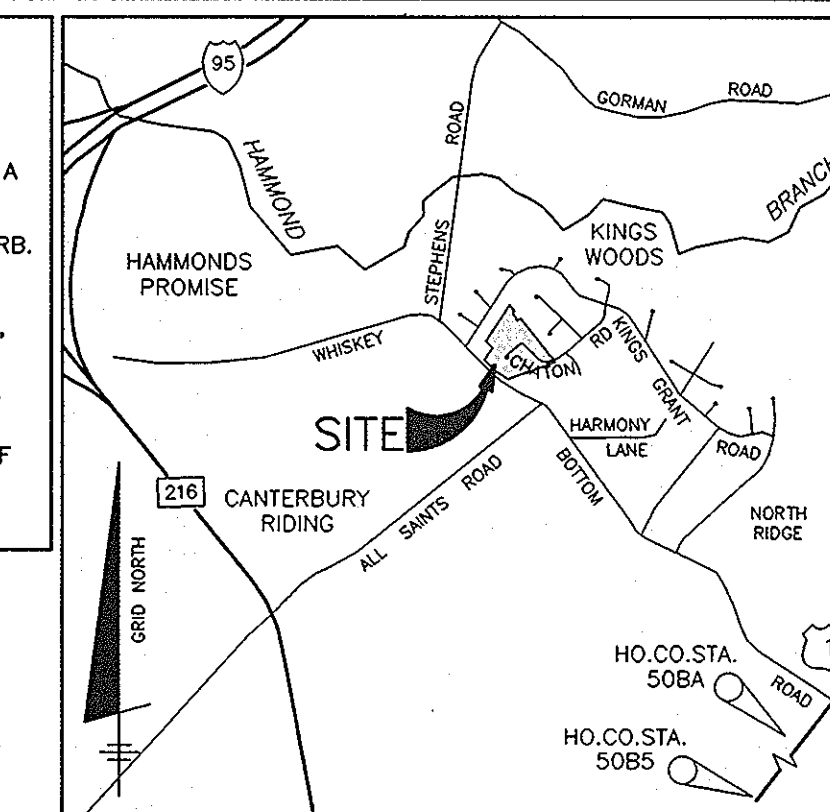


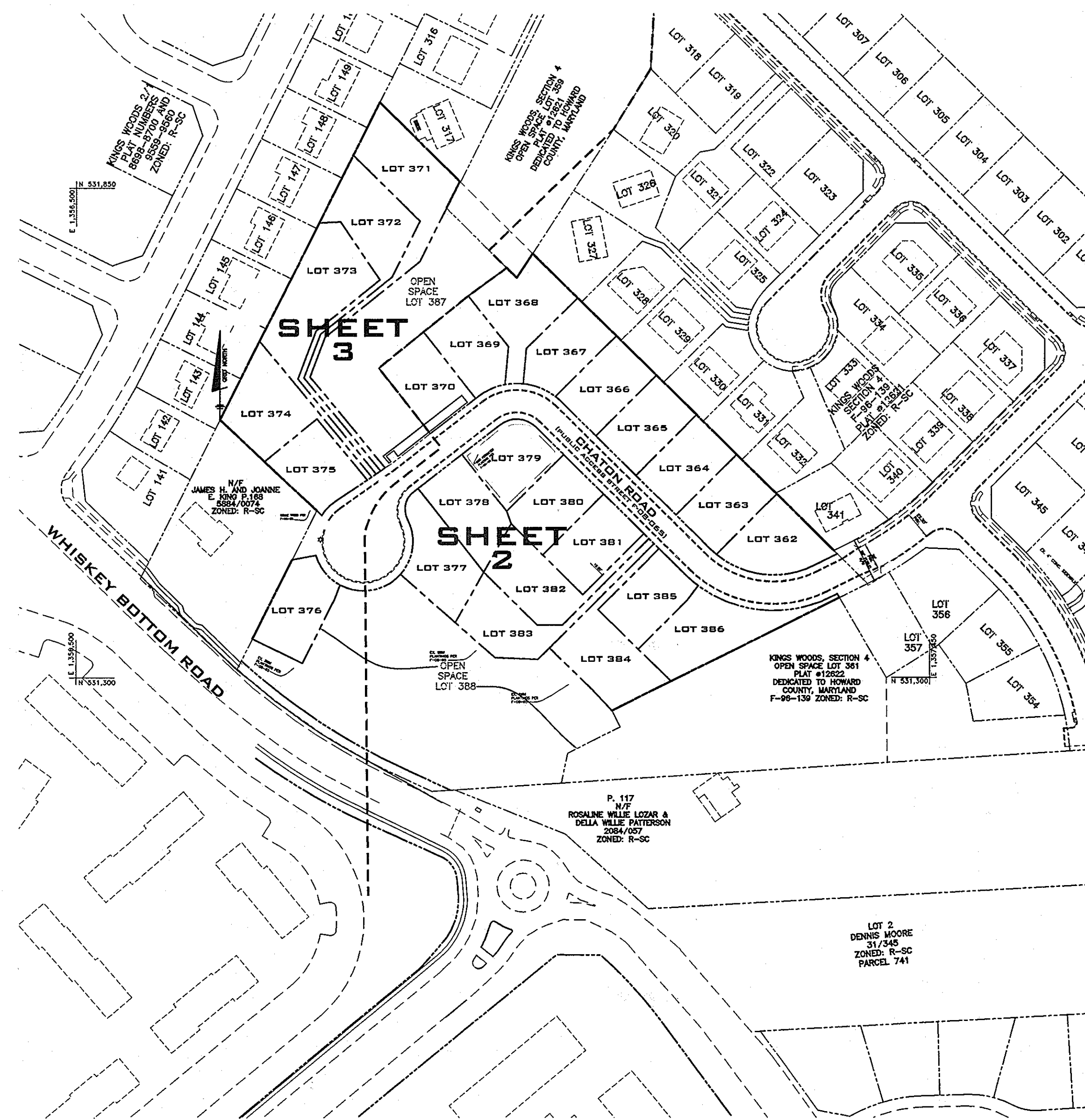
SITE DEVELOPMENT PLAN KINGS WOODS SECTION 5 LOTS 362-386

BENCHMARKS
 HO. CO. #50BA (NAD '83) ELEV.=N/A
 STANDARD DISC ON CONCRETE MONUMENT
 BEING 39.7' SOUTHWEST OF THE CORNER OF A
 STONE PLANTER, 11.9' NORTHWEST OF THE
 CONC. CURB OF U.S. ROUTE 1 AND 42.9'
 NORTH OF THE INTERIOR CORNER OF THE CURB.
 N 527561.6702' E 1359772.5936'

HO. CO. #50BS (NAD '83) ELEV.=178.242'
 STANDARD DISC ON CONCRETE MONUMENT
 BEING 73.9' NORTHEAST OF THE FRONT RIGHT
 CORNER OF #10100 U.S. ROUTE 1, 50.2'
 SOUTH OF A FIRE HYDRANT AND 2.9' WEST OF
 THE CURB OF U.S. ROUTE 1.
 N 524999.3640' E 1357925.6751'



ADC MAP 19 GRID K9
VICINITY MAP
SCALE: 1" = 2000'



PLAN VIEW
SCALE: 1" = 100'

SITE ANALYSIS DATA CHART

- A.) TOTAL PROJECT AREA _____ 4.09± AC.
- B.) AREA OF THIS PLAN SUBMISSION _____ 4.09± AC.
- C.) APPROXIMATE LIMIT OF DISTURBANCE _____ 3.7± AC.
- D.) PRESENT ZONING: _____ R-SC
RESIDENTIAL
- E.) PROPOSED USE OF SITE: _____ SINGLE FAMILY DETACHED UNITS
- F.) FLOOR SPACE PER LOT _____ N/A
- G.) TOTAL NUMBER OF UNITS ALLOWED
AS SHOWN ON FINAL PLAT(S) _____ 25
- H.) TOTAL NUMBER OF UNITS PROPOSED _____ 25
- I.) OPEN SPACE ON-SITE _____ 0.00 AC.
PERCENTAGE OF GROSS AREA _____ 0%
- J.) AREA OF RECREATIONAL OPEN SPACE REQUIRED _____ 0 s.f.
AREA OF RECREATIONAL OPEN SPACE PROVIDED _____ 0 s.f.
- K.) BUILDING COVERAGE OF SITE _____ N/A
PERCENTAGE OF GROSS AREA _____ 0%
- L.) APPLICABLE DPZ FILE REFERENCES: _____ S-02-012, P-07-01
F-08-065
CONTRACT # 24-4434-D
- M.) PROPOSED WATER AND SEWER SYSTEMS: PUBLIC PRIVATE

| ADDRESS CHART | | |
|---------------|----------------|-------------|
| LOT | STREET ADDRESS | |
| 362 | 9548 | CHATON ROAD |
| 363 | 9552 | CHATON ROAD |
| 364 | 9556 | CHATON ROAD |
| 365 | 9560 | CHATON ROAD |
| 366 | 9564 | CHATON ROAD |
| 367 | 9568 | CHATON ROAD |
| 368 | 9572 | CHATON ROAD |
| 369 | 9576 | CHATON ROAD |
| 370 | 9580 | CHATON ROAD |
| 371 | 9584 | CHATON ROAD |
| 372 | 9588 | CHATON ROAD |
| 373 | 9592 | CHATON ROAD |
| 374 | 9596 | CHATON ROAD |
| 375 | 9600 | CHATON ROAD |
| 376 | 9599 | CHATON ROAD |
| 377 | 9585 | CHATON ROAD |
| 378 | 9581 | CHATON ROAD |
| 379 | 9577 | CHATON ROAD |
| 380 | 9573 | CHATON ROAD |
| 381 | 9569 | CHATON ROAD |
| 382 | 9565 | CHATON ROAD |
| 383 | 9561 | CHATON ROAD |
| 384 | 9557 | CHATON ROAD |
| 385 | 9553 | CHATON ROAD |
| 386 | 9549 | CHATON ROAD |

GENERAL NOTES

- THE SUBJECT PROPERTY IS ZONED R-SC PER THE 2-02-04 COMPREHENSIVE ZONING PLAN.
- THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS CONSTRUCTION INSPECTION DIVISION AT (410)313-1880 AT LEAST FIVE(5) WORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
- EXISTING TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM THE GRADING PLAN UNDER F-08-065, CONTOUR INTERVAL IS 2 FEET. AND FIELD RUN TOPOGRAPHY BY BENCHMARK ENGINEERING, INC., DATED FEBRUARY, 2003.
- 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. 50BA AND 50BS WERE USED FOR THIS PROJECT.
- EXISTING UTILITIES SHOWN HAVE BEEN TAKEN FROM CONTRACT DRAWINGS #24-4434-D AND ROAD CONSTRUCTION PLANS F-08-065. APPROVED CONTRACT DRAWINGS AND FIELD LOCATIONS. IF NECESSARY, CONTRACTOR SHALL ADJUST ANY OR ALL STRUCTURE TOP ELEVATIONS TO MATCH SUB GRADES.
- THERE ARE NO WETLANDS, WETLANDS BUFFERS, STREAMS, STREAM BUFFERS OR 100-YEAR FLOODPLAIN LOCATED ON THESE LOTS.
- IN ACCORDANCE WITH SECTION 12B 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.
- WOB INDICATES WALKOUT BASEMENT.
- PREVIOUS HOWARD COUNTY FILE NUMBERS: S-02-012, P-07-01, F-08-065, CONT. #24-4434-D.
- THE STAKING OF FOUNDATIONS PRIOR TO CONSTRUCTION TO ENSURE COMPLIANCE WITH REGULATORY BUILDING RESTRICTION LINES IS RECOMMENDED.
- ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE BUILDERS EXPENSE.
- "BRL" INDICATES BUILDING RESTRICTION LINE.
- FOR DRIVEWAY ENTRANCE DETAIL SEE HOWARD COUNTY STANDARD DETAILS R-6.03 & R-6.05.
- HOUSES/GARAGES WILL BE SITED ON LOTS SO THAT A SECOND CAR, IF PARKED IN THE DRIVEWAY, WILL NOT OVERHANG INTO THE SHARED DRIVEWAY (10' MINIMUM CLEARANCE).
- DRIVEWAY SLOPES SHOWN ARE AVERAGE. THE SLOPE AT THE OUTSIDE EDGES COULD BE FLATTER OR STEEPER DEPENDING ON GRADE OF ROADWAY.
- 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:
 - WIDTH - 12' (16' SERVING MORE THAN ONE RESIDENCE);
 - SUBGRADE - 6" OF COMPACTED CRUSHER RUN BASE W/TAR AND CHIP COATING (1-1/2" MIN.);
 - GEOMETRY - MAX. 15% GRADE, MAX. 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS;
 - STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING);
 - DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
- MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.
- THIS PLAN CONFORMS WITH THE AMENDED 5th EDITION OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS. THE DEVELOPER SHALL APPLY FOR BUILDING PERMITS FOR ALL LOTS AS SHOWN ON THIS SITE DEVELOPMENT PLAN WITHIN FIVE YEARS OF SIGNATURE APPROVAL OF THIS PLAN.
- STREET TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE APPROVED ROAD CONSTRUCTION DRAWINGS (F-08-065). SURETY HAS BEEN POSTED WITH THE DEVELOPER'S AGREEMENT.
- PERIMETER AND STORM WATER MANAGEMENT LANDSCAPING, IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL, WAS PROVIDED AS SHOWN ON THE LANDSCAPE PLAN SHEETS OF THE ROAD CONSTRUCTION DRAWINGS (F-08-065) FOR THIS PROJECT.
- FOR FLAG OR PIPE STEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPE STEM AND ROAD RIGHT-OF-WAY LINE AND NOT ONTO THE FLAG OR PIPE STEM LOTS DRIVEWAY.
- THE STORMWATER MANAGEMENT IS BEING PROVIDED AS PER F-08-065, THIS PLAN IS EXEMPT FROM PROVIDING CPV, WOV AND REV MANAGEMENT.
- FOREST CONSERVATION OBLIGATIONS IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL WAS PROVIDED BY THE PLACEMENT OF 27 ACRES OF ON-SITE RE-FORESTATION INTO AN EASEMENT AREA (F08-65-KINGS WOODS) AND THE ACQUISITION OF 2.44 ACRES OF OFF-SITE REFORESTATION FROM A FOREST MITIGATION BANK IDENTIFIED AS NON-BUILDABLE PRESERVATION PARCEL C OF EDGEWOOD FARM, TAX MAP 21, GRID 22, PARCEL 90 (F-08-108) WHICH IS SUFFICIENT TO MEET THE TOTAL REFORESTATION OBLIGATION OF 2.71 ACRES. SURETY FOR 0.27 ACRES OF REFORESTATION IN THE AMOUNT OF \$8,820.75 (11,761 SQ. FT. X \$0.75) SHALL BE POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS FINAL PLAN. F-08-065 HAS NO SURETY IS REQUIRED FOR THE OFF-SITE REFORESTATION SINCE IT IS LOCATED IN A FOREST MITIGATION BANK.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John Danner 12/2/08
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE

Cindy Han 2/24/09
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE

Thomas E. Buble 2/24/09
 DIRECTOR, DEP.
 DATE

| SHEET INDEX | | |
|-------------|--|-------------|
| NO. | DESCRIPTION | TITLE SHEET |
| 1 | | |
| 2 & 3 | SITE DEVELOPMENT AND GRADING PLAN | |
| 4 | SEDIMENT & EROSION CONTROL PLAN | |
| 5 | SEDIMENT & EROSION CONTROL NOTES AND DETAILS | |

| MINIMUM LOT SIZE CHART | | | |
|------------------------|-------------|---------------|---------------|
| LOT NO. | GROSS AREA | PIPESTEM AREA | MIN. LOT SIZE |
| 368 | 7,727 S.F. | 813 S.F. | 6,914 S.F. |
| 371 | 10,726 S.F. | 2,918 S.F. | 7,808 S.F. |
| 372 | 9,141 S.F. | 1,694 S.F. | 7,447 S.F. |
| 373 | 11,370 S.F. | 825 S.F. | 10,545 S.F. |
| 374 | 8,112 S.F. | 533 S.F. | 7,579 S.F. |
| 382 | 7,304 S.F. | 770 S.F. | 6,534 S.F. |
| 383 | 7,102 S.F. | 1,092 S.F. | 6,010 S.F. |
| 384 | 6,899 S.F. | 770 S.F. | 6,129 S.F. |

| PERMIT INFORMATION CHART | | | | | |
|--------------------------|----------|---------------|--------------|-------------------|--------------|
| SUBDIVISION NAME: | | SECTION/AREA: | LOT/PARCEL # | | |
| KINGS WOODS | | 5 | PARCEL: 857 | | |
| PLAT No. | GRID No. | ZONE | TAX MAP | ELECTION DISTRICT | CENSUS TRACT |
| 20456-20458 | 21 | R-SC | 47 | 6th | 6069.02 |
| WATER CODE | | SEWER CODE | | | |
| C-03 | | 7320000 | | | |

BENCHMARK
 ENGINEERS ▲ LAND SURVEYORS ▲ PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE ▲ SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 phone: 410-465-6105 ▲ fax: 410-465-6844
 email: bei@bei-civilengineering.com

[Signature] 11/2/2008
 Professional Certificates: 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. 28809. Expiration Date: 7-22-2009.

| | |
|--|--|
| OWNER: JAMES H. KING 9648 WHISKEY BOTTOM ROAD LAUREL, MD 20723 301-498-8922 | PROJECT: KINGS WOODS SECTION 5 LOTS 362 - 386 |
| BUILDER: RYAN HOMES 6085 MARSHALEE DRIVE SUITE 140 ELKBRIDGE, MARYLAND 21075 410-796-0980 ATTEN: JOHN LEWIS | LOCATION: TAX MAP No. 47 - GRID No. 21 PARCEL No. 857 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| Design: JC Draft: WEO Check: DAM | TITLE: TITLE SHEET |
| DATE: JULY, 2008 NOVEMBER, 2008 | PROJECT NO. 2128 |
| SCALE: AS SHOWN | DRAWING 1 OF 5 |

| SOILS LEGEND | | |
|--------------|------------|---|
| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
| BeB2 | C | BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED |
| BeC2 | C | BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED |
| BeC3 | C | BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED |
| BeD2 | C | BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED |
| *Op | A | GRAVEL PITS AND SANDS |
| Li | D | LEONARDTOWN SILT LOAM |
| ScD | C | SANDY ANF. CLAYEY SILT, MODERATELY ERODED |
| SfC2 | B | SASSAFRAS GRAVELLY SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED |
| SfE | B | SASSAFRAS SOILS, 40 PERCENT SLOPES |

* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1998, MAP NO. 25

| LEGEND | |
|--|----------|
| SOILS CLASSIFICATION | ABC I |
| SOILS DELINEATION | --- |
| EXISTING CONTOURS | 999 |
| LIMIT OF WETLANDS | --- |
| EXISTING WOODS LINE | --- |
| PROPOSED WOODS LINE | --- |
| EXISTING STRUCTURE | [Symbol] |
| PROPOSED STRUCTURE | [Symbol] |
| FOREST CONSERVATION EASEMENT | [Symbol] |
| EX. LANDSCAPE TREE F-96-139 or F-08-065 | [Symbol] |
| PUBLIC UTILITY EASEMENT | [Symbol] |
| PUBLIC TREE MAINTENANCE EASEMENT | [Symbol] |



APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature]
CHIEF, DEVELOPMENT ENGINEERING DIVISION

[Signature]
CHIEF, DIVISION OF LAND DEVELOPMENT

[Signature]
DIRECTOR, DEP.

DATE: 2/18/08
DATE: 2/27/09
DATE: 2/27/09

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: be@be-civilengineering.com

OWNER: JAMES H. KING
9648 WHISKEY BOTTOM ROAD
LAUREL, MD 20723
301-498-8922

PROJECT: KINGS WOODS SECTION 5 LOTS 362 - 386

LOCATION: TAX MAP No. 47 - GRID No. 21 PAFCEL No. 857 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND

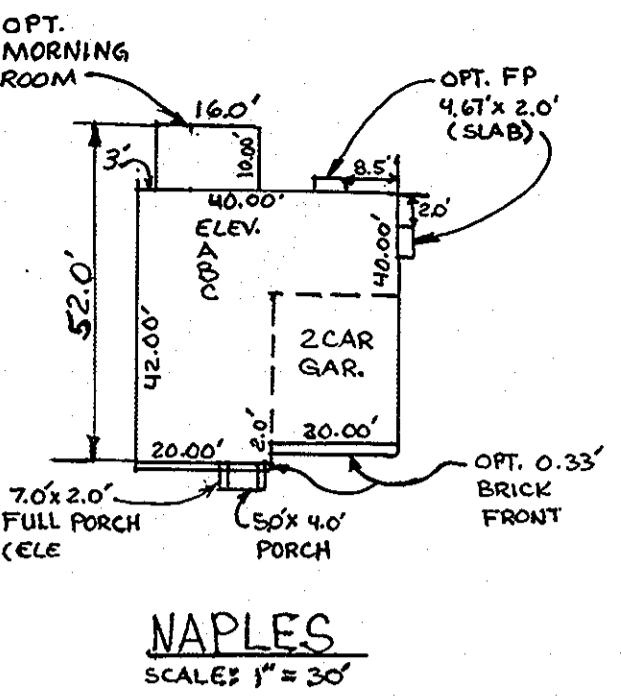
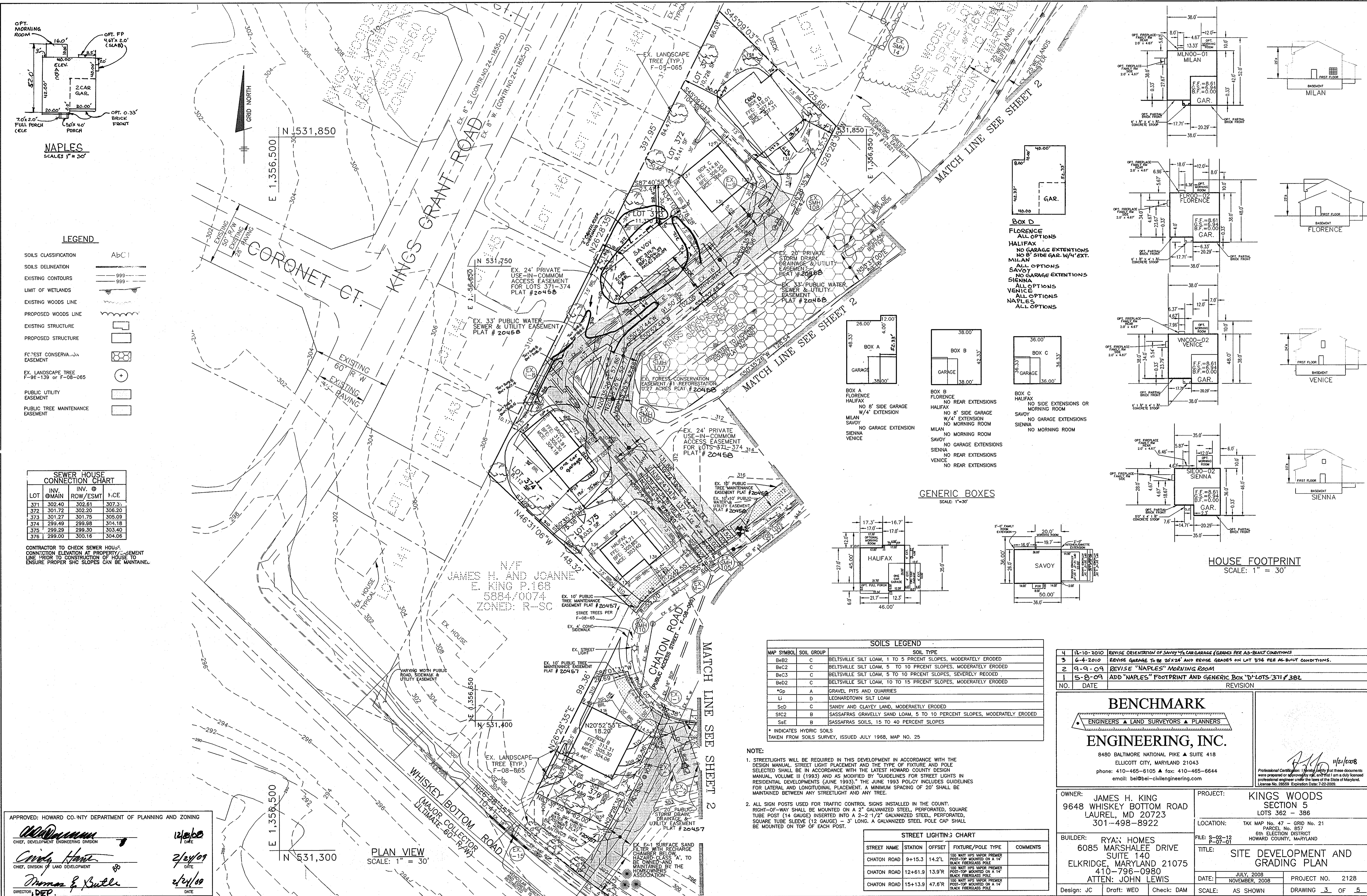
BUILDER: RYAN HOMES
6085 MARSHALEE DRIVE SUITE 140
ELKRIDGE, MARYLAND 21075
410-796-0980
ATTN: JOHN LEWIS

TITLE: SITE DEVELOPMENT AND GRADING PLAN

DATE: JULY, 2008
NOVEMBER, 2008

PROJECT NO. 2128

Design: JC Draft: WEO Check: DAM SCALE: AS SHOWN DRAWING 2 OF 5



LEGEND

SOILS CLASSIFICATION AbC1

SOILS DELINEATION

EXISTING CONTOURS 999

LIMIT OF WETLANDS

EXISTING WOODS LINE

PROPOSED WOODS LINE

EXISTING STRUCTURE

PROPOSED STRUCTURE

FOREST CONSERVATION EASEMENT

EX. LANDSCAPE TREE F-96-139 or F-08-065

PUBLIC UTILITY EASEMENT

PUBLIC TREE MAINTENANCE EASEMENT

SEWER HOUSE CONNECTION CHART

| LOT | INV. @ MAIN | INV. @ ROW/ESMT | IN. @ E |
|-----|-------------|-----------------|---------|
| 371 | 302.40 | 302.61 | 307.31 |
| 372 | 301.72 | 302.20 | 306.20 |
| 373 | 301.27 | 301.75 | 305.09 |
| 374 | 299.49 | 299.98 | 304.18 |
| 375 | 299.29 | 299.30 | 303.40 |
| 376 | 299.00 | 300.16 | 304.06 |

CONTRACTOR TO CHECK SEWER HOUSE CONNECTION ELEVATION AT PROPERTY AND TO ENSURE PROPER SLOPES CAN BE MAINTAINED.

APPROVED: HOWARD CO. INTY DEPARTMENT OF PLANNING AND ZONING

Howard
CHIEF, DEVELOPMENT ENGINEERING DIVISION

Cindy Hunt
CHIEF, DIVISION OF LAND DEVELOPMENT

Dennis S. Butler
DIRECTOR

DATE: 12/10/08
DATE: 2/24/09
DATE: 2/24/09

PLAN VIEW
SCALE: 1" = 30'

SOILS LEGEND

| MAP SYMBOL | SOIL GROUP | SOIL TYPE |
|------------|------------|---|
| BaB2 | C | BELTSVILLE SILT LOAM, 1 TO 5 PERCENT SLOPES, MODERATELY ERODED |
| BaC2 | C | BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED |
| BaC3 | C | BELTSVILLE SILT LOAM, 5 TO 10 PERCENT SLOPES, SEVERELY ERODED |
| BaD2 | C | BELTSVILLE SILT LOAM, 10 TO 15 PERCENT SLOPES, MODERATELY ERODED |
| *Gp | A | GRAVEL PITS AND QUARRIES |
| Li | D | LEONARDTOWN SILT LOAM |
| SeD | C | SANDY AND CLAYEY SAND, MODERATELY ERODED |
| SrC2 | B | SASSAFRAS GRAVELLY SAND LOAM, 5 TO 10 PERCENT SLOPES, MODERATELY ERODED |
| SsE | B | SASSAFRAS SOILS, 15 TO 40 PERCENT SLOPES |

* INDICATES HYDRIC SOILS
TAKEN FROM SOILS SURVEY, ISSUED JULY 1988, MAP NO. 25

- NOTE:**
- STREETLIGHTS WILL BE REQUIRED IN THIS DEVELOPMENT IN ACCORDANCE WITH THE DESIGN MANUAL. STREET LIGHT PLACEMENT AND THE TYPE OF FIXTURE AND POLE SELECTED SHALL BE IN ACCORDANCE WITH THE LATEST HOWARD COUNTY DESIGN MANUAL, VOLUME III (1993) AND AS MODIFIED BY "GUIDELINES FOR STREET LIGHTS IN RESIDENTIAL DEVELOPMENTS (JUNE 1993)". THE JUNE 1993 POLICY INCLUDES GUIDELINES FOR LATERAL AND LONGITUDINAL PLACEMENT. A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREETLIGHT AND ANY TREE.
 - ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 2-2 1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE) - 3' LONG. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.

STREET LIGHTING CHART

| STREET NAME | STATION | OFFSET | FIXTURE/POLE TYPE | COMMENTS |
|-------------|---------|--------|--|----------|
| CHATON ROAD | 9+15.3 | 14.2'L | 100 WATT HPS VAPOR PREMIER POST-TOP MOUNTED ON A 14" BLACK FIBERGLASS POLE | |
| CHATON ROAD | 12+61.9 | 13.9'R | 100 WATT HPS VAPOR PREMIER POST-TOP MOUNTED ON A 14" BLACK FIBERGLASS POLE | |
| CHATON ROAD | 15+13.9 | 47.6'R | 100 WATT HPS VAPOR PREMIER POST-TOP MOUNTED ON A 14" BLACK FIBERGLASS POLE | |

| NO. | DATE | REVISION |
|-----|------------|---|
| 4 | 12-10-2010 | REVISE ORIENTATION OF SAVOY 2 CAR GARAGE (GRADE PER AS-BUILT CONDITIONS) |
| 3 | 6-4-2010 | REVISE GARAGE TO BE 20' x 24' AND REVISE GRADES ON LOT 374 PER AS-BUILT CONDITIONS. |
| 2 | 9-9-09 | REVISE "NAPLES" MORNING ROOM |
| 1 | 5-8-09 | ADD "NAPLES" FOOTPRINT AND GENERIC BOX "D" TO LOTS 371 & 382 |

BENCHMARK ENGINEERING, INC.
ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 • FAX: 410-465-6644
EMAIL: bel@bei-civilengineering.com

Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 28559, Expiration Date: 7-22-2009.

OWNER: JAMES H. KING
9648 WHISKEY BOTTOM ROAD
LAUREL, MD 20723
301-498-8922

BUILDER: RYAN HOMES
6085 MARSHALEE DRIVE
SUITE 140
ELKRIDGE, MARYLAND 21075
410-796-0980
ATTN: JOHN LEWIS

PROJECT: KINGS WOODS SECTION 5
LOTS 362 - 386

LOCATION: TAX MAP NO. 47 - GRID NO. 21
PARCEL NO. 857
6TH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

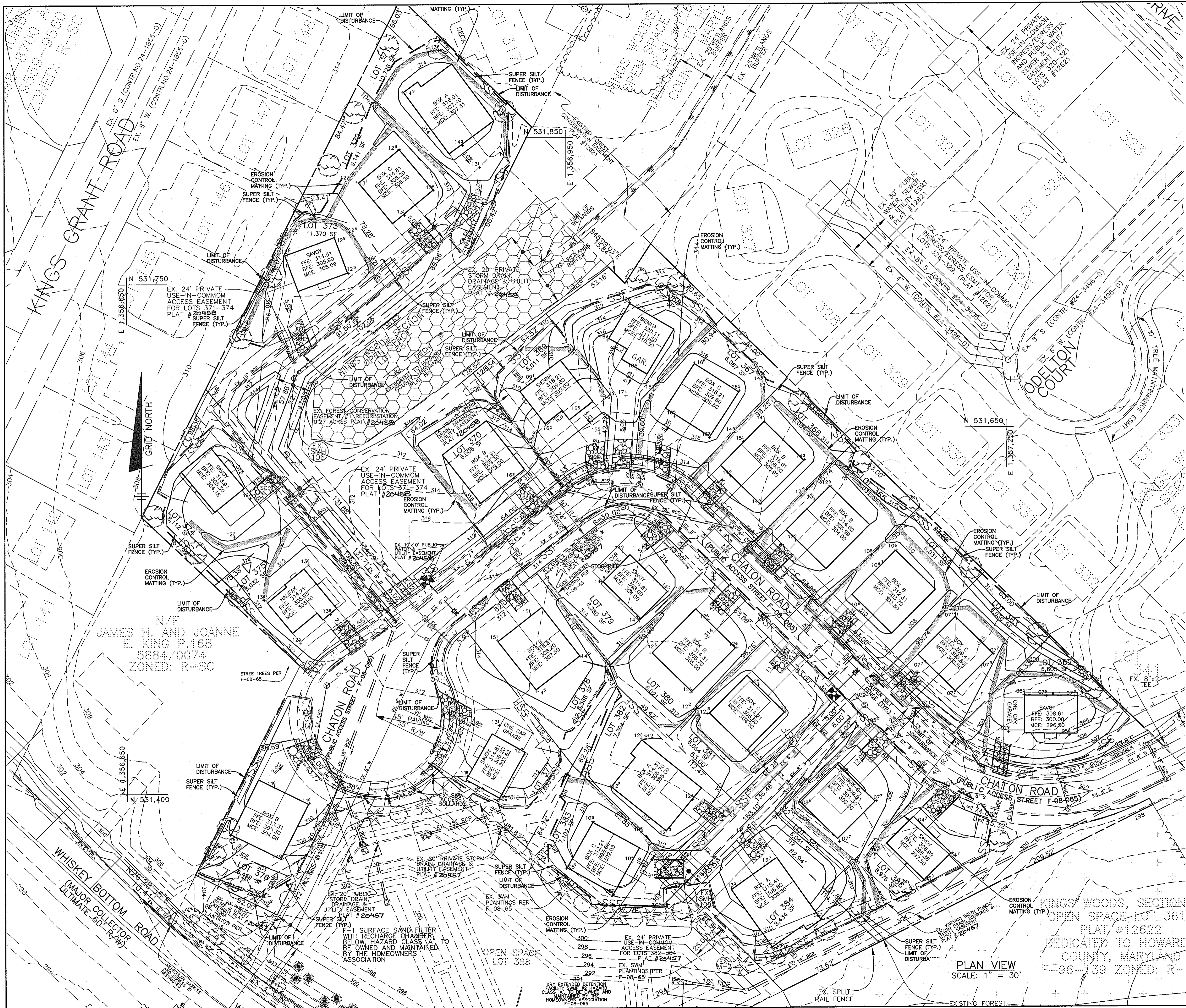
TITLE: SITE DEVELOPMENT AND GRADING PLAN

DATE: JULY, 2008
NOVEMBER, 2008

PROJECT NO.: 2128

SCALE: AS SHOWN
DRAWING 3 OF 5

Design: JC Draft: WEO Check: DAM



LEGEND

| | |
|----------------------------------|----------------------|
| SOILS CLASSIFICATION | AbC1 |
| SOILS DELINEATION | — 999 — |
| EXISTING CONTOURS | — 999 — |
| LIMIT OF WETLANDS | — 999 — |
| EXISTING WOODS LINE | — 999 — |
| PROPOSED WOODS LINE | — 999 — |
| EXISTING STRUCTURE | [Symbol] |
| PROPOSED STRUCTURE | [Symbol] |
| FOREST CONSERVATION EASEMENT | [Symbol] |
| EX. LANDSCAPE TREE | F-96-139 or F-08-065 |
| PUBLIC UTILITY EASEMENT | [Symbol] |
| PUBLIC TREE MAINTENANCE EASEMENT | [Symbol] |

ENGINEER'S CERTIFICATE

I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION 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.

ENGINEER — *[Signature]* 11/21/08
SHAN F. DEARY, P.E. # 28559 DATE

DEVELOPER'S CERTIFICATE

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 A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT.

[Signature] 11/24/08
RYAN HOMES, INC. DATE

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

[Signature] 12/14/08
HOWARD SCD DATE

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 12/16/08
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 2/24/09
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 2/24/09
DIRECTOR, DEP. DATE

| NO. | DATE | REVISION |
|-----|------|----------|
| | | |

BENCHMARK
 ENGINEERS & LAND SURVEYORS & PLANNERS
ENGINEERING, INC.
 8480 BALTIMORE NATIONAL PIKE & SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 phone: 410-465-6105 • fax: 410-465-6644
 email: bei@bei-civilengineering.com

11/21/2008
Professional Engineer. I certify that these documents were prepared or approved by me. I am a duly licensed professional engineer under the laws of the State of Maryland. License No. 28559. Expiration Date: 7-22-2009.

| | |
|---|--|
| OWNER: JAMES H. KING 9648 WHISKEY BOTTOM ROAD LAUREL, MD 20723 301-498-8922 | PROJECT: KINGS WOODS SECTION 5 LOTS 362 - 386 |
| BUILDER: RYAN HOMES 6085 MARSHALEE DRIVE SUITE 140 ELKRIDGE, MARYLAND 21075 410-296-0980 ATTEN: JOHN LEWIS | LOCATION: TAX MAP No. 47 - GRID No. 21 PARCEL No. 857 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| DATE: JULY, 2008 NOVEMBER, 2008 | TITLE: SEDIMENT AND EROSION CONTROL PLAN |
| Design: JC | Draft: WEO |
| Check: DAM | SCALE: AS SHOWN |
| PROJECT NO. 2128 | DRAWING 4 OF 5 |

PLAN VIEW
 SCALE: 1" = 30'

SEDIMENT CONTROL NOTES

- A MINIMUM OF 24 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTION, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION. (313-1850).
- ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT "MARYLAND STANDARDS AND SPECIFICATION FOR SOIL EROSION AND SEDIMENT CONTROL", REVISIONS THERETO.
- 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, PERIMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
- ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR PERMANENT SEEDINGS (SEC. 51) SOD (SEC. 54), TEMPORARY SEEDING (SEC. 50) AND MULCHING (SEC. 52). TEMPORARY STABILIZATION WITH MULCH ALONE CAN ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
- 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.
- SITE ANALYSIS:

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|--------------------------------------|-----------|
| TOTAL AREA OF SITE (THIS SUBMISSION) | 4.1 ACRES |
| AREA DISTURBED | 3.7 ACRES |
| AREA TO BE ROOFED OR PAVED | 2.7 ACRES |
| AREA TO BE VEGETATIVELY STABILIZED | 1.0 ACRES |
| TOTAL CUT | 7900 CY |
| TOTAL FILL | 0 CY |
| OFFSITE WASTE/BORROW AREA LOCATION | * |

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY THE SOIL/BORROW SITE AND NOTIFY AND OBTAIN APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR OF THE SITE AND ITS GRADING PERMIT NUMBER AT THE TIME OF CONSTRUCTION.
- ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
- ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
- 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.
- TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

PERMANENT SEEDBED PREPARATIONS

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

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ON OF THE FOLLOWING SCHEDULES:

- PREFERRED - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) 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).
 - 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 THROUGH APRIL 30 AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS PER ACRE (1.4 LBS/1000 SQ FT) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS PER ACRE (.05 LBS/1000 SQ FT) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 15 THROUGH FEBRUARY 28, OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE OF KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS PER ACRE OF 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 GA./1000 SQ FT) FOR ANCHORING.
- MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDBED PREPARATIONS

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, IF NOT PREVIOUSLY LOOSENED.

SOIL AMENDMENTS: APPLY 600 LBS PER ACRE 10-10-10 FERTILIZER (14 LBS/1000 SQ FT).

SEEDING: FOR PERIOD MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2-1/2 BUSHELS PER ACRE OF ANNUAL RYE (3.2 LBS/1000 SQ FT). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS PER ACRE OF WEEPING LOVEGRASS (.07 LBS/1000 SQ FT). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

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 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GAL/1000 SQ FT) FOR ANCHORING.

REFER TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL FOR RATE AND METHODS NOT COVERED.

TOPSOIL SPECIFICATIONS

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

- Topsoil Specifications - Soil to be used as topsoil must meet the following:
 - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting texture 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.
 - Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutedge, poison ivy, thistle, or others as specified.
 - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 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.

- For sites having disturbed areas under 5 acres:
 - Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization: Methods and Materials.
- For sites having disturbed areas over 5 acres:
 - On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into conformance with the following:
 - 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.
 - Organic content or topsoil shall be not less than 1.5 percent by weight.
 - Topsoil having soluble salt content greater than 500 parts per million shall not be used.
 - No sod or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-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 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization: Methods and Materials.

V. Topsoil Application

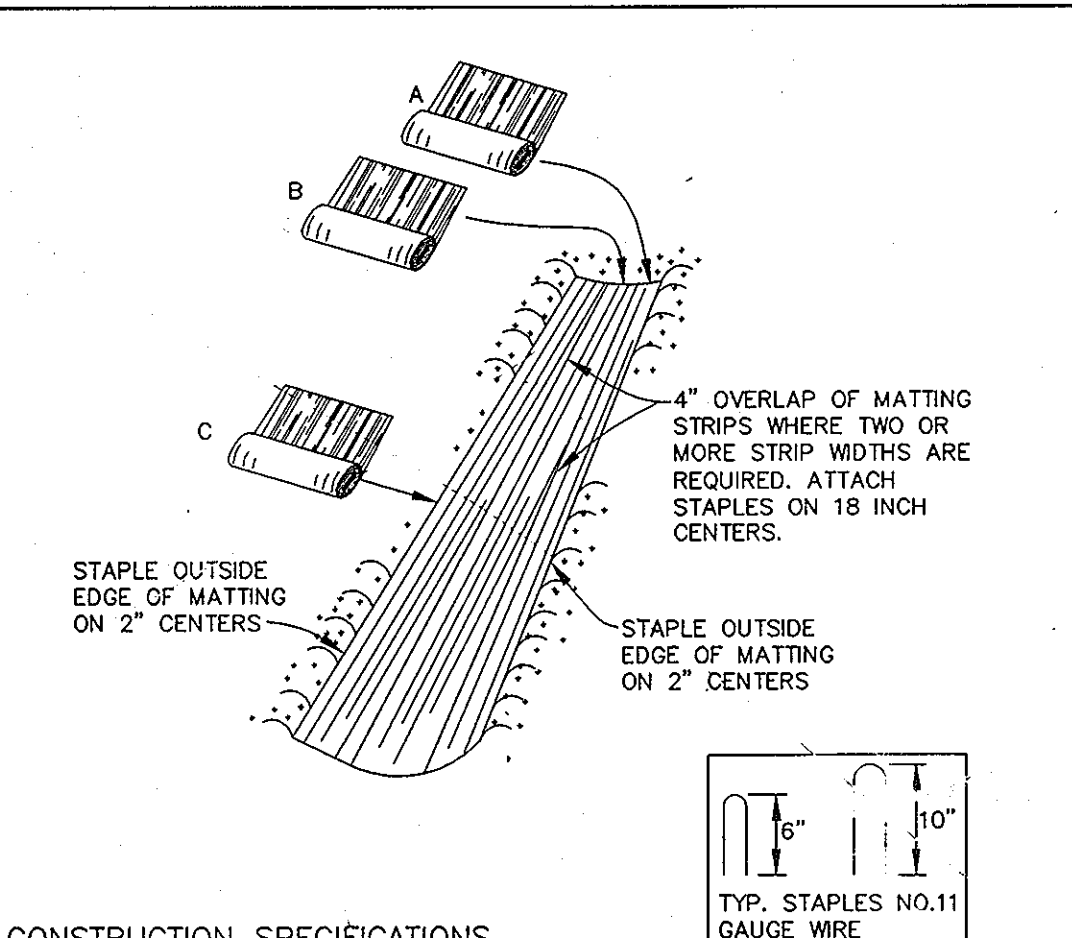
- When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, earth dikes, slope silt fence and sediment traps and basins.
- Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seeding 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:

- Composted Sludge Material for use as a soil conditioner for sites having distributed 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:
 - 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 28.04.06.
 - Composted sludge shall contain at least 1 percent nitrogen, 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.
 - Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

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

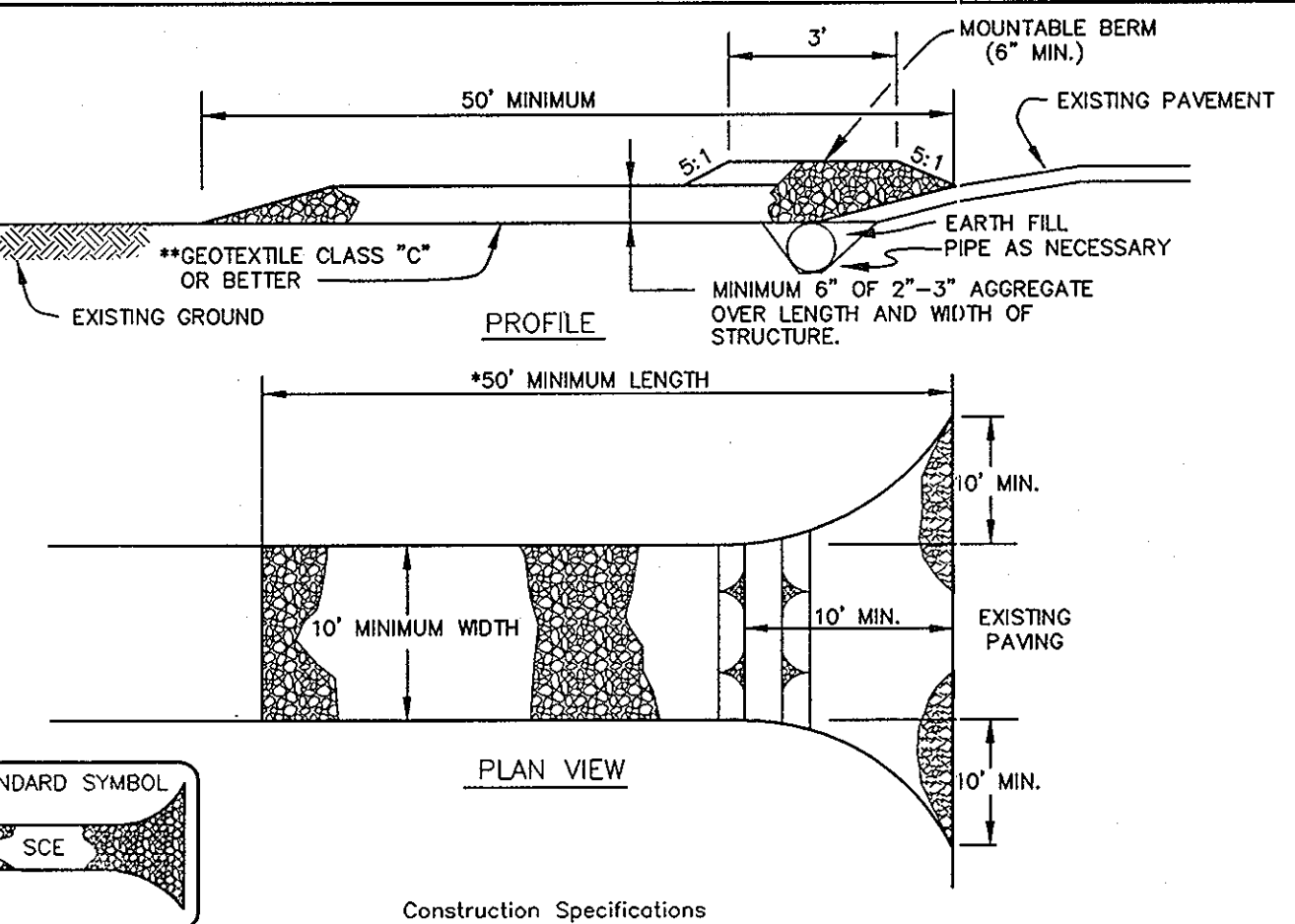
DETAIL 30 - EROSION CONTROL MATTING



- CONSTRUCTION SPECIFICATIONS**
- 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".
 - STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
 - BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
 - STAPLES SHALL BE PLACED 2" APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
 - 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.
 - THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH 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.

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- CONSTRUCTION SPECIFICATIONS**
- Length - minimum of 50' (*30' for single residence lot).
 - Width - 10' minimum, should be flared at the existing road to provide a turning radius.
 - Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residence to use geotextile.
 - 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.
 - 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 mounted 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.
 - 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.

SEQUENCE OF CONSTRUCTION

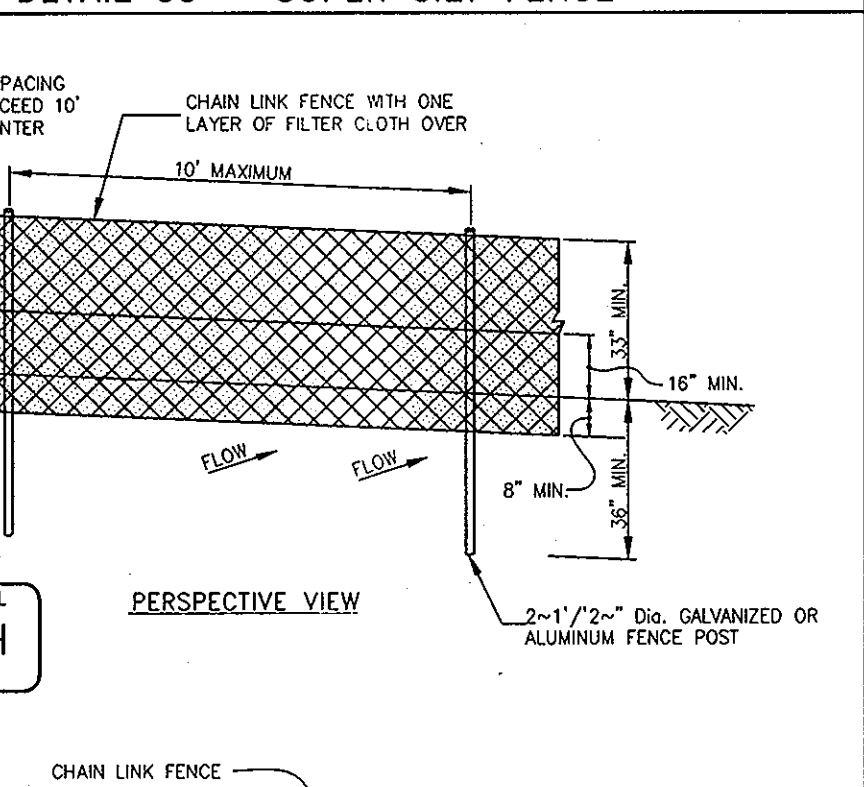
- NOTIFY SEDIMENT CONTROL DIVISION 48 HOURS PRIOR TO START OF CONSTRUCTION
- DAY 1 OBTAIN GRADING PERMIT.
 - DAY 2-5 INSTALL PERIMETER SEDIMENT CONTROLS THAT ARE NOTED TO BE INSTALLED UNDER THIS S.D.P.
 - DAY 6 INSTALL SEDIMENT CONTROLS FOR INDIVIDUAL HOUSE.
 - DAY 7-10* EXCAVATE FOR FOUNDATIONS, ROUGH GRADE AND STABILIZE IN ACCORDANCE WITH TEMPORARY SEEDBED NOTES.
 - DAY 11-80* CONSTRUCT HOUSE, BACKFILL AND CONSTRUCT DRIVEWAY.
 - DAY 81-85* FINAL GRADE AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES
 - DAY 86-89* WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE INDIVIDUAL LOT SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.
 - DAY 90 WITH THE APPROVAL OF THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE THE PERIMETER SEDIMENT CONTROL DEVICES AND STABILIZE ANY REMAINING DISTURBED AREAS.
- * - INDICATES SINGLE HOUSE CONSTRUCTION.
- NOTE: EROSION CONTROL MATTING SHALL BE PLACED IN SWALES WHERE DEEMED NECESSARY UNTIL VEGETATION IS ESTABLISHED OR SOLID SOD SHOULD BE USED.

ALL SEDIMENT & EROSION CONTROL FEATURES ARE TO BE REPAIRED IMMEDIATELY IF DISRUPTED BY UTILITY INSTALLATION

SUPER SILT FENCE IS TO BE INSPECTED FREQUENTLY & CLEANED, REPAIRED AND/OR RE-INSTALLED IMMEDIATELY AS NECESSARY

ALL SEDIMENT CONTROL FEATURES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAILS SHOWN IN THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

DETAIL 33 - SUPER SILT FENCE



SUPER SILT FENCE CONSTRUCTION SPECIFICATIONS

- 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 6" length posts.
 - Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brack and truss rods, drive anchors and post caps are not required except on the ends of the fence.
 - Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.
 - Filter cloth shall be embedded a minimum of 8" into the ground.
 - When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
 - Maintenance shall be performed as needed and silt buildup removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
 - 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 ² /minute (max.) | Test: MSMT 322 |
| Filtering Efficiency | 75% (min.) | Test: MSMT 322 |

SUPER SILT FENCE DESIGN CRITERIA

| Slope | Slope Steepness | Slope Length (maximum) | Silt Fence Length (maximum) |
|----------|-----------------|------------------------|-----------------------------|
| 0 - 10% | 0 - 10:1 | Unlimited | Unlimited |
| 10 - 20% | 10:1 - 5:1 | 200 feet | 1,500 feet |
| 20 - 33% | 5:1 - 3:1 | 100 feet | 1,000 feet |
| 33 - 50% | 3:1 - 2:1 | 100 feet | 500 feet |
| 50% + | 2:1 + | 50 feet | 250 feet |

ENGINEER'S CERTIFICATE

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

ENGINEER - BRIAN J. CLARY, P.E. # 38600 DATE 11/21/2008

DEVELOPER'S CERTIFICATE

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 A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD COUNTY CONSERVATION DISTRICT.

RYAN HOMES, INC. DATE 11/24/08

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

John R. Robertson DATE 12/15/08

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chief, Development Engineering Division DATE 12/15/08

Cindy Hunt DATE 2/24/09

Thomas E. Buttle DATE 2/24/09

THE FOLLOWING STANDARD SIGN DESIGN SPECIFICATIONS SHALL APPLY:

- THE SIGN SIZE SHALL BE 12" x 18".
- THE SIGN MATERIAL SHALL BE 0.080 GAUGE THICKNESS ANODIZED ALUMINUM.
- THE SIGN SHALL HAVE A GREEN BACKGROUND WITH 3" HIGH WHITE REFLECTIVE NUMBERS AND ARROW WITH A WHITE REFLECTIVE BORDER.
- WHERE A PRIVATE ROAD NAME IS IN USE OR PART OF A PRIVATE HOMEOWNER'S ARTICLES OF INCORPORATION AGREEMENT THE SIGN SIZE WILL BE ENLARGED TO ACCOMMODATE THE NECESSARY LETTERING BUT REMAIN PROPORTIONAL TO THE ABOVE DESIGN LIMITS.
- THE SIGN WILL BE INSTALLED WITHIN THE COMMON DRIVEWAY EASEMENT AREA AS NOTED ON THE FINAL PLAN.
- ADDRESS NUMBER IDENTIFICATION SIGNS ARE TO BE PROVIDED UNDER THE TENANTS OF THE HOMEOWNER'S ASSOCIATION INCORPORATION OR A PROPERTY MANAGEMENT COMPANY FOR INSTALLATION AND MAINTENANCE IN ACCORDANCE WITH THE DEPARTMENT OF PLANNING AND ZONING ADDRESS NUMBERING SYSTEM AND PER SECTION 3.503(O) OF THE HOWARD COUNTY CODE - PUBLIC SIGNS, MAINTENANCE/REPAIR AND REPLACEMENT OF THE ADDRESS NUMBER DIRECTIONAL SIGNS WILL BE THE RESPONSIBILITY OF THE HOMEOWNER'S ASSOCIATION OR A PROPERTY MANAGEMENT COMPANY.
- COMPLIANCE REGARDING THE INSTALLATION OF THE NEW ADDRESS NUMBER DIRECTIONAL SIGNS WILL BE ENFORCED BY THE DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS AT THE TIME OF FINAL APPROVAL FOR ISSUANCE OF THE USE AND OCCUPANCY PERMITS.

HO. CO. APPROVED SIGN DESIGN AND INSTALLATION DETAIL

NOT TO SCALE

BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 418 ELLICOTT CITY, MARYLAND 21043 phone: 410-465-6105 fax: 410-465-6644 email: bei@bei-civilengineering.com

Professional Corporation. 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. 28559. Expiration Date: 7-22-2009.

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|---|---|
| OWNER: JAMES H. KING 9648 WHISKEY BOTTOM ROAD LAUREL, MD 20723 301-498-8922 | PROJECT: KINGS WOODS SECTION 5 LOTS 362 - 386 |
| BUILDER: RYAN HOMES 6085 MARSHALEE DRIVE SUITE 140 ELKRIDGE, MARYLAND 21075 410-796-0980 ATTN: JOHN LEWIS | LOCATION: TAX MAP No. 47 - GRID No. 21 PARCEL No. 857 6th ELECTION DISTRICT HOWARD COUNTY, MARYLAND |
| DATE: JULY 2008 NOVEMBER 2008 | TITLE: SEDIMENT AND EROSION CONTROL NOTES AND DETAILS |
| Design: JC | PROJECT NO. 2128 |
| Draft: WEO | SCALE: AS SHOWN |
| Check: DAM | DRAWING NO. OF 5 |