

GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- ALL ASPECTS OF THE PROJECT ARE IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS OTHERWISE NOTED.
- THE TOPOGRAPHY SHOWN HEREON IS BASED ON AN AERIAL TOPOGRAPHIC SURVEY PREPARED BY POTOMAC AERIAL SURVEYS, DATED FEBRUARY 2004.
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL, WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM, HOWARD COUNTY MONUMENT NOS. 3111 AND 37CA WERE USED FOR THIS PROJECT.
3111 N 565,004.7000 E 1,381,586.9171 ELEV. 256.016'
37CA N 564,321.6624 E 1,382,742.8344 ELEV. 256.964'
- DEED REFERENCE: GEELHAAR PROPERTY LOT 3 & L 2014 / F 188 L 14668 / F 398
NON-BUILDABLE BULK PARCEL H. L. 13156 / F. 1
- THIS PLAN IS BASED ON A FIELD RUN BOUNDARY SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. NOVEMBER 2008.
- THE SUBJECT PROPERTY IS ZONED R-ED PER THE 02/02/2004 COMPREHENSIVE ZONING PLAN, AND THE COMPREHENSIVE LITE ZONING AMENDMENTS 07/26/2006.
- THIS PLAN IS IN CONFORMANCE WITH THE AMENDED FIFTH EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF ALTERNATIVE SURFACES AND MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE A DRYWELL MICRO-BIOTENTATION. ALTERNATIVE SURFACES INCLUDE PERMEABLE SURFACES. THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
- TEST PITS TO DETERMINE GROUND WATER AND ROCK ELEVATIONS WERE PERFORMED AT EACH FACILITY LOCATION. NO ROCK OR WATER ARE WITHIN 4' OF THE BOTTOM OF ANY FACILITY.
- DECLARATION OF COVENANTS HAVE BEEN RECORDED FOR THE PRIVATE STORMWATER DEVICES LOCATED ON THESE LOTS SEE F13-091.
- EXISTING UTILITIES LOCATED FROM ROAD CONSTRUCTION PLANS AND AVAILABLE RECORD DRAWINGS. APPROXIMATE LOCATION OF EXISTING UTILITIES ARE SHOWN FOR THE CONTRACTORS INFORMATION. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
- ANY DAMAGE TO THE COUNTY'S RIGHTS-OF-WAY, PAVING, OR EXISTING UTILITIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- SHC ELEVATIONS ARE LOCATED AT THE PROPERTY LINE/EDGE OF EASEMENT.
- THE CONTRACTOR IS TO NOTIFY THE FOLLOWING UTILITIES OR AGENCIES AT LEAST FIVE DAYS BEFORE STARTING:
AIRT 1-800-252-1133
BCE (CONSTRUCTION SERVICES) 410-637-8713
BCE (EMERGENCY) 410-685-0123
BUREAU OF UTILITIES 410-313-4900
COLONIAL PIPELINE CO 410-795-1390
MISS UTILITY 1-800-257-7777
STATE HIGHWAY ADMINISTRATION 410-531-5533
VERIZON 1-800-743-0033
- PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE EXISTING WELLS AND SEPTIC SYSTEMS WILL BE PROPERLY ABANDONED IN ACCORDANCE WITH HEALTH DEPARTMENT REGULATIONS.
- THERE IS AN EXISTING DWELLING/STRUCTURE LOCATED ON LOT 4 TO BE REMOVED.
- 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 FRONT OR REAR YARD SETBACK.
- 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 (16 FEET IF SERVING MORE THAN ONE RESIDENCE)
B) SURFACE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.)
C) GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% GRADE CHANGE, AND MINIMUM 45 FOOT TURNING RADIUS
D) STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING)
E) DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100 YEAR FLOOD EVENTS WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE
F) MAINTENANCE - SUFFICIENT TO ENSURE ALL WEATHER USE
NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100 YEAR FLOODPLAIN.
- FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND ROAD RIGHT-OF-WAY LINE AND NOT INTO THE FLAG OR PIPESTEM DRIVEWAY.
- TRASH & RECYCLING COLLECTION WILL BE AT THE COUNTY ROADWAYS, WECKER WAY WITHIN FIVE FEET (5') OF THE COUNTY ROADWAY.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- WATER AND SEWER SERVICE TO THESE LOTS WILL BE GRANTED UNDER THE PROVISIONS OF SECTION 18.122.B OF THE HOWARD COUNTY CODE.
- WATER AND SEWER SERVICE FOR THIS PROJECT WILL BE PUBLIC. WATER WILL BE PROVIDED THROUGH CONTRACT NO. 14-4412-D. SEWER WILL BE PROVIDED THROUGH CONTRACT NO. 14-4412-D. UTILITY EXTENSIONS SHALL BE COMPLETED UNDER THE HOWARD COUNTY ADD PROCESS.
- PUBLIC WATER AND SEWER ALLOCATION WILL BE GRANTED AT THE TIME OF ISSUANCE OF THE BUILDING PERMIT IF CAPACITY IS AVAILABLE AT THAT TIME.
- ALL WATER HOUSE CONNECTIONS SHALL BE OUTSIDE METER SETTING UNLESS OTHERWISE NOTED ON THE PLANS OR IN SPECIFICATIONS. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE ARE NO HISTORIC STRUCTURES EXISTING ON THIS SITE.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO BURIAL/CEMETERY LOCATIONS EXISTING ON THIS SITE.
- THIS PROJECT IS USING THE R-20 OPTION OF THE R-ED REGULATIONS IN ACCORDANCE WITH SECTION 107H.1.A. OF THE ZONING REGULATIONS.
DENSITY TABULATION (PROJECT): 1.4440 ACRES
- DWELLING UNITS PER NET ACRE = 62903 SF / 20,000 SF = 3.14 OR 3 ALLOWED
- DWELLING UNITS PROPOSED = 3
- A FOREST STRIP DELINEATION PLAN WAS PREPARED BY ECF-SCIENCE PROFESSIONALS, INC. DATED DECEMBER 20, 2012. FOREST CONSERVATION OBLIGATIONS FOR THE GROVEMONT SUBDIVISION HAS BEEN FULFILLED UNDER F-09-122 BY PLACEMENT OF 1.00 ACRES OF RETENTION, 1.80 ACRES OF RESTORATION AND 0.78 ACRES OF AFFORESTATION INTO ON-SITE EASEMENT AREAS. SURETY WAS POSTED WITH THE DEVELOPER AGREEMENT FOR F-09-122 (REFER TO PLAT 21470, 21472).
- UNDER F-13-055, THE GROVEMONT SUBDIVISION FOREST CONSERVATION OBLIGATIONS WERE AMENDED WHICH PLACED 1.00 ACRE OF RETENTION [PLAT 21470, 0.45[SHEET 2] + PLAT 21472, 0.27[SHEET 4] + PLAT 21472, 0.28[SHEET 4]], 1.99 ACRES OF RESTORATION [PLAT 22253] AND 0.66 ACRES OF AFFORESTATION [PLAT 22254] INTO EASEMENT AREAS.
- REQUIRED OBLIGATION FOR THE ADDITION OF LOTS 4 TO 6 HAS BEEN FULFILLED UNDER F-13-091 BY THE PAYMENT OF A FEE-IN-LIEU TO THE FOREST CONSERVATION FUND IN THE AMOUNT OF \$6,860.00 FOR THE 0.21 ACRES OF REQUIRED AFFORESTATION (9,147 SF X 0.75).
THE PROPOSED ACCESS SHALL BE PROVIDED BY THE EXISTING USE-IN-COMMON DRIVEWAY TO WECKER WAY, GROVEMONT OVERLOOK PHASE 1 F-09-122.
- A USE-IN-COMMON ACCESS MAINTENANCE AGREEMENT FOR LOTS 4, 5, 6, 18, 19, & 37 WAS PREVIOUSLY RECORDED AS L 14673 F 433.
- THE INSTRUMENT DESCRIBED THE EASEMENT TO BENEFIT "GROVEMONT OVERLOOK, LOTS 18, 19, 37, LOT 3 - GEELHAAR PROPERTY, NON-BUILDABLE BULK PARCEL "H" AND THE FUTURE RESUBDIVISION OF LOT 3 - GEELHAAR PROPERTY". THIS INSTRUMENT WAS RECORDED IN THE LAND RECORDS OF HOWARD COUNTY, MARYLAND AS L 14673 F 433 UNDER F-13-054.
LOTS 4, 5 AND 6 ARE THE RESULT OF THE RESUBDIVISION OF LOT 3 - GEELHAAR PROPERTY AND NON-BUILDABLE BULK PARCEL "H" (F-13-091) AND THEREFORE SHOULD NOT REQUIRE THE RE-RECORDING OF THE PREVIOUS L 14673 F 433 INSTRUMENT.
- A NOISE STUDY IS NOT REQUIRED FOR THIS DEVELOPMENT.
- A TRAFFIC STUDY IS NOT REQUIRED FOR THIS MINOR SUBDIVISION DEVELOPMENT.
- REF. DPZ FILE NO'S: VP-83-84, F-84-214 (GEELHAAR PROPERTY, LOT 1, PLAT 5941), F-09-122, SDP-12-024, F-13-054, & ECP-13-046, F13-055, F-13-091, WP-14-038.
- LOTS 4 TO 6 ARE SUBJECT TO THE COVENANTS AND RESTRICTIONS OF THE GROVEMONT OVERLOOK HOMEOWNERS ASSOCIATION AS RECORDED IN L13065 F. 009 DECEMBER 9, 2010.
- THE HOMEOWNERS ASSOCIATION ARTICLES OF INCORPORATION HAVE BEEN RECORDED WITH THE MARYLAND DEPARTMENT OF ASSESSMENTS AND TAXATION ON FEBRUARY 26, 2010 AS RECORDING REFERENCE NUMBER 013445358.
- LOTS 5 & 6 ONLY, ARE SUBJECT TO THE COVENANTS AND RESTRICTIONS OF THE GROVEMONT OVERLOOK HOMEOWNERS ASSOCIATION AS RECORDED IN L13065 F. 009 DECEMBER 9, 2010.
PERIMETER LANDSCAPING FOR LOTS 4 TO 6 SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE, THE LANDSCAPE MANUAL, AND AS SHOWN ON THE SUPPLEMENTAL/LANDSCAPING/FOREST CONSERVATION PLAN SHEETS FOR THIS SUBDIVISION, F-13-091. FINANCIAL SURETY IN THE AMOUNT OF \$3,900.00 FOR 13 SHADE TREES SHALL BE POSTED WITH THE GRADING PERMIT ON THE SUBJECT LOTS AS FOLLOWS:
LOT 4: 5 SHADE TREES = \$1,500.00*
LOT 5: 4 SHADE TREES = \$1,200.00*
*SURETY FOR LOT 4 SHALL BE PROVIDED WITH THE GRADING PERMIT FOR LOT 5/TOTAL AMOUNT = \$2,700.00
**TWO EXISTING TREES TO REMAIN, NO SURETY REQUIRED
LOT 6: 4 SHADE TREES = \$1,200.00
- TRASH PAND SCREENING FOR LOTS ON THIS SHARED USE-IN-COMMON EASEMENT HAS BEEN PROVIDED UNDER SDP-12-024.
- THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT AFFECT ENVIRONMENTAL FEATURES OR BUFFERS.
- OPEN SPACE REQUIREMENTS FOR THIS R-ED PROJECT HAVE BEEN MET THROUGH A PAYMENT OF FEE-IN-LIEU FOR THE TWO PROPOSED LOTS IN THE AMOUNT OF \$3,000.00 UNDER F-13-091.
- SOIL TYPES SHOWN HEREON ARE IN ACCORDANCE WITH THE WEB SOIL SURVEY - HOWARD COUNTY, MARYLAND.
- NO FLOODPLAINS EXIST ON-SITE.
- NO STEEP SLOPES EXIST ON-SITE.
- NO WETLANDS AND/OR STREAMS EXIST ON-SITE AS CONFIRMED BY ECO-SCIENCE PROFESSIONALS, INC. DATED DECEMBER 20, 2012.
- THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- PARKING FOR THIS PROJECT IS PROVIDED AS FOLLOWS:
4 SPACES PER LOT (2 CAR GARAGES = 2 SPACES + 2 SPACES PER PRIVATE ON-LOT DRIVEWAYS)
TWO CAR GARAGES SHALL BE USED FOR PARKING PURPOSES ONLY OR STORAGE SPACE.
VISITOR AND GUEST PARKING IS RESTRICTED ALONG THE USE-IN-COMMON DRIVEWAY.
- TRAFFIC CONTROL DEVICES, MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). ALL OF STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO PLACEMENT OF ANY ASPHALT.
- THE PROPOSED SUBDIVISION AND RELATED CONSTRUCTION WILL NOT AFFECT ENVIRONMENTAL FEATURES OR THEIR BUFFERS.
- DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE CIVIL ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
- A PRIVATE RANGE OF ADDRESS SIGN ASSEMBLY SHALL BE FABRICATED AND INSTALLED AT THE LOCATION SHOWN ON SHEET 2 BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPERS/OWNERS EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-5752 FOR DETAILS AND COST ESTIMATES.
- THIS PROJECT IS SUBJECT TO WP-14-036, APPROVED ON OCTOBER 22, 2013, TO WAIVE SECTION 16.120S(a)(7) REQUIRING THE RETENTION OF SPECIMEN TREES HAVING A DIAMETER OF 30" OR MORE.
APPROVAL IS SUBJECT TO THE FOLLOWING CONDITION:
1. APPROVAL IS GIVEN FOR REMOVAL OF ONE SPECIMEN TREE
THE THREE OTHER SPECIMEN TREES ALONG THE EASTERN PROPERTY LINE OF PROPOSED LOT 5 SHALL REMAIN

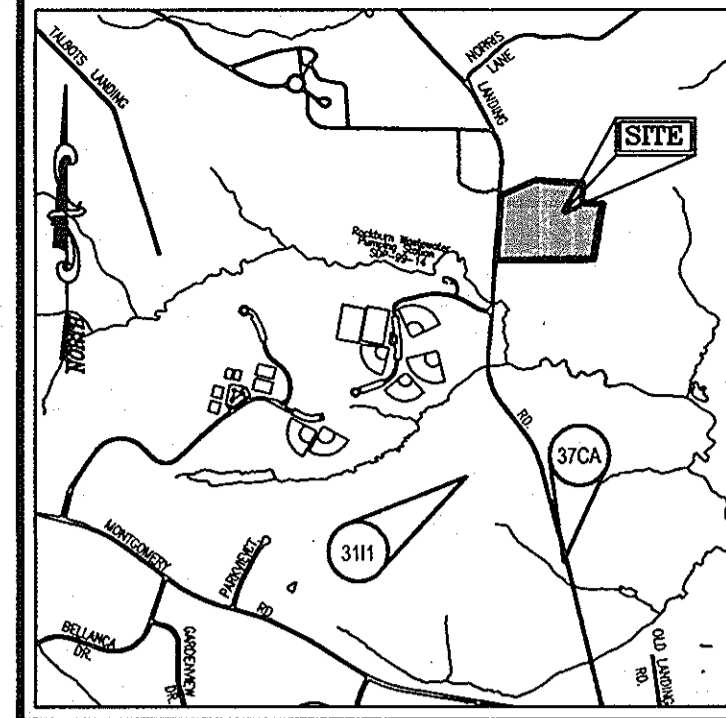
SITE DEVELOPMENT PLAN

GROVEMONT OVERLOOK - II

(SFD RESIDENTIAL)

LOTS 4-6

HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=2000'
ADC COORDINATES=17 C4

BENCHMARKS			
NO.	NORTHING	EASTING	ELEVATION
37CA	564,321.6624	1,382,742.8344	256.964'
3111	565,004.7000	1,381,586.9171	306.016'

SITE ANALYSIS DATA

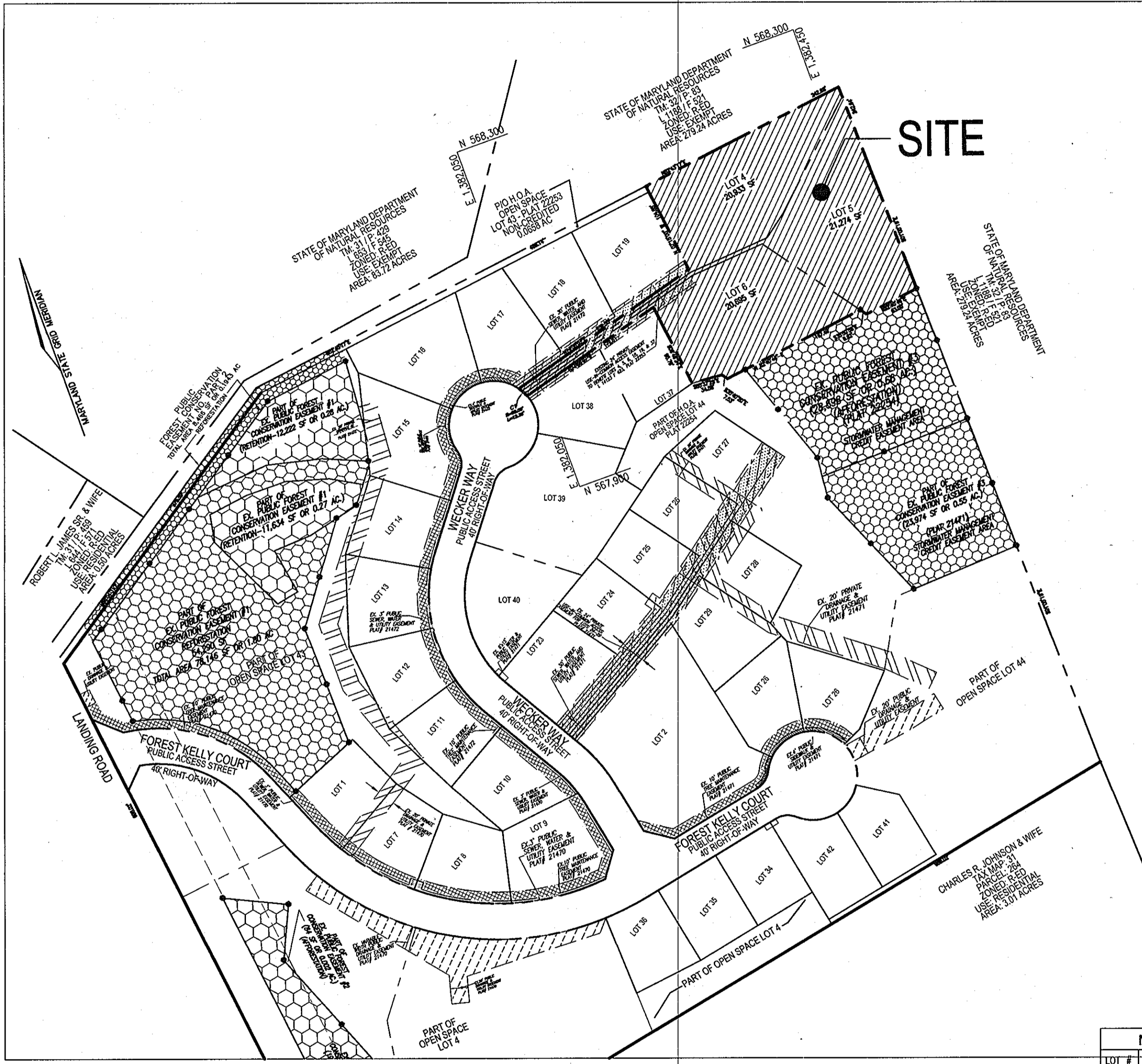
- A. TOTAL PROJECT AREA: 1.44 AC.
- B. AREA OF PLAN SUBMISSION: 1.44 AC.
- C. LIMIT OF DISTURBANCE: 1.24 AC.
- D. PRESENT ZONING DESIGNATION: R-ED.
- E. PROPOSED USES FOR SITE AND STRUCTURES: RESIDENTIAL, SINGLE FAMILY DETACHED (SFD)
- F. FLOOR SPACE ON EACH LEVEL OF BUILDING PER USE: N/A
- G. TOTAL NUMBER OF UNITS ALLOWED FOR PROJECT AS SHOWN ON FINAL PLAT: 3 BUILDABLE LOTS
- H. TOTAL NUMBER OF UNITS PROPOSED ON SUBMISSION: 2 + 1 EXISTING HOME
- I. MAXIMUM NUMBER OF EMPLOYEES, TENANTS ON SITE PER USE: N/A
- J. NUMBER OF PARKING SPACES REQUIRED BY HO. CO. ZONING REGULATIONS: 3 HOMES X 2 PER STD HOUSE OVERFLOW = 3 X 0.5 PER UNIT = 1.5 SPACES = 8 SPACES TOTAL REQUIRED
- K. NUMBER OF PARKING SPACES PROVIDED ON SITE: 4 PER STD HOUSE (2 DRIVEWAY & 2 GARAGE) = 4 X 3 LOTS = 12 SPACES PROVIDED
- L. OPEN SPACE ON SITE: N/A SEE NOTE # 39
- M. AREA OF RECREATION OPEN SPACE REQUIRED BY SUBDIVISION & LAND: N/A
- N. BUILDING COVERAGE OF SITE: N/A
- O. APPLICABLE DPZ FILE REFERENCES: SEE NOTE # 34
- P. ANY OTHER INFORMATION WHICH MAY BE RELEVANT: TAX MAP 31, GRID 24, PARCEL 619 & 749 1ST ELECTION DISTRICT
- Q. FLOOR AREA RATIO: N/A

PERMIT INFORMATION CHART

LOT / PARCELS	SUBDIVISION NAME	SECTION / AREA
LOTS 4-6	GROVEMONT OVERLOOK II - F13-091	N/A
PLAT REF # 22246	BLOCK NO 24	ZONE R-ED
	TAX MAP 31	ELECT DIST 1
	CENSUS TR (F-13-091)	6011.01
WATER / SEWER # 14-4412-D.		

SHEET INDEX

DESCRIPTION	SHEET NO.
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LAYOUT AND LANDSCAPE PLAN	2 OF 6
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STORMWATER MANAGEMENT NOTES AND DETAILS	5 OF 6
HOUSE TYPES	6 OF 6



MINIMUM LOT SIZE CHART

LOT #	GROSS AREA	PIPESTEM AREA	NET AREA
4	20,933 SF	926 SF	20,007 SF
5	21,274 SF	1,265 SF	20,009 SF
6	20,695 SF	692 SF	20,003 SF

ADDRESS CHART

LOT NO	STREET ADDRESS
4	5440 WECKER WAY
5	6450 WECKER WAY
6	6440 WECKER WAY

MAPPED SOILS TYPES

SYMBOL	NAME / DESCRIPTION	GROUP	HYDRIC	MOOR INCLUSION	K-FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
CeB	CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
CeC	CHILLUM LOAM, 5 TO 10 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
SD	SASSAFRAS AND CROOM, 10 TO 15 PERCENT SLOPES	B	NO	NO	0.37	NO	YES	NO

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
K-FACTOR = Kw @ 0-4" DEPTH
NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL DRAINABILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edwards 2/6/14
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kevin Stalder 2/10/14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

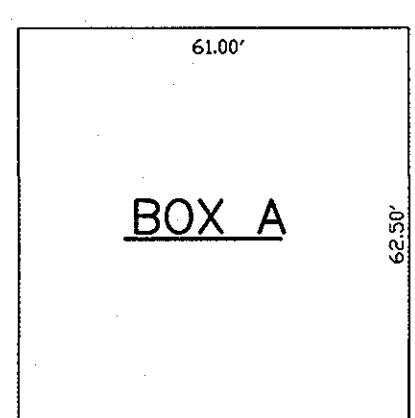
Mark A. Vogel 2/10/14
DIRECTOR DATE

ROBERT H. VOGEL ENGINEERING, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLIOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

SITE DEVELOPMENT PLAN
COVER SHEET
GROVEMONT OVERLOOK - II
(SFD - RESIDENTIAL)
LOTS 4-6

DESIGN BY: RHW / EDS
DRAWN BY: RVE
CHECKED BY: RHW
DATE: JANUARY, 2014
SCALE: AS SHOWN
W.O. NO.: 04-57

1 SHEET OF 6



- BOX A**
- FITS:
- NAPLES - ALL ELEVATIONS
 - RDHE - ALL ELEVATIONS
 - RAVENNA - ALL ELEVATIONS
 - ZACHARY PLACE - ALL ELEVATIONS
 - VICTORIA FALLS - ALL ELEVATIONS
 - BELFORD - ALL ELEVATIONS
 - HIGHGROVE - ALL ELEVATIONS
 - COURTLAND GATE - ALL ELEVATIONS
- WAVERLY - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

OBERLIN - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

AVALDIN - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

SPRINGBROOK - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

BAINBRIDGE HALL - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

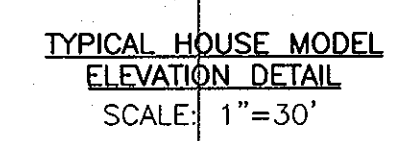
CHANTILLY PLACE - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

VERONA - ALL ELEVATIONS EXCEPT SIDE SOLARIUM

NOTE:

- MODEL ELEVATION SHALL NOT EXCEED 34' MEAN HEIGHT AS ALLOWED BY R-20 ZONE
- 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 FRONT OR REAR YARD SETBACK.
- GENERIC HOUSE BOX MODEL FIT SHOWN HEREON
- HOUSE BOX IS GENERIC AND SHOULD NOT BE CONSIDERED LIMITING. ADDITIONAL HOUSE TYPES AND OPTIONS MAY FIT ON ANY GIVEN LOT.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.

STATE OF MARYLAND DEPARTMENT OF NATURAL RESOURCES
 TM: 31 / P: 429
 L 653 / F 545
 ZONED: R-ED
 USE: EXEMPT
 AREA: 83.72 ACRES



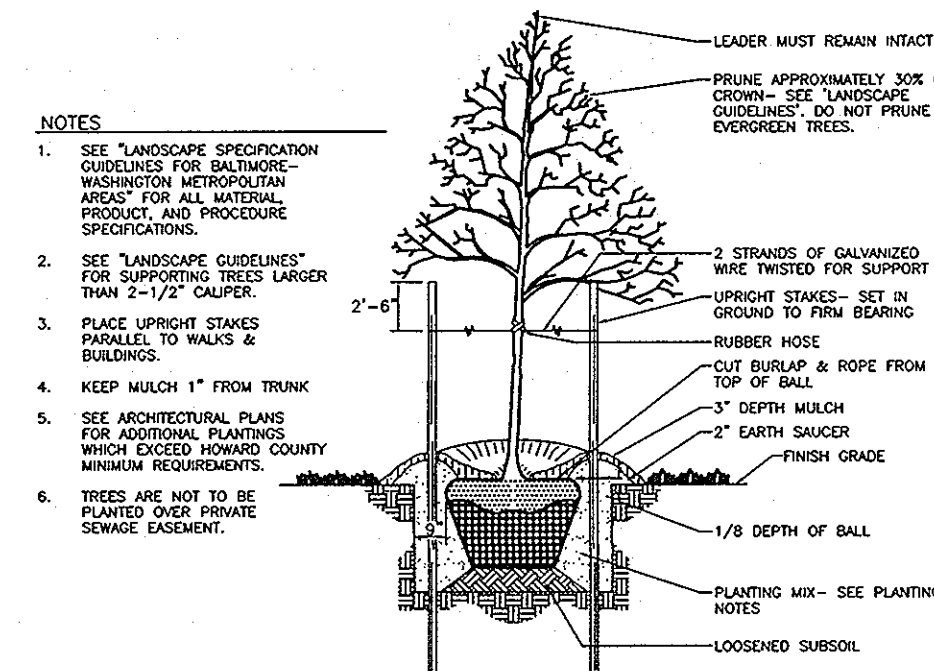
STATE OF MARYLAND DEPARTMENT OF NATURAL RESOURCES
 TM: 32 / P: 83
 L 1188 / F 521
 ZONED: R-ED
 USE: EXEMPT
 AREA: 279.24 ACRES

SPECIMEN TREES:

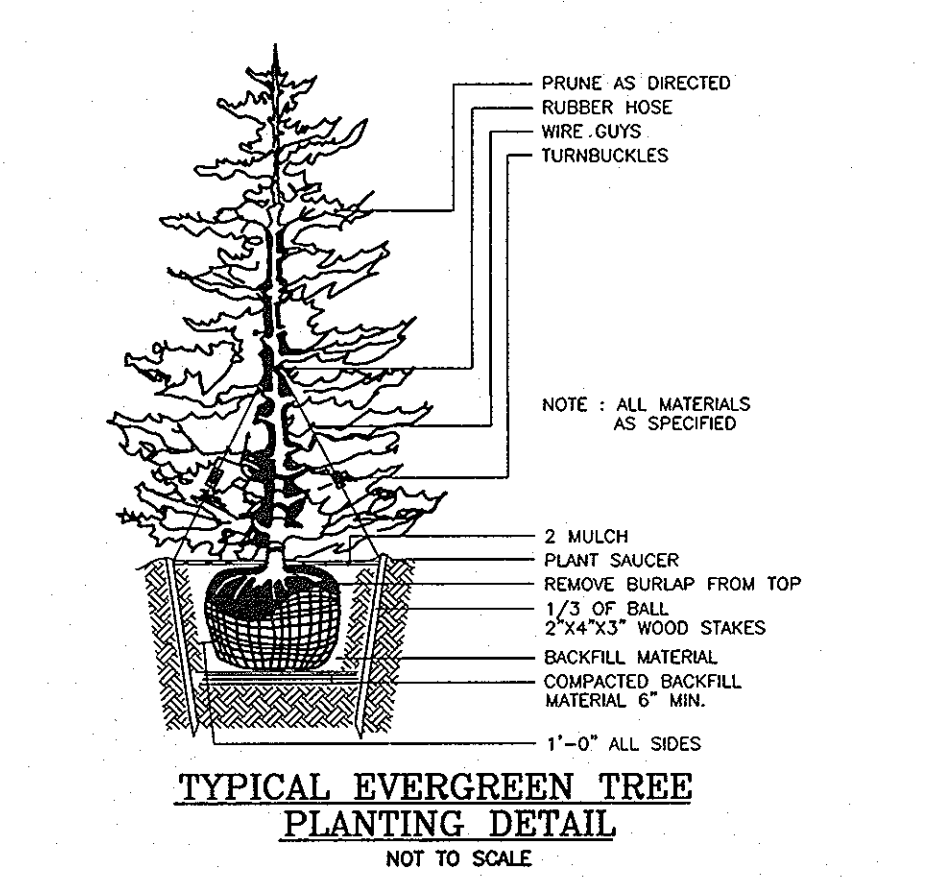
Key	Species, Size	Condition
A	Tulip poplar, 34.5" dbh	Good
B	Tulip poplar, 38.5" dbh	Good
C	Black oak, 35" dbh	Good
D	White oak, 32.5" dbh	Good

LEGEND:

- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- DIRECTION OF FLOW
- EXISTING TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING SIDEWALK
- EXISTING STREET TREE
- EXISTING SEWER CONNECTION
- EXISTING WATER CONNECTION
- EXISTING PUBLIC FOREST CONSERVATION EASEMENT (AFFORESTATION) (F-13)
- EXISTING 10' PUBLIC TREE MAINTENANCE EASEMENT (F-10-122)
- EXISTING PRIVATE DRAINAGE (F-10-122) EASEMENT
- EXISTING PUBLIC 4' SIDEWALK AND UTILITY EASEMENT (F-10-122)
- EXISTING 24' PRIVATE ACCESS EASEMENT (F-13)
- EXISTING 30' PUBLIC SEWER WATER AND UTILITY EASEMENT (F-10-122)
- EXISTING 3' PUBLIC WATER AND UTILITY EASEMENT (F-10-122)
- EXISTING WETLAND
- EXISTING WETLANDS BUFFER
- PERMEABLE SURFACE
- PROPOSED DRYWELL
- PROPOSED MICRO-BIORETENTION



TREE PLANTING AND STAKING
 DECIDUOUS TREES UP TO 2-1/2" CALIPER
 NOT TO SCALE



TYPICAL EVERGREEN TREE PLANTING DETAIL
 NOT TO SCALE

LANDSCAPE NOTES:

- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
- PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE BUILDER TO INSTALL DURING THE CONSTRUCTION OF THE HOME ON LOT 5 & 6

LANDSCAPE SCHEDULE NOTE:

- ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH HED PLANTING SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
- FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
- CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edmister 2.6.14
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Walter Lawrence 2/10/14
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Mark L. Coughlin 2/10/14
 DIRECTOR DATE

GENERAL NOTES:

- PERIMETER LANDSCAPING FOR LOTS 4 TO 6 SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE, THE LANDSCAPE MANUAL, AND AS SHOWN ON THE SUPPLEMENTAL/LANDSCAPING/FOREST CONSERVATION PLAN SHEETS FOR THIS SUBDIVISION, F-13-091. FINANCIAL SURETY IN THE AMOUNT OF \$3,900.00 FOR 13 SHADE TREES SHALL BE POSTED WITH THE GRADING PERMIT ON THE SUBJECT LOTS AS FOLLOWS:
 LOT 4: 5 SHADE TREES = \$1,500.00*
 LOT 5: 4 SHADE TREES = \$1,200.00**
 *SURETY FOR LOT 4 SHALL BE PROVIDED WITH THE GRADING PERMIT FOR LOT 5/TOTAL AMOUNT=\$2,700.00
 **TWO EXISTING TREES TO REMAIN; NO SURETY REQUIRED
 LOT 6: 4 SHADE TREES = \$1,200.00
- PUBLIC STREET TREES WERE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL UNDER F-09-122
- THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, PLANT MATERIALS, BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
- AT THE TIME OF INSTALLMENT, ALL SHRUBS AND OTHER PLANTINGS LISTED HEREWITH AND APPROVED FOR THIS SITE SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT THE APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPING SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE WETLANDS, WETLANDS BUFFER, STREAM BANK BUFFER OR FOREST CONSERVATION EASEMENTS.
- TRASH PAD SCREENING FOR LOTS ON THE USE-IN-COMMON SHARED ACCESS EASEMENT SHALL BE PROVIDED UNDER SDP 12-024.
- THIS PROJECT IS SUBJECT TO WP-14-038, APPROVED OCTOBER 22, 2013, TO WAIVE SECTION 16.1205(a)(7) REQUIRING THE RETENTION OF SPECIMEN TREES HAVING A DIAMETER OF 30" OR MORE. SEE NOTE 50 ON THE COVER SHEET.

LAYOUT PLAN
 SCALE: 1"=30'

F13-091 - SCHEDULE 'A' - PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO PERIMETER PROPERTIES				TOTAL
	P-1	P-2	P-3	P-4	
PERIMETER NUMBER					
LANDSCAPE TYPE	A	A	A	A	
LF OF ROADWAY FRONTAGE / PERIMETER	243 LF	243 LF	275 LF	200 LF	
NUMBER OF PLANTS REQUIRED					
SHADE TREES	5	5	5	4	19
EVERGREEN TREES	-	-	-	-	-
CREDIT FOR EXISTING VEGETATION YES/NO	NO	YES(2)	NO	YES(1)	
SHADE TREES	-	2	-	4	6
ORNAMENTAL (2:1 SUB FOR SHADE)	-	-	-	-	-
EVERGREEN TREES	-	-	-	-	-
NUMBER OF PLANTS PROVIDED					
SHADE TREES	3	3	3	-	9
ORNAMENTAL (2:1 SUB FOR SHADE)	-	-	-	-	-
EVERGREEN TREES (2:1 SUB FOR SHADE)	4*	-	4**	-	8

*P-1 - SUBSTITUTION: 4 EVERGREEN FOR 2 SHADE TREE
 **P-3 - SUBSTITUTION: 4 EVERGREEN FOR 2 SHADE TREE
 (1) - PROVIDED UNDER F-09-122 (2) - SPECIMEN TREES TO REMAIN FOR CREDIT

PLANT LIST

QUAN.	BOTANICAL NAME	SIZE	REM.
9	ACER RUBRUM 'AUTUMN FLAME' AUTUMN FLAME RED MAPLE	2 1/2"-3" CAL.	B & B
8	LEYLANDI CYPRESS CUPPESSOCYPARIS LEYLANDI	5'-6" HT	B & B

NOTES:

- THE PUBLIC UTILITIES WILL BE EXTENDED VIA THE HOWARD COUNTY ADO PROCESS. REFER TO SHEET 4 FOR PROFILES
- TRASH PAD SCREENING FOR LOTS ON THIS SHARED USE-IN-COMMON EASEMENT HAS BEEN PROVIDED UNDER SDP-12-024.

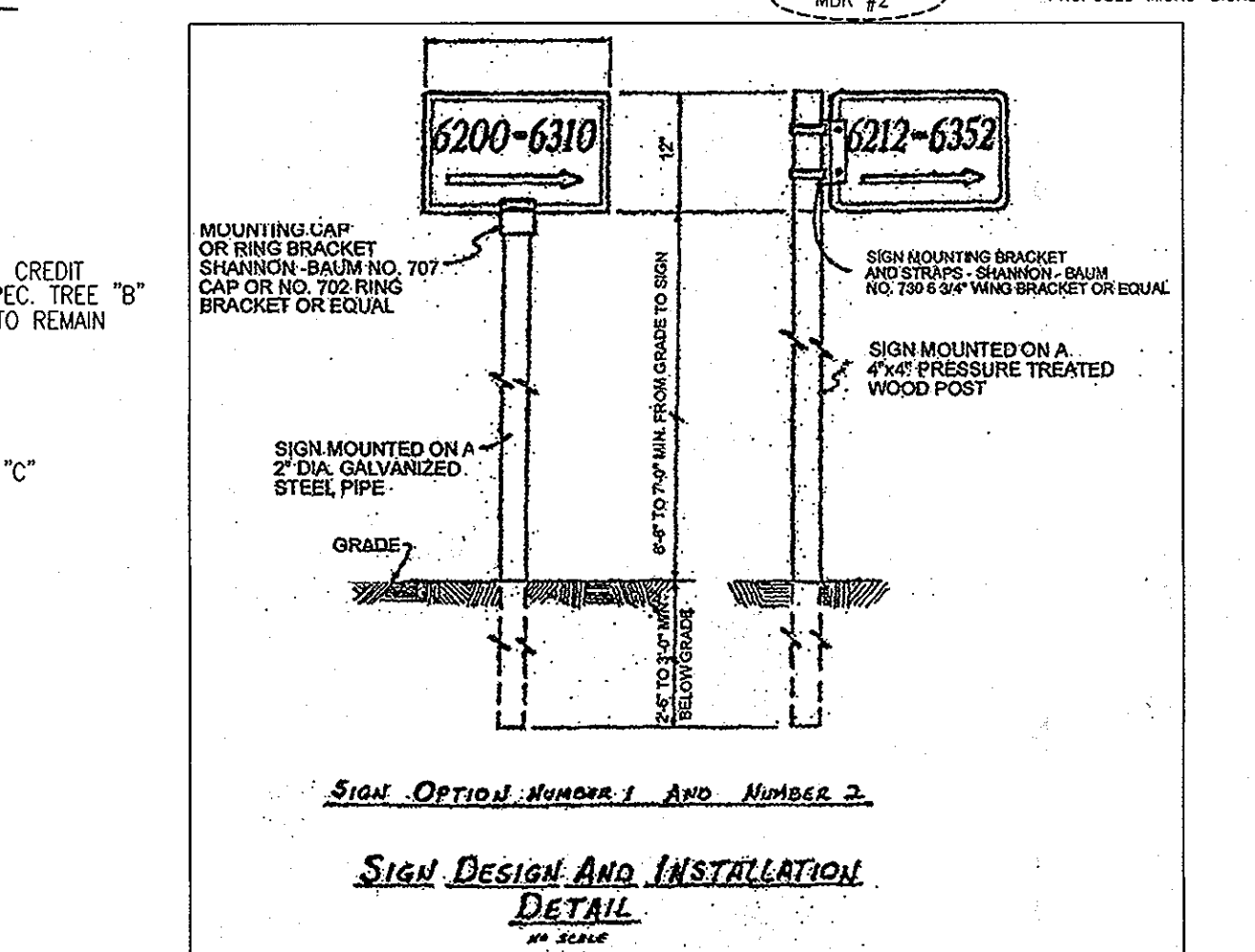
DRIVEWAY NOTE - LOTS 4-6:

- INDIVIDUAL HOUSE SITES SHALL PROVIDE PRIVATE DRIVEWAYS A MINIMUM 18 FOOT DEPTH FROM THE FACE OF GARAGE TO THE EDGE OF THE USE-IN-COMMON DRIVEWAY SO THAT A CAR, IF PARKED IN THE DRIVEWAY, WILL NOT OVERHANG INTO THE PAVED AREA OF THE SHARED DRIVEWAY. THE SHARED DRIVEWAY SHALL PROVIDE ADEQUATE UNOBSTRUCTED ACCESS TO ALL DWELLINGS AT ALL TIMES AS REQUIRED BY HOWARD COUNTY DEPARTMENT OF FIRE & RESCUE.
- AS PART OF THE FINAL HOUSE SITE, DRIVEWAY BUMP-OUTS ARE ADVISED TO PROVIDE ADDITIONAL VISITOR PARKING



MARYLAND STATE GRID MERIDIAN

STATE OF MARYLAND DEPARTMENT OF NATURAL RESOURCES
 TM: 32 / P: 83
 L 1188 / F 521
 ZONED: R-ED
 USE: EXEMPT
 AREA: 279.24 ACRES



NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
 LAYOUT AND LANDSCAPE PLAN
GROVEMONT OVERLOOK - II
 (SFD - RESIDENTIAL)
 LOTS 4-6

1ST ELECTION DISTRICT TAX MAP: 31 GRID: 24 DPZ REF: SEE NOTE 35 ZONED: R-ED PARCEL: 819 & 749 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET ELLICOTT CITY, MD 21043 TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHW / EDS
 DRAWN BY: RVE
 CHECKED BY: RHW
 DATE: JANUARY, 2014
 SCALE: AS SHOWN
 W.O. NO.: 04-57

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193 EXPIRATION DATE: 09-27-2014

2 SHEET OF 6

LEGEND:

- EXISTING CURB AND GUTTER
- EXISTING UTILITY POLE
- EXISTING LIGHT POLE
- EXISTING MAILBOX
- EXISTING SIGN
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING CLEANOUT
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING STORM DRAIN
- DIRECTION OF FLOW
- EXISTING TREELINE
- EXISTING FENCE
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- EXISTING SIDEWALK
- EXISTING STREET TREE
- EXISTING SEWER CONNECTION
- EXISTING WATER CONNECTION
- EX. PUBLIC FOREST CONSERVATION EASEMENT (AFFORESTATION) (F-13)
- EX. 10' PUBLIC TREE (F-09-122)
- EX. PRIVATE DRAINAGE (F-09-122)
- EX. PUBLIC 4" SIDEWALK AND UTILITY EASEMENT (F-09-122)
- EX. 24" PRIVATE ACCESS EASEMENT (F-13)
- EX. 30" PUBLIC SEWER (F-09-122)
- EX. 3" PUBLIC WATER (F-09-122)
- EXISTING WETLAND
- EXISTING WETLAND BUFFER
- SUPER SILT FENCE
- LIMITS OF DISTURBANCE
- PERMEABLE SURFACE
- PROPOSED 10FT CONTOUR
- PROPOSED 2FT CONTOUR
- SPOT ELEVATION
- PROPOSED DRIVEWAY
- PROPOSED MICRO-BORRETMENT
- DIVERSION FENCE
- SILT FENCE
- MODERATE SLOPES 15% - 24.99% SLOPES
- 25% OR GREATER SLOPES

NOTES

- SUPER SILT FENCE CAN BE SUBSTITUTED WITH STANDARD SILT FENCE WITH PERMISSION FROM SEDIMENT CONTROL INSPECTOR.

BY THE DEVELOPER:
 I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE CERTIFICATES OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF DEVELOPER: [Signature] DATE: 1/17/14

BY THE ENGINEER:
 I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS, AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT.
 SIGNATURE OF ENGINEER: [Signature] DATE: 1/17/14

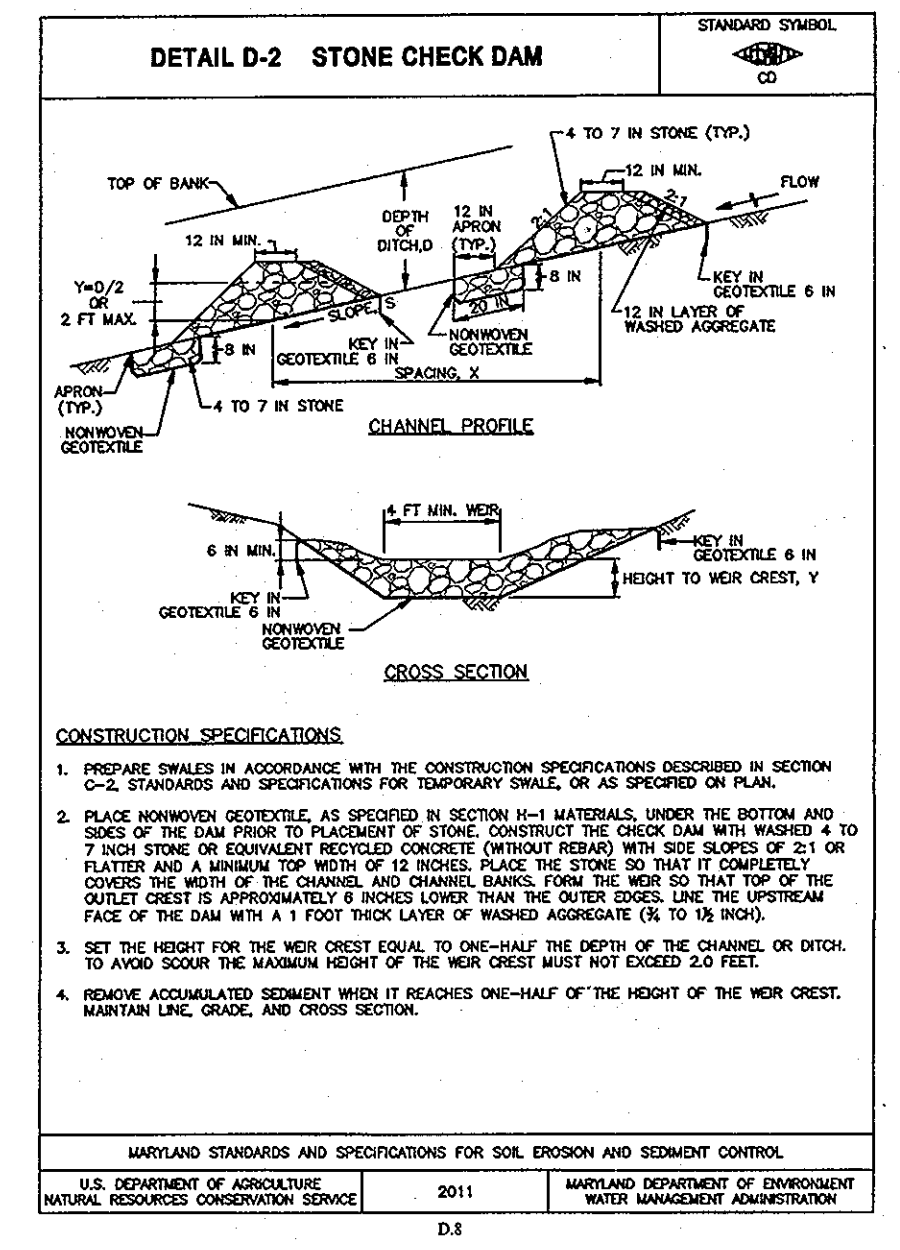
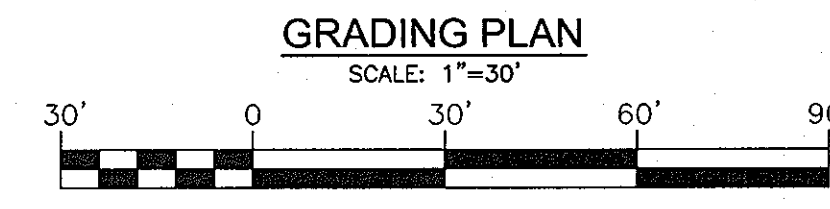
APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING
 [Signature] DATE: 2-6-14
 [Signature] DATE: 2/10/14
 [Signature] DATE: 2/10/14

Standard Stabilization Note
 Following initial soil disturbance or re-disturbance, permanent or temporary stabilization must be completed within:
 a.) Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes, and all slopes steeper than 1 vertical to 3 horizontal (3:1); and
 b.) Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.

Table B.1: Temporary Seeding for Site Stabilization

Plant Species	Seeding Rate ^{1/2}		Recommended Seeding Dates by Plant Hardiness Zone ^{3/4}		
	lb/acre	lb/1000 ft ²	5b and 6a	6b	7a and 7b
Cool-Season Grasses					
Annual Ryegrass (<i>Lolium perenne</i> spp. multiflorum)	40	1.0	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 15 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Raygrass (<i>Lolium vulgare</i>)	96	2.2	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Oats (<i>Avena sativa</i>)	72	1.7	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Wheat (<i>Triticum aestivum</i>)	120	2.8	Mar 15 to May 31; Aug 1 to Sep 30	Mar 1 to May 15; Aug 1 to Oct 15	Feb 15 to Apr 30; Aug 15 to Nov 30
Crack Rice (<i>Oryza sativa</i>)	112	2.8	Mar 15 to May 31; Aug 1 to Oct 31	Mar 1 to May 15; Aug 1 to Nov 15	Feb 15 to Apr 30; Aug 15 to Dec 15
Warm-Season Grasses					
Pasture Millet (<i>Syntherisma italica</i>)	30	0.7	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14
Pearl Millet (<i>Pennisetum glaucum</i>)	20	0.5	Jun 1 to Jul 31	May 16 to Jul 31	May 1 to Aug 14

NOTES:
 1/2 Seeding rates for the warm-season grasses are in pounds of Pure Live Seed (PLS). Actual planting rates shall be adjusted to reflect percent seed germination and purity, as tested. Adjustments are usually not needed for the cool-season grasses.
 3/4 Seeding rates listed above are for temporary seedings, when planted alone. When planted as a nurse crop with permanent seed mix, use 1/3 of the seeding rate listed above for barley, oats, and wheat. For permanent grasses (annual ryegrass, pearl millet, annual ryegrass), do not exceed more than 25% by weight of the overall permanent seeding mix. Cool season grasses should not be used as a nurse crop, unless planting will occur in very hot soil beyond the seedling stage for other temporary seedings. Cool season grasses have allelopathic properties that inhibit the germination and growth of other plants. If it must be used as a nurse crop, seed at 1/3 of the rate listed above.
 Oats are the recommended nurse crop for warm-season grasses.
 3/ For sandy soils, plant seeds at twice the depth listed above.
 4/ The planting dates listed are averages for each zone and may require adjustment to reflect local conditions, especially near the boundaries of the zone.



MAPPED SOILS TYPES

SYMBOL / NAME / DESCRIPTION	GROUP	HYDRIC	PERCENT ORGANIC MATTER	K-FACTOR	PERCENT SAND	PERCENT SILT	PERCENT CLAY
CbB CHILLUM LOAM, 2 TO 5 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
CcC CHILLUM LOAM, 5 TO 10 PERCENT SLOPES	B	NO	NO	0.28	YES	NO	NO
Sd SASSAPRAS AND CROOM, 10 TO 15 PERCENT SLOPES	B	NO	NO	0.37	NO	YES	YES

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY
 K-FACTOR = Kw @ 0-4" DEPTH
 NOTE: HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

NOTE:
 - SILT FENCE IS TO BE REPLACED WITH SUPER SILT FENCE IN THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.
 - SILT FENCE SHALL BE CURLED UPHILL NO MORE THAN 35 FEET APART
 - DOUBLE ROWS OF SUPER SILT FENCE SHALL BE INSTALLED IN THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR.

NOTE:
 EITHER PERMANENT OR TEMPORARY SEEDING AND/OR STABILIZATION IS TO BE PERFORMED AT THE DIRECTION OF THE SEDIMENT CONTROL INSPECTOR OR AT THE TIME FRAMES REQUIRED BY THE 2011 STANDARDS AND SPECIFICATIONS WHICHEVER IS MORE RESTRICTIVE.

Eco-Science Professionals, Inc.
 Consulting Ecologists
 P.O. Box 5006 Glen Arun, Maryland 21057 Telephone (410) 832-2488 Fax (410) 832-2488

FOREST CONSERVATION WORKSHEET
 Version 1.0

Project: Geethaar Property
 Date: June 10, 2013

NET TRACT AREA	Acres
A. Total tract area	1.4
B. Area within 100 Year Floodplain	0
C. Area within overhead transmission line	0
D. Net Tract Area	1.4

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

ARA	MDR	IDA	HOR	MPD	CSA
E. Afforestation Threshold (percentage)	15%	0.2			
F. Conservation Threshold (percentage)	20%	0.3			

EXISTING FOREST COVER:

G. Existing Forest Cover (excluding floodplain)	H. Area of forest above afforestation threshold	I. Area of forest above conservation threshold
0	0	0

BREAK-EVEN POINT:

J. Forest retention above threshold with no mitigation	Break-Even Point
NA	NA
K. Clearing permitted without mitigation	NA

PROPOSED FOREST CLEARING

L. Total area of forest to be Cleared or Retained Outside FCE	M. Total area of forest to be Retained in FCE
NA	NA

PLANTING REQUIREMENTS

N. Reforestation for clearing above Conservation Threshold	O. Reforestation for clearing below Conservation Threshold	P. Credit for retention above conservation threshold	Q. Total reforestation required	R. Total afforestation required	S. Total reforestation and afforestation required
0	0	0	0	0.2	0.2
0	0	0	0	0	0

FOREST CONSERVATION EASEMENT HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL.
 FOREST CONSERVATION OBLIGATIONS FOR THE GOVERNMENT SUBDIVISION HAS BEEN FILLED UNDER F-09-122 BY PLACEMENT OF 1.00 ACRES OF REFORESTATION AND 0.21 ACRES OF AFFORESTATION INTO ON-SITE EASEMENT AREAS. SURETY WAS POSTED WITH THE DEVELOPER AGREEMENT FOR F-09-122 (REFER TO PLATS 21489-21492).
 UNDER F-13-055, THE GOVERNMENT SUBDIVISION FOREST CONSERVATION OBLIGATIONS WERE MET WHICH PLACED 1.00 ACRES OF REFORESTATION (PLAT 21470, 0.45(SHEET 2) - PLAT 21472, 0.27(SHEET 4) - PLAT 21472, 0.2(SHEET 4) - 1.59 ACRES OF REFORESTATION (PLAT 22253) AND 0.66 ACRES OF AFFORESTATION (PLAT 22254) INTO EASEMENT AREAS.
 - REQUIRED OBLIGATION FOR THE ADDITION OF LOTS 4 TO 6 HAS BEEN FILLED UNDER F-1-091 BY THE PAYMENT OF A FEE-IN-LIEU TO THE FOREST CONSERVATION FUND IN THE AMOUNT OF \$4,960.00 FOR THE 0.21 ACRES OF REQUIRED AFFORESTATION (9,147 SF X 0.75).
 A FOREST STAND DELINEATION PLAN WAS PREPARED FOR LOTS 4 TO 6 BY ECO-SCIENCE PROFESSIONALS, INC. DATED DECEMBER 20, 2012.
 - REQUIRED OBLIGATION FOR THE ADDITION OF LOTS 4 TO 6 SHALL BE FILLED BY THE PAYMENT OF A FEE-IN-LIEU TO THE FOREST CONSERVATION FUND IN THE AMOUNT OF \$ 6,860.00 FOR THE 0.21 ACRES OF REQUIRED AFFORESTATION (91,479 SF X 0.75).

SPECIMEN TREES:

Key	Species, Size	Condition
A	Tulip poplar, 34.5" dbh	Good
B	Tulip poplar, 38.5" dbh	Good
C	Black oak, 35" dbh	Good
D	White oak, 32.5" dbh	Good

NOTES:

- PER THE PLAN PROPOSAL SHOWN HEREON, SPECIMEN TREE "A" IS TO BE REMOVED.

NOTE: STOCKPILING WILL BE PERMITTED ON EACH LOT ONLY.

NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
 GRADING, SOIL EROSION AND SEDIMENT CONTROL AND FOREST CONSERVATION PLAN
GOVERNMENT OVERLOOK - II
 (SPD - RESIDENTIAL)
 LOTS 4-6

1ST ELECTION DISTRICT
 TAX MAP: 31 GRID: 24
 DPZ REF'S: SEE NOTE 35

ZONED: R-ED
 PARCEL: 819 & 748
 HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERING, INC.
 ENGINEERS • SURVEYORS • PLANNERS
 8407 MAIN STREET, ELLICOTT CITY, MD 21043
 TEL: 410.461.7666
 FAX: 410.461.8961

DESIGN BY: R/W / EDS
 DRAWN BY: RVE
 CHECKED BY: RHW
 DATE: JANUARY, 2014
 SCALE: AS SHOWN
 W.O. NO.: 04-57

PROFESSIONAL CERTIFICATE
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16153, EXPIRATION DATE 09-27-2014.

3 SHEET OF 6

B.4.B SPECIFICATIONS FOR PERMEABLE PAVEMENTS & REINFORCED TURF

THESE SPECIFICATIONS INCLUDE INFORMATION ON ACCEPTABLE MATERIALS FOR TYPICAL APPLICATIONS AND ARE NOT EXCLUSIVE OR LIMITING...

1. PERVIOUS CONCRETE SPECIFICATIONS

DESIGN THICKNESS - PERVIOUS CONCRETE APPLICATIONS SHALL BE DESIGNED SO THAT THE THICKNESS OF THE CONCRETE SLAB SHALL SUPPORT THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED...

MIX & INSTALLATION - TRADITIONAL PORTLAND CEMENTS (ASTM C 150, C 1157) MAY BE USED IN PERVIOUS CONCRETE APPLICATIONS...

AGGREGATE - PERVIOUS CONCRETE CONTAINS A LIMITED FINE AGGREGATE CONTENT. COMMONLY USED GRADATIONS INCLUDE ASTM C 33 NO. 67 (3/4 IN. TO NO. 4), NO. 8 (3/8 IN. TO NO.16) AND NO. 89 (3/8 IN. TO NO.50) SIEVES...

WATER CONTENT - WATER-TO-CEMENT RATIOS BETWEEN 0.27 AND 0.30 ARE USED ROUTINELY WITH PROPER INCORPORATION OF CHEMICAL ADMIXTURES...

ADMIXTURES - CHEMICAL ADMIXTURES (E.G., RETARDERS OR HYDRATION-STABILIZERS) ARE USED TO OBTAIN SPECIAL PROPERTIES IN PERVIOUS CONCRETE...

BASE COURSE - THE BASE COURSE SHALL BE AASHTO NO. 3 OR 4 COURSE AGGREGATE WITH AN ASSUMED OPEN PORE SPACE OF 30% (n=0.30).

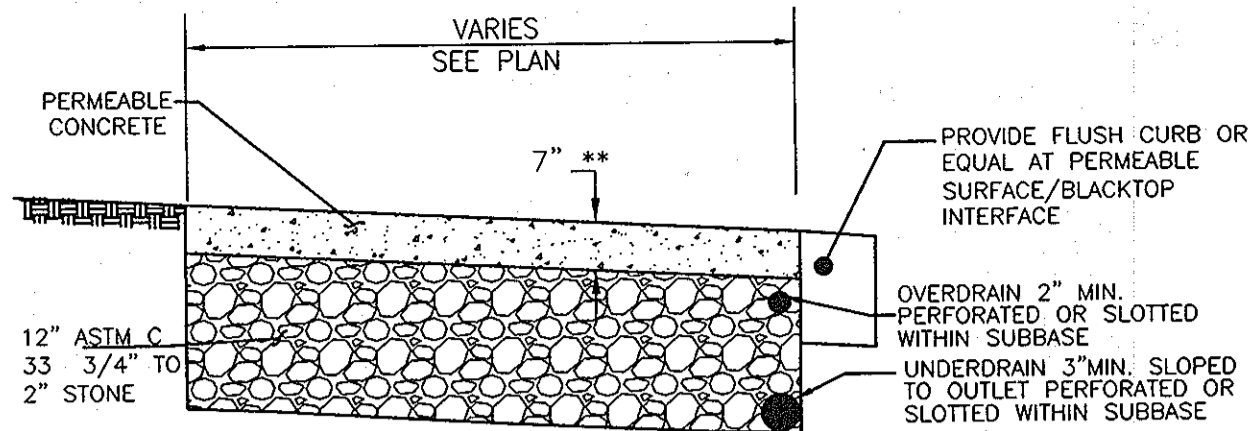
2. PERMEABLE INTERLOCKING CONCRETE PAVEMENTS (PICP)

PAVER BLOCKS - BLOCKS SHOULD BE EITHER 3 1/2 IN. OR 4 IN. THICK, AND MEET ASTM C 936 OR CSA A231.2 REQUIREMENTS...

INFILL MATERIALS AND LEVELING COURSE - OPENINGS SHALL BE FILLED WITH ASTM C-33 GRADED SAND OR SANDY LOAM. PICP BLOCKS SHALL BE PLACED ON A ONE-INCH THICK LEVELING COURSE...

3. REINFORCED TURF

REINFORCED GRASS PAVEMENT (RGP) - WHETHER USED WITH GRASS OR GRAVEL, THE RGP THICKNESS SHALL BE AT LEAST 1-3/4" THICK WITH A LOAD CAPACITY CAPABLE OF SUPPORTING THE TRAFFIC AND VEHICLE TYPES THAT WILL BE CARRIED.



PAVEMENT CROSS SECTION TO BE CONFIRMED BY GEOTECHNICAL ENGINEER UNDERDRAIN SHALL BE LOCATED SUCH THAT IT CAN DRAUGHT

DETAIL - PERMEABLE CONCRETE DRIVEWAY NOT TO SCALE. ALL PERMEABLE CONCRETE THICKNESS, MIX AND SUB-BASE TO BE DETERMINED BY GEOTECHNICAL ENGINEER ON SITE.

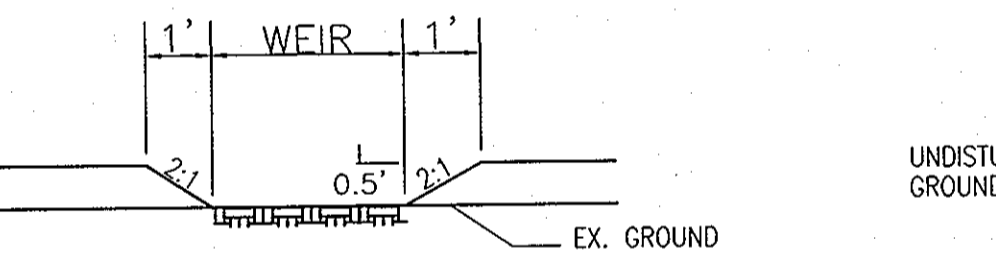
STORMWATER MANAGEMENT PRACTICES CHART

Table with columns: LOT #, IMP. AREA, ESD PRACTICE. Lists practices for various lots including Micro-bioretentation, Dry Well, and Permeable Surface.

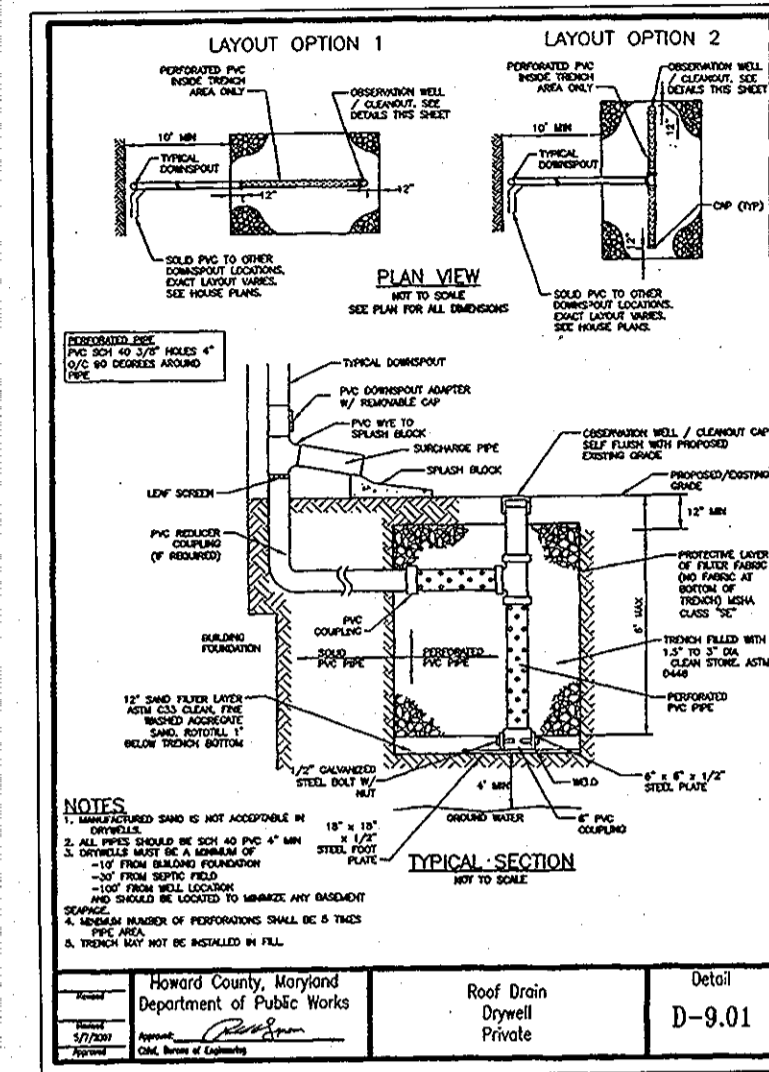
Table with columns: MBR FACILITY, A, B, C, D, SURFACE AREA, WEIR LENGTH, APPROX. DIMENSIONS. Lists details for MBR #1 through #5.

Rev REQUIRED = 268 CUFT +/-, Rev PROVIDED = 1,615 SF (MBR) * 7" * 0.40 = 376 CUFT +/- (1)

(1) ADDITIONAL REV PROVIDED THROUGH USE OF PERMEABLE SURFACE DRIVEWAYS



TYPICAL SPILLWAY PROFILE NOT TO SCALE



HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRYWELL (M-5)

A. THE OWNER SHALL INSPECT & CLEAN ANNUALLY, INCLUDING PIPES, GUTTERS, DOWNSPOUTS AND FILTERS.

B. PONDING STANDING WATER OR ALGAL GROWTH ON THE TOP OF A DRYWELL MAY INDICATE FAILURE DUE TO SEDIMENTATION IN THE GRAVEL MEDIA...

C. THE OWNER SHALL PERFORM ANNUAL MAINTENANCE OF MULCH AND SOIL TO CORRECTING AREAS OF EROSION OR WASH OUT...

D. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

E. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

F. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...

G. THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERING BROWN TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL...

H. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

I. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

J. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...

K. THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERING BROWN TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL...

L. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

M. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

N. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...

O. THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERING BROWN TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL...

P. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

Q. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

R. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...

S. THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERING BROWN TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL...

T. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

U. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

V. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...

W. THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERING BROWN TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL...

X. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

Y. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

Z. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...

AA. THE OWNER SHALL REMOVE DEAD AND DISEASED VEGETATION CONSIDERING BROWN TREATMENT, REPLACE DEAD PLANT MATERIAL WITH ACCEPTABLE REPLACEMENT PLANT MATERIAL...

AB. THE OWNER SHALL INSPECT THE MULCH EACH SPRING. THE MULCH SHALL BE REPLACED EVERY TWO TO THREE YEARS...

AC. THE OWNER SHALL CORRECT SOIL EROSION ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER EACH HEAVY STORM.

APPENDIX B.4.C SPECIFICATIONS FOR MICRO-BIORETENTION, RAIN GARDEN, LANDSCAPE INFILTRATION & INFILTRATION BERMS

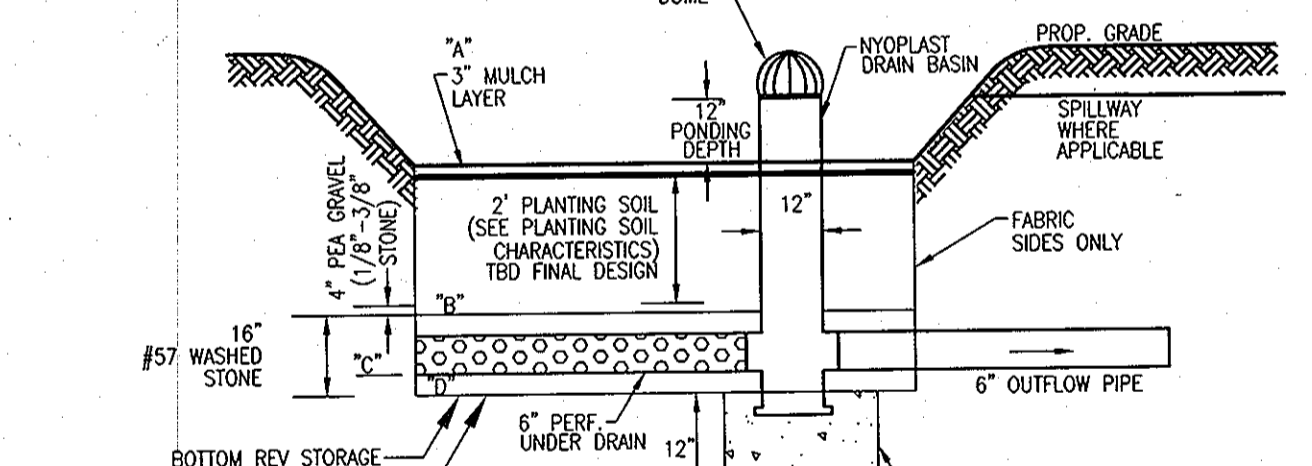
1. MATERIAL SPECIFICATIONS: THE ALLOWABLE MATERIALS TO BE USED IN THESE PRACTICES ARE DETAILED IN TABLE B.4.1. 2. FILTERING MEDIA OR PLANTING SOIL: THE SOIL SHALL BE A UNIFORM MIX. FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN TWO INCHES...

3. COMPACTION: IT IS VERY IMPORTANT TO MINIMIZE COMPACTION OF BOTH THE BASE OF BIORETENTION PRACTICES AND THE REQUIRED BACKFILL. WHEN POSSIBLE, USE EXCAVATION HOES TO REMOVE ORIGINAL SOIL. IF PRACTICES ARE EXCAVATED USING LOADER, THE CONTRACTOR SHOULD USE WIDE TRACK OR MARSH TRACK EQUIPMENT...

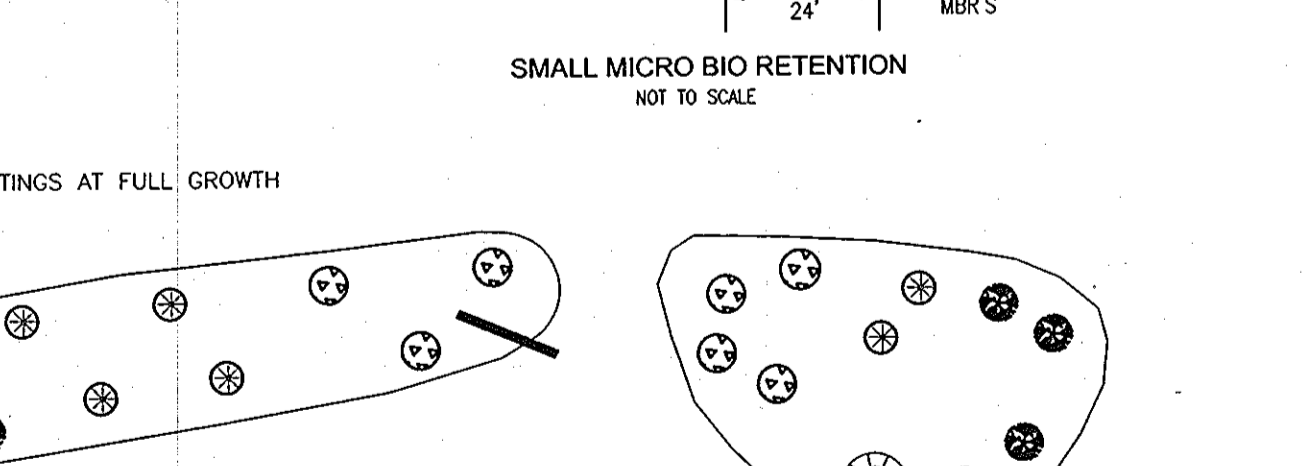
4. PLANT MATERIAL: RECOMMENDED PLANT MATERIAL FOR MICRO-BIORETENTION PRACTICES CAN BE FOUND IN APPENDIX A SECTION A.2.3. 5. PLANT INSTALLATION: COMPOST IS A BETTER ORGANIC MATERIAL SOURCE. IS LESS LIKELY TO FLOAT, AND SHOULD BE PLACED IN THE INVERT AND OTHER LOW AREAS...

6. UNDERDRAINS: UNDERDRAINS SHOULD MEET THE FOLLOWING CRITERIA: PIPE - SHOULD BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F758, TYPE PS 28, OR AASHTO-M-278) IN A GRAVEL LAYER...

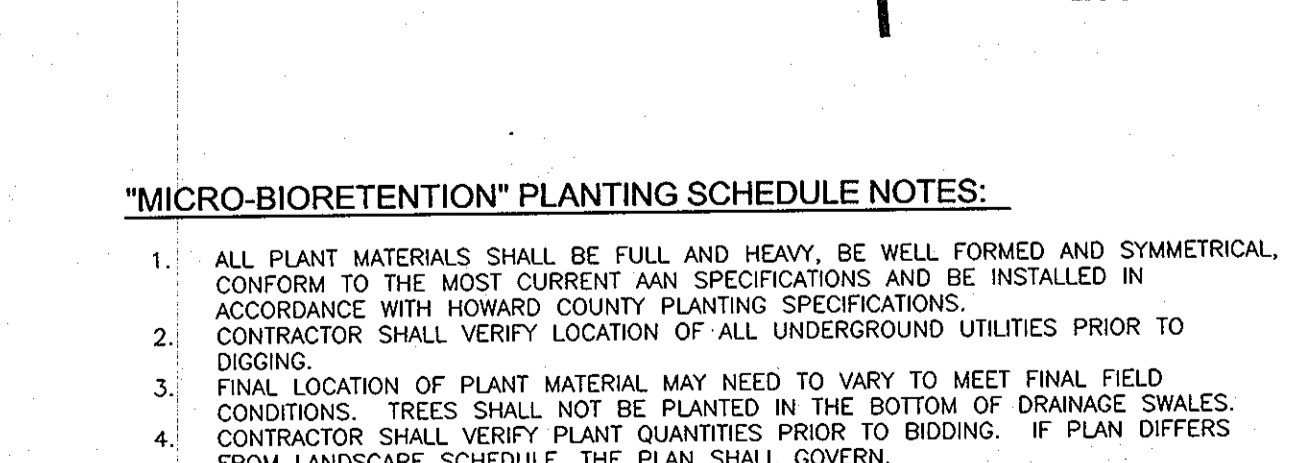
7. MISCELLANEOUS: THESE PRACTICES MAY NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED. OPERATION AND MAINTENANCE SCHEDULE FOR MICROBIORETENTION AREAS: 1. THE OWNER SHALL MAINTAIN THE PLANT MATERIAL, MULCH LAYER AND SOIL LAYER ANNUALLY...



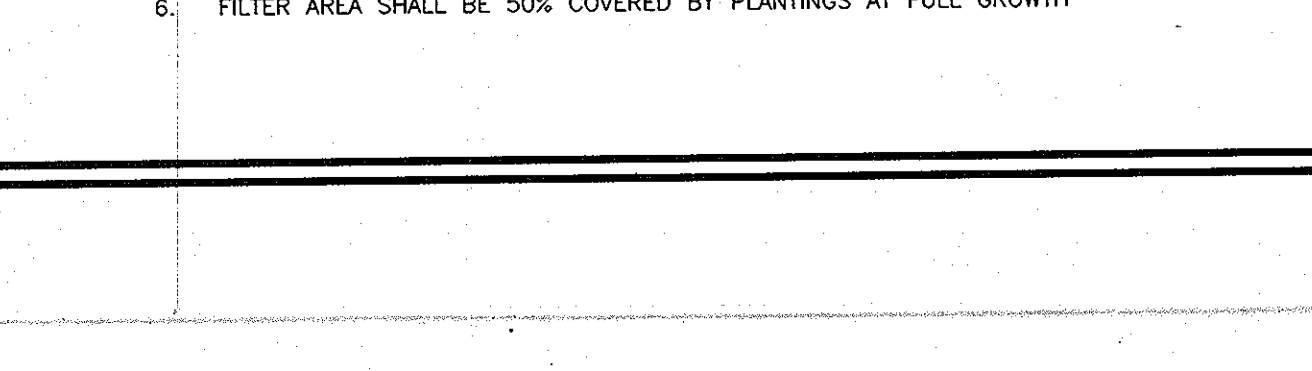
SMALL MICRO BIORETENTION NOT TO SCALE



BIORETENTION PLANTING LAYOUT N.T.S.



290 SF X 75% X .0229 STEMS PER SQUARE FOOT = 5 PLANTS REQUIRED 5 PROVIDED



250 SF X 75% X .0229 STEMS PER SQUARE FOOT = 5 PLANTS REQUIRED 5 PROVIDED

380 SF X 75% X .0229 STEMS PER SQUARE FOOT = 7 PLANTS REQUIRED 7 PROVIDED

290 SF X 75% X .0229 STEMS PER SQUARE FOOT = 5 PLANTS REQUIRED 5 PROVIDED

FINAL ESD DESIGN - SWM PER LOT

Table with columns: LOT AREA, IMPERVIOUS AREA, GRASS AREA, TOTAL AREA, PERCENT IMPERVIOUS, RV, ESDV MIN, ESDV MAX, ESDV 1.60, PERCENT OF SITE, ESDV. Lists stormwater management details for lots 4, 5, 6, and UIC DRIVE.

APPENDIX B.4. - CONSTRUCTION SPECIFICATIONS

Table B.4.1 Materials Specifications for Micro-Bioretentation, Rain Gardens & Landscape Infiltration. Lists material, specification, size, and notes for various components like Plantings, Organic content, Mulch, etc.

A-2. PERMEABLE PAVEMENTS

CONSTRUCTION CRITERIA:

- EROSION AND SEDIMENT CONTROL: FINAL GRADING FOR INSTALLATION SHOULD NOT TAKE PLACE UNTIL THE SURROUNDING SITE IS STABILIZED... SOIL COMPACTION: SUB SOILS SHALL NOT BE COMPACTED...

INSPECTION:

- REGULAR INSPECTIONS SHALL BE MADE DURING THE FOLLOWING STAGES OF CONSTRUCTION: DURING EXCAVATION TO SUB GRADE, DURING PLACEMENT AND BACKFILL OF ANY DRAINAGE OR DISTRIBUTION SYSTEM(S)...

MAINTENANCE CRITERIA:

- THE FOLLOWING PROCEDURES SHOULD BE CONSIDERED ESSENTIAL FOR MAINTAINING PERMEABLE PAVEMENT SYSTEMS: PAVEMENTS SHOULD BE USED ONLY WHERE REGULAR MAINTENANCE CAN BE PERFORMED...

HOWARD COUNTY - OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)

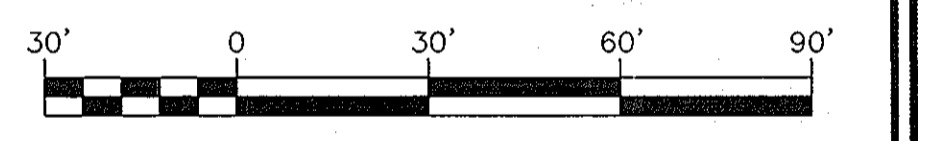
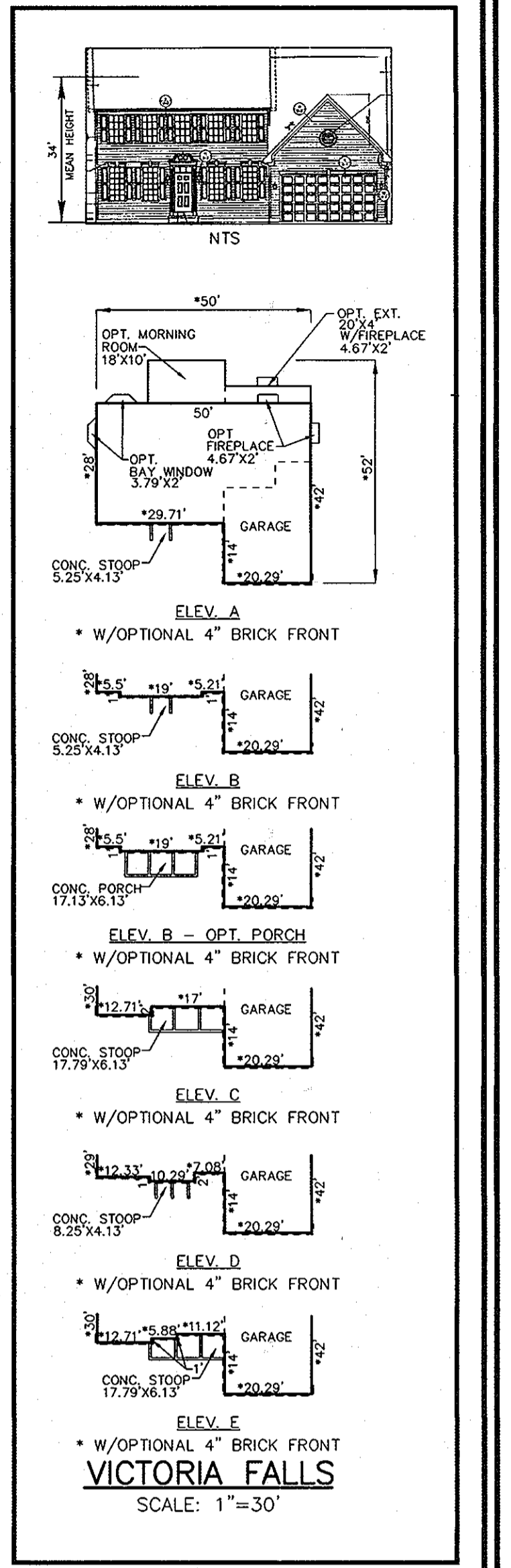
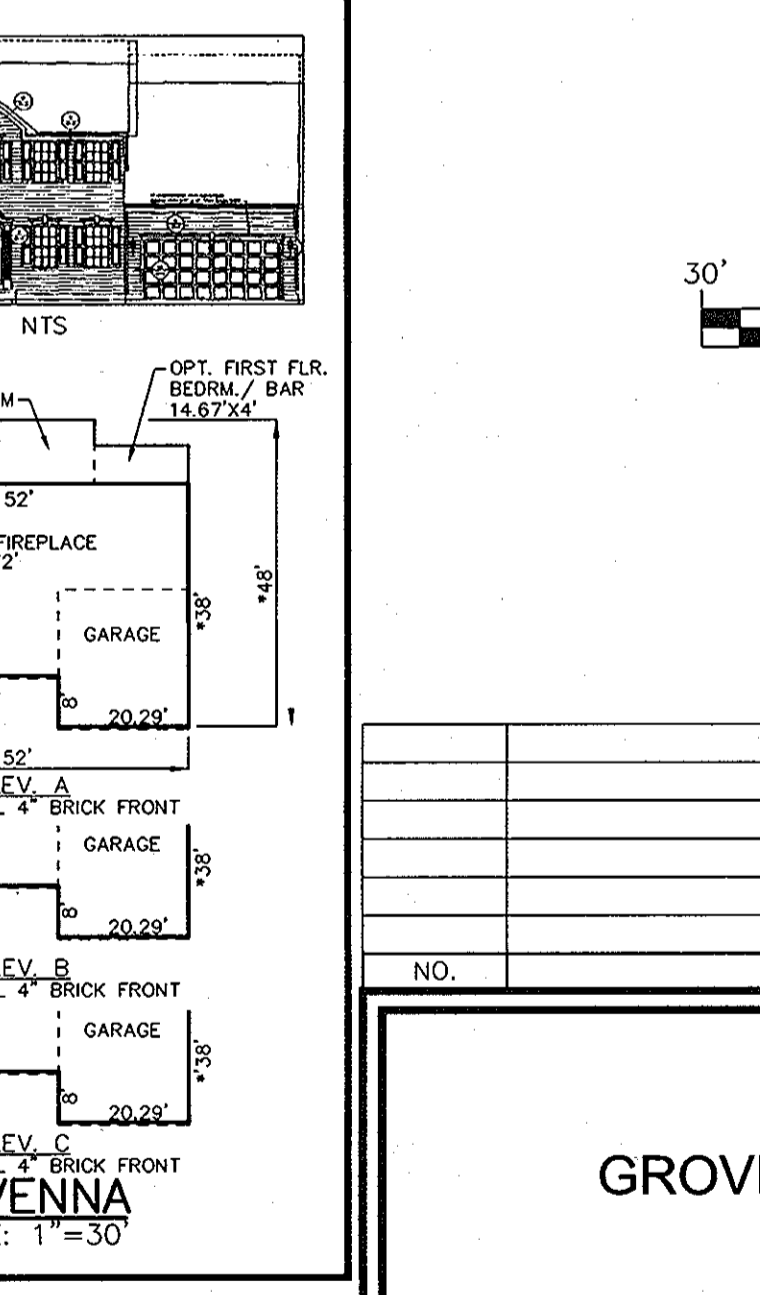
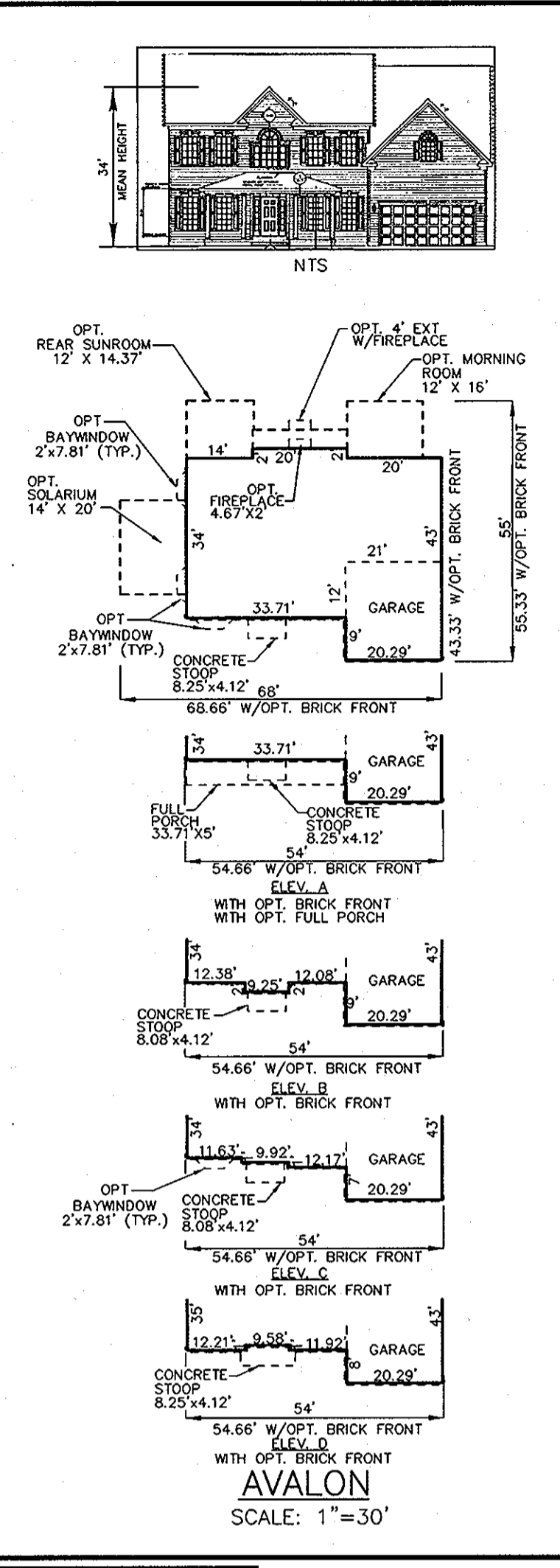
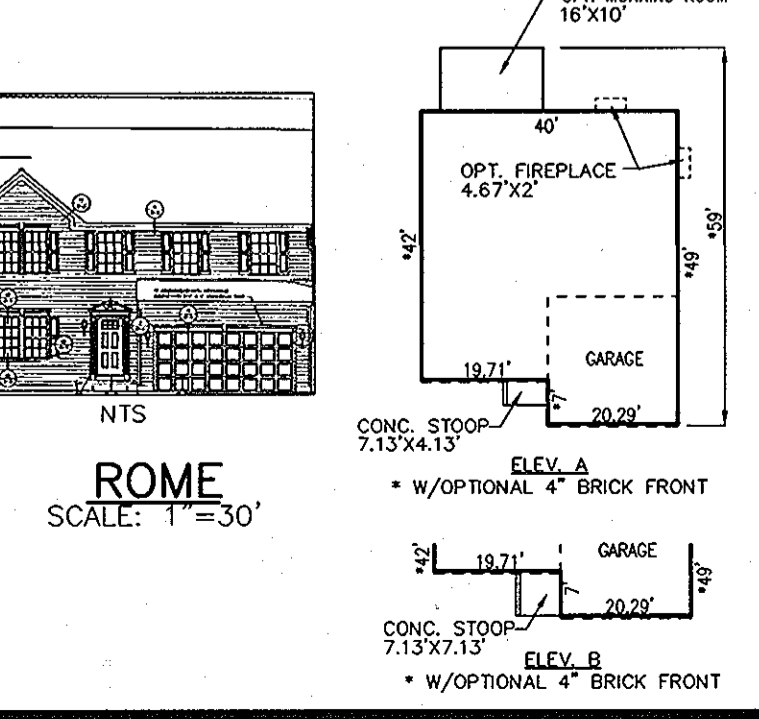
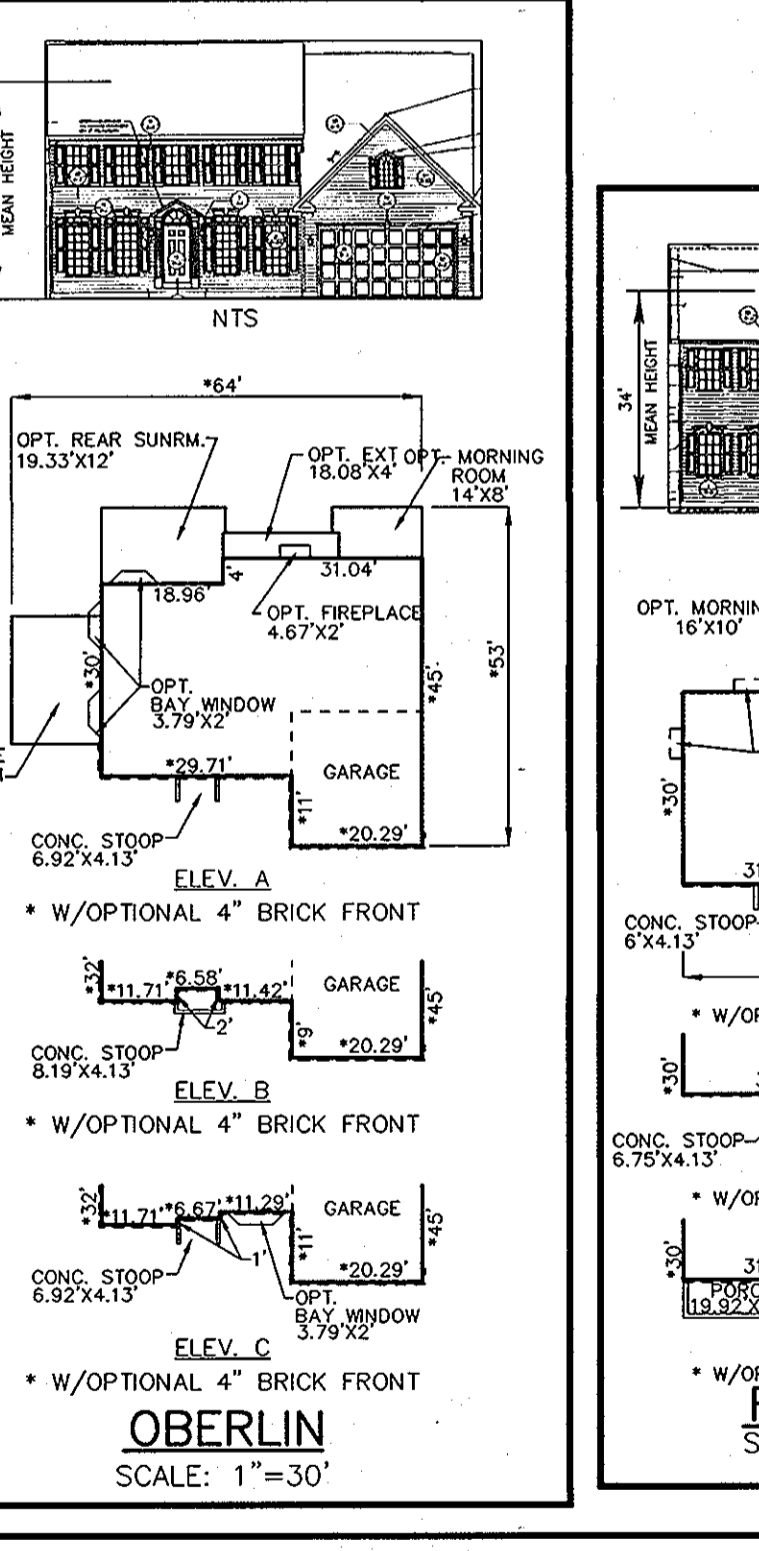
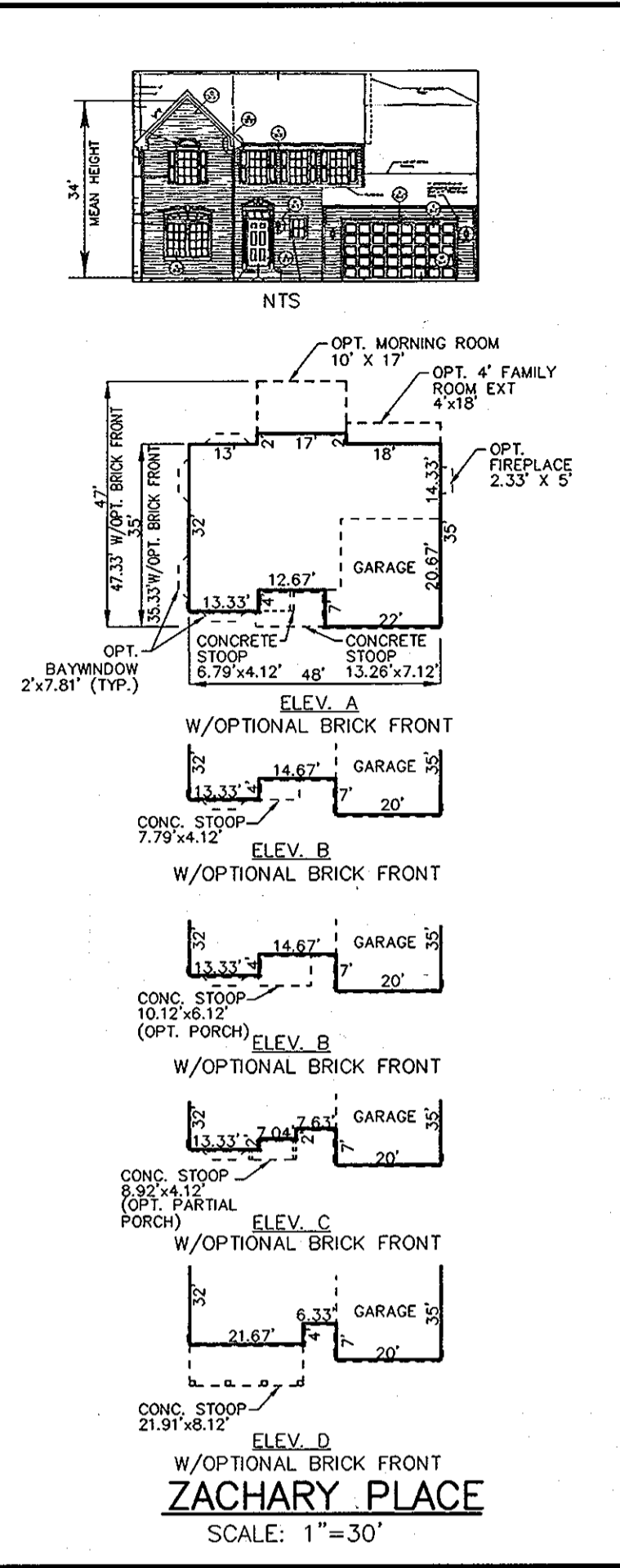
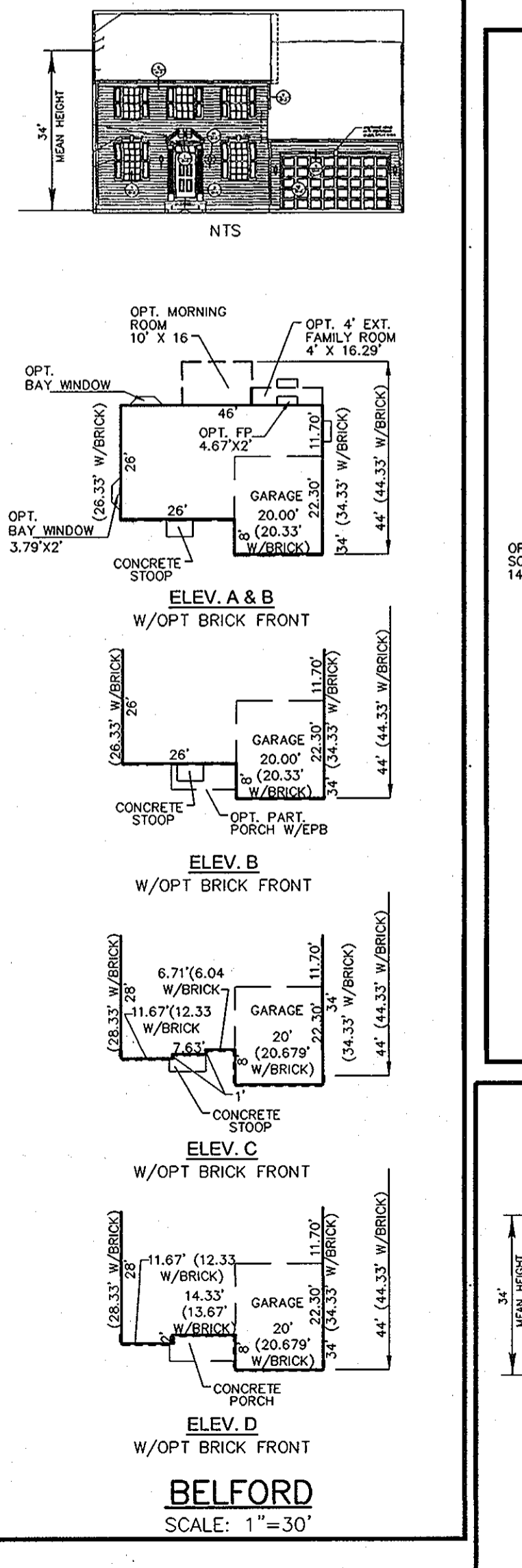
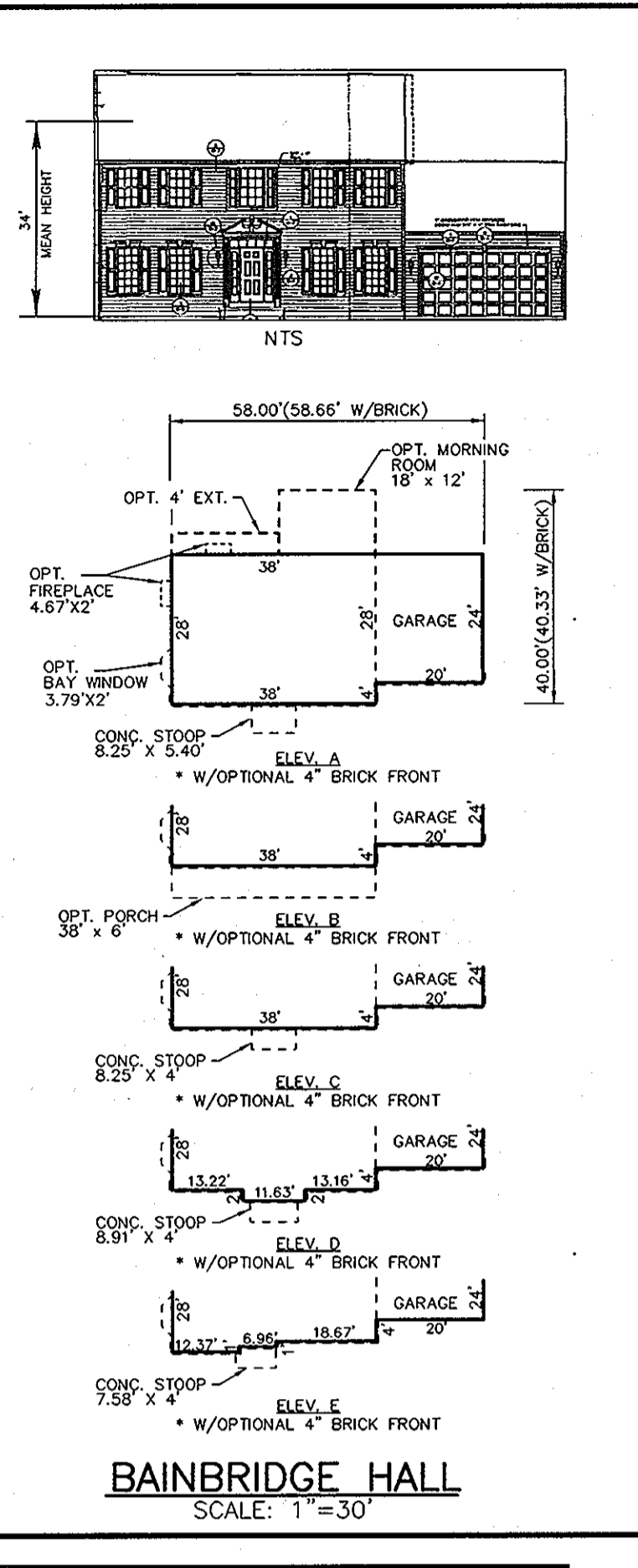
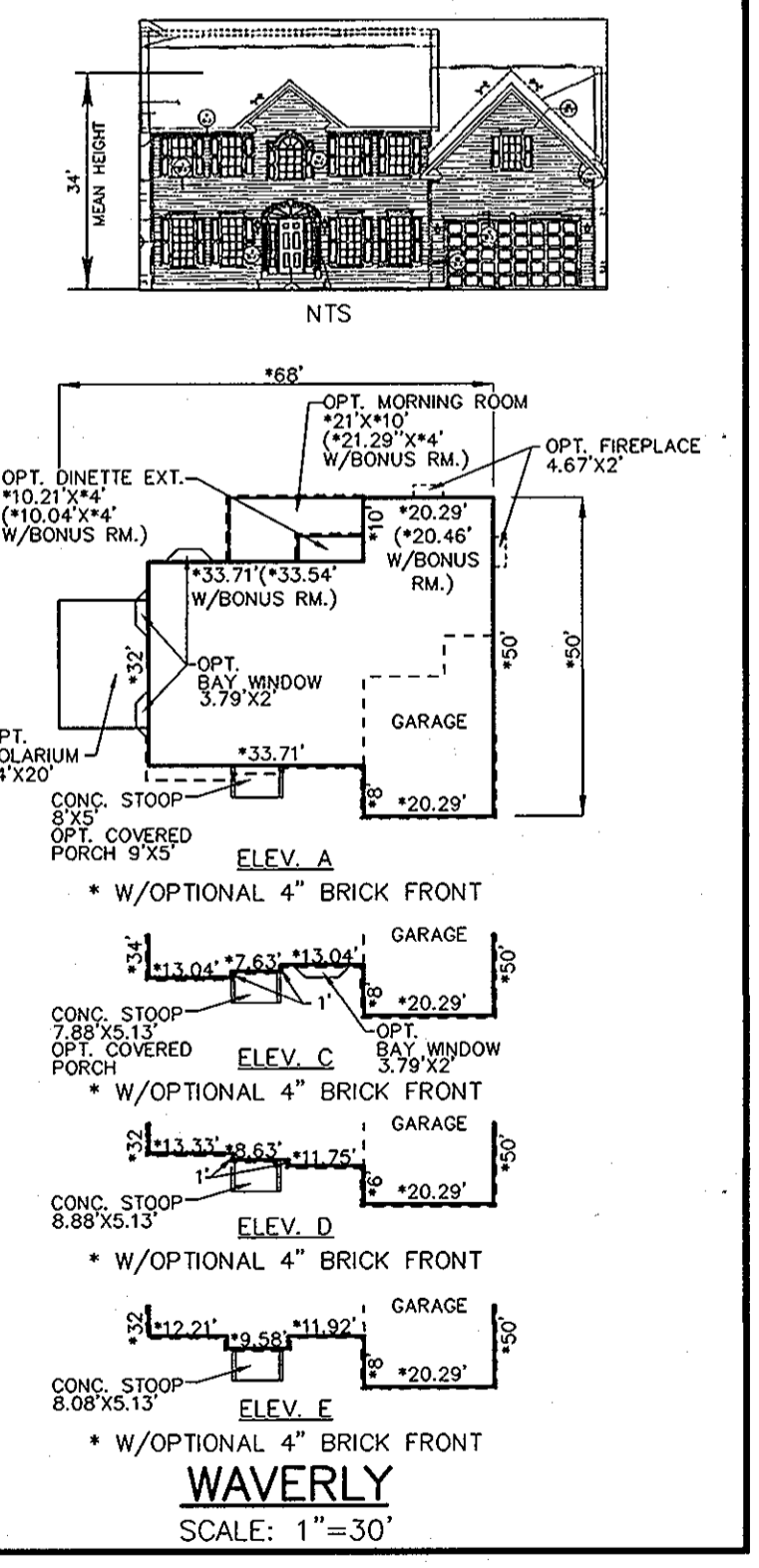
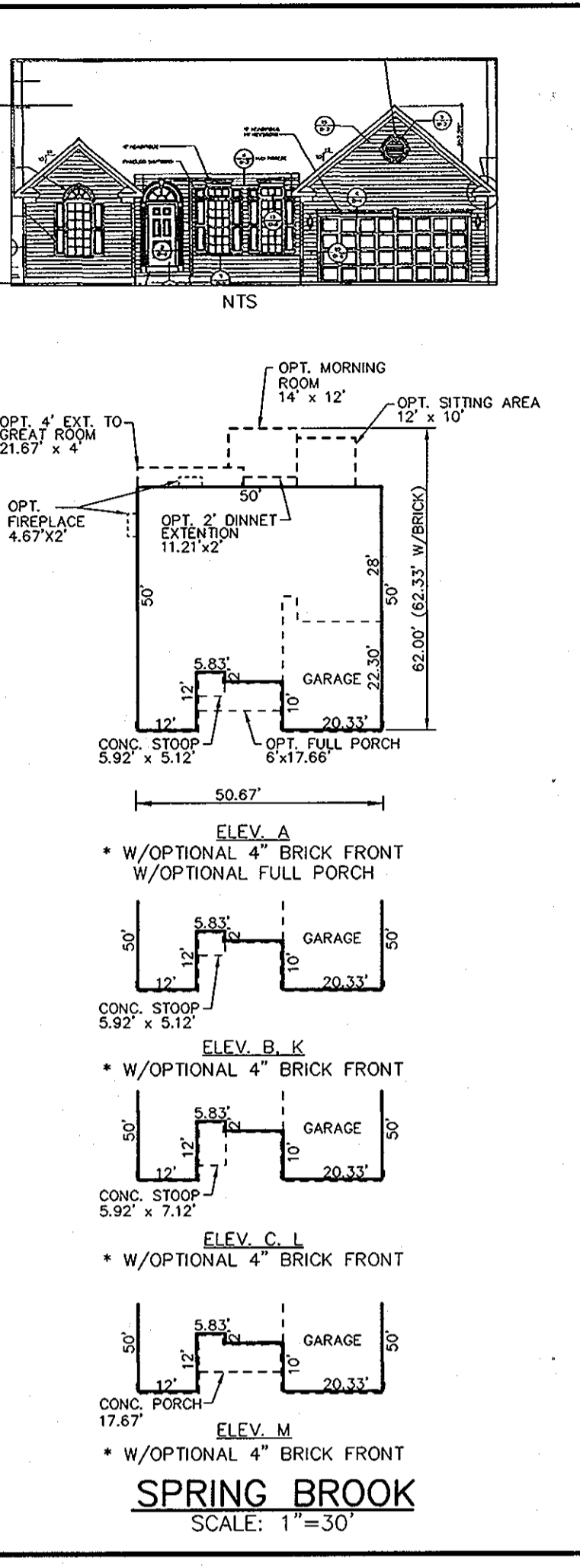
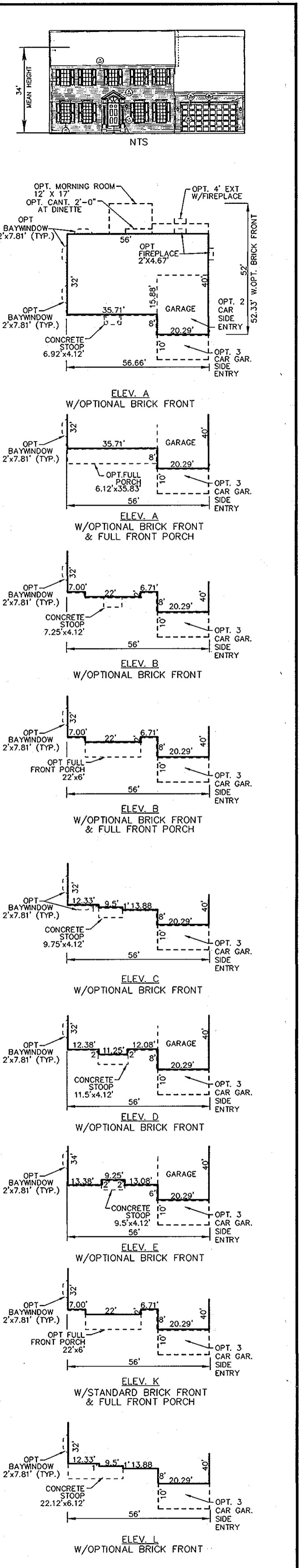
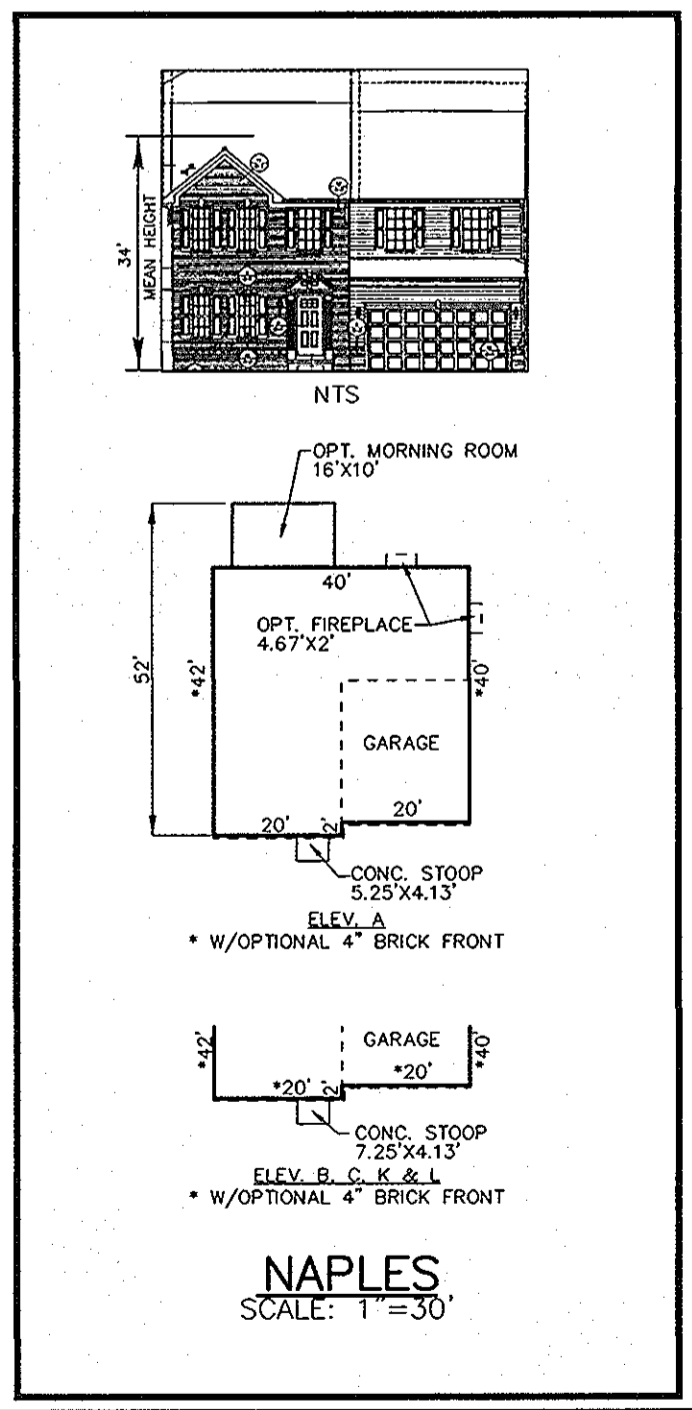
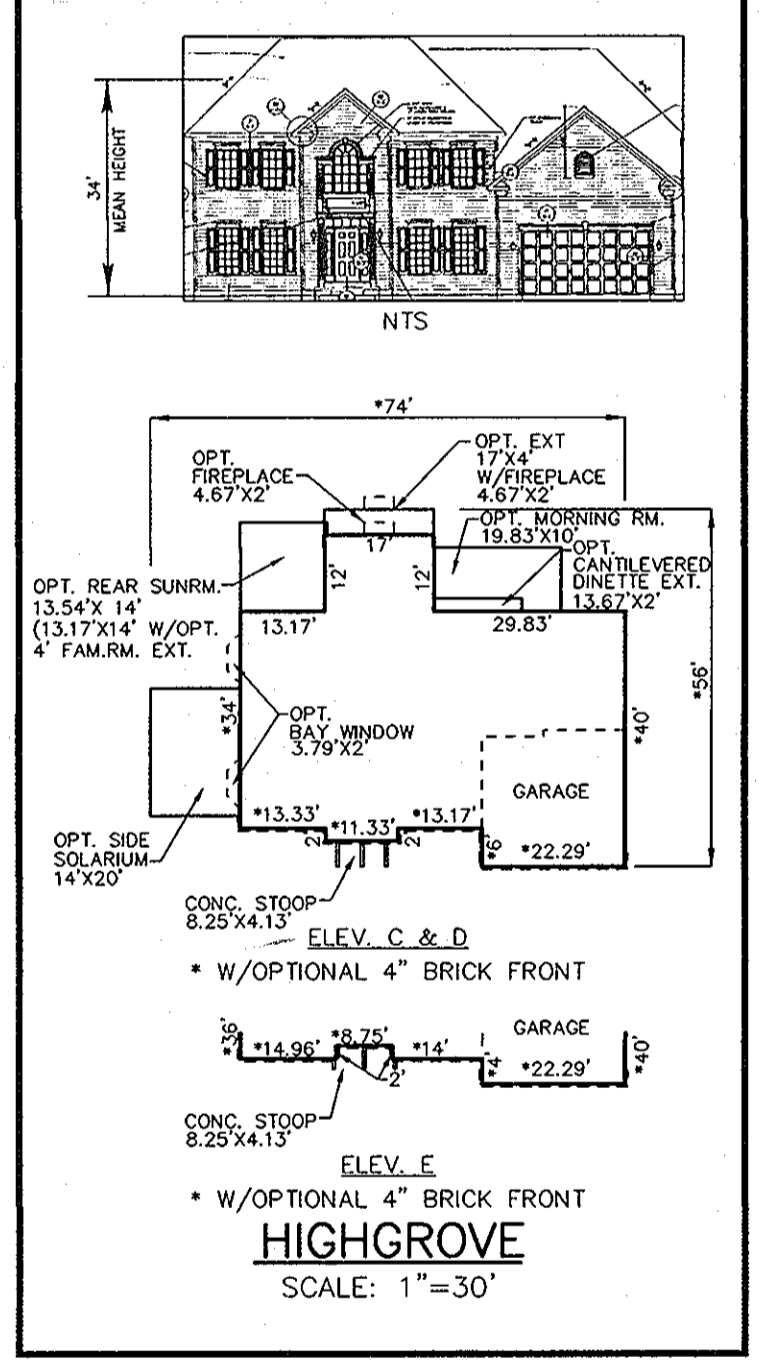
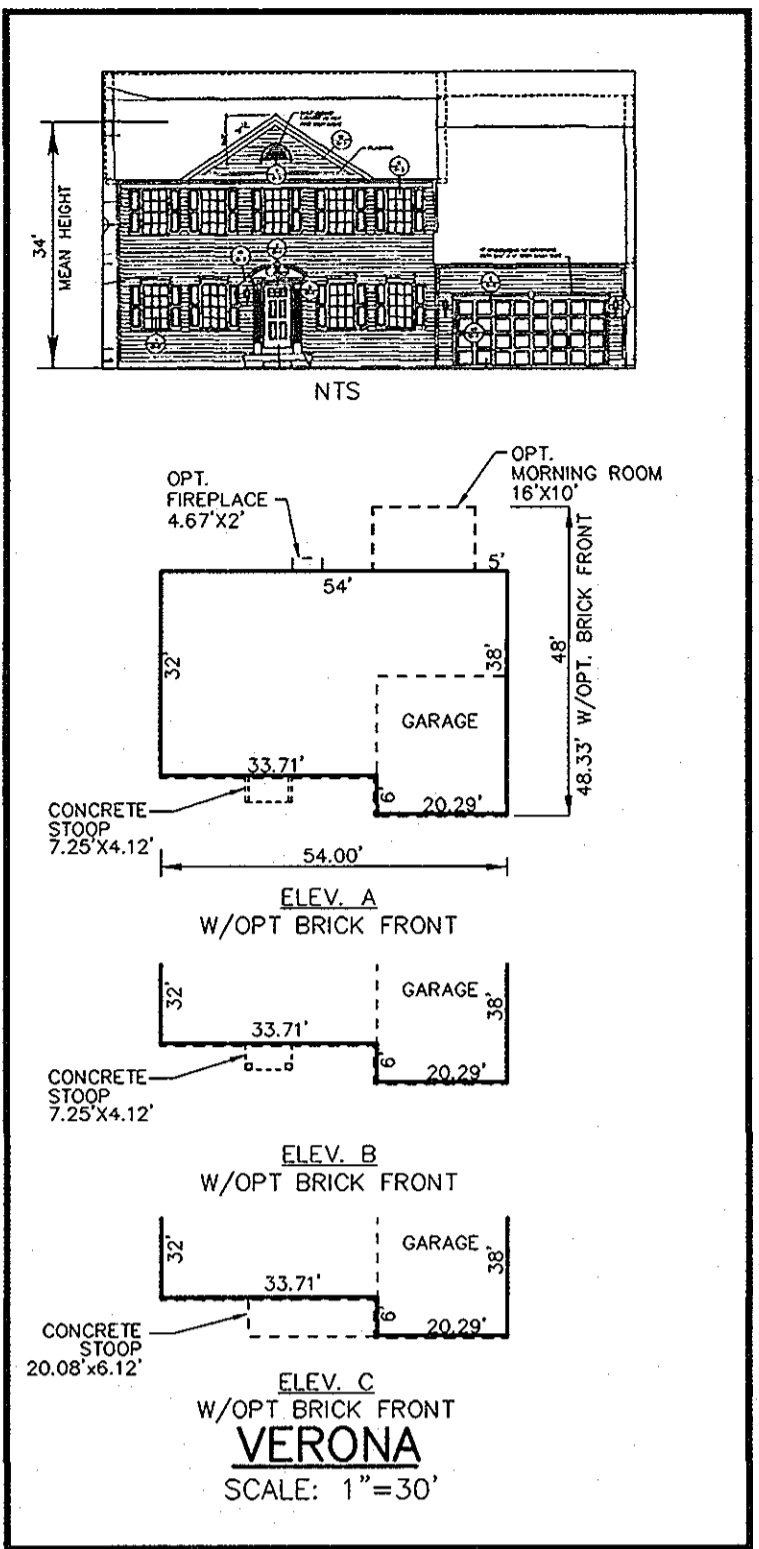
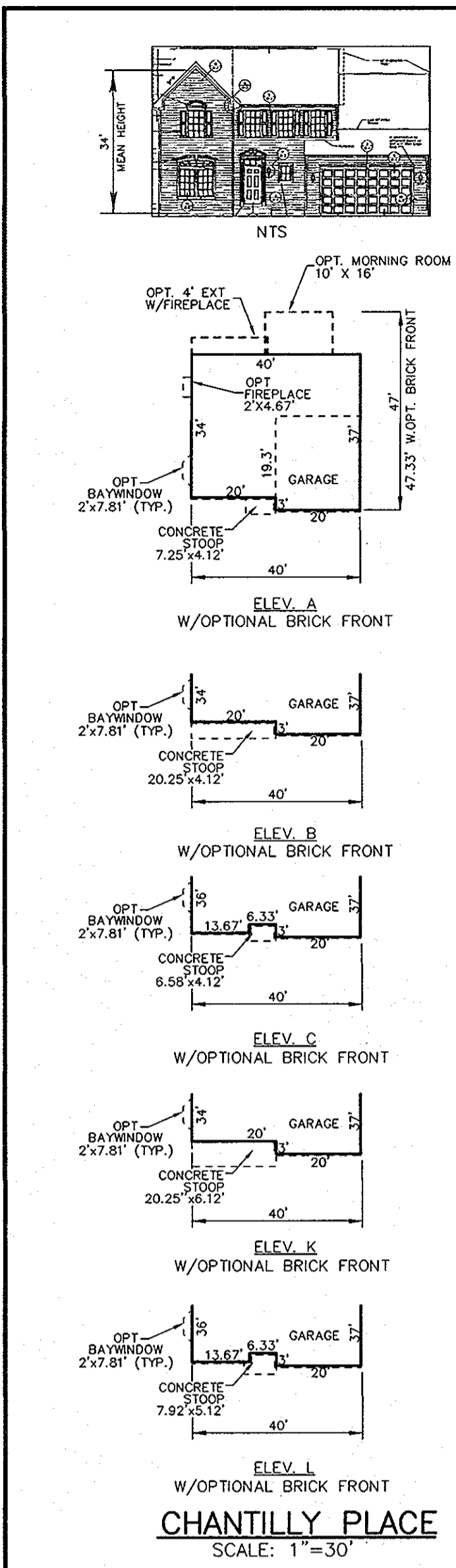
- A. THE OWNER SHALL PERIODICALLY SWEEP (OR VACUUM POROUS CONCRETE PAVEMENT) THE PAVEMENT SURFACES TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTINUED SURFACE POROSITY... B. THE OWNER SHALL PERIODICALLY CLEAN DRAINAGE PIPES, INLETS, STONE EDGE DRAINS...

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad Edman, 2/6/14, DATE, CHIEF, DEVELOPMENT ENGINEERING DIVISION. Keith Shelton, 2/6/14, DATE, CHIEF, DIVISION OF LAND DEVELOPMENT. Frank K. Cuyler, 2/6/14, DATE, DIRECTOR.

SITE DEVELOPMENT PLAN STORMWATER MANAGEMENT NOTES AND DETAILS GROVEMONT OVERLOOK - II (SFD - RESIDENTIAL) LOTS 4-6

Professional seal and information for ROBERT H. VOGEL ENGINEERING, INC. ENGINEERS - SURVEYORS - PLANNERS. 8407 MAIN STREET, ELLICOTT CITY, MD 21043. TEL: 410-461-7666 FAX: 410-461-8961.



NO.	REVISION	DATE

SITE DEVELOPMENT PLAN
HOUSE TYPES
GROVEMONT OVERLOOK - II
(SFD - RESIDENTIAL)
LOTS 4-6

1ST ELECTION DISTRICT
TAX MAP: 31 GRID: 24
DPZ REF: SEE NOTE 35

ZONED: R-ED
PARCEL: 619 & 749
HOWARD COUNTY, MARYLAND

ROBERT H. VOGEL ENGINEERS, INC.
ENGINEERS • SURVEYORS • PLANNERS
8407 MAIN STREET
ELLICOTT CITY, MD 21043
TEL: 410.461.7666
FAX: 410.461.8961

PROFESSIONAL CERTIFICATE

DESIGN BY: RHV / EDS
DRAWN BY: RVE
CHECKED BY: RHV
DATE: JANUARY, 2014
SCALE: AS SHOWN
W.O. NO.: 04-57

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 09-29-2014.

6 SHEET OF 6

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Clara Edmister 2/6/14
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Kevin R. Edwards 2/10/14
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David K. ... 2/10/14
DIRECTOR DATE

K:\PROJECTS\04-57\ENGR\DWG\SFD\04-57-0 HOUSE TYPES REV.DWG