SITE DEVELOPMENT PLAN
STONE LAKE

GENERAL NOTES

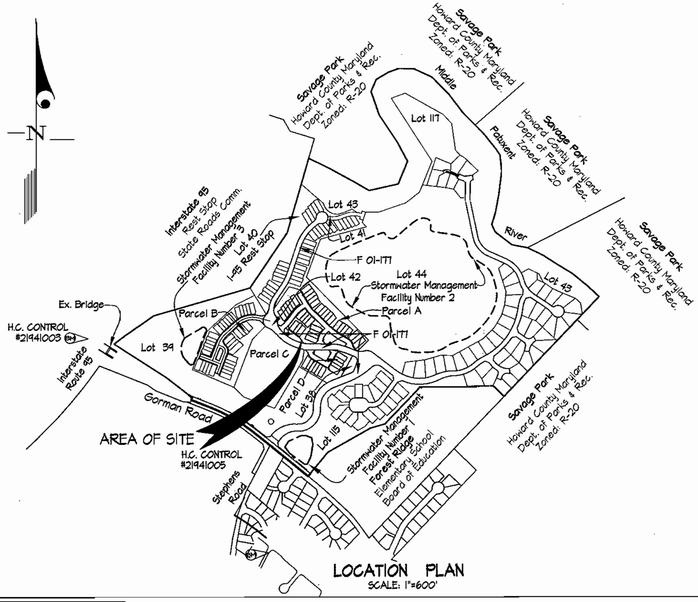
1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
2. THE CONTRACTOR SHALL NOTIFY THE BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48-HOURS PRIOR TO ANY EXCAVATION WORK.
4. PROJECT BACKGROUND:
   LOCATION: TAX MAP #47, GRID 7
   ZONING: R-ED
   ELECTION DISTRICT: 6TH
   BUILDABLE LOT AREA: 3.48± AC.
   OPEN SPACE AREA: 4.56± AC. (INCLUDES COMMON AREA)
   TOTAL AREA: 8.04± AC.
   REC. REF.: PLAT NO. 16663, 16664, 17642 & 17643
5. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTC). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
6. ALL PLAN DIMENSIONS ARE TO THE FACE OF CURB OR FACE OF BUILDING UNLESS OTHERWISE NOTED. DIMENSIONS ARE MEASURED PERPENDICULAR OR RADIAL BETWEEN ITEMS UNLESS OTHERWISE NOTED.
7. EXISTING TOPOGRAPHY AND FEATURES WERE DERIVED FROM AERIAL PHOTOGRAPHY BY DAFT, McCUNE & WALKER,SUMMER 1998 AND MASS GRADING INFORMATION FROM F-01-177 & F-04-48.
8. HORIZONTAL AND VERTICAL CONTROL BASED ON HOWARD COUNTY CONTROL STATIONS 47 EA. & 47 E4.
9. PUBLIC WATER AND SEWER IS TO BE UTILIZED (PATAPSCO DRAINAGE AREA). CONTRACT NO. 34-4184-D AND 34-3947-D.
10. STORMWATER MANAGEMENT IS PROVIDED BY A PRIVATE FACILITY UNDER F-01-177,THE PRIVATE STORMWATER MANAGEMENT, DRAINAGE AND UTILITY EASEMENT IS OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION.
11. ALL STORM DRAINS SHOWN ARE PRIVATE AND ARE BUILT UNDER THE F-01-177 AND F-04-48 PLANS.
12. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM F-01-177, F-02-30 AND CONTRACT NO. 34-4010-D BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS WELL IN ADVANCE OF CONSTRUCTION.
13. BOTH THE NOISE AND TRAFFIC STUDIES WERE APPROVED AS PART OF SKETCH PLAN S-00-13 APPROVED ON 10-10-2000.
14. ANY DAMAGE TO COUNTY OWNED RIGHT-OF-WAY TO BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
15. OTHER HOWARD COUNTY FILES RELATED TO THIS SITE: S-00-13,P-01-15,P-03-14, FB-345,WP-01-88,WP00-88,WP-00-126,WP-01-60,WP-01-94, F-01-177, F-02-30, F-04-48 F-05-020 AND CONTRACT # 34-4184-D & 34-3947-D.
16. FOREST CONSERVATION FOR THIS SITE IS PROVIDED UNDER F-01-177 & F-00-204.
17. FOR DRIVEWAY APRON, SEE HOWARD COUNTY STANDARD DETAIL No R-6.03 AND R-6.05.
18. LANDSCAPING AND REQUIRED STREET TREES SHALL BE IN ACCORDANCE WITH THE APPROVED ROAD CONSTRUCTION DRAWING, F-04-48. SURETY FOR THE LANDSCAPING OF THE LOTS AND AREAS IN THE AMOUNT OF $26,100 SHALL BE PAID AT TIME OF GRADING PERMIT APPLICATION.
19. BENCH MARKS/CONTROL STATIONS: #47EA-N 535063.631 E 1357283.484 EL=315.28 AND #47E4 N 535063.631 E 1357283.9489 EL=338.91
20. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS; PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
21. WP-01-60 JANUARY 16, 2000, WAIVER OF SECTION 16.120.c.(2), TO PERMIT LOTS WITHOUT PUBLIC ROAD FRONTAGE, AND 16.120.c.(4), TO PERMIT THE LENGTH OF A PRIVATE ROAD TO EXCEED 200' FOR SFA UNITS, WAS GRANTED.
22. LAKE EDGE DRIVE, MIRROR LAKE WAY, MISTY WATERS WAY AND BOULDER HILL PLACE ARE PRIVATE ROADS AND SHALL BE MAINTAINED BY THE HOA.
23. SEWER CLEANOUTS SHALL BE FLUSH WITH PROPOSED DRIVEWAY SURFACE. IF A CONCRETE DRIVEWAY IS TO BE UTILIZED, PROVIDE A 12-INCH BY 12-INCH REINFORCED CONCRETE PANEL AROUND THE CLEANOUT WITH EXPANSION JOINT MATERIAL AS APPROPRIATE. IF IN THE FUTURE, CLEANOUT IS PAVED OVER, DPW WILL NOT BE RESPONSIBLE FOR DAMAGE TO DRIVEWAY WHEN ACCESSING CLEANOUT.
24. THIS PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS PER COUNCIL BILL 45-2003 AND THE ZONING REGULATIONS AS AMENDED BY CB 75-2003. DEVELOPMENT OR CONSTRUCTION ON THESE LOTS MUST COMPLY WITH SETBACK AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF THE SITE DEVELOPMENT PLAN.
25. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
   A. WIDTH-12' (14' SERVING MORE THAN ONE RESIDENCE);
   B. SURFACE- 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.);
   C. GEOMETRY- MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
   D. STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
   E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE;
   F. MAINTENANCE - SUFFICIENT TO ALL WEATHER USE.
26. ALL EASEMENTS (PUBLIC AND PRIVATE) SHOWN ON THESE PLANS ARE PER RECORDED PLAT Nos. 16663, 16664, 17642, & 17643, UNLESS OTHERWISE NOTED.
27. THE STRUCTURE SETBACK LINE IS A SLOPE SETBACK LINE AS DETERMINED IN A REPORT BY THE ROBERT B. BALTER CO.. THIS STRUCTURE SETBACK LINE ESTABLISHES AN ADDITIONAL SETBACK FROM THE LOT LINE OF PARCEL A. NO STRUCTURES ARE TO BE CONSTRUCTED BEYOND THIS LINE DUE TO THE SLOPE STABILITY AS DEFINED BY THE BALTER COMPANY REPORT.
28. THERE IS NO FRONT BUILDING RESTRICTION LINE FOR STONE LAKE SINCE ALL ROADS ARE PRIVATE.
29. THE SUBJECT PROPERTY IS ZONED R-ED PER THE FEBRUARY 2, 2004 COMPREHENSIVE ZONING PLAN.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

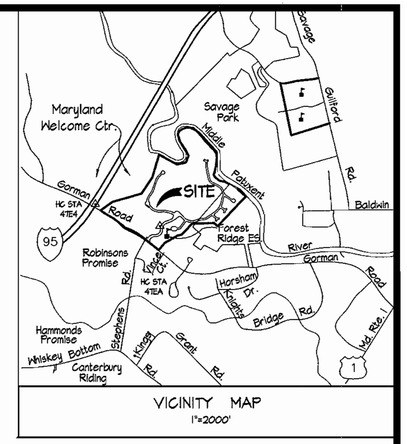
Director	Date 8/17/05
Chief, Division of Land Development	Date 8/12/05
Chief, Development Engineering Division	Date 6/20/05

SITE PLAN LEGEND

LOD ..... LIMIT OF DISTURBANCE
..... EX. STORM DRAIN
..... EX. SEWER MAIN
..... EX. WATER MAIN
..... FIRE HYDRANT
..... WATER VALVE
..... BARBED WIRE FENCE
..... MOUNTABLE CURB & GUTTER
..... EX CONTOUR
..... PROP. CONTOUR
..... PROP. SPOT ELEV.
..... CONC. WALK/PAVEMENT
..... EASEMENT SHADING



LOCATION PLAN
SCALE: 1"=600'

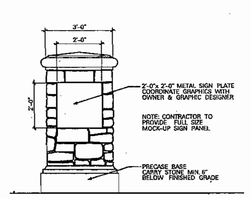


VICINITY MAP
1"=2000'

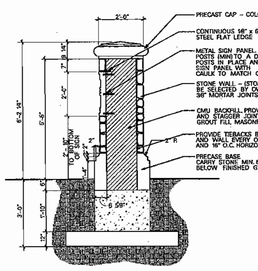
SITE ANALYSIS

1. GENERAL SITE DATA
   A. PRESENT ZONING: R-ED
   B. PROPOSED USED FOR SITE AND STRUCTURE: SINGLE FAMILY ATTACHED
   C. TOTAL NUMBER OF UNITS ALLOWED: 45
      TOTAL NUMBER OF UNITS PROVIDED: 45
2. AREA TABULATION
   A. SITE AREA: 3.48± AC. FOR 45 BUILDABLE LOTS
      3.01± AC. FOR 6 OPEN SPACE LOTS
      1.55± AC. FOR 3 COMMON OPEN AREA LOTS
   B. AREA OF PLAN SUBMISSION: 8.04± AC.
   C. LIMIT OF DISTURBANCE: 5.04± AC.
3. PARKING TABULATION:
   A. PARKING REQUIRED: 90 OFFSTREET PARKING (2 SPACES PER UNIT)
      14 OVERFLOW GUEST PARKING (0.3 SPACES PER UNIT)
      104 TOTAL
   B. PARKING PROVIDED: 118 GARAGE SPACES
      45 DRIVEWAY SPACES
      52 (9' X 18' COMMON SURFACE SPACES)
      *215 TOTAL SPACES (4.7 SP/UNIT)
      *NOTE: THE 28' UNIT HAS AN OPTION OF A 2-CAR GAR, THAT WOULD DECREASE THE TOTAL TO A POSSIBLE 187)

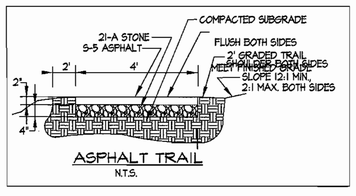
SHEET INDEX



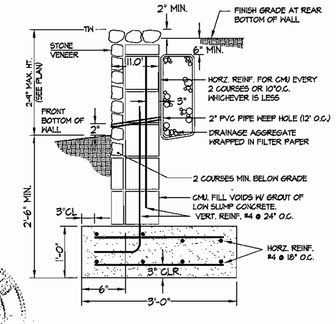
STONE PEIR ELEVATION FOR ENTRY SIGN
NTS



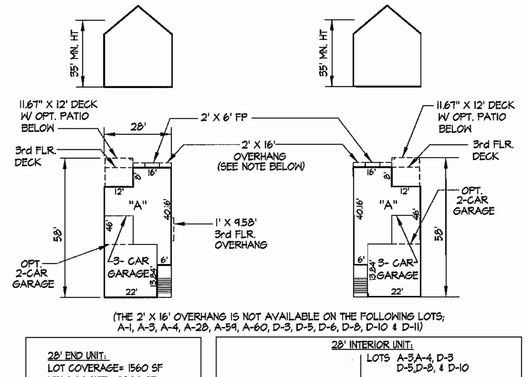
STONE PEIR SECTION FOR ENTRY SIGN
NTS



ASPHALT TRAIL
N.T.S.

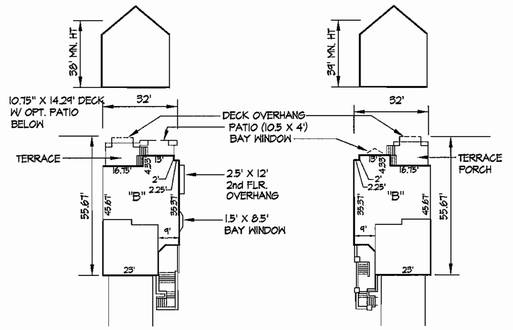


STONE RETAINING WALL BEHIND UNIT D-6
NTS



(THE 2' X 16' OVERHANG IS NOT AVAILABLE ON THE FOLLOWING LOTS; A-1, A-3, A-4, A-28, A-54, A-60, D-3, D-5, D-6, D-8, D-10 & D-11)

28' END UNIT:	28' INTERIOR UNIT:	
LOT COVERAGE= 1560 SF MIN. LOT SIZE= 2600 SF (REQ'D. FOR 60% LOT COVERAGE) SMALLEST LOT SIZE: 3758 SF	LOTS A-3,A-4, D-3 D-5,D-8, & D-10	
	LOT COVERAGE = 1550 SF MIN. LOT SIZE = 2583 SF REQ'D FOR 60% LOT COVERAGE) SMALLEST LOT SIZE: 2607SF	LOT COVERAGE = 1519 SF MIN. LOT SIZE = 2531 SF REQ'D FOR 60 % LOT COVERAGE) SMALLEST LOT SIZE: 2548 SF



32' END UNIT:	32' INTERIOR UNIT:
LOT COVERAGE= 1915 SF MIN. LOT SIZE= 3142 SF (REQ'D. FOR 60% LOT COVERAGE) SMALLEST LOT SIZE: 3611 SF	LOT COVERAGE= 1809 SF MIN. LOT SIZE= 3015 SF (REQ'D FOR 60% LOT COVERAGE) SMALLEST LOT SIZE: 3071 SF

TYPICAL HOUSE TYPES
SCALE: 1"=30'

ADDRESS CHART	
LOT	STREET ADDRESS
A-1	8601 MISTY WATERS WAY
A-2	8603 MISTY WATERS WAY
A-3	8605 MISTY WATERS WAY
A-4	8607 MISTY WATERS WAY
A-5	8609 MISTY WATERS WAY
A-6	8611 MISTY WATERS WAY
A-26	8805 MIRROR LAKE WAY
A-27	8803 MIRROR LAKE WAY
A-28	8801 MIRROR LAKE WAY
A-39	8745 LAKE EDGE DRIVE
A-40	8743 LAKE EDGE DRIVE
A-41	8741 LAKE EDGE DRIVE
A-42	8739 LAKE EDGE DRIVE
A-43	8737 LAKE EDGE DRIVE
A-44	8735 LAKE EDGE DRIVE
A-45	8731 LAKE EDGE DRIVE
A-46	8729 LAKE EDGE DRIVE
A-47	8727 LAKE EDGE DRIVE
A-48	8725 LAKE EDGE DRIVE
A-49	8721 LAKE EDGE DRIVE
A-50	8719 LAKE EDGE DRIVE
A-51	8717 LAKE EDGE DRIVE
A-52	8715 LAKE EDGE DRIVE
A-53	8711 LAKE EDGE DRIVE
A-54	8709 LAKE EDGE DRIVE
A-55	8707 LAKE EDGE DRIVE
A-56	8801 MIRROR LAKE WAY
A-57	8730 BOULDER RIDGE
A-58	8732 BOULDER RIDGE
A-59	8734 BOULDER RIDGE
A-60	8736 LAKE EDGE DRIVE
A-61	8736 LAKE EDGE DRIVE
A-62	8734 LAKE EDGE DRIVE
A-63	8732 LAKE EDGE DRIVE
D-1	8825 BOULDER HILL PLACE
D-2	8823 BOULDER HILL PLACE
D-3	8821 BOULDER HILL PLACE
D-4	8819 BOULDER HILL PLACE
D-5	8817 BOULDER HILL PLACE
D-6	8815 BOULDER HILL PLACE
D-7	8811 BOULDER HILL PLACE
D-8	8809 BOULDER HILL PLACE
D-9	8807 BOULDER HILL PLACE
D-10	8805 BOULDER HILL PLACE
D-11	8803 BOULDER HILL PLACE

WATER CODE:	SEWER CODE:
E15	6100000

SUBDIVISION NAME:		SECTION/AREA		PARCEL
STONE LAKE		N/A		P/O 837
PLAT	ZONE	TAX MAP	BLOCK	ELEC. DIST.	CENSUS TRACT
16663, 16664 17642, 17643	R-ED	47	7	6	6069.02

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

COVER SHEET & HOUSE MODEL DETAILS

STONE LAKE

LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17642 & 17643

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=600'	R-ED	04-047
DATE	TAX MAP – GRID	SHEET
DEC., 2004	47 – 7	1 OF 8

SDP-05-048

LOT FRONTAGE TABLE	
LOT No.	DIST.
A-1	29.51'
A-2	30.19'
A-3	30.20'
A-4	30.08'
A-5	29.03'
A-6	40.24'
A-26	28.18'
A-27	28.18'
A-28	35.41'
A-34	44.17'
A-40	32.12'
A-41	32.12'
A-42	32.11'
A-43	40.03'
A-44	40.00'
A-45	32.00'
A-46	32.00'
A-47	32.00'
A-48	40.00'
A-49	40.01'
A-50	32.04'
A-51	32.15'
A-52	40.48'
A-53	32.45'
A-54	32.42'
A-55	45.81'
A-56	31.17'
A-57	40.18'
A-58	28.01'
A-59	40.04'
A-60	33.51'
A-61	28.01'
A-62	28.01'
A-63	40.00'
D-1	44.17'
D-2	28.01'
D-3	28.00'
D-4	28.00'
D-5	28.00'
D-6	28.00'
D-7	27.74'
D-8	28.00'
D9	28.00'
D-10	28.00'
D-11	41.93'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director	Date 8/1/05
Chief, Division of Land Development	Date 8/1/05
Chief, Development Engineering Division	Date 6/20/05

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
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DATE	REVISION	BY	APP'R.

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

SITE DEVELOPMENT PLAN

STONE LAKE

LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17642 & 17643

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=30'	R-ED	04-047
DATE	TAX MAP - GRID	SHEET
DEC., 2004	47 - 7	2 OF 8

SCALE: 1" = 30'
0' 15' 30' 60' 120'

SDP-05-048

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or 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 Maryland 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 HSCD."

Miller and Smith

Colleen Dwelley 5/20/05

Signature of Developer/Builder Date

ENGINEER'S CERTIFICATE

"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."

[illegible] 5/23/05

Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

[illegible] 6/14/05

Howard S.C.D. Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

Jim Myers 6/14/05

Natural Resources Conservation Service Date

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

[illegible] 8/17/05

Director Date

Cindy Hamilton 8/17/05

Chief, Division of Land Development Date

[illegible] 6/20/05

Chief, Development Engineering Division Date

GLW GUTSCHICK LITTLE & WEBER, P.A.

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

SEDIMENT CONTROL PLAN

STONE LAKE

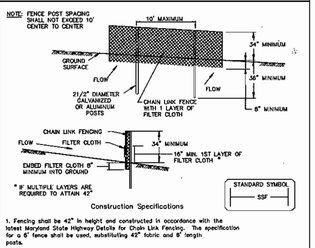
LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17642 & 17643

ELECTION DISTRICT No. 6 HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=30'	R-ED	04-047
DATE	TAX MAP – GRID	SHEET
DEC., 2004	47 – 7	3 OF 8

SDP-05-048

DETAIL 33 – SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 8' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

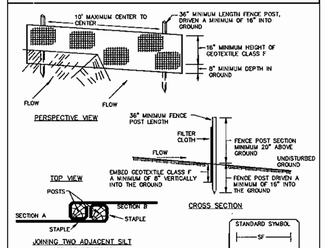
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft /minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

8. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 38 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 22 – SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

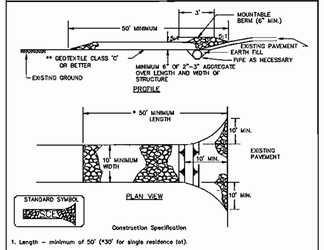
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 45 – 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).

2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

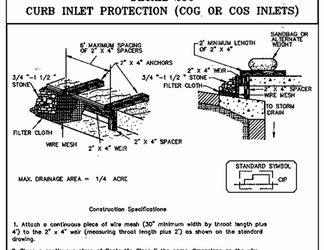
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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

DETAIL 23C
CURB INLET PROTECTION (COG OR COS INLETS)



Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4') to the 2" x 4" weir (measuring throat length plus 2') as shown on the standard drawing.

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

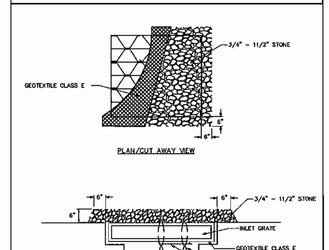
6. Form the 1/2 " x 1/2 " wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4 " x 1 1/2 " stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.
the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H – 18 – 59	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B – AT GRADE INLET PROTECTION



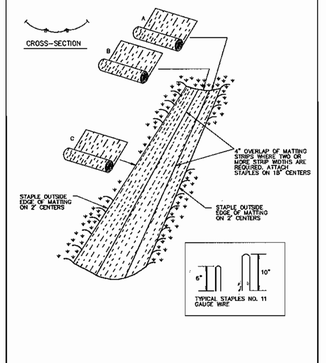
Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 11/2" stone, 4"–6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E – 16 – 44	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 – EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G – 22 – 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

EROSION CONTROL MATTING

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 cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".

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", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.

6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

Note: If flow will enter from the edge of the matting then the area effected by the flow must be keyed-in.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G – 22 – 24	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director — Date 5/13/05

Chief, Division of Land Development — Date 5/13/05

Chief, Development Engineering Division — Date 5/20/05

SEQUENCE OF CONSTRUCTION

1. OBTAIN GRADING PERMIT AND ARRANGE FOR PRE-CONSTRUCTION MEETING WITH SEDIMENT CONTROL INSPECTOR. (1 DAY)
2. INSTALL STABILIZED CONSTRUCTION ENTRANCES, SILT FENCE/SUPER SILT FENCE AND CURB INLET PROTECTION. (2 WEEKS)
3. BUILD RETAINING WALLS. (4 MONTHS)
3. FINE GRADE SITE. (1 MONTH)
4. BEGIN CONTRUCTION OF TOWNHOUSE UNITS. (1 YEAR)
5. STABILIZE ANY AREAS NO LONGER BEING DISTURBED, INSTALL SIDEWALKS AND DRIVEWAYS. (1 MONTH)
6. INSTALL LANDSCAPING AND STABILIZE REMAINING AREAS WITH SOD OR GRASS SEED AND MULCH. (2 WEEKS)
7. WHEN AREA DRAINING TO SEDIMENT CONTROLS HAVE BEEN STABILIZED AND PERMISSION HAS BEEN GRANTED BY THE SEDIMENT CONTROL INSPECTOR, REMOVE SEDIMENT CONTROL DEVICES. (2 WEEKS)
8. END CONSTRUCTION

Dust Control

Definition

Controlling dust blowing and movement on construction sites and roads.

Purpose

To prevent blowing and movement of dust from exposed soil surfaces, reduce on and off-site damage, health hazards, and improve traffic safety.

Conditions Where Practice Applies

This practice is applicable to areas subject to dust blowing and movement where on and off-site damage is likely without treatment.

Specifications

Temporary Methods

1. Mulches – See standards for vegetative stabilization with mulches only. much should be crimped or tacked to prevent blowing.

2. Vegetative Cover – See standards for temporary vegetative cover.

3. Tillage – To roughen surface and bring clods to the surface. This is an emergency measure which should be used before soil blowing starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12" apart, spring-toothed harrows, and similar plows are examples of equipment which may produce the desired effect.

4. Irrigation – This is generally done as an emergency treatment. Site is sprinkled with water until the surface is moist. Repeat as needed At no time should the site be irrigated to the point that runoff begins to flow.

5. Barriers – Solid board fences, silt fences, snow fences, straw bales, and similar material can be used to control air currents and soil blowing. Barriers placed at right angle to prevailing currents at intervals at about ten times their height are effective in controlling soil blowing.

6. Calcium Chloride – Apply at rates that will keep surface moist. May need treatment.

Permanent Methods

1. Permanent Vegetation – See standards for permanent vegetative cover, and permanent stabilization with sod. Existing trees or large shrubs may afford valuable protection if left in place.

2. Topsoiling – Covering with less erosive soil material. See standards for top soil.

3. Stone – Cover surface with crushed stone or gravel.

References

1. Agriculture Handbook 346. Wind Erosion Forces in the United States and Their Use in Predicting Soil Loss.

2. Agriculture Information Bulletin 354. How to Control Wind Erosion, USDA_ARS.

PERMANENT SEEDING NOTES

Apply to graded or cleared area not subject to immediate further disturbance where a permanent long-lived vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: In lieu of soil test recommendations, use one of the following schedules

1) Preferred – Apply 2 tons per acre dolomitic limestone (92 lbs/1000 square feet) and 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil. At time of seeding, apply 400 lbs per acre 30-0-0 ureaform fertilizer (9 lbs/1000 sq ft).

2) Acceptable – Apply 2 tons per acre dolomitic limestone (92 lbs/1000 sq ft) and 1000 lbs per acre 10-10-10 fertilizer (23 lbs/1000 sq ft) before seeding. Harrow or disc into upper three inches of soil.

Seeding: For the periods March 1 thru April 30, and August 1 thru October 15, seed with 60 lbs per acre (1.4 lbs/1000 sq ft) of Kentucky 31 Tall Fescue. For the period May 1 thru July 31, seed with 60 lbs Kentucky 31 Tall Fescue per acre and 2 lbs per acre (.05 lbs/1000 sq ft) of weeping lovegrass. During the period of October 16 thru February 28, protect site by: Option (1) 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring. Option (2) Use sod. Option (3) Seed with 60 lbs/acre Kentucky 31 Tall Fescue and mulch with 2 tons/acre well anchored straw.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gallons per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes 8 feet or higher, use 348 gallons per acre (8 gal/1000 sq ft) for anchoring.

Maintenance: Inspect all seeded areas and make needed repairs, replacements and reseedings.

TEMPORARY SEEDING NOTES

Apply to graded or cleared areas likely to be redisturbed where a short-term vegetative cover is needed.

Seedbed Preparation: Loosen upper three inches of soil by raking, discing or other acceptable means before seeding (unless previously loosened).

Soil Amendments: Apply 600 lbs per acre 10-10-10 fertilizer (14 lbs/1000 sq ft).

Seeding: For periods March 1 thru April 30 and from August 15 thru October 15, seed with 2-1/2 bushel per acre of annual rye (3.2 lbs/1000 sq.ft.). For the period May 1 thru August 14, seed with 3 lbs per acre of weeping lovegrass (.07 lbs/1000 sq ft). For the period November 16 thru February 28, protect site by applying 2 tons per acre of well anchored straw mulch and seed as soon as possible in the spring, or use sod.

Mulching: Apply 1-1/2 to 2 tons per acre (70 to 90 lbs/1000 sq ft) of unrotted, weed-free, small grain straw immediately after seeding. Anchor mulch immediately after application using mulch anchoring tool or 218 gal per acre (5 gal/1000 sq ft) of emulsified asphalt on flat areas. On slopes, 8 ft or higher, use 348 gal per acre (8 gal/1000 sq ft) for anchoring.

Refer to the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL

SEDIMENT CONTROL NOTES

1. A minimum of 24 hours notice must be given to the Howard County Office of Inspection and Permits prior to the start of any construction. (410) 313-1855.

2. All vegetative and structural practices are to be installed according to the provisions of this plan and are to be in conformance with the 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

3. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a) 7 calendar days for all perimeter sediment control structures, dikes and perimeter slopes and all slopes greater than 3:1, b) 14 days as to all other disturbed or graded areas on the project site.

4. All sediment traps/basins shown must be fenced and warning signs posted around their perimeter in accordance with Vol. I, Chapter 12, of the HOWARD COUNTY DESIGN MANUAL, Storm Drainage.

5. All disturbed areas must be stabilized within the time period specified above in accordance with the 1983 MARYLAND STD.S AND SPEC.S FOR SOIL EROSION AND SEDIMENT CONTROL for permanent seedings, sod, temporary seeding and mulching (Sec. G).
Temporary stabilization, with mulch alone, can only be done when recommended seeding dates do not allow for proper germination and establishment of grasses.

6. All sediment control structures are to remain in place and are to be maintained in operative condition until permission for their removal has been obtained from the Howard County Sediment Control Inspector.

7. Site Analysis:

Total Area of Site	:	8.04 Acres±
Area Disturbed	:	5.04 Acres±
Area to be rooted or paved		2.41 Acres±
Area to be vegetatively stabilized		2.63Acres±
Total Cut	:	2,800 Cu. Yds.±
Total Fill	:	2,800 Cu. Yds.±
Off-site waste/borrow area location: N/A		

8. Any sediment control practice which is disturbed by grading activity for placement of utilities must be repaired on the same day of disturbance.

9. Additional sediment control must be provided, if deemed necessary by the Howard County DPW Sediment Control Inspector.

10. On all sites with disturbed areas in excess of 2 acres, approval of the inspection agency shall be requested upon completion of installation of perimeter erosion and sediment controls, but before proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until this initial approval by the inspection agency is made.

11. Trenches for the construction of utilities is limited to 3 pipe lengths or that which shall be backfilled and stabilized within one working day, whichever is shorter.

STANDARD AND SPECIFICATIONS FOR TOPSOIL DEFINITION

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

PURPOSE

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

CONDITIONS WHERE PRACTICE APPLIES

I. This practice is limited to areas having 2:1 or flatter slopes where:
   a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
   b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplied of moisture and plant nutrients.
   c. The original soil to be vegetated contains material toxic to plant growth.
   d. The soil is so acidic that treatment with limestone is not feasible.

II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the respective soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.

I. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by a agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.

ii. Topsoil must be free of plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.

iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate if 4-8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

II. For sites having disturbed areas under 5 acres:

i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

III. For sites having disturbed areas over 5 acres:

i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
   a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
   b. Organic content of topsoil shall be not less than 1.5 percent by weight.
   c. Topsoil having soluble salt greater than 500 parts per mill shall not be used.
   d. No sod or seed shall be placed on soil which has been with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of photo-toxic materials.

Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

ii. Place topsoil (if required) and apply soil amendments as specified in 2.0 Vegetative Stabilization – Section I – Vegetative Stabilization Methods and Materials.

V. Topsoil Application

i. When topsoilling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.

ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" – 8" higher in elevation.

iii. Topsoil shall be uniformly distributed in a 4' -8' layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoilling or other operations shall be corrected in order to prevent the formation of depressions or water

iv. Topsoil shall not be placed while the topsoil or subsoil is frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding – Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:

a. Composted sludge shall be supplied by, or originate *from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.*

b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.

c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.

iv. Composted sludge shall be amended with a potassium fertilizer applied at a rate of 4lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD-VA Pub. #1 , Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973.

ENGINEER'S CERTIFICATE

"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."

5/23/05
Date

DEVELOPER'S/BUILDER'S CERTIFICATE

"I/We certify that all development and/or 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 Maryland 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 HSCD."

Miller and Smith
Colleen Dwelley — 5/20/05
Signature of Developer/Builder — Date

These plans have been reviewed for the Howard Soil Conservation District and meet the technical requirements.

Natural Resources Conservation Service — 6/14/05
Date

This Development Plan is approved for Soil Erosion and Sediment Control by the Howard Soil Conservation District.

Howard S.C.D. — 6/14/05
Date

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
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TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

SEDIMENT CONTROL PLAN

STONE LAKE

LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17643 & 17644

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
NO SCALE	R-ED	04-047
DATE	TAX MAP – GRID	SHEET
DEC., 2004	47 – 7	4 OF 8

SDP-05-048

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director	Date 8/17/05
Chief, Division of Land Development	Date 8/17/05
Chief, Development Engineering Division	Date 6/20/05

GLW GUTSCHICK LITTLE & WEBER, P.A.

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DATE	REVISION	BY	APP'R.

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

LANDSCAPE PLAN

STONE LAKE

LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17642 & 17643

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=30'	R-ED	04-047
DATE	TAX MAP – GRID	SHEET
DEC., 2004	47 – 7	5 OF 8

SDP-05-048

SCHEDULE A PERIMETER LANDSCAPE PERIMETER Category	A-1	A-6	A-55	A-56	A-28	A-59	A-60	D-6	D-7	D-11
	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.	Buffer rear/ side of house from Rd.
Landscape Buffer Type	B	B	B	B	B	B	B	B	B	B
Linear Feet of Roadway/ Perimeter Frontage	109'	102'	117'	108'	101'	97'	111'	100'	106'	90'
Credit for Ex. Vegetation (Yes, No, Linear Feet) (describe below if needed)	No	No	No	No	No	No	No	No	No	No
Credit for Wall, Fence or Berm (Yes, No, Linear Feet) (describe below if needed)	No	No	No	No	No	No	No	No	No	No
Number of Plants Required										
Shade Trees	3	3	3	3	3	2	3	2	3	2
Evergreen Trees	3	3	3	3	3	3	3	3	3	3
Shrubs	0	0	0	0	0	0	0	0	0	0
Number of Plants Provided										
Shade Trees	3	2	2	2	2	2	1	2	2	1
Evergreen Trees	3	3	3	2	4	3	3	3	3	3
Other Trees (2:1 subst.)	0	1	3	2	2	1	2	2	2	3
Shrubs (10:1 subst.) (describe plant substitution credits below if needed)	0	19	0	27	0	0	10	0	0	0

Schedule 'A' Number of Shade Trees for bonding: 27 x $300 = $8,100
Schedule 'A' Number of Evergreen Trees for bonding: 10 x $150 = $4,500
Schedule 'A' Number of Shrubs for bonding: 0 x $30 = $0

TOTAL Estimate for Bonding: $12,600

COMMENTS:

SCHEDULE C
RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

Number of Dwelling Units = 45 townhouses

Number of Trees Required = 45 Trees (1:DU SFA)
Number of Trees Provided = 110 Trees
Shade Trees: 46
Other Trees 128 (@ 2:1 substitution = 64)

Schedule 'C' Number of required trees for bonding: 45 x $300 = $ 13,500.00

SURETY CALCULATION FOR THE REQUIRED HOWARD COUNTY LANDSCAPING
Schedule 'C' Number of shade trees for bonding: 45 x $300 = $13,500
TOTAL LANDSCAPE SURETY REQUIRED : $ 13,500.00

Financial surety for the required landscaping shall be paid in the amount of $ 26,100.00.

LANDSCAPING NOTES

1. This plan has been prepared in accordance with Section 16.124 of the Howard County Code and Chapter VI (Alternative Compliance) of the Howard County Landscape Manual.
2. Contractor shall notify all utilities at least (5) five days before starting work. All General Notes, especially those regarding utilities, on Sheet 1 shall apply.
3. Field verify underground utility locations and existing conditions before starting planting work. Contact engineer / landscape architect if any relocations are required.
4. Plant quantities shown on Plant List are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on the plan and those shown on the plant list, the quantities on the plan shall take precedence.
5. All plant material shall be full, heavy, well formed, and symmetrical, and conform to the A.A.N. Specifications, and be installed in accordance with project specifications.
6. No substitution shall be made without written consent of the owner or his representative.
7. All areas disturbed by construction activities but not otherwise planted, paved, or mulched shall be seeded or sodded in accordance with the project specifications.
8. The contractor shall notify the owner in writing if he/she encounters soil drainage conditions which may be detrimental to the growth of the plants.
9. All exposed earth within limits of planting beds shall be mulched with shredded hardwood mulch per Planting Details.
10. Schedule C – RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING are provided for landscape surety calculation purposes only. Financial surety for the required landscaping shall be posted in the amount of $13,500.00.
11. Planting provided:
    Shade Trees (proposed): 58
    Ornamental Trees (proposed): 83
    Evergreen Trees (proposed): 81

NOTE: Due to Howard Rouse Development Company's landscaping requirements of 3 trees per dwelling unit, the landscape requirements of Howard County have been exceeded. In addition, buffer requirements have also been exceeded.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director — Date 5/12/05
Chief, Division of Land Development — Date 5/12/05
Chief, Development Engineering Division — Date 5/20/05

PLANT MATERIALS AND PLANTING METHODS

A. Plant Materials

The landscape contractor shall furnish and install and/or dig, ball, burlap and transplant all of the plant materials called for on drawings and/or listed in the Plant Schedule.

1. Plant Names

Plant names used in the Plant Schedule shall conform with "Standardized Plant Names," latest edition.

2. Plant Standards

All plant material shall be equal to or better than the requirements of the "USA Standard for Nursery Stock" latest edition, as published by the American Association of Nurserymen (hereafter referred to as AAN Standards). All plants shall be typical of their species and variety, shall have a normal habit of growth and shall be first quality, sound, vigorous, well-branched and with healthy, well-furnished root systems. They shall be free of disease, insect pests and mechanical injuries.

All plants shall be nursery grown and shall have been grown under the same climate conditions as the location of this project for at least two years before planting. Neither heeled-in plants nor plants from cold storage will be accepted.

3. Plant Measurements

All plants shall conform to the measurements specified in the Plant Schedule as approved by the ARC.

a. Caliper measurements shall be taken six inches (6") above grade for trees under four-inch (4") caliper and twelve (12") above grade for trees four inches (4") in caliper and over.

b. Minimum branching height for all trees shall be six feet (6'), maximum eight feet (8').

c. Minimum size for planting shade trees shall be 3-3?" caliper, 14'-16' in height.

d. Minimum size for planting minor or intermediate focus trees (pines, crabapples, etc.) shall be 3"-3?" caliper, 10'-12' in height.

e. Minimum size for planting shrubs shall be 18" - 24" spread unless noted otherwise.

f. Caliper, height, spread and size of ball shall be generally as follows:

CALIPER	HEIGHT	SPREAD	SIZE OF BALL
3" - 3.5"	14'-16'	6'-8'	32" diameter
3.5"- 4"	14'-16'	8'-10'	36" diameter
4" - 4.5"	16'-18'	8'-10'	40" diameter
4.5"- 5"	16'-17'	10'-12'	44" diameter
5" - 5.5"	16'-20'	10'-12'	48" diameter
5.5"- 6"	18'-20'	12'-14'	52" diameter

All plant material shall generally overage the median for the size ranges indicated above as indicated in the "AAN Standards".

4. Plant Identification

Legible labels shall be attached to all shade trees, minor trees, specimen shrubs and bundles or boxes of other plant material giving the botanical and common names, size and quantity of each. Each shipment of plants shall bear certificates of inspection as required by Federal, State and County authorities.

5. Plant Inspection

The ARC may, upon request by the builder or developer, at least ten (10) days prior to the installation of any proposed plant material, inspect all proposed plant material at the source of origin.

B. Planting Methods

All proposed plant materials that meet the specifications in Section A are to be planted in accordance with the following methods during the proper planting seasons as described in the following:

1. Planting Seasons

The planting of deciduous trees, shrubs and vines shall be from March 1st to June 15th and from September 15th to December 15th. Planting of deciduous material may be continued during the winter months providing there is no frost in the ground and frost-free topsoil planting mixtures are used.

The planting of evergreen material shall be from March 15th to June 15th and from August 15th to December 1st. No planting shall be done when ground is frozen or excessively moist. No frozen or wet topsoil shall be used at any time.

2. Digging

All plant material shall be dug, balled and burlapped (B&B) in accordance with the "AAN Standards".

3. Excavation of Plant Pits

The landscaping contractor shall excavate all plant pits, vine pits, hedge trenches and shrub beds in accordance with the following schedule:

a. Locations of all proposed plant material shall be staked and approved in the field by the landscape architect before any of the proposed plant material is installed by the landscape contractor.

b. All pits shall be generally circular in outline, vertical sides; depth shall not be less than 6" deeper than the root ball, diameter shall not be less than two times the diameter of the root ball as set forth in the following schedule.

c. If areas are designated as shrub beds or hedge trenches, they shall be excavated to at least 18" depth minimum. Areas designated for ground covers and vines shall be excavated to at least 12" in depth minimum.

d. Diameter and depth of tree pits shall generally be as follows:

PLANT SIZE	ROOT BALL	PIT DIAMETER	PIT DEPTH
3" - 3.5" cal.	32"	64"	28"
3.5"- 4" cal.	36"	72"	32"
4" - 4.5" cal.	40"	80"	36"
4.5"- 5" cal.	44"	88"	40"
5" - 5.5" cal.	48"	96"	44"
5.5"- 6" cal.	52"	104"	48"

A 20% compaction figure of the soil to be removed is assumed and will be allowed in calculation of extra topsoil. The tabulated pit sizes are for purposes of uniform calculation and shall not override the specified depths below the bottoms of the root balls.

4. Staking, Guying and Wrapping

All plant material shall be staked or guyed, and wrapped in accordance with the following specifications:

a. Stakes: Shall be sound wood 2" x 2" rough sawn oak or similar durable woods, or lengths, minimum 7'-0" for major trees and 5'-0" minimum for minor trees.

b. Wire and Cable: Wire shall be #10 ga. galvanized or bethonized annealed steel wire. For trees over 3" caliper, provide 5/16" turn buckles, eye and eye with 4" take-up. For trees over 5" caliper, provide 3/16", 7 strand cable cadmium plated steel, with galvanized "eye" thimbles of wire and hose on trees up to 3" in caliper.

c. Hose: Shall be new, 2 ply reinforced rubber hose, minimum 1/2" I.D. "Plastic Lock Ties" or "Poul's Trees Braces" may be used in place of wire and hose on trees up to 3" in caliper.

d. All trees under 3" in caliper are to be planted and staked in accordance with the attached "Typical Tree Staking Detail". All trees over 3" in caliper are to be planted and guyed in accordance with the attached "Typical Tree Guying Detail".

5. Plant Pruning, Edging and Mulching

a. Each tree, shrub or vine shall be pruned in an appropriate manner to its particular requirements, in accordance with accepted standard practice. Broken or bruised branches shall be removed with clean cuts flush with the adjacent trunk or branches. All cuts over 1" in diameter shall be painted with an approved antiseptic tree wound dressing.

b. All trenches and shrub beds shall be edged and cultivated to the lines shown on the drawing. The area around isolated plants shall be edged and cultivated to the full diameter of the pit. Sod which has been removed and stacked shall be used to trim the edges of all excavated areas to the neat lines of the plant pit saucers, the edges of shrub areas, hedge trenches and vine pockets.

c. After cultivation, all plant materials shall be mulched with a 2" layer of fine, shredded pine bark, peat moss, or another approved material over the entire area of the bed or saucer.

6. Plant Inspection and Acceptance

The ARC shall be responsible for inspecting all planting projects on a periodic basis to assure that all work is proceeding in accordance with the approved plans and specifications.

7. Plant Guarantee

All plant material shall be guaranteed for the duration of one full growing season, after final inspection and acceptance of the work in the planting project. Plants shall be alive and in satisfactory growing condition at the end of the guarantee period.

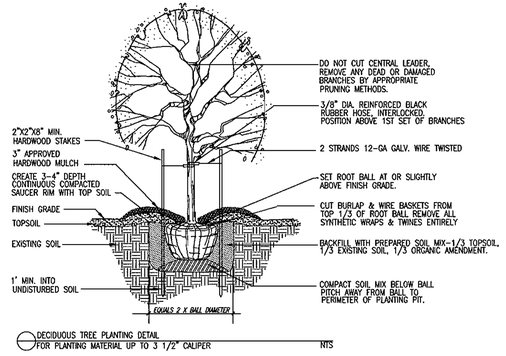
a. For this purpose, the "growing season" shall be that period between the end of the "Spring" planting season, and the commencement of the "Fall" planting season.

b. Guarantee for planting performed after the specified end of the "Spring" planting season, shall be extended through the end of the next following "Spring" planting season.

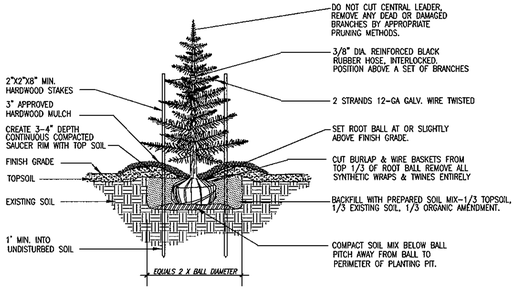
Sodding

All sodding shall be in accordance to the "Landscape Specification Guidelines for Baltimore-Washington metropolitan Areas" latest edition, approved by the Landscape Contractors Association of Metropolitan Washington and the American Society of Landscape Architects.

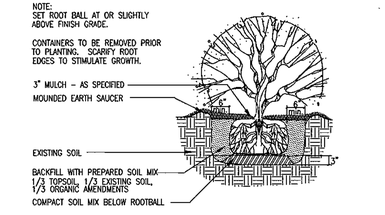
All sod shall be strongly rooted sod, not less than two years old and free of weeds and undesirable native grasses. Provide only sod capable of growth development when planted and in strips not more than 18" wide x 4" long. Provide sod composed principally of improved strain Kentucky bluegrass, such as, Columbia, Victa, or Escort.



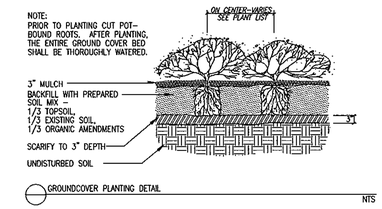
DECIDUOUS TREE PLANTING DETAIL — NTS



EVERGREEN TREE PLANTING DETAIL — NTS



SHRUB PLANTING DETAIL — NTS



GROUNDCOVER PLANTING DETAIL — NTS

LEGEND

SHADE TREES
- AR — Acer rubrum 'Autumn Flame': Autumn Flame Maple
- PA — Platanus x acerifolia 'Bloodgood': London Planetree
- QP — Quercus palustris: Pin Oak
- TT — Tilia tomentosa 'Green Mountain': Green Mountain Silver Linden

ORNAMENTAL TREES
- CC — Cercis canadensis 'Forest Pansy': Forest Pansy Eastern Redbud
- CK — Cornus kousa 'National': National Kousa Dogwood
- MF — Malus x zumi var. 'Calocarpa': Zumi Flowering Crabapple
- PC — Prunus cerasifera 'Thundercloud': Thundercloud Plum

EVERGREEN TREES
- ID — Ilex 'Nellie Stevens': Nellie Stevens Holly
- PO — Picea omorika: Serbian Spruce

SHRUBS

PERENNIALS/GROUNDCOVER
- Liriope muscari 'Majestic' or 'Big Blue': Lily Turf
- Armeria maritima 'Bloodstone': Bloodstone Thrift
- Hypericum frondosum 'Sunburst': Golden St. Johnswort

PLANT LIST

SYM.	QTY.	NAMES (BOTANICAL / SCIENTIFIC)	SIZE/COMMENTS
SHADE TREES			
AR	23	Acer rubrum 'October Glory' October Glory Red Maple	3" - 3-1/2" Cal. B&B 12' - 14' height 6' min. branching ht
PA	10	Platanus x acerifolia 'Bloodgood' London Planetree	3" - 3-1/2" Cal. B&B 12' - 14' height 6' min. branching ht
QP	12	Quercus palustris Pin Oak	3" - 3-1/2" Cal. B&B 12' - 14' height 6' min. branching ht
TT	20	Tilia tomentosa 'Green Mountain' Green Mountain Silver Linden	3" - 3-1/2" Cal. B&B 12' - 14' height 6' min. branching ht
EVERGREEN TREES			
ID	64	Ilex 'Nellie Stevens' Nellie Stevens Holly	8' - 10' height
PO	28	Picea omorika Serbian Spruce	8' - 10' height
ORNAMENTAL TREES			
CC	21	Cercis canadensis 'Forest Pansy' Forest Pansy Eastern Redbud	2"-2 1/2" Cal. B&B 8' - 10' height
CK	19	Cornus kousa 'National' National Kousa Dogwood	2"-2 1/2" Cal. B&B 8' - 10' height
MF	18	Malus x zumi var. 'Calocarpa' Zumi Crabapple	2"-2 1/2" Cal. B&B 8' - 10' height
PC	26	Prunus cerasifera 'Thundercloud' Thundercloud Plum	2"-2 1/2" Cal. B&B 8' - 10' height
SHRUBS			
AG	156	Abelia x grandiflora Glossy Abelia	30" - 36" in Ht. B&B/container
PL	75	Prunus laurocerasus 'Otto Luyken' Otto Luyken Cherry Laurel	30" - 36" in Ht. B&B/container
SM	24	Syringa meyeri Dwarf Lilac	30" - 36" in Ht. B&B/container
SN	47	Spiraea nipponica 'Snowmound' Snowmound Nippon Spirea	30" - 36" in Ht. B&B/container
TM	112	Taxus x media 'Densiformis' Dense Yew	30" - 36" in Ht. B&B/container
PERENNIALS/GROUNDCOVER			
AM	76	Armeria maritima 'Bloodstone' Bloodstone Thrift	1 quart container
HF	13	Hypericum frondosum 'Sunburst' Golden St. Johnswort	1 gallon container
LM	52	Liriope muscari 'Majestic' or 'Big Blue' Lilly Turf	1 gallon container

NOTE: Proposed trees are from the list of Recommended Plant List of both the Howard County Landscape Manual and the Stone Lake Residential Landscape Guidelines for New Construction.

THIS PLAN FOR LANDSCAPE PURPOSES ONLY

GLW GUTSCHICK LITTLE & WEBER, P.A.
CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

\Drawings\04047\DESIGN\SDP\04047LP6.dwg | DES. JRS | DRN. JRS | CHK. KAF

DATE	REVISION	BY	APP'R.

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

LANDSCAPE NOTES AND DETAILS

STONE LAKE

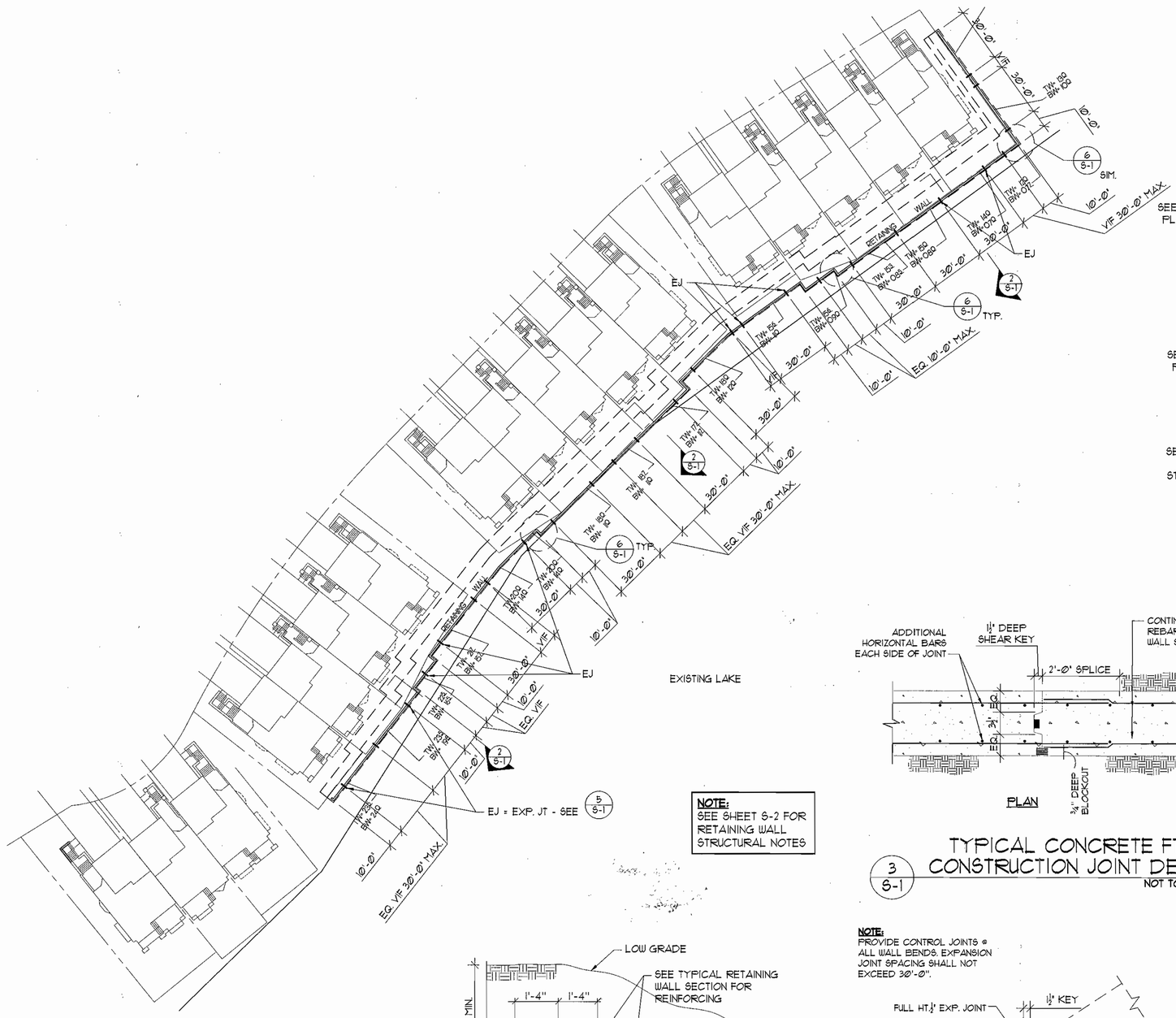
LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17642 & 17643

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

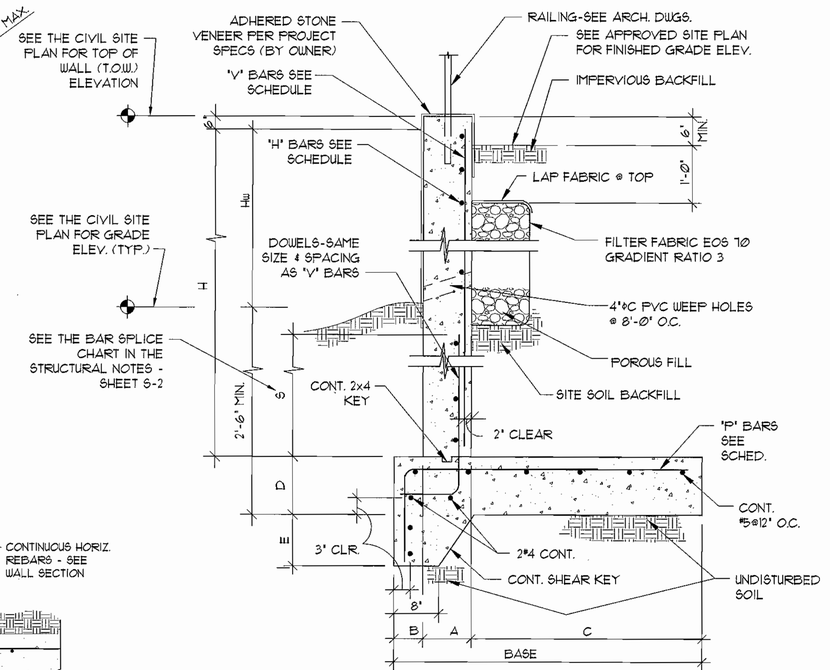
SCALE	ZONING	G. L. W. FILE No.
NTS	R-ED	04-047
DATE	TAX MAP - GRID	SHEET
DEC., 2004	47 - 7	6 OF 8

SDP-05-048

CONCRETE RETAINING WALL SCHEDULE											
MAX H_W	H	BASE	B	A	C	D	E	S	REINFORCING - SIZE & SPACING		
									'P' BARS	'V' BARS	'H' BARS
8'-0"	9'-0"	10'-6"	6'	10'	9'-2"	1'-6"	1'-0"	2'-0"	#5@12"	#6@10"	#4@12"
6'-0"	7'-0"	8'-6"	6'	10'	7'-2"	1'-6"	1'-0"	1'-9"	#5@18"	#5@15"	#4@12"
4'-0"	5'-0"	6'-6"	6'	10'	5'-2"	1'-6"	1'-0"	1'-6"	#4@18"	#4@18"	#4@12"
2'-0"	3'-0"	4'-6"	6'	10'	3'-2"	1'-6"	1'-0"	1'-6"	#4@18"	#4@18"	#4@12"

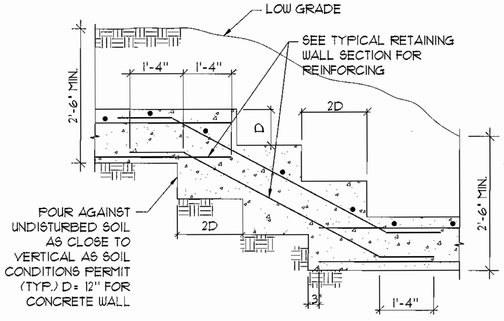


1/S-1 RETAINING WALL KEY PLAN
SCALE: 1/32" = 1'-0"



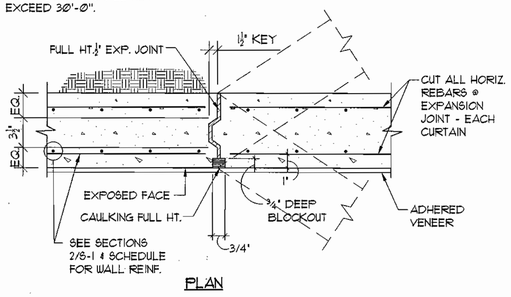
2/S-1 TYPICAL CONCRETE RETAINING WALL SECTION
NOT TO SCALE

3/S-1 TYPICAL CONCRETE FTG. CONSTRUCTION JOINT DETAIL
NOT TO SCALE

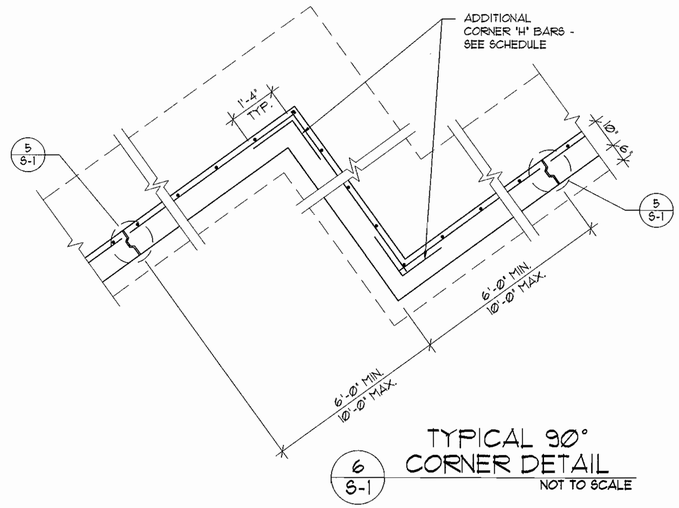


4/S-1 TYPICAL STEPPED WALL FOOTING DETAIL
NOT TO SCALE

NOTE:
PROVIDE CONTROL JOINTS @ ALL WALL BENDS. EXPANSION JOINT SPACING SHALL NOT EXCEED 30'-0".



5/S-1 TYPICAL CONCRETE WALL EXPANSION JOINT DETAIL
NOT TO SCALE



6/S-1 TYPICAL 90° CORNER DETAIL
NOT TO SCALE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director	Date 6/13/05
Chief, Division of Land Development	Date 5/12/05
Chief, Development Engineering Division	Date 6/10/05

MILLER & SMITH
8401 GREENSBORO DRIVE, SUITE 300
MCLEAN, VA 22102
(703) 821-2500

ADTEK
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3251 Old Lee Highway, Suite 405
Fairfax, Virginia 22030
Phone: 703-691-4040
Fax: 703-691-4056
www.adtekengineers.com

NO.	ISSUE DESCRIPTION	DATE
	PROGRESS	9/27/04
	PERMIT	10/14/04
	REVISED PERMIT	12/6/04
	FINAL	5/27/05

STONE LAKE
SITE RETAINING WALL, PARCEL A
HOWARD COUNTY, MD

RETAINING WALL PLAN, SECTIONS, DETAILS & SCHEDULE

DRAWN BY: FQ
CHECKED BY: JJF, III
JOB NO. 0401171
DATE: 5/27/05

SHEET NO.
S-1
7 OF: 8

SDP-05-048

J:\proj\2004\0401171B Stone Lake Co Rev\Struct\ May 25, 2005 - 3:34pm

SDP-05-048

STRUCTURAL NOTES

BUILDING CODE: INTERNATIONAL BUILIDNG CODE

DESIGN LIVE LOADS:
NOT APPLICABLE

DESIGN DEAD LOADS:
NOT APPLICABLE

LATERAL LOADS:
WIND AND SEISMIC LOADING NOT APPLICABLE FOR RETAINING WALL DESIGN

REFER TO THE DIVISION 2 NOTES FOR DESIGN LATERAL SOIL LOADS.

GENERAL NOTES

REFER TO THE CIVIL DRAWINGS FOR ADDITIONAL SLEEVES NOT SHOWN ON THE STRUCTURAL PLANS.

ALL MATERIALS SHALL BE IN CONFORMANCE WITH THE LATEST EDITION OF THE ASTM SPECIFICATIONS NOTED IN THE STRUCTURAL NOTES.

THIS PROJECT HAS BEEN DESIGNED FOR THE WEIGHTS OF THE MATERIALS INDICATED ON THE DRAWING. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADDITIONAL SHORING AND BRACING FOR THE STRUCTURE IF ACTUAL CONSTRUCTION LOADS EXCEED THE DESIGN LOADS.

ALL DIMENSIONS AND NOTES SHALL SUPERSEDE ALL SCALE REFERENCES ON THE DRAWINGS.

ALL WORK SPECIFIED HEREIN SHALL BE INSPECTED IN ACCORDANCE WITH THE BUILDING CODE AND ALL LOCAL ORDINANCES. THE SPECIAL INSPECTORS SHALL PERFORM ALL THE REQUIRED INSPECTION WORK. ADTEK ENGINEERS WILL NOT PERFORM THE CONTINUOUS DAILY SPECIAL INSPECTIONS DURING CONSTRUCTION. ADTEK ENGINEERS MAY VISIT THE SITE TO ASCERTAIN GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS AND SUCH VISITS ARE NOT TO BE CONSTRUED AS MEETING THE DAILY SPECIAL INSPECTION REQUIREMENTS UNLESS THE ENGINEER SPECIFICALLY SO STATES IN WRITING.

CONTRACTOR RESPONSIBILITIES

THE FOLLOWING LIST IS NOT INTENDED TO BE ALL INCLUSIVE, BUT MERELY TO PLACE EMPHASIS ON PARTICULAR ITEMS OF JOB SCHEDULING AND SAFETY.

1. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR IN ADVANCE OF WORK REQUIRING INSPECTIONS OR ON SITE PERSONNEL. COORDINATE ADVANCE NOTIFICATION REQUIREMENTS WITH THE SPECIAL INSPECTOR.

2. IF THE CONTRACTOR ANTICIPATES A PROBLEM THAT WILL REQUIRE ASSISTANCE FROM THE PROJECT STRUCTURAL ENGINEER, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO PROVIDE THE ENGINEER WITH AMPLE NOTICE.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION IS ACCORDING TO THE SIGNED AND SEALED CONSTRUCTION DOCUMENTS.

4. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING BETWEEN THE STRUCTURAL AND CIVIL DRAWINGS. THE CONTRACTOR IS TO NOTIFY THE ENGINEER IN THE CASE OF ANY DISCREPANCIES PRIOR TO COMMENCING WITH THE WORK.

5. THE CONTRACTOR IS RESPONSIBLE FOR METHODS TO INSURE CONSTRUCTION SAFETY AT THE SITE THROUGHOUT THE COURSE OF THE PROJECT CONSTRUCTION. SEE O.S.H.A. REGULATIONS FOR CONSTRUCTION: 29 CFR, PARTS 1926 AND 1910 REQUIREMENTS.

6. UPON STRUCTURAL COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE COUNTY INSPECTOR ISSUE A FINAL CERTIFICATION INDICATING THAT THE STRUCTURE IS IN COMPLIANCE WITH THE PLANS, SPECIFICATIONS, CONCRETE TEST REPORTS AND CODE REQUIREMENTS.

SPECIAL INSPECTIONS

COUNTY INSPECTIONS ARE REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE. THE FOLLOWING STRUCTURAL ITEMS SHALL BE INSPECTED

1. BACKFILL MATERIAL
2. FOUNDATION SUBGRADES
3. FOUNDATION REINFORCING
4. CONCRETE FORMWORK AND REINFORCING
5. CONCRETE MIX AND PLACEMENT

FOUNDATION

SUBSURFACE INVESTIGATION AND REPORT BY GEO-TECHNOLOGY ASSOCIATES, INC

TELEPHONE NO: 410-792-9446
GEOTECHNICAL REPORT DATED: SEPTEMBER 23, 2004

ASSUMED LATERAL WALL LOADS (EQUIVALENT FLUID PRESSURE
CANTILEVERED RETAINING WALLS: 45 PSF PER FOOT OF DEPTH.

ASSUMED SOIL BEARING VALUE
2000 POUNDS PER SQUARE FOOT FOR WALL FOOTINGS.

ALL FOUNDATION WORK AND SOIL COMPACTION SHALL BE IN STRICT ACCORDANCE WITH THE GEOTECHNICAL REPORT FOR THE PROJECT.

ALL SPREAD FOOTINGS SHALL EXTEND MINIMUM 1' 0" INTO UNDISTURBED SOIL OR SHALL BEAR ON COMPACTED STRUCTURAL FILL. PLACE THE FILL REQUIRED TO BRING THE SUBGRADE TO THE PROPER ELEVATION PRIOR TO INSTALLING THE FOUNDATION.

THE BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 2' 6" BELOW THE FINISHED EXTERIOR GRADE UNLESS NOTED OTHERWISE.

THE MAXIMUM SLOPE OF ALL STEPPED WALL FOOTINGS SHALL BE ONE VERTICAL TO TWO HORIZONTAL UNITS WITH A MAXIMUM OF 16 INCH VERTICAL STEP HEIGHTS.

LOWER THE FOOTING ELEVATIONS, IF REQUIRED, TO ACHIEVE THE REQUIRED DESIGN BEARING CAPACITY.

THE FINAL SOIL BEARING CAPACITY, BACKFILL AND FOUNDATION SUBGRADES SHALL BE INSPECTED AND APPROVED BY THE SPECIAL GEOTECHNICAL INSPECTOR PRIOR TO THE CONCRETE FOOTING INSTALLATION. THE CONTRACTOR SHOULD TAKE NOTE OF ANY WATER CONDITIONS OR EXPANSIVE CLAYS AT THE SITE. FOUNDATION SUBGRADES SHALL REMAIN DRY DURING CONSTRUCTION. EXPANSIVE CLAYS SHALL BE REMOVED AND REPLACED WITH COMPACTED BACKFILL UNDER THE SUPERVISION OF THE PROJECT GEOTECHNICAL ENGINEER.

BACKFILL

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO BRACE ALL WALLS WHEN BACKFILLING. BACKFILLING AGAINST WALLS SHALL NOT BE PERMITTED UNTIL SUPPORTING STRUCTURES ARE IN PLACE OR UNTIL ADEQUATE BRACING ARRANGEMENTS ARE APPROVED BY THE SPECIAL INSPECTOR. THE CONTRACTOR SHALL NOT OVERLOAD THE WALL WITH HEAVY EQUIPMENT DURING PLACEMENT OF BACKFILL ADJACENT TO THE WALL. ONLY LIGHTWEIGHT (A MAXIMUM OF ONE TON TOTAL WEIGHT) EQUIPMENT SHALL BE PERMITTED WITHIN THE CRITICAL ZONE DEFINED AS BEGINNING AT THE BASE OF THE WALL AND WIDENING UPWARD FROM THE BASE ON A 1:1 SLOPE. BACKFILL MATERIAL SHALL BE INSPECTED AND APPROVED BY THE SPECIAL GEOTECHNICAL INSPECTOR

STRUCTURAL COMPACTED FILL

STRUCTURAL COMPACTED FILL FOR FOUNDATIONS SHALL BE APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER AND COMPACTED IN 12" LOOSE LAYERS AND COMPACTED TO AT LEAST 92 %OF THE MAXIMUM DRY DENSITY BASED ON THE MODIFIED PROCTOR COMPACTION TEST (ASTM D-1557).

EXISTING CONDITIONS

ALL EXISTING CONDITIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BEFORE EXCAVATION / CONSTRUCTION IS BEGUN. EXISTING UTILITIES SHALL BE LOCATED AND PROTECTED AS REQUIRED BY THE EXCAVATION / CONSTRUCTION. FIELD MEASUREMENTS SHALL BE MADE OF ADJOINING CONSTRUCTION RELATIVE TO THE PROPER INSTALLATION OF NEW WORK. ALL DISCREPANCIES SHALL BE REPORTED TO THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING WITH THE WORK IN THE AREA OF THE DISCREPANCY.

ALL EXISTING MATERIALS INDICATED ON THE DRAWINGS TO BE DEMOLISHED SHALL BE REMOVED TO AN OFFSITE LOCATION APPROVED BY LOCAL ORDINANCES.

SHORING

SHORING SHALL BE PROVIDED AS REQUIRED TO PROTECT EXISTING CONSTRUCTION AND TO AVOID CAVING OF EXCAVATIONS.

SHORE EXCAVATIONS AS REQUIRED BY THE PROJECT GEOTECHNICAL REPORT AND O.S.H.A. REGULATIONS.

STRUCTURAL CONCRETE

REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60. DETAILING SHALL BE IN ACCORDANCE WITH ACI MANUAL 315 AND STANDARD 318-89. CONCRETE SHALL BE NORMAL WEIGHT WITH A MAXIMUM UNIT WEIGHT OF 150 PCF. DESIGN COMPRESSIVE STRENGTH AT 28 DAYS SHALL BE 3000 PSI.

MAXIMUM AGGREGATE SIZE FOR CONCRETE SHALL BE IN ACCORDANCE WITH THE MAXIMUM AGGREGATE SIZES IN ACI 318 AND AS FOLLOWS:

FOOTINGS	1-1/2"
CONCRETE WALLS	3/4"

ALL EXTERIOR CONCRETE AND CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.
CONCRETE AIR CONTENT, SLUMP AND WATER/CEMENT RATIOS SHALL BE AS FOLLOWS:

AIR ENTRAINMENT: 6% +/- 1% OF THE TOTAL CONCRETE VOLUME CONCRETE SLUMP: 3" +/- 1"
WATER/CEMENT RATIO:
0.50 FOR EXTERIOR CONCRETE

THE USE OF ADDITIVES SHALL NOT BE PERMITTED UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. THE USE OF ADDITIVES CONTAINING CALCIUM CHLORIDE SHALL NOT BE PERMITTED.

ALL REINFORCING STEEL MARKED 'CONTINUOUS' SHALL BE LAPPED AS REQUIRED WITH CLASS B TENSION SPLICES PER ACI 315. PROVIDE CLASS B TENSION SPLICES AT WALL CORNERS AND INTERSECTIONS WITH STANDARD 90 DEGREE BENT CORNER BARS. LAP WELDED WIRE MESH ONE FULL MESH AT SIDE AND END LAPS. PROVIDE CORNER LAP BARS AT ALL LONGITUDINAL FOOTING REINFORCING AS WELL AS AT ALL HORIZONTAL WALL REINFORCING.

ALL TENSION SPLICES IN THE REINFORCING STEEL, UNLESS NOTED OTHERWISE, SHALL HAVE A MINIMUM LAP DISTANCE AS FOLLOWS:

BAR SIZE	MINIMUM CLASS B TENSION LAP SPLICE TOP BARS	OTHER BARS
#3	21"	16"
#4	28"	22"
#5	35"	27"
#6	42"	32"

PROVIDE CONCRETE PROTECTION FOR REINFORCING AS FOLLOWS:

FOOTINGS: 3"
WALLS: OUTSIDE FACE 2"
INSIDE FACE 1"

ALL CONCRETE WORK, REINFORCING PLACEMENT FORMWORK AND SHORING SHALL BE INSPECTED UNDER THE SUPERVISION OF THE COUNTY INSPECTOR. CONCRETE QUALITY CONTROL, INSPECTION AND TESTING SHALL BE IN STRICT ACCORDANCE WITH ACI 301 AND THE LOCAL BUILDING CODE REQUIREMENTS.

CONCRETE CONSTRUCTION PRACTICES:

WET STICKING OF DOWELS INTO THE FOOTING WILL NOT BE ACCEPTED. DOWELS SHOULD BE PROPERLY PLACED AND TIED TO LONGITUDINAL FOOTING REINFORCING IN ACCORDANCE WITH CRSI.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director	Date 5/17/05
Chief, Division of Land Development	Date 5/17/05
Chief, Development Engineering Division	Date 5/20/05

J:\proj\2004\04011118 Stone Lake Co Rev\Struct\ May 25, 2005 - 3:34pm

MILLER & SMITH
8401 GREENSBORO DRIVE, SUITE 300
MCLEAN, VA 22102
(703) 821-2500

ADTEK
ADTEK ENGINEERS, INC.
CIVIL, STRUCTURAL & GEOTECHNICAL ENGINEERING
3251 Old Lee Highway, Suite 405
Fairfax, Virginia 22030
Phone: 703-691-4040
Fax: 703-691-4056
www.adtekengineers.com

ISSUE NO.	DESCRIPTION	DATE
	PROGRESS	9/27/04
	PERMIT	10/14/04
	REVISED PERMIT	12/10/04
	FINAL	5/27/05

STONE LAKE
SITE RETAINING WALL, PARCEL A
HOWARD COUNTY, MD

RETAINING WALL STRUCTURAL NOTES

DRAWN BY: FQ
CHECKED BY: JJF, III
JOB NO. 04011111
DATE: 5/27/05

SHEET NO.
S-2
8 OF: 8

SDP-05-048

SDP-05-048

LOT FRONTAGE TABLE	
LOT No.	DIST.
A-1	29.51'
A-2	30.19'
A-3	30.20'
A-4	30.08'
A-5	29.03'
A-6	40.29'
A-26	28.18'
A-27	28.18'
A-28	35.47'
A-39	44.17'
A-40	32.12'
A-41	32.12'
A-42	32.11'
A-43	40.03'
A-44	40.00'
A-45	32.00'
A-46	32.00'
A-47	32.00'
A-48	40.00'
A-49	40.01'
A-50	32.04'
A-51	32.15'
A-52	40.48'
A-53	32.95'
A-54	32.92'
A-55	45.81'
A-56	31.17'
A-57	40.18'
A-58	28.01'
A-59	40.04'
A-60	33.51
A-61	28.01'
A-62	28.01'
A-63	40.00'
D-1	44.17'
D-2	28.01'
D-3	28.00'
D-4	28.00'
D-5	28.00'
D-6	28.00'
D-7	27.74'
D-8	28.00'
D9	28.00'
D-10	28.00'
D-11	41.93'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Marsha McLaughlin — Director — Date 8/17/05

Cindy Hamilton — Chief, Division of Land Development — Date 8/17/05

Chief, Development Engineering Division — Date 6/20/05

GLW GUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS
3909 NATIONAL DRIVE – SUITE 250 – BURTONSVILLE OFFICE PARK
BURTONSVILLE, MARYLAND 20866
TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

\Drawings\04047\DESIGN\SDP\04047SP2.dwg | DES. HKJ | DRN. WSJ | CHK. HKJ

DATE	REVISION	BY	APP'R.
3/24/06	Rev. RR & Terr elev. on lot A-55, rev. grading in rear		

PREPARED FOR:
MILLER AND SMITH
8401 GREENSBORO DRIVE SUITE 300
McLEAN, VIRGINIA 22102
ATTN: COLLEEN DWELLEY
703-821-2500 EXT. 236

SITE DEVELOPMENT PLAN

STONE LAKE

LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17642 & 17643

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=30'	R-ED	04-047
DATE	TAX MAP – GRID	SHEET
DEC., 2004	47 – 7	2 OF 8

SDP-05-048

LOT FRONTAGE TABLE	
LOT No.	DIST.
A-1	29.51'
A-2	30.19'
A-3	30.20'
A-4	30.08'
A-5	29.03'
A-6	40.29'
A-26	28.18'
A-27	28.18'
A-28	35.47'
A-34	44.11'
A-40	32.12'
A-41	32.12'
A-42	32.11'
A-43	40.03'
A-44	40.00'
A-45	32.00'
A-46	32.00'
A-47	32.00'
A-48	40.00'
A-49	40.01'
A-50	32.04'
A-51	32.15'
A-52	40.48'
A-53	32.45'
A-54	32.42'
A-55	45.81'
A-56	31.17'
A-57	40.18'
A-58	28.01'
A-59	40.04'
A-60	33.51
A-61	28.01'
A-62	28.01'
A-63	40.00'
D-1	44.17'
D-2	28.01'
D-3	28.00'
D-4	28.00'
D-5	28.00'
D-6	28.00'
D-7	21.74'
D-8	28.00'
D9	28.00'
D-10	28.00'
D-11	41.93'

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

Director	Date 8/17/05
Chief, Division of Land Development	Date 8/17/05
Chief, Development Engineering Division	Date 6/20/05

GLW GUTSCHICK LITTLE & WEBER, P.A.
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DATE	REVISION	BY	APP'R.
07-17-06	REV. FF ELEV. LOTS A-59,A-60 & A-61; REV. FOV & FF ELEV. ON LOT A-49	HKJ	
05-17-06	REV. GRADING ON LOTS A-64,A-56 AND A-26-A-28 FOR FINAL GRADE CERTIFICATION	HKJ	
3/24/06	REV. RR & Terr elev. on lot A-55, rev. grading in rear		

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SITE DEVELOPMENT PLAN

STONE LAKE

LOTS A-1 THRU A-6, A-26 THRU A-28, A-35 THRU A-37, A-39 THRU A-66 & LOTS D-1 THRU D-14 & LOT 122
PLAT No. 16663, 16664, 17042 & 17643

ELECTION DISTRICT No. 6 — HOWARD COUNTY, MARYLAND

SCALE	ZONING	G. L. W. FILE No.
1"=30'	R-ED	04-047
DATE	TAX MAP – GRID	SHEET
DEC., 2004	47 – 7	2 OF 8

SCALE: 1" = 30'
0' 15' 30' 60' 120'

SDP-05-048