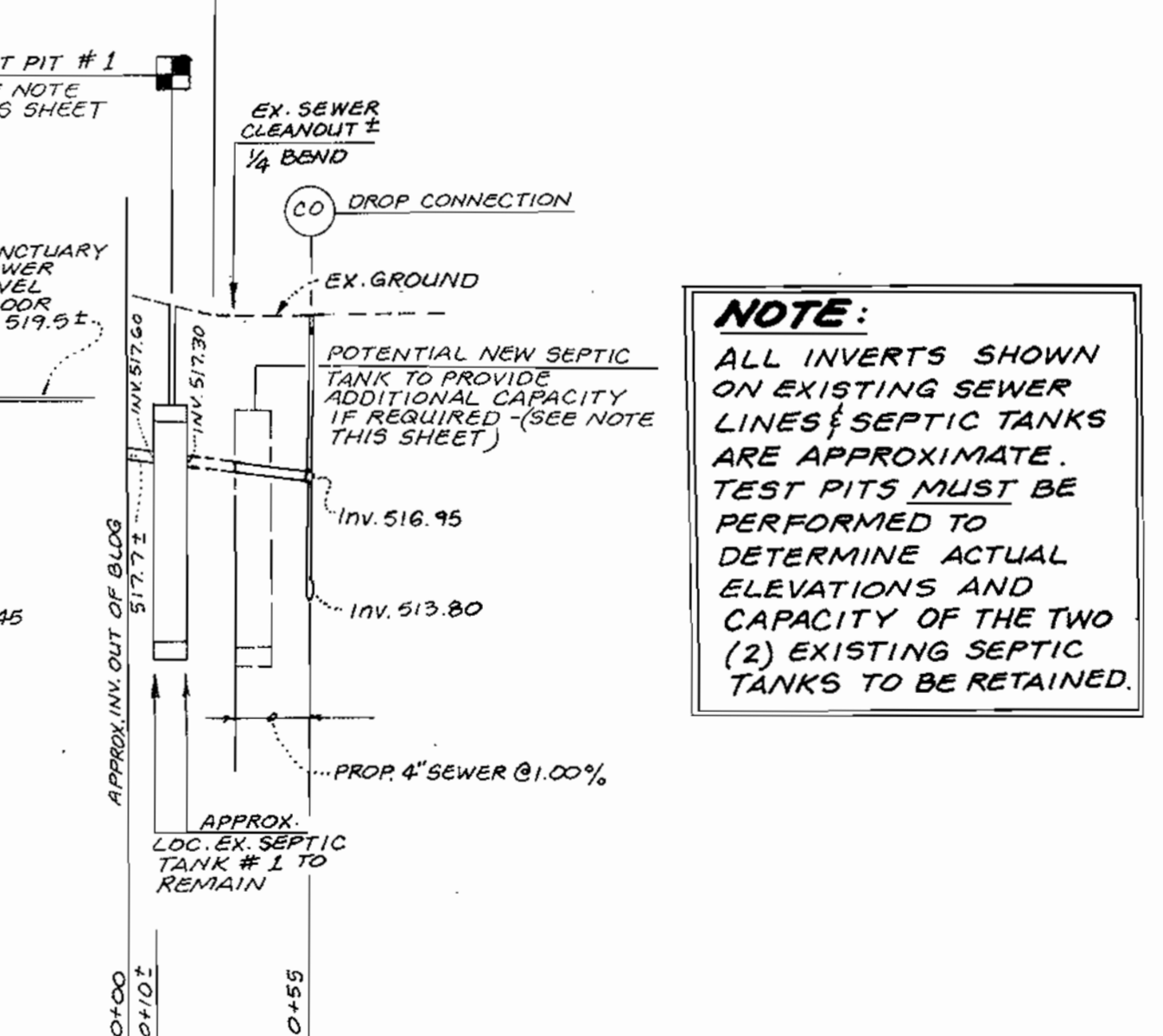
PROPOSED 4" SEWER LINE 'C-C'

Scale: 1" = 5' Vert.
1" = 50' Horiz.



EXISTING SEWER LINE 'A-A'

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



EXISTING SEWER LINE 'B-B'

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

NOTE:
ALL INVERTS SHOWN ON EXISTING SEWER LINES & SEPTIC TANKS ARE APPROXIMATE. TEST PITS MUST BE PERFORMED TO DETERMINE ACTUAL ELEVATIONS AND CAPACITY OF THE TWO (2) EXISTING SEPTIC TANKS TO BE RETAINED.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
Diane M. ...
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
...
CHIEF, DEVELOPMENT ENGINEERING DIVISION
...
CHIEF, DIVISION OF LAND DEVELOPMENT

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
NATURAL RESOURCE CONSERVATION SERVICE
DATE: 3/14/01
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SOIL CONSERVATION DISTRICT
DATE: 5/8/01

ENGINEER'S CERTIFICATE
I HEREBY CERTIFY THAT THIS PLAN AND SPECIFICATIONS REPRESENT A PRACTICAL AND WORKABLE DESIGN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.
Bruce D. Burton
PROFESSIONAL ENGINEER
DATE: 2/26/01

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 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.
Diane ...
SIGNATURE OF DEVELOPER
DATE: 2/26/01

STATE OF MARYLAND
BRUCE D. BURTON
PROFESSIONAL ENGINEER
2/26/01

Subdivision Name:	MT. ZION UNITED METHODIST CHURCH	Section/Area:		Parcel/No.:	140
Plot No.:	L 22 F107	Block No.:	12 & 18	Zone:	RR-DEO
Water Code:	N/A	Tax Map No.:	40	Election District:	5th
		Sewer Code:	N/A	Census Tract:	6051.02

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

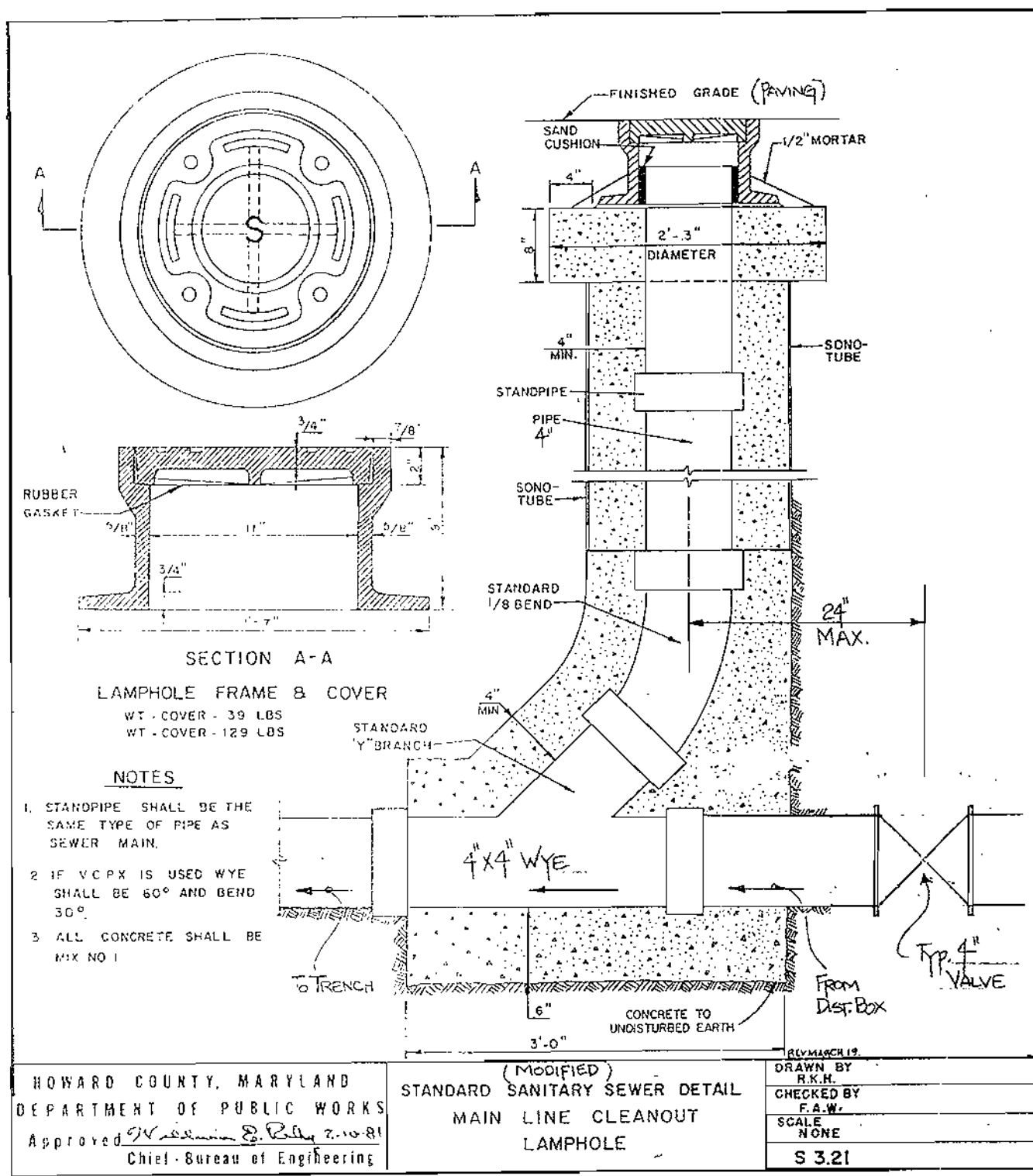
DESIGNED: E.D.S. SCALE: 1" = 30'

DRAWN: K.B.W. DRAWING: 14 of 19

CHECKED: B.D.B. JOB NO.: 98-038

DATE: Jan. 2001 FILE NO.: SDP 00-98

OWNER / DEVELOPER
THE MT. ZION METHODIST CHURCH
P.O. BOX 44
HIGHLAND, MARYLAND 20777

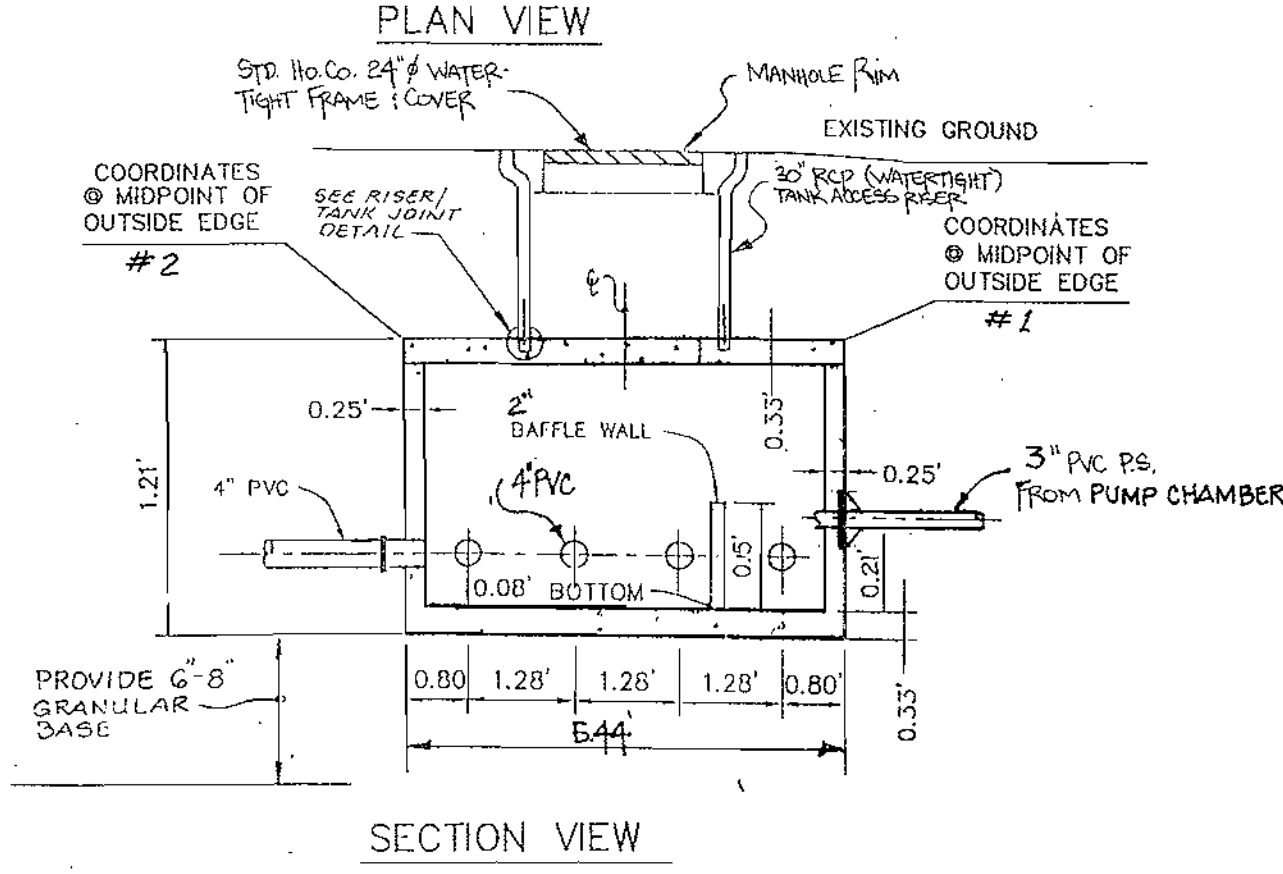
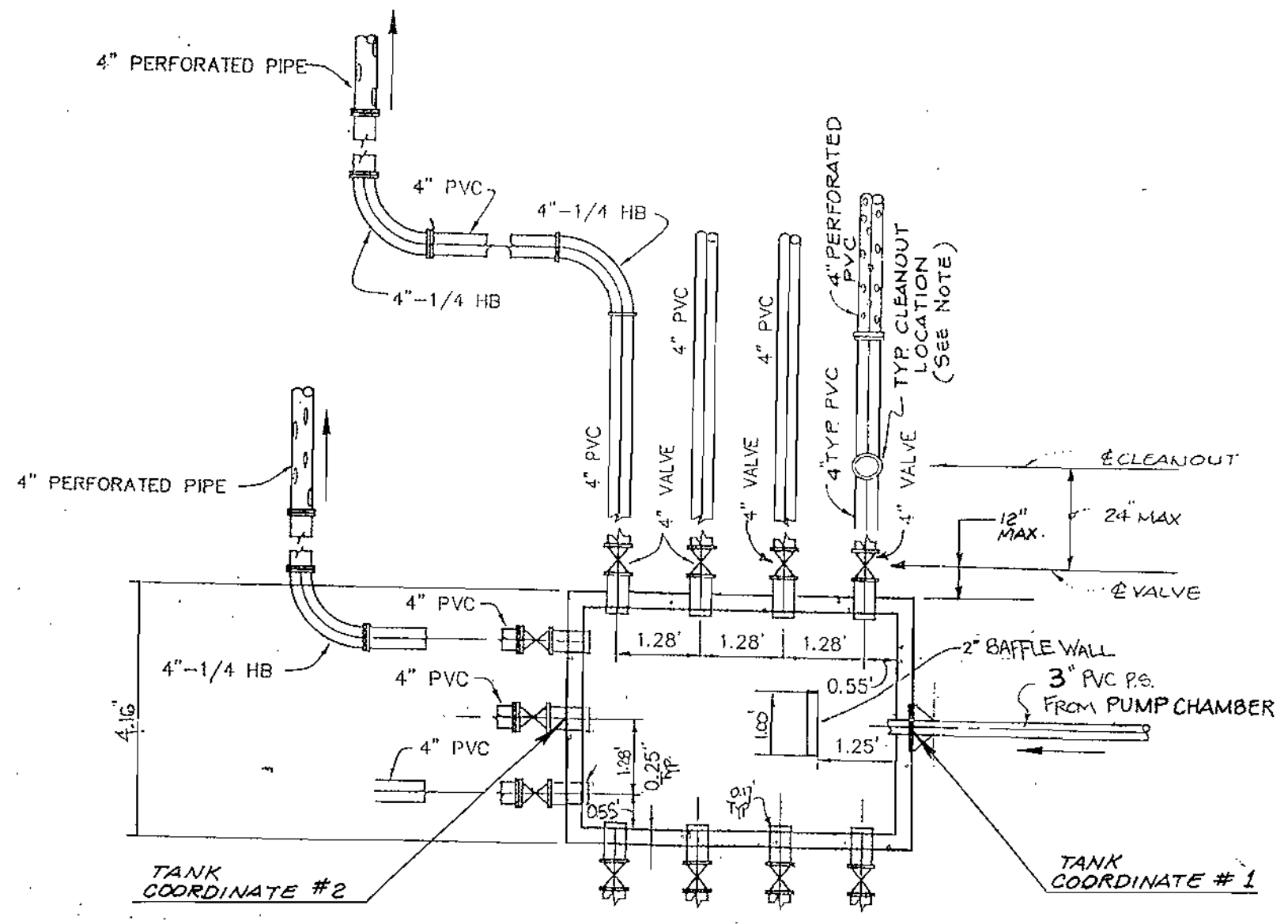


SEWAGE DESIGN FLOW CALCULATIONS		
Construction Phase	Total Population	Max. Sewage Flow
Existing Sanctuary / Fellowship Hall - (Sunday)	410 Parishioners / Service x 3 GPD	1230 GPD (Sunday)
Existing Parsonage (Sunday)	3 Bedrooms (150 Gal/Br)	450 GPD (Sunday)
Total Design Flow		1680 GPD (Sunday)
Existing Day Care Center (Mon - Fri)	Administrative: 6 People AM Class: 15 Students / 2 Teachers PM Class: 15 Students / 2 Teachers (15 GPD)	380 GPD (Mon - Fri)
Existing Parsonage (Mon - Fri)	3 Bedrooms (150 Gal/Br)	450 GPD (Mon - Fri)
Total Design Flow		840 GPD (Mon - Fri)
Phase 1: Existing Sanctuary / Fellowship Hall - (Sunday)	410 Parishioners / Service x 3 GPD	1230 GPD (Sunday)
Existing Parsonage (Sunday)	3 Bedrooms (150 Gal/Br)	450 GPD (Sunday)
Total Design Flow		1680 GPD (Sunday)
Proposed Day Care Admin. Staff (Mon - Fri)	Administrative: 8 People AM Class: 125 Students / 8 Teachers PM Class: 125 Students / 8 Teachers (15 GPD)	215 GPD (Mon - Fri)
Existing Parsonage (Mon - Fri)	3 Bedrooms (150 Gal/Br)	450 GPD (Mon - Fri)
Total Design Flow		2565 GPD (Mon - Fri)
Phase 2: Sanctuary Expansion - (Sunday)	552 Parishioners / Service x 3 GPD	1656 GPD (Sunday)
Existing Parsonage (Sunday)	3 Bedrooms (150 Gal/Br)	450 GPD (Sunday)
Total Design Flow		2106 GPD (Sunday)
Existing Day Care Admin. Staff (Mon - Fri)	Administrative: 8 People AM Class: 125 Students / 8 Teachers PM Class: 125 Students / 8 Teachers (15 GPD)	215 GPD (Mon - Fri)
Existing Parsonage (Mon - Fri)	3 Bedrooms (150 Gal/Br)	450 GPD (Mon - Fri)
Total Design Flow		2565 GPD (Mon - Fri)

NOTE: Any design flow of 5,000 GPD or greater will require a minimum of 3 Acres of Sewage Disposal Area for 5,000 GPD of sewage flow.

TRENCH DESIGN	
Maximum Sewage Flow	Minimum Trench Length
Ex. Facility - 1680 GPD	1680 / 0.9 / 3.0' Depth = 623
PHASE 1 - 2565 GPD	2565 / 0.9 / 3.0' Depth = 950
PHASE 2 - 2565 GPD	2565 / 0.9 / 3.0' Depth = 950

NOTE: The proposed sewage disposal system provides for the future Phase 2 Sanctuary expansion of 552 parishioners (service) with the additional 50% system expansion or a total of 1425 linear feet of trench.



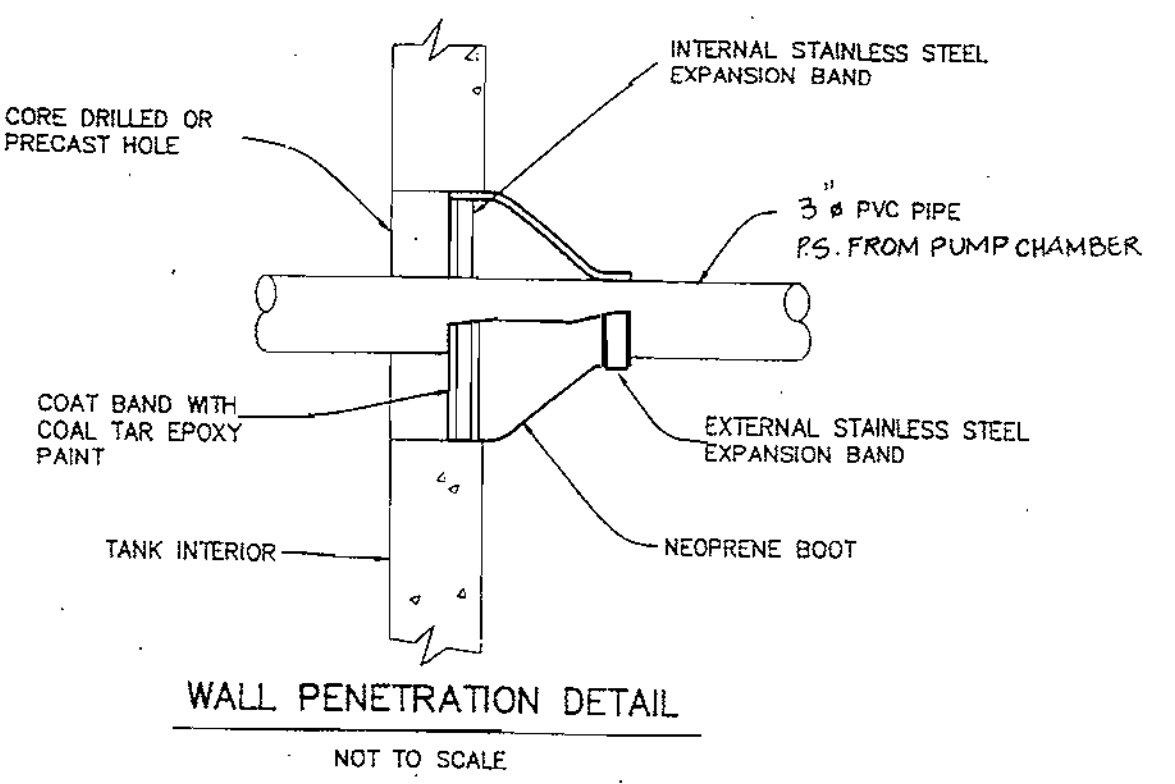
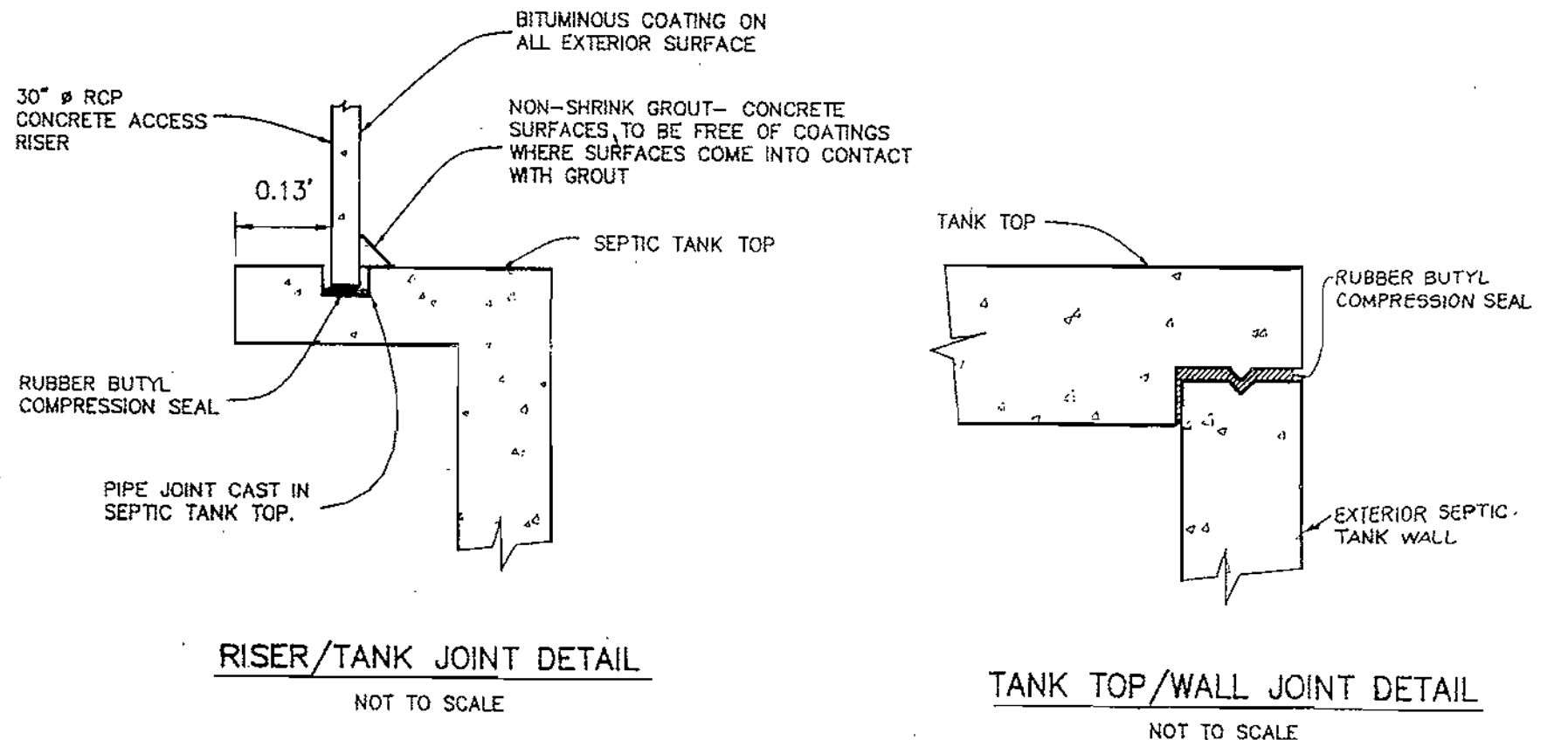
TYPICAL CONCRETE DISTRIBUTION BOX DETAIL (NOT TO SCALE)

DISTRIBUTION BOX COORDINATE TABLE		
Count	Northing	Easting
FANK #1	1	546668.227 1327939.926
	2	546691.301 1327935.448
FANK #2	1	546671.315 1327928.363
	2	546674.387 1327923.825

TRENCH DATA TABLE				
Trench No.	Ex. Grade @ Center Trench	Invert Perf. Pipe	Bottom Trench	Trench Length
1L	527.90	523.40	519.90	40
2L	527.50	523.00	519.50	55
3L	527.10	522.60	519.10	75
4L	526.50	522.00	518.50	90
5L	526.00	521.50	518.00	100
6L	525.30	520.80	517.30	100
7L	525.00	520.50	517.00	100
8L	524.10	520.60	517.10	100
9L	524.80	520.30	516.80	100
10L	524.50	520.00	516.50	100
11L	524.00	519.50	516.00	100
12L	524.20	519.70	516.20	100
1R	524.50	520.00	516.50	100
2R	522.90	519.40	515.90	100
3R	522.90	519.40	515.90	100
4R	522.90	519.40	515.90	100
5R	522.70	519.20	515.70	100
6R	522.80	519.10	515.60	100
7R	522.30	519.00	515.50	100
8R	522.50	519.00	515.50	100
9R	522.60	519.10	515.60	90
10R	522.70	519.20	515.70	75
11R	522.90	519.40	515.90	55
12R	524.30	519.80	516.30	40

Total Trench Length = 2120

NOTE: All trenches to 100 ft. maximum length. Trench shall be 3 ft. wide with minimum separation of 10 ft between the centerline of the trenches.



Specification: Dial-A-Flow®

Provide a non-corrosive flow control device to be rotatably secured in the discharge piping of the drain/distribution box. The device shall have a 14" diameter eccentrically located circular opening to provide a uniform weir in any rotated position. The device shall have a leveling lip extending into the box 1/8". The seating means shall be a cylindrical extension inside the pipe with radiused ends to initiate contact with pipe at least 3/4" inside the pipe. The device shall be provided with a gripping edge on the periphery of the end faces for easy rotation. The gripping edge shall consist of six uniform extensions and valleys for easy finger gripping.

The device shall be made of low density polyethylene, and one piece construction. This seal shall also be capable of snapping behind a corrugation of standard 4" corrugated pipe. The flow control device shall be Dial-A-Flow® as manufactured by American Manufacturing Company, Inc., Manassas, VA.

Featuring One Piece Construction

Flow Control:
The American Dial-A-Flow® provides a circular weir. Each outlet of the distribution box will equally discharge wastewater upon rising water level in the box. When the opening becomes submerged the Dial-A-Flow® becomes an orifice and further enhances equal distribution.

Installation Instructions

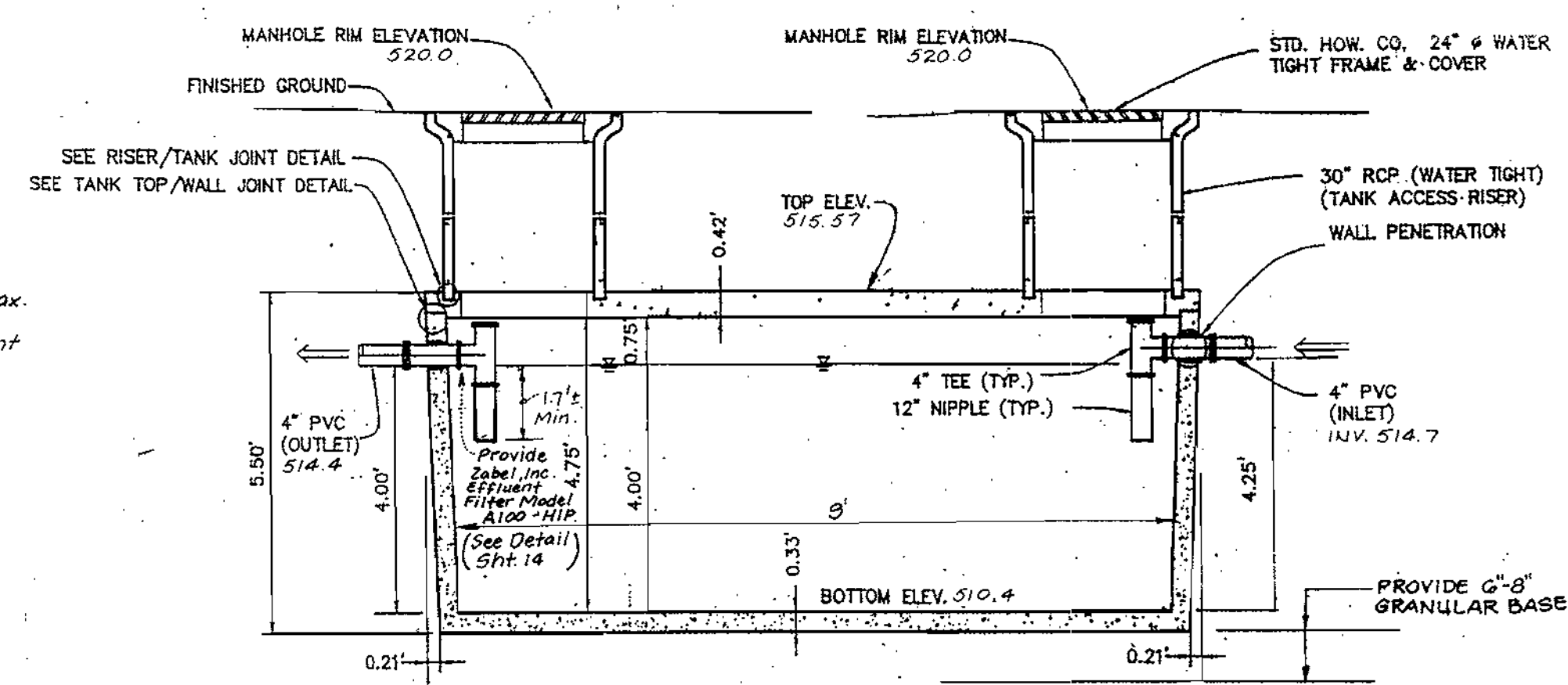
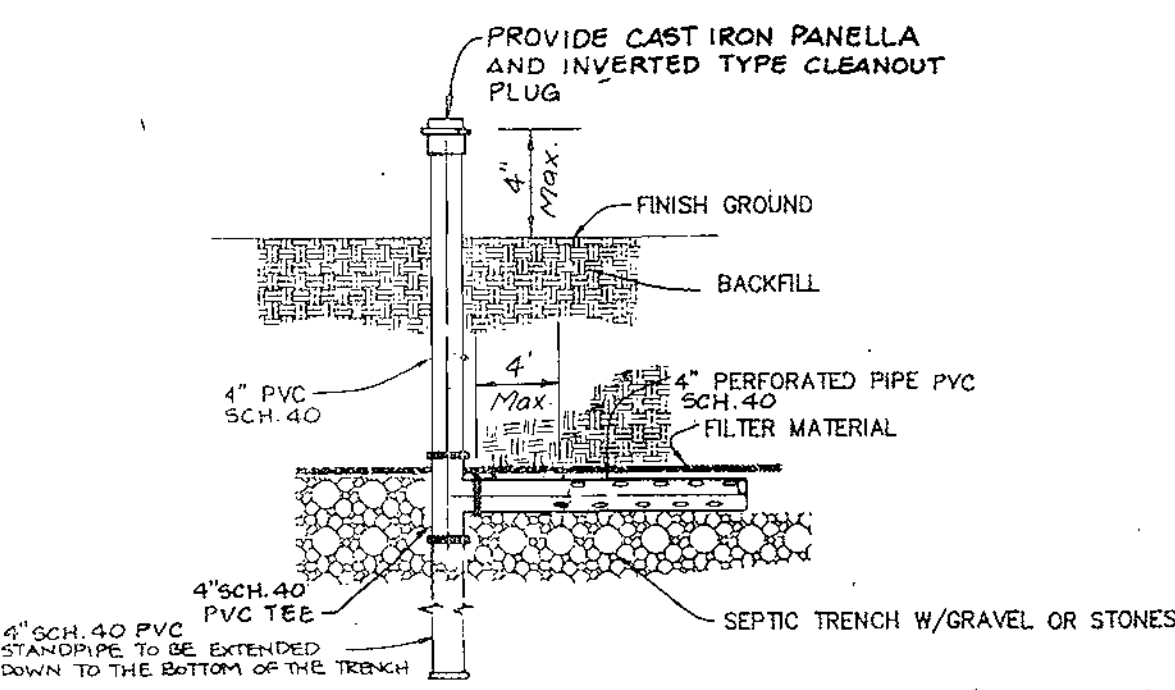
- Cut pipe as evenly as possible and remove shavings.
- Insert pipe into distribution box and extend pipe 1" into box.
- Insert Dial-A-Flow® into pipe ends with opening to one side (do not use glue).
Note: Proper cutting of corrugated pipe will result in Dial-A-Flow® snapping behind one corrugation.
- Level pipe individually or place level on orifice lip.
- Place pipes in concrete boxes into place with suitable material.
- Fill with water and "DIAL UP" each pipe to water surface.

4" Nominal
SCHEDULE 40
ASTM 3034
S & D

SDR 35
ASTM 2729
CORRUGATED

NOTE: ASTM does not set standards for I.D. of many types of pipe. Many types of pipe are specified by O.D. and wall thickness tolerances. Make sure you check your regionally available pipe for fit prior to ordering the green or the gray unit. Ask for our free sample for size check.

AMERICAN MANUFACTURING COMPANY, INC.
Last revised: May-13-1998 • Comments to: info@americanmfg.com
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APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
[Signature] 4/20/01
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 3/14/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 4/8/01
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 5/19/01
DIRECTOR

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
I HEREBY CERTIFY THAT THIS PLAN AND SEWAGE AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE DESIGN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD COUNTY SOIL CONSERVATION DISTRICT.

[Signature] 4/26/01
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] 2/26/01
SIGNATURE OF DEVELOPER

PROFESSIONAL ENGINEER
STATE OF MARYLAND
No. 19186
EXPIRES 12/31/02

[Signature] 2/26/01

Subdivision Name: MT. ZION UNITED METHODIST CHURCH	Section/Area: 140	Parcel No. 140
Plot No. L. 22 F107	Block No. 12 & 18	Zone RR-DEO
Tax Map No. 40	Election District 5 th	Census Tract 6051.02
Water Code N/A	Sewer Code N/A	

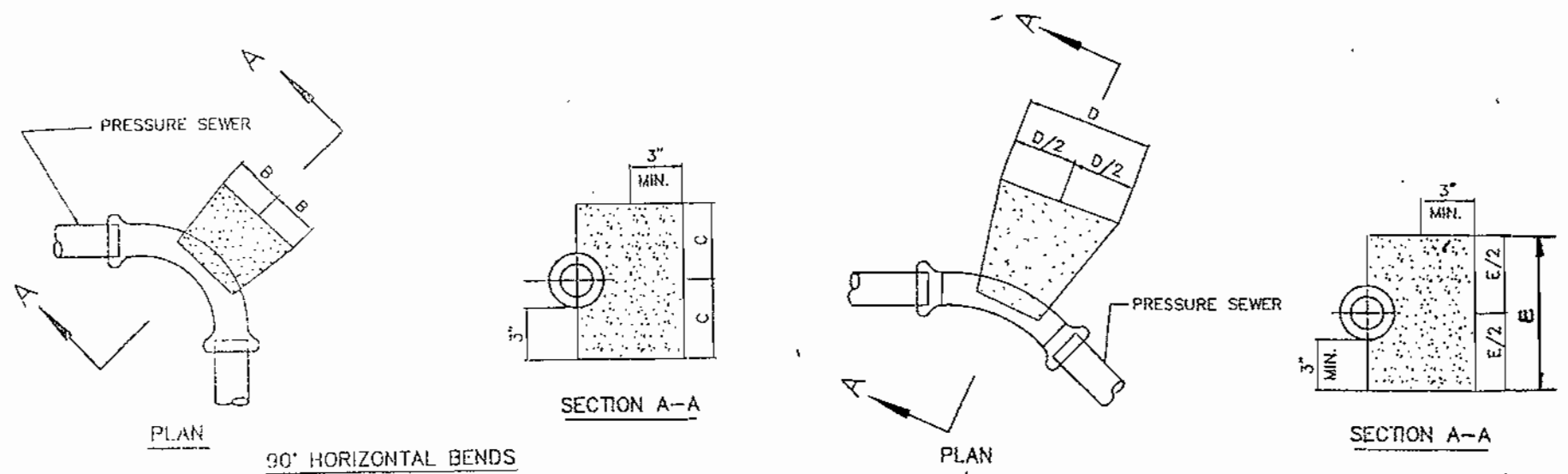
LDE, INC.
9250 Rumsey Road, Suite 106, Columbia, MD. 21045
(410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)

DESIGNED: **E.D.S.** Private Sewage System and Private Water System Plan - Details
SCALE: **1" = 30'**

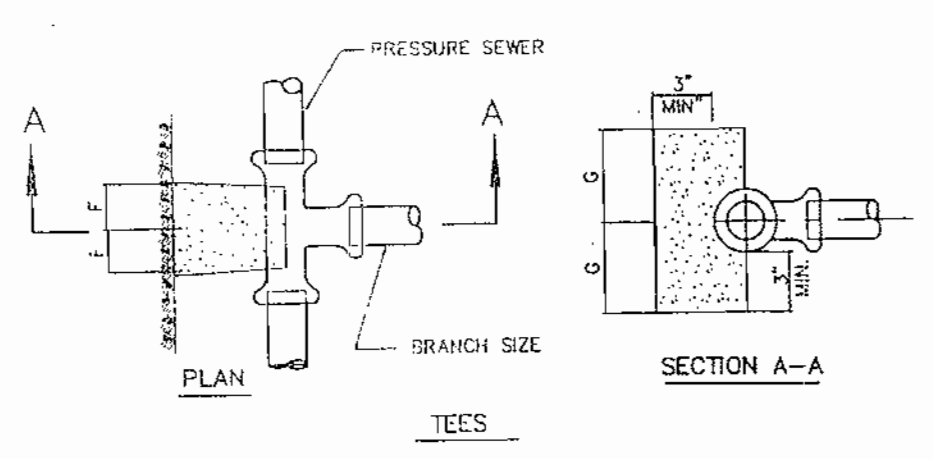
DRAWN: **K.B.W.**
DRAWING: **15 of 19**

CHECKED: **B.D.B.**
JOB NO.: **98-038**

DATE: **Jan. 2001**
OWNER / DEVELOPER: **THE MT. ZION METHODIST CHURCH**
P.O. BOX 44
HIGHLAND, MARYLAND 20777
FILE NO.: **SDP 00-98**



90° HORIZONTAL BENDS

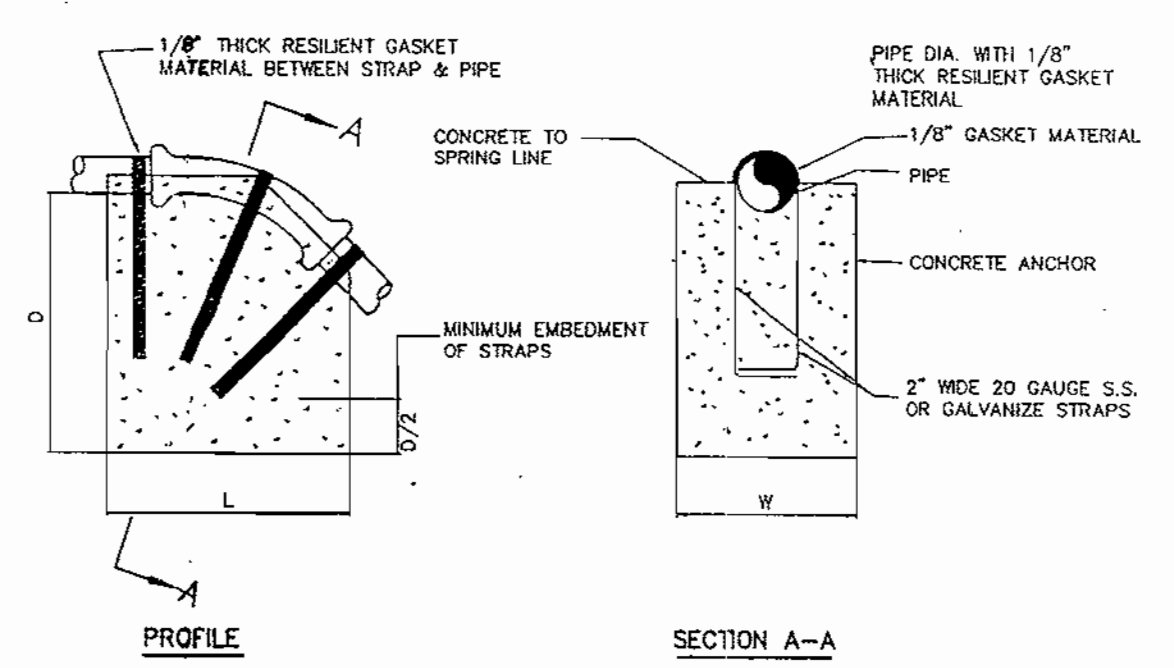


PRESSURE SEWER BLOCKING DETAILS
NOT TO SCALE

11-1/4"-1/2"-1/2" 45° HORIZONTAL & LOWER VERTICAL BENDS

PIPE SIZE	B	C	D	E	F	G
3"	6"	6"	9"	9"	6"	6"

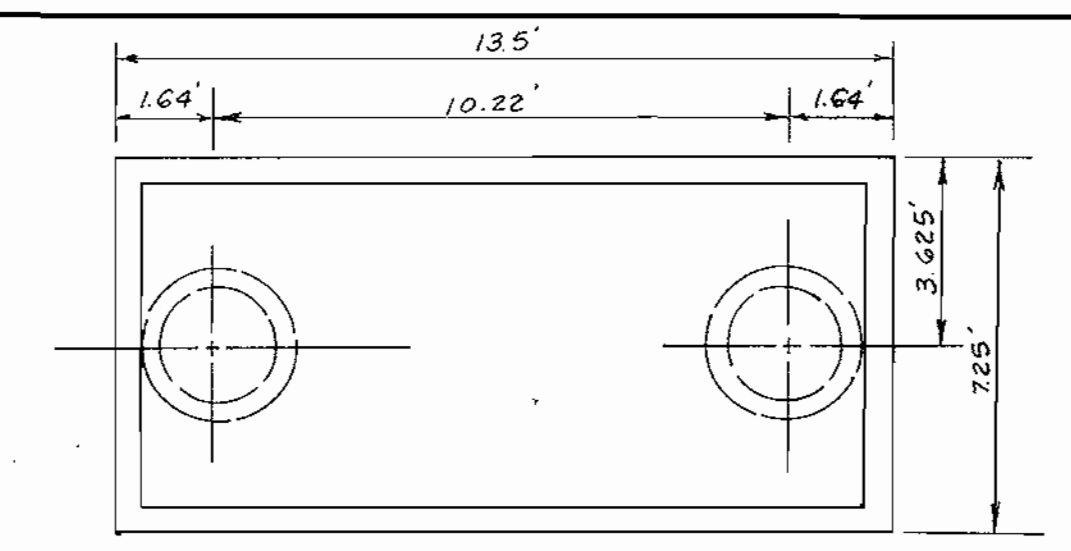
- NOTES:
1. $f_c = 3000$ psi @ 28 DAYS.
 2. CARRY ALL BEARING SURFACE TO UNDISTURBED GROUND OR FIRM SUBGRADE.
 3. BUTTRESS SIZED FOR 150 PSI.
 5. DO NOT ENCASE JOINTS.



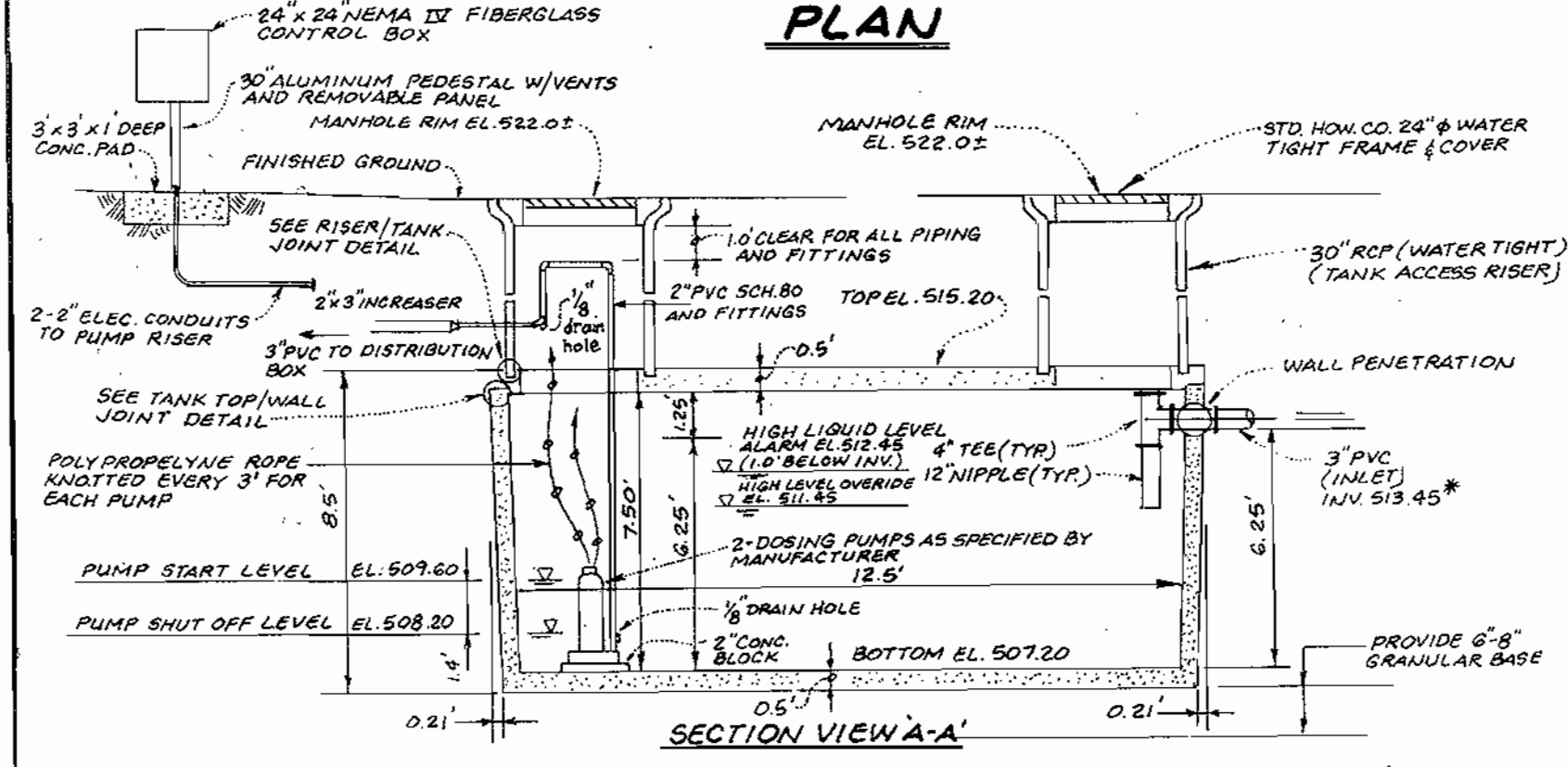
ANCHORING PRESSURE SEWERS
(UPPER VERTICAL BENDS)
NOT TO SCALE

BEND	SIZE IN INCHES
11-1/4" 1/2"	L 18 W 15 D 15
22-1/2" 1/2"	L 20 W 20 D 18
45° or 1/4" BEND	L 24 W 24 D 24

- NOTES:
1. PAINT EXPOSED GALVANIZED STRAPS WITH TWO(2) COATS OF BITUMINOUS PAINT.
 2. $f_c = 3000$ psi AT 28 DAYS.
 3. CARRY ALL BEARING SURFACE TO UNDISTURBED EARTH OR FIRM SUBGRADE.
 4. CONCRETE ANCHORAGE DIMENSIONS ARE BASED ON TOTAL PRESSURE OF 150 PSI.



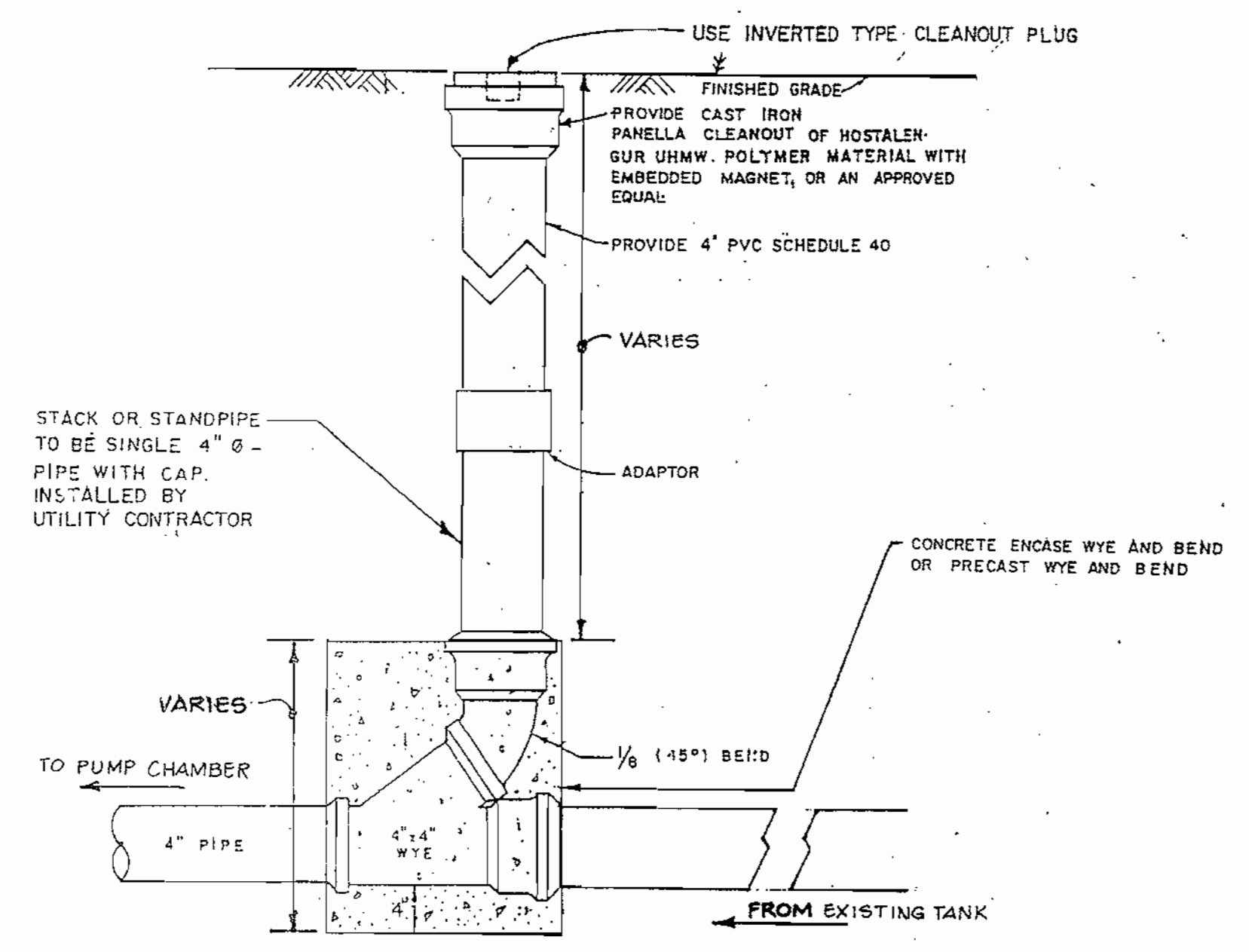
PLAN



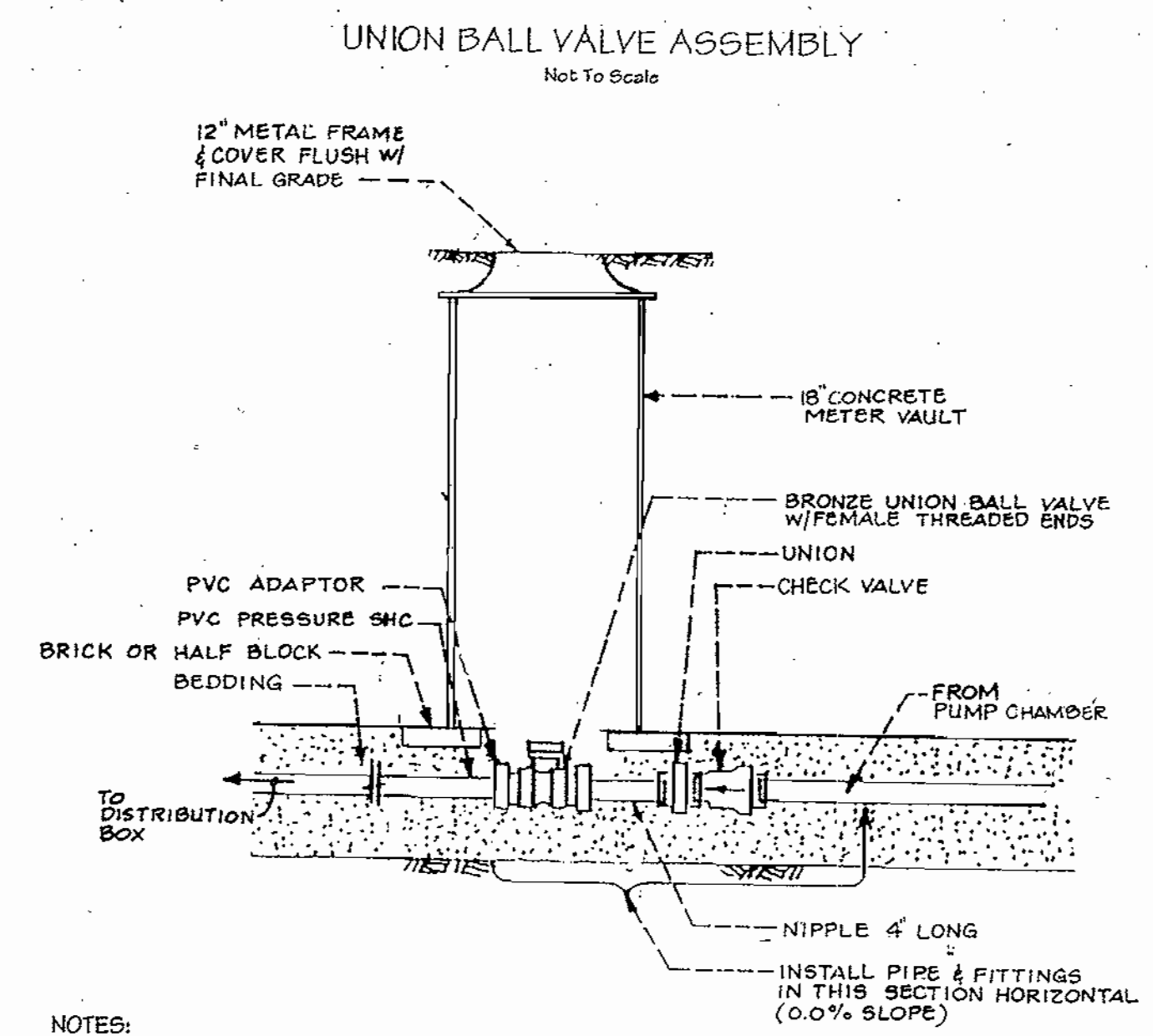
3750 GALLON PUMP CHAMBER SECTION AND DETAIL

* NOTE: PRIOR TO INSTALLATION OF PUMP CHAMBER, CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS OF ALL EXISTING SEPTIC TANKS, ETC. BY TEST PIT TO INSURE FLOW TO PUMP CHAMBER.

- PUMP CHAMBER NOTES:
1. PROVIDE STAINLESS STEEL HOOKS 6" DOWN FROM TOP OF ACCESSWAY TO SUPPORT FLOATS, EXCESS PUMP CABLE AND LIFTING HARNESS.
 2. ALL ELECTRICAL CABLES FROM DOSING PUMPS AND CONTROLS SHALL USE HOME RUN TO PANEL. NO JUNCTION BOXES, ETC. SHALL BE PERMITTED.
 3. CONDUIT WILL BE RUN TO FACILITATE MAINTENANCE.
 4. CONTROL PANEL, PEDESTAL, PUMPS AND FLOATS TO BE PROVIDED BY PUMP MANUFACTURER, FREEMIRE AND ASSOC. (410-763-8500).
 5. ELECTRICAL SERVICE WILL BE SINGLE PHASE INTO THE CONTROL PANEL WITH 3 PHASE OUT.



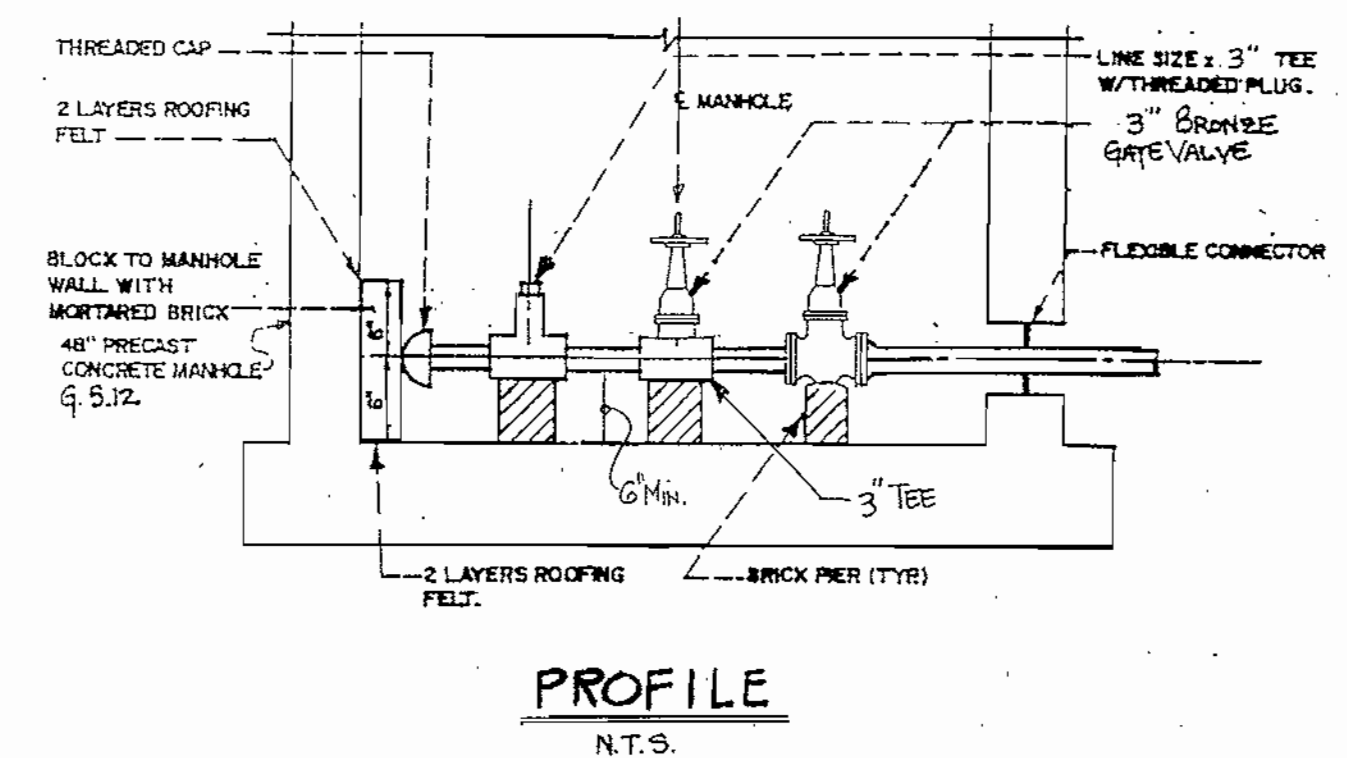
SEWER HOUSE CONNECTION CLEANOUT
MODIFIED HO. CO. § 2.22



- NOTES:
1. Maintain 42" minimum cover over pressure sewer.
 2. Unless otherwise noted, all connections shall be solvent welded.
 3. Check valve shall be oriented in direction of flow with correct side up.
 4. Fittings shall be blocked or anchored.
 5. All ball valves, up to 2-inch, shall be bronze and suitable for sewerage service, per Howard County Volume IV standards, and have adapters back to the SDR21 pressure pipe.
 6. The Conducting Rod & tracer / grounding wire shall be installed within the 18-inch meter vault.

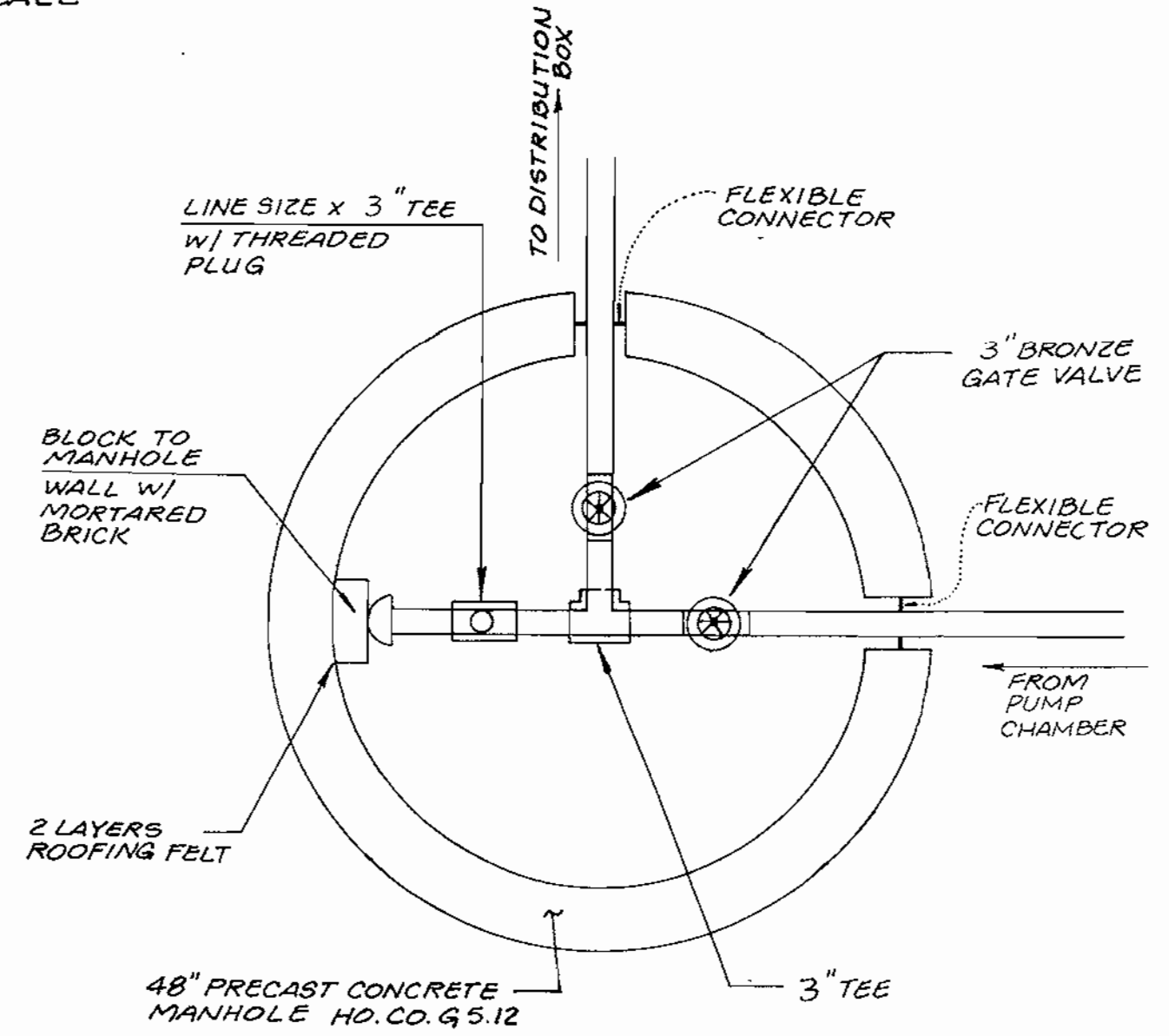
COMB. TERMINAL / IN-LINE FLUSHING CONNECTION
NOT TO SCALE

NOTE: REFER TO HO. CO. STA. DETAIL G 9.12 FOR OTHER MANHOLE DETAILS.



PROFILE
N.T.S.

- NOTES:
1. ALL JOINTS SHOWN SHALL BE SOLVENT CEMENT UNLESS OTHERWISE NOTED.
 2. BRONZE UNION BALL VALVES FOR USE IN DETAIL SHALL BE EQUIPPED WITH MANUFACTURER'S STANDARD HANDLE. FOR OTHER MANHOLE DETAILS, SEE DETAIL G 512.



PLAN VIEW
N.T.S.

APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
Donna Whistler 4/20/01
COUNTY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chad Damman 3/14/01
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Kent Sheehan 5/4/01
CHIEF, DIVISION OF LAND DEVELOPMENT
James Butler 5/19/01
DIRECTOR

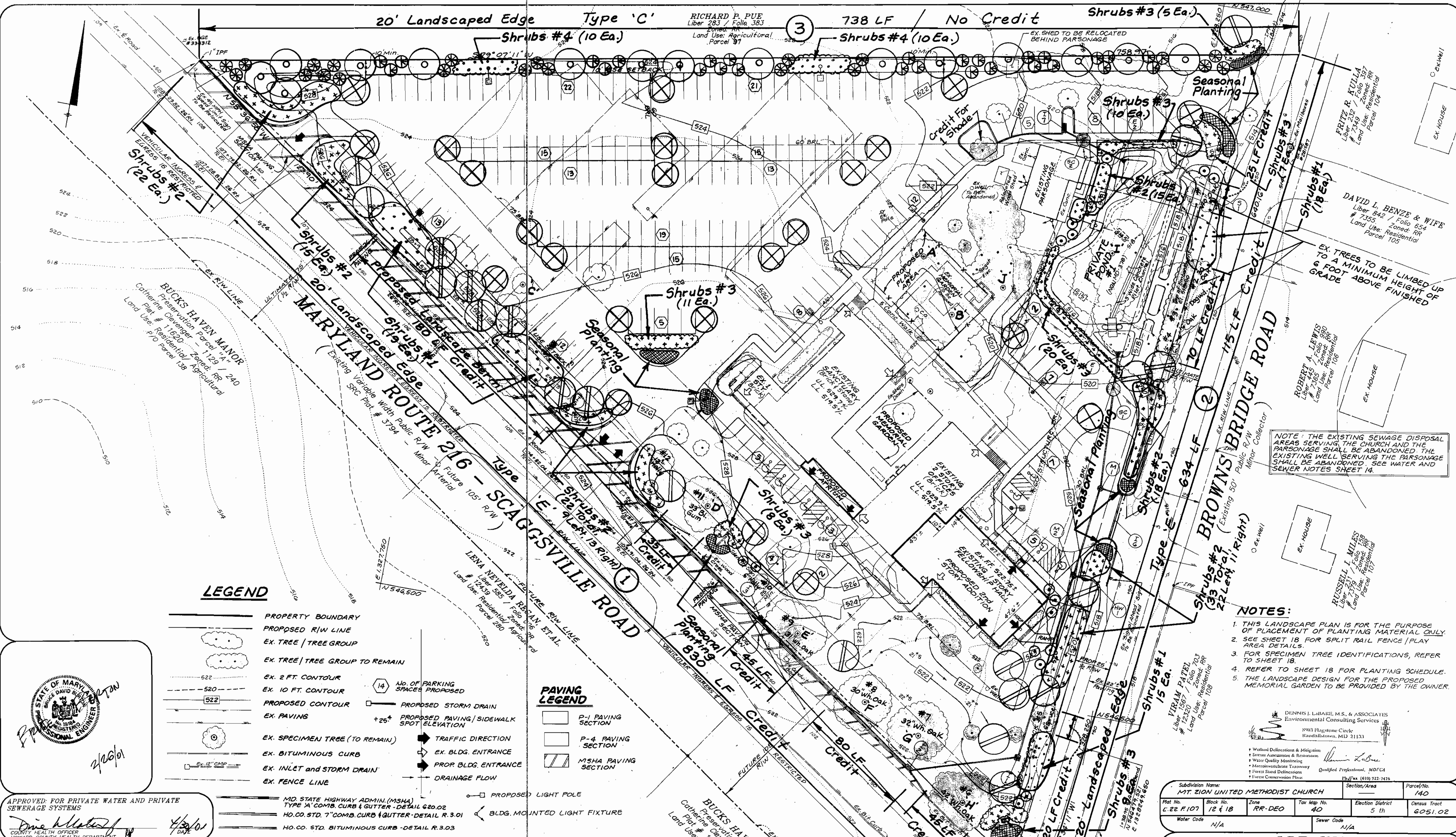
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS.
NATURAL RESOURCE CONSERVATION SERVICE
DATE
THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.
HOWARD SOIL CONSERVATION DISTRICT
DATE

ENGINEER'S CERTIFICATE
"I HEREBY CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND REASONABLE 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."
Steve D. Butler 4/26/01
REGISTERED PROFESSIONAL ENGINEER
SIGNATURE OF ENGINEER
DATE
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."
Steve D. Butler 2/26/01
SIGNATURE OF DEVELOPER
DATE

STATE OF MARYLAND
REGISTERED PROFESSIONAL ENGINEER
No. 19784
EXPIRES 12/31/04
Steve D. Butler 2/26/01

Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area: 140	Parcel No. 140
Plot No. L. 22 F107	Block No. 12 & 18	Zone RR-DEO	Tax Map No. 40
Water Code N/A		Election District 5th	Density Tract GOS1.02
Sewer Code N/A			

DESIGNED E.D.S.		SCALE 1" = 30'	
DRAWN K.B.W.		DRAWING 16 of 19	
CHECKED B.D.B.		JOB NO. 98-038	
DATE Jan. 2001		FILE NO. SDP 00-98	
<p align="center">LDE, INC. 9250 Rumsey Road, Suite 106, Columbia, MD. 21045 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)</p> <p align="center">Private Sewage System and Private Water System Plan - Details MT. ZION UNITED METHODIST CHURCH Tax Map 40 BLOCKS 12 AND 18 PARCEL 140 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND</p> <p align="center">OWNER / DEVELOPER THE MT. ZION METHODIST CHURCH P.O. BOX 44 HIGHLAND, MARYLAND 20777</p>			



RICHARD P. PUE
Liber 283 / Folio 383
Land Use: Agricultural
Parcel 97

LEGEND

- PROPERTY BOUNDARY
- PROPOSED R/W LINE
- EX. TREE / TREE GROUP
- EX. TREE / TREE GROUP TO REMAIN
- EX. 2 FT. CONTOUR
- EX. 10 FT. CONTOUR
- PROPOSED CONTOUR
- EX. PAVING
- EX. SPECIMEN TREE (TO REMAIN)
- EX. BITUMINOUS CURB
- EX. INLET and STORM DRAIN
- EX. FENCE LINE
- MD. STATE HIGHWAY ADMIN. (MSHA)
TYPE 'A' COMB. CURB & GUTTER - DETAIL R.3.02
- HO. CO. STD. 7" COMB. CURB & GUTTER - DETAIL R.3.01
- HO. CO. STD. BITUMINOUS CURB - DETAIL R.3.03

PAVING LEGEND

- P-1 PAVING SECTION
- P-4 PAVING SECTION
- MSHA PAVING SECTION

NOTES:

1. THIS LANDSCAPE PLAN IS FOR THE PURPOSE OF PLACEMENT OF PLANTING MATERIAL ONLY
2. SEE SHEET 18 FOR SPLIT RAIL FENCE / PLAY AREA DETAILS.
3. FOR SPECIMEN TREE IDENTIFICATIONS, REFER TO SHEET 18.
4. REFER TO SHEET 18 FOR PLANTING SCHEDULE.
5. THE LANDSCAPE DESIGN FOR THE PROPOSED MEMORIAL GARDEN TO BE PROVIDED BY THE OWNER.

DENNIS J. LABARE, M.S., & ASSOCIATES
Environmental Consulting Services
3983 Flagstone Circle
Hawthorn, MD 21131

Workshop Definitions & Mitigation
Stream Assessment & Restoration
Water Quality Monitoring
Macroinvertebrate Taxonomy
Forest Stand Delineations
Forest Conservation Plans

Subdivision Name: MT. ZION UNITED METHODIST CHURCH		Section/Area: 140	Parcel No: 140
Plot No: L.22 P.107	Block No: 12 & 18	Zone: RR-DEO	Tax Map No: 40
Election District: 5th		Census Tract: 6051.02	
Water Code: N/A	Sewer Code: N/A		

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

DESIGNED: E.D.S.	SCALE: 1" = 30'
DRAWN: K.B.W.	DRAWING: 17 of 19
CHECKED: B.D.B.	JOB No: 98-038
DATE: Jan. 2001	FILE No: SDP00-98
OWNER / DEVELOPER: THE MT. ZION METHODIST CHURCH P.O. BOX 44 HIGHLAND, MARYLAND 20777	



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
Date: 4/30/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Date: 3/14/01

APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION
Date: 5/3/01

APPROVED: CHIEF, DIVISION OF LAND DEVELOPMENT
Date: 5/7/01

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

NATURAL RESOURCE CONSERVATION SERVICE
DATE: 5/3/01

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

HOWARD SOIL CONSERVATION DISTRICT
DATE: 5/7/01

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN REPRESENTS A PRACTICAL AND WORKABLE SOLUTION TO THE PROBLEMS PRESENTED BY THE SITE CONDITIONS AND THAT IT IS IN ACCORDANCE WITH THE REQUIREMENTS OF THE DISTRICT."

Signature of Engineer: Bruce D. P...
Date: 2/16/01

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 of Developer: Dave Sealing
Date: 2/16/01

NOTES:

1. REFER TO SHEET 4 FOR DETAILS OF HANDICAPPED PARKING AREAS
2. REFER TO SHEET 4 FOR STORM DRAIN PROFILES AND STRUCTURE SCHEDULE.
3. FOR SOIL BORING LOCATIONS & INFORMATION, REFER TO SHEETS 10-12.
4. REFER TO SHEET 4 FOR STD. CURB DETAILS
5. SEE SHEET 18, FOR PARKING LOT LIGHT.

PLANTING NOTES

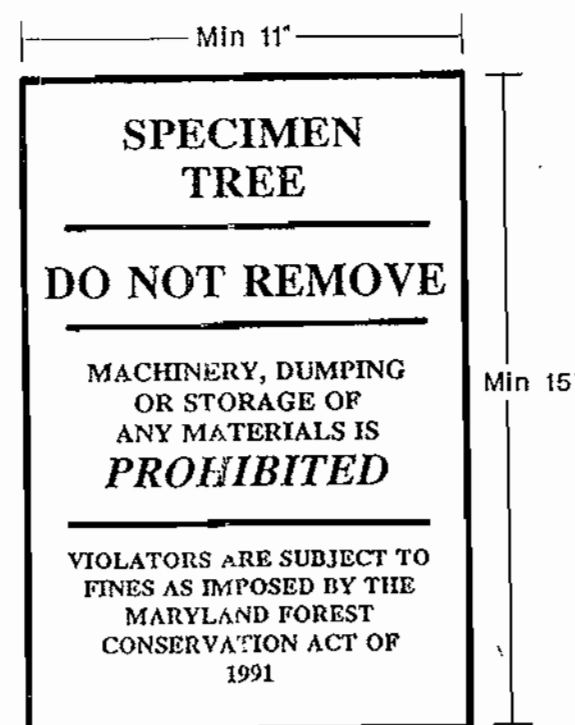
- Notify "Miss Utility" 72 hours prior to installation of all plant material.
- Plant installation must conform to the minimum standards cited in the latest edition of Landscape Specification Guidelines, published by the Landscape Contractors Association.
- Plants to be located in the field by the owner or owner's representative. Notify owner 22 hours in advance of planting.
- A Certification of Landscape Installation is required as per the Howard County Landscape Ordinance.
- The number, size, location of plants shall not be changed without the approval of the Landscape Architect. Substitutions must be included in the recommended plant list in the Howard County Landscape Ordinance.
- Street tree locations may be adjusted for final location of driveways. Trees to be located a minimum of 10 feet from driveways.
- Street trees may not be planted within 5 feet of drain inlets, 5 feet of an open space access strip and 10 feet of a driveway.
- Street tree planting must conform to the Subdivision and Land Development Regulations and the Department of Public Works Design Manual of Howard County.
- Balled and burlapped plant material shall not be accepted if ball is cracked or broken before or during planting. Protect all plants from drying by either sun or wind.
- Tree pits shall be backfilled with 50% topsoil, 25% peat, 25% sand with one pound of 10-10-10 fertilizer per pit.
- Top soil shall be sandy loam soil free from noxious weeds or grasses, roots, clay clumps, stones, sticks, etc. Peat moss shall be commercial with pi 4.5 to 5.5, free of woody material or harmful minerals.
- All plants shall be watered at planting with weekly watering thereafter for the first 80 days. Watering shall continue bi-monthly or as necessary to maintain plants in a healthy condition during the guarantee period.
- Maintain the site in an orderly manner. Streets and sidewalks shall be swept clean. All rejected or dead materials shall be immediately removed from the site.
- Plant material to be alive and healthy at the time of the guarantee period (one year), as specified in the Howard County Landscape Ordinance. Maintenance shall begin immediately after planting and continue to the end of guarantee period.
- Maintenance consist of pruning, watering, weeding, re-mulching, resetting plants to proper grades as needed and repairing guys and stakes as needed. There shall be a minimum of 20 feet between street lights and street trees. All street trees shall be maintained by the owner.

PERMITS SUMMARY

No.	Total	Required	Provided	Notes
1	100	100	100	
2	100	100	100	
3	100	100	100	

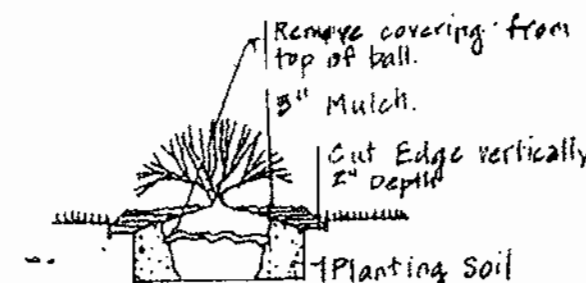
Substitutions:
 1. 2" x 4" x 8" Lumber - 21 Required > 21 Provided > 11 Required
 2. 2" x 4" x 8" Lumber - 15 Provided > 15 Required
 3. 2" x 4" x 8" Lumber - 15 Provided > 15 Required
 4. 2" x 4" x 8" Lumber - 15 Provided > 15 Required
 5. 2" x 4" x 8" Lumber - 15 Provided > 15 Required
 6. 2" x 4" x 8" Lumber - 15 Provided > 15 Required

Signage

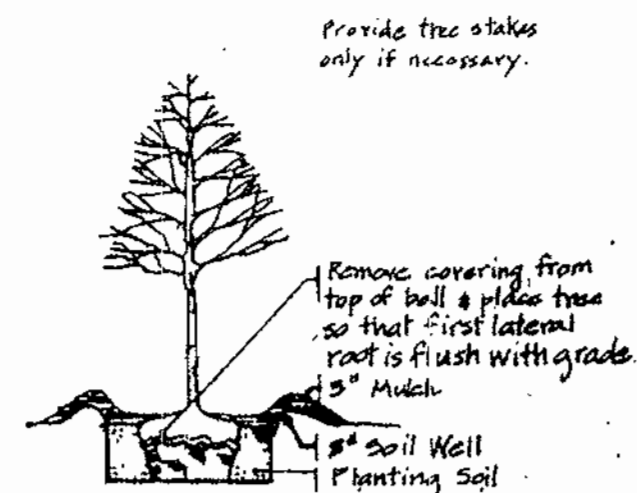


SPECIMEN TREE LIST

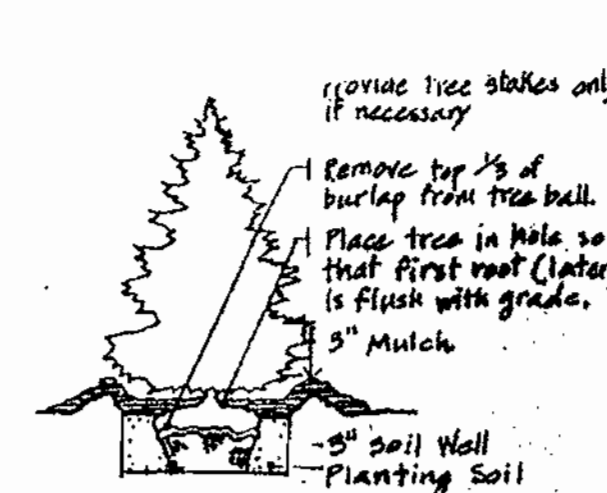
TREE ID	SPECIES/SIZE	KEEP OR REMOVE	REASON FOR REMOVAL
A	32" Northern Red Oak	Keep	
B	30" White Oak	Keep	
C	31" Tulip Poplar	Remove	In Parking Area
D	33" Black Gum	Keep	
E	31" White Oak	Keep	Evaluate Root Prune
F	30" White Oak	Keep	Evaluate Root Prune
G	32" White Oak	Keep	Evaluate Root Prune
H	40" White Oak	Keep	Evaluate Root Prune
I	38" White Oak	Remove	In SWM Area
J	40" White Oak	Keep	



SHRUB PLANTING DETAIL N.T.S.

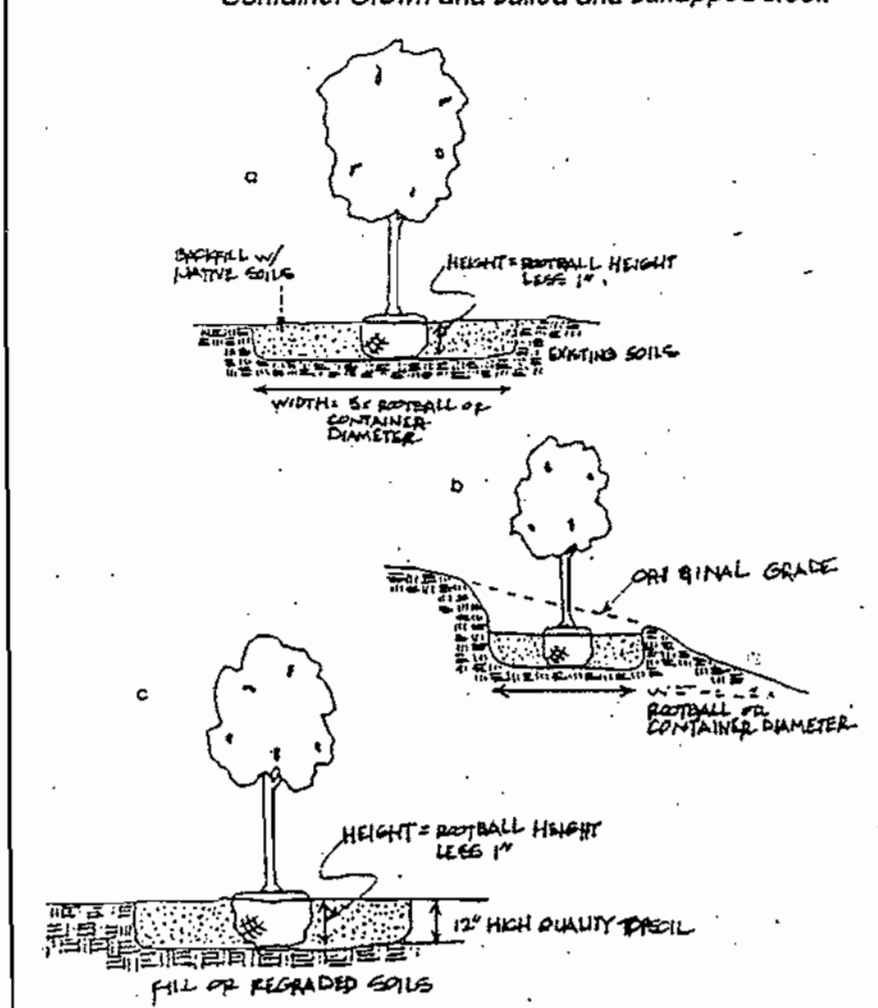


DECIDUOUS TREE PLANTING DETAIL N.T.S.

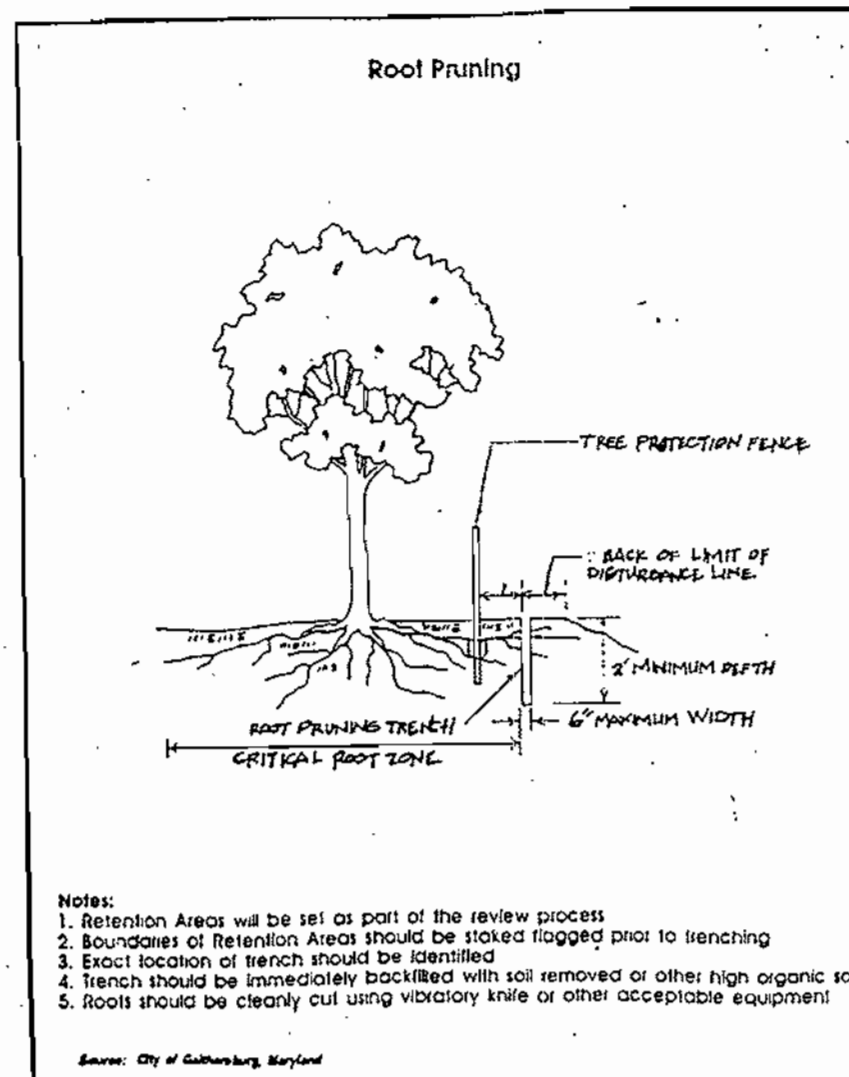


EVERGREEN TREE PLANTING DETAIL N.T.S.

Planting Specifications: Container Grown and Balled and Burlapped Stock



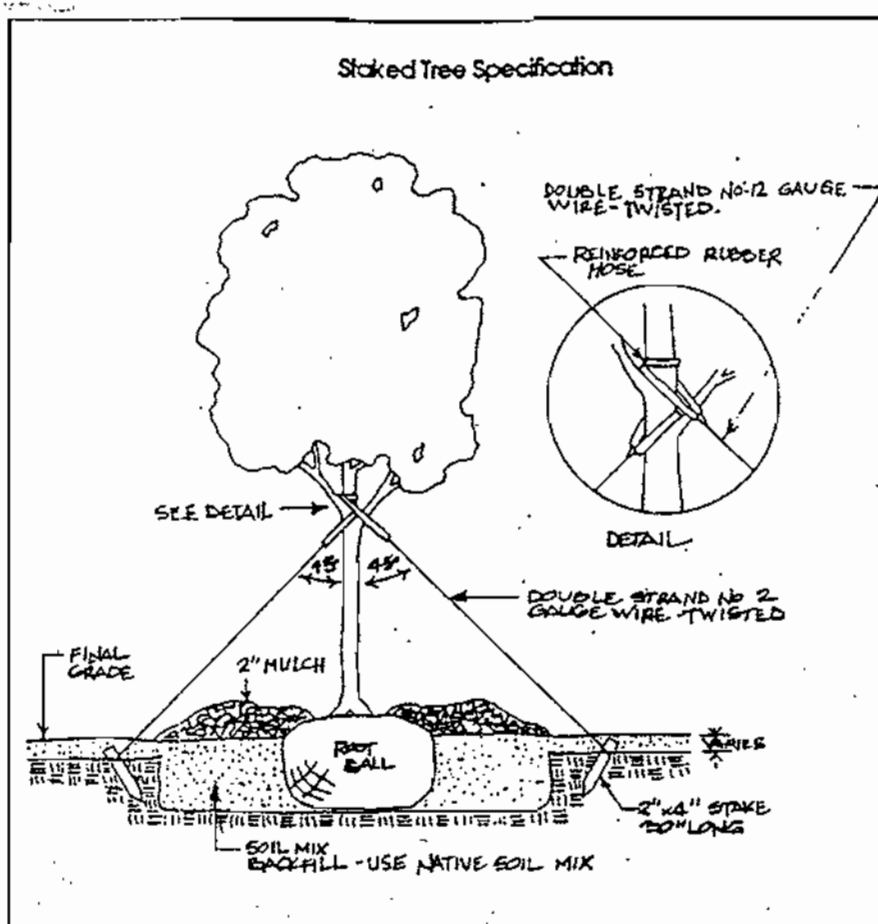
Root Pruning



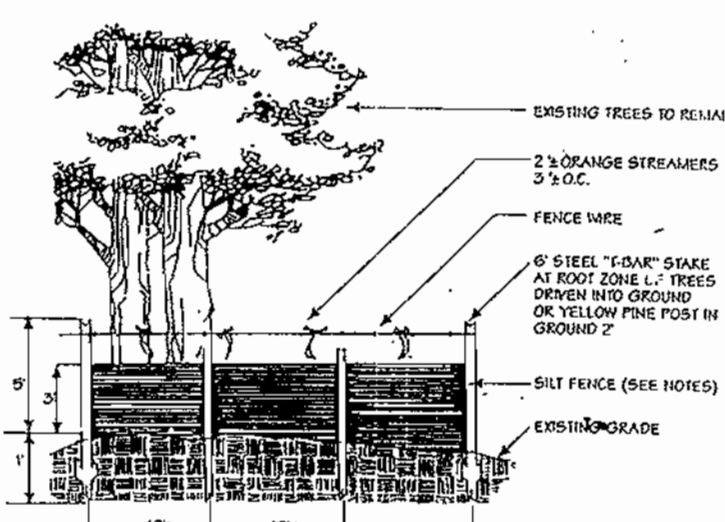
- Retention Area will be set as part of the review process.
- Boundaries of Retention Area should be staked flagged prior to trenching.
- Exact location of trench should be identified.
- Trench should be immediately backfilled with soil removed or other high organic soil.
- Roots should be clearly cut using vibratory knife or other acceptable equipment.

Source: City of Cambridge, England

Staked Tree Specification

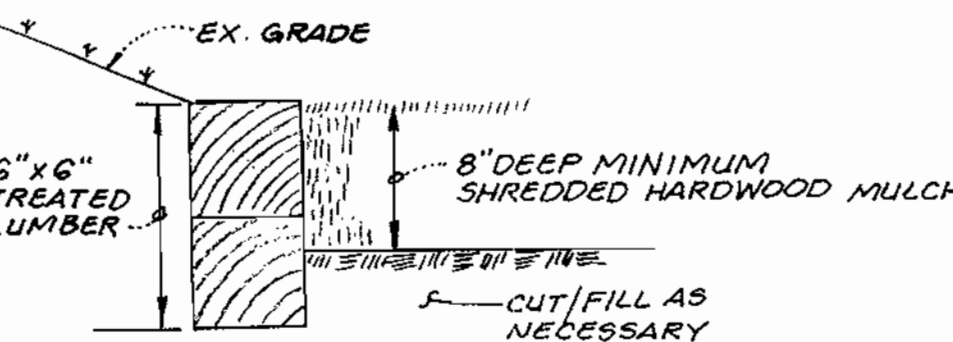


Staking of trees may be used only when transplanting in areas of high winds for trees larger than eight feet height. Stakes and wires should be removed after the first growing season.



- Site fence to be installed into the soil.
- Wire, snap fence, etc. for tree protection only.
- Boundaries of Retention Area will be established as part of the forest conservation plan review process.
- Boundaries of Retention Area should be staked and flagged prior to installing device.
- Avoid root damage when placing anchor post.
- Protection signs are also required, see Figure C-4.
- Locate fence outside the Critical Root Zone.

Source: Adapted from Steve Clark & Associates/CPTL, Inc.



TYPICAL SECTION OF PLAY AREA NO SCALE

SCHEDULE A PERIMETER LANDSCAPE EDGE

Category	Adjacent to Roadways	Adjacent to Perimeter Properties
Landscape Type	E	C
Linear Feet of Roadway Frontage/Perimeter	1464 LF	738 LF
Credit for Existing Vegetation (Yes, No, Linear Feet) (Describe below if needed)	Yes 320 LF*	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (Describe below if needed)	Yes, Berm 180 LF*	No
Number of Plants Required	1:40 = 37 Shade 1:4 = 366 Shrub	1:40 = 19 Shade 1:20 = 37 Evergreen
Number of Plants Provided	21 Shade 13 Evergreen 210 Shrubs	15 Shade 48 Evergreen 20 Shrubs

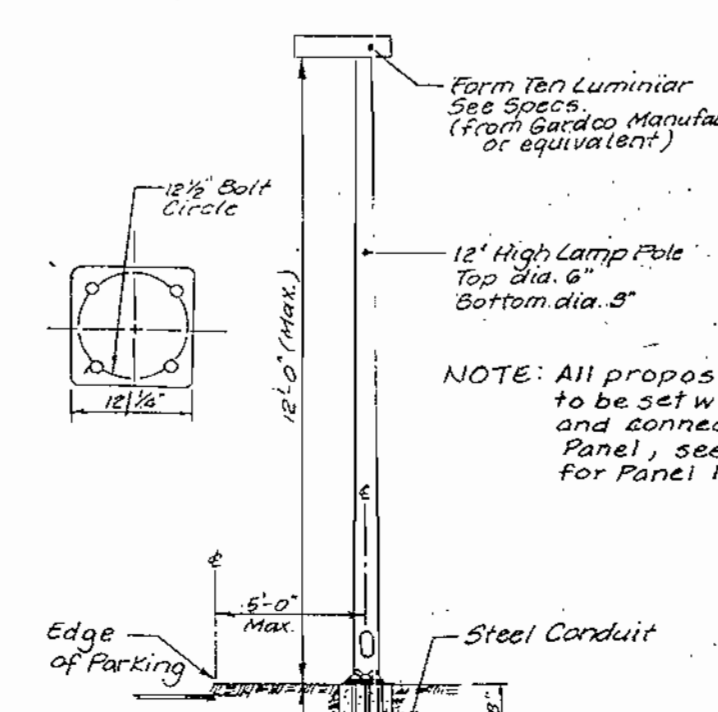
* CREDIT CALCULATION

- Credit for 5 Shade Trees Retained (Trees #6-9 and #11) and 2 Evergreens (Trees #10 and #12) or 205 Linear Feet.
- Credit for 180 Linear Feet of Proposed Berm Browns Bridge Road -
- Credit for 3 Shade Trees Retained (Trees #1, 2, and #4), 1 Flowering Tree (#3) and 1 Evergreen (#5) or 115 Linear Feet.

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

Category	Requirement
Number of Parking Spaces	231
Number of Trees Required	1 Shade / 20 Spaces = 12 Req'd
Number of Trees Provided	23 Flowering Trees 11 Shrubs Provided Credit for 1 Shade in Island*
* Credit for 1 Shade Tree Retained + 11 Shrubs Provided + 2 Shade + 23 Flowering = 18.5 Provided > 12 Required	
Linear Feet of Perimeter	440 LF
Number of Trees Required	9 Shade 11 Evergreen
Credit for Existing Vegetation (No, Yes and %)	Yes * 185 LF (42%)
Credit for Other Landscaping (No, Yes and %)	No
Number of Trees Provided	0 Shade 5 Evergreen 45 Shrubs

- Credit for 3 Shade Trees, 1 Flowering Tree Retained, 3 Shade Trees, 3 Evergreens and 18 Shrubs Planted.



TYPICAL LIGHT FIXTURE No Scale

- All proposed Light Fixtures to be set with individual timers and connected to Main Electrical Panel, see Elec./Mech Drawings for Panel location.

DENNIS J. LABARE, M.S., & ASSOCIATES
 Environmental Consulting Services
 2083 Flagstone Circle
 Randallstown, MD 21133

Professional Seal
 D.J. Labare
 Qualified Professional, MDPCA
 174 Fax (410) 922-7476

GENERAL NOTES

- This plan has been prepared in accordance with the provisions of Section 16.124 of the Howard County Code and Landscape Manual.
- The Owner/Developer is responsible for the planting of all plant material required to meet the standards established by the Howard County Landscape Manual.
- Financial Surety for the required landscaping has been posted as part of the Department of Public Works Developer's Agreement in the amount of \$32,730.00. There shall be a minimum of 20 feet between parking lot lights and proposed trees.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS

Doris M. Hester
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 4/26/01

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Christina Williams
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 3/14/01
Mark Sheehy
 CHIEF, DIVISION OF LAND DEVELOPMENT
 4/3/01

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

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

ENGINEER'S CERTIFICATE

"I HEREBY CERTIFY THAT THIS PLAN AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND FEASIBLE PLAN AND ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THE PREPARATION IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD COUNTY LANDSCAPE MANUAL."
David P. Smith
 PROFESSIONAL ENGINEER
 2/26/01

DEVELOPER'S CERTIFICATE

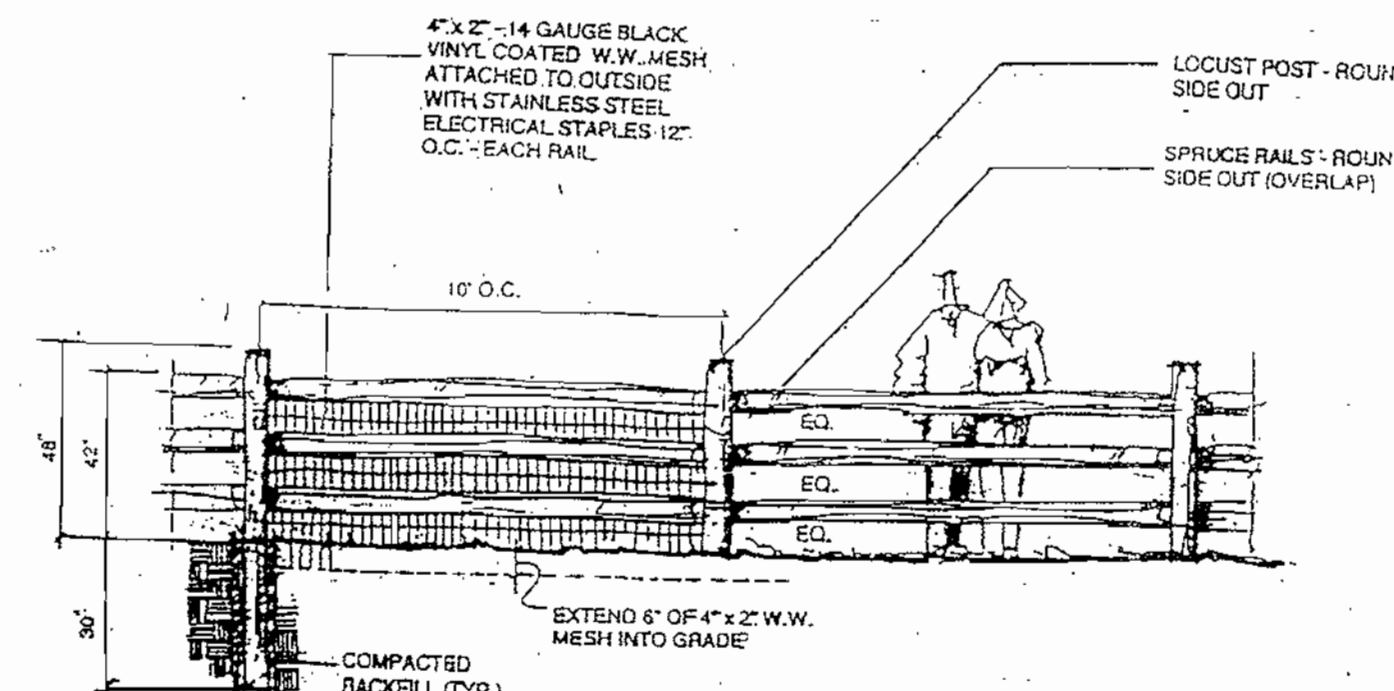
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Doris M. Hester
 2/26/01

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 2/26/01

QTY.	SYMBOL	BOTANICAL / COMMON NAME	SIZE	COMMENTS
15	○	Acer rubrum - "Red Sunset" Red Sunset Red Maple	2-2 1/2" - 3" cal. B&B	
23	⊕	Prunus sargentii Sargent Cherry	2-2 1/2" - 3" cal. B&B	
18	⊙	Ilex opaca American Holly	6" - 8" ht.	
20	⊗	Pinus strobus Eastern White Pine	6" - 8" ht.	
28	⊙	Cupressocyparis leylandii Leyland Cypress	5' - 6" ht.	
71	⊙	Shrub Area #1 Foreythia intermedia Showy Border Forsythia	2' - 2 1/2' Ht. Cont.	
125	⊙	Shrub Area #2 Azalea 'gumpo white' Gumpo White Azalea	18" - 24" Spread Cont.	
70	⊙	Shrub Area #3 Taxus 'baccata 'respondens' English Yew/Spreading	18" - 24" Spread Cont.	
20	⊙	Shrub Area #4 Ilex verticillata Winterberry	3' - 4' Ht.	
	⊙	Seasonal Planting	By Owner	

STREET TREE - PLANTING SCHEDULE

QTY.	SYMBOL	BOTANICAL / COMMON NAME	SIZE	COMMENTS
21	⊙	Platanus x acerifolia "Bloodgood" Bloodgood London Plane	2-2 1/2" - 3" cal. B&B	

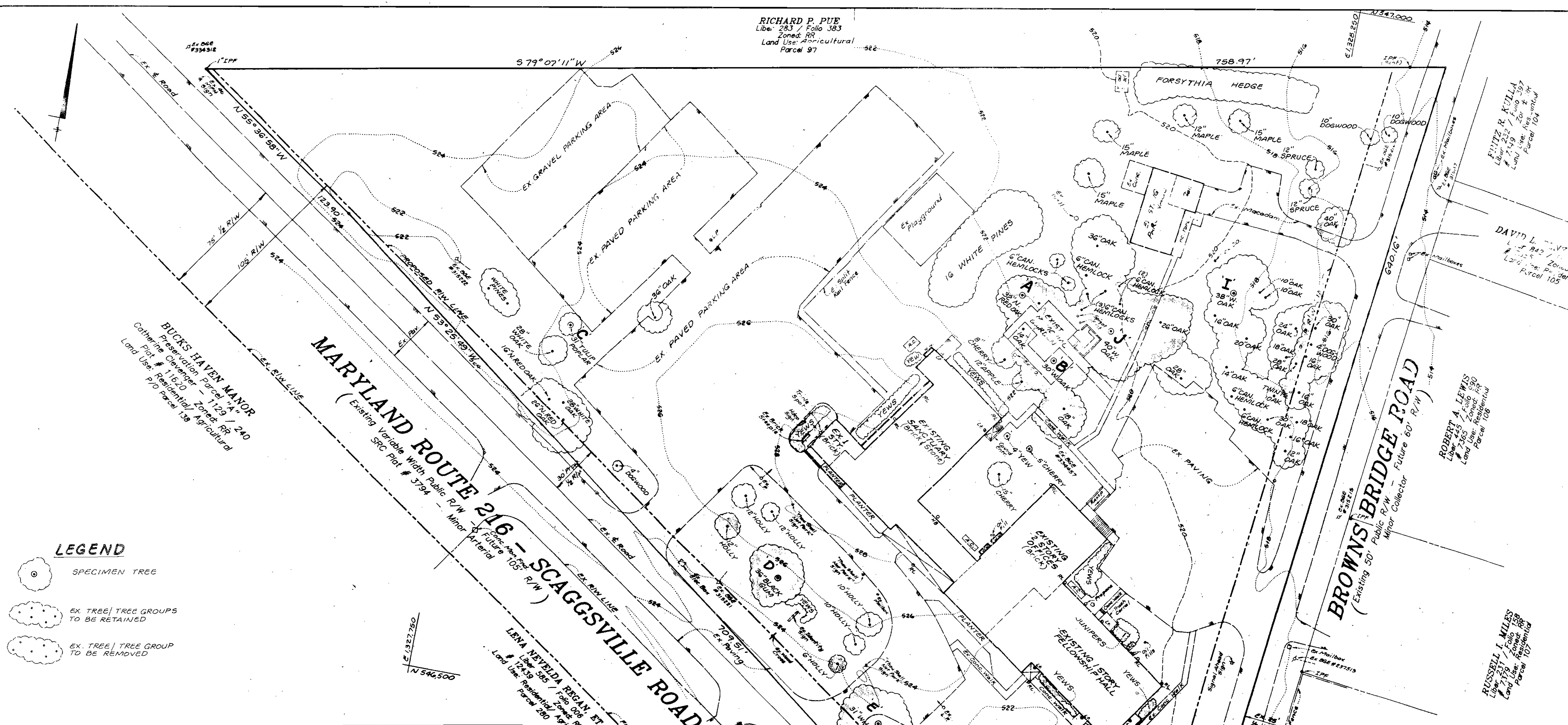


SPLIT RAIL FENCE / PLAY AREA THREE RAIL 4 FEET HIGH

Subdivision Name: MT. ZION UNITED METHODIST CHURCH	Section/Area	Parcel No. 140
Plot No. L.22 F.107	Block No. 12 & 18	Zone RR-DEO
Tax Map No. 40	Election District 5 th	Census Tract 6051.02
Water Code N/A	Sewer Code N/A	

LDE, INC.
 9250 Rumsey Road, Suite 106, Columbia, MD. 21045
 (410) 715-1070 (301) 596-3424 (410) 715-9540 (Fax)
 DESIGNED: E.D.S.
 DRAWN: K.B.W.
 CHECKED: B.D.B.
 DATE: Jan. 2001
 Landscape Plan - Details
MT. ZION UNITED METHODIST CHURCH
 Tax Map 40 BLOCKS 12 AND 18 PARCEL 140
 5th ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 Previous Submittals: BA 04-05E, 04-53E & Y, SDP 04-825, BA 08-09E, BA 09-50E & Y, BA 09-11E & Y
 OWNER / DEVELOPER
THE MT. ZION METHODIST CHURCH
 P.O. BOX 44
 HIGHLAND, MARYLAND 20777
 SCALE: As Shown
 DRAWING: 18 of 19
 JOB NO.: 98-038
 FILE NO.: SDP 00-98

RICHARD P. PUE
 Libe: 283 / Folio 383
 Zoned: RR
 Land Use: Agricultural
 Parcel 97



LEGEND

- SPECIMEN TREE
- EX TREE / TREE GROUPS TO BE RETAINED
- EX TREE / TREE GROUP TO BE REMOVED

TREE ID	SPECIES/SIZE	KEEP OR REMOVE	REASON FOR REMOVAL
A	32" Northern Red Oak	Keep	
B	30" White Oak	Keep	
C	31" Tulip Poplar	Remove	In Parking Area
D	33" Black Gum	Keep	
E	31" White Oak	Keep	Evaluate Root Prune
F	30" White Oak	Keep	Evaluate Root Prune
G	32" White Oak	Keep	Evaluate Root Prune
H	40" White Oak	Keep	Evaluate Root Prune
I	38" White Oak	Remove	Located In SWM Area
J	40" White Oak	Keep	



APPROVED: FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS
 Domic H. Hester, 4/30/01
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 [Signature], 3/14/01
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 [Signature], 5/3/01
 CHIEF, DIVISION OF LAND DEVELOPMENT
 [Signature], 5/19/01
 DIRECTOR

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
 "I HEREBY CERTIFY THAT THIS PLAN FOR CONSTRUCTION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED UPON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THE PLANS PREPARED IN ACCORDANCE WITH REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
 [Signature], 2/26/01
 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], 2/26/01
 SIGNATURE OF DEVELOPER

Subdivision Name: MT. ZION UNITED METHODIST CHURCH	Section/Area: 140	Parcel No. 140
Plot No. C.22 F.107	Block No. 12 & 18	Zone RR-DEO
Water Code N/A	Tax Map No. 40	Election District 5 th
	Sewer Code N/A	Census Tract 6051.02

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

DESIGNED: E.D.S.
 DRAWN: K.B.W.
 CHECKED: B.D.B.
 DATE: Jan. 2001

SCALE: 1" = 30'
 DRAWING: 190119
 JOB NO.: 98-038
 FILE NO.: S0P00-98

FORST STAND DELINEATION
MT. ZION UNITED METHODIST CHURCH
 Tax Map 40 BLOCKS 18 AND 18 PARCEL 140
 518 ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND
 Previous Subdiv: BA 04-05K, 04-53K & Y, SDP 04-205, BA 08-09E, BA 08-50E & Y, BA 09-11E & Y
 OWNER / DEVELOPER
 THE MT. ZION METHODIST CHURCH
 P.O. BOX 44
 HIGHLAND, MARYLAND 20777