

# ROAD CONSTRUCTION PLANS

## STONE MANOR SECTION 3

LOTS 1-15 & OPEN SPACE LOTS 16-18

SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND

### GENERAL NOTES:

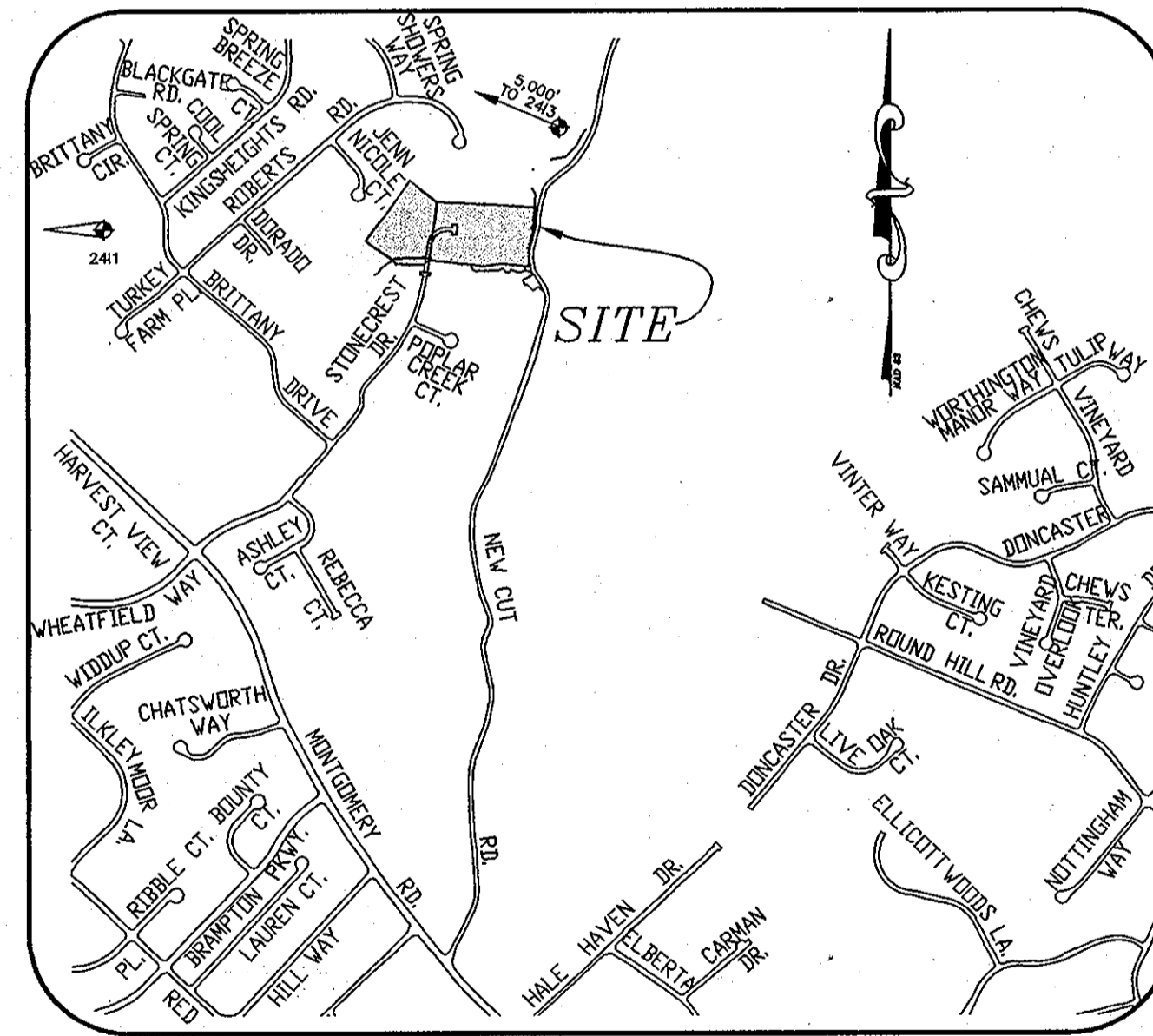
- THIS PROPERTY IS ZONED R-20 PER THE 2/2/04 COMPREHENSIVE ZONING PLAN.
- SITE DATA:  
ZONING: R-20  
TAX MAP 25 PARCEL 68 & 69 GRID 19  
SECOND ELECTION DISTRICT  
DEED REFERENCE: 214 / 266 & 7457 / 328  
MINIMUM LOT SIZE: 12,000 SQ. FT.  
AREA OF REQUIRED OPEN SPACE LOTS: 7.91 AC ± = 3.16 ACRES  
AREA OF PROPOSED OPEN SPACE LOTS: 3.00 ACRES ±  
AREA OF ROAD DEDICATION: 0.393 ACRES ±
- HORIZONTAL AND VERTICAL DATUMS ARE RELATED TO THE MARYLAND NAD 83 (HORZ) AND NGVD29 (VERT) AS PROJECTED FROM HOWARD COUNTY CONTROL STATIONS NO. 241 & 243 (ALL UNITS ARE IN FEET). HOWARD COUNTY CONTROL STATIONS CONSIST OF A STANDARD STAMPED DISC SET ON TOP OF CONCRETE COLUMN.  
STA. No. 241 N 577,298.654 ELEV. 437.831  
E 1,366,076.133  
STA. No. 243 N 580,648.904 ELEV. 404.482  
E 1,364,974.471
- THIS SUBDIVISION IS SUBJECT TO THE 5TH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AS AMENDED ON OCTOBER 2, 2003.
- PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT. PUBLIC WATER AND SEWER WILL BE UTILIZED.
- ALL AREAS ARE MORE OR LESS.
- DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:  
A) WIDTH - 12 FEET (14 FEET SERVING MORE THAN ONE RESIDENCE)  
B) SURFACE - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.  
C) GEOMETRY - MAXIMUM 14% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45-FOOT RADIUS.  
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H2S LOADING).  
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.  
F) STRUCTURE CLEARANCES - MINIMUM 12 FEET  
G) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE.
- THIS BOUNDARY & TOPOGRAPHY IS BASED ON A FIELD RUN MONUMENTED BOUNDARY SURVEY DONE BY MILDBERG, BOENDER AND ASSOCIATES ON OR ABOUT AUG. 2003.
- STORM WATER MANAGEMENT IS PUBLICLY OWNED AND MAINTAINED BY HOWARD COUNTY AND WILL BE PROVIDED VIA:  
- THE CHANNEL PROTECTION VOLUME IS PROVIDED BY THE EXISTING WET POND LOCATED ON STONE MANOR SECTION 1. THIS POND ALSO MANAGES THE 2 AND 10 YEAR EVENTS FOR ITS ASSOCIATED DRAINAGE AREA. THE WAY AND SEV FOR THE REMAINING AREAS OF THE SITE ARE PROVIDED BY: NATURAL AREA CONSERVATION CREDIT, SHEET FLOOD TO BUFFER CREDIT AND NON-ROOFTOP DISCONNECTION CREDITS. THESE AREAS INCLUDE LOTS 1&2, AND 11-15
- WETLANDS, STREAM AND FOREST STAND DELINEATION IS BY ECO SCIENCE PROFESSIONALS INC. ON OR ABOUT AUGUST 2003. FLOODPLAIN STUDY WAS CONDUCTED BY MILDBERG, BOENDER & ASSOCIATES, INC. ON OR ABOUT SEPTEMBER 2003.
- WETLANDS, STREAMS, 25% STEEP SLOPES AND FLOODPLAINS DO EXIST ON SITE.
- NO CEMETERIES EXIST ON SITE.
- HISTORIC STRUCTURE HO-421 (STONE HOUSE @ BON AIR) IS TO REMAIN AS PART OF LOT 14.
- TRAFFIC STUDY BY MARS GROUP, DATED AUG. 2003. APPROVED MARCH 19, 2004.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT FOR THE REQUIRED LANDSCAPE PLANTINGS.
- FOREST CONSERVATION EASEMENT(S) HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, EXCEPT AS SHOWN ON AN APPROVED ROAD CONSTRUCTION DRAWING OR SITE DEVELOPMENT PLAN. HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT FOR THIS SUBDIVISION HAVE BEEN FULFILLED BY RETENTION OF 1.17 ACRES, REFORESTATION OF 1.03 ACRES, AND A FEE-IN-LIEU OF 0.36 ACRES (15,246 SQ.FT.) OF REFORESTATION (A TOTAL OF 2.56 AC.) IN THE AMOUNT OF \$7,841.08. FINANCIAL SURETY FOR THE ON-SITE RETENTION AND REFORESTATION WILL BE POSTED AS PART OF THE DPW DEVELOPERS AGREEMENT.
- THIS DEVELOPMENT WILL BE ANNEXED IN THE STONE MANOR HOME OWNERS ASSOCIATION.
- ALL EXISTING STRUCTURES TO BE REMOVED UNLESS OTHERWISE NOTED.
- NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS, 100 YEAR FLOODPLAIN EASEMENT AND FOREST CONSERVATION EASEMENT AREAS, EXCEPT AS SHOWN ON APPROVED PLANS.
- UTILITY AND ROADWAY (STONECREST DRIVE) CROSSINGS SHOWN ARE DETERMINED NECESSARY DISTURBANCE BY THE DEPARTMENT OF PLANNING AND ZONING AND THE HOWARD CONSERVATION DISTRICT IN ACCORDANCE WITH SECTION 16.116(C) OF THE FIFTH EDITION SUBDIVISION AND LAND DEVELOPMENT REGULATION. (M.D.E. TRACING NUMBER 05-NT-0317)
- DEVELOPMENT AND CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SITE DEVELOPMENT PLAN, WAIVER PETITION APPLICATION, OR BUILDING/GRADING PERMIT.
- PUBLIC WATER AND SEWAGE ALLOCATION WILL BE GRANTED AT THE TIME OF THE ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE.
- THERE IS AN EXISTING DWELLING/STRUCTURE LOCATED ON LOT 14 TO REMAIN. NO NEW BUILDINGS, EXTENSIONS OR ADDITIONS TO THE EXISTING DWELLING ARE TO BE CONSTRUCTED AT A DISTANCE LESS THAN THE ZONING REGULATIONS REQUIRE.
- WATER & SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
- DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAN FOR WATER, SEWER, STORM DRAINAGE, OTHER PUBLIC UTILITIES AND FOREST CONSERVATION (DESIGNATED AS "FOREST CONSERVATION AREA"), LOCATED IN, ON, OVER AND THROUGH LOTS/PARCELS, ANY COVENANCES OF THE APFORESAID LOTS/PARCELS SHALL BE SUBJECT TO THE EASEMENTS HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID LOT(S)/PARCELS. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS HEREIN RESERVED TO HOWARD COUNTY WITH A METES AND BOUNDS DESCRIPTION OF THE FOREST CONSERVATION AREA. UPON COMPLETION OF THE PUBLIC UTILITIES AND THEIR ACCEPTANCE BY HOWARD COUNTY, AND IN THE CASE OF THE FOREST CONSERVATION EASEMENT(S), UPON COMPLETION OF THE DEVELOPER'S OBLIGATIONS UNDER THE FOREST CONSERVATION INSTALLATION AND MAINTENANCE AGREEMENT EXECUTED BY THE DEVELOPER AND THE COUNTY, AND THE RELEASE OF DEVELOPER'S SURETY POSTED WITH SAID AGREEMENT. THE COUNTY SHALL ACCEPT THE EASEMENTS AND RECORD THE DEED(S) OF EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.
- ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2 1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) 3" LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
- STREET LIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)." THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND AND TREE.

### SHEET INDEX

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#### RELATED DPZ #'S:

SP-04-04, SP-98-15, P-01-14,  
S-97-16, S-99-21,  
F-00-54, F-02-06



### VICINITY MAP

SCALE: 1"=1000'

#### OWNERS

MID-ATLANTIC LAND SERVICES, INC.  
5300 DORSEY HALL DRIVE  
ELLCOTT CITY, MD 21042

STONE MANOR III, LLC  
5300 DORSEY HALL DR  
ELLCOTT CITY, MD 21042

THE RAIN GARDENS AND LEVEL SPREADERS BEING USED TO MEET THE STORMWATER MANAGEMENT REQUIREMENTS ON EACH AFFECTED LOT SHALL BE DESIGNED, BONDED AND A DEVELOPER AGREEMENT EXECUTED AT THE SITE DEVELOPMENT PLAN STAGE OF THE PROJECT

#### DENSITY & OPEN SPACE TABULATION CHART FOR STONE MANOR SECTIONS 1-3

	EXISTING SECTION 1 F-00-54	SECTION 2 F-02-06	SECTION 3 F-06-36	TOTAL
GROSS AREA:	30,814 AC ±	9,797 AC ±	7,91 AC ±	48,52 AC ±
AREA OF STEEP SLOPES:	00.00 AC ±	00.00 AC ±	0.99 AC ±	0.99 AC ±
AREA OF FLOODPLAIN:	3,288 AC ±	00.00 AC ±	0.45 AC ±	3,74 AC ±
NET AREA:	27,53 AC ±	9,797 AC ±	6,47 AC ±	43,80 AC ±
AREA OF PROPOSED BULDBLE LOTS SFD:	13,471 AC ±	4,168 AC ±	4,52 AC ±	22,16 AC ±
AREA OF PROPOSED BULDBLE LOTS SFA:	00.00 AC ±	00.00 AC ±	00.00 AC ±	00.00 AC ±
TOTAL AREA OF PROPOSED BULDBLE LOTS:	13,471 AC ±	4,168 AC ±	4,52 AC ±	22,16 AC ±
AREA OF PROPOSED ROAD (R/W):	2,820 AC ±	0,473 AC ±	0,393 AC ±	3,386 AC ±
REQUIRED OPEN SPACE (40% OF GROSS AREA):	9,24 AC ± (30%)	2,94 AC ±	3,16 AC ±	15,34 AC ±
PROVIDED OPEN SPACE:	14,823 AC ±	5,16 AC ±	3,00 AC ±	22,98 AC ±
NON-CRED OPEN SPACE:	00.00 AC ±	00.00 AC ±	00.00 AC ±	00.00 AC ±
CREDITED OPEN SPACE:	00.00 AC ±	5,063 AC ±	3,00 AC ±	8,06 AC ±
REQUIRED RECREATIONAL OPEN SPACE (200 S.F. PER LOT):	5600 S.F.	2400 S.F.	3000 S.F.	11000 S.F.
PROVIDED RECREATIONAL OPEN SPACE:	7378 S.F.	3000 S.F.	4400 S.F.	14778 S.F.
NUMBER OF PROPOSED BULDBLE LOTS (SFD):	28	12	15	55
NUMBER OF PROPOSED BULDBLE LOTS (SFA):	0	0	0	0
NUMBER OF PROPOSED BULDBLE LOTS:	28	12	15	55
NUMBER OF PROPOSED OPEN SPACE LOTS:	3	2	3	8
NUMBER OF BULK PARCELS:	0	0	0	0
TOTAL NUMBER OF PROPOSED LOTS:	31	14	18	63

\* : EXCESS OPEN SPACE FROM SECTION 1 TO SATISFY SECTION 3 OPEN SPACE REQUIREMENTS.

BY THE DEVELOPER:  
I, DAVID R. DAWSE JR., 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.

DATE: 6/14/06

BY THE ENGINEER:  
I, DAVID R. DAWSE JR., CERTIFY THAT THIS PLAN AND CONSTRUCTION, EROSION AND SEDIMENT CONTROL, REPRESENTS A PROVISIONAL AS-BUILT PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTED THE DEVELOPER'S USE OF 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.

DATE: 6/13/06

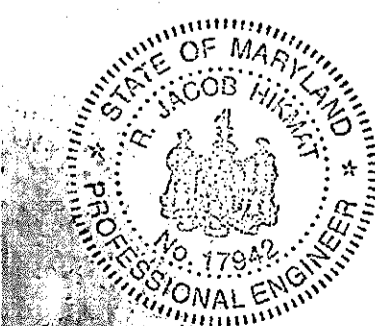
THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

DATE: 6/22/06

APPROVED: DEPARTMENT OF PUBLIC WORKS  
DATE: 6-26-06

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
DATE: 6/27/06

DATE: 6/29/06



R. JACOB HIKMAT, PE #17942  
THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET

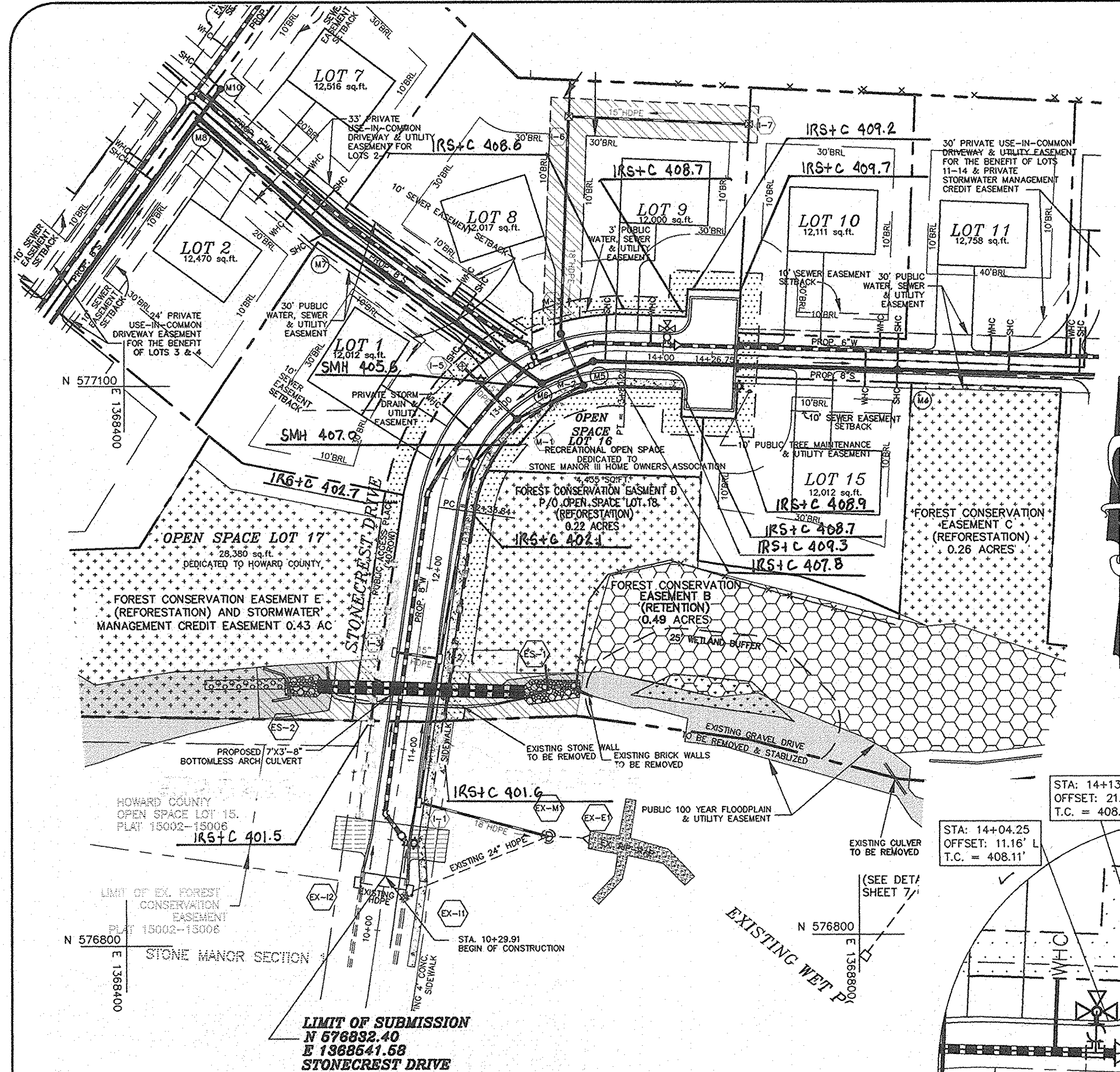
Project	date	description	scale	revisions
03-02B	APR. 2006	engineering	DJF	NTS

Project	date	description	revisions
STONE MANOR SECTION 3			

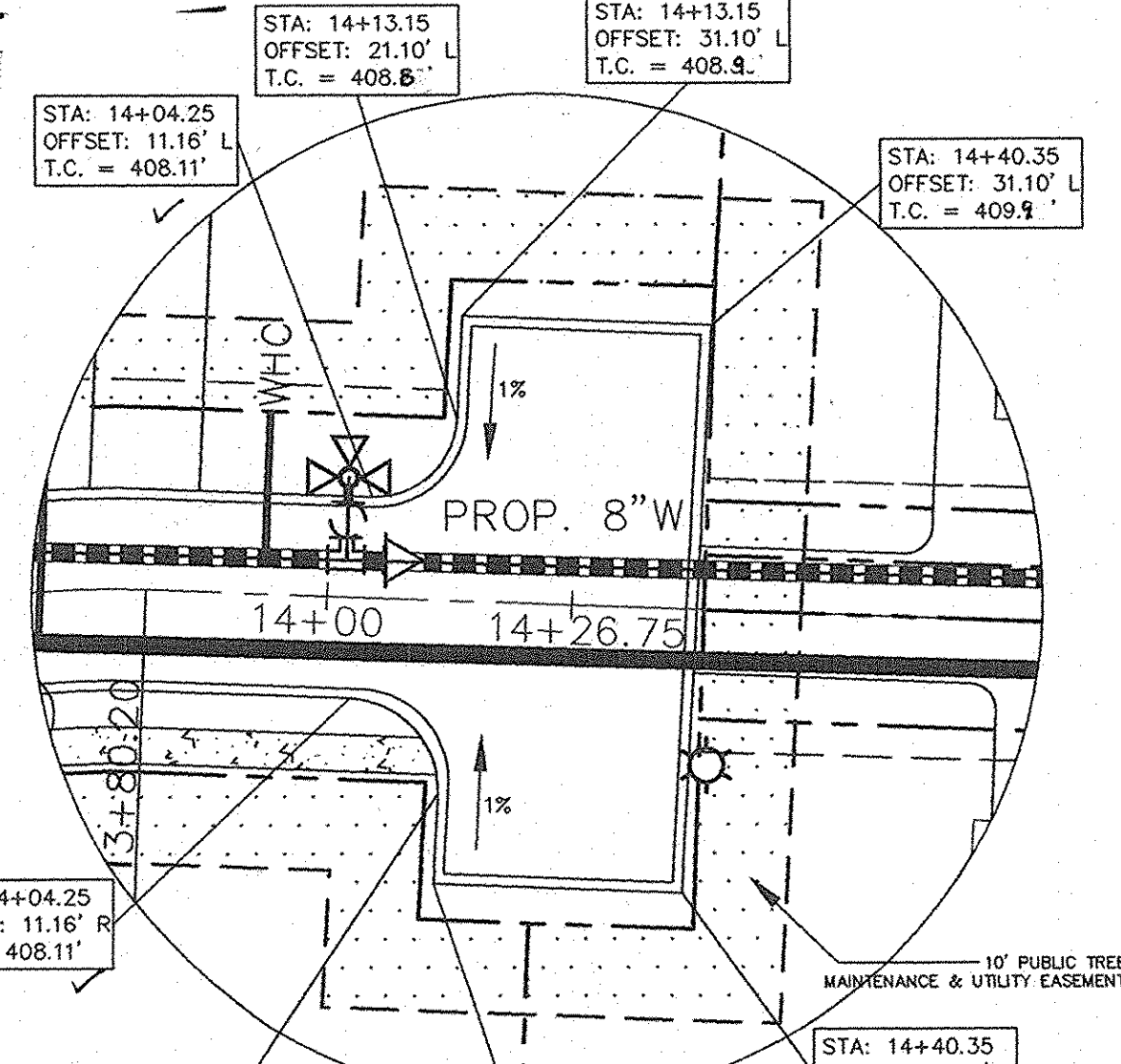
AS-BUILT  
STONE MANOR SECTION 3  
LOTS 1-15 & OPEN SPACE LOTS 16-18  
TAX MAP 25, GRID 19, PARCELS 68 & 69  
SECOND ELECTION DISTRICT  
HOWARD COUNTY, MARYLAND  
COVER SHEET

MILDBERG, BOENDER & ASSOC., INC.  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042  
(410) 997-0296 Fax: (301) 621-6321 Wash. (410) 997-0298 Fax.





**STONECREST DRIVE (PLAN VIEW)**  
PUBLIC ACCESS PLACE (40' ROW)  
DESIGN SPEED: 25 MPH  
SCALE: 1"=50'

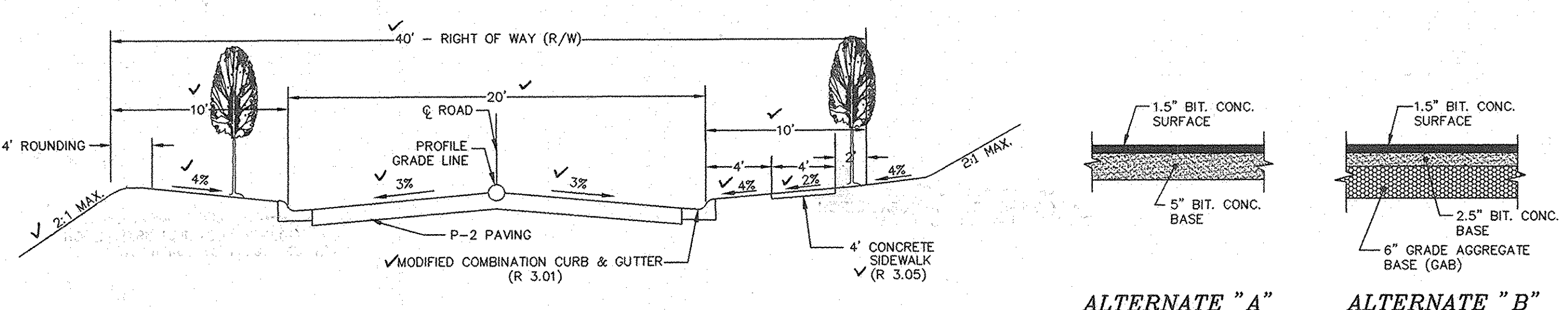


**STONECREST DRIVE T-TURNAROUND**  
SCALE: 1"=20'

STREET LIGHT SCHEDULE		
LIGHT TYPE	STATION	OFFSET
100 WATT HPS VAPOR PREMIERE	14+42	17' RT
100 WATT HPS VAPOR PREMIERE	13+03	13' LT
100 WATT HPS VAPOR PREMIERE	10+50	13' RT

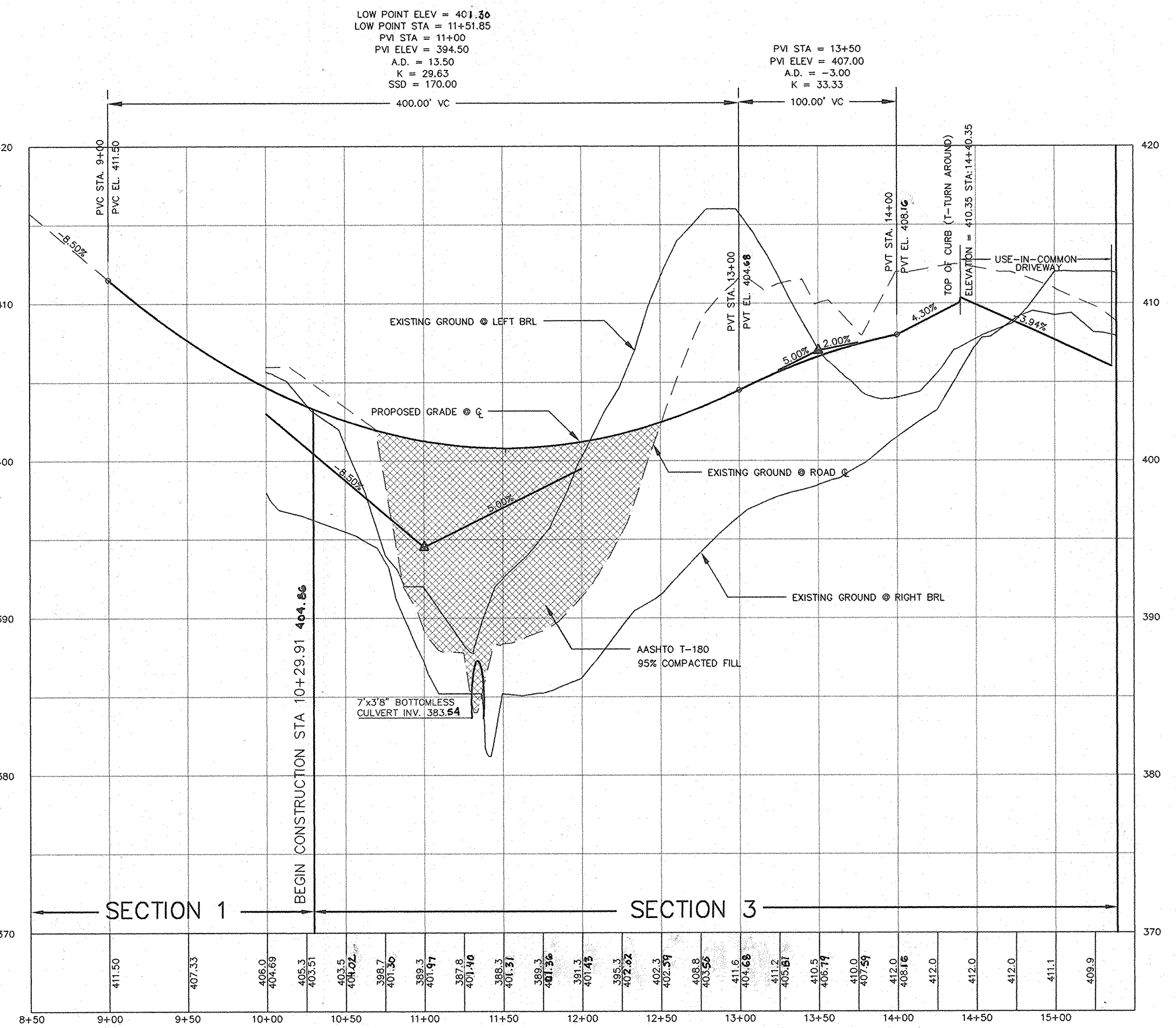
CURVE TABLE						
CURVE (ft)	LENGTH (ft)	RADIUS (ft)	TANGENT (ft)	CHORD (ft)	DIRECTION	DELTA
C1	175.64	120.00	107.78	160.37	S50°16'16"W	83°51'38"
C2	117.09	80.00	71.88	106.92	S50°16'16"W	83°51'38"

- LEGEND**
- DENOTES WETLANDS
  - PUBLIC 100 YEAR FLOODPLAIN EASEMENT
  - FOREST CONSERVATION EASEMENT (RETENTION)
  - FOREST CONSERVATION EASEMENT (REFORESTATION)
  - PRIVATE USE-IN-COMMON DRIVEWAY EASMENT
  - PRIVATE DRAINAGE & UTILITY EASEMENT
  - 10' PUBLIC TREE MAINTENANCE EASEMENT
  - PUBLIC SEWER, WATER, DRAINAGE & UTILITY EASEMENT
  - DENOTES 4' CONCRETE SIDEWALK
  - EXISTING PAVEMENT & CURB AND GUTTER TO BE REMOVED



**TYPICAL ROADWAY SECTION**  
CLASSIFICATION: ACCESS PLACE  
DESIGN SPEED: 25 MPH  
STONECREST DRIVE  
SECTION NOT TO SCALE

**PAVING SECTION - P2**  
SECTION NOT TO SCALE

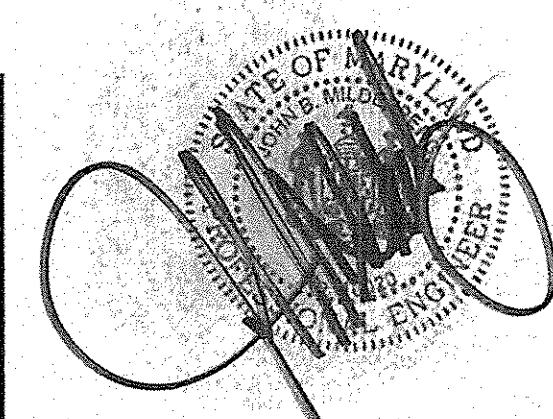


**STONECREST DRIVE**  
SCALE: HOR: 1"=50'  
VER: 1"=5'  
CLASSIFICATION: ACCESS PLACE (PUBLIC)  
DESIGN SPEED: 25 MPH

**OWNERS**  
MID-ATLANTIC LAND SERVICES, INC.  
5300 DORSEY HALL DRIVE  
ELLCOTT CITY, MD 21042  
  
STONE MANOR III, LLC  
5300 DORSEY HALL DR  
ELLCOTT CITY, MD 21042

H:\03-028\dwg\FINAL RD-CONSTRUCTION.dwg

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*William J. White* 6-26-06  
CHIEF BUREAU OF HIGHWAYS  
  
APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Candy Hamt* 6/29/06  
CHIEF, DIVISION OF LAND DEVELOPMENT  
  
DEVELOPMENT ENGINEERING DIVISION



R. JACOB HIKMAT, PE #17942  
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



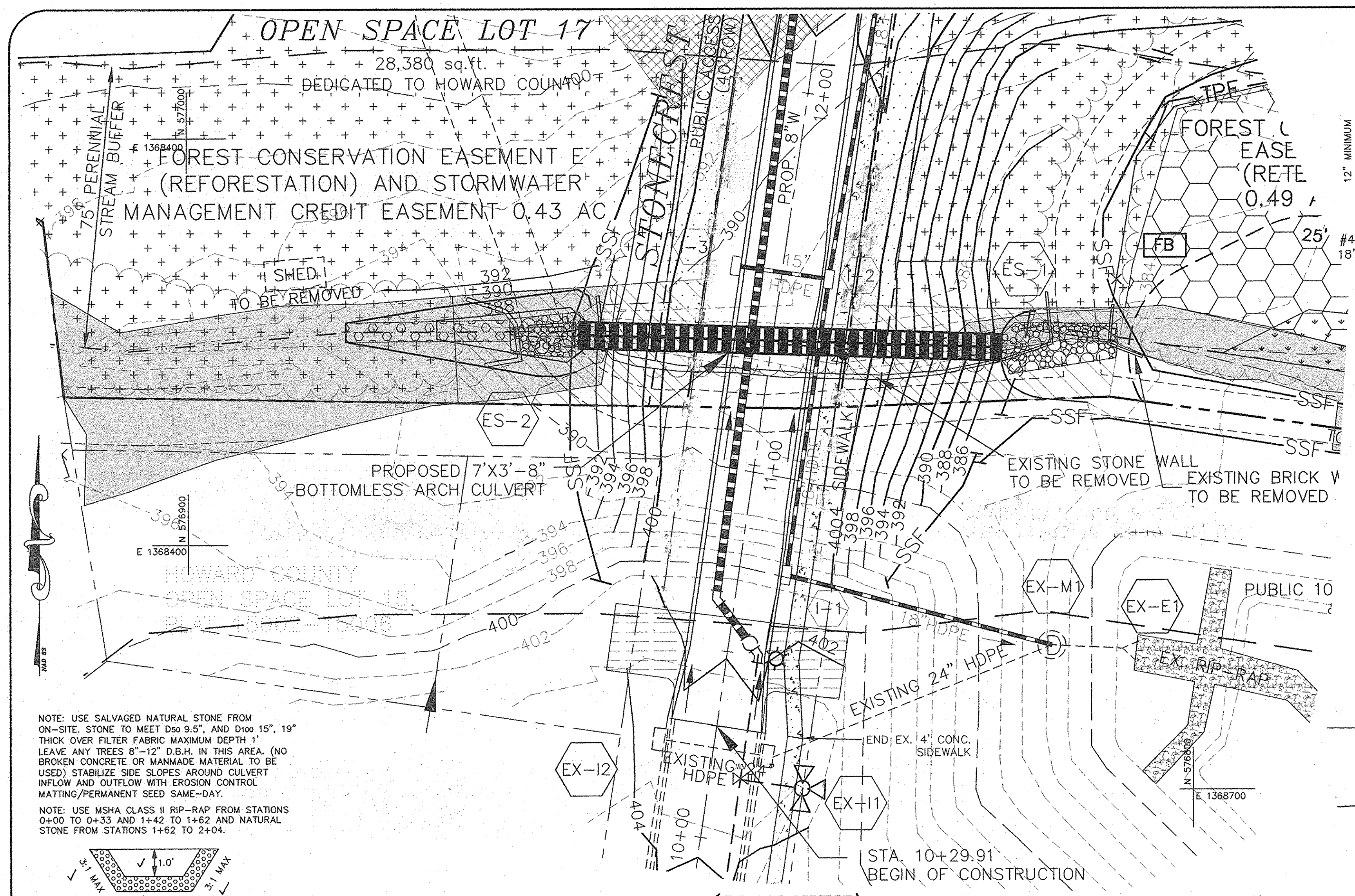
Project	date	scale	approval
03-028	APR 2006	DIF	NTS
Illustration	engineering	DIF	approval

1	6/29/06	description	revisions

**AS-BUILT**  
**STONE MANOR SECTION 3**  
LOTS 1-15 & OPEN SPACE LOTS 16-18  
TAX MAP 25, GRID 19, PARCELS 68 & 69  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
ROAD PLANS, PROFILES AND TYPICAL SECTIONS

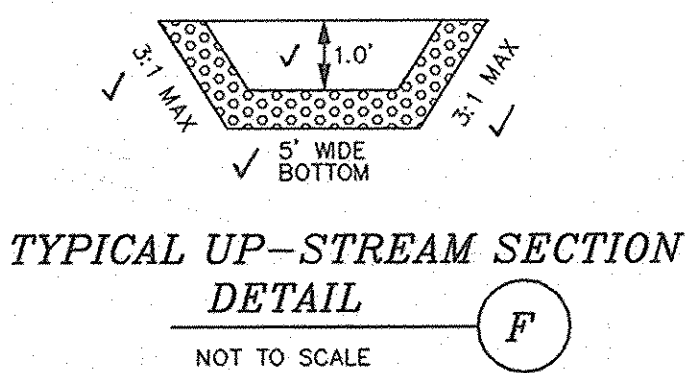
**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland, 21042  
(410) 997-0296 Fax: (301) 621-5521 Wash. (410) 997-0298 Fax





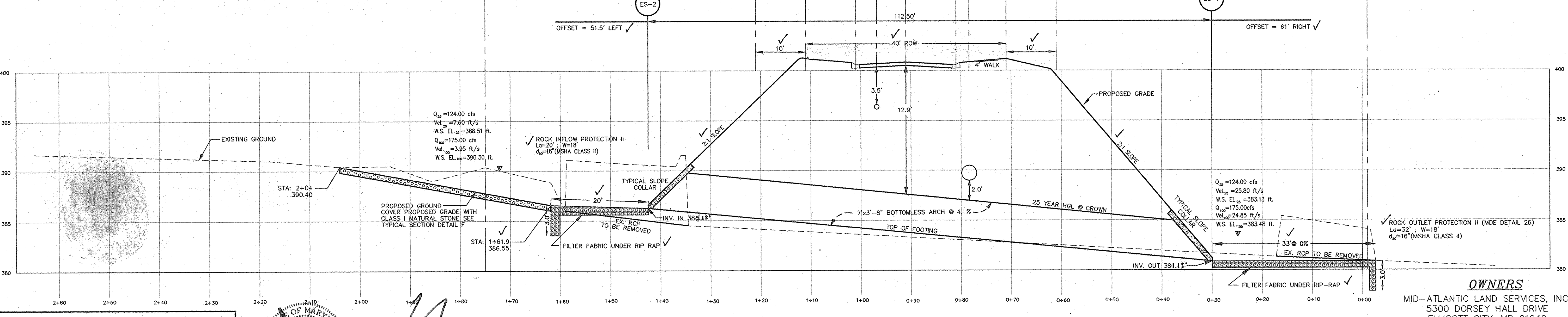
NOTE: USE SALVAGED NATURAL STONE FROM ON-SITE. STONE TO MEET D<sub>50</sub> 9.5", AND D<sub>100</sub> 15", 19" THICK OVER FILTER FABRIC MAXIMUM DEPTH 1' LEAVE ANY TREES 8"-12" D.B.H. IN THIS AREA (NO BROKEN CONCRETE OR MANMADE MATERIAL TO BE USED) STABILIZE SIDE SLOPES AROUND CULVERT INFLOW AND OUTFLOW WITH EROSION CONTROL MATTING/PERMANENT SEED SAME-DAY.

NOTE: USE MSHA CLASS II RIP-RAP FROM STATIONS 0+00 TO 0+33 AND 1+42 TO 1+62 AND NATURAL STONE FROM STATIONS 1+62 TO 2+04.



**STONECREST DRIVE (PLAN VIEW)**  
PUBLIC ACCESS PLACE (40' ROW)  
DESIGN SPEED: 25 MPH  
SCALE: 1"=20'

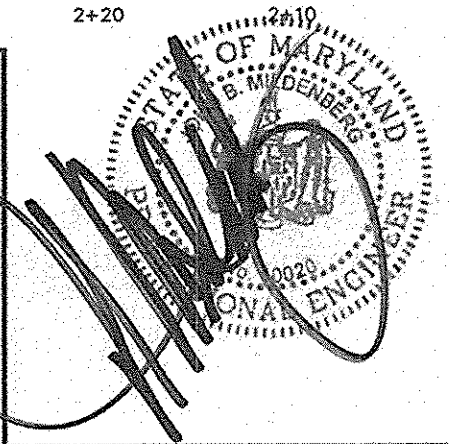
**NOTE:**  
CONTRACTOR TO VERIFY BEARING CAPACITY OF 3500 PSF. BY GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION OF 7'x3'-8" BOTTOMLESS ARCH CULVERT/ HEADWALL SYSTEM.



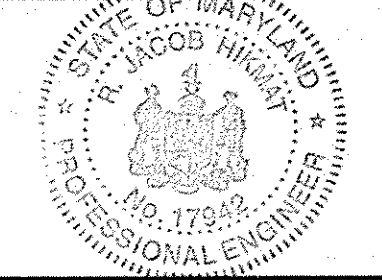
APPROVED: DEPARTMENT OF PUBLIC WORKS  
M. J. ... 6-26-06  
CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
Cindy ... 6/29/06  
CHIEF, DIVISION OF LAND DEVELOPMENT

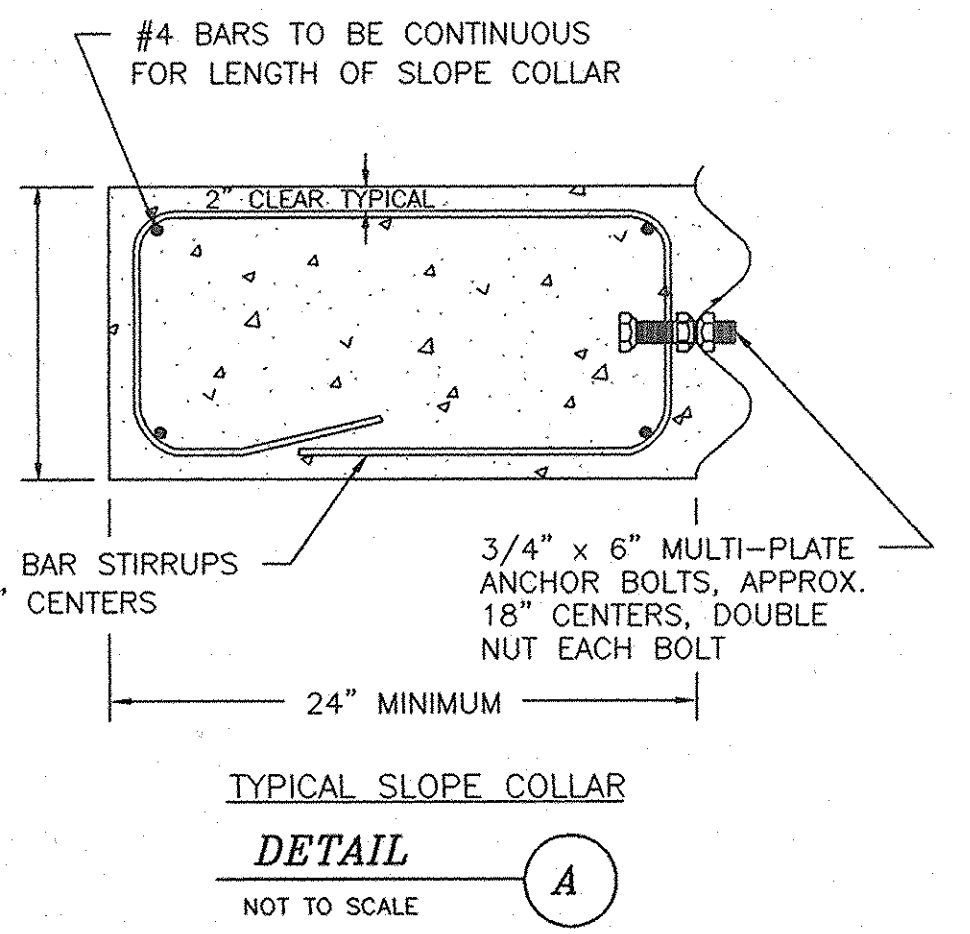
APPROVED: DEPARTMENT OF PUBLIC WORKS  
R. JACOB ... 6/29/06  
CHIEF, DEVELOPMENT ENGINEERING DIVISION



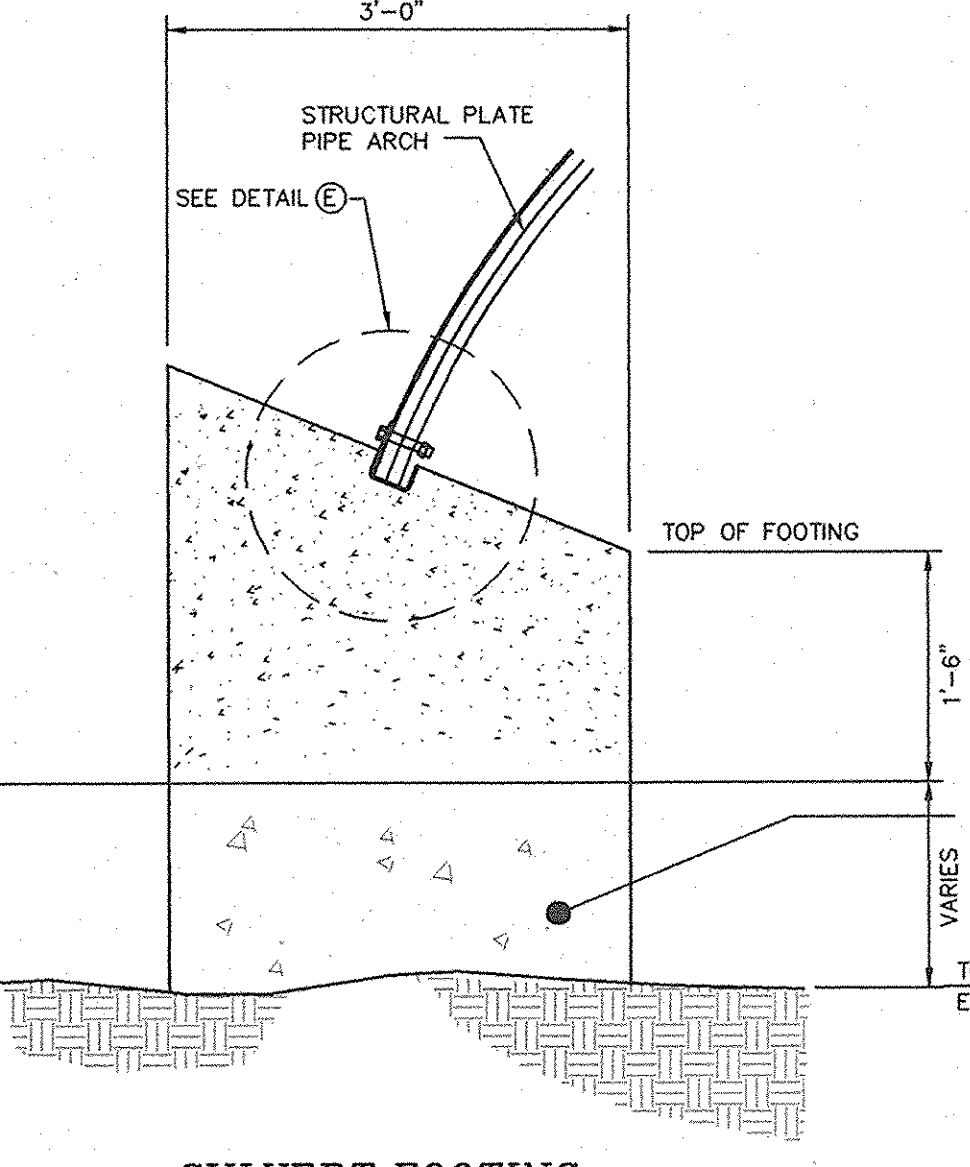
I HEREBY CERTIFY, BY MY SEAL, THAT THE FACILITIES SHOWN ON THIS PLAN WERE CONSTRUCTED AS SHOWN ON THIS AS-BUILT PLAN AND MET THE APPROVED PLANS AND SPECIFICATIONS.



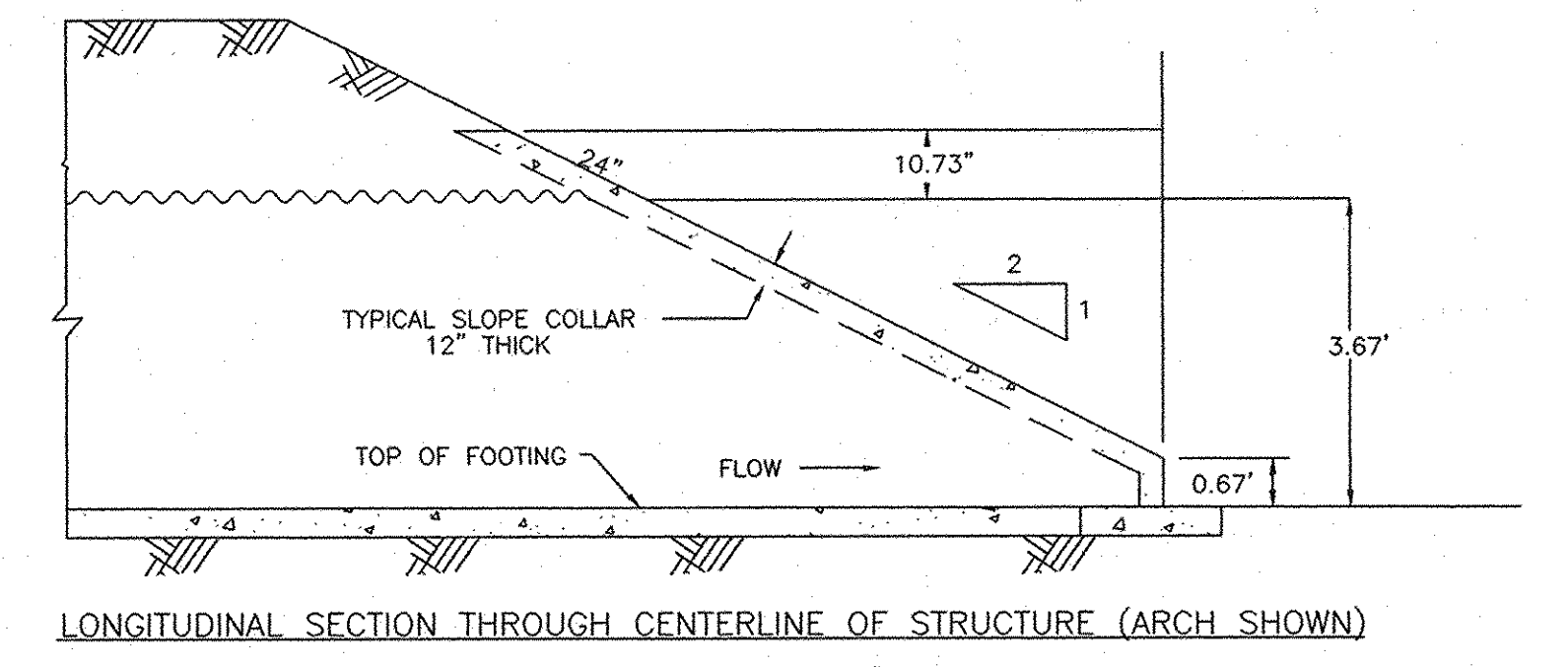
HORIZONTAL SCALE: 1" = 10'  
VERTICAL SCALE: 1" = 5'



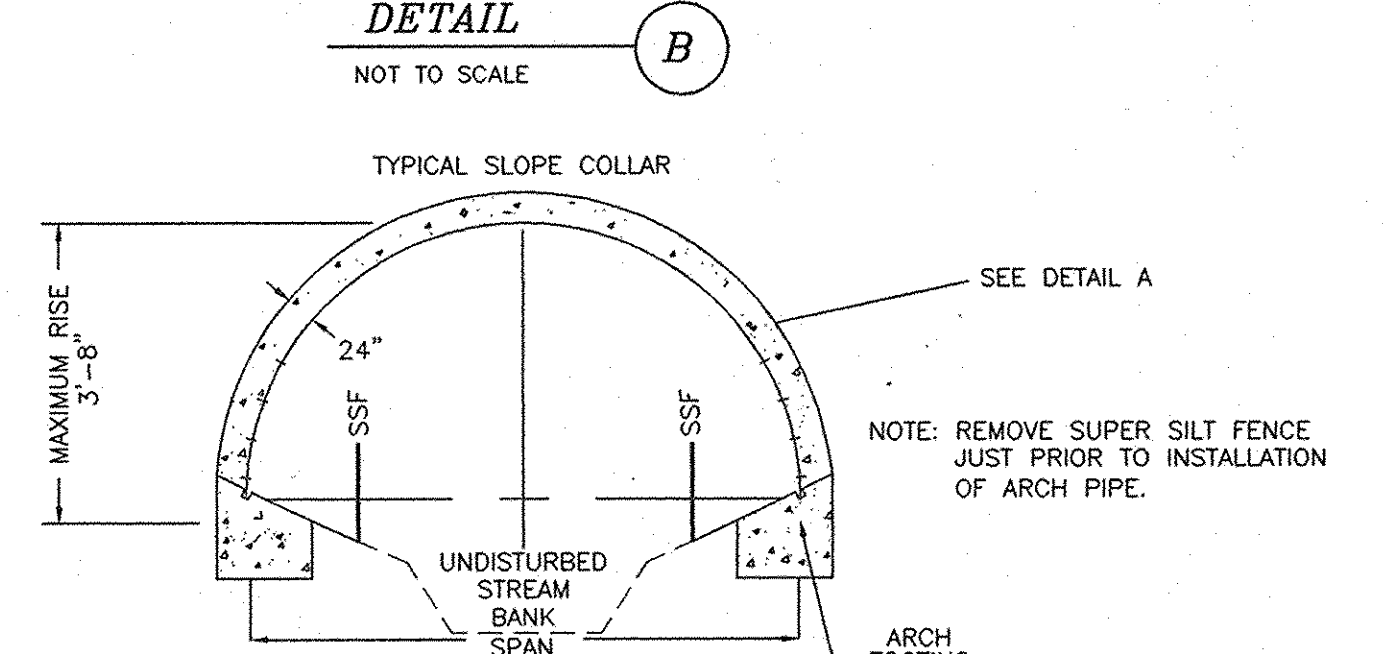
**TYPICAL SLOPE COLLAR DETAIL (A)**  
NOT TO SCALE



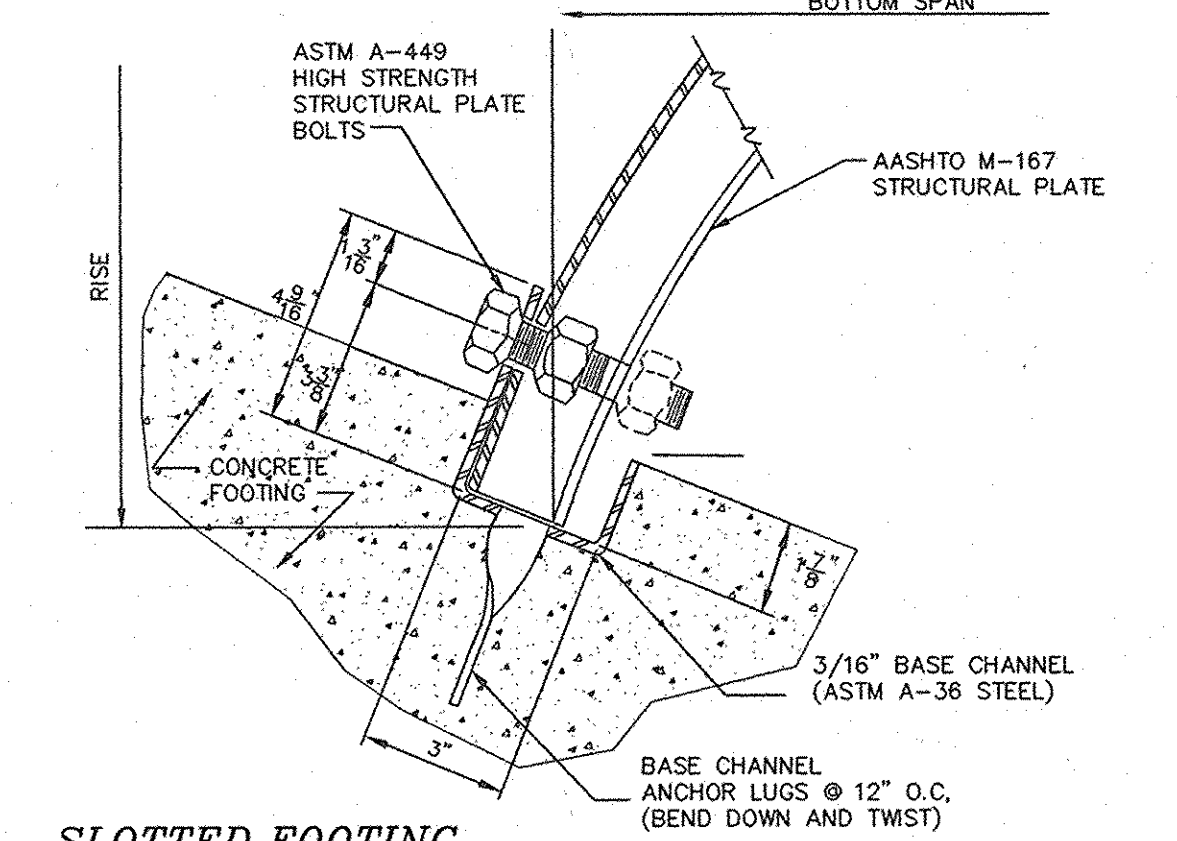
**CULVERT FOOTING DETAIL (D)**  
NOT TO SCALE



**LONGITUDINAL SECTION THROUGH CENTERLINE OF STRUCTURE (ARCH SHOWN)**



**TYPICAL ARCH CROSS SECTION ELEVATION OF END TREATMENT (C)**  
NOT TO SCALE



**SLOTTED FOOTING DETAIL (E)**  
NOT TO SCALE

date	APR 2006	approval	AS SHOWN
project	03-028	DWF	
illustration	DWF	scale	

revision	description	date
1	RENAME GUARDRAIL	

AS-BUILT  
**STONE MANOR SECTION 3**  
LOTS 1-15 & OPEN SPACE LOTS 16-18  
TAX MAP 25, GRID 19, PARCELS 68 & 69  
SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
CULVERT PROFILES AND DETAILS

**MILDENBERG, BOENDER & ASSOC., INC.**  
Engineers Planners Surveyors  
5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
(410) 997-0296 Fax: (301) 621-5521

**OWNERS**  
MID-ATLANTIC LAND SERVICES, INC.  
5300 DORSEY HALL DRIVE  
ELlicOTT CITY, MD 21042

STONE MANOR III, LLC  
5300 DORSEY HALL DR  
ELlicOTT CITY, MD 21042



H:\03-028\Map\FINAL RD-CONSTRUCTION.dwg

THESE PLANS FOR EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.

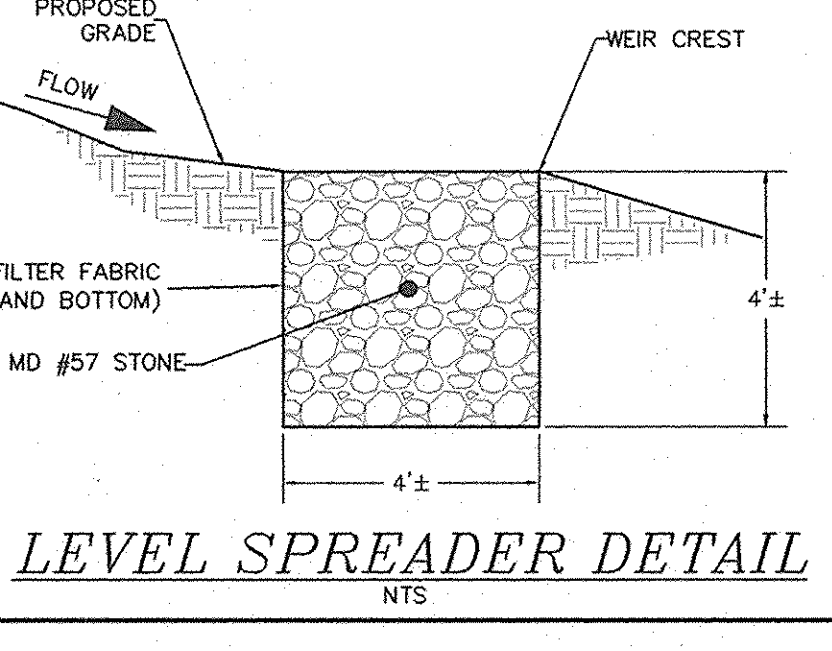
APPROVED: DEPARTMENT OF PUBLIC WORKS  
 DATE: 6/22/06

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 DATE: 6/29/06

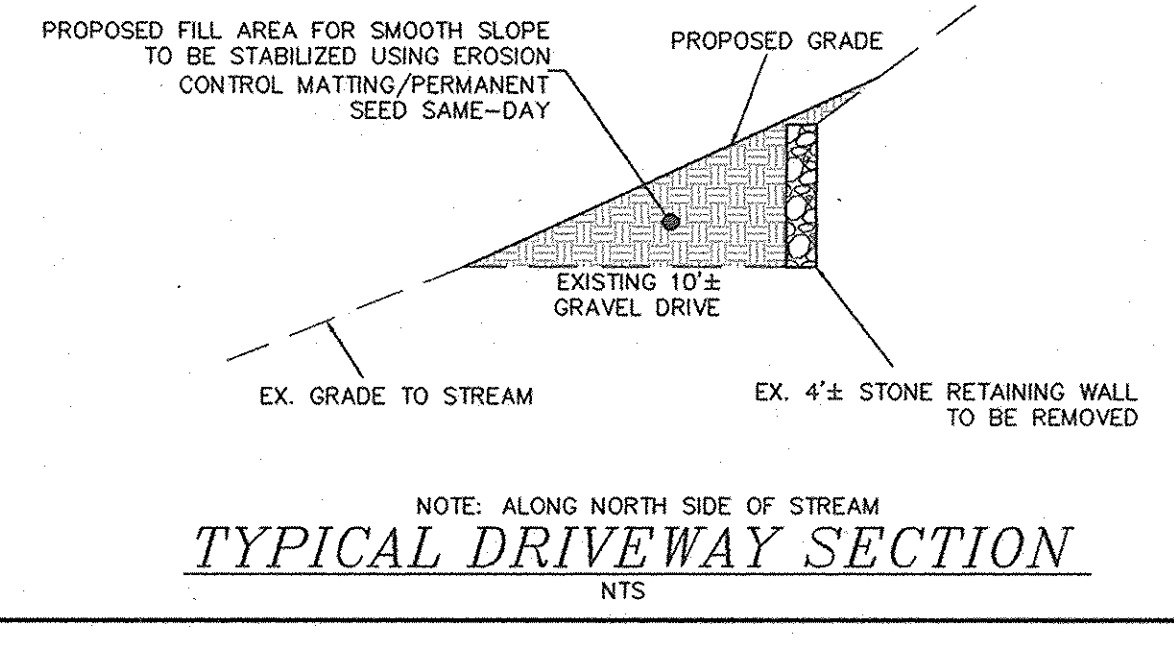
APPROVED: CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/28/06

**SOILS CLASSIFICATION:**  
 BRB2 BRANDYWINE LOAM 3-8 PERCENT SLOPES, MODERATELY ERODED (C)  
 BRD3 BRANDYWINE LOAM 15-25 PERCENT SLOPES, SEVERELY ERODED (C)  
 WaA WATCHING SILT LOAM, 0-3 PERCENT SLOPES (D)  
 BRF BRANDYWINE LOAM 25-60 PERCENT SLOPES (C)

R. JACOB HUNAT, PE #11942  
 THERE IS NO AS-BUILT INFORMATION PROVIDED ON THIS SHEET.



**NOTES:**  
 THE TOP OF THE STONE ELEVATION FOR EACH DEVICE SHALL BE LEVEL FOR ITS ENTIRE LENGTH.  
 THE LOW SIDE OF THE DEVICE SHALL TYPICALLY BE INSTALLED AT THE LIMITS OF THE LOT.  
 IF THE DRAINAGE AREA ABOVE THE SPREADER IS NOT STABILIZED AND WITH THE PERMISSION OF THE INSPECTOR, FILTER FABRIC MAY BE EXTENDED FROM THE IN FLOW SIDE AND LAID OVER THE TOP OF THE DEVICE UNTIL THE DRAINAGE AREA IS STABILIZED.



NOTE: ALONG NORTH SIDE OF STREAM  
**TYPICAL DRIVEWAY SECTION**  
 NTS

**OWNERS**  
 MID-ATLANTIC LAND SERVICES, INC.  
 5300 DORSEY HALL DRIVE  
 ELLICOTT CITY, MD 21042

STONE MANOR III, LLC  
 5300 DORSEY HALL DR  
 ELLICOTT CITY, MD 21042



- LEGEND**
- DENOTES WETLANDS
  - 100 YR FLOODPLAIN EASEMENT
  - FOREST CONSERVATION EASEMENT (RETENTION)
  - FOREST CONSERVATION EASEMENT (REFORESTATION)
  - PRIVATE USE-IN-COMMON DRIVEWAY EASEMENT
  - PRIVATE DRAINAGE & UTILITY EASEMENT
  - 10' PUBLIC TREE MAINTENANCE EASEMENT
  - AREA OF ROAD DEDICATION
  - PUBLIC SEWER, WATER, DRAINAGE & UTILITY EASEMENT
  - 25% SLOPES OR GREATER
  - DENOTES 4' CONCRETE SIDEWALK
  - DENOTES LIMITS OF DISTURBANCE
  - EXISTING PAVEMENT & CURB AND GUTTER TO BE REMOVED
  - STABILIZED CONSTRUCTION ENTRANCE
  - SUPER SILT FENCE
  - EROSION CONTROL MATTING

- SEQUENCE OF CONSTRUCTION**
1. OBTAIN GRADING AND M.D.E. PERMIT (1 DAY)
  2. CONSTRUCT STABILIZED CONSTRUCTION ENTRANCE (1 DAY)
  3. ACCESS TO EXISTING HOUSE ON LOT 14 SHALL BE MAINTAINED AT ALL TIMES.
  4. CONSTRUCT TRAP #1 AND #2, SUPER SILT FENCES, PERIMETER EARTH DIKES TO TRAP #2 AND EARTH DIKE WEST OF TRAP #1 (5 DAYS)
  5. CONSTRUCT STREAM DIVERSION FOR BOTTOMLESS ARCH (WMA 4.2.a). DURING THIS PHASE, SITE SHALL BE ACCESSED BY EXISTING DRIVEWAY AT EITHER END OF PROPOSED CULVERT. MASS GRADING OVER PROJECT SITE MAYBE PERFORMED CONCURRENTLY WITH CULVERT CONSTRUCTION (30 DAYS)
  6. STREAM DIVERSION MAYBE CONSTRUCTED IN TWO PHASES, WORKING FROM THE BOTTOM OF THE STREAM UP. INSTALL FILTER BAGS AND FLEXIBLE DIVERSION PIPE WHICH MAYBE RELOCATED FROM ONE SIDE OF STREAM TO THE OTHER AS CONSTRUCTION CONTINUES.
    - A. INSTALL DIVERSION PIPE AND SAND BAGS FROM LOWER LIMITS OF THE LOT TO THE UPPER LIMITS WITHIN THE STREAM GOING AROUND EXISTING CULVERTS AS REQUIRED, WITH PERMISSION FROM INSPECTOR TO BE RECEIVED BEFORE PROCEEDING.
    - B. REMOVE EXISTING BOX CULVERT (100± EAST OF MR-1), METAL CULVERT PIPE (SOUTH OF LOT 15), AND STONE WALLS ADJACENT TO STREAM (NORTH OF EXISTING DRIVE), GRADE BACK DISTURBED BANKS AT A SLOPE EQUAL TO ADJACENT EMBANKMENT SLOPE WHERE EXISTING DOWNSTREAM STRUCTURES ARE BEING REMOVED.
    - C. INSTALL SUPER SILT FENCE AT TOP OF STREAM BANK PER DETAIL "C" ON SHEET 3.
    - D. INSTALL ARCH CULVERT FOOTING TO WEATHERED ROCK. DIVERSION PIPE MAYBE LOCATED BETWEEN FOOTINGS.
    - E. INSTALL ARCH CULVERT AND BACKFILL AND AROUND CULVERT. (GEOTECHNICAL ENGINEER SHALL BE PRESENT DURING FOOTING INSTALLATION AND BACKFILL PROCESS).
    - F. INSTALL CONCRETE ARCH COLLARS AND RIP-RAP INLET AND OUTLET PROTECTION. ADD SUPER SILT FENCE AROUND EACH END OF ES-1 AND ES-2. FINE GRADE AND STABILIZE STREAM EMBANKMENTS. RIP-RAP SHALL BE INSTALLED WITH A LOW FLOW CHANNEL PER DETAIL "F" ON SHEET 3.
    - G. WITH INSPECTOR'S APPROVAL, REMOVE SAND BAGS, FILTER BAGS AND DIVERSION PIPES.
  7. WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, CONSTRUCT STORM DRAIN SYSTEM AND UTILITIES. DELAY CONSTRUCTION OF STORM DRAIN SYSTEM FROM 1-6 TO 1-7 UNTIL CONVERSION OF TRAP #2. UPON COMPLETION OF MASS GRADES, INSTALL EARTH DIKES NORTH OF TRAP #1. PROVIDE INLET PROTECTION TO ALL INLETS UPON INSTALLATION (60 DAYS)
  8. WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT TRAP #2 HAVE BEEN STABILIZED, AND WITH PERMISSION OF SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT TRAP #2, INSTALL 16 AND 17 AND STABILIZE REMAINING AREA (7 DAYS)
  9. CONSTRUCT PAVEMENT, CURB AND GUTTER, AND STORM DRAIN AS INDICATED. ONCE BASE COURSE OF STONECREST DRIVE IS COMPLETE, CONSTRUCT DRIVEWAY FROM LOT 14 TO STONECREST DRIVE (10 DAYS)
  10. WHEN ALL CONTRIBUTING DRAINAGE AREAS TO SEDIMENT CONTROL DEVICES HAVE BEEN STABILIZED, CONTRACTOR SHALL CLEAN THE EXISTING POND OF SEDIMENT ATTRIBUTED BY THIS PLAN AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES AND STABILIZE REMAINING DISTURBED AREAS (5 DAYS)

- NOTES:**
1. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
    - A. 7 CALENDAR DAYS FOR ALL FETTER SLOPES AND ALL SLOPES GREATER THAN 3:1.
    - B. 14 CALENDAR DAYS FOR ALL OTHER DISTURBED AREAS ON THE SITE.
  2. NOTE: CLASS 1 STREAM MUST NOT BE DISTURBED BETWEEN MARCH 1 AND JUNE 15, (1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL H-29-2)
  3. WHEN INSTALLING RIP-RAP CHANNEL IN STREAM ADJUST CHANNEL WHERE POSSIBLE TO SAVE ANY TREES 8" DBH OR GREATER.

**AS-BUILT**

**STONE MANOR SECTION 3**  
 LOTS 1-15 & OPEN SPACE LOTS 16-18  
 TAX MAP 25, GRID 19, PARCELS 68 & 69  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND

**GRADING, EROSION AND SEDIMENT CONTROL PLAN**

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Fax: (410) 997-0288 Fax

Project: 03-028 Illustration: DJF  
 Date: APR 2006  
 Scale: 1"=50'  
 Description: REVISIONS

4 OF 8  
 F-06-36



HOWARD SOIL CONSERVATION DISTRICT

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREAS NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

TEMPORARY SEEDING NOTES

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

STANDARD SEDIMENT CONTROL NOTES

- 1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION...

TEMPORARY DUST CONTROL MEASURES

- 1. MULCHES - SEE STANDARDS FOR VEGETATIVE STABILIZATION WITH MULCHES ONLY. MULCH SHOULD BE CRIMPED OR TACKED TO PREVENT BLOWING.

BY THE DEVELOPER:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM...

DATE: 6/15/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION: PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION.

CONDICTIONS WHERE PRACTICE APPLIES: THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE: a. THE EXTENT OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH...

CONSTRUCTION AND MATERIAL SPECIFICATIONS: TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS.

TOPSOIL APPLICATION: WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

REVISIONS: GUBLINE SPECIFICATIONS, SOIL PREPARATION AND SEEDING. MD-VIA, PLS. JR., COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTES, REVISED 1973.

EROSION CONTROL MATTING

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel construction.

CONSTRUCTION SPECIFICATIONS

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel construction.

RIP-RAP OUTLET SEDIMENT TRAP - ST III

6. Filter cloth shall be placed over the bottom and sides of the outlet channel prior to placement of stone. Section of fabric must overlap at least 1' with section nearest the entrance placed on top. Fabric shall be embedded at least 6" into existing ground at entrance of outlet channel.

11. The structure shall be inspected periodically after each rain and repaired as needed.

12. Construction of traps shall be carried out in such a manner that sediment produced is abated. Once constructed, the top and outside face of the structure shall be stabilized with seed and straw or straw mulch.

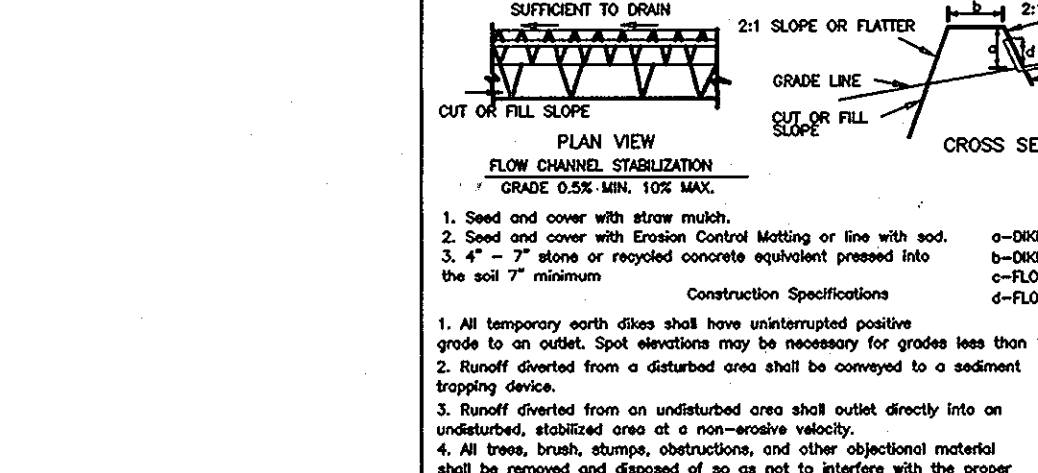
13. The structure shall be destroyed by approved methods, removed and the area stabilized when the drainage area is no longer stabilized.

DATE: 6/22/06

DATE: 6/22/06

DATE: 6/22/06

DETAIL 1 - EARTH DIKE



1. All temporary earth dikes shall have unimpaired positive grade on crest. Spot elevations may be necessary for grades less than 1%.

2. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

3. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other impediments from its top and bottom.

4. All fill shall be compacted by other means.

5. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

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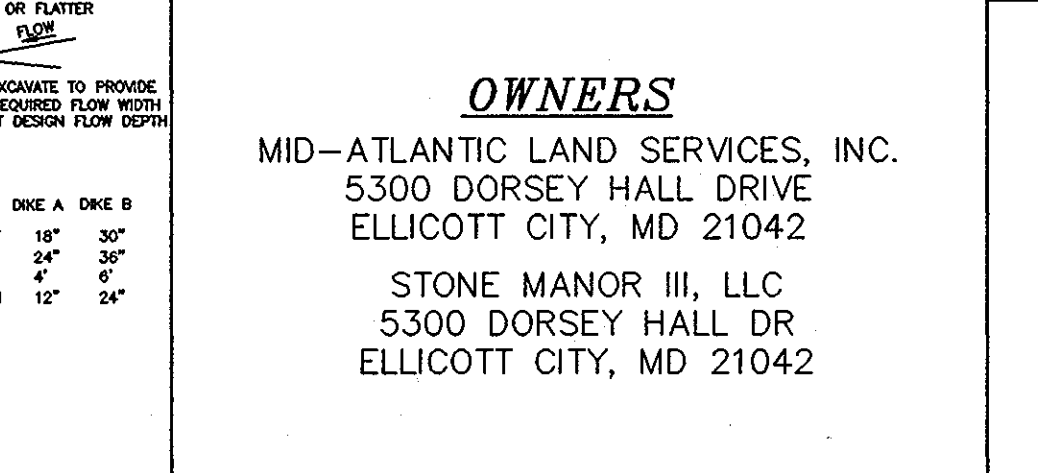
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29. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.

DETAIL 23B - AT GRADE INLET PROTECTION



1. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24\"/>

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MARYLAND'S GUIDELINES TO WATERWAY CONSTRUCTION

1. DESCRIPTION: THE WORK SHALL CONSIST OF INSTALLING EROSION CONTROL DEVICES IN AND ADJACENT TO THE CONSTRUCTION OF UTILITY CROSSING.

2. INSTALLATION GUIDELINES: ALL EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING DOWNSLOPE BASINS, SHOULD BE INSTALLED AS THE FIRST ORDER OF BUSINESS ACCORDING TO A PLAN APPROVED BY THE WMA OR LOCAL AUTHORITY.

3. MAINTENANCE: PERIODIC INSPECTION SHOULD BE PERFORMED BY THE USER TO ENSURE THAT THE BRIDGE, STREAMBED, AND STREAM BANKS ARE MAINTAINED AND NOT DAMAGED.

4. ALL DECORATIVE MEMBERS SHOULD BE PLACED PERPENDICULAR TO THE STRUNGERS, BUTTED TIGHTLY, AND SECURELY FASTENED TO THE STRUNGERS.

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OWNERS

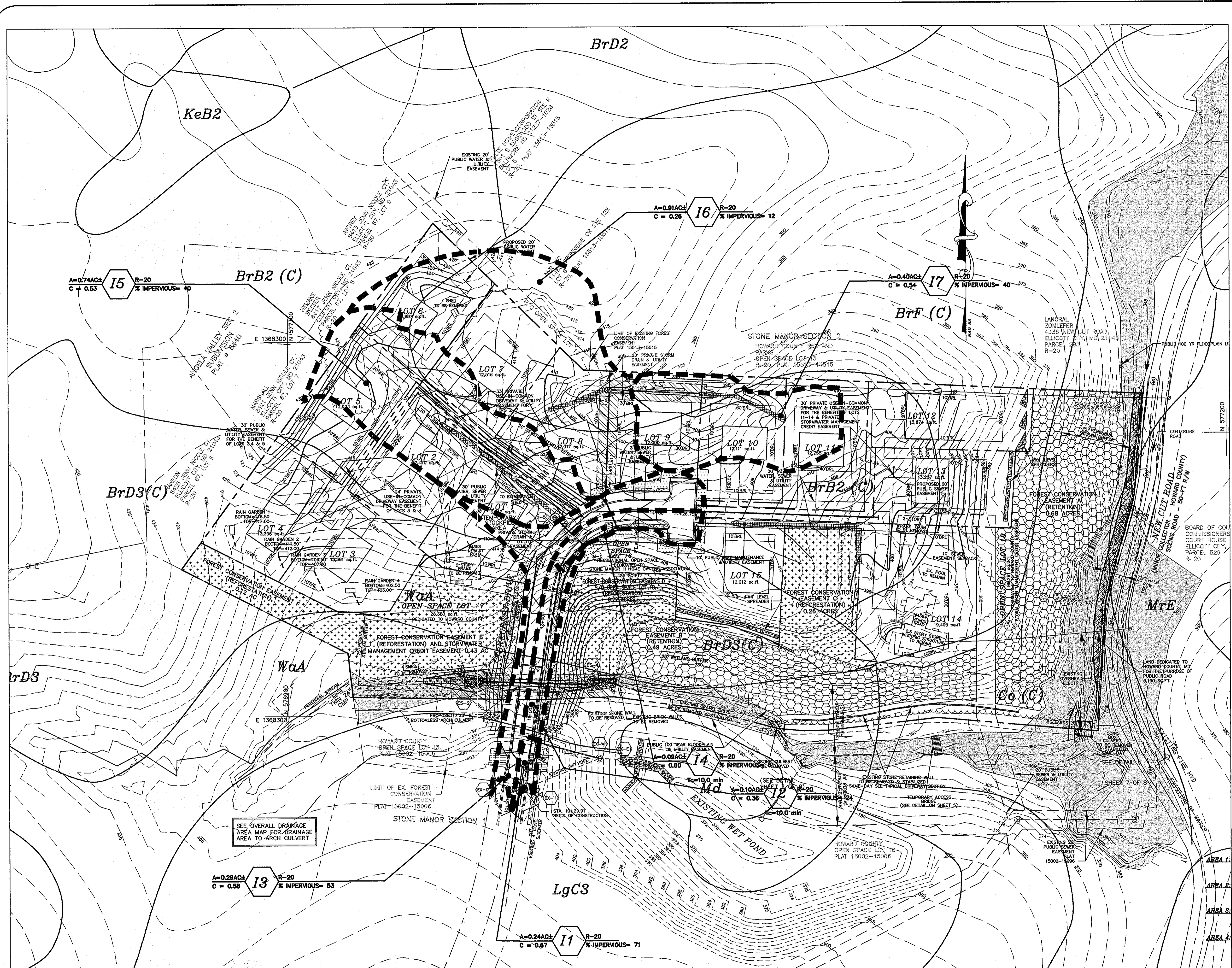
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STONE MANOR III, LLC 5300 DORSEY HALL DR ELLICOTT CITY, MD 21042

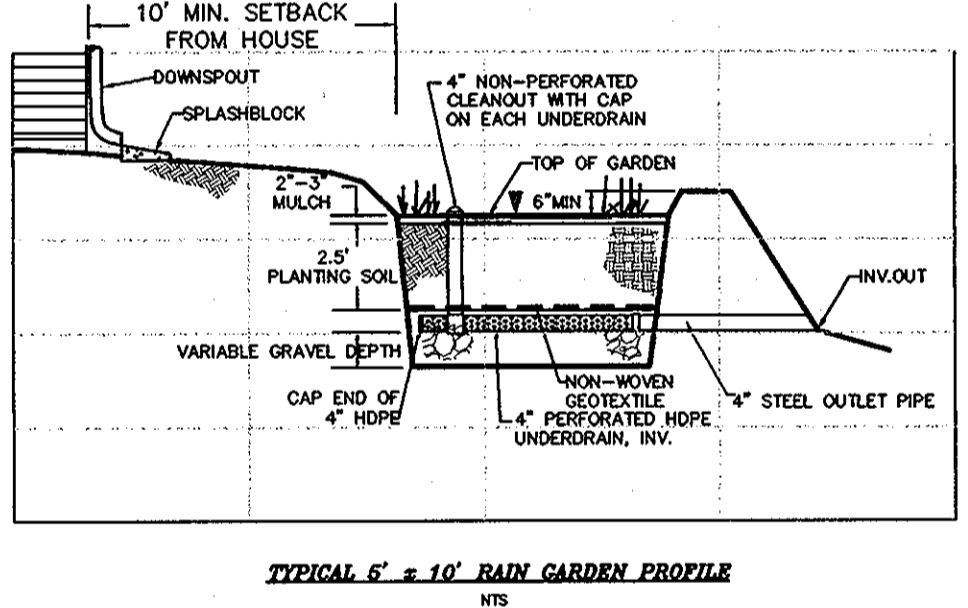
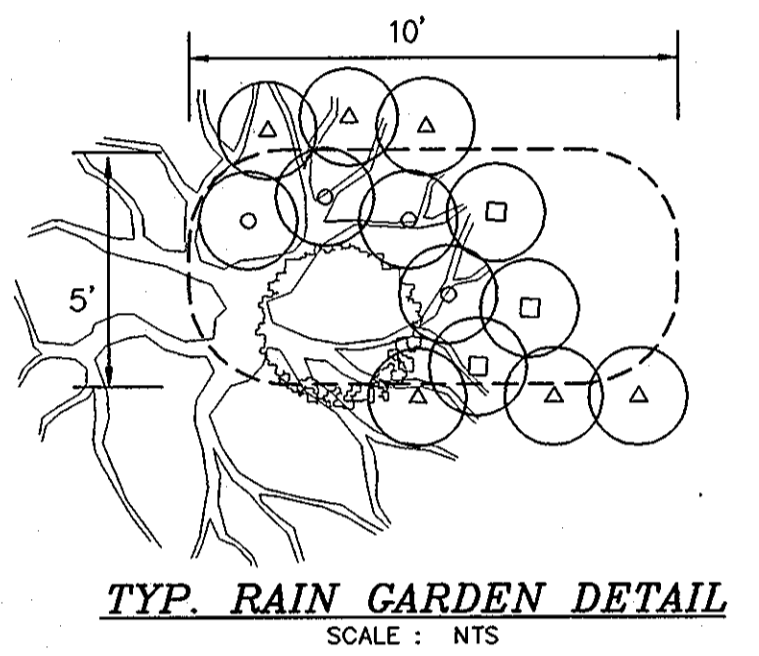
AS-BUILT STONE MANOR SECTION 3 LOTS 1-15 & OPEN SPACE LOTS 16-18 TAX MAP 25, GRID 19, PARCELS 68 & 69 HOWARD COUNTY, MARYLAND SECOND ELECTION DISTRICTS

MILDENBERG, BOENDER & ASSOC., INC. Planners Surveyors Engineers 5072 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042 (410) 997-0296 Fax: (301) 621-5521





- LEGEND**
- DENOTES WETLANDS
  - 100 YR FLOODPLAIN EASEMENT
  - FOREST CONSERVATION EASEMENT (RETENTION)
  - FOREST CONSERVATION EASEMENT (REFORESTATION)
  - PRIVATE USE-IN-COMMON DRIVEWAY EASEMENT
  - 25% SLOPES OR GREATER
  - PUBLIC TREE MAINTENANCE EASEMENT
  - AREA OF ROAD DEDICATION
  - DENOTES AREA OF 15%-24.99% SLOPES
  - DENOTES 4' CONCRETE SIDEWALK
  - PRIVATE DRAINAGE & UTILITY EASEMENT
  - PUBLIC SEWER, WATER, DRAINAGE & UTILITY EASEMENT
  - EXISTING PAVEMENT & CURB AND GUTTER TO BE REMOVED
  - DENOTES PROPOSED PAVED AREAS



**PLANT LIST**

QUANTITY	SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE
1		PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2-1/2" - 3" CAL.
1		ILEX GLABRA	INK BERRY	2' - 3' HT.
6		LOBELIA SIPHILITICA	GREAT BLUE LOBELIA	1 GAL. CONTAINER
4		ONOCLEA SENSIBILIS	SENSITIVE FERN	1 GAL. CONTAINER
3		ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER	1 GAL. CONTAINER

TOTAL: 13 PERENNIALS, 1 SHRUB, 1 TREE (PER EACH RAIN GARDEN)

**STORMWATER MANAGEMENT SUMMARY**

WV (3,920 cfs) IS PROVIDED FOR IN THE EXISTING WET POND. Cpv 2 AND 10-YEAR MANAGEMENT IS PROVIDED FOR WITHIN THE EXISTING POND.

WV AND RW IS PROVIDED BY GRASS CHANNEL CREDIT AND SHEET FLOW TO BUFFER. Cpv IS NOT REQUIRED DUE TO THE FLOW BEING LESS THAN 2 cfs.

WV AND RW IS PROVIDED BY SHEET FLOW TO BUFFER CREDIT. Cpv IS NOT REQUIRED DUE TO FLOW LESS THAN 2 cfs.

WV AND RW IS TREATED BY ROOFTOP DISCONNECTORS (RAIN GARDENS). Cpv IS NOT REQUIRED DUE TO THE FLOW BEING LESS THAN 2 cfs.

**STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE**  
**PUBLIC FACILITY**

**PUBLIC ROUTINE MAINTENANCE**

- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHOULD BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
- TOP AND SIDE SLOPES OF THE DRAINAGE SHALL BE MOWED WITH A MOWER OF TWO (2) TIMES A YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES, THE BOTTOM OF THE POND, AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
- DEBRIS AND LITTER NEXT TO THE OUTLET STRUCTURE SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
- VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS RIP-RAP OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NEEDED.

**PUBLIC NON-ROUTINE MAINTENANCE**

- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, Riser STRUCTURE AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHOULD BE INSPECTED DURING MAINTENANCE OPERATIONS.
- SEDIMENT SHOULD BE REMOVED WITH ITS ACCUMULATION SIGNIFICANTLY REDUCES THE DESIGN STORAGE CAPACITY WITHIN THE FUNCTION OF THE POND. WHEN REMOVAL IS NECESSARY FOR AESTHETIC REASONS, OR WHEN CREDIT NECESSARY BY HOWARD COUNTY'S DEPARTMENT OF PUBLIC WORKS.

**OPERATION AND MAINTENANCE SCHEDULE FOR RAIN GARDENS**

- ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING WEAR OR EROSION OR WASH OUT. ANY MULCH REMOVAL SHALL BE DONE IN A MANNER THAT DOES NOT DISTURB THE SOIL. MULCH AND SOIL SHOULD BE REPLACED AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING, AS NEEDED.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED PLANTS, OVERCROWDED PLANTS, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFUNCT STAKES AND WIRES.
- WATER SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

**SOILS CLASSIFICATION:**

BrB2 BRANDYWINE LOAM 3-8 PERCENT SLOPES, MODERATELY ERODED (C)  
 BrD3 BRANDYWINE LOAM 15-25 PERCENT SLOPES, SEVERELY ERODED (C)  
 Waa WATCHING SILT LOAM, 0-5 PERCENT SLOPES (D)  
 LgC3 BRANDYWINE LOAM 25-60 PERCENT SLOPES (C)

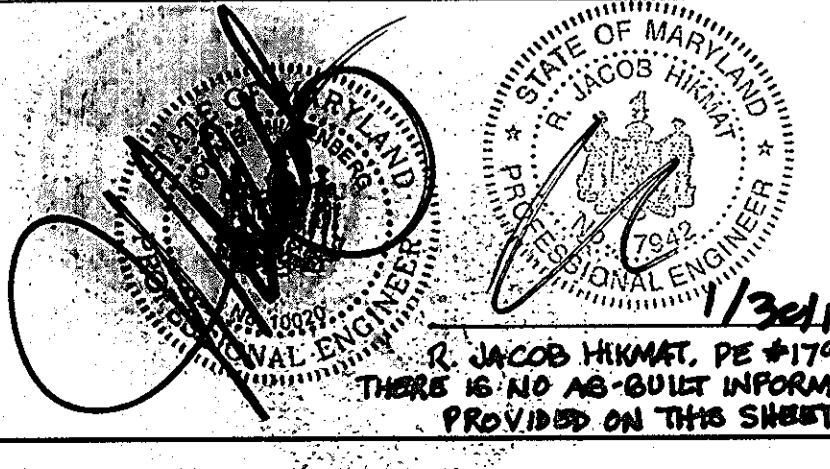
**OWNERS**  
 MID-ATLANTIC LAND SERVICES, INC.  
 5300 DORSEY HALL DRIVE  
 ELLICOTT CITY, MD 21042

STONE MANOR III, LLC  
 5300 DORSEY HALL DR  
 ELLICOTT CITY, MD 21042

APPROVED: DEPARTMENT OF PUBLIC WORKS  
*William F. Mahaffey* 6-26-06  
 CHIEF BUREAU OF HIGHWAYS

APPROVED: DEPARTMENT OF PLANNING AND ZONING  
*Chadwick R. ...* 6/23/06  
 CHIEF, DIVISION OF LAND DEVELOPMENT

CHIEF, DEVELOPMENT ENGINEERING DIVISION



FILE: 103-028 (Ving) FINAL RD-CONSTRUCTION.dwg

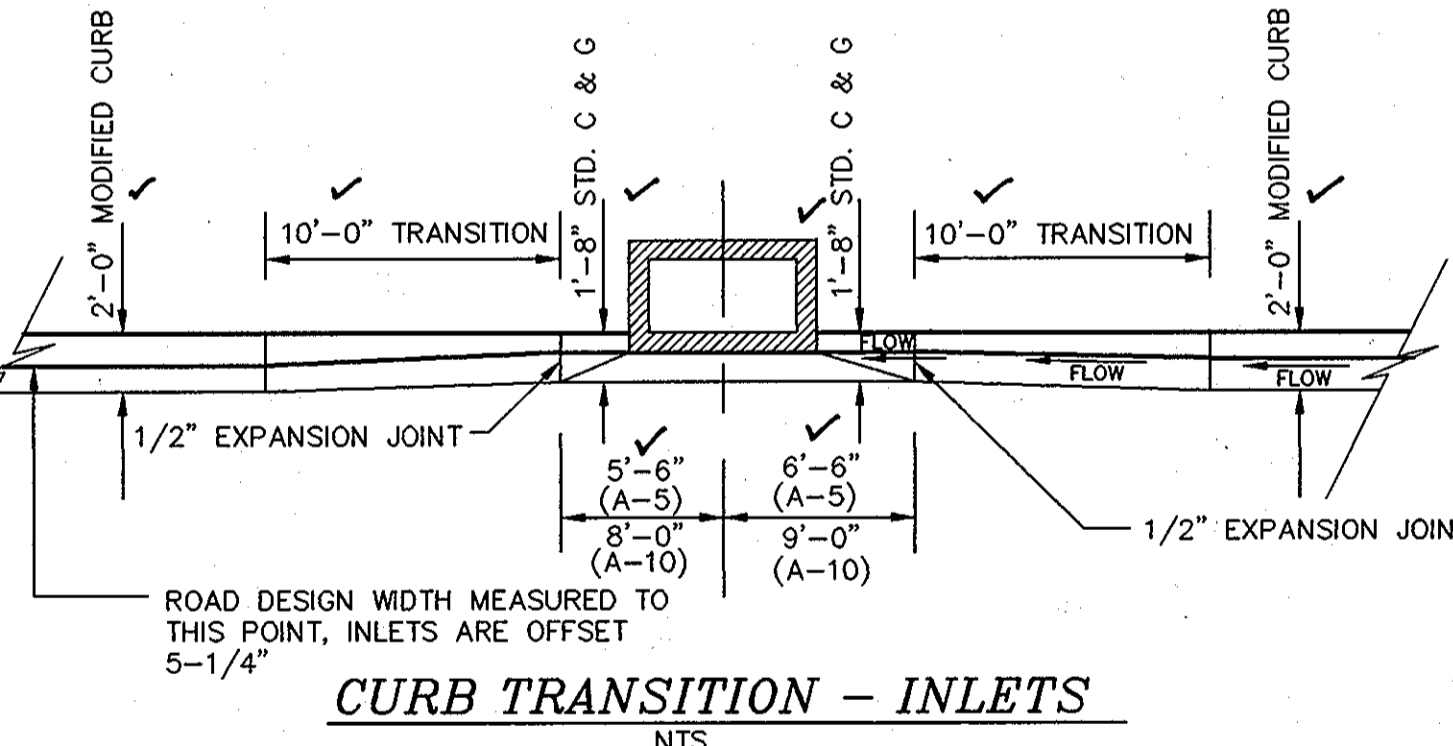
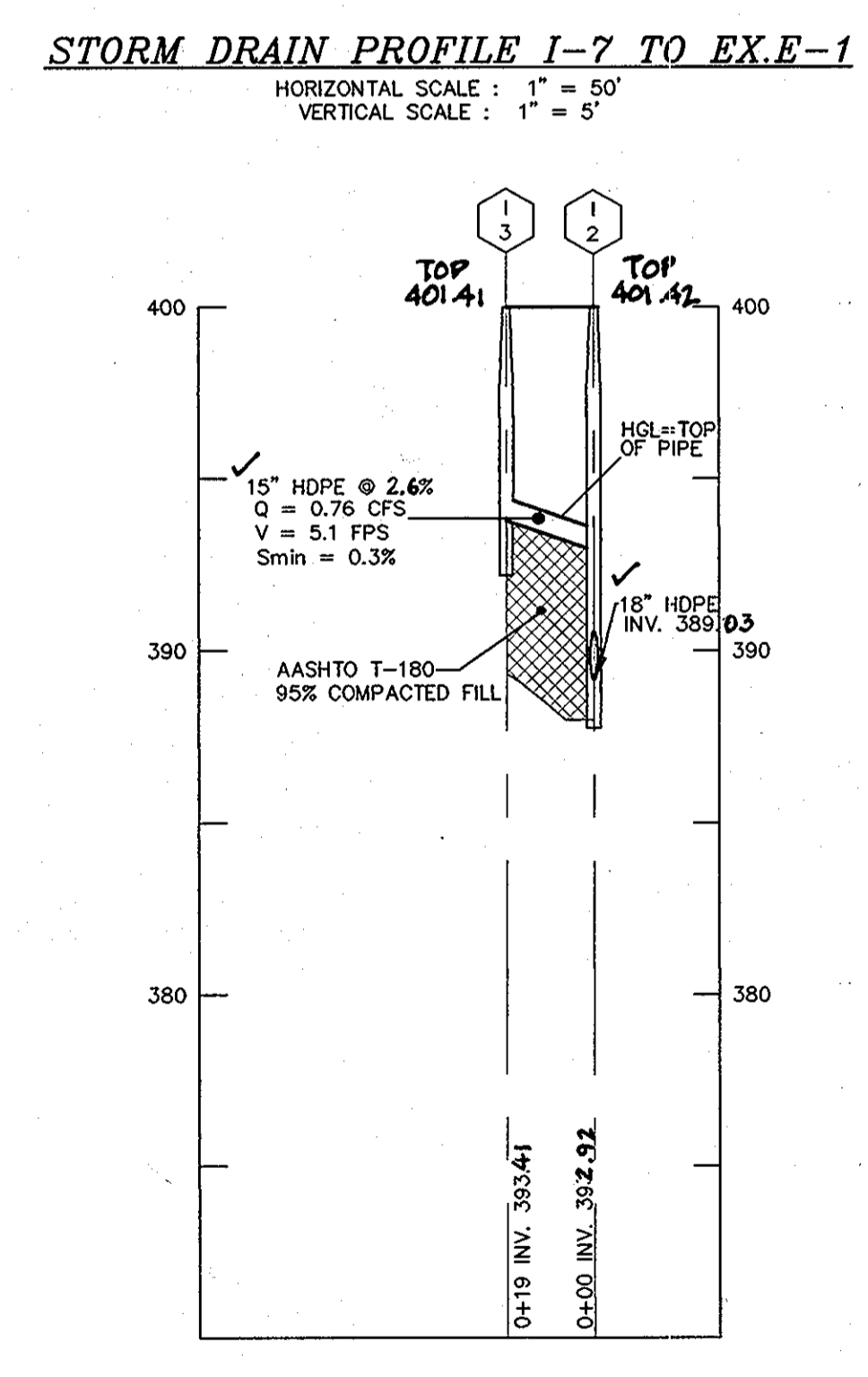
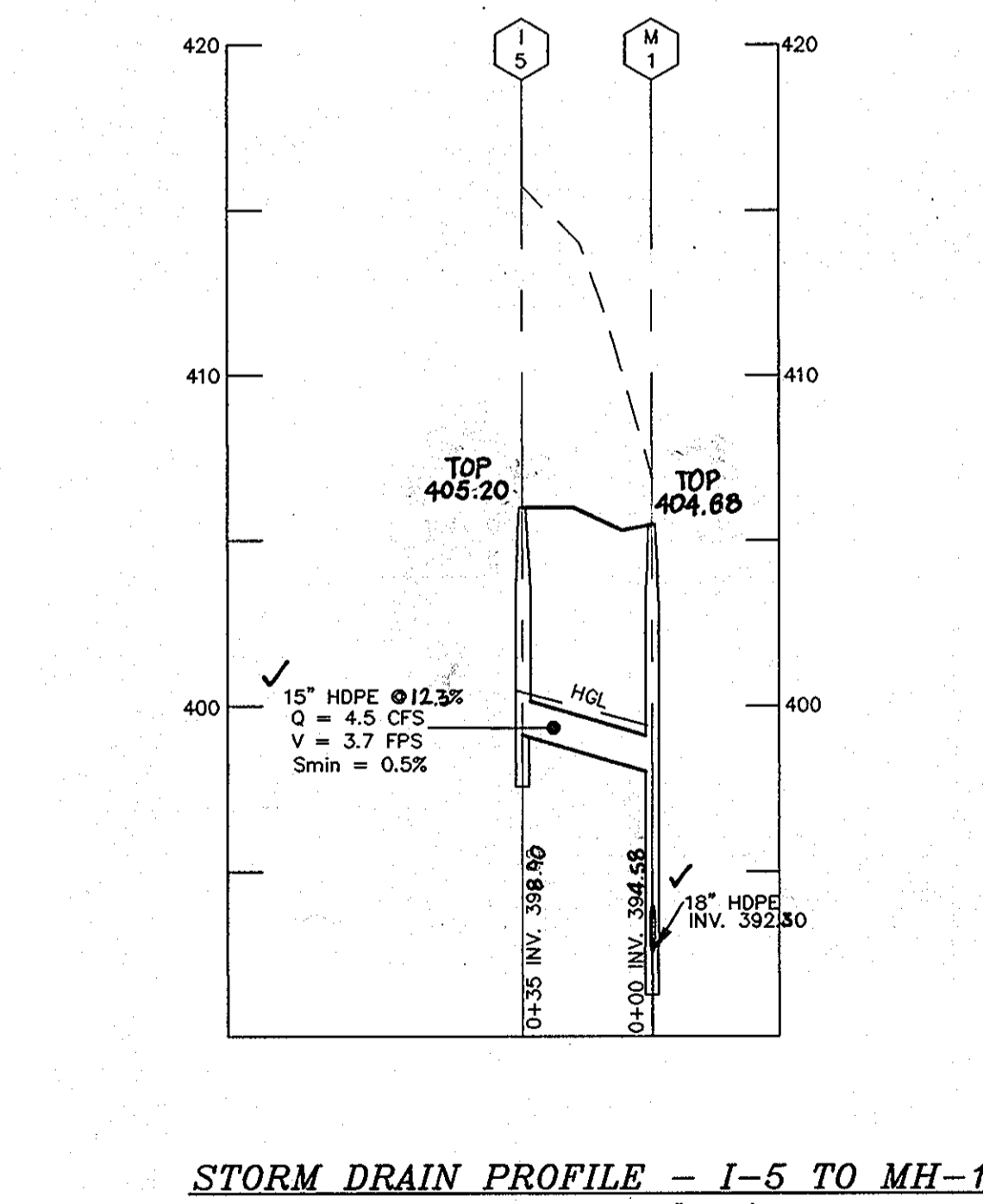
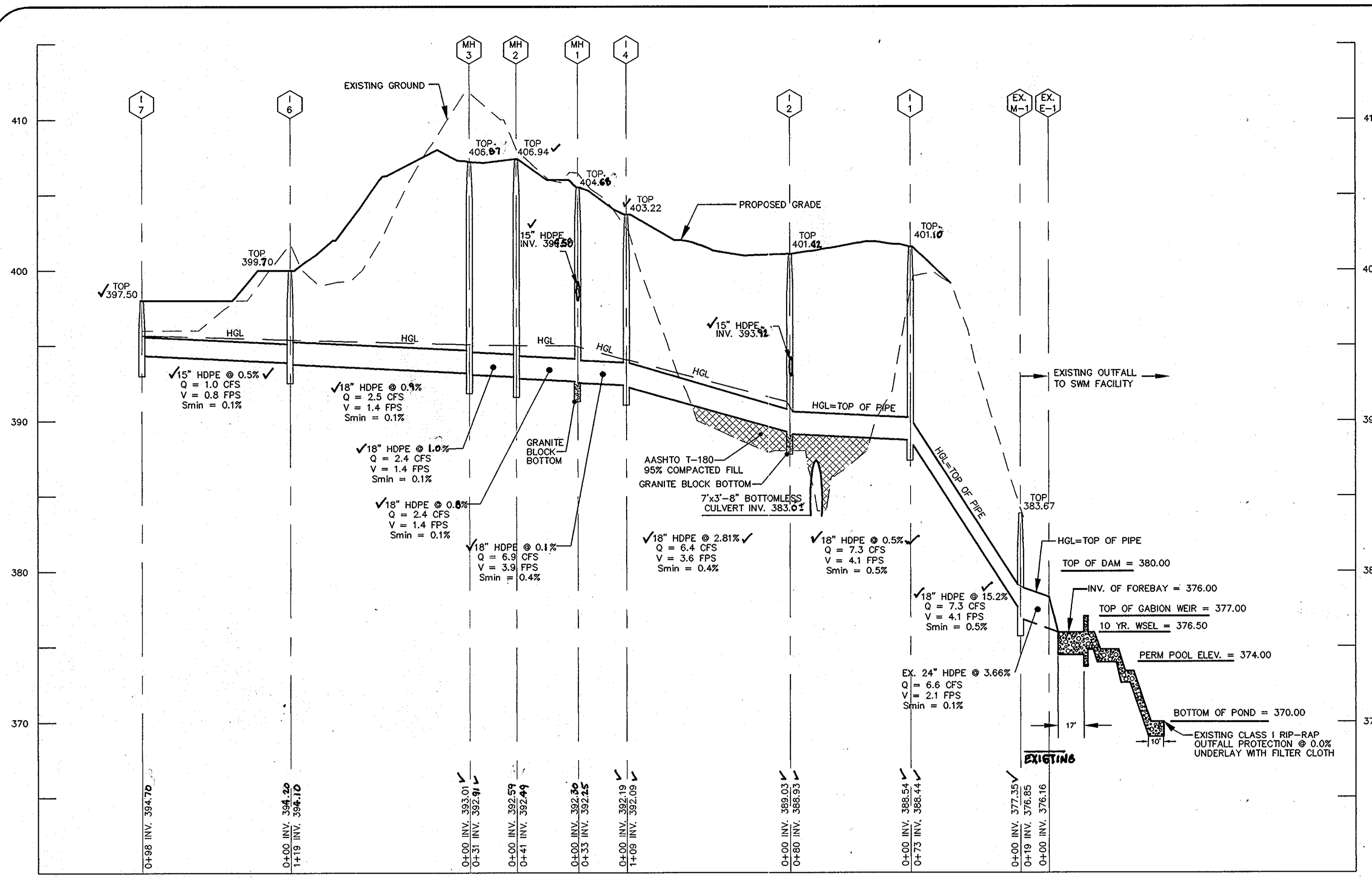
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project	09-028
illustration	DJP
scale	1"=50'
approval	

date	
description	
revisions	

AS-BUILT  
**STONE MANOR SECTION 3**  
 LOTS 1-15 & OPEN SPACE LOTS 16-18  
 TAX MAP 25, GRID 19, PARCELS 68 & 69  
 SECOND ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 INLET DRAINAGE AREA MAP

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
 5092 Dorsey Hall Drive, Suite 202, Ellicott City, Maryland 21042  
 (410) 997-0286 Fax: (410) 997-0288 Fax



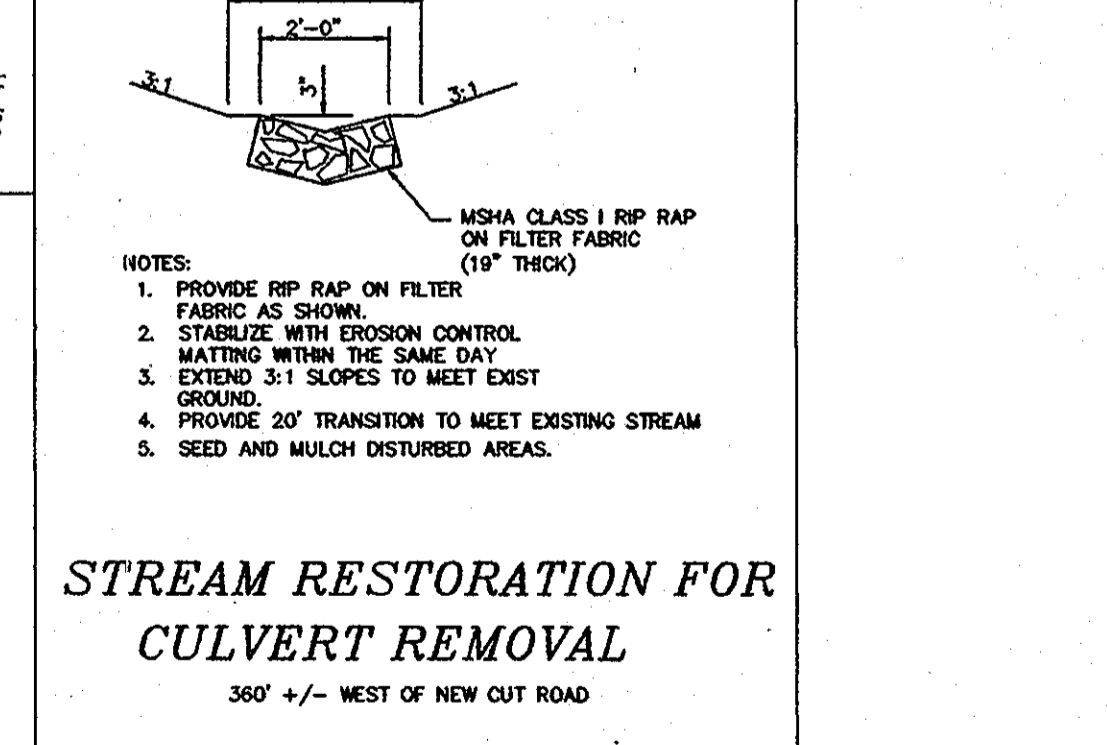
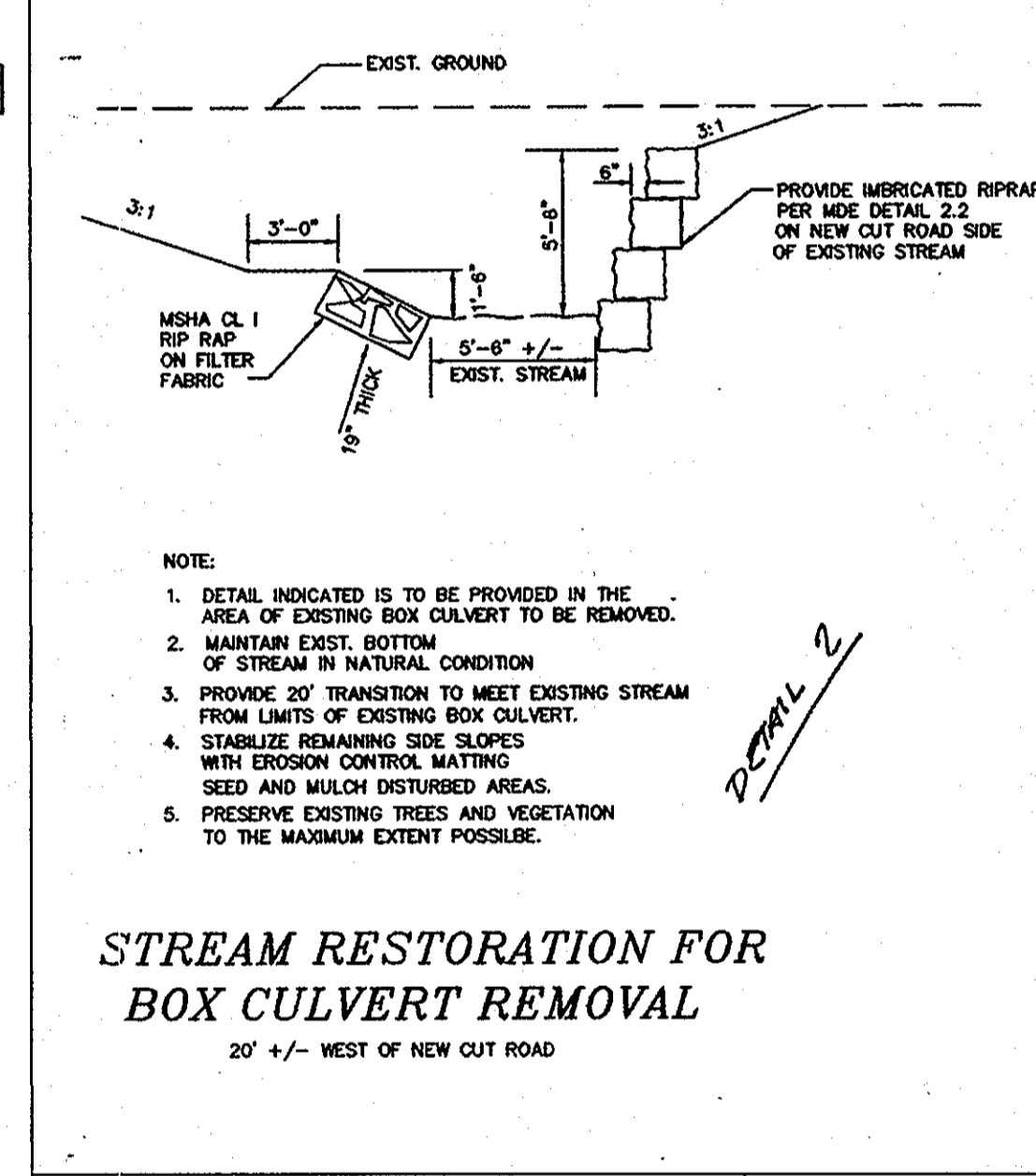
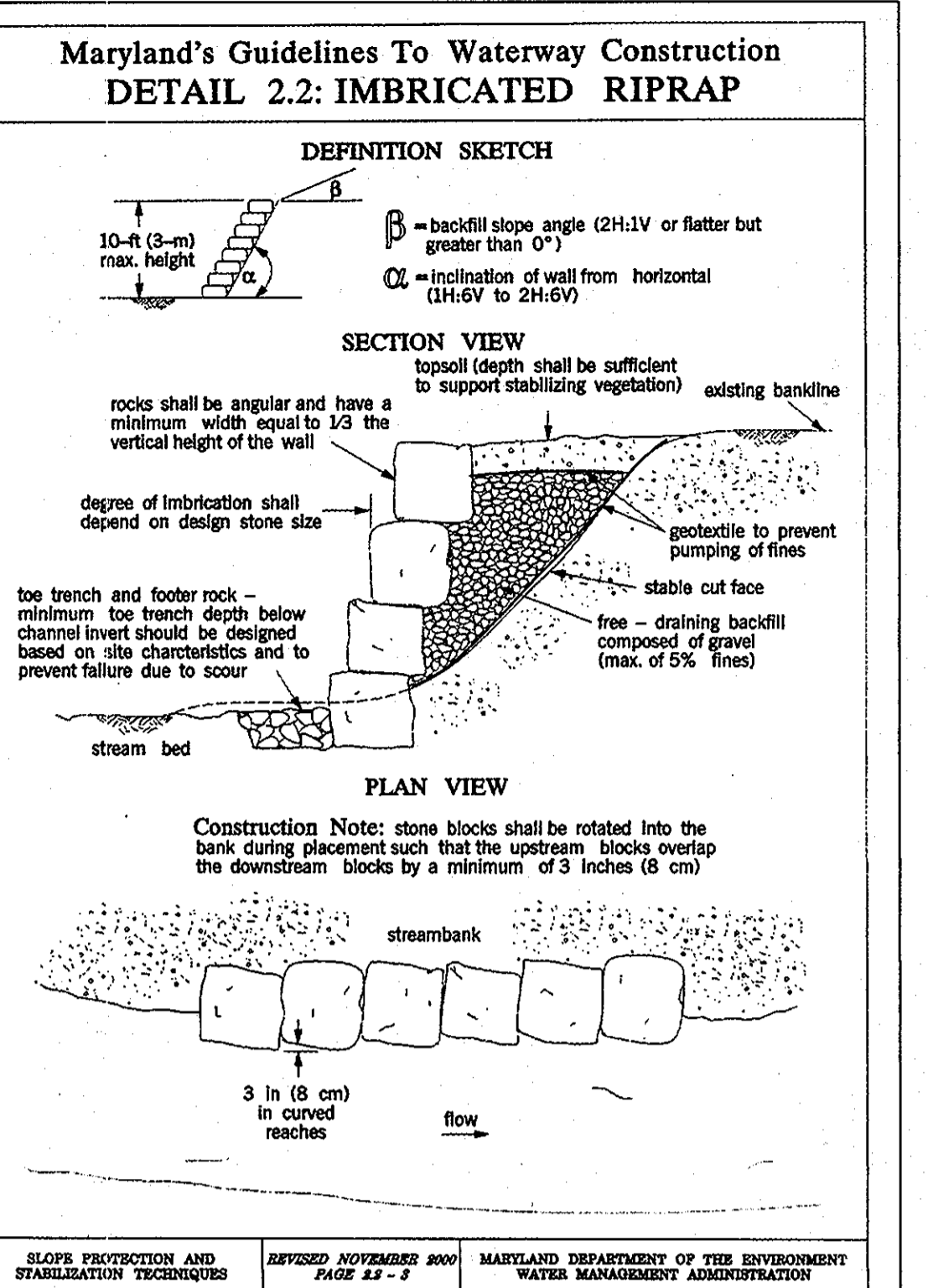


NO.	LOCATION*	TOP**	INV. IN	INV. OUT	COMMENTS
I-7	N 577243.2 E 1368740.8	397.50	---	394.70	YARD INLET(HO. CO. STD SD-4.14) - SUMP ✓
I-6	N 577247.7 E 1368642.6	399.70	---	394.70	YARD INLET(HO. CO. STD SD-4.14) - SUMP ✓
I-5	STONE CREST DRIVE, STA 13+01, 25.59' LEFT. ✓	405.20	---	398.90	YARD INLET(HO. CO. STD SD-4.14) - SUMP ✓
I-4	STONE CREST DRIVE, STA 12+65, 10.52' RIGHT ✓	403.22	392.19	392.09	INLET TYPE A-5 (HO. CO. STD SD 4.40) ✓
I-3	STONE CREST DRIVE, STA 11+52, 10.52' LEFT ✓	401.41	393.41	393.41	INLET TYPE A-5 (HO. CO. STD SD 4.40) ✓
I-2	STONE CREST DRIVE, STA 11+52, 10.52' RIGHT ✓	401.42	389.03	388.93	INLET TYPE A-5 (HO. CO. STD SD 4.40) ✓
I-1	STONE CREST DRIVE, STA 10+73, 10.52' RIGHT ✓	403.10	388.54	388.44	INLET TYPE A-5 (HO. CO. STD SD 4.40) ✓
M-1	STONE CREST DRIVE, STA 13+03, 15.90' RIGHT ✓	404.68	392.30	392.15	MH (HO. CO. STD G 5.01) ✓
M-2	STONE CREST DRIVE, STA 13+52, 16.46' RIGHT ✓	406.94	392.59	392.49	MH (HO. CO. STD G 5.01) ✓
M-3	STONE CREST DRIVE, STA 13+47, 14.10' LEFT ✓	406.61	393.01	392.91	MH (HO. CO. STD G 5.01) ✓
EX-M1	N 576755.9782 E 1369626.0033	383.67	377.35	376.85	MH (HO. CO. STD G 5.01) ✓
EX-E1	N 576754.9915 E 1369645.1874	---	376.16	---	24" HDPE END SECTION
ES-1	N 576932.98 E 1368617.58	---	---	361.09	COLLAR SEE DETAIL
ES-2	N 576936.54 E 1368505.13	---	---	365.10	COLLAR SEE DETAIL

\* STATIONS GIVEN TO CENTERLINE FACE OF INLET AT TOP OF CURB FOR INLETS LOCATED WITHIN THE ROAD RIGHT-OF-WAY. STATIONS FOR YARD INLETS TO CL OF INLET. LOCATION OF MANHOLES IS TO CL OF MANHOLE COVER. END SECTION GIVEN TO THE CENTERLINE OF ROAD AT THE CONNECTION OF THE STORM DRAIN PIPE TO THE END SECTION.  
 \*\* ELEVATIONS MEASURED TO CENTER OF ALL INLETS.

**MGWC 2.2: IMBRICATED RIPRAP**  
 Rigid engineering technique for bank stabilization  
**DESCRIPTION**  
 Imbricated riprap is used to protect and stabilize embankment soils from the erosive forces of flowing water and piping forces resulting from groundwater seepage. A well-engineered imbricated riprap revetment should consist of the following:  
 • a filter layer of gravel or cloth designed to prevent soil movement into or through the riprap layer while allowing water to drain from the embankment, and  
 • a stone wall of appropriate size and positioning to resist the shearing forces of channelized water and the lateral earth pressures of the developed bank.  
**EFFECTIVE USES & LIMITATIONS**  
 When properly designed and installed, imbricated riprap revetments resist lateral earth pressures to some extent and can be an effective method of bank armoring where soil conditions, water turbulence and velocity, expected vegetative cover, and groundwater conditions are such that the soil may erode under the design flow conditions and threaten infrastructure or personal property.  
 Filter cloth should only be utilized when the bank material is a noncohesive material such as sand or gravel.  
**MATERIAL SPECIFICATIONS**  
 Materials for imbricated riprap construction and installation should meet the following requirements:  
 • **Filters:** Synthetic filter fabric may be used cautiously based on the 1994 AASHTO Standards and Specifications for Soil Erosion and Sediment Control. Whenever possible, however, greater filters with a minimum thickness of 6 inches (15 cm) should be used with a gradation as found in Table 2.2.  
 Table 2.2: Granular Filter Material Gradation Specifications  
 Percent Less Than U.S. Standard Sieve Size  
 100 2 1/2 in (64 mm)  
 85-100 1 in (25 mm)  
 60-100 1/2 in (13 mm)  
 35-70 No. 10  
 20-50 No. 40  
 3-20 No. 200  
 • **Toe Riprap:** The minimum diameter or weight of stone for toe riprap should be based upon the bankfull stream channel velocity as detailed in the MGWC 2.1: Riprap and Figure 2.1.  
 • **Imbricated Stones:** Imbricated riprap should be angular and blocky in shape such that they are stackable and should be sufficiently large to resist displacement by both the design storm event and site-specific lateral earth stresses. Therefore, the length of the longest axis of each stone should be the greater of 1/3 the height of the proposed wall and the size necessary to resist the design stream flow according to MGWC 2.1: Riprap. A typical minimum axis length is 24 inches (0.6 meters).  
 SLOPE PROTECTION AND STABILIZATION TECHNIQUES MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000  
 PAGE 2.2-1

**MGWC 2.2: IMBRICATED RIPRAP**  
 Approximate Cost (\$1999): \$90 per linear ft  
**INSTALLATION GUIDELINES**  
 All erosion and sediment control devices, including dewatering basins, should be implemented as the first order of business according to a plan approved by the WMA or local authority. The recommended construction procedure for imbricated riprap is as follows (refer to Detail 2.2):  
 1. The stream should be diverted according to a WMA recommended procedure (see Section 1, Temporary Instream Construction Measures, Maryland's Guidelines to Waterway Construction), and the construction area should be dewatered.  
 2. All excavation should be made in reasonably close conformity with the existing stream slope and bed. The slope of the cut face should be in the range of 1H:6V to 2H:6V. Loose material at the top of the embankment should be excavated until a stable foundation is reached, usually within 2 to 3 feet (0.6 to 0.9 meters) of its surface. The subgrade should be smooth, firm, and free from protruding objects or voids that would effect the proper positioning of the first layer of stones.  
 3. A graded granular filter or filter fabric should be placed on the face of the cut slope to prevent the migration of fine materials through the revetment. If filter fabric is used, it should be carefully and loosely placed on the prepared slope and secured. Adjacent strips should overlap a minimum of 8 inches (0.20 meters). If the filter fabric is torn or damaged, it should be repaired or replaced.  
 4. The rock layers should be neatly stacked with staggered joints so that each stone rests firmly on two stones in the tier below. Additionally, smaller stones should be used to fill voids so that each rock rests solidly on the previous rock layer with minimal opportunity for movement. Upon completion of the first layer of stone, the toe trench should be filled with Class III riprap sized according to MGWC 2.1: Riprap or additional imbricated stone. Two footer stones should be used where high potential for channel isolation exists. The height of the imbricated revetment is dictated by the size of the stone used, and the height should not exceed 3 times the length of the longest axis and should not be greater than 10 feet (3 meters).  
 5. Placement of the granular backfill should occur concurrently with the stone placement. The backfill slope angle should be 2H:1V or flatter but should be greater than 0 degrees to facilitate drainage. Once all of the backfill is in place, it should be covered with a filter layer and a layer of topsoil sufficient to support a native vegetative cover.  
 6. The disturbed portions of the channel, including the slopes and stream bed, should be stabilized with methods approved by the WMA.  
 Note: The use of rock vones (MGWC 3.3: Rock Panels) should be considered to dissipate excessive toe velocities.  
 SLOPE PROTECTION AND STABILIZATION TECHNIQUES MARYLAND DEPARTMENT OF THE ENVIRONMENT WATERWAY CONSTRUCTION GUIDELINES REVISED NOVEMBER 2000  
 PAGE 2.2-2



**PIPE SCHEDULE**

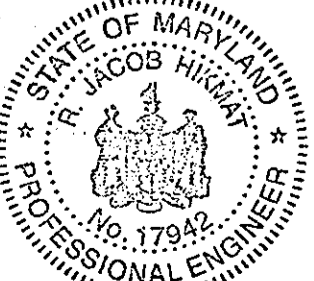
QUANTITY	PIPE SIZE
163'	15" HDPE
486'	18" HDPE
112.5'	7'3x8" ARCH

**OWNERS**  
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 ELLICOTT CITY, MD 21042  
 STONE MANOR III, LLC  
 5300 DORSEY HALL DR  
 ELLICOTT CITY, MD 21042

APPROVED: DEPARTMENT OF PUBLIC WORKS  
 W. J. ...  
 CHIEF BUREAU OF HIGHWAYS  
 DATE: 6-26-06  
 APPROVED: DEPARTMENT OF PLANNING AND ZONING  
 ...  
 CHIEF, DIVISION OF LAND DEVELOPMENT  
 DATE: 6/29/06  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION  
 DATE: 6/29/06



R. JACOB HKMAT, PE #17422  
 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.



Project	03-028
date	APR 2006
illustration	DJP
scale	DJP
approval	AS SHOWN

no.	date	description	revisions

AS-BUILT  
 STONE MANOR SECTION 3  
 LOTS 1-15 & OPEN SPACE LOTS 16-18  
 TAX MAP 25, GRID 19, PARCELS 88 & 69  
 HOWARD COUNTY, MARYLAND  
 SECOND ELECTION DISTRICT  
 STORM DRAIN PROFILES

**MILDENBERG, BOENDER & ASSOC., INC.**  
 Engineers Planners Surveyors  
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