

GENERAL NOTES

- ALL CONSTRUCTION AS SHOWN ON THESE PLANS IS TO BE CONDUCTED IN ACCORDANCE WITH HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION VOLUME IV (OCT. 1990 AND ALL ADDENDA THERETO) UNLESS OTHERWISE NOTED.
- THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON FIELD LOCATIONS SUPPLEMENTED BY EXISTING UTILITY DRAWINGS AND SHOULD BE VERIFIED BY THE CONTRACTOR TO HIS SATISFACTION PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO PROTECT EXISTING UTILITIES, AND ANY DAMAGE DONE TO THEM DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAIRED IMMEDIATELY AT HIS OWN EXPENSE.
- CONTRACTOR TO NOTIFY HOWARD COUNTY, DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION (410-313-1800) AT LEAST 24 HOURS PRIOR TO STARTING CONSTRUCTION.
- CONTRACTOR TO SCHEDULE PRECONSTRUCTION MEETING WITH HOWARD COUNTY, CONSTRUCTION INSPECTION DIVISION (410-313-1800) PRIOR TO STARTING CONSTRUCTION.
- CONTRACTOR TO NOTIFY MISS UTILITY (1-800-257-7777) AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION WORK.
- 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 REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.
- WHERE NECESSARY, THE CONTRACTOR SHALL TEST FIT 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.
- TOPOGRAPHY IS BASED ON FIELD RUN SURVEYS BY MORRIS & RITCHE ASSOCIATES, INC. DATED JANUARY 2002, AND SUPPLEMENTED WITH EXISTING AVAILABLE DESIGN PLANS.
- THE SITE BOUNDARY, BEARINGS, AND COORDINATES SHOWN ARE BASED ON ELECTRONIC FILES OBTAINED FROM CLARK FINEPROOF AND SACKET, INC.
- HORIZONTAL AND VERTICAL CONTROL BASED ON HOWARD COUNTY MONUMENTS NO'S 221A AND 221A.
- NO 100-YEAR FLOODPLAIN EXISTS IN OR NEAR THE PROPOSED CONSTRUCTION AREA.
- WATER IS PRIVATE WELL SUPPLY. SEWER IS PRIVATE ON-SITE SEPTIC.
- NO WETLANDS EXIST IN OR NEAR THE PROPOSED CONSTRUCTION AREA.
- SEE PREVIOUS DEPARTMENT OF PLANNING AND ZONING FILES: SDP-02-126, SDP-01-69, SDP-97-07, SDP-85-75, SDP-82-101, SDP-80-144, SDP-78-15, BA 95-48-E, BA 99-51 E & V.
- THE SUBJECT PROPERTY IS ZONED RR-DEO PER THE OCT. 18, 1993 COMPREHENSIVE ZONING PLAN.
- FOREST STAND DELINEATION AND FOREST CONSERVATION PLAN APPROVED UNDER SDP-97-07. FOREST CONSERVATION AREAS OF RETENTION ARE 1.194 AC. AND 3.163 AC. FOR A TOTAL OF 10,190 AC. AND 3,204 AC FOR A TOTAL OF 10,058 AC. DEED OF FOREST CONSERVATION EASEMENT AGREEMENT RECORDED IN LIBER 5340 FOLIO 689.
- FOREST CONSERVATION AREAS WERE REVISED UNDER RED-LINE REVISION TO SDP-01-69. REVISED AREAS OF RETENTION ARE 1.194 AC. 3.801 AC. AND 3.163 AC. FOR A TOTAL OF 10,190 AC. DEED OF FOREST CONSERVATION EASEMENT PLAN RECORDED AS PLAN #15007. FOREST CONSERVATION REQUIREMENTS FOR THE ENTIRE PROPERTY HAVE BEEN SATISFIED BY THIS PLAN.
- NO CLEARING OF EXISTING FOREST CONSERVATION AREA IS PROPOSED FOR THIS PROJECT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS PROJECT.
- A GEOTECHNICAL STUDY WAS CONDUCTED FOR THIS PROJECT BY GEO-TECHNOLOGY ASSOCIATES, INC. DATED DECEMBER 16, 2002.
- TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE INSTALLATION OF ANY FINAL PAVING.
- TRENCH COMPACTION FOR STORM DRAINS WITHIN ROADWAYS AND PARKING AREAS SHALL BE IN ACCORDANCE WITH HOWARD COUNTY DESIGN MANUAL, VOL. IV, STANDARD NO. C-2.01.
- ALL COMPACTED FILL SHALL BE IN ACCORDANCE WITH ASHSTO T-180 REQUIREMENTS.
- ALL EXTERIOR LIGHTING SHALL COMPLY WITH ZONING REGULATIONS SECTION 134.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY ZONING ORDINANCE. SURETY FOR THE REQUIRED 9 SHADE TREES AND 38 EVERGREENS IN THE AMOUNT OF \$8,100.00 IS PART OF THE DEVELOPER'S AGREEMENT.

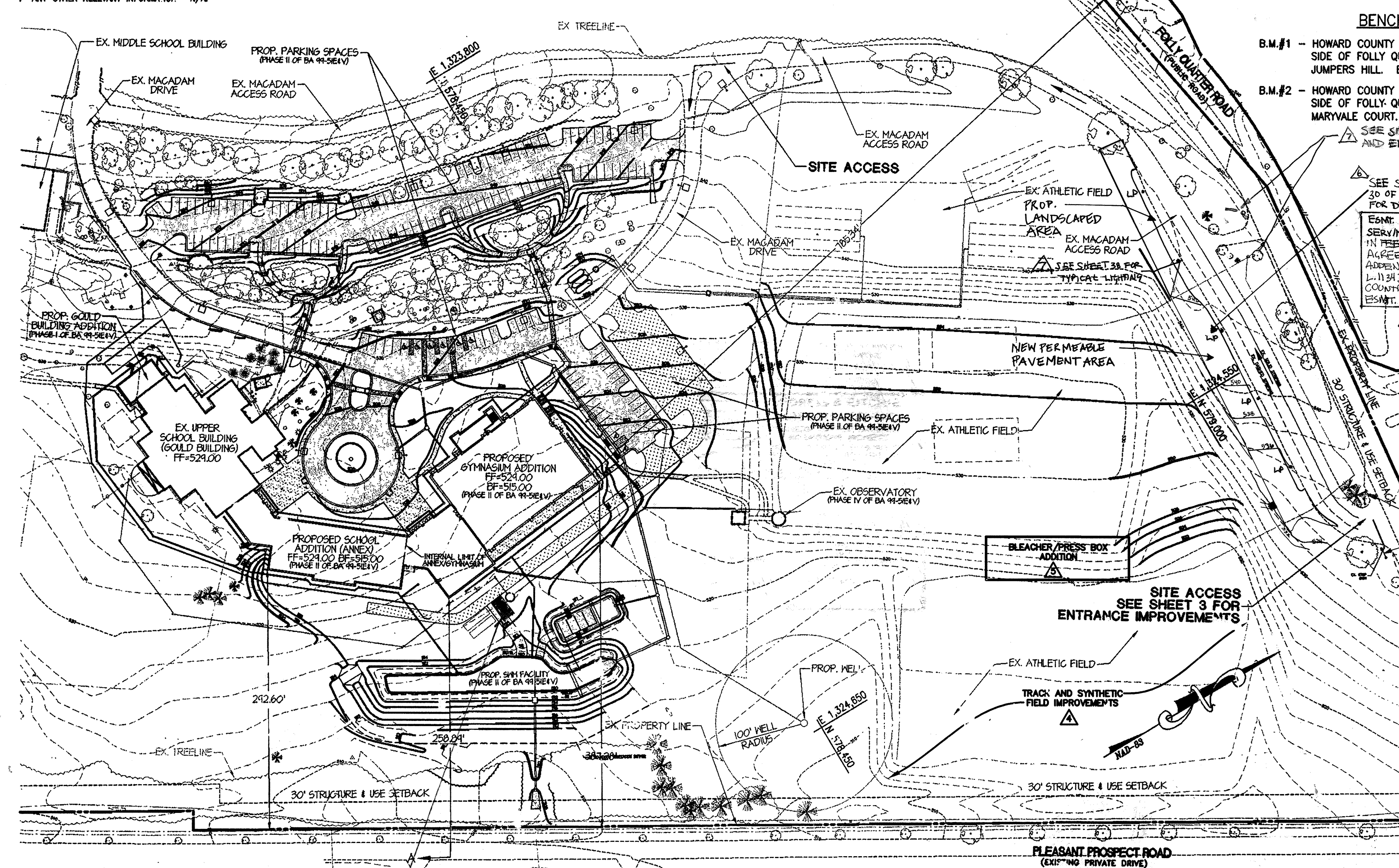
- THE SPECIAL EXCEPTION SHALL APPLY TO THE INCLUSION OF PARCEL 345 INTO THE SPECIAL EXCEPTION SITE AND THE CONSTRUCTION OF IMPROVEMENTS AS DEPICTED ON THE SPECIAL EXCEPTION PLAN DATED NOVEMBER 8, 1999, AND TO NO OTHER STRUCTURES AND/OR USES.
- EXISTING VEGETATION SHALL BE AUGMENTED TO CREATE A TYPE C LANDSCAPE BUFFER ALONG THE LOT LINES OF PARCEL 345 THAT DO NOT ADJOIN PARCEL 146.
- ALL NEW LIGHTING SHALL COMPLY WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
- THE PETITIONER SHALL COMPLY WITH THE REQUIREMENTS OF THE BUREAU OF ENVIRONMENTAL HEALTH REGARDING SEWER DISPOSAL.
- THE PETITIONER SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, & COUNTY LAWS & REGULATIONS. IT IS THE INTENTION OF THIS PROJECT TO COMPLY WITH ALL APPLICABLE CONDITIONS OF THE SPECIAL EXCEPTION APPROVAL.
- WATER USAGE FOR THE ENTIRE CAMPUS WILL COMPLY WITH THE STATE OF MARYLAND WATER APPROPRIATION AND USE PERMIT NUMBER H0760009 (04).
- PER THE DECISION AND ORDER OF BA-99-51EAV, THE MAXIMUM STUDENT CAPACITY IS 782 TOTAL STUDENTS, AND MAXIMUM STAFF ALLOWANCE IS 133 PERSONS.
- NO-15 ON THE HOWARD COUNTY HISTORIC SITES INVENTORY IS LOCATED ON THE SITE, BUT IS NOT DIRECTLY IMPACTED BY THIS PLAN.

SITE ANALYSIS

- GROSS BUILDING SQU. FT. FOOTAGE TABLE**
- | | |
|---|--------------------|
| EXISTING GOULD BUILDING | 21,115 S.F. |
| PROPOSED GOULD BUILDING ADDITION | 2,114 S.F. |
| PROPOSED ANNEX | 22,856 S.F. |
| PROPOSED GYMNASIUM | 46,101 S.F. |
| TOTAL NEW PROPOSED BUILDING AREA | 71,081 S.F. |
- TOTAL PROJECT AREA (PARCEL 146): 80.67 ± ACRES.
 - AREA OF PLAN SUBMISSION: SAME AS A.
 - LIMIT OF DISTURBED AREA: 8.04 ± ACRES.
 - PRESENT ZONING DESIGNATION IS: RR-DEO.
 - PROPOSED SITE USE IS: SECONDARY SCHOOL, GYMNASIUM.
 - GROSS FLOOR SPACE PROPOSED IS: 71,491 S.F.
 - MAXIMUM NUMBER OF EMPLOYEES, STUDENTS, ETC.
 - NUMBER OF PARKING SPACES REQUIRED: 100 (1 SPACE : STUDENTS)
 - NUMBER OF PARKING SPACES PROVIDED: 143 PAVED (IN LINDER 8 H.C.) (PARKING PROVIDED MEETS THE CONDITIONS 28 UNPAVED) 169 TOTAL PARKING SPACES OF THE SPECIAL EXCEPTION ORDER.
 - OPEN SPACE ON SITE: 74.00 ACRES OR 91.7% OF GROSS AREA.
 - BUILDING COVERAGE OF SITE: 0.822 ACRES OR 1.02% OF GROSS AREA.
 - APPLICABLE DPZ FILE REFERENCES: SDP-02-126, SDP-01-69, SDP-97-07, SDP-85-75, SDP-82-101, SDP-80-144, SDP-78-15, BA 95-48-E, BA-99-51 E & V.
 - ANY OTHER RELEVANT INFORMATION: N/A.

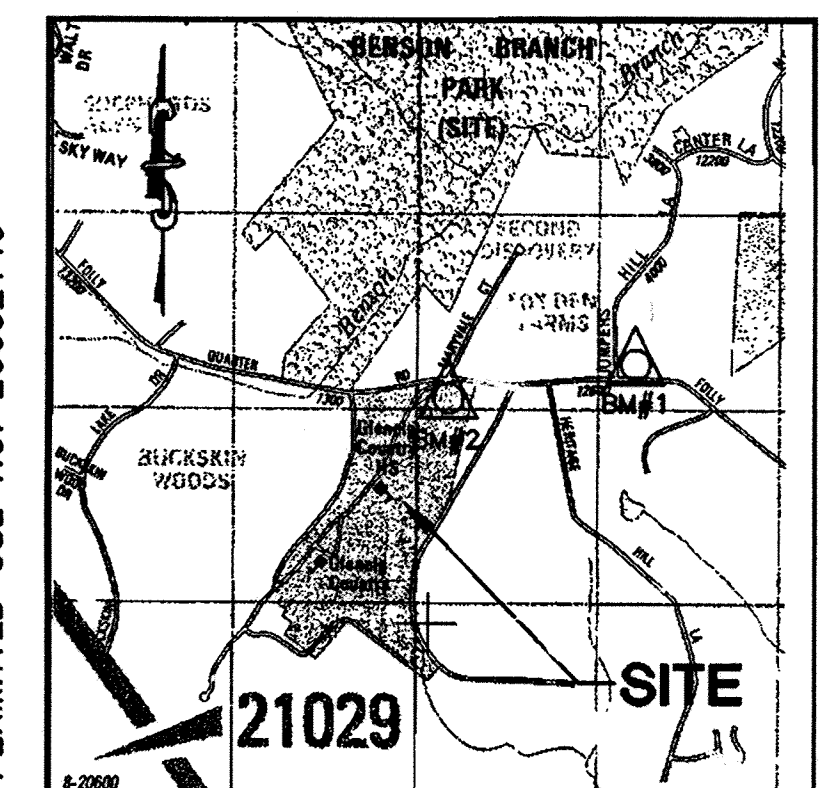
STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 MICHAEL D. WADE, P.E. (#52521)
 REVISION #7 ONLY

GLENELG COUNTRY SCHOOL UPPER SCHOOL ADDITION SITE DEVELOPMENT PLAN



BENCHMARKS

- B.M.#1 - HOWARD COUNTY BENCHMARK 221A - NORTH SIDE OF FOLLY QUARTER ROAD 231' EAST OF JUMPERS HILL. ELEV. 496.43
- B.M.#2 - HOWARD COUNTY BENCHMARK 221A - SOUTH SIDE OF FOLLY QUARTER ROAD 370' EAST OF MARYVALE COURT. ELEV. 538.39



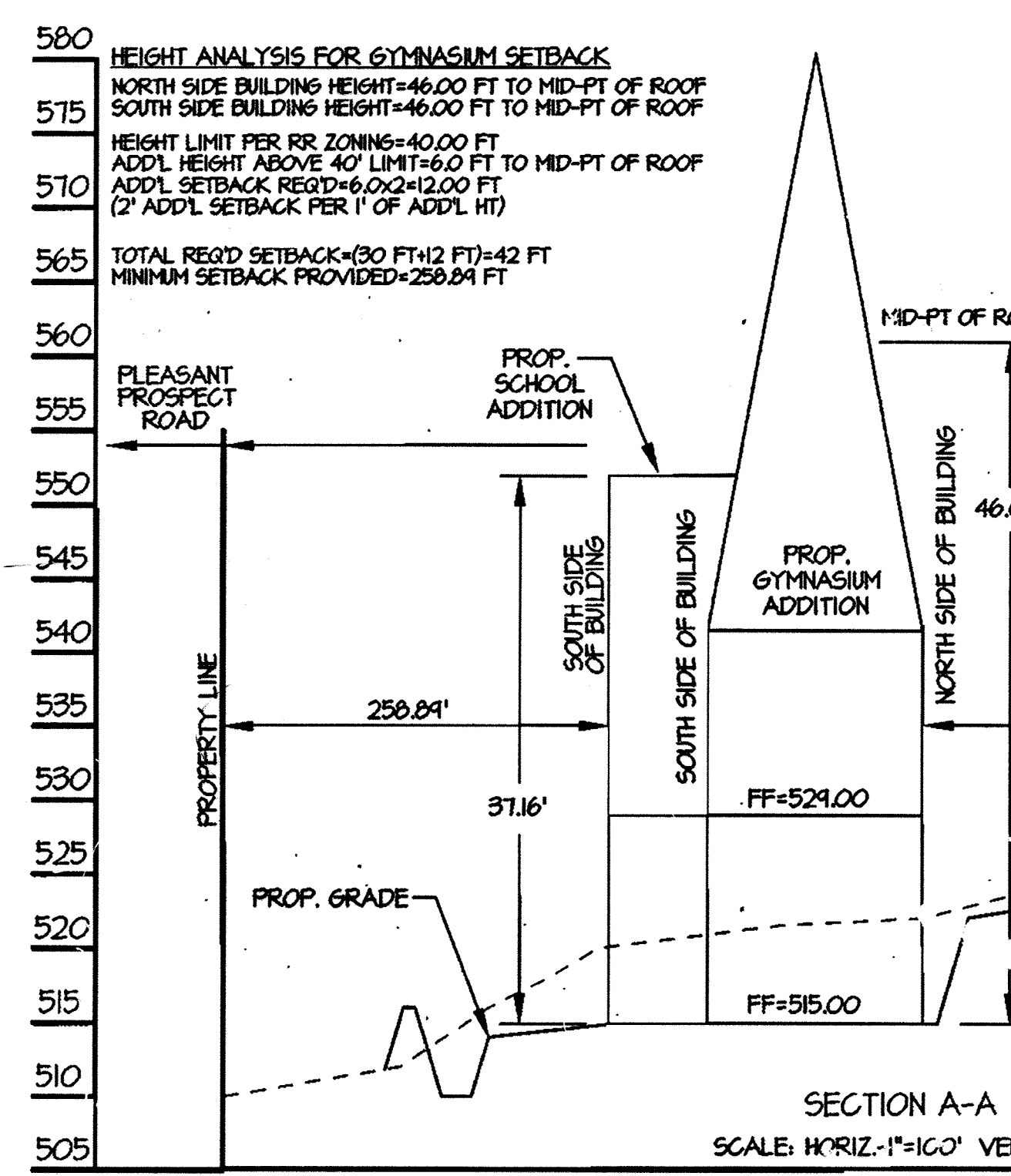
COPYRIGHT ADC THE MAP PEOPLE
 PERMITTED USE NO. 20602149

PROPOSED GOULD BUILDING ADDITION ANNEX & GYMNASIUM

EMPT AREA CONSISTING OF PIPESERVICES SERVING PARCELS 21A TO 21D (OWNED IN FEE SIMPLE BY OTHERS) PER EASMT. AGREEMENT, LIBER 11243 FOLIO 400 AND ADDENDUM TO EASMT. AGREEMENT, LIBER 11243 FOLIO 400 (GRANTING GLENELG COUNTRY SCHOOL AN EXCLUSIVE EASMT. AND ROW TYPICAL EASMT. 3.5349 AC)

SITE LOCATION MAP SCALE: 1"=500'

ADDRESS CHART / OWNER INFORMATION	
GLENELG COUNTRY SCHOOL	
12793 FOLLY QUARTER ROAD	
GLENELG, MD 21737 PHONE: 410-531-2229	
PERMIT INFORMATION CHART	
Subdivision Name:	GLENELG COUNTRY SCHOOL
Area:	80.67 AC.
Parcel #:	146
Plot #:	1296/245
Zoning:	RR-DEO
Tax Map:	22
Elec. District:	5TH
Census Tract:	605'.01
Water Code:	PRIVATE WELL
Sewer Code:	PRIVATE SEPTIC



SITE LOCATION MAP SCALE: 1"=80'

OPTION #	PREVIOUSLY ADDRESS (Outstanding Use of FC Bank)	FOREST CONSERVATION DATA SUMMARY
1	26,27,28	24.25 OF 38
2	29	0 OF 38
3	30	0 OF 38
4	31, 32	0 OF 38
5	33, 34	0 OF 38
6	35	0 OF 38
7	36	0 OF 38
8	37	0 OF 38

FILE NUMBER	PROJECT/SUBDIVISION NAME
20-08-04	GLENELG COUNTRY SCHOOL UPPER SCHOOL ADDITION

Comment: Addressed by How. Co. Subdivision & Land Development Regulations, Dec. 16, 1998 (OCTOBER 2000-09-09 Plot # 25207).

DATE	REVISIONS
5/11/16	ADDED ENTRY FEATURES AND ENTRY DETAIL SHEET 38
5/15/17	AS-BUILT INFORMATION ADDED TO PLAN
11/18/18	ADDED ESMT AREA NOTES TO SITE LOCATION MAP

SHEET INDEX

TITLE SHEET	1 OF 28 38
DEMOLITION PLAN	2 OF 28 38
SITE LAYOUT & PAVING PLAN AND ENTRANCE DETAILS	3 OF 28 38
SITE GRADING PLAN	4 OF 28 38
SITE DETAILS	5 OF 28 38
STORM DRAIN PROFILES	6 OF 28 38
STORM DRAIN & UTILITY PROFILES	7 OF 28 38
SWM FACILITY #1 DETAILS	8 OF 28 38
SWM FACILITY #2 DETAILS	9 OF 28 38
SWM NOTES & SPECIFICATIONS	10 OF 28 38
SEDIMENT CONTROL PLAN AND ENTRY FEATURES	11 OF 28 38
SEDIMENT CONTROL DETAILS	12 OF 28 38
BORING LOGS & GEOTECH RECOMMENDATIONS	13 OF 28 38
STORM DRAIN & SWM DRAINAGE AREA MAPS	14 OF 28 38
LANDSCAPE PLAN	15 OF 28 38
LANDSCAPE DETAILS	16 OF 28 38
SEPTIC SYSTEM SITE PLAN	17 OF 28 38
SEWER PROFILES	18 OF 28 38
FORM MAIN PROFILES	19 OF 28 38
GRINDER PUMPING STATION DETAILS	20 OF 28 38
POSSIBLE PUMPING STATION DETAILS	21 OF 28 38
SEPTIC DETAILS, DESIGN CRITERIA & NOTES	22 OF 28 38
ARCHITECTURAL BUILDING ELEVATIONS	23 OF 28 38

APPROVED FOR PRIVATE WATER & PRIVATE SEWERAGE SYSTEMS

John... 8/2/03
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING

Chad... 6/16/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MKK

Christy... 5/12/03
 CHIEF, DIVISION OF LAND DEVELOPMENT

Michael... 7/1/03
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

MRA

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

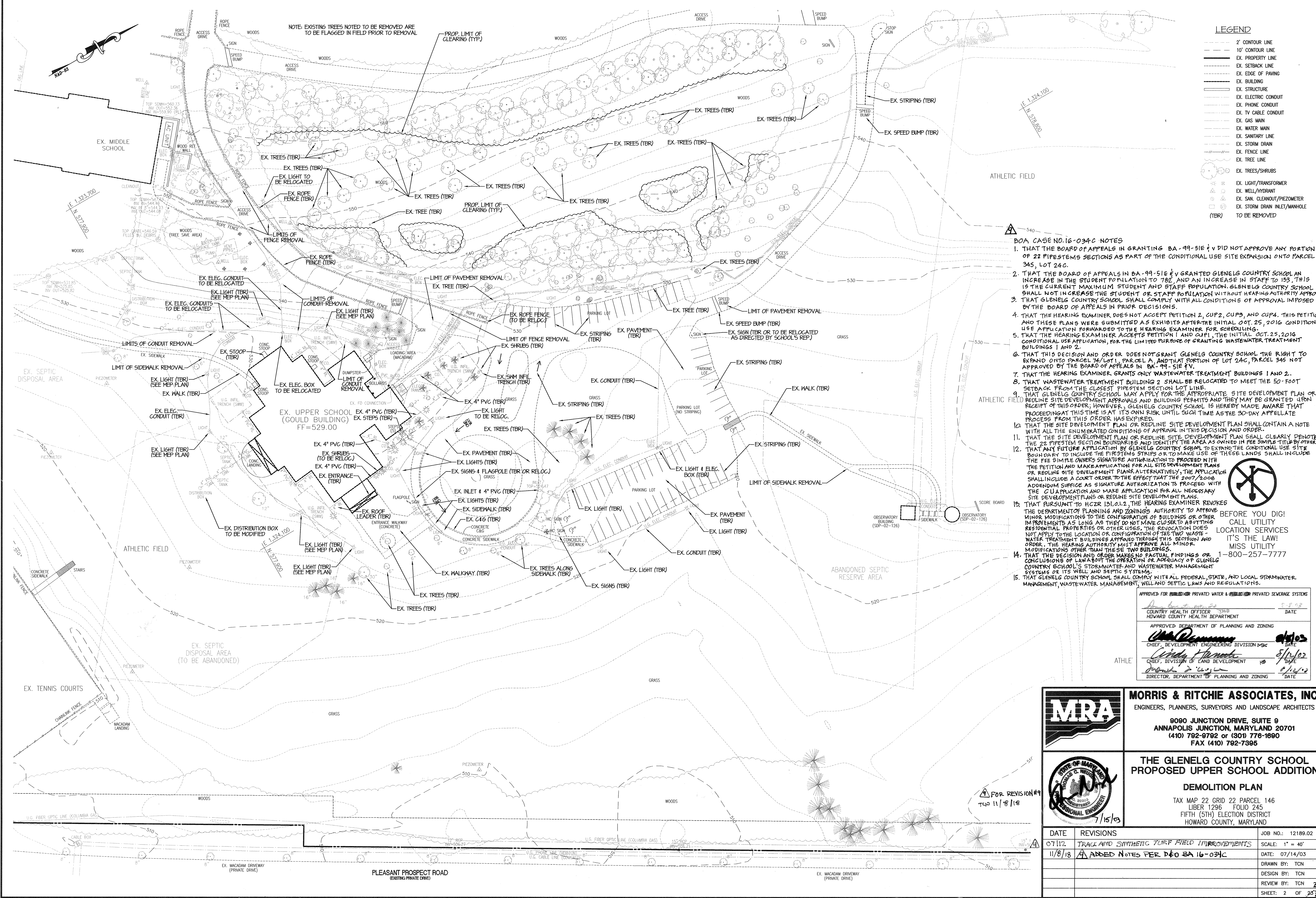
9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 778-1600
 FAX (410) 792-7305

**THE GLENELG COUNTRY SCHOOL
 PROPOSED UPPER SCHOOL ADDITION**

TITLE SHEET

TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
0/2/03	ADDED TRELIS TO BUILDING FOOTPRINT, EXTENDED	12189.02
07/14/03	REVISIONS TO BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	SCALE: AS SHOWN
07/12/03	REVISIONS TO BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	DATE: 07/14/03
09/06/03	REVISIONS TO BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	DRAWN BY: TCM
07/12/03	REVISIONS TO BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	DESIGN BY: TCM
07/12/03	REVISIONS TO BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	REVIEW BY: TCM
03/13/03	REVISIONS TO BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	SHEET: 1 OF 28 38
12/18/02	ADDED UTILITY BUILDING	DATE: 12/18/02
12/18/02	ADDED UTILITY BUILDING	DATE: 12/18/02



LEGEND

- 2' CONTOUR LINE
- 10' CONTOUR LINE
- - - EX. PROPERTY LINE
- - - EX. SETBACK LINE
- - - EX. EDGE OF PAVING
- - - EX. BUILDING
- - - EX. STRUCTURE
- - - EX. ELECTRIC CONDUIT
- - - EX. PHONE CONDUIT
- - - EX. TV CABLE CONDUIT
- - - EX. GAS MAIN
- - - EX. WATER MAIN
- - - EX. SANITARY LINE
- - - EX. STORM DRAIN
- - - EX. FENCE LINE
- - - EX. TREE LINE
- EX. TREES/SHRUBS
- EX. LIGHT/TRANSFORMER
- △ EX. WELL/HYDRANT
- EX. SAN. CLEANOUT/PIEZOMETER
- EX. STORM DRAIN INLET/MANHOLE
- (TBR) TO BE REMOVED

- BOA CASE NO. 16-034C NOTES**
1. THAT THE BOARD OF APPEALS IN GRANTING BA-99-518 & V DID NOT APPROVE ANY PORTION OF 22 PIPESTEMS SECTIONS AS PART OF THE CONDITIONAL USE SITE EXPANSION ONTO PARCEL 345, LOT 24C.
 2. THAT THE BOARD OF APPEALS IN BA-99-518 & V GRANTED GLENELG COUNTRY SCHOOL AN INCREASE IN THE STUDENT POPULATION TO 782, AND AN INCREASE IN STAFF TO 153. THIS IS THE CURRENT MAXIMUM STUDENT AND STAFF POPULATION. GLENELG COUNTRY SCHOOL SHALL NOT INCREASE THE STUDENT OR STAFF POPULATION WITHOUT HEARING AUTHORITY APPROVAL BY THE BOARD OF APPEALS IN PRIOR DECISIONS.
 3. THAT THE HEARING EXAMINER DOES NOT ACCEPT PETITION 2, CUP2, CUP3, AND CUP4. THIS PETITION AND THESE PLANS WERE SUBMITTED AS EXHIBITS AFTER THE INITIAL OCT. 25, 2016 CONDITIONAL USE APPLICATION FORWARDED TO THE HEARING EXAMINER FOR SCHEDULING.
 4. THAT THE HEARING EXAMINER ACCEPTS PETITION 1 AND CUP1. THE INITIAL OCT. 25, 2016 CONDITIONAL USE APPLICATION, FOR THE LIMITED PURPOSE OF GRANTING WASTEWATER TREATMENT BUILDINGS 1 AND 2.
 5. THAT THIS DECISION AND ORDER DOES NOT GRANT GLENELG COUNTRY SCHOOL THE RIGHT TO EXPAND ONTO PARCEL 74/LOT 1, PARCEL A, AND THAT PORTION OF LOT 24C, PARCEL 345 NOT APPROVED BY THE BOARD OF APPEALS IN BA-99-518 & V.
 6. THAT THE HEARING EXAMINER GRANTS ONLY WASTEWATER TREATMENT BUILDINGS 1 AND 2.
 7. THAT WASTEWATER TREATMENT BUILDING 2 SHALL BE RELOCATED TO MEET THE 50-FOOT SETBACK FROM THE CLOSEST PIPESTEM SECTION LOT LINE.
 8. THAT GLENELG COUNTRY SCHOOL MAY APPLY FOR THE APPROPRIATE SITE DEVELOPMENT PLAN OR REDLINE SITE DEVELOPMENT APPROVALS AND BUILDING PERMITS AND THEY MAY BE GRANTED UPON RECEIPT OF THIS ORDER; HOWEVER, GLENELG COUNTRY SCHOOL IS HEREBY MADE AWARE THAT PROCEEDING AT THIS TIME IS AT ITS OWN RISK UNTIL SUCH TIME AS THE 30-DAY APPELLEATE PROCESS FROM THIS ORDER HAS EXPIRED.
 9. THAT THE SITE DEVELOPMENT PLAN OR REDLINE SITE DEVELOPMENT PLAN SHALL CONTAIN A NOTE WITH ALL THE ENUMERATED CONDITIONS OF APPROVAL IN THIS DECISION AND ORDER.
 10. THAT THE SITE DEVELOPMENT PLAN OR REDLINE SITE DEVELOPMENT PLAN SHALL CLEARLY DENOTE THE 22 PIPESTEM SECTION BOUNDARIES AND IDENTIFY THE AREA AS OWNED IN FEE SIMPLE TITLE BY OTHERS.
 11. THAT ANY FUTURE APPLICATION BY GLENELG COUNTRY SCHOOL TO EXPAND THE CONDITIONAL USE SITE BOUNDARY TO INCLUDE THE PIPESTEM STRIPS OR TO MAKE USE OF THESE LANDS SHALL INCLUDE THE FEE SIMPLE OWNER'S SIGNATURE AUTHORIZATION TO PROCEED WITH THE PETITION AND MAKE APPLICATION FOR ALL SITE DEVELOPMENT PLANS OR REDLINE SITE DEVELOPMENT PLANS. ALTERNATIVELY, THE APPLICATION SHALL INCLUDE A COURT ORDER TO THE EFFECT THAT THE 2007/2008 ADDITIONAL SURFACE AS SIGNATURE AUTHORIZATION IS PROCESSED WITH THE CLARIFICATION AND MAKE APPLICATION FOR ALL NECESSARY SITE DEVELOPMENT PLANS OR REDLINE SITE DEVELOPMENT PLANS.
 12. THAT PURSUANT TO HCZR 151.01.2 THE HEARING EXAMINER REVOKES THE DEPARTMENT OF PLANNING AND ZONING'S AUTHORITY TO APPROVE MINOR MODIFICATIONS TO THE CONFIGURATION OF BUILDINGS OR OTHER IMPROVEMENTS AS LONG AS THEY DO NOT MAKE CLOSER TO ADJUTING RESIDENTIAL PROPERTIES OR OTHER USES. THE REVOCATION DOES NOT APPLY TO THE LOCATION OR CONFIGURATION OF THE TWO WASTE-WATER TREATMENT BUILDINGS APPROVED THROUGH THIS DECISION AND ORDER. THE HEARING AUTHORITY MUST APPROVE ALL MINOR MODIFICATIONS OTHER THAN THESE TWO BUILDINGS.
 13. THAT THE DECISION AND ORDER MAKES NO FACTUAL FINDINGS OR CONCLUSIONS OF LAW ABOUT THE OPERATION OR ADEQUACY OF GLENELG COUNTRY SCHOOL'S STORMWATER AND WASTEWATER MANAGEMENT SYSTEMS OR ITS WELL AND SEPTIC SYSTEMS.
 14. THAT GLENELG COUNTRY SCHOOL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL STORMWATER MANAGEMENT, WASTEWATER MANAGEMENT, WELL AND SEPTIC LAWS AND REGULATIONS.



BEFORE YOU DIG!
CALL UTILITY LOCATION SERVICES
IT'S THE LAW!
MISS UTILITY
1-800-257-7777

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS

<i>[Signature]</i>	DATE
COUNTRY HEALTH OFFICER	5/8/03
HEWARD COUNTY HEALTH DEPARTMENT	
APPROVED DEPARTMENT OF PLANNING AND ZONING	
<i>[Signature]</i>	DATE
CHIEF, DEVELOPMENT ENGINEERING DIVISION	5/15/03
<i>[Signature]</i>	DATE
CHIEF, DIVISION OF LAND DEVELOPMENT	5/15/03
<i>[Signature]</i>	DATE
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING	5/15/03

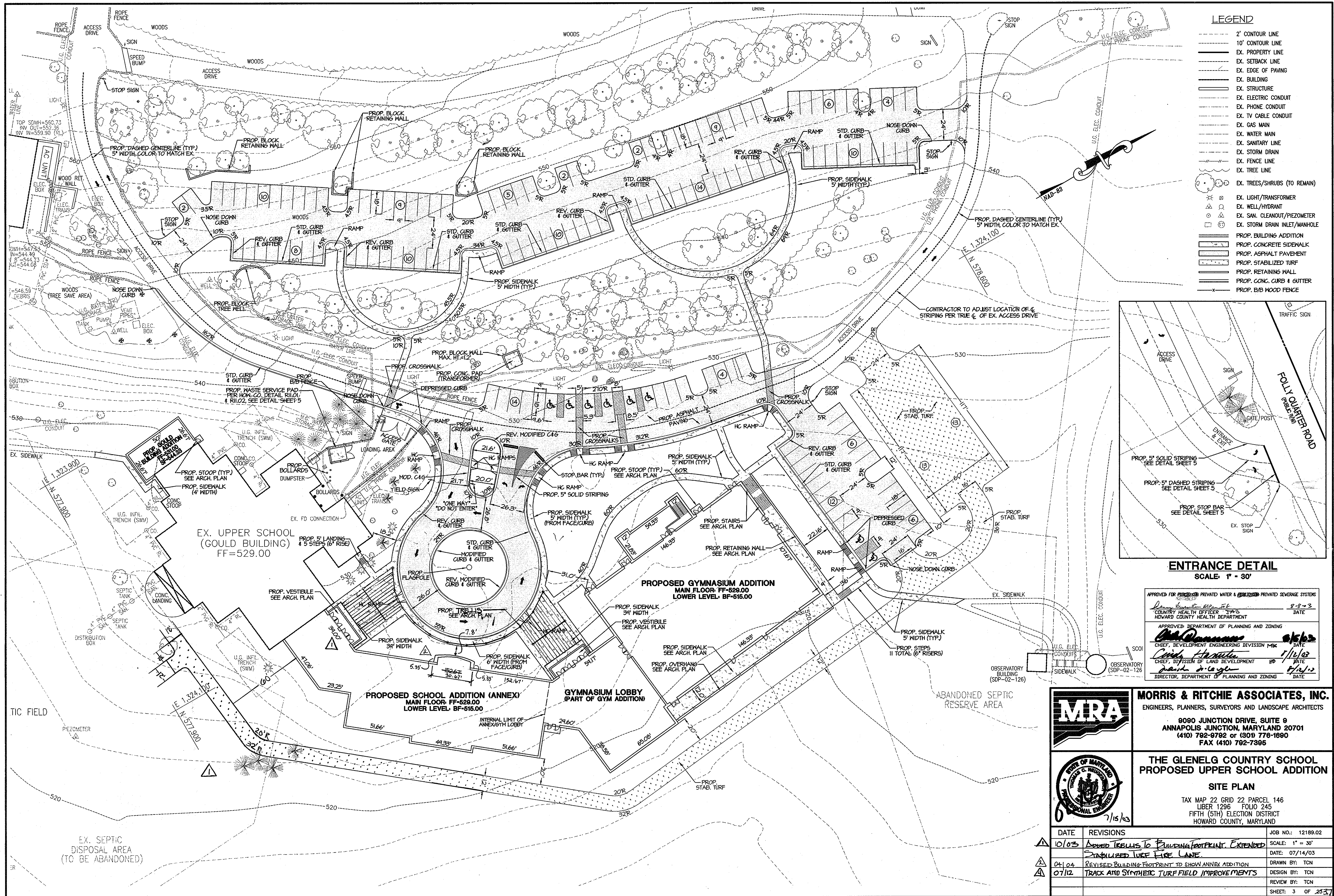
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395

**THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION**

DEMOLITION PLAN
TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

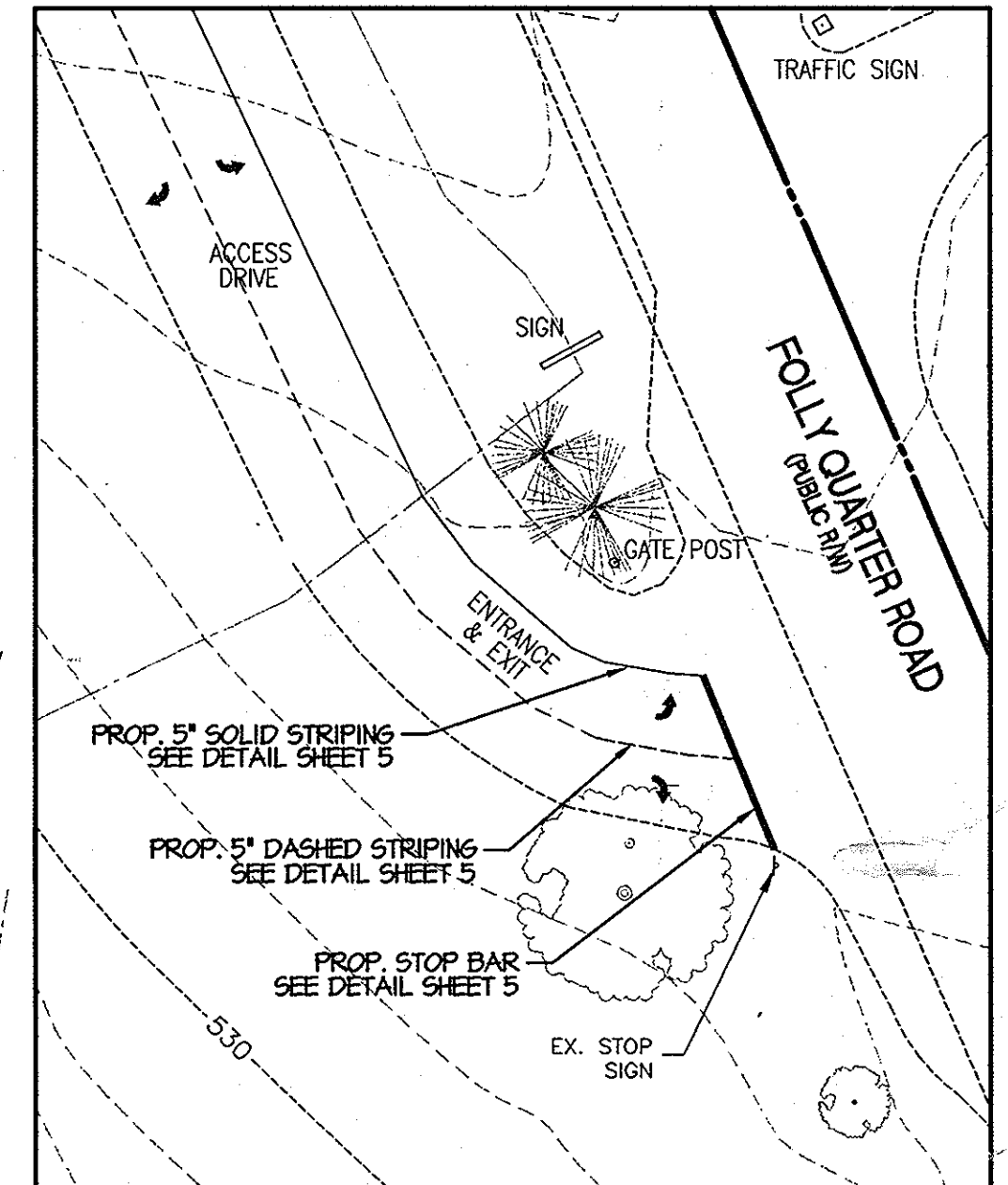
DATE	REVISIONS	JOB NO.:
07/11/02	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
11/8/18	ADDED NOTES PER DFO BA 16-034C	SCALE: 1" = 40'
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 2 OF 25

FOR REVISION #9
7/15/03



LEGEND

- 2' CONTOUR LINE
- 10' CONTOUR LINE
- EX. PROPERTY LINE
- EX. SETBACK LINE
- EX. EDGE OF PAVING
- EX. BUILDING
- EX. STRUCTURE
- EX. ELECTRIC CONDUIT
- EX. PHONE CONDUIT
- EX. TV CABLE CONDUIT
- EX. GAS MAIN
- EX. WATER MAIN
- EX. SANITARY LINE
- EX. STORM DRAIN
- EX. FENCE LINE
- EX. TREE LINE
- EX. TREES/SHRUBS (TO REMAIN)
- ⊗ EX. LIGHT/TRANSFORMER
- ⊕ EX. WELL/HYDRANT
- ⊙ EX. SAN. CLEANOUT/PIEZOMETER
- ⊖ EX. STORM DRAIN INLET/MANHOLE
- PROP. BUILDING ADDITION
- PROP. CONCRETE SIDEWALK
- PROP. ASPHALT PAVEMENT
- PROP. STABILIZED TURF
- PROP. RETAINING WALL
- PROP. CONC. CURB & GUTTER
- PROP. B/B WOOD FENCE

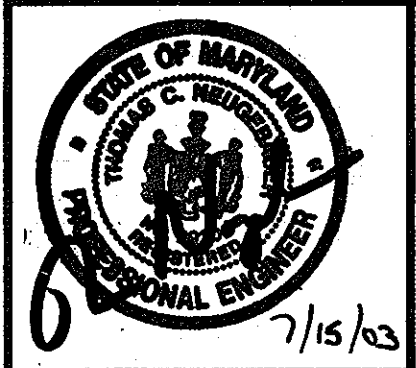


ENTRANCE DETAIL
SCALE: 1" = 30'

APPROVED FOR PRIVATE WATER & SEWER PRIVATE SEWERAGE SYSTEMS
 COUNTY HEALTH OFFICER: JAMES HOWARD COUNTY HEALTH DEPARTMENT
 DATE: 8-8-03
 APPROVED FOR DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: M.K. [Signature] DATE: 8/16/03
 CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 7/16/03
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING: [Signature] DATE: 8/21/03

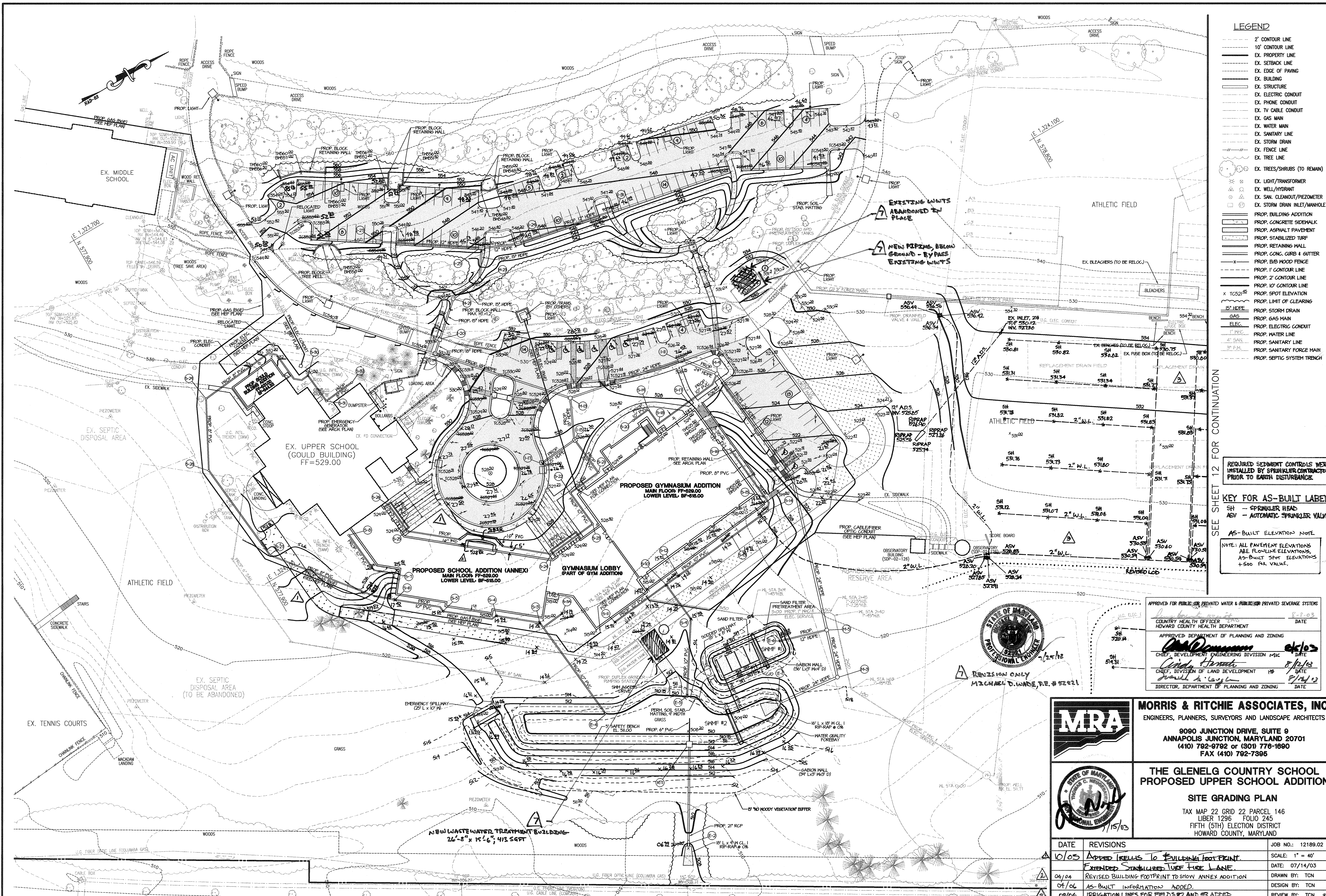


MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9080 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1890
 FAX (410) 792-7396



THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION
SITE PLAN
 TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
10/03	Added KELLIS to BUILDING FOOTPRINT. EXTENDED STABILIZED TURF FIRE LANE.	12189.02
04/04	REVISED BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	SCALE: 1" = 30'
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 3 OF 23



- LEGEND**
- 2' CONTOUR LINE
 - 10' CONTOUR LINE
 - EX. PROPERTY LINE
 - EX. SETBACK LINE
 - EX. EDGE OF PAVING
 - EX. BUILDING
 - EX. STRUCTURE
 - EX. ELECTRIC CONDUIT
 - EX. PHONE CONDUIT
 - EX. TV CABLE CONDUIT
 - EX. GAS MAIN
 - EX. WATER MAIN
 - EX. SANITARY LINE
 - EX. STORM DRAIN
 - EX. FENCE LINE
 - EX. TREE LINE
 - EX. TREES/SHRUBS (TO REMAIN)
 - EX. LIGHT/TRANSFORMER
 - EX. WELL/HYDRANT
 - EX. SAN. CLEANOUT/PIEZOMETER
 - EX. STORM DRAIN INLET/MANHOLE
 - PROP. BUILDING ADDITION
 - PROP. CONCRETE SIDEWALK
 - PROP. ASPHALT PAVEMENT
 - PROP. STABILIZED TURF
 - PROP. RETAINING WALL
 - PROP. CONC. CURB & GUTTER
 - PROP. 1" B&B WOOD FENCE
 - PROP. 1" CONTOUR LINE
 - PROP. 2" CONTOUR LINE
 - PROP. 10' CONTOUR LINE
 - PROP. SPOT ELEVATION
 - PROP. LIMIT OF CLEARING
 - 15' HIDE
 - PROP. STORM DRAIN
 - PROP. GAS MAIN
 - PROP. ELECTRIC CONDUIT
 - PROP. WATER LINE
 - PROP. SANITARY LINE
 - PROP. SANITARY FORCE MAIN
 - PROP. SEPTIC SYSTEM TRENCH

REQUIRED SEDIMENT CONTROLS WERE INSTALLED BY SUBGRADER CONTRACTOR PRIOR TO EARTH DISTURBANCE.

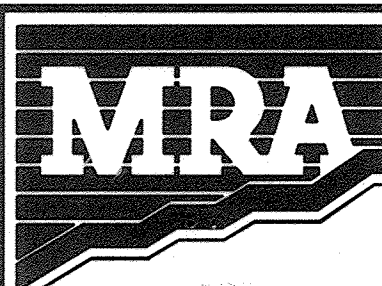
KEY FOR AS-BUILT LABELS
 SH - SPRINKLER HEAD
 ASV - AUTOMATIC SPRINKLER VALVE

AS-BUILT ELEVATION NOTE
 NOTE: ALL PAVEMENT ELEVATIONS ARE FLOWLINE ELEVATIONS. AS-BUILT SPOT ELEVATIONS +500 P&L VALUE.

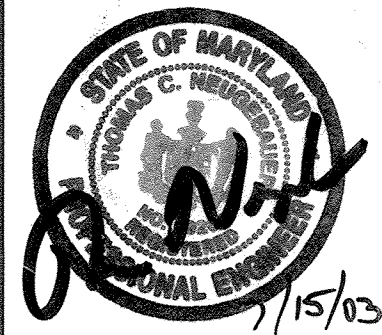
SEE SHEET 12 FOR CONTINUATION

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS

COUNTY HEALTH OFFICER: *[Signature]* DATE: 8/2/03
 HOWARD COUNTY HEALTH DEPARTMENT
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 8/12/03
 CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 8/12/03
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING: *[Signature]* DATE: 8/12/03



MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 8090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 782-9792 or (301) 776-1890
 FAX (410) 782-7386



**THE GLENELG COUNTRY SCHOOL
 PROPOSED UPPER SCHOOL ADDITION**
 SITE GRADING PLAN
 TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
10/05	ADDED DETAILS TO BUILDING FOOTPRINT. EXTENDED STABILIZED TURF FIRE LANE.	12189.02
04/04	REVISED BUILDING FOOTPRINT TO SHOW ANNEX ADDITION	SCALE: 1" = 40' DATE: 07/14/03
01/06	AS-BUILT INFORMATION ADDED	DRAWN BY: TCN
02/06	IRRIGATION LINES FOR FIELDS #2 AND #3 ADDED	DESIGN BY: TCN
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	REVIEW BY: TCN 38
07/25/18	NEW WWTB BUILDING ADDED	SHEET: 4 OF 37

UTILITY TRENCH BACKFILL

- 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 shall be allowed within 2 feet of the utility. Larger stones, up to 6 inches in the largest dimension can be used in lifts 2 feet above the utility. No organic material shall be allowed. For granular soils (less than 35% passing #200 sieve), the soil moisture should 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

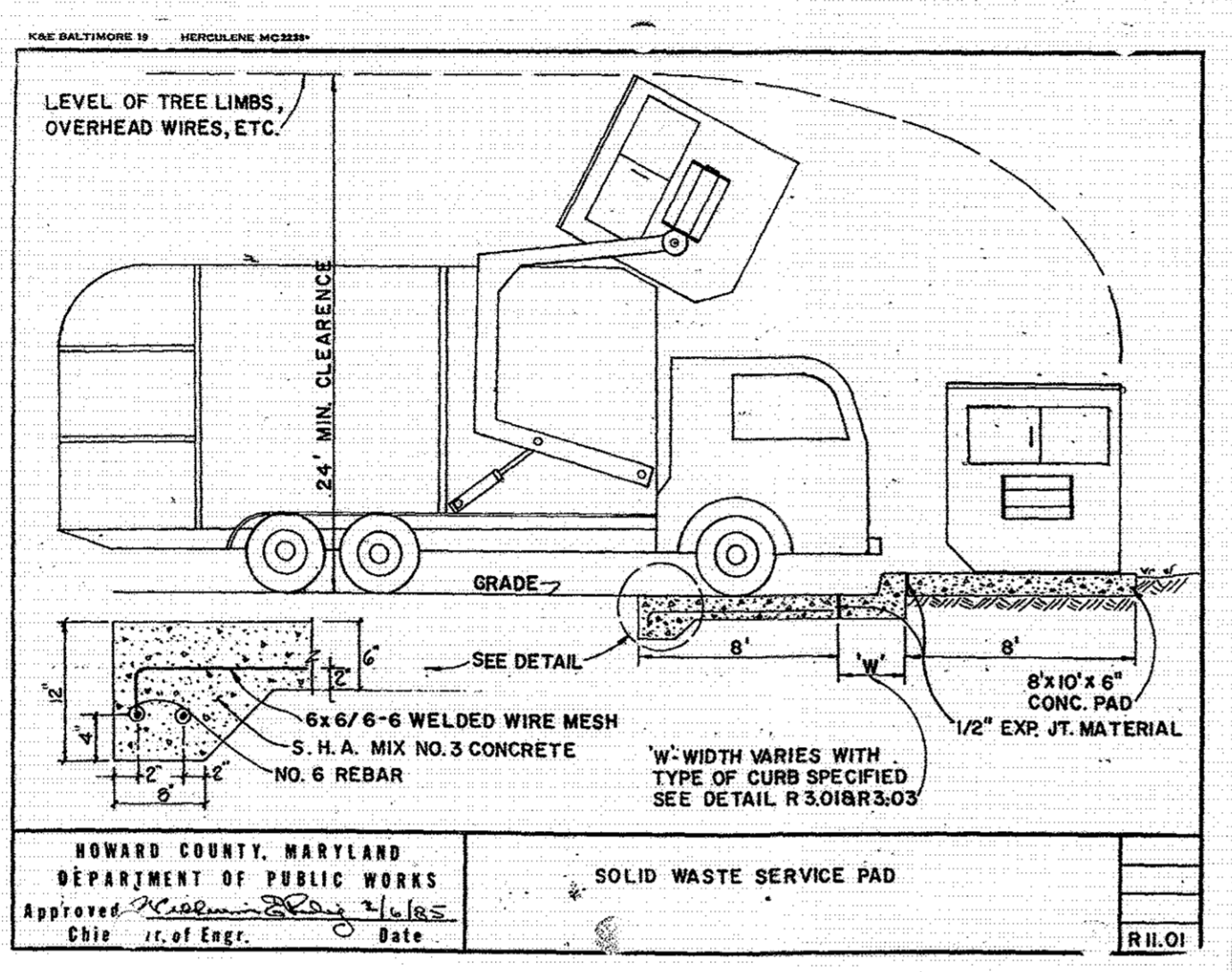
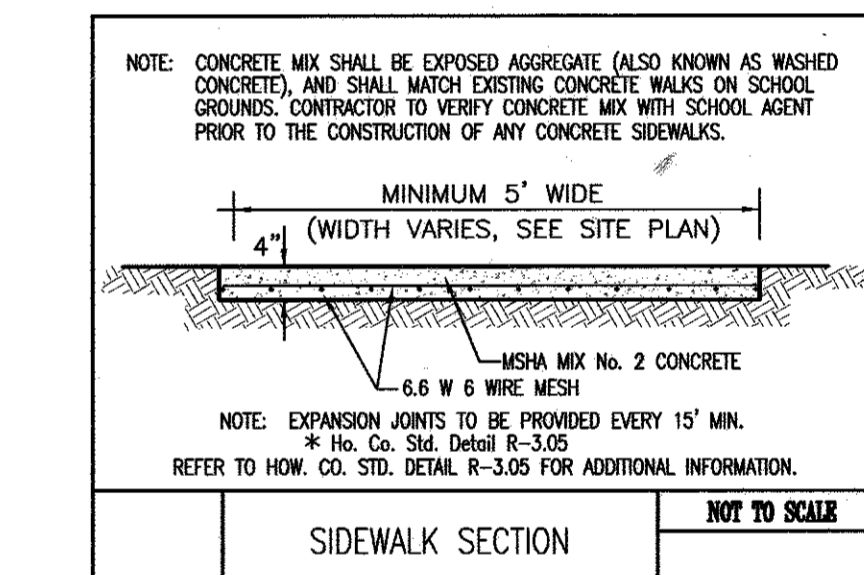
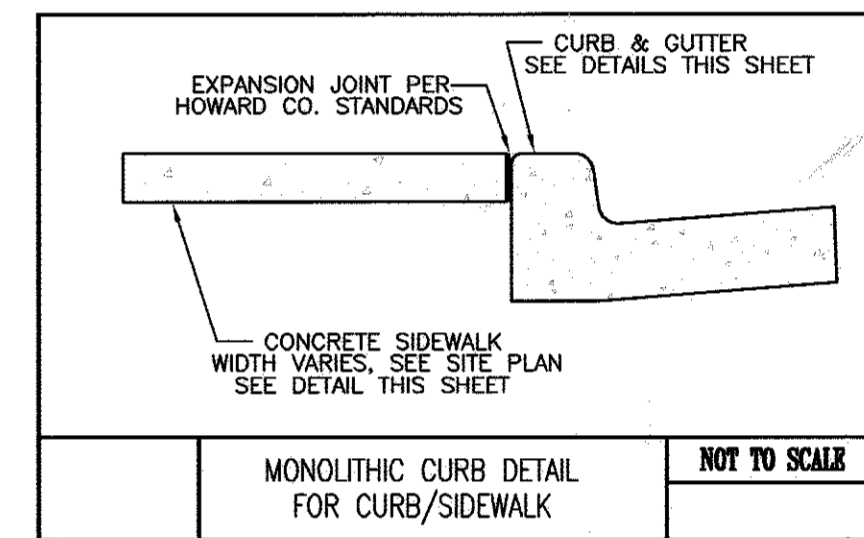
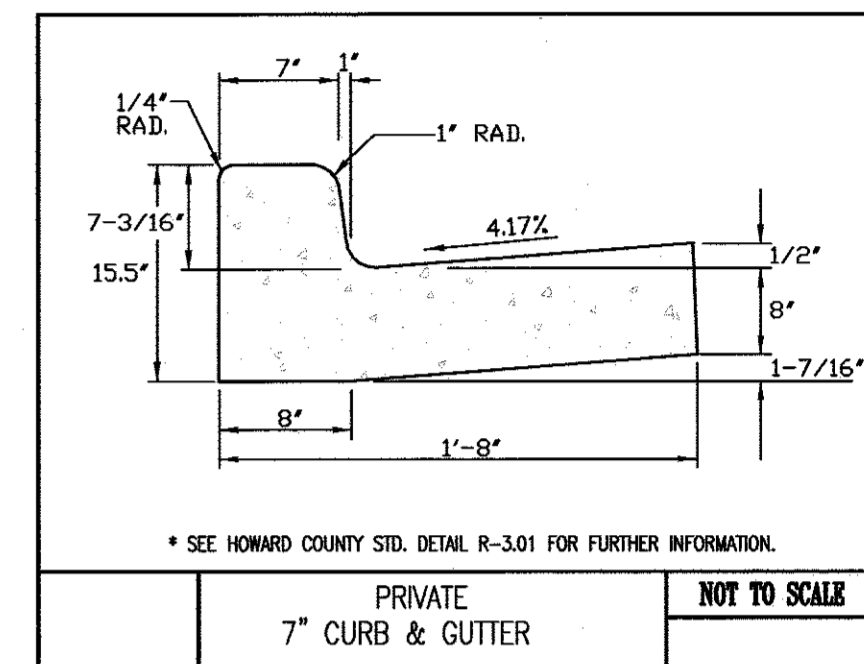
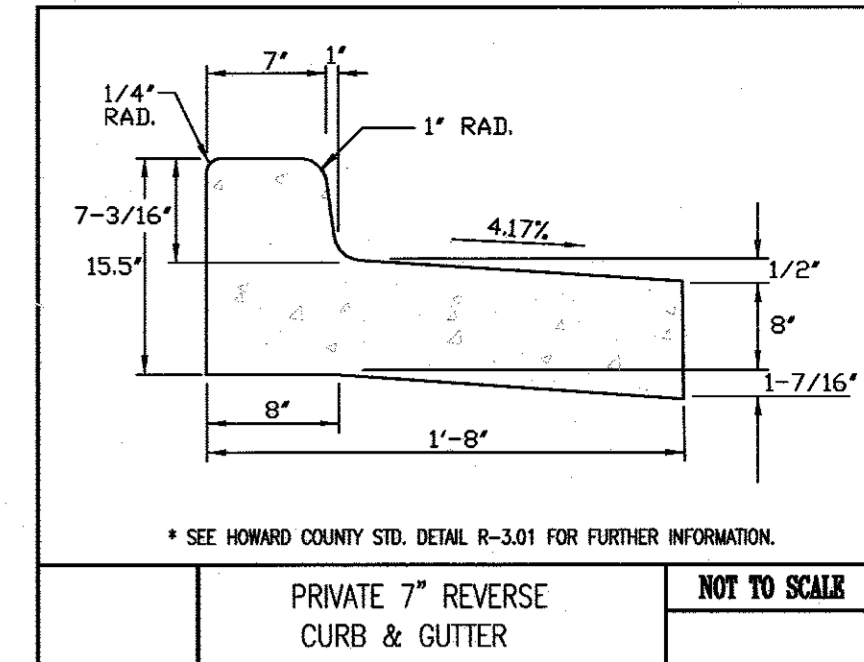
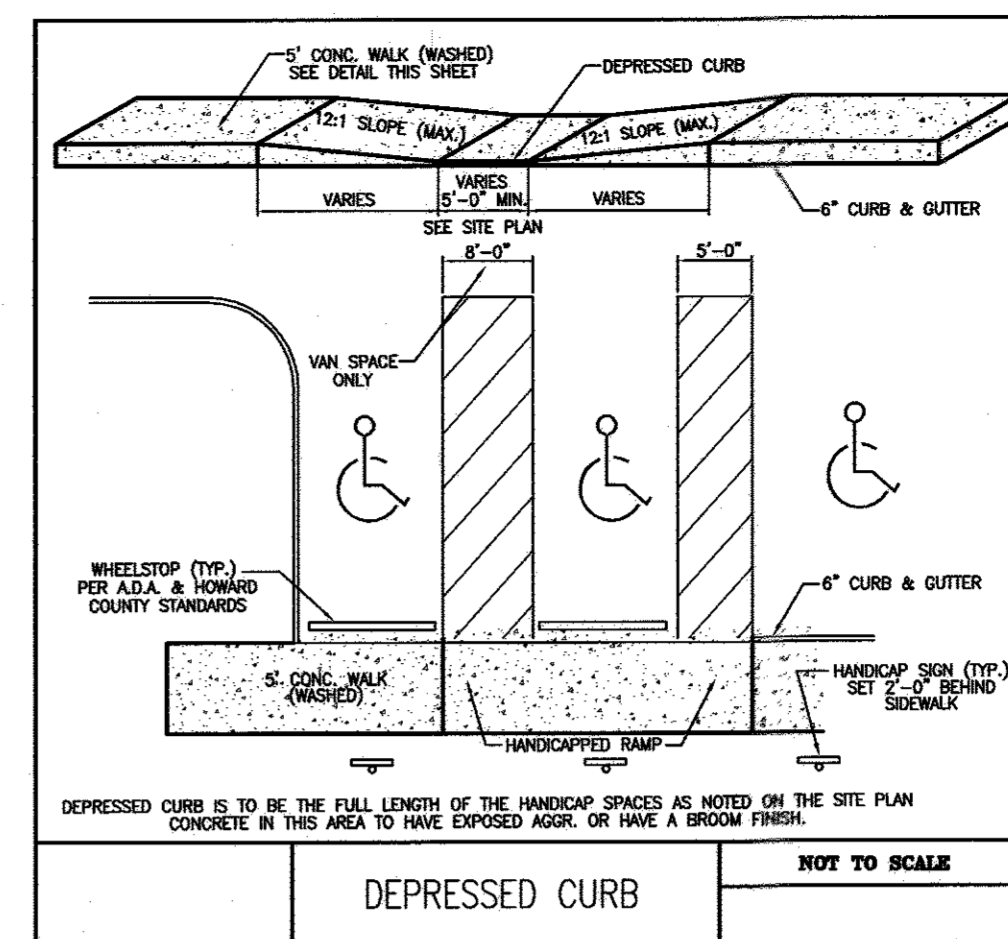
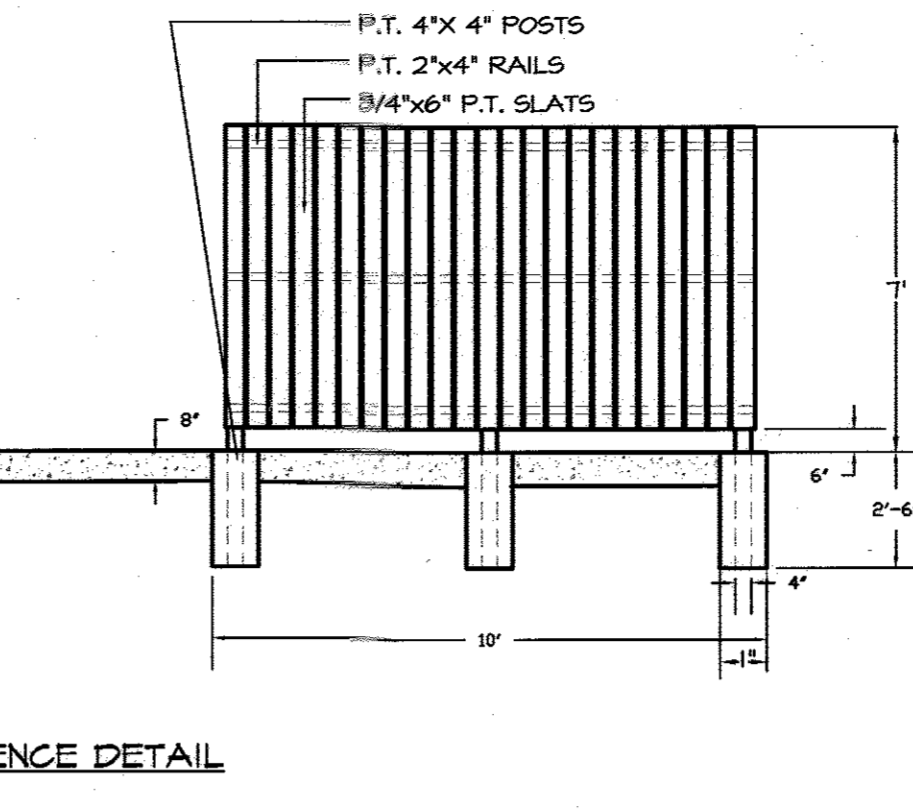
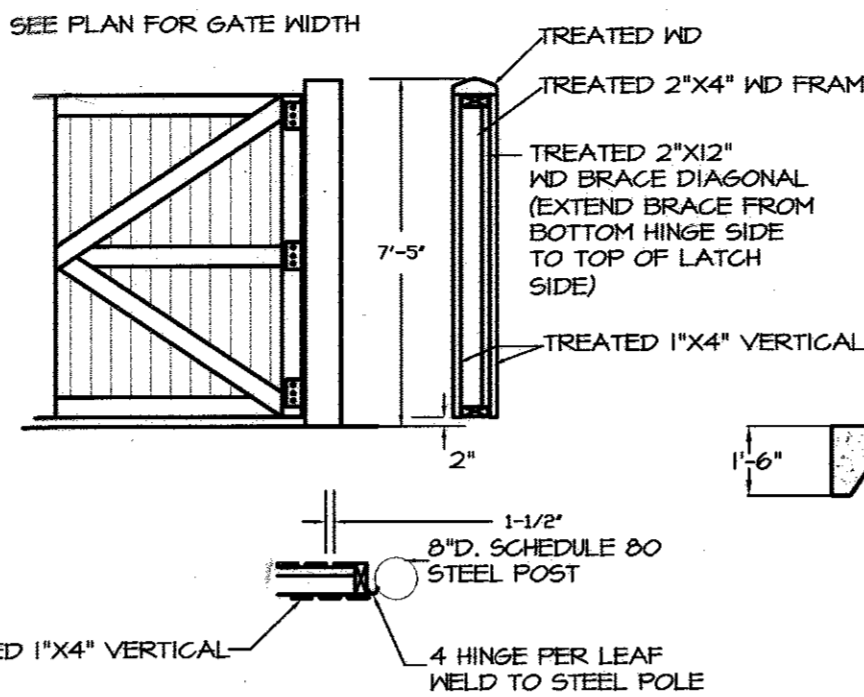
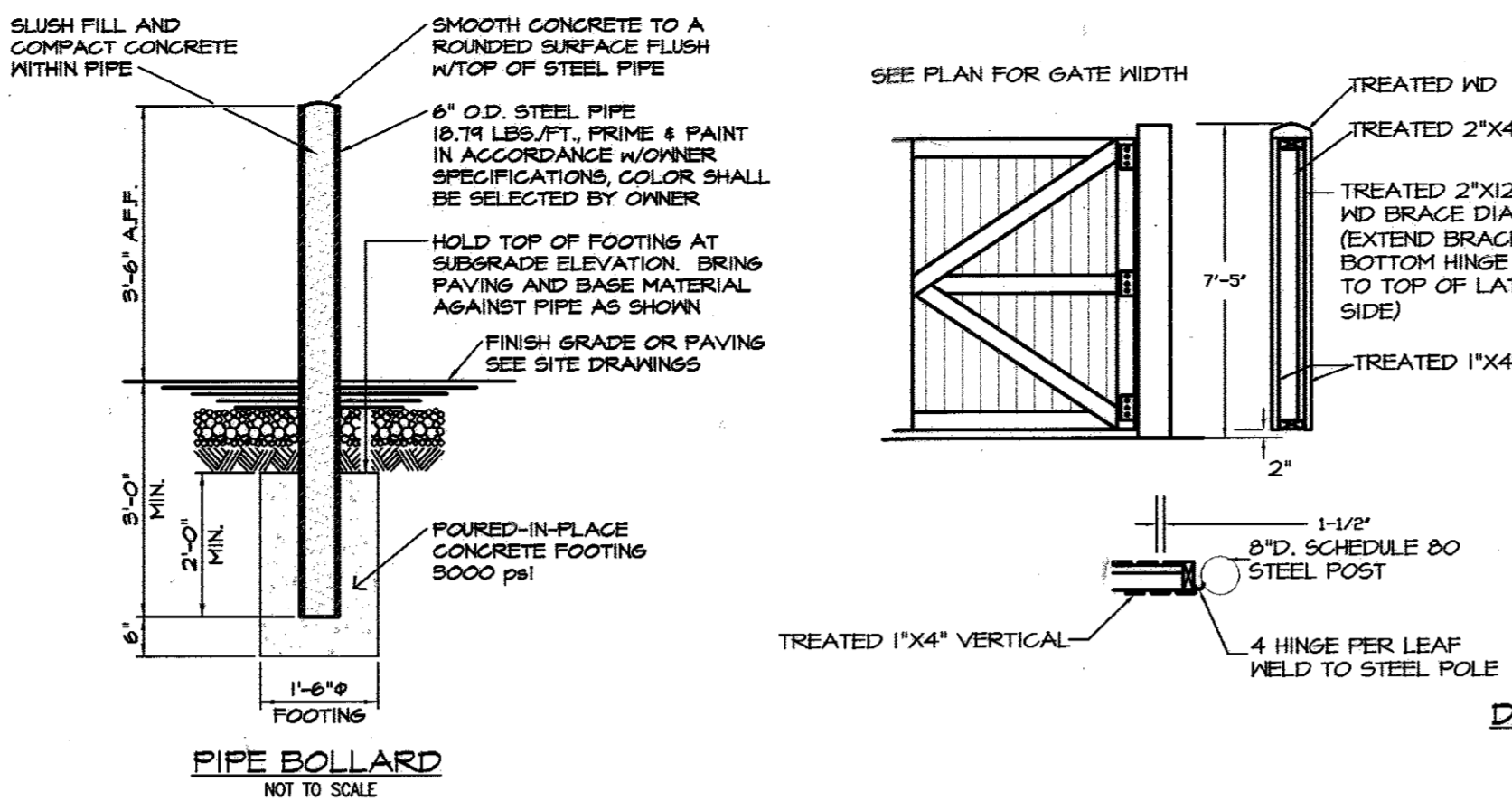
A. Contractor shall place level lifts of soil adjacent to and above the utility. The lift thickness shall be dependent upon the type of equipment being used for compaction and the materials. The following shall be used as a guide:

1. Fine-Grained Materials - fine-grained materials (materials with more than 35% passing #200 sieve) should be compacted with sheep's-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 sheep's-foot compaction equipment is used, a maximum loose lift thickness should be no greater than the length of the sheep's-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.

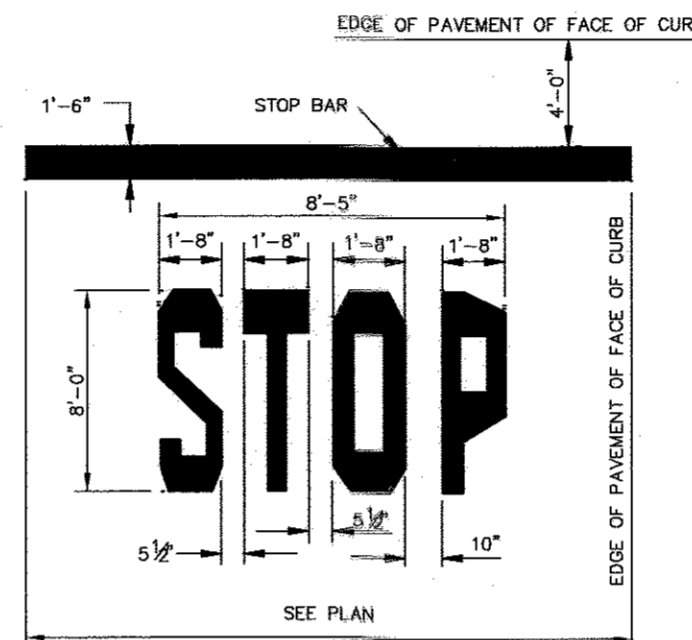
B. If a lift fails to meet the required compaction, then the lift shall be re-compacted and retested. If the material is too wet or too dry, the moisture should be adjusted to within the required range prior to re-compaction.

III. Testing

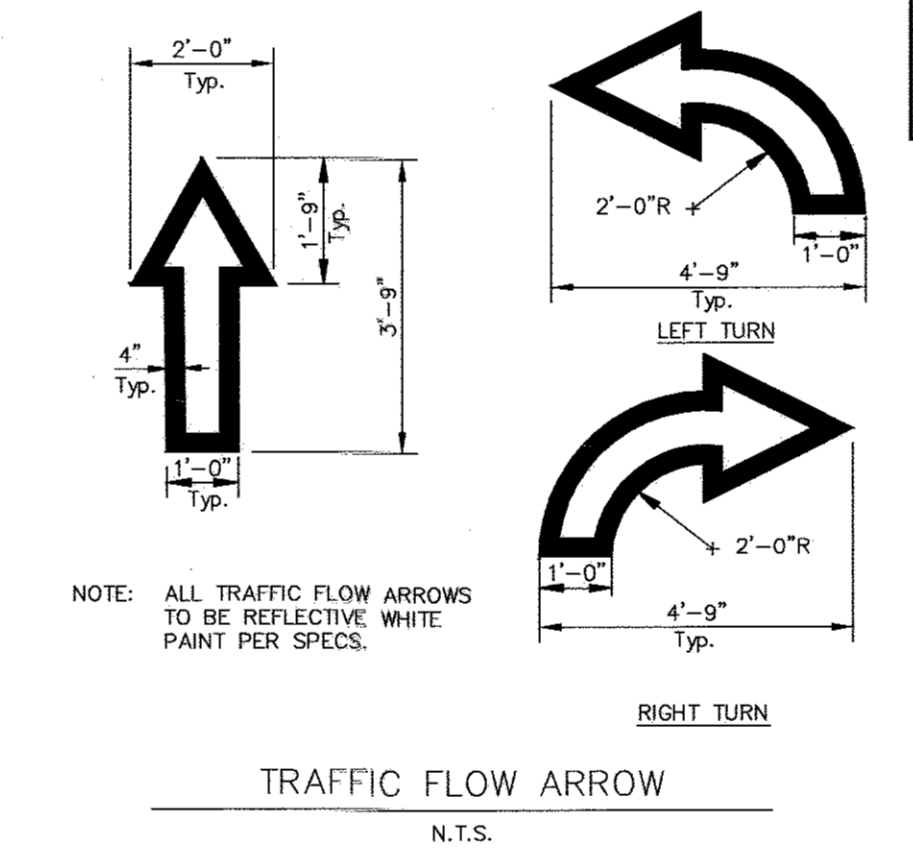
Each lift of fill should be monitored for stability, lift thickness and compactive effort. A density test should be performed for each lift of lift placed per every 150 feet of trench. This requirement includes the utility lateral connections. The test procedure should be the sand cone method (ASTM D-1556) 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.



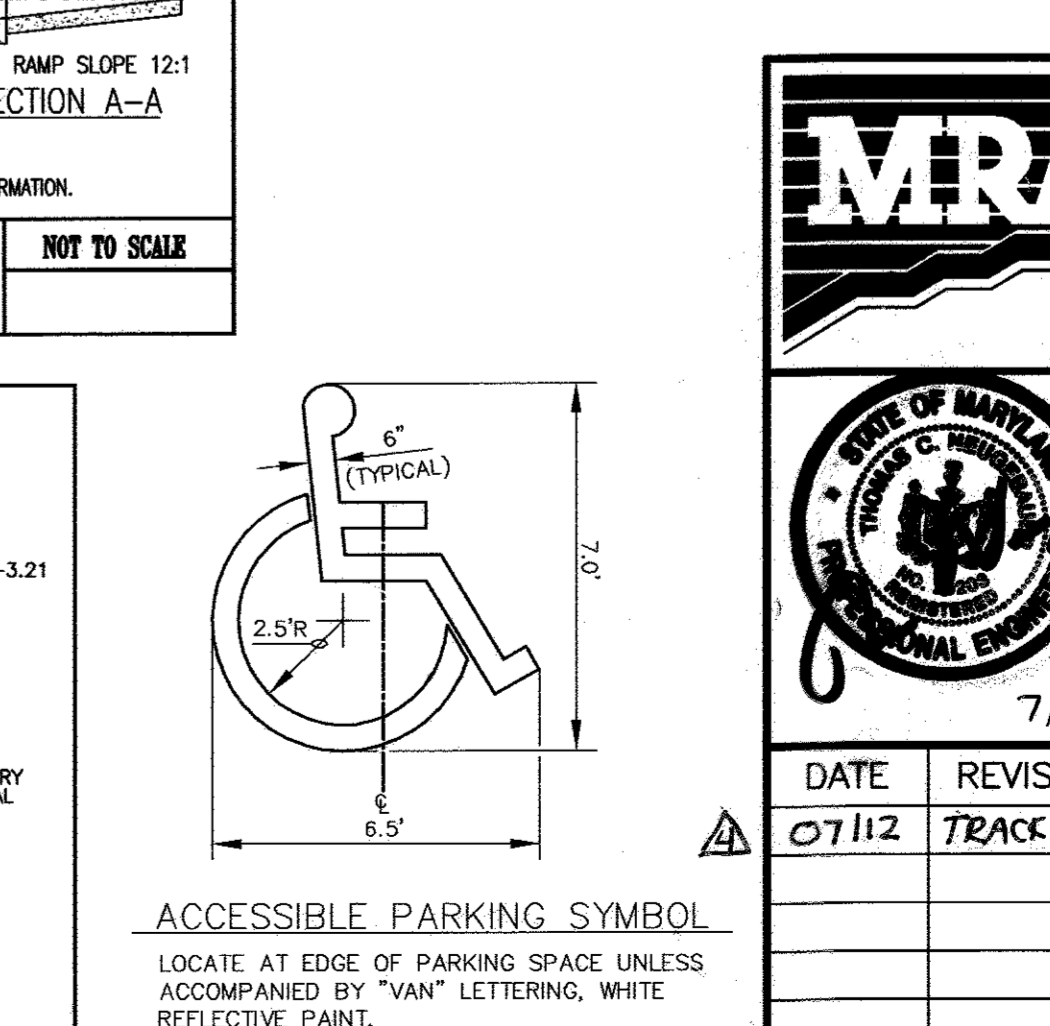
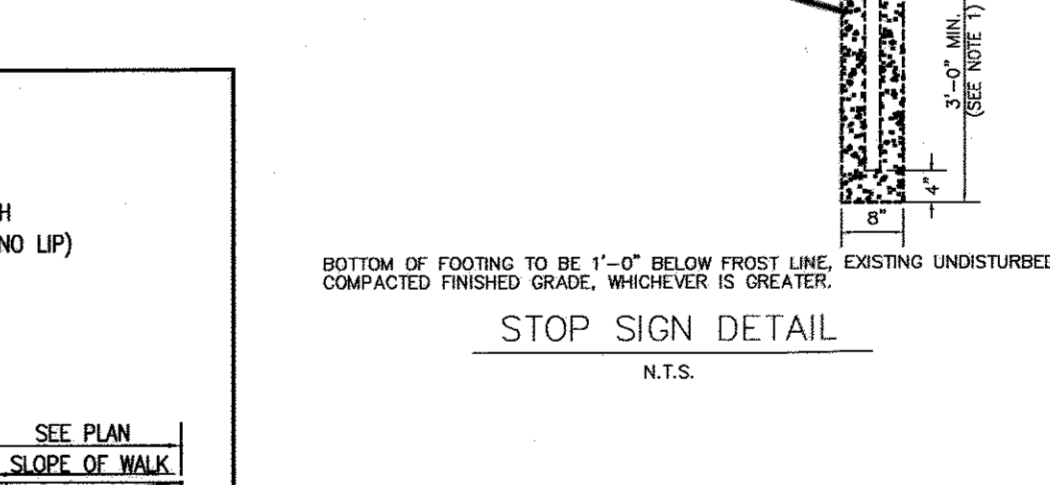
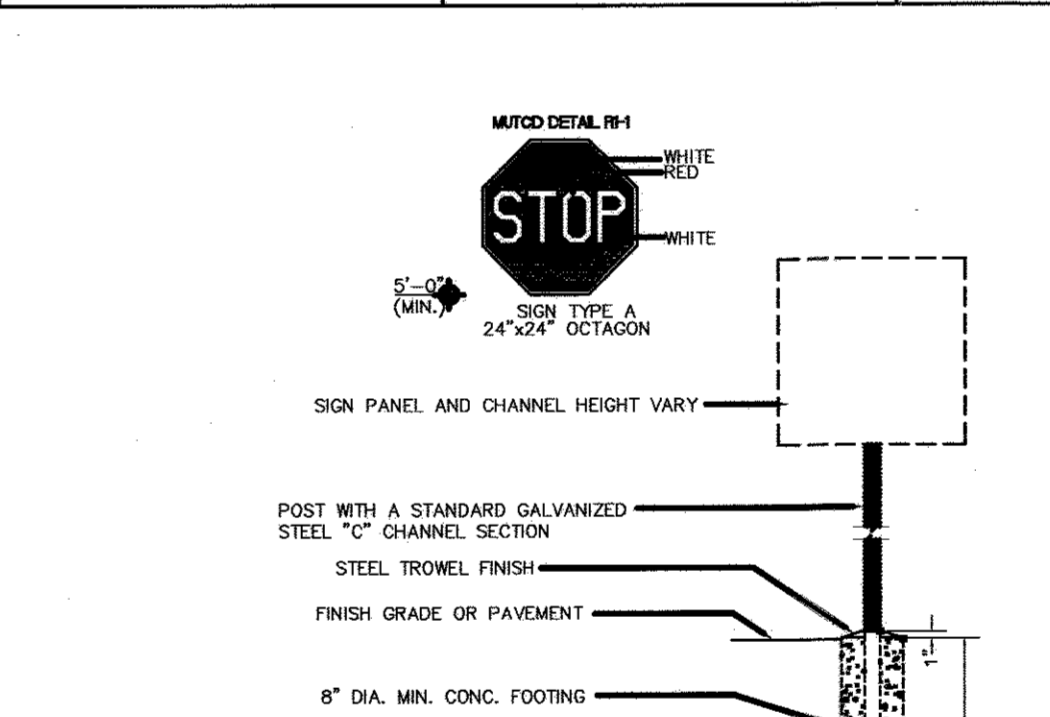
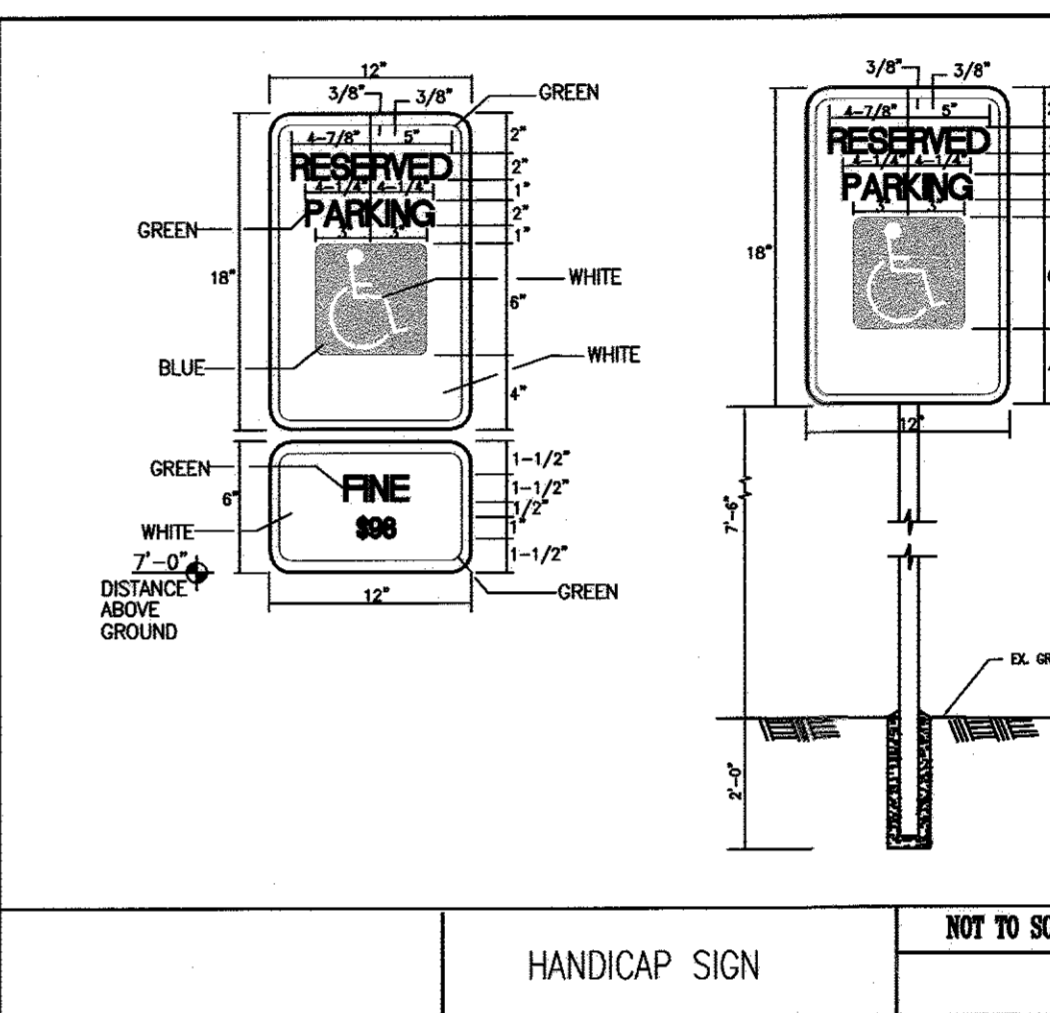
NOTE: SEE HOWARD COUNTY STANDARD DETAIL R11.02 FOR OPTIONAL DUMPSTER ENCLOSURE DETAIL



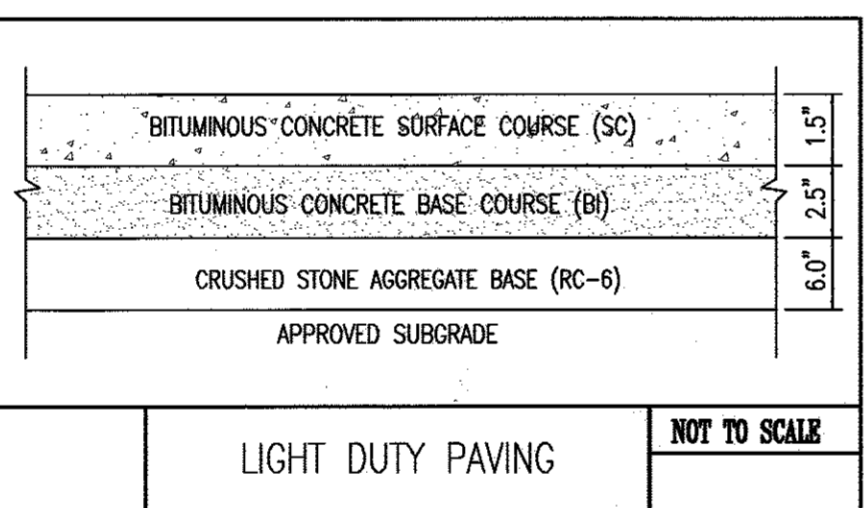
NOTE: WORDS AND ARROWS FOR DRIVEWAYS SHALL BE APPLIED ACCORDING TO REQUIREMENTS AS OUTLINED IN SECTION 38 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS. THESE WORDS AND BAR ARE TO BE PAINTED REFLECTIVE WHITE.



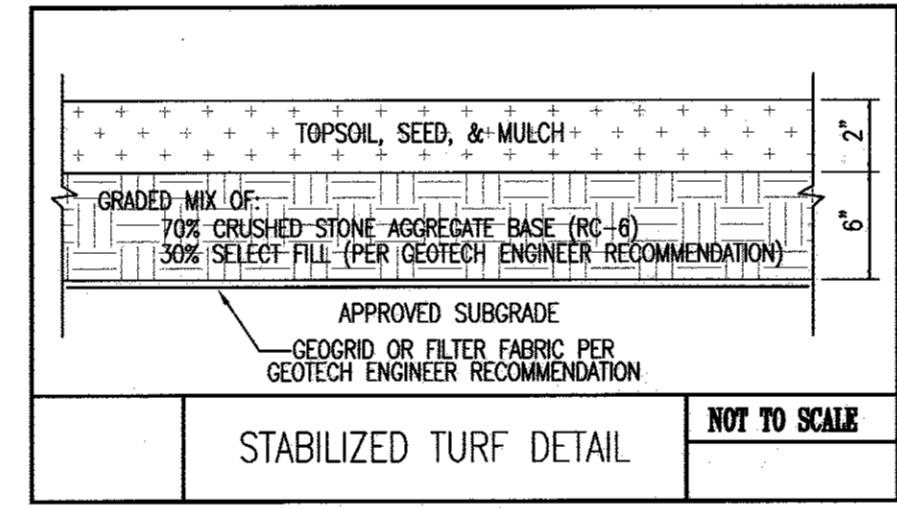
NOTE: ALL TRAFFIC FLOW ARROWS TO BE REFLECTIVE WHITE PAINT PER SPECS.



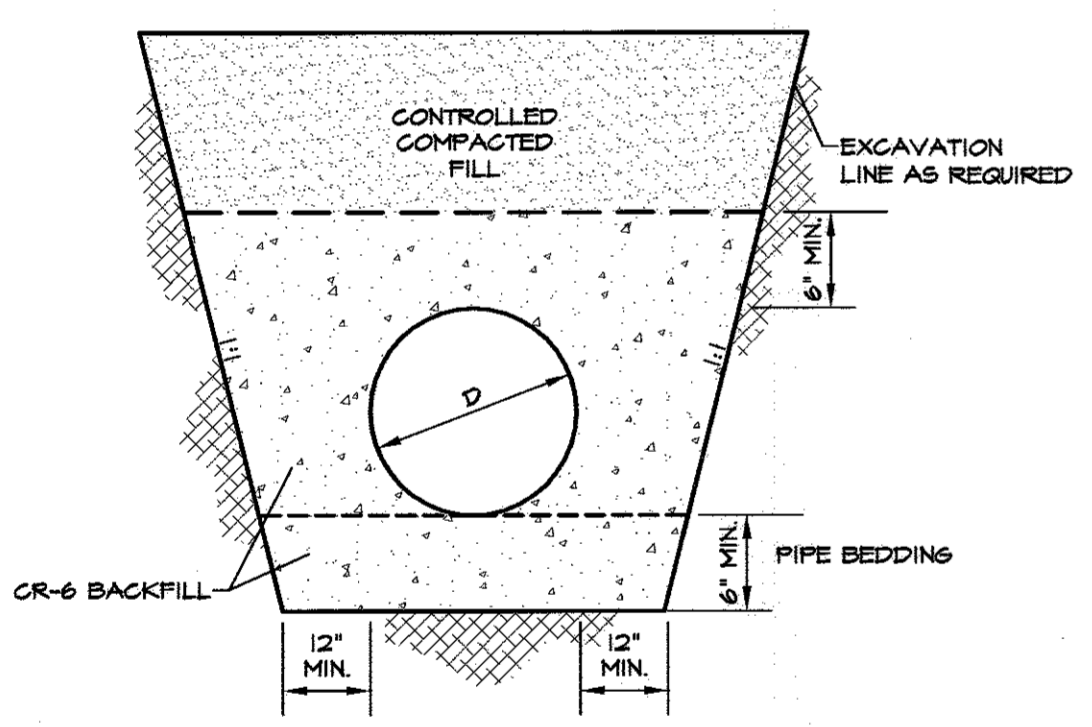
LOCATE AT EDGE OF PARKING SPACE UNLESS ACCOMPANIED BY "VAN" LETTERING, WHITE REFLECTIVE PAINT.



NOTE: ALL FILL MATERIAL TO BE USED UNDER LIGHT DUTY PAVING SECTION IS TO BE SELECT FILL, CONTROLLED AND COMPACTED AS CERTIFIED BY AN APPROVED GEOTECHNICAL ENGINEER.



NOTE: ALL FILL MATERIAL TO BE USED UNDER STABILIZED TURF IS TO BE SELECT FILL, CONTROLLED AND COMPACTED AS CERTIFIED BY AN APPROVED GEOTECHNICAL ENGINEER.

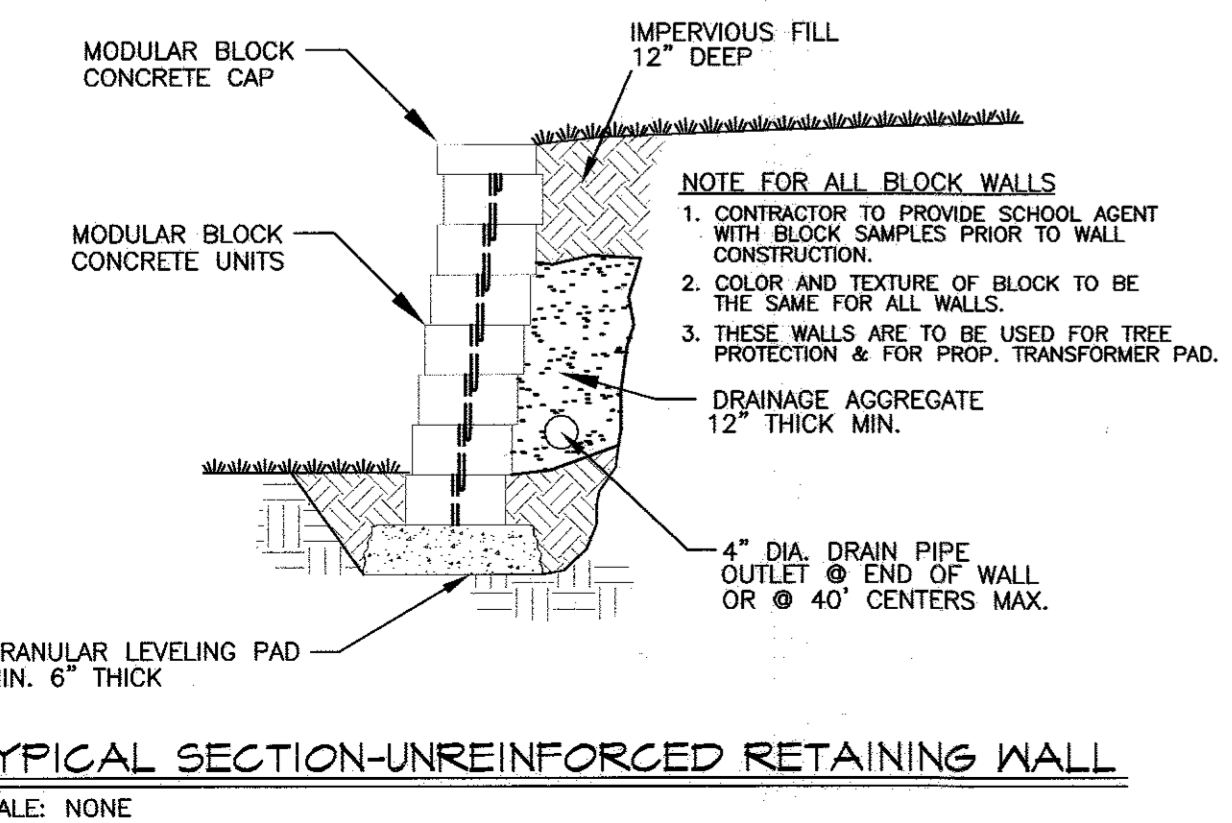


PVC/HDPE STORM DRAIN PIPE BACKFILL DETAIL N.T.S.

SITE DETAILS NOTE

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL REFER TO DRAWINGS ENTITLED "GLENELG COUNTRY SCHOOL, SITE STANDARD DETAILS," SHEETS 1-3, PREPARED BY LDR, INTERNATIONAL, DATED 8/6/01 FOR ADDITIONAL SITE DETAIL INFORMATION. CONTRACTOR SHALL COORDINATE ALL SITE DETAILS WITH SCHOOL REPRESENTATIVES PRIOR TO CONSTRUCTION ACTIVITIES. THE CONTACT FOR LDR, INTERNATIONAL IS AS FOLLOWS:

LDR, INTERNATIONAL (AN HNTB COMPANY)
 QUARRY PARK PLACE
 9175 GUILFORD ROAD
 COLUMBIA, MD 21046
 PHONE: 410-792-4360



TYPICAL SECTION-UNREINFORCED RETAINING WALL SCALE: NONE

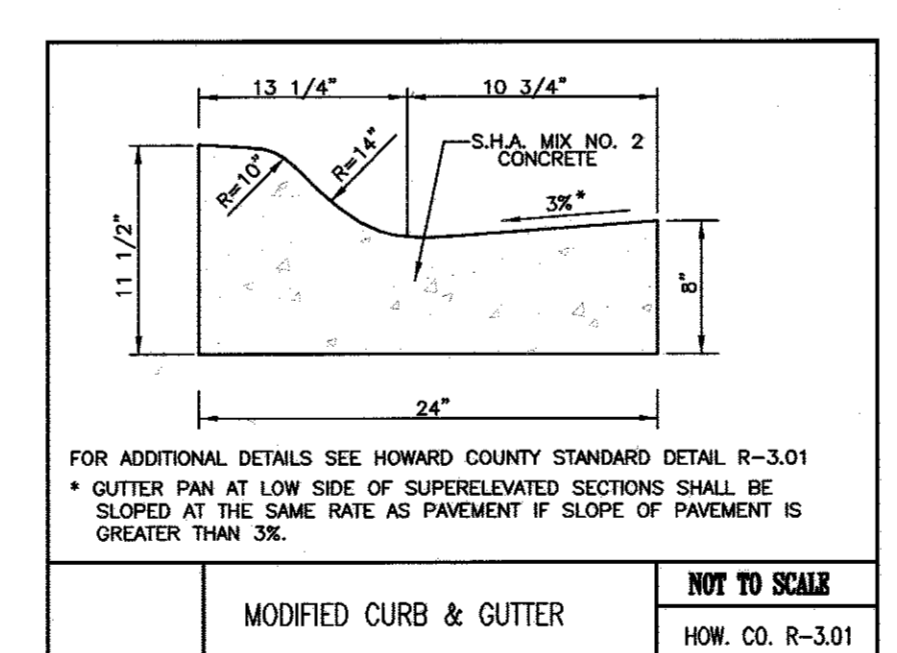
Architectural Round Vertical Area Lighting KVR

Intended Use: For streets, parking lots and surrounding areas.

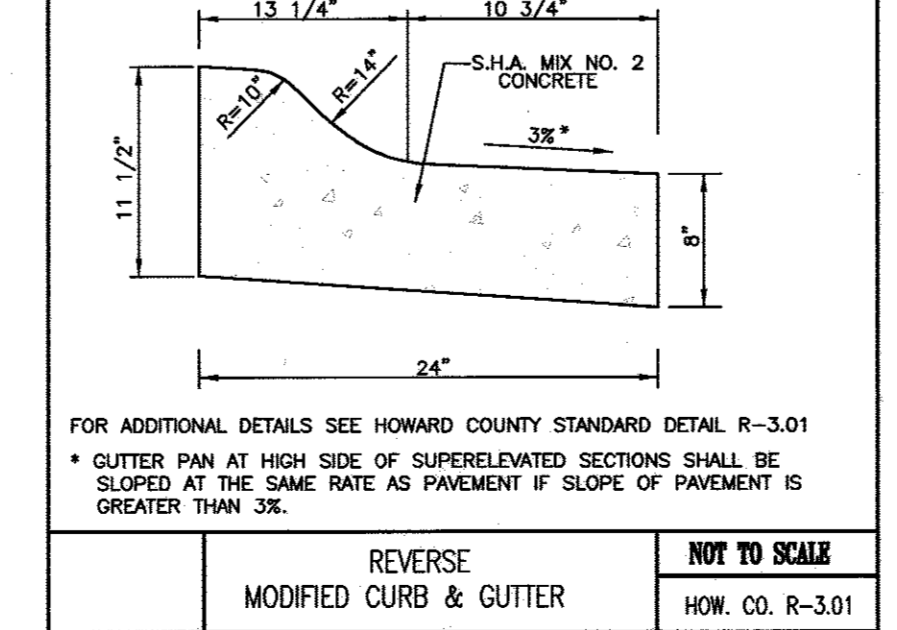
Features: Housing - Cylindrical shaped, rugged, heavy-gauge, open aluminum housing. Finish - Available in white, black, or bronze. Standard finish is dark bronze (D35) powder-coated. Other architectural colors available. Lens - Impact resistant clear 1/2\"/>

Ordering Information: Example: KVR2 250S SYM 120 RPVD05 6F

Designation	Material	Finish	Mounting	Options
KVR2 250S	Aluminum	Dark Bronze (D35)	Standard	None
KVR2 250S	Aluminum	White	Standard	None
KVR2 250S	Aluminum	Black	Standard	None
KVR2 250S	Aluminum	Dark Bronze (D35)	Standard	None
KVR2 250S	Aluminum	White	Standard	None
KVR2 250S	Aluminum	Black	Standard	None
KVR2 250S	Aluminum	Dark Bronze (D35)	Standard	None
KVR2 250S	Aluminum	White	Standard	None
KVR2 250S	Aluminum	Black	Standard	None



NOTE: GUTTER PAN AT LOW SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS PAVEMENT IF SLOPE OF PAVEMENT IS GREATER THAN 3%.



NOTE: GUTTER PAN AT HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AS PAVEMENT IF SLOPE OF PAVEMENT IS GREATER THAN 3%.

APPROVED FOR PUBLIC OR PRIVATE WATER & SEWER PRIVATE SEWERAGE SYSTEMS

COUNTRY HEALTH OFFICER: [Signature] DATE: 6/1/03

HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION: [Signature] DATE: 5/15/03

CHIEF, DIVISION OF LAND DEVELOPMENT: [Signature] DATE: 5/15/03

DIRECTOR, DEPARTMENT OF PLANNING AND ZONING: [Signature] DATE: 5/15/03

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

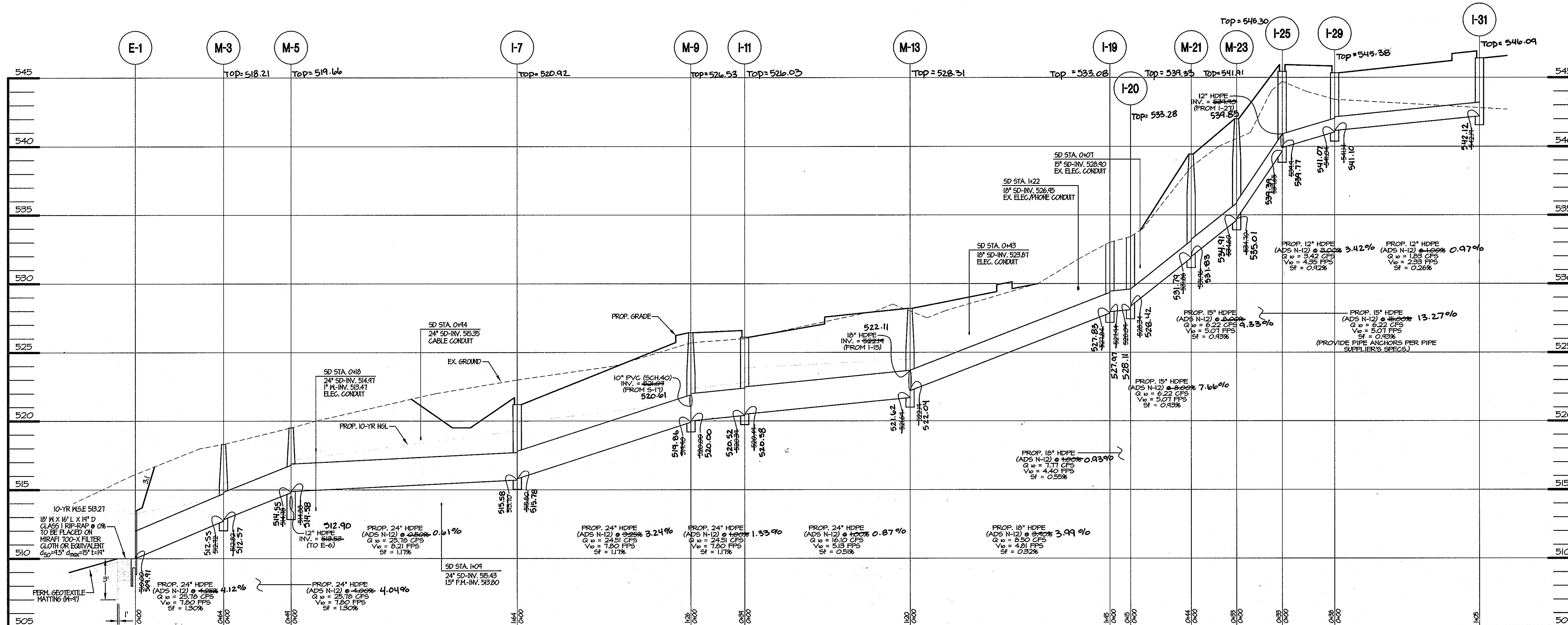
9090 JUNCTION DRIVE, SUITE 8
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

THE GLENELG COUNTRY SCHOOL PROPOSED UPPER SCHOOL ADDITION

SITE DETAILS

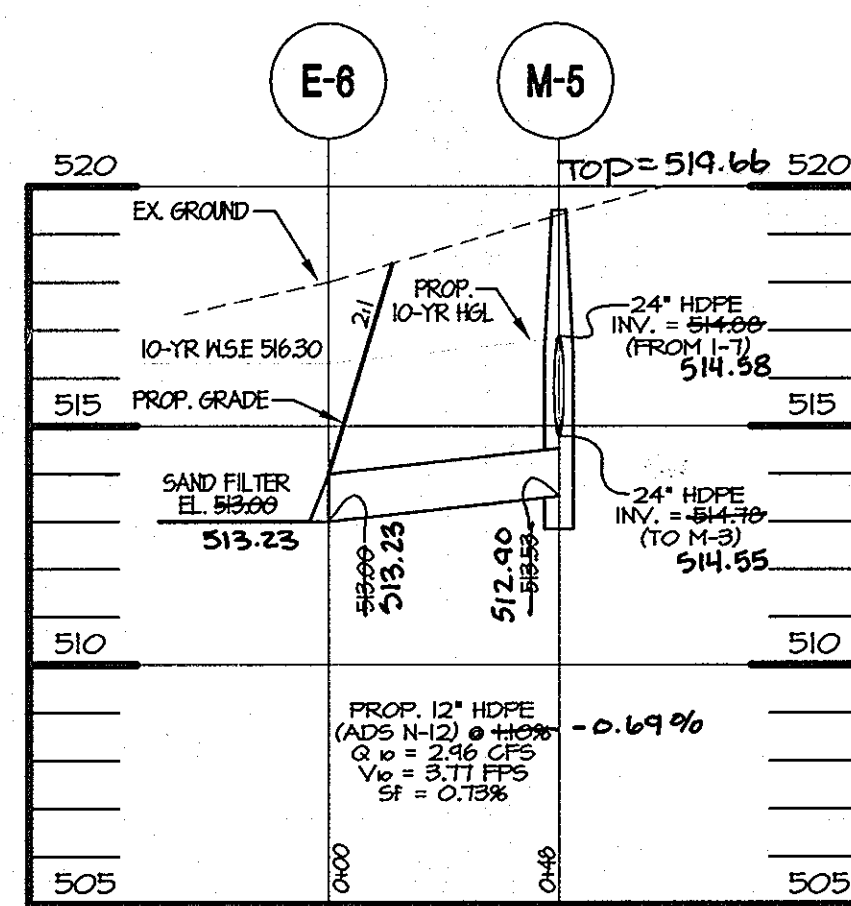
TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
		SCALE: N.T.S.
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 5 OF 28



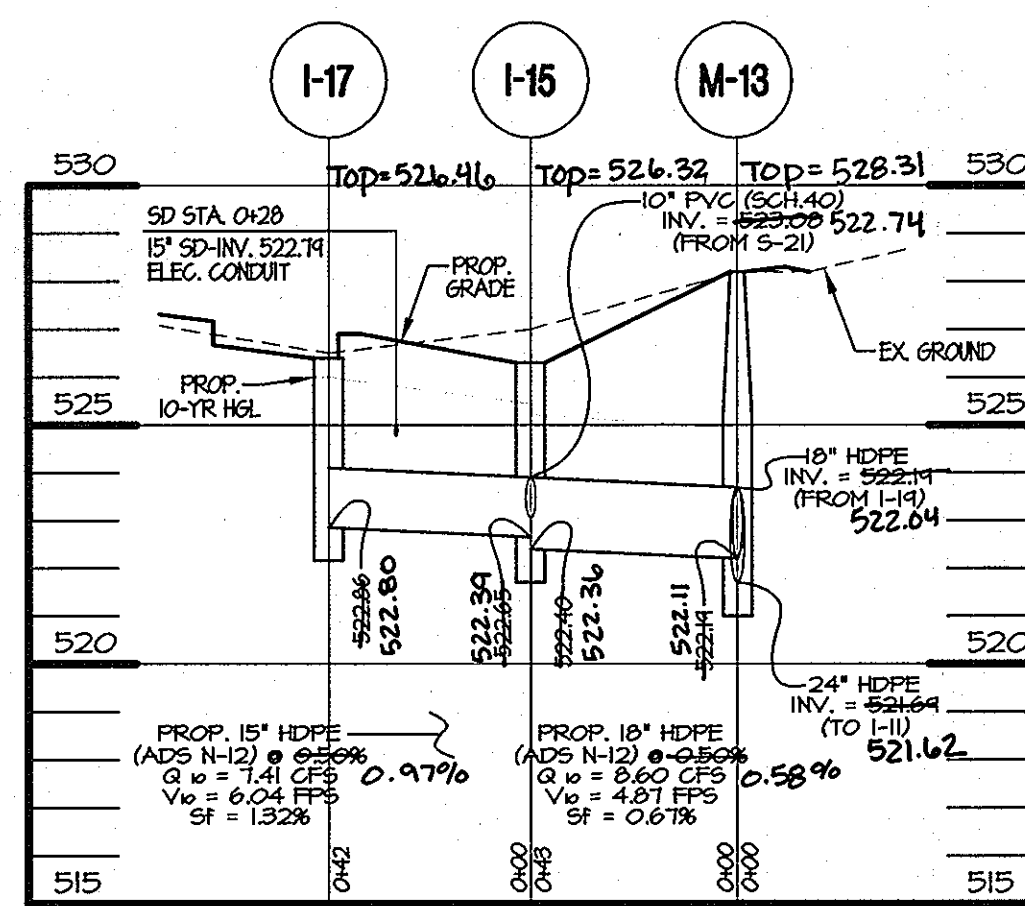
STORM DRAIN PROFILE

HOR. 1" = 40'
VERT. 1" = 4'



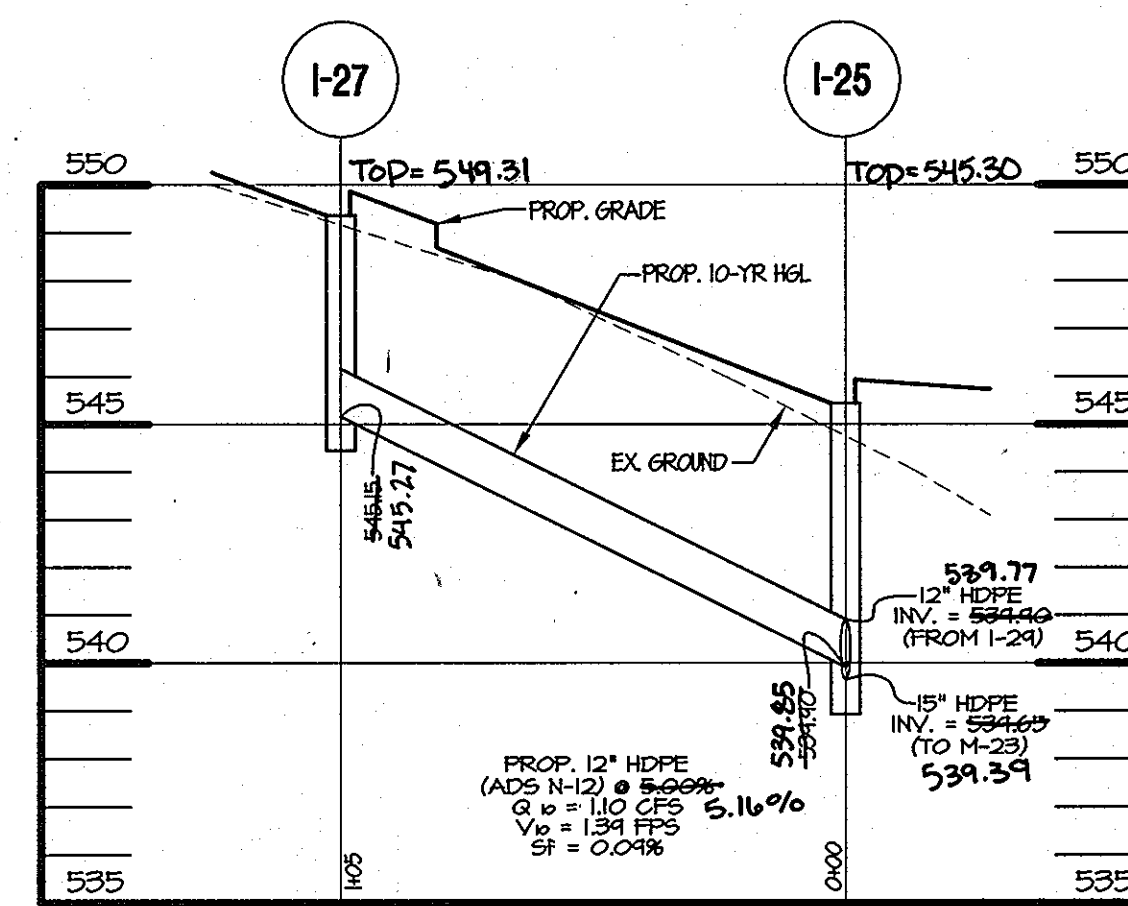
STORM DRAIN PROFILE

HOR. 1" = 40'
VERT. 1" = 4'



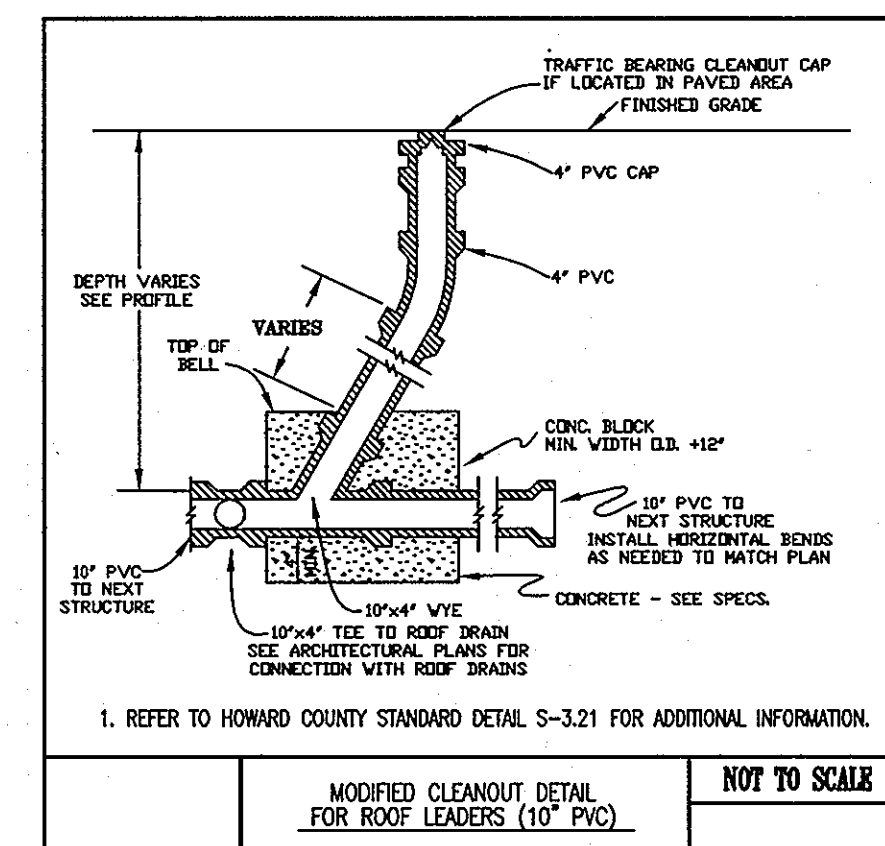
STORM DRAIN PROFILE

HOR. 1" = 40'
VERT. 1" = 4'



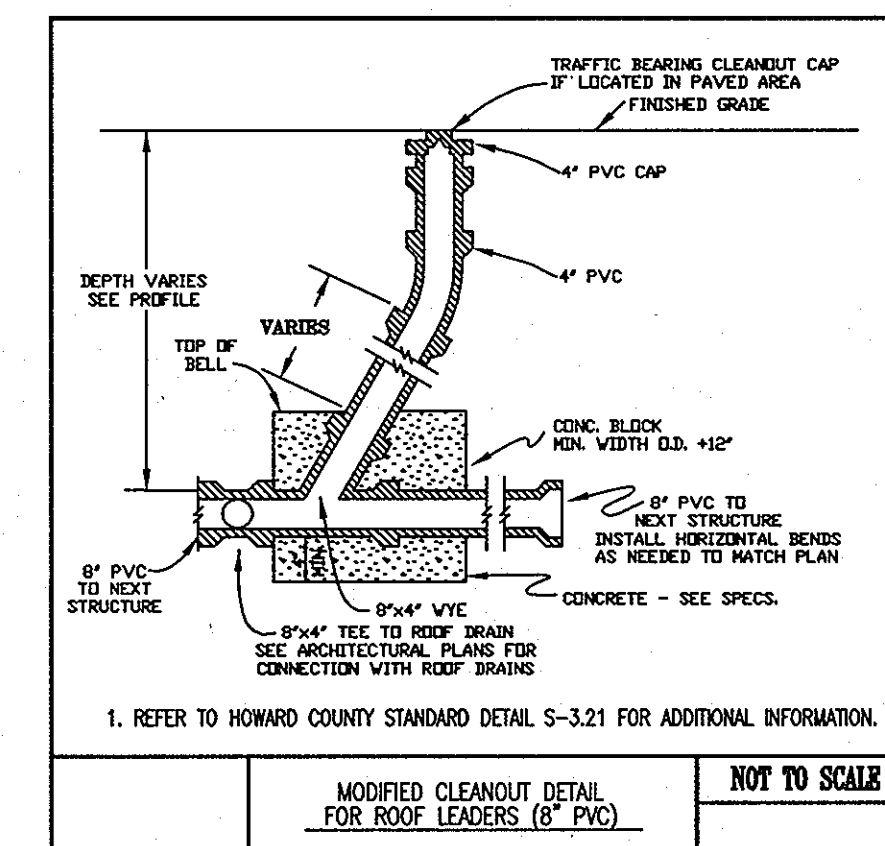
STORM DRAIN PROFILE

HOR. 1" = 40'
VERT. 1" = 4'



MODIFIED CLEANOUT DETAIL FOR ROOF LEADERS (12" PVC)

NOT TO SCALE



MODIFIED CLEANOUT DETAIL FOR ROOF LEADERS (18" PVC)

NOT TO SCALE

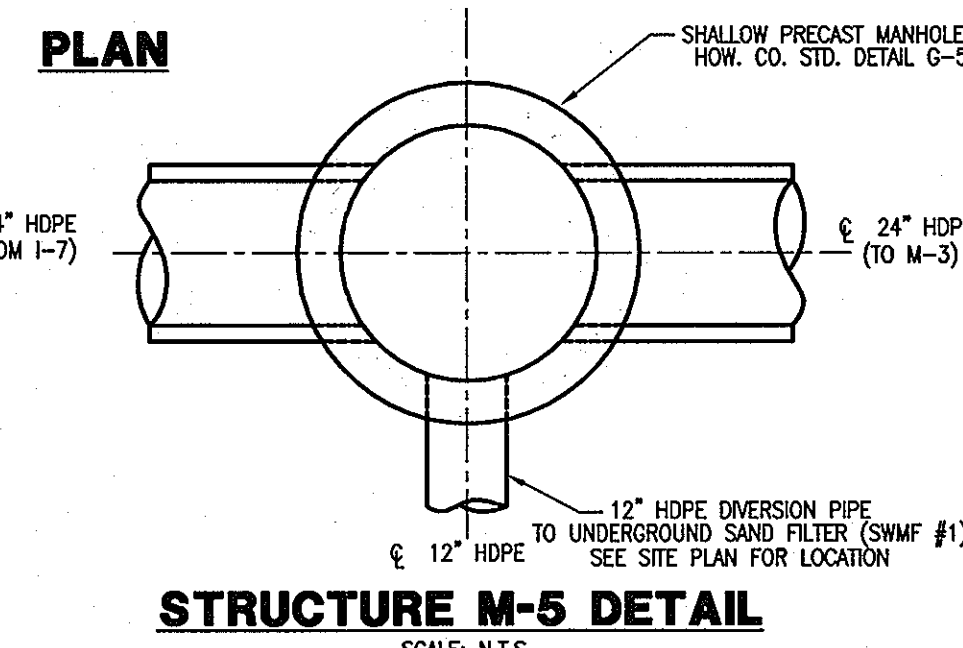
STORM DRAIN PIPE SCHEDULE		
SIZE	TYPE	LENGTH
12"	HPDE, A.D.S. N-12	248'
15"	HPDE, A.D.S. N-12	152'
18"	HPDE, A.D.S. N-12	203'
24"	HPDE, A.D.S. N-12	562'

NOTE: PIPE INSTALLATION TO BE IN ACCORDANCE WITH ALL SPECIFICATIONS AND RECOMMENDATIONS FROM PIPE SUPPLIER/MANUFACTURER.

APPROVED FOR SUBSTITUTION OF PRIVATE WATER & SEWERAGE SYSTEMS
 COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT
 APPROVED DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

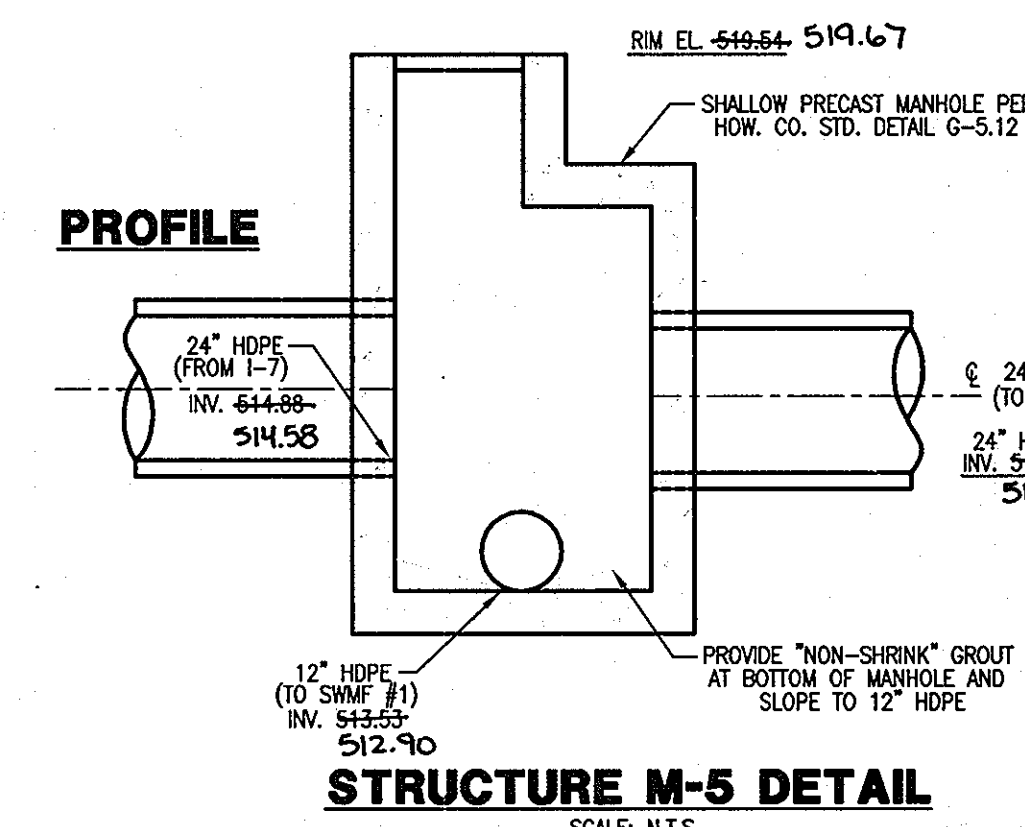
- COORDINATES TO CENTER OF STRUCTURE AT FACE OF CURB FOR INLETS, CENTER OF STRUCTURE FOR MANHOLES
- * TOP OF GRATE ELEVATION AT CENTER OF STRUCTURE AT FACE OF CURB, MANHOLE ELEVATIONS ARE AT CENTER OF RIM

STORM DRAIN STRUCTURE SCHEDULE									
STR. NO.	* TOP ELEV.	INV. IN.	INV. IN.	INV. OUT.	TYPE	REMARKS	LOCATION		
							NORTHING	EASTING	
E-1	513.50	---	---	510.00	TYPE 'A' HEADWALL, HOWARD COUNTY STANDARD DETAIL SD-5.11		578,289.59	1,324,466.78	
M-3	518.33	512.82	---	512.72	SHALLOW PRECAST MANHOLE, HOWARD COUNTY STANDARD DETAIL G 5.12		578,353.33	1,324,473.65	
M-5	519.54	514.88	---	514.78	SHALLOW PRECAST MANHOLE, HOWARD COUNTY STANDARD DETAIL G 5.12		578,367.86	1,324,426.77	
I-7	521.20	515.80	---	515.70	PRECAST WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.35		578,415.79	1,324,272.21	
M-9	526.43	520.00	521.07	519.90	STANDARD PRECAST MANHOLE, HOWARD COUNTY STANDARD DETAIL G 5.12		578,400.59	1,324,145.53	
I-11	526.00	520.49	---	520.39	PRECAST WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.35		578,375.79	1,324,116.68	
M-13	528.20	522.19	522.19	521.69	STANDARD PRECAST MANHOLE, HOWARD COUNTY STANDARD DETAIL G 5.12		578,258.95	1,324,092.00	
I-19	533.00	527.94	---	527.84	PRECAST SINGLE WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.37		578,161.12	1,323,984.98	
I-20	533.33	528.34	---	528.09	PRECAST SINGLE WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.37		578,174.10	1,323,973.33	
M-21	539.43	531.96	---	531.86	STANDARD PRECAST MANHOLE, HOWARD COUNTY STANDARD DETAIL G 5.12		578,205.78	1,323,945.10	
M-23	542.00	534.70	---	534.60	STANDARD PRECAST MANHOLE, HOWARD COUNTY STANDARD DETAIL G 5.12		578,238.78	1,323,942.00	
I-25	545.30	539.90	539.90	539.65	PRECAST WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.35		578,255.79	1,323,916.08	
I-29	545.30	541.14	---	541.04	PRECAST WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.35		578,290.80	1,323,931.09	
I-31	546.38	---	---	542.19	PRECAST WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.35		578,393.83	1,323,951.37	
I-15	526.30	522.65	523.08	522.40	PRECAST SINGLE WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.37		578,241.90	1,324,131.42	
I-17	526.40	---	---	522.86	PRECAST SINGLE WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.37		578,202.42	1,324,134.83	
I-27	549.36	---	---	545.15	PRECAST WR INLET, HOWARD COUNTY STANDARD DETAIL SD-4.35		578,168.05	1,323,858.48	
E-6	N/A	---	---	513.00	12" HDPE END SECTION, A.D.S. STANDARD DETAIL DW-272, PART #1210-NP				



STRUCTURE M-5 DETAIL

SCALE: N.T.S.



STRUCTURE M-5 DETAIL

SCALE: N.T.S.

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

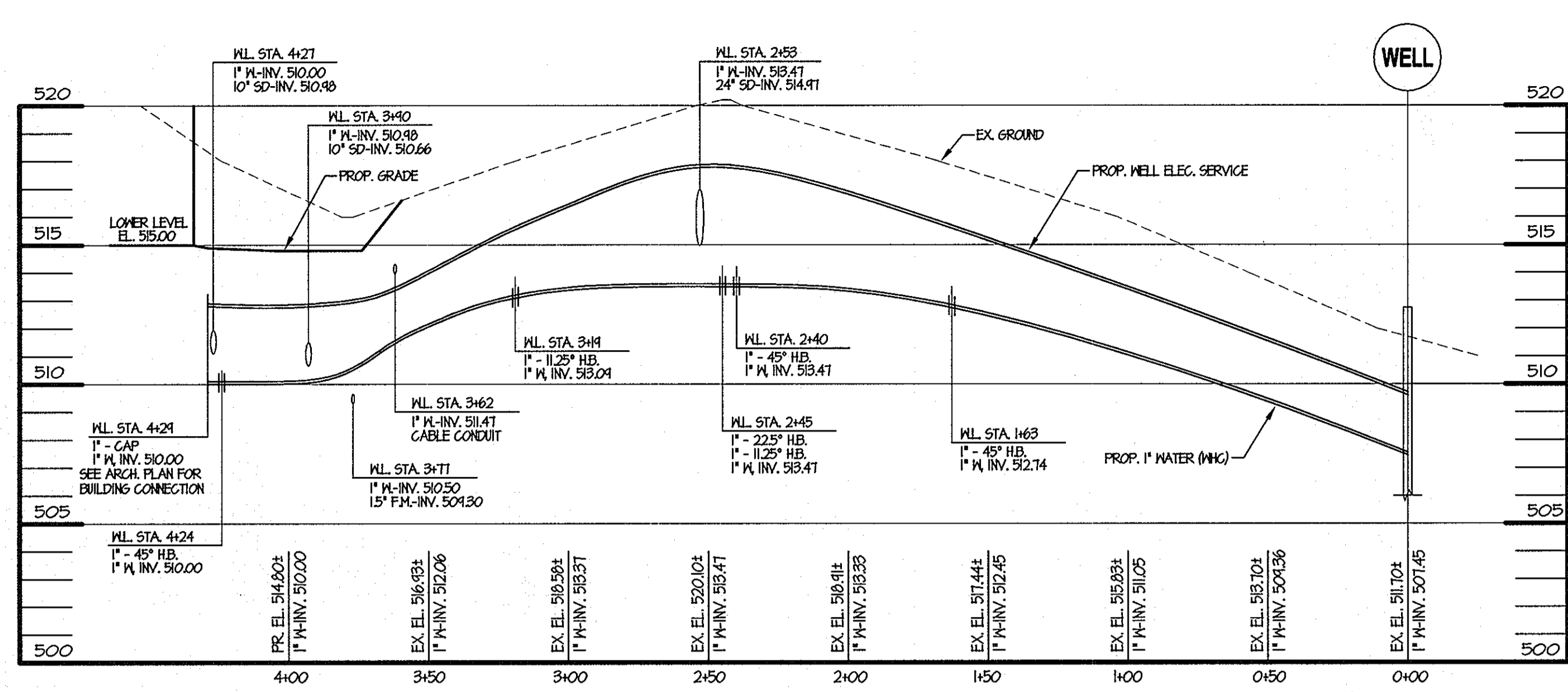
9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

**THE GLENELG COUNTRY SCHOOL
 PROPOSED UPPER SCHOOL ADDITION**

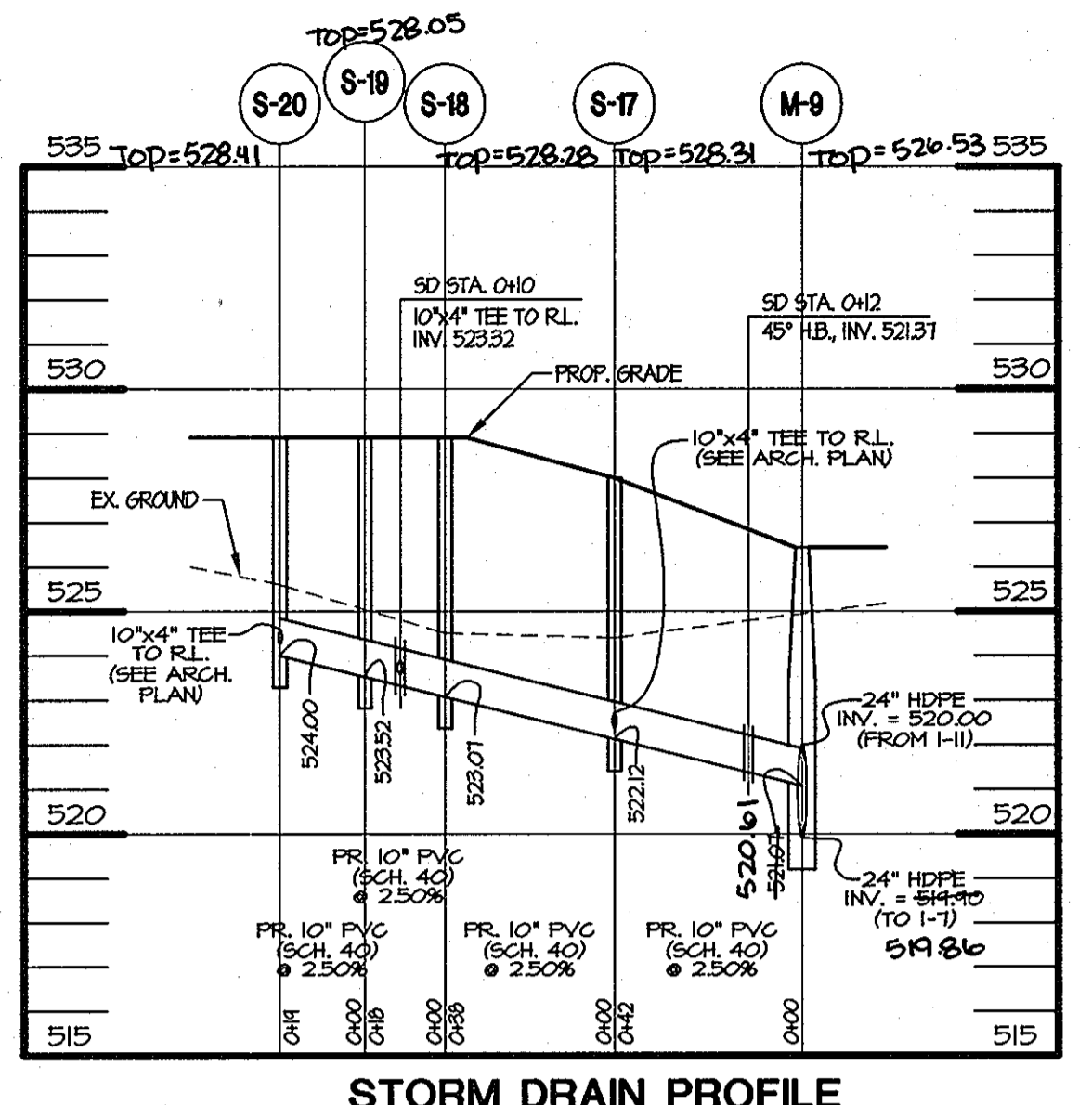
STORM DRAIN & UTILITY PROFILES

TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

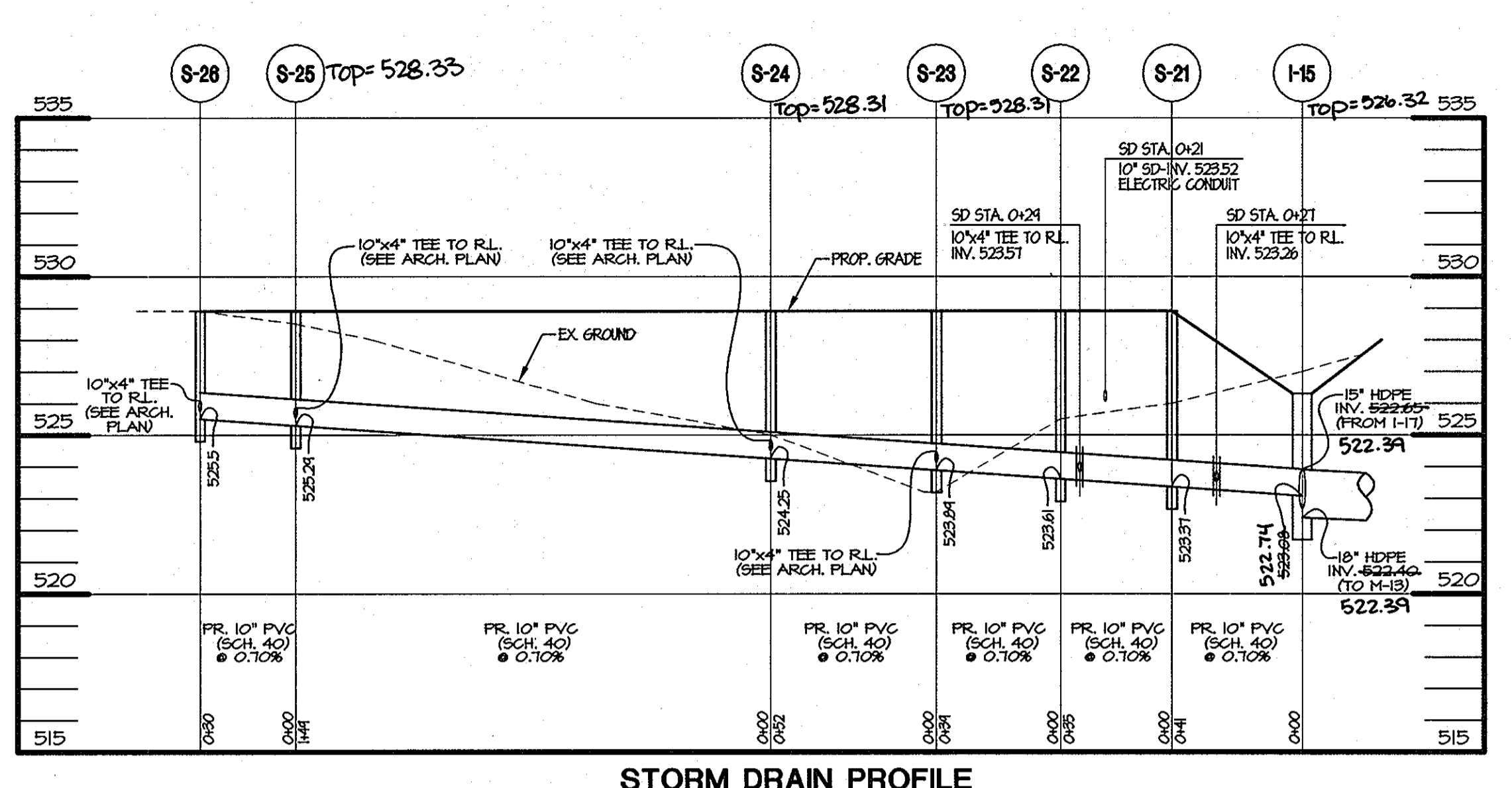
DATE	REVISIONS	JOB NO.:
04/06	AS-BUILT INFORMATION ADDED	12189-02
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	SCALE: AS SHOWN
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 6 OF 37



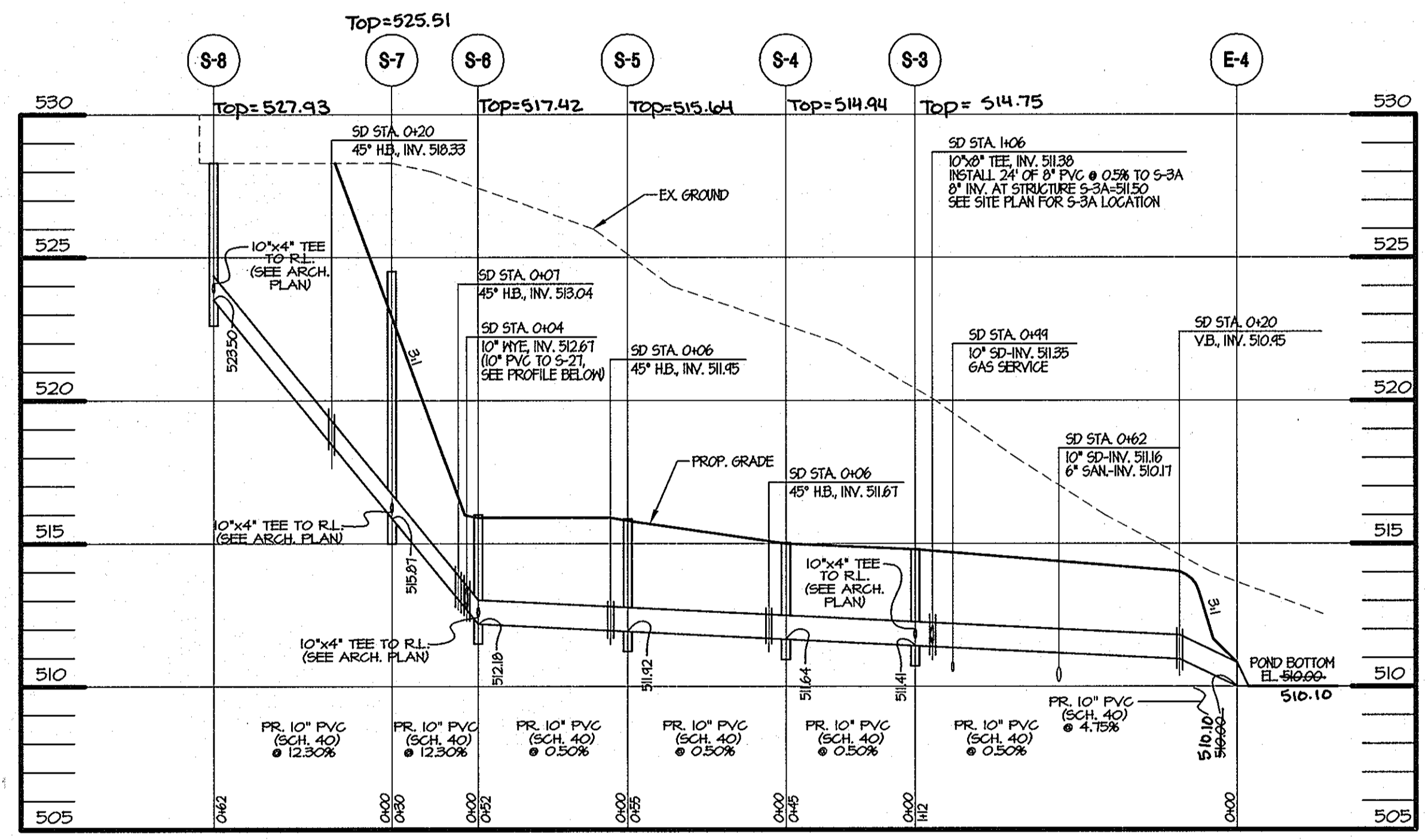
WATER LINE PROFILE
HOR. 1" = 40'
VERT. 1" = 4'



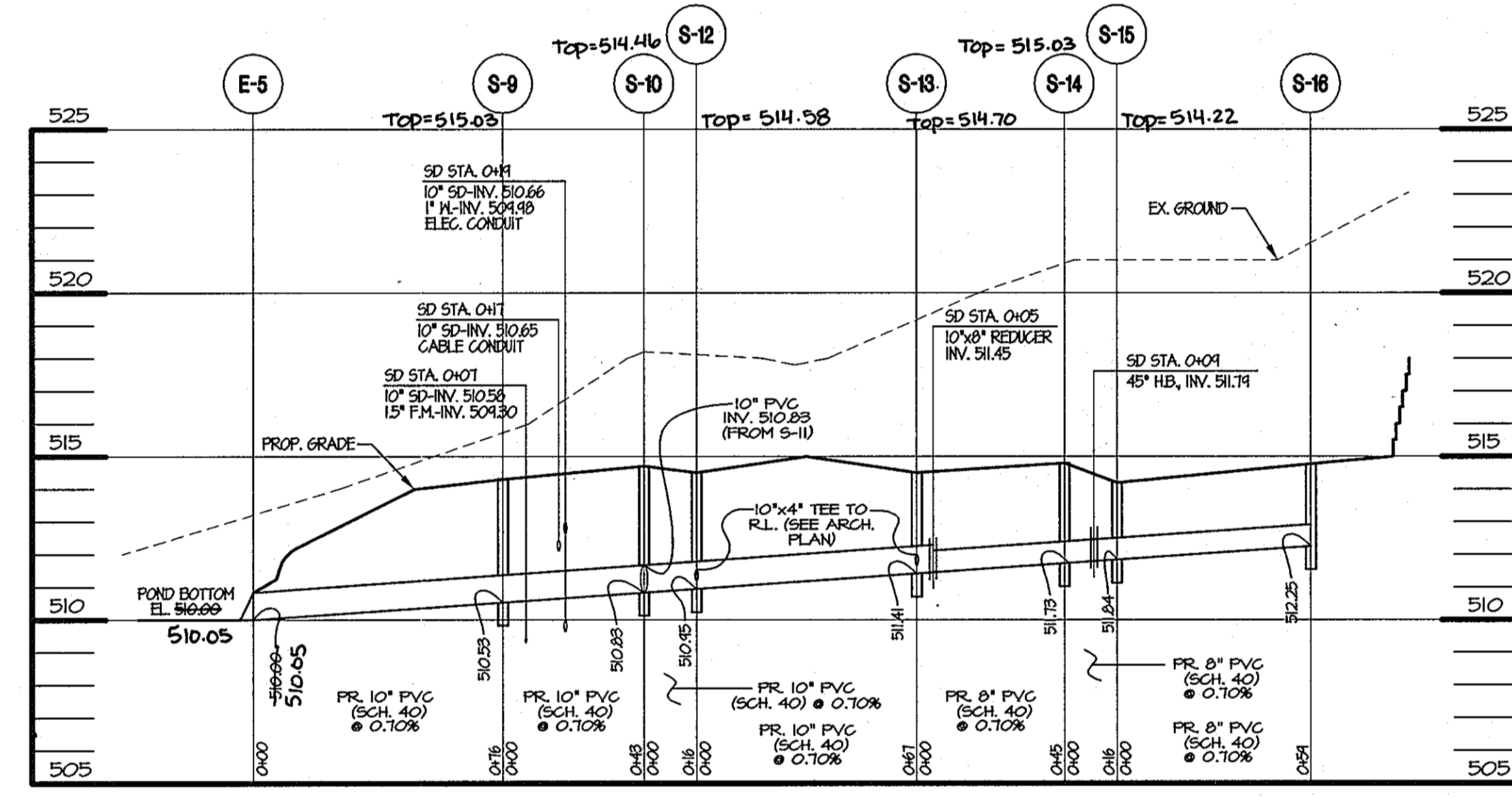
STORM DRAIN PROFILE
HOR. 1" = 40'
VERT. 1" = 4'



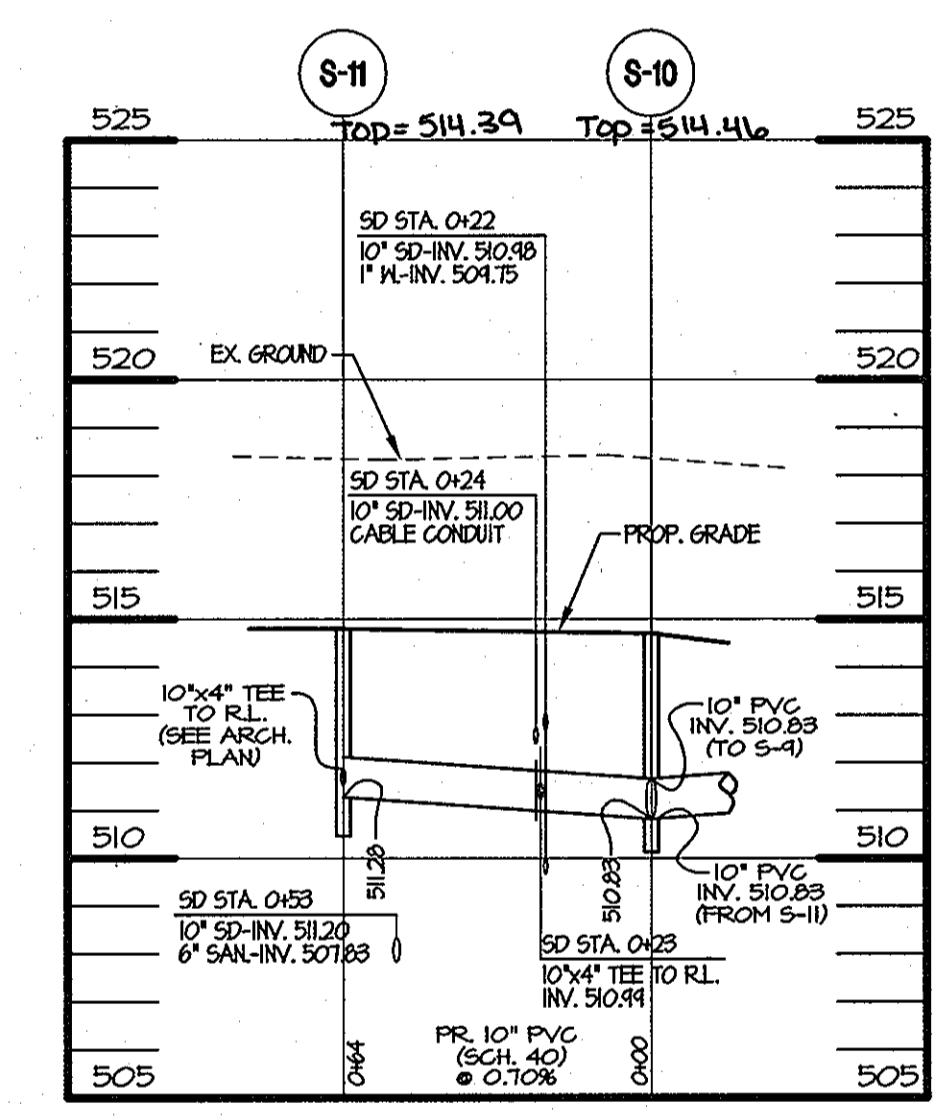
STORM DRAIN PROFILE
HOR. 1" = 40'
VERT. 1" = 4'



STORM DRAIN PROFILE
HOR. 1" = 40'
VERT. 1" = 4'



STORM DRAIN PROFILE
HOR. 1" = 40'
VERT. 1" = 4'



STORM DRAIN PROFILE
HOR. 1" = 40'
VERT. 1" = 4'

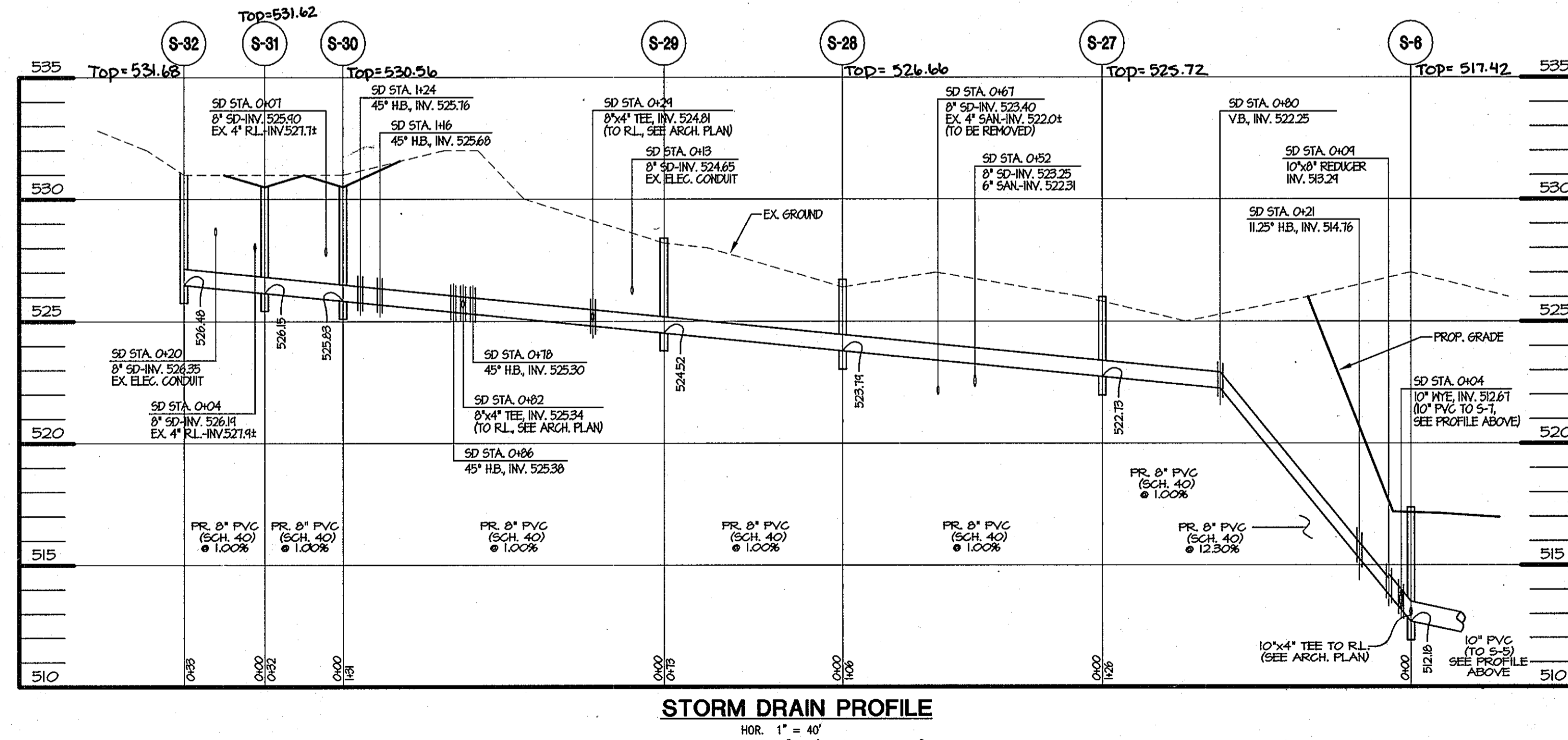
WATER LINE PIPE SCHEDULE		
SIZE	TYPE	LENGTH
1"	1" PVC AWWA C-900	429'

WATER LINE FITTINGS SCHEDULE		
SIZE	TYPE	NUMBER
1"	11.25" H.B.	2
1"	22.5" H.B.	1
1"	45" H.B.	3

ROOF LEADER PIPE SCHEDULE		
SIZE	TYPE	LENGTH
4"	PVC (SCH. 40) (CLEANOUT STACKS)	119'
8"	PVC (SCH. 40)	620'
10"	PVC (SCH. 40)	1125'

ROOF LEADERS FITTINGS SCHEDULE		
SIZE	TYPE	NUMBER
8"	45" H.B. (SCH. 40)	9
10"x8"	REDUCER (SCH. 40)	2
10"	45" H.B. (SCH. 40)	11
10"	90" H.B. (SCH. 40)	6
10"x10"	TEE (SCH. 40)	3
10"x4"	TEE (SCH. 40)	17
8"x4"	WYE (SCH. 40)	4
10"x4"	WYE (SCH. 40)	19
10"x10"	WYE (SCH. 40)	1
10"	CAP (SCH. 40)	4
8"	CAP (SCH. 40)	2
8"	90" H.B. (SCH. 40)	5
8"	11.25" H.B. (SCH. 40)	2
8"	45" H.B. (SCH. 40)	3

ROOF LEADER STRUCTURE SCHEDULE						
STR. NO.	TOP ELEV.	INV. IN.	INV. IN.	TYPE	REMARKS	
E-4	N/A	---	---	10" HDPE END SECTION, A.D.S. STANDARD DETAIL DW-272, PART #1210-NP		
S-3	514.80	---	511.41	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-3A	514.30	---	511.80	10" HDPE INLINE DRAIN, A.D.S. PRODUCT #2710AGBN		
S-4	515.00	---	511.64	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-5	515.80	---	511.92	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-6	515.90	---	512.18	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-7	522.50	---	515.87	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-8	528.30	---	523.50	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
E-5	N/A	---	---	10" HDPE END SECTION, A.D.S. STANDARD DETAIL DW-272, PART #1210-NP		
S-9	514.30	---	510.53	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-10	514.70	---	510.83	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-11	514.80	---	511.28	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-12	514.50	---	510.95	18" HDPE INLINE DRAIN, A.D.S. PRODUCT #2718AG10N		
S-13	514.50	---	511.41	18" HDPE INLINE DRAIN, A.D.S. PRODUCT #2718AG10N		
S-14	514.80	---	511.73	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-15	514.20	---	511.84	10" HDPE INLINE DRAIN, A.D.S. PRODUCT #2710AGBN		
S-16	514.77	---	512.25	10" HDPE INLINE DRAIN, A.D.S. PRODUCT #2710AGBN		
S-17	528.00	---	522.12	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-18	528.90	---	523.07	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-19	528.50	---	523.52	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-20	528.50	---	524.00	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-21	528.90	---	523.37	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-22	528.40	---	523.61	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-23	528.90	---	523.89	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-24	528.90	---	524.25	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-25	528.90	---	525.29	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-26	528.90	---	525.50	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-27	525.80	---	522.73	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-28	526.50	---	523.79	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-29	528.30	---	524.52	MODIFIED CLEANOUT, HOWARD CO. STD. DETAIL S-3.21, & DETAIL SHEET 6		
S-30	530.50	---	525.83	10" HDPE INLINE DRAIN, A.D.S. PRODUCT #2710AGBN		
S-31	530.50	---	526.15	10" HDPE INLINE DRAIN, A.D.S. PRODUCT #2710AGBN		
S-32	531.00	---	526.48	10" HDPE INLINE DRAIN, A.D.S. PRODUCT #2710AGBN		



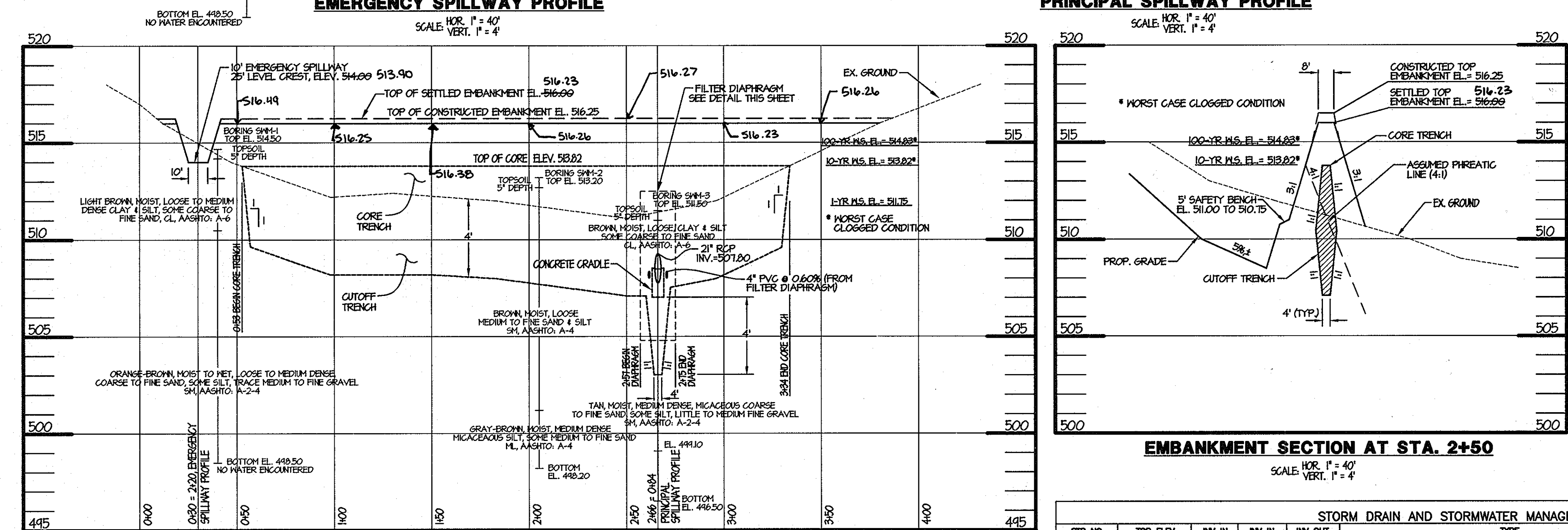
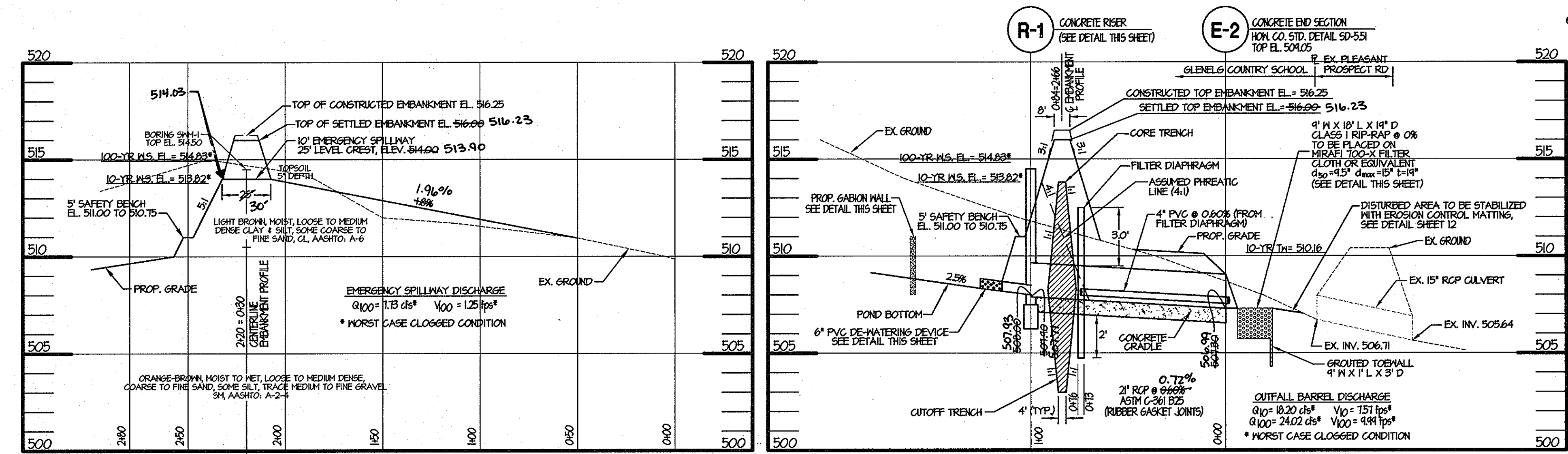
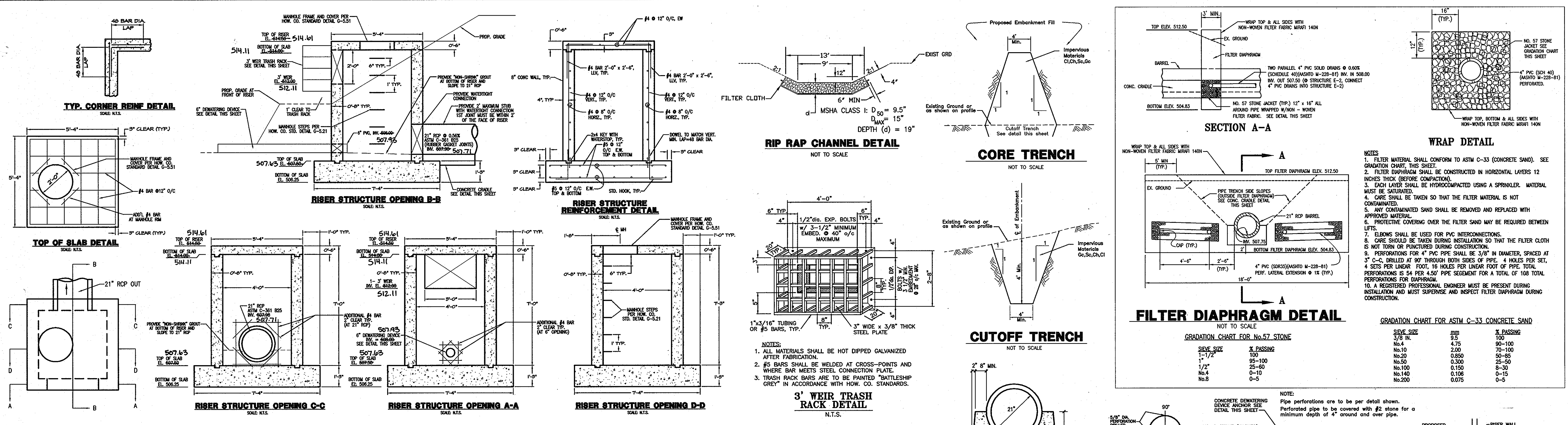
STORM DRAIN PROFILE
HOR. 1" = 40'
VERT. 1" = 4'

APPROVED FOR PRIVATE WATER & SEWERAGE SYSTEMS
 COUNTRY HEALTH OFFICER: [Signature] DATE: 8-2-03
 HOWARD COUNTY HEALTH DEPARTMENT
 APPROVED DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 8/12/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION MK
 [Signature] DATE: 8/12/03
 CHIEF, DIVISION OF LAND DEVELOPMENT WB
 [Signature] DATE: 8/12/03
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9080 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

THE GLENELG COUNTRY SCHOOL
 PROPOSED UPPER SCHOOL ADDITION
STORM DRAIN & UTILITY PROFILES
 TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
04/06	AS-BUILT INFORMATION ADDED	12189.02
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	SCALE: AS SHOWN
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 7 OF 28



STORM DRAIN AND STORMWATER MANAGEMENT STRUCTURE SCHEDULE

STR. NO.	TOP ELEV.	INV. IN.	INV. IN.	INV. IN.	TYPE	REMARKS	NORTHING	EASTING
E-2	N/A	---	---	507.30	CONCRETE END SECTION, HOWARD CO. STD. DETAIL SD-551		578,137.66	1,324,543.75
R-1	514.50	508.00	---	507.90	RISER STRUCTURE (SEE DETAIL THIS SHEET)		578,188.57	1,324,457.22

SUMMARY OF PROP. FACILITY

DESIGN STORM	Proposed Facility Inflow (cfs)	Proposed Facility Discharge (cfs)	Facility Water Surface Elevation (ft)	Facility Storage Volume (acre-ft)
1 year	6.18	0.20	511.75	0.364
5 year*	28.03	13.69	513.32	0.422
10 year*	39.43	18.20	513.82	0.685
100 year*	67.23	31.75	514.83	1.158

*WORST CASE CLOGGED CONDITION
Drainage Area 11.98 acres
Impervious Area 4.14 acres

6" PVC DEWATERING DEVICE DETAIL
NOT TO SCALE

DEWATERING DEVICE ANCHOR
NOT TO SCALE

GABION WALL DETAIL SWM #2
NOT TO SCALE

INSTALLATION NOTES:
1. GABION BASKETS SHALL BE CONSTRUCTED OF GALVANIZED US GAUGE 11 MESH WIRE OR APPROVED EQUIVALENT.
2. GABION INSTALLATION SHALL BE PERFORMED ACCORDING TO GABION MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
3. TOP GABION BASKETS TO BE STAGGERED OVER BOTTOM BASKETS PER MANUFACTURER'S RECOMMENDATIONS.
4. TOP GABION BASKETS TO BE FASTENED TO BOTTOM BASKETS PER MANUFACTURER'S RECOMMENDATIONS.

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
9080 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-8792 or (301) 776-1690
FAX (410) 792-7396

THE GLENELG COUNTRY SCHOOL PROPOSED UPPER SCHOOL ADDITION

SWM FACILITY #2 DETAILS

TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE 07/15/03
REVISIONS
04/06 AS-BUILT INFORMATION ADDED
07/12 TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS

JOB NO.: 12189.02
SCALE: AS SHOWN
DATE: 07/14/03
DRAWN BY: TGN
DESIGN BY: TGN
REVIEW BY: TGN
SHEET: 9 OF 23

MD-378 STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS

- I. SITE PREPARATION
AREAS DESIGNATED FOR BORROW AREAS, EMBANKMENT, AND STRUCTURAL WORKS SHALL BE CLEARED, GRUBBED AND STRIPPED OF TOPSOIL...
II. EARTH FILL MATERIAL
THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS...
III. CUT OFF TRENCH
THE CUT OFF TRENCH SHALL BE EXCAVATED INTO IMPERVIOUS MATERIAL ALONG OR PARALLEL TO THE CENTERLINE OF THE EMBANKMENT...
IV. EMBANKMENT CORE
THE CORE SHALL BE PARALLEL TO THE CENTERLINE OF THE EMBANKMENT AS SHOWN ON THE PLANS...
V. STRUCTURE BACKFILL
BACKFILL ADJACENT TO PIPES OR STRUCTURES SHALL BE OF THE TYPE AND QUALITY CONFORMING TO THAT SPECIFIED FOR THE ADDJONING FILL MATERIAL...
VI. PIPE CONDUITS
ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION.
A. CORRUGATED METAL PIPE
1. MATERIALS - POLYMER COATED STEEL PIPE - STEEL PIPES WITH POLYMERIC COATINGS SHALL HAVE A MINIMUM COATING THICKNESS OF 0.01 INCH (10 MIL) ON BOTH SIDES OF THE PIPE...
2. COUPLING BANDS, ANTI-SEEP COLLARS, END SECTIONS, ETC. MUST BE COMPOSED OF THE SAME MATERIAL AND COATINGS AS THE PIPE...
3. CONNECTIONS - ALL CONNECTIONS WITH PIPES MUST BE COMPLETELY WATER TIGHT...
4. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH...
5. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.
B. REINFORCED CONCRETE PIPE
1. MATERIALS - REINFORCED CONCRETE PIPE SHALL HAVE BELL AND SPIGOT JOINTS WITH RUBBER GASKETS AND SHALL EQUAL OR EXCEED ASTM C-361.
2. BEDDING - REINFORCED CONCRETE PIPE CONDUITS SHALL BE LAID IN A CONCRETE BEDDING/CRADE FOR THEIR ENTIRE LENGTH...
3. LAYING PIPE - BELL AND SPIGOT PIPE SHALL BE PLACED WITH THE BELL END UPSTREAM...
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.
C. PLASTIC PIPE (CONTINUED)
1. MATERIALS - PVC PIPE SHALL BE PVC-1120 OR PVC-1220 CONFORMING TO ASTM D-1785 OR ASTM D-2241. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) PIPE, COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING:
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATER TIGHT.
3. BEDDING - THE PIPE SHALL BE FIRMLY AND UNIFORMLY BEDDED THROUGHOUT ITS ENTIRE LENGTH...
4. BACKFILLING SHALL CONFORM TO "STRUCTURE BACKFILL".
5. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.
VII. DRAINAGE DIAPHRAGMS
WHEN A DRAINAGE DIAPHRAGM IS USED, A REGISTERED PROFESSIONAL ENGINEER WILL SUPERVISE THE DESIGN AND CONSTRUCTION INSPECTION.
VIII. CONCRETE STRUCTURES
A. CONCRETE SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.
B. REINFORCEMENT
REINFORCEMENT SHALL MEET THE MINIMUM REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 416 (REINFORCEMENT FOR CONCRETE STRUCTURES) SECTION 808 (REINFORCING STEEL - GRADE 60, WIRE ROPE AND WIRE FABRIC), AND SECTION 809.02 (STEEL FOR MISCELLANEOUS USE).
IX. ROCK RIPRAP
ROCK RIPRAP SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311. GEOTEXTILE SHALL BE PLACED UNDER ALL RIPRAP AND SHALL MEET THE REQUIREMENTS OF MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.
X. CARE OF WATER DURING CONSTRUCTION
ALL WORK ON PERMANENT STRUCTURES SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFERDAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT PERMANENT WORK TO BE CONSTRUCTED...
XI. STABILIZATION
ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPOIL AND BORROW AREAS, AND BERMS SHALL BE STABILIZED BY SEEDING, LIMING, FERTILIZING AND MULCHING IN ACCORDANCE WITH THE NATURAL RESOURCES CONSERVATION SERVICE STANDARDS AND SPECIFICATIONS FOR CRITICAL AREA PLANTING (MD-342) OR AS SHOWN ON THE ACCOMPANYING DRAWINGS.
A. SOD
1. SPECIFICATIONS - SOD SHALL BE "Y-31" TALL FESCUE OR KENTUCKY BLUEGRASS/RED FESCUE MIXTURE OR APPROVED EQUAL. CLASS OF TURFOSSOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED OR APPROVED SOD.
2. SITE PREPARATION - WHERE SOIL IS ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 100 LBS./1000 SQ.FT. IN ALL SOILS 5-10-5 FERTILIZER OR APPROVED EQUAL SHALL BE APPLIED AT THE RATE OF 30 LBS./1000 SQ.FT. FERTILIZER SHALL BE UNIFORMLY APPLIED AND MIXED INTO THE TOP 3" OF SOIL WITH THE REQUIRED "SOD" SLOW RELEASE NITROGEN AT THE RATE OF 2.5 LBS./1000 SQ. FT. SHALL BE APPLIED TO THE PREPARED SOIL IMMEDIATELY PRIOR TO SOD INSTALLATION. THIS MATERIAL SHALL BE APPROXIMATELY ONE-THIRD IMMEDIATELY AVAILABLE AND TWO-THIRDS WATER INSOLUBLE NITROGEN. UREA FORMALDEHYDE (UF) AND ISOBUTYLIDENE (IBDU) MEET THESE STANDARDS.
3. SOD INSTALLATION - THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACE PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. INSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH COULD ALLOW AIR DRYING OF THE SOIL SURFACE. SOD SHALL BE WATERED IMMEDIATELY AFTER ROLLING OR TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. THE OPERATION OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.
4. PERMANENT SEEDING
ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:
1. SEEDBED PREPARATION - LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
2. SOIL AMENDMENTS - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.), 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./6000 SQ. FT.) AND 400 LBS. PER ACRE OF 30-0-0 UREAFORM FERTILIZER (92 LBS./100 SQ. FT.) HARROW OR DISC LIME AND FERTILIZER INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS PER ACRE (92 LBS./1000 SQ. FT.) OF 30-0-0 UREAFORM FERTILIZER AND 500 LBS. PER ACRE (115 LBS./1000 SQ.FT.) OF 10-10-10 FERTILIZER.
3. SEEDING - FOR THE PERIOD MARCH 1 THROUGH APRIL 30 SEED WITH 40 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND 15 LBS. PER ACRE INOCULATED CROWNFATCH. FOR THE PERIOD MAY 1 THROUGH JULY 31 SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND 2 LBS. PER ACRE INOCULATED WEEPING LOVEGRASS. FOR THE PERIOD OF AUGUST 1 THROUGH OCTOBER 15 SEED WITH 40 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND 20 LBS. PER ACRE INOCULATED INTERSTATE SERICEA ESPERDZA. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) - 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) - USE SOD. OPTION (3) - SEED WITH 60 LBS. PER ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE WELL ANCHORED STRAW FOR THE PERIOD OF MAY 1 THROUGH FEBRUARY 28. INOCULATED CROWNFATCH SHALL BE APPLIED DURING THE SUBSEQUENT PERIOD OF MARCH 1 THROUGH APRIL 30 AT THE RATE OF 15 LBS. PER ACRE.
4. MULCHING - APPLY 1.5 TO 2 TONS PER ACRE OF UNROTTED SMALL GRASS STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING 218 GALLONS PER ACRE OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPE 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE.
5. MAINTENANCE - INSPECT ALL SEEDING AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDING.
C. TEMPORARY SEEDING
1. SEEDBED PREPARATION - LOOSEN UPPER 3 INCHES OF SOIL BY DISCING, RAKING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING.
2. SOIL AMENDMENTS - APPLY 600 LBS. PER ACRE OF 10-10-10 FERTILIZER, WHERE SOIL IS ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 2 TONS PER ACRE (92 LBS./1000 SQ.FT.).
3. SEEDING - FOR PERIODS MARCH 1 THROUGH APRIL 30, AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2.5 BUSHELS PER ACRE ANNUAL RYE FOR THE PERIOD MAY 1 THROUGH AUGUST 15. SEED WITH 1 LBS. PER ACRES OF WEEPING LOVEGRASS. FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING OR USE SOD.
4. MULCHING - SAME AS PERMANENT SEEDING.
X. EROSION AND SEDIMENT CONTROL
CONSTRUCTION OPERATIONS WILL BE CARRIED OUT IN SUCH A MANNER THAT EROSION WILL BE CONTROLLED AND WATER AND AIR POLLUTION MINIMIZED. STATE AND LOCAL LAWS CONCERNING POLLUTION ABATEMENT WILL BE FOLLOWED. CONSTRUCTION PLANS SHALL DETAIL EROSION AND SEDIMENT CONTROL MEASURES.
XI. FENCING
FENCING SHALL BE 42" HIGH CHAIN LINK FENCE CONSTRUCTED IN ACCORDANCE WITH THE LATEST MARYLAND STATE HIGHWAY ADMINISTRATION STANDARD DETAILS 615.02 AND 615.03. THE SPECIFICATIONS FOR A 6"-0" FENCE SHALL BE USED. SUBSTITUTING 42" FABRIC AND 6"-8" LINE POSTS. GATE SHALL BE CONSTRUCTED IN ACCORDANCE WITH STATE HIGHWAY ADMINISTRATION STANDARD DETAIL 692.01 WITH 4" FABRIC. FABRIC FOR FENCE AND GATE SHALL CONFORM TO ASHTO DESIGNATION M8.74. DARK VINYL COATING IS REQUIRED FOR THE FENCE POSTS AND WIRE FABRIC IN ACCORDANCE WITH THE LANDSCAPE MANUAL ADOPTED BY RESOLUTION 56-90, OCTOBER 1, 1990.
XII. FILTER CLOTH
1. FILTER CLOTH TO BE MIRAFI 140N OR APPROVED EQUAL.
XIII. GABIONS
1. GABIONS TO BE PVC COATED. SEE HOWARD COUNTY STANDARD SPECIFICATIONS AND DETAILS.
XIII. INSPECTION
THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST 5 WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS SO THAT STORMWATER MANAGEMENT POND MAY BE INSPECTED DURING CONSTRUCTION.
XIV. REFERENCES
UNLESS OTHERWISE NOTED, ALL MATERIALS AND CONSTRUCTION PRACTICES SHALL CONFORM TO THE FOLLOWING:
1. "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" OF THE HOWARD COUNTY, MARYLAND, DEPARTMENT OF PUBLIC WORKS, AS AMENDED.
2. "STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS", 1993, OF THE MARYLAND STATE HIGHWAY ADMINISTRATION, AS AMENDED.
3. "STANDARD AND SPECIFICATIONS FOR PONDS" OF THE SOIL CONSERVATION SERVICE OF MARYLAND (MD-378), JANUARY 2000 AND AS AMENDED.
4. "REVISED STORMWATER MANAGEMENT POLICY," REVISED SEPTEMBER 11, 1984, HOWARD COUNTY MARYLAND.

OPERATION, MAINTENANCE AND INSPECTION

INSPECTION OF THE POND(S) SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-378). THE POND OWNER(S) AND THE HEIRS, SUCCESSORS, OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION, AND MAINTENANCE THEREOF. THE POND OWNER(S) SHALL PROMPTLY NOTIFY THE SOIL CONSERVATION DISTRICT OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATORS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

CONCRETE GENERAL NOTES

- 1. CODE
A. ALL CONSTRUCTION SHALL CONFORM WITH THE PROVISIONS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND THE 1992 SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND THE 1992 ASHTO STANDARD SPECIFICATION FOR HIGHWAY BRIDGES, AND ITS SUPPLEMENTS.
2. DESIGN LOADING
A. DEAD LOAD - ACTUAL SOIL COVER PLUS 2' SURCHARGE.
3. CAST-IN-PLACE CONCRETE
A. ALL CONCRETE WORK SHALL CONFORM TO ALL PROVISIONS OF THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" (ACI 301-84), AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318-83).
B. ADDITIONALLY THE CONCRETE SHALL CONFORM TO ALL PROVISIONS OF THE FOLLOWING PUBLICATIONS:
1. ACI 305R-77 (82) RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING.
2. ACI 308R-78 RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING.
3. ACI 347-78 RECOMMENDED PRACTICE FOR CONCRETE FORMWORK.
C. ALL CONCRETE SHALL BE MARYLAND DEPARTMENT OF TRANSPORTATION MIX NO. 3 HAVING A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS.
D. ALL REINFORCING BARS SHALL CONFORM TO ASTM A-615 GRADE 60. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH AG'S MANUAL OF STANDARD PRACTICE FOR DETAILING CONCRETE STRUCTURES (ACI 315).
E. PROVIDE MINIMUM 40 BAR DIAMETER LAP SPICE FOR ALL REINFORCING STEEL, UNLESS OTHERWISE NOTED ON DRAWINGS.
F. PROVIDE WATER STOPS IN ALL CONSTRUCTION AND CONTROL JOINTS IN CONCRETE BELOW SUBGRADE.
G. LOADS GREATER THAN THE DESIGN LIVE LOADS SHALL NOT BE PLACED ON THE STRUCTURE. A CONCRETE STRUCTURE MAY NOT SUPPORT ITS DESIGN LIVE LOAD AND SUPERIMPOSED DEAD LOADS FOR 28 DAYS.

CONSTRUCTION INSPECTION SCHEDULE

- DEFENTION AND RETENTION STRUCTURES
I. INSPECTIONS SHALL BE CONDUCTED BY THE AS-BUILT CERTIFYING ENGINEER:
1. UPON THE COMPLETION OF EXCAVATION TO SUB-FOUNDATION AND WHEN REQUIRED, AND UPON THE INSTALLATION OF STRUCTURAL SUPPORTS OR REINFORCEMENT FOR STRUCTURES. INCLUDING BUT NOT LIMITED TO:
A. CONCRETE TRENCHES FOR STRUCTURAL EMBANKMENT.
B. INLET OR OUTLET STRUCTURES AND ANTI-SEEP STRUCTURES.
C. WATER-TIGHT CONNECTORS ON PIPES.
D. TRENCHES FOR ENCLOSED STORM DRAIN FACILITIES.
E. UTILITY CROSSINGS OF EMBANKMENT.
2. DURING THE PLACEMENT OF STRUCTURAL FILL AND CONCRETE, AND INSTALLATION OF PIPING AND CATCH BASINS.
3. DURING BACKFILL OF FOUNDATIONS AND TRENCHES.
4. DURING EMBANKMENT CONSTRUCTION.
5. 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", DNR-WRA 1988, 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.
1. CONDITION OF EMBANKMENT
2. CONDITION OF VEGETATIVE COVER
3. CONDITION OF FENCES AND MAINTENANCE ACCESS ROAD.
4. CONDITION OF SPILLWAYS AND PIPE OUTLETS.
5. CONDITION OF POND RESERVOIR STORAGE AREA.
6. CONDITION OF RISER STRUCTURE OR PIPE HEADWALLS.
7. SEDIMENT LOAD IN POND RESERVOIR STORAGE AREA OR OUTFALL CHANNEL.
8. SEEPAGE THROUGH EMBANKMENT.
9. ANY OTHER ITEMS WHICH COULD AFFECT THE FUNCTION OF THE SWM FACILITY.
10. EVIDENCE OF CLOGGING OF ALL OPENINGS AND EXTENDED DETENTION DEVECE.
11. EROSION OF EMBANKMENT, POND SIDE SLOPES, OR OUTFALL CHANNEL.
12. CRACKING OF CONCRETE RISER AND HEADWALL.
13. EVIDENCE OF ANIMAL TUNNELING THROUGH POND EMBANKMENT.

THE EMBANKMENT AND STORAGE AREA SHALL BE MOWED TWICE A YEAR AND ANY TREES OR BUSHES GROWING ON OR ALONG THE EMBANKMENT SHALL BE REMOVED. ANY NEEDED MAINTENANCE OR REPAIR OF STRUCTURES, SPILLWAYS, CORE TRENCH OR POND EMBANKMENT SHALL BE DONE UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER.

IN ADDITION TO BIANNIAL INSPECTIONS, INSPECTIONS SHALL BE DONE DURING WET SEASON, AND AFTER MAJOR STORMS. ALL DEBRIS, LITTER, OR SEDIMENT ACCUMULATED IN POND RESERVOIR STORAGE AREA AND OUTFALL CHANNEL SHALL BE REMOVED.

OPERATION AND MAINTENANCE AGREEMENT SCHEDULE FOR EXTENDED DETENTION POND

- 1. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
2. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
3. WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, AND UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS, SEDIMENT SHALL BE REMOVED FROM THE POND.

GEOTECHNICAL NOTES & RECOMMENDATIONS

- 1. PER MD-378 SPECIFICATIONS, SOILS USED FOR CUTOFF TRENCH CONSTRUCTION SHALL MEET USCS CLASSIFICATION CL (LOW PLASTICITY CLAY), CH (HIGH PLASTICITY CLAY), SC (CLAYEY SAND), OR GC (CLAYEY GRAVEL).
2. MATERIALS USED FOR BACKFILL OF PIPE OUTFALL SHOULD BE SIMILAR TO THOSE USED FOR THE CUTOFF TRENCH.
3. ALTHOUGH SUBSURFACE EXPLORATIONS INDICATE THAT NO SUITABLE CUTOFF TRENCH MATERIAL EXISTS ON SITE, TEST PIT EXPLORATION MAY BE PERFORMED IN AN ATTEMPT TO IDENTIFY APPROPRIATE MATERIALS MEETING SCS SPECIFICATIONS FOR CUTOFF CONSTRUCTION.
4. IF MATERIALS SUITABLE FOR CUTOFF TRENCH CONSTRUCTION ARE NOT IDENTIFIED ON SITE, OFF-SITE BORROW MAY BE UTILIZED PROVIDED THAT IT MEETS ALL CLASSIFICATIONS REQUIRED BY MD-378, AND BE APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER IN THE FIELD.
5. MD-378 SPECIFIES THAT REFERENCE SOIL CLASSIFICATIONS SUITABLE FOR CUTOFF TRENCH CONSTRUCTION ARE ALSO SUITABLE FOR EMBANKMENT CONSTRUCTION. THE MOST PLASTIC MATERIAL (PI=11 OR MORE) AVAILABLE ON SITE SHALL BE USED FOR EMBANKMENT CONSTRUCTION.
6. FILL FOR CUTOFF TRENCH AND EMBANKMENT CONSTRUCTION SHOULD BE PLACED IN 8" LOOSE LIFTS, CTD-550. AT LEAST 5% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH THE STANDARD PROCTOR, ASTM D-2922. FILL AROUND THE PIPE OUTFALL SHOULD BE PLACED IN 4" LIFTS AND COMPACTED TO THE SAME STANDARD WITH HAND EQUIPMENT. COMPACTATION OF THESE AREAS SHOULD BE MONITORED BY A QUALIFIED GEOTECHNICAL ENGINEER.
7. WHERE INDICATED BY SUBSURFACE CONDITIONS, A 6" GRANULAR BEDDING SHOULD BE PLACED UNDER THE PIPE OUTFALL (BEYOND THE CONCRETE CRADLE) TO PROVIDE UNIFORM PIPE SUPPORT.

BY THE ENGINEER
I, CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
Signature: Thomas C. Neugebauer, P.E. Date: 7/15/03

BY THE DEVELOPER
I, WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
Signature: Joel R. Cherington Date: 7-14-03

7. 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 (313-1855)
8. ALL VEGETATION AND STRUCTURAL 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 THEREOF.
9. 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.
10. 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.
11. 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.
12. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
13. SITE ANALYSIS:
TOTAL AREA OF SITE: 80.67 AC.
AREA DISTURBED: 8.04 AC
AREA TO BE ROOFED OR PAVED: 2.55 AC
AREA TO BE VEGETATIVELY STABILIZED: 5.39 AC
TOTAL CUT: 16,496 CU. YDS.
TOTAL FILL: 13,156 CU. YDS.
TOTAL TOPSOIL: 1,192 CU. YDS.
OFF SITE WASTE/BORROW AREA LOCATION: ON-SITE
14. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTRIBUTED BY GRADING ACTIVITY OR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
15. ADDITIONAL SEDIMENT MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
16. 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.
17. 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.

NOTE: OWNER AND CONTRACTOR

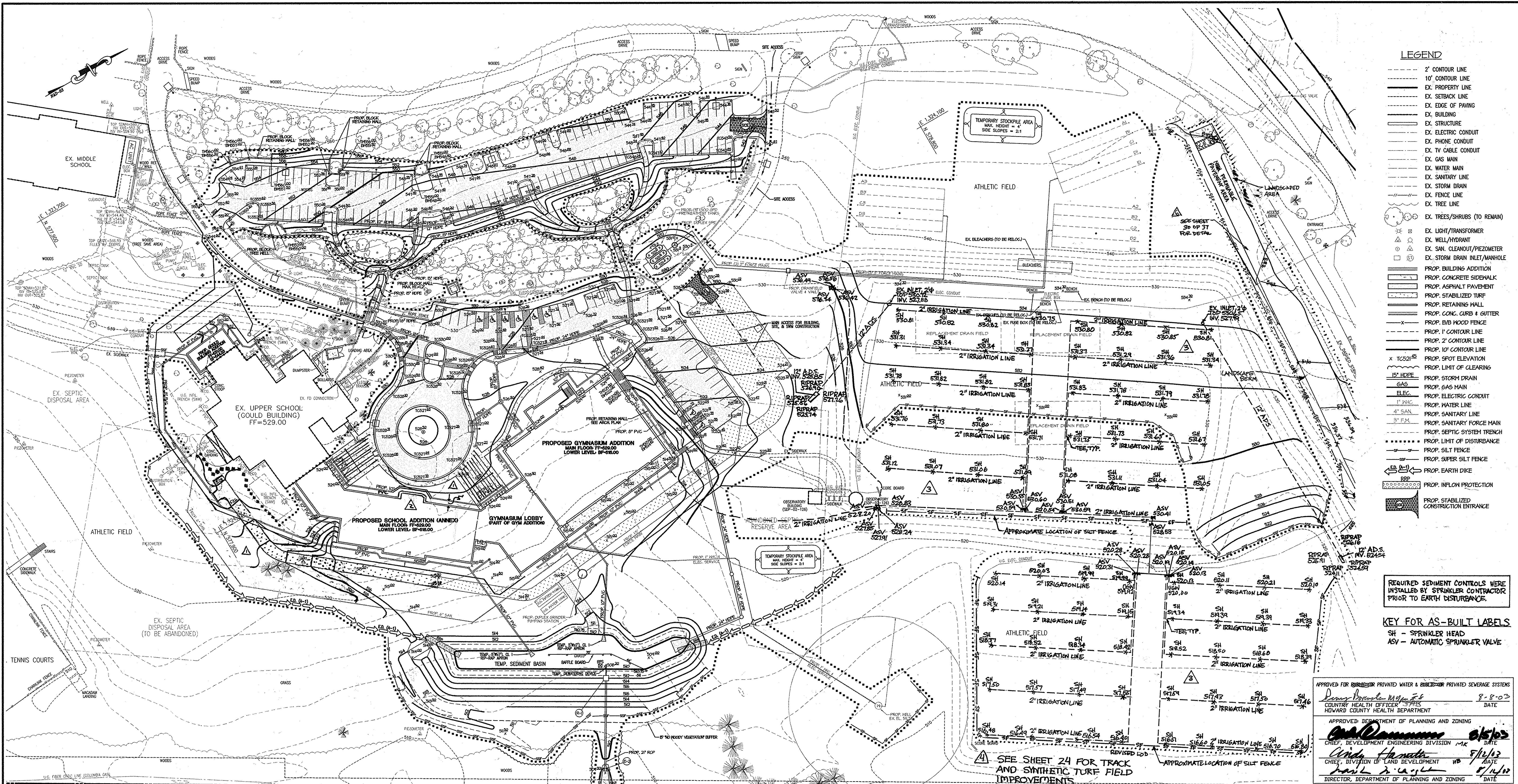
THE ENGINEER SHALL BE NOTIFIED 2 WEEKS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE SWM AND WATER QUALITY FACILITIES MUST BE FIELD INSPECTED FOR AS-BUILT PLAN. THE CONTRACTOR SHALL CONSTRUCT THE SEDIMENT BASIN IN ACCORDANCE WITH THE APPROVED SWM PLANS.

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
Signature: [Signature] Date: 8/14/03
U.S. DEPARTMENT OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
Signature: [Signature] Date: 8/14/03
HOWARD SOIL CONSERVATION DISTRICT

APPROVED FOR SUBURBAN PRIVATE WATER & EMBANKMENT PRIVATE SEWERAGE SYSTEMS
Signature: [Signature] Date: 8-8-03
COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT
APPROVED DEPARTMENT OF PLANNING AND ZONING
Signature: [Signature] Date: 8/15/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION
Signature: [Signature] Date: 8/15/03
CHIEF, DIVISION OF LAND DEVELOPMENT
Signature: [Signature] Date: 8/15/03
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-8782 or (801) 776-1690
FAX (410) 792-7395
THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION
SWM NOTES & SPECIFICATIONS
TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND
DATE: 07/14/03
SCALE: N.T.S.
DRAWN BY: TCN
DESIGN BY: TCN
REVIEW BY: TCN
SHEET: 10 OF 27



- LEGEND**
- 2' CONTOUR LINE
 - 10' CONTOUR LINE
 - - - EX. PROPERTY LINE
 - - - EX. SETBACK LINE
 - - - EX. EDGE OF PAVING
 - - - EX. BUILDING
 - - - EX. STRUCTURE
 - - - EX. ELECTRIC CONDUIT
 - - - EX. PHONE CONDUIT
 - - - EX. TV CABLE CONDUIT
 - - - EX. GAS MAIN
 - - - EX. WATER MAIN
 - - - EX. SANITARY LINE
 - - - EX. STORM DRAIN
 - - - EX. FENCE LINE
 - - - EX. TREE LINE
 - EX. TREES/SHRUBS (TO REMAIN)
 - △ EX. LIGHT/TRANSFORMER
 - EX. WELL/HYDRANT
 - ◇ EX. SAN. CLEANOUT/PIEZOMETER
 - ◇ EX. STORM DRAIN INLET/MANHOLE
 - ▭ PROP. BUILDING ADDITION
 - ▭ PROP. CONCRETE SIDEWALK
 - ▭ PROP. ASPHALT PAVEMENT
 - ▭ PROP. STABILIZED TURF
 - ▭ PROP. RETAINING WALL
 - ▭ PROP. CONC. CURB & GUTTER
 - ▭ PROP. B&B WOOD FENCE
 - ▭ PROP. 1" CONTOUR LINE
 - ▭ PROP. 2" CONTOUR LINE
 - ▭ PROP. 10' CONTOUR LINE
 - ▭ PROP. SPOT ELEVATION
 - ▭ PROP. LIMIT OF CLEARING
 - ▭ PROP. STORM DRAIN
 - ▭ PROP. 6" GAS MAIN
 - ▭ PROP. ELECTRIC CONDUIT
 - ▭ PROP. WATER LINE
 - ▭ PROP. SANITARY LINE
 - ▭ PROP. SANITARY FORCE MAIN
 - ▭ PROP. SEPTIC SYSTEM TRENCH
 - ▭ PROP. LIMIT OF DISTURBANCE
 - ▭ PROP. SILT FENCE
 - ▭ PROP. SUPER SILT FENCE
 - ▭ PROP. EARTH DIKE
 - ▭ PROP. INFLOW PROTECTION
 - ▭ PROP. STABILIZED CONSTRUCTION ENTRANCE

REQUIRED SEDIMENT CONTROLS WERE INSTALLED BY SPRINKLER CONTRACTOR PRIOR TO EARTH DISTURBANCE.

KEY FOR AS-BUILT LABELS
 SH - SPRINKLER HEAD
 ASV - AUTOMATIC SPRINKLER VALVE

APPROVED FOR **RESURFACE** PRIVATE WATER & **REBUILD** PRIVATE SEWERAGE SYSTEMS
 COUNTY HEALTH OFFICER: **James Brantley, M.D.** DATE: 8-8-03
 HOWARD COUNTY HEALTH DEPARTMENT
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
Chris Dammann 8/5/03
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
Andy Hamada 8/12/03
 CHIEF, DIVISION OF LAND DEVELOPMENT
Paul J. Casper 8/14/03
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

AREAS OF CONCENTRATED FLOW ARE TO BE STABILIZED WITH EROSION CONTROL MATTING (ECM). SEE DETAIL ON SHEET 12.

PR. SEDIMENT BASIN SUMMARY TABLE

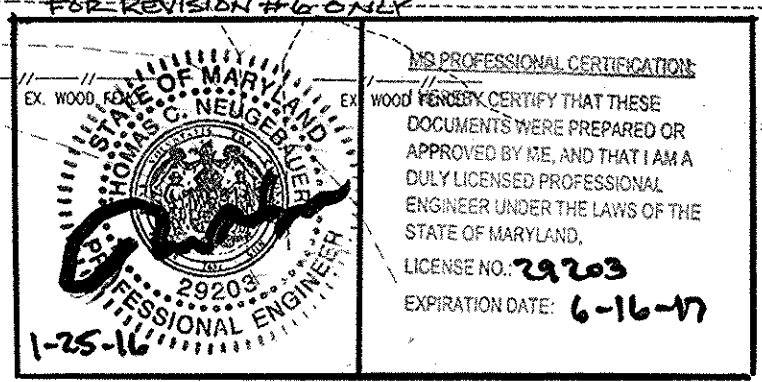
EXISTING DRAINAGE AREA	9.29 ACRES
PROPOSED DRAINAGE AREA	9.29 ACRES
WET STORAGE VOLUME REQ'D 9.29 X 1800	16,722 CF.
DRY STORAGE VOLUME REQ'D 9.29 X 1800	16,722 CF.
TOTAL VOLUME REQUIRED	33,444 CF.
TOTAL VOLUME PROVIDED	33,730 CF.
WET STORAGE VOLUME PROVIDED	17,146 CF.
DRY STORAGE VOLUME PROVIDED	16,584 CF.
WET STORAGE DEPTH	3.25 FT.
DRY STORAGE DEPTH	1.23 FT.
BOTTOM ELEVATION	508.00
CLEAOUT ELEVATION	510.25
LIMIT OF WET STORAGE ELEVATION	512.25
MINIMUM RISER CREST ELEVATION	516.49
PROVIDED RISER CREST ELEVATION	512.50
ENHANCEMENT ELEVATION	516.00
DRAW-DOWN DEVICE	6" PVC (4" DRIFTED)
OUTFALL BARREL TYPE	21" RCP
1-YR PRE-DEVELOPMENT SITE DISCHARGE	2.81 CFS
1-YR POST-DEVELOPMENT SITE DISCHARGE	20.94 CFS
1-YR POST-DEVELOPMENT BASIN DISCHARGE	2.23 CFS
1-YR STORM, WATER SURFACE ELEVATION	513.06
10-YR STORM, WATER SURFACE ELEVATION	514.52

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: **Thomas C. Neugebauer, P.E.** DATE: 7/15/03
 THOMAS C. NEUGEBAUER, P.E. MD. LIC. #29203

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 SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: **Joel R. Cherrington** DATE: 7-14-03
 JOEL R. CHERRINGTON, AGENT FOR THE GLENELG COUNTRY SCHOOL

BY THE ENGINEER
 I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
 SIGNATURE OF ENGINEER: **Thomas C. Neugebauer, P.E.** DATE: 7-14-03
 THOMAS C. NEUGEBAUER, P.E. MD. LIC. #29203

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 SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: **Joel R. Cherrington** DATE: 7-14-03
 JOEL R. CHERRINGTON, AGENT FOR THE GLENELG COUNTRY SCHOOL



THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL.
 SIGNATURE: **Jim Meyer** DATE: 8/1/03
 U.S.D.A.-NATURAL RESOURCES CONSERVATION SERVICE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE: **Chad Saly** DATE: 8/1/03
 HOWARD SOIL CONSERVATION DISTRICT

REVIEWED FOR HOWARD S.C.D. AND MEETS TECHNICAL REQUIREMENTS.
 U.S.D.A.-NATURAL RESOURCES CONSERVATION SERVICE DATE

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

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9080 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

**THE GLENELG COUNTRY SCHOOL
 PROPOSED UPPER SCHOOL ADDITION
 SEDIMENT CONTROL PLAN**

TAX MAP 22 GR12 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
10/03	ADDED TREES TO BUILDING FOOTPRINT. EXTENDED STABILIZED TURF FENCE LINE.	12189.02
04/04	REVISED BUILDING FOOTPRINT TO SHOW ANNEX ADDITION.	SCALE: 1" = 50'
09/06	IRRIGATION LINES FOR FIELDS #2 AND #3 ADDED.	DATE: 07/14/03
07/12	TRACE AND SYNTHETIC TURF FIELD IMPROVEMENTS.	DESIGN BY: TCN
12/15	REVISED PAVED AREA BY MAIN ENTRANCE AND STORM DRAIN TO EX. GRASS CHANNEL.	REVIEW BY: TCN

SHEET: 11 OF 257

STANDARDS AND SPECIFICATION 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

1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2% 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.

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 STABILIZATION ON DISTURBED 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 DESIGN AND STREET LAYOUTS THAT FIT AND UTILIZE EXISTING TOPOGRAPHY AND DESIRABLE NATURAL SURROUNDINGS TO AVOID EXTREME GRADE MODIFICATIONS. INTENTIONAL SLOTTED MATS PROVIDE SUFFICIENT TOPOGRAPHIC SURVEYS AND SOIL INVESTIGATIONS TO DETERMINE LIMITATIONS THAT MUST BE IMPROVED 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 AREAS TO BE GRADED. THE PLAN SHALL ALSO INCLUDE PRACTICES FOR EROSION CONTROL, SOIL STABILIZATION, SAFE DISPOSAL OF RUNOFF WATER AND DRAINAGE, SUCH AS WATERWAYS, LINEAR DITCHES, REVERSE SLOPE BENCHES (UNCLUSE GRADE AND CROSS SECTION), GRADE STABILIZATION STRUCTURES, RETAINING WALLS, STILES AND SUBSISTENCE DEVICES, INCLUDING THE PLAN SHALL ALSO INCLUDE PHASING OF THESE PRACTICES. THE FOLLOWING SHALL BE INCORPORATED INTO THE PLAN:

- PROVISIONS SHALL BE MADE TO SAFELY CONDUCT SURFACE FLOW TO STORM DRAINS, PROTECTED DRAINAGE OR TO STABLE WATER COURSES TO INSURE THAT SURFACE RUNOFF WILL NOT DAMAGE SLOPES OR OTHER GRADED AREAS.
- CUT AND FILL SLOPES THAT ARE TO BE STABILIZED WITH GRASSES SHALL NOT BE STEEPER THAN 2:1. WHERE THE SLOPE IS TO BE MOWED THE SLOPE SHOULD BE NO STEEPER THAN 3:1. 4:1 IS PREFERRED BECAUSE OF SAFETY FACTORS RELATED TO MOWING STEEP SLOPES. SLOPES EXCEEDING 2:1 SHALL REQUIRE SPECIAL DESIGN AND STABILIZATION CONSIDERATIONS THAT SHALL BE ADEQUATELY SHOWN ON THE PLAN.
- REVERSE BENCHES SHALL BE PROVIDED WHENEVER THE VERTICAL INTERVAL (HEIGHT) OF ANY 20' SLOPE EXCEEDS 20 FEET FOR 2:1 SLOPE. IT SHALL INCREASE TO 30 FEET FOR 3:1 SLOPE AND 40 FEET FOR 4:1 TO 5:1 SLOPES. BENCHES SHALL BE DIVIDED BY SLOPE FACE AS EQUALLY AS POSSIBLE AND SHALL CONDUCE WATER TO A STABLE OUTLET. SOILS, ROCKS, ROCK OUTCROPS, ETC. SHALL BE TAKEN INTO CONSIDERATION IN BENCH DESIGN.

- REVERSE BENCHES SHALL BE A MINIMUM OF SIX FEET WIDE TO PROVIDE FOR EASE OF MAINTENANCE.
- BENCHES SHALL BE DESIGNED WITH A REVERSE SLOPE OF 6:1 OR FLATTER TO THE TOE OF THE UPPER SLOPE AND WITH REVERSE SLOPES OF 4:1 TO 5:1 TO THE TOE OF THE LOWER SLOPE. THE GRADIENT TO THE OUTLET SHALL BE BETWEEN 8 PERCENT AND 3 PERCENT, UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND CONSIDERATIONS.
- THE FLOW LENGTH WITHIN A BENCH SHALL NOT EXCEED 800' UNLESS ACCOMPANIED BY APPROPRIATE DESIGN AND CONSIDERATIONS FOR FLOW CHANNEL STABILIZATION SEE TEMPORARY SWALE.

- SURFACE WATER SHALL BE DIVERTED FROM THE FACE OF ALL CUT AND FILL SLOPES BY THE USE OF EARTH DITCHES, DITCHES AND SWALES OR CONVEYED DOWNWARD BY THE USE OF A DESIGNED STRUCTURE, EXCEPT WHERE:
 - A. THE FACE OF THE SLOPE IS TO BE STABILIZED AND THE FACE OF ALL GRADDED SLOPES SHALL BE STABILIZED TO PREVENT 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 CONTROL MATERIALS TO INCLUDE, BUT NOT LIMITED TO APPROVED VEGETATIVE STABILIZATION PRACTICES (SEE SECTION G), RIP-RAP OR OTHER APPROVED STABILIZATION METHODS.

- CUT SLOPES OCCURRING IN RIPABLE ROCK SHALL BE SERRATED AS SHOWN ON THE PLAN 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 MINIMUM TWO-FOOT INTERVALS WITH MINIMUM THREE-FOOT HORIZONTAL SHELVES. THESE STEPS WILL VARY DEPENDING ON THE SLOPE AND THE CUT SLOPE. THE NORMAL SLOPE IS IN 1/2 STEPS WITH 1/2 INCHES DIAMETER BEING REMOVED. THE RESULTING SERRATED AND SERRATED THIS PRODUCING A RUGGED AND LONGER LIVED VEGETATIVE COVER AND BETTER SOIL STABILIZATION. OVERLAND FLOW SHALL BE DIVERTED FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRIED TO A SUITABLE OUTLET.
- SUBSISTENCE DRAINAGE SHALL BE PROVIDED WHERE NECESSARY TO INTERCEPT SEEPAGE THAT WOULD OTHERWISE ADVERSELY AFFECT SLOPE STABILITY OR CREATE EXCESSIVELY WET SITE CONDITIONS.
- SLOPES SHALL NOT BE CREATED SO CLOSE TO PROPERTY LINES AS TO ENDANGER ADJOINING PROPERTIES WITHOUT ADEQUATELY PROTECTING SUCH PROPERTIES AGAINST SEDIMENTATION, EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED DAMAGES.

- FILL MATERIAL SHALL BE FREE OF BRUSH, RUBBISH, ROCKS, LOGS, STUMPS, BUILDING DEBRIS AND OTHER DISSECTIONABLE MATERIAL. IT SHALL BE FREE OF STONES OVER TWO (2) INCHES IN DIAMETER WHICH COULD BE COMPACTED BY HAND OR MECHANICAL TAMPERS OR OVER EIGHT (8) INCHES IN DIAMETER WHERE COMPACTED BY ROLLERS OR OTHER EQUIPMENT. FROZEN MATERIAL SHALL NOT BE PLACED IN THE FILL. MATERIAL TO BE PLACED IN THE FILL SHALL BE PLACED IN A FROZEN STATE.
- STOCKPILES, BERMED AREAS AND SPOIL SHALL BE SHOWN ON THE PLANS AND SHALL BE SUBJECT TO THE PROVISIONS OF THIS STANDARD AND SPECIFICATIONS.
- ALL DISTURBED AREAS SHALL BE STABILIZED STRUCTURALLY OR VEGETATIVELY IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION.

VEGETATIVE STABILIZATION

PERMANENT AND TEMPORARY SEEDING, BODDING AND MULCHING

I. SITE PREPARATION

PERMANENT OR TEMPORARY VEGETATION SHALL BE ESTABLISHED WITHIN SEVEN (7) DAYS ON THE SURFACE OF ALL SEDIMENT CONTROL, EROSION CONTROL, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, SEDIMENT CONTROL BASINS, AND ALL SLOPES GREATER THAN 2:1. VEGETATIVE STABILIZATION SHALL BE COMPLETED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY MULCH NETTING, MULCH ANCHORING TOOL, WOOD CELLULOSE FIBER OR LIQUID MULCH BINDERS.

II. SEED PREPARATION AND SEEDING APPLICATION

LOOSEN THE TOP LAYER OF THE SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT SUCH AS DISC HARROWS, CHISEL PLOWS OR RIPPERS. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BODDING APPLICATION. APPLY RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR AND HOLD STABLE LIGHT WEIGHT, PLASTIC NETTING OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

III. SOIL AMENDMENTS

SOIL TESTS SHALL BE MADE ON SITES OVER FIVE ACRES TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. FUR SITES UNDER 5 ACRES, IN LIEU OF A SOIL TEST, APPLY THE FOLLOWING:

FERTILIZER: NITROGEN 2 LBS/1000 SF (90 LBS/AC)
 PHOSPHORUS 4 LBS/1000 SF (175 LBS/AC)
 POTASSIUM 1 LBS/1000 SF (42 LBS/AC)

GROUND LIMESTONE 2 TONS/AC

IV. SEDIMENT CONTROL PRACTICE SEEDING

SELECT A SEEDING MIXTURE FROM TABLE 25 OR 26 IN SECTION 'G' OF THE 1994 STANDARDS AND SPECIFICATIONS. DOCUMENT SEEDING ON THE EROSION AND SEDIMENT CONTROL PLAN USING APPROPRIATE CHART BELOW.

V. TEMPORARY SEEDING MIXTURES AND RATES

SELECT A SEEDING MIXTURE FROM APPROPRIATE TABLE 25 OR 26 IN SECTION 'G' OF THE 1994 STANDARDS AND SPECIFICATIONS. DOCUMENT SEEDING ON THE EROSION AND SEDIMENT CONTROL PLAN USING APPROPRIATE CHART BELOW.

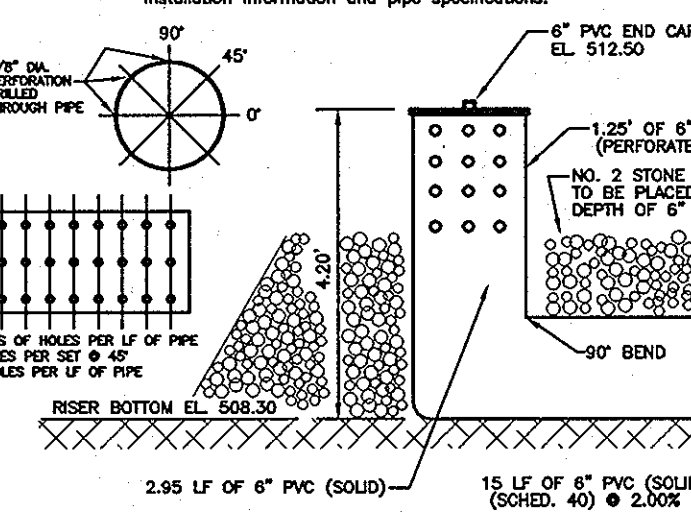
NO.	SPECIES	APPLICATION RATE (LBS/AC)	SEEDING DATE	SEEDING DEPTH	FERTILIZER RATE (10-10-10)	LIME RATE
1	RYE PLUS FOXTAIL MULLET	150 LBS/AC	6/1-10/31	1"	600 LBS/AC (15 LBS/1000 SF)	2 TONS/AC (100 LBS/1000 SF)
2	ANNUAL RYEGRASS	50 LBS/AC	8/1-8/15	1/4"-1/2"		

NO.	SPECIES	APPLICATION RATE (LBS/AC)	SEEDING DATE	SEEDING DEPTH	N	P ₂ O ₅	K ₂ O	LIME RATE
1	TALL FESCUE (75%) KENTUCKY BLUEGRASS (10%) KENTUCKY BLUEGRASS (10%)	150 LBS/AC	8/1-10/1	1/4"-1/2"	90 LB/AC	175 LB/AC	175 LB/AC	2 TONS/AC
2	KENTUCKY BLUEGRASS (50%) HARD FESCUE (40%) CRABGRASS (10%)	150 LBS/AC	8/1-10/1	1/4"-1/2"	8 LB/AC	4 LB/AC	4 LB/AC	(100 LBS/1000 SF)
3	TALL FESCUE (50%) KENTUCKY BLUEGRASS (50%)	150 LBS/AC	8/1-10/1	1/4"-1/2"				

VI. TURFGRASS ESTABLISHMENT

THIS INCLUDES LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. AREA TO RECEIVE SEED SHALL BE TILLED BY DISKING OR BY OTHER APPROVED METHODS TO A DEPTH OF 2 TO 5 INCHES. LEVELED AND RAKED TO PREPARE A PROPER SEEDBED. STONES OVER 1/2 INCHES IN DIAMETER SHOULD BE REMOVED. THE RESULTING SEEDBED AND SEED THIS PRODUCING A RUGGED AND LONGER LIVED VEGETATIVE COVER AND BETTER SOIL STABILIZATION. OVERLAND FLOW SHALL BE DIVERTED FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRIED TO A SUITABLE OUTLET.

NOTE:
 Pipe perforations are to be per detail shown.
 Perforated pipe to be wrapped with filter cloth and covered with #2 stone for a minimum depth of 6" around and over pipe.
 See vertical cross-section detail for additional information and pipe specifications.



SEDIMENT BASIN DEWATERING DEVICE DETAIL
 N.T.S.

VEGETATIVE STABILIZATION

PERMANENT AND TEMPORARY SEEDING, BODDING AND MULCHING

I. SITE PREPARATION

PERMANENT OR TEMPORARY VEGETATION SHALL BE ESTABLISHED WITHIN SEVEN (7) DAYS ON THE SURFACE OF ALL SEDIMENT CONTROL, EROSION CONTROL, GRADE STABILIZATION STRUCTURES, BERMS, WATERWAYS, SEDIMENT CONTROL BASINS, AND ALL SLOPES GREATER THAN 2:1. VEGETATIVE STABILIZATION SHALL BE COMPLETED IMMEDIATELY AFTER MULCH PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY MULCH NETTING, MULCH ANCHORING TOOL, WOOD CELLULOSE FIBER OR LIQUID MULCH BINDERS.

II. SEED PREPARATION AND SEEDING APPLICATION

LOOSEN THE TOP LAYER OF THE SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT SUCH AS DISC HARROWS, CHISEL PLOWS OR RIPPERS. THE REMAINDER OF THE AREA SHOULD APPEAR UNIFORM AFTER BODDING APPLICATION. APPLY RATES RECOMMENDED BY THE MANUFACTURER TO ANCHOR AND HOLD STABLE LIGHT WEIGHT, PLASTIC NETTING OVER THE MULCH ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

III. SOIL AMENDMENTS

SOIL TESTS SHALL BE MADE ON SITES OVER FIVE ACRES TO DETERMINE THE EXACT REQUIREMENTS FOR BOTH LIME AND FERTILIZER. FUR SITES UNDER 5 ACRES, IN LIEU OF A SOIL TEST, APPLY THE FOLLOWING:

FERTILIZER: NITROGEN 2 LBS/1000 SF (90 LBS/AC)
 PHOSPHORUS 4 LBS/1000 SF (175 LBS/AC)
 POTASSIUM 1 LBS/1000 SF (42 LBS/AC)

GROUND LIMESTONE 2 TONS/AC

IV. SEDIMENT CONTROL PRACTICE SEEDING

SELECT A SEEDING MIXTURE FROM TABLE 25 OR 26 IN SECTION 'G' OF THE 1994 STANDARDS AND SPECIFICATIONS. DOCUMENT SEEDING ON THE EROSION AND SEDIMENT CONTROL PLAN USING APPROPRIATE CHART BELOW.

V. TEMPORARY SEEDING MIXTURES AND RATES

SELECT A SEEDING MIXTURE FROM APPROPRIATE TABLE 25 OR 26 IN SECTION 'G' OF THE 1994 STANDARDS AND SPECIFICATIONS. DOCUMENT SEEDING ON THE EROSION AND SEDIMENT CONTROL PLAN USING APPROPRIATE CHART BELOW.

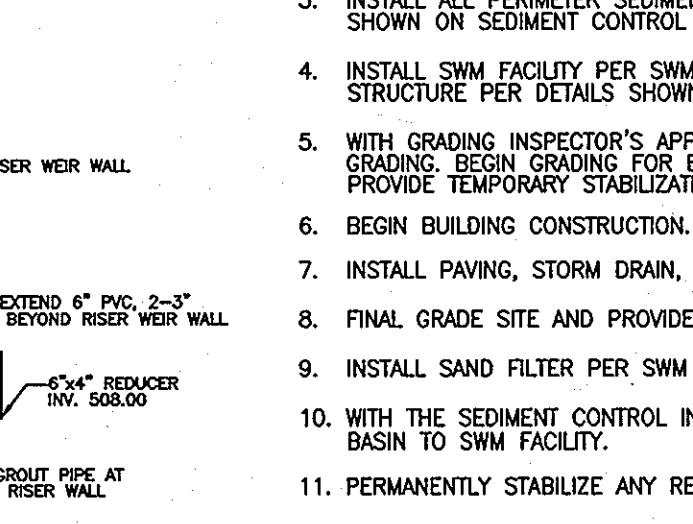
NO.	SPECIES	APPLICATION RATE (LBS/AC)	SEEDING DATE	SEEDING DEPTH	FERTILIZER RATE (10-10-10)	LIME RATE
1	RYE PLUS FOXTAIL MULLET	150 LBS/AC	6/1-10/31	1"	600 LBS/AC (15 LBS/1000 SF)	2 TONS/AC (100 LBS/1000 SF)
2	ANNUAL RYEGRASS	50 LBS/AC	8/1-8/15	1/4"-1/2"		

NO.	SPECIES	APPLICATION RATE (LBS/AC)	SEEDING DATE	SEEDING DEPTH	N	P ₂ O ₅	K ₂ O	LIME RATE
1	TALL FESCUE (75%) KENTUCKY BLUEGRASS (10%) KENTUCKY BLUEGRASS (10%)	150 LBS/AC	8/1-10/1	1/4"-1/2"	90 LB/AC	175 LB/AC	175 LB/AC	2 TONS/AC
2	KENTUCKY BLUEGRASS (50%) HARD FESCUE (40%) CRABGRASS (10%)	150 LBS/AC	8/1-10/1	1/4"-1/2"	8 LB/AC	4 LB/AC	4 LB/AC	(100 LBS/1000 SF)
3	TALL FESCUE (50%) KENTUCKY BLUEGRASS (50%)	150 LBS/AC	8/1-10/1	1/4"-1/2"				

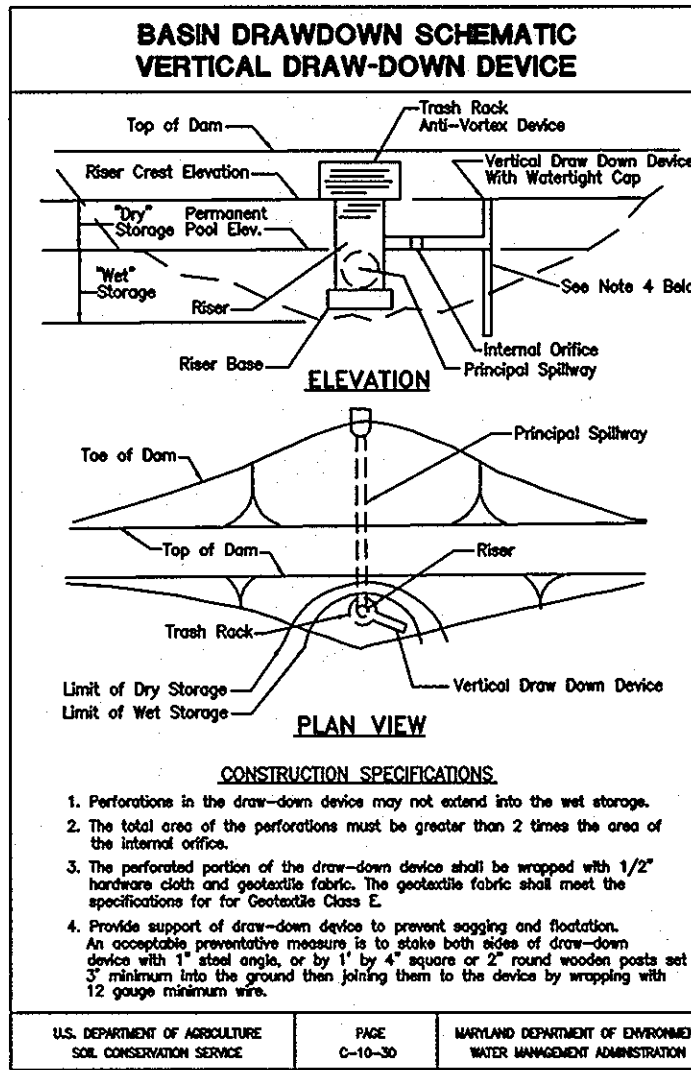
VI. TURFGRASS ESTABLISHMENT

THIS INCLUDES LAWNS, PARKS, PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH LEVEL OF MAINTENANCE. AREA TO RECEIVE SEED SHALL BE TILLED BY DISKING OR BY OTHER APPROVED METHODS TO A DEPTH OF 2 TO 5 INCHES. LEVELED AND RAKED TO PREPARE A PROPER SEEDBED. STONES OVER 1/2 INCHES IN DIAMETER SHOULD BE REMOVED. THE RESULTING SEEDBED AND SEED THIS PRODUCING A RUGGED AND LONGER LIVED VEGETATIVE COVER AND BETTER SOIL STABILIZATION. OVERLAND FLOW SHALL BE DIVERTED FROM THE TOP OF ALL SERRATED CUT SLOPES AND CARRIED TO A SUITABLE OUTLET.

NOTE:
 Pipe perforations are to be per detail shown.
 Perforated pipe to be wrapped with filter cloth and covered with #2 stone for a minimum depth of 6" around and over pipe.
 See vertical cross-section detail for additional information and pipe specifications.



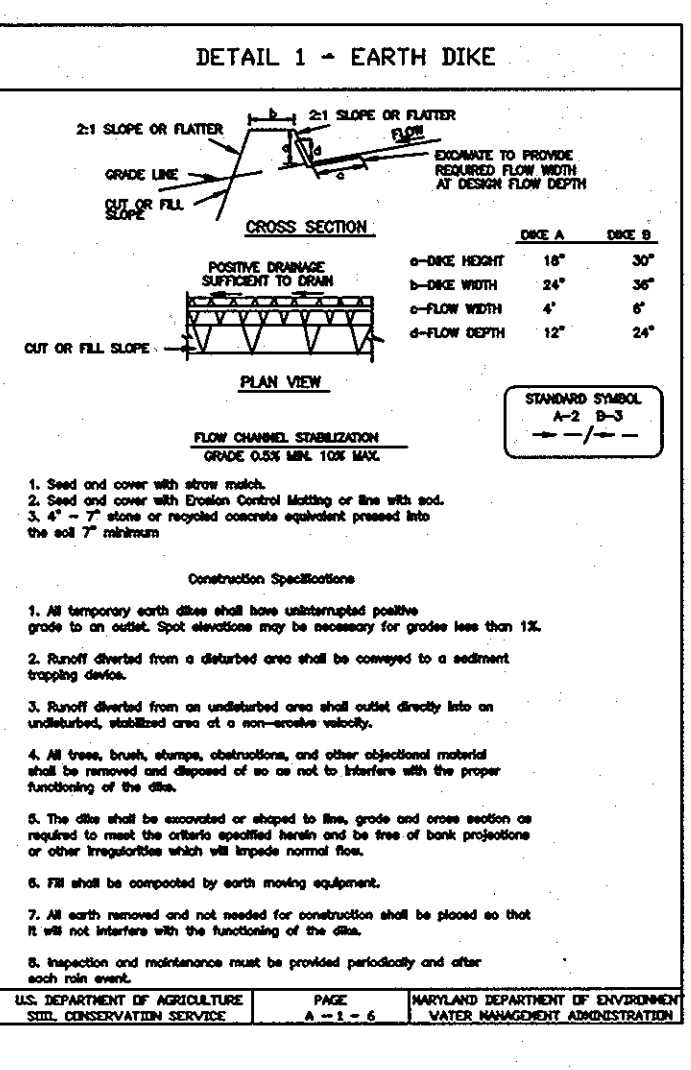
SEDIMENT BASIN DEWATERING DEVICE DETAIL
 N.T.S.



CONSTRUCTION SPECIFICATIONS

1. Performance in the draw-down device may not extend into the well storage.
2. The total area of the perforations must be greater than 2 times the area of the inflow orifice.
3. The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class C.
4. Provide support of draw-down device to prevent sagging and flexion.
5. An adequate preventive measure is to stabilize both sides of draw-down device with 2:1 slope and a minimum of 6" of stone over the device.
6. Minimum inlet to the ground from the device to the basin by wrapping with 1/2" hardware cloth.

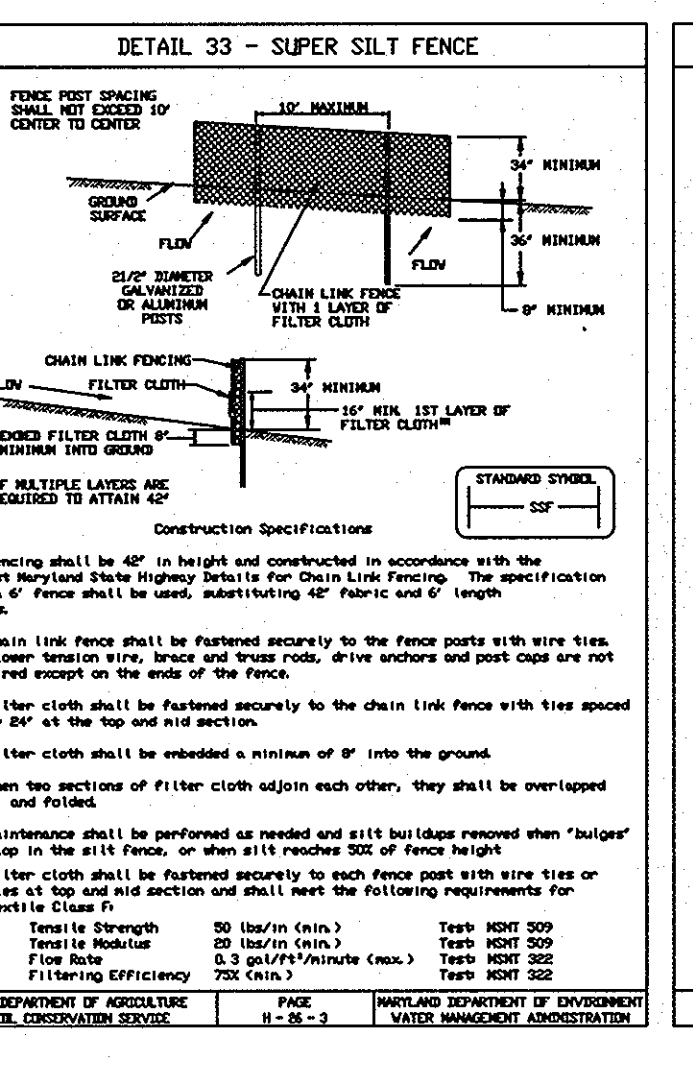
U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE C-10-30, MARLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, WATER MANAGEMENT ADMINISTRATION



CONSTRUCTION SPECIFICATIONS

1. All temporary earth dike shall have a minimum height of 18" and a minimum width of 18" at the top.
2. The total area of the perforations must be greater than 2 times the area of the inflow orifice.
3. The perforated portion of the draw-down device shall be wrapped with 1/2" hardware cloth and geotextile fabric. The geotextile fabric shall meet the specifications for Geotextile Class C.
4. Provide support of draw-down device to prevent sagging and flexion.
5. An adequate preventive measure is to stabilize both sides of draw-down device with 2:1 slope and a minimum of 6" of stone over the device.
6. Minimum inlet to the ground from the device to the basin by wrapping with 1/2" hardware cloth.

U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE C-10-30, MARLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, WATER MANAGEMENT ADMINISTRATION

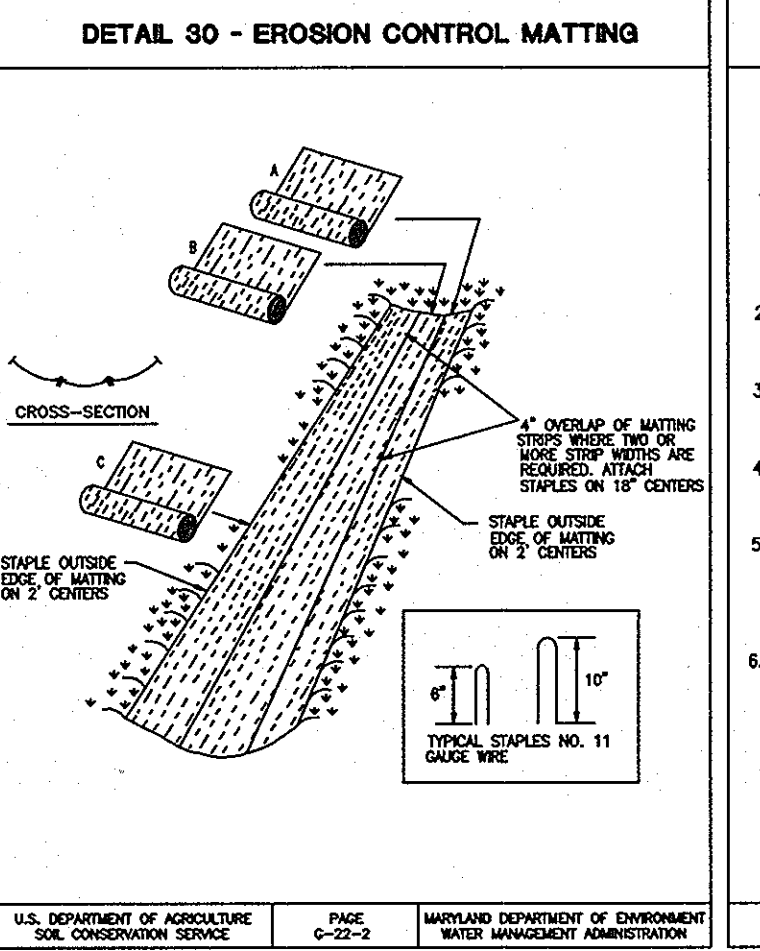


CONSTRUCTION SPECIFICATIONS

1. Fencing shall be 48" in height and shall be constructed with the fence posts with wire ties. The fence shall be constructed with the fence posts with wire ties. The fence shall be constructed with the fence posts with wire ties.
2. Chain link fence shall be fastened securely to the chain link fence with wire ties. The fence shall be fastened securely to the chain link fence with wire ties.
3. When two sections of 1/2" filter cloth are joined, they shall be overlapped by 6" and pinned.
4. Maintenance shall be performed as needed and will include removal when 'holes' develop in the filter cloth. The filter cloth shall be replaced with new filter cloth.
5. Filter cloth shall be fastened securely to each fence post with wire ties or staples. Filter cloth shall be fastened securely to each fence post with wire ties or staples.

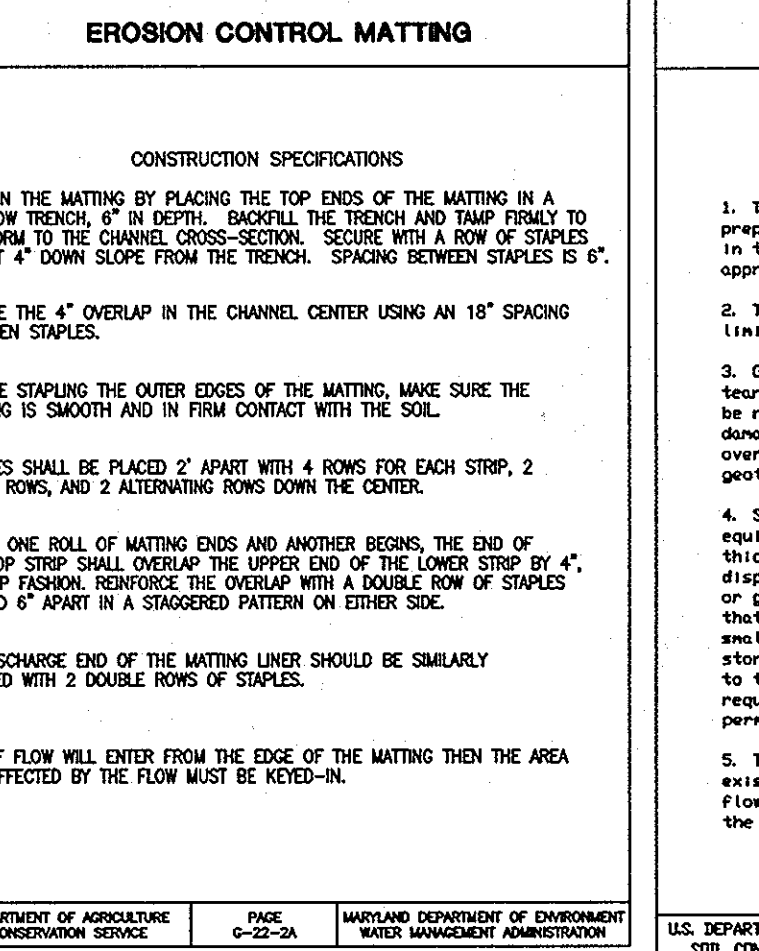
U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, PAGE C-10-30, MARLAND DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, WATER MANAGEMENT ADMINISTRATION

Slope	Slope Length (feet)	Silt Fence Length (feet)
0 - 10%	0 - 10'	Unlimited
10 - 20%	10' - 50'	200 Feet
20 - 30%	50' - 75'	100 Feet
30 - 50%	75' - 100'	100 Feet
50% +	100' +	200 Feet



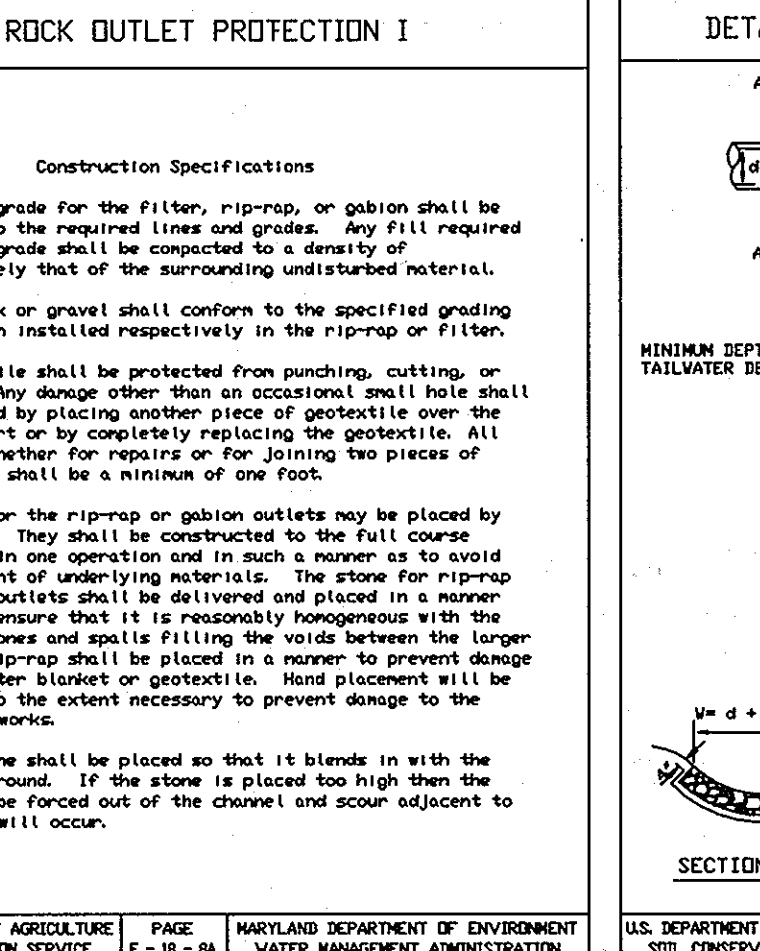
CONSTRUCTION SPECIFICATIONS

1. KEY-IN THE MATTING BY PLACING THE TOP EDGES OF THE MATTING IN A CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 24".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2" APART WITH 4 ROWS FOR EACH STRIP. 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4". STAPLES OVER THE 4" OVERLAP SHALL BE PLACED IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LAYER SHOULD BE SQUARELY SECURED WITH A DOUBLE ROW OF STAPLES.



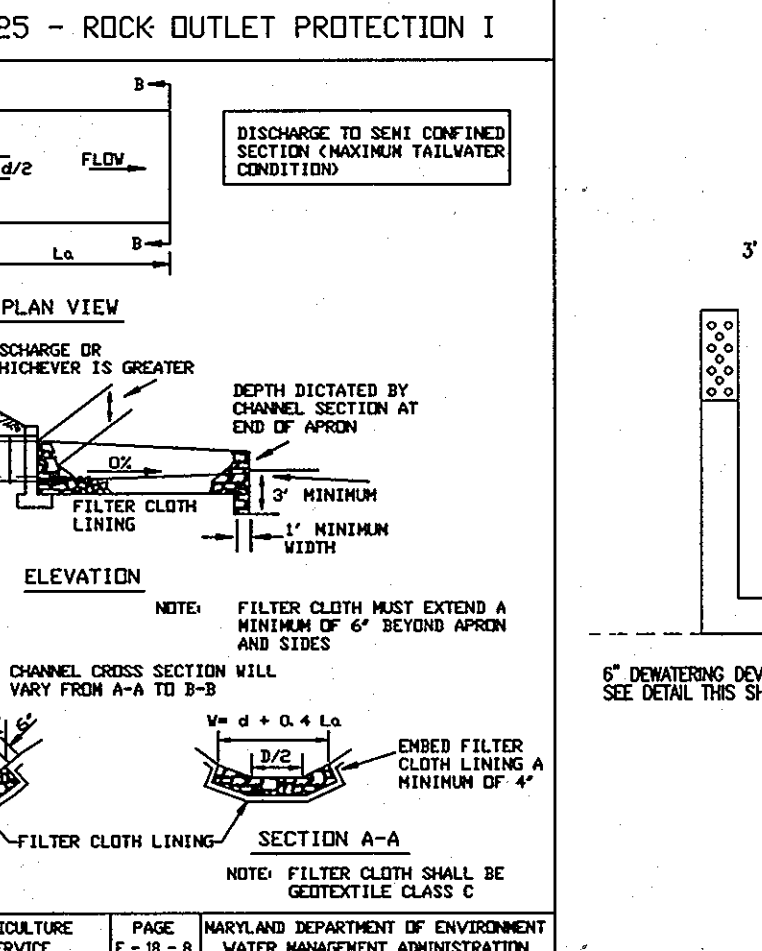
CONSTRUCTION SPECIFICATIONS

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required to approximate that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed in place in the rip-rap or filter.
3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged spot or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying material. Rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is placed in a uniform, compacted manner and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Rip-rap placement will be required to the extent necessary to prevent damage to the permanent work.
5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the filter will be forced out of the channel and scour adjacent to the stone will occur.



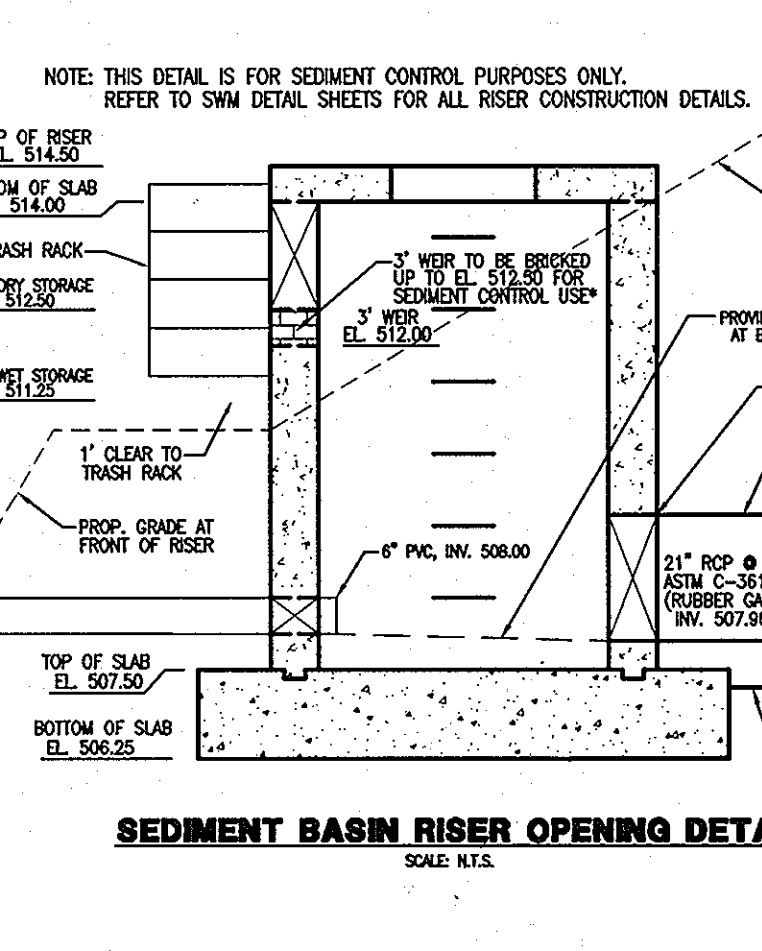
CONSTRUCTION SPECIFICATIONS

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required to approximate that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed in place in the rip-rap or filter.
3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged spot or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying material. Rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is placed in a uniform, compacted manner and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Rip-rap placement will be required to the extent necessary to prevent damage to the permanent work.
5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the filter will be forced out of the channel and scour adjacent to the stone will occur.



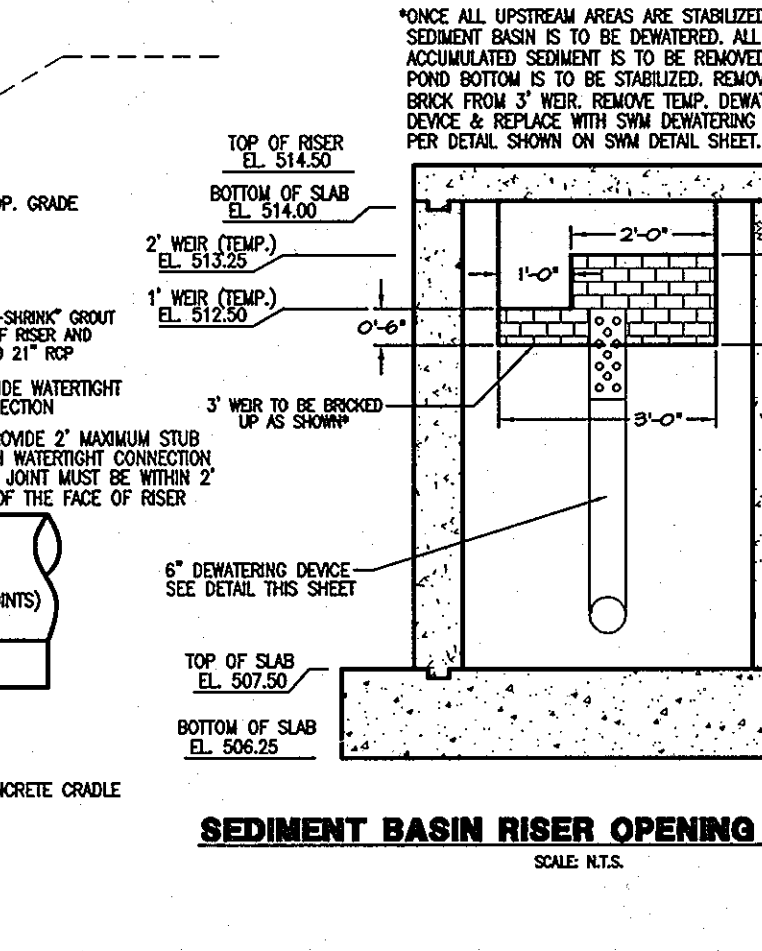
CONSTRUCTION SPECIFICATIONS

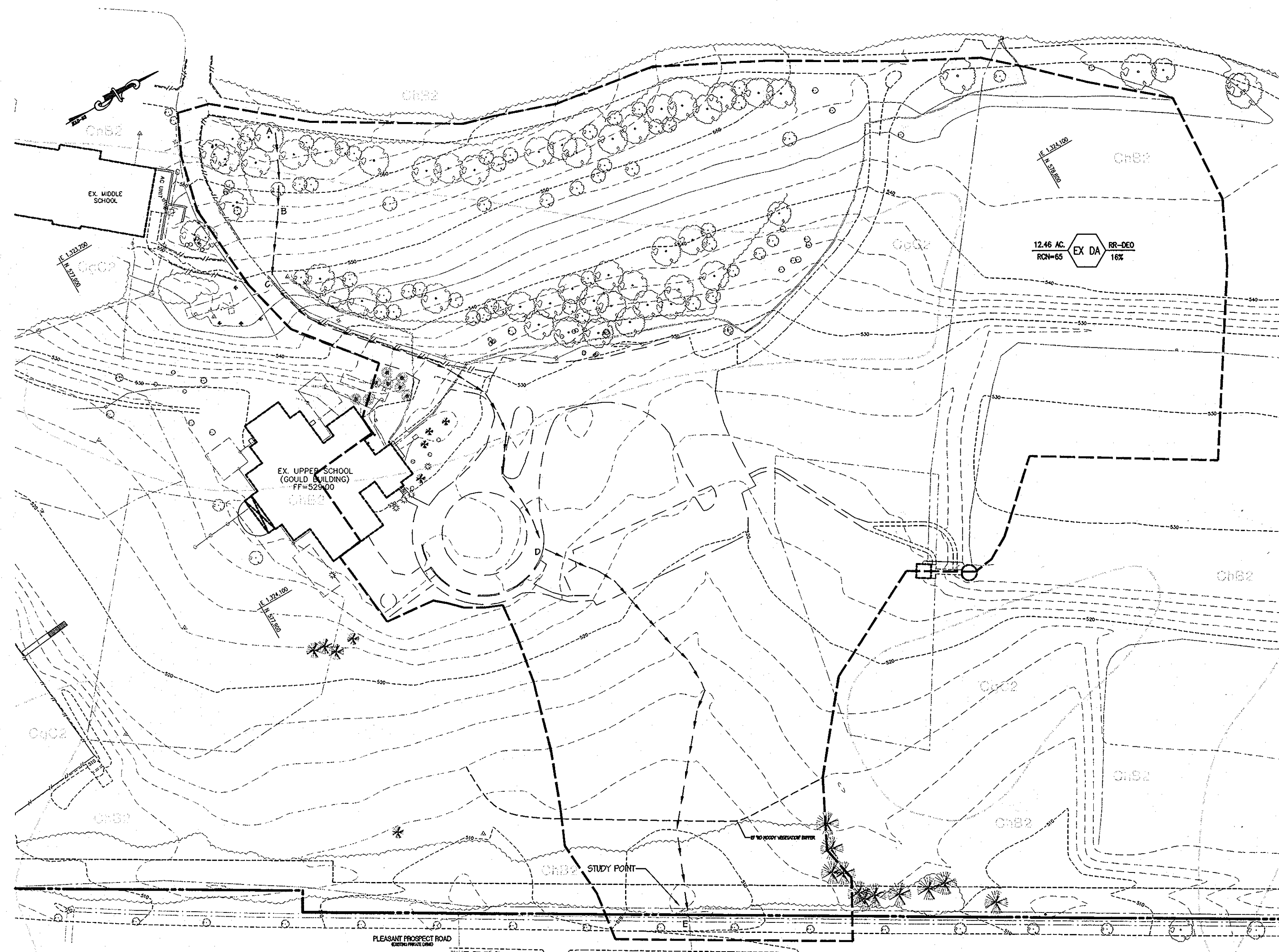
1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required to approximate that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed in place in the rip-rap or filter.
3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged spot or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying material. Rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is placed in a uniform, compacted manner and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Rip-rap placement will be required to the extent necessary to prevent damage to the permanent work.
5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the filter will be forced out of the channel and scour adjacent to the stone will occur.



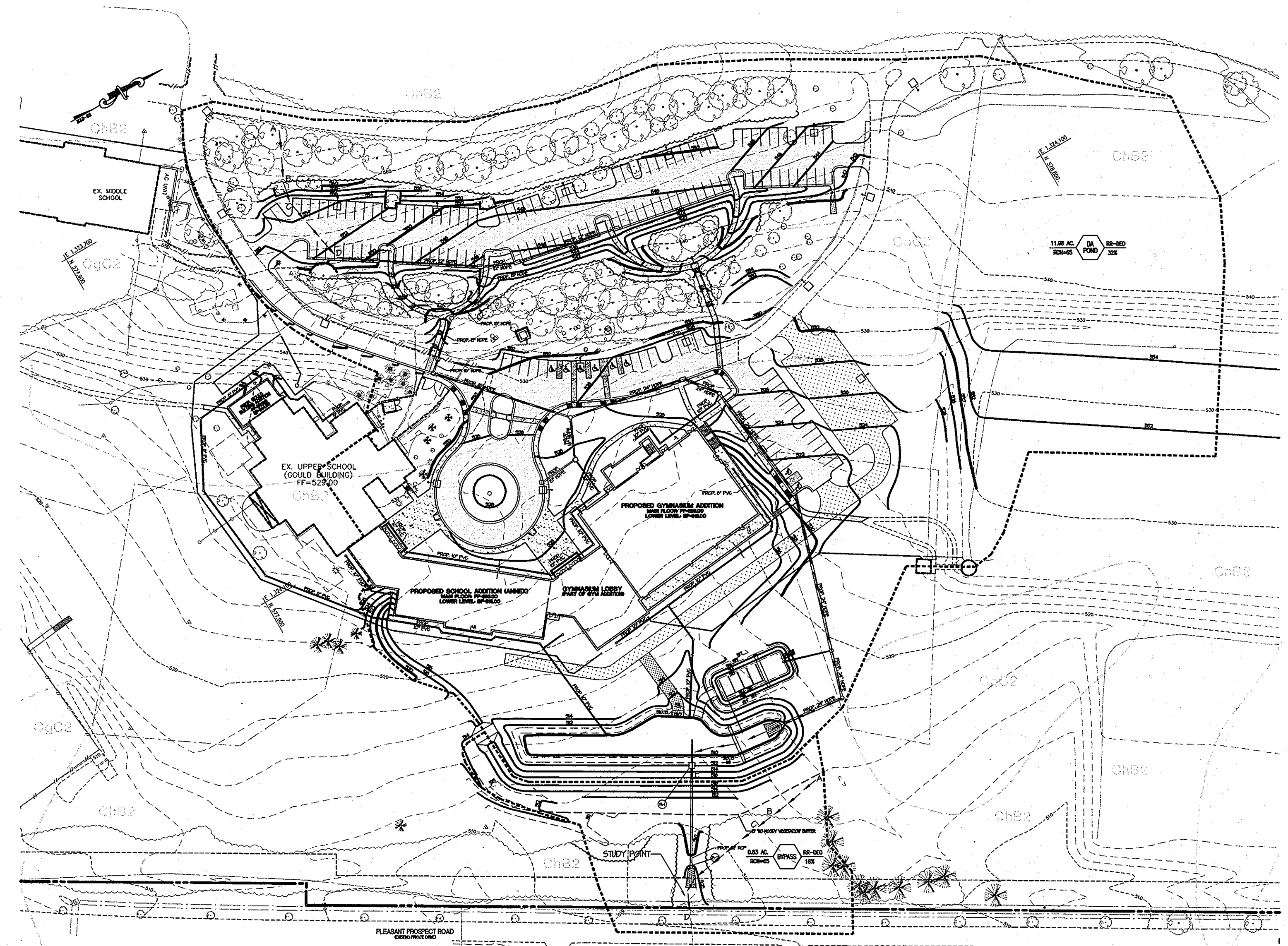
CONSTRUCTION SPECIFICATIONS

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required to approximate that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed in place in the rip-rap or filter.
3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged spot or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.
4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying material. Rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is placed in a uniform, compacted manner and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Rip-rap placement will be required to the extent necessary to prevent damage to the permanent work.
5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the filter will be forced out of the channel and scour adjacent to the stone will occur.

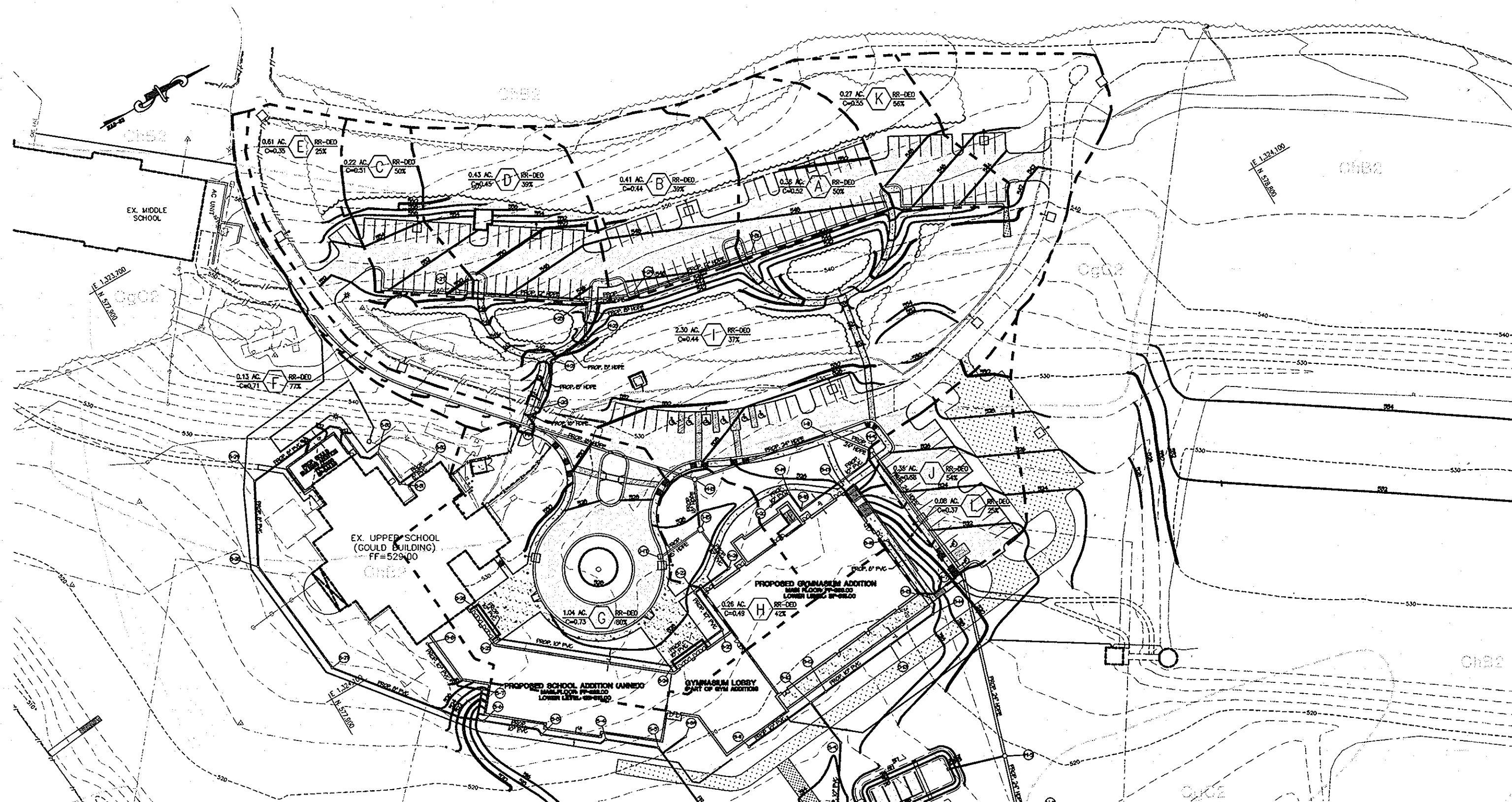




EXISTING CONDITION DRAINAGE AREA MAP
SCALE: 1"=80'



STORMWATER MANAGEMENT DRAINAGE AREA MAP
(PROPOSED CONDITION) SCALE: 1"=80'



STORM DRAIN DRAINAGE AREA MAP
SCALE: 1"=80'

GENERAL SWM POND STORAGE REQUIREMENTS			
STEP	REQUIREMENT	VOLUME REQUIRED (ac.-ft.)	NOTES
1	Water Quality Volume (WqV)	0.2112 ac.-ft.	0.18 ac.-ft. provided with sand filter design (min. requirement: 75% of total WqV)
2	Recharge Volume (Rev)	0.0548 ac.-ft.	0.055 ac.-ft. provided by recharge trench
3	Channel Protection Volume (CpV)	0.40 ac.-ft./0.21 cfs release	CpV release rate is 0.20 cfs WSEL=511.75, 0.4823 ac.-ft. provided at WSEL=512.00
4	Overbank Flood Protection Volume (Op)	N/A	10.38 cfs @ WSEL=513.06, Cp managed for downstream culvert
5	Extreme Flood volume (Qf)	N/A	Provide safe passage for the 100-year event in final design

EXISTING CONDITION

DRAINAGE AREA DATA:
SITE AREA: 80.76 AC.
ZONING: RR-DEE
DRAINAGE AREA: 12.46 AC
IMPERVIOUS AREA: 2.00 AC
% IMPERVIOUS: 16.05% (DA), 2.48% (SITE)

TR-55 HYDROLOGIC DATA
DRAINAGE AREA: 12.46 AC
RCN: 65
SOIL TYPE: 'B'
AREA LAWN: 7.41 AC
AREA IMPERVIOUS: 2.00 AC
AREA WOODS: 3.05 AC
TIME OF CONC.: 0.33 HR

TIME OF CONCENTRATION PATH
A-B 75' SHEET FLOW AT 10%, WOODS, DENSE
B-C 25' SHEET FLOW AT 33%, GRASS
C-D 75' SHALLOW CONC. FLOW AT 5%, PAVED
D-E 810' OF OPEN CHANNEL FLOW AT 6 FPS
TIME OF CONCENTRATION: 0.33 HR

PROPOSED CONDITION

TR-55 HYDROLOGIC DATA (POND)
DRAINAGE AREA: 11.98 AC
RCN: 73
SOIL TYPE: 'B'
AREA LAWN: 6.97 AC
AREA IMPERVIOUS: 4.14 AC
AREA WOODS: 0.87 AC

TR-55 HYDROLOGIC DATA (BYPASS)
DRAINAGE AREA: 0.83 AC
RCN: 61
SOIL TYPE: 'B'
AREA LAWN: 0.36 AC
AREA IMPERVIOUS: 0.06 AC
AREA WOODS: 0.41 AC

TIME OF CONCENTRATION PATH (POND)
A-B 60' SHEET FLOW AT 10%, WOODS, DENSE
B-C 25' SHEET FLOW AT 33%, GRASS
C-D 75' SHALLOW CONC. FLOW AT 5%, PAVED
D-E 1160' OF OPEN CHANNEL FLOW AT 10 FPS
TIME OF CONCENTRATION: 0.28 HR

TIME OF CONCENTRATION PATH (BYPASS)
A-B 60' SHEET FLOW AT 5%, GRASS
B-C 15' SHEET FLOW AT 5%, WOODS, LIGHT
C-D 120' SHALLOW CONC. FLOW AT 4%, PAVED
TIME OF CONCENTRATION: 0.17 HR

WORST CASE POND ROUTING (LOGGED CONDITION)

DRAINAGE AREA: 11.98 AC
RCN: 74
SOIL TYPE: 'B'
AREA LAWN: 7.84 AC
AREA IMPERVIOUS: 4.14 AC
AREA WOODS: 0.00 AC

TIME OF CONCENTRATION PATH (POND)
A-B 60' SHEET FLOW AT 10%, GRASS
B-C 25' SHEET FLOW AT 33%, GRASS
C-D 75' SHALLOW CONC. FLOW AT 5%, PAVED
D-E 1160' OF OPEN CHANNEL FLOW AT 10 FPS
TIME OF CONCENTRATION: 0.15 HR

SOILS LEGEND		
SYMBOL	NAME/DESCRIPTION	SOIL TYPE
CgC2	CHESTER GRAVELY SILT LOAM, 3% TO 8% SLOPES, MODERATELY ERODED	B
ChB2	CHESTER SILT LOAM, 3% TO 8% SLOPES, MODERATELY ERODED	B
ChC2	CHESTER SILT LOAM, 8% TO 15% SLOPES, MODERATELY ERODED	B

PLAN LEGEND

- STORM DRAIN DRAINAGE DIVIDE
- EX. CONDITION DRAINAGE DIVIDE
- PR. CONDITION DRAINAGE DIVIDE
- TIME OF CONCENTRATION PATH
- SOIL TYPE DIVIDE

APPROVED FOR PRIVATE WATER & SEWER PRIVATE SEWERAGE SYSTEMS

Denise Brantley 8-8-03
COUNTRY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING

Chris Damman 8/15/12
CHIEF, DEVELOPMENT ENGINEERING DIVISION

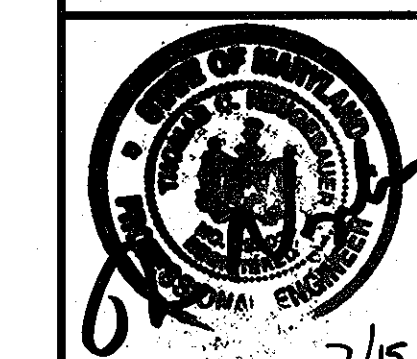
Andy Hamilton 8/15/12
CHIEF, DIVISION OF LAND DEVELOPMENT

Paul J. Taylor 8/15/12
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING



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

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395

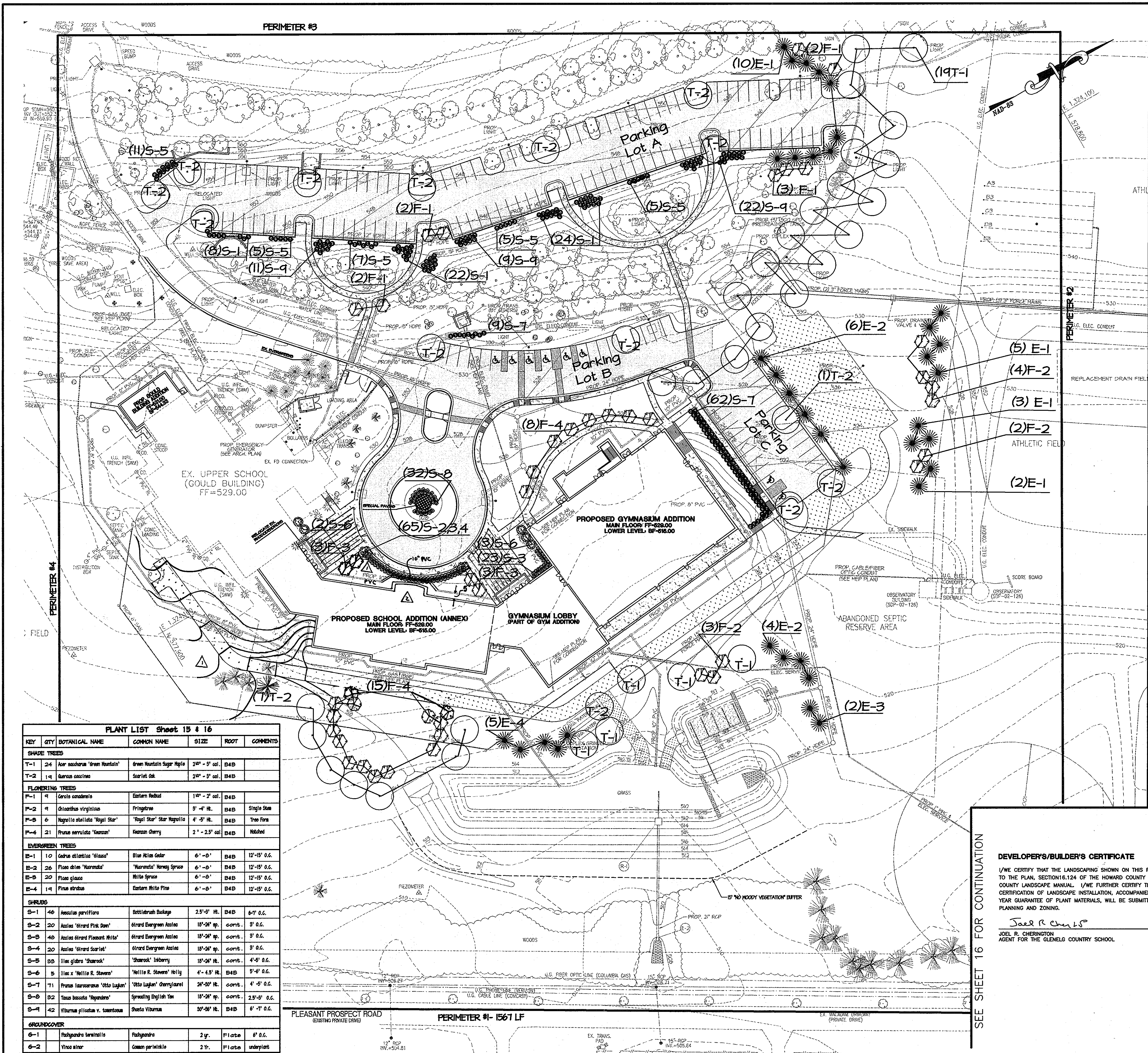


THE GLENELF COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION

STORM DRAIN & STORMWATER
MANAGEMENT DRAINAGE AREA MAP

TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189-02
		SCALE: 1" = 40'
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 14 OF 28



SCHEDULE 'B' PARKING LOT A INTERNAL LANDSCAPING				
NUMBER OF PKING SPACES	ISLANDS REQUIRED	ISLANDS PROVIDED	PLANTS REQUIRED	PLANTS PROVIDED
100	5	4	1:20 = 5 SHADE TREES	5 SHADE TREES & 2 FLOWERING TREES

SCHEDULE 'B' PARKING LOT B INTERNAL LANDSCAPING				
NUMBER OF PKING SPACES	ISLANDS REQUIRED	ISLANDS PROVIDED	PLANTS REQUIRED	PLANTS PROVIDED
10	1	1	1:20 = 1 SHADE TREES	2 SHADE TREES

SCHEDULE 'B' PARKING LOT C INTERNAL LANDSCAPING				
NUMBER OF PKING SPACES	ISLANDS REQUIRED	ISLANDS PROVIDED	PLANTS REQUIRED	PLANTS PROVIDED
5	1	1	1:20 = 2 SHADE TREES	4 SHADE TREES

SCHEDULE 'D' STORM WATER MANAGEMENT LANDSCAPE			
PERIMETER	PLANTS REQUIRED	PLANTS PROVIDED	EDGE TYPE
510 L.F. TO RESIDENTIAL	1:50 = 10 SHADE TREES 1:40 = 14 EVERGREEN TREE	640' EXISTING WOODS FULFILL 100% OF REQUIREMENT EXISTING TREES, MINIMUM OF 40' WIDE	(B)

SCHEDULE 'A' PERIMETER LANDSCAPE EDGE				
PERIMETER	PLANT CREDITS	PLANTS REQ'D	PLANTS PROVIDED	EDGE TYPE
(1) 1567 L.F. NON-RESIDENTIAL NEW TO EXISTING PRIVATE DRIVE EAST PROPERTY LINE	100 L.F. EX. WOODS FULFILL 44% OF REQUIREMENT OR 11 SHADE TREES & 94 EVERGREEN TREES 21 SHADE TREES, SHOWN ON APPROVED SFP #7.01 FULFILLS REMAINING SHADE TREE REQUIREMENT. 46 E6 + 5 E6 + 30 E6 30 EVERGREEN TREES	861 LF 22 S1 - 21 S1+0 S1 0 SHADE TREES 30 EVERGREEN TREES	30 EVERGREEN TREES	(C)
(2) NON-RESIDENTIAL SIDE TO ATHLETIC FIELDS NORTH PROPERTY LINE	N/A	N/A	N/A	(B)
(3) NON-RESIDENTIAL FRONT & PARKING TO EXISTING PRIVATE ACCESS DRIVE WEST PROPERTY LINE	N/A	N/A	N/A	(B)
(4) NON-RESIDENTIAL TO NON-RESIDENTIAL	N/A	N/A	N/A	(B)

TOTAL PLANTING OBLIGATION	TOTAL PLANTS PROVIDED
0 SHADE TREES 30 EVERGREEN TREES	13 SHADE TREES 2 FLOWERING TREES 34 EVERGREEN TREES

NOTE:
THIS PLAN SHALL BE USED FOR LANDSCAPE PURPOSES ONLY.
REFER TO SITE PLAN, SWM PLAN & SEDIMENT CONTROL PLAN
FOR ALL OTHER SITE ISSUES.

ADDRESS CHART / OWNER INFORMATION		
GLENELG COUNTRY SCHOOL		
12793 FOLLY QUARTER ROAD		
GLENELG, MD 21737	PHONE: 410-531-2229	
PERMIT INFORMATION CHART		
Subdivision Name: GLENELG COUNTRY SCHOOL	Area: 80.67 AC.	Parcel #: 146
Plot #: 1296/245	Zoning: RR-DEO	Tax Map: 22
Water Code: PRIVATE WELL	Elec. District: 5TH	Census Tract: 6051.01
	Sewer Code: PRIVATE SEPTIC	

APPROVED FOR EXISTING OR PRIVATE WATER & SEWER OR PRIVATE SEWERAGE SYSTEMS

Debra H. ... 8-8-03
COUNTRY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

Chad ... 8/5/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION

... 8/12/03
CHIEF, DIVISION OF LAND DEVELOPMENT

... 8/12/03
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

PLANT LIST Sheet 15 & 16						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
SHADE TREES						
T-1	24	Acer saccharum 'Green Mountain'	Green Mountain Sugar Maple	2 1/2" - 3" cal.	B&B	
T-2	14	Quercus coccoloba	Scarlet Oak	2 1/2" - 3" cal.	B&B	
FLOWERING TREES						
F-1	9	Cercis canadensis	Eastern Redbud	1 1/2" - 2" cal.	B&B	
F-2	9	Chionodoxa virginiana	Fringing Lily	3" - 4" ht.	B&B	Single Stem
F-3	6	Nyctaginia alata 'Royal Star'	'Royal Star' Star Magnolia	4" - 5" ht.	B&B	Tree Form
F-4	21	Prunus serrulata 'Kanzan'	Kanzan Cherry	2" - 2 1/2" cal.	B&B	Mulched
EVERGREEN TREES						
E-1	10	Cedrus atlantica 'Glauca'	Blue Atlas Cedar	6" - 8"	B&B	12'-15' O.C.
E-2	26	Pinus strobus 'Nureonata'	'Nureonata' Norway Spruce	6" - 8"	B&B	12'-15' O.C.
E-3	20	Pinus glauca	White Spruce	6" - 8"	B&B	12'-15' O.C.
E-4	14	Pinus strobus	Eastern White Pine	6" - 8"	B&B	12'-15' O.C.
SHRUBS						
S-1	46	Azalea parviflora	Bottlebrush Azalea	2 1/2" - 3" ht.	B&B	6" - 7" O.C.
S-2	20	Azalea 'Grand Pink Rose'	Grand Evergreen Azalea	10" - 20" sp.	cont.	3" O.C.
S-3	40	Azalea 'Grand Pleasant Hill'	Grand Evergreen Azalea	10" - 20" sp.	cont.	3" O.C.
S-4	20	Azalea 'Grand Scarlet'	Grand Evergreen Azalea	10" - 20" sp.	cont.	3" O.C.
S-5	33	Ilex glabra 'Shamrock'	'Shamrock' Holly	10" - 20" ht.	cont.	4" - 5" O.C.
S-6	5	Ilex x 'Nellie R. Stevens'	'Nellie R. Stevens' Holly	4" - 4 1/2" ht.	B&B	5" - 4" O.C.
S-7	71	Prunus laurocerasus 'Otto Luyken'	'Otto Luyken' Cherry Laurel	20" - 30" ht.	cont.	4" - 5" O.C.
S-8	32	Taxus canadensis 'Repens'	Spreading English Yew	10" - 20" sp.	cont.	2 1/2" - 3" O.C.
S-9	42	Viburnum plicatum v. tomentosum	Shedo Viburnum	30" - 36" ht.	B&B	6" - 7" O.C.
GROUNDCOVER						
G-1		Podagracea ternstroemii	Podagracea	2 yr.	Plate	6" O.C.
G-2		Vitis rotundifolia	Common periwinkle	2 yr.	Plate	underplant

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Joel R. Cherting 7-14-03
JOEL R. CHERTING
AGENT FOR THE GLENELG COUNTRY SCHOOL

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

9080 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-8782 or (301) 776-1690
FAX (410) 792-7396

**THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION**

LANDSCAPE PLAN

TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
10/03	Added Well to Building Footprint. Extended Stabilized Turf Field Lane.	12189.02
04/04	REVISED BUILDING FOOTPRINT TO SHOW ANNEX ADDITION.	SCALE: 1" = 40'
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 15 OF 23

SEE SHEET 16 FOR CONTINUATION

SEE SHEET 16 FOR CONTINUATION

PLANTING SPECIFICATIONS

PART 1 GENERAL:

1.01 DESCRIPTION:

- A. Work consists of all labor, materials, equipment and services necessary for and incidental to the execution and completion of the FINAL LANDSCAPE PLAN as indicated on the Drawings and specified herein.
- B. Includes:
 1. Layout.
 2. Furnishing of tree protection and planting materials.
 3. Preparation, planting operations, mulching and staking.
 4. Maintenance.

1.02 REFERENCES AND QUALITY ASSURANCE:

- A. Landscape Contractors Association MD-DC-VA (LCA), Landscape Specification Guidelines, latest edition except where superseded by specific requirements herein.
- B. American Association of Nurserymen (A.A.N.): American Standard for Nursery Stock, A.N.S.I. 200.1, latest edition.
- C. Non-nomenclature: In accordance with Hortus Third, latest edition, by the staff of the L. H. Bailey Hortorium, Cornell University.
- D. Federal Specification: Q-7-166a as applicable to Plant Moss.
- E. National Arborist Association, Standard for Pruning of Shade Trees, Guying of Shade Trees, Fertilizing Shade and Ornamental Trees and Pesticides Application Operations, latest edition.
- F. Maryland Department of Transportation, State Highway Administration (MSHA) Standard Specifications for Construction and Materials, October 1993, as amended to date. Delete references to "Measurement and Payment".

1.03 STANDARD OF COMPARISON:

- A. When requested by the Owner's Representative, the Contractor shall obtain approval of a "standard" of comparison, prior to the delivery of plant material to the site.
 1. Contact the Owner's Representative to schedule an inspection for approval of the "standards" for plant material to be installed at the project site.
 2. "Standards" shall be assembled at the project site for review and approval, or at the Contractor's principal business location, as determined by the Owner's Representative. Approved "standards" may be planted at the project site.

1.04 SUBMITTALS:

- A. Source: Notify the Owner's Representative, in writing, of the source of all material at least ten (10) working days prior to delivery at the project site.
- B. Samples and Certifications:
 1. If requested, a multiple sample shall be provided at the site for approval by the Owner's Representative (1 C.F. minimum).
 2. Submit certification of peat moss compliance with referenced specifications.

1.05 DELIVERY, STORAGE AND HANDLING:

- A. Store plants that cannot be planted within 8 hours in a sheltered place. Water and maintain as required until planted.
- B. Transport and handle plants so that foliage and roots are protected from breakage, sun and wind. Tops or roots of plants allowed to dry out or which have been damaged or disturbed root systems may be rejected.
- C. B & B (balled and burkapped) plants: Firm, natural balls of soil, with size and depth of ball in accordance with A.A.N. Standards.

1.06 QUANTITIES AND SUBSTITUTIONS:

- A. Quantities of plant material are based upon the plant lists shown on the Drawings.
- B. Substitutions:
 1. Bidders shall notify the Owner's Representative if specified plants are not available from sources within 100 miles of the project site, giving the names of all sources contacted.
 2. If an acceptable source cannot be located for the specified plants, the Owner's Representative will select a substitute and notify the Bidders of the approved substitution for the Bid to be based upon, or provide a source for the originally specified plant.
 3. Substituted plants shall be of the same size and condition as the original plant specified.

1.07 PROJECT CONDITIONS:

- A. Planting Season:
 1. Primary planting season: September 15 to May 15.
 2. Other periods with written approval from the Owner's Representative.
- B. Existing Conditions: Notify Miss Utility (1-800-257-7777), and the Owner's Representative prior to planting operations. Verify the location of underground utilities.

1.08 DEFINITIONS:

- A. Diameter at Breast Height (DBH): The diameter of a tree measured at a point on the trunk 4.5 feet above the ground.
- B. Initial Acceptance: Occurs when all plant material is in place in accordance with the specifications and approved by the Owner's Representative.
- C. Maintenance Period: From initial acceptance of the plantings, and continuing thereafter for a period of 12 months.
- D. Owner's Representative: The Landscape Architect or other Qualified Professional designated by the Owner or Developer of the Project.
- E. Retention: The deliberate holding and protecting of existing trees, shrubs or herbaceous plants on the site.
- F. Specimen Tree: A tree which exists on the project site prior to construction or planting having a 30 inch or greater DBH, or tree having 75 percent or more of the diameter of the current state or county champion tree of that same species.
- G. Start of Planting: Installation of plant material into excavated pits or beds.
- H. Final Acceptance: Occurs after Contractor has completed all outstanding items, as determined by the Owner's Representative, at the end of the maintenance period.

1.09 SURVIVAL REQUIREMENT AND REPLACEMENTS:

- A. The minimum survival rate shall be 100 percent of the total number of trees and shrubs planted at the end of the 12-month maintenance period.
- B. Replacement materials shall be the same size as the original plant material taking into account any growth that has occurred since original installation.
- C. Methods of installation shall be identical to the original.

1.10 PENALTY FOR VIOLATION:

- A. Immediately following the completion of construction and installation of the plantings, the owner or owner's representative will be notified for an inspection of the entire project site.
- B. If, upon Final Acceptance Inspection, trees and other vegetation designated as retention plant material are found to be damaged or dead due to mechanical intrusion or related construction activities associated with the landscape contractors installation and maintenance of the said plan, then replacement equipment will be required.

PART 2 PRODUCTS:

2.01 PLANTS:

- A. Plant materials shall meet or exceed the requirements of A.A.N. standards, or as amended herein.
- B. Plants shall be typical of the species and variety, and have a normal habit of growth with well established root systems.
- C. Sound, healthy, vigorous, free from plant diseases, insect pests or their eggs and without suckers or evidence of suckering.
- D. Trees and shrubs shall be freshly dug and nursery grown. They shall have been grown under climatic conditions similar to those in the locality of the project or properly acclimated to conditions of the project locality.
- E. Plants cut back from larger sizes or pruned prior to delivery will not be accepted of the project or properly acclimated to conditions of the project locality. All container grown plants shall be well rooted & established in the container in which they are sold.
- F. Measurements: The caliper of deciduous trees (except seedlings and whips) shall be measured 8-inches above ground level for trees up to and including 4 inch caliper and 12 inches above ground level for material larger than 4 inch caliper. Seedlings and whips shall be measured at the root collar.

2.02 DECIDUOUS SHADE TREES:

- A. Single straight leader, well branched, and symmetrical, without suckers or evidence of suckering, according to their normal habit.
- B. Trees planted within five (5) feet of pedestrian ways, parking lots or roads shall be free from branches up to eight (8) feet in height from finish grade.

2.03 EVERGREENS:

- A. Sheared evergreen plant material shall not be acceptable.

2.04 SHRUBS:

- A. At least 75% of the individual branches or cones of a shrub shall be to the height specified.

2.05 HERBICIDES:

- A. Contact herbicide shall be "Round-up" or approved equal.
- B. Pre-emergence herbicide shall be "Snapshot" or approved equal.

2.06 TOPSOIL FOR AMENDING EXISTING SOIL:

- A. General Requirements (only where required by details on the Drawings):
 1. Natural, friable sand loam topsoil which is free of subsalt, clay lumps, stones, stumps, roots or similar objects larger than 1-inch.
 2. Free of brush, objectionable weeds and litter or other substance which is harmful to plant growth.
- B. In accordance with M.S.H.A. Item 920.01.02 for Furnished Topsoil if borrow topsoil is required from an off-site location.

2.07 FERTILIZER FOR POST PLANTING:

- A. 5-10-5 (Plant food by minimum percentages)

(N) Total Nitrogen	5
(P202) Available Phosphoric Acid	10
(K2) Soluble Potash	5
- B. Fertilizer shall be slow release over a minimum 3 year period. Fertilizer shall be delivered to the site with formulas attached.

2.08 PEAT MOSS:

- A. Baled sphagnum peat moss, Type I-A, conforming to Federal Specification Q-P-166a.

2.09 MULCH:

- A. Mulch shall be the following as indicated on the Drawings.
 1. Shredded hardwood.
 2. Pine Straw.
- B. Mulch shall have been prepared within the last four (4) months.

2.10 WATER:

- A. Potable; if not available at the site from a public water supply, the Contractor shall provide water at no additional cost to the Owner.

2.11 ANTI-TRANSPARENT:

- A. Shall be the following or approved equal:
 - 1. "Wilt-Proof" Wilt-Proof Products Inc. P. O. Box 469 Essex, CT 06426 (203) 757-7033 or approved equal.

2.12 ACCESSORIES:

- A. Tree guying:
 1. Stakes: 2 inch x 2 inch rough sawn oak stakes, notched to hold wire, length as required to secure the tree.
 2. Wire: Galvanized steel wire, doubled.
 3. Sleeves: Nylon reinforced green vinyl hose.
- B. Tree shelters, netting and stakes: Extruded twin-walled polypropylene with ultraviolet stabilizer and anti-abrasion rim as manufactured by:
 - 1. Tubes: P.O. Box 7097 Saint Paul, MN 55107 (612) 220-0530 or approved equal.

PART 3 EXECUTION:

3.01 INITIAL INSPECTIONS:

- A. Pre-construction meeting:
 1. Prior to the beginning of any clearing, grading or disturbance of the site, a meeting at the project site shall be held with the Contractor and Owner's Representative.
 2. The following items, and others as deemed necessary, will be reviewed as applicable to the Project:
 - a) Staked limits of required retention areas and protection fencing, proposed limits of clearing and grubbing, the proposed location of sediment control devices, and the sequence of operations.
 - b) Staking and flagging shall be completed by the Contractor prior to the pre-construction meeting.
 - c) Designated adjustments to the proposed limits and locations of items reviewed in the field during the pre-construction meeting shall be incorporated prior to beginning construction.

3.02 PREPARATION:

- A. Tree protection fencing, signage and other pre-construction activities noted on the Drawings for retention areas shall be installed prior to any on-site clearing or grading operations.
- B. Additional temporary, and permanent fencing, shall be installed in conjunction with or prior to planting operations as shown on the Drawings.
- C. Plant Locations: As shown on the Drawings, to dimensions if shown, or as detailed if not specifically labeled. Locations subject to review by the Owner's Representative prior to planting.
- D. Utilities: The Contractor shall locate existing and proposed utilities prior to excavation of planting holes.

3.03 EXCAVATION:

- A. Unclassified: Excavate and remove surplus materials encountered, without additional cost to the Owner. Retain only sufficient soil to form soil walls as shown on the Drawings. Disposal of surplus material may be on-site if approved by the Owner's Representative.

3.04 PLANTING PROCEDURES:

- A. Do not plant when ground is frozen or excessively wet.
- B. Set plants straight and plumb and at such a level, that after settlement the first lateral root is flush with the adjacent ground surface.
- C. When B&B or container plants are set, planting soil shall be carefully tamped around the base of the balls to prevent voids. All burr, rope, wire, etc., shall be removed from the top of balls. Plastic/nylon cords or cloths shall not be left in place on balled materials.
- D. Backfill plants and tamp to two-thirds depth of pit and thoroughly water before bringing backfill up to proper grade. Thoroughly water the plant again after the soil wall has been completely formed in-place.
- E. Wells Around Trees and Shrubs: After planting is complete, form a soil well around designated plants, extending to the outer limit of the plant pit in accordance with the planting details shown on the Drawings.
- F. Designated Planting Beds: All vegetative growth shall be removed to a sufficient depth to insure a weed-free bed. Till the existing soil to a depth of 6-inches throughout the designated bed areas. The edge of all planting beds shall be cut vertically and the soil recessed within 1 foot of the bed edge so that the mulch is flush with adjacent grade when the installation has been completed.

3.05 MULCHING:

- A. Pits and beds shall receive a 2 to 4 inch cover of mulch. Mulch shall be installed within 8 hours after planting has been completed.
- B. Mulch, surrounding planting mass areas, shall provide a uniform and contiguous surface, and appearance between and around all plant material, buildings and paved areas.

3.06 STAKING, WRAPPING AND GUYING:

- A. Stakes, which require staking as shown on the Drawings, during the same day as planting:
 1. Guying shall be in accordance with the Details.
 2. Stakes shall be securely driven in ground and plants guyed to provide and maintain adequate support.

3.07 PRUNING AND ANTI-TRANSPARENT APPLICATION:

- A. Pruning: Any broken or damaged branches shall be removed. Damage, removal or pruning of tree leaders shall be cause for rejection.
- B. Anti-transparent: Deciduous plants, installed from May 1st to September 15th shall receive application in accordance with the manufacturer's recommendations.

3.08 POST-PLANTING FERTILIZATION:

- A. Notify Owner's Representative prior to fertilizing operations.
- B. Approximately 1 year after planting, but prior to the maintenance agreement's expiration, the Contractor shall fertilize all plant material. Plant foliage shall be completely dry at the time of application. Fertilizer adhering to plant foliage after application shall be removed. Water thoroughly after application.
- C. Rate of application shall be in accordance with the fertilizer manufacturer's recommendations or the following:
 1. Shrubs: 4 pounds of 5-10-5 per 100 square feet.
 2. Trees: 2 pounds of 5-10-5 per inch of caliper distributed uniformly in planting well.

3.09 CLEAN-UP:

- A. Excess and waste materials shall be removed from the site before or upon completion of planting operations, or daily if required by the Owner's Representative.
- B. Repair turf areas and other existing conditions damaged during planting operations, including regrading, seeding and mulching to the satisfaction of the Owner's Representative.

3.10 WARRANTY:

- A. Contractor shall warrant all plant material for a period of one (1) full year after the date of substantial completion against defects, unsatisfactory growth, disease or death.

3.11 MAINTENANCE:

- A. Contractor shall inspect and provide necessary services throughout the 12-month maintenance period.
 1. Watering as required for local conditions.
 2. Inspection for pests and disease shall be performed a minimum of two (2) times within the initial year, after spring leaf-out and at mid-summer, or more frequently if necessary to control problems.
 3. Weeding and removal of invasive plants shall be performed a minimum of four (4) times per year, during the first two weeks of the months of May, June, July and August.
 4. Plant material shall be re-mulched, just prior to the maintenance agreement's expiration, with a minimum 1-inch depth of new mulch.
 5. Fencing, signs, stakes and guys shall be tightened, repaired or replaced as necessary throughout the maintenance period in accordance with original details and installation requirements. Ensure trees to remain plumb and upright.
- B. Remove and replace dead or damaged plant material to comply with the Minimal Survival requirement in accordance with Item 1.09 above.
- C. Notify Owner's Representative prior to initiating maintenance operations.

3.12 ACCEPTANCE:

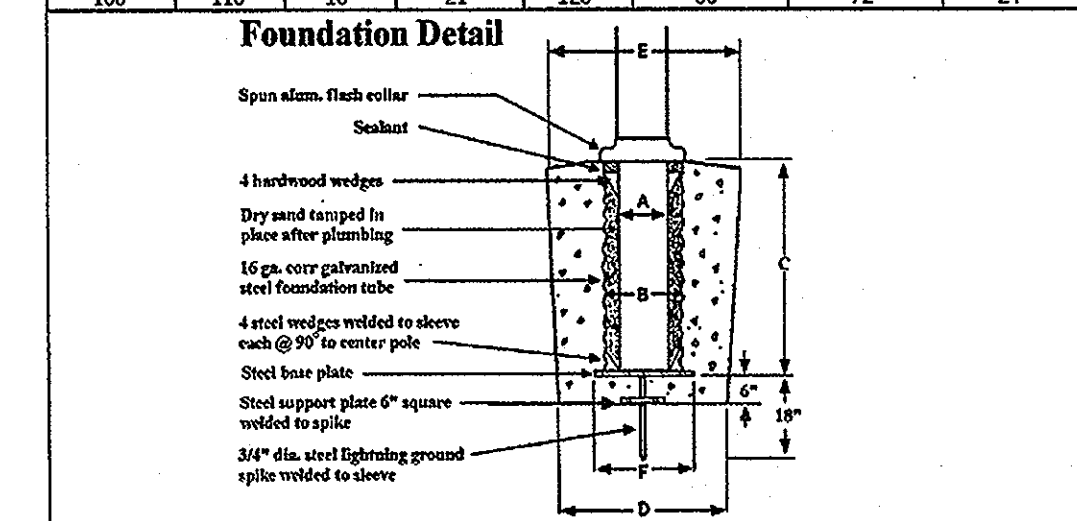
- A. Contractor must contact the Owner at least ten working days in advance to schedule acceptance inspection(s).

Instructions - Ground Sleeve

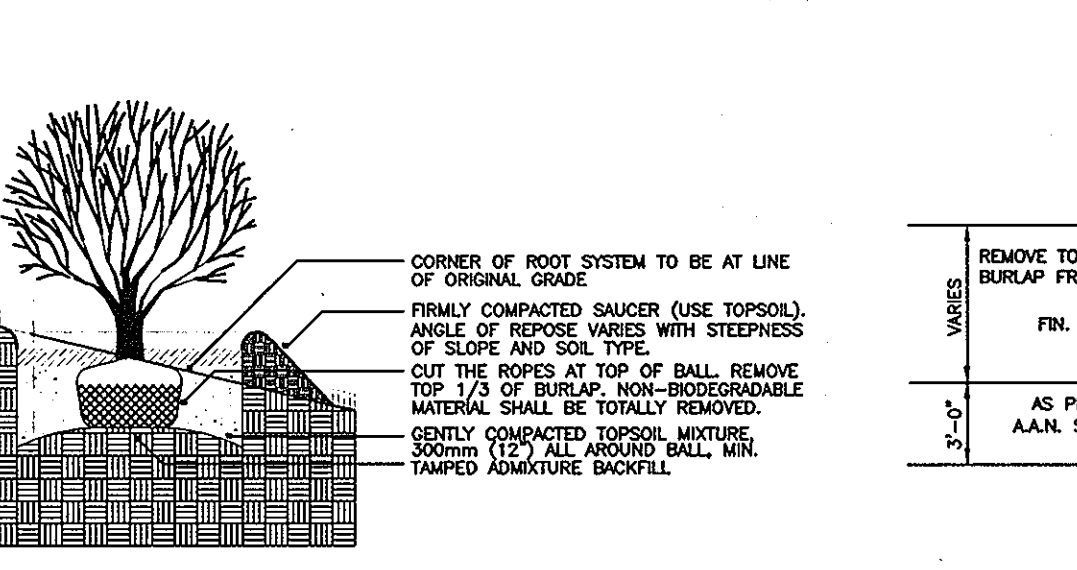
INSTALLERS TAKE NOTICE! Overhead electrical lines, buried utility cables, and natural gas lines pose stations that require EXTREME CARE DURING INSTALLATION of foundation and flagpoles.

- 1. Dig hole approximately as shown on chart. Dimensions are for "normal soil conditions."
- 2. Set sleeve slightly above finished grade level.
- 3. Set sleeve plumb in center of hole and begin to pour concrete around outside of sleeve.
- 4. During pouring of concrete, stop and check to be sure sleeve stays in center and level.
- 5. Cover sleeve opening to prevent accumulation of debris and water.

Exposed Height	Overall Height	A	B	C	D	E	F
30"	22"	5"	8 1/2"	36"	24/30"	34"	12"
25"	25"	5/8"	8 1/2"	36"	30"	36"	12"
35"	38 1/2"	6/8"	10"	42"	30"	36"	14"
40"	44"	7/8"	10 1/2"	48"	36"	42"	14 1/2"
45"	49"	8/10"	12 1/2"	48"	42"	48"	16 1/8"
50"	55"	8/10"	12 1/2"	60"	42"	48"	16 1/8"
60"	66"	10 1/2"	15"	72"	42"	48"	18"
70"	77"	12"	15"	84"	48"	48"	20"
80"	88"	12"	15"	96"	54"	72"	24"
90"	99"	14"	15"	108"	60"	72"	24"
100"	110"	16"	15"	120"	66"	72"	24"



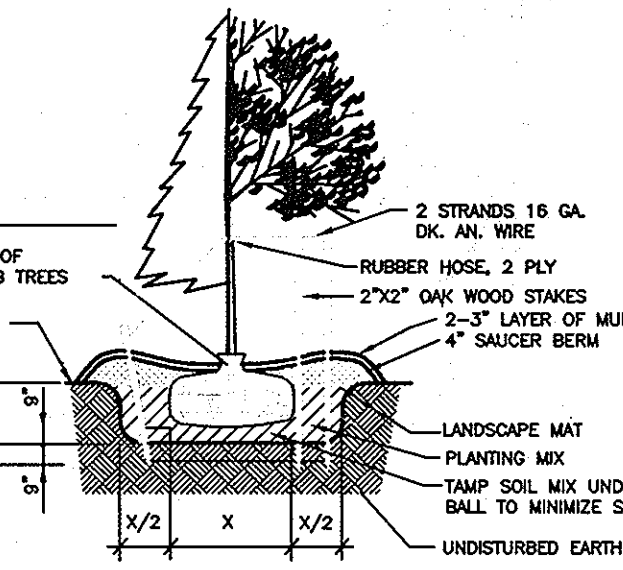
FLAG POLE FOUNDATION DETAIL
NOT TO SCALE



SHRUB PLANTING DETAIL (BALL & BURLAP OR CONTAINER)
NOT TO SCALE

DETAIL PROVIDED BY POLE-TECH TEL: 800-633-6733. IF DIFFERENT MANUFACTURER IS USED, INSTALLATION INSTRUCTIONS MUST BE VERIFIED BY MANUFACTURER.

NOTE: IF EXISTING FLAG POLE IS TO BE REUSED ON SITE, FOUNDATION DETAIL MUST BE VERIFIED BY A STRUCTURAL ENGINEER.



SHADE, FLOWERING OR EVERGREEN TREE PLANTING DETAIL
NOT TO SCALE

GENERAL NOTES:

- 1. NO SUBSTITUTIONS OF PLANT MATERIAL SHALL BE PERMITTED WITHOUT WRITTEN AUTHORIZATION OF THE LANDSCAPE ARCHITECT AND/OR HOWARD COUNTY PLANNING AND ZONING. THIS SHALL APPLY TO SUBSTITUTIONS OF SPECIES, SIZE, QUANTITY, AND LOCATION.
- 2. TREES SHALL BE LOCATED A MINIMUM OF 5' FROM SEWER/WATER CONNECTIONS. CONTRACTOR SHALL BE LIABLE FOR DAMAGE TO ANY AND ALL PUBLIC AND PRIVATE UTILITIES, WATER AND SEWER LINES.
- 3. CONTRACTOR SHALL SLIGHTLY ADJUST PLANT LOCATIONS IN THE FIELD AS NECESSARY TO BE CLEAR OF DRAINAGE SWALES AND UTILITIES. FINISHED PLANTING BEDS SHALL BE GRADED SO AS NOT TO IMPEDE DRAINAGE AWAY FROM BUILDINGS.
- 4. SEEDING AREAS THAT WASH OUT MUST BE FILLED AND GRADED AS NECESSARY AND THEN RESEEDED. SOME TYPE OF ANCHORING METHOD SHOULD THEN BE USED TO HOLD SEEDS AND MULCH IN PLACE. THIS IS ESPECIALLY IMPORTANT AROUND WATER COURSES, IN SWALES AND AREAS OF CONCENTRATED FLOWS, AND ON SLOPES.
- 5. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 18.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 6. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING MUST BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT IN THE AMOUNT OF \$ 810,000. (8 SHADE TREES @ \$300.00 ea., 38 EVERGREEN TREES @ \$150.00 ea.)

ADDRESS CHART / OWNER INFORMATION

GLENELG COUNTRY SCHOOL		
12793 FOLLY QUARTER ROAD		
GLENELG, MD 21737 PHONE: 410-531-2229		
PERMIT INFORMATION CHART		
Subdivision Name:	Area:	Parcel #:
GLENELG COUNTRY SCHOOL	80.67 AC.	146
Plot #:	Zoning:	Tax Map:
1296/245	RR-DEO	22
	Elec. District:	Census Tract:
	5TH	6051.01
Water Code:	PRIVATE WELL	Sewer Code:
	PRIVATE SEPTIC	

APPROVED FOR SUBSTITUTION OF PRIVATE WATER & SEWER OR PRIVATE SEWERAGE SYSTEMS

James W. ... 8/8/03 DATE

COUNTRY HEALTH OFFICER

HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING

John Dammas 8/15/03 DATE

CHIEF, DEVELOPMENT ENGINEERING DIVISION

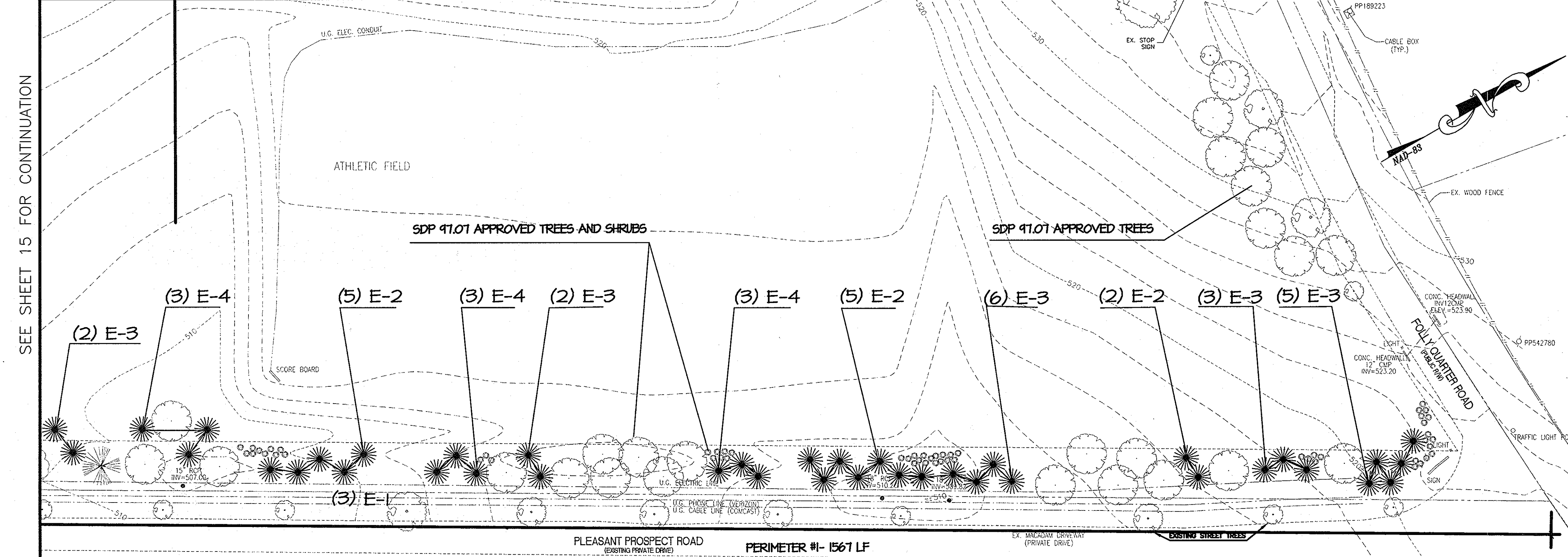
Andy ... 8/15/03 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT

... 8/15/03 DATE

DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

SEE SHEET 15 FOR CONTINUATION



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

9090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395

THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION

LANDSCAPE DETAILS

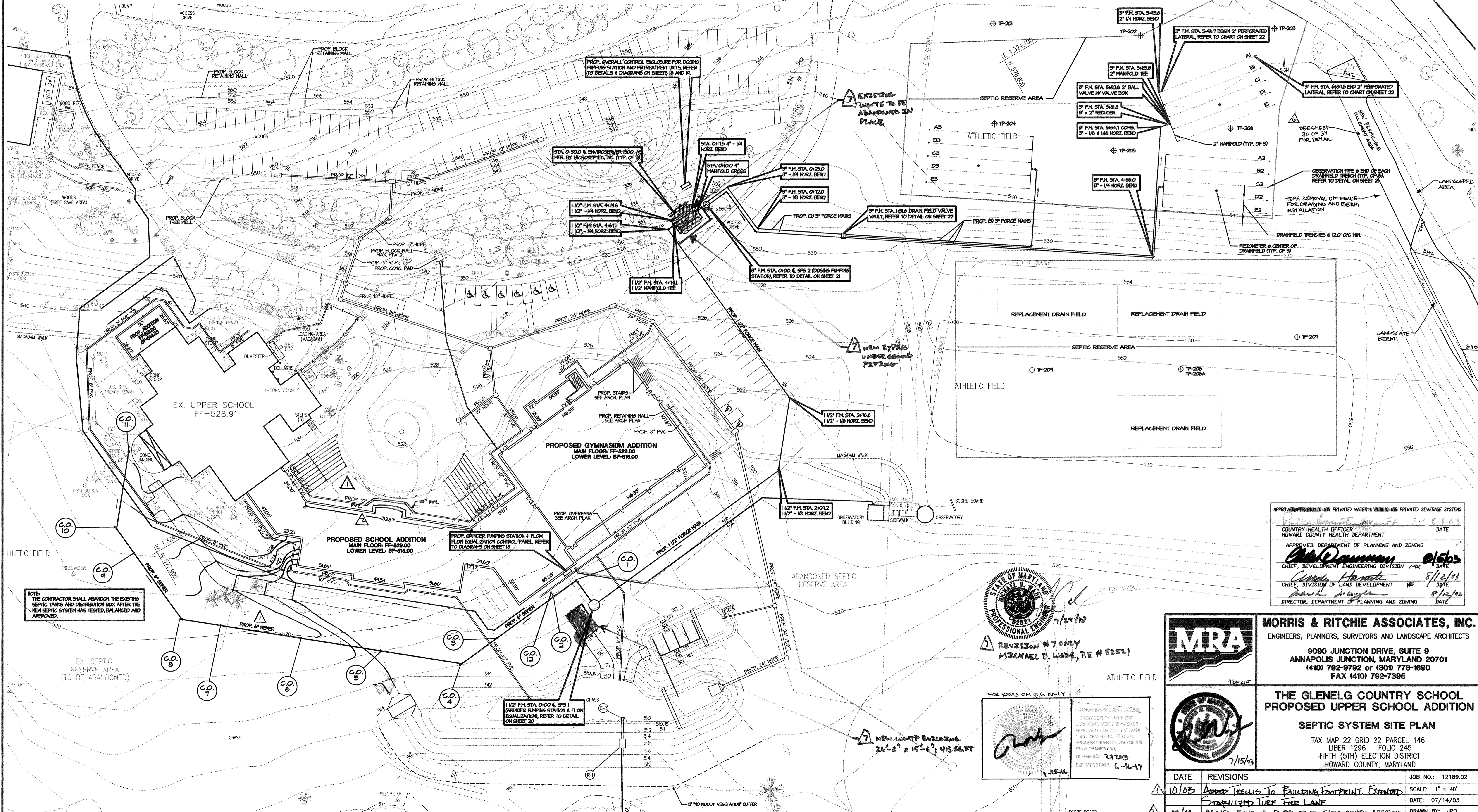
TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
		SCALE: 1" = 40'
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 16 OF 23

NOTE:

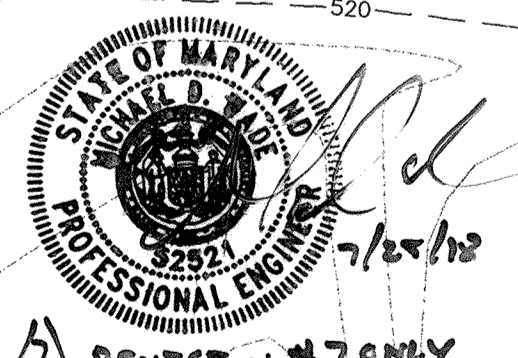
REFER TO ELECTRICAL DRAWINGS, PREPARED BY SPEARS / VOTTA ASSOCIATES, INC., FOR POWER SUPPLY AND CONDUITS FROM THE NEW SCHOOL BUILDING TO THE GRINDER PUMPING STATION CONTROL PANEL, AND TO THE OVERALL ENCLOSURE FOR THE DOSING PUMPING STATION AND PRETREATMENT UNITS.

PERCOLATION TEST RESULTS				
TEST HOLE I.D.	APPROX. DEPTH TO SUITABLE SOIL (FT.)	DEPTH OF PERC. TEST (FT.)	PERC. TEST RATE (MPH)	TOTAL DEPTH OF TEST HOLE (FT.)
TP-201	1	1	2	6.5
TP-202	2.5	1	X30	7.5
TP-203	4.5	3	2.5	13.5
TP-204	5	5	3	14.0
TP-205	6	-	OH	14.0
TP-206	6	6	13	14.5
TP-207	2.5	2.5	4	13.5
TP-208	4	6.5	10	16.0
TP-208A	5	-	OH	10.0
TP-209	3	4.5	2	13.0

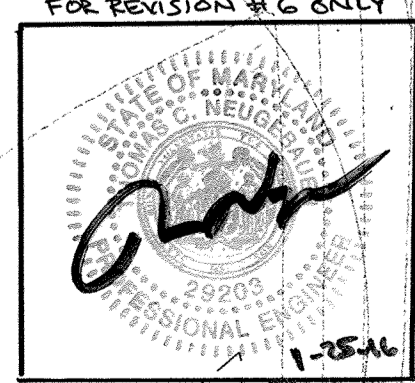


NOTE: THE CONTRACTOR SHALL ABANDON THE EXISTING SEPTIC TANKS AND DISTRIBUTION BOX AFTER THE NEW SEPTIC SYSTEM HAS TESTED, BALANCED AND APPROVED.

SEPTIC SYSTEM SITE PLAN
SCALE: 1"=40'

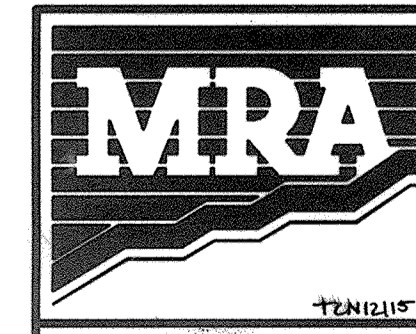


REVISION #7 ONLY
MICHAEL D. WADE, P.E. #5252

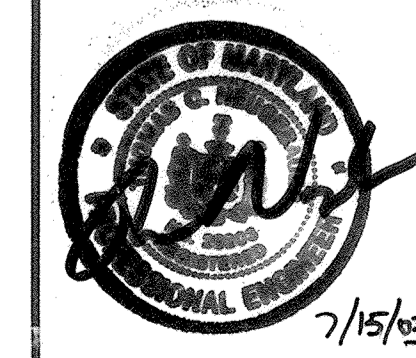


FOR REVISION #6 ONLY
HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO.: 24203
EXPIRATION DATE: 6-16-17

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS
COUNTRY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT
DATE: 8/12/03
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 8/12/03
CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 8/12/03
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING
DATE: 8/12/03

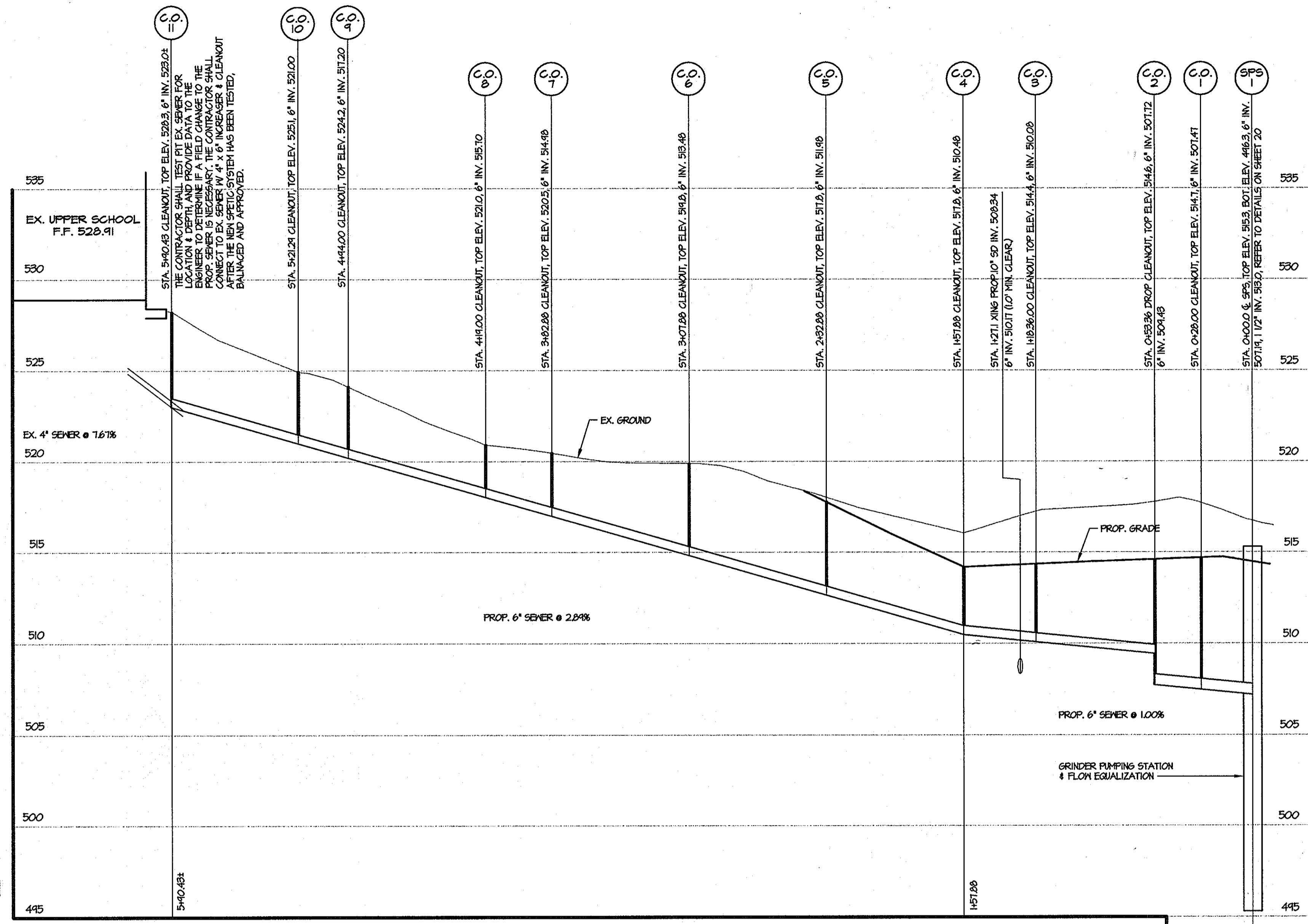


MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
8090 JUNCTION DRIVE, SUITE 8
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 782-9792 or (301) 776-1890
FAX (410) 782-7396

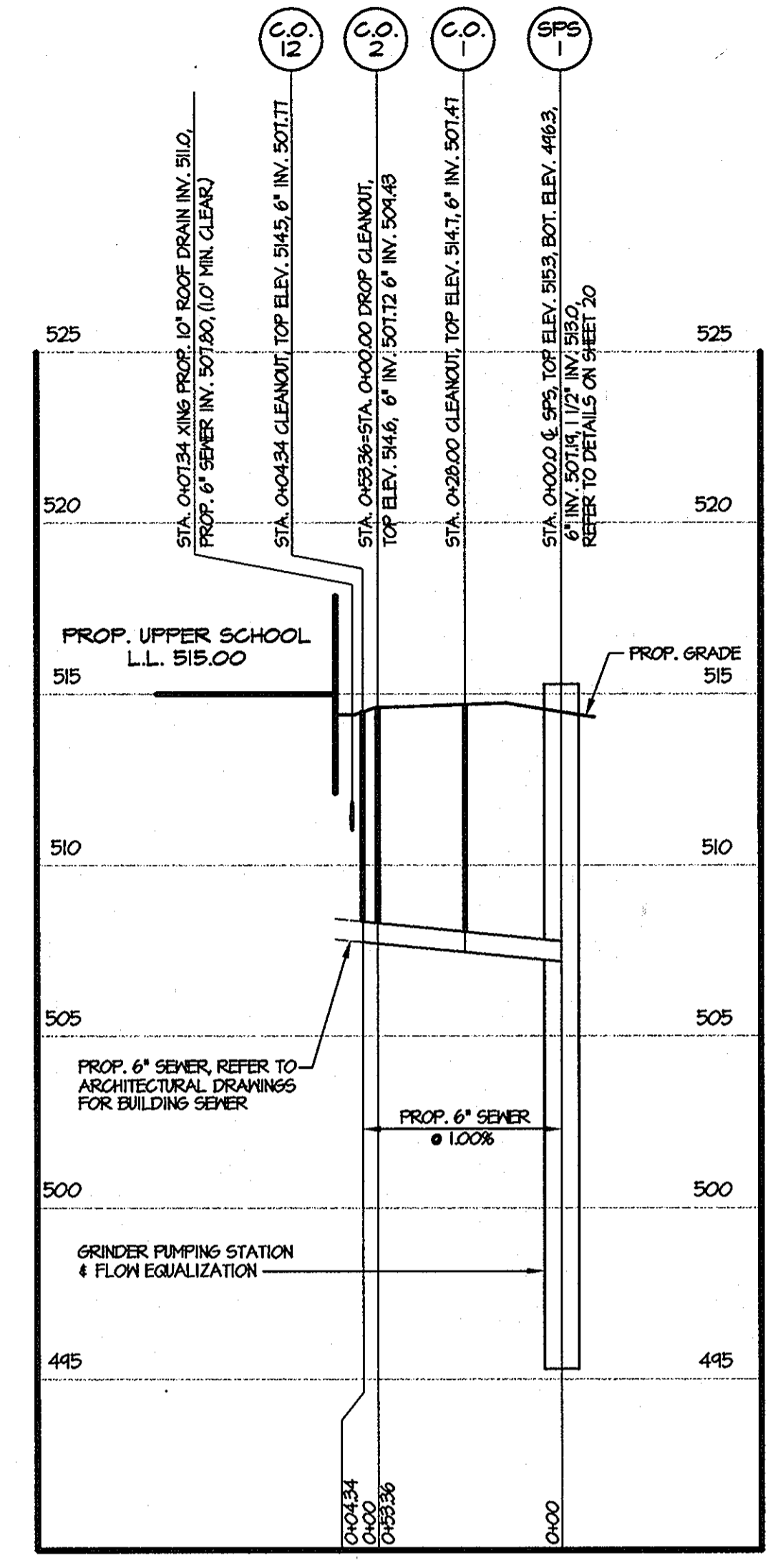


THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION
SEPTIC SYSTEM SITE PLAN
TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

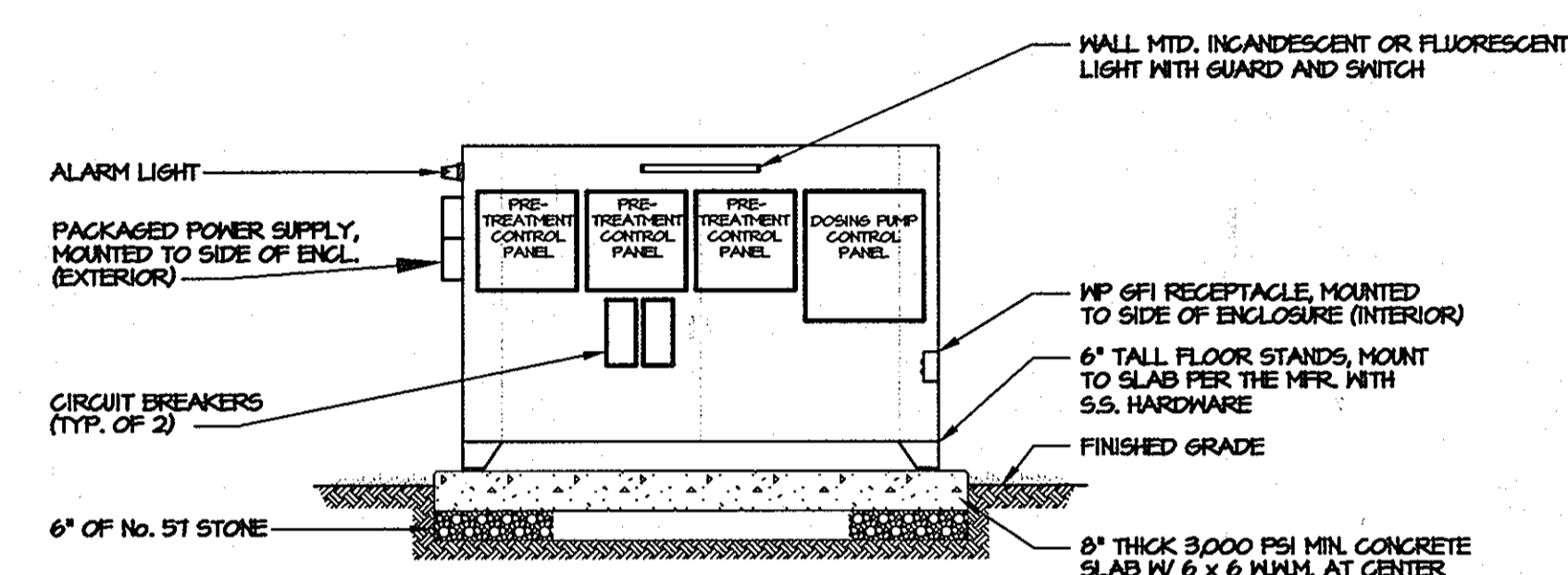
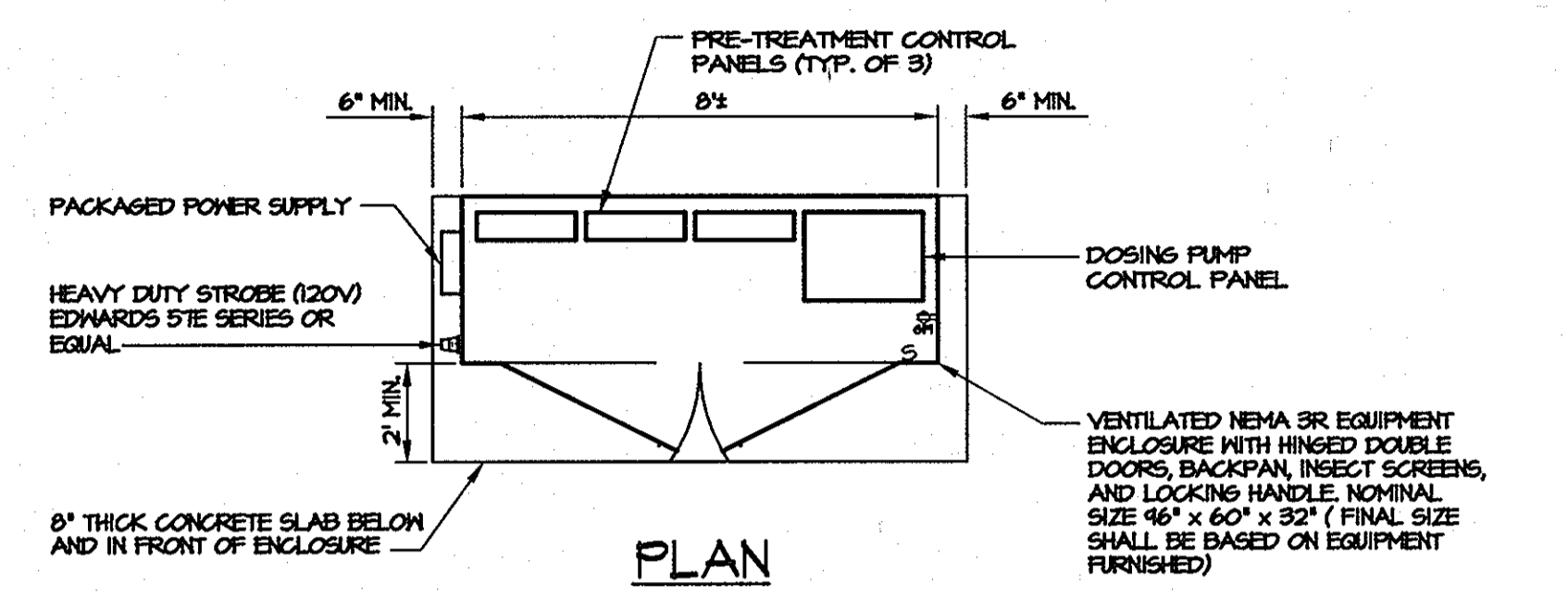
DATE	REVISIONS	JOB NO.:
10/03	ADDED TRELLIS TO PAVING FOOTPRINT. EXTENDED STABILIZED TURF FIRE LANE	12189.02
07/04	REVISED BUILDING FOOTPRINT TO SHOW APPROX. ADDITIONS	SCALE: 1" = 40'
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	DATE: 07/14/03
12/15	ADDED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND SOFTEN DRAIN TO EX. GRASS CHANNEL	DRAWN BY: JPD
7/24/18	NEW W/TP BUILDING ADDED	DESIGN BY: JPD
		REVIEW BY: EDL
		SHEET: 17 OF 28



SEWER PROFILE
 HORZ. 1" = 40'
 VERT. 1" = 4'



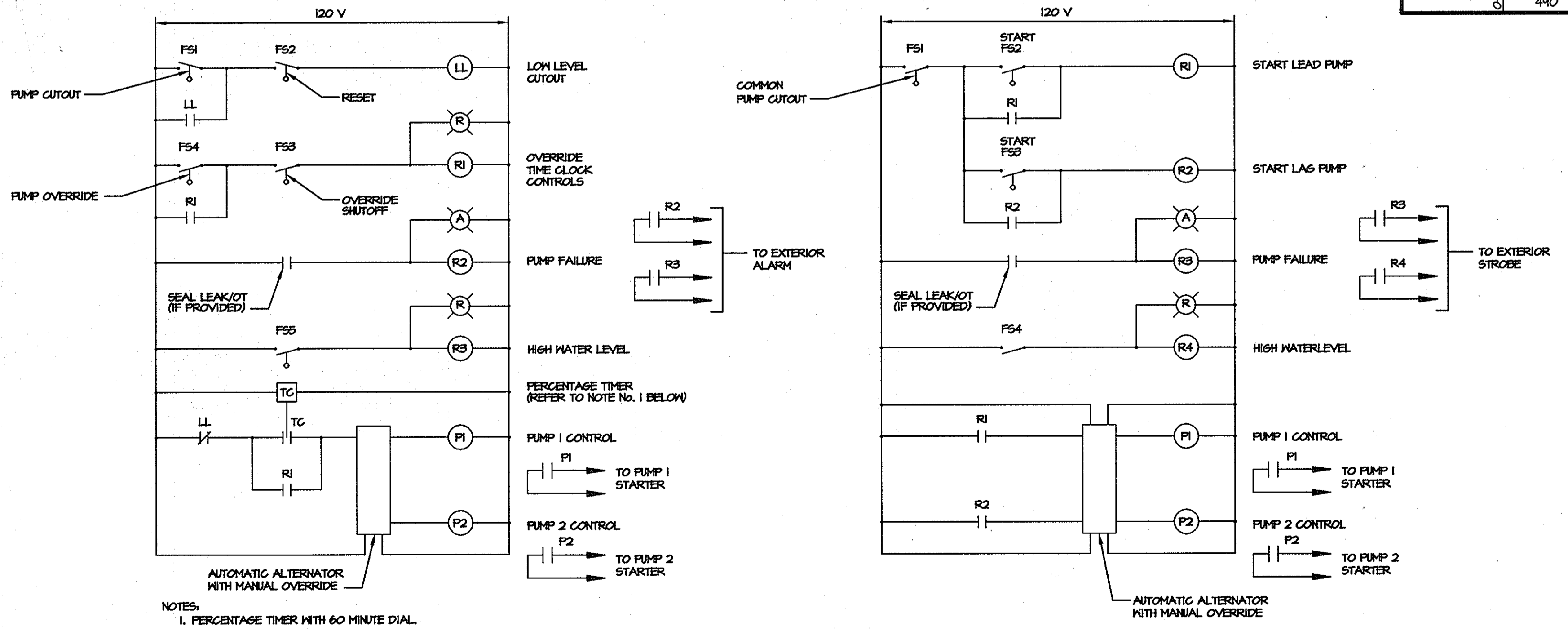
SEWER PROFILE
 HORZ. 1" = 40'
 VERT. 1" = 4'



OVERALL CONTROL ENCLOSURE DETAIL
 NOT TO SCALE

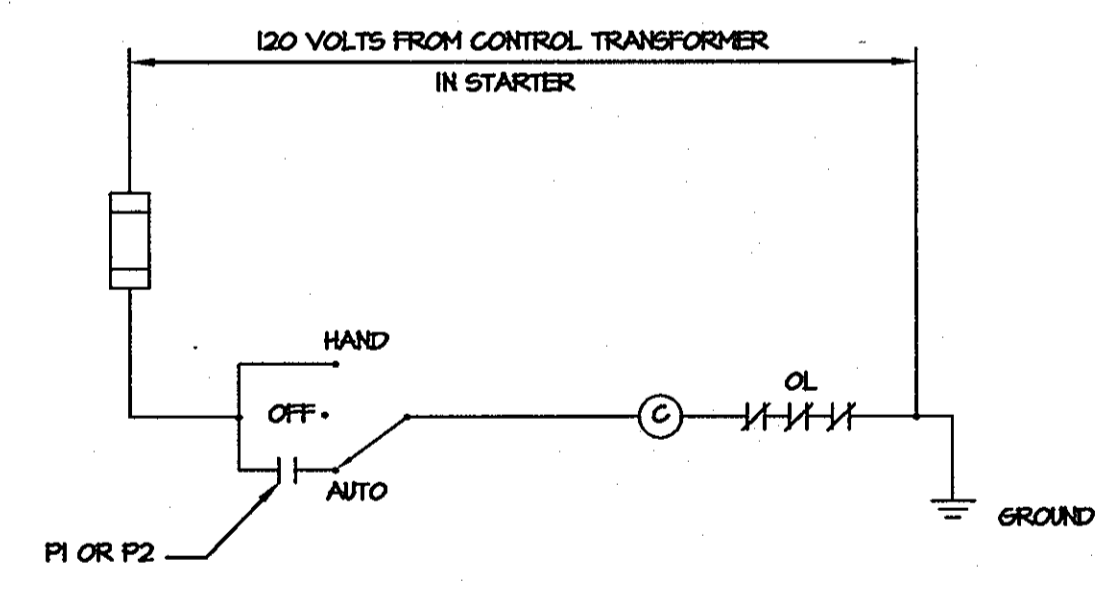
GENERAL ELECTRICAL NOTES

1. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL ELECTRICAL PERMITS AND INSPECTION.
2. ALL MATERIALS AND METHOD OF CONSTRUCTION SHALL BE IN CONFORMANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.
3. ALL MATERIALS AND ASSEMBLIES SHALL BEAR THE UNDERWRITERS LABORATORIES, INC. (U.L.) LISTING LABEL.
4. GROUNDING FOR ELECTRIC SERVICE SHALL BE PROVIDED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE.
5. UNDERGROUND WIRING SHALL BE INSTALLED IN SCH. 40 PVC CONDUIT. CONDUCTORS SHALL BE COPPER WITH XHHW INSULATION.

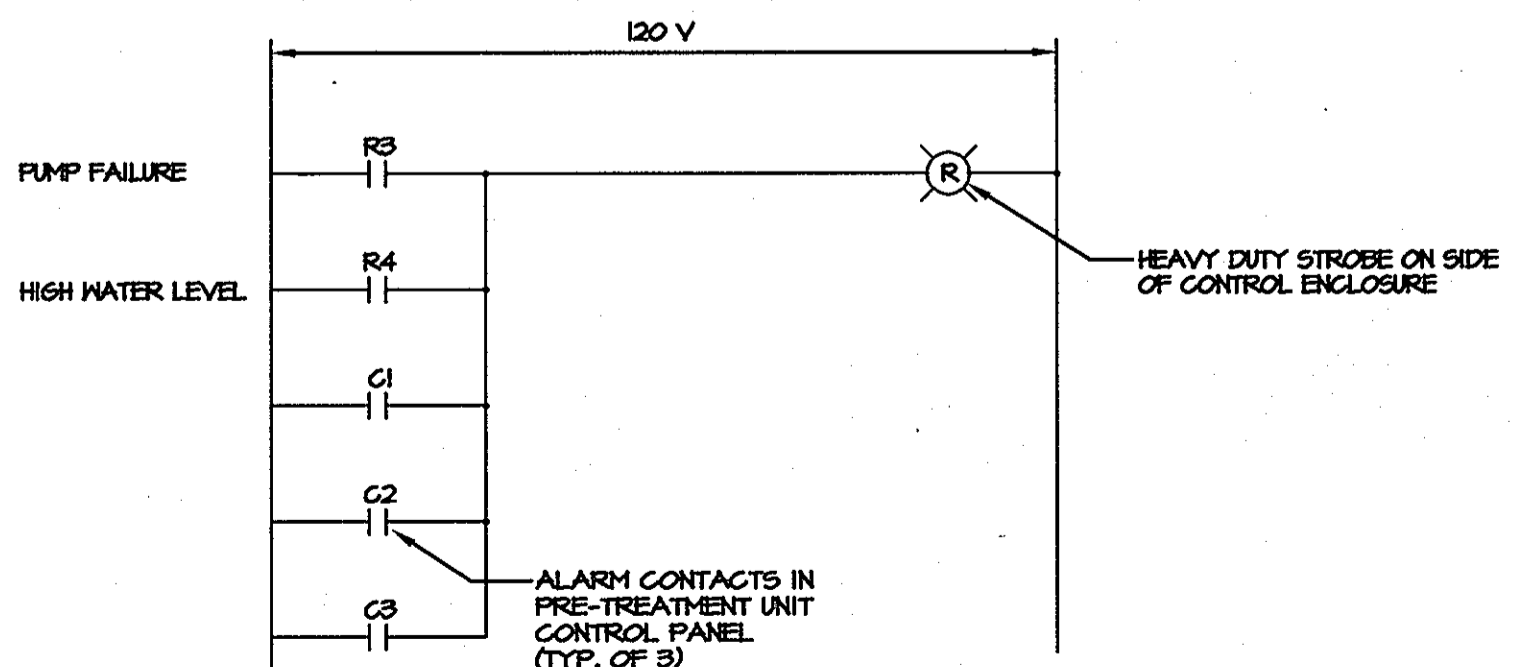


GRINDER PUMP & FLOW EQUALIZATION CONTROL DIAGRAM
 NO SCALE

DOSING PUMP CONTROL DIAGRAM
 NO SCALE



PUMP STARTER DIAGRAM
 NO SCALE



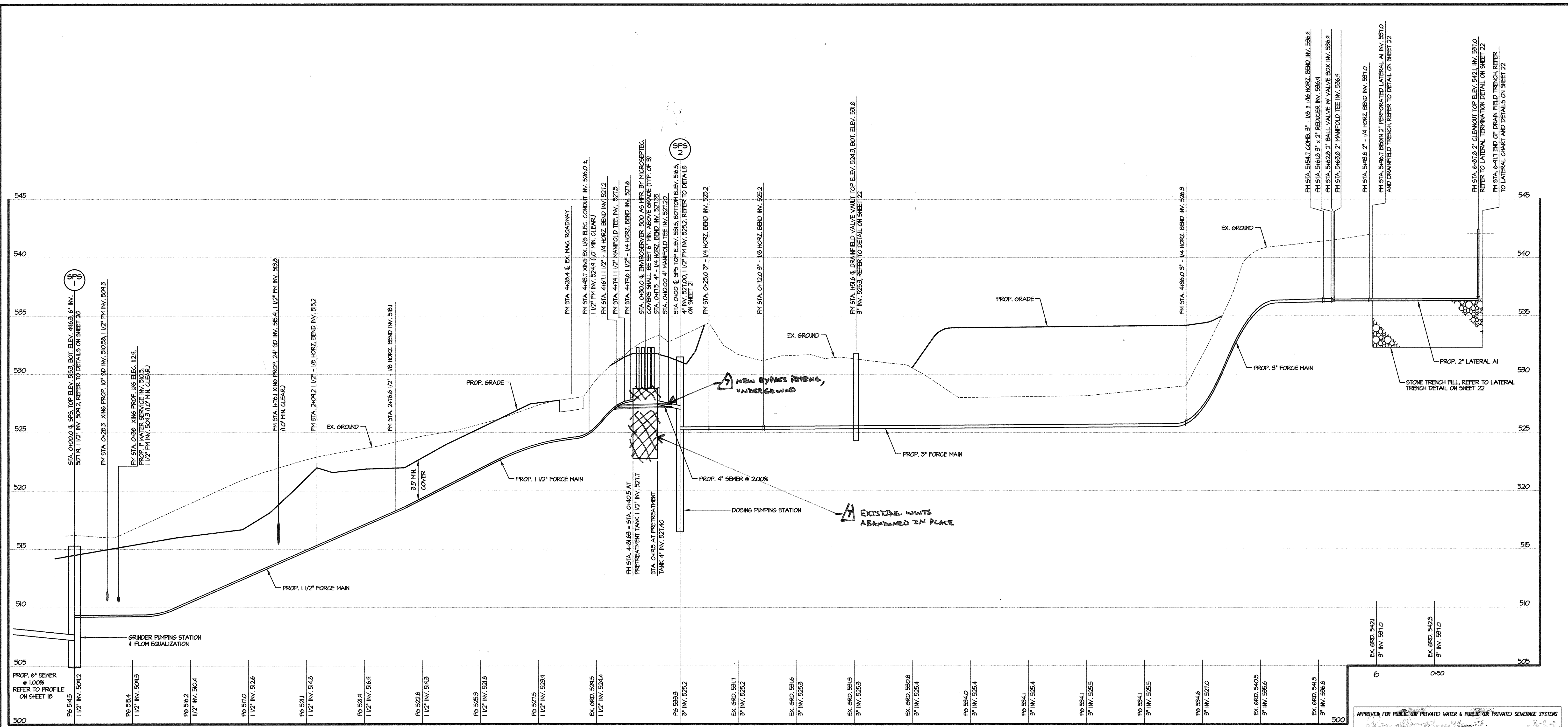
OVERALL CONTROL ENCLOSURE ALARM STROBE DIAGRAM
 NO SCALE

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

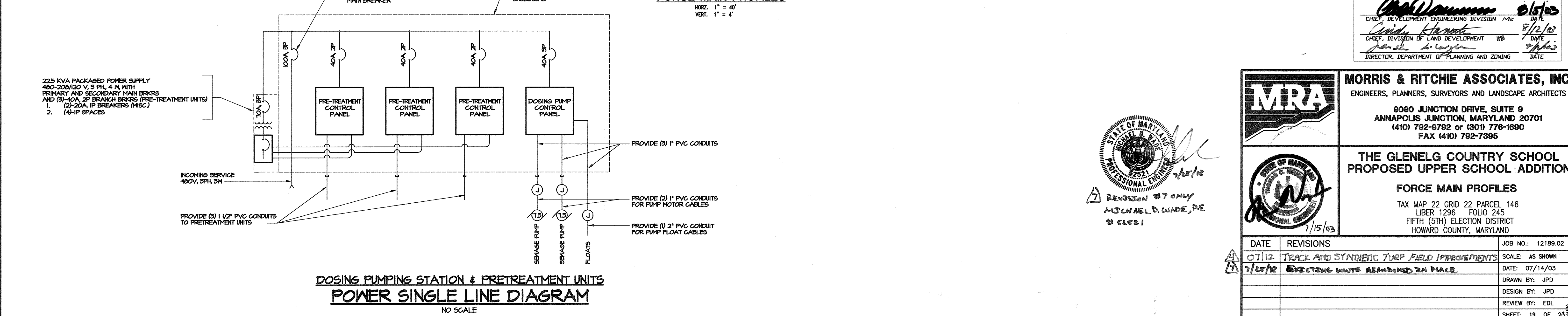
MRA MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9080 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

THE GLENELG COUNTRY SCHOOL PROPOSED UPPER SCHOOL ADDITION
SEWER PROFILES
 TAX MAP 22 GRID 22 PARCEL 146
 LIBER 1296 FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
		SCALE: AS SHOWN
		DATE: 07/14/03
		DRAWN BY: JPD
		DESIGN BY: JPD
		REVIEW BY: EDL
		SHEET: 18 OF 237



PG 514.5 1/2" INV. 504.2	PG 514 1/2" INV. 504.3	PG 514.2 1/2" INV. 504.4	PG 514.0 1/2" INV. 504.6	PG 511 1/2" INV. 514.3	PG 514.4 1/2" INV. 516.4	PG 522.0 1/2" INV. 516.3	PG 525.3 1/2" INV. 521.9	PG 521.5 1/2" INV. 528.1	EX. GRD. 524.5 1/2" INV. 524.4	PG 528.3 3" INV. 525.2	EX. GRD. 531.7 3" INV. 525.2	EX. GRD. 531.6 3" INV. 525.3	EX. GRD. 531.3 3" INV. 525.3	EX. GRD. 530.8 3" INV. 525.4	PG 534.0 3" INV. 525.4	PG 534.1 3" INV. 525.4	PG 534.1 3" INV. 525.5	PG 534.1 3" INV. 525.5	PG 534.6 3" INV. 527.0	EX. GRD. 540.5 3" INV. 525.9	EX. GRD. 541.5 3" INV. 526.9	EX. GRD. 542.1 3" INV. 527.0	EX. GRD. 542.3 3" INV. 527.0
-----------------------------	---------------------------	-----------------------------	-----------------------------	---------------------------	-----------------------------	-----------------------------	-----------------------------	-----------------------------	-----------------------------------	---------------------------	---------------------------------	---------------------------------	---------------------------------	---------------------------------	---------------------------	---------------------------	---------------------------	---------------------------	---------------------------	---------------------------------	---------------------------------	---------------------------------	---------------------------------



225 kVA PACKAGED POWER SUPPLY
480-200/120 V, 3 PH, 4 W WITH
PRIMARY AND SECONDARY MAIN BREAKERS
AND (3)-40A, 2P BRANCH BRKR'S (PRE-TREATMENT UNITS)
AND (3)-40A, 2P BRANCH BRKR'S (MISC.)
1. (2)-20A, 1P BRKR'S (MISC.)
2. (4)-1P SPACES

PROVIDE (3) 1 1/2" PVC CONDUITS TO PRETREATMENT UNITS

PROVIDE (3) 1" PVC CONDUITS

PROVIDE (2) 1" PVC CONDUITS FOR PUMP MOTOR CABLES

PROVIDE (1) 2" PVC CONDUIT FOR PUMP FLOAT CABLES

ENCLOSURE MAIN BREAKER

OVERALL WEATHER PROOF ENCLOSURE

PRE-TREATMENT CONTROL PANEL

PRE-TREATMENT CONTROL PANEL

PRE-TREATMENT CONTROL PANEL

DOSING PUMP CONTROL PANEL

DOSING PUMP

SEWER PUMP

FLUATS

NO SCALE

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS

COUNTRY HEALTH OFFICER
HOWARD COUNTY HEALTH DEPARTMENT

APPROVED: DEPARTMENT OF PLANNING AND ZONING

[Signature] 8/15/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] 8/12/02
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] 8/15/03
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

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

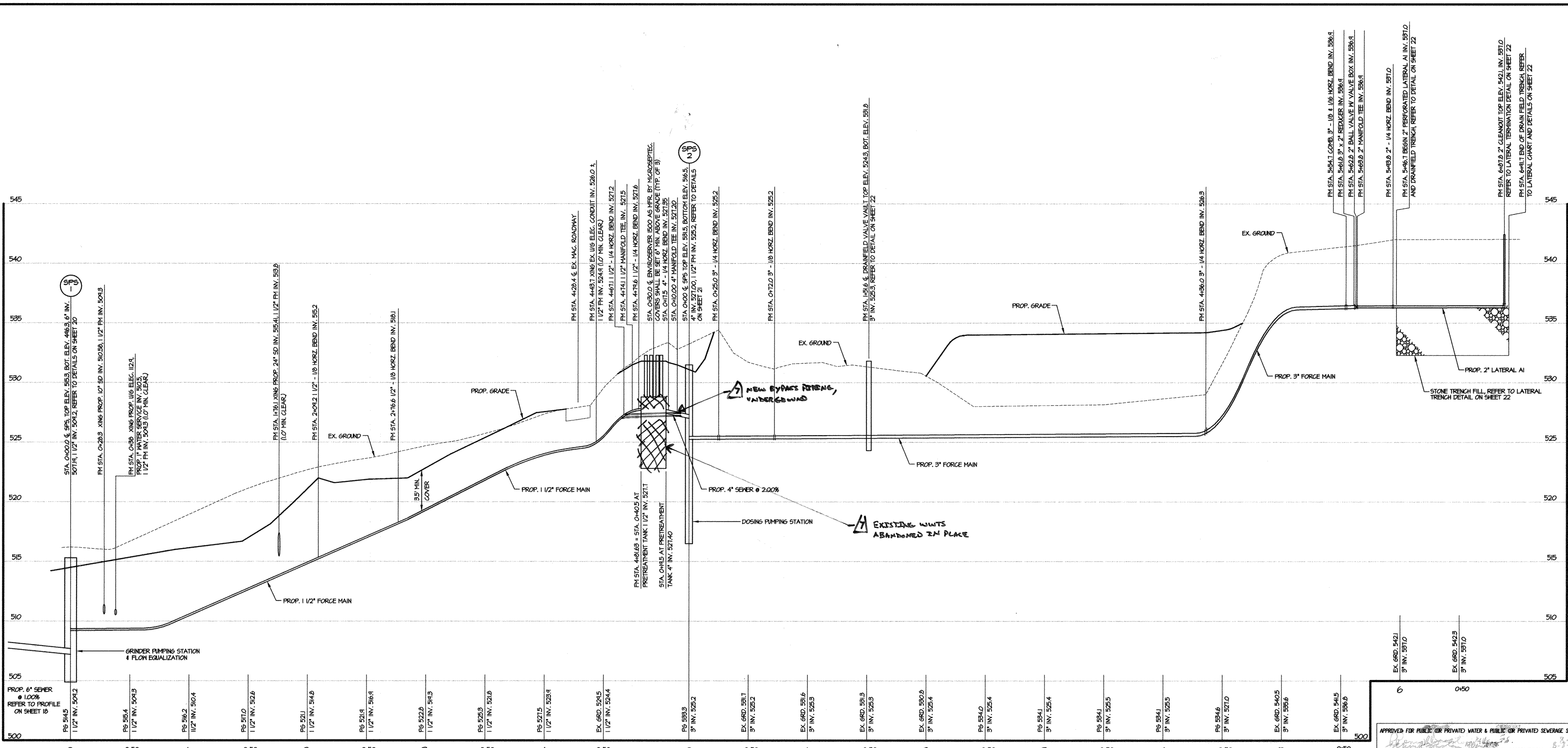
8080 JUNCTION DRIVE, SUITE 8
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 782-9792 or (301) 776-1690
FAX (410) 782-7395

**THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION**

FORCE MAIN PROFILES

TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

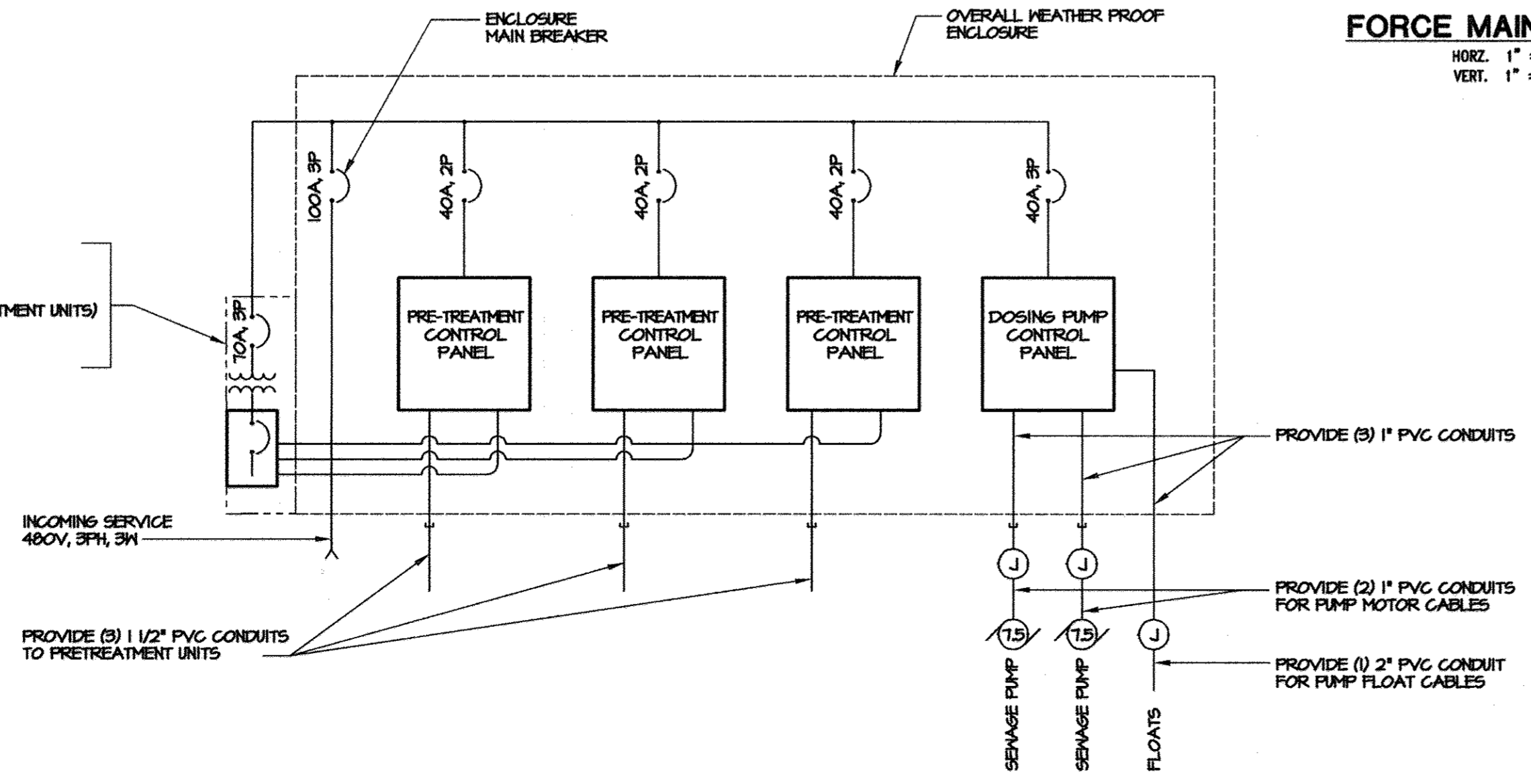
DATE	REVISIONS	JOB NO.:	12189.02
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	SCALE:	AS SHOWN
7/25/02	EXISTING UNITS ABANDONED IN PLACE	DATE:	07/14/03
		DRAWN BY:	JPD
		DESIGN BY:	JPD
		REVIEW BY:	EDL
		SHEET:	19 OF 25



FORCE MAIN PROFILES
 HORZ. 1" = 40'
 VERT. 1" = 4'

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS
 COUNTRY HEALTH OFFICER
 HEWARD COUNTY HEALTH DEPARTMENT
 APPROVED DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

22.5 KVA PACKAGED POWER SUPPLY
 480-208/120 V, 3 PH, 4 W, WITH
 PRIMARY AND SECONDARY MAIN BREAKERS
 AND (3)-40A, 2P BRANCH BREAKERS (PRE-TREATMENT UNITS)
 1. (2)-20A, 1P BREAKERS (MISC.)
 2. (4)-IP SPACES



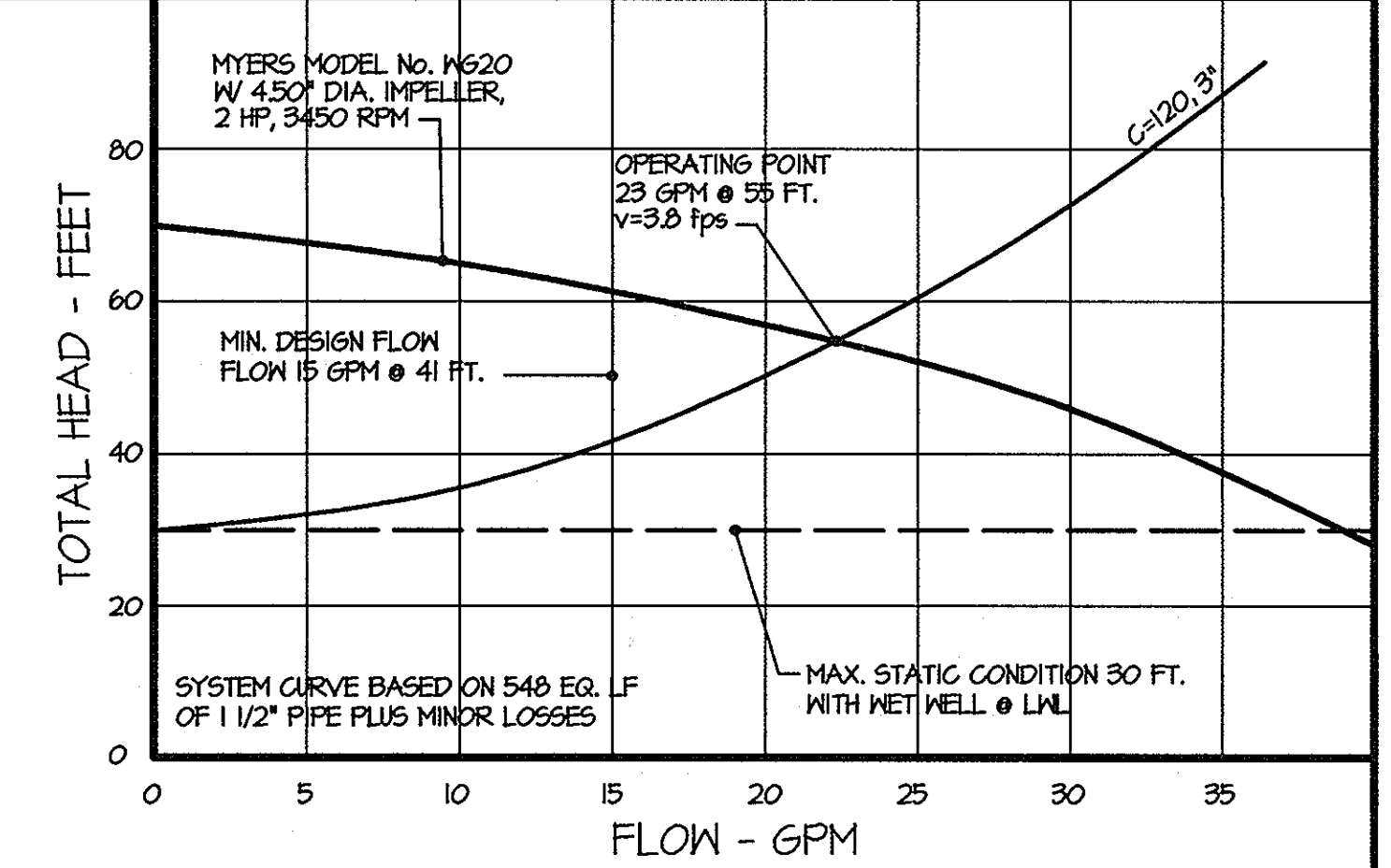
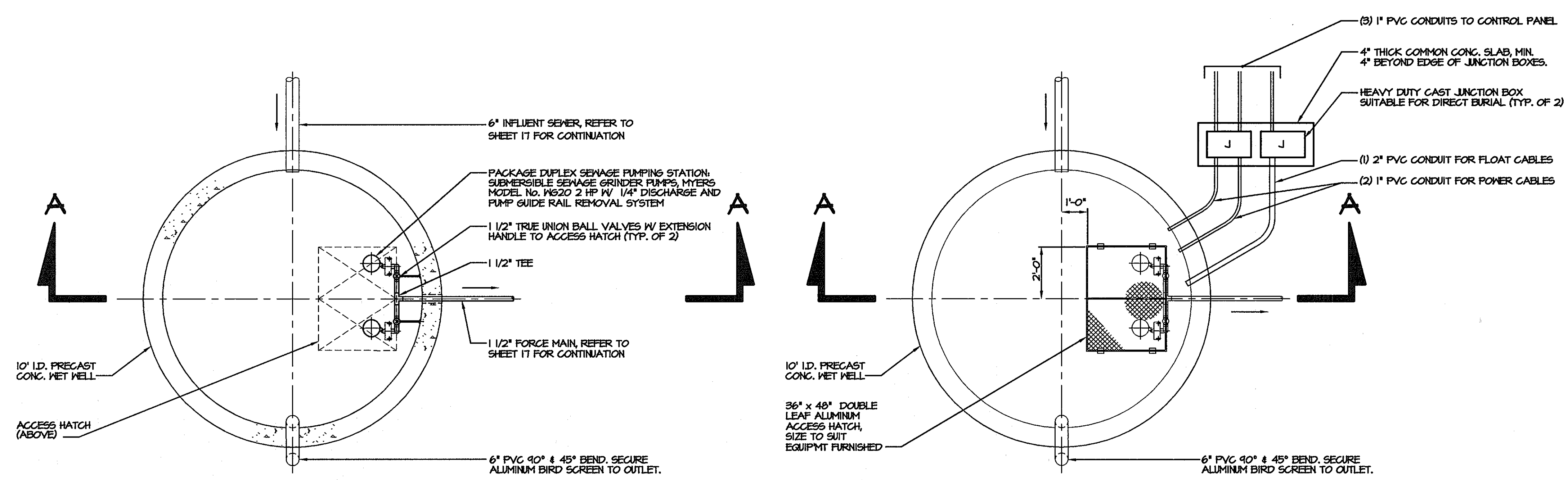
**DOSING PUMPING STATION & PRE-TREATMENT UNITS
 POWER SINGLE LINE DIAGRAM**
 NO SCALE

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 7/15/12
 RENISSON #7 ONLY
 MICHAEL D. WADE, P.E.
 # 6281

MORRIS & RITCHIE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 9090 JUNCTION DRIVE, SUITE 9
 ANNAPOLIS JUNCTION, MARYLAND 20701
 (410) 792-9792 or (301) 776-1690
 FAX (410) 792-7395

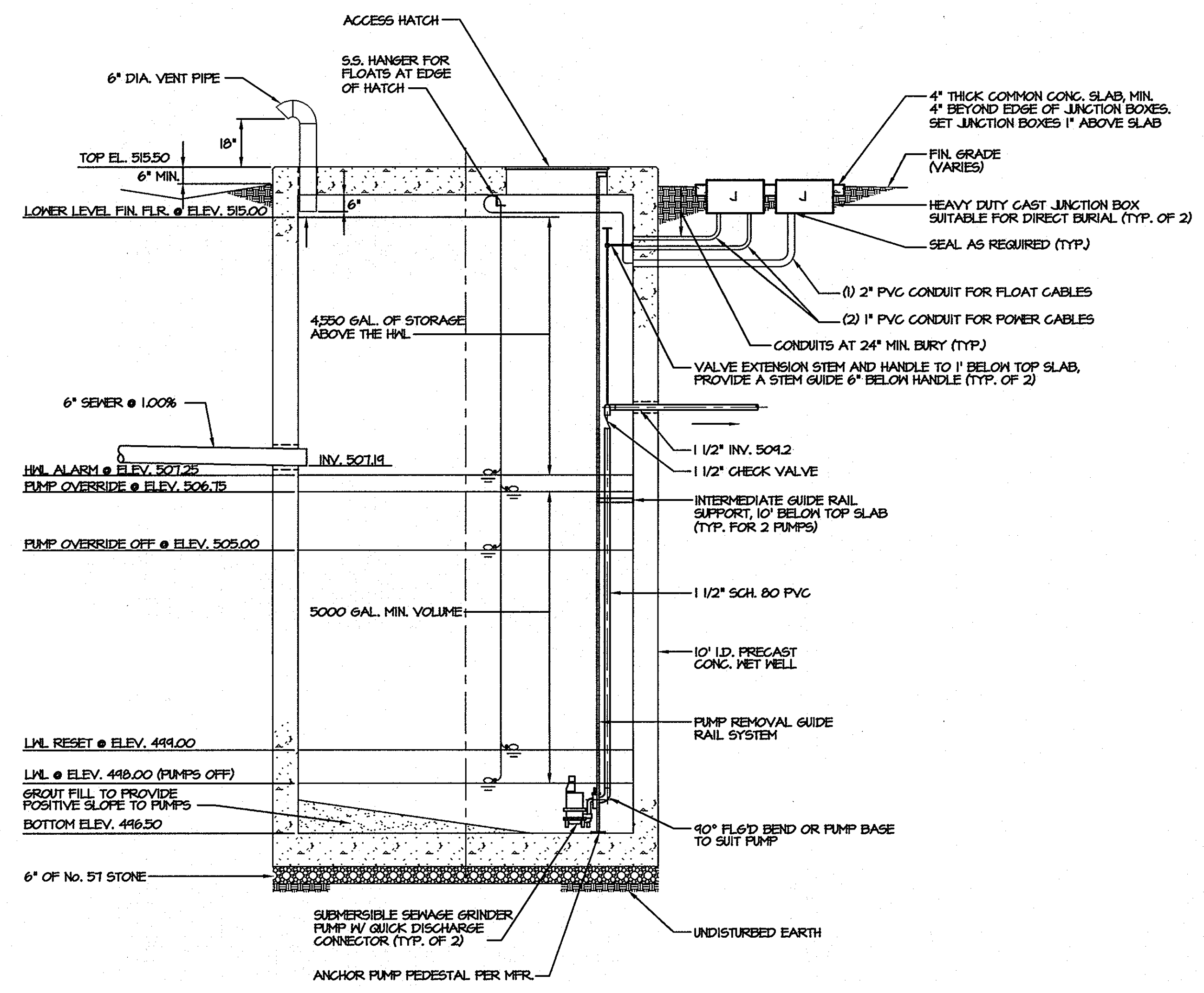
**THE GLENELG COUNTRY SCHOOL
 PROPOSED UPPER SCHOOL ADDITION**
FORCE MAIN PROFILES
 TAX MAP 22, GRID 22, PARCEL 146
 LIBER 1296, FOLIO 245
 FIFTH (5TH) ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
7/25/12	EXISTING UNITS ABANDONED IN PLACE	SCALE: AS SHOWN
		DATE: 07/14/03
		DRAWN BY: JPD
		DESIGN BY: JPD
		REVIEW BY: EDL
		SHEET: 19 OF 28



LOWER PLAN

TOP PLAN



SECTION A-A

DETAIL-GRINDER PUMPING STATION & FLOW EQUALIZATION

SCALE: 3/8"=1'-0"

PACKAGE GRINDER PUMPING STATION & FLOW EQUALIZATION

- A. GENERAL - Furnish and install a complete duplex grinder pump package consisting of two (2) grinder pumps and motors, internal discharge piping, check valves, shut off valves, quick-disconnect slide rail systems, lift chains, five (5) level controls, stainless steel level control bracket, junction box and control panel.
- All equipment shall be furnished as a package from a single source, and be a product of F.E. Myers.
- B. RAIL ASSEMBLIES - Refer to the Dosing Station specification, except guide rails are 1" diameter.
- C. CHECK VALVES - A heavy duty spring loaded all rubber flapper type check valve with cast iron body shall be an integral part of the discharge seal assemblies. The valve design shall be such to allow for operation when negative heads, up to five feet, are encountered. The valves shall be designed to operate at all pressures in the sewer system created by the grinder pumps.
- A flat set stainless steel spring, internally molded into the Buna-N rubber flapper, shall be furnished in order to prevent collection of debris in the check valve. All fasteners shall be stainless steel.
- D. DISCHARGE PIPING - Schedule 80 PVC.
- E. SHUT OFF VALVES - Refer to the drawings.
- F. LEVEL CONTROLS - Refer to the Dosing Station specification, except five (5) are required.
- G. SUBMERSIBLE GRINDER PUMP - Provide two centrifugal type grinder pumps, Myers Model M5-20, with 4 1/2 inch impeller, 23 gpm @ 55 feet, 3450 rpm submersible motor, suitable for operation in three phase, 480 volts. REFER TO DESIGN CRITERIA FOR OPERATING CONDITIONS.
- H. CONTROL PANEL - Refer to the Dosing Station specification, except normal operation of the pumps will be by a repeat cycle timer with an override at HNL. Refer to the Control Diagrams for specific requirements.
- I. The pump package manufacturer shall provide a minimum of eight (8) hours of field start-up assistance and training for both installations.
- J. CONTROL PANEL - Furnish and install one (1) duplex control panel. The panel shall be a NEMA-4 door in door enclosure, for remote mounting, to include but not limited to the following:
 - (1) Main Disconnect Switch
 - (2) Circuit Breaker
 - (3) Magnetic starters with overload and low voltage protection
 - (2) Hand-off-automatic selector switch
 - (1) Automatic Electric Alternator
 - (2) Overload Reset Buttons
 - (2) Elapsed Running Time Meters
 - (4) Mercury Float Switches
 - (2) Event counter for each pump
 - (1) Audible alarm with silence push-button and light
 - (1) Control Transformer
 - (1) Percentage timer w/ 60 minute dial

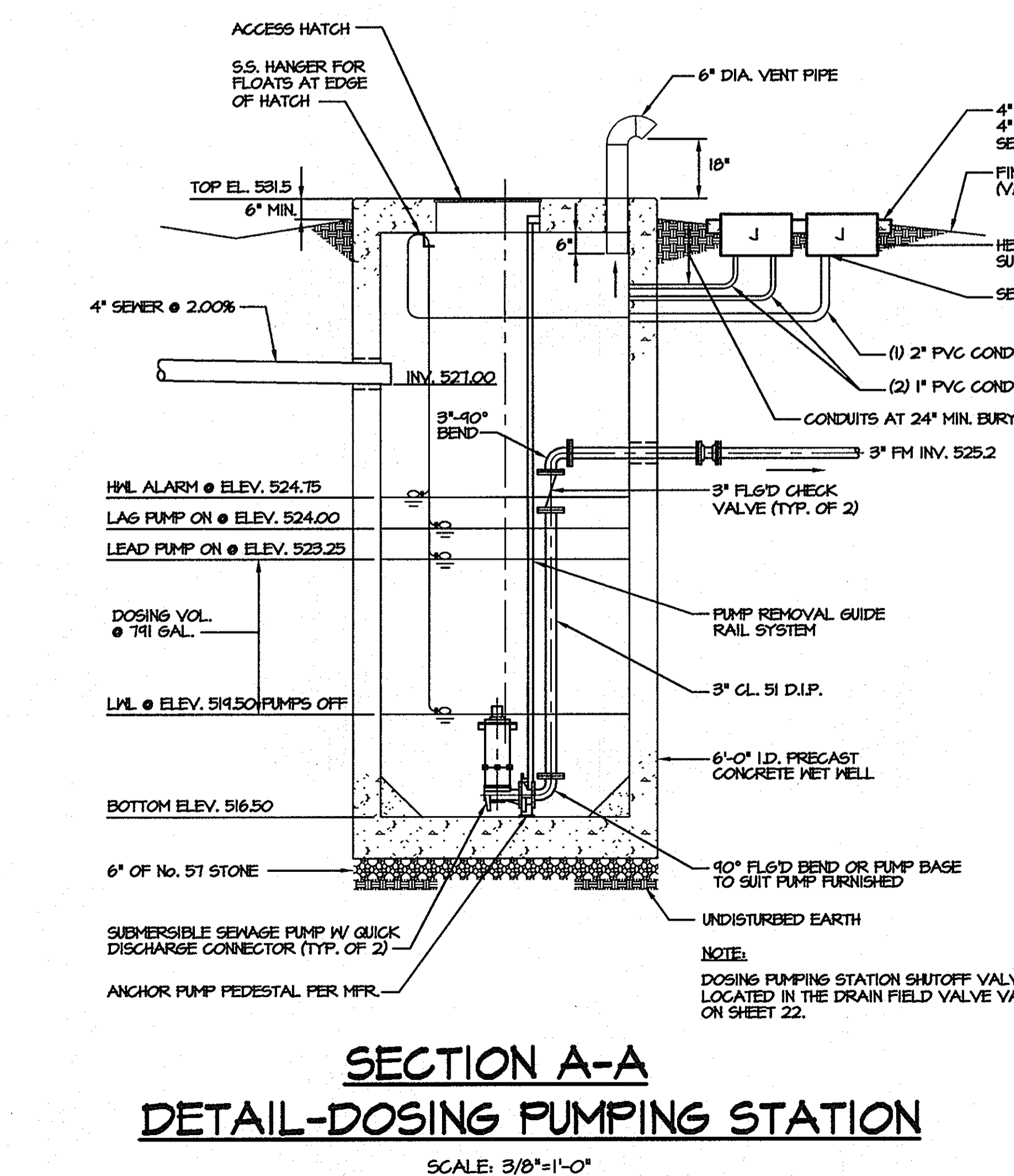
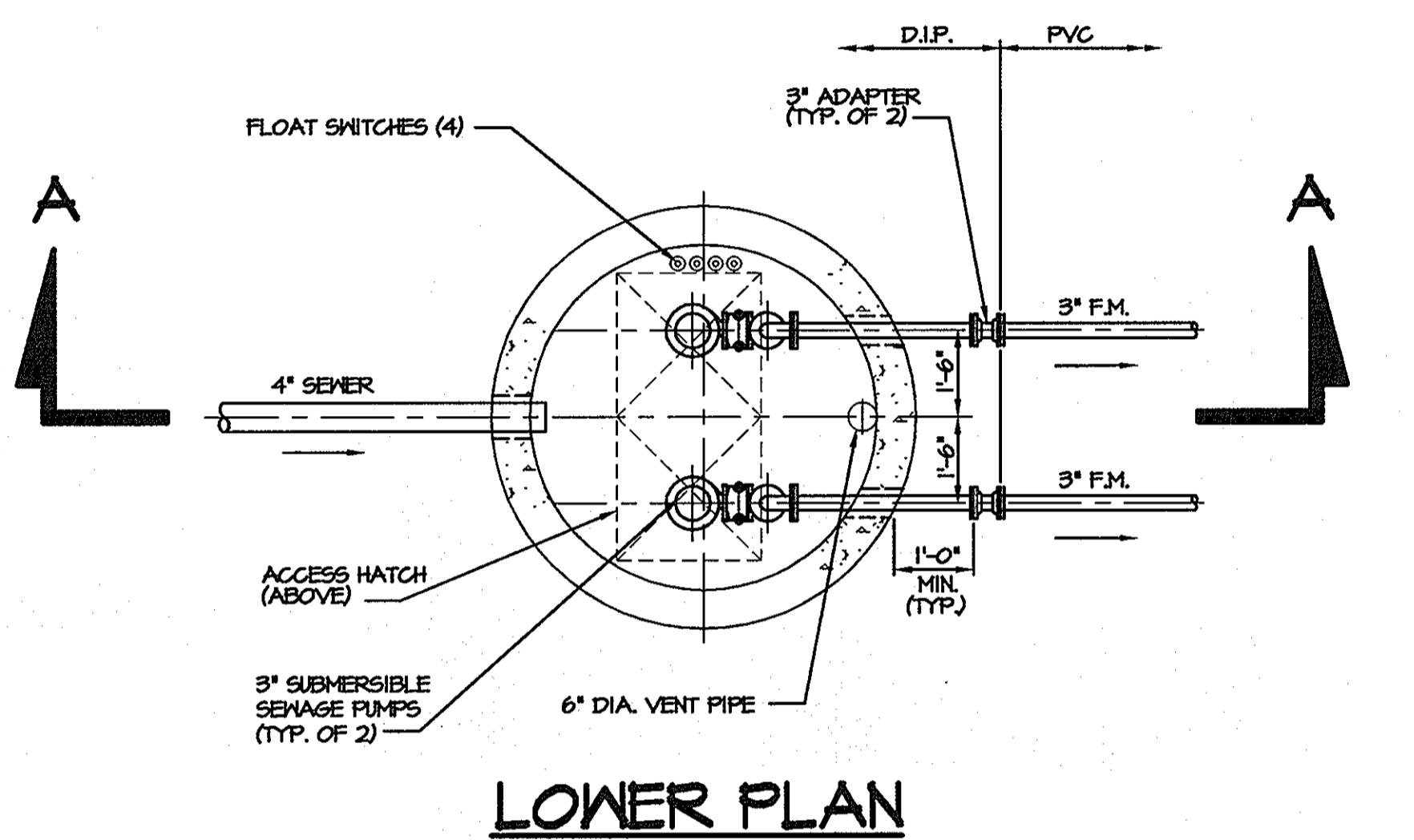
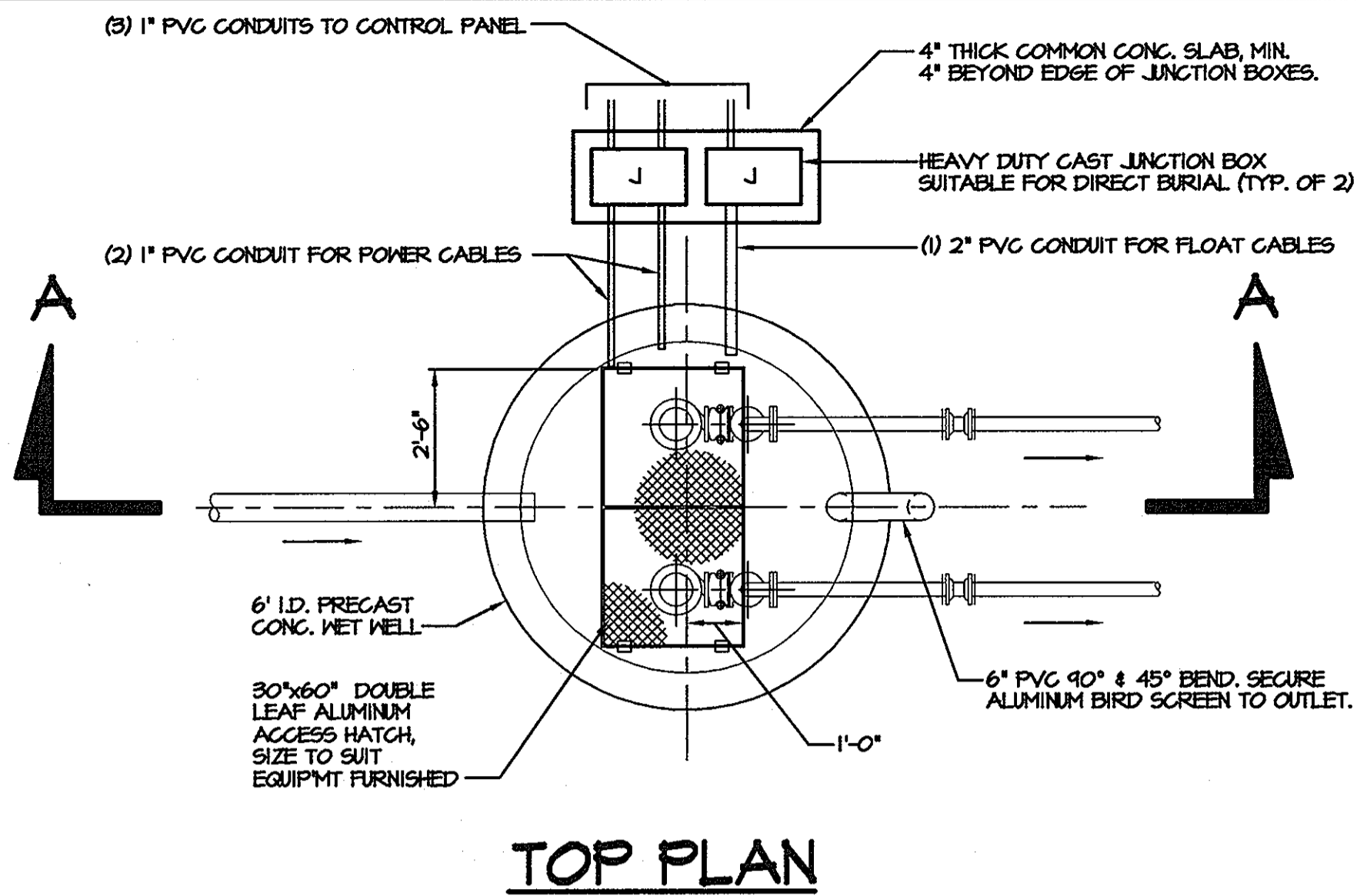
APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS
 COUNTY HEALTH OFFICER
 HOWARD COUNTY HEALTH DEPARTMENT
 DATE 8/22/03

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE 8/22/03

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE 8/22/03

DIRECTOR, DEPARTMENT OF PLANNING AND ZONING
 DATE 7/15/03

		MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS 9090 JUNCTION DRIVE, SUITE 9 ANNAPOLIS JUNCTION, MARYLAND 20701 (410) 792-9792 or (301) 776-1690 FAX (410) 792-7395	
THE GLENELG COUNTRY SCHOOL PROPOSED UPPER SCHOOL ADDITION GRINDER PUMPING STATION, SPECIFICATION, AND PUMP & SYSTEM CURVE		TAX MAP 22, GRID 22, PARCEL 146 LIBER 1298 FOLIO 245 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DATE	REVISIONS	JOB NO.:	12189.02
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	SCALE:	AS SHOWN
		DATE:	07/14/03
		DRAWN BY:	JPD
		DESIGN BY:	JPD
		REVIEW BY:	EDL
		SHEET:	20 OF 22



PRECAST CONCRETE STRUCTURES

A. PRECAST CONCRETE STRUCTURES - Precast concrete structures shall be the product of Atlantic Precast Concrete, Inc., Rotondo Precast, A.C. Miller Concrete Products, Monarch Products Company, Inc. or equal as approved.

B. DESIGN CRITERIA

1. Concrete - 5,000 PSI minimum strength @ 28 days.
2. Steel reinforcement - ASTM A-615, Grade 60.
3. Cover to steel - 1" minimum.
4. Design to meet ASTM C851 and ACI 318 with AASHTO HS-20 loading.
5. Construction joints - sealed with butyl rubber resin or equivalent.

C. ACCESS HATCHES

1. Provide access hatches cast-in-place of the size and as shown on the drawings. Hatch shall have 1/4 inch thick aluminum checkered plate cover, reinforced for 300 pound per square foot live load, 180 degree swing heavy duty aluminum hinges with stainless steel lift handle, padlock, hasp and aluminum frame.
2. Aluminum frame to be in contact with concrete shall be bituminous coated.
3. Access hatches shall be a product of Washington Aluminum Co., Bilco, Halliday Products, or equal product as approved.

D. PIPE PENETRATIONS - All pipe penetrations shall have a cast-in-place compression type flexible gasket, A-LOK type for 4" and larger pipe, or a flexible rubber boot type gasket for pipe less than 4" in diameter.

E. EXECUTION

1. Installation shall be in accordance with the manufacturer's recommendation.
2. Lifting bars in top slabs and exposed surfaces shall be removed and voids finished smooth with sand cement grout.
3. Watertight testing shall be in accordance with MDE and local requirements.

SEWAGE PRETREATMENT UNITS

A. GENERAL - Furnish and install fully assembled sewage pretreatment units consisting of the tanks, pretreatment unit inserts, blower assemblies, blower controls & alarms (audible with silence push-button and light), and vent piping.

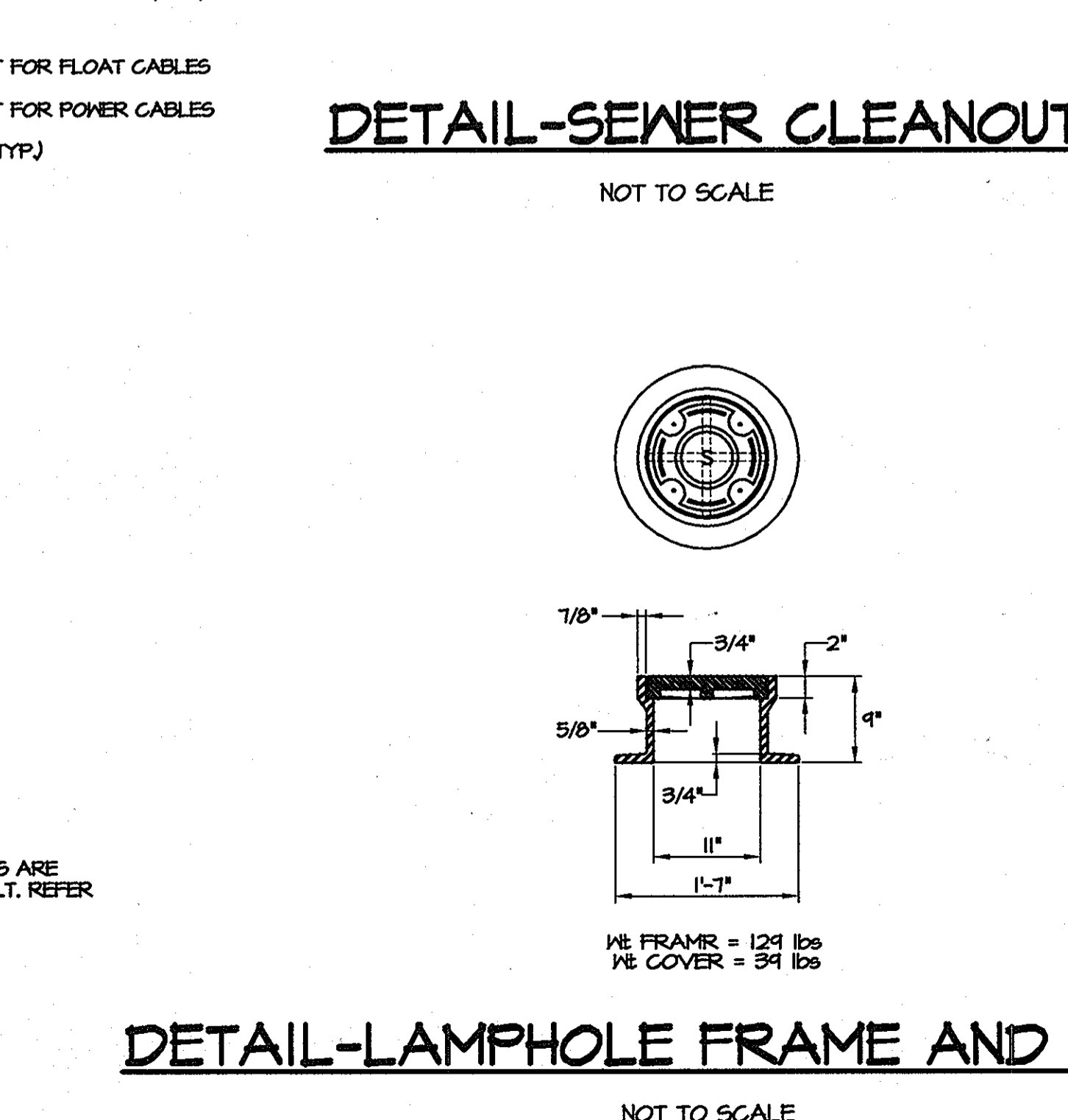
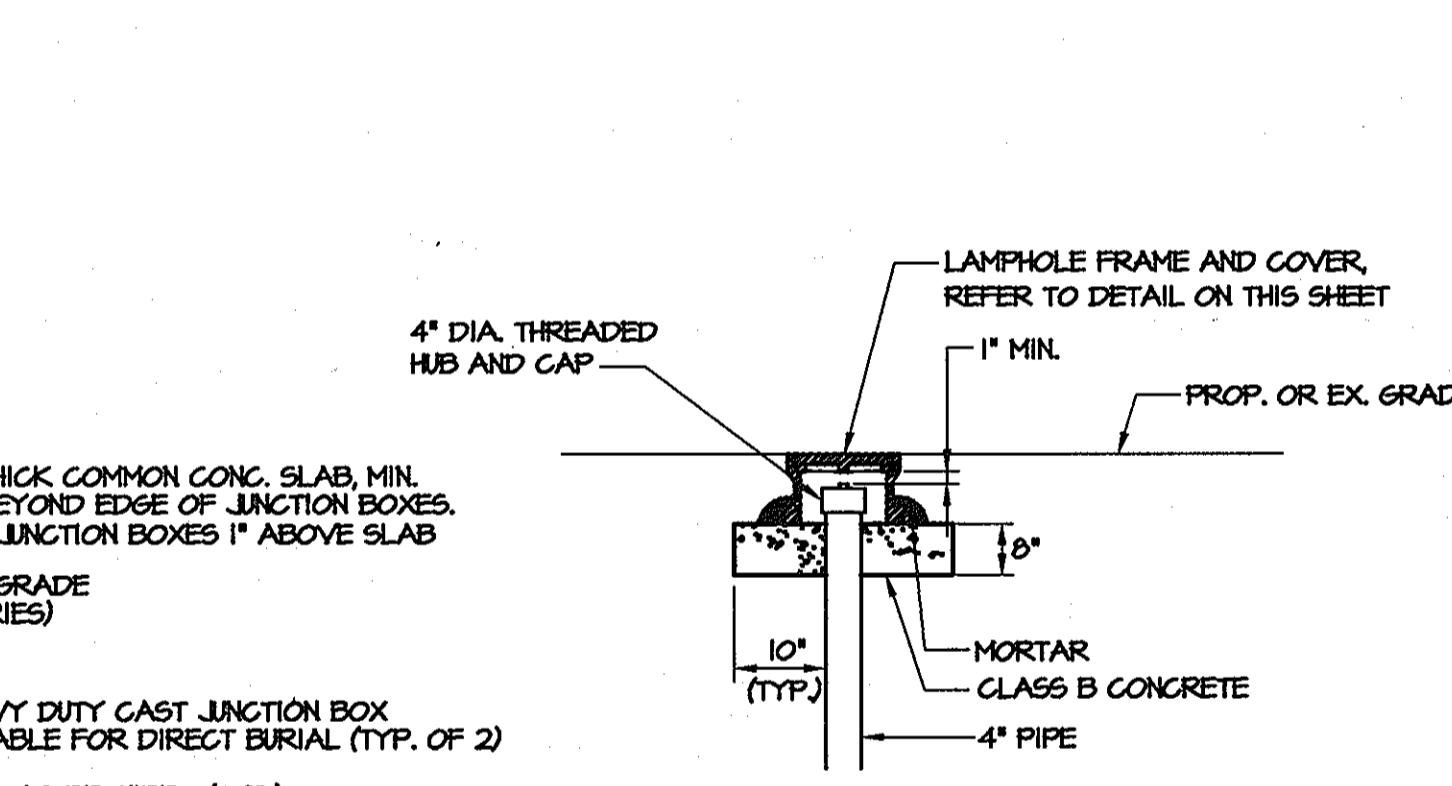
B. SEWAGE PRETREATMENT UNIT - Pretreatment units shall be the EnviroServer 1500, a product of MicroSeptec, Inc.

C. DESIGN CRITERIA

1. The pretreatment units shall reduce the strength of the waste effluent outflow to a maximum of 30 mg/l total suspended solids, 30 mg/l of biological oxygen demand (BOD5), and 10 mg/l of nitrogen.

D. EXECUTION

1. Installation shall be in accordance with the manufacturer's recommendation.
2. Watertight testing shall be in accordance with MDE and local requirements.



PACKAGE DOSING PUMPING STATION

A. GENERAL - Furnish and install a fully assembled duplex sewage pump package consisting of two (2) nonclog pumps and motors, basin assembly, internal discharge piping, check valves, shut off valves, quick-disconnect slide rail systems, lift chains, four (4) level controls, stainless steel level control bracket, junction box, inlet fitting, and control panel.

All equipment shall be factory installed except for the pumps, inlet fitting and externally mounted control panel. The package station shall be a product of F.E. Myers.

B. BASIN - The basin shall be 72" diameter with depth as shown on the drawings. The basin shall be molded of fiberglass reinforced polyester resin or precast concrete. If FRP, the basin shall have a minimum wall thickness of 1/4 inch and a steel anti-floatation plate shall be molded into the bottom of the basin.

C. BASIN COVER - Steel basin covers shall be provided with each FRP basin assembly. Each cover shall have a hinged access opening properly sized for installation and removal of pump and check valve assemblies. Precast concrete top slab shall have a cast-in-place aluminum hatch.

D. RAIL ASSEMBLIES - The lift-out rail system assemblies shall have structural guide brackets with guide yokes, guide rails of a minimum of 1-1/4 inch galvanized pipe running between an upper rail support and the discharge base, with dual 10' rings for a hydraulic seal. All cast iron parts shall be coated with corrosion resistant baked on epoxy.

E. CHECK VALVES - Check valves shall be of the swing clapper type with rubber facing. A bronze seat bushing shall be mounted in face of valves to provide a corrosion-proof seat. The clapper shall be mounted on a stainless steel shaft and shall be spring loaded to prevent slamming when closing. Valve shall be suitable for operation in the vertical position.

F. DISCHARGE PIPING - Class 51 ductile iron pipe as shown on the drawings.

G. SHUT OFF VALVES - Refer to the drawings.

H. INLET FITTINGS - A one-piece inlet fitting for 4" SDR 26 plastic pipe shall be shipped loose for field installation for FRP basin, or A-LOK type gasket for precast concrete.

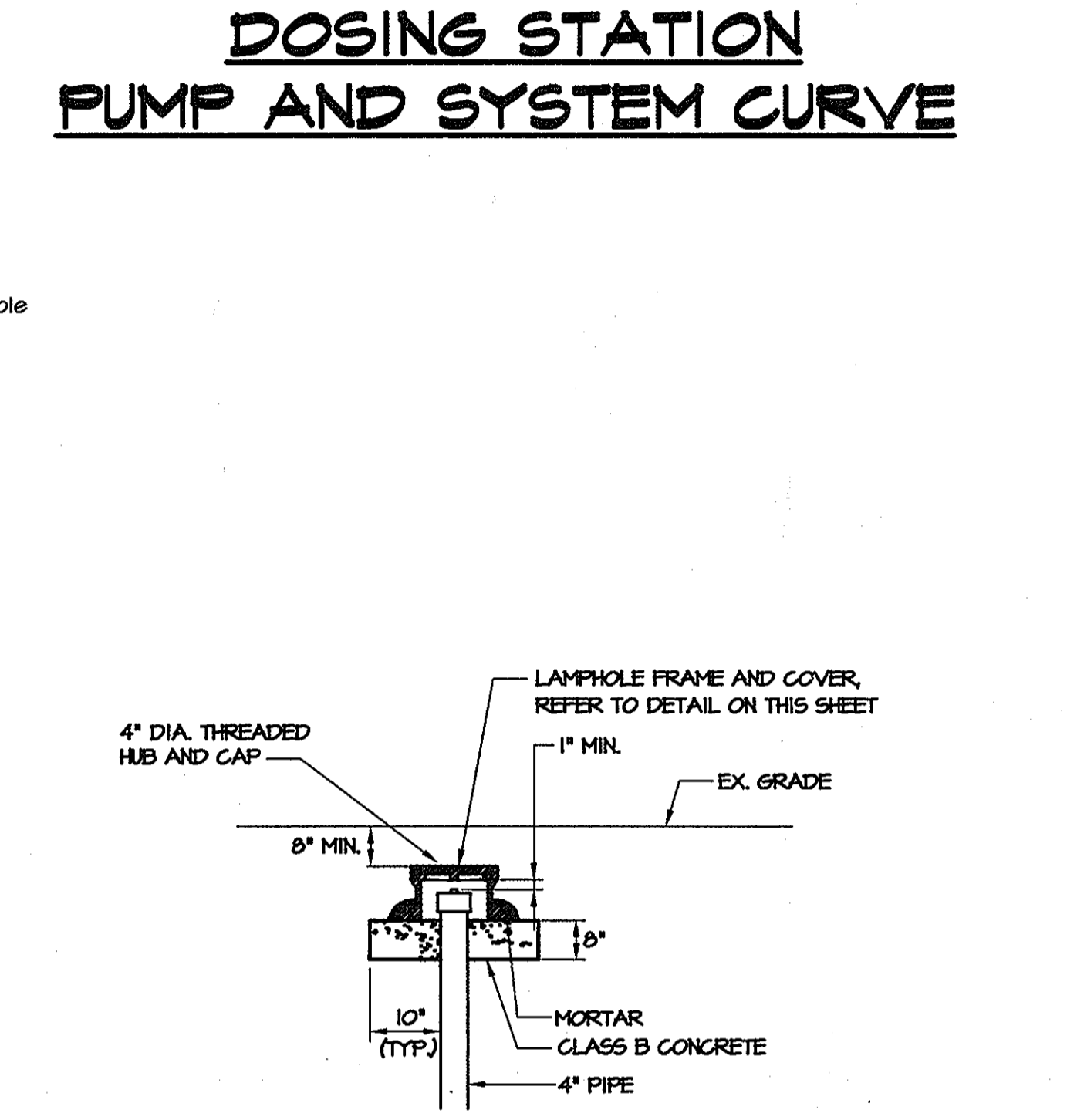
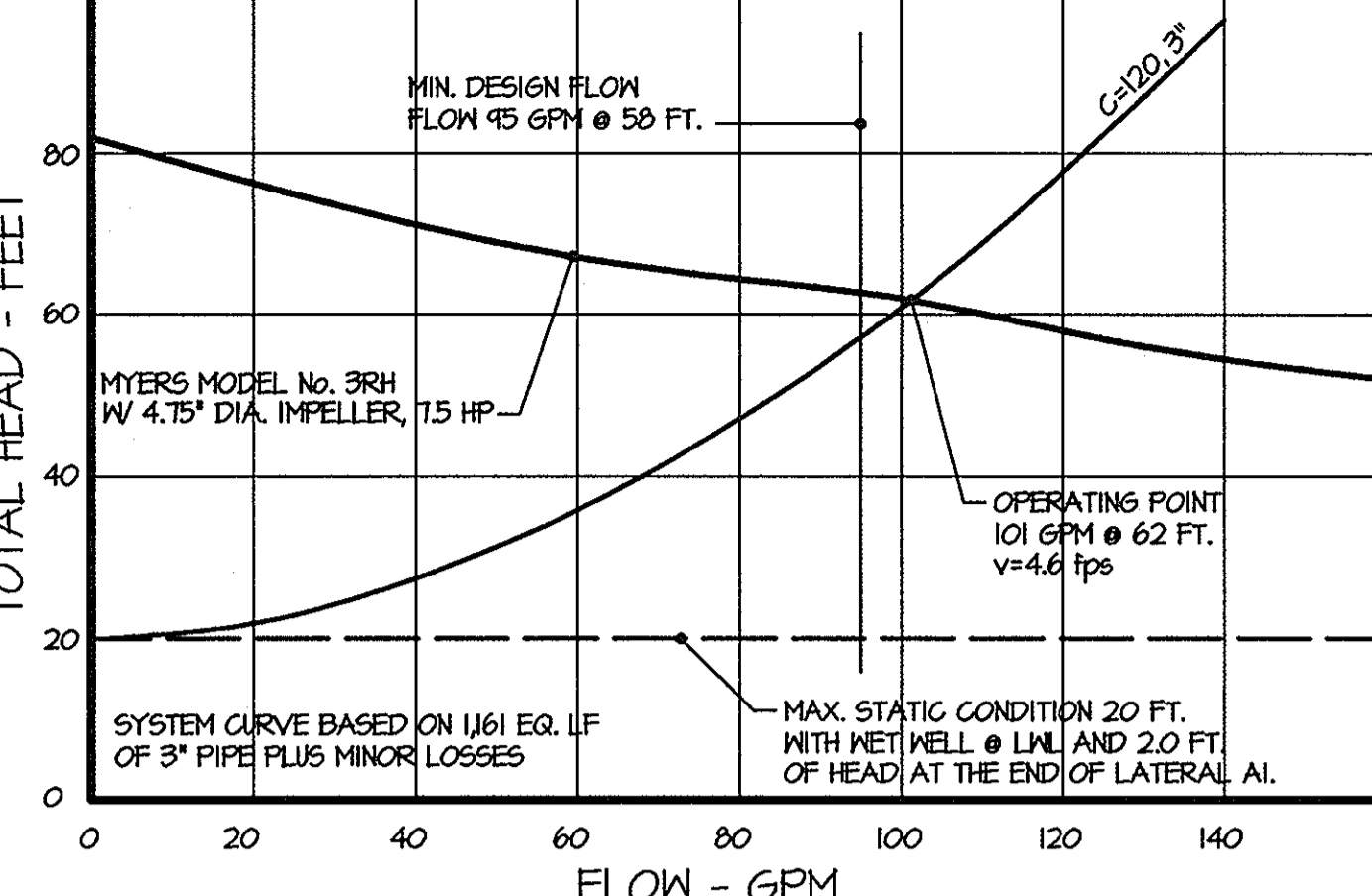
I. LEVEL CONTROLS - Pump on, off and alarm levels shall be controlled by four (4) mercury tube float switches. Switches shall consist of a mercury tube switch sealed in a corrosion-resistant polypropylene housing with a minimum of 10 gauge, 2-wire, SJOWA jacketed cable. The cable shall be of sufficient length to reach the junction box with no splices. The level controls shall be suspended from a stainless steel bracket supplied by the float mfr. so that adjustment or replacement may be done without the use of any tools. Level controls shall be UL/CSA listed.

J. SUBMERSIBLE NON-CLOG PUMP - Provide two centrifugal type non-clog pumps, Myers Model 3RH with 7.5 HP, 3450 rpm submersible motor, suitable for operation in three phase, 480 volts. REFER TO DESIGN CRITERIA FOR OPERATING CONDITIONS.

K. CONTROL PANEL - Furnish and install one (1) duplex control panel. The panel shall be a NEMA-4 door in door enclosure, for remote mounting, to include but not limited to the following:

- (1) Main Disconnect Switch
- (2) Circuit Breaker
- (3) Magnetic starters with overload and low voltage protection
- (4) Hand-off-automatic selector switch
- (1) Automatic Electric Alternator
- (2) Pump Running Lights
- (3) Seal Failure Lights and Relays
- (2) Overload Reset Buttons
- (2) Elapsed Running Time Meters
- (4) Mercury Float Switches
- (2) Event counter for each pump
- (1) Audible alarm with silence push-button and light
- (1) Control Transformer

L. MISCELLANEOUS - All fasteners shall be stainless steel.



APPROVED FOR PRIVATE WATER & PUBLIC PRIVATE SEWERAGE SYSTEMS

[Signature] DATE: 8/2/03
COUNTRY HEALTH OFFICER 337-B HOWARD COUNTY HEALTH DEPARTMENT

APPROVED DEPARTMENT OF PLANNING AND ZONING

[Signature] DATE: 8/2/03
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature] DATE: 8/2/03
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature] DATE: 8/2/03
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING

MRA		MORRIS & RITCHIE ASSOCIATES, INC. ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS	
9080 JUNCTION DRIVE, SUITE 9 ANNAPOLIS JUNCTION, MARYLAND 20701 (410) 792-9792 or (301) 776-1890 FAX (410) 792-7396		THE GLENELG COUNTRY SCHOOL PROPOSED UPPER SCHOOL ADDITION DOSING PUMPING STATION, SPECIFICATION, PUMP & SYSTEM CURVE AND DETAILS TAX MAP 22 GRID 22 PARCEL 146 LIBER 1296 FOLIO 245 FIFTH (5TH) ELECTION DISTRICT HOWARD COUNTY, MARYLAND	
DATE	REVISIONS	JOB NO.:	12189.02
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	SCALE:	AS SHOWN
		DATE:	07/14/03
		DRAWN BY:	JPD
		DESIGN BY:	JPD
		REVIEW BY:	EDL
		SHEET:	21 OF 23

PRESSURE DISTRIBUTION ON SLOPING SITES

LATERAL	LATERAL INVERT ELEV.	HEAD (FT)	ORIFICE DIA. (IN)	ORIFICE FLOW RATE (GPM)	ORIFICE SPACING (FT/IN)	NUMBER OF ORIFICES	LATERAL FLOW RATE (GPM)	¢ MANIFOLD TO BEGIN OF DRAINFIELD TRENCH (FT/IN)	¢ MANIFOLD TO FIRST ORIFICE (FT/IN)	LATERAL LENGTH (FT/IN)	DRAINFIELD TRENCH LENGTH (FT/IN)	LAST ORIFICE TO END OF TRENCH (FT/IN)
DRAINFIELD No. 1												
A1	537.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
B1	537.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
C1	537.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
D1	537.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
E1	537.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
TOTAL FLOW RATE DRAINFIELD No. 1 = 97.80 GPM												
DRAINFIELD No. 2												
A2	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
B2	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
C2	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
D2	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
E2	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
TOTAL FLOW RATE DRAINFIELD No. 2 = 97.80 GPM												
DRAINFIELD No. 3												
A3	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
B3	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
C3	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
D3	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
E3	535.00	2.0	5/16	1.63	7'-11"	12	19.56	3'-0"	6'-11"	41'-1"	45'-0"	3'-11"
TOTAL FLOW RATE DRAINFIELD No. 3 = 97.80 GPM												

SEPTIC SYSTEM NOTES

- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) PRIVATE WASTEWATER DISPOSAL REGULATIONS AND HOWARD COUNTY HEALTH DEPARTMENT REGULATIONS.
- THE SEPTIC SYSTEM CONTRACTOR MUST BE LICENSED BY HOWARD COUNTY TO INSTALL SEPTIC SYSTEMS, AND CERTIFIED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT TO INSTALL SAND MOUND SYSTEMS.
- STAKE OUT OF THE ENTIRE SEPTIC SYSTEM SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR PRIOR TO SCHEDULING OF THE PRECONSTRUCTION MEETING.
- THE CONTRACTOR SHALL COORDINATE A PRECONSTRUCTION MEETING WITH MDE, HOWARD COUNTY HEALTH DEPARTMENT, THE ENGINEER, AND THE SEPTIC SYSTEM SUBCONTRACTOR.
- THE CONTRACTOR SHALL SUBMIT, FOR APPROVAL, SIX SETS OF SHOP DRAWINGS TO THE ENGINEER. SHOP DRAWING SUBMITTALS SHALL INCLUDE PIPE, FITTINGS, VALVES, VALVE BOXES, STRUCTURES, HATCHES, FRAMES & COVERS, PUMPS, GUIDE RAILS, CONTROLS, PRETREATMENT EQUIP. AND ELECTRICAL EQUIP.
- THE GRINDER PUMPS, DOSING PUMPING STATION AND PRETREATMENT EQUIPMENT ARE LONG LEAD TIME ITEMS. THE CONTRACTOR SHOULD EXPECT A MINIMUM OF 8 WEEKS BETWEEN ORDER AND DELIVERY.
- THE CONTRACTOR IS REQUIRED TO TEST AND BALANCE THE SEPTIC SYSTEM FOR APPROVAL BY MDE. PRELIMINARY TESTING AND BALANCING SHALL BE PERFORMED BY THE CONTRACTOR PRIOR TO THE FINAL WITH MDE. THE CONTRACTOR SHALL PROVIDE CLEAN WATER FOR CONTINUOUS TESTING.
- ALL REQUESTS FOR FIELD CHANGES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ALL CONSTRUCTION/INSTALLATIONS SHALL BE WITNESSED BY THE INSPECTOR PRIOR TO BACKFILL OPERATIONS.
- ALL FITTINGS SHALL HAVE CONCRETE BUTTRESSES PER THE HOWARD COUNTY D.P.M. WATER & SEWER STANDARDS.
- THE 2" BALL VALVES SHALL BE ADJUSTED TO PROVIDE 2.0 FEET OF HEAD TO THE DISTAL END OF THE HIGHEST ELEVATION LATERAL IT SERVES.
- THE CONTRACTOR SHALL COORDINATE ALL PIPE PENETRATIONS IN PRECAST CONCRETE STRUCTURES TO SUIT PIPE MATERIAL AND LOCATIONS.
- THE CONTRACTOR SHALL PROVIDE ONE COPY OF OPERATIONS & MAINTENANCE (O & M) MANUALS FOR THE GRINDER PUMPING STATION, DOSING PUMPING STATION, AND THE PRETREATMENT UNITS TO EACH OF THE FOLLOWING, THE OWNER, MDE, HOWARD COUNTY HEALTH DEPARTMENT, AND THE ENGINEER. THE O & M MANUALS SHALL BE DISTRIBUTED DURING THE PRELIMINARY TESTING AND BALANCING.

PIPE SPECIFICATION

GRAVITY SEWER

- ALL PIPE AND FITTINGS SHALL BE SDR-26 AND MUST COMPLY WITH ASTM D-3034.

FORCE MAINS AND DRAINFIELD LATERALS

- 1 1/2", 2" & 3" PIPE AND FITTINGS SHALL BE SCH. 40 PVC WITH SOLVENT WELD JOINTS UNLESS OTHERWISE NOTED.
- 1 1/2", 2" & 3" PIPE AND FITTINGS SHALL BE SCH. 80 PVC WITH SOLVENT WELD JOINTS FOR PAVED AREAS.
- SCHEDULE 80 PVC SHALL BE USED WHERE THREADED FITTINGS ARE REQUIRED.
- 2" & 3" BALL VALVES SHALL BE BRASS BODIED UNLESS OTHERWISE NOTED.

DOSING PUMPING STATION DESIGN CRITERIA

PROJECTED WASTEWATER FLOW

PROPOSED UPPER SCHOOL EXPANSION (1):
STUDENTS - 230 x 15 GPD = 3,450 GPD
FACULTY - 35 x 15 GPD = 525 GPD
TOTAL 3,975 GPD

PROPOSED GYMNASIUM:
GYM CLASS (2) - 3/DAY x 40 STUDENTS x 10 GPD = 1,200 GPD
TEAM PRACTICE (3) - 120 STUDENTS x 10 GPD = 1,200 GPD
SPECIAL EVENT (4) - 320 SEATS x 3 GPD = 960 GPD
TOTAL 3,360 GPD

TOTAL MAXIMUM DAILY WASTEWATER FLOW TO DISPOSAL AREA No. 10 = 1,335 GPD
AVERAGE WASTEWATER FLOW = 3,668 GPD
DAILY AVERAGE WASTEWATER FLOW PER WEEK = 2,260 GPD

NOTES:

- NUMBER OF STUDENTS AND FACULTY ESTABLISHED BY THE * MASTERPLAN FOR SPECIAL EXCEPTION 1999.
- GYM CLASSES ARE HELD FROM 8:30 TO 3:30, 5 DAYS A WEEK ONLY 2 TO 3 CLASSES PER DAY OF MIDDLE AND UPPER SCHOOL STUDENTS, WITH A MAXIMUM OF 40 STUDENTS PER CLASS, USE THE SHOWERS.
- ATHLETIC TEAM PRACTICES BEGIN AT 3:45. THE MAXIMUM NUMBER OF STUDENTS TO USE THE LOCKER ROOMS/SHOWERS DAILY IS APPROXIMATELY 120.
- IT IS ESTIMATED THAT ONE EVENT PER DAY MAY BE HELD IN THE GYM, SUCH AS SCHOOL ASSEMBLY, PARENT MEETINGS, FUNDRAISER, SPORTING EVENT, ETC. THE MAXIMUM SEATING CAPACITY IS 320.

DESIGN FLOW

BASED ON 4,500 GPD, (3) 1,500 GPD ENVIRONMENTAL PRETREATMENT TANKS, AND FLOW EQUALIZATION AT SFS 1.

STATIC HEAD (MAXIMUM)

INVERT OF LATERAL A1 537.0
LOW WATER LEVEL = 519.5
17.5 FT. ~ 18 FT.
+ 2 FT. AT DISTAL END OF LATERAL A1 = 20 FT. MAX. STATIC HEAD

MINOR LOSSES

3" 90° BEND	4 @ 8' = 32'
3" TEE	1 @ 16' = 16'
3" CHECK VALVE	1 @ 14' = 14'
3" BALL VALVE (OPEN)	2 @ 15' = 30'
3" 45° BEND	2 @ 3.8' = 7.6'
3" PIPE	+ 572'
649.6 LF ~ 650 LF OF 3" PIPE	
3" x 2" REDUCER	1 @ 2.5' = 2.5'
2" 90° BEND	2 @ 5.5' = 11'
2" TEE	3 @ 12' = 36'
2" BALL VALVE (OPEN)	1 @ 12' = 12'
2" PIPE	+ 125'
175.7 ~ 176 LF OF 2" PIPE	

CONVERT 2" PIPE TO EQUIVALENT (3") 2.63 = 2.405 x 176 = 511 LF
LF OF 3" PIPE

DESIGN LENGTH = 650 LF + 511 LF = 1,161 EQUIVALENT LF OF 3" PIPE

SYSTEM CURVE

GPM	C=120	TOTAL HEAD
20	1.8	21.4
40	6.5	21.5
60	13.7	35.4
80	23.4	41.2
100	35.2	60.9
120	44.7	71.7
140	66.0	96.6

PUMPING UNITS

PROVIDED: 2 @ 101 GPM @ 62 FEET EACH
MOTOR: 1.5 HP, 3450 RPM
SELECTION FOR PUMP AND SYSTEM CURVE: MYERS MODEL
No. 394, 3" DISCHARGE, 4.75" DIA. IMPELLER,
PASSES 2" SOLIDS

NET HEAD - 6 FT. I.D.

MINIMUM PUMP CYCLE BASED ON 6 DOSES/DAY, 60/6 DOSES PER DAY=MIN. VOLUME REQUIRED
MINIMUM VOLUME REQUIRED: 4,500 GPD/6 DOSES=750 GAL.
VOLUME PROVIDED: 791 GAL.

SEPTIC DRAINFIELD DEEP TRENCH LENGTH CALCULATIONS

1. THE REQUIRED ABSORPTIVE AREA IS GIVEN BY: A=Q/I

WHERE:
A=REQUIRED ABSORPTIVE AREA IN SQUARE FEET
Q=DESIGN FLOW RATE IN GALLONS PER DAY 1,335 GPD
I=MAXIMUM APPLICATION RATE IN GALLONS PER DAY PER SQUARE FOOT. 1.2 GPD/SQ. FT.
THIS, 1,335 GPD/1.2 GPD/SQ. FT. = 613 SQ. FT.

2. THE STANDARD TRENCH LENGTH IS GIVEN BY: L=A/g

WHERE:
L=STANDARD TRENCH LENGTH IN FEET
g=TRENCH BOTTOM AREA PER LINEAR FOOT OF TRENCH: 2 SQ. FT./FT.
THIS, L = 613 SQ. FT./2 SQ.FT./FT. = 307.5 FT.

3. THE PERCENT OF THE STANDARD TRENCH LENGTH IS GIVEN BY:

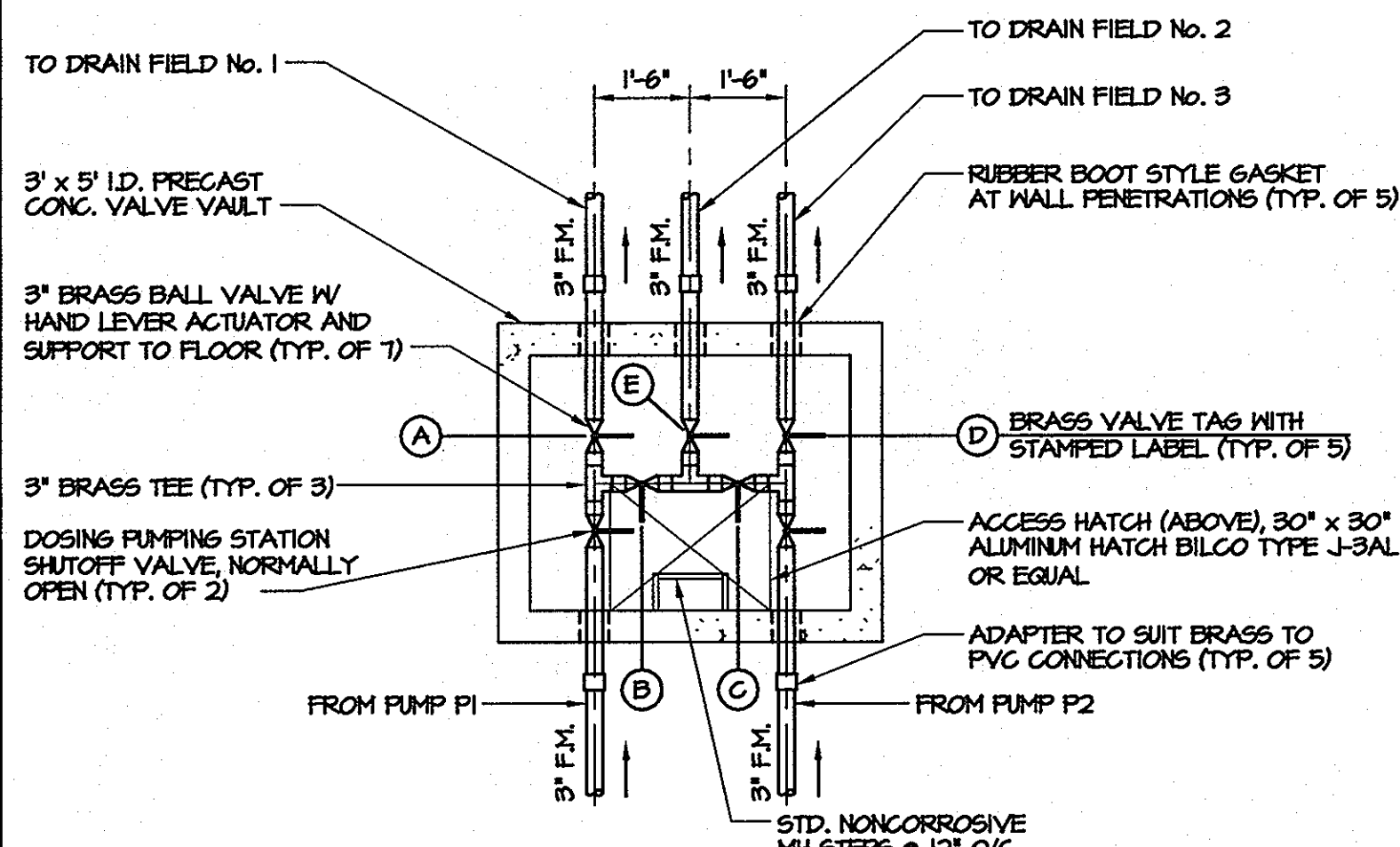
$\frac{W+2}{W+1+2d} \times 100$
WHERE:
W=TRENCH WIDTH IN FEET: 2 FT.
d=DEPTH OF USEABLE SIDEWALL: 5 FT.
THIS, THE APPLICABLE PERCENT OF STANDARD TRENCH LENGTH IS 36.4%

4. THE TOTAL TRENCH LENGTH BASED ON 150% OF THE DESIGN FLOW, A 2 FOOT TRENCH WIDTH, 5 FEET OF USEABLE SIDEWALL, AND 30.8% OF THE STANDARD TRENCH LENGTH IS AS FOLLOWS:

150(307.5 x 3.051 FT.) = 1,412 FEET
1,412 FT./3 DRAINFIELDS = 471 FT. OF TRENCH/DRAINFIELD

5. PROVIDE A 150% SYSTEM CONSISTING OF 3 DRAINFIELDS AT 50% EACH.

3 DRAINFIELDS @ 150% OF THE DESIGN FLOW = 15 LATERALS @ 45 FT. EACH = 1,425 FT.



0 = OPEN
C = CLOSED

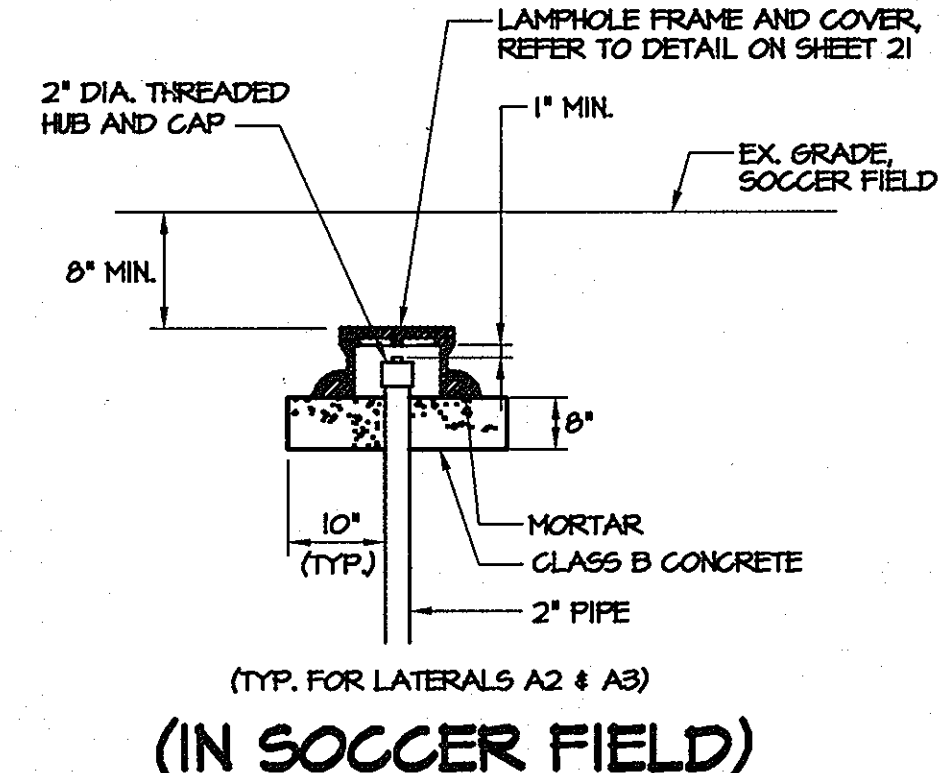
SCHEDULE No.	DRAIN FIELD ROTATION SCHEDULE				
	A	B	C	D	E
1	O	C	O	C	O
2	C	O	C	O	C
3	O	C	O	C	O

NOTES:

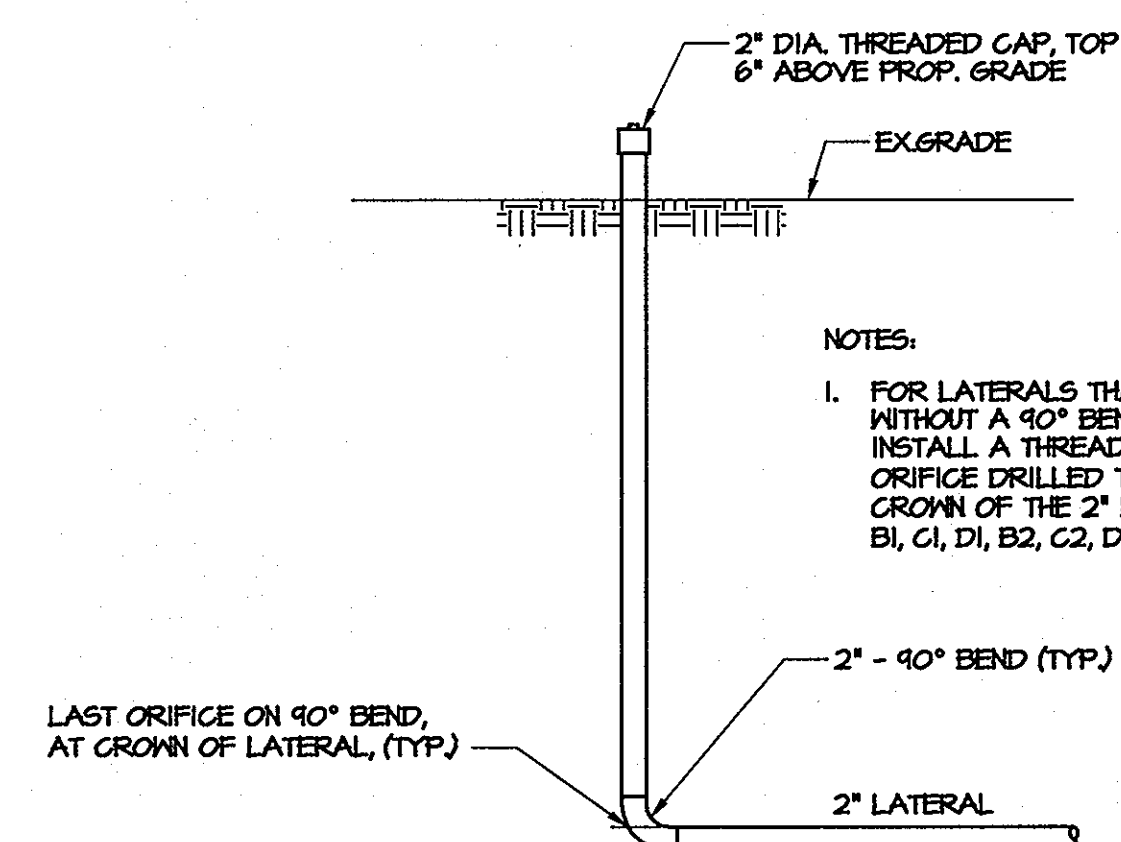
- REFER TO PROFILE ON SHEET M FOR TOP ELEV., BOTTOM ELEV. AND PIPE INVERT.
- VALVE 'E' TO BE OPEN NORMALLY. VALVE 'E' TO BE CLOSED ONLY IF IT BECOMES NECESSARY FOR P1 TO PUMP TO DRAIN FIELD No. 3 OR FOR P2 TO PUMP TO DRAIN FIELD No. 1.
- OPERATE EACH SCHEDULE FOR SIX MONTHS BEFORE ROTATING TO THE NEXT SCHEDULE.

DETAIL-RAIN FIELD VALVE VAULT

SCALE: 3/8"=1'-0"

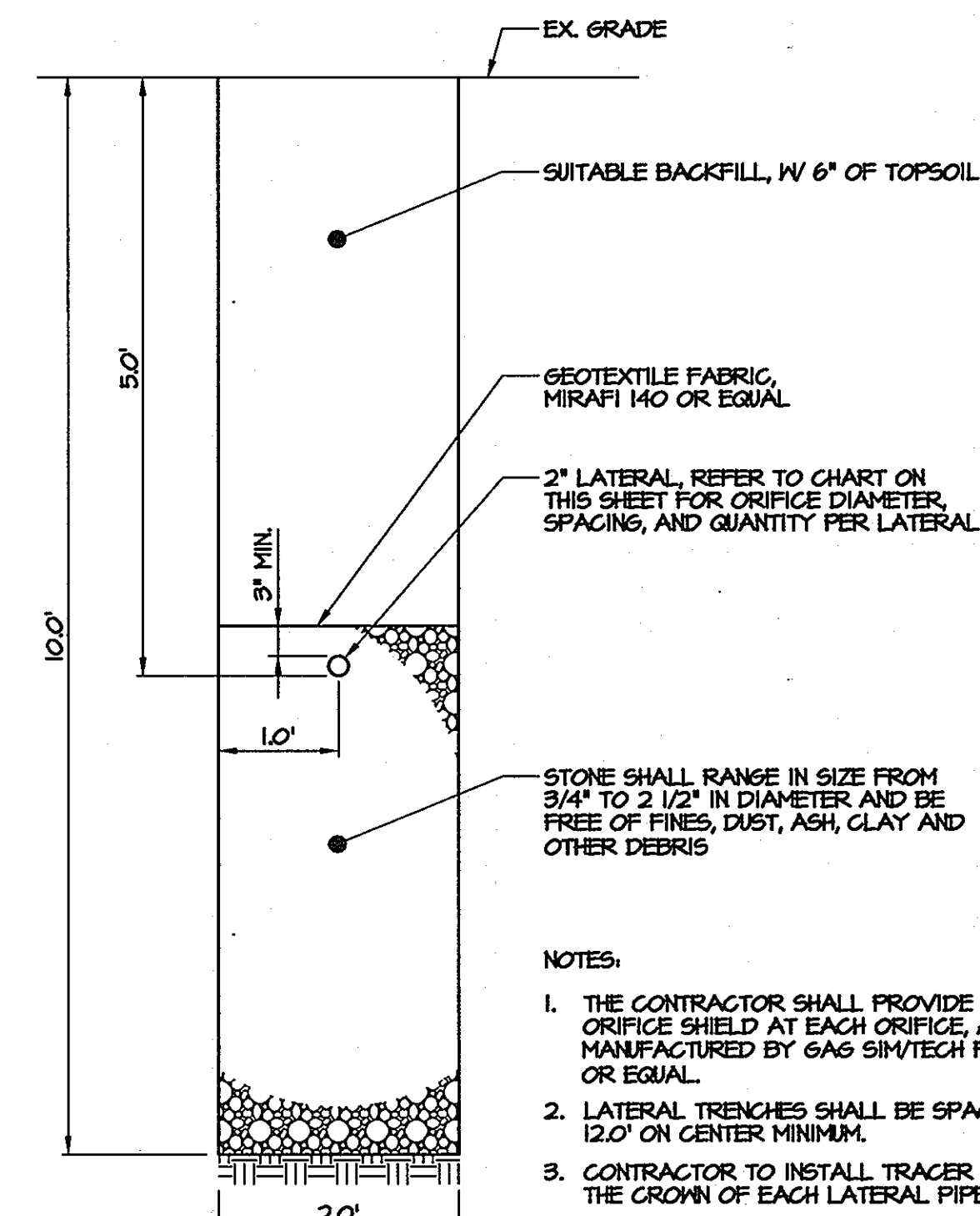


(TYP. FOR LATERALS A2 & A3)
(IN SOCCER FIELD)



(OUTSIDE OF SOCCER FIELD)

NOT TO SCALE



NOTES:

- THE CONTRACTOR SHALL PROVIDE AN ORIFICE SHIELD AT EACH ORIFICE, AS MANUFACTURED BY GAG SIM/TECH FILTER OR EQUAL.
- LATERAL TRENCHES SHALL BE SPACED AT 12.0' ON CENTER MINIMUM.
- CONTRACTOR TO INSTALL TRACER WIRE ALONG THE CROWN OF EACH LATERAL PIPE.

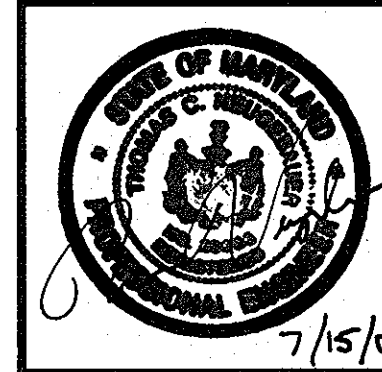
NOT TO SCALE

APPROVED FOR SUBCONTRACTOR PRIVATE WATER & PUBLIC PRIVATE SEWERAGE SYSTEMS	DATE: 8-2-03
COUNTRY HEALTH OFFICER	DATE: 8/2/03
HOWARD COUNTY HEALTH DEPARTMENT	
APPROVED: DEPARTMENT OF PLANNING AND ZONING	DATE: 8/15/03
Chief, DEVELOPMENT ENGINEERING DIVISION	DATE: 8/15/03
Chief, DIVISION OF LAND DEVELOPMENT	DATE: 8/15/03
Director, DEPARTMENT OF PLANNING AND ZONING	DATE: 8/15/03



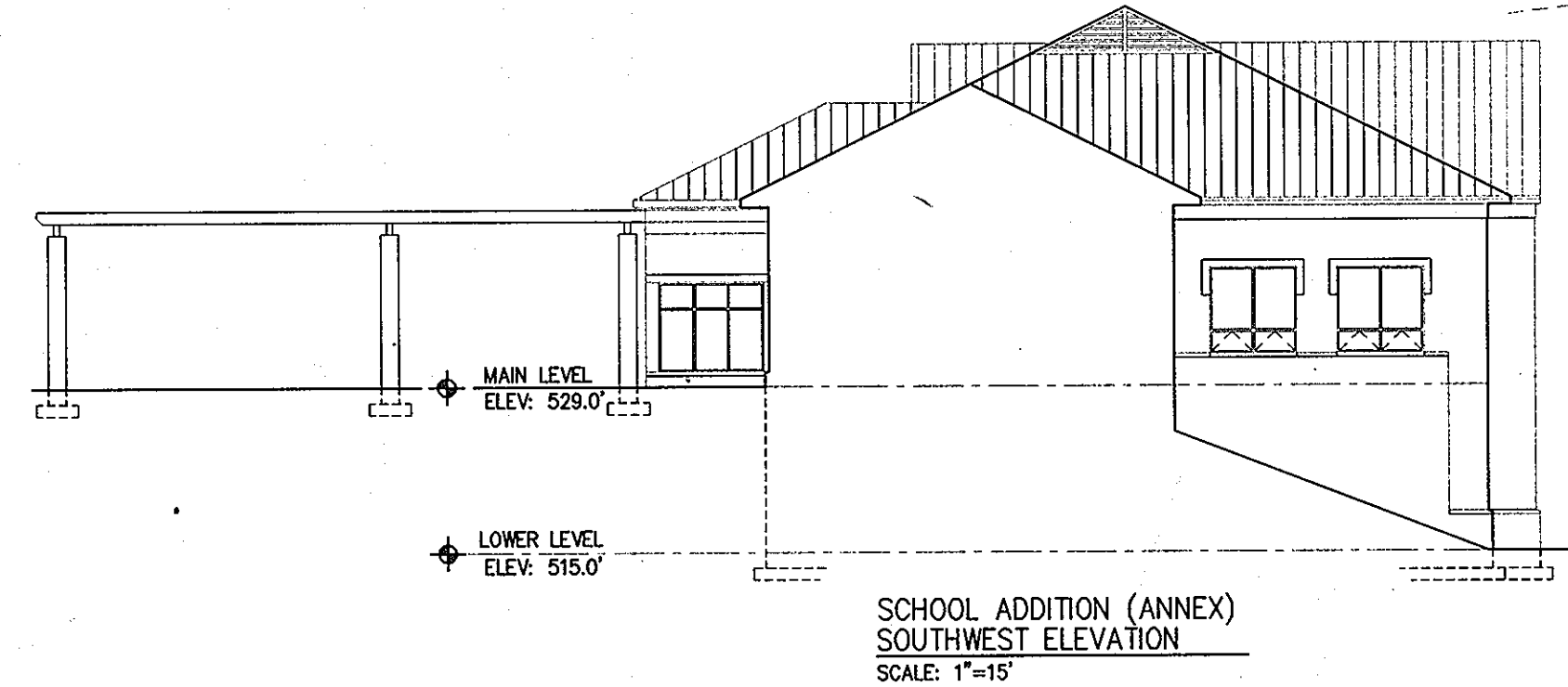
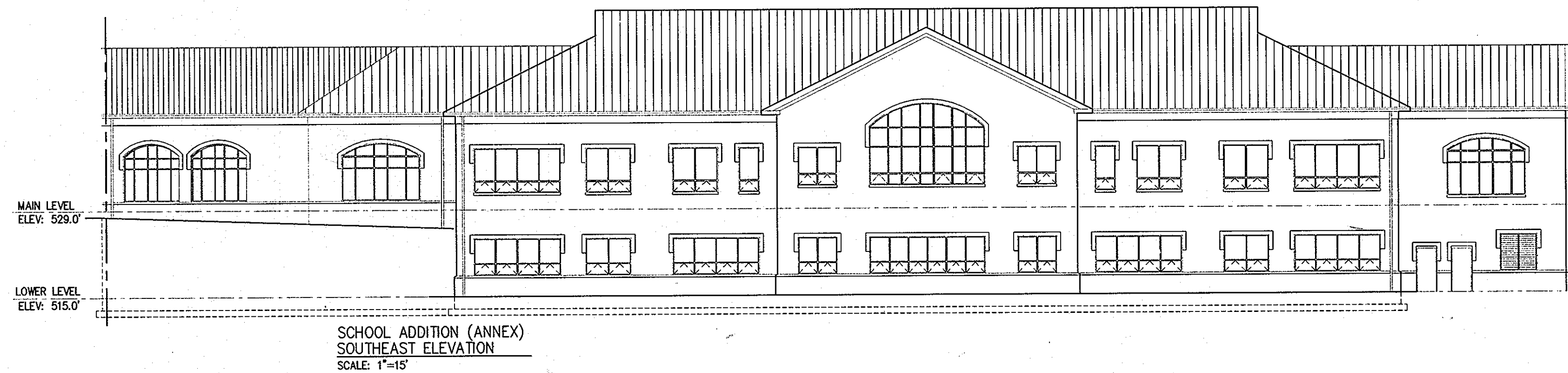
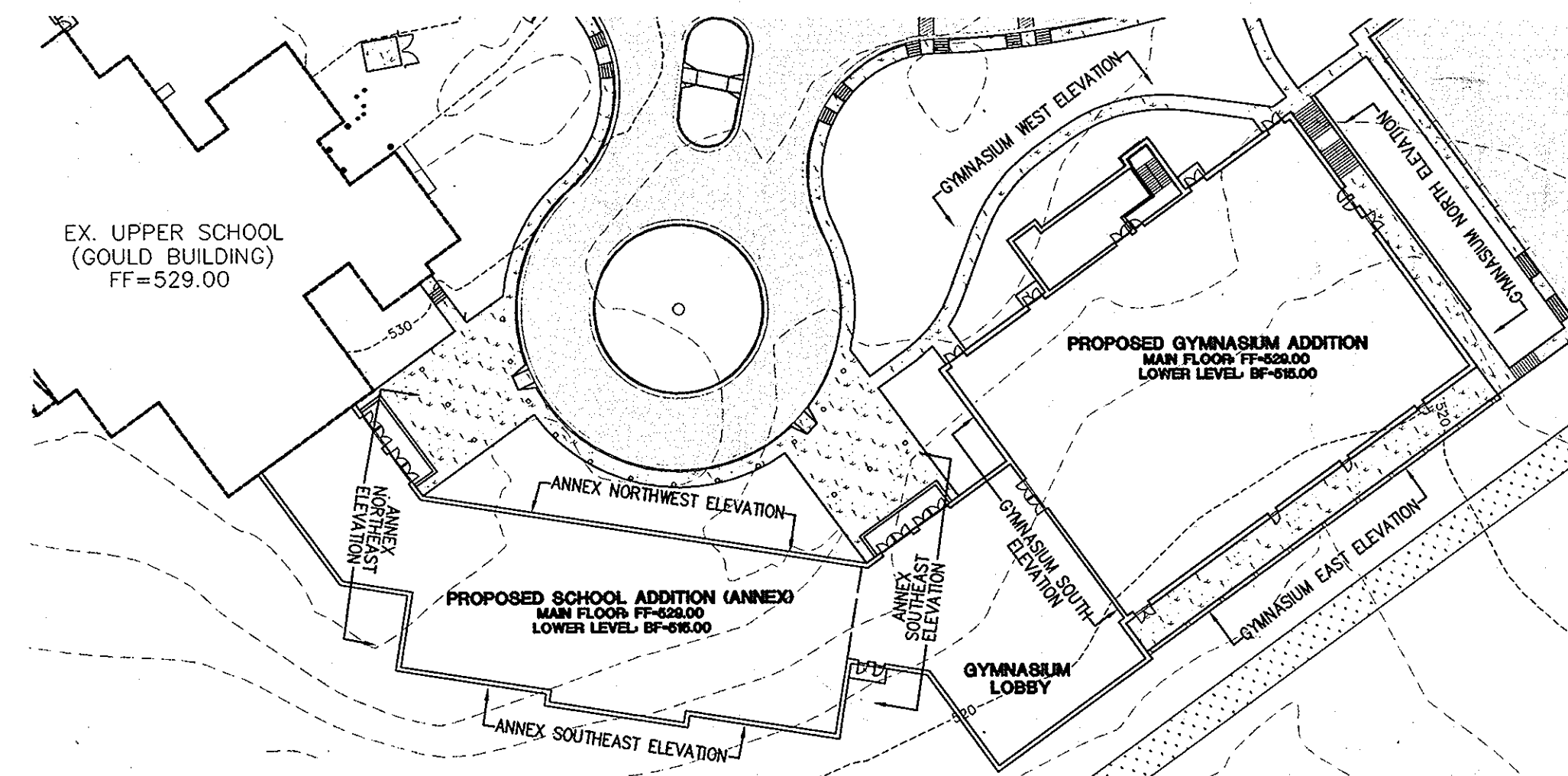
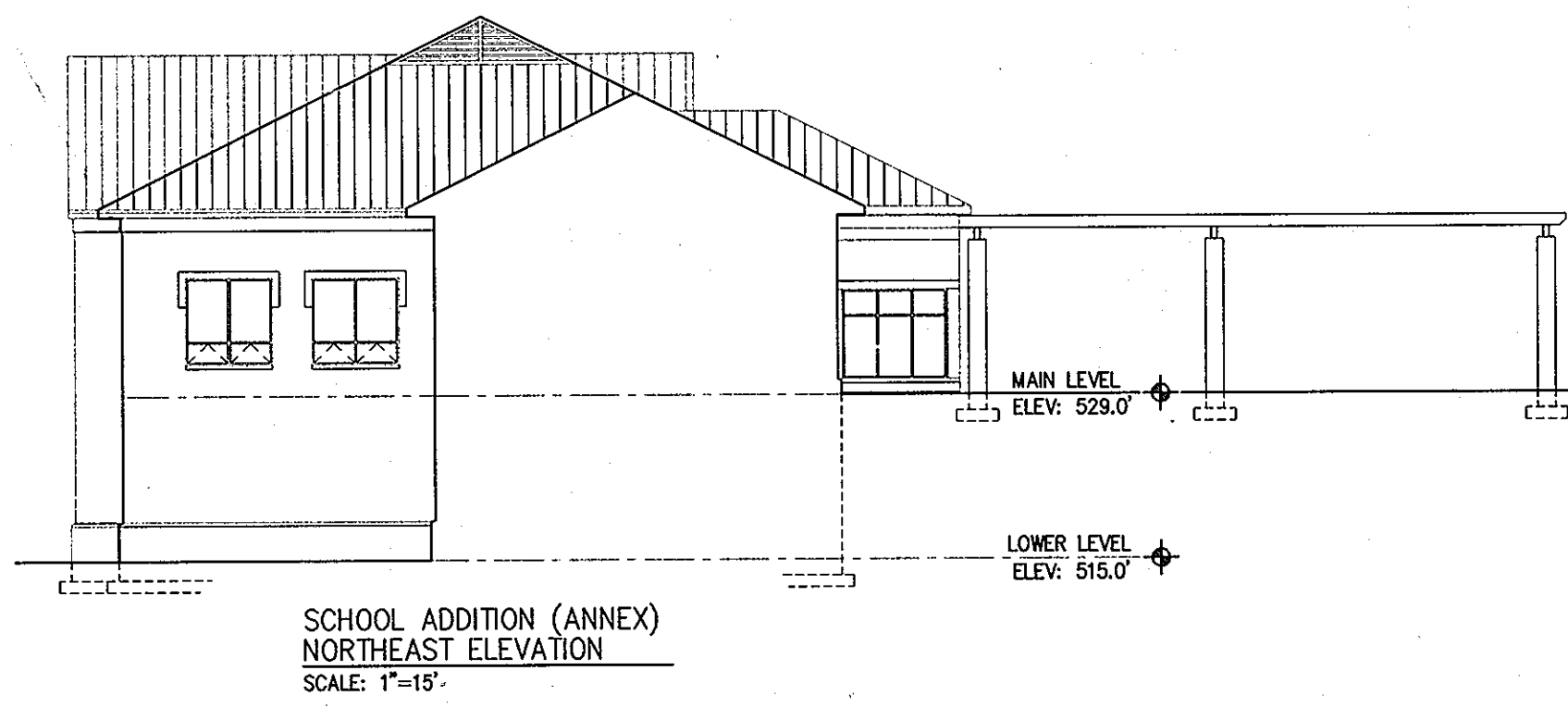
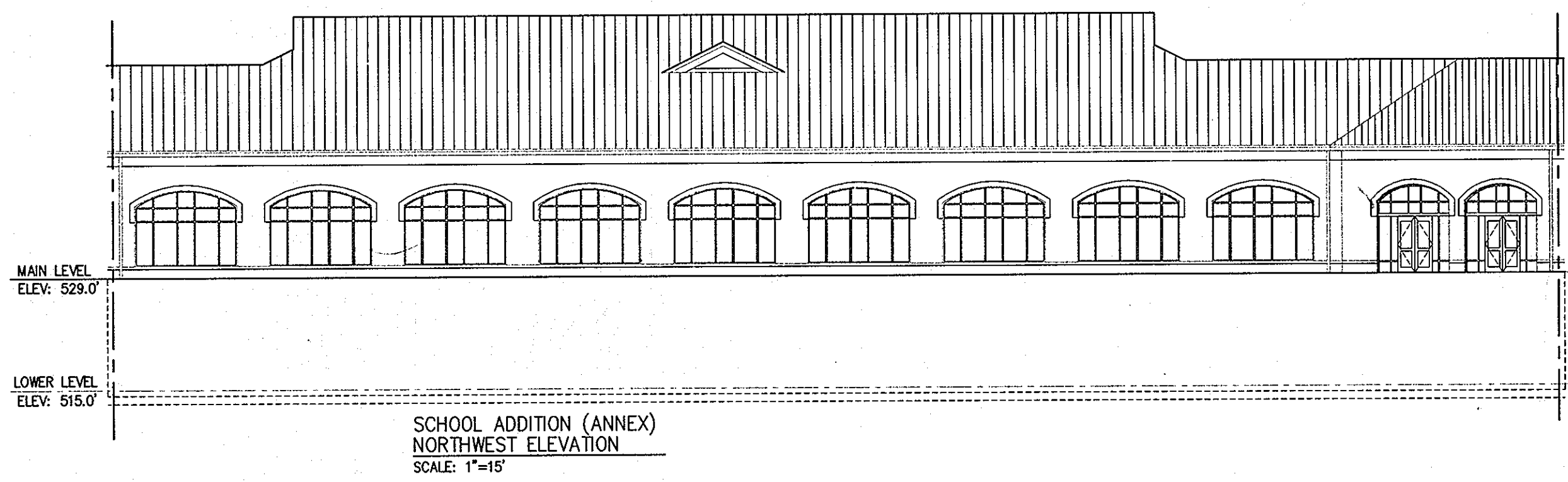
MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS

9080 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-8792 or (301) 776-1890
FAX (410) 792-7396

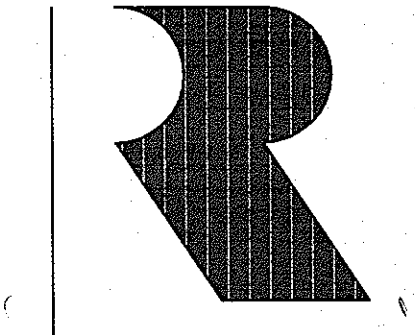
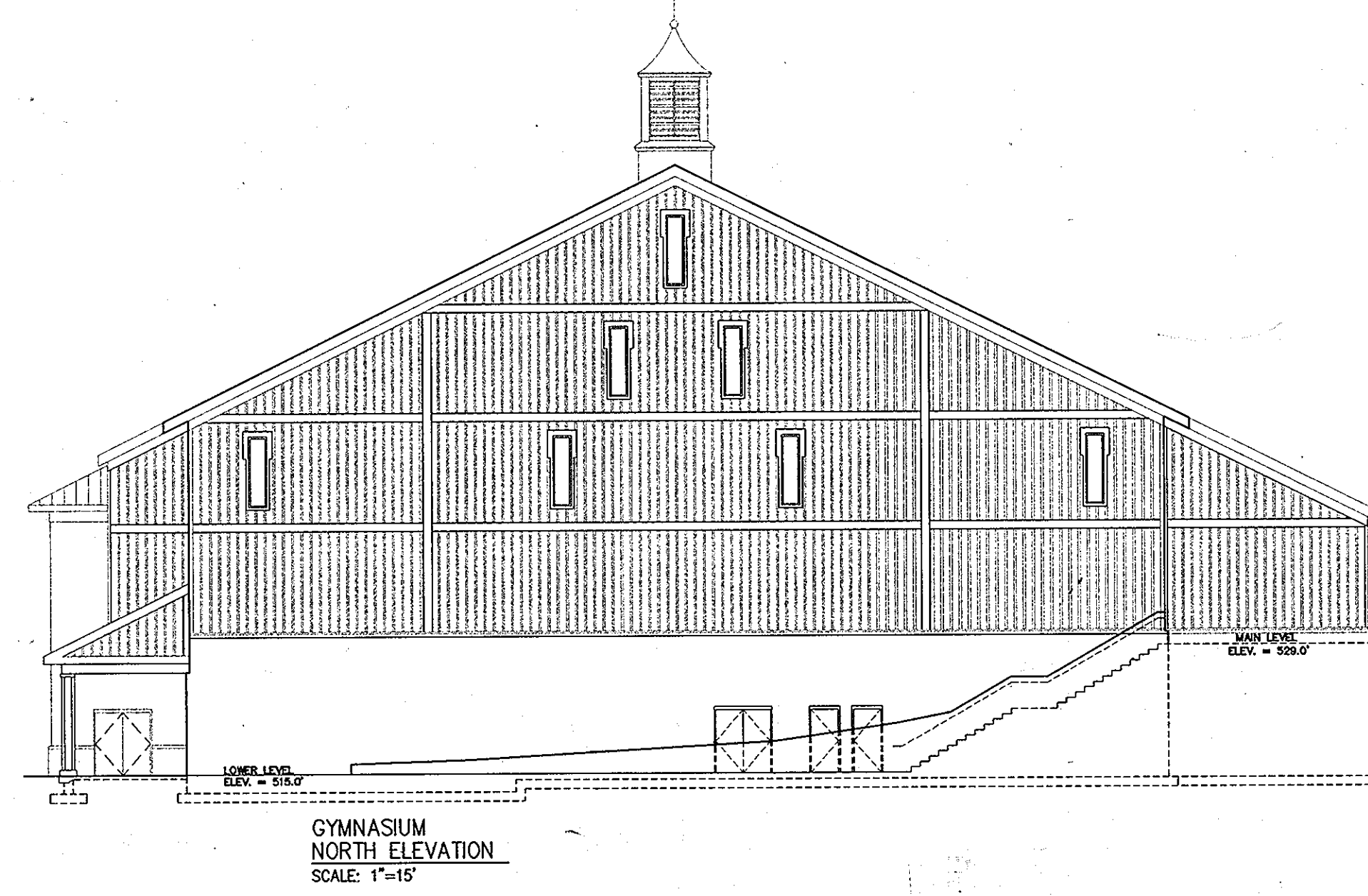
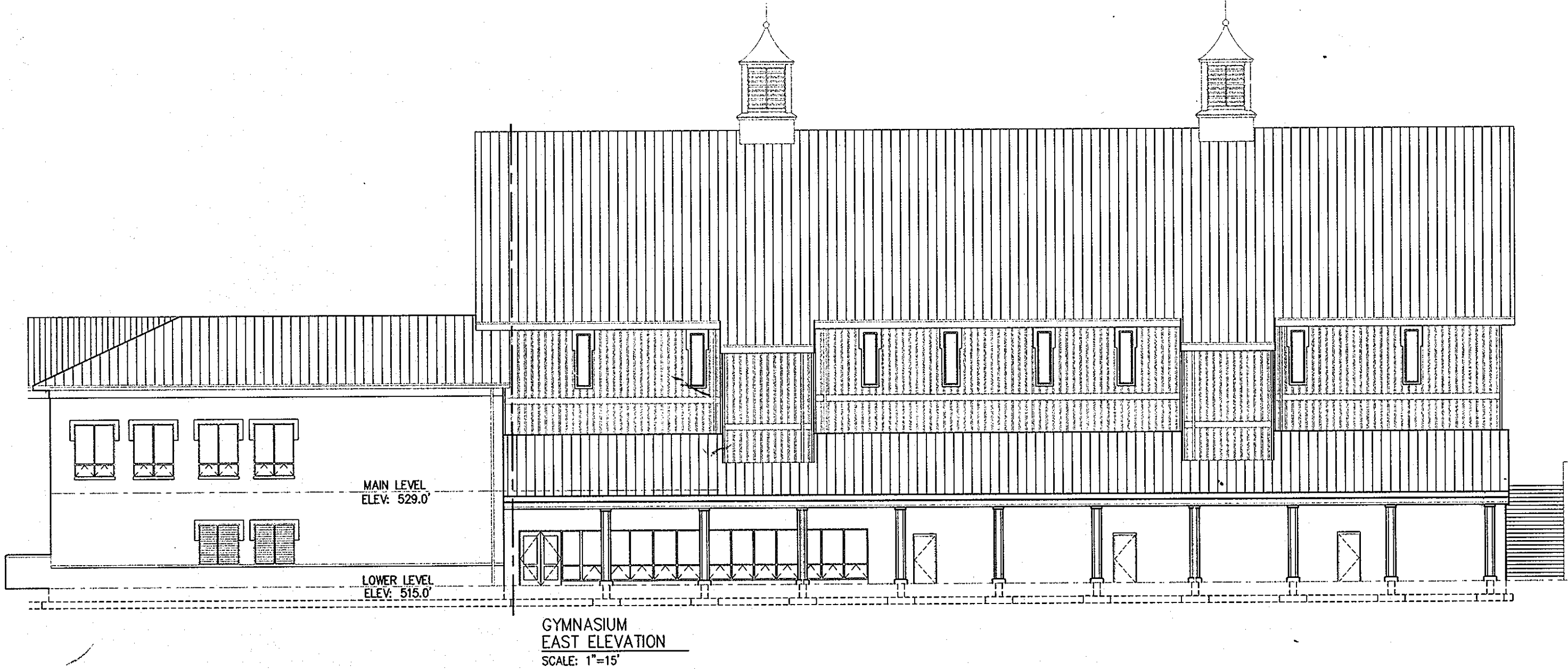
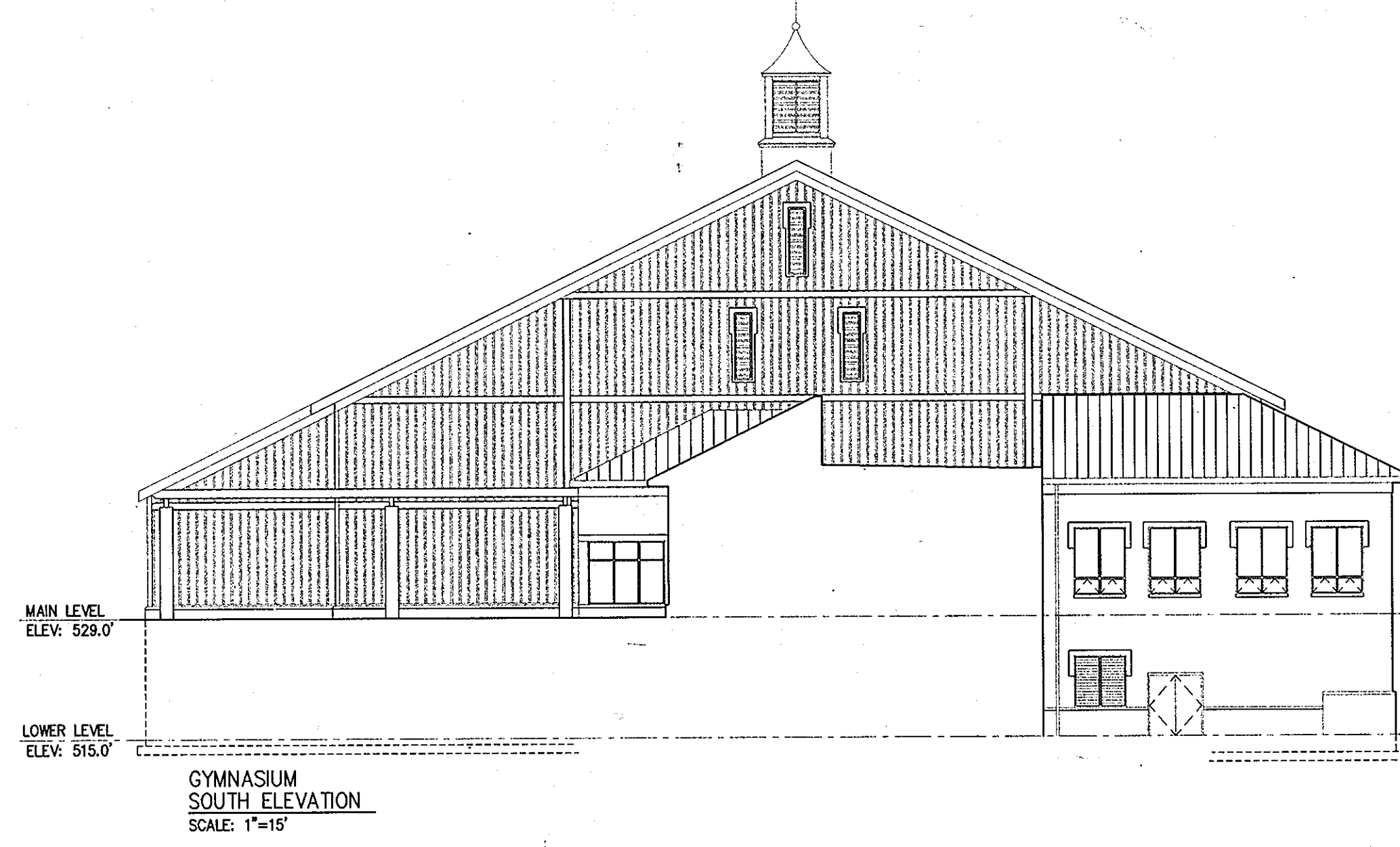
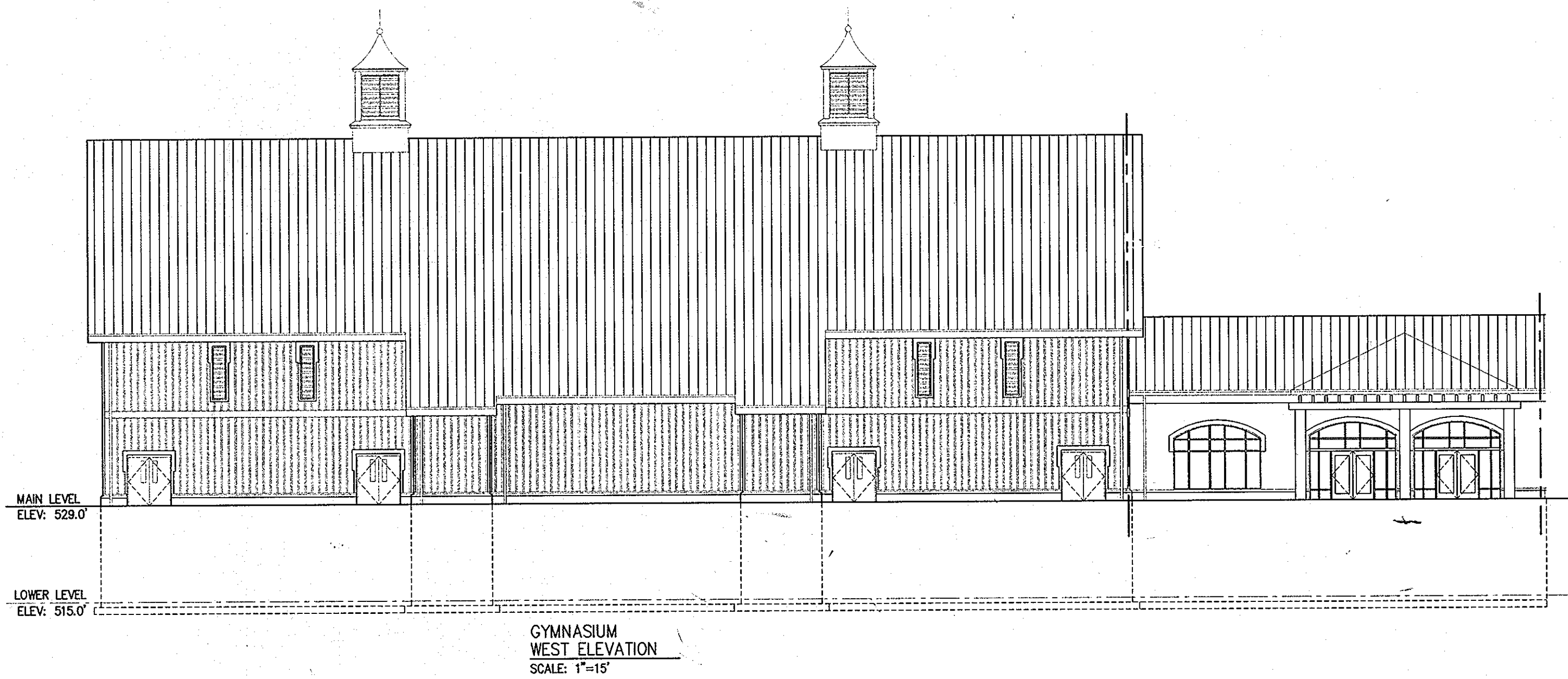


**THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION
DETAILS, DESIGN CRITERIA,
NOTES AND TABLES**
TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB No.:
07/12	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
		SCALE: AS SHOWN
		DATE: 07/14/03
		DRAWN BY: JPD
		DESIGN BY: JPD
		REVIEW BY: EDL
		SHEET: 22 OF 25



ARCHITECTURAL ELEVATION DISCLAIMER
THE ENCLOSED ARCHITECTURAL ELEVATIONS ARE SHOWN FOR REFERENCE ONLY. NO CONSTRUCTION WORK IS TO BE PERFORMED BASED ON INFORMATION SHOWN ON THIS PLAN. CONTRACTOR IS TO REFER TO ARCHITECTURAL PLANS FOR ALL BUILDING CONSTRUCTION ITEMS.



RUBELING & ASSOCIATES, INC.
ARCHITECTURE
INTERIOR DESIGN
401 JEFFERSON AVENUE
TOWSON, MARYLAND 21286-5308
410-337-2886
FAX: 410-337-2974

APPROVED FOR PUBLIC OR PRIVATE WATER & PUBLIC OR PRIVATE SEWERAGE SYSTEMS
COUNTRY HEALTH OFFICER: *[Signature]* DATE: 8/14/03
HOWARD COUNTY HEALTH DEPARTMENT
APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* DATE: 8/14/03
CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* DATE: 8/14/03
DIRECTOR, DEPARTMENT OF PLANNING AND ZONING: *[Signature]* DATE: 8/12/03

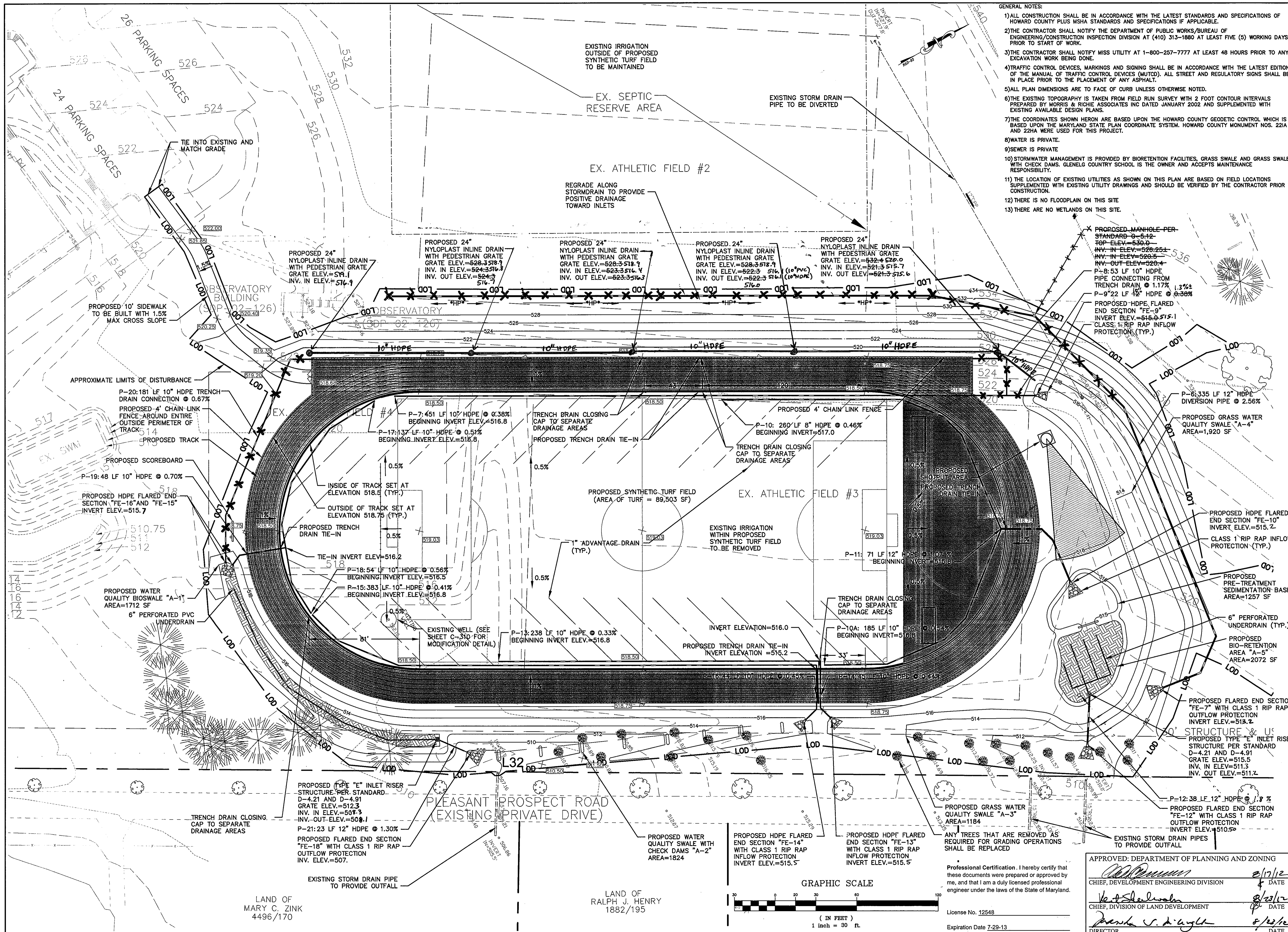


MORRIS & RITCHIE ASSOCIATES, INC.
ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
8090 JUNCTION DRIVE, SUITE 9
ANNAPOLIS JUNCTION, MARYLAND 20701
(410) 792-9792 or (301) 776-1690
FAX (410) 792-7395



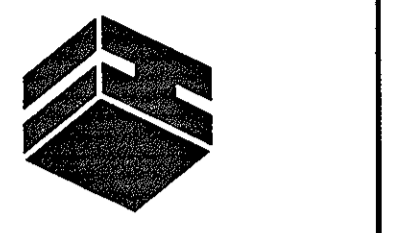
**THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION
ARCHITECTURAL BUILDING ELEVATIONS**
TAX MAP 22 GRID 22 PARCEL 146
LIBER 1296 FOLIO 245
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

DATE	REVISIONS	JOB NO.:
0712	TRACK AND SYNTHETIC TURF FIELD IMPROVEMENTS	12189.02
		SCALE: AS SHOWN
		DATE: 07/14/03
		DRAWN BY: TCN
		DESIGN BY: TCN
		REVIEW BY: TCN
		SHEET: 23 OF 23



- GENERAL NOTES:
- 1) ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
 - 2) 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.
 - 3) THE CONTRACTOR SHALL NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
 - 4) TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE MANUAL OF TRAFFIC CONTROL DEVICES (MUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
 - 5) ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
 - 6) THE EXISTING TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH 2 FOOT CONTOUR INTERVALS PREPARED BY MORRIS & RICHIE ASSOCIATES INC DATED JANUARY 2002 AND SUPPLEMENTED WITH EXISTING AVAILABLE DESIGN PLANS.
 - 7) THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 221A AND 221A WERE USED FOR THIS PROJECT.
 - 8) WATER IS PRIVATE.
 - 9) SEWER IS PRIVATE.
 - 10) STORMWATER MANAGEMENT IS PROVIDED BY BIORETENTION FACILITIES, GRASS SWALE AND GRASS SWALE WITH CHECK DAMS. GLENELG COUNTRY SCHOOL IS THE OWNER AND ACCEPTS MAINTENANCE RESPONSIBILITY.
 - 11) THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THIS PLAN ARE BASED ON FIELD LOCATIONS SUPPLEMENTED WITH EXISTING UTILITY DRAWINGS AND SHOULD BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
 - 12) THERE IS NO FLOODPLAIN ON THIS SITE.
 - 13) THERE ARE NO WETLANDS ON THIS SITE.

HURON CONSULTING
 20410 CENTURY BLVD
 SUITE 230 ANN ARBOR, MI 48106
 PHONE: (313) 528-2010
 FAX: (313) 528-0124
 www.huroncon.com



DATE	REVISIONS	DESCRIPTION

DRW BY: JA
 CHK BY: JA
 APP BY: REH

DATE	REVISIONS	DESCRIPTION

GLENELG COUNTRY SCHOOL
 12793 FOLLY QUARTER ROAD
 ELLICOTT CITY, MD 21042

REVISED SHEET
 STORMWATER MANAGEMENT AND DRAINAGE PLAN

SCALE
 HORIZONTAL: 1" = 30'
 VERTICAL: N/A

PROJECT NO.: 900-101
 DRAWING NO.: C-300
 SHEET: 24 OF 37
 DATE: JULY 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING

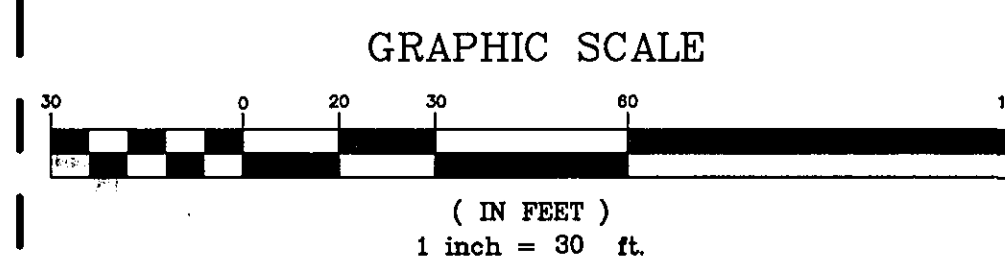
[Signature] 8/17/12
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 8/23/12
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 8/23/12
 DIRECTOR DATE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

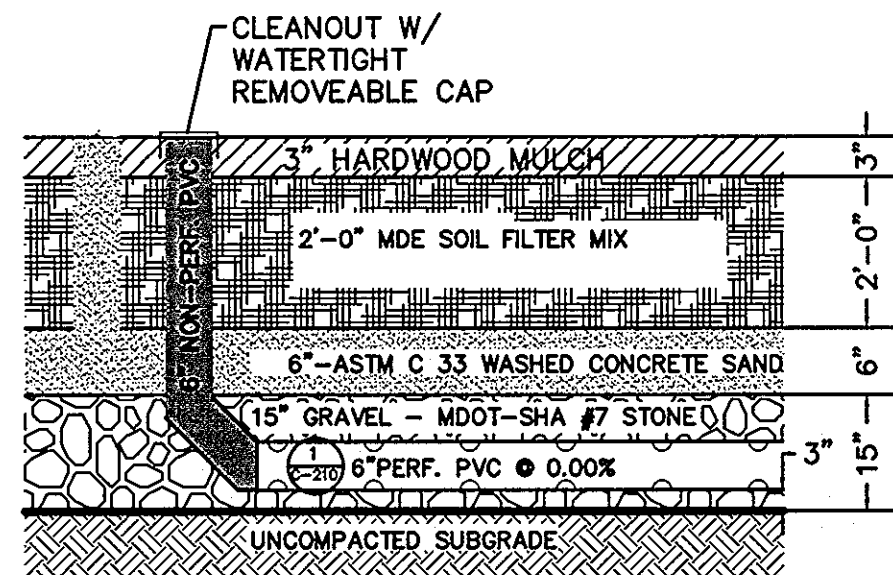
License No. 12548
 Expiration Date 7-29-13



LAND OF MARY C. ZINK
 4496/170

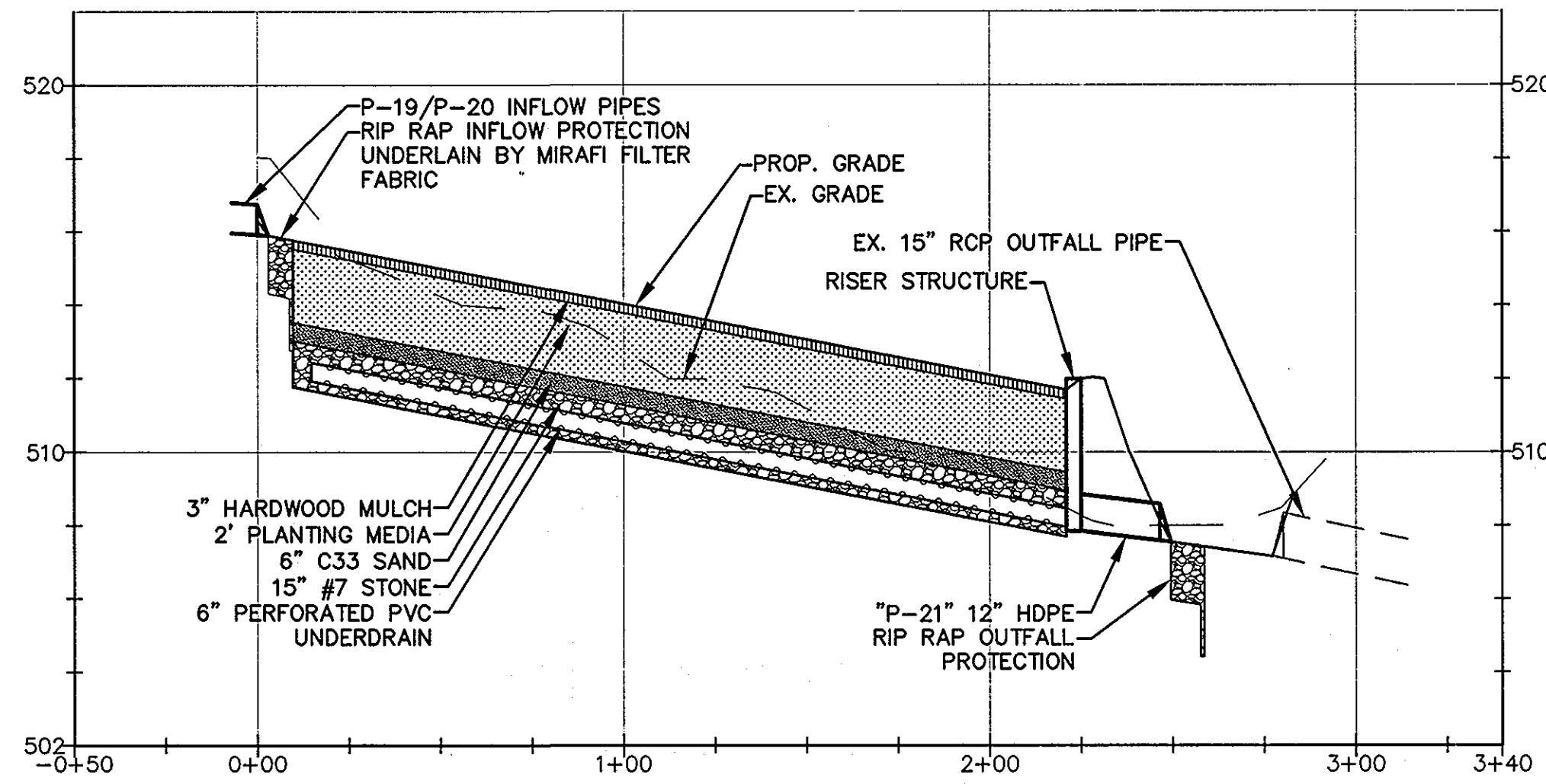
LAND OF RALPH J. HENRY
 1882/195

SDP-03-084

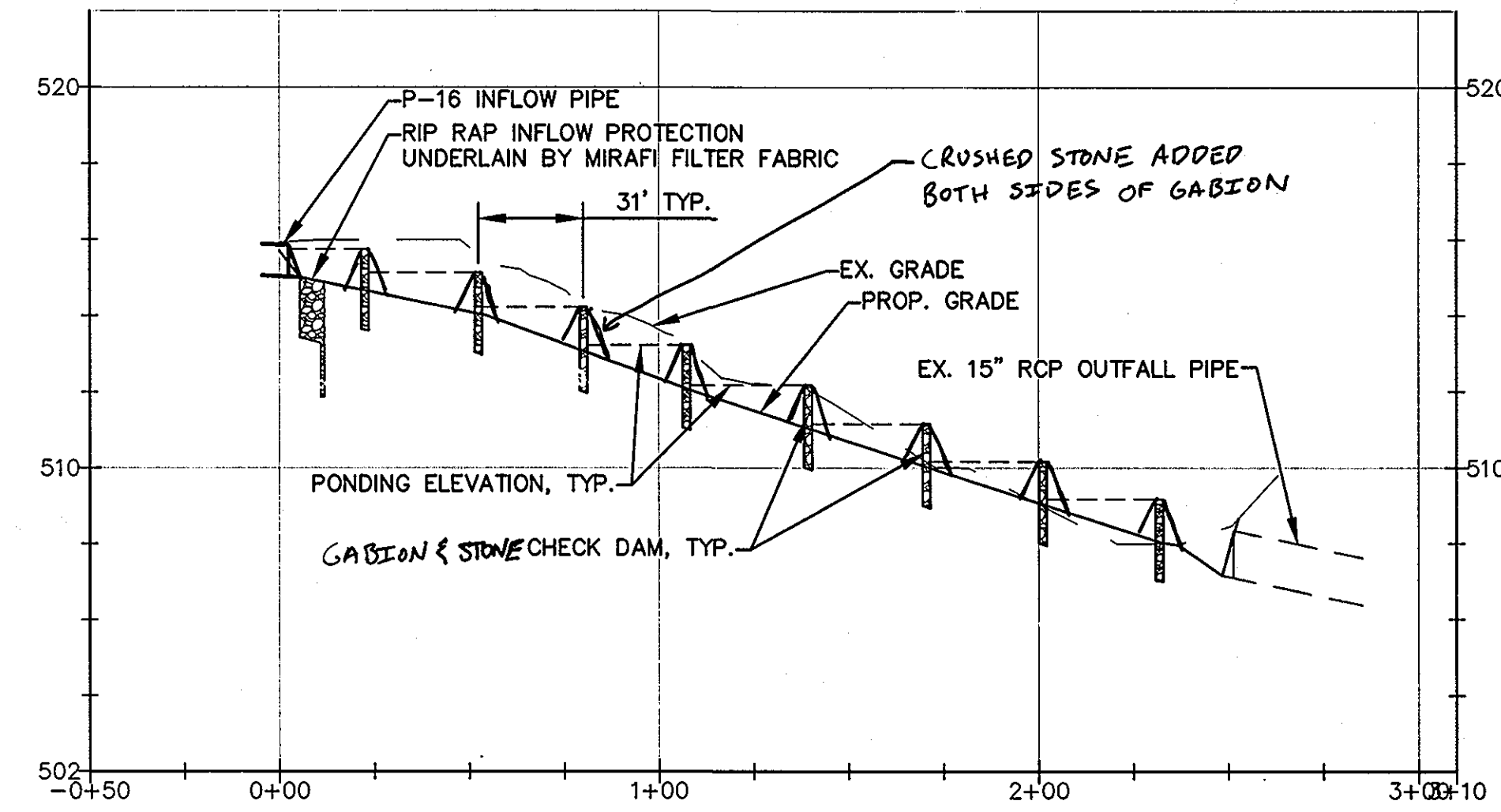


**RISER GRATE TO SERVE AS TRASHRACK
RISER TO BE PRECAST OR
MONOLITHICALLY POURED

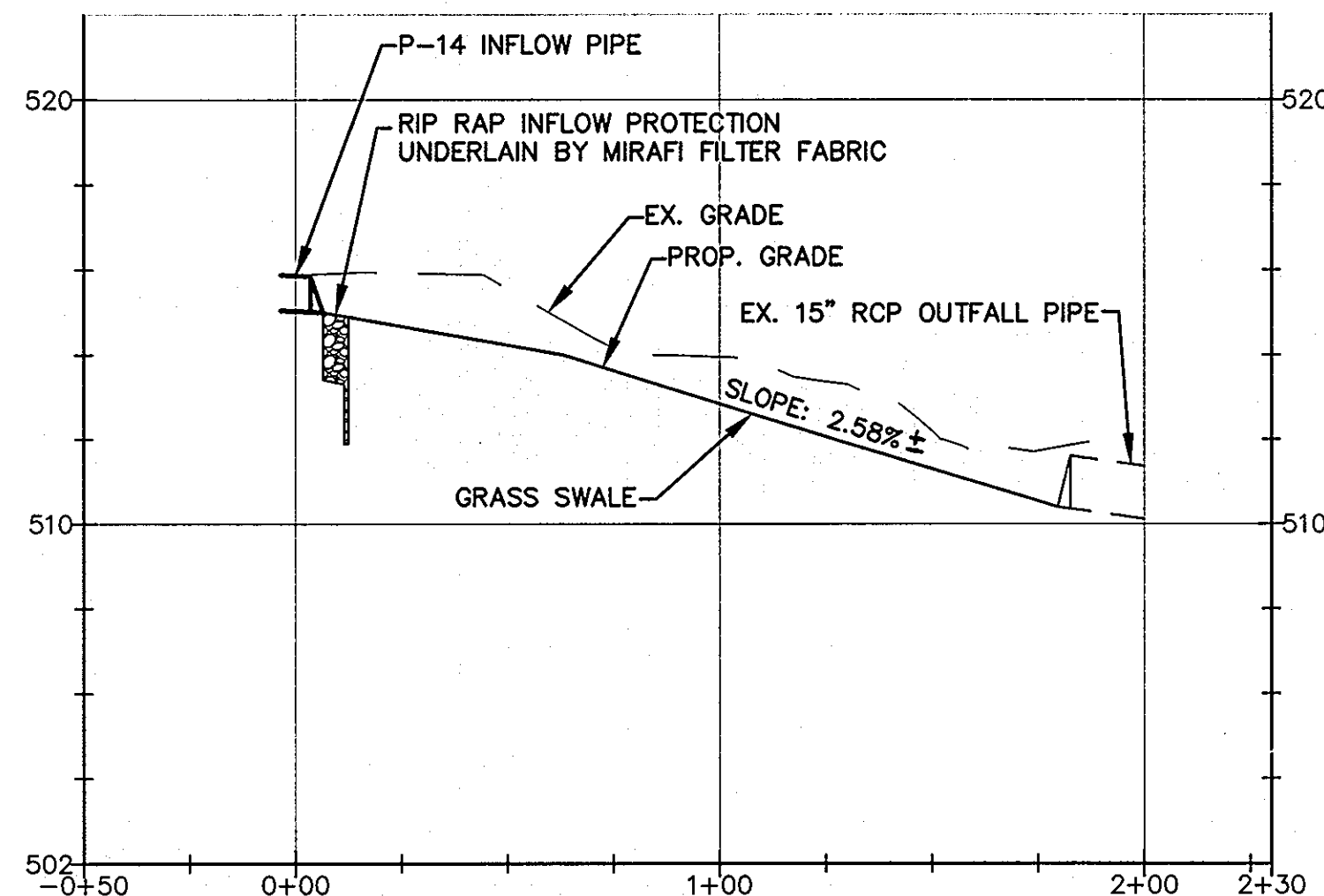
1 TYPICAL BIO-RETENTION MEDIA SECTION
SCALE: 1" = 20"



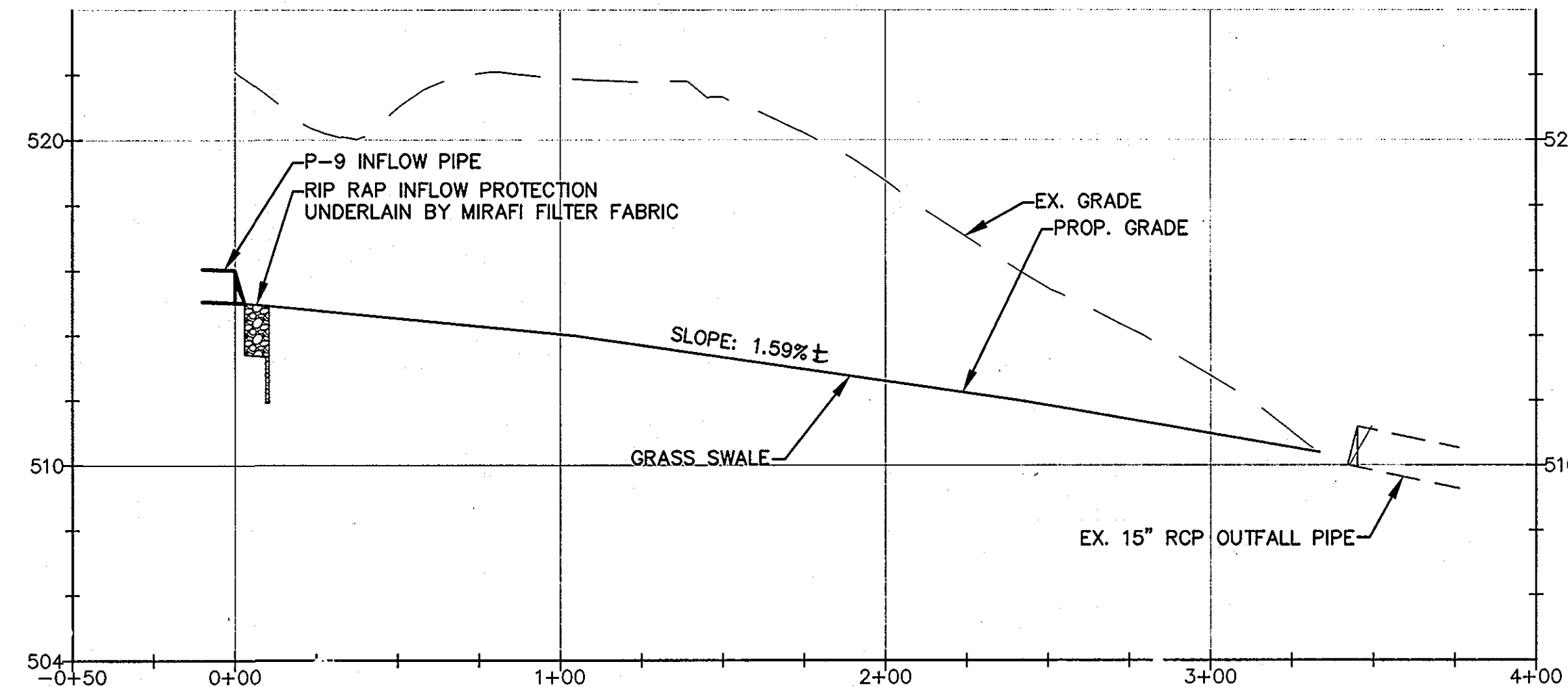
2 BIO-SWALE A-1 PROFILE
SCALE: 1"=40' (HOR) 1"=4' (VER)



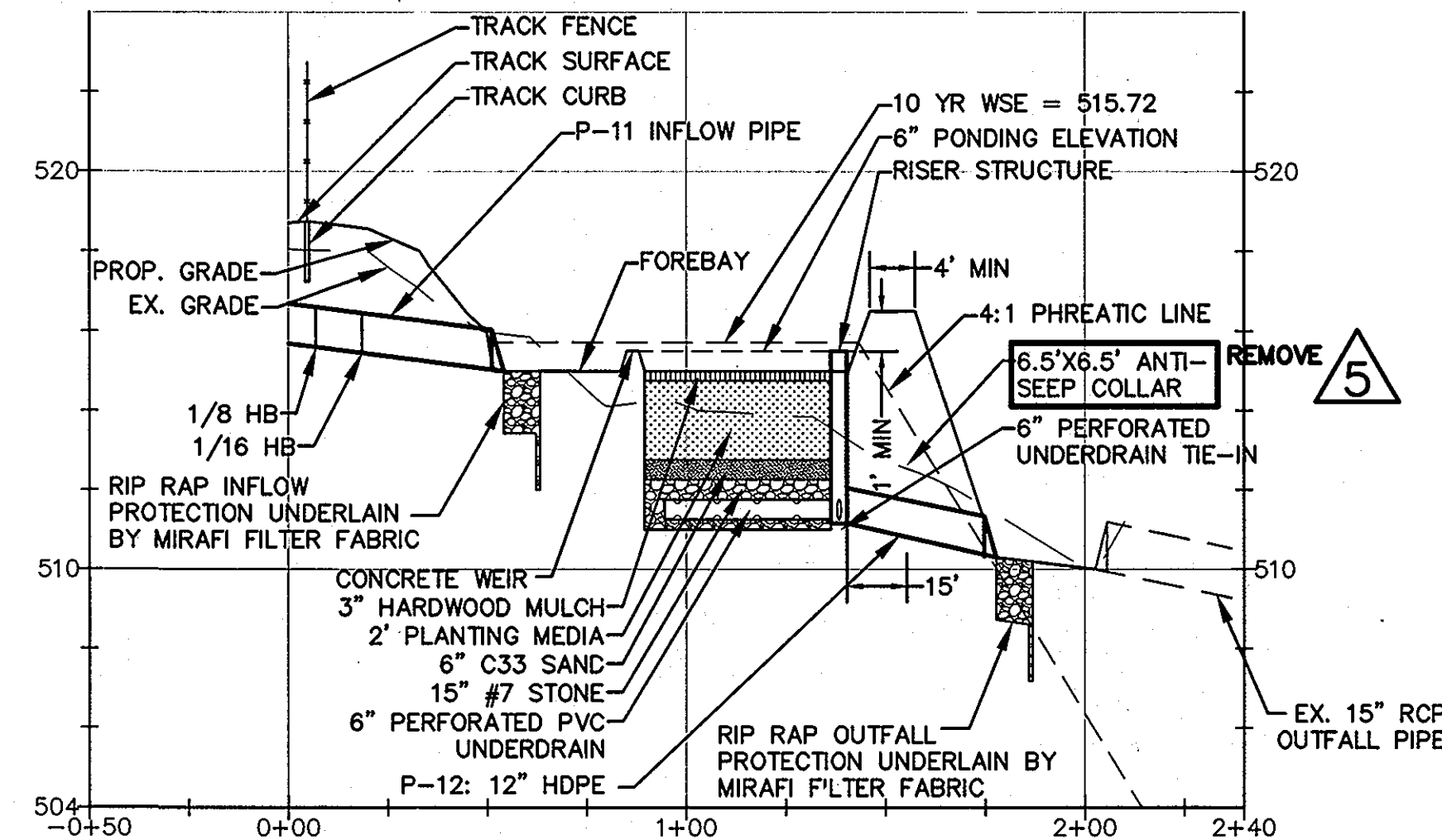
3 WET-SWALE A-2 PROFILE
SCALE: 1"=40' (HOR) 1"=4' (VER)



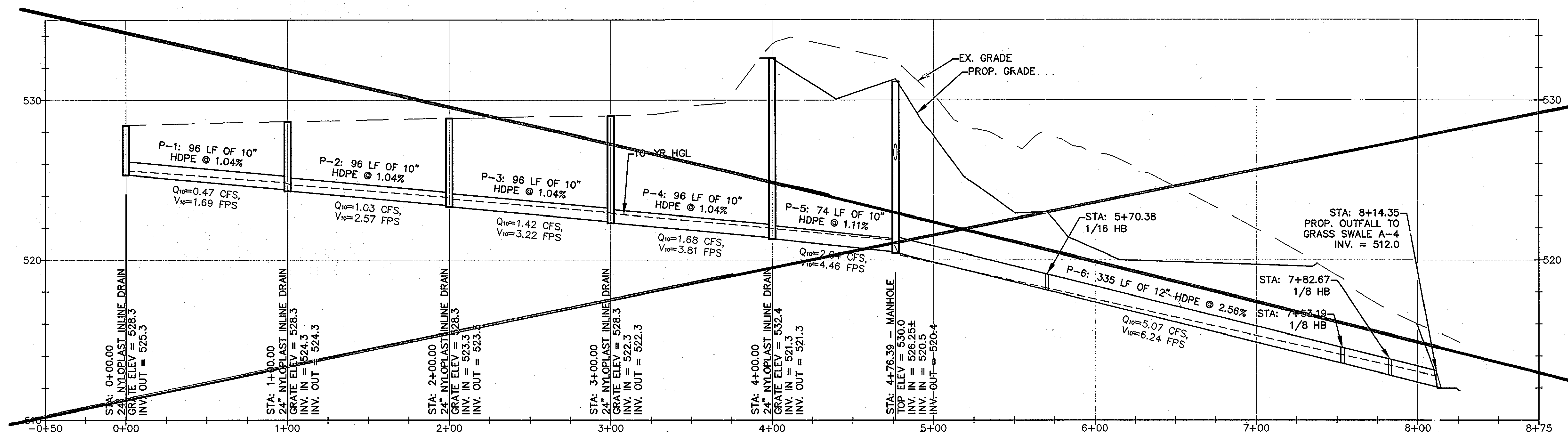
4 GRASS SWALE A-3 PROFILE
SCALE: 1"=40' (HOR) 1"=4' (VER)



5 GRASS SWALE A-4 PROFILE
SCALE: 1"=40' (HOR) 1"=4' (VER)



6 BIO-RETENTION AREA A-5 PROFILE
SCALE: 1"=40' (HOR) 1"=4' (VER)



7 STORM DRAIN PROFILE PIPE "P-1" TO "P-6"
SCALE: 1"=40' (HOR) 1"=4' (VER)
See Sheet 24 For LOCATIONS AND ELEVATIONS

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 31168
Expiration Date 11/2/2015

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION & DATE
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
DIRECTOR DATE

GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLICOTT CITY, MD 21042

REVISIONS SHEET
STORMWATER MANAGEMENT AND DRAINAGE DETAILS

SCALE
HORIZONTAL: N/A
VERTICAL: N/A

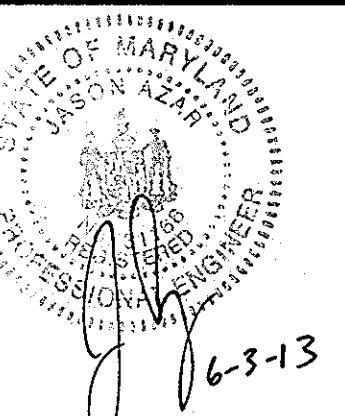
PROJECT NO.: 86860 00

DRAWING NO.: C-311

SHEET: 27 OF 37

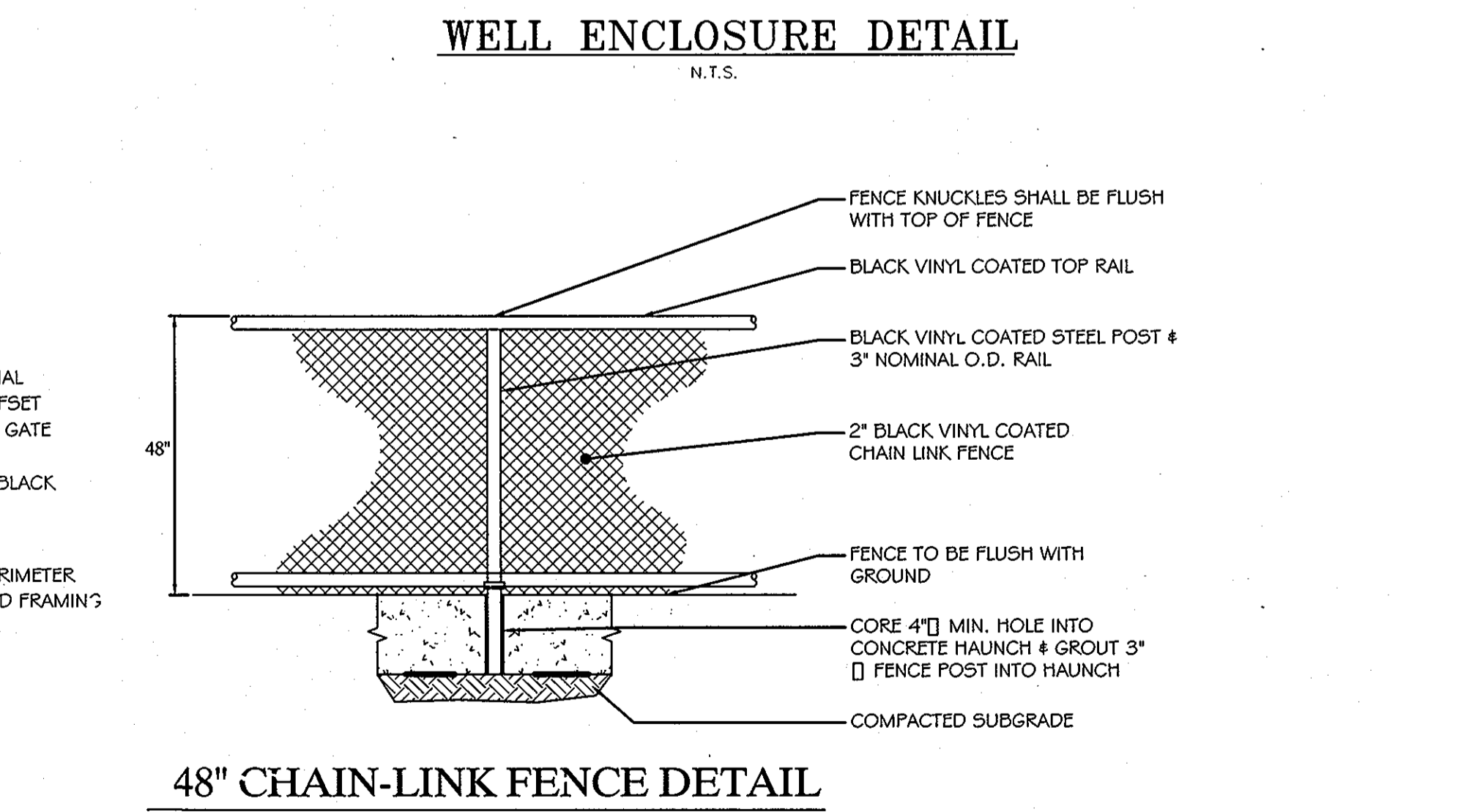
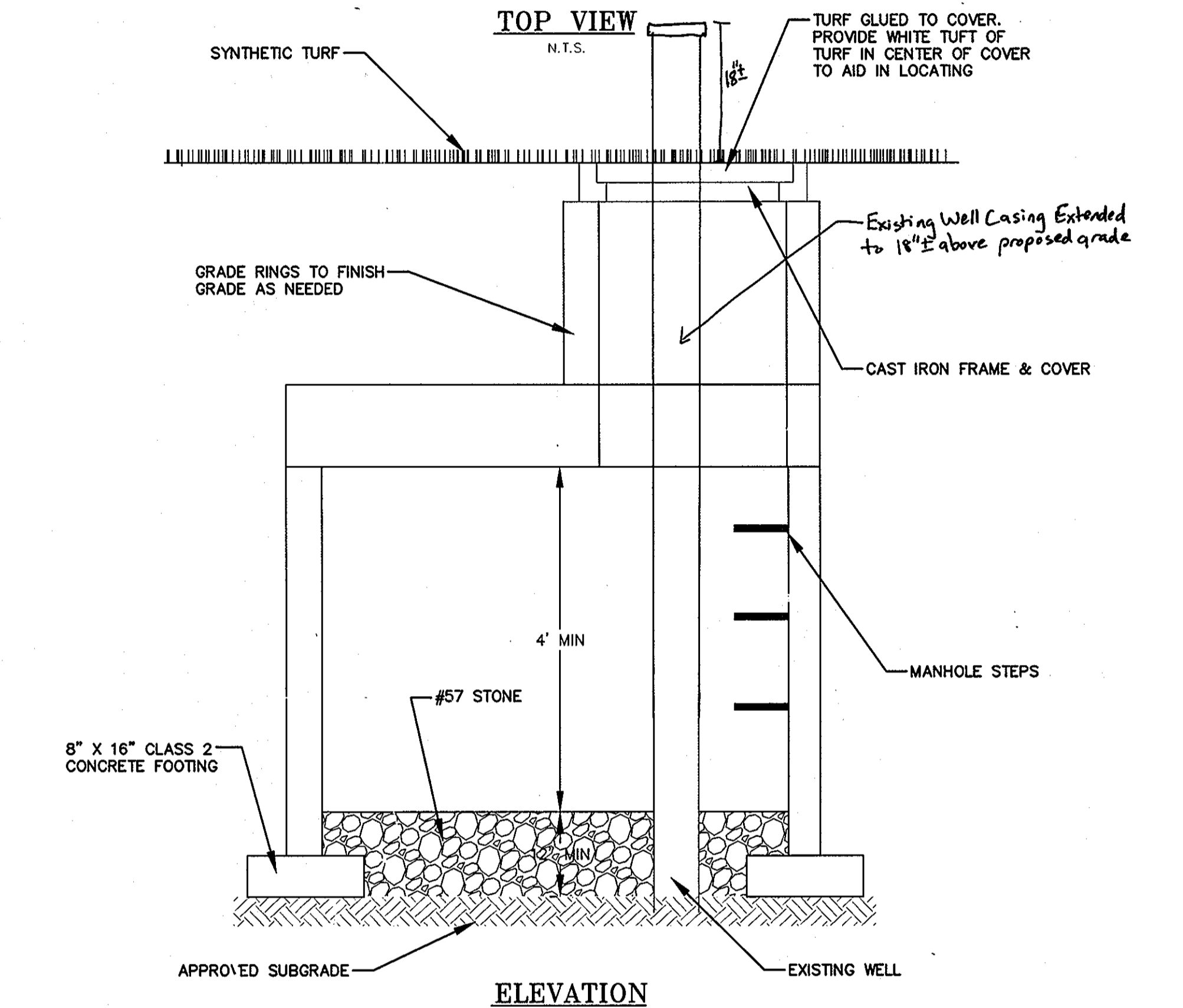
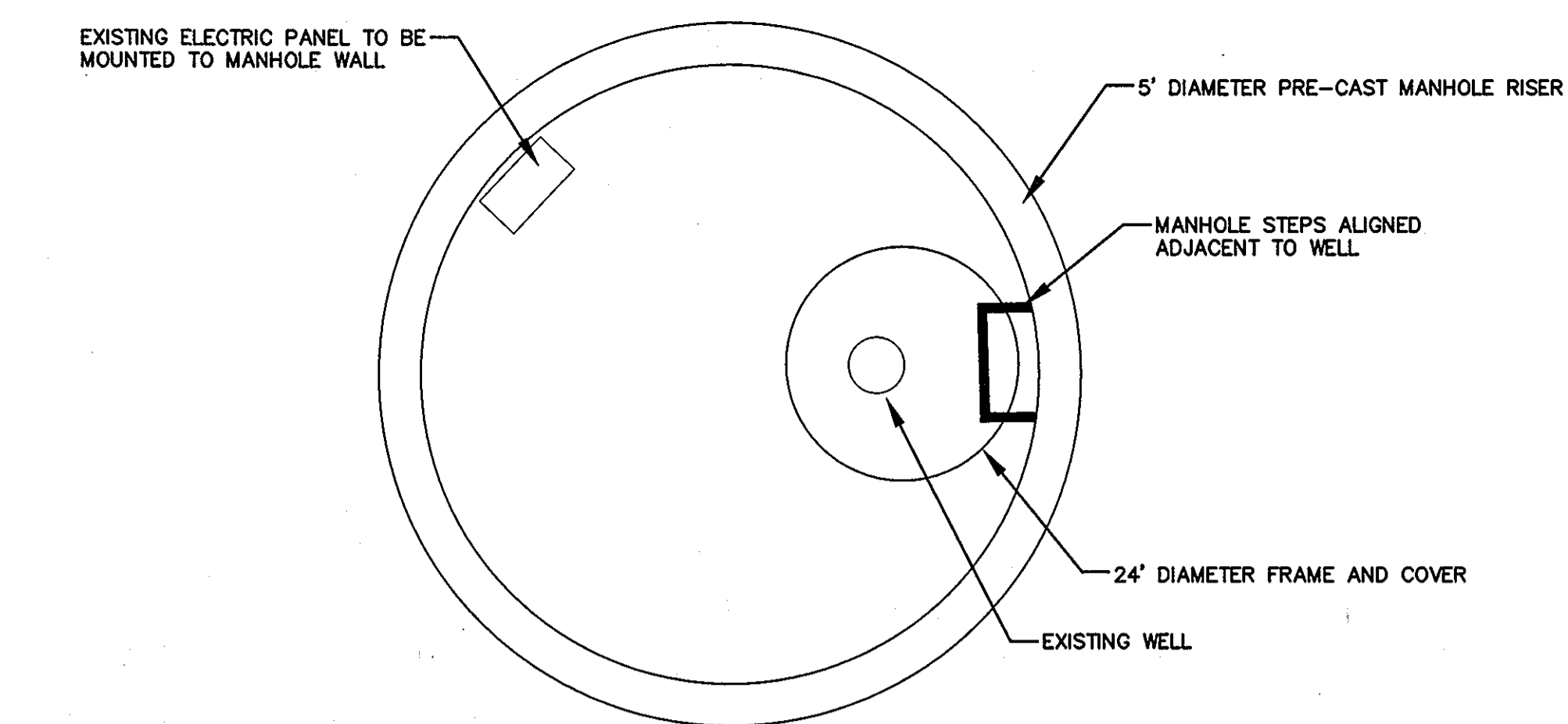
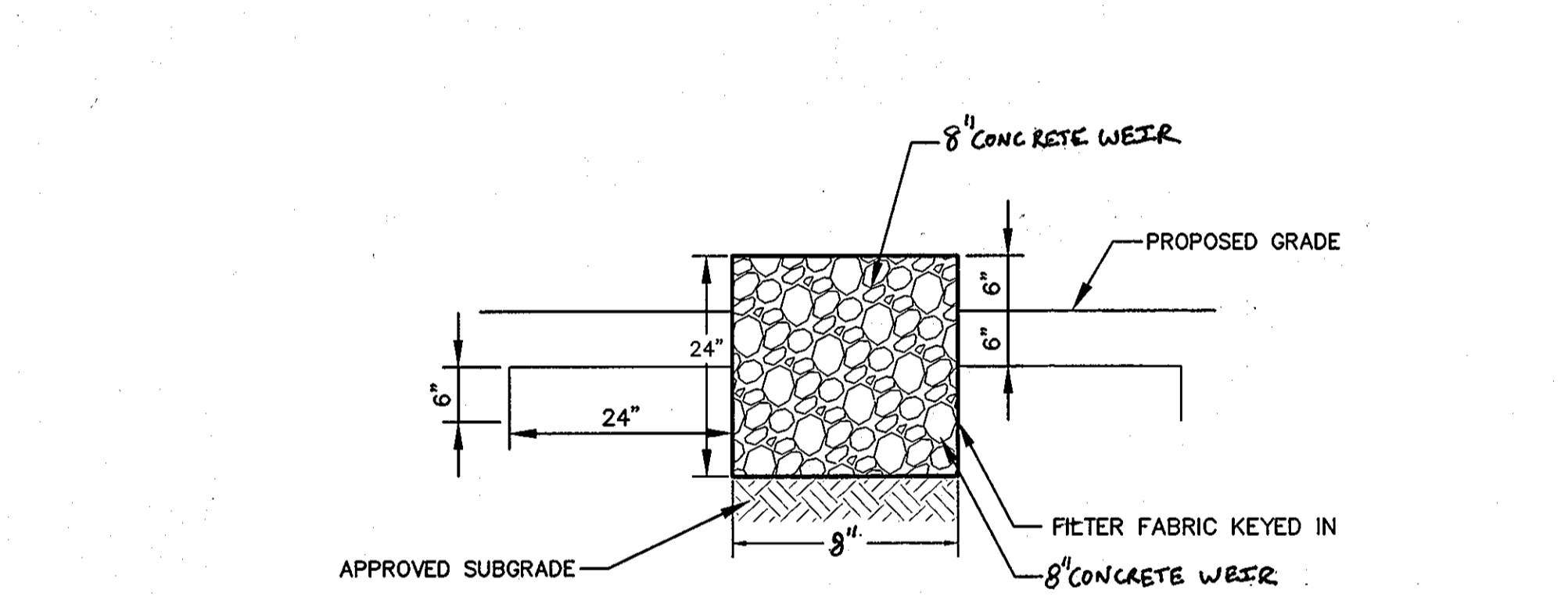
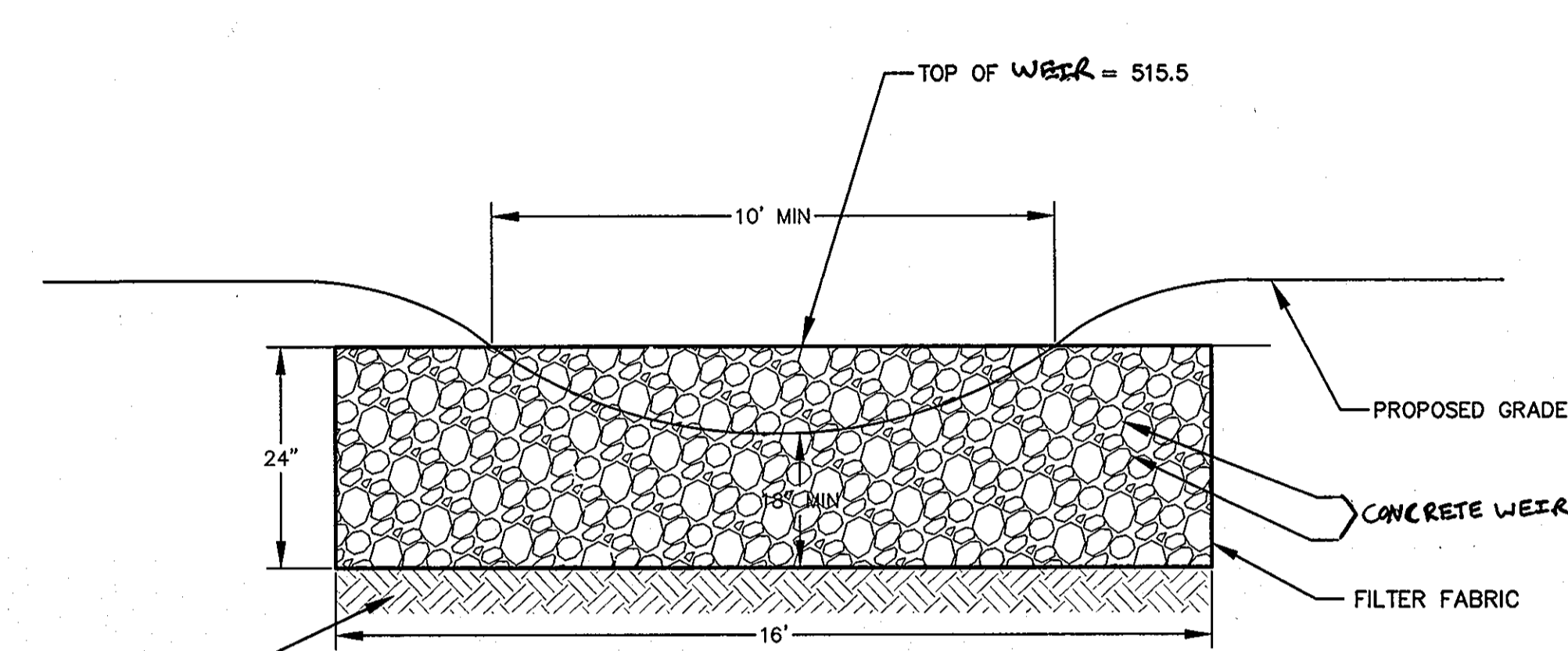
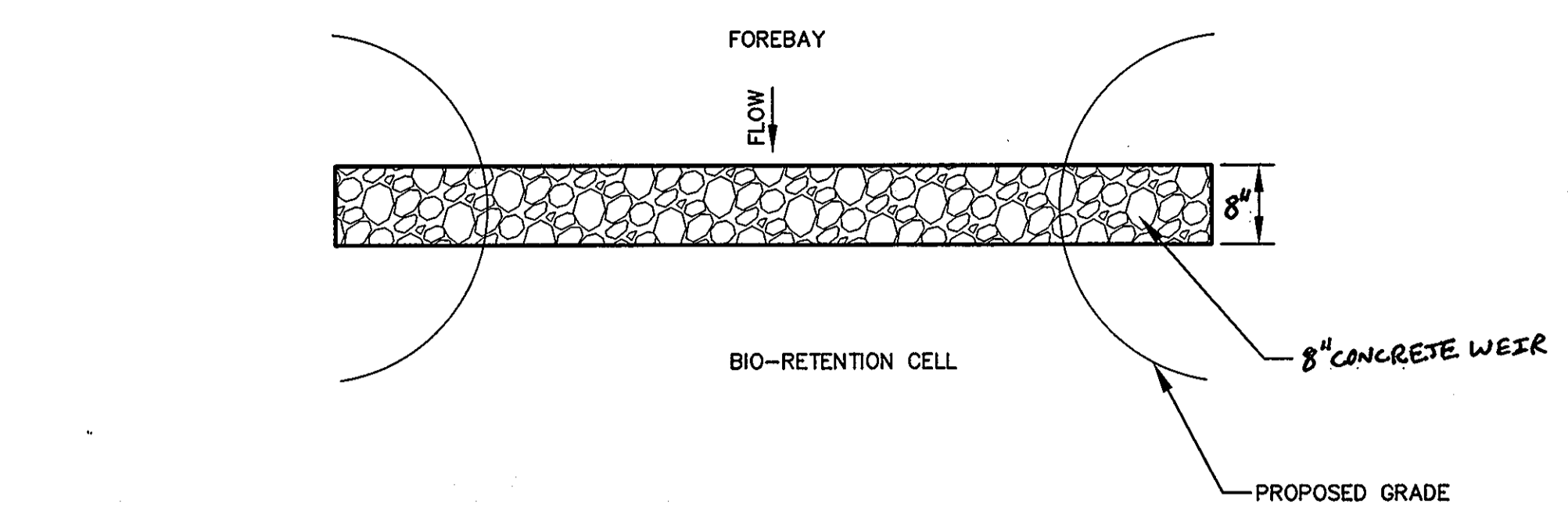
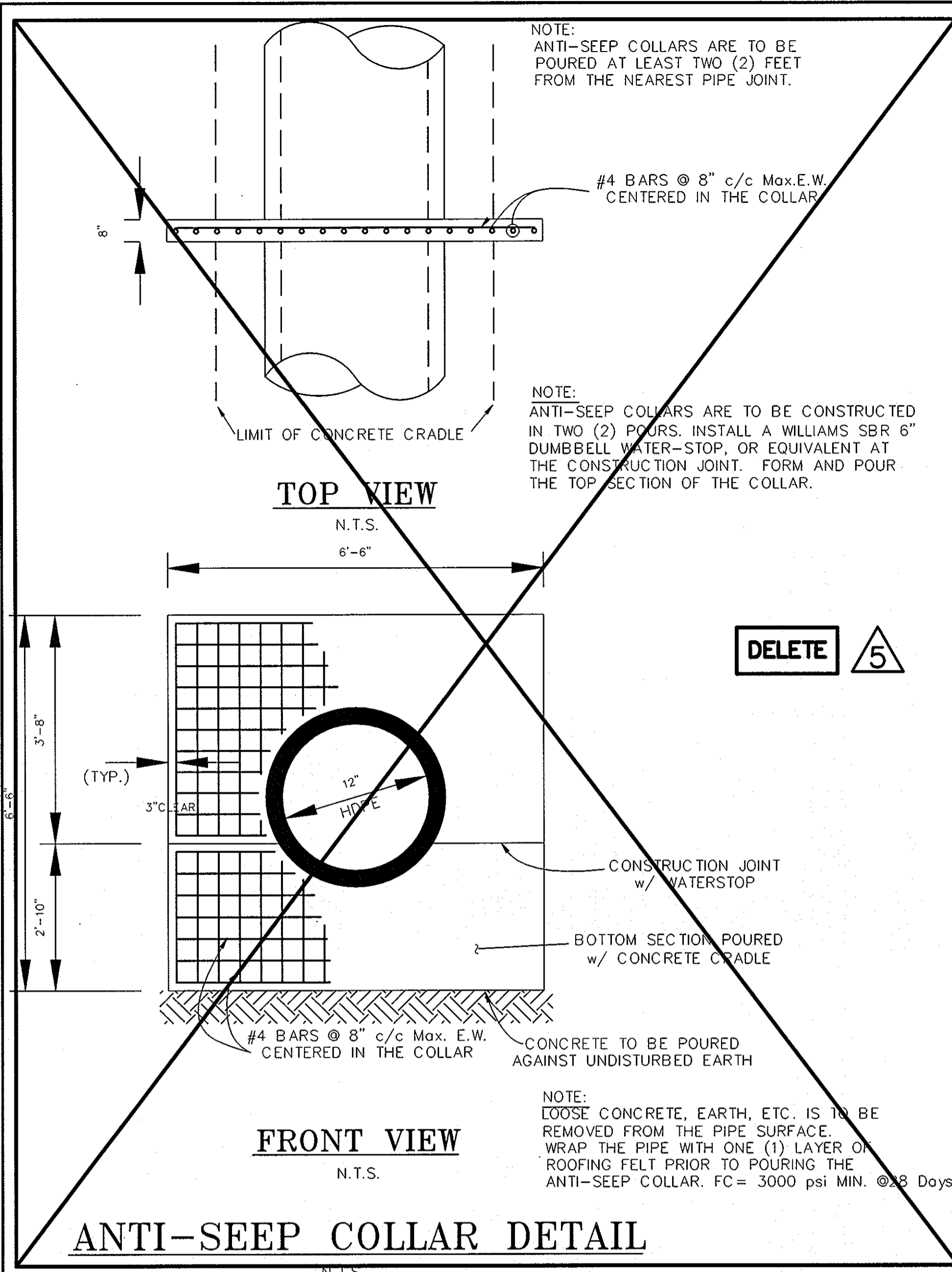
DATE: MARCH 2013

SDP-03-084

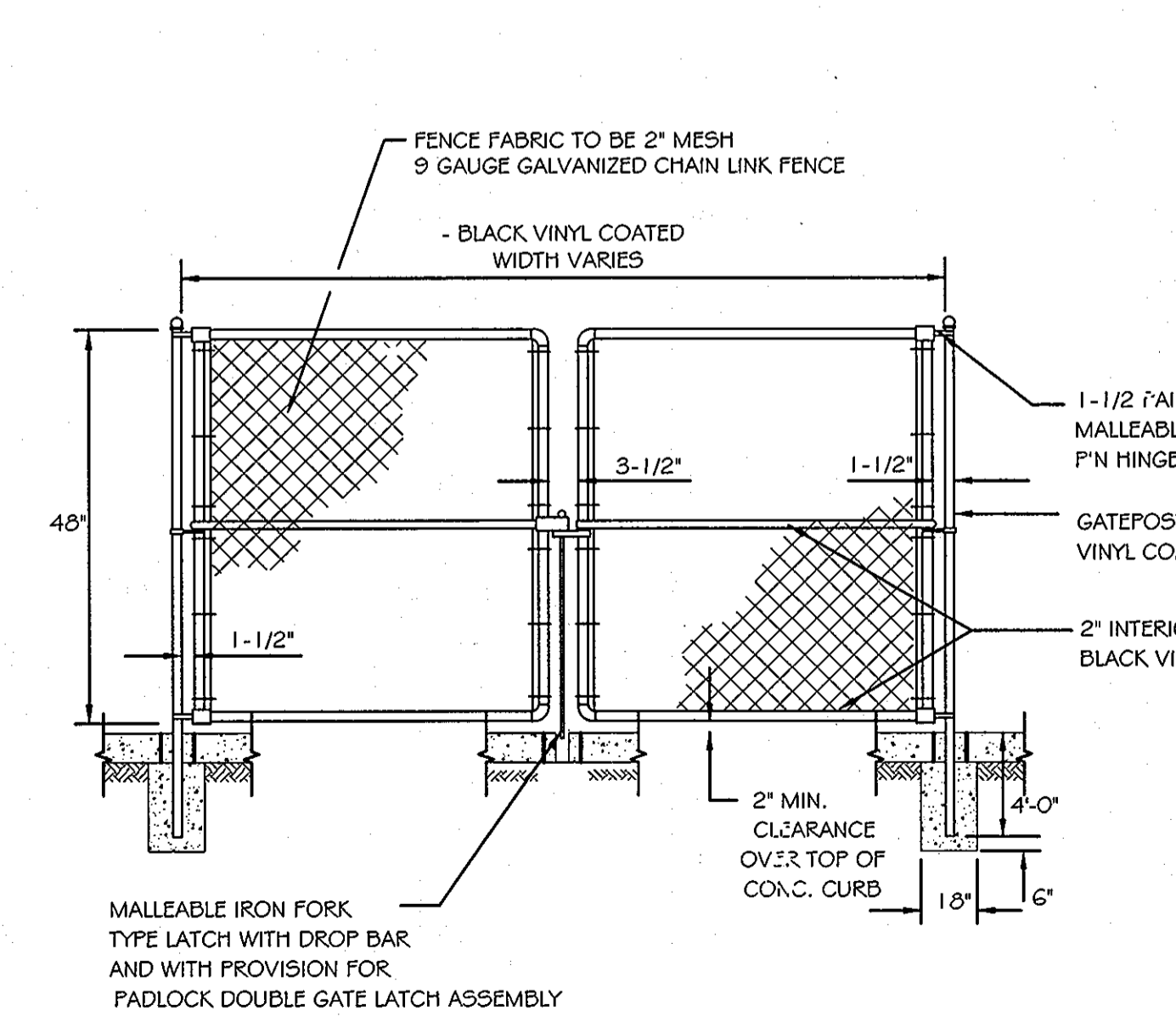


DRW BY: JA
CHK BY: JA
APP BY: REH

REVISIONS	DATE	DESCRIPTION
5	3/2/13	REMOVED ANTI-SEEP COLLAR



FOREBAY GABION DETAIL
N.T.S.



CHAIN-LINK FENCE DOUBLE GATE
NOT TO SCALE

48" CHAIN-LINK FENCE DETAIL
NOT TO SCALE

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 31168

Expiration Date 1/12/2015

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION *[Signature]* 6/17/13 DATE

CHIEF, DIVISION OF LAND DEVELOPMENT *[Signature]* 6/17/13 DATE

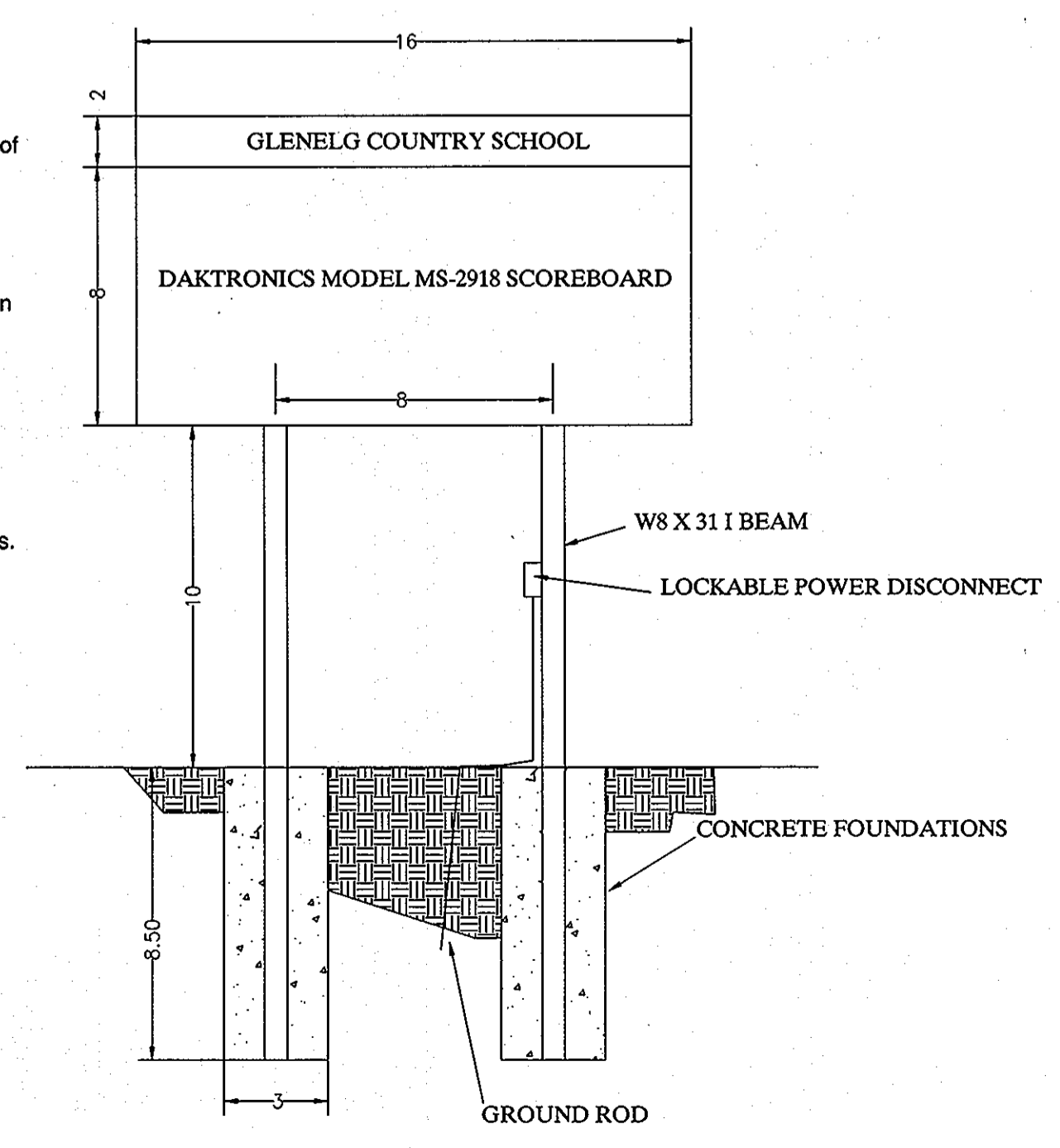
DIRECTOR *[Signature]* 6/17/13 DATE

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS (P-1 THROUGH P-5)

- Routine Maintenance:**
- The Owner shall inspect the facility annually and after every heavy storm. Inspections shall be performed during wet weather to determine if the pond is functioning properly.
 - The Owner shall mow the top and side slopes of the embankment a minimum of two (2) times per year, once in June and once in September. Other side slopes and maintenance access shall be mowed as needed.
 - The Owner shall remove any debris and litter from the facility.
 - The Owner shall repair any erosion in the pond as well as the rip-rap or gabion outlet area as soon as it is noticed.
 - Structural components of the pond such as the dam, the riser, and the pipes shall be repaired upon the detection of any damage. The components shall be inspected during routine maintenance operations.
 - The Owner shall remove sediment from the pond, and forebay, no later than when the capacity of the pond, or forebay, is half full of sediment, or, when deemed necessary for aesthetic reasons, upon approval from the Department of Public Works.

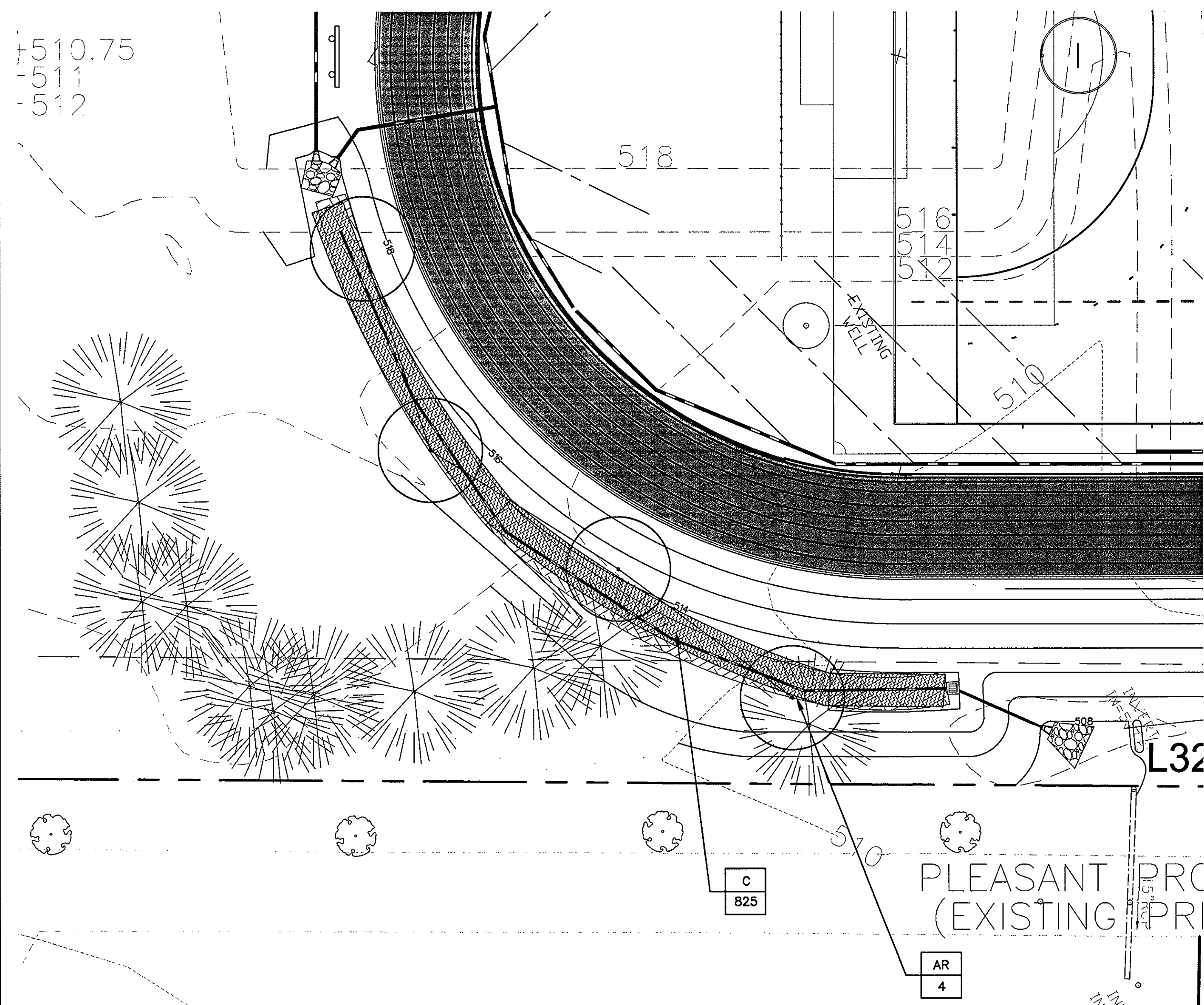
OPERATION AND MAINTENANCE SCHEDULE FOR LANDSCAPE INFILTRATION (M-3) MICRO-BIORETENTION (M-6), RAIN GARDENS (M-7), BIORETENTION SWALE (M-8), ENHANCED FILTERS (M-9)

- The Owner shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland Stormwater Design Manual Volume II, Table A.4.1 and 2.
- The Owner shall perform a plant in the spring and in the fall of each year. During the inspection, the Owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material, treat diseased trees and shrubs, and replace all deficient stakes and wires.
- The Owner shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
- The Owner shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

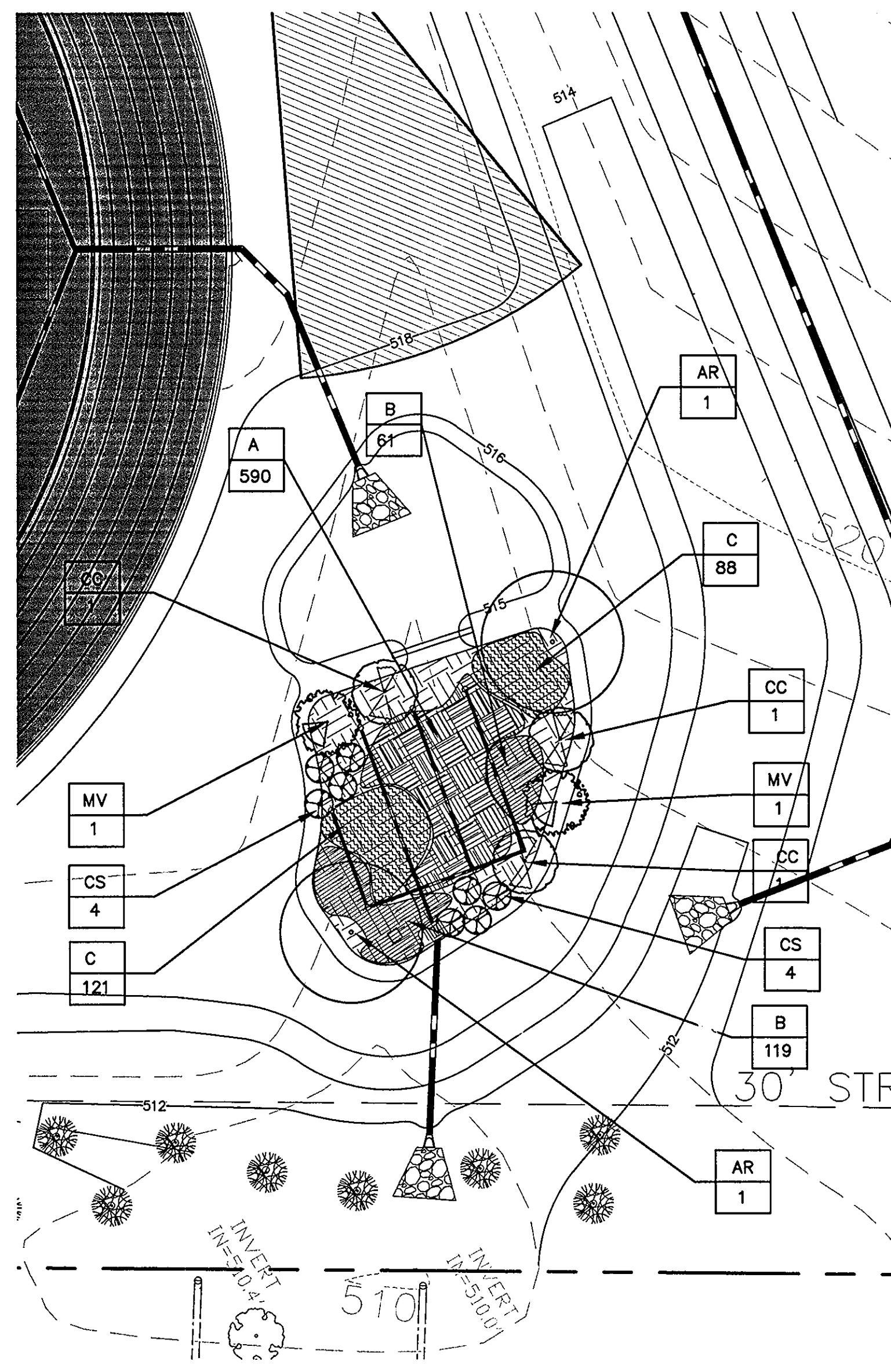


SCOREBOARD DETAIL
NOT TO SCALE

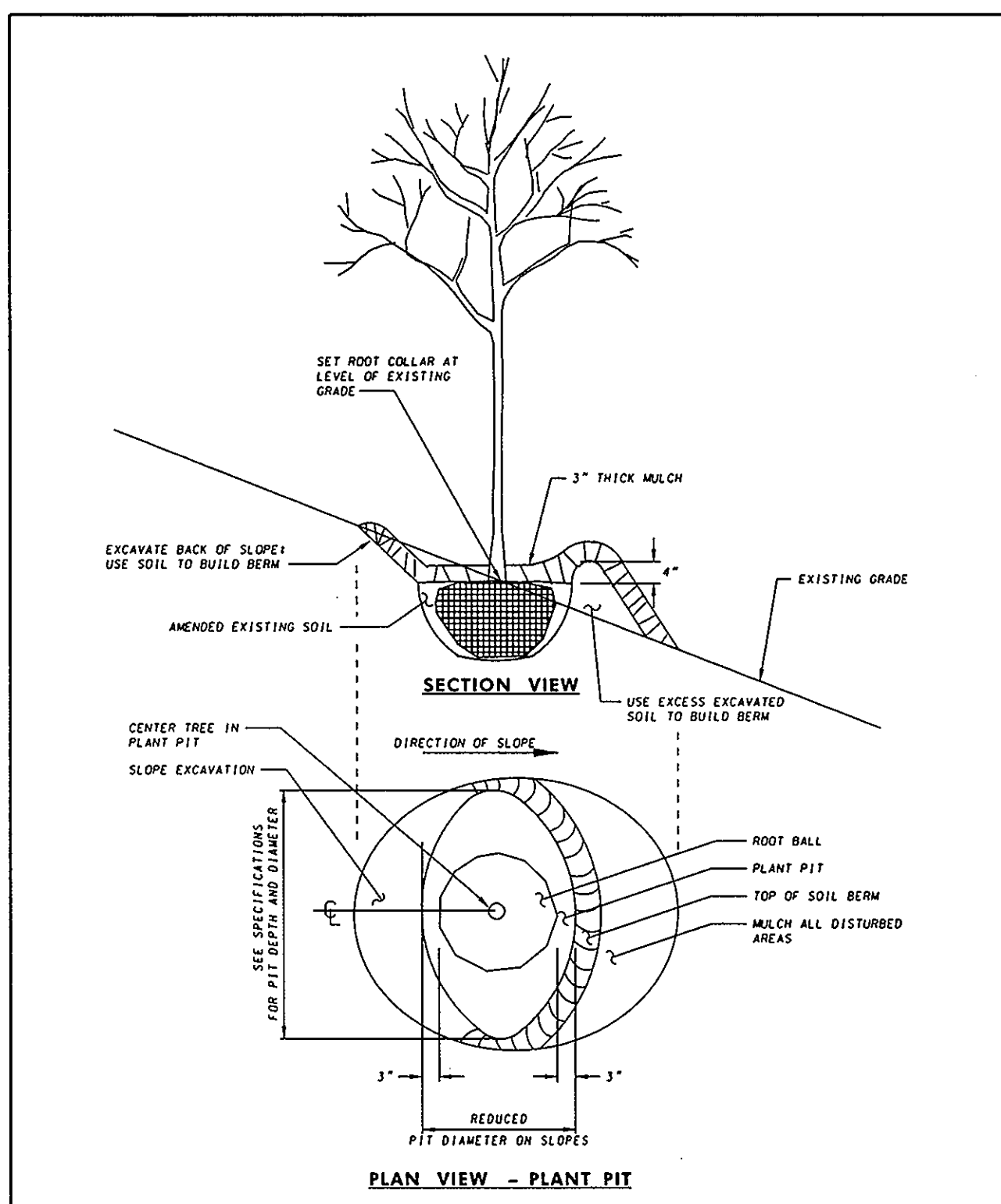
REVISIONS	DATE	DESCRIPTION
5	3/5/13	REMOVED ANTI-SEEP COLLAR



BIO-SWALE AREA "A-1"
SCALE: 1" = 20'



BIO-RETENTION AREA "A-5"
SCALE: 1" = 20'

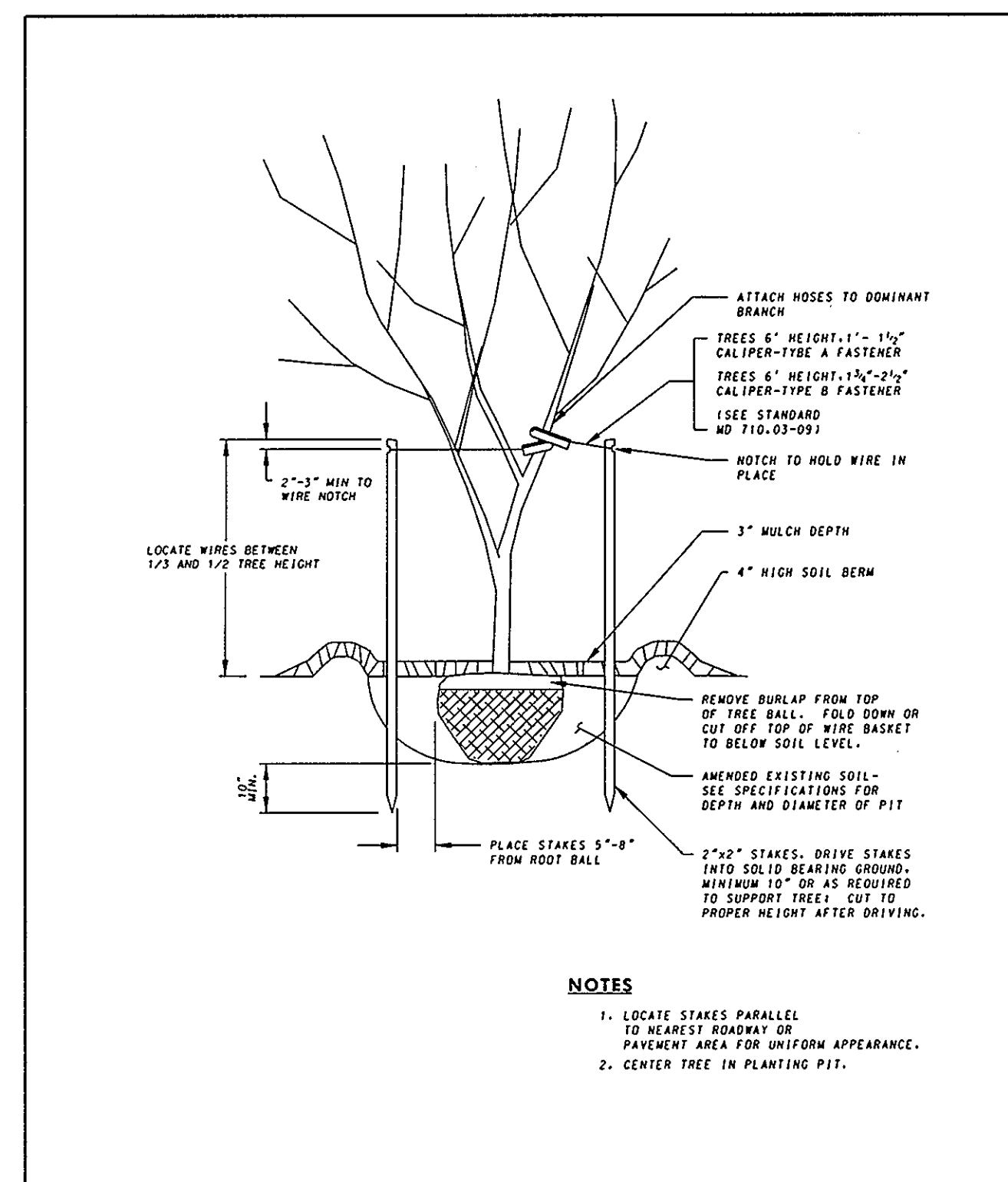


SPECIFICATION 710	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES PLANTING TREES ON SLOPES FROM 3:1 TO 2:1 STANDARD NO. MD 710.03-14
APPROVED <i>K.G. McCall</i> DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT	APPROVAL - SHA APPROVAL - FEDERAL HIGHWAY ADMINISTRATION APPROVAL - 12-18-97 APPROVAL - 8-18-97 REVISIONS REVISIONS	

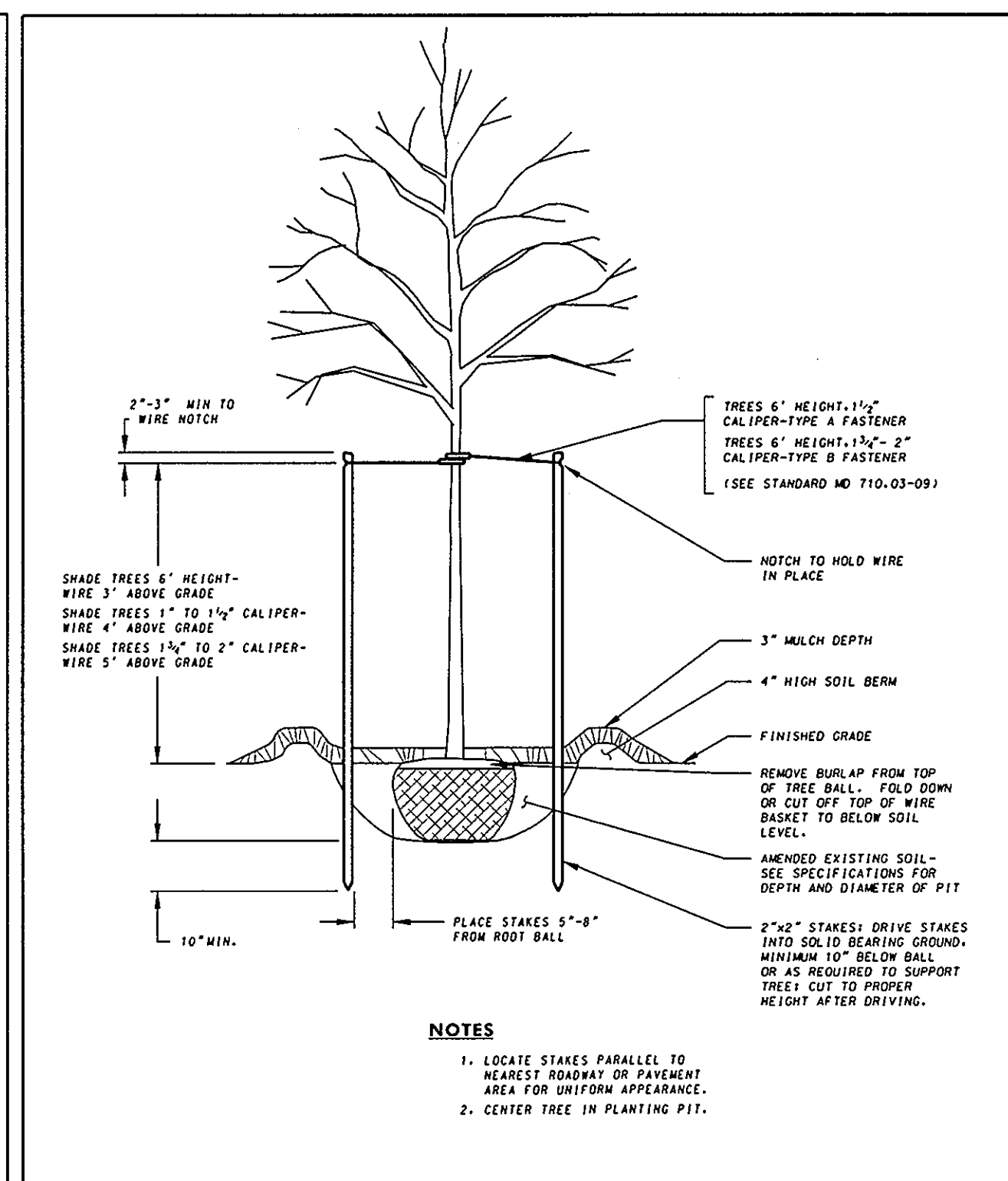
Plant Schedule

Key	Symbol	Scientific/Common Name	Qty.	Size	Remarks
AR	○	Acer Rubrum 'October Glory' October Glory Red Maple	6	2" - 2 1/2" cal	WB
C	■	**Aster Novae Angliae** New England Aster	517	1 qt	18" O.C.
C	■	**Solidago Rugosa 'Fireworks** Fireworks Goldenrod	517	1 qt	18" O.C.
CC	⊗	Cercis Canadensis Redbud	3	2" - 2 1/2" cal	WB
CS	⊗	Cornus Serica Red Twig Dogwood	8	2 1/2" - 3' ht	3 gal
A	■	Elymus Virginicus Virginia Wild Rye	590	4" plug	12" O.C.
MV	⊗	Magnolia Virginia Sweetbay Magnolia	2	8' - 10' ht	WB
B	■	Panicum Virgatum 'Shenandoah' Shenandoah Switchgrass	180	1 qt	18" O.C.

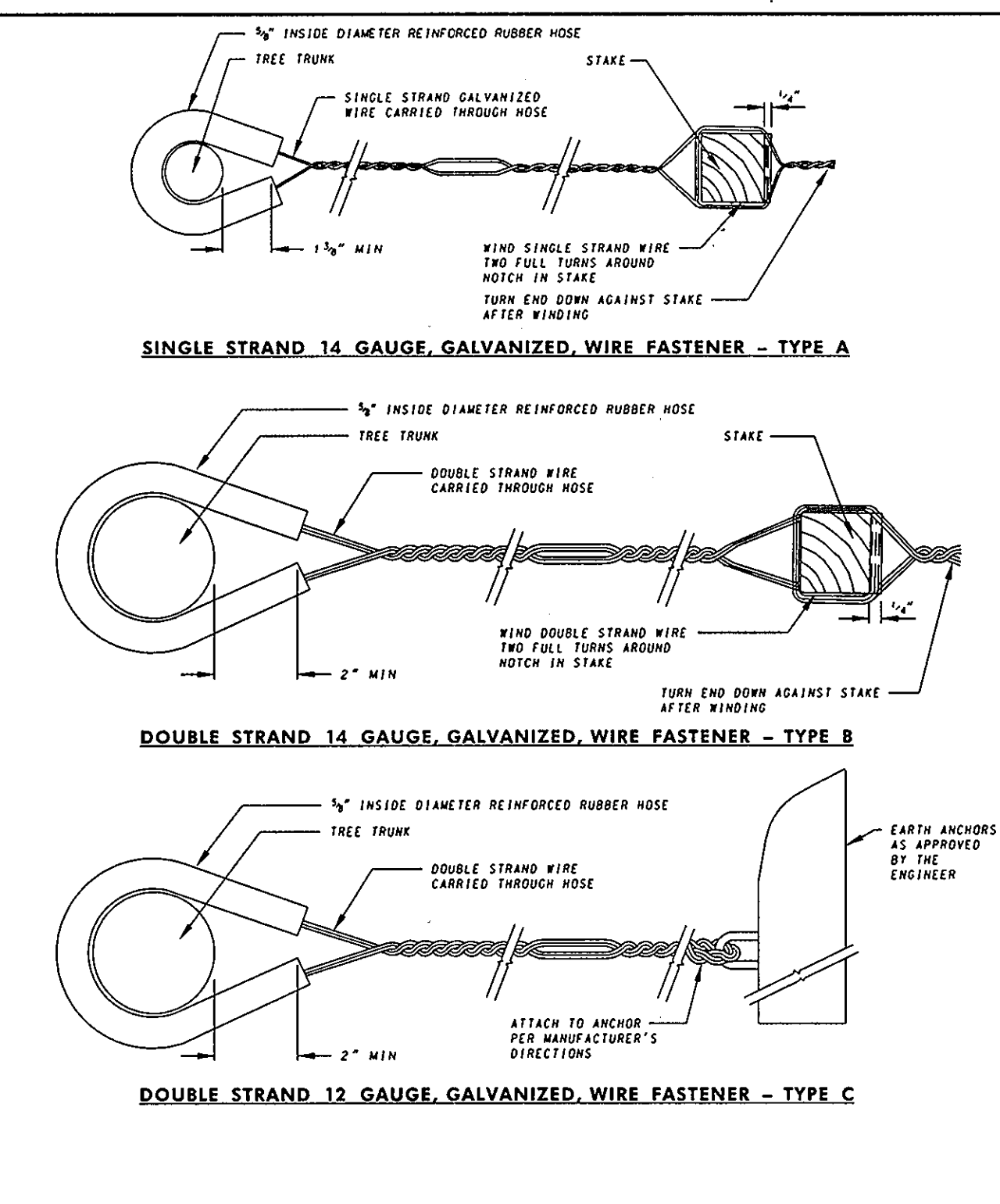
** TO BE PLANTED TOGETHER **



NOTES
1. LOCATE STAKES PARALLEL TO NEAREST ROADWAY OR PAVEMENT AREA FOR UNIFORM APPEARANCE.
2. CENTER TREE IN PLANTING PIT.

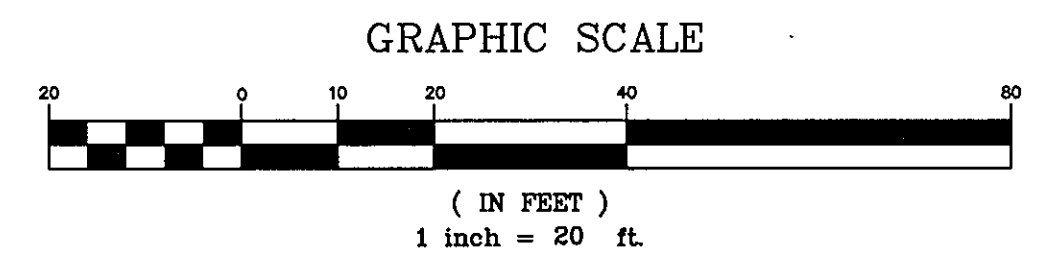


NOTES
1. LOCATE STAKES PARALLEL TO NEAREST ROADWAY OR PAVEMENT AREA FOR UNIFORM APPEARANCE.
2. CENTER TREE IN PLANTING PIT.



SPECIFICATION 710	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES STAKING SHADE TREES 6' HIGH TO 2" CALIPER STANDARD NO. MD 710.03-06
APPROVED <i>K.G. McCall</i> DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT	APPROVAL - SHA APPROVAL - FEDERAL HIGHWAY ADMINISTRATION APPROVAL - 12-18-97 APPROVAL - 8-18-97 REVISIONS REVISIONS	

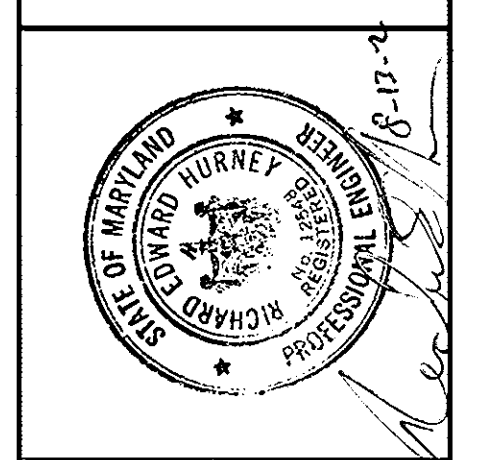
SPECIFICATION 710	CATEGORY CODE ITEMS	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES STAKING FLOWERING TREES 6 FEET HIGH TO 2 1/2 INCH CALIPER STANDARD NO. MD 710.03-04
APPROVED <i>K.G. McCall</i> DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT	APPROVAL - SHA APPROVAL - FEDERAL HIGHWAY ADMINISTRATION APPROVAL - 12-18-97 APPROVAL - 8-18-97 REVISIONS REVISIONS	



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 12548
Expiration Date 7-29-13

APPROVED: DEPARTMENT OF PLANNING AND ZONING	DATE
<i>K.G. McCall</i>	8/17/12
CHIEF, DEVELOPMENT ENGINEERING DIVISION	
<i>Kate Redwood</i>	8/23/12
CHIEF, DIVISION OF LAND DEVELOPMENT	
<i>Mark A. Mays</i>	8/23/12
DIRECTOR	



DRW BY: JA
CHK BY: JA
APP BY: REH

REVISIONS	DATE	DESCRIPTION

GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLICOTT CITY, MD 21042

REVISED SHEET
BIORETENTION PLANTING PLAN

PROJECT NO.: 900-101
DRAWING NO.: C-313
SHEET: 29 OF 37
DATE: JULY 2012

SDP-03-084

BIORETENTION BASIN AND SWALE PLANTING SPECIFICATIONS:
 Consists of applying and planting the trees, shrubs and herbaceous materials (ground covers) including the staking of trees as specified herein and the supplying of materials, labor, equipment and related services necessary for same as specified herein.
 The work of this section includes, but is not limited to:
 mulching
 watering
 soil preparation
 planting materials
 maintenance

MATERIALS: Whenever the following items appear in the specifications, they shall be as follows:
Topsoil Texture and Structure: The planting media shall consist of 1/3 peat, 1/3 compost and 2/3 soil. Topsoil for detention shall have a sandy loam, loamy sand, or loam texture per USDA textural triangle. Maximum dry weight is 5% soil moisture shall be 50%-60% sand; 20%-30% silt; and 20%-30% topsoil. The soil shall be a uniform mix, free of stones, stumps, roots, or other obstructions larger than two inches. No other materials or substances shall be mixed or dumped within the bioretention that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations. The planting soil shall be free of Bermuda Grass, Cocksfoot, Johnson Grass, Mugwort, Nutgrass, Poison Ivy, Canadian Thistle, Tansy, or other noxious weeds.

Soil Testing: Planting soil for bioretention areas must be tested prior to installation for PH and organic matter. The soil should meet the following criteria (Landscape Contractors Association, Latest Edition).
 PH Range: 5.2-7.0
 Organic Matter: 1.5-4.0%
 Magnesium: 35 lb/ton
 Phosphorus (pph-P₂O₅): 75 lb/ton
 Potassium (pph-K₂O): 65 lb/ton
 Sulfate Sulfur: 10% to 20% ppm

It is required that a sieve analysis, PH, phosphorus, potassium, soluble salts and organic matter test must be performed for each bioretention area. A textual analysis is required from the site stockpiled topsoil. If topsoil is imported, then a texture analysis shall be performed for each location where the topsoil was excavated.
 Since labs calibrate their testing equipment differently, all testing results shall come from the same testing facility.
 Should the pH fall out of the acceptable range, it may be modified (higher) with lime or (lower) with iron sulfate plus sulfur.

Soil Backfill: Placement of planting soil for bioretention area should be in lifts of 12 to 18 inches and lightly compacted. Minimal compaction effort can be applied to the soil by tamping with a bucket from a dozer or backhoe. Refer also to "compaction".
Mulch Specifications: Individual planting shall be mulched prior to landscaping details, DWG B-2. Acceptable mulch shall be shredded hardwood only. Mulch must be well aged, uniform in color, and free of foreign material including plant material. Well aged mulch is defined as mulch that has been stockpiled or stored for at least twelve (12) months.

Gravel Filter Specifications: Coarse aggregate, MSHA No. 7 stone per MDOT-SHA standards and specifications. 80% passing through 1" sieve, double washed. Recycled asphalt pavement may be used as a component not to exceed 15% percent.
Sand Specifications: Provide clean sand, free of deleterious materials. Sand shall meet ASTM M-6 or ASTM C-33 with grain size of 0.075"-0.425".

Geotextile Specifications: Geotextile fabric shall meet ASTM D-751 (tensile strength - 125 LB) ASTM D-1117 (ullen burst strength - 400 PSF) ASTM D-1682 (Tensile Strength - 300 LB)
 Fabric shall have 0.075" thick E.O.S. of 800 series, and maintain 125 GPM per SQ. FT.

Inspection requirements:
 1. The contractor shall arrange a "preconstruction meeting" with the owner and architect/engineer prior to beginning work on the bioretention facility.
 2. At the completion of excavation to inspect the substrate.
 3. During underdrain and filter installation.
 4. Backfill of soil into the bioretention areas. Soil certifications for back fill are required.
 5. The final topsoil layers should be thoroughly wetted and a settlement of the soil/seed backfill only.
 6. Additional soil backfill should be placed as needed to achieve the design top surface elevations.
 7. The work shall be inspected by the owner/architect prior to final stabilization and planting.
 8. Sediment control and erosion practices may be removed upon approval by the county inspector.

Fertilizer: Commercial slow release fertilizer for additional plant application shall be standard formula 10-4-4, nitrogen 10%, phosphoric acid 6%, potash 4%, and contain minor trace elements. The formula shall be in conformity to applicable state fertilizer laws. Fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the project site in the original container, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes wet, caked, or otherwise damaged will not be accepted. Tree, shrub, and potted herbaceous plants or grasses use: Osmocote 19-6-12, 12-14 month release at a rate of 1 cc. per herbaceous plant or grass; 4cc. per shrub. Trees use Agrifon 20-10-10, two year release, 10 gram tablets.

Water: Shall be furnished by the contractor for the execution of all work specified in this contract. The contractor shall verify that the water available is suitable for irrigation and free from ingredients harmful to plant life.

BRACE STAKES: Wood brace stakes shall be common lumber or the sizes in the following table:

Tree Size	Brace Stakes
1.5" x 1.5" Calor	2" x 2" x 8'
1.5" x 3" Calor	2" x 2" x 2' x 2' x 30" for corners

Wire shall be good commercial quality of galvanized wire. Wire used to stake trees shall be No. 11 gauge minimum.
HOSE COLLARS: Hose collars shall be new two ply fabric bearing garden hose not less than 1/2 inch thick.

PLANT MATERIAL STANDARDS:
NAMES AND GRADES: Plant material shall conform to nomenclature of "Standardized Plant Names" as adopted by the Joint Committee of Horticulture Nomenclature, latest edition. Size and grading standards shall conform to the American Association of Nurserymen, Inc., as published in the "American Standard for Nursery Stocks", latest edition. No substitutions of size or grade shall be permitted without written permission from the Landscape Architect. Each tree, shrub, and all separate plants shall be properly identified with the legible waterproof tags securely fastened to each plant or bundle of plants. They shall remain on the plants until final inspection.
HEALTH: All plants including their roots shall be free from disease, insects, or other injurious qualities. All local, state, and federal laws pertaining to the inspection, sale, and shipment of plant materials shall be complied with. The back of each tree shall be sound, trees shall have no large wounds, and any small wounds shall have a satisfactory callus or formed or forming over them. Plants shall show good annual growth. Buds shall be plump and well filled for the species. Evergreen foliage shall be of good intense green color.
QUALITY: All plants shall be true to type; they shall have normal, well-developed branch systems, and a vigorous fibrous root system; they shall be sound, healthy, vigorous plants free from defects, disfiguring insects, sun scald injuries, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All new plants shall be nursery grown.

BALL AND BURLAP: All balled and burlapped plants shall conform to the "American Standard for Nursery Stocks", latest edition. All balls shall be of natural earth in which the plant has been growing. No manufactured or artificially produced or mulched-balls shall be accepted. Balls shall be firm and unbroken, and of large enough size to adequately enclose the plants fibrous root system.

MORRIS & RITCHE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 14200 PARK CENTER DRIVE, LAUREL, MD 20787
 (410) 792-9792 / (301) 774-1600 FAX (410) 792-7355
 WWW.MORRISRITCHE.COM

PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 29203, EXPIRATION DATE: 06/16/2017.

FOR REVIEW BY THE STATE OF MARYLAND PROFESSIONAL ENGINEERING BOARD

THOMAS C. NEUGEBAUER
 P.E. 29203
 5/25/17

PLANT LIST: The list of plants furnished with the specifications is for the information of the Contractor. The height and caliper of trees, the height or spread of shrubs, the diameter of the balls of roots are the minimum dimensions required. Plants indicated "B" are to be dug with a ball of earth and wrapped in burlap.
MEASUREMENTS:
 Shall conform to those specified on the plant list except as follows:
 Overize plants may be used only after approval by the Landscape Architect.
 Use of such plants shall not increase the contract price.
 Height and spread dimensions indicated refer to the main body of the plant and not from branch tip to branch tip. All trees and shrubs shall be measured when their branches are in normal position. Trees shall have straight trunks with the leader intact, undamaged and uncut.

INSPECTION: The Planting Contractor shall be responsible for all inspection and approval of the plant material that may be required by state, federal and other authorities, and shall secure any permits and certificates that may be required.
 All plants shall be subject to inspection, and approval at place of growth before digging, or upon delivery, for quality, size and variety, such approval shall impair the right of rejection at the project site during progress of the work, for size, condition of balls, roots, latent diseases or injuries. Rejected plants shall be removed immediately from the project site.
DIGGING AND HANDLING:
 Protection from extremes in exposure and rough handling shall be provided all plant materials during transport and storage.
 All plant materials shall be assembled in one location on the job site to permit inspection and approval by the Landscape Architect. The Contractor shall notify the Landscape Architect (by working days prior to planting so that a mutually agreeable time may be arranged for inspection. Stock with live roots, bare roots, and containers, and stock which shows evidence of being root-bound, over-grown, or recently camed, or in the opinion of the Landscape Architect is damaged or improperly cared for, shall be removed from the site immediately and replaced at the Contractor's expense with another plant meeting the original specifications. Plants shall not be pruned prior to approval by the Landscape Architect.

PROCEDURE:
BIORETENTION PLANTING BED
A. SITE PREPARATION
 1. Construct sediment control sequence of construction features as shown on sediment control plan. Contractor is to conform to sediment control plan and notes, until site is stabilized and has been approved by DPS Inspector. Notify DPS Inspector, Owner and Landscape Architect prior to commencement of planting work.
 2. Excavate site to grades shown on plan. Care should be taken to preclude sediments, or sediment from entering planting area.
 3. Remove and dispose of excess soil from exposed on-site spoil area. Contractor is to obtain approval from Owner of haul route on site. Following the bioretention construction plans and grading, the Contractor shall install Soil Filter/Planting Media for the bioretention area as designated on the plans. Construction media, rocks, trash and sediments coarser than sand are excluded by this specification.
 4. If boulders or a rock outcroppings are encountered during excavation or substrate preparation, the Contractor shall notify the Landscape Architect for possible incorporation on site.
 5. After excavation and use of heavy equipment, the graded planting area shall be backfilled to a depth of one foot for a loose, friable planting soil condition.

B. PLANTING
 1. During planting operations and excavations for planting pits, exercise care to maintain level grading across site, as shown on grading plan. Avoid depressions or mounding as a result of planting.
 2. Planting will be done between March 15 through June 30 and September 15 through November 15. Exception: Oaks to be planted in Spring.
 3. Exact location of plants shall be determined in the field by the planting Contractor based on the approved plan. Any major changes to the planting scheme are to be approved by the Landscape Architect.
 4. Fertilizer shall be placed in each planting pit and consist of Osmocote 19-6-12, 12-14 month release, at a rate of 1 cc. per herbaceous plant; 4 cc. per shrub. Trees use Agrifon 20-10-10, two-year release, 10 gram tablets at the manufacturer's recommended rate. Standard rates are standard 10-10-10 fertilizer at a rate of 60 lb/acre. Also see Note 10.
 5. All container grown plants are to be planted with crown or top of soil ball approximately 1" above ground level.
 6. Backfill in planting pits is to be of same material as planting substrate and is to be firmed around root system, not excessively compacted.
 7. Root stock of the plant material shall be kept moist during transport from the source to the job site and until planted. Substitutions of balled and burlapped for container grown stock must be approved by landscape architect.
 8. Wetland plants must be well cultured for a minimum of 3 months and supplied by a recognized wetland nursery which will provide certification of the culture process. Upland plants can be supplied from standard upland nursery operations. See list for wetland planting sources.
 9. Upland seed mixes shall be broadcast or hydroseeded in upper areas. Match soil consist of straw and be anchored by a fibercast. Agrifon mulch will not be acceptable. The seed mix shall be a blend of 90% Rebel 1 Tall Fescue and 10% Red Top.
 10. Lowland (food groove) seed mixes shall be cultivated to a depth of 0 to 1/2-inch, followed by dragging, then packing or rolling. In graded areas, fertilizing of these areas shall be deferred until seedlings are 2 inches tall.

TRIE PLANTING WITHIN THE BIORETENTION PLANTING MEDIA
PLANTING PITS: Shall be a diameter one (1) foot greater than the diameter of the ball of the tree. The depth of the pit shall be enough to accommodate the ball or roots of the tree when the tree is set to finish grade, allowing for six inches of compacted planting media soil below the roots of the plant.
LAYOUT: All trees shall be located as designated in the field by the planting plan. Where below ground or overhead obstructions are encountered, the trees shall be relocated by the Landscape Architect.

SETTING OF TREES: Before setting the trees, pits shall be thoroughly tamped and leveled. All plants shall be placed at such a level that, after settlement, the natural relationship between the original grade at which the plant grew, the ball shall be 2" higher than the finish grading. Trees shall be planted plumb, oriented for desired effect or as directed by the Landscape Architect. Planting soil shall be tamped under and around the base of each ball to fill all voids and shall be placed in 6 to 8 inch layers, each thoroughly tamped and packed. Burlap shall be removed from the sides and top of balls and from under the balls. When planting bare root trees, care shall be taken to work topsoil in around the roots and to spread them in a natural position before backfilling. Reseed areas within 21 days that are bare or sparse in cover.

BIORETENTION AREA CONSERVATION SEEDING: Shall conform with seeding schedules and rates as indicated on planting schedule as shown on the plans. Seed shall be applied to all areas indicated on the plan and at a rate appropriate to develop a full, established cover. Seed mixture shall be a mixture of native grasses of plant diversity, and wildlife benefit or other approved permanent and desirable grasses as specified. Reseed areas within 21 days that are bare or sparse in cover.
STAKING: Staking shall be completed by the end of the day for all materials planted during the day. Trees 1" to 4" in diameter shall be staked with three stakes placed evenly around the tree. The depth of the pit shall be enough to accommodate the ball or roots of the tree when the tree is set to finish grade, allowing for six inches of compacted topsoil below the roots of the plant. To install the 6" of topsoil to the pit, 3" of existing soil shall be broken up and mixed with the topsoil at a 1:1 ratio to reduce puddling beneath plantings.
TEMPORARY STORAGE AND HEELING: No ball or plant material will be accepted, nor will any temporary heeling-in storage be permitted. Plant material unloaded and accepted by the inspector shall be immediately planted. Material left out of the ground overnight or left in their roots to the sun, or otherwise unprotected during transit, unloading or storage shall be rejected by the Landscape Architect. If in the judgment of the Landscape Architect, such material has caused damage to the roots of the plant or in any other way injured the plant material.
MAINTENANCE: The planting contractor shall be required to make periodic checks on the total project to make certain that the materials are properly cared for and that the sum of all conditions are contributing to the satisfactory progress of the materials, until such time as the work is approved by the Landscape Architect.

PERMEABLE PAVING PROFILE
 HOR. 1" = 50'
 VERT. 1" = 5'

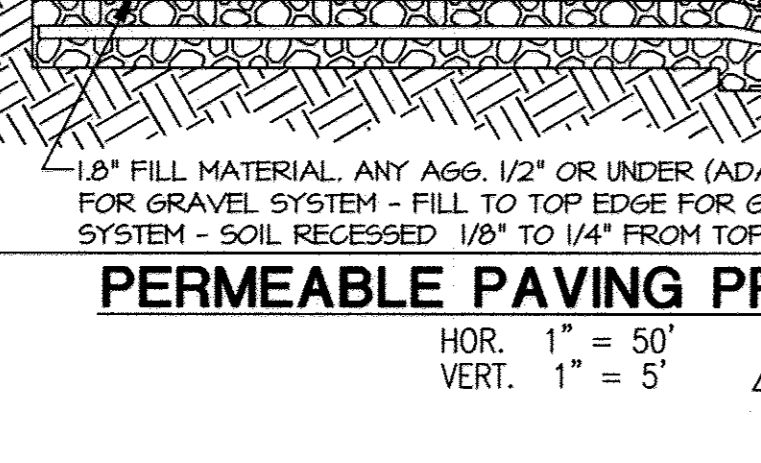
1.8" FILL MATERIAL, ANY AGG. 1/2" OR UNDER (ADA COMPLIANT) FOR GRAVEL SYSTEM - FILL TO TOP EDGE FOR GRASS SYSTEM - SOIL RECESSED 1/8" TO 1/4" FROM TOP OF GRID

PROPOSED NO. 2 STONE RESERVOIR

PROPOSED 4" PERFORATED UNDERDRAIN

3" BASE - 3/4" MINUS ANGULAR STONE (CLEAN FOR DETENTION CONSIDERATIONS) OR CLASS II TYPE ROAD BASE

4" UD TO 1" INV. 532.28



SETTING OF TREES: Before setting the trees, pits shall be backfilled with topsoil to a depth of 6", thoroughly tamped and watered. All plants shall be placed at such a level that, after settlement, the natural relationship between the original grade at which the plant grew, the ball shall be 2" higher than the finish grading. Trees shall be planted plumb, oriented for desired effect or as directed by the Landscape Architect. Topsoil shall be tamped under and around the base of each ball to fill all voids and shall be placed in 6 to 8 inch layers, each thoroughly tamped and packed. Burlap shall be removed from the sides and top of balls and from under the balls. When planting bare root trees, care shall be taken to work topsoil in around the roots and to spread them in a natural position before backfilling. Shallow basins or saucers a little larger than the diameter of the ball shall be formed around all trees to hold additional water.

ALL PLANTING AREAS
MULCH: Shall be applied to all shrub beds and pits to a depth of 3".
PRUNING: All trees shall be neatly pruned after planting in accordance with the best standard practices and as directed by the Landscape Architect. The tree shall be pruned to preserve its natural form and character and in a manner appropriate to its particular requirements. In general, at least one third of the deciduous trees shall be removed by thinning or shortening of branches but no leaders shall be cut. All pruning shall be done with clean, sharp tools.

SHRUB AND HERBACEOUS MATERIALS (GROUND COVER) PLANTING WITHIN THE BIORETENTION PLANTING MEDIA ADJACENT TO THE BASIN:
LAYOUT: Herbaceous planting beds and shrub pit locations shall be in accordance with the plan list and the tentative locations shown on the planting plan.
PREPARATION OF HERBACEOUS PLANTING BEDS: All holes, depressions and mounds shall be filled and brought to a smooth grade.
SHRUB PLANTING PITS: Shall have vertical sides. The diameter of the pits shall be six (6) inches greater than the diameter of the ball of the shrub. The depth of the pit shall be enough to accommodate the ball or roots of the shrub when the shrub is set to finish grade.
SHRUB BACKFILL SOIL: Mix 5 lbs. 10-4-4 slow release fertilizer per cubic yard of topsoil and then one part peat moss with five parts topsoil. Mix all components thoroughly before backfilling.

SETTING OF SHRUBS: All materials shall be planted 2" higher in relation to the finish grade as they had before transplanting. The depth of the holes, as hereinafter specified, shall be understood to be the depth below finish grade. Balled and burlapped plants shall have topsoil tamped under the balls. All burlap, ropes, strings, etc., shall be taken off the tops of the balls and removed from the ball before backfilling. Roots of bare root plants shall not be left matted together, but shall be arranged in natural positions and shall have topsoil worked in among them. All broken and frayed roots shall be properly removed by thoroughly before backfilling.

THE BACKFILL OF PLANTING MEDIA SOIL: Shall be tamped in successive 4" layers. When the hole has been 2/3 backfilled, water shall be poured into the hole, and allowed to soak away so that all voids or air pockets under or around the roots are eliminated. After the water has soaked away, the hole shall be completely backfilled with "topsoil". After the backfill settles, additional soil shall be filled in, to the level of the finish grade. A shallow saucer of soil shall be formed around the edge of each hole to hold additional water.

SHRUB AND HERBACEOUS MATERIALS (GROUND COVER) OUTSIDE OF THE BIORETENTION PLANTING MEDIA:
LAYOUT: Herbaceous planting beds and shrub pit locations shall be designated by the Landscape Architect in accordance with the plan list and the tentative locations shown on the planting plan. The general form of the planting bed shall be staked out and excavations performed within the staked.

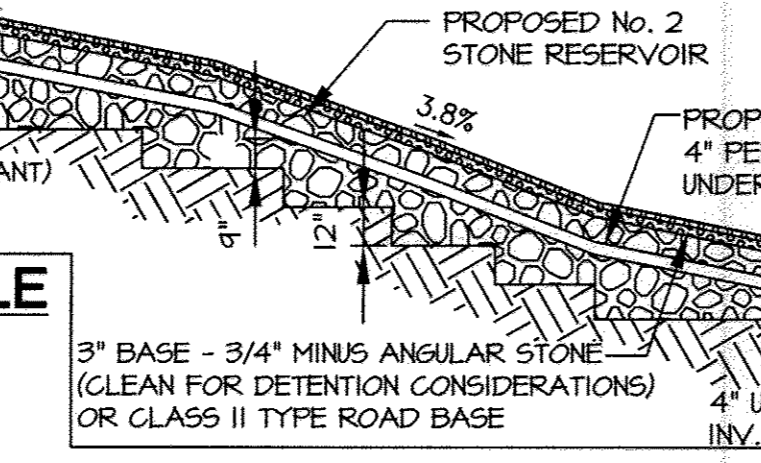
PREPARATION OF HERBACEOUS PLANTING BEDS: The ground shall be thoroughly broken to a depth of 12 inches. The top 4 inches shall be worked by the Contractor until the soil is completely firmed and in a better condition to finish grade. All organic material shall either be worked into the soil or removed from the site. Clumps shall be removed from the site. All work shall be performed perpendicular to the direction of surface drainage. All holes, depressions and mounds shall be filled and brought to a smooth grade.
SHRUB PLANTING PITS: Shall have vertical sides. The diameter of the pits shall be one (1) foot greater than the diameter of the ball of the shrub. The depth of the pit shall be enough to accommodate the ball or roots of the shrub when the shrub is set to finish grade compacted allowing for six inches below the roots of the plant. To install the 6" of topsoil to the pit, 3" of existing soil shall be mixed with the topsoil at a 1:1 ratio to reduce puddling beneath plantings.

SHRUB PLANTING SOIL: Mix 5 lbs. 10-4-4 slow release fertilizer per cubic yard of topsoil and then one part peat moss with five parts topsoil. Mix all components thoroughly before backfilling.
SETTING OF SHRUBS: All materials shall be planted 2" higher in relation to the finish grade as they had before transplanting. The depth of the holes, as hereinafter specified, shall be understood to be the depth below finish grade. Balled and burlapped plants shall have topsoil tamped under the balls. All burlap, ropes, strings, etc., shall be taken off the tops of the balls and removed from the ball before backfilling. Roots of bare root plants shall not be left matted together, but shall be arranged in natural positions and shall have topsoil worked in among them. All broken and frayed roots shall be properly removed by thoroughly before backfilling.

THE BACKFILL OF TOPSOIL: Shall be tamped in successive 4" layers. When the hole has been 2/3 backfilled, water shall be poured into the hole, and allowed to soak away so that all voids or air pockets under or around the roots are eliminated. After the water has soaked away, the hole shall be completely backfilled with "topsoil". After the backfill settles, additional soil shall be filled in, to the level of the finish grade. A shallow saucer of soil shall be formed around the edge of each hole to hold additional water.

ALL PLANTING AREAS
PRUNING: All shrubs shall be neatly pruned or thinned immediately after planting in accordance with best standard practices and as directed by the Landscape Architect. Broken or broken branches shall be removed with a clean cut. Each shrub shall be pruned to preserve its natural form or character and in a manner appropriate to its particular requirements. All pruning and thinning shall be done with sharp, clean tools.

LAWN AND STABILIZATION GRASS SEEDING: Shall be in conformance with Maryland Department of Transportation, State Highway Administration, Standards and Specifications for Materials and Construction - Sections 705 & 920. Seed shall conform with SFA Manual No. 1 and be applied to all areas indicated on the plan and at a rate appropriate to develop a full, well established cover. Seed mixture shall be a mixture of native grasses of plant type tall fescues and other approved permanent and desirable grasses as specified. Reseed areas within 21 days that are bare or sparse in cover.
TEMPORARY STORAGE AND HEELING: No ball or plant material will be accepted, nor will any temporary heeling-in storage be permitted. Plant material unloaded and accepted by the inspector shall be immediately planted. Material left out of the ground overnight or left in their roots to the sun, or otherwise unprotected during transit, unloading or storage shall be rejected by the Landscape Architect. If in the judgment of the Landscape Architect, such material has caused damage to the roots of the plant or in any other way injured the plant material.
MAINTENANCE: The planting contractor shall be required to make periodic checks on the total project to make certain that the materials are properly cared for and that the sum of all conditions are contributing to the satisfactory progress of the materials, until such time as the work is approved by the Landscape Architect.



The Contractor shall conduct monthly inspections of the site during the 18 month warranty period after planting on a quarterly basis. During these quarterly inspections, the Contractor shall:
 1. Remove all litter and debris throughout the site.
 2. Replant failed materials and/or reseed all eroded stabilizing grasses, rushes, sedges or ground covers, as required to prevent erosion.
 3. Conduct fertilizations as may be required or requested.
 4. Take appropriate measures to exclude wildlife, if desirable degradation occurs.
 5. Conduct soils tests for pH, substrate salinity and moisture content, and notify Landscape Architect of conditions that may cause plant mortality. Conduct soil tests for salinity, especially in early Spring, due to uphill runoff from driveway or road treated with de-icing salts.
 6. Maintain planted and seeded areas by watering, mowing, rolling, or replanting and implementing erosion controls as required to establish vegetation, free of bare or eroded areas.
 7. Contractor shall furnish and install temporary irrigation hose & emitter system for warranty period. The owner shall provide water.

SOIL FILTER/PLANTING MEDIA: The planting media shall consist of 1/3 peat, 1/3 compost and 2/3 soil. The peat shall be coarse grade horticultural peat. The compost shall be high grade compost free of stones and partially composted woody material. The soil shall meet the following minimum criteria: contain no more than 10% clay, 30 - 55% silt and 35 - 60% sand. The soil shall be free of stones, stumps, roots or other similar objects larger than 2 inches. The first layer of the planting media shall be lightly tamped to lock it into the sand layer, so not to create a definitive boundary. The planting material shall be mixed after placement. Any settlement that occurs shall be fixed back to the design elevation.

COMPOST: The compost shall be high grade compost free of stones and containing 20% partially composted woody material. Compost materials of: peat humus, finely divided or gravel texture, with a pH range of 6.5 or 6.8, or composed of partially decomposed manure (past or present), peat humus, or reed-sedge peat, or well-rotted ground-bark, human decomposed and nitrogen-treated or leaf humus? leafmold? or unselected stable or cattle manure; containing not more than 25 percent by volume of straw, sawdust, or other bedding materials shall be permitted. All compost shall be free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

TOPSOIL: The Contractor shall provide required natural, fertile, fine sandy loam possessing the characteristics of representative topsoil in the vicinity which produce heavy growth of vegetation. The topsoil shall be free from rocks, noxious weeds, stones, lime, cement, ashes, slag or other deleterious matter. Topsoil shall be well drained in its original condition and free of toxic quantities of acid or alkaline elements. It shall contain sand and clay in approximately equal proportions, and shall have an organic content by weight of not less than 2% nor more than 20% as determined by laboratory tests. The pH shall be between 6.5 and 6.8.

FERTILIZER: Commercial slow release fertilizer for additional plant application shall be standard formula 10-4-4, nitrogen 10%, phosphoric acid 6%, potash 4%, and contain minor trace elements. The formula shall be in conformity to applicable state fertilizer laws. Fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the project site in the original container, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes wet, caked, or otherwise damaged will not be accepted. Tree, shrub and potted herbaceous plants or grasses use: Osmocote 19-6-12, 12-14 month release, at a rate of 1 cc. per herbaceous plant or grass; 4 cc. per shrub. Trees use Agrifon 20-10-10, two-year release, 10 gram tablets.

MULCH: Shredded hardwood mulch, free from deleterious materials and suitable as a top dressing of trees, shrubs and herbaceous plant areas. Must be well aged, at least 12 months, and uniform in color. Pine bark and other non-aged bark or hardwood mulch is not acceptable.
WATER: Shall be furnished by the Contractor for the execution of all work specified in this contract. The Contractor shall verify that the water available is suitable for irrigation and free from ingredients harmful to plant life.

PEAT: Shall be only moss (sphagnum) peat; brown acid reaction approximately 4 to 6 pH of standard commercial quality delivered to the site in bags or other convenient containers, in air dry condition. Peat shall be fully warranted by the producer.
CLEANUP AND PROTECTION:
 1. During landscape work, store materials and equipment where directed. Keep pavements clean and areas and adjoining areas in an orderly condition.
 2. Protect landscape work and materials from damage due to landscape operations, operations by other trades and trespassers. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged landscape work as directed by landscape architect.

INSPECTION AND ACCEPTANCE: Inspection of this work upon written notice by the Landscape Architect at the conclusion of the planting period will be made by the Contractor at least five (5) days prior to anticipated start. Condition of all plant materials will be noted and recorded for reference. After inspection, the planting contractor will be notified in writing by the Landscape Architect if there are any deficiencies of the requirements for acceptance of the work.
 1. The Landscape Architect reserves the right to inspect seeds and plant materials, either at place of growth or at site of planting. Non-compliance with the requirements for name, variety, size, quantity, quality and mix proportion.
 2. Supply written affidavit certifying composition of seed mixture and integrity of plant materials with respect to species, variety and source.
 3. No 1/2" the Landscape Architect within 5 days after completing initial and/or supplemental plantings in wetland areas.
 4. When the landscape work is completed, including maintenance, the Landscape Architect will, upon request, make a final inspection to determine acceptability. After final acceptance, the Owner will be responsible for maintenance and watering of plants.
 5. The Contractor shall be responsible for the satisfactory growth of trees, shrubs, grasses, forbs and sedge species on all areas seeded and/or planted under the contract until final acceptance of the work. Acceptance of the work will be determined using a time measurement search at the site. The Landscape Architect shall conduct a time measurement search at the site. The search will randomly sample 20% of the area for each area that was seeded and/or planted. If 85% of the species seeded and/or planted site alive and apparent, and the sample area has 85% ground cover of acceptable species, the work will be accepted.
 6. Where inspected landscape work does not comply with the requirements, replace rejected work and continue specified maintenance until inspected by the Landscape Architect and found to be acceptable. Remove rejected plants and materials promptly from the project site. Re-occur or replace deficient areas.

GUARANTEE AND REPLACEMENT: The Contractor will guarantee an 85% survival rate of plants (each species) after two years. If at this time the total number of plants has fallen below this threshold, the Contractor will make a one-time replacement to bring plant numbers to the 85% levels for each species. Care shall be taken such that the activities involved in replacement planting do not cause damage or detrimental effect to the surviving flora. Any plants damaged by these activities will also be replaced by the Contractor to the 85% threshold.
 Trees, shrubs and ground covers shall be guaranteed for a maximum 2 years after installation and shall be alive and in satisfactory condition at the end of the guarantee period. Such guarantee excludes vandalism.

DEFINITION FOR FURNISHED AND INSTALLING PLANT MATERIAL: The unit price contained in the bid proposal for furnished and installing plant and shrub material shall be defined to include furnishing and installing material, all planting soils (if applicable), staking and a guarantee for 24 months (excluding vandalism).

PROTECTION OF PRIVATE PROPERTY: Contractor shall repair or replace all fences, concrete walls, concrete curbs, gravel and asphalt driveways, signs, curbs, and all other miscellaneous improvements, at no additional expense to owner, damaged by Contractor due to his operations on the project, to a condition equal to or better than their condition before construction.

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS

Thomas C. Neugebauer (For Rev. 6 work)
 THOMAS C. NEUGEBAUER
 P.E. 29203
 AS-BUILT INFORMATION: 5/25/17

AS-BUILT CERTIFICATION
 I HEREBY CERTIFY BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS "AS-BUILT" PLAN AND MEET THE APPROVED PLANS AND SPECIFICATIONS

Thomas C. Neugebauer (For Rev. 6 work)
 THOMAS C. NEUGEBAUER
 P.E. 29203
 AS-BUILT INFORMATION: 5/25/17

6/25/17

JOB CONDITIONS:
 1. Examine and evaluate grades, soils and water levels, observe the conditions under which work is to be performed, and notify the Landscape Architect of unsatisfactory conditions. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.
 2. Utilities: Review underground utilities location maps and plans provided by owner; demonstrate an awareness of utility locations, and certify acceptance of liability for the protection of utilities during course of work. Contractor shall be responsible for any damage to utilities or property.
 3. Excavation: When conditions detrimental to plant growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Landscape Architect before planting.

PERMEABLE PAVER DETAIL
 NOT TO SCALE

3" BASE - 3/4" MINUS ANGULAR STONE (CLEAN FOR DETENTION CONSIDERATIONS) OR CLASS II TYPE ROAD BASE

1.8" FILL MATERIAL, ANY AGG. 1/2" OR UNDER (ADA COMPLIANT) FOR GRAVEL SYSTEM - FILL TO TOP EDGE FOR GRASS SYSTEM - SOIL RECESSED 1/8" TO 1/4" FROM TOP OF GRID

TRUEGRID PERMEABLE PAVING SYSTEM (STONE AND/OR GRASS)

4" SUBBASE #2 STONE

FLUSH CONCRETE BAND SHALL OUTLINE PAVERS WHERE APPLICABLE

FLUSH HEADER CURB BAND

MIRIFI TOOX FILTER FABRIC

4" UNDERDRAIN SLOPED TO OUTLET PERFORATED WITHIN SUBBASE

LANDSCAPE BERM 3/4" - 2" SIZE RIVER JACK

LANDSCAPE BERM 3/4" - 2" SIZE RIVER JACK

NOTE:
 1. TYPICAL SEEDING OR HYDROSEEDING METHODS FOR GRASS GROWTH ARE ACCEPTABLE WITH TRUEGRID.
 2. SOD IS ACCEPTABLE.
 3. NO STAKING NECESSARY WITH TRUEGRID.

NEW PERMEABLE PAVEMENT AREA PLAN
 NOT TO SCALE

REMOVE & REINSTALL EXISTING FENCE AS NECESSARY FOR CONSTRUCTION OF PERMEABLE PAVEMENT AREA

EX. EDGE OF PAVEMENT

EX. GRAVEL SHOULDER WITHIN PROP. LANDSCAPE AREA TO BE REMOVED

EX. EDGE OF GRAVEL SHOULDER

FLUSH CONCRETE BAND SHALL OUTLINE PAVERS WHERE APPLICABLE

FLUSH CONCRETE BAND SHALL OUTLINE PAVERS WHERE APPLICABLE

FLUSH HEADER CURB HO. CO. DETAIL R-3.03

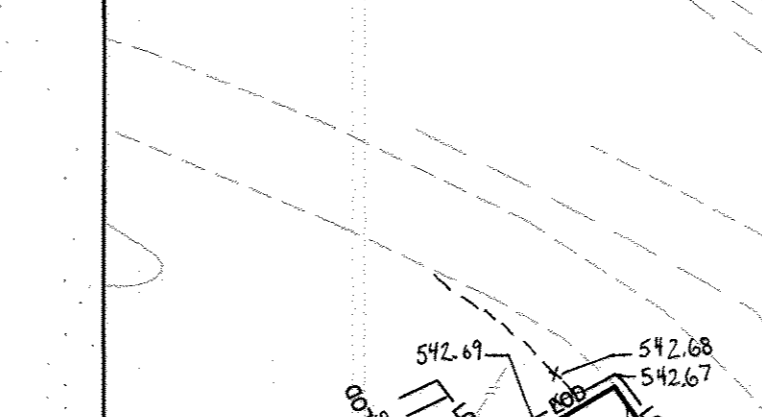
PROF. LANDSCAPED AREA

DEPRESS BERM AT SIDEWALK

CONTINUE LANDSCAPE BERM AROUND INLET

14'x8'x4" CLASS II RIPRAP APRON OVER MIRIFI TOOX FILTER FABRIC

SCALE: 1" = 40'



REVISIONS

NO.	DATE	DESCRIPTION
1	07/16	ADDED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND STORM DRAIN TO EX. GRASS CHANNEL
2	5/25/17	AS-BUILT INFORMATION ADDED TO PLAN

REVISIONS

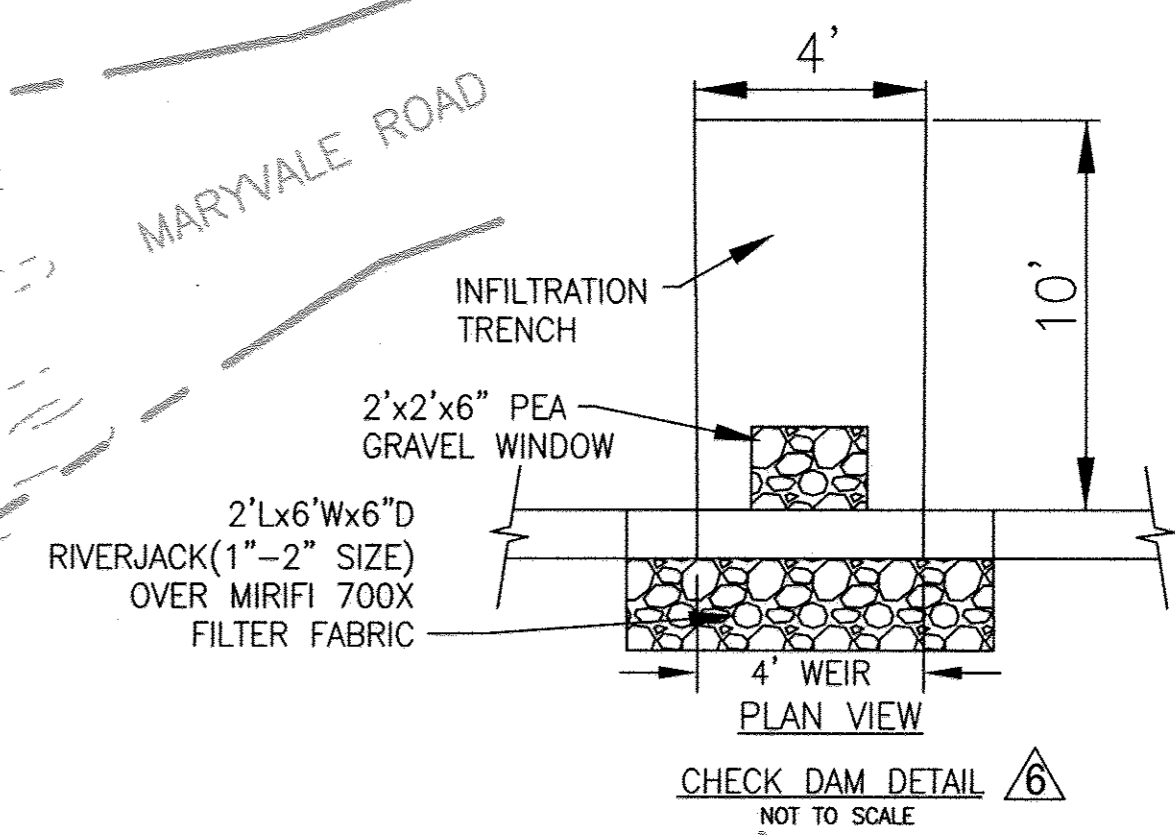
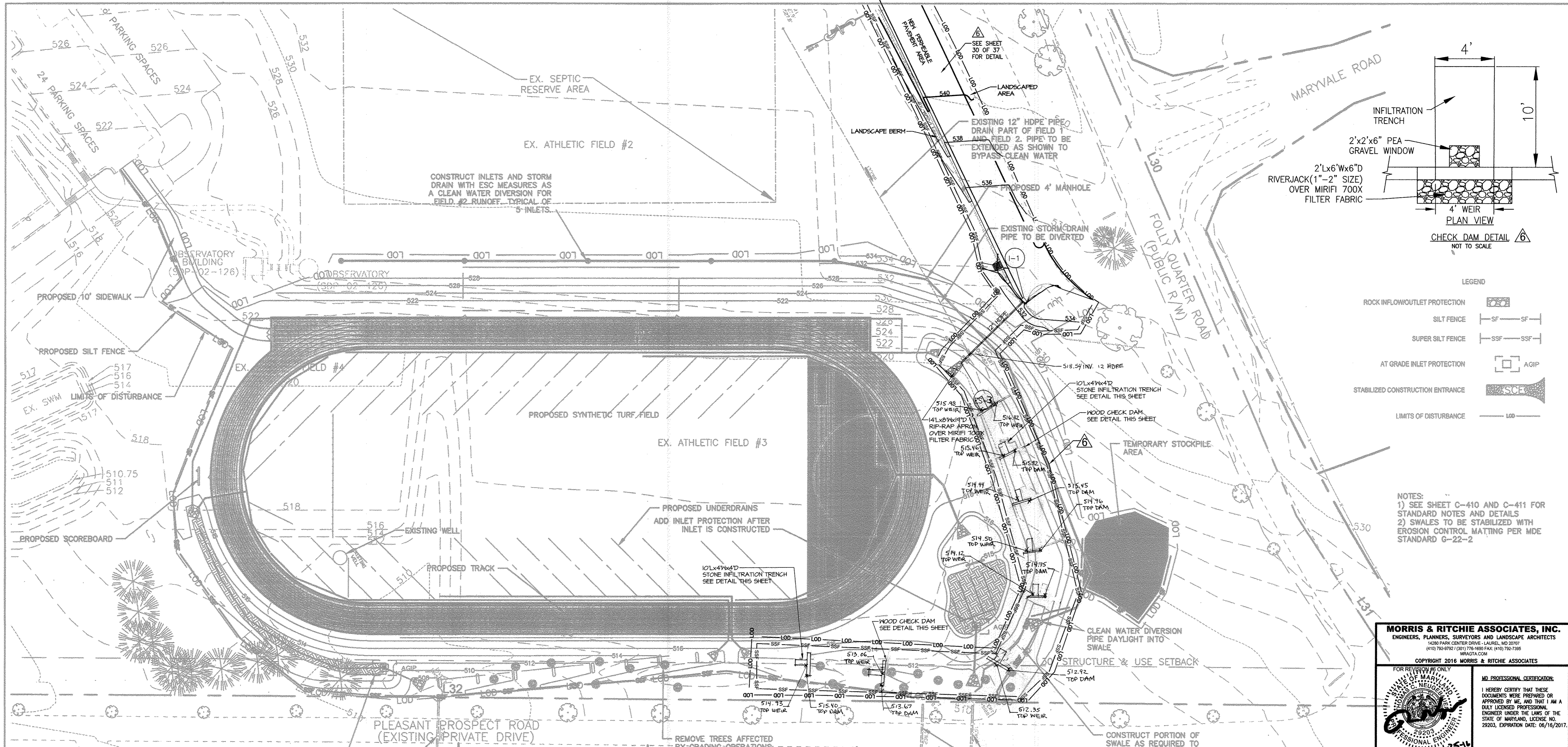
NO.	DATE	DESCRIPTION
1	07/16	ADDED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND STORM DRAIN TO EX. GRASS CHANNEL
2	5/25/17	AS-BUILT INFORMATION ADDED TO PLAN

REVISIONS

NO.	DATE	DESCRIPTION
1	07/16	ADDED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND STORM DRAIN TO EX. GRASS CHANNEL
2	5/25/17	AS-BUILT INFORMATION ADDED TO PLAN

REVISIONS

NO.	DATE	DESCRIPTION
1	07/16	ADDED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND STORM



- LEGEND
- ROCK INFLOW/OUTLET PROTECTION
 - SILT FENCE
 - SUPER SILT FENCE
 - AT GRADE INLET PROTECTION
 - STABILIZED CONSTRUCTION ENTRANCE
 - LIMITS OF DISTURBANCE

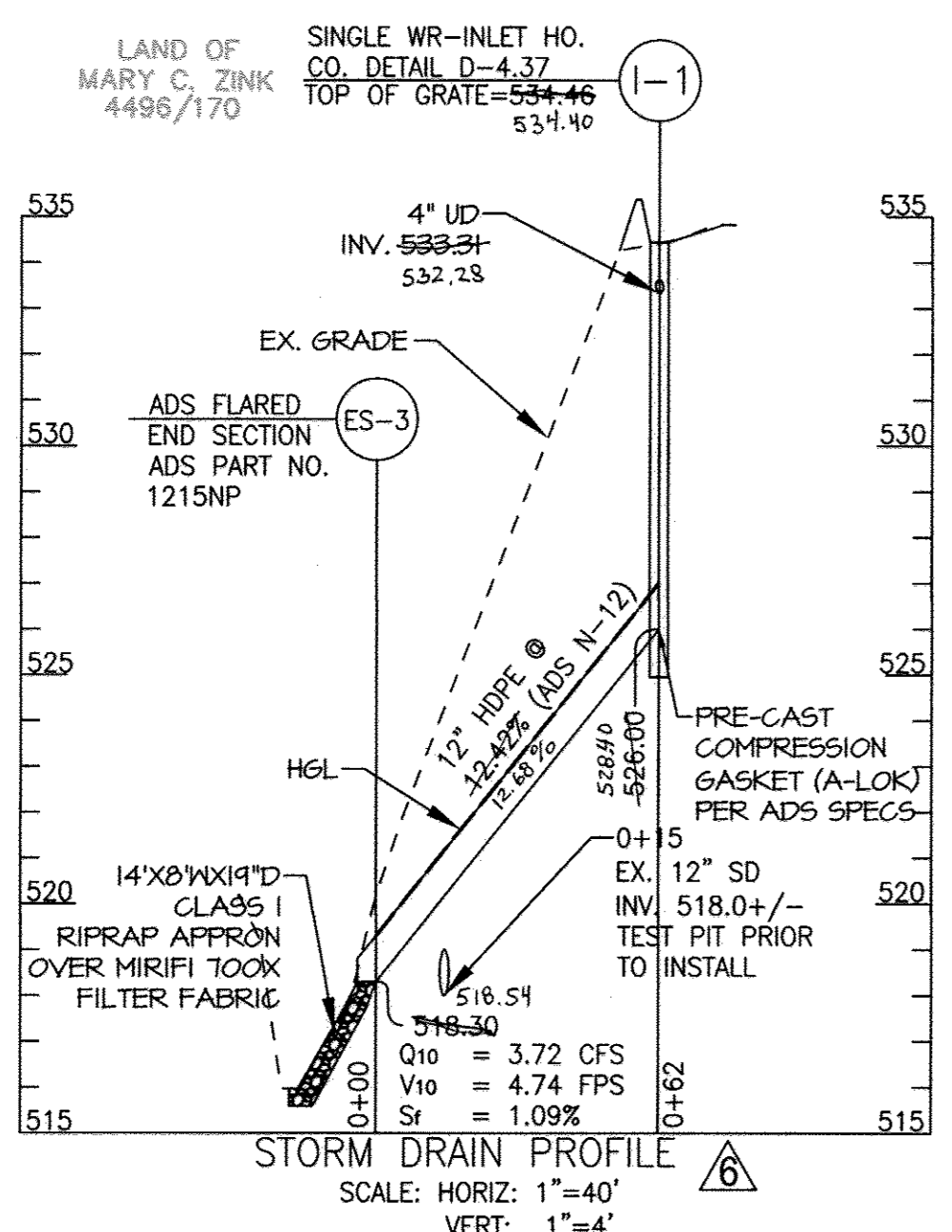
NOTES:
 1) SEE SHEET C-410 AND C-411 FOR STANDARD NOTES AND DETAILS
 2) SWALES TO BE STABILIZED WITH EROSION CONTROL MATTING PER MDE STANDARD G-22-2

MORRIS & RITCHE ASSOCIATES, INC.
 ENGINEERS, PLANNERS, SURVEYORS AND LANDSCAPE ARCHITECTS
 1420 PARK CENTER DRIVE - LAUREL, MD 20707
 (410) 794-9792 (301) 776-4890 FAX: (410) 792-7365
 MPA/STA.COM

COPYRIGHT 2016 MORRIS & RITCHE ASSOCIATES

FOR REVISION BY ONLY

MD PROFESSIONAL CERTIFICATION:
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 22923, EXPIRATION DATE: 06/14/2017.



() 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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Wm. Barry Sherrach
 SIGNATURE OF DEVELOPER
 DATE: 7-20-12

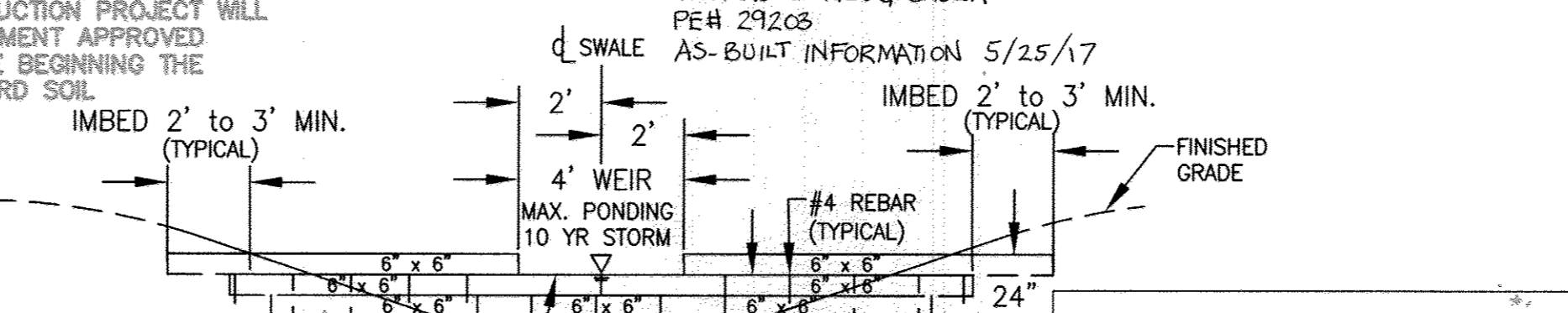
() BY THE ENGINEER:
 "I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

Richard J. Huron
 SIGNATURE OF ENGINEER
 DATE: 8-17-12

NICHOLAS J. HURON
 PRINT NAME BELOW SIGNATURE

PROFESSIONAL ENGINEER
 THOMAS C. NEUGEBAUER
 PE# 29208
 AS-BUILT INFORMATION 5/25/17

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THE PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOSING OF THE UNDERGROUND SWM FACILITY.



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."

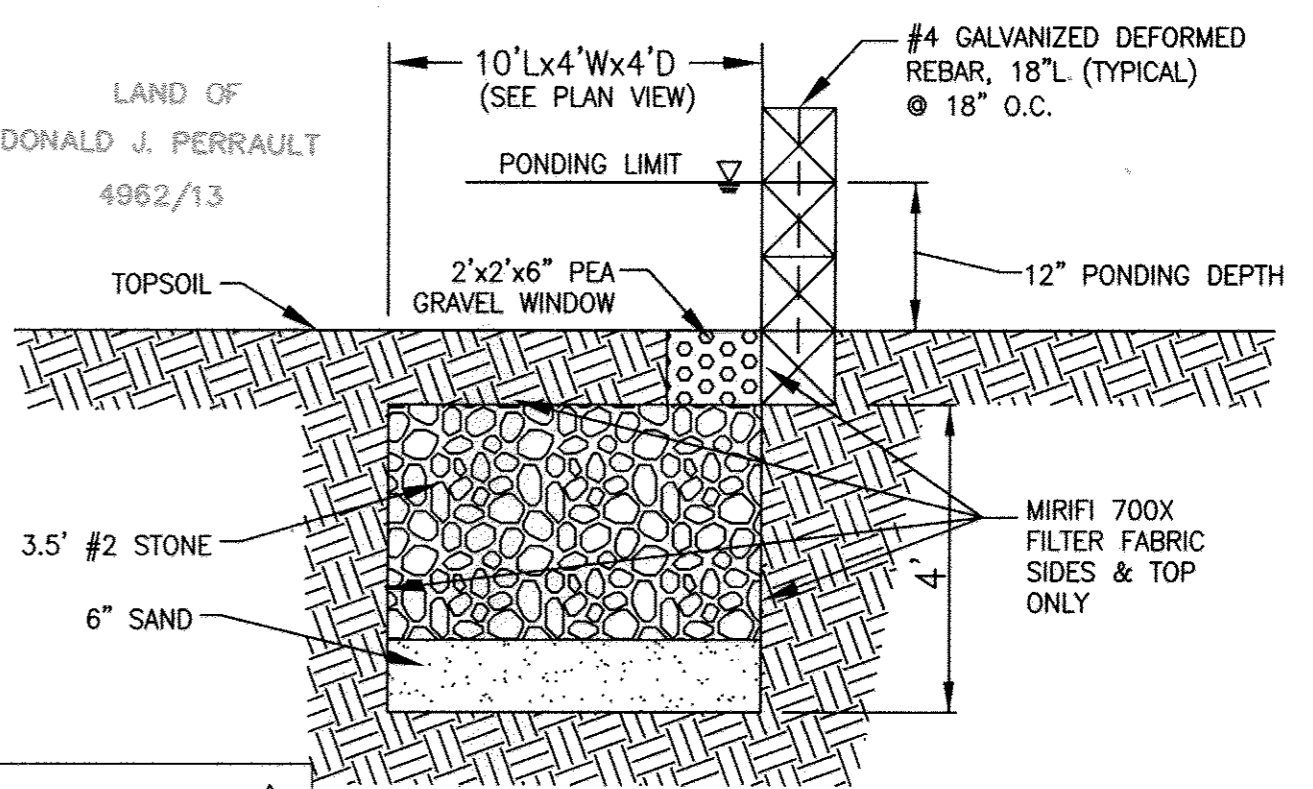
Thomas C. Neugebauer
 SIGNATURE OF ENGINEER
 DATE: 1/25/16

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 12548
 Expiration Date 7-29-13

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

HOWARD S.C.D. DATE



OWNER / APPLICANT
 GLENELG COUNTRY SCHOOL
 12793 FOLLY QUARTER ROAD
 ELLICOTT CITY, MD 21042
 TEL: 410-531-8800

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Thomas C. Neugebauer
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 5-13-16

Walter Sherrach
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 5-16-16

Walter Sherrach
 DIRECTOR, DEPARTMENT OF PLANNING AND ZONING
 DATE: 5-16-16

HURON CONSULTING
 20410 CENTURY BLVD
 SUITE 230
 ANN ARBOR, MI 48106
 PHONE: (313) 528-2010
 FAX: (313) 528-0124
 www.huroncon.com

STATE OF MARYLAND
 PROFESSIONAL ENGINEER
 THOMAS C. NEUGEBAUER
 LICENSE NO. 29208
 EXPIRES 06/14/2017

REVISIONS

NO.	DATE	DESCRIPTION
1	01/16	ADDED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND STORM DRAIN TO EX. GRASS CHANNEL, CHECK DAMS AND INFILTRATION TRENCHES IN EX. GRASS CHANNEL
2	5/25/17	AS-BUILT INFORMATION ADDED TO PLAN

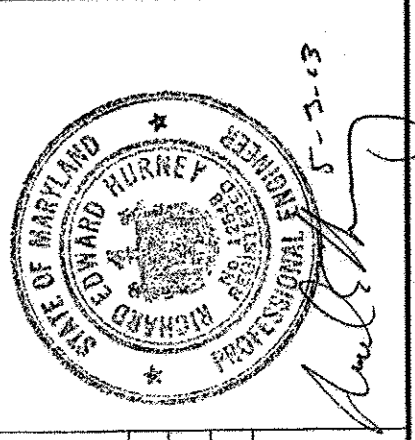
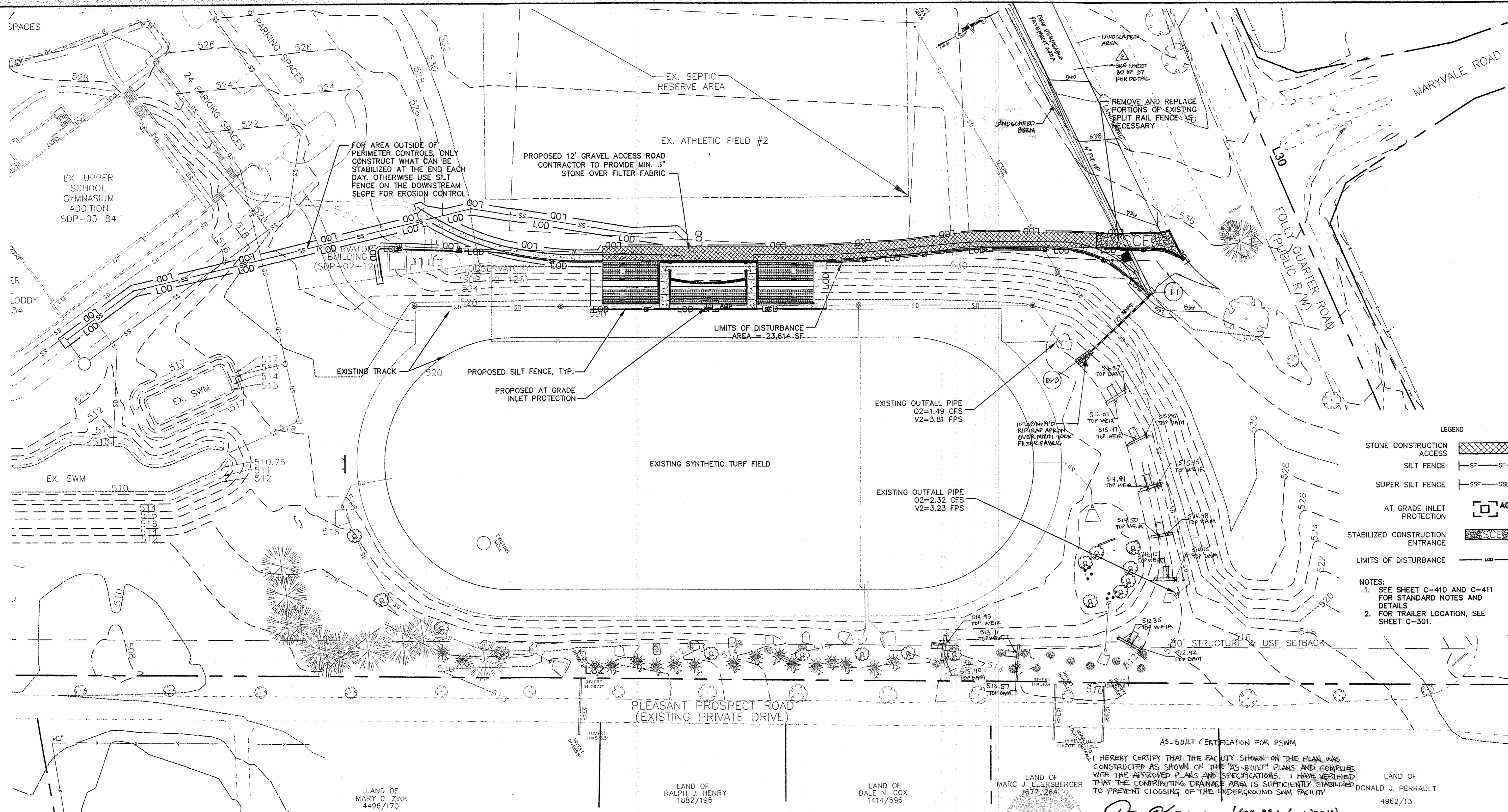
DRY BY: JA
 CHK BY: JA
 APP BY: REH

GLENELG COUNTRY SCHOOL
 12793 FOLLY QUARTER ROAD
 ELLICOTT CITY, MD 21042

REVISION SHEET
 EROSION & SEDIMENT CONTROL PLAN

SCALE
 HORIZONTAL: 1" = 30'-40'
 VERTICAL: N/A

PROJECT NO.: 900-101
 DRAWING NO.: C-400
 SHEET: 38
 31 OF 37
 DATE: MAY 2012
 SDR-03-084



DESIGNED BY: SL
 CHECKED BY: JA
 APPROVED BY: REH

DATE	DESCRIPTION
12/17/15	ISSUED PERMEABLE PAVEMENT AREA BY MAIN ENTRANCE AND STORM DRAIN TO EX. GRASS CHANNEL
5/25/17	AS-BUILT INFORMATION ADDED TO PLAN

LEGEND

STONE CONSTRUCTION ACCESS	
SILT FENCE	
SUPER SILT FENCE	
AT GRADE INLET PROTECTION	
STABILIZED CONSTRUCTION ENTRANCE	
LIMITS OF DISTURBANCE	

NOTES:

- SEE SHEET C-410 AND C-411 FOR STANDARD NOTES AND DETAILS
- FOR TRAILER LOCATION, SEE SHEET C-301.

() 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 PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

SIGNATURE OF DEVELOPER

5/20/13
 DATE

PRINT NAME BELOW SIGNATURE

() 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

5/20/13
 DATE

PRINT NAME BELOW SIGNATURE

SEQUENCE OF CONSTRUCTION

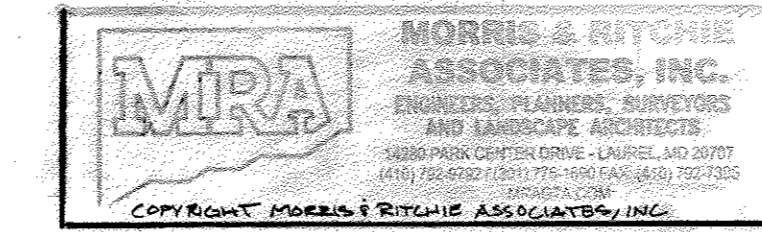
- OBTAIN A GRADING PERMIT
- STAKEOUT THE ENTIRE LIMITS OF DISTURBANCE FOR THE PROJECT
- PRIOR TO ANY CONSTRUCTION ACTIVITY A PRECONSTRUCTION MEETING SHALL BE HELD ONSITE WITH HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. PROVIDE 48 HOURS NOTICE TO INSPECTOR. OBTAIN PERMISSION TO INSTALL PERIMETER ESC MEASURES FROM THE SEDIMENT CONTROL INSPECTOR.
- INSTALL PERIMETER SILT FENCE, THE STABILIZED CONSTRUCTION ENTRANCE AND INLET PROTECTION.
- OBTAIN APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR FOR THE ESC MEASURES PRIOR TO PERFORMING ANY FURTHER CONSTRUCTION ACTIVITIES.
- BEGIN TOPSOIL STRIPPING OPERATIONS AND STOCKPILE AS REQUIRED FOR REUSE.
- CONSTRUCT GRAVEL ACCESS ROAD
- BEGIN EXCAVATION AND CONSTRUCTION OF WATER AND SEWER AND BLEACHERS AND PRESS BOX
- BEGIN CONSTRUCTING PAVED WALKWAYS
- INSTALL NEW TRAILER.
- REMOVE GRAVEL ACCESS ROAD
- CONSTRUCT REMAINING WALKWAYS
- PERMANENTLY STABILIZE ALL DISTURBED AREAS
- OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO REMOVE SEDIMENT CONTROL DEVICES.
- REMOVE SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE AREAS IMMEDIATELY.
- PREPARE AND SUBMIT AS-BUILTS TO HOWARD COUNTY.

TASKS MAY BE PERFORMED OUT OF ORDER OR CONCURRENTLY WITH PRIOR APPROVAL FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. THE SEQUENCE OF CONSTRUCTION MAY NOT BE ALTERED WITHOUT PRIOR HOWARD COUNTY SOIL CONSERVATION DISTRICT APPROVAL.

DURATION SCHEDULE

ESC INSTALLATION & ACCESS ROAD INSTALLATION	4 DAYS
GRADING AND EARTHWORK OPERATIONS	3 DAYS
BLEACHER AND PRESSBOX INSTALLATION	60 DAYS
PAVING	3 DAYS
TRAILER INSTALLATION	1 DAYS
PERMANENT STABILIZATION	3 DAYS

* SOME TASKS MAY OVERLAP. TOTAL CONSTRUCTION DURATION IS ESTIMATED AT 75 DAYS



Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 12648
 Expiration Date 7-22-13

AS-BUILT CERTIFICATION FOR PSWM

I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THE PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND COMPLIES WITH THE APPROVED PLANS AND SPECIFICATIONS. I HAVE VERIFIED THAT THE CONTRIBUTING DRAINAGE AREA IS SUFFICIENTLY STABILIZED TO PREVENT CLOGGING OF THE UNDERGROUND SWM FACILITY

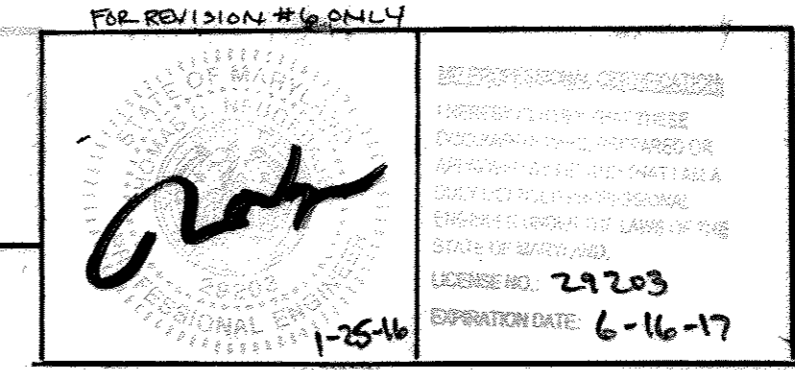
THOMAS C. NEUGEBAUER
 PE# 29203
 AS-BUILT INFORMATION: 5/25/17

STANDARD STABILIZATION NOTE

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SLOPES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING



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

SIGNATURE

5/20/13
 DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION

CHIEF, DIVISION OF PLANNING AND ZONING

6/12/13
 DATE

6/12/13
 DATE

GLENELG COUNTRY SCHOOL
 12793 FOLLY QUARTER ROAD
 ELLICOTT CITY, MD 21042

REVISION SHEET
 EROSION & SEDIMENT CONTROL PLAN

SCALE
 HORIZONTAL: 1" = 30'
 VERTICAL: N/A

PROJECT NO.: 86860.00
 DRAWING NO.: C-401
 SHEET: 38 OF 37
 DATE: MARCH 2013

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP

CONSTRUCTION SPECIFICATIONS

- PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
- CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D₅₀) AND A 1 FOOT DEEP FLOW CHANNEL. INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
- INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
- BLEND RIPRAP INTO EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

CONSTRUCTION SPECIFICATIONS

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
- PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 3/8 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 6 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/8 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 3/4 X 1 3/4 X 3/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 3/4 X 1 3/4 X 3/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET TO FLAT AREA

PIPE Outlet To Flat Area
No Well-defined Channel

CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 3/4 X 1 3/4 X 3/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

Outflow Pipe	Pipe Size (in)	10 Year Discharge (cfs)	Tailwater Condition	Rip Rap Length, L _a (ft)	Rip Rap W ₁ (ft)	Rip Rap W ₂ (ft)	Rip Rap Depth, d (in)	d ₅₀ (ft)
9	12	2.17	minimum	8	3	9	19	0.2
11	12	3.83	minimum	8	3	9	19	0.2
12	12	3.43	minimum	8	3	9	19	0.2
14	10	1.06	minimum	8	3	9	19	0.2
16	10	1.61	minimum	9	3	9	19	0.2
19	10	1.6	minimum	10	3	9	19	0.2
20	10	1.41	minimum	11	3	9	19	0.2
21	12	2.61	minimum	12	3	9	19	0.2

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 12548
Expiration Date 7-29-13

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

Signature: *John R. Palatka*
DATE: 8/23/12

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Signature: *John R. Palatka*
DATE: 8/23/12

Signature: *John R. Palatka*
DATE: 8/23/12

Signature: *John R. Palatka*
DATE: 8/23/12

OWNER / APPLICANT
GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLCOTT CITY, MD 21042
TEL: 410-531-8600

SCALE
HORIZONTAL: 1" = 30'
VERTICAL: N/A

PROJECT NO.: 900-101
DRAWING NO.: C-410
SHEET: 33 OF 37
DATE: JULY 2012

HURON CONSULTING
20410 CENTURY BLVD
SUITE 230
ELLCOTT CITY, MD 21042
PHONE: (410) 528-2010
FAX: (410) 528-0124
www.huroncon.com

Professional Seal: *John R. Palatka*
Professional Engineer
No. 12548
Exp. 7-29-13

DRW BY: JA
CHK BY: JA
APP BY: REH

REVISIONS
DATE DESCRIPTION

GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLCOTT CITY, MD 21042

REVISOR SHEET
EROSION AND SEDIMENT CONTROL DETAILS

SDP-03-084

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE

CONSTRUCTION SPECIFICATIONS

- PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (150 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
- PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE. MAINTAIN POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
- PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
- PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
- MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL D-3-1 RIPRAP INFLOW PROTECTION

STANDARD SYMBOL: RRP

CONSTRUCTION SPECIFICATIONS

- PROVIDE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, UNDER THE BOTTOM AND ALONG SIDES OF ALL RIPRAP.
- CONSTRUCT INFLOW CHANNEL WITH CLASS I RIPRAP OR EQUIVALENT RECYCLED CONCRETE LINING TO A MINIMUM DEPTH OF 19 INCHES (2 x D₅₀) AND A 1 FOOT DEEP FLOW CHANNEL INFLOW RIPRAP PROTECTION CHANNEL MUST HAVE A TRAPEZOIDAL CROSS SECTION WITH 2:1 OR FLATTER SIDE SLOPES AND A 4 FOOT MINIMUM BOTTOM WIDTH.
- INSTALL ENTRANCE AND EXIT SECTIONS AS SHOWN ON THE PROFILE.
- BLEND RIPRAP INTO EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. KEEP POINTS OF INFLOW AND OUTFLOW FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE

CONSTRUCTION SPECIFICATIONS

- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
- PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF

CONSTRUCTION SPECIFICATIONS

- INSTALL 2 1/2 INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
- FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 1/2 INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HUG RINGS.
- FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
- WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
- EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
- PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

- USE WOOD POSTS 1 1/2 x 1 1/2 x 3/8 INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD, AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
- USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
- USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
- PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
- EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
- WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
- EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
- REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

PIPE OUTLET TO FLAT AREA

Pipe Outlet To Flat Area
No Well-defined Channel

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE 2011 MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

Outflow Pipe	Pipe Size (in)	10 Year Discharge (cfs)	Tailwater Condition	Rip Rap Length, L _a (ft)	Rip Rap W ₁ (ft)	Rip Rap W ₂ (ft)	Rip Rap Depth, d (in)	d ₅₀ (ft)
9	12	2.17	minimum	8	3	9	19	0.2
11	12	3.83	minimum	8	3	9	19	0.2
12	12	3.43	minimum	8	3	9	19	0.2
14	10	1.06	minimum	8	3	9	19	0.2
16	10	1.61	minimum	9	3	9	19	0.2
19	10	1.6	minimum	10	3	9	19	0.2
20	10	1.41	minimum	11	3	9	19	0.2
21	12	2.61	minimum	12	3	9	19	0.2

TEMPORARY STABILIZATION

- SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 BELOW FOR THE APPROPRIATE PLANT HARDINESS ZONE.
- FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY SEEDING.
- WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3A.1b AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING TABLE B.1

NO.	SPECIES	SEED MIXTURE (HARDINESS ZONE 6b) (FROM TABLE B.1)			FERTILIZER RATE (10-10-10)	LIME RATE
		APPLICATION RATE (lb/ac)	SEEDING DATES	SEEDING DEPTHS		
	BARLEY	96	3/1-5/15 8/1-10/15	1"	436 lb/ac (10 lb/1000 sf)	2 tons/ac (90 lb/1000 sf)
	CEREAL RYE	112	3/1-5/15 8/1-11/15	1"		
	WHEAT	120	3/1-5/15 8/1-10/15	1"		
	FOXTAIL MILLET	30	5/16-7/31	1/2"		

APPLIES TO EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

OWNER / APPLICANT
GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLCOTT CITY, MD 21042
TEL: 410-531-8600

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 12548
Expiration Date 7-29-13

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

John K. Whitton 5/28/13
SIGNATURE DATE

APPROVED: DEPARTMENT OF PLANNING AND ZONING
John P. ... 6/17/13
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

John K. Whitton 6/17/13
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

John P. ... 6/17/13
DIRECTOR DATE



DRW BY: JA
CHK BY: JA
APP BY: REH

REVISIONS

DATE	DESCRIPTION
5/16/13	REVISED NOTES PER SCD COMMENTS

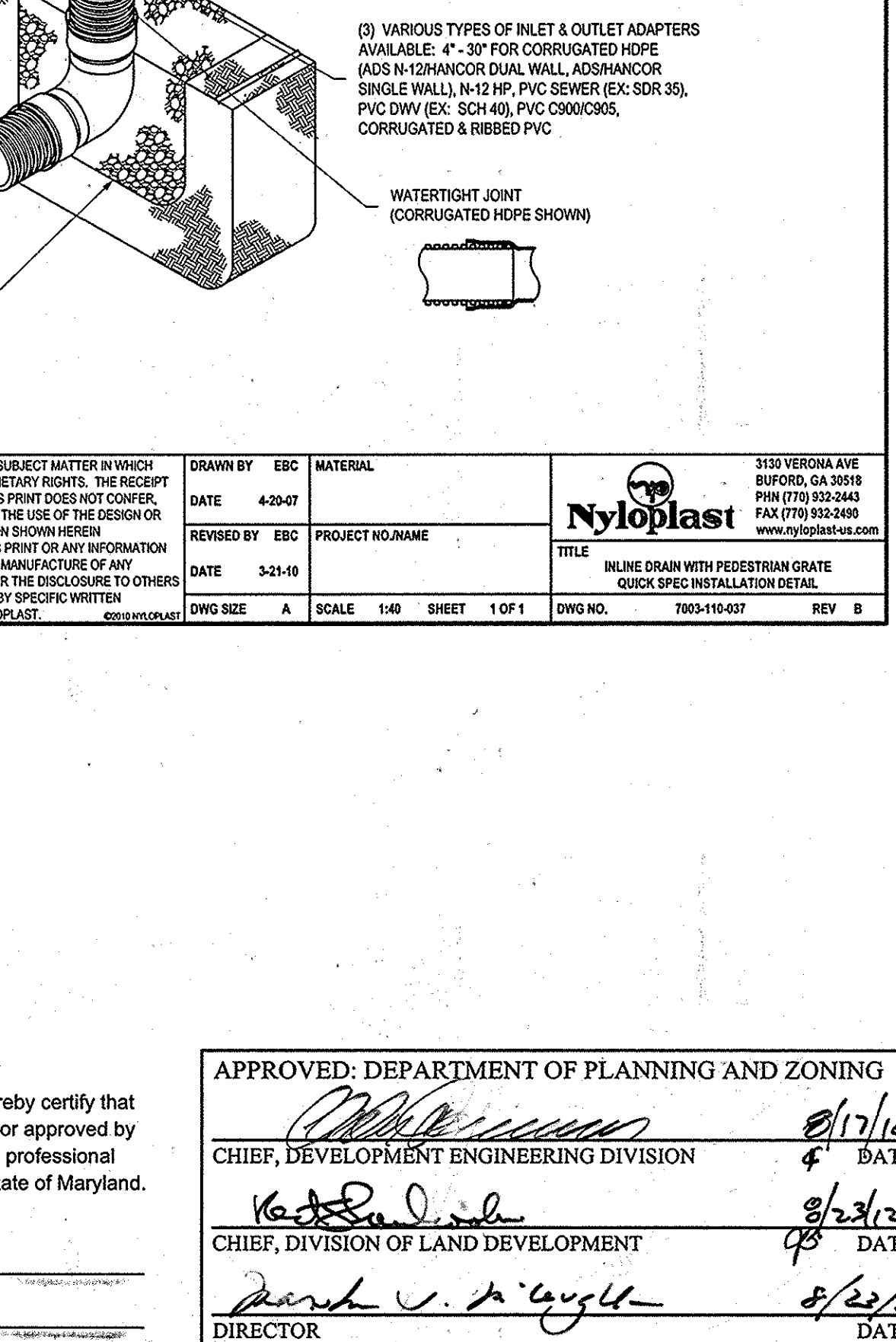
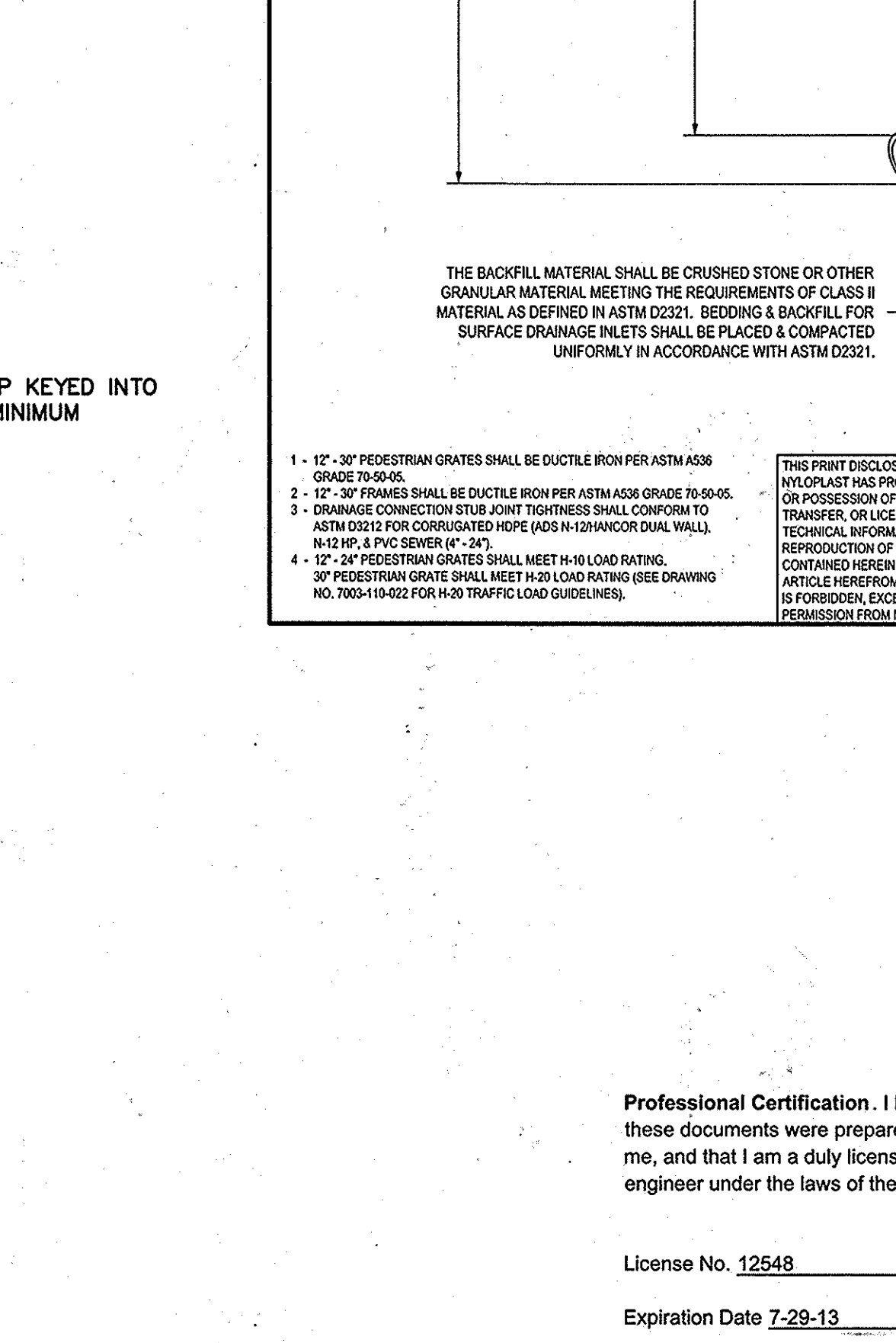
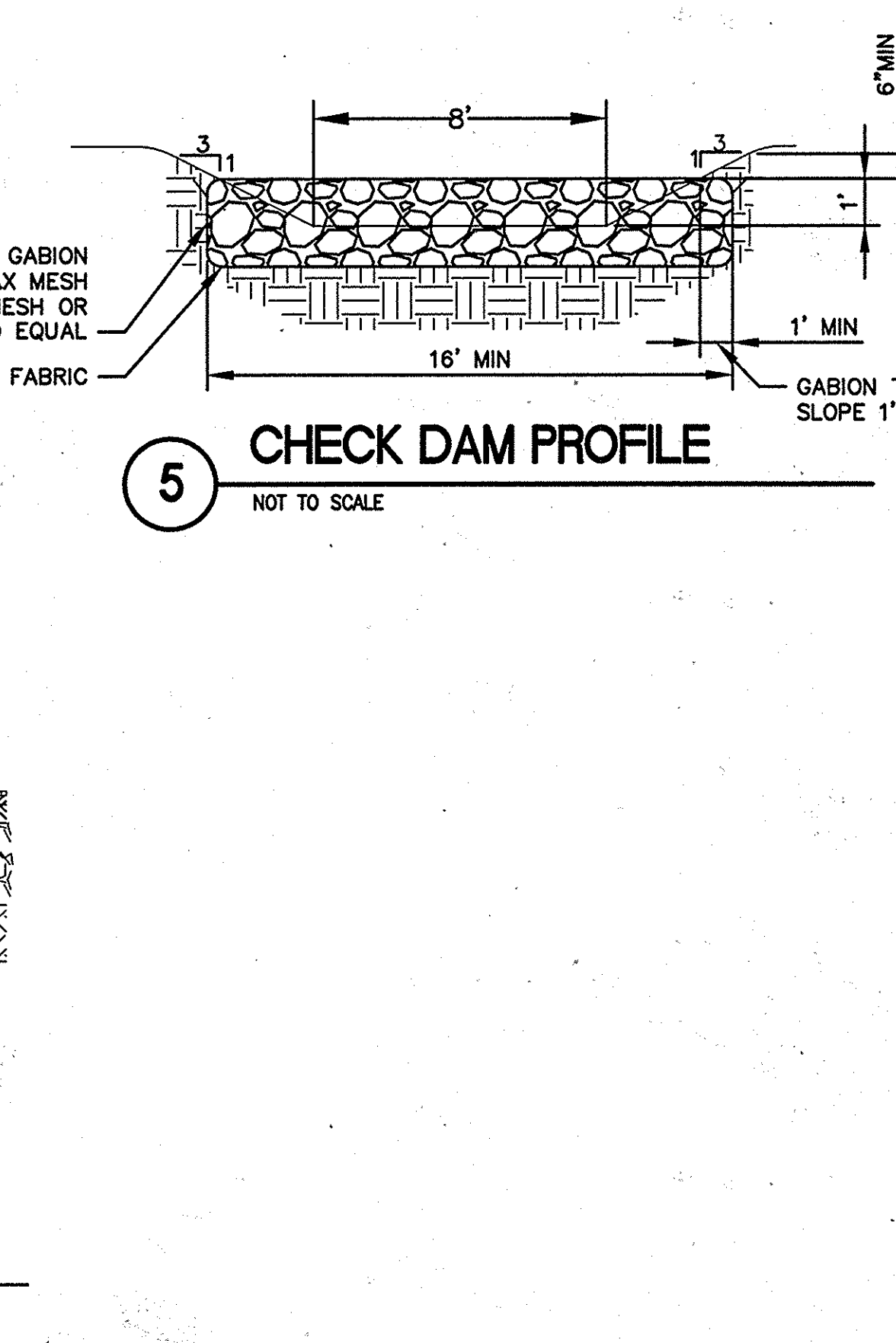
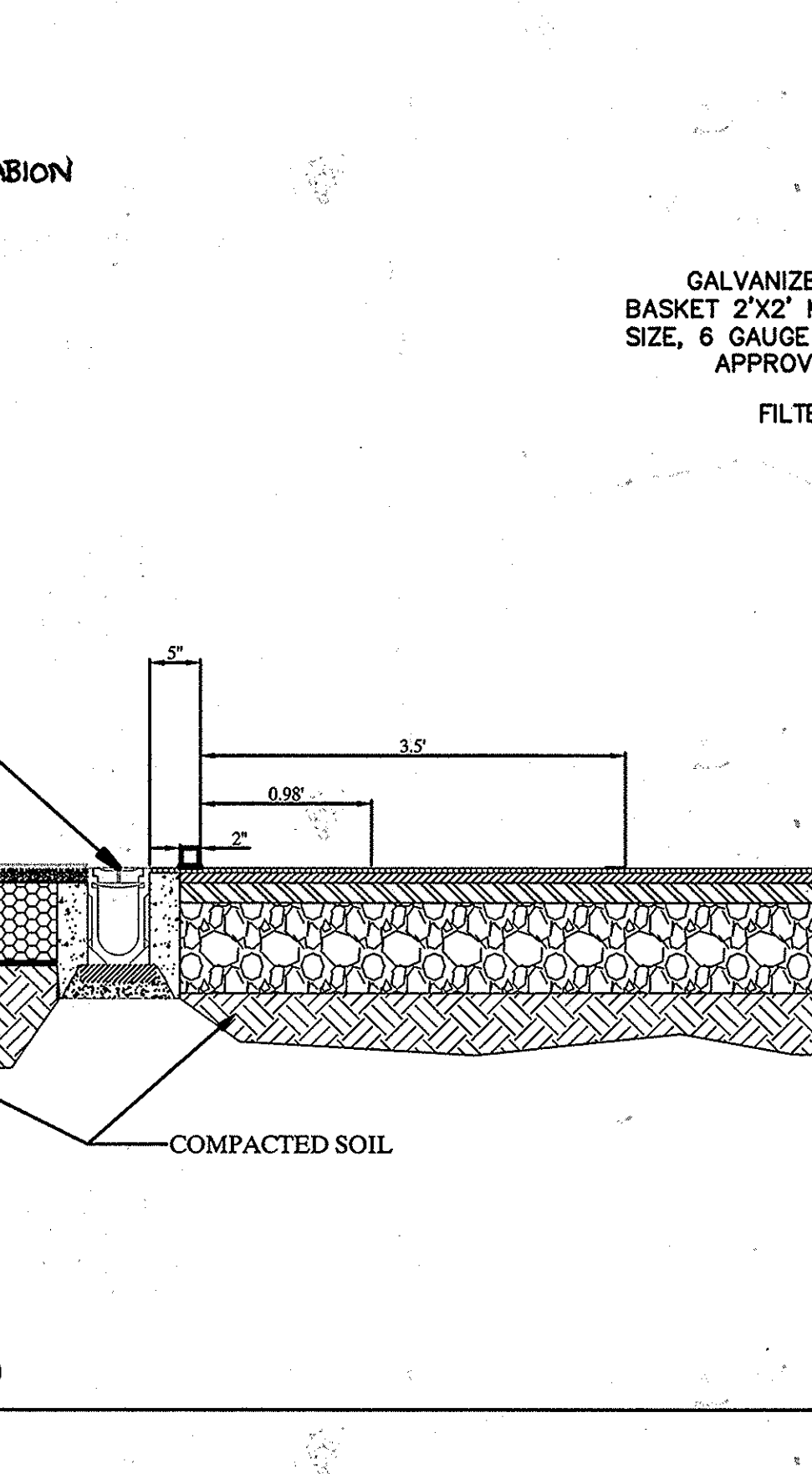
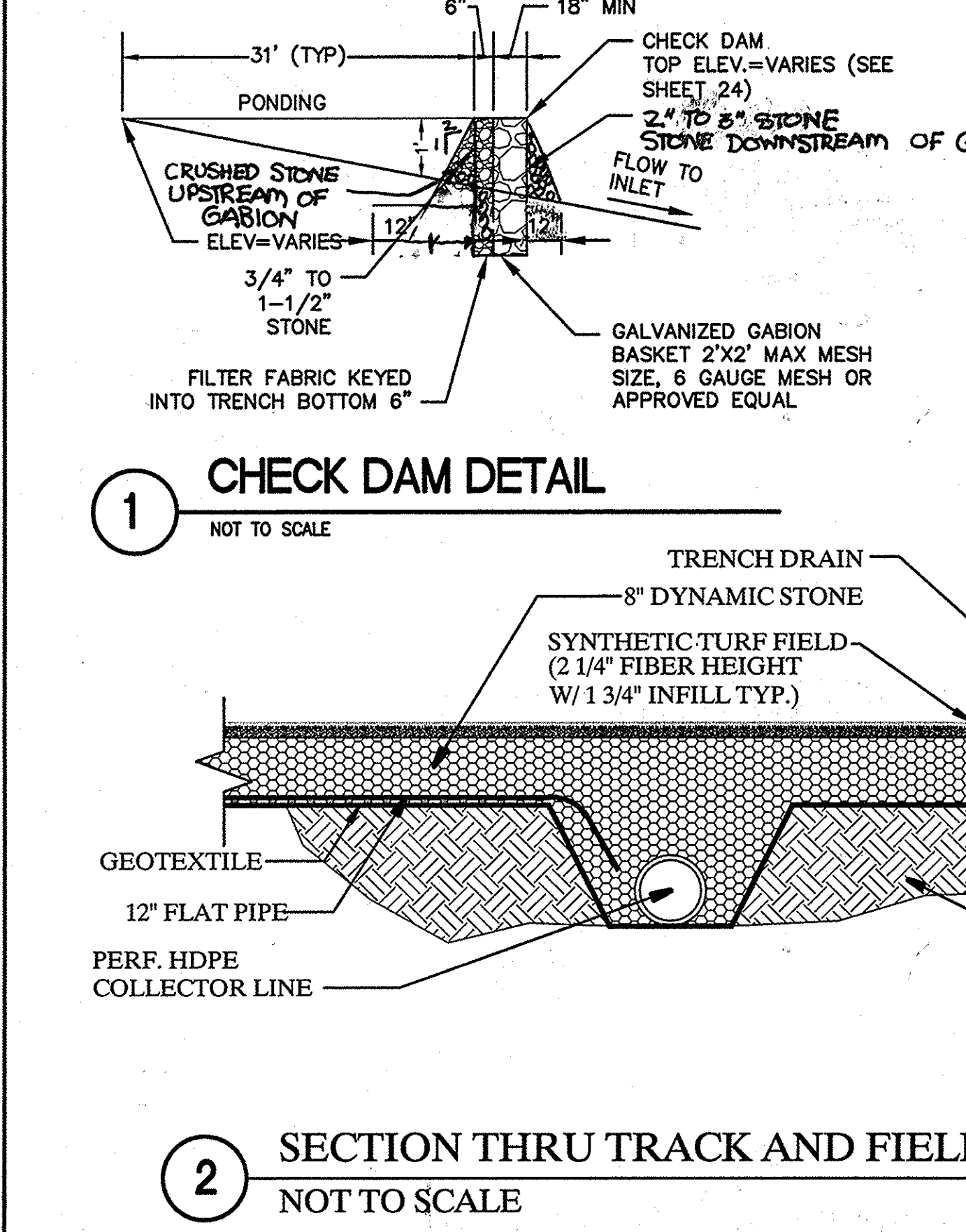
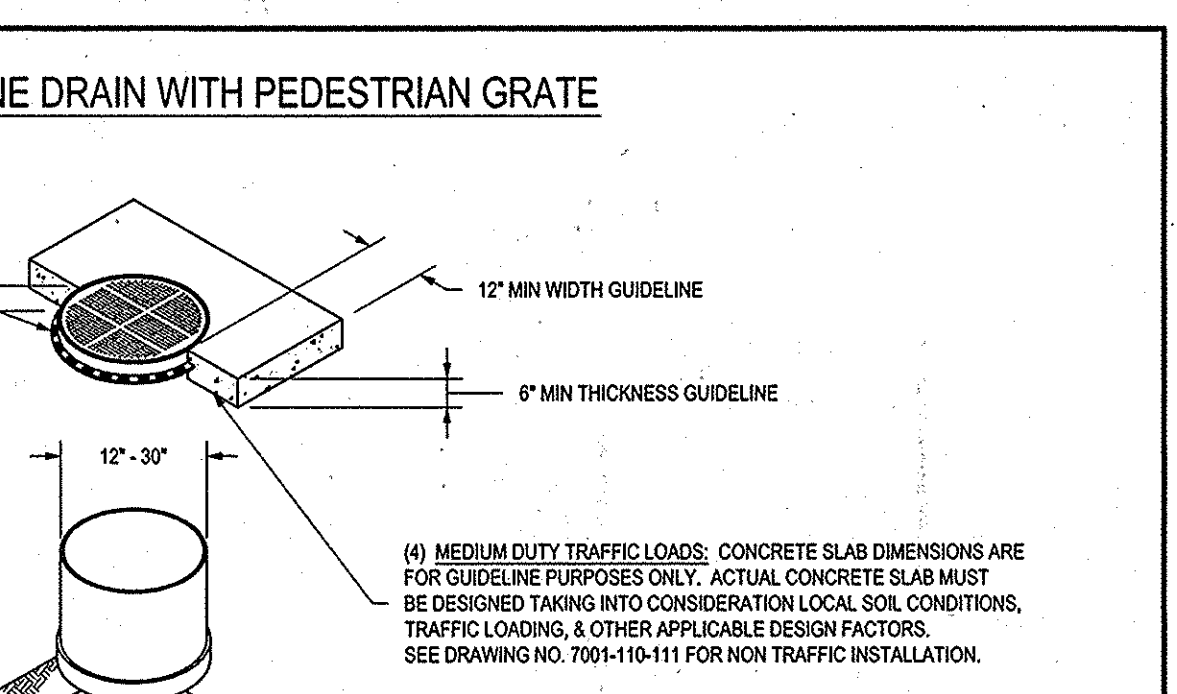
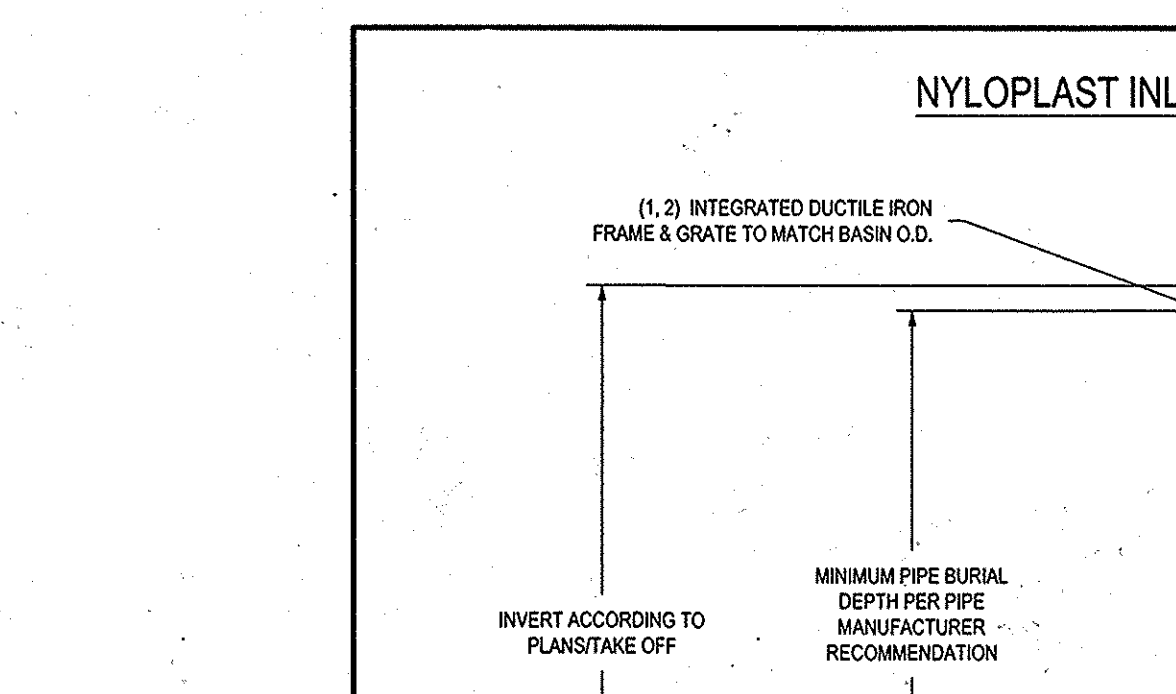
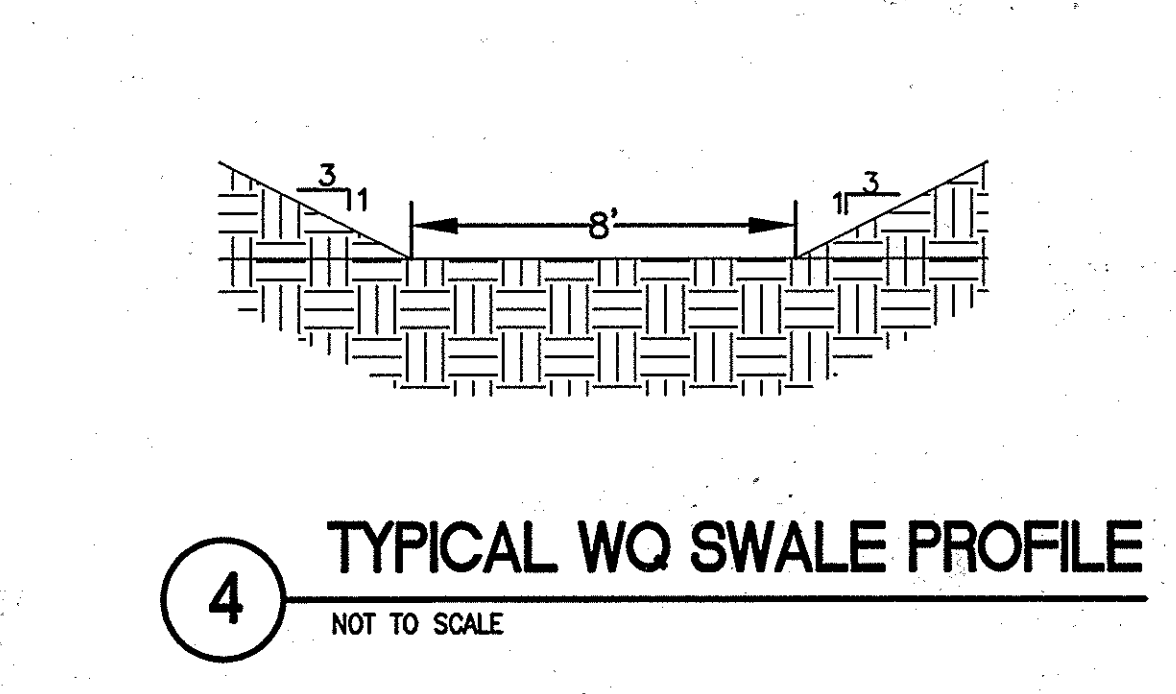
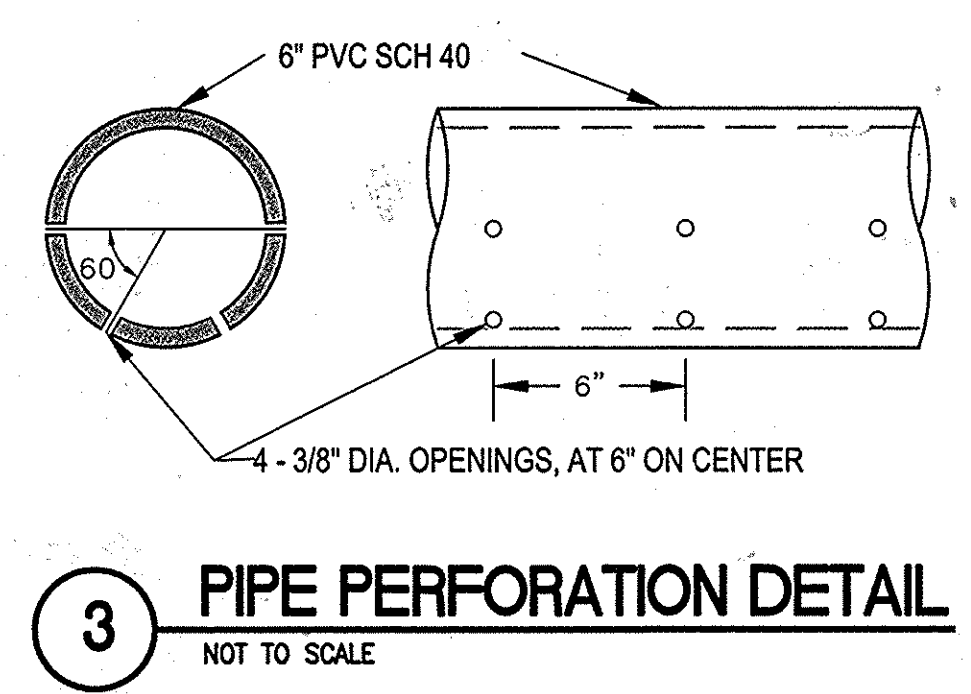
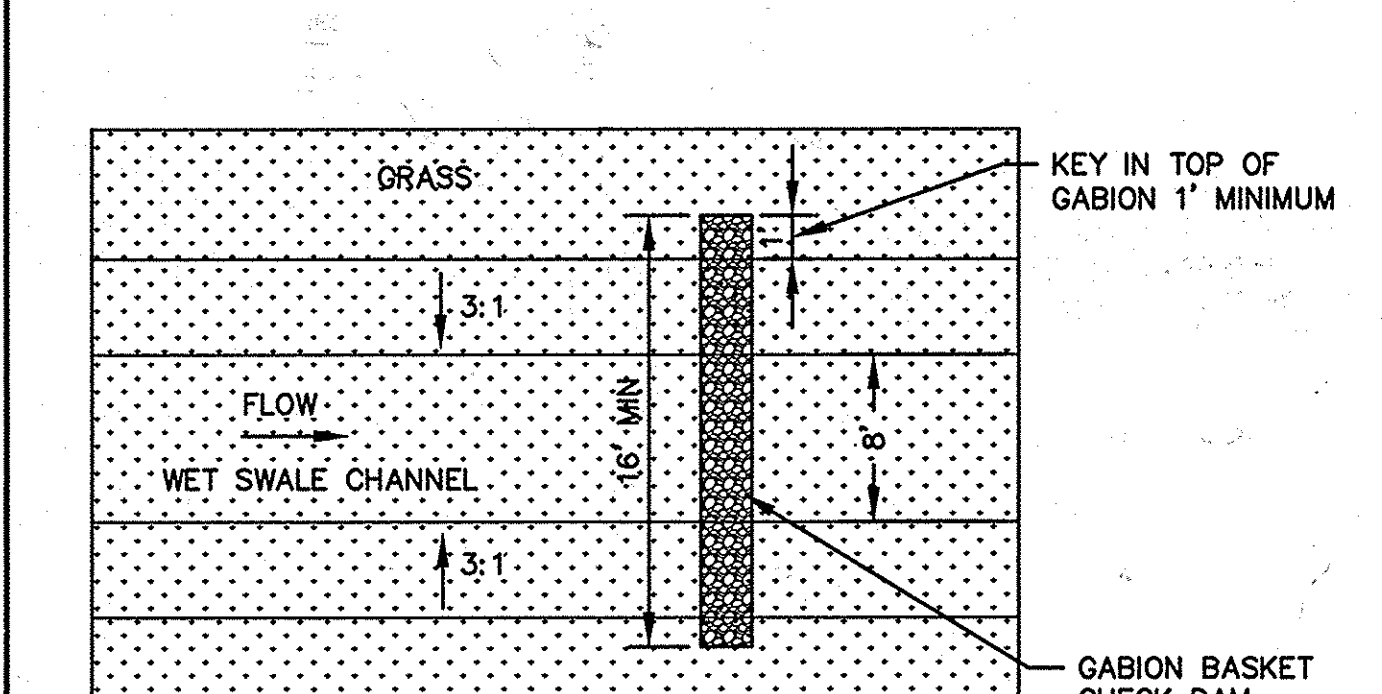
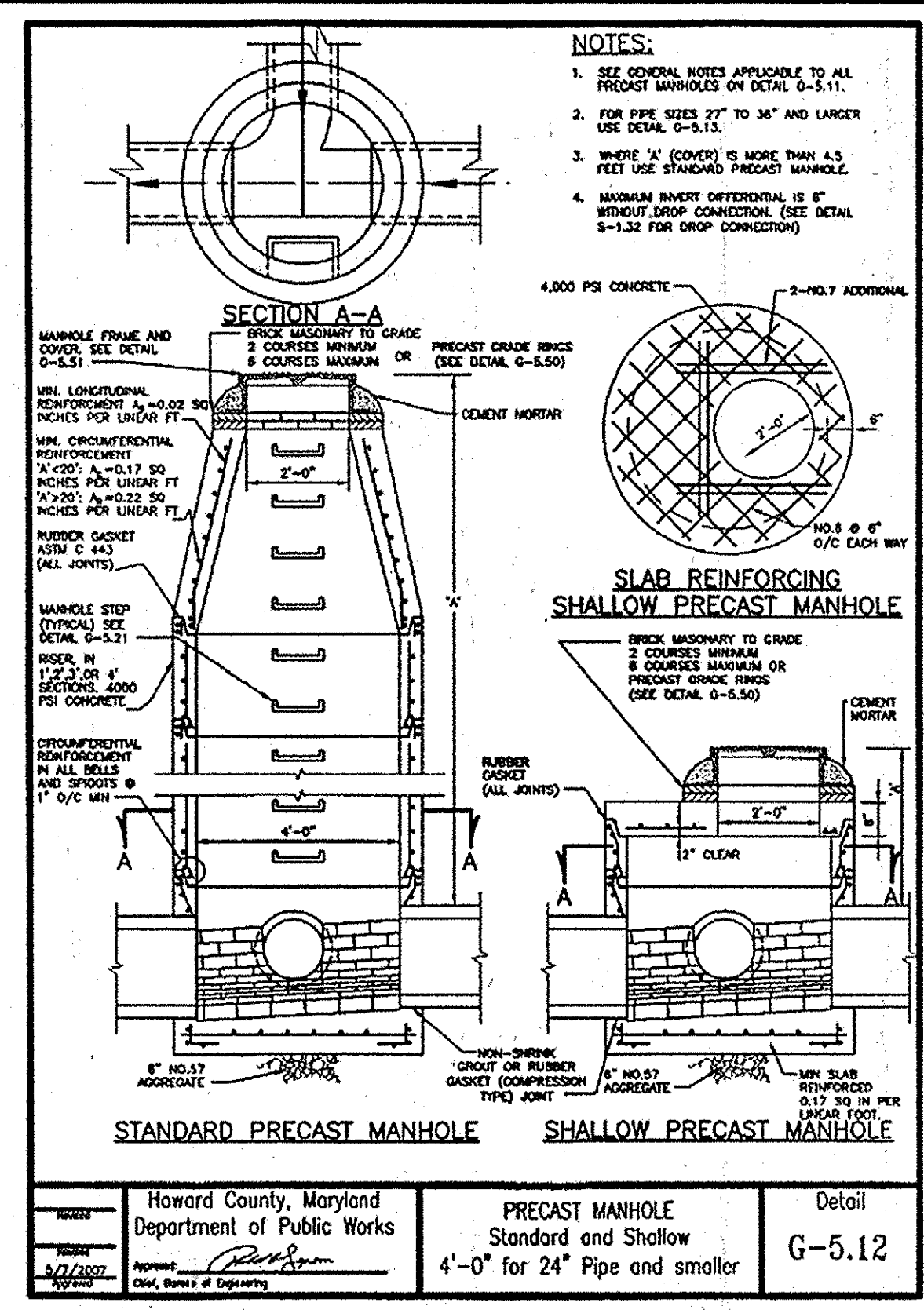
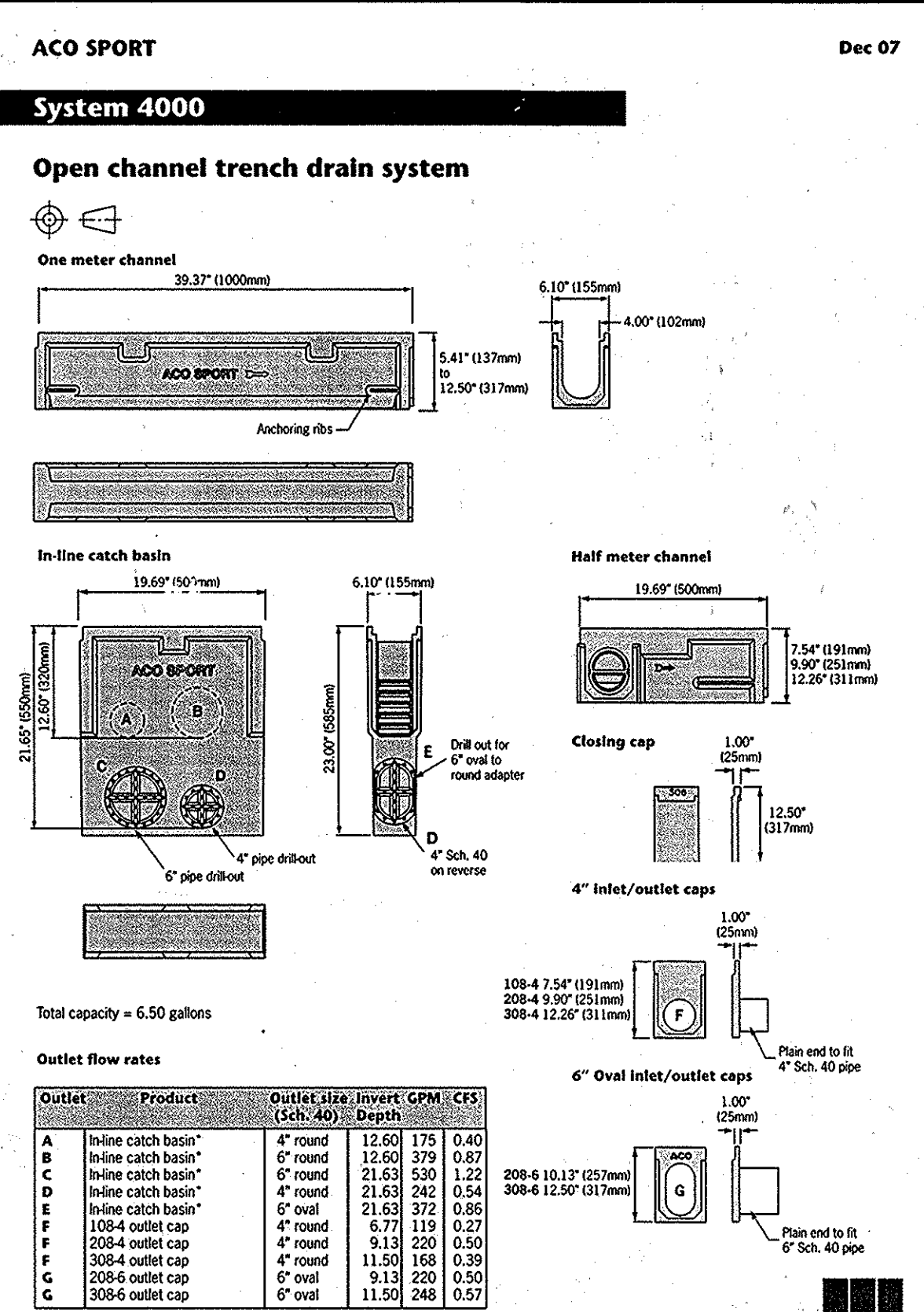
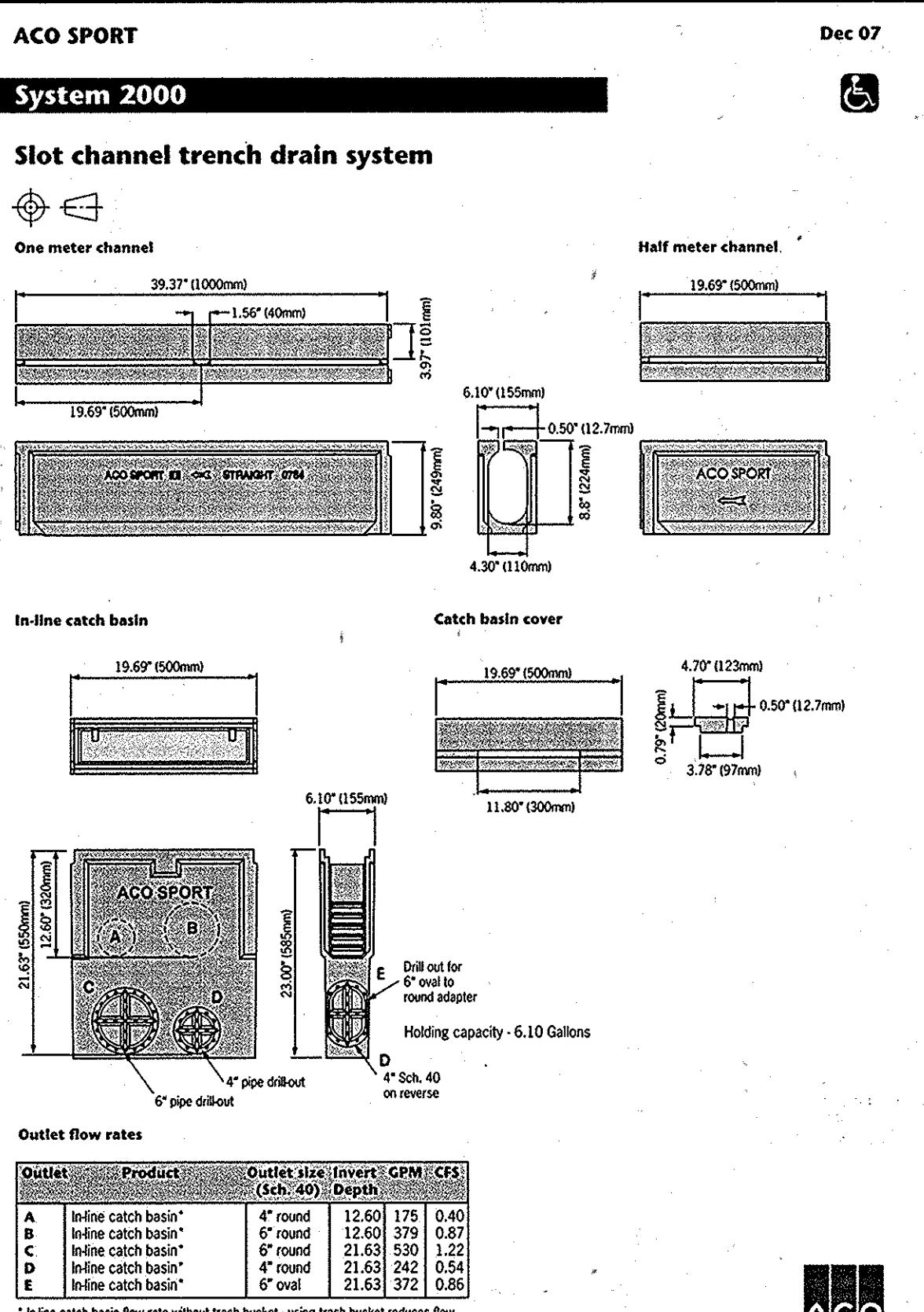
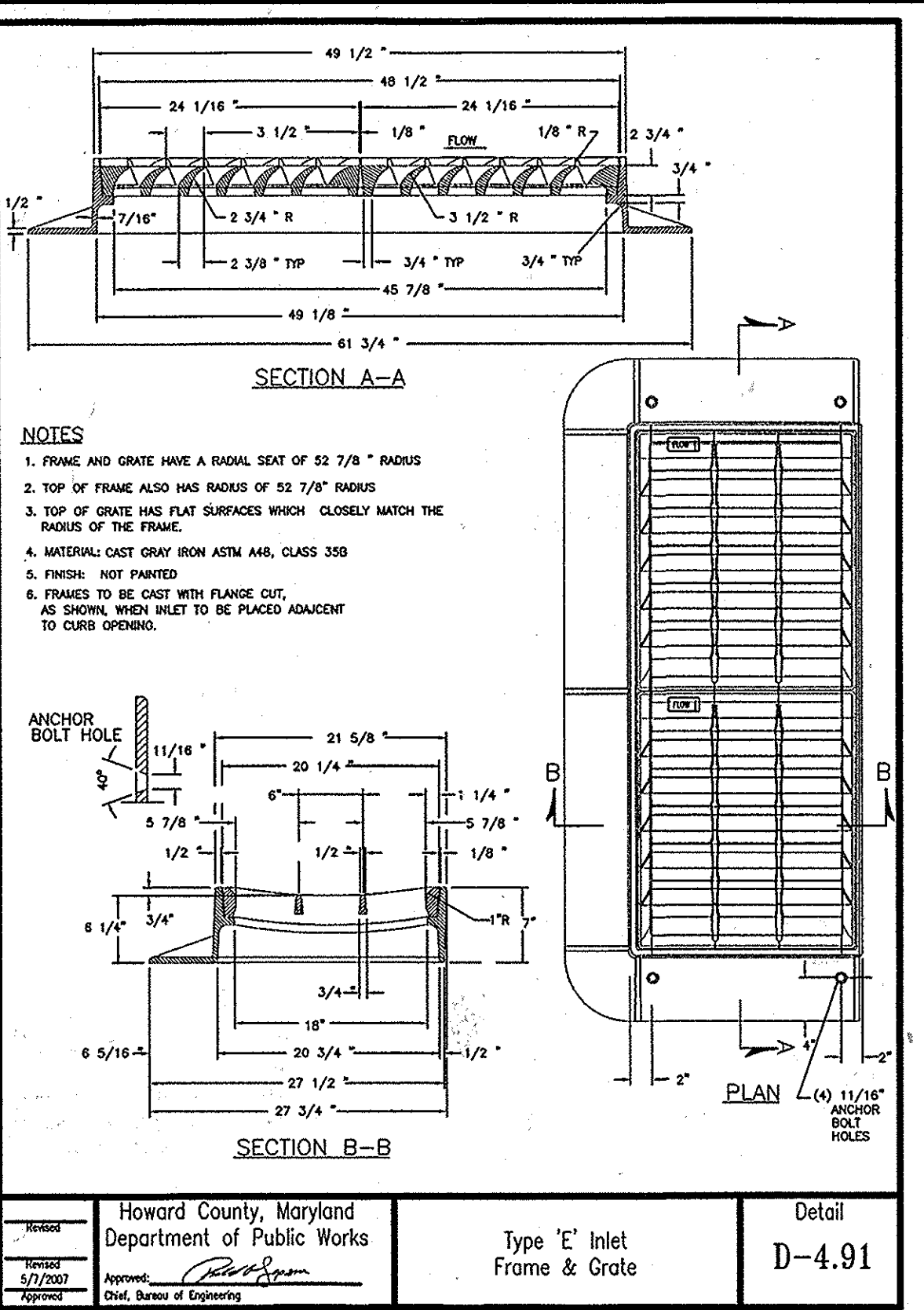
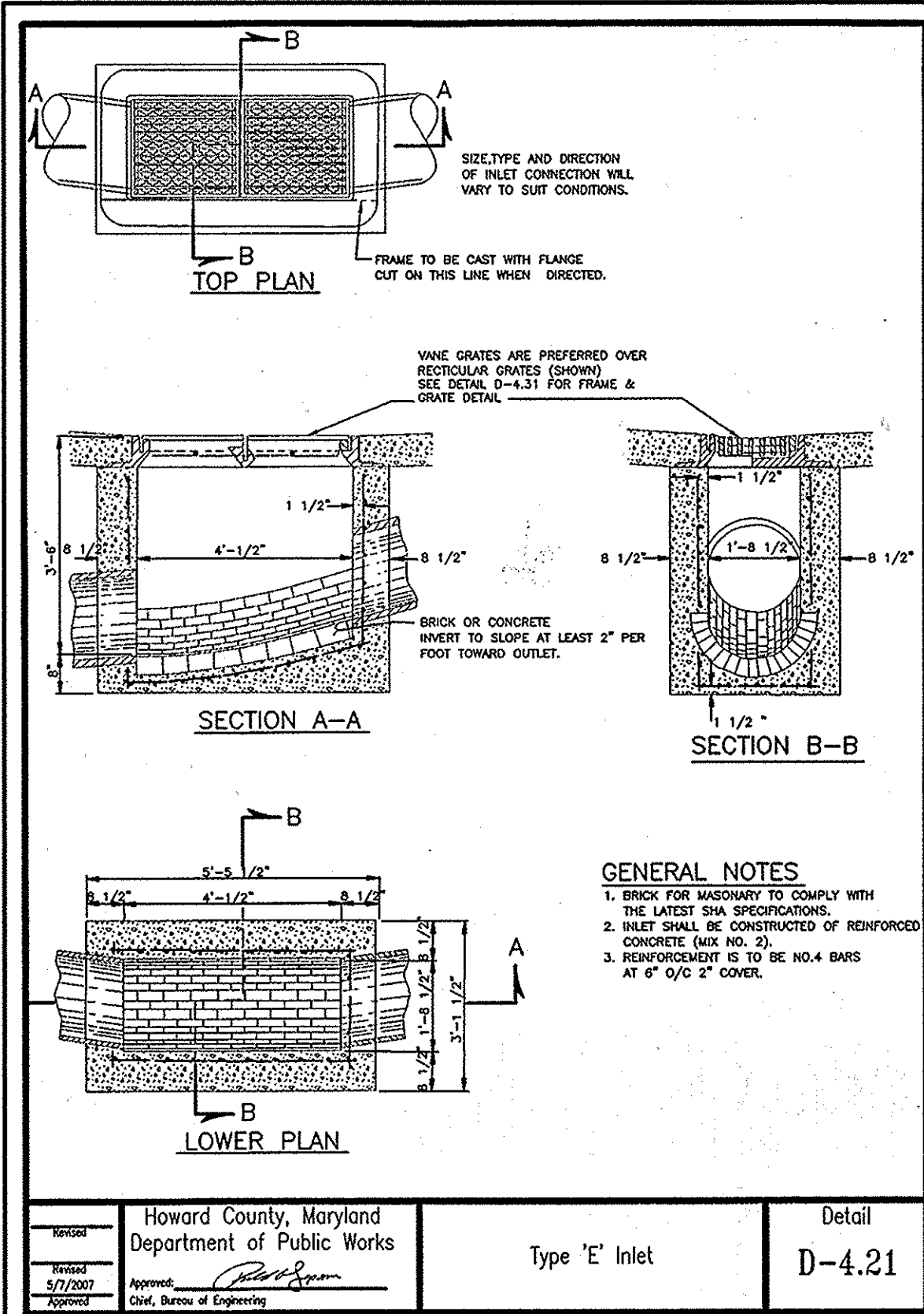
GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLCOTT CITY, MD 21042

REVISION SHEET
EROSION AND SEDIMENT CONTROL DETAILS

SCALE: HORIZONTAL: 1" = 30'
VERTICAL: N/A

PROJECT NO.: 86860.00
DRAWING NO.: C-410
SHEET: 34 OF 37
DATE: MARCH 2013

SDP-03-084



HURON CONSULTING
20410 CENTURY BLVD
SUITE 230
GERMANTOWN, MD 20874
TEL: (301) 228-0120
FAX: (301) 228-0121
www.huroncon.com

REVISIONS

NO.	DATE	DESCRIPTION

GLENELG COUNTRY SCHOOL
12793 FOLLY QUARTER ROAD
ELLCOTT CITY, MD 21042

STORMWATER MANAGEMENT AND DRAINAGE DETAILS

REVISION SHEET

SCALE: HORIZONTAL: N/A
VERTICAL: N/A

PROJECT NO.: 900-101
DRAWING NO.: C-310
SHEET: 37 OF 37
DATE: JULY 2012

APPROVED: DEPARTMENT OF PLANNING AND ZONING

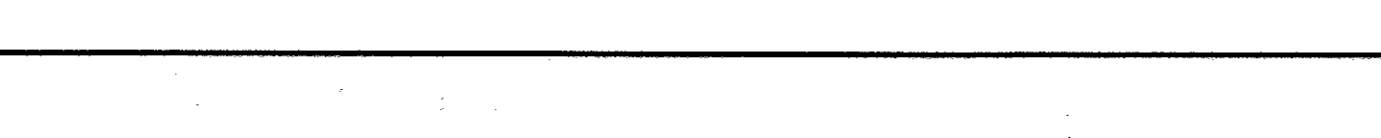
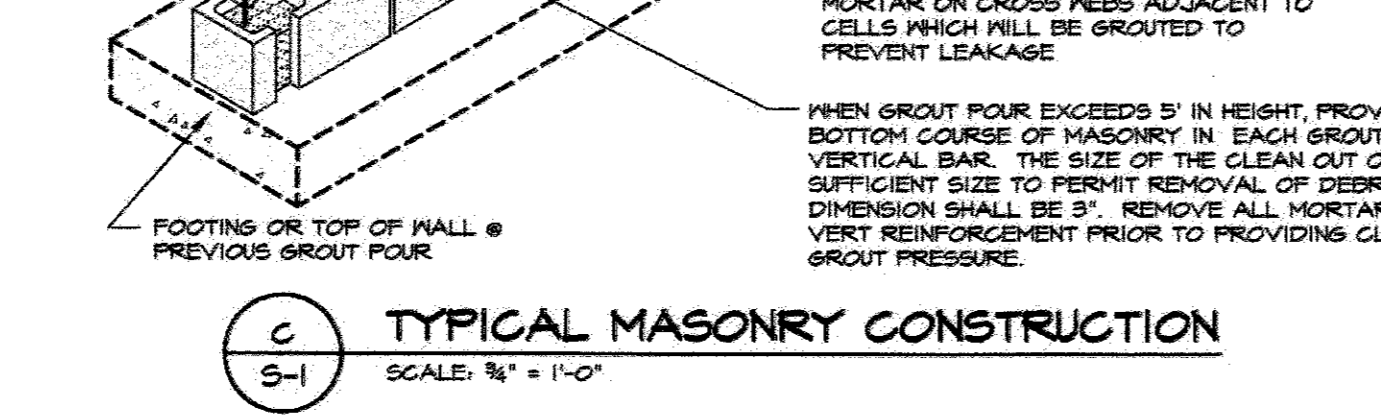
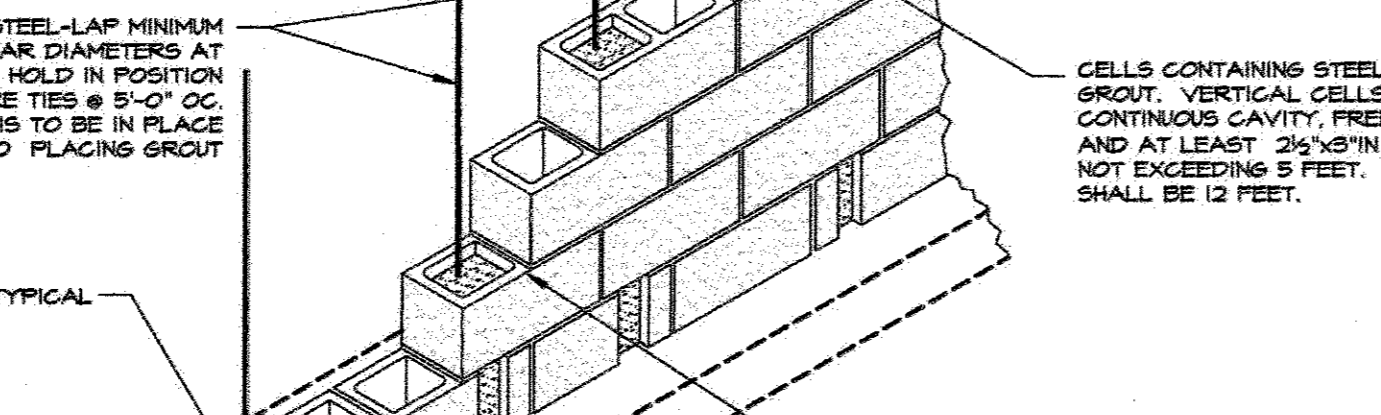
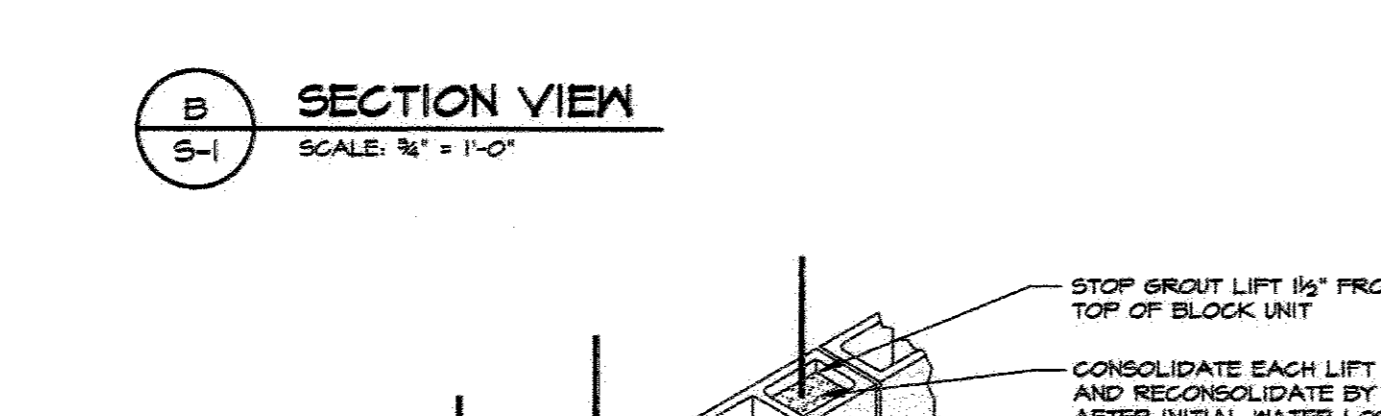
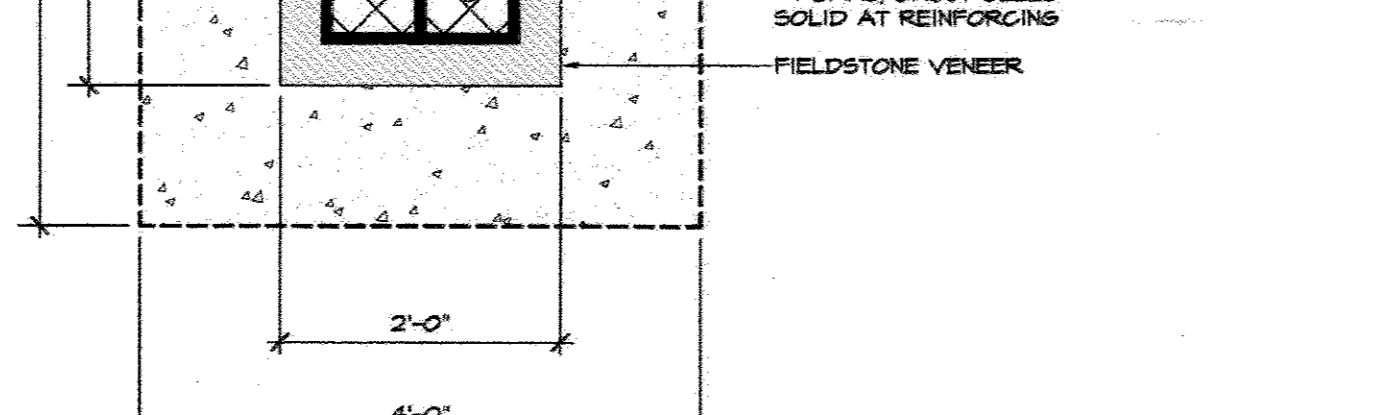
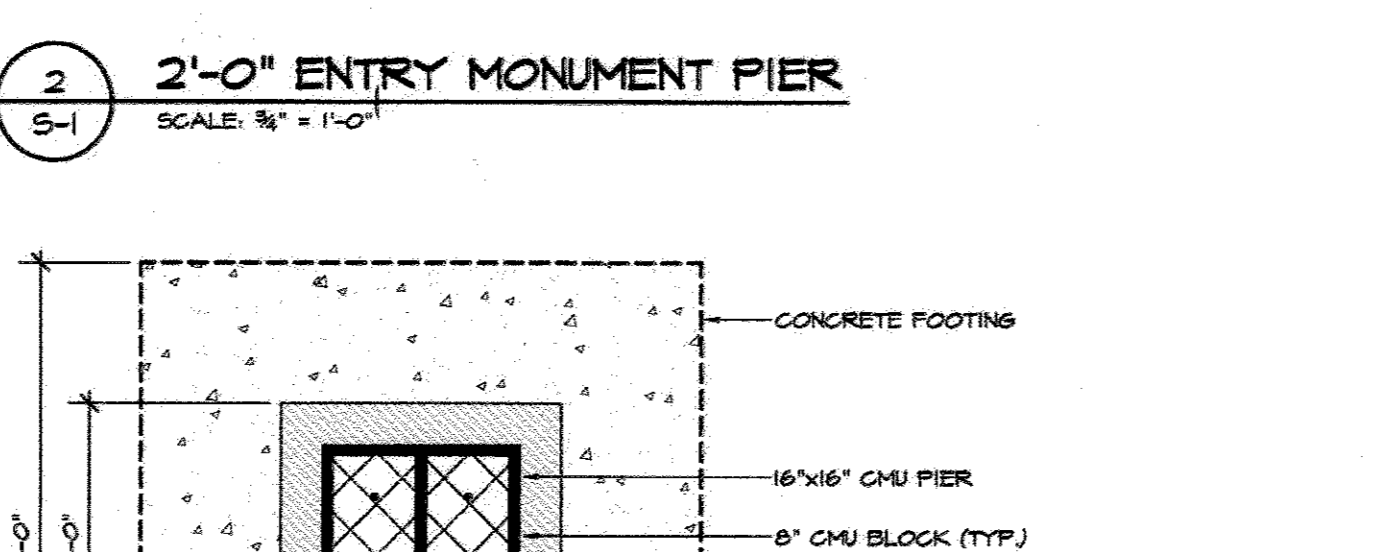
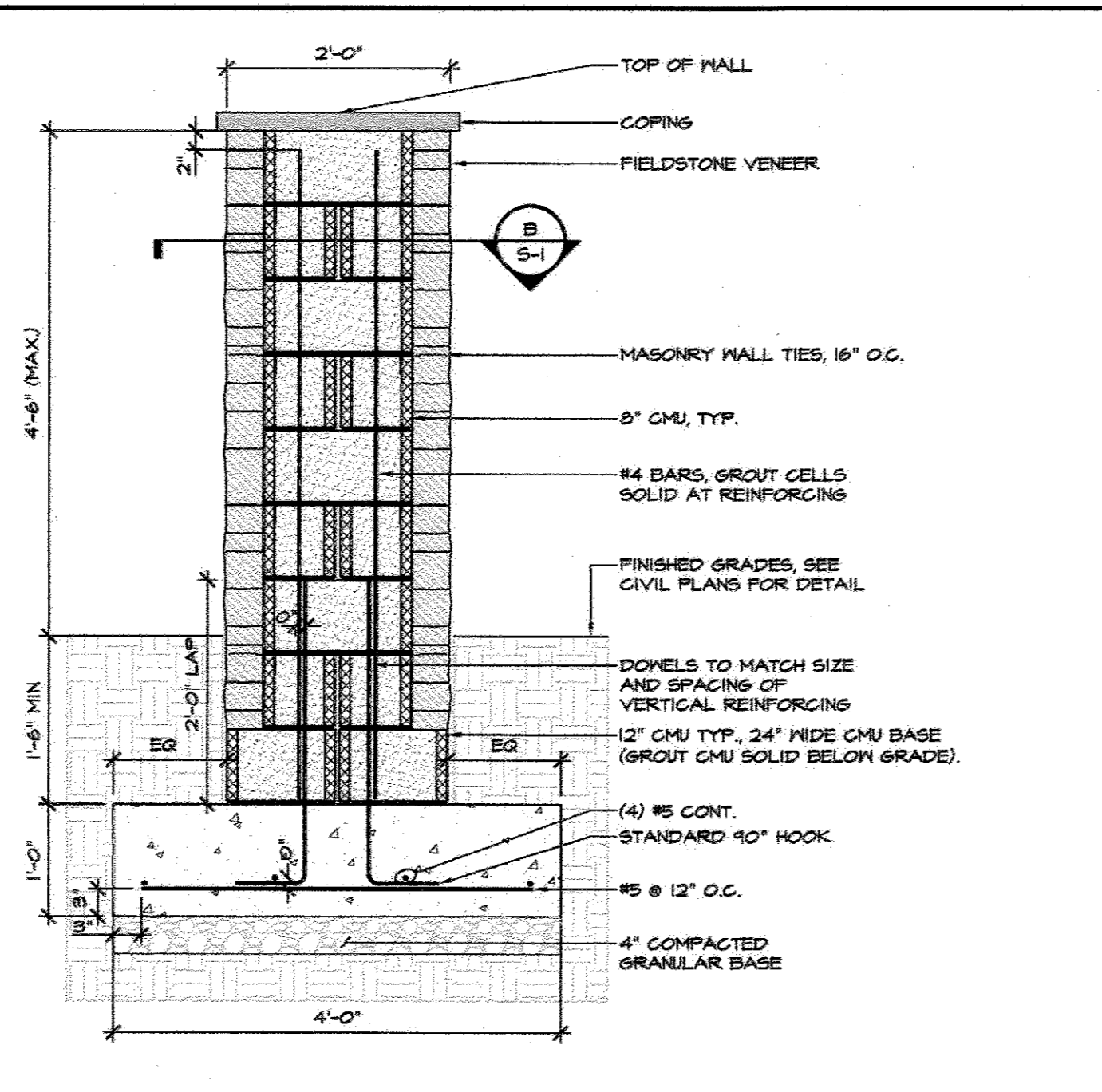
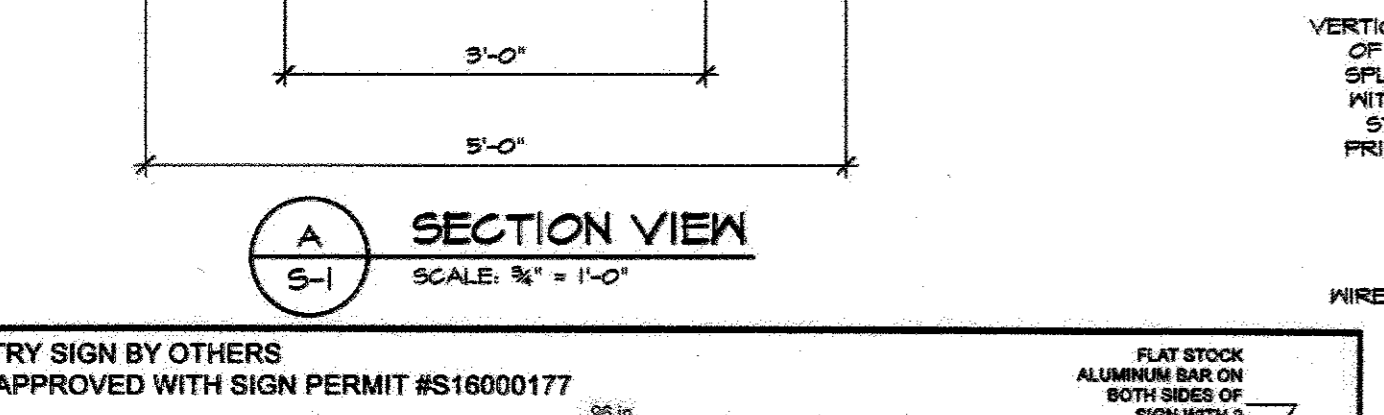
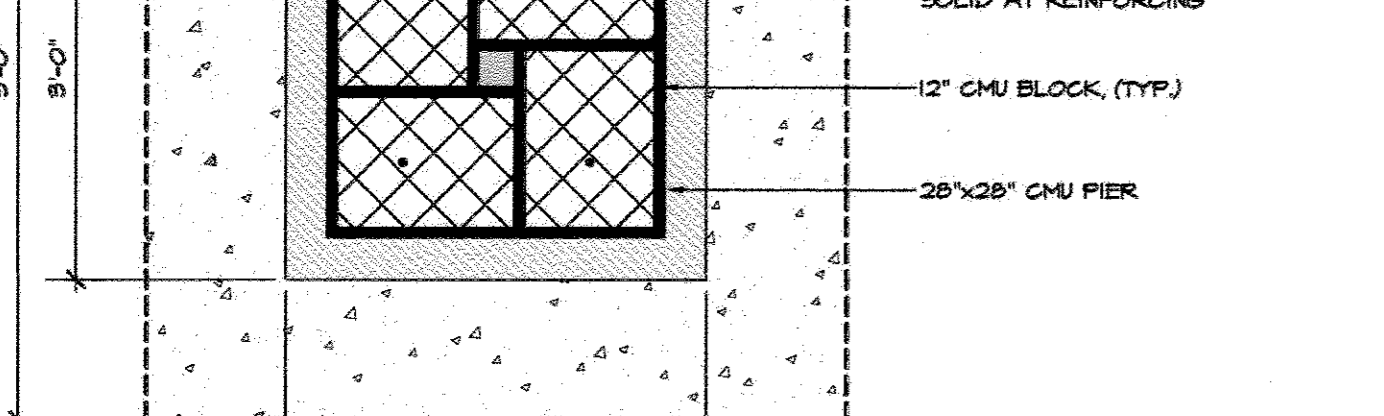
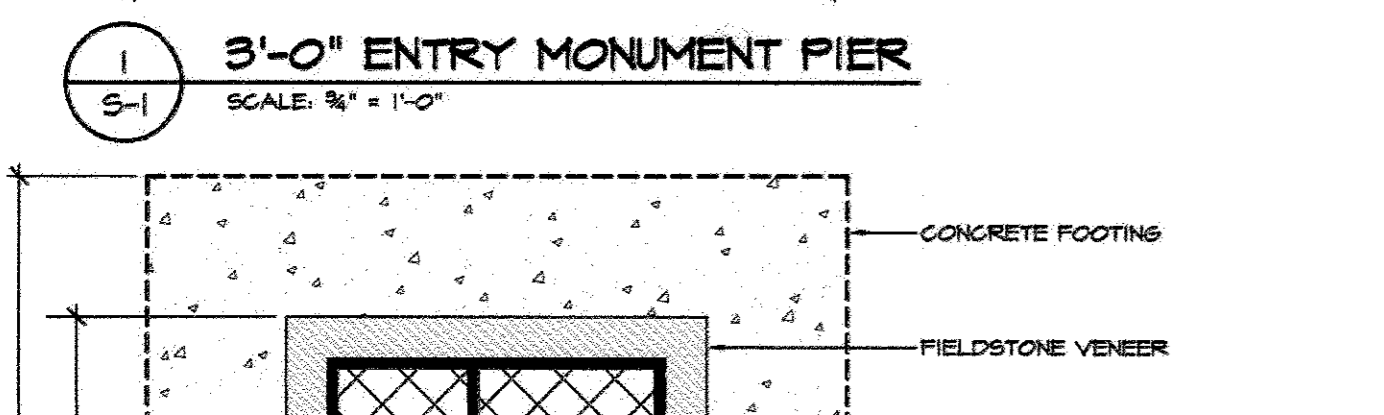
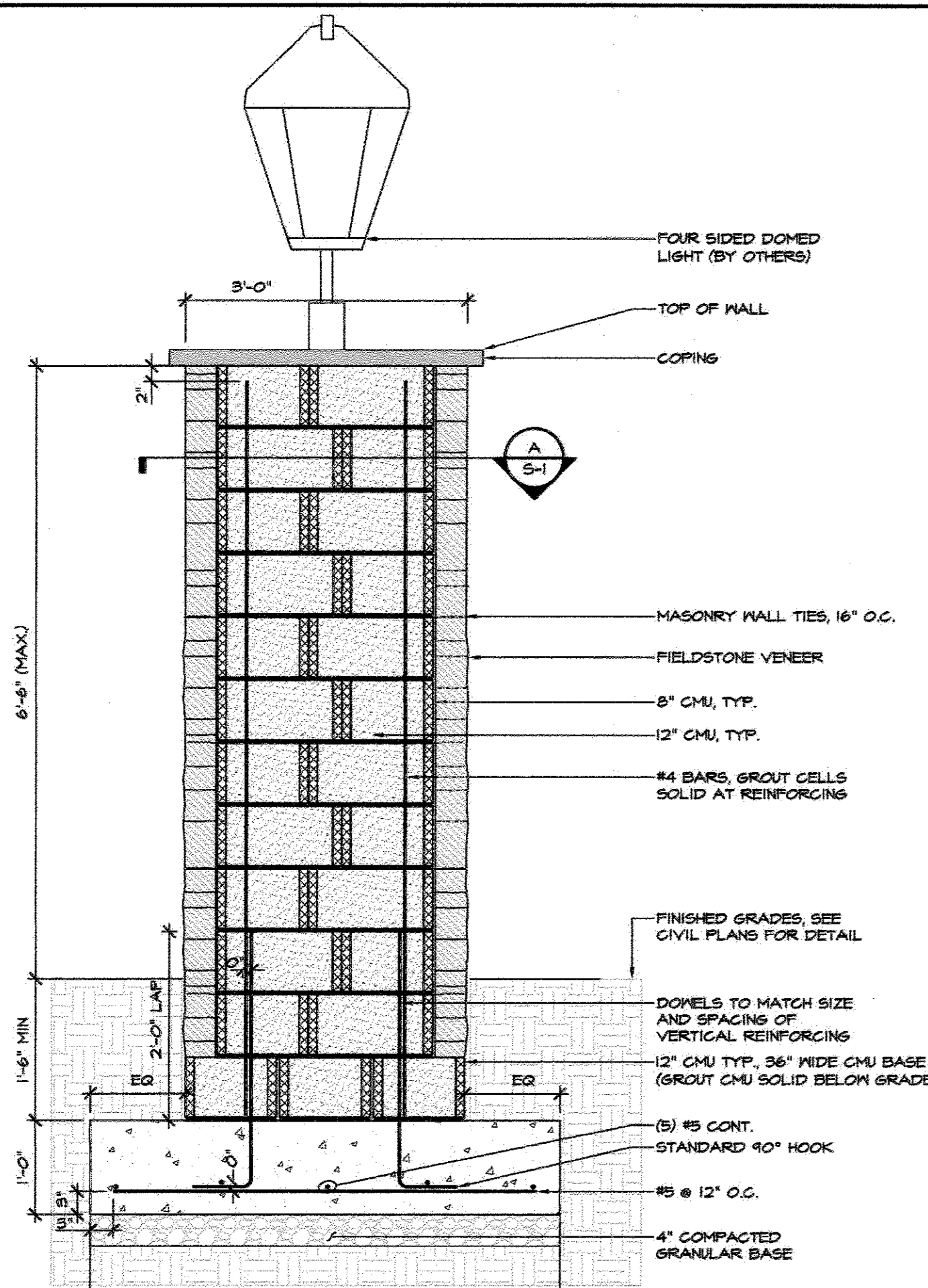
CHIEF, DEVELOPMENT ENGINEERING DIVISION: *[Signature]* 8/17/12
DATE: 4/18/12

CHIEF, DIVISION OF LAND DEVELOPMENT: *[Signature]* 8/23/12
DATE: 4/18/12

DIRECTOR: *[Signature]* 8/23/12
DATE: 4/18/12

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland.

License No. 12548
Expiration Date 7-29-13



STRUCTURAL NOTES

BUILDING CODES

- A. ALL CONSTRUCTION SHALL CONFORM WITH:
 - THE INTERNATIONAL BUILDING CODE (IBC-2015) AND ALL APPLICABLE SUPPLEMENTS.
 - MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE-10).
- B. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.

DESIGN LOAD

- A. THE DESIGN DEAD LOADINGS FOR ALL COMPONENTS IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND INDICATED IN THE SPECIFICATIONS. ALL COMPONENTS ARE DESIGNED FOR THE FOLLOWING UNIFORM SUPERIMPOSED DEAD LOADS APPLIED IN ADDITION TO STRUCTURE SELF WEIGHT.
- B. RISK CATEGORY: II
- C. WIND LOAD DESIGN CRITERIA:
 - A DISTRIBUTED DESIGN LOAD OF 15 PSF WAS APPLIED TO ALL STEM FACES ABOVE GROUND.

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. SEE CIVIL CONTRACT DOCUMENTS FOR ADDITIONAL INFORMATION RELATING TO THE COORDINATION OF STRUCTURAL COMPONENTS.
- C. THE CONTRACTOR SHALL REVIEW THE CIVIL DRAWINGS FOR LOCATION AND DIMENSION OF CHASES, INSERTS, OPENINGS, SLEEVES, DEPRESSIONS AND OTHER PROJECT REQUIREMENTS WHICH IMPACT THE STRUCTURAL COMPONENTS. THE STRUCTURAL CONSTRUCTION DRAWINGS DO NOT SHOW ALL OPENINGS REQUIRED. ADDITIONAL OPENINGS, BLOCKOUTS AND SLEEVES MAY BE REQUIRED BY OTHER DISCIPLINES AND SHALL BE CONSTRUCTED USING THE TYPICAL DETAILS AND/OR CRITERIA INDICATED IN THE STRUCTURAL DRAWINGS. OPENINGS REQUIRED BUT NOT SHOWN ON THE STRUCTURAL DRAWINGS MUST BE APPROVED BY THE STRUCTURAL ENGINEER.
- D. IN CASES OF CONFLICT BETWEEN THE DRAWINGS AND OTHER DISCIPLINES OR EXISTING CONDITIONS, CONTRACTOR SHALL NOTIFY THE DESIGN PROFESSIONALS AND OBTAIN CLARIFICATION PRIOR TO BIDDING AND PROCEEDING WITH WORK.
- E. 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 ENGINEER.
- F. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.
- G. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.
- H. APPLY DETAILS, SECTIONS AND NOTES ON THE DRAWINGS WHERE CONDITIONS ARE SIMILAR TO THOSE INDICATED BY DETAIL, DETAIL TITLE OR NOTE.
- I. THE CONTRACTOR SHALL VERIFY THAT CONSTRUCTION LOADS DO NOT EXCEED THE CAPACITY OF THE STRUCTURE AT THE TIME THE LOAD IS APPLIED.

CAST IN PLACE CONCRETE

- A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE 'SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 308)' AND TO THE 'BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)'.
- B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
 - RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 308).
 - RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
 - RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 308).
 - STANDARD SPECIFICATION FOR TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS (ACI 117).
 - CHEMICAL ADMIXTURES FOR CONCRETE (ACI 212.3).
 - STANDARD SPECIFICATION FOR CURING CONCRETE (ACI 308.1).
- C. ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.
- D. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% +/- .18. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1" AND MAXIMUM SLUMP SHALL BE 5". ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C89.
- E. 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.
- F. 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. TESTING SHALL BE IN ACCORDANCE WITH ASTM G172.
- G. THE CONCRETE STRUCTURE SHALL NOT SUPPORT THE DESIGN LIVE LOAD FOR A MINIMUM OF 28 DAYS AND ALL SHORING AND RE-SHORING REQUIRED TO SUPPORT THE CONCRETE STRUCTURE DURING CONSTRUCTION SHALL BE DESIGNED AND PROVIDED BY THE CONTRACTOR. SHOP DRAWINGS, SIGNED AND SEALED BY A REGISTERED ENGINEER IN THE STATE OF MARYLAND, SHALL BE SUBMITTED FOR REVIEW. SHOP DRAWINGS SHALL INDICATE THE TYPE, EXTENT, SIZE, AND LOCATION OF ALL SHORING AND RE-SHORING AS WELL AS THE SEQUENCE OF CONSTRUCTION.
- H. 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 C684.
- I. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A615 GRADE 60 (fy = 60 KSI).
- J. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS, UNLESS OTHERWISE INDICATED.
- K. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CSI 'MANUAL OF STANDARD PRACTICE', ACI 318' DETAILS AND DETAILING OF CONCRETE REINFORCEMENT, ACI SP 66 'DETAILING MANUAL'.
- L. DOWELS SHALL MATCH SIZE AND SPACING OF MAIN REINFORCEMENT, UNLESS NOTED OTHERWISE.
- M. WHERE A 90°, 180° OR 180° HOOK IS GRAPHICALLY INDICATED, PROVIDE CORRESPONDING ACI STANDARD HOOKS, UNLESS NOTED OTHERWISE.
- N. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

GENERAL/ADDITIONAL NOTES

- A. IN ACCORDANCE WITH SECTION 129.0.2.1.F OF THE ZONING REGULATIONS, PILLARS AND GATES WHICH SERVE AS ENTRANCE FEATURES FOR A LOT DO NOT NEED TO MEET THE SETBACK REQUIREMENT PROVIDED THE ENTRANCE FEATURE IS NO MORE THAN 8 FEET HIGH AND DOES NOT INTERFERE WITH SIGHT DISTANCE ALONG PUBLIC ROADS.
- B. IN ACCORDANCE WITH SECTION 103.0.5 OF THE ZONING REGULATIONS SIGNS ARE NOT CONSIDERED TO BE STRUCTURE OR PART OF A STRUCTURE AND ARE REGULATED BY TITLE 3, SUBTITLE 5 OF THE HOWARD COUNTY CODE.

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.
- C. 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.
- D. 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.
- E. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division 9-22-16 DATE

Chief, Division of Land Development 9-26-16 DATE

Director, Department of Planning and Zoning 9-30-16 DATE

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

CONCRETE MASONRY

- A. ALL MASONRY CONSTRUCTION SHALL CONFORM TO THE 'BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 402)' AND TO THE 'SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/ASCE 5/TMS 602)'.
- B. ALL CONCRETE MASONRY SHALL HAVE A SPECIFIED COMPRESSIVE STRENGTH OF MASONRY, fm = 1500 PSI.
- C. ALL EXTERIOR WALLS AND ALL WALLS SUPPORTING LOADS OTHER THAN THEIR OWN WEIGHT SHALL BE CONSTRUCTED OF NORMAL WEIGHT HOLLOW BLOCK BEARING UNITS CONFORMING TO ASTM C 90 WITH A NET COMPRESSIVE STRENGTH OF 1800 PSI. PROVIDE TYPE N I BLOCK BELOW GRADE AND WHERE BLOCK IS SUBJECTED TO MOISTURE PENETRATION, OTHERWISE PROVIDE TYPE S I.
- D. ALL EXTERIOR WALLS AND BEARING WALLS SHALL BE CONSTRUCTED WITH TYPE 'S' CEMENT LIME MORTAR ABOVE GRADE, AND TYPE 'M' BELOW GRADE. ALL MORTAR SHALL CONFORM TO ASTM C 270.
- E. ALL FILL FOR CONCRETE MASONRY SHALL BE GROUT CONFORMING TO ASTM C 476 WITH A COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
- F. ALL VERTICAL REINFORCING SHALL BE LAP SPICED A MINIMUM OF 48 BAR DIAMETERS UNLESS OTHERWISE INDICATED.
- G. VERTICAL WALL REINFORCING SHALL BE CUT AND LAP SPICED FOR MAXIMUM 5'-0" GROUT LIFTS. MASONRY CORES CONTAINING VERTICAL REINFORCING SHALL BE GROUTED SOLID.
- H. THE CONTRACTOR SHALL PROVIDE HOLLOW BLOCK FILLED SOLID WITH GROUT DIRECTLY BELOW ALL CHANGES IN WALL THICKNESS.

ENTRY SIGN BY OTHERS
AS APPROVED WITH SIGN PERMIT #S16000177

ENTRY SIGN DETAIL
SCALE: 3/4" = 1'-0"

Customer Name: John Tangires
Company: GCS
Job Number: 30805
Order Date: 6/7/2016

RAPID SIGN
410-579-4545 FAX: 410-579-8990
www.rapid-sign.com

This design is the sole property of Rapid Sign Center. All rights to the design, reproduction & manufacture remain the exclusive property of Rapid Sign Center and may not be copied or altered in whole or part without written consent.

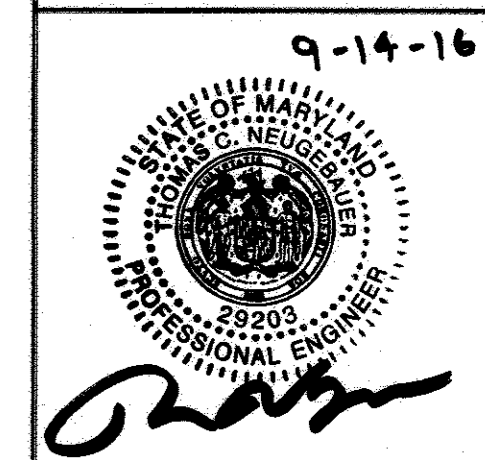
MRA

Buildings Group
MORRIS & RITCHIE ASSOCIATES, INC.
Architects, Engineers, Planners, Surveyors, and Landscape Architects
1220-C East Joppa Road
Suite 505
Towson, Maryland 21286
410-821-1690
410-821-1748 Fax

Owner/Developer
GLENELG COUNTRY SCHOOL
12753 FOLLY QUARTER ROAD
GLENELG, MARYLAND 21737
PHONE: 410.531.2229
ATTN: JAHAN TANGIRES
CHIEF FINANCIAL OFFICER
tangires@glenelg.org

THE GLENELG COUNTRY SCHOOL
PROPOSED UPPER SCHOOL ADDITION
CONSTRUCTION DETAILS FOR ENTRY FEATURES

TAX MAP 22, 0910, 22, PARCEL 148
FIFTH (5TH) ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



PROFESSIONAL CERTIFICATION
I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, license no. 28203, expiration date: 6-16-17

ADDED SHEET 38	9/14/16	
NO.	REVISION	DATE
FILE	DRAWN	ISSUED
12189.07	SRM	06/30/16
SHEET TITLE		
CONSTRUCTION DETAILS FOR ENTRY FEATURES		
HOWARD COUNTY ASSOCIATED PERMITS		
#S16000177 - MAIN ENTRY SIGN ISSUED 07/12/16		
#B16003093 - ENTRY FEATURES AND STONE PILLARS		
JOB NO.: 12890		
SCALE: VARIES, SEE DIAGRAMS		
SHEET: 38 OF 38		

SDP-03-084