

**GENERAL NOTES**

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES(UTMCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY PAVING.
- ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- THE EXISTING SITE TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH 2' CONTOUR INTERVALS PREPARED BY MORRIS & RITCHE ASSOCIATES, INC. DATED FEBRUARY, 2005.
- COORDINATES, COURSES AND ELEVATIONS SHOWN HEREON ARE REFERRED TO THE MERIDIAN OF THE MARYLAND STATE PLANE COORDINATE SYSTEM (NAD 83/91, NAVD 88) AS DETERMINED FROM THE FOLLOWING HOWARD COUNTY CONTROL STATIONS (US SURVEY FEET): 48DE AND 48GA SHOWN HEREON.
- WATER IS PUBLIC.
- SEWER IS PUBLIC.
- ALL SWIM DEVICES ARE PRIVATELY OWNED AND MAINTAINED.
- EXISTING UTILITIES ARE BASED ON FIELD LOCATIONS AND SUPPLEMENTED WITH EXISTING AVAILABLE UTILITY DRAWINGS AND SHOULD BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION.
- THERE ARE NO FLOOD PLANS ON THIS SITE.
- THE WETLANDS DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY GEO-TECHNOLOGY ASSOCIATES, DATED, AUGUST 19, 2005.
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, DATED APRIL 14, 2005.
- CONTRACTOR IS RESPONSIBLE FOR ALL SITE CONDITIONS, CONSTRUCTION REQUIREMENTS, AND SHALL CONFORM TO ALL STATE, FEDERAL, AND COUNTY CONSTRUCTION REGULATIONS. THE CONTRACTOR IS NOT RELIEVED OF RESPONSIBILITY SHOULD ANY REQUIRED ITEMS PERTAINING TO SITE CONSTRUCTION NOT BE INCLUDED ON THESE PLANS. CONTRACTOR IS RESPONSIBLE FOR ALL ITEMS NECESSARY TO COMPLETE THE SITE IMPROVEMENTS AS SHOWN ON THESE PLANS.
- ANY DAMAGE TO EXISTING UTILITIES, PAVEMENT, OR CURB AND GUTTER DUE TO CONSTRUCTION ACTIVITY OUTSIDE THE LIMITS OF DISTURBANCE IS TO BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- WHERE NECESSARY, THE CONTRACTOR SHALL TEST PIT ALL EXISTING UTILITIES AT LEAST FIVE (5) DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE DRAWINGS.
- CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY PROPERTY MONUMENTS, MARKERS, SIGNS, LIGHTS, OR ANY OTHER EXISTING SITE FEATURES DISTURBED DURING CONSTRUCTION.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE "1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" PUBLISHED JOINTLY BY THE WATER RESOURCES ADMINISTRATION, SOIL CONSERVATION SERVICE, AND STATE SOIL CONSERVATION COMMITTEE.
- THE SUBJECT PROPERTY IS ZONED M-2.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, WETLAND BUFFERS, STREAM OR STREAM BUFFERS AND FLOODPLAINS.
- THE FOREST CONSERVATION OBLIGATION OF 1.0 ACRES OF AFFORESTATION FOR THIS PLAN HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$21,780.00 TO THE HOWARD COUNTY FOREST CONSERVATION FUND.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A GEO-TECHNICAL STUDY WAS CONDUCTED FOR THIS PROJECT BY GEO-TECHNOLOGY ASSOCIATES, INC. DATED JULY 8, 2005.
- TRENCH CONSTRUCTION FOR STORM DRAINS WITHIN ROADWAYS AND PARKING AREAS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOL. IV, STANDARD NO. G-2.01.
- ALL COMPACTED FILL SHALL BE IN ACCORDANCE WITH AASHTO T-180 REQUIREMENTS.
- ALL EXTERIOR LIGHTING SHALL COMPLY WITH ZONING REGULATIONS SECTION 134. SEE SHEET 20 FOR LIGHTING LOCATIONS. SEE SHEET 10 FOR LIGHTING DETAILS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING (SEE GENERAL NOTE #23 ON SHEET 23) IN THE AMOUNT OF \$16,200 (FOR 11 SHADE TREES, 2 FLOWERING TREES AND 420 SHRUBS) HAS BEEN PART OF THE DEVELOPER'S AGREEMENT.
- SEE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS CONTRACT DRAWING NO. 24-4299-D FOR PUBLIC WATER & SANITARY SEWER DESIGN.
- PROPOSED GUILDFORD ROAD IMPROVEMENTS TO BE PERFORMED UNDER CAPITAL PROJECT NUMBERS J-4175 AND B-3055 BY OTHERS.
- SITE DEMOLITION WAS COMPLETED UNDER HOWARD COUNTY DEMOLITION PERMIT #600153585 IN MAY 2005.
- THE PUBLIC WATER, SEWER AND UTILITY EASEMENT WAS RECORDED UNDER LIBER XXX, FOLIO XXX ON XXX.
- NO LOADING, UNLOADING, ASSEMBLY, REPAIR, MAINTENANCE OR STORAGE IS PERMITTED WITHIN THE 50' STRUCTURE SETBACK AREA, HOWEVER PARKING IS PERMITTED IN THIS AREA.

# SITE DEVELOPMENT PLAN

## 11071 GUILDFORD ROAD

## LAUREL BLOCK PROPERTY

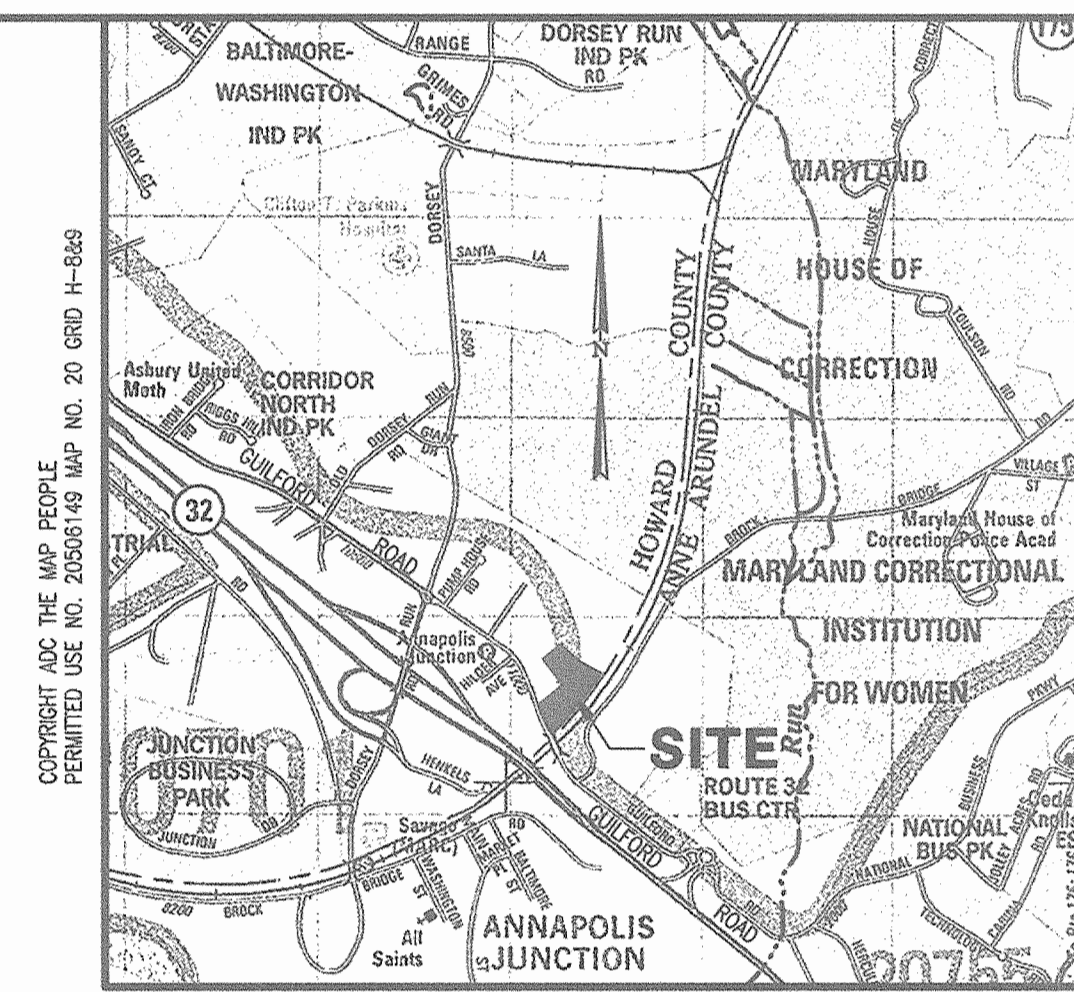
### PARCEL "42"

### 6th ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

### SDP-06-021

**△ BENCHMARKS**  
 BENCHMARK # 48DE  
 HOWARD COUNTY GEODETIC SURVEY CONTROL  
 N 532,099.6376 E 1,370,750.9778  
 ELEVATION=216.487'  
 BENCHMARK # 48GA  
 HOWARD COUNTY GEODETIC SURVEY CONTROL  
 N 531,519.2208 E 1,371,653.8251  
 ELEVATION=205.951'  
 BENCHMARK # 0078  
 HOWARD COUNTY GEODETIC SURVEY CONTROL  
 N 532,530.2417 E 1,370,823.8  
 ELEVATION=227.881'



**VICINITY MAP**  
 SCALE: 1" = 2000'



**LOCATION MAP**  
 SCALE: 1" = 600'

**SHEET INDEX**

1	COVER SHEET
2	OVERALL PLAN
3	EXISTING CONDITIONS PLAN
4	SITE LAYOUT PLAN
5	GRADING PLAN
6	UTILITY PLAN
7	SITE DISTANCE & STORM DRAIN PROFILES
8	STORM DRAIN, WATER AND SEWER PROFILES
9	SITE DETAILS
10	SITE DETAILS
11	DRAINAGE AREA MAP
12	WATER QUALITY FACILITY #1 DETAILS
13	WATER QUALITY FACILITY #2 DETAILS
14	STORMWATER MANAGEMENT DETAILS
15	EROSION & SEDIMENT CONTROL PLAN
16	EROSION & SEDIMENT CONTROL DETAILS
17	EROSION & SEDIMENT CONTROL DETAILS
18	EROSION & SEDIMENT CONTROL DETAILS
19	GEO-TECHNICAL REPORT INFORMATION
20	LANDSCAPING & LIGHTING PLAN
21	FOREST CONSERVATION PLAN
22	FOREST CONSERVATION PLAN
23	SILLO FOUNDATION PLAN

**ADJACENT PROPERTY CHART**

NO.	OWNER	TAX MAP	PARCEL
1	WILLIAM D. & NANCY M. JOHNSTON	4B	69
2	MEVAS ENTERPRISES, LLC	4B	70
3	SK PROPERTY DEVELOPMENT, LLC	4B	119
4	STATE OF MD DEPT. OF CORRECTIONS	4B	84
5	STATE OF MD DEPT. OF CORRECTIONS	4B	128
6	CSX TRANSPORTATION, INC.	4B	143
7	ALBAN TRACTOR COMPANY, INC.	4B	44
8	NATIONAL RAILROAD PASSENGER CORP.	4B	154

**SITE ANALYSIS DATA CHART**

1. TOTAL PROJECT AREA:	274,536 SQ. FT. OR 6.30 ACRES
SUBJECT PARCEL (PARCEL 42)	274,536 SQ. FT. OR 6.30 ACRES
OFFSITE PARCEL (PARCEL 143)	6,885 SQ. FT. OR 0.15 ACRES (SWIM OUTFALL)
TOTAL:	281,424 SQ. FT. OR 6.45 ACRES
2. LIMIT OF DISTURBED AREA:	269,263 SQ. FT. OR 6.18 ACRES
SUBJECT PARCEL (PARCEL 42)	269,263 SQ. FT. OR 6.18 ACRES
OFFSITE PARCEL (PARCEL 143)	6,651 SQ. FT. OR 0.15 ACRES (SWIM OUTFALL)
TOTAL:	276,014 SQ. FT. OR 6.33 ACRES
3. PRESENT ZONING DESIGNATION:	M-2
4. PROPOSED USES FOR SITE AND STRUCTURES:	ASPHALT MANUFACTURING PLANT AND STORAGE YARD
5. BUILDINGS/TRAILERS:	OPERATING STATION #1 - USED FOR ELECTRICAL SWITCH GEAR & MOTOR CONTROLS. A MODULAR BUILDING THAT IS SITED 10 FEET, FT 30" ABOVE GRAVEL WITH 2 STEPS. NO PLUMBING OR HANDICAPPED ACCESS TO THIS BUILDING. QUALITY CONTROL BUILDING #2 - TEMPORARY TRAILER STORAGE SHED #3 - FOR ONSITE MAINTENANCE EQUIPMENT.
6. MAXIMUM NUMBER OF EMPLOYEES ON MAJOR SHIFT:	8
7. NUMBER OF PARKING SPACES REQUIRED:	8 (NUMBER OF EMPLOYEES ON MAJOR SHIFT)
8. NUMBER OF PARKING SPACES PROVIDED:	10 (INCLUDING 1 HANDICAP SPACE)

OPTION 1: FEE-IN-LIEU	FOREST CONSERVATION DATA SUMMARY
File Number: SDP-06-021	Project/Subdivision Name: Laurel Block Property
Fee-In-Lieu Amount: \$21,780	Net Tract Area: 6.5 acres
Cash Receipt No: 0467	Watershed: 2 13 11 05
Comment: Fee-In-Lieu for 1.0 acres of Reafforestation of A forestation (specify which is applicable)	

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 10/26/06  
  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/26/06  
  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE: 10/26/06

ADDRESS CHART					
LOT/PARCEL NO.	STREET ADDRESS				
PARCEL 42	11071 GUILDFORD ROAD ANNAPOLIS JUNCTION, MARYLAND 20701				
PERMIT INFORMATION CHART					
PROJECT NAME	SECTION/AREA	LOT/PARCEL NO.			
PARCEL 42	N/A	PARCEL 42			
LAUREL BLOCK PROPERTY					
PLAN # OR L/F	GRID #	ZONE	TAX MAP NO.	ELECT. DIST.	CENSUS TRACT
L. 8920 F. 74	14	M-2	48	6	6069.01
WATER CODE: B-02		SEWER CODE: 4020000			

**OWNER/DEVELOPER:**  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-882-1400  
 ATTN: MR. YVON BERGEMAN

SHEET: 1

**MORRIS & RITCHE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 792-8782 or (301) 778-1680  
 FAX (410) 792-7305

LAUREL BLOCK PROPERTY  
 11071 GUILDFORD ROAD  
 PARCEL "42"

**COVER SHEET**

LIBER 8920 ~ FOLIO 74  
 TAX MAP 4B ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

DATE

REVISIONS

JOB NO: 14018

SCALE: AS SHOWN

DATE: 3/29/06

DRAWN BY: MSP

DESIGN BY: MSP/KSK

REVIEW BY: KSK

SHEET: 1 OF 23





**LEGEND**

- 250 --- EX. 2' CONTOUR
- 200 --- EX. 10' CONTOUR
- --- EX. BUILDING
- --- EX. CURB
- --- EX. EASEMENT
- --- EX. ELECTRIC
- --- EX. FENCE
- --- EX. FIBER OPTIC
- --- EX. GAS
- --- EX. PAWMENT
- --- EX. PROPERTY LINE
- --- EX. COUNTY LINE
- --- EX. RAILROAD E
- --- EX. ROAD CENTERLINE
- --- EX. SANITARY SEWER
- --- EX. STORM DRAIN
- --- EX. TREE LINE
- --- EX. SHRUB LINE
- --- EX. WATERLINE
- --- EX. WETLAND
- --- EX. WETLAND BUFFER
- --- PROP. 2' CONTOUR
- --- PROP. 10' CONTOUR
- --- PROP. CENTERLINE OF DRAINAGE SWALE
- --- PROP. 2' CHAINLINK FENCE
- --- PROP. CURB
- --- PROP. TREE LINE
- --- PROP. SHRUB LINE
- --- PROP. LIMIT OF DISTURBANCE
- --- PROP. PAVED DRIVE
- --- PROP. GRAVEL
- --- PROP. PLANT & ACCESSORY STRUCTURES
- --- PROP. PRIVATE SANITARY SEWER LINE
- --- PROP. PRIVATE WATER LINE
- --- PROP. PUBLIC SANITARY SEWER LINE
- --- PROP. PUBLIC WATER LINE
- --- PROP. RAILROAD E
- --- PROP. STORM DRAIN
- --- PROP. DRAINAGE AREA
- --- PROP. Silt FENCE
- --- PROP. EARTH OCE
- --- PROP. TEMPORARY SWALE
- --- SOIL BOUNDARY
- --- SOIL TYPE

SHEET: 2

**MRA**  
**MORRIS & RITCHIE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 792-9792 or (301) 778-1880  
 FAX (410) 792-7385

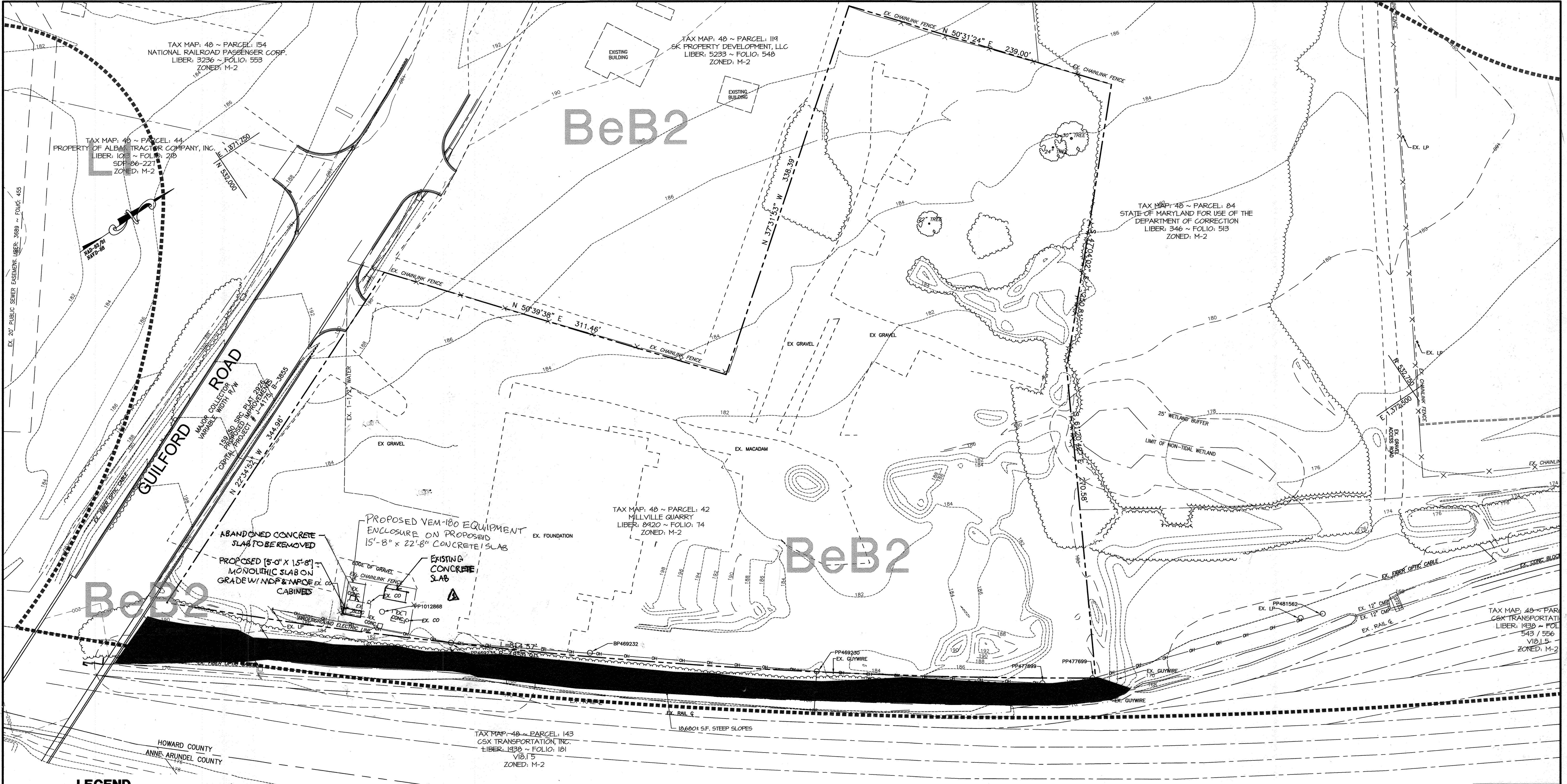
LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"  
**OVERALL LAYOUT PLAN**  
 USER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
		14018
		SCALE: 1"=50'
		DATE: 3/29/06
		DRAWN BY: MSP/MM
		DESIGN BY: KSK
		REVIEW BY: KSK
		SHEET: 2 OF 23

**OWNER/DEVELOPER:**  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-382-1400  
 ATTN: MR. YVON BERGEMAN

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director, Department of Planning and Zoning





**LEGEND**

- 258 --- EX. 2' CONTOUR
- 260 --- EX. 10' CONTOUR
- --- EX. BUILDING
- --- EX. CURB
- --- EX. EASEMENT
- --- EX. ELECTRIC
- --- EX. FENCE
- --- EX. FIBER OPTIC
- --- EX. GAS
- --- EX. PAVEMENT
- --- EX. PROPERTY LINE
- --- EX. COUNTY LINE
- --- EX. RAILROAD
- --- EX. ROAD CENTERLINE
- --- EX. SANITARY SEWER
- --- EX. STORM DRAIN
- --- EX. TREE LINE
- --- EX. SHRUB LINE
- --- EX. WATERLINE
- --- EX. WETLAND
- --- EX. 15-25% SLOPES
- --- EX. >25% SLOPES
- --- PROP. TEMPORARY SWALE
- --- SOIL BOUNDARY
- --- SOIL TYPE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

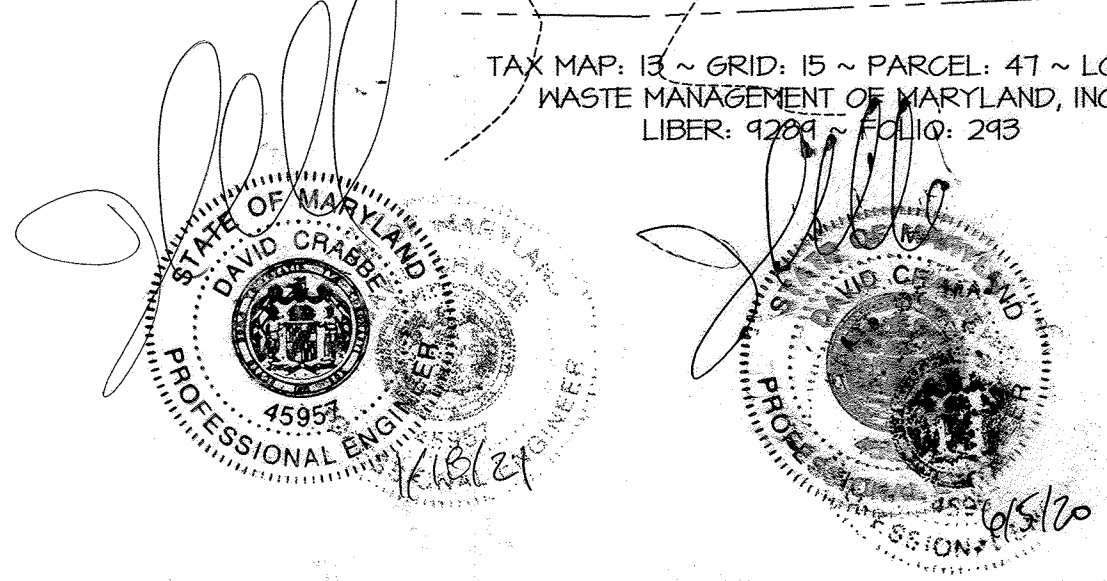
*[Signature]* 9/26/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 10/2/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

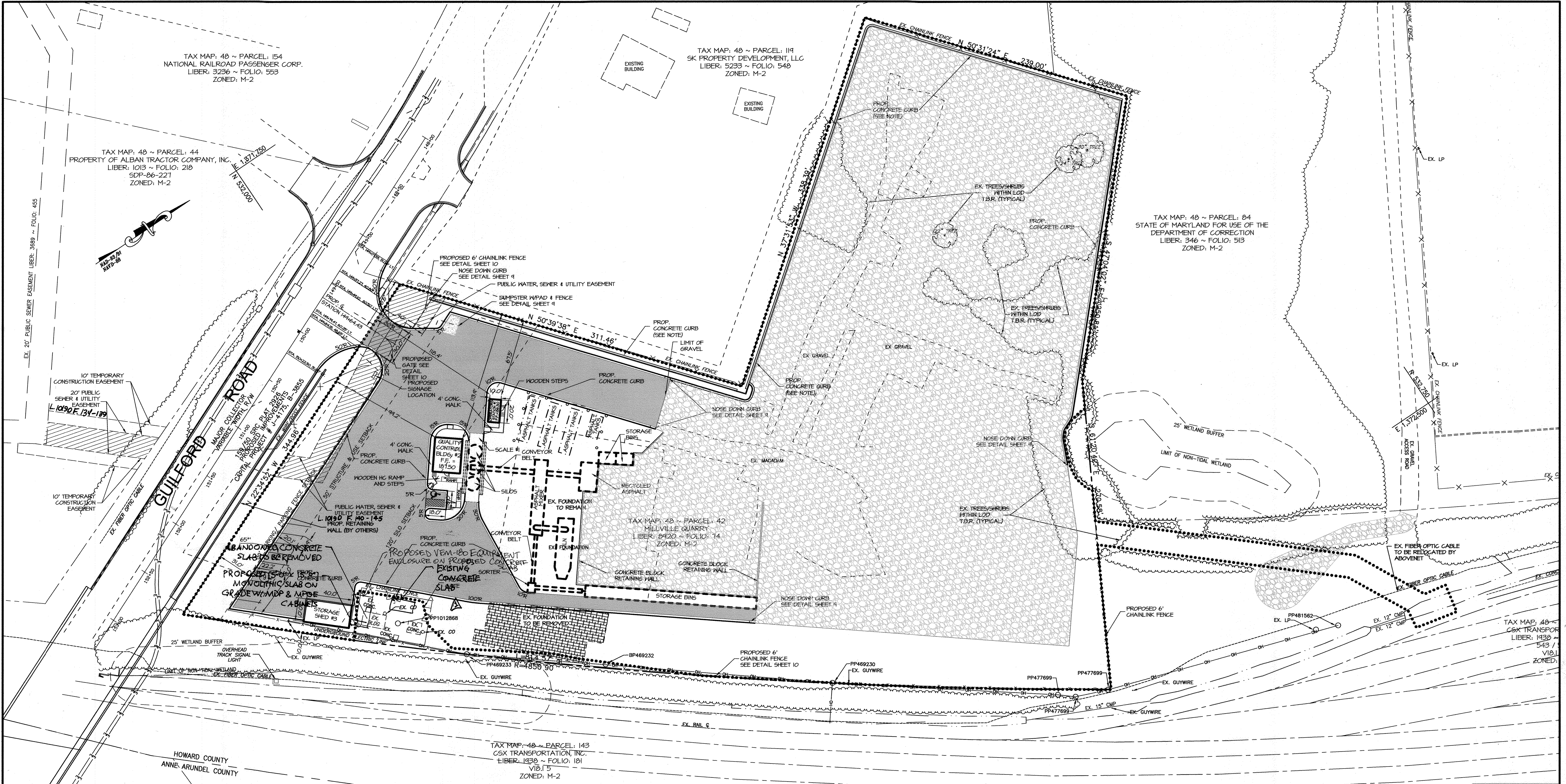
*[Signature]* 10/6/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE

		<b>MORRIS &amp; RITCHIE ASSOCIATES, INC.</b> ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS	
		14280 PARK CENTER DRIVE, SUITE A LAUREL, MARYLAND 20707 (410) 792-9792 or (301) 776-1690 FAX (410) 792-7395	
		LAUREL BLOCK PROPERTY 11071 GUILFORD ROAD PARCEL "42" <b>EXISTING CONDITIONS</b>	
		LIBER 8920 ~ FOLIO 74 TAX MAP 48 ~ GRID 14 ~ PARCEL 42 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND	
DATE 9/1/06	REVISIONS Revise to illustrate equipment w/ a Communicator Compund	JOB NO: 14018	SCALE: 1"=40' DATE: 3/29/06
<b>OWNER/DEVELOPER:</b> MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-982-1400 ATTN: MR. YVON BERGEVIN		DRAWN BY: MM	DESIGN BY: KSK/LFB
		REVIEW BY: KSK	SHEET: 3 OF 23

SHEET: 3







TAX MAP: 48 ~ PARCEL: 154  
 NATIONAL RAILROAD PASSENGER CORP.  
 LIBER: 3236 ~ FOLIO: 553  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 119  
 SK PROPERTY DEVELOPMENT, LLC  
 LIBER: 5293 ~ FOLIO: 548  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 44  
 PROPERTY OF ALBAN TRACTOR COMPANY, INC.  
 LIBER: 1013 ~ FOLIO: 218  
 SDP-06-221  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 84  
 STATE OF MARYLAND FOR USE OF THE  
 DEPARTMENT OF CORRECTION  
 LIBER: 546 ~ FOLIO: 513  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 143  
 CSX TRANSPORTATION, INC.  
 LIBER: 1938 ~ FOLIO: 181  
 V18.15  
 ZONED: M-2

MAP: 13 ~ GRID: 21 ~ PARCEL: 54 ~ RESIDUE B  
 CSX TRANSPORTATION, INC.  
 LIBER: 2771 ~ FOLIO: 673  
 ZONED: M-2

TAX MAP: 13 ~ GRID: 15 ~ PARCEL: 41 ~ LOT: 2  
 WASTE MANAGEMENT OF MARYLAND, INC.  
 LIBER: 3094 ~ FOLIO: 243

**LEGEND**

- 258 --- EX. 2' CONTOUR
- 260 --- EX. 10' CONTOUR
- EX. BUILDING
- EX. CURB LINE
- EX. EASEMENT
- E --- EX. ELECTRIC
- F --- EX. FENCE
- EX. FIBER OPTIC
- EX. GAS
- EX. PAVEMENT
- N41°08'00"E 598.31' --- EX. PROPERTY LINE
- EX. COUNTY LINE
- EX. RAILROAD
- EX. ROAD CENTERLINE
- EX. 8" S --- EX. 27" ROCP --- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. TREE LINE
- EX. SHRUB LINE
- EX. 10" W --- EX. WATERLINE
- EX. WETLAND
- EX. WETLAND BUFFER
- 258 --- PROP. 2' CONTOURS
- 260 --- PROP. 10' CONTOURS
- --- PROP. CENTERLINE OF DRAINAGE SWALE
- X --- PROP. 6' CHAINLINK FENCE
- --- PROP. CURB
- --- PROP. TREE LINE
- --- PROP. SHRUB LINE
- --- PROP. LIMIT OF DISTURBANCE
- --- PROP. PAVEMENT
- --- PROP. GRAVEL
- --- PROP. PLANT & ACCESSORY STRUCTURES
- --- PROP. PRIVATE SANITARY SEWER LINE
- (2" M) --- PROP. PRIVATE WATER LINE
- (6" M) --- PROP. PUBLIC SANITARY SEWER LINE
- --- PROP. PUBLIC WATER LINE

**NOTE: GUTTER PAN TO FACE PROPERTY LINE TO DIVERT OFF-SITE RUNOFF TO STORM DRAIN STRUCTURE. CONTRACTOR TO MAINTAIN POSITIVE DRAINAGE ALONG CURB.**

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 Chief, Development Engineering Division  
 Chief, Division of Land Development  
 Director, Department of Planning and Zoning

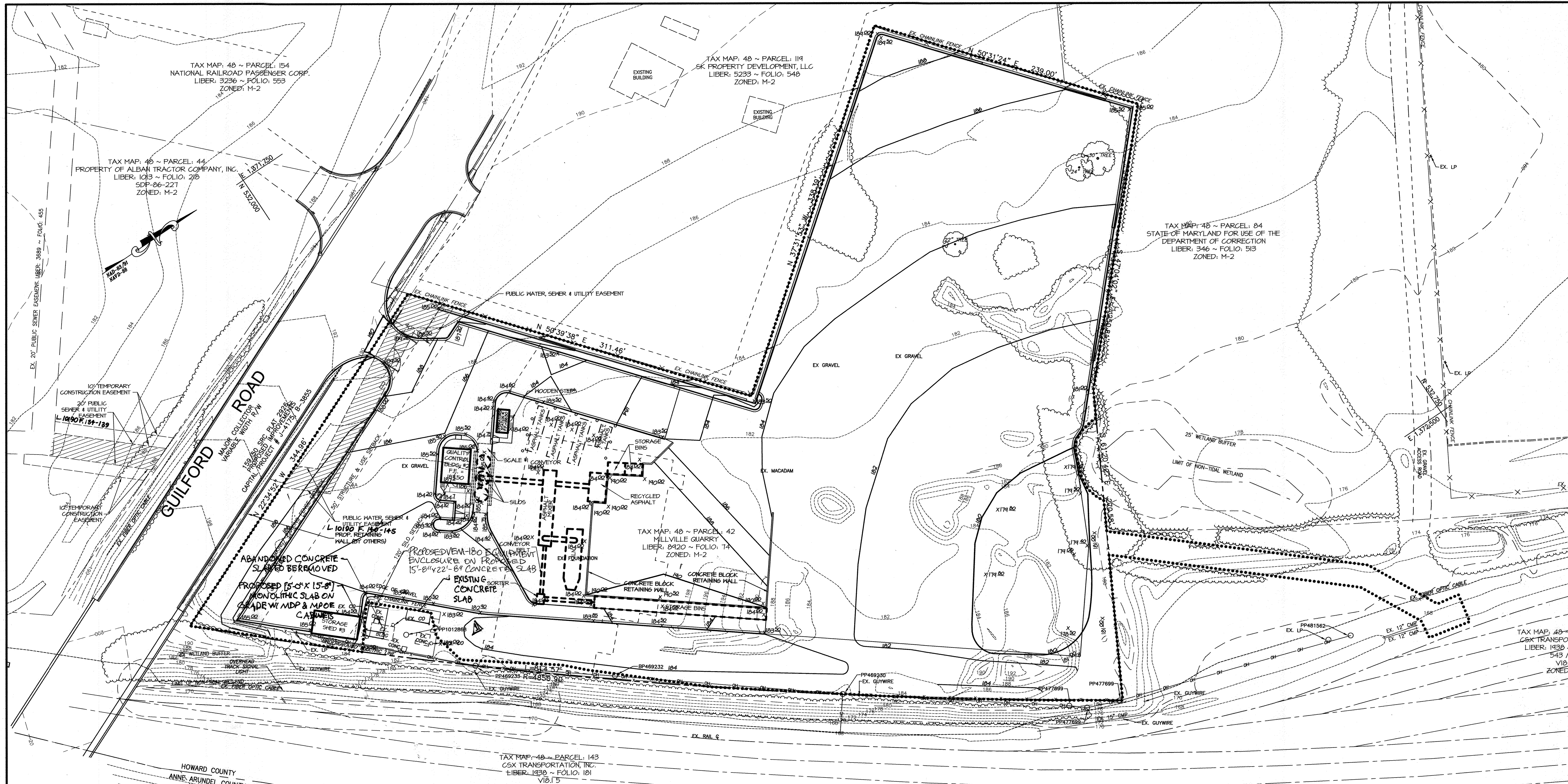
**MRA**  
**MORRIS & RITCHIE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 792-9792 or (301) 776-1690  
 FAX (410) 792-7395

LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"  
**SITE LAYOUT PLAN**  
 LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.
		14018
		SCALE: 1"=40'
		DATE: 3/29/06
		DRAWN BY: MSP/MM
		DESIGN BY: KSK/LFB
		REVIEW BY: KSK
		SHEET: 4 OF 23

OWNER/DEVELOPER:  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-982-1400  
 ATTN: MR. YVON BERGEVIN





TAX MAP: 48 ~ PARCEL: 154  
NATIONAL RAILROAD PASSENGER CORP.  
LIBER: 3236 ~ FOLIO: 553  
ZONED: M-2

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PROPERTY OF ALBAN TRACTOR COMPANY, INC.  
LIBER: 1013 ~ FOLIO: 218  
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ZONED: M-2

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STATE OF MARYLAND FOR USE OF THE  
DEPARTMENT OF CORRECTION  
LIBER: 346 ~ FOLIO: 513  
ZONED: M-2

TAX MAP: 48 ~ PARCEL: 42  
MILLVILLE QUARRY  
LIBER: 8920 ~ FOLIO: 74  
ZONED: M-2

TAX MAP: 48 ~ PARCEL: 143  
CSX TRANSPORTATION, INC.  
LIBER: 1930 ~ FOLIO: 181  
V18.175  
ZONED: M-2

TAX MAP: 13 ~ GRID: 21 ~ PARCEL: 54 ~ RESIDUE B  
CSX TRANSPORTATION, INC.  
LIBER: 2171 ~ FOLIO: 613  
ZONED: M-2

TAX MAP: 13 ~ GRID: 15 ~ PARCEL: 47 ~ LOT: 2  
WASTE MANAGEMENT OF MARYLAND, INC.  
LIBER: 4281 ~ FOLIO: 293

**LEGEND**

--- 258 ---	EX. 2' CONTOUR
--- 260 ---	EX. 10' CONTOUR
---	EX. BUILDING
---	EX. CURB
---	EX. EASEMENT
-E-E-	EX. ELECTRIC
-X-X-	EX. FENCE
-X-X-	EX. FIBER OPTIC
---	EX. GAS
---	EX. PROPERTY LINE
---	EX. COUNTY LINE
---	EX. RAILROAD
---	EX. ROAD CENTERLINE
---	EX. SANITARY SEWER
---	EX. STORM DRAIN
---	EX. TREE LINE
---	EX. SHRUB LINE
---	EX. WATERLINE
---	EX. WETLAND
---	EX. WETLAND BUFFER
---	PROP. 2' CONTOURS
---	PROP. 10' CONTOURS
---	PROP. 6' CHAINLINK FENCE
---	PROP. CURB
---	PROP. TREE LINE
---	PROP. SHRUB LINE
---	PROP. LIMIT OF DISTURBANCE
---	PROP. PAVEMENT
---	PROP. GRAVEL
---	PROP. PLANT & ACCESSORY STRUCTURES
---	PROP. PRIVATE SANITARY SEWER LINE
---	PROP. PRIVATE WATER LINE (PRIVATE)
---	PROP. PUBLIC SANITARY SEWER LINE
---	PROP. PUBLIC WATER LINE (PUBLIC)

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 9/2/06  
CHIEF, DEVELOPMENT ENGINEERING DIVISION

*[Signature]* 10/26/06  
CHIEF, DIVISION OF LAND DEVELOPMENT

*[Signature]* 11/3/06  
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

**MRA**  
MORRIS & RITCHIE ASSOCIATES, INC.  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE, SUITE A  
LAUREL, MARYLAND 20707  
(410) 792-9792 or (301) 776-1690  
FAX (410) 792-7395

LAUREL BLOCK PROPERTY  
11071 GUILFORD ROAD  
PARCEL "42"

**GRADING PLAN**

LIBER 8920 ~ FOLIO 74  
TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER:	DATE	REVISIONS	JOB NO.:
MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-982-1400 ATTN: MR. YVON GERSEVIN			14018
			SCALE: 1"=40'
			DATE: 3/29/06
			DRAWN BY: MAM
			DESIGN BY: MAM
			REVIEW BY: KSK
			SHEET: 5 OF 23

SHEET: 5

SDP-06-021





TAX MAP: 48 ~ PARCEL: 154  
 NATIONAL RAILROAD PASSENGER CORP.  
 LIBER: 3226 ~ FOLIO: 553  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 119  
 SK PROPERTY DEVELOPMENT, LLC  
 LIBER: 5233 ~ FOLIO: 548  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 44  
 PROPERTY OF ALBAN TRACTOR COMPANY, INC.  
 LIBER: 1015 ~ FOLIO: 218  
 SDP 86-221  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 84  
 STATE OF MARYLAND FOR USE OF THE  
 DEPARTMENT OF CORRECTION  
 LIBER: 346 ~ FOLIO: 513  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 42  
 MILLVILLE QUARRY  
 LIBER: 2920 ~ FOLIO: 14  
 ZONED: M-2

TAX MAP: 48 ~ PARCEL: 143  
 CSX TRANSPORTATION, INC.  
 LIBER: 1939 ~ FOLIO: 181  
 VIB 15  
 ZONED: M-2

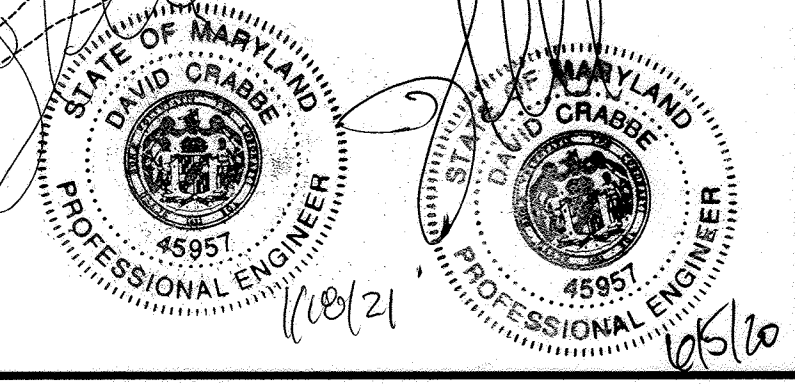
TAX MAP: 13 ~ GRID: 21 ~ PARCEL: 54 ~ RESIDUE B  
 CSX TRANSPORTATION, INC.  
 LIBER: 2117 ~ FOLIO: 613  
 ZONED: M-2

**LEGEND**

- 250 --- EX. 2' CONTOUR
- 250 --- EX. 10' CONTOUR
- EX. BUILDING
- EX. CURB
- EX. EASEMENT
- EX. ELECTRIC
- EX. FENCE
- EX. FIBER OPTIC
- EX. GAS
- EX. PAVEMENT
- EX. PROPERTY LINE
- EX. COUNTY LINE
- EX. RAILROAD C
- EX. ROAD CENTERLINE
- EX. SANITARY SEWER
- EX. STORM DRAIN
- EX. TREE LINE
- EX. SHRUB LINE
- EX. WATERLINE
- EX. WETLAND
- EX. WETLAND BUFFER
- 250 --- PROP. 2' CONTOURS
- 250 --- PROP. 10' CONTOURS
- PROP. CENTERLINE OF DRAINAGE SWALE
- PROP. 6" CHAINLINK FENCE
- PROP. CURB
- PROP. TREE LINE
- PROP. SHRUB LINE
- PROP. LIMIT OF DISTURBANCE
- PROP. PAVEMENT
- PROP. GSWEL
- PROP. PLANT & ACCESSORY STRUCTURES
- PROP. PRIVATE SANITARY SEWER LINE
- PROP. PRIVATE WATER LINE
- PROP. PUBLIC SANITARY SEWER LINE
- PROP. PUBLIC WATER LINE

**FOR PUBLIC WATER AND SEWER PLANS AND  
 PROFILES, SEE CONTRACT # 24-4299-D**

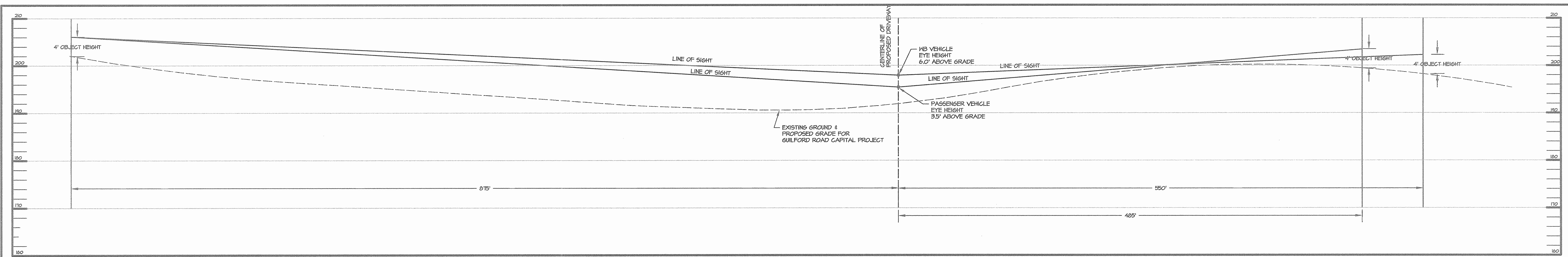
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature]  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 9/2/06  
 [Signature]  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 10/6/06  
 [Signature]  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING  
 DATE: 10/6/06



**OWNER/DEVELOPER:**  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-982-1400  
 ATTN: MR. TYON BERGEMAN

		<b>MORRIS &amp; RITCHIE ASSOCIATES, INC.</b> ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 14280 PARK CENTER DRIVE, SUITE A LAUREL, MARYLAND 20707 (410) 792-9792 or (301) 776-1690 FAX (410) 792-7395	
		LAUREL BLOCK PROPERTY 11071 GUILFORD ROAD PARCEL "42" <b>UTILITY PLAN</b> LIBER 8920 ~ FOLIO 74 TAX MAP 48 ~ GRID 14 ~ PARCEL 42 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND	
DATE	REVISIONS	JOB NO.:	14018
		SCALE:	1"=40'
		DATE:	3/29/06
		DRAWN BY:	MM
		DESIGN BY:	MM/MAM
		REVIEW BY:	KSK
		SHEET:	6 OF 23



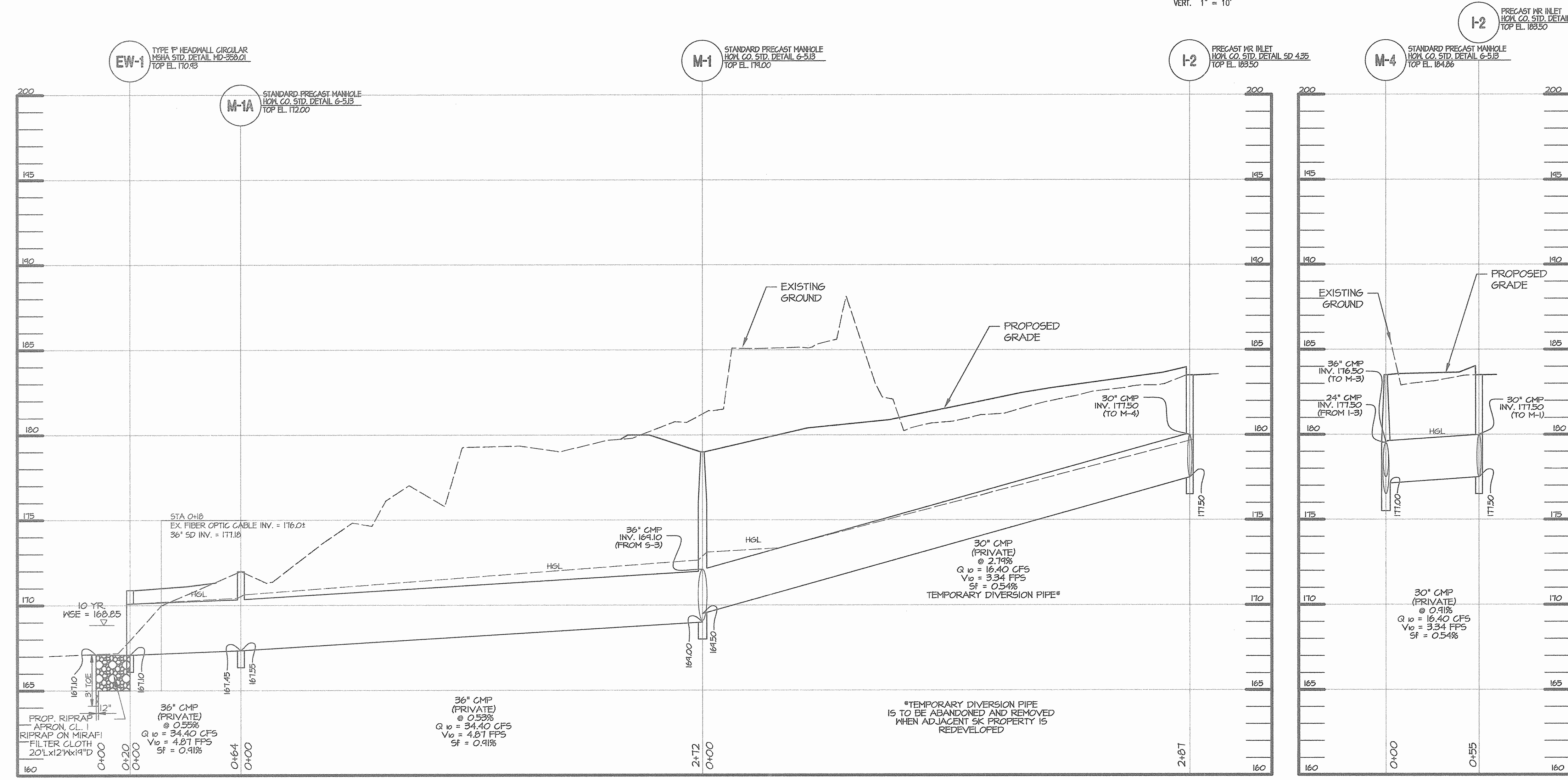


**SIGHT DISTANCE PROFILE**  
 HOR. 1" = 50'  
 VERT. 1" = 10'

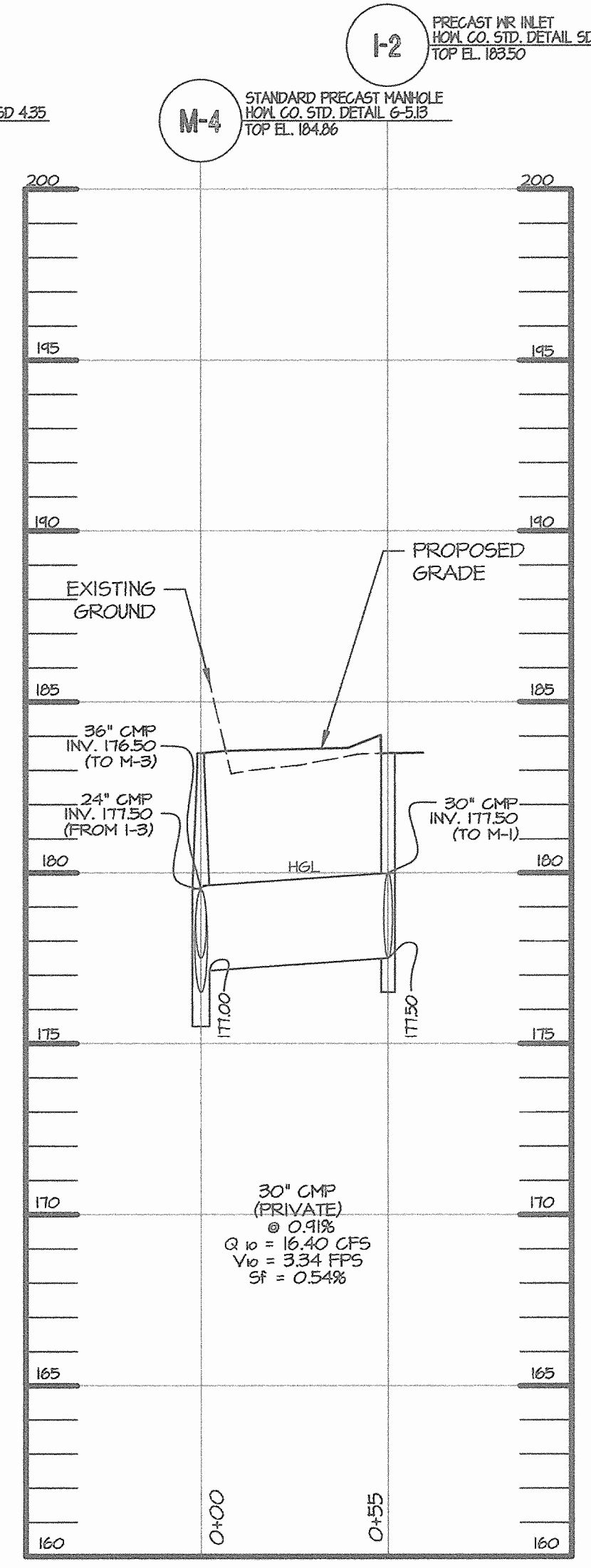
DRIVEWAY SIGHT DISTANCE (DESIGN SPEED 40 MPH)

DISTANCE LEFT	REQUIRED	PROVIDED	DISTANCE RIGHT	REQUIRED	PROVIDED
LEFT TURN	440'	485*	LEFT TURN	540'	875'
RIGHT TURN	510'	485*			

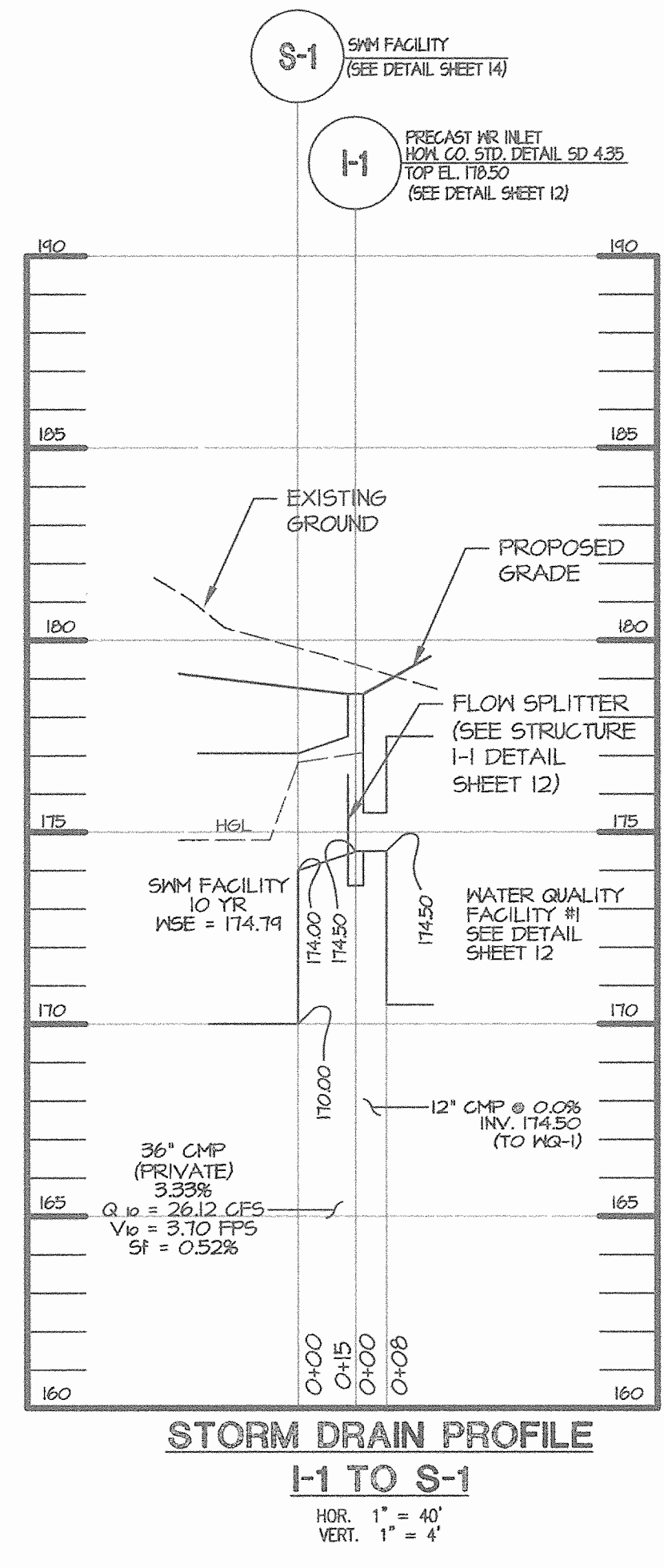
\*BASED ON CONSTRUCTION OF NEW GUILFORD ROAD BRIDGE OVER CSX RAILROAD. CAPITAL PROJECT # J-4175, B-3855.



**STORM DRAIN PROFILE**  
**EW-1 TO I-2**  
 HOR. 1" = 40'  
 VERT. 1" = 4'



**STORM DRAIN PROFILE**  
**M-4 TO I-2**  
 HOR. 1" = 40'  
 VERT. 1" = 4'



**STORM DRAIN PROFILE**  
**I-1 TO S-1**  
 HOR. 1" = 40'  
 VERT. 1" = 4'

- COORDINATES TO CENTER OF STRUCTURE AT FLOWLINE FOR DOUBLE WR & CENTER OF STRUCTURE FOR SINGLE WR INLETS & MANHOLES.
- \* TOP OF GRATE ELEVATION AT CENTER OF STRUCTURE AT FLOWLINE FOR DOUBLE WR, SINGLE WR INLET & MANHOLE ELEVATIONS ARE AT CENTER OF RIM.
- \*\* BYPASS PIPE

**STORM DRAIN STRUCTURE SCHEDULE**

STR NO.	* TOP ELEV	INV IN	INV IN	INV OUT	** INV OUT	TYPE	REMARKS	● LOCATION	
								NORTHING	EASTING
EW-1	170.93	---	---	167.10	---	TYPE "F" HEADWALL CIRCULAR MSHA STANDARD DETAIL MD-358.01		532,644.274	1,372,637.812
I-1	178.50	---	---	174.50	---	PRECAST WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.35		532,374.0154	1,372,477.1439
I-2	183.50	---	---	177.50	177.50	PRECAST WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.35		532,260.6791	1,372,156.8039
I-3	183.50	178.72	---	178.22	---	PRECAST SINGLE WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.37		532,174.071	1,372,133.752
I-4	183.50	179.70	179.70	179.80	---	PRECAST SINGLE WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.37		532,109.2192	1,372,054.6112
I-5	183.50	---	---	180.00	---	PRECAST SINGLE WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.37		532,142.4755	1,372,027.3529
I-6	184.20	---	---	180.70	---	PRECAST SINGLE WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.37		532,069.2795	1,372,035.0199
I-7	182.50	---	---	179.00	---	PRECAST WR INLET HOWARD COUNTY STANDARD DETAIL SD 4.35		531,931.9281	1,372,146.2242
M-1A	172.00	167.55	---	167.45	---	STANDARD PRECAST MANHOLE HOWARD COUNTY STANDARD DETAIL G-5.13		532,615.274	1,372,580.539
M-1	179.00	169.50	169.10	169.00	---	STANDARD PRECAST MANHOLE HOWARD COUNTY STANDARD DETAIL G-5.13		532,411.531	1,372,400.677
M-2	183.80	175.50	175.50	176.40	---	STANDARD PRECAST MANHOLE HOWARD COUNTY STANDARD DETAIL G-5.13		532,210.7950	1,372,275.7778
M-3	183.80	173.89	---	175.79	---	STANDARD PRECAST MANHOLE HOWARD COUNTY STANDARD DETAIL G-5.13		532,229.3162	1,372,252.1147
M-4	184.20	177.50	177.00	176.50	---	STANDARD PRECAST MANHOLE HOWARD COUNTY STANDARD DETAIL G-5.13		532,218.2814	1,372,191.2640
M-5	183.80	176.24	---	176.14	---	STANDARD PRECAST MANHOLE HOWARD COUNTY STANDARD DETAIL G-5.12		532,167.3676	1,372,331.2488

**STORM DRAIN PIPE SCHEDULE**

SIZE	TYPE	LENGTH
12"	CMP 16 GA.	77 FT
18"	CMP 16 GA.	189 FT
21"	CMP 16 GA.	369 FT
24"	CMP 16 GA.	72 FT
30"	CMP 16 GA.	342 FT
36"	CMP 16 GA.	530 FT

THIS SCHEDULE DOES NOT INCLUDE THE PIPING FOR THE SSM FACILITY AS SHOWN ON SHEET 14.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 9/2/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 8/22/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

**MIRA**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 782-9782 or (301) 778-1600  
 FAX (410) 782-7885

LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"

**SITE DISTANCE & STORM DRAIN PROFILES**

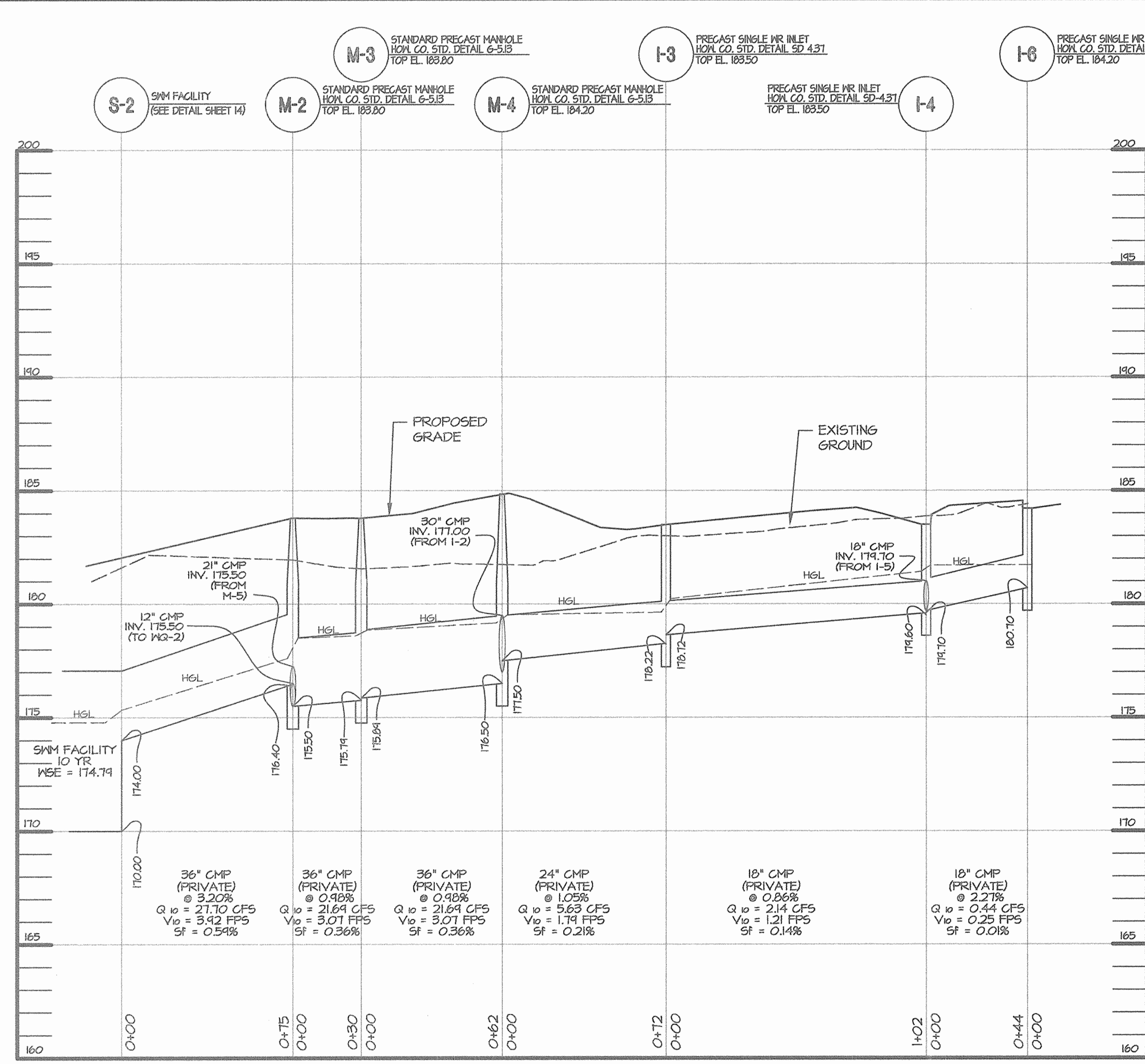
LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER: MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE, SUITE 409  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-982-1400  
 ATTN: MR. YOUN BERGVIN

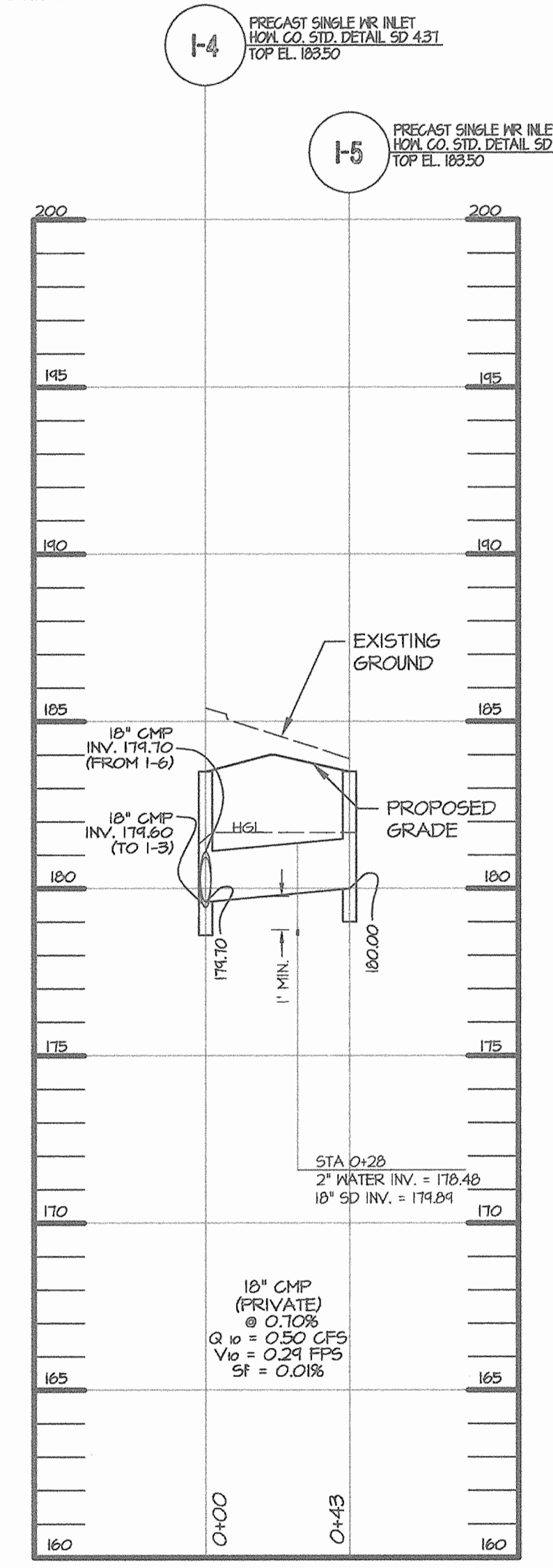
DATE: 9/11/06

DATE	REVISIONS	JOB NO.
		14018
		SCALE: AS SHOWN
		DATE: 3/29/06
		DRAWN BY: MSP
		DESIGN BY: MAM
		REVIEW BY: KSK
		SHEET: 7 OF 23

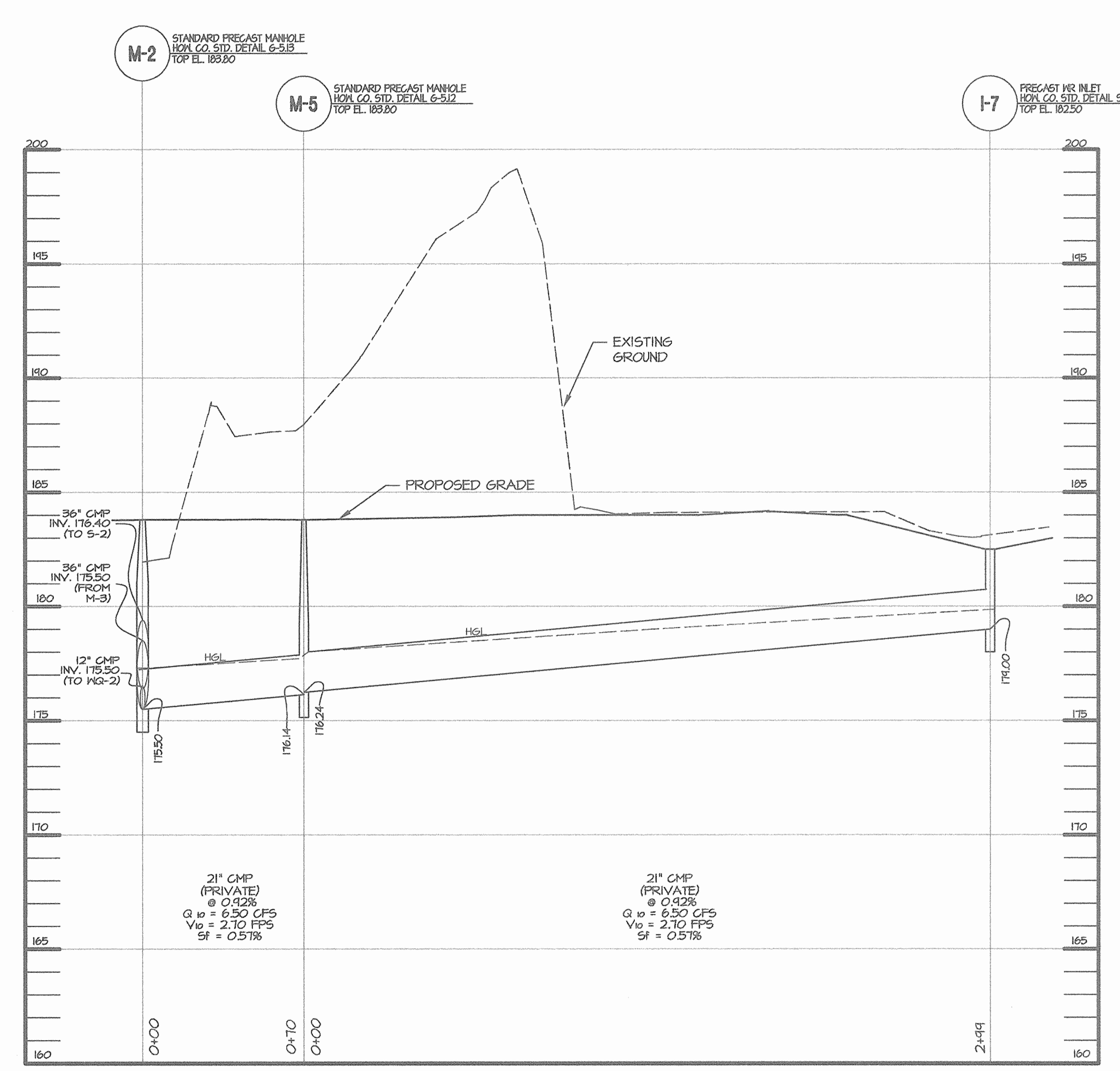




**STORM DRAIN PROFILE**  
M-2 TO I-6  
HOR. 1" = 40'  
VERT. 1" = 4'



**STORM DRAIN PROFILE**  
I-4 TO I-5  
HOR. 1" = 40'  
VERT. 1" = 4'



**STORM DRAIN PROFILE**  
M-2 TO I-7  
HOR. 1" = 40'  
VERT. 1" = 4'

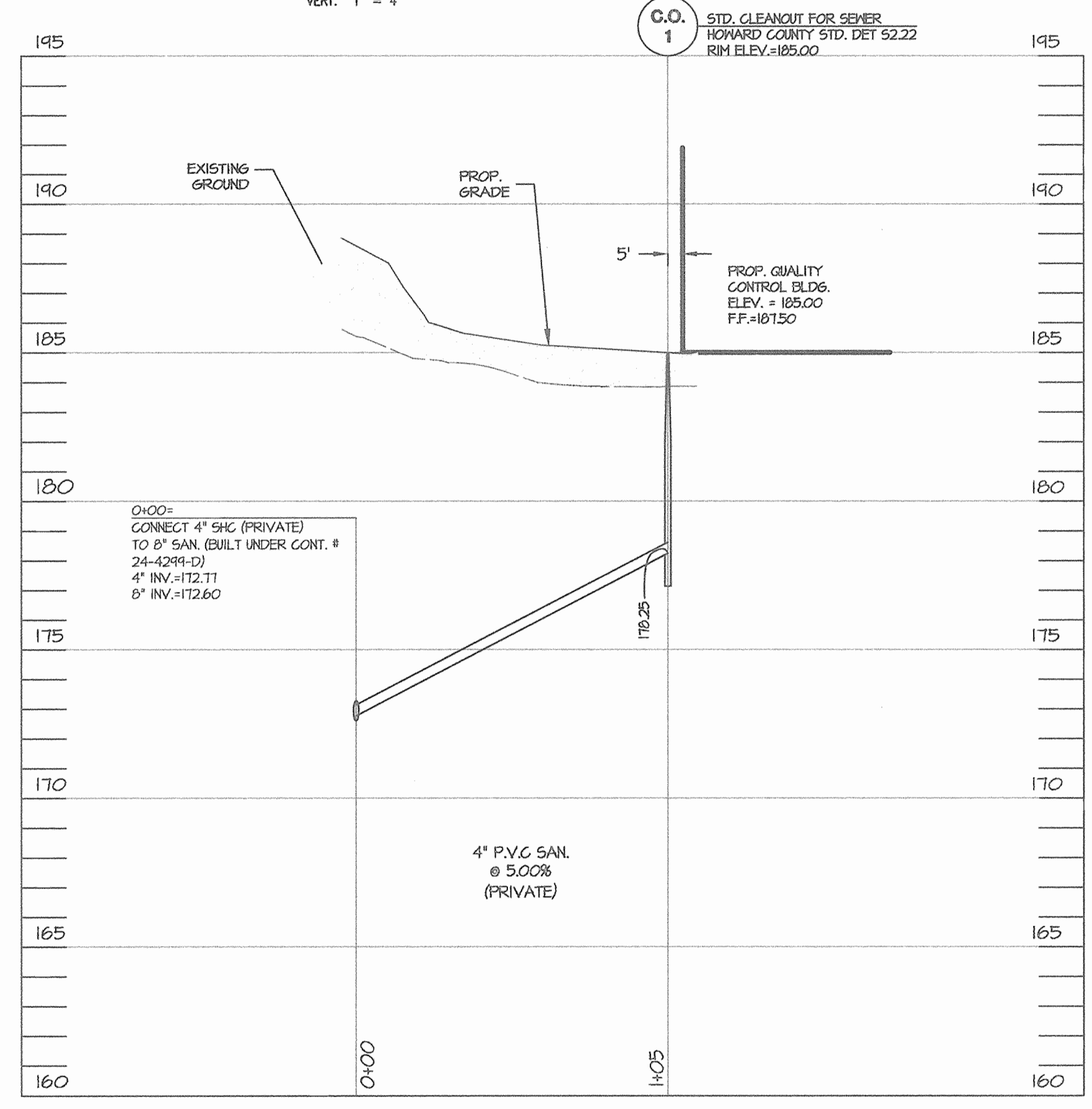
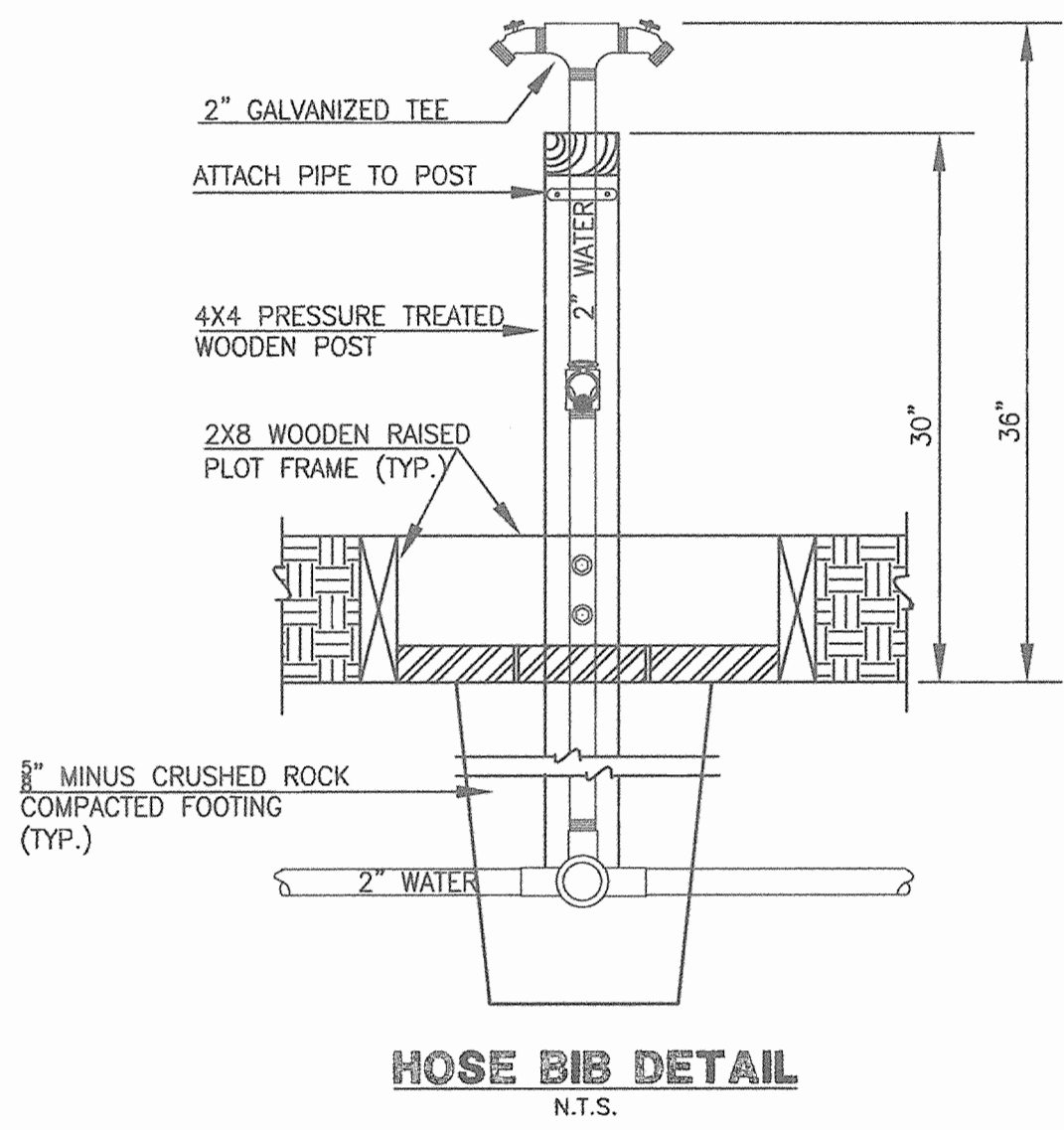
COORDINATES TO CENTER OF STRUCTURE

STR. NO.	* TOP ELEV.	INV. IN	INV. OUT	TYPE	REMARKS	NORTHING	EASTING
CO-1	185.00	---	178.25	HOWARD COUNTY STD. DETAIL S2.22	STANDARD C.O.	532,001.38	1,372,048.04

WATER LINE PIPE SCHEDULE		
SIZE	TYPE	LENGTH
2"	COPPER	278 L.F.
1"	COPPER	128 L.F.

WATER LINE FITTINGS SCHEDULE	
TYPE	QUANTITY
2"x2" TEE	1
1" CURB STOP	1
2" CAP	1

SANITARY SEWER PIPE SCHEDULE (PRIVATE)		
SIZE	TYPE	LENGTH
4"	P.V.C. SEWER	105 L.F.



**SANITARY SEWER PROFILE (PRIVATE)**  
8'x4' WYE TO C.O. #1  
HOR. 1" = 40'  
VERT. 1" = 4'

CONTROLLED AND COMPACTED FILL PER AASHTO T-180, TO BE CERTIFIED BY AN APPROVED ON-SITE GEOTECHNICAL ENGINEER

COMPACTED SPECIFICATIONS FOR UTILITIES IN FILL

- WHERE UTILITY PIPES ARE TO BE PLACED ON COMPACTED FILL, THE FOLLOWING APPLIES:
- PRIOR TO PLACEMENT OF COMPACTED FILL, ANY SOFT OR OTHERWISE UNSUITABLE SOILS ENCOUNTERED AT THE EXISTING RAINE BOTTOM OR SLOPE, SHALL BE UNDERCUT AND REMOVED FROM THE CONSTRUCTION AREA.
  - ACCEPTABLE COMPACTED FILL SHALL BE PLACED IN SIX INCH THICK LOOSE LIFTS AND COMPACTED TO AT LEAST 98 PERCENT OF THE MAXIMUM DENSITY AS DETERMINED BY A.A.S.H.T.O. METHOD T-180.
  - THE COMPACTED FILL SHALL BE BENCHED INTO THE EXISTING VIRGIN SLOPES WITH EACH LIFT PLACED TO A SMOOTH TRANSITION FROM VIRGIN TO FILL SOILS.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE: 9/26/06

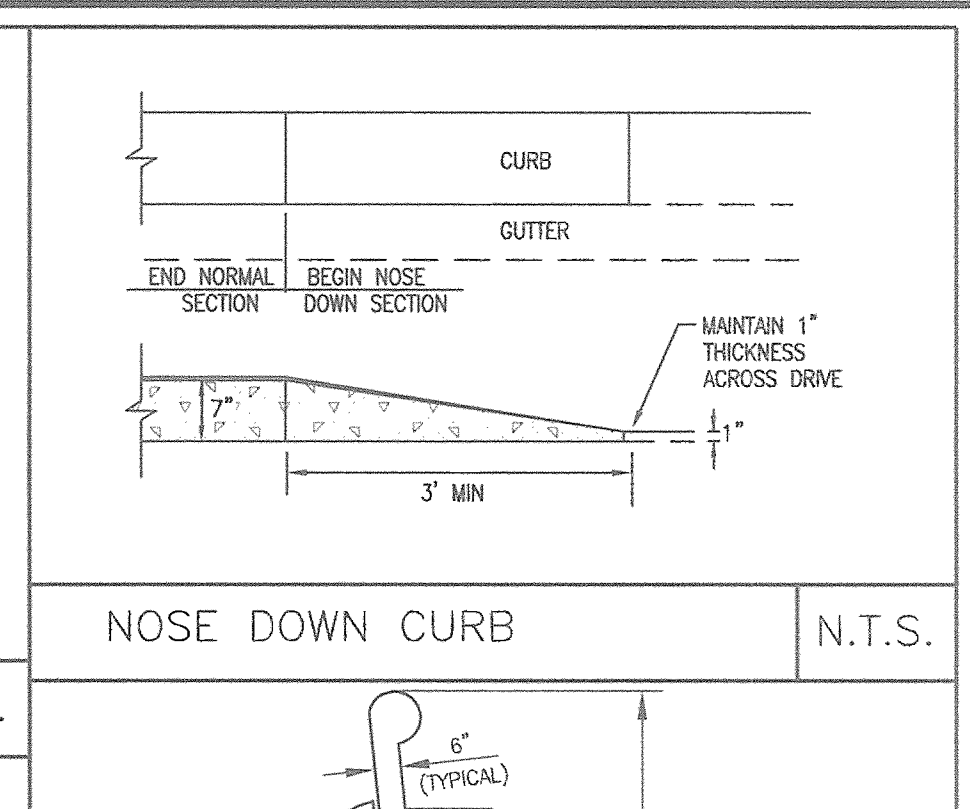
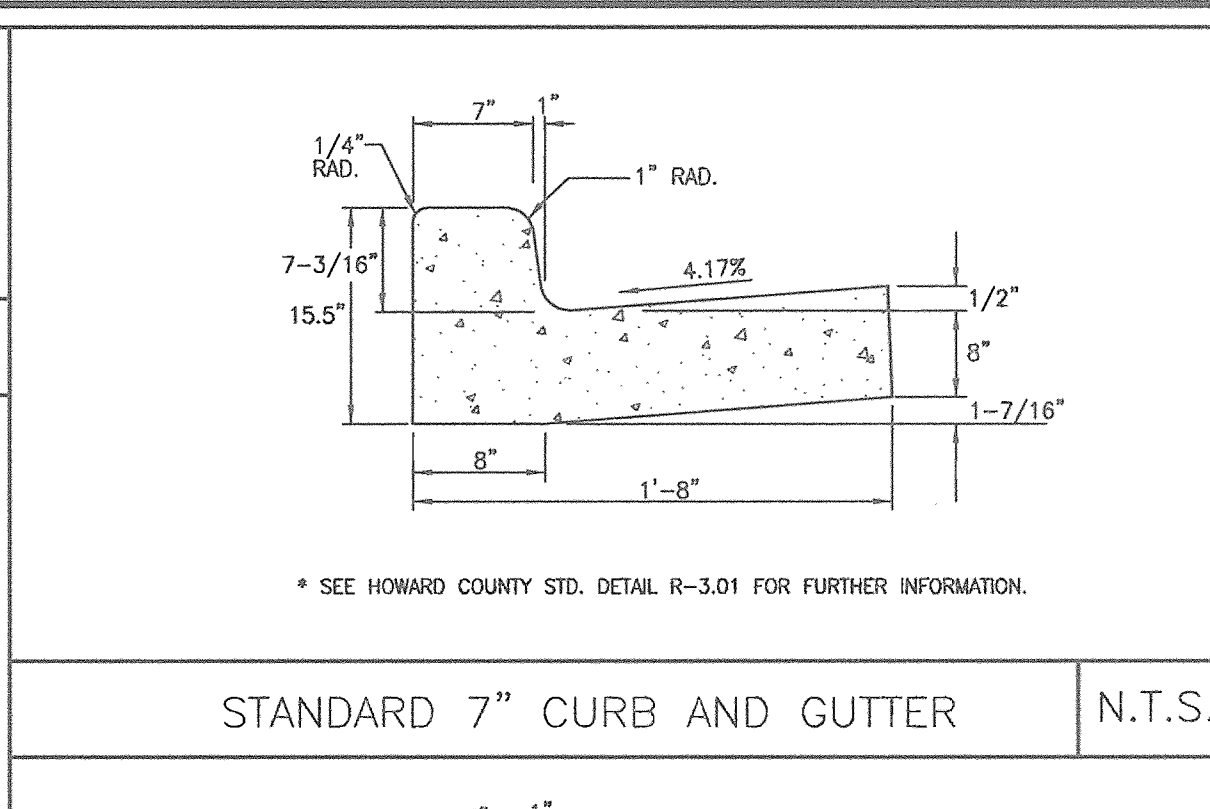
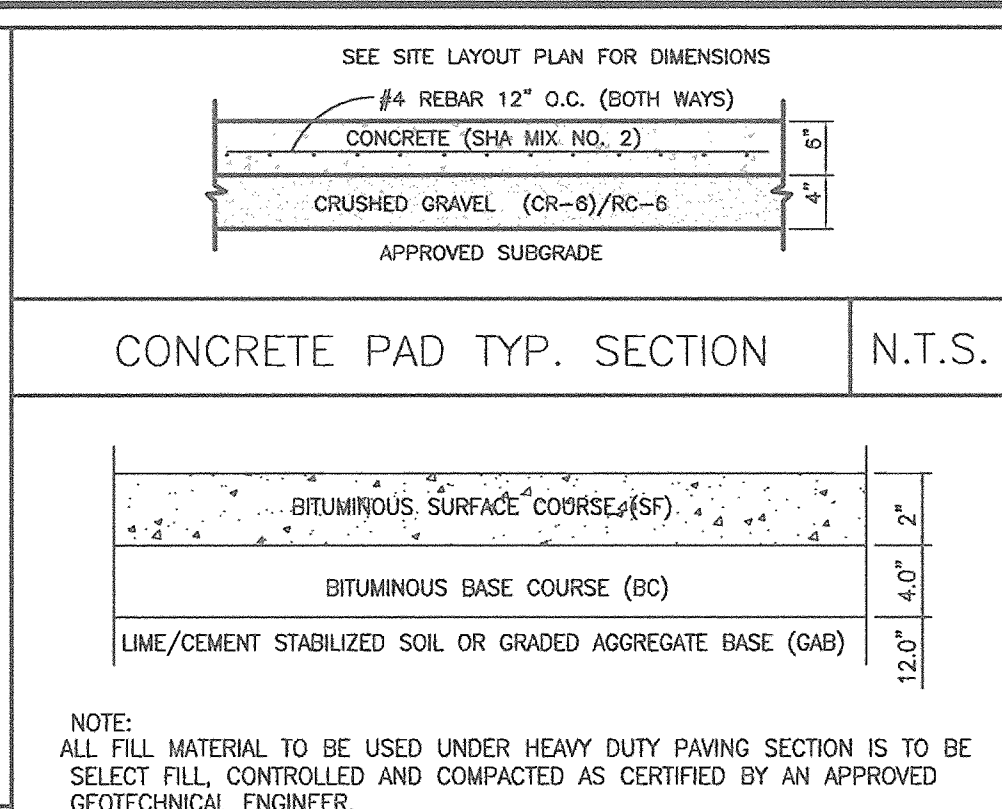
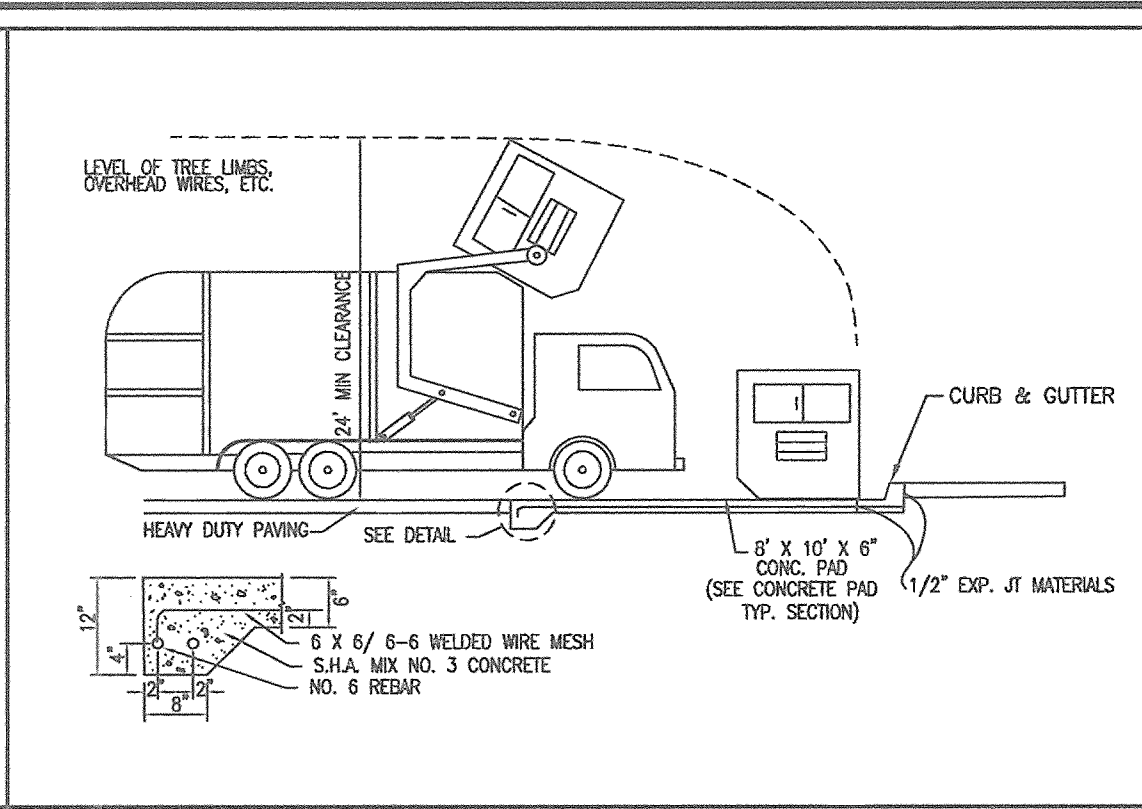
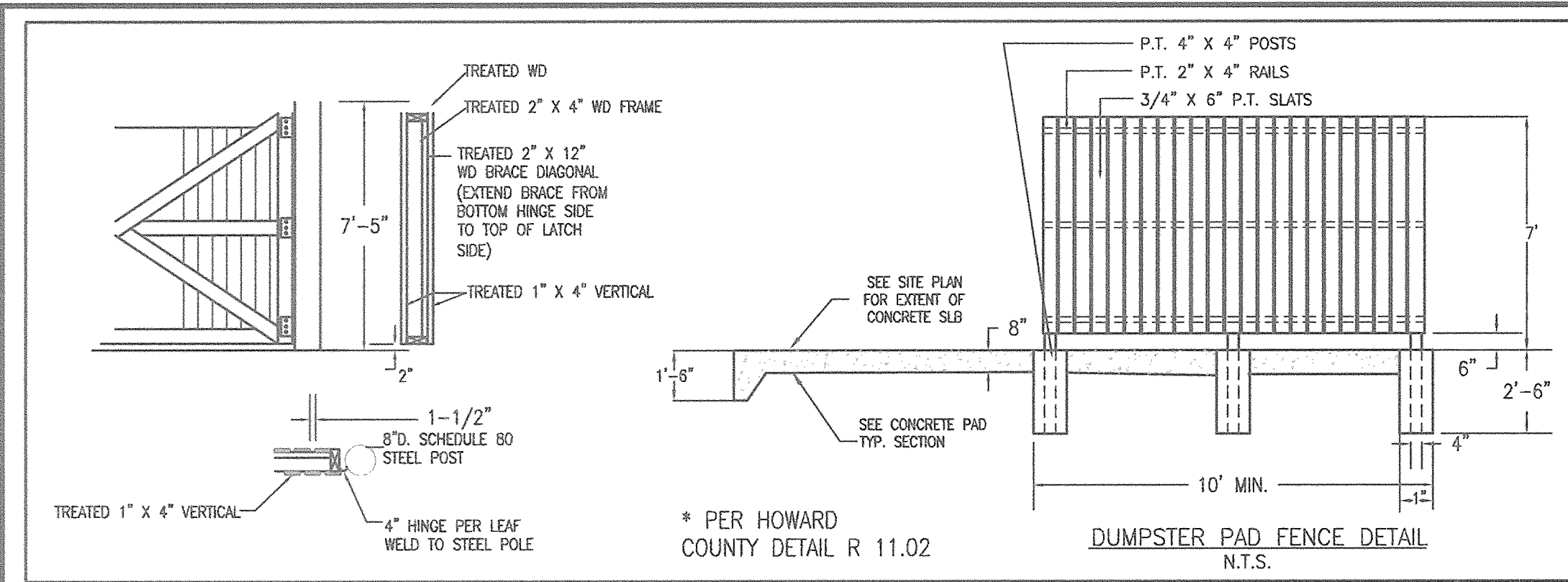
CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE: 10/2/06

DIRECTOR, DEPARTMENT OF PLANNING AND ZONING *[Signature]* DATE: 10/2/06

OWNER/DEVELOPER:  
MILLVILLE QUARRY, INC.  
6401 GOLDEN TRIANGLE DRIVE,  
SUITE 400  
GREENBELT, MARYLAND 20770  
PHONE: 301-382-1400  
ATTN: MR. MYON BERGEMAN

	<b>MORRIS &amp; RITCHIE ASSOCIATES, INC.</b> ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 14280 PARK CENTER DRIVE, SUITE A LAUREL, MARYLAND 20707 (410) 792-9782 or (301) 776-1690 FAX (410) 792-7365		SHEET: 8
<b>STORM DRAIN AND SEWER PROFILES</b> LAUREL BLOCK PROPERTY 11071 GUILFORD ROAD PARCEL "42" JOB NO: 14018 SCALE: 1"=40' DATE: 3/29/06 DRAWN BY: MSP DESIGN BY: MAM REVIEW BY: KSK SHEET: 8 OF 23		USER 8920 ~ FOLIO 74 TAX MAP 48 ~ GRID 14 ~ PARCEL 42 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND	





DUMPSTER PAD FENCE DETAIL N.T.S.

CONCRETE DUMPSTER PAD N.T.S.

CONCRETE PAD TYP. SECTION N.T.S.

STANDARD 7\"/>

NOSE DOWN CURB N.T.S.

**I. Materials**

A. Pipe Bedding Material - pipe bedding material shall consist of CR-6.

B. Backfill Materials - Use CR-6 as backfill material to the minimum extent shown on the plans. The backfill for the remainder of the trench shall consist of on-site or off-site soils conforming to the requirement of the geotechnical report and City/County specifications. No stones larger than 2 inches should be allowed within 2 feet of the utility. Larger stones, up to 8 inches in the largest dimension can be used in lifts 2 feet above the utility. No organic material shall be allowed. For passing #200 sieve, the soil moisture should be granular soils (less than 35 be within 3 percentage points of optimum unless otherwise dictated by project engineer or County specifications. For fine-grained soils (greater than 35 % passing #200 sieve), the soil moisture should be within 0 to plus 4 percent of optimum unless otherwise dictated by engineer or County specifications.

The compaction requirement shall be 92 percent of the Modified Proctor (ASTM D-1557) maximum dry density for material placed below the top 12-inches of roadway subgrade. The top 12 inches should be compacted to 97% unless otherwise recommended by the geotechnical engineer. The top 12 to 24 inches of soil may be required to meet certain material properties for subgrade support for pavements.

**II. Backfilling Procedures**

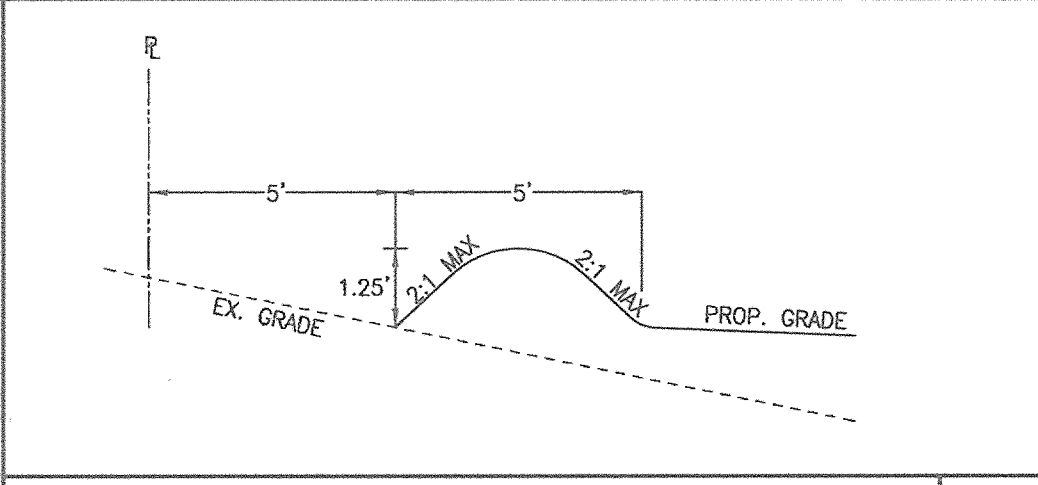
A. Contractor shall place level lifts of soil adjacent to and above the utility. The lift thickness shall be dependent upon the type of equipment being used for compaction and the materials. The following shall be used as a guide:

1. Fine-Grained Materials - fine-grained materials (materials with more than 35 % passing #200 sieve) should be compacted with sheeps-foot type roller. The lift thickness should not exceed 4 inches if hand operated equipment is used. Hand equipment will be required for compaction around manholes, structures and adjacent to and over the utility. If heavy construction sheeps-foot compaction equipment is used, a maximum loose lift thickness should be no greater than the length of the sheeps-foot or a maximum of eight inches. Each lift should be uniformly compacted with a sufficient number of passes to obtain the required degree of compaction.
2. Granular Soils - granular soils (materials with less than 35% passing #200 sieve) should be compacted with a vibratory type compaction equipment. The loose lift thickness should not exceed 4 inches for hand operated equipment. Hand equipment will be required around manholes, structures and adjacent to and above the utility. If heavy vibratory compaction equipment is used, then the loose lift thickness can be increased to 8 inches. Each lift should be uniformly compacted with a sufficient number of passes to obtain the recommended degree of compaction.
3. The backfill should be worked using hand tools around pipe haunch to provide uniform and firm support.

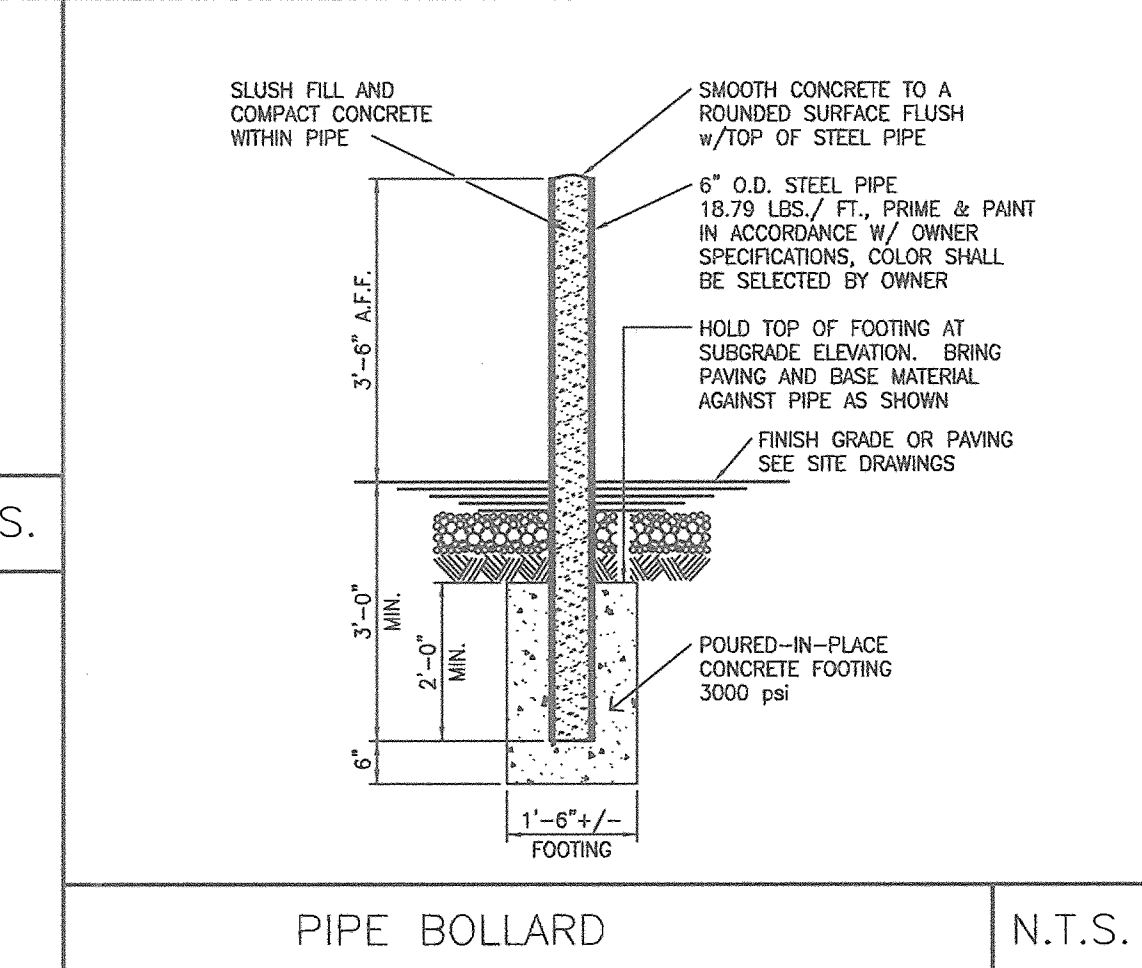
B. If a lift fails to meet the required compaction, then the lift shall be re-compacted and retested. If the material is too wet or too dry, the moisture should be adjusted to within the required range prior to re-compaction.

**III. Testing**

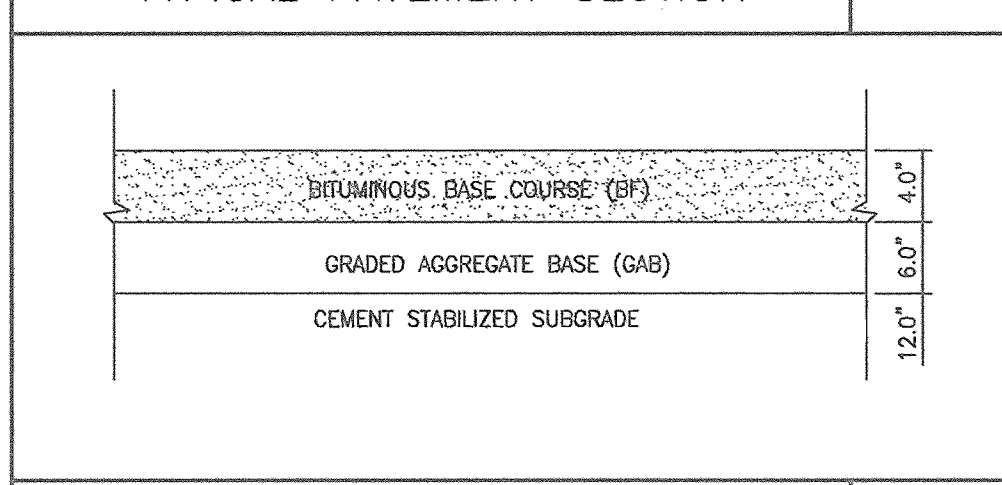
Each lift of fill should be monitored for stability, lift thickness and compactive effort. A density test should be performed for each lift of fill placed per every 150 feet of trench. This requirement includes the utility lateral connections. The test procedure should be the sand cone method (ASTM D-1555) or the nuclear gauge method (ASTM D-2922). The test results shall be made available to the contractor upon the completion of the test. For each test, the technician shall record the following: Date; test location; test elevation; material type; degree of compaction; one-point results; lift thickness; and moisture content.



BYPASS DITCH AND BERM N.T.S.



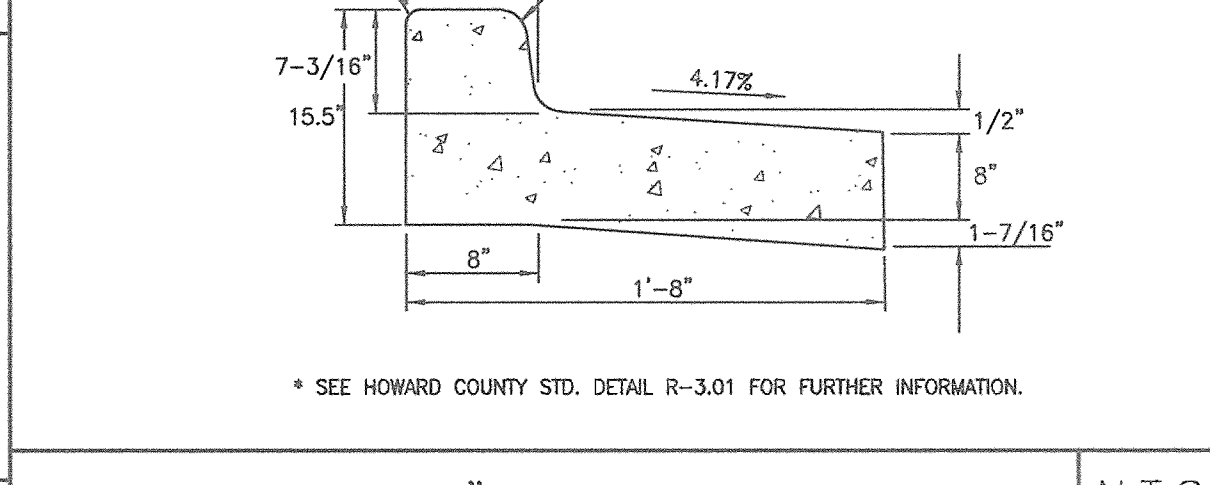
PIPE BOLLARD N.T.S.



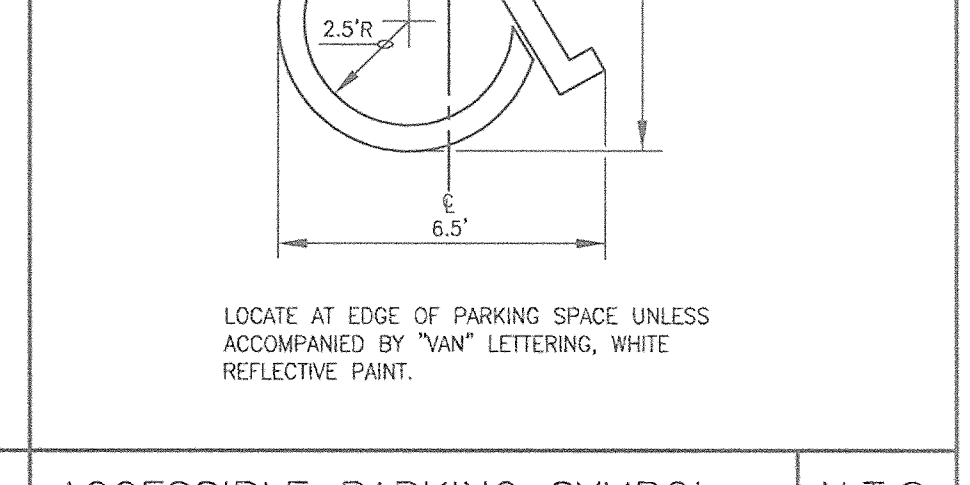
TYPICAL PAVEMENT SECTION N.T.S.



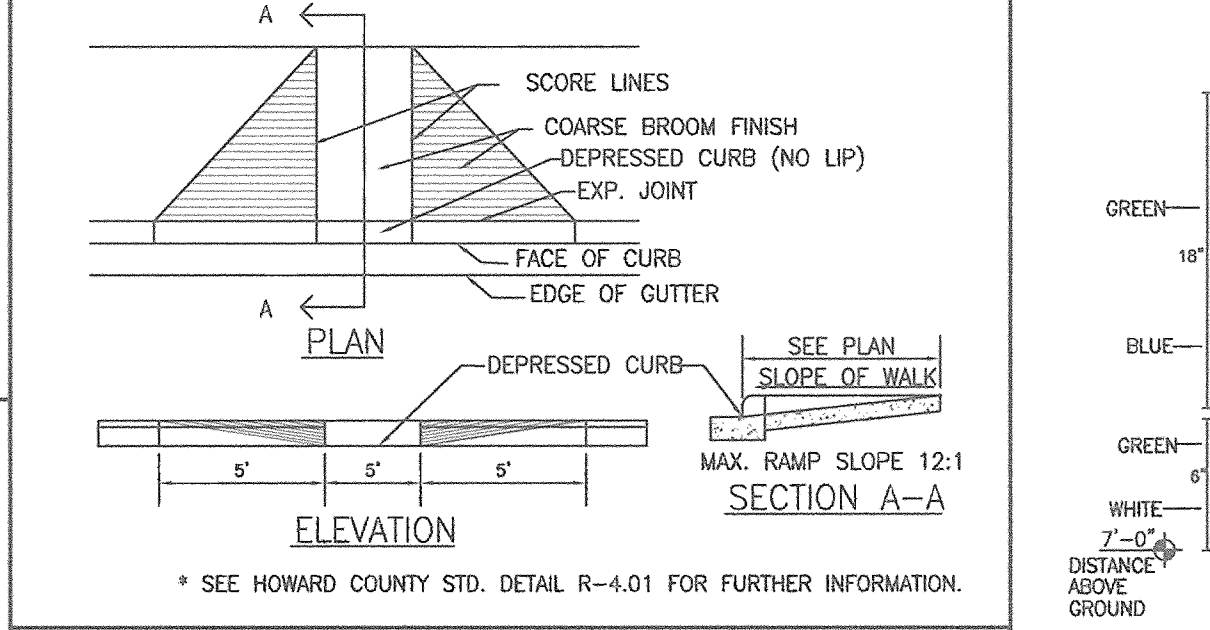
TYPICAL GRAVEL SECTION N.T.S.



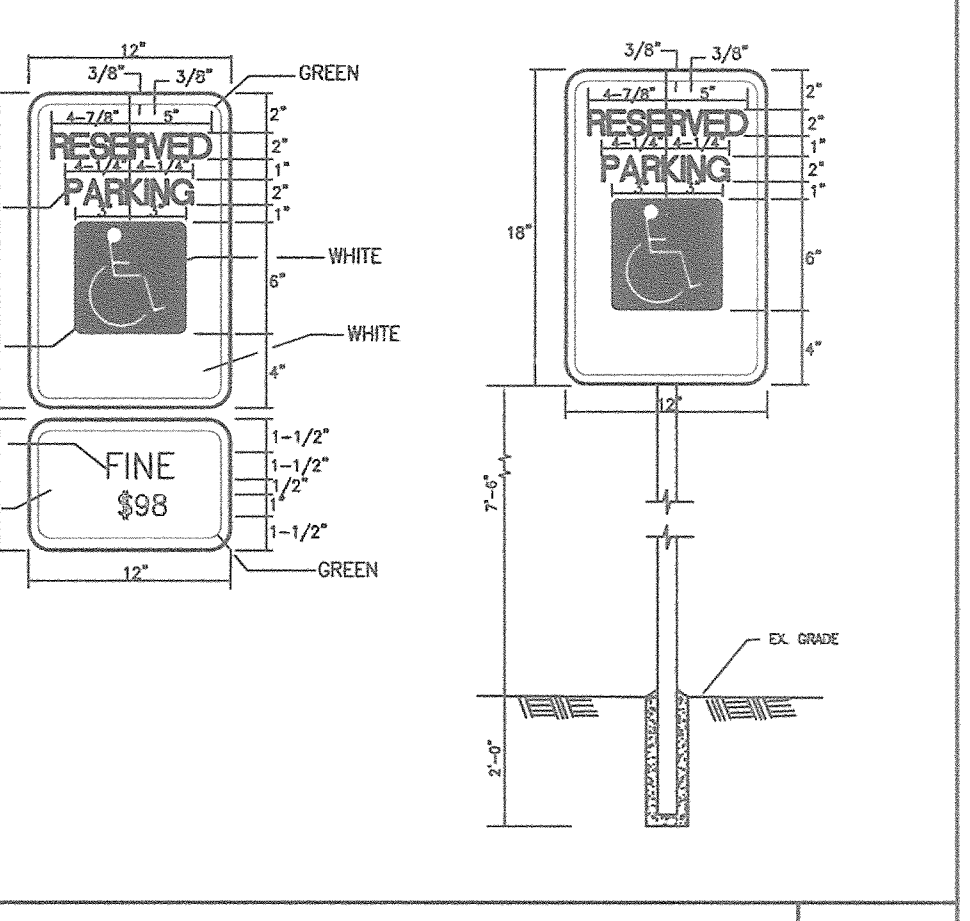
REVERSE 7\"/>



ACCESSIBLE PARKING SYMBOL N.T.S.



HANDICAP RAMP N.T.S.

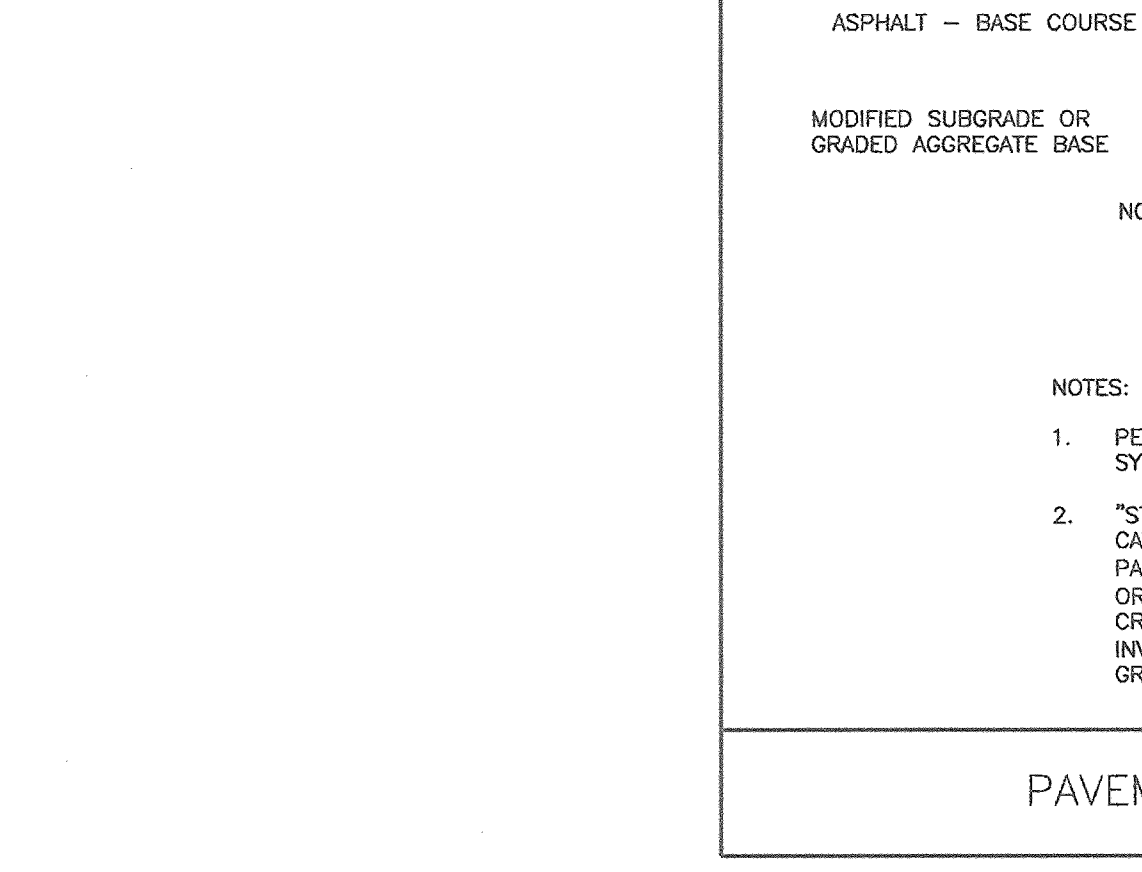


HANDICAPPED SIGN DETAIL N.T.S.

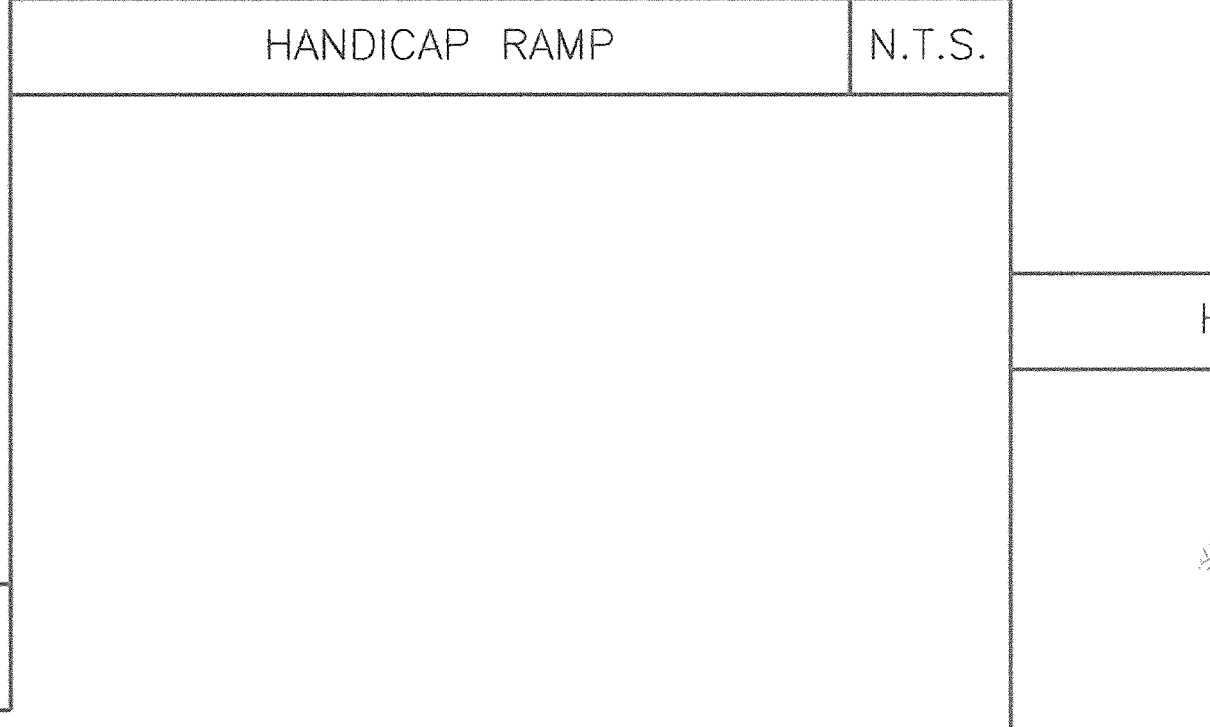
**UTILITY TRENCH NOTES**



PAVEMENT DRAIN DETAIL N.T.S.



PAVEMENT DRAIN DETAIL N.T.S.



SIDEWALK SECTION N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 4-JF 9/11/06 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* \* 10/16/06 DATE

DIRECTOR, DEPARTMENT OF PLANNING AND ZONING *[Signature]* 10/16/06 DATE

OWNER/DEVELOPER:	DATE	REVISIONS	JOB NO:
MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-882-1400 ATTN: MR. YVON BERGEMAN			14018
			SCALE: AS-NOTED
			DATE: 3/29/06
			DRAWN BY: MM
			DESIGN BY: KSK
			REVIEW BY: KSK
			SHEET: 9 OF 23

**MORRIS & RITCHIE ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE, SUITE A  
LAUREL, MARYLAND 20707  
(410) 792-9792 or (301) 776-1890  
FAX (410) 792-7885

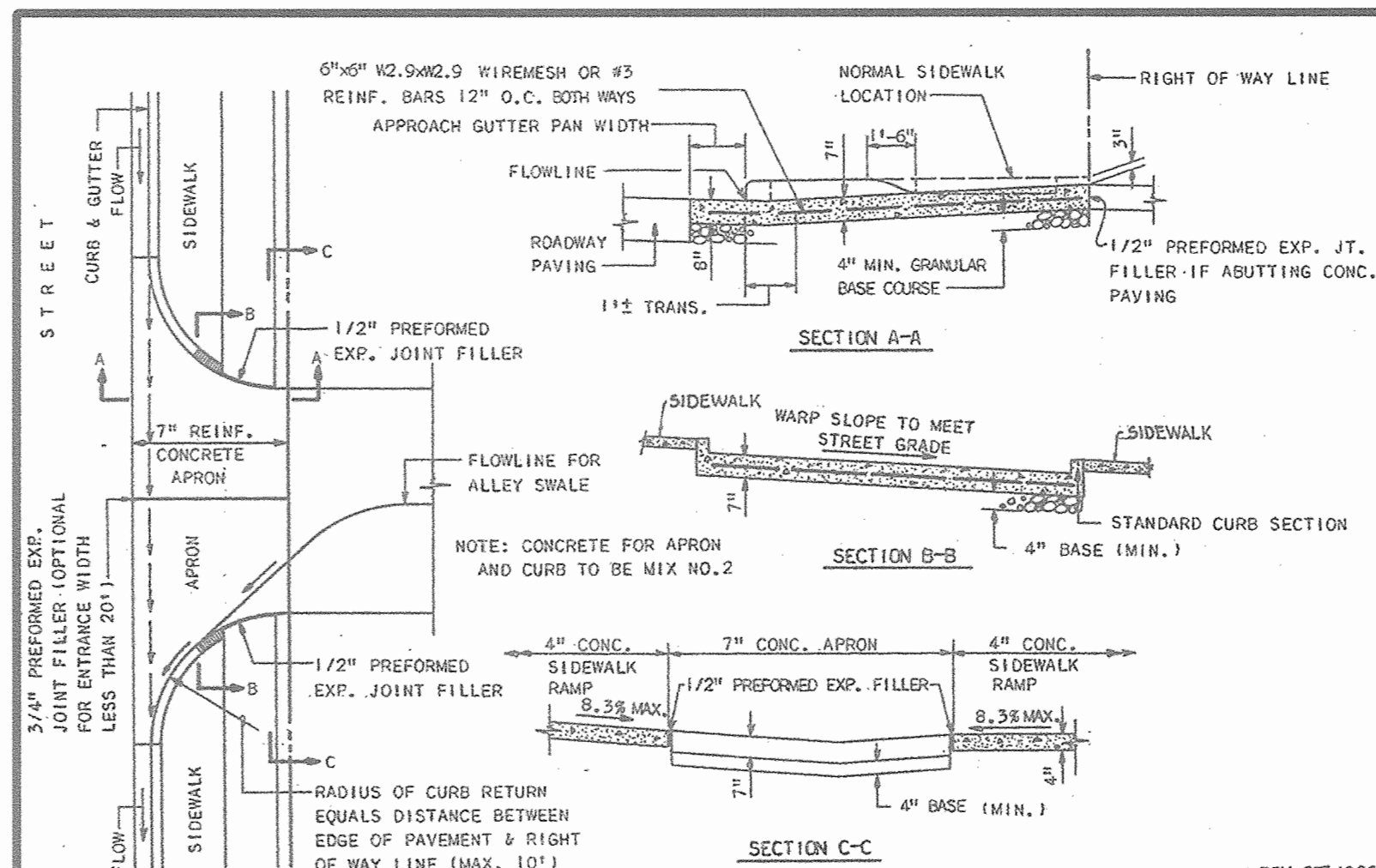
LAUREL BLOCK PROPERTY  
11071 GUILFORD ROAD  
PARCEL "42"

**SITE DETAILS PLAN**

LIBER 8920 ~ FOLIO 74  
TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

*[Signature]* 9/11/06

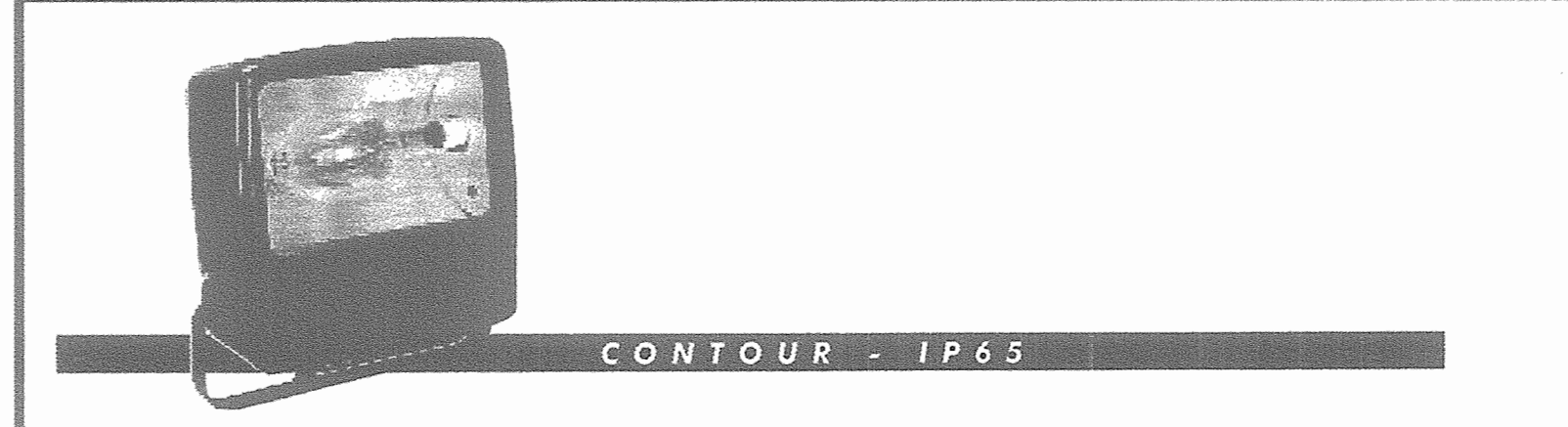




HOWARD COUNTY, MARYLAND  
DEPARTMENT OF PUBLIC WORKS  
Approved: *[Signature]* Chief, Bureau of Engineering Date: 10-12-80

CONCRETE APRON FOR COMMERCIAL INDUSTRIAL ENTRANCE DETAIL

N.T.S.



DESIGN: The TFA is rugged, heavy duty, general purpose floodlight series. Purpose designed with features to suit the arduous environments and ease of maintenance needs sought after by industrial and other end users.

APPLICATIONS: The TFA is ideal for use in hostile environments, shipping yards, construction sites, heavy industrial sites and anywhere that requires a heavy duty, low maintenance floodlight.

SPECIAL FEATURES: Front door hinge, Front door latch, Front door gasket, Front door handle.

FEATURES: Body and frame manufactured from pressure die-cast aluminum, finished in a durable black polyester powder coat. Front door frame is hinged and latched for fast, easy foot-less access. Heavy duty, thermal shock resistant, clear tempered glass lens with no metal to glass contact. One piece silicon gasket seals optical chamber prohibiting outside contaminants and ensuring high IP65 rating. Precision die formed, peened anodized aluminum reflector provides wide horizontal and vertical distributions. Sturdy, corrosion resistant mounting arm, finished in black polyester powder coat. E39/E40 quality porcelain lampholder. Cable entry via 20mm dia. cable gland.

OPERATING INFORMATION

Model	Wattage	Beam Angle	IP Rating
TFA1000W02	1000W	18°	IP65
TFA1000W04	1000W	36°	IP65
TFA1000W08	1000W	72°	IP65
TFA1000W12	1000W	108°	IP65
TFA1000W18	1000W	162°	IP65
TFA1000W24	1000W	216°	IP65
TFA1000W36	1000W	324°	IP65
TFA1000W48	1000W	432°	IP65
TFA1000W72	1000W	648°	IP65
TFA1000W108	1000W	864°	IP65
TFA1000W162	1000W	1296°	IP65
TFA1000W216	1000W	1728°	IP65
TFA1000W324	1000W	2592°	IP65
TFA1000W432	1000W	3456°	IP65
TFA1000W648	1000W	5184°	IP65
TFA1000W864	1000W	6912°	IP65
TFA1000W1296	1000W	10368°	IP65
TFA1000W1728	1000W	13824°	IP65
TFA1000W2592	1000W	20736°	IP65
TFA1000W3456	1000W	27648°	IP65
TFA1000W5184	1000W	41472°	IP65
TFA1000W6912	1000W	55296°	IP65
TFA1000W8640	1000W	74112°	IP65
TFA1000W10368	1000W	92928°	IP65
TFA1000W13824	1000W	125000°	IP65
TFA1000W17280	1000W	163000°	IP65
TFA1000W20736	1000W	200000°	IP65
TFA1000W27648	1000W	360000°	IP65
TFA1000W34560	1000W	470000°	IP65
TFA1000W51840	1000W	720000°	IP65
TFA1000W69120	1000W	910000°	IP65
TFA1000W86400	1000W	1100000°	IP65
TFA1000W103680	1000W	1300000°	IP65
TFA1000W138240	1000W	1700000°	IP65
TFA1000W172800	1000W	2200000°	IP65
TFA1000W207360	1000W	2800000°	IP65
TFA1000W276480	1000W	3700000°	IP65
TFA1000W345600	1000W	4700000°	IP65
TFA1000W518400	1000W	6300000°	IP65
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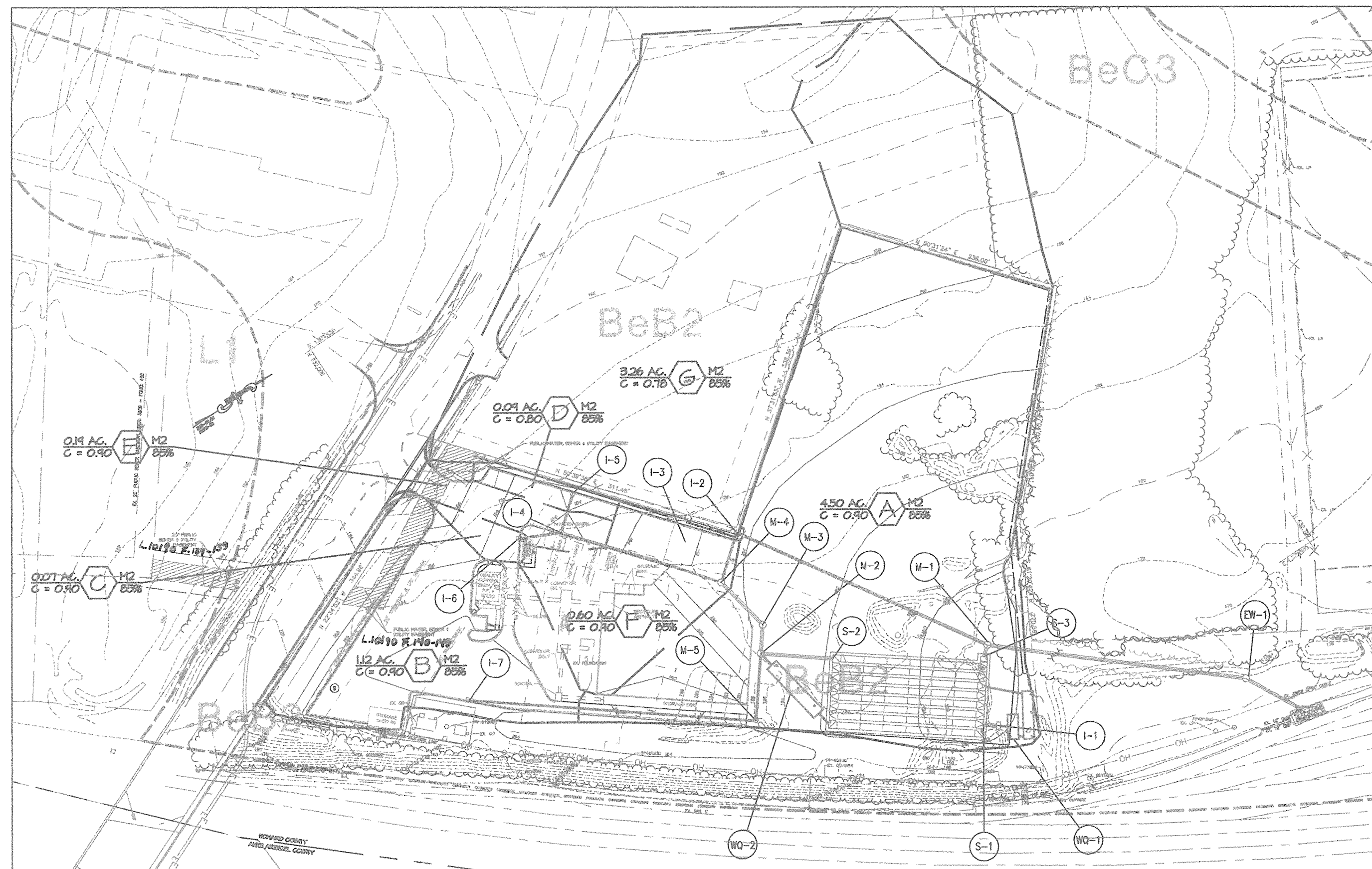




**EXISTING DRAINAGE AREA MAP**  
SCALE: 1"=100'



**PROPOSED DRAINAGE AREA MAP**  
SCALE: 1"=100'



**STORM DRAIN DRAINAGE AREA MAP**  
SCALE: 1"=100'

**LEGEND**

- EX. 2' CONTOUR
- EX. 10' CONTOUR
- EX. BUILDING
- EX. CURB
- EX. EASEMENT
- EX. ELECTRIC
- EX. FENCE
- EX. FIBER OPTIC
- EX. GAS
- EX. PAVEMENT
- EX. PROPERTY LINE
- EX. COUNTY LINE
- EX. RAILROAD C
- EX. ROAD CENTERLINE
- EX. SANITARY SEWER
- EX. 27" BODP
- EX. STORM DRAIN
- EX. TREE LINE
- EX. SHRUB LINE
- EX. WATERLINE
- EX. WETLAND
- EX. WETLAND BUFFER
- PROP. 2' CONTOURS
- PROP. 10' CONTOURS
- PROP. CENTERLINE OF DRAINAGE SWALE
- PROP. 6" CHAINLINK FENCE
- PROP. CURB
- PROP. TREE LINE
- PROP. SHRUB LINE
- PROP. LIMIT OF DISTURBANCE
- PROP. PAVEMENT
- PROP. GRAVEL
- PROP. PLANT & ACCESSORY STRUCTURES
- PROP. PRIVATE SANITARY SEWER LINE
- PROP. PRIVATE WATER LINE
- PROP. PUBLIC SANITARY SEWER LINE
- PROP. PUBLIC WATER LINE
- PROP. RAILROAD C
- PROP. STORM DRAIN
- PROP. DRAINAGE AREA
- PROP. SILT FENCE
- PROP. EARTH DIKE
- PROP. TEMPORARY SWALE
- SOIL BOUNDARY
- SOIL TYPE
- STORM DRAIN DRAINAGE AREA DATA

STORM WATER RUNOFF TO DESIGN POINT *		
FREQUENCY	EXISTING CONDITIONS	DEVELOPED CONDITIONS
1-YR. STORM	31.7 CFS	19.9 CFS
10-YR. STORM	79.9 CFS	56.8 CFS
100 YR. STORM	121.4 CFS	90.5 CFS

\* REDUCTION IN STORM WATER RUNOFF OCCURS IN THE DEVELOPED CONDITION

SOILS LEGEND		
SYMBOL	NAME/DESCRIPTION	SOIL TYPE
BeB2	BELTSVILLE SILT LOAM, 1%-5% SLOPES, MODERATELY ERODED	C
BeC3	BELTSVILLE SILT LOAM, 5%-10% SLOPES, SEVERLY ERODED	C
L1	LEONARDTOWN SILT LOAM	D

SHEET: 11

**MRA**  
**MORRIS & RITCHIE ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
14280 PARK CENTER DRIVE, SUITE A  
LAUREL, MARYLAND 20707  
(410) 792-9792 or (301) 776-1890  
FAX (410) 792-7395

LAUREL BLOCK PROPERTY  
11071 GUILFORD ROAD  
PARCEL "42"  
**DRAINAGE AREA MAP**  
LIBER 8920 ~ FOLIO 74  
TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:	14018
		SCALE:	1"=40'
		DATE:	3/29/06
		DRAWN BY:	MM/MSP
		DESIGN BY:	MAM
		REVIEW BY:	KSK
		SHEET:	11 OF 23

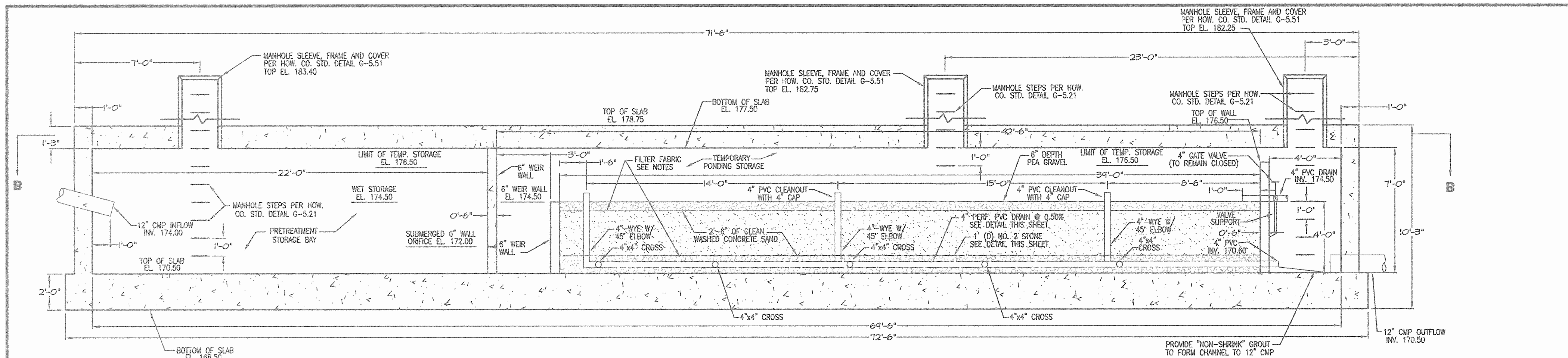
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE 3/29/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE 3/29/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE 3/29/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

**OWNER/DEVELOPER:**  
MILLVILLE QUARRY, INC.  
6401 GOLDEN TRIANGLE DRIVE,  
SUITE 400  
GREENBELT, MARYLAND 20770  
PHONE: 301-582-1400  
ATTN: MR. IVON BERGEVIN

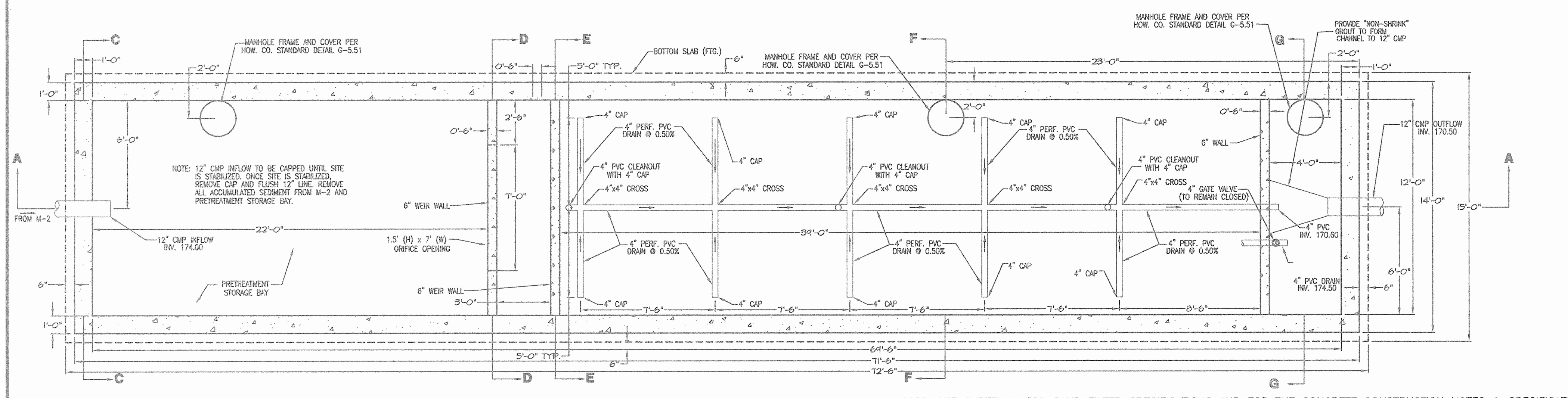




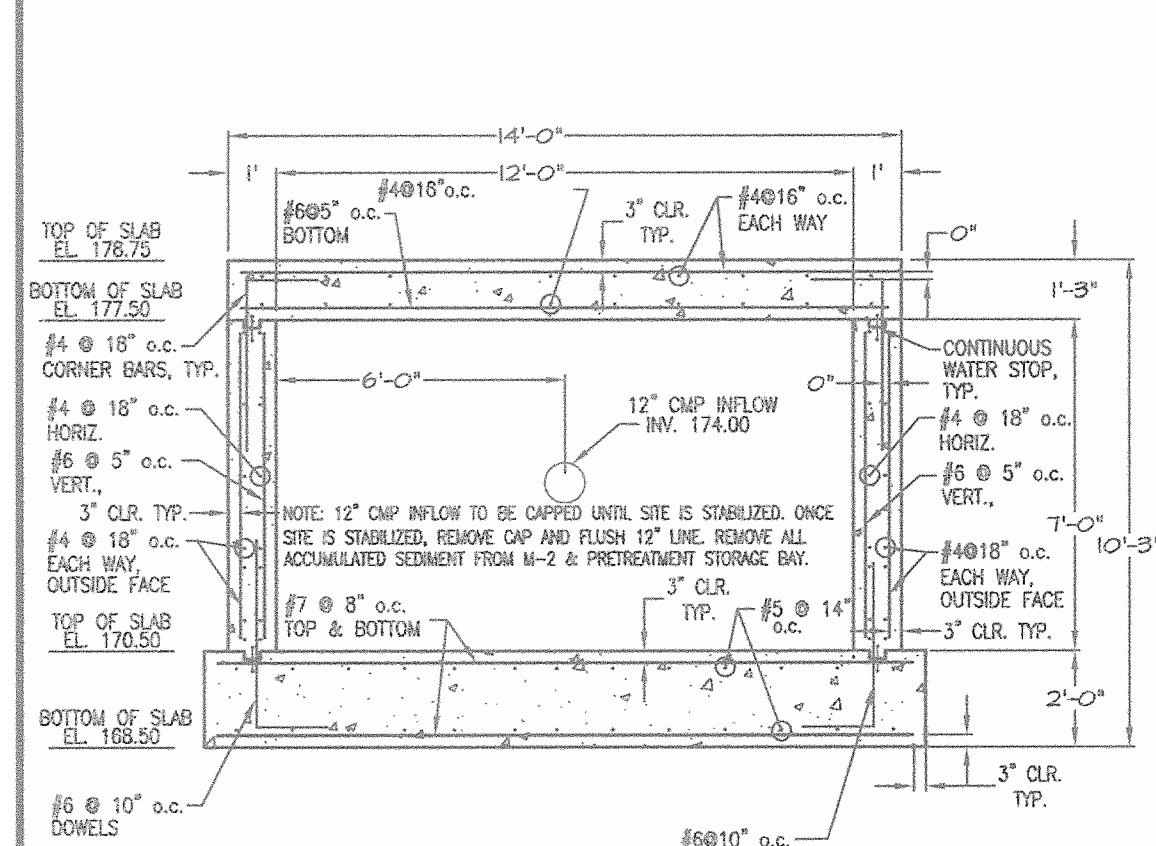




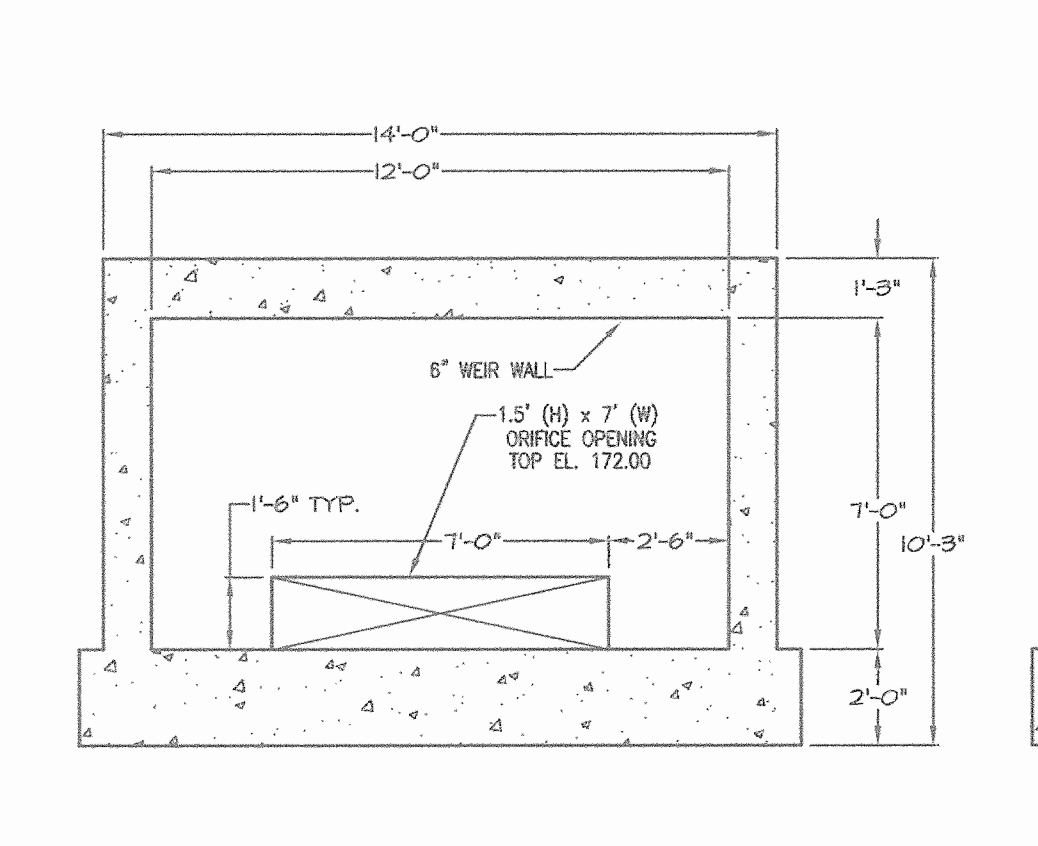
**SECTION A-A UNDERGROUND SAND FILTER FACILITY (WQ-2)**  
SCALE: 1"=4'



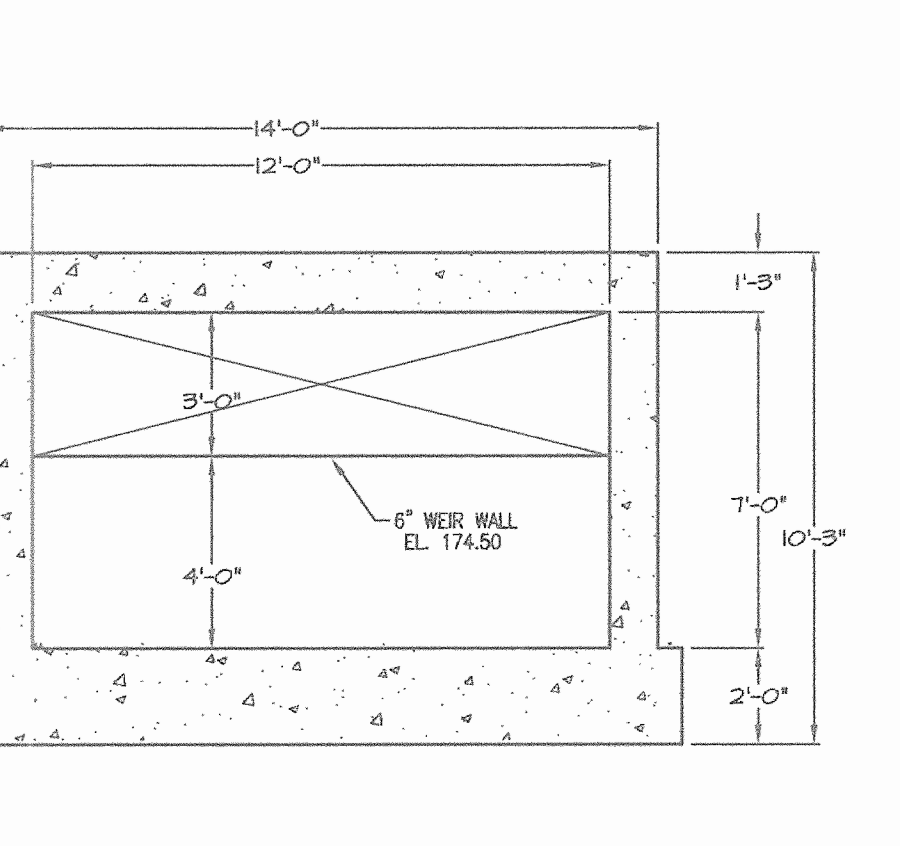
**SECTION B-B UNDERGROUND SAND FILTER FACILITY (WQ-2)**  
SCALE: 1"=4'



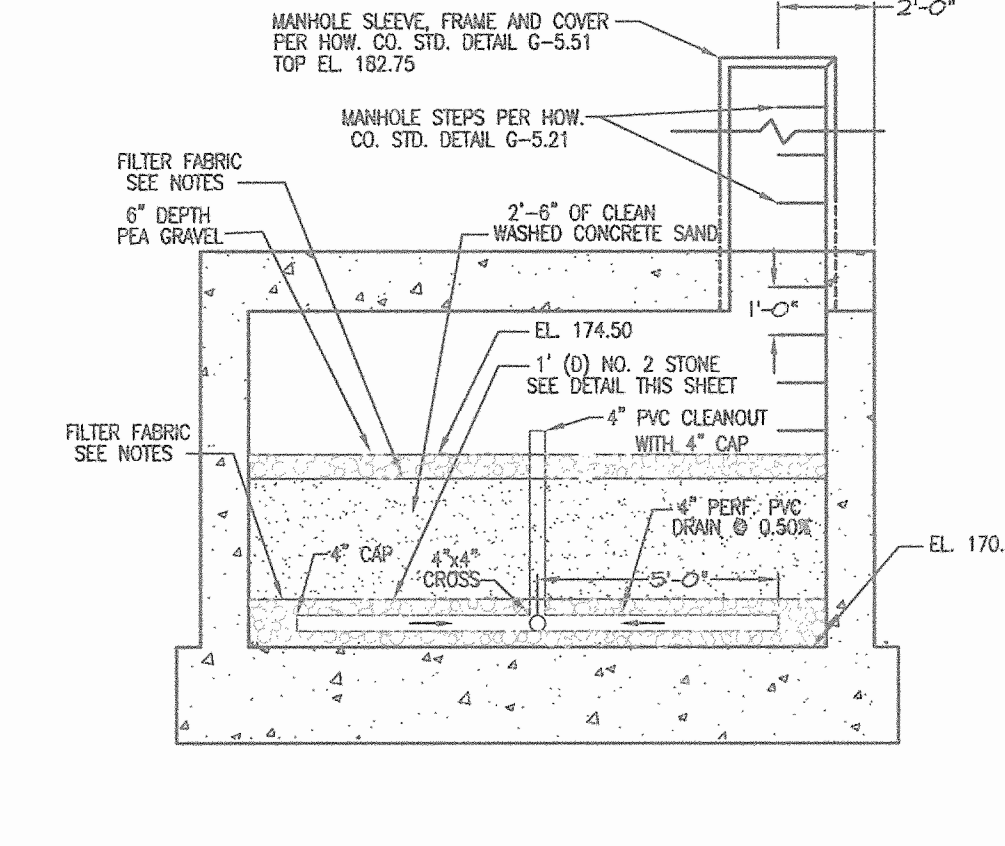
**SECTION C-C REINFORCEMENT DETAIL (WQ-2)**  
SCALE: 1"=4'



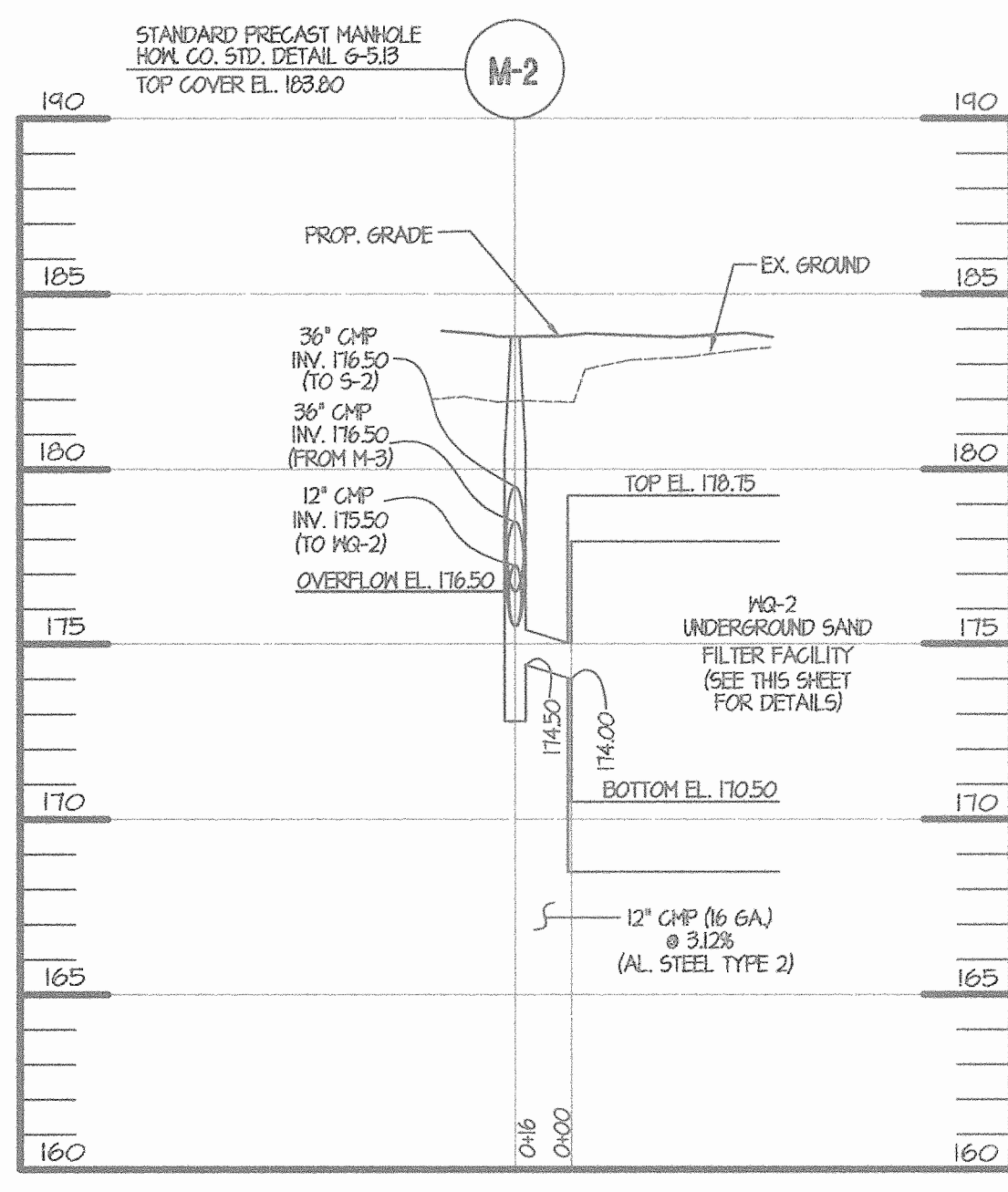
**SECTION D-D UNDERGROUND SAND FILTER FACILITY (WQ-2)**  
SCALE: 1"=4'



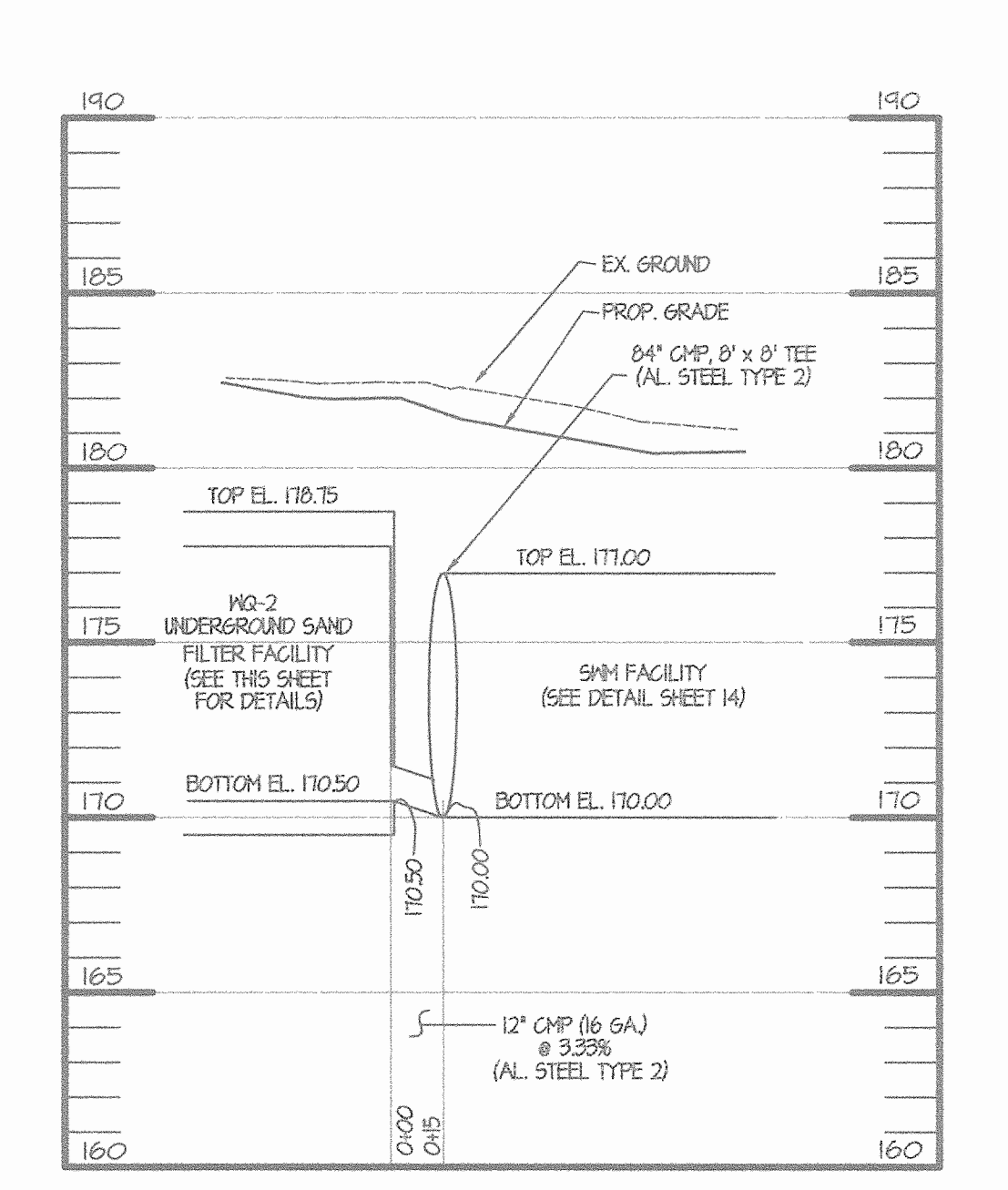
**SECTION E-E UNDERGROUND SAND FILTER FACILITY (WQ-2)**  
SCALE: 1"=4'



**SECTION F-F UNDERGROUND SAND FILTER FACILITY (WQ-2)**  
SCALE: 1"=4'



**WQ-2 INFLOW PROFILE**  
HOR. 1" = 50'  
VERT. 1" = 5'



**WQ-2 OUTFLOW PROFILE**  
HOR. 1" = 50'  
VERT. 1" = 5'

**CONSTRUCTION INSPECTION SCHEDULE**

- UNDERGROUND SAND FILTER STRUCTURES**
- INSPECTIONS SHALL BE CONDUCTED BY THE AS-BUILT CERTIFYING ENGINEER:
    - REINFORCEMENT AND FORM WORK FOR FOUNDATION, WALLS, AND TOP SLAB OF UNDERGROUND CONCRETE VAULT.
    - INLET OR OUTLET STRUCTURES.
    - WATER-TIGHT CONNECTORS ON PIPES.
    - TRENCHES FOR ENCLOSED STORM DRAIN FACILITIES.
    - UTILITY CROSSINGS OF INFLOW OR OUTFLOW PIPES.
  - DURING THE PLACEMENT OF STRUCTURAL FILL AND CONCRETE, AND INSTALLATION OF PIPING.
  - DURING BACKFILL OF FOUNDATIONS AND TRENCHES.
  - UPON COMPLETION OF FINAL GRADING AND ESTABLISHMENT OF PERMANENT STABILIZATION.

**MAINTENANCE & REPAIR SCHEDULE**

- MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS. IN GENERAL, THE PRACTICES CONTAINED IN THE "MAINTENANCE AND REPAIR" CHAPTER OF THE "MARYLAND DAM SAFETY MANUAL", DIVISION 188, AND ANY ADDENDA THERETO, AND SHOULD BE FOLLOWED AND CONDUCTED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL ENGINEER FAMILIAR WITH DAM CONSTRUCTION, OPERATION, MAINTENANCE, AND REPAIR.
- IN ADDITION, THE MD-378 DAM INSPECTION CHECKLIST MAY BE USED AS A GUIDE FOR MAINTENANCE AND INSPECTION.
- AT A MINIMUM, THE STORMWATER MANAGEMENT FACILITY SHALL BE INSPECTED BI-ANNUALLY FOR THE FOLLOWING ITEMS:
- CONDITION OF FOUNDATION, INTERIOR WALLS, AND TOP SLAB.
  - CONDITION OF ALL WEIR WALLS.
  - CONDITION OF ACCESS MANHOLES.
  - CONDITION OF SPILLWAYS AND PIPE OUTLETS.
  - CONDITION OF PRETREATMENT STORAGE AREA.
  - CONDITION OF SAND FILTER BED AND FILTER BED PIPE DRAINS.
  - SEDIMENT LOAD IN PRETREATMENT STORAGE AREA AND FILTER BED.
  - SEEPAGE INTO FACILITY THROUGH FOUNDATION OR INTERIOR WALLS.
  - ANY OTHER ITEMS WHICH COULD AFFECT THE FUNCTION OF THE SWM FACILITY.
  - EVIDENCE OF CLOGGING OF ALL OPENINGS AND FILTER BED PIPE DRAINS.
  - EROSION OF SAND FILTER BED.
  - CORROSION OF CONCRETE FOUNDATION, INTERIOR WALLS, AND TOP SLAB.

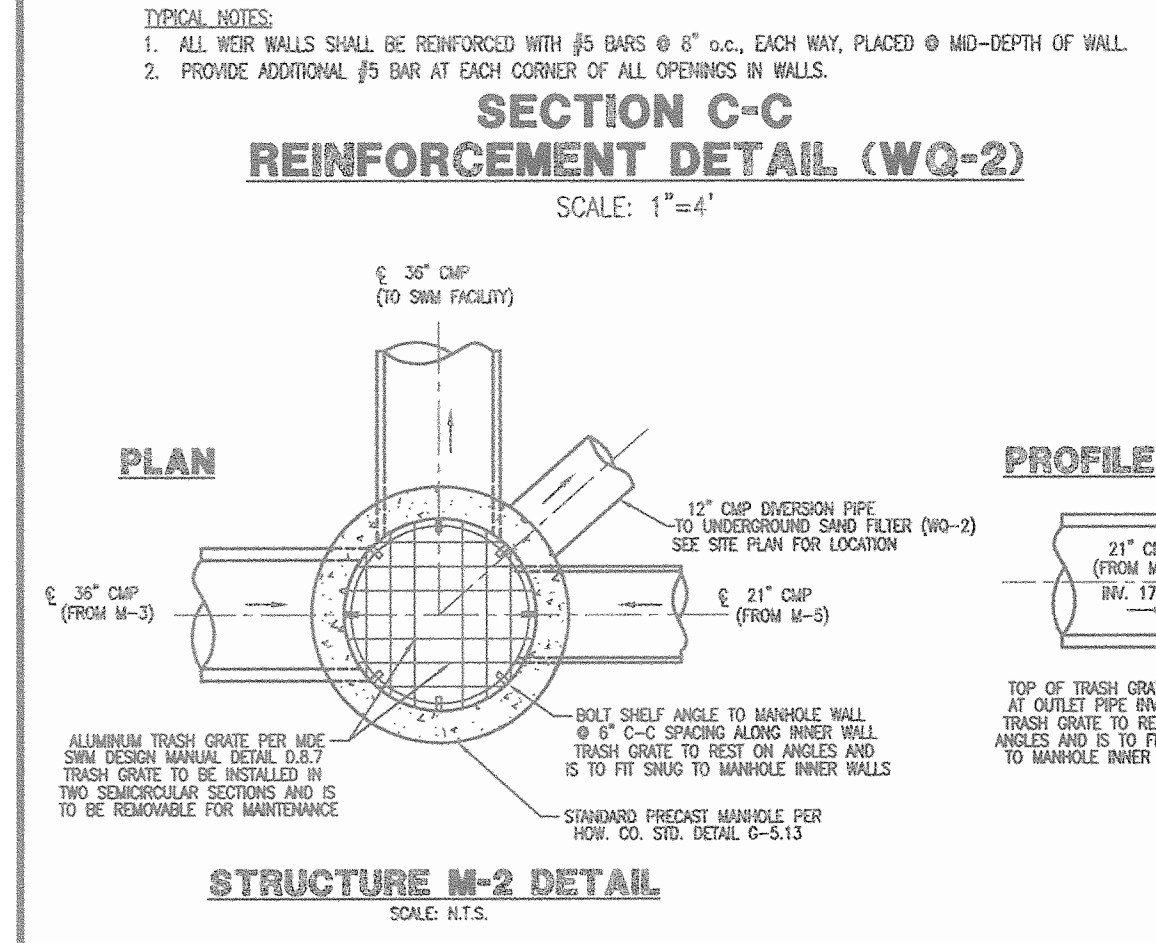
THE FILTER MEDIA (SAND AND PEA GRAVEL) SHALL BE INSPECTED BI-ANNUALLY, AND BE REPLACED EVERY TWO (2) YEARS WITH CLEAN WASHED MATERIAL IN KIND.

ANY NEEDED MAINTENANCE OR REPAIR OF FOUNDATION, INTERIOR WALLS, WEIR SPILLWAYS, FILTER BED, OR PIPE CONDUITS SHALL BE DONE UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER.

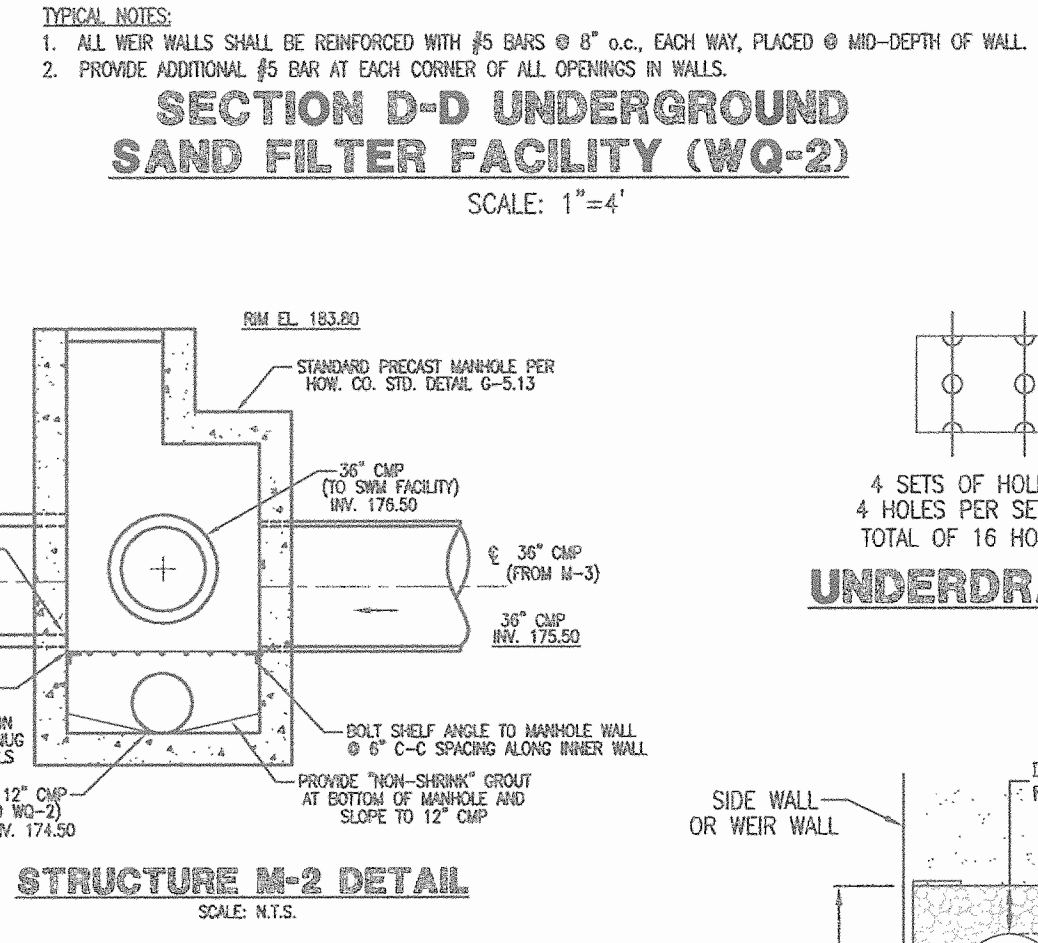
IN ADDITION TO BI-ANNUAL INSPECTIONS, INSPECTIONS SHALL BE DONE DURING WET SEASON, AND AFTER MAJOR STORMS.

ALL DEBRIS, LITTER, OR SEDIMENT ACCUMULATED IN PRETREATMENT STORAGE AREA, SAND FILTER BED, AND PIPE OUTFALL SHALL BE REMOVED.

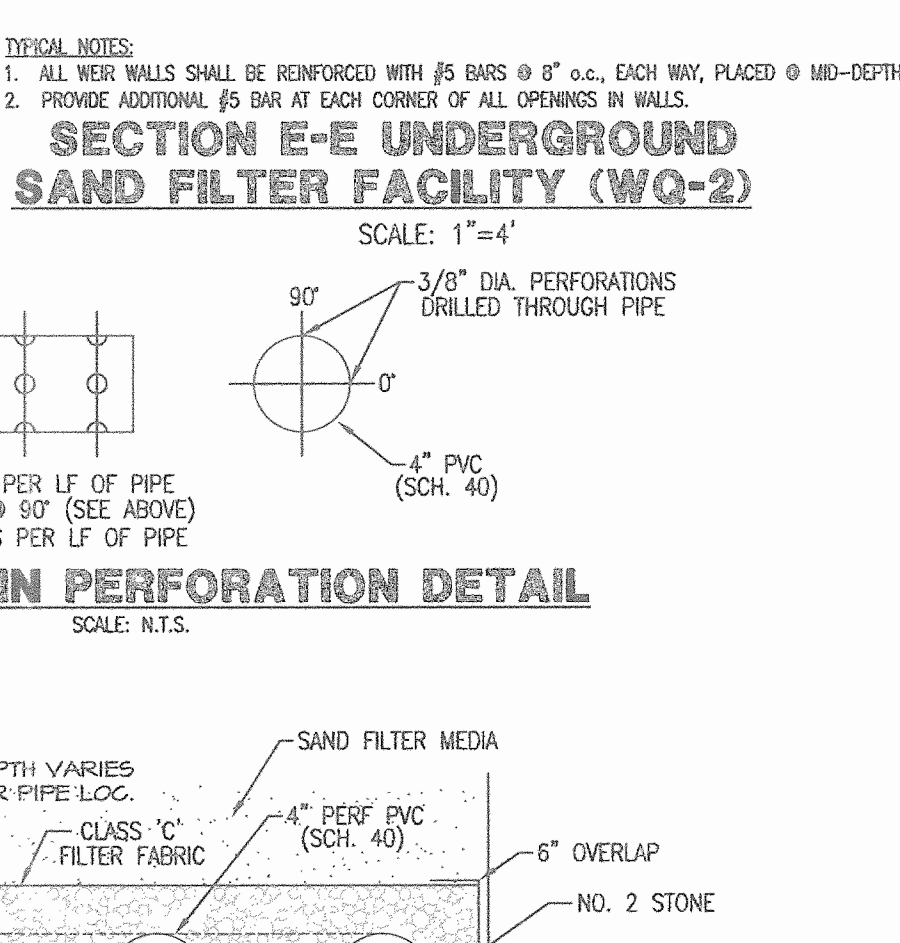
WATER QUALITY #2 SUMMARY TABLE		
	REQUIRED	PROVIDED
WATER QUALITY WqV	4756 C.F.	SAND FILTER 12' X 39' = 468 SF 4932 C.F.
PRE-TREATMENT	1089 C.F. 25%	VAULT 12'X25'X4' = 1200 C.F.



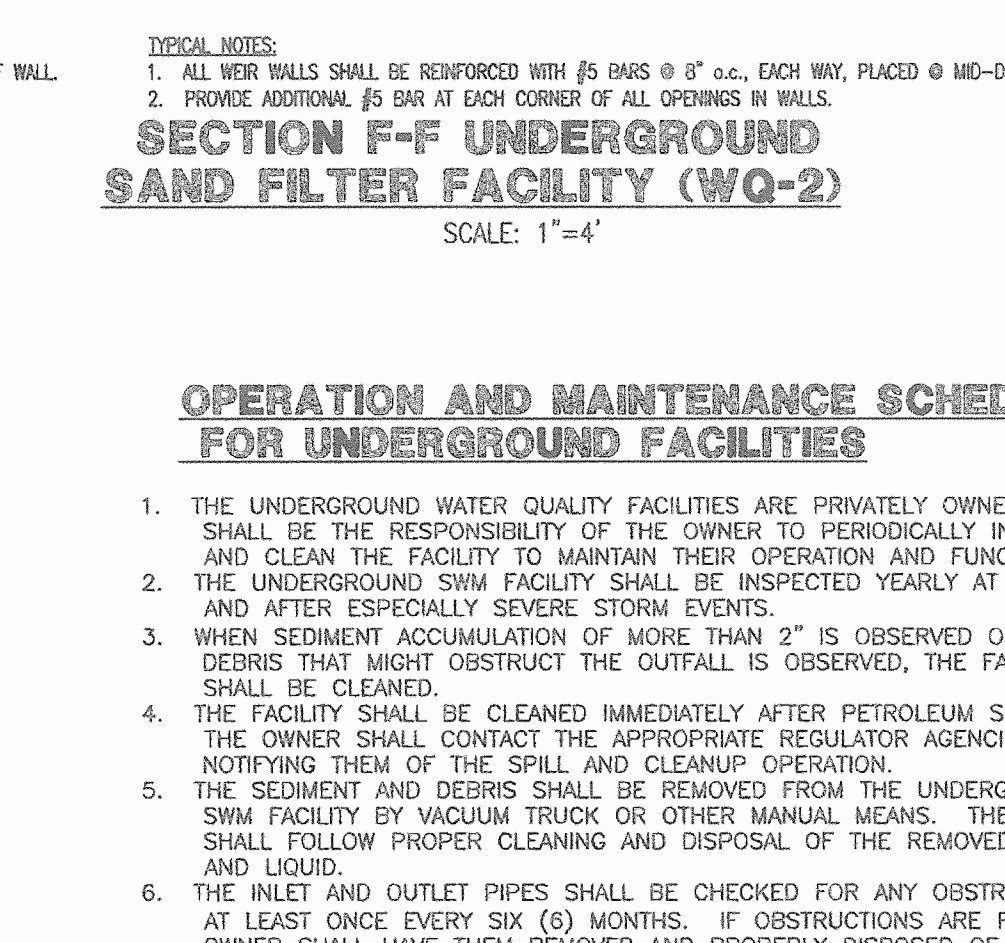
**STRUCTURE M-2 DETAIL**  
SCALE: N.T.S.



**STRUCTURE M-2 DETAIL**  
SCALE: N.T.S.



**UNDERDRAIN PERFORATION DETAIL**  
SCALE: N.T.S.



**UNDERDRAIN DETAIL**  
SCALE: N.T.S.

**OPERATION AND MAINTENANCE SCHEDULE FOR UNDERGROUND FACILITIES**

- THE UNDERGROUND WATER QUALITY FACILITIES ARE PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN THEIR OPERATION AND FUNCTION.
- THE UNDERGROUND SWM FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
- WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
- THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATOR AGENCIES NOTIFYING THEM OF THE SPILL AND CLEANUP OPERATION.
- THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND SWM FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
- THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.
- THE STORMWATER MANAGEMENT FACILITY OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR SAFETY OF THE FACILITY AND CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE OWNERS SHALL EMPLOY A QUALIFIED ENGINEER TO MAKE YEARLY INSPECTIONS OF THE UNDERGROUND SYSTEM AND RECOMMEND REPAIRS AS DEEMED NECESSARY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division

Chief, Division of Land Development

Director, Department of Planning and Zoning

DATE: 10/2/06

OWNER/DEVELOPER:	DATE	REVISIONS	JOB NO.:
MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-982-1400 ATTN: MR. YWON BERGEVIN			14018
			SCALE: AS SHOWN
			DATE: 3/29/06
			DRAWN BY: MM
			DESIGN BY: MAM
			REVIEW BY: KSK
			SHEET: 13 OF 23

SHEET: 13

**MORRIS & RITCHE ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE, SUITE A  
LAUREL, MARYLAND 20707  
(410) 792-9782 or (301) 778-1890  
FAX (410) 792-7395

LAUREL BLOCK PROPERTY  
11071 GULFROAD ROAD  
PARCEL "42"

**WATER QUALITY #2 FACILITY DETAILS**

LIBER 8920 - FOLIO 74  
TAX MAP 48 - GRID 14 - PARCEL 42  
ZONED M-2 - 6TH ELECTION DISTRICT - HOWARD COUNTY, MARYLAND



**OPERATION AND MAINTENANCE SCHEDULE FOR UNDERGROUND FACILITIES**

1. THE UNDERGROUND SWM FACILITY IS PRIVATELY OWNED AND IT SHALL BE THE RESPONSIBILITY OF THE OWNER TO PERIODICALLY INSPECT AND CLEAN THE FACILITY TO MAINTAIN ITS OPERATION AND FUNCTION.
2. THE UNDERGROUND SWM FACILITY SHALL BE INSPECTED YEARLY AT A MINIMUM AND AFTER ESPECIALLY SEVERE STORM EVENTS.
3. WHEN SEDIMENT ACCUMULATION OF MORE THAN 2" IS OBSERVED OR ANY DEBRIS THAT MIGHT OBSTRUCT THE OUTFALL IS OBSERVED, THE FACILITY SHALL BE CLEANED.
4. THE FACILITY SHALL BE CLEANED IMMEDIATELY AFTER PETROLEUM SPILLS. THE OWNER SHALL CONTACT THE APPROPRIATE REGULATORY AGENCIES NOTIFYING THEM OF THE SPILL AND CLEANUP OPERATION.
5. THE SEDIMENT AND DEBRIS SHALL BE REMOVED FROM THE UNDERGROUND SWM FACILITY BY VACUUM TRUCK OR OTHER MANUAL MEANS. THE OWNER SHALL FOLLOW PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIAL AND LIQUID.
6. THE INLET AND OUTLET PIPES SHALL BE CHECKED FOR ANY OBSTRUCTIONS AT LEAST ONCE EVERY SIX (6) MONTHS. IF OBSTRUCTIONS ARE FOUND, THE OWNER SHALL HAVE THEM REMOVED AND PROPERLY DISPOSED OF.
7. THE STORMWATER MANAGEMENT FACILITY OWNER(S) AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR SAFETY OF THE FACILITY AND CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE OWNERS SHALL EMPLOY A QUALIFIED ENGINEER TO MAKE YEARLY INSPECTIONS OF THE UNDERGROUND SYSTEM AND RECOMMEND REPAIRS AS DEEMED NECESSARY.

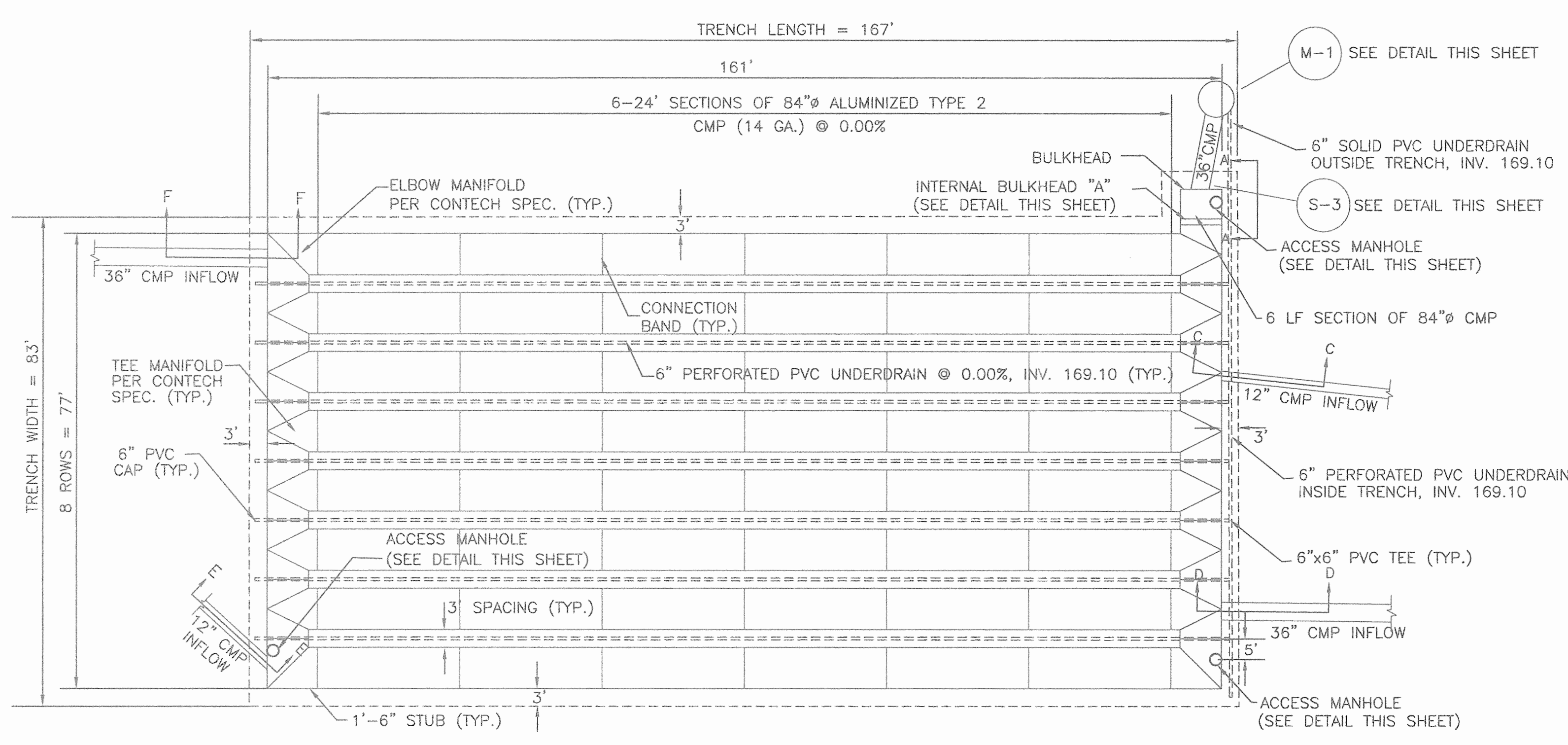
**CONSTRUCTION SPECIFICATIONS**

- A. BEDDING**
1. THE BED SHALL BE PLACED TO UNIFORM GRADE AND LINE TO ENSURE GOOD VERTICAL ALIGNMENT AND TO AVOID EXCESSIVE STRESSES AT PIPE JOINTS. THE BEDDING SHALL BE FREE OF ROCK FORMATIONS, PROTRUDING STONES, FROZEN LUMPS, ROOTS, AND OTHER FOREIGN MATERIAL. THE BEDDING FOUNDATION MUST BE A STABLE, WELL GRADED GRANULAR MATERIAL. ANY MATERIAL THAT HAS INADEQUATE BEARING CAPACITY MUST BE REMOVED AND REPLACED WITH A COMPACTED SELECT FILL APPROVED BY THE GEOTECHNICAL ENGINEER.
- B. BACKFILL**
1. THE FILL MATERIAL SHALL BE FREE OF ROCKS, FROZEN LUMPS, AND FOREIGN MATTER THAT COULD CAUSE HARD SPOTS IN BACKFILL OR THAT COULD DECOMPOSE AND CREATE VOIDS.
  2. BACKFILL MATERIAL SHALL BE A WELL GRADED GRANULAR MATERIAL.
  3. HIGHLY PLASTIC SILTS, HIGHLY PLASTIC CLAYS, ORGANIC SILTS, ORGANIC CLAYS, AND PEATS SHALL NOT BE USED AS BACKFILL MATERIAL.
  4. BACKFILL SHALL BE PLACED SYMMETRICALLY ON EACH SIDE OF THE STRUCTURE IN SIX-INCH TO EIGHT-INCH LOOSE LAYERS TO ONE FOOT ABOVE THE TOP OF THE PIPE. EACH LAYER IS TO BE COMPACTED TO THE SPECIFIED DENSITY (MINIMUM 90%) BEFORE PLACING THE NEXT LAYER. REFERENCE ASTM A795.
- C. PIPE**
1. THE PIPE FABRICATOR SHALL PROVIDE SPECIFICATIONS OF ALL MATERIALS (BASED ON HS-20 LOADING).
  2. SHOP DRAWINGS ARE TO BE PROVIDED BY FABRICATOR. APPROVAL BY ENGINEER IS REQUIRED PRIOR TO CONSTRUCTION.
  3. CONTRACTOR IS REQUIRED TO COORDINATE APPROVAL OF SHOP DRAWINGS AND SPECIFICATIONS AND SHALL BE OBLIGATED FOR ANY COST THEREOF.

**SUMMARY OF SWM**

DESIGN STORM	PROPOSED FACILITY INFLOW (CFS)	PROPOSED FACILITY DISCHARGE (CFS)	FACILITY WATER SURFACE ELEVATION (FT)	FACILITY STORAGE VOLUME (AC.-FT.)
1 YR	26.7	14.0	173.08	0.51
10 YR	56.6	34.6	174.79	0.92
100 YR	81.3	52.2	176.52	1.24

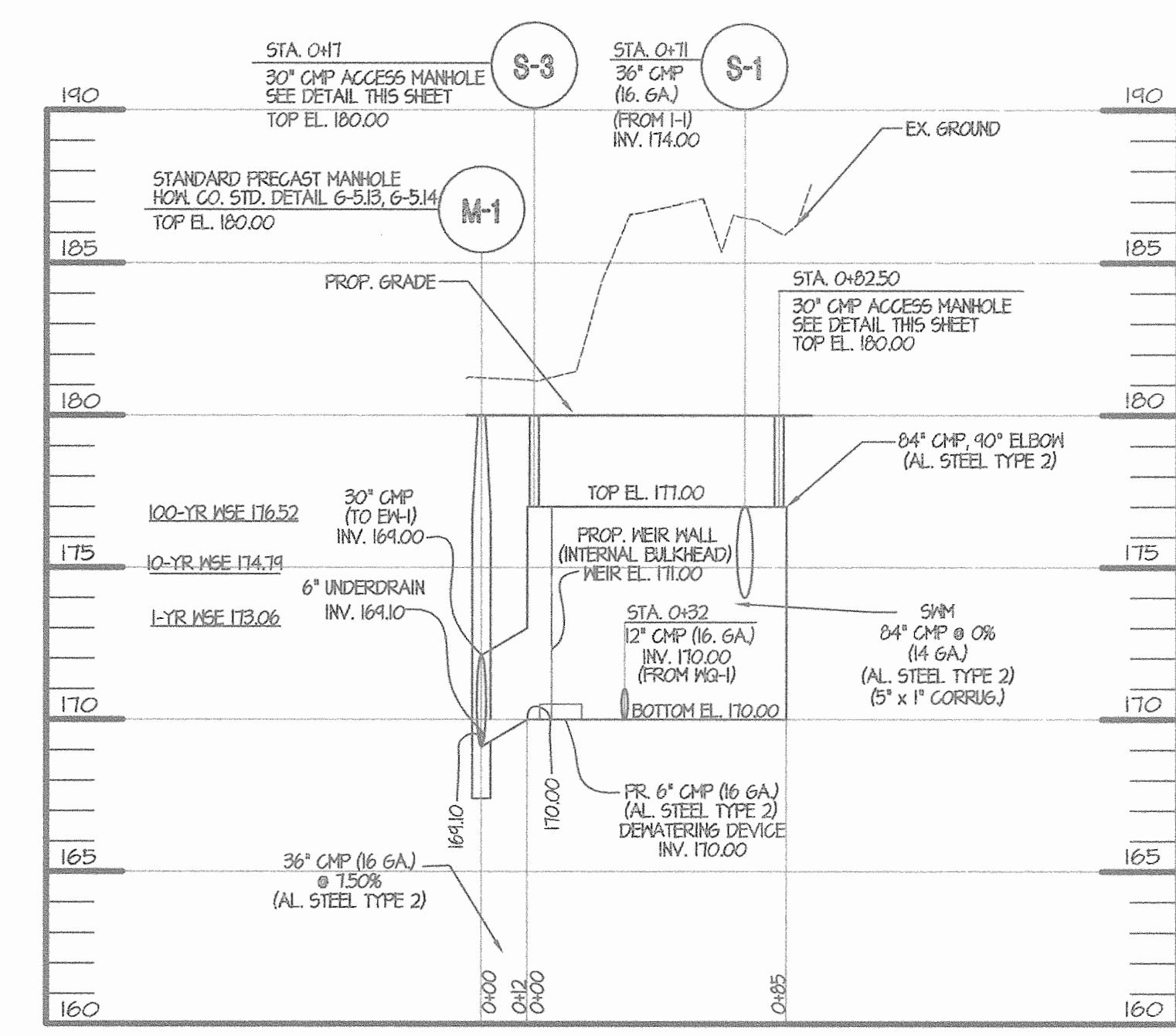
DRAINAGE AREA 9.82 ACRES  
 IMPERVIOUS AREA 8.35 ACRES  
 RECHARGE VOLUME Rv: REQUIRED = 486 C.F., PROVIDED = 486 C.F.  
 CHANNEL PROTECTION VOLUME C<sub>p</sub>: REQ'D = 3346 C.F., PROV'D = 3837 C.F.



NOTE: MANUFACTURER, CONTECH DOES NOT RECOMMEND CROSS-OVER PIPES.

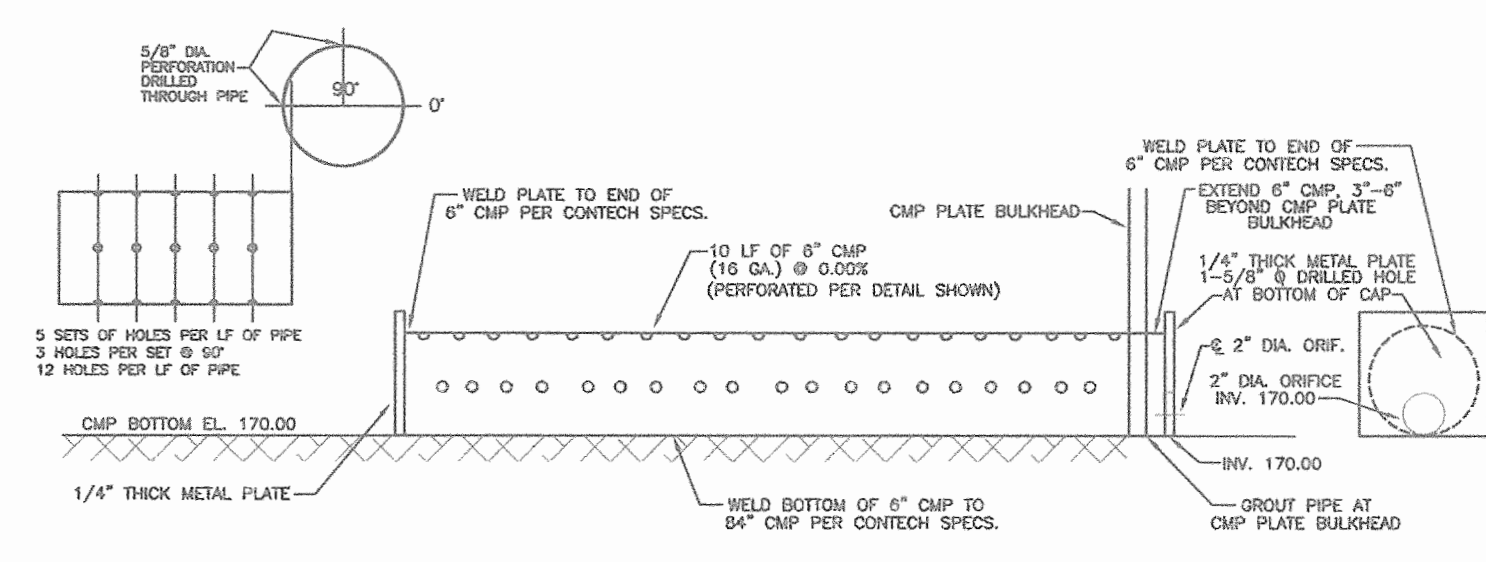
\* CONNECTION BANDS SHALL BE 9-C CORR BANDS WITH BAR, BOLT, & STRAP FASTENERS WITH 1/2" WIDE FLAT X 1/2" THICK NEOPRENE GASKETS. WRAP BAND WITH FILTER FABRIC PER CONTECH SPECS.

**PIPE LAYOUT**  
N.T.S.

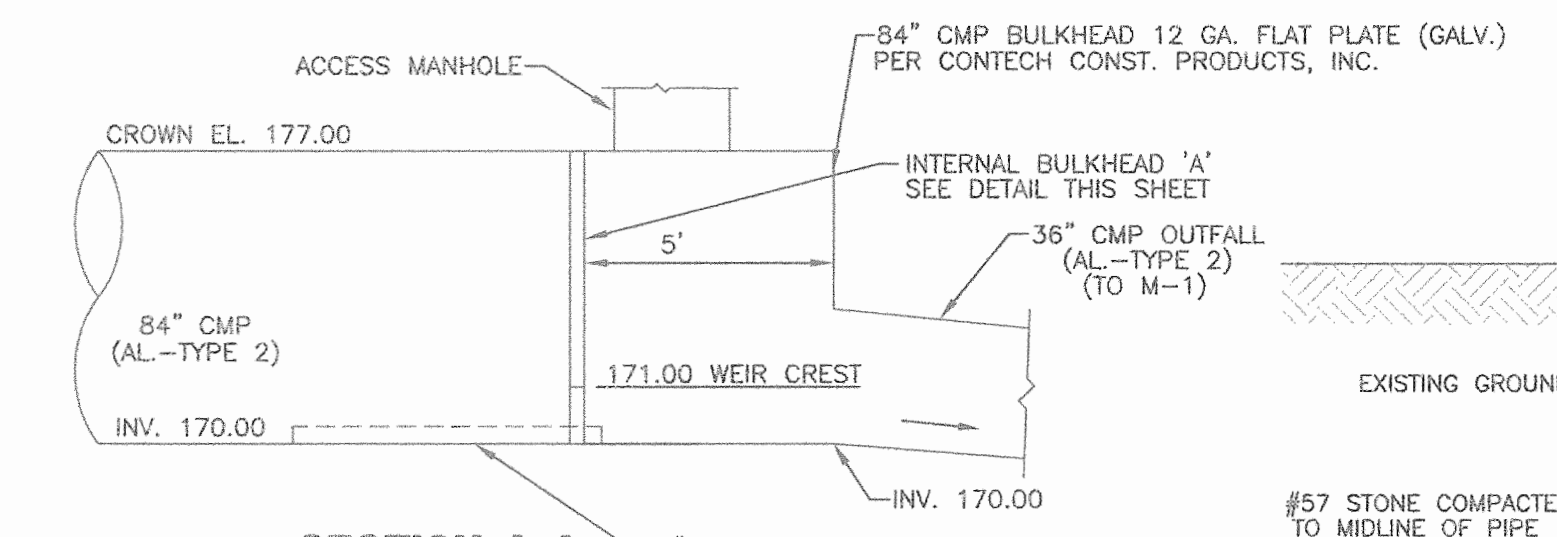


**SWM OUTFALL PROFILE**

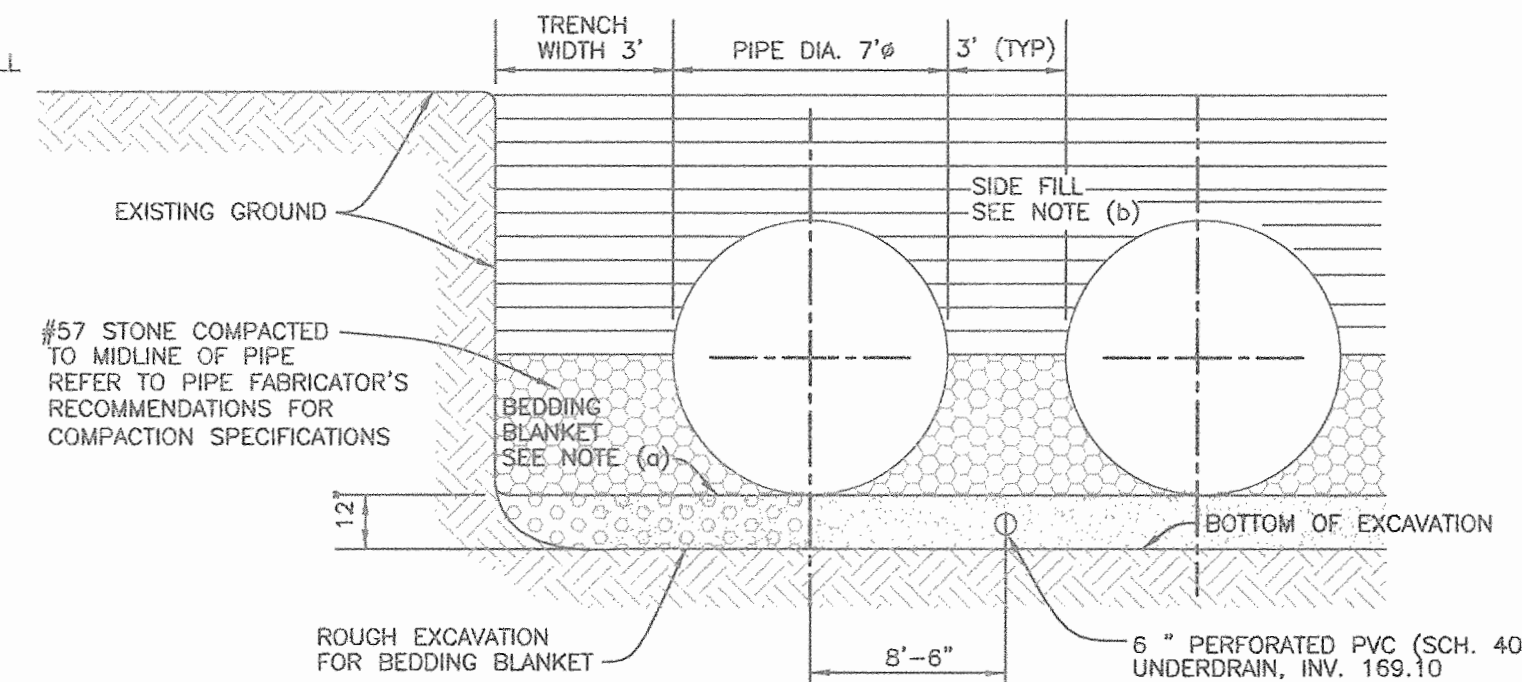
SCALE: HOR. 1" = 50'  
 VERT. 1" = 5'



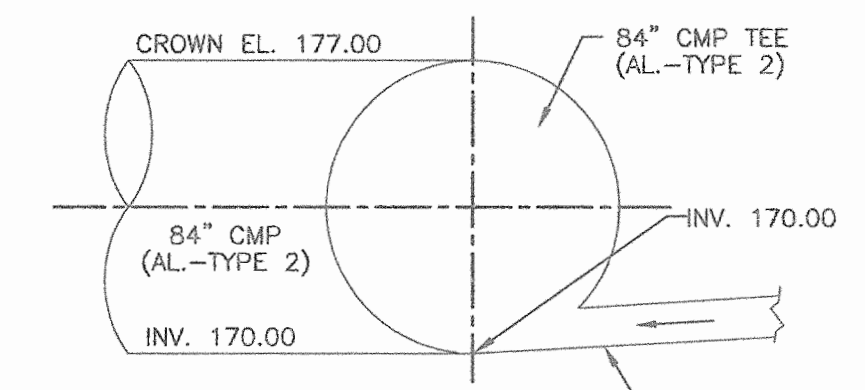
**DEWATERING DEVICE DETAIL FOR STORMWATER MANAGEMENT**  
N.T.S.



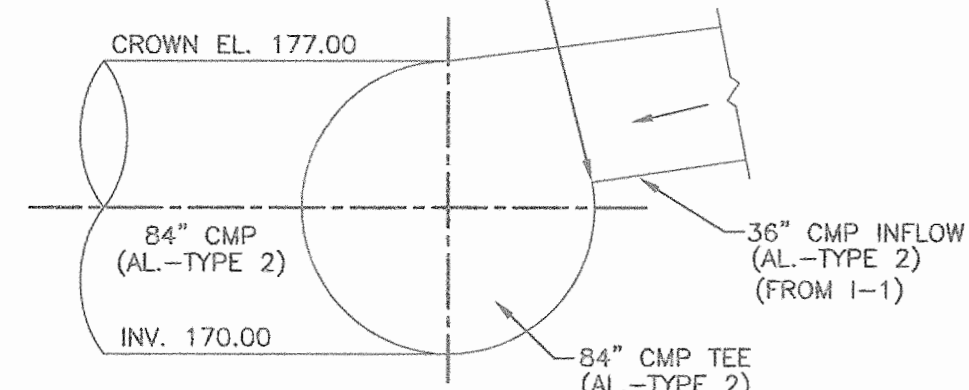
**SECTION A-A OUTFALL DETAIL**  
N.T.S.



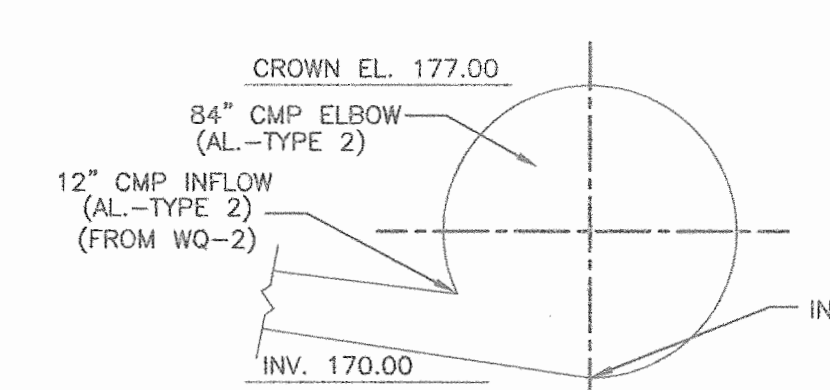
**SECTION B-B BEDDING AND BACKFILL DETAIL**  
N.T.S.



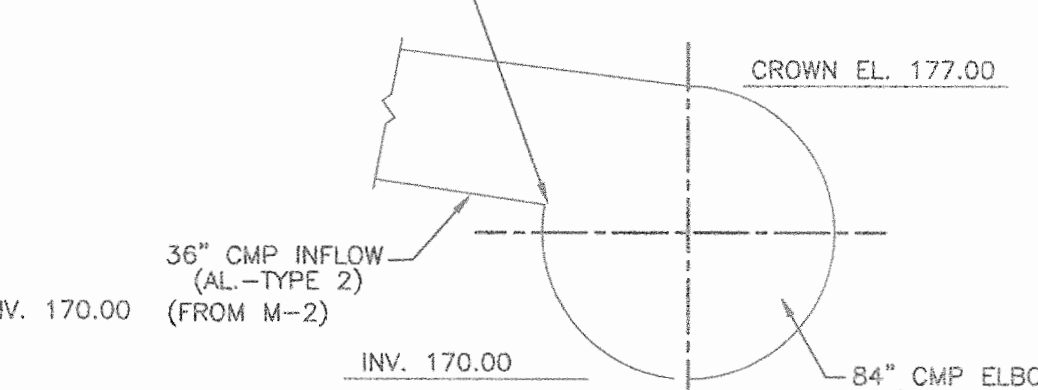
**SECTION C-C INFLOW DETAIL**  
N.T.S.



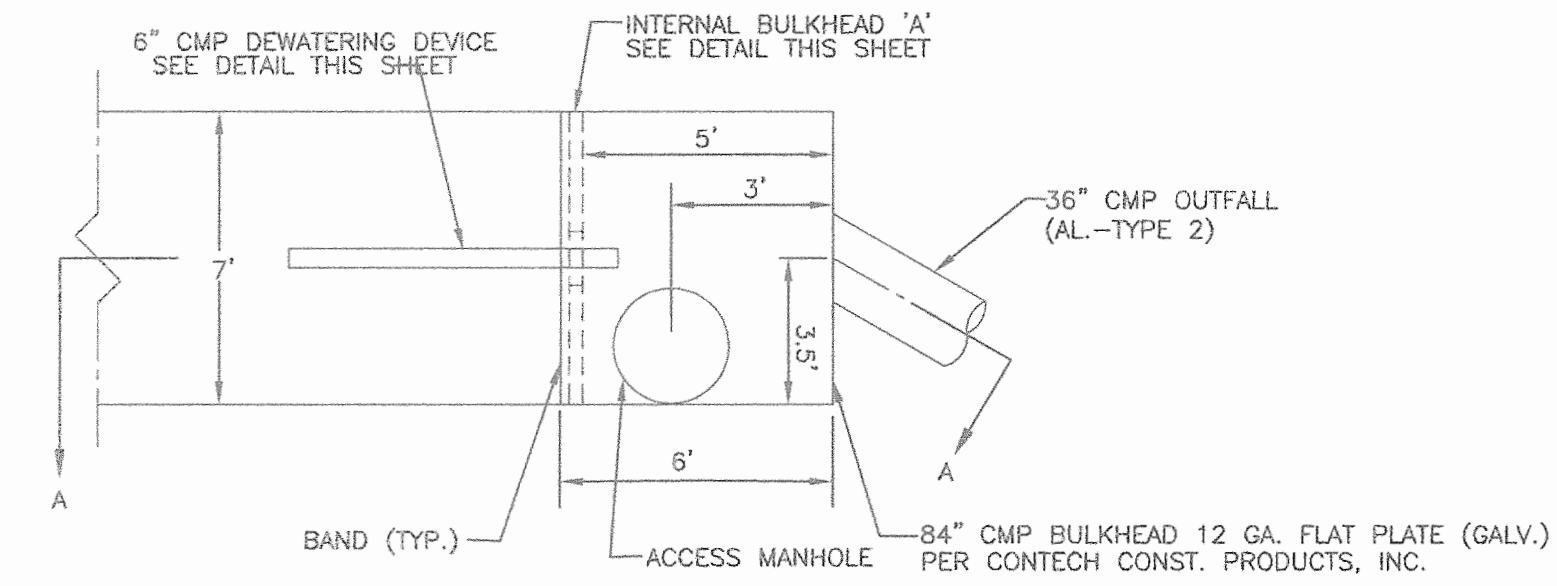
**SECTION D-D INFLOW DETAIL**  
N.T.S.



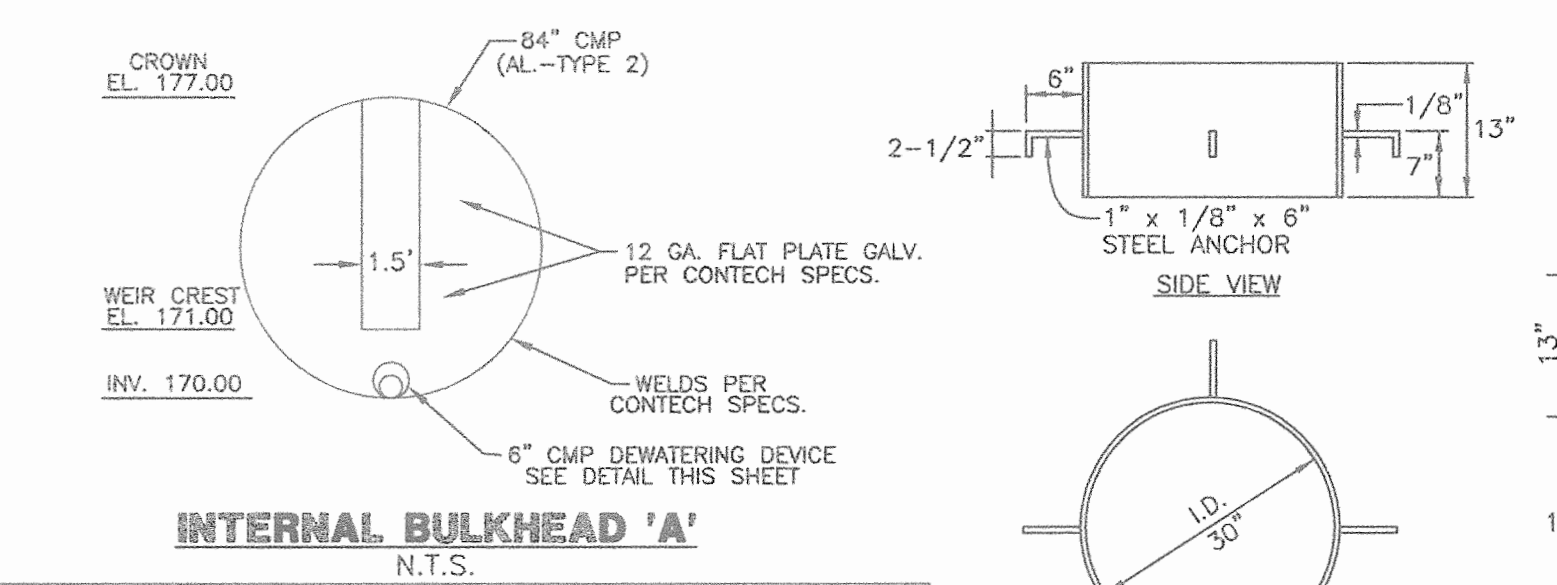
**SECTION E-E INFLOW DETAIL**  
N.T.S.



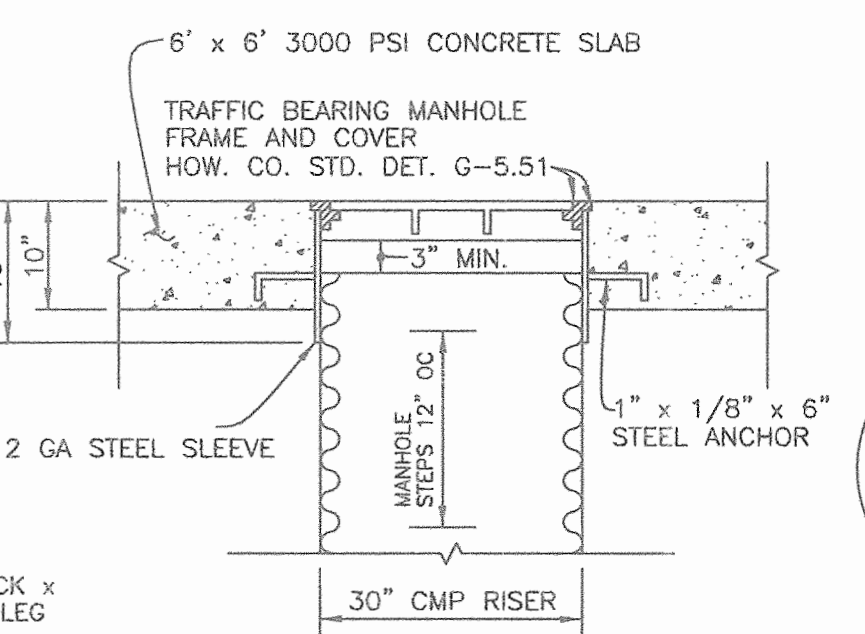
**SECTION F-F INFLOW DETAIL**  
N.T.S.



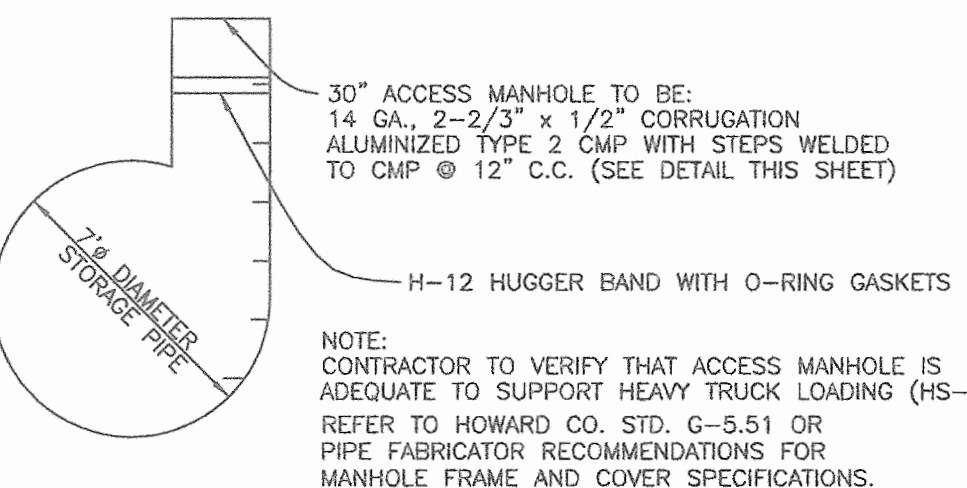
**INFLOW/OUTFLOW DETAIL**  
N.T.S.



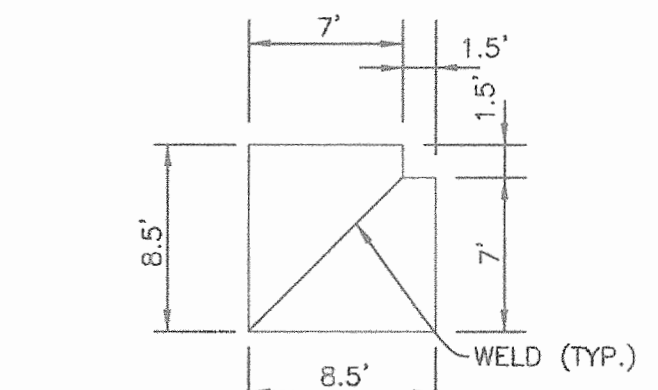
**INTERNAL BULKHEAD 'A'**  
N.T.S.



**CMP RISER (ACCESS MH) MANHOLE SLEEVE DETAIL**  
N.T.S.

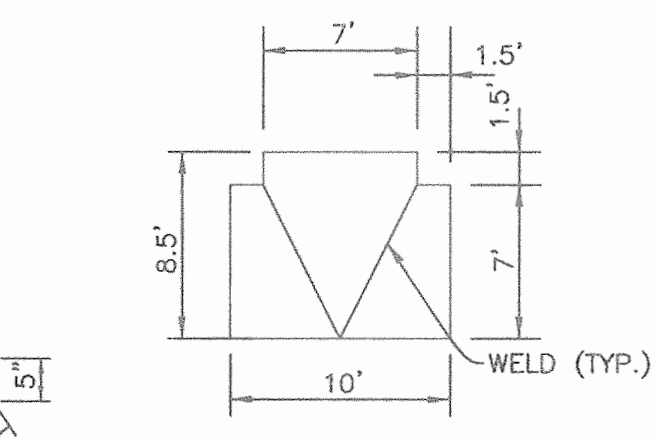


**ACCESS MANHOLE DETAIL**  
N.T.S.



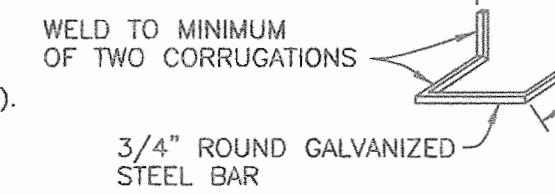
**MANIFOLD ELBOW DETAIL**  
N.T.S.

NOTE: ALL ADJOINING PIPES, TEES, AND ELBOWS TO BE COUPLED USING THE H-12 HUGGER BAND, WITH O-RING GASKETS BY CONTECH CONSTRUCTION PRODUCTS, INC.



**MANIFOLD TEE DETAIL**  
N.T.S.

NOTE: ALL ADJOINING PIPES, TEES, AND ELBOWS TO BE COUPLED USING THE H-12 HUGGER BAND, WITH O-RING GASKETS BY CONTECH CONSTRUCTION PRODUCTS, INC.



**STEP DETAIL**  
N.T.S.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 [Signature] DATE 10/2/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 [Signature] DATE 10/2/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 [Signature] DATE 10/2/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

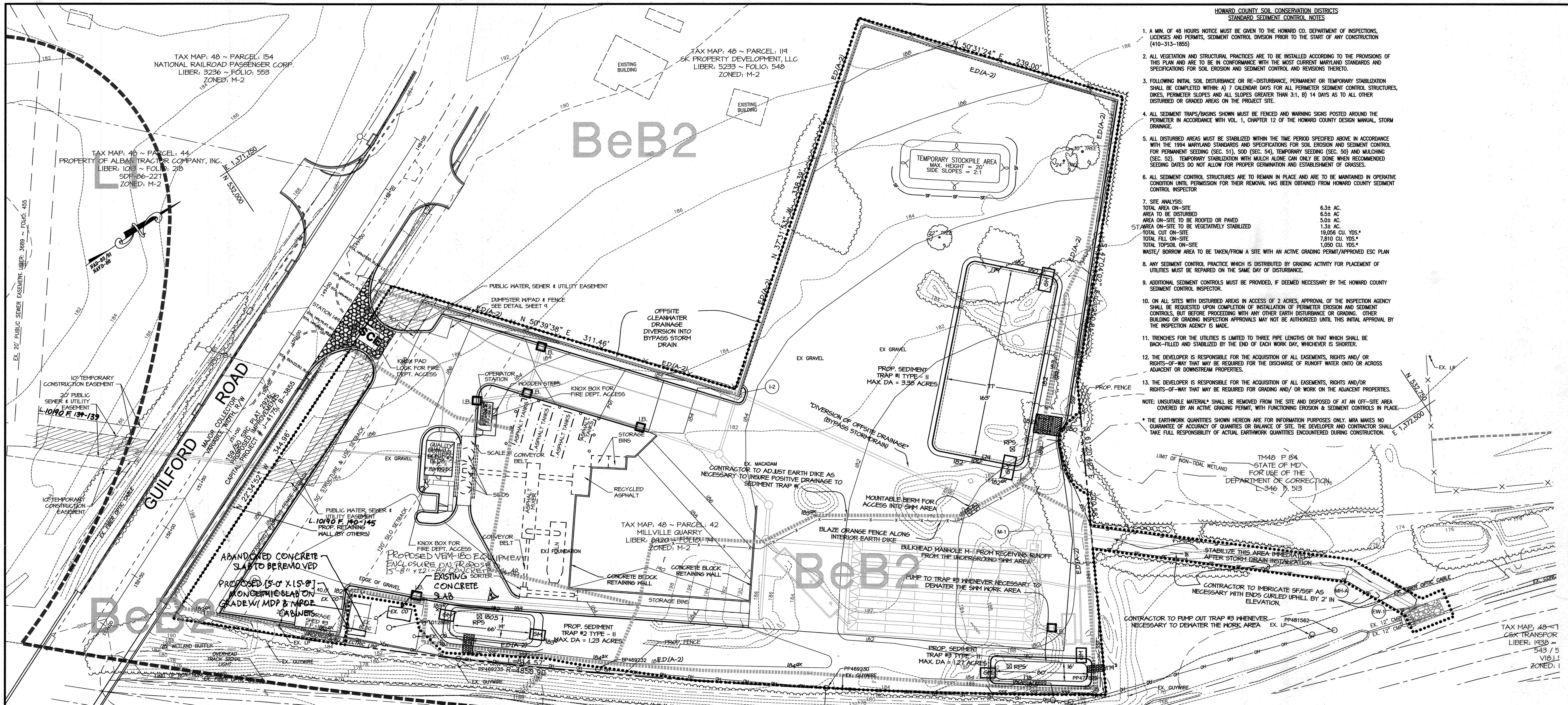
**MANHOLE SLEEVE DETAIL**  
N.T.S.

**MORRIS & RITCHIE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 792-9792 or (301) 776-1690  
 FAX (410) 792-7395

LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"  
**STORMWATER MANAGEMENT DETAILS**  
 LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.
		14018
		SCALE: AS SHOWN
		DATE: 3/29/06
		DRAWN BY: MM
		DESIGN BY: MAM
		REVIEW BY: KSK
		SHEET: 14 OF 23





- HOWARD COUNTY SOIL CONSERVATION DISTRICTS  
STANDARD SEDIMENT CONTROL NOTES**
1. A MIN. OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD CO. DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (410-313-1855)
  2. ALL VEGETATION AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
  3. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
  4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12 OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
  5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDING (SEC. 51), SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
  6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  7. SITE ANALYSIS:
 

TOTAL AREA ON-SITE	6.34 AC.
AREA TO BE DISTURBED	6.54 AC.
AREA ON-SITE TO BE ROOFED OR PAVED	5.04 AC.
AREA ON-SITE TO BE VEGETATIVELY STABILIZED	1.33 AC.
TOTAL CUT ON-SITE	19,056 CU. YDS.*
TOTAL FILL ON-SITE	7,810 CU. YDS.*
TOTAL TOPSOIL ON-SITE	1,000 CU. YDS.*

 WASTE/ BORROW AREA TO BE TAKEN/FROM A SITE WITH AN ACTIVE GRADING PERMIT/APPROVED ESC PLAN
  8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTRIBUTED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
  9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
  10. ON ALL SITES WITH DISTURBED AREAS IN ACCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
  11. TRENCHES FOR THE UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED BY THE END OF EACH WORK DAY, WHICHEVER IS SHORTER.
  12. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR THE DISCHARGE OF RUNOFF WATER ONTO OR ACROSS ADJACENT OR DOWNSTREAM PROPERTIES.
  13. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL EASEMENTS, RIGHTS AND/OR RIGHTS-OF-WAY THAT MAY BE REQUIRED FOR GRADING AND/ OR WORK ON THE ADJACENT PROPERTIES.
- NOTE: UNSUITABLE MATERIALS SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN OFF-SITE AREA COVERED BY AN ACTIVE GRADING PERMIT, WITH FUNCTIONING EROSION & SEDIMENT CONTROLS IN PLACE.
- \* THE EARTHWORK QUANTITIES SHOWN HEREON ARE FOR INFORMATION PURPOSES ONLY. MRA MAKES NO GUARANTEE OF ACCURACY OF QUANTITIES OR BALANCE OF SITE. THE DEVELOPER AND CONTRACTOR SHALL TAKE FULL RESPONSIBILITY OF ACTUAL EARTHWORK QUANTITIES ENCOUNTERED DURING CONSTRUCTION.

**TEMPORARY STORM WATER MANAGEMENT (1 YEAR STORM EVENT)**

AREA	MAXIMUM D.A.	TSWM	STORAGE VOLUMES
D.A. #1	3.38 AC.	PROVIDED	REQD. = 29,078 CF PROV. = 29,141 CF
D.A. #2	1.23 AC.	NOT REQUIRED	
D.A. #3	1.27 AC.	NOT REQUIRED	

SHEET: 15

**BY THE DEVELOPER**

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

Signature: *Yvon Bergevin* 9/14/06  
 YVON BERGEVIN, P.E.  
 MILLVILLE QUARRY, INC.

**BY THE ENGINEER**

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

Signature: *Kerri S. Knighten* 9/14/06  
 KERRI S. KNIGHTEN, P.E.  
 MD LICENSE #201135

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

Signature: *John M. ...* 9/14/06  
 U.S.D.A. - NATURAL RESOURCES CONSERVATION SERVICE

Signature: *Shelly ...* 9/14/06  
 HOWARD S.C.D.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Signature: *...* 9/14/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Signature: *...* 10/2/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT

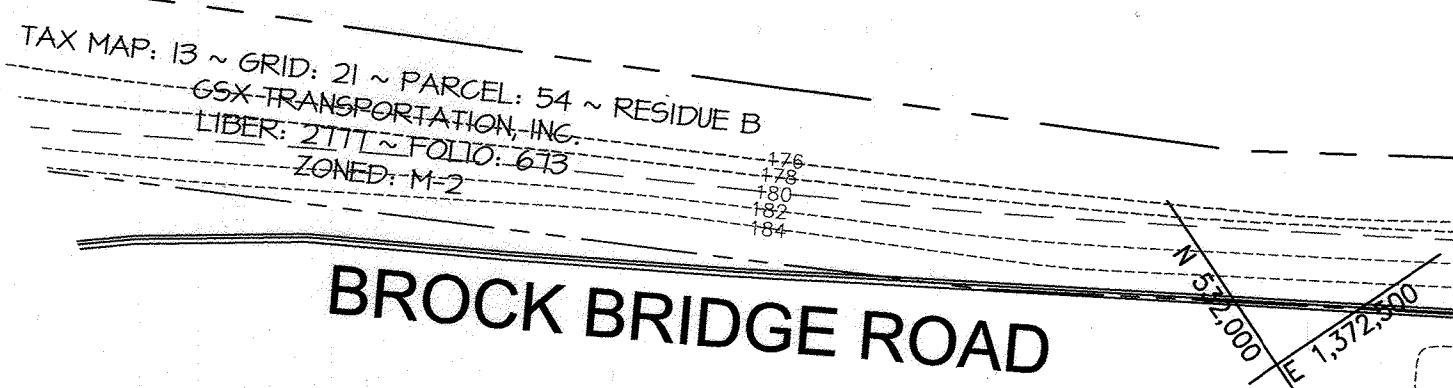
Signature: *...* 10/3/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

**LEGEND**

--- 258 ---	EX. 2' CONTOUR
--- 260 ---	EX. 10' CONTOUR
---	EX. BUILDING
---	EX. CURB
---	EX. EASEMENT
---	EX. ELECTRIC
---	EX. FENCE
---	EX. FIBER OPTIC
---	EX. GAS
---	EX. PAVEMENT
---	EX. PROPERTY LINE
---	EX. COUNTY LINE
---	EX. RAILROAD &
---	EX. ROAD CENTERLINE
---	EX. SANITARY SEWER
---	EX. STORM DRAIN
---	EX. TREE LINE
---	EX. SHRUB LINE
---	EX. WATERLINE
---	EX. WETLAND
---	EX. WETLAND BUFFER
---	PROP. 2' CONTOURS
---	PROP. 10' CONTOURS
---	PROP. CENTERLINE OF DRAINAGE SWALE
---	PROP. 6" CHAINLINK FENCE
---	PROP. CURB
---	PROP. TREE LINE
---	PROP. SHRUB LINE
---	PROP. LIMIT OF DISTURBANCE
---	PROP. PAVEMENT
---	PROP. PLANT & ACCESSORY STRUCTURES
---	PROP. PRIVATE SANITARY SEWER LINE
---	PROP. PRIVATE WATER LINE
---	PROP. PUBLIC SANITARY SEWER LINE
---	PROP. PUBLIC WATER LINE
---	PROP. RAILROAD &
---	PROP. STORM DRAIN
---	PROP. DRAINAGE AREA
---	PROP. SILT FENCE
---	PROP. EARTH DIKE
---	PROP. TEMPORARY SWALE
---	SOIL BOUNDARY
---	SOIL TYPE
---	CARBON INFLOW PROTECTION
---	REMOVABLE PUMPING STATION
---	STABILIZED CONSTRUCTION ENTRANCE
---	INLET BLOCKING

TAX MAP: 48 ~ PARCEL: 143  
 CSX TRANSPORTATION, INC.  
 LIBER: 1930 ~ FOLIO: 101  
 V.B.15  
 ZONED: M-2

\*SEE SHEET 16 FOR SEDIMENT TRAP SUMMARY TABLES



- SEQUENCE OF CONSTRUCTION**
1. OBTAIN GRADING PERMIT. 1 DAY
  2. CLEAR FOR AND INSTALL PERIMETER SEDIMENT CONTROLS, SILT FENCE, EARTH DIKES AND STABILIZED CONSTRUCTION ENTRANCE. 1 WEEK
  3. CONSTRUCT PROPOSED BYPASS STORM DRAIN SYSTEM, EW-1 TO 1-2 AND RIPRAP OUTFALL PRIOR TO INSTALLING CLEAN WATER DIVERSION DIKES. 2 WEEKS
  4. CONSTRUCT SEDIMENT TRAPS NOS. 1-3. 1 WEEK
  5. WITH HOWARD COUNTY SEDIMENT CONTROL INSPECTOR'S PERMISSION, PROCEED WITH ROUGH GRADING PHASE. 1 DAY
  6. CLEAR & GRUB, BEGIN ROUGH GRADING OF SITE. 1 WEEK
  7. BEGIN CONSTRUCTION OF UNDERGROUND SWM FACILITIES. CAP OPENINGS INTO FACILITY TO PREVENT ANY RUNOFF FROM ENTERING SWM FACILITIES. 2 MONTHS
  8. BEGIN UTILITY CONSTRUCTION AND COMPLETE STORM DRAIN SYSTEM, BLOCK INLETS (SEE DETAIL SHEET 17). 3 WEEKS
  9. BEGIN ASPHALT PLANT ASSEMBLY. 1 MONTH
  10. INSTALL QUALITY CONTROL AND OPERATORS STATION TRAILERS. BEGIN SHED CONSTRUCTION. 1 MONTH
  11. FINE GRADE AND INSTALL CURB, GUTTER AND BASE PAVING. 2 WEEKS
  12. CONSTRUCT WALKWAYS AND RAMPS, VEGETATIVELY STABILIZE REMAINING AREAS. 1 WEEK
  13. WHEN RECEIVING AREA IS STABILIZED, REMOVE CAPS FROM SWM FACILITIES, UNBLOCK INLETS, CLEAN STORM DRAINAGE AND SWM AFFECTED BY ANY SEDIMENTATION. 1 DAY
  14. WITH HOWARD COUNTY SEDIMENT CONTROL INSPECTOR'S PERMISSION, BACKFILL AND REMOVE SEDIMENT TRAP, AND REMAINING EARTH DIKES, STABILIZE REMAINING DISTURBED AREAS. 2 DAYS

**OWNER/DEVELOPER:**

MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-982-1400  
 ATTN: MR. YVON BERGEVIN

**MORRIS & RITCHIE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 792-9792 or (301) 776-1690  
 FAX (410) 792-7395

LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"

**EROSION & SEDIMENT CONTROL PLAN**

LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO:
		14078
		SCALE: 1" = 30'
		DATE: 9/14/06
		DRAWN BY: M...
		DESIGN BY: M...
		REVIEW BY: M...
		SHEET: 15 OF 23



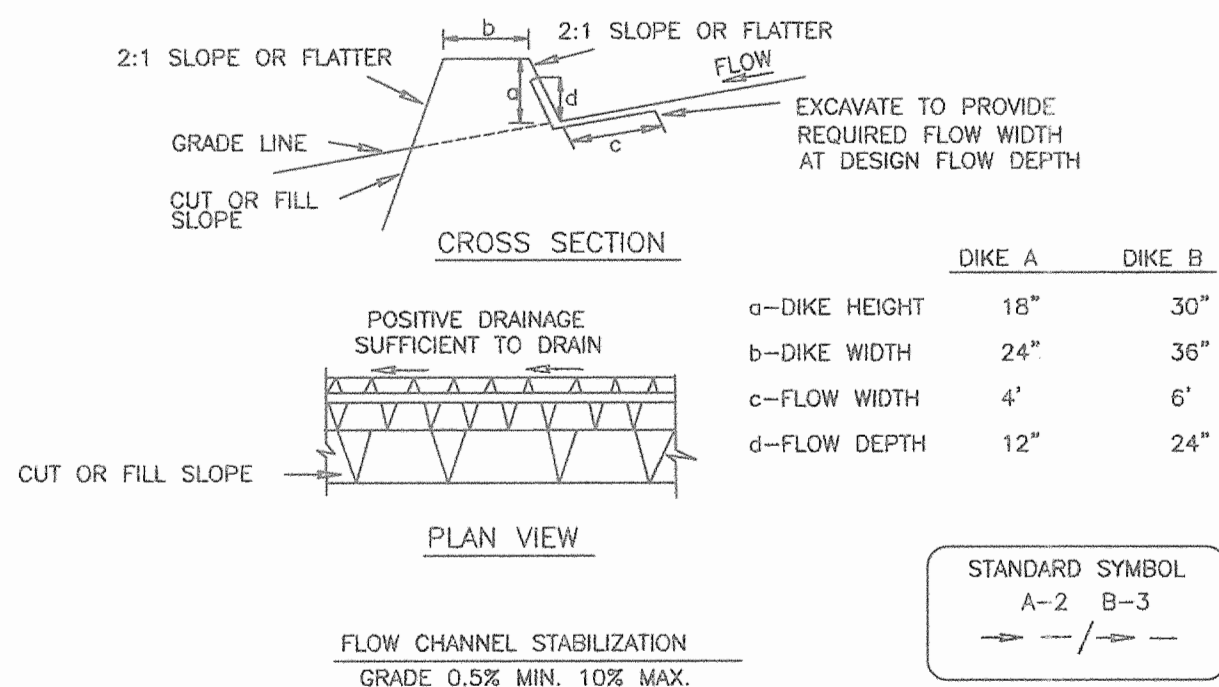
SEDIMENT TRAP #1 SUMMARY TABLE	
TRAP TYPE	5T - II
DRAINAGE AREA	3.36 ACRES
NET STORAGE VOLUME REQ'D*	6,094 C.F.
DRY STORAGE VOLUME REQ'D	6,094 C.F.
TEMP. 5MM - 1 YR. STORAGE REQUIRED	3,350 X 45,560 X (2.31 / 12) = 29,019 C.F.
TOTAL VOLUME REQUIRED	35,113 C.F.*
TOTAL VOLUME PROVIDED	42,141 C.F.
NET STORAGE VOLUME PROVIDED	15,291 C.F.
DRY STORAGE & TEMP. VOLUME PROVIDED	29,020 C.F.
NET STORAGE DEPTH	1.0 FT.
DRY STORAGE & TEMP. DEPTH	2.00 FT.
BOTTOM ELEVATION	175.0
CLEANOUT ELEVATION	175.5
NET STORAGE ELEVATION	180.00
BOTTOM DIMENSIONS	77' X 163'
SIDE SLOPES	2 : 1
WEIR CREST ELEVATION	182.00
WEIR LENGTH	14 FEET
EXISTING GROUND AT OUTLET	180.0
EMBANKMENT ELEVATION	189.0

SEDIMENT TRAP #2 SUMMARY TABLE	
TRAP TYPE	5T - II
DRAINAGE AREA	1.29 ACRES
NET STORAGE VOLUME REQ'D*	2,214 C.F.
DRY STORAGE VOLUME REQ'D	2,214 C.F.
TOTAL VOLUME REQUIRED	4,428 C.F.
TOTAL VOLUME PROVIDED	4,456 C.F.
NET STORAGE VOLUME PROVIDED	2,238 C.F.
DRY STORAGE VOLUME PROVIDED	2,220 C.F.
NET STORAGE DEPTH	1.5 FT.
DRY STORAGE DEPTH	1.0 FT.
BOTTOM ELEVATION	180.25
CLEANOUT ELEVATION	182.0
NET STORAGE ELEVATION	182.0
BOTTOM DIMENSIONS	66' X 14'
SIDE SLOPES	2 : 1
WEIR CREST ELEVATION	183.00
WEIR LENGTH	5 FEET
EXISTING GROUND AT OUTLET	182.0
EMBANKMENT ELEVATION	194.0

SEDIMENT TRAP #3 SUMMARY TABLE	
TRAP TYPE	5T - II
DRAINAGE AREA	1.21 ACRES
NET STORAGE VOLUME REQ'D*	2,200 C.F.
DRY STORAGE VOLUME REQ'D	2,200 C.F.
TOTAL VOLUME REQUIRED	4,400 C.F.
TOTAL VOLUME PROVIDED	5,786 C.F.
NET STORAGE VOLUME PROVIDED	2,584 C.F.
DRY STORAGE VOLUME PROVIDED	3,202 C.F.
NET STORAGE DEPTH	1.5 FT.
DRY STORAGE DEPTH	1.5 FT.
BOTTOM ELEVATION	170.0
CLEANOUT ELEVATION	175.75
NET STORAGE ELEVATION	174.5
BOTTOM DIMENSIONS	60' X 16'
SIDE SLOPES	2 : 1
WEIR CREST ELEVATION	181.0
WEIR LENGTH	5 FEET
EXISTING GROUND AT OUTLET	174.5
EMBANKMENT ELEVATION	182.0

\* - NET STORAGE VOLUME + TEMP. 5MM VOLUME

### DETAIL 1 - EARTH DIKE



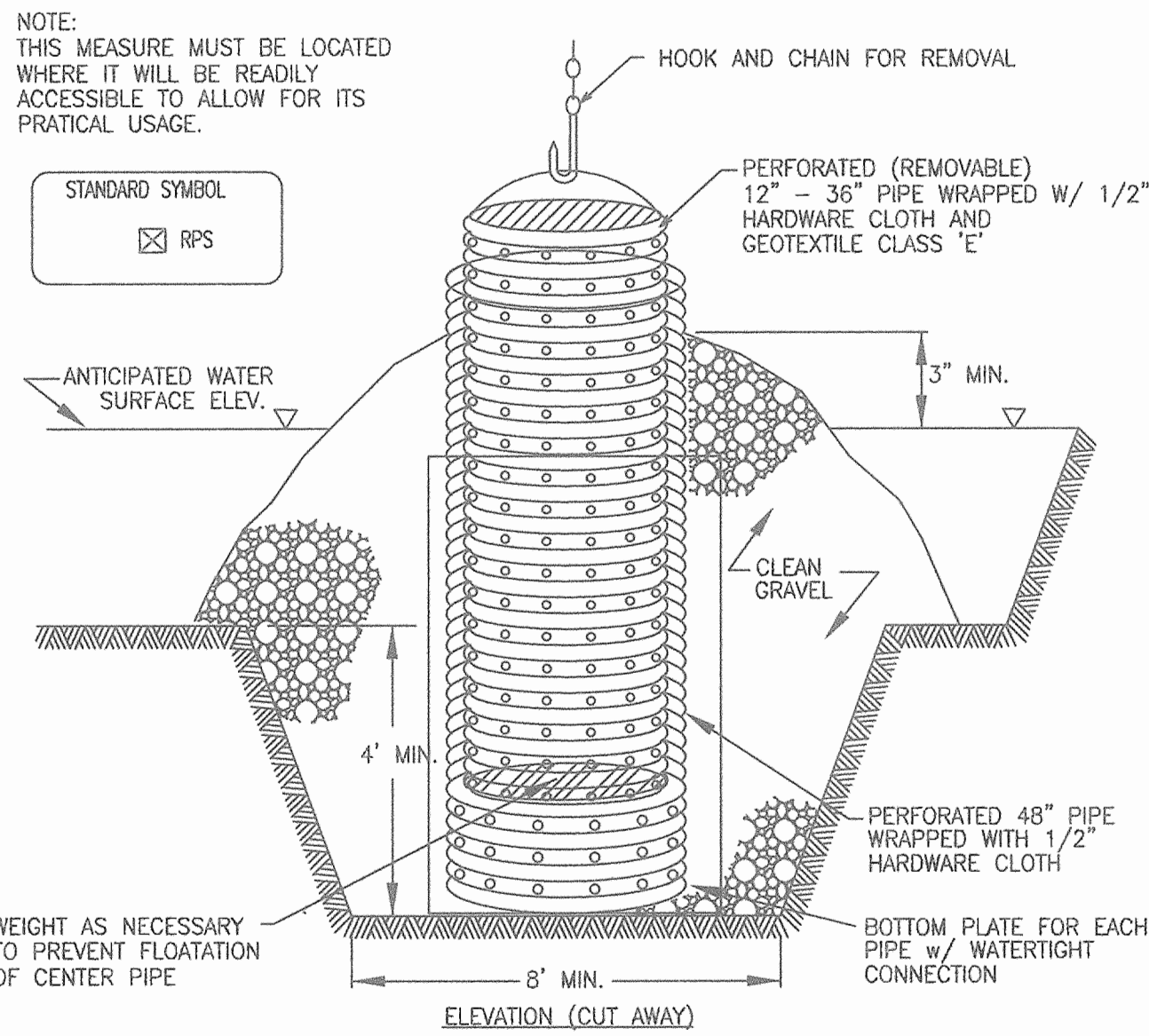
1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

#### Construction Specifications

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

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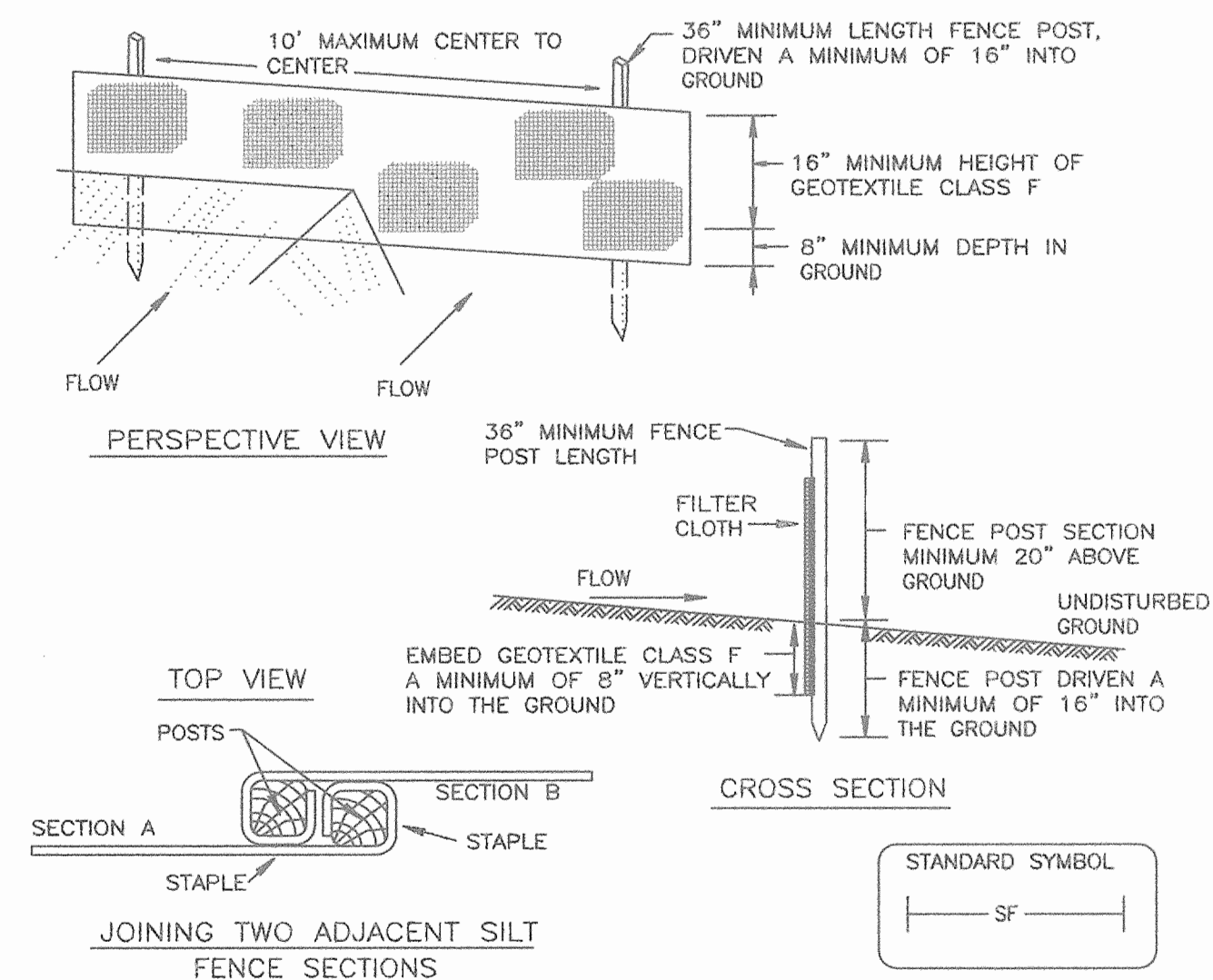
### DETAIL 20A - REMOVABLE PUMPING STATION



- NOTE: THIS MEASURE MUST BE LOCATED WHERE IT WILL BE READILY ACCESSIBLE TO ALLOW FOR ITS PRACTICAL USAGE.
- STANDARD SYMBOL  
RPS
- CONSTRUCTION SPECIFICATIONS
1. 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.
  2. AFTER INSTALLING THE OUTER PIPE, BACKFILL AROUND OUTER PIPE WITH 2" AGGREGATE OR CLEAN GRAVEL.
  3. THE INSIDE STAND PIPE (CENTER PIPE) SHOULD BE CONSTRUCTED BY PERFORATING A CORRUGATED OR PVC PIPE BETWEEN 12" AND 36" IN DIAMETER. THE PERFORATIONS SHALL BE 1/2" X 6" SLITS OR 1" DIAMETER HOLES 6" ON CENTER. THE CENTER PIPE SHALL BE WRAPPED WITH 1/2" HARDWARE CLOTH FIRST, THEN WRAPPED AGAIN WITH GEOTEXTILE CLASS E.
  4. THE CENTER PIPE SHOULD EXTEND 12" TO 18" ABOVE THE ANTICIPATED WATER SURFACE ELEVATION OR RISER CREST ELEVATION WHEN DEWATERING A BASIN.

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### DETAIL 22 - SILT FENCE



#### Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter standard T or U section weighting not less than 1.00 pound per linear foot (minimum) round and shall be of sound quality hardwood. Steel posts will be standard.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:
 

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft <sup>2</sup> / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

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#### BY THE DEVELOPER

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

SIGNATURE OF DEVELOPER  
VP 9/10/06  
DATE  
MILLVILLE QUARRY, INC.

#### BY THE ENGINEER

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

SIGNATURE OF ENGINEER  
9/11/06  
DATE  
KERRI S. KNIGHTEN, P.E. MD LICENSE #201135

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

Jim M... 9/21/06  
DATE  
U.S.D. NATURAL RESOURCES  
CONSERVATION SERVICE

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

9/21/06  
DATE  
HOWARD S.C.D.

#### APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION  
DATE  
CHIEF, DIVISION OF LAND DEVELOPMENT  
DATE  
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING  
DATE

**MORRIS & RITCHIE ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
14280 PARK CENTER DRIVE, SUITE A  
LAUREL, MARYLAND 20707  
(410) 782-9782 or (301) 776-1690  
FAX (410) 782-7395

LAUREL BLOCK PROPERTY  
11071 GULFROAD ROAD  
PARCEL "42"  
**EROSION & SEDIMENT CONTROL DETAILS**  
LIBER 8920 ~ FOLIO 74  
TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER:	DATE	REVISIONS	JOB NO.:
MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-992-1400 ATTN: MR. YOUNG BERGEVIN			14018
			SCALE: 1"=40'
			DATE: 3/29/06
			DRAWN BY: MSP/DRB
			DESIGN BY: MAM
			REVIEW BY: KSK
			SHEET: 16 OF 23



**VEGETATIVE STABILIZATION**

**PERMANENT AND TEMPORARY SEEDING, SODDING AND MULCHING**

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS FOR THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND FOURTEEN DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.

**I. PERMANENT SEEDING NOTES**

**SOIL TESTS:** LIME FERTILIZATION WILL BE APPLIED PER SOIL TEST RESULTS FOR THE SITES GREATER THAN 5 ACRES. SOIL TESTS WILL BE DONE AT COMPLETION OF INITIAL ROUGH GRADING OR AS RECOMMENDED BY THE SEDIMENT CONTROL INSPECTOR. RATES AND ANALYSES WILL BE PROVIDED TO THE GRADING INSPECTOR AS WELL AS THE CONTRACTOR.

- OCCURRENCE OF ACID SULFATE SOLID (GRAYISH BLACK COLOR) WILL REQUIRE COVERING WITH A MINIMUM OF 12 INCHES OF CLEAN SOIL WITH 6 INCHES MINIMUM CAPPING OF TOP SOIL. NO STOCKPILING OF MATERIAL IS ALLOWED. IF NEEDED, SOIL TESTS SHOULD BE DONE BEFORE AND AFTER A 6-WEEK INCUBATION PERIOD TO ALLOW OXIDATION OF SULFATES.

APPLY GRADE OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE 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:

- REJECTED:** APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (92 LBS./ 1,000 SQ. FT.) AND 600 LBS./ACRE 10-10-10 FERTILIZER (14 LBS./ 1,000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS./ACRE 30-0-0 UREA/FORM FERTILIZER (9 LBS./ 1,000 SQ. FT.).
- ACCEPTABLE:** APPLY 2 TONS/ACRE DOLOMITIC LIMESTONE (9 LBS./ 1,000 SQ. FT.) AND 1,000 LBS./ACRE 10-10-10 FERTILIZER (23 LBS./ 1,000 SQ. FT.) BEFORE SEEDING. HARROW OR DISK INTO UPPER THREE INCHES OF SOIL.

**SEEDING:** FOR THE PERIODS MARCH 1- APRIL 30, AND AUGUST 1- OCTOBER 15, SEED WITH 60 LBS./ACRE (1.4 LBS./ 1,000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE. FOR THE PERIOD OF MAY 1- JULY 31, SEED WITH 60 LBS. OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS./ACRE (.08/ 1,000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16- FEBRUARY 28, PROTECT SITE BY:

- OPTION 1:** TWO TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING.
- OPTION 2:** USE SOD.
- OPTION 3:** SEED WITH 60 LBS./ACRE KENTUCKY 30 TALL FESCUE AND MULCH WITH 2 TONS/ACRES WELL ANCHORED STRAW.

**MULCHING:** APPLY 1- 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./ 1,000 SQ. 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./ 1,000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL./ 1,000 SQ. FT.) FOR ANCHORING.

**SECURING STRAW MULCH:** STRAW MULCH SHALL BE SECURED IMMEDIATELY FOLLOWING MULCH APPLICATIONS TO MINIMIZE MOVEMENT BY WIND OR WATER. THE FOLLOWING METHODS ARE PERMITTED:

- (i) USE A MULCH-ANCHORING TOOL WHICH IS DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE TO A MINIMUM DEPTH OF 2 INCHES. THIS IS THE MOST EFFECTIVE METHOD FOR SECURING MULCH; HOWEVER, IT IS LIMITED TO RELATIVELY FLAT AREAS WHERE EQUIPMENT CAN OPERATE SAFELY.
- (ii) WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE. IF MIXED WITH WATER, USE 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.
- (iii) LIQUID BINDERS MAY BE USED. APPLY AT HIGHER RATES AT THE EDGES, WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF SLOPES. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BINDER APPLICATION. BINDERS LISTED IN THE 1994 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL OR APPROVED EQUAL SHALL BE APPLIED AT RATES RECOMMENDED BY THE MANUFACTURERS.
- (iv) LIGHTWEIGHT PLASTIC NETTING MAY BE USED TO SECURE MULCH. THE NETTING WILL BE STAPLED TO THE GROUND ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

**MAINTENANCE:** INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

**II. TEMPORARY SEEDING NOTES**

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

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

**SOIL AMENDMENTS:** APPLY 600 LBS./ACRE 10-10-10 FERTILIZER (14 LBS./ 1,000 SQ. FT.).

**SEEDING:** FOR PERIODS MARCH 1- APRIL 30 AND FROM AUGUST 15- OCTOBER 15, SEED WITH 2-1/2 BUSHEL PER ACRE OF ANNUAL RYE (3.2 LBS./ 1,000 SQ. FT.). FOR THE PERIOD MAY 1- AUGUST 14, SEED WITH 3 LBS./ACRE OF WEEPING LOVEGRASS (.07 LBS./ 1,000 SQ. FT.). FOR THE PERIOD NOVEMBER 16- FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS/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/ACRE (70 TO 90 LBS./ SQ. FT.) OF UNROTTED WHEAT-FREE, SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GAL./ACRE (5 GAL./ 1,000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FT. OR HIGHER, USE 348 GAL./ PER ACRE (8 GAL./ 1,000 SQ. FT.) FOR ANCHORING.

**IV. FILL**

NO FILLS MAY BE PLACED ON FROZEN GROUND. ALL FILL TO BE PLACED IN APPROXIMATELY HORIZONTAL LAYER EACH LAYER HAVING A LOOSE THICKNESS OF NOT MORE THAN 8 INCHES. ALL FILL IN ROADWAYS AND PARKING AREA IS TO BE CLASSIFIED TYPE 2 AS PER HOWARD COUNTY COUNTY CODE- ARTICLE 21, SECTION 2-308, AND COMPACTED TO 90% DENSITY. COMPACTED TO BE DETERMINED BY ASTM D-1557-96T (MODIFIED PROCTOR). ANY FILL WITHIN THE BUILDING AREA IS TO BE COMPACTED TO A MINIMUM OF 85 % DENSITY AS DETERMINED BY METHODS PREVIOUSLY MENTIONED. FILLS FOR POUD EMBANKMENTS SHALL BE COMPACTED AS PER MD-378 CONSTRUCTION SPECIFICATIONS. ALL OTHER FILLS SHALL BE COMPACTED SUFFICIENTLY SO AS TO BE STABLE AND PREVENT EROSION AND SLURPAGE.

**V. PERMANENT SOD**

INSTALLATION OF SOD SHOULD FOLLOW PERMANENT SEEDING DATES. SEEDBED PREPARATION FOR SOD SHALL BE AS NOTED IN SECTION (B) ABOVE. PERMANENT SOD IS TO BE TALL FESCUE, STATE APPROVED SOD; LIME AND FERTILIZER PER PERMANENT SEEDING SPECIFICATIONS AND LIGHTLY BRIGATE SOIL PRIOR TO LAYING SOD. SOD IS TO BE LAID ON THE CONTOUR WITH ALL ENDS TIGHTLY ADJUTING. JOINTS ARE TO BE STAGGERED BETWEEN ROWS. WATER AND ROLL OR TAMP SOD TO INSURE POSITIVE ROOT CONTACT WITH THE SOIL. ALL SLOPES STEEPER THAN 3:1, AS SHOWN, ARE TO BE PERMANENTLY SODDED OR PROTECTED WITH AN APPROVED EROSION CONTROL NETTING. ADDITIONAL WATER FOR ESTABLISHMENT MAY BE REQUIRED. SOD IS NOT TO BE INSTALLED ON FROZEN GROUND. SOD SHALL NOT BE TRANSPLANTED WHEN MOISTURE CONTENT (DRY OR WET) AND/OR EXTREME TEMPERATURE MAY BE ADVERSELY AFFECT ITS SURVIVAL. IN THE ABSENCE OF ADEQUATE RAINFALL, IRRIGATION SHOULD BE PERFORMED TO ENSURE ESTABLISHMENT OF SOD.

**VI. MINING OPERATIONS**

DOES NOT APPLY TO THIS PROJECT

**VII. TOPSOIL SHALL BE APPLIED AS PER THE STANDARD AND SPECIFICATIONS FOR TOPSOIL FROM THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.**

NOTE: USE OF THIS INFORMATION PRECLUDE MEETING ALL OF THE REQUIREMENT OF THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT.

NOTE: PROJECTS WITHIN 4 MILES OF THE BWI AIRPORT WILL NEED TO ADHERE TO MARYLAND AVIATION ADMINISTRATION'S SEEDING SPECIFICATION RESTRICTIONS.

**STANDARDS 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, MATERIAL TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

**CONDITIONS WHERE PRACTICE APPLIES**

I. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

- A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
- B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
- C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
- D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

II. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION. AREAS HAVING SLOPES STEEPER THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

**CONSTRUCTION AND MATERIAL SPECIFICATIONS**

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE CONTAINED FOR A GIVEN SOIL TYPE CAN BE FOUND IN REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS-SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

- I. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CONCRETES, STONES, SLAG, COARSE FRAGMENTS, GRAVELS, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.
- II. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUICKGRASS, JOHNSONGRASS, MUTSEDE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.
- III. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SF) 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.

**III. FOR SITE HAVING DISTURBED AREAS UNDER 5 ACRE**

I. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION-SECTION I-VEGETATIVE STABILIZATION METHODS AND MATERIALS.

**III. TOPSOIL APPLICATION**

- I. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.
- II. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBERT 4"-8" HIGHER IN ELEVATION.
- III. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.
- IV. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

VI. ALTERNATIVE FOR PERMANENT SEEDING- INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS MAY BE APPLIED AS SPECIFIED BELOW:

- I. COMPOSTED SLUDGE MATERIAL FOR USE A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
  - A. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.
  - B. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A pH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.
  - C. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SF.
- II. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4LB/1,000 SF, 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.

**STANDARDS AND SPECIFICATIONS FOR LAND GRADING**

**DEFINITION**

RESHAPING OF THE EXISTING LAND SURFACE IN ACCORDANCE WITH A PLAN AS DETERMINED BY ENGINEERING SURVEY AND LAYOUT.

**PURPOSE**

THE PURPOSE OF A LAND GRADING SPECIFICATION IS TO PROVIDE FOR EROSION CONTROL AND VEGETATIVE ESTABLISHMENT ON THOSE AREAS WHERE THE EXISTING LAND SURFACE IS TO BE RESHAPED BY GRADING ACCORDING TO PLAN.

**DESIGN CRITERIA**

THE GRADING PLAN SHOULD BE BASED UPON THE INCORPORATION OF BUILDING DESIGNS AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADE MODIFICATIONS. INFORMATION SUBMITTED MUST PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE LIMITATIONS THAT MUST BE IMPOSED ON THE GRADING OPERATION RELATED TO SLOPE STABILITY, EFFECT ON ADJACENT PROPERTIES AND DRAINAGE PATTERNS, MEASURES FOR DRAINAGE AND WATER REMOVAL AND VEGETATIVE TREATMENT, ETC.

MANY COUNTIES HAVE REGULATIONS AND DESIGN PROCEDURES ALREADY ESTABLISHED FOR LAND GRADING AND CUT AND FILL SLOPES. WHERE THESE REQUIREMENTS EXIST, THEY SHALL BE FOLLOWED. THE PLAN MUST SHOW EXISTING AND PROPOSED CONTOURS OF THE AREA(S) TO BE GRADED. THE PLAN SHALL ALSO INCLUDE PRACTICES FOR EROSION CONTROL, SLOPE STABILIZATION, SAFE DISPOSAL OF RUNOFF WATER AND DRAINAGE, SUCH AS WATERWAYS, LINED DITCHES, REVERSE SLOPE BENCHES (INCLUDE GRADE AND CROSS SECTION), GRADE STABILIZATION STRUCTURES, RETAINING WALLS, AND SURFACE AND SUBSURFACE DRAINS. THE PLAN SHALL ALSO INCLUDE PHASING OF THESE PRACTICES. THE FOLLOWING SHALL BE INCORPORATED INTO THE PLAN:

I. PROVISIONS SHALL BE MADE TO SAFELY CONVEY SURFACE RUNOFF TO STORM DRAINS, PROTECTED OUTLETS OR TO STABLE WATER COURSES TO INSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.

II. CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASSES SHALL BE STEEPER THAN 2:1. (WHERE THE SLOPE IS TO BE MOVED THE SLOPE SHOULD BE NO STEEPER THAN 3:1, 4:1 IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOVING STEEP SLOPES.) SLOPES EXCEEDING 2:1 SHALL REQUIRE SPECIAL DESIGN AND STABILIZATION CONSIDERATIONS THAT SHALL BE ADEQUATELY SHOWN ON THE PLANS.

III. REVERSE BENCHES SHALL BE PROVIDED WHENEVER THE VERTICAL INTERVAL (HEIGHT) OF ANY 2:1 SLOPE EXCEEDS 20 FEET. FOR 3:1 SLOPE IT SHALL BE INCREASED TO 30 FEET AND FOR 4:1 TO 40 FEET. BENCHES SHALL BE LOCATED TO DIVIDE THE SLOPE FACE AS EQUALLY AS POSSIBLE AND SHALL CONVEY THE WATER TO A STABLE OUTLET. SOLES, STEPS, ROCK OUTCROPPS, ETC., SHALL ALSO BE TAKEN INTO CONSIDERATION WHEN DESIGNING BENCHES.

A. BENCHES SHALL BE A MINIMUM OF SIX FEET WIDE TO PROVIDE FOR EASE OF MAINTENANCE.

B. BENCHES SHALL BE DESIGNED WITH A REVERSE SLOPE OF 6:1 OR FLATTER TO THE TOP OF THE UPPER SLOPE AND WITH A MINIMUM OF ONE FOOT IN DEPTH. BENCH GRADIENT TO THE OUTLET SHALL BE BETWEEN 2 PERCENT AND 3 PERCENT, UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS.

C. THE FLOW LENGTH WITHIN A BENCH SHALL NOT EXCEED 600' UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND COMPUTATIONS. FOR FLOW CHANNEL STABILIZATION SEE TEMPORARY SWALE.

IV. SURFACE WATER SHALL BE DIVERTED FROM THE FACE OF ALL CUT AND/OR FILL SLOPES BY THE USE OF EARTH DIKES, DITCHES AND SWALES OR CONVEYED DOWNSLOPE BY THE USE OF A DESIGNED STRUCTURE, EXCEPT WHERE:

A. THE FACE OF THE SLOPE IS OR SHALL BE STABILIZED AND THE FACE OF ALL GRADED SLOPES SHALL BE PROTECTED FROM SURFACE RUNOFF UNTIL THEY ARE STABILIZED.

B. THE FACE OF SLOPE SHALL NOT BE SUBJECT TO ANY CONCENTRATED FLOWS OF SURFACE WATER, SUCH AS FROM NATURAL DRAINAGEWAYS, GRADED SWALES, DOWNSPUTS, ETC.

C. THE FACE OF THE SLOPE WILL BE PROTECTED BY SPECIAL EROSION CONTROL MATERIALS, TO INCLUDE, BUT NOT LIMITED TO: APPROVED VEGETATIVE STABILIZATION PRACTICES (SEE SECTION G), RIP-RAP OR OTHER APPROVED STABILIZATION METHODS.

V. CUT SLOPES OCCURRING IN RIPABLE ROCK SHALL BE SERRATED AS SHOWN ON THE FOLLOWING DIAGRAM. THESE SERRATIONS SHALL BE MADE WITH CONVENTIONAL EQUIPMENT AS THE EXCAVATION IS MADE. EACH STEP OR SERRATION SHALL BE CONSTRUCTED ON THE CONTOUR AND WILL HAVE STEPS CUT AT NOMINAL TWO-FOOT INTERVALS WITH NOMINAL THREE-FOOT HORIZONTAL SHELVES. THESE STEPS WILL VARY DEPENDING ON THE SLOPE RATIO OR THE CUT SLOPE. THE NOMINAL SLOPE RATIO IS 1:1. THESE STEPS WILL WEATHER AND ACT TO HOLD MOISTURE. LIME, FERTILIZER AND SEED THIS PRODUCING A MUCH QUICKER AND LONGER LIVED VEGETATIVE COVER AND BETTER SLOPE STABILIZATION. OVERLAND FLOW SHALL BE DIVERTED FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRIED TO A SUITABLE OUTLET.

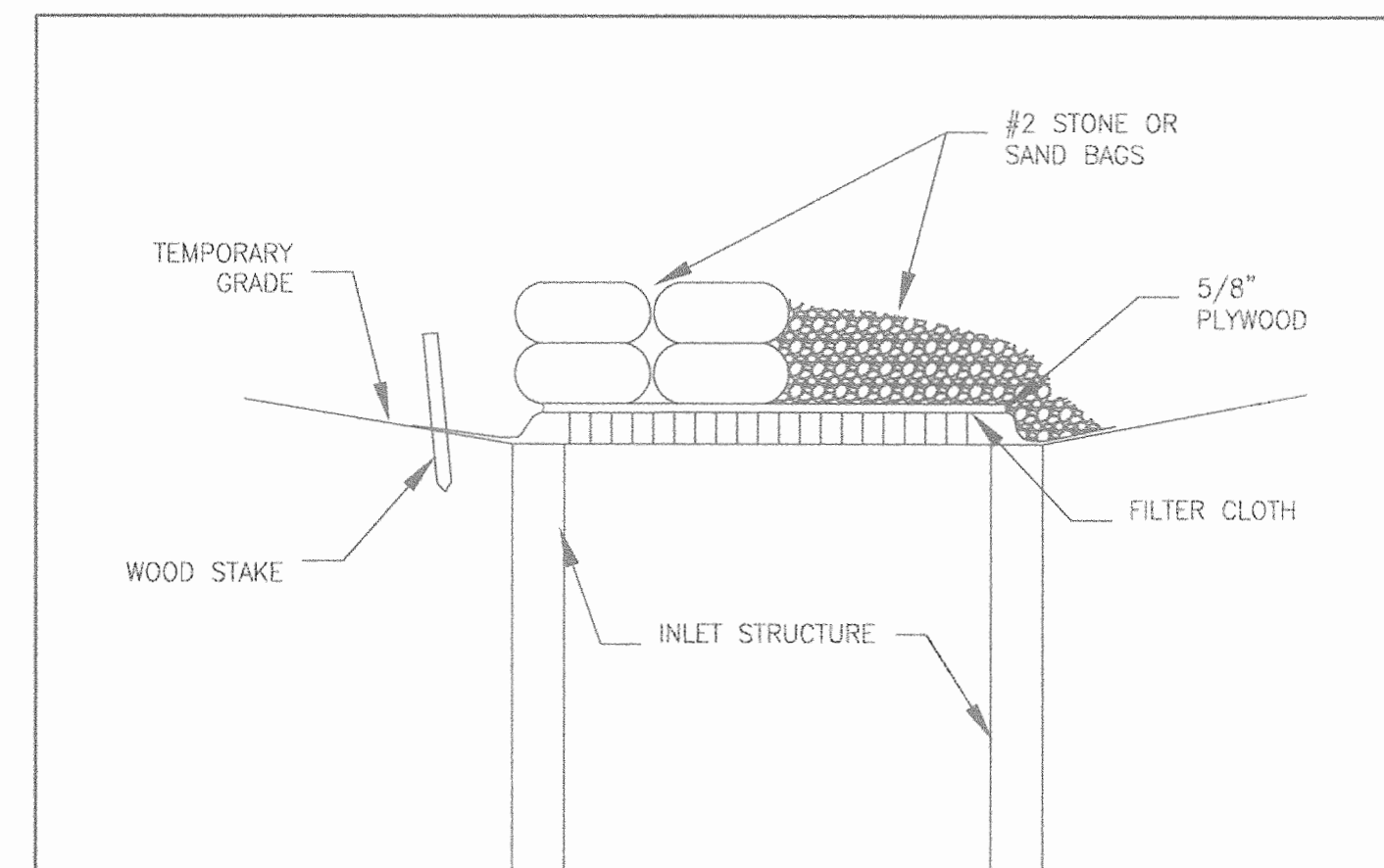
VI. SUBSURFACE DRAINAGE SHALL BE PROVIDED WHERE NECESSARY TO INTERCEPT SEEPAGE THAT WOULD OTHERWISE ADVERSELY AFFECT SLOPE STABILITY OR CREATE EXCESSIVELY WET SITE CONDITIONS.

VII. SLOPES SHALL NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJACENT PROPERTIES WITHOUT ADEQUATELY PROTECTING SUCH PROPERTIES AGAINST SEDIMENTATION, EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGES.

VIII. FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS, AND OTHER OBJECTIONABLE MATERIAL. IT SHOULD BE FREE OF STONES OVER TWO (2) INCHES IN DIAMETER WHERE COMPACTED BY HAND OR MECHANICAL TAIFERS OR OVER EIGHT (8) INCHES IN DIAMETER WHERE COMPACTED BY ROLLERS OR OTHER EQUIPMENT. FROZEN MATERIAL SHALL NOT BE PLACED IN THE FILL NOR SHALL THE FILL MATERIAL BE PLACED ON A FROZEN FOUNDATION.

IX. STOCKPILES, BORROW AREAS AND SPOIL SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATIONS.

X. ALL DISTURBED AREAS SHALL BE STABILIZED STRUCTURALLY OR VEGETATIVELY IN COMPLIANCE WITH 20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.



**CONSTRUCTION SPECIFICATIONS**

1. 5/8" PLYWOOD SHALL BE PLACED ALONG THE ENTIRE GRATE, LEAVING NO OPENINGS.

2. GEOTEXTILE CLASS F SHALL BE FASTENED SECURELY UNDER THE 5/8" PLYWOOD WITH STAPLES AT TOP AND MIDSECTION EXTENDING ONE FOOT BEYOND GRATE. WHEN SAND BAGS ARE USED A WOOD STAKE MUST BE PLACED THROUGH THE FILTER CLOTH TO SECURE IT.

3. YARD INLET BLOCKING SHALL INSPECTED AFTER EACH RAIN AND MAINTAINED WHEN DAMAGE OCCURS TO THE #2 STONE OR SAND BAGS. WHEN LARGE AMOUNTS OF SEDIMENT BUILD UP IN THE SLUMP IT SHALL BE PUMPED OUT WITH AN APPROVED PORTABLE SEDIMENT TANK.

INLET BLOCKING	N.T.S.
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**BY THE DEVELOPER**

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

Signature of developer: *Wanda B. Babin*, dated 9/07/06.

**BY THE ENGINEER**

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

Signature of engineer: *Kerri S. Knighten*, dated 9/11/06.

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

Signature of reviewer: *Jim M.../10*, dated 9/10/06.

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

Signature of approver: *Wanda B. Babin*, dated 9/10/06.

**APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING**

Signature of chief: *Wanda B. Babin*, dated 10/2/06.

Signature of chief: *Wanda B. Babin*, dated 10/2/06.

Signature of director: *Wanda B. Babin*, dated 10/2/06.

SHEET: 17

**MORRIS & RITCHIE ASSOCIATES, INC.**  
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
14280 PARK CENTER DRIVE, SUITE A  
LAUREL, MARYLAND 20707  
(410) 792-9792 or (301) 776-1690  
FAX (410) 792-7395

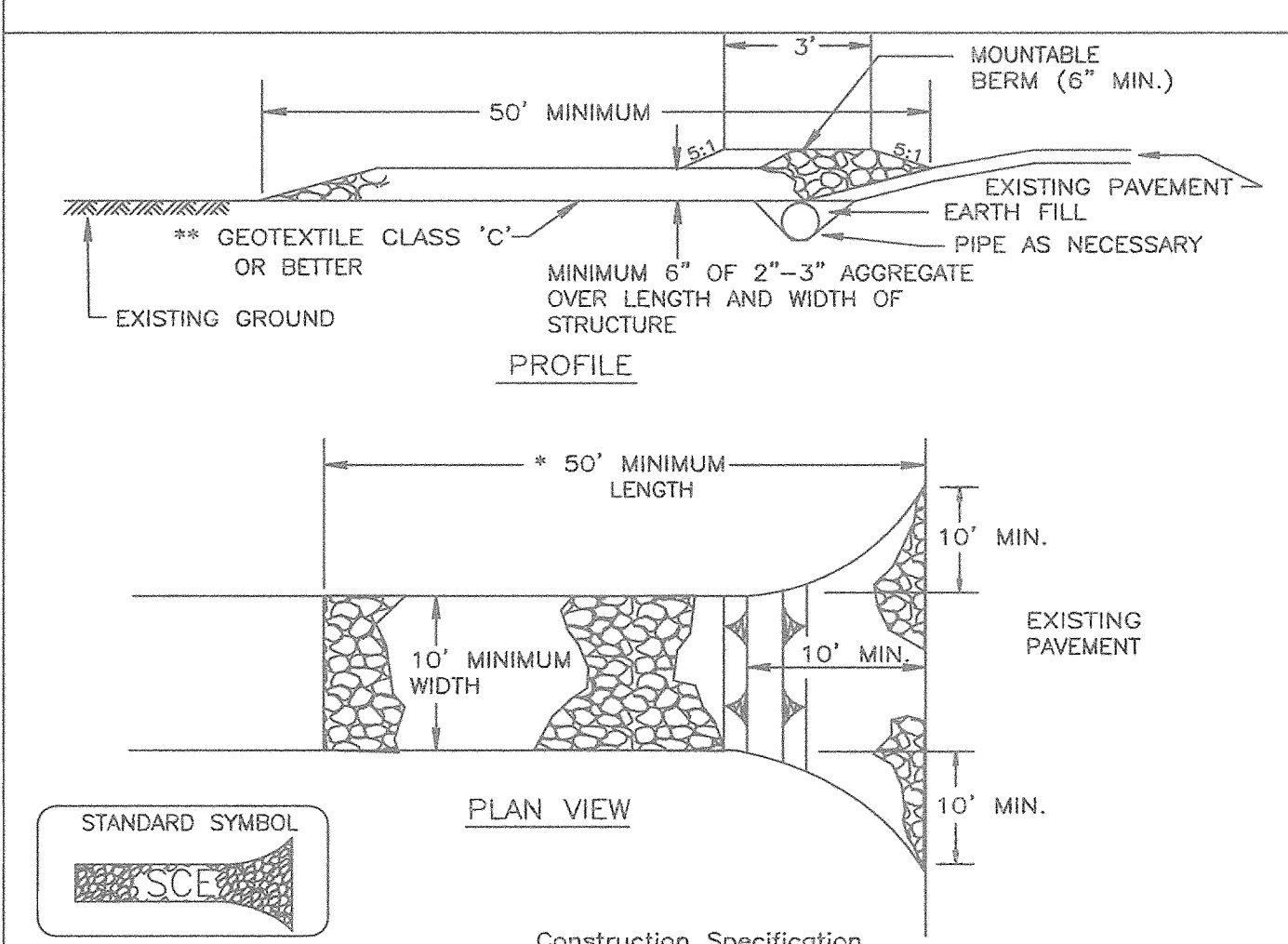
LAUREL BLOCK PROPERTY  
11071 GUILFORD ROAD  
PARCEL #42  
**EROSION & SEDIMENT CONTROL DETAILS**

LIBER 8920 ~ FOLIO 74  
TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER: MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-982-1400 ATTN: MR. YVON BERGENIN	DATE	REVISIONS	JOB NO:	14018
			SCALE:	1"=40'
			DATE:	3/28/06
			DRAWN BY:	MSP/DRB
			DESIGN BY:	MAM
		REVIEW BY:	KSK	
			SHEET:	17 OF 23



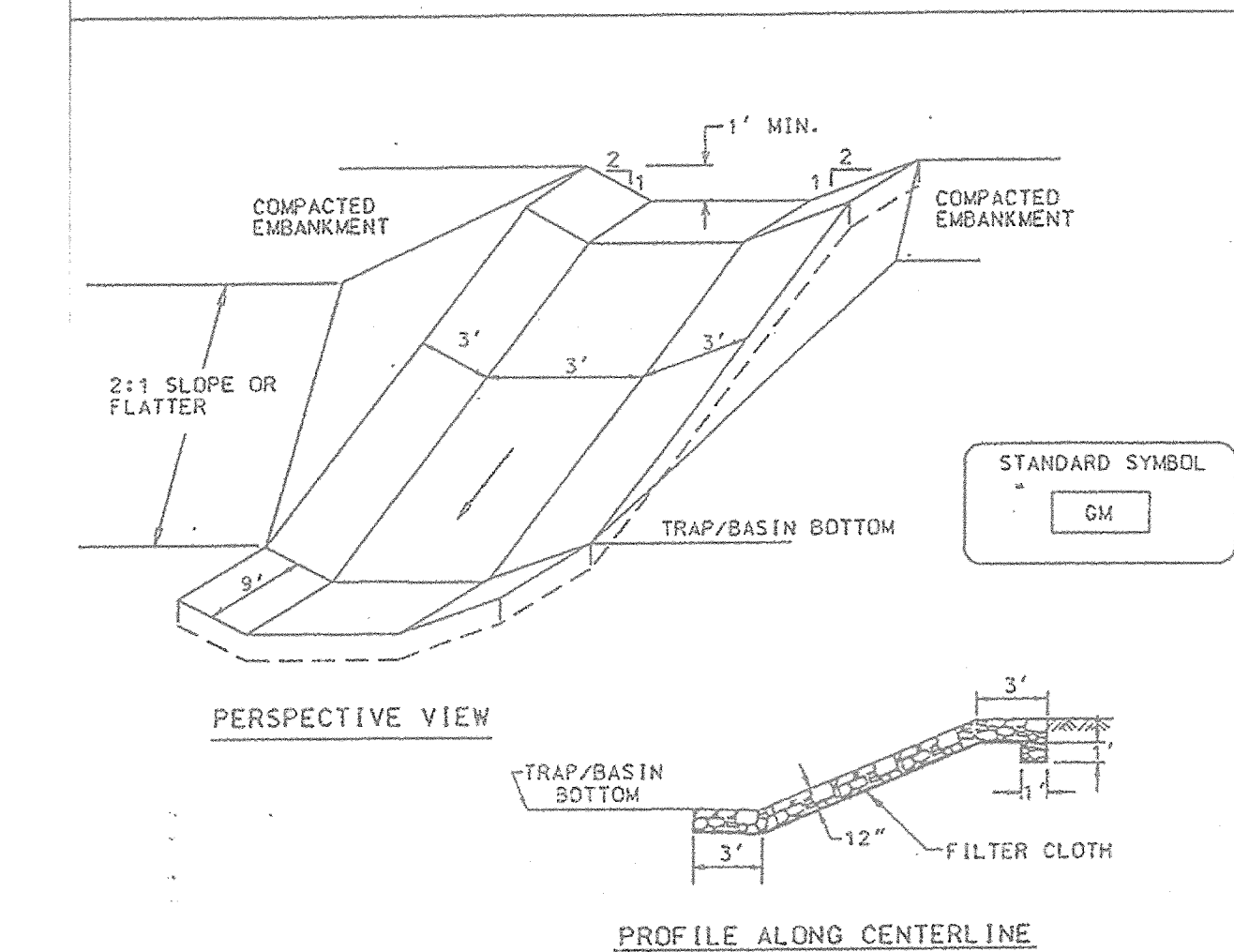
DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



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

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

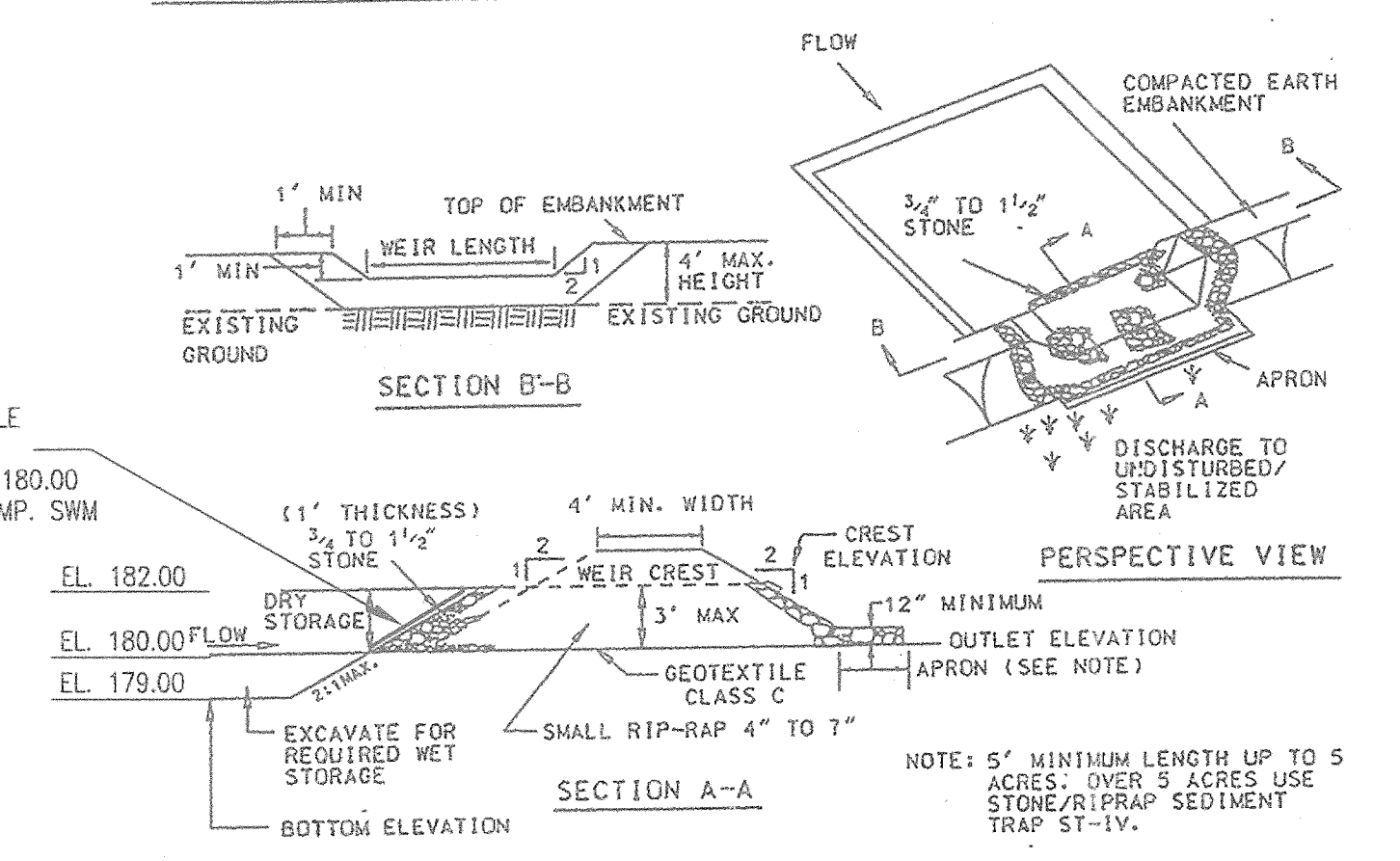
DETAIL 6 - GABION INFLOW PROTECTION



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

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE B-7-2 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 9 - STONE OUTLET SEDIMENT TRAP - ST II



1. Area under embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots and other woody vegetation as well as over-sized stones, rocks, organic material or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. All cut and fill slopes shall be 2:1 or flatter.
4. The stone used in the outlet shall be small rip-rap 4" to 7" in size with a 1" thick layer of 3/4" to 1 1/2" washed aggregate placed on the upstream face of the outlet. Stone facing shall be as necessary to prevent clogging. Geotextile Class C may be substituted for the stone facing by placing it on the inside face of the stone outlet.
5. Sediment shall be removed and trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap. Removed sediment shall be deposited in a suitable area and in such a manner that it will not erode.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-10 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

STONE OUTLET SEDIMENT TRAP - ST II

6. The structure shall be inspected periodically and after each rain and repairs made as needed.
7. Construction of traps shall be carried out in such a manner that sediment pollution is abated. Once constructed, the top and outside face of the embankment shall be stabilized with seed and mulch. Points of concentration inflow shall be protected in accordance with Grade Stabilization Structure criteria. The remainder of the interior slopes should be stabilized (one time) with seed and mulch upon trap completion and monitored and maintained erosion free during the life of the trap.
8. The structure shall be dewatered by approved methods, removed and the area stabilized when the drainage area has been properly stabilized.
9. Refer to Section D for specifications concerning trap dewatering.
10. Minimum trap depth shall be measured from the weir elevation.
11. The elevation of the top of any dike directing water into the trap must equal or exceed the elevation of the trap embankment.
12. Geotextile Class C shall be placed over the bottom and sides of the outlet channel prior to the placement of stone. Sections of filter cloth must overlap at least 1' with the section nearest the entrance placed on top. The filter cloth shall be embedded at least 6" into existing ground at the entrance of the outlet channel.
13. Outlet - An outlet shall be provided, including a means of conveying the discharge in an erosion free manner to an existing stable channel.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE PAGE C-9-10A MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

SILT FENCE

Silt Fence Design Criteria

Slope Steepness	(Maximum) Slope Length	(Maximum) Silt Fence Length
Flatter than 50:1	unlimited	unlimited
50:1 to 10:1	125 feet	1,000 feet
10:1 to 5:1	100 feet	750 feet
5:1 to 3:1	60 feet	500 feet
3:1 to 2:1	40 feet	250 feet
2:1 and steeper	20 feet	125 feet

Note: In areas of less than 2% slope and sandy soils (USDA general classification system, soil Class A) maximum slope length and silt fence length will be unlimited. In these areas a silt fence may be the only perimeter control required.

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

BY THE DEVELOPER  
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF DEVELOPER: *[Signature]* DATE: 9/2/06  
 NAME: *[Name]*  
 BY THE ENGINEER  
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.  
 SIGNATURE OF ENGINEER: *[Signature]* DATE: 9/11/06  
 NAME: *[Name]*  
 KERRI S. KNIGHTEN, P.E. MD LICENSE #201135

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.  
 U.S. D.A. - NATURAL RESOURCES CONSERVATION SERVICE  
 THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.  
 HOWARD S.C.D.  
 APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 9/2/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/2/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE: 10/5/06

MORRIS & RITCHIE ASSOCIATES, INC.  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 792-9792 or (301) 776-1690  
 FAX (410) 792-7395  
 LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"  
 EROSION & SEDIMENT CONTROL DETAILS  
 LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND  
 OWNER/DEVELOPER: MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-392-1400 ATTN: MR. MYON BERGEVIN  
 DATE: 9/11/06  
 REVISIONS:  
 JOB NO: 14018  
 SCALE: 1"=40'  
 DATE: 3/29/06  
 DRAWN BY: MSP/DRB  
 DESIGN BY: MAM  
 REVIEW BY: KSK  
 SHEET: 18 OF 23











**NARRATIVE FOR NONCONFORMANCE TO RETENTION/REFORESTATION PRIORITIES:**

THE SUBJECT PROPERTY, REFERRED TO AS LAUREL BLOCK PROPERTY, IS LOCATED NEXT TO THE CSX RAIL ROAD RIGHT OF WAY AT ITS INTERSECTION WITH GUILFORD ROAD. THE LOCATION OF THE SUBJECT PROPERTY IS PARTICULARLY APPROPRIATE FOR THE PROPOSED USE--AN ASPHALT MANUFACTURING PLANT AND STORAGE YARD. THE SITE IS SIGNIFICANTLY DISTURBED BY ITS PREVIOUS USE AS A CONCRETE BLOCK AND DISTRIBUTION YARD. ADDITIONALLY, THE PROPERTY HAS NO FOREST ON-SITE, AND IS NOT ADJACENT TO ANY LARGE TRACTS OF CONTIGUOUS FOREST THAT WOULD BE A HIGH PRIORITY FOR RETENTION.

THE PROPERTY HAS FORMERLY DEDICATED ACREAGE FOR THE CAPITAL PROJECT IMPROVEMENTS TO GUILFORD ROAD AND ITS BRIDGE OVER THE RAILWAY. THE PROPOSED DEVELOPMENT REQUIRES LARGE AREAS FOR PRODUCT STORAGE. THE REDUCTION IN SITE AREA, RESULTING FROM THE AFFORESTATION DEDICATION, HAS ALREADY CONSTRAINED DESIGN EFFORTS AND REDUCED STORAGE CAPACITY. IF THE PROPOSED DEVELOPMENT IS TO BE VIABLE, THE ENTIRE SITE WOULD NEED TO BE UTILIZED FOR THE PROPOSED PROJECT, LEAVING NO AREAS AVAILABLE FOR REFORESTATION. THE INCLUSION OF OFFSITE AREAS INTO THE SCOPE OF THE DEVELOPMENT PROJECT, EXAGGERATES THE SITUATION BY INCREASING THE AFFORESTATION REQUIREMENT FOR THIS PROJECT WHICH ALREADY HAS NO AVAILABLE PLANTING SPACE. FOR THIS REASON THE PROJECT PROPOSES TO PAY A FEE-IN-LIEU OF AFFORESTATION TO FUND REFORESTATION IN MORE APPROPRIATE AREAS DESIGNATED BY HOWARD COUNTY.

**FOREST CONSERVATION WORKSHEET**

I. BASIC SITE DATA	ACRES (0.1 acre)
GROSS SITE AREA (subject property and additional site area)	6.5
AREA WITHIN 100 YEAR FLOODPLAIN	0.0
AREA WITHIN AGRICULTURAL USE OR PRESERVATION PARCEL (if applicable)	0.0
NET TRACT AREA	6.5
LAND USE CATEGORY (R-RLD, R-RMD, R-S, C/IA, I)	C 1 A

II. INFORMATION FOR CALCULATIONS	
A. NET TRACT AREA	6.5
B. FOREST CONSERVATION THRESHOLD (15% X A)	1.0
C. AFFORESTATION THRESHOLD (15% X A)	1.0
D. EXISTING FOREST ON NET TRACT AREA	0.0
E. FOREST TO BE CLEARED	0.0
F. FOREST TO BE RETAINED	0.0

**III. DETERMINING REQUIREMENTS: AFFORESTATION OR REFORESTATION**

1. REFORESTATION  
 If existing forest areas equal or exceed the afforestation minimum (if D equals or is more than C), and clearing of forest areas is proposed, reforestation requirements may apply.  
 GO TO SECTION IV  
 If existing forest exceeds the afforestation minimum (if D equals or is more than C), and no clearing of existing forest resources is proposed, no reforestation is required. No further calculations are needed.

2. AFFORESTATION  
 If existing forest areas are less than the afforestation minimum (if D is less than C), afforestation requirements may apply.  
 GO TO SECTION V

V. AFFORESTATION CALCULATIONS	ACRES (0.1 acre)
A. NET TRACT AREA	6.5
B. AFFORESTATION THRESHOLD (15% X A)	1.0
C. EXISTING FOREST ON NET TRACT AREA	0.0
D. FOREST AREAS TO BE CLEARED	0.0
E. FOREST AREAS TO BE RETAINED	0.0

SELECT THE ALTERNATIVE THAT APPLIES:  
 1. NO CLEARING BELOW THE MINIMUM  
 If existing forest areas are less than the afforestation minimum (if C is less than B) and no clearing is proposed, the following calculations apply:  
 Total afforestation required  
 B - C 1.0  
 Afforestation must make total forest area equal the minimum required.

**FOREST CONSERVATION TOTALS**

FOREST RETENTION: 0.0 AC±  
 AFFORESTATION REQUIRED: 1.0 AC±  
 AFFORESTATION PROVIDED: 0.0 AC±

NOTE: THE FOREST CONSERVATION OBLIGATION OF 1.0 ACRES OF AFFORESTATION FOR THIS PLAN HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$21,780.00 TO THE HOWARD COUNTY FOREST CONSERVATION FUND.

**SOILS CHART**

SOIL SYMBOL	SOIL NAME	HYDRIC SOIL*	COMMENT
B&B2	BELTSVILLE SILT LOAM	2*	LEONARDTOWN INCLUSIONS
IUB	IUKA SILT LOAM	2*	BISS INCLUSIONS
SFB2	SASSAFRASS GRAVELLY SANDY LOAM	N	--
SIC2	SASSAFRASS LOAM	N	--

\* 2\* HYDRIC SOILS AS LISTED ON THE SOILS CONSERVATION SERVICE PUBLICATION, HYDRIC SOILS OF MARYLAND, 8/29, NOVEMBER 1986.

\* NONE OF THE SOILS LISTED ABOVE WERE LISTED AS HYDRIC SOILS IN THE SOIL CONSERVATION SERVICE PUBLICATION, HYDRIC SOILS OF THE US.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 15. DATE: 9/20/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 10/2/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE: 10/6/06

OPTION 1: FEE-IN-LIEU	FOREST CONSERVATION DATA SUMMARY
File Number: SDP-06-021	Project/Subdivision Name: Laurel Block Property
Fee-In-Lieu Amount: \$21,780	Net Tract Area: 6.5 acres
Cash Receipt No.:	Area of Disturbance: 6.5 acres
Comment: Fee-In-Lieu for 1.0 acres of Reforestation of Afforestation (specify which is applicable)	Watershed: 02-13-11-05

**FOREST CONSERVATION PLAN**

**11071 GUILFORD ROAD  
 LAUREL BLOCK PROPERTY  
 PARCEL "42"**

**6th ELECTION DISTRICT  
 HOWARD COUNTY, MARYLAND**

**AREA NOTES:**

ON-SITE / OFF-SITE GROSS SITE AREAS:  
 SUBJECT PROPERTY  
 PARCEL 42  
 6.3 ACRES±  
 EXISTING FOREST 0.0 ACRES±  
 OFF-SITE LIMIT OF DISTURBANCE  
 PARCEL 143  
 0.2 ACRES±  
 EXISTING FOREST 0.0 ACRES±



LOCATION MAP  
 SCALE: 1"=600'

**ADJACENT PROPERTY CHART**

NO.	OWNER	TAX MAP	PARCEL
1	WILLIAM D. & NANCY M. JOHNSTON	48	69
2	NEVAS ENTERPRISES, LLC	48	70
3	SK PROPERTY DEVELOPMENT, LLC	48	119
4	STATE OF MD DEPT. OF CORRECTIONS	48	84
5	STATE OF MD DEPT. OF CORRECTIONS	48	128
6	CSX TRANSPORTATION, INC.	48	143
7	ALBAN TRACTOR COMPANY, INC.	48	44
8	NATIONAL RAILROAD PASSENGER CORP.	48	154

ADDRESS CHART	
LOT/PARCEL NO.	STREET ADDRESS
PARCEL 42	11071 GUILFORD ROAD ANNAPOLIS JUNCTION, MARYLAND 20701

**OWNER/DEVELOPER:**  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-982-1400  
 ATTN: MR. YVON BERGEN

PERMIT INFORMATION CHART					
PARCEL 42 LAUREL BLOCK PROPERTY		SECTION/AREA N/A	LOT/PARCEL NO. PARCEL 42		
PLAT # OR L/F L. 8920 F. 74	GRID # 14	ZONE M-2	TAX MAP NO. 48	ELECT. DIST. 6	CENSUS TRACT 6069.01
WATER CODE: B-02			SEWER CODE: 4020000		

**OWNER / APPLICANT / CONSULTANT:**

- PROPERTY OWNER/DEVELOPER:**  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE, SUITE 400  
 GREENBELT, MD 20770  
 PHONE: (301) 982-1499  
 ATTN: MR. RICHARD MERGENS
- PLAN PREPARED BY:**  
 GEO-TECHNOLOGY ASSOCIATES, INC. (GTA)  
 14280 PARK CENTER DRIVE  
 LAUREL, MARYLAND 20707  
 ATTENTION: FRANCESCO S. GENTILE  
 PHONE: (410) 792-9446


**SITE DATA / GENERAL NOTES:**

- TOTAL PROJECT AREA 6.5 AC± (SUBJECT PROPERTY 6.3 AC±, ADDITIONAL PROJECT AREA 0.2 AC±)
- ZONING: M-2
- EXISTING LAND USE: CIA
- PROPOSED USE: ASPHALT MANUFACTURING PLANT AND STORAGE YARD
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 4806 AND 4800 WERE USED FOR THIS PROJECT.
- EXISTING UTILITIES ARE BASED ON FIELD LOCATIONS AND SUPPLEMENTED WITH EXISTING AVAILABLE UTILITY DRAWINGS.
- ACCORDING TO FEMA MAP #240044 0044 B, THERE ARE NO FLOOD PLAINS ON THIS SITE.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE WETLANDS, WETLAND BUFFERS, AND FOREST CONSERVATION EASEMENT AREAS, EXCEPT AS PERMITTED BY THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING, THE MARYLAND DEPARTMENT OF THE ENVIRONMENT, AND THE U.S. ARMY CORPS OF ENGINEERS.
- THIS PROJECT COMPLIES WITH THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE FOREST CONSERVATION BY F-04-188.
- THIS STUDY IS SUPERIMPOSED ON TOPOGRAPHY FROM A FIELD RUN SURVEY WITH 2' CONTOUR INTERVALS PREPARED BY MORRIS & RITCHIE ASSOCIATES, INC. DATED FEBRUARY, 2005.
- ON-SITE WETLANDS WERE DELINEATED BY GTA, INC., MARCH 29, 2005. ACCORDING TO THIS DELINEATION, THERE ARE NO STREAMS OR STREAM BUFFERS WITHIN THE PROJECT AREA.
- DELINEATIONS WERE SURVEYED BY MORRIS & RITCHIE ASSOCIATES, INC. (MRA), MAY 11, 2005.
- WETLANDS, DITCHES AND DRAINAGEWAYS ON THIS SITE CONTRIBUTE TO AN UNNAMED TRIBUTARY OF DORSEY RUN WHICH CONTRIBUTES TO THE LITTLE PATUXENT RIVER ABOVE OLD FORGE BRIDGE, AND ARE CLASSIFIED USE I-P. USE I-P WATERS ARE DESIGNATED IN COMAR AS "CONTACT RECREATION, PROTECTION OF AQUATIC LIFE, AND PUBLIC WATER SUPPLY."
- SPECIMEN TREES ARE SHOWN ON THIS PLAN IN THEIR SURVEYED LOCATIONS AT THE SIZE OF THEIR CRITICAL ROOT ZONES. SPECIMEN TREES WERE MARKED IN THE FIELD BY BLUE FLAGGING TIED AROUND THEIR TRUNKS.
- ACCORDING TO ZAN KOLDENEY, THE PLANNER IN CHARGE OF HISTORIC RESOURCES FOR THE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING, THERE ARE NO HISTORICAL RESOURCES ON THIS SITE.
- ACCORDING TO LORI A. BYRNE, ENVIRONMENTAL REVIEW SPECIALIST FOR THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, "THE WILDLIFE AND HERITAGE SERVICE HAS DETERMINED THAT THERE ARE NO STATE OR FEDERAL RECORDS FOR RARE, THREATENED OR ENDANGERED SPECIES WITHIN THE BOUNDARIES OF THE PROJECT SITE."
- ACCORDING TO MARY J. RATNASWAMY, PH.D., PROGRAM SUPERVISOR, THREATENED AND ENDANGERED SPECIES, U.S. FISH AND WILDLIFE SERVICE: "EXCEPT FOR OCCASIONAL TRANSIENT INDIVIDUALS, NO FEDERALLY PROPOSED OR LISTED ENDANGERED OR THREATENED SPECIES ARE KNOWN TO EXIST WITHIN THE PROJECT IMPACT AREA."
- THIS FOREST CONSERVATION PLAN WAS PREPARED ON A BASE PLAN PROVIDED BY MRA.
- THE FOREST CONSERVATION OBLIGATION OF 1.0 ACRES FOR THIS PLAN HAS BEEN MET BY A FEE-IN-LIEU PAYMENT OF \$21,780.00 TO THE HOWARD COUNTY FOREST CONSERVATION FUND.

**SPECIMEN TREE LIST**

NUMBER	SCIENTIFIC NAME	COMMON NAME	DBH	CONDITION
ST-1	QUERCUS ALBA	WHITE OAK	32"	VERY GOOD
ST-2	QUERCUS ALBA	WHITE OAK	30"	VERY GOOD

SHEET: 21



**GEO-TECHNOLOGY ASSOCIATES, INC.**  
 GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS  
 14280 PARK CENTER DRIVE  
 LAUREL, MARYLAND 20707  
 (410) 792-9446 or (301) 470-4470  
 FAX (410) 792-7395

**LAUREL BLOCK PROPERTY**  
 11071 GUILFORD ROAD  
 PARCEL "42"  
**FOREST CONSERVATION PLAN**

REVISIONS:		JOB NO.:
		041264
		SCALE: 1"=40'
		DATE: 3/29/06
		DRAWN BY: MM & FSG
		DESIGN BY: MM & FSG
		REVIEW BY: FSG
		SHEET: 21 OF 23





APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

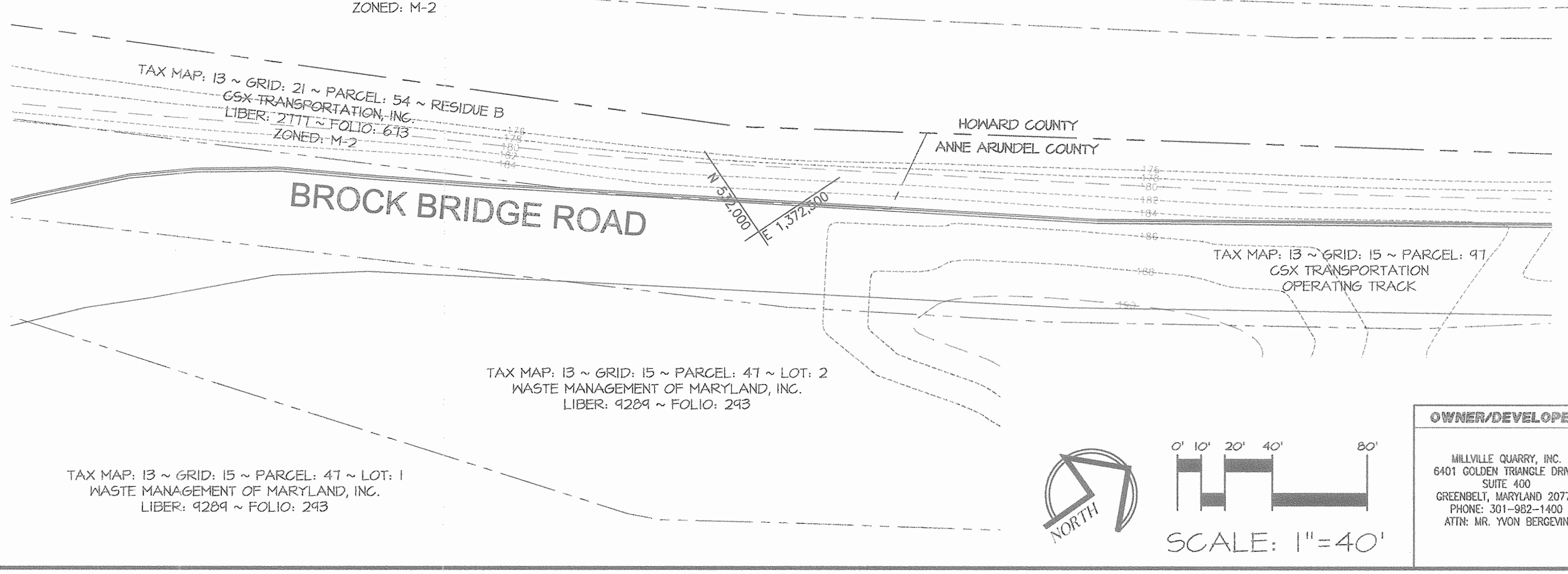
CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* DATE: 10/2/06

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* DATE: 10/2/06

DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE: 10/2/06

**LEGEND**

238	EX. 2' CONTOUR
250	EX. 10' CONTOUR
---	EX. BUILDING
---	EX. CURB
---	EX. EASEMENT
---	EX. ELECTRIC
---	EX. FENCE
---	EX. FIBER OPTIC
---	EX. GAS
---	EX. PAVEMENT
---	EX. PROPERTY LINE
---	EX. COUNTY LINE
---	EX. RAILROAD
---	EX. ROAD CENTERLINE
---	EX. SANITARY SEWER
---	EX. STORM DRAIN
---	EX. WATERLINE
---	EX. SNALE/DITCH
---	SLOPES > 15% & < 25%
---	SLOPES > 25%
---	SPECIMEN TREE WITH KEY# SHOWS APPROXIMATE LOCATION AT SIZE OF CRITICAL ROOT ZONE
---	PROP. 2' CONTOURS
---	PROP. 10' CONTOURS
---	PROP. 6\" CHAINLINK FENCE
---	PROP. CURB
---	PROP. TREE LINE
---	PROP. SHRUB LINE
---	PROP. LIMIT OF DISTURBANCE
---	PROP. PAVEMENT
---	PROP. GRAVEL
---	PROP. PLANT & ACCESSORY STRUCTURES
---	PROP. PRIVATE SANITARY SEWER LINE
---	PROP. PRIVATE WATER LINE
---	PROP. PUBLIC SANITARY SEWER LINE
---	PROP. PUBLIC WATER LINE



SHEET: 22

**GTA**

**GEO-TECHNOLOGY ASSOCIATES, INC.**  
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 14280 PARK CENTER DRIVE  
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**LAUREL BLOCK PROPERTY**  
 11071 GUILFORD ROAD  
 PARCEL "42"

**FOREST CONSERVATION PLAN**

LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

**OWNER/DEVELOPER:**  
 MILLVILLE QUARRY, INC.  
 6401 GOLDEN TRIANGLE DRIVE,  
 SUITE 400  
 GREENBELT, MARYLAND 20770  
 PHONE: 301-982-1400  
 ATTN: MR. IVON BERGEM

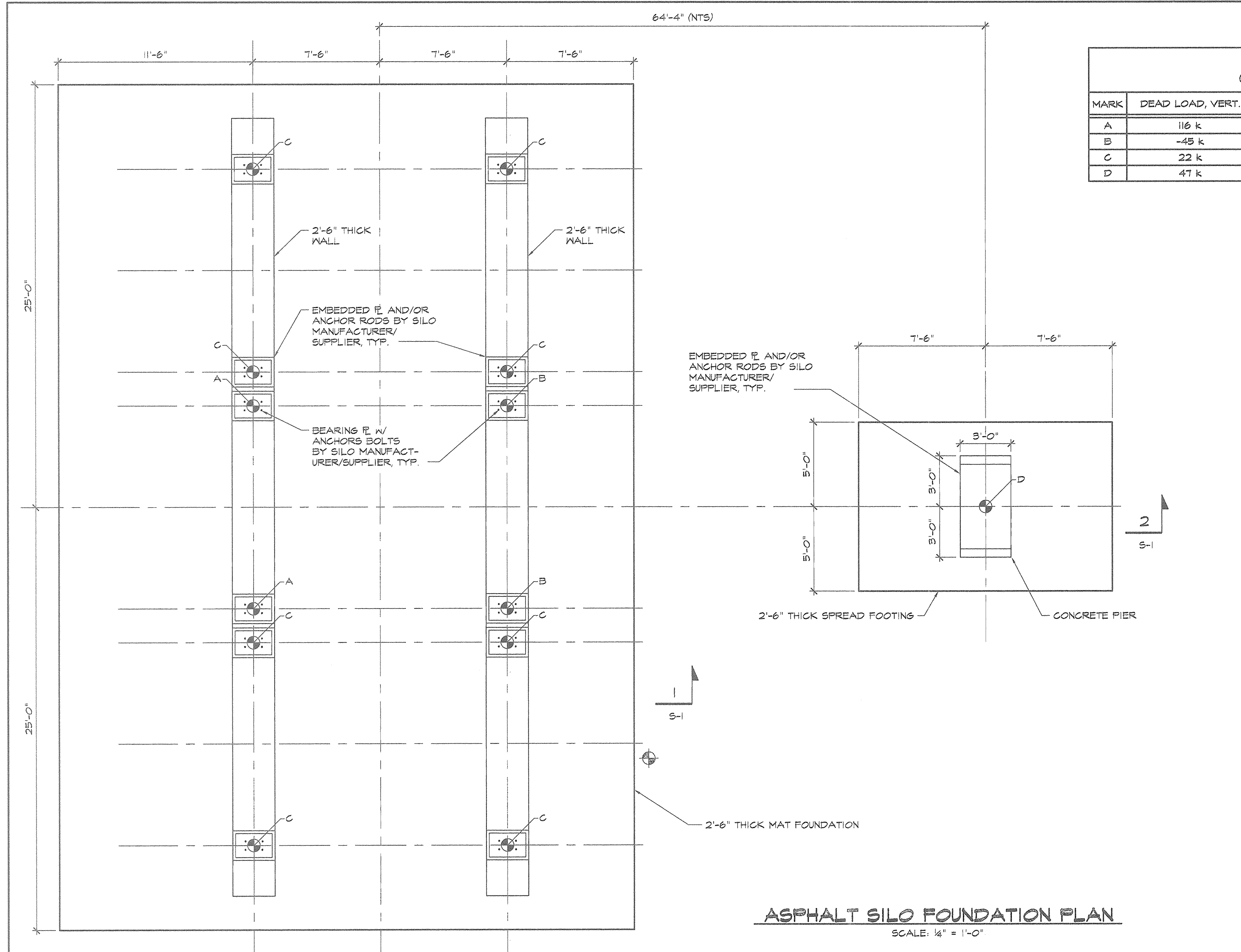
**REVISIONS:**

JOB NO.:	041264
SCALE:	1"=40'
DATE:	3/29/06
DRAWN BY:	MM & FSG
DESIGN BY:	MM & FSG
REVIEW BY:	FSG
SHEET:	22 OF 23

**SCALE: 1"=40'**

**SDP-06-021**



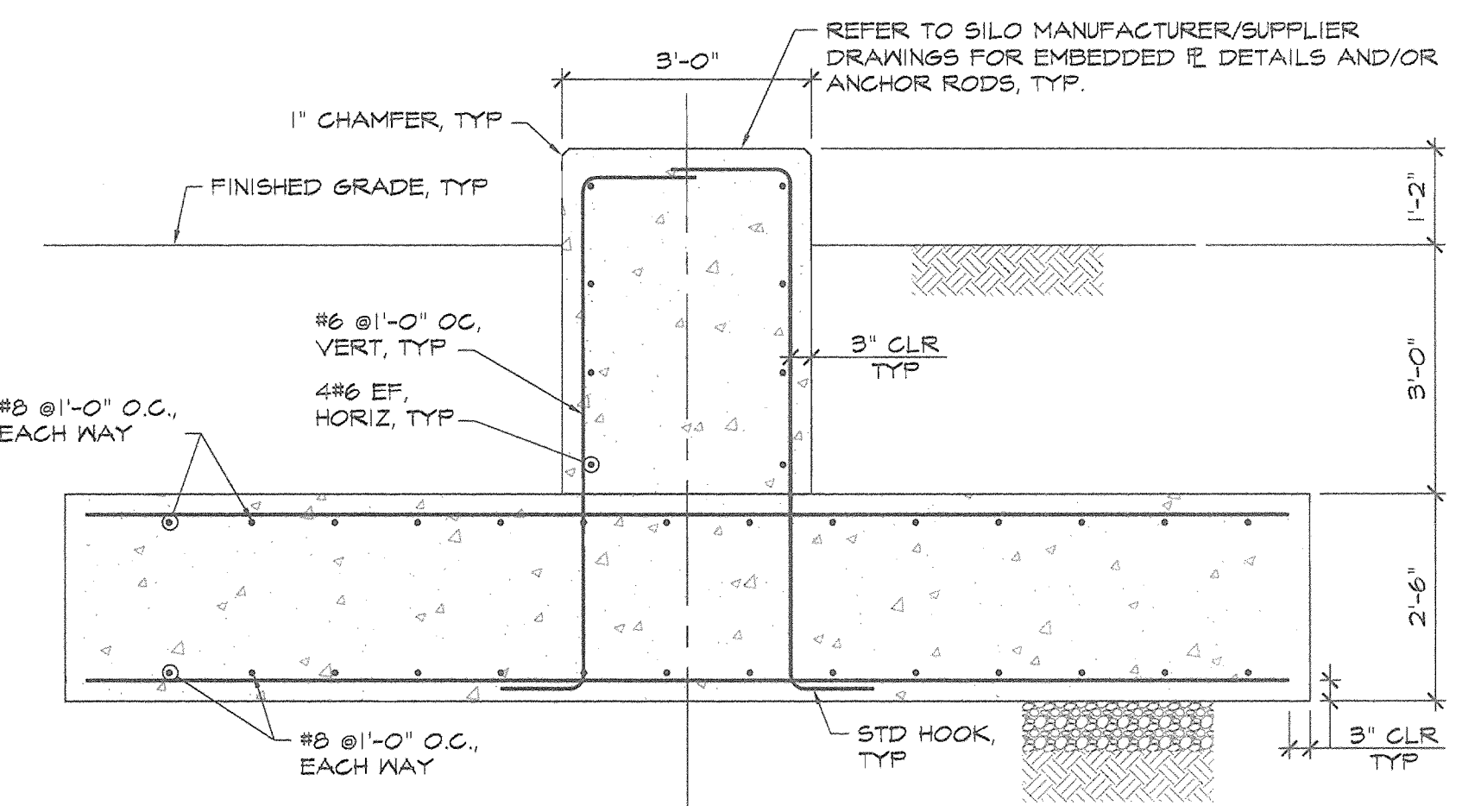


MARK	DEAD LOAD, VERT.	LIVE LOAD, VERT.	DEAD LOAD, HORIZ.	LIVE LOAD, HORIZ.
A	116 k	169 k	20 k	4 k
B	-45 k	198 k	-	-
C	22 k	151 k	-	-
D	47 k	10 k	39 k	8 k

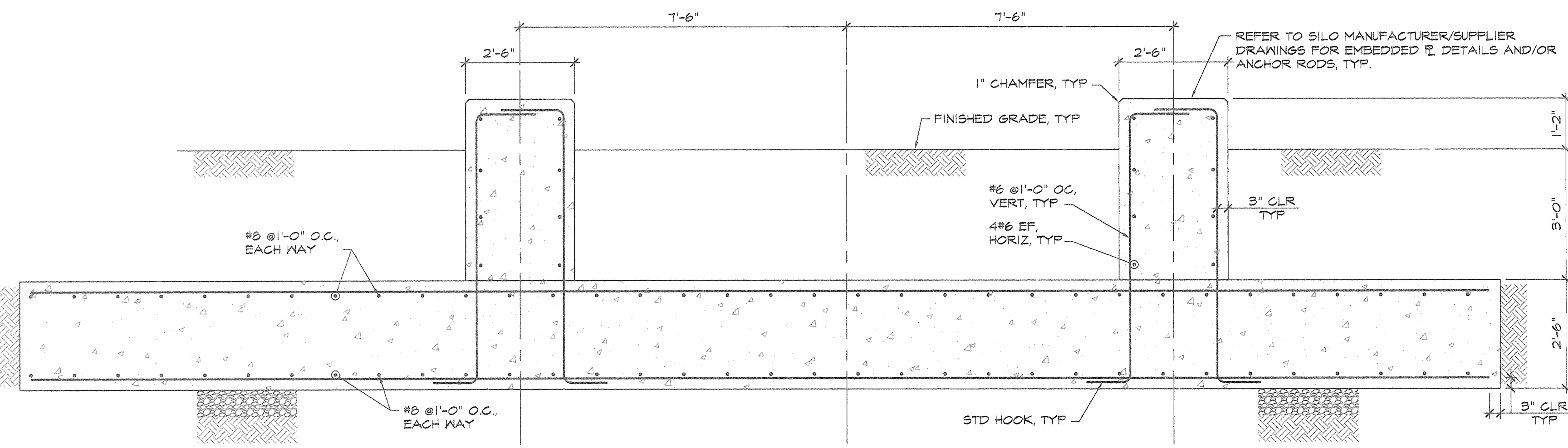
- STRUCTURAL NOTES**
- BUILDING CODES**
    - A. ALL CONSTRUCTION SHALL CONFORM WITH THE 2003 IBC BUILDING CODE AND ALL APPLICABLE SUPPLEMENTS.
    - B. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.
  - DESIGN LOADS**
    - A. THE DESIGN LOADINGS FOR ALL FOUNDATIONS ARE BASED ON INFORMATION PROVIDED TO MRA AND LISTED ON THIS SHEET IN THE FOOTING LOADS SCHEDULE. THE ENGINEER SHALL BE IMMEDIATELY NOTIFIED IF DESIGN FOOTING LOADS ARE GREATER THAN THOSE LISTED.
    - B. THE MINIMUM DESIGN UNIFORMLY DISTRIBUTED LIVE LOADING (SURCHARGE) FOR ALL NEW FOUNDATIONS & FRAMING IS AS FOLLOWS:  
LIVE LOAD: 200 PSF
  - MISCELLANEOUS**
    - A. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE CONTRACTOR OR OWNER FOR REVIEW BY THE ENGINEER. IF THE CONTRACTOR OR OWNER FAILS TO SUBMIT THE SHOP DRAWINGS, THE ENGINEER WILL NOT BE RESPONSIBLE FOR STRUCTURAL CERTIFICATION AND DESIGN OF THE PROJECT. THE SHOP DRAWINGS SHALL INDICATE ANY DEVIATIONS OR OMISSIONS FROM THE CONTRACT DOCUMENTS. THE GENERAL CONTRACTOR SHALL REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMISSION AND MAKE ALL CORRECTIONS DEEMED NECESSARY.
    - B. THE CONTRACTOR SHALL REVIEW THE CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, PENETRATIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS.
    - C. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
    - D. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
    - E. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
  - SPREAD FOOTING FOUNDATIONS**
    - A. THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2'-6" BELOW FINISH GRADE FOR FROST PROTECTION.
    - B. ALL FOOTINGS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE FIELD VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 2000 PSF, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.

- ALL FILL PLACED UNDER SPREAD FOOTINGS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
  - ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE BUILDING FOOTPRINT, INCLUDING ALL COMPACTION TESTS AND INSPECTIONS, SHALL BE DONE UNDER THE DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.
  - THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.
  - ALL EXISTING SOIL CONTAINING GRAVEL, CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBSTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.
- 5. CAST IN PLACE CONCRETE**
- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301), AND TO THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).
  - IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
    - RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 309)
    - RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306)
    - RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347)
  - ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.
  - ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4000 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% +/- 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1", AND MAXIMUM BUMP SHALL BE 5". ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 89.
  - ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A 615 GRADE 60. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A 185. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS AND ALL W.W.F. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.
  - ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 315' DETAILS AND DETAILING OF CONCRETE REINFORCEMENT', ACI 309'66 'DETAILING MANUAL'.
  - ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.
  - ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.
  - THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS.
  - GROUND BLAST FURNACE SLAG MAY BE USED TO REPLACE UP TO 50 PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX, AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C 494.
  - MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED:  
FOUNDATIONS: # 3 INCHES

**ASPHALT SILO FOUNDATION PLAN**  
SCALE: 1/4" = 1'-0"



**SECTION 2/S-1**  
SCALE: 1/2" = 1'-0"

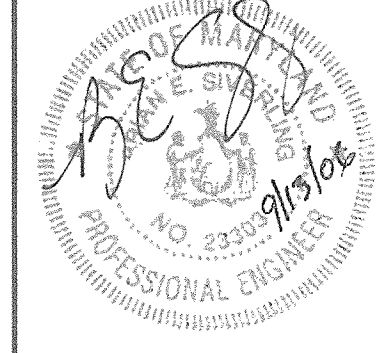


**SECTION 1/S-1**  
SCALE: 1/2" = 1'-0"

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION AS. DATE: 10/2/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT DME DATE: 10/3/06  
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING DATE: 10/3/06



**MORRIS & RITCHIE ASSOCIATES, INC.**  
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS  
 14280 PARK CENTER DRIVE, SUITE A  
 LAUREL, MARYLAND 20707  
 (410) 782-8782 or (301) 776-1690  
 FAX (410) 782-7395



LAUREL BLOCK PROPERTY  
 11071 GUILFORD ROAD  
 PARCEL "42"  
**SILO FOUNDATIONS**  
 LIBER 8920 ~ FOLIO 74  
 TAX MAP 48 ~ GRID 14 ~ PARCEL 42  
 ZONED M-2 ~ 6TH ELECTION DISTRICT ~ HOWARD COUNTY, MARYLAND

OWNER/DEVELOPER:	DATE	REVISIONS	JOB NO:
MILLVILLE QUARRY, INC. 6401 GOLDEN TRIANGLE DRIVE, SUITE 400 GREENBELT, MARYLAND 20770 PHONE: 301-982-1400 ATTN: MR. YVON BERGEMAN			14018
			SCALE: AS SHOWN
			DATE: 11/7/05
			DRAWN BY: CSH
			DESIGN BY: CSH
			REVIEW BY: BES
			SHEET: 23 OF 23