

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

KAISER FARM

SINGLE-FAMILY ATTACHED HOMES

LOTS 1 THRU 71 AND 74 THRU 80

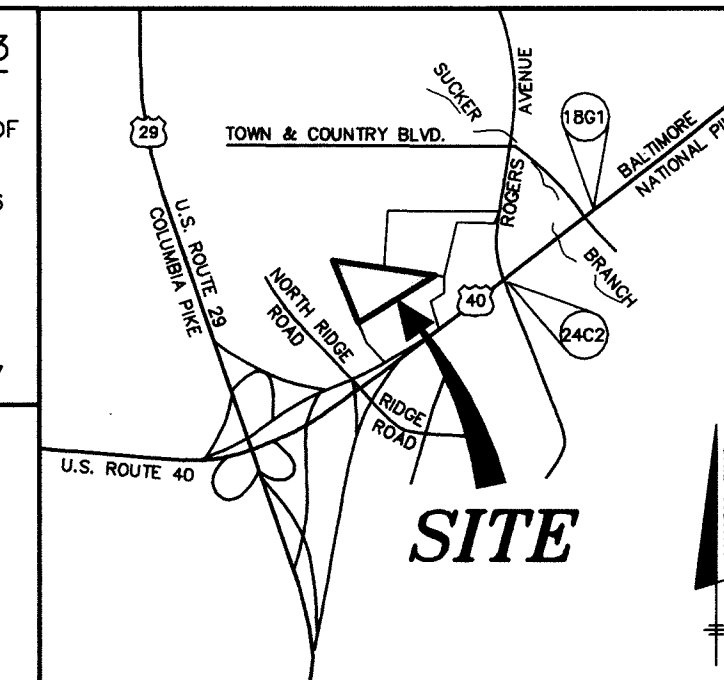
2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SITE DEVELOPMENT PLAN

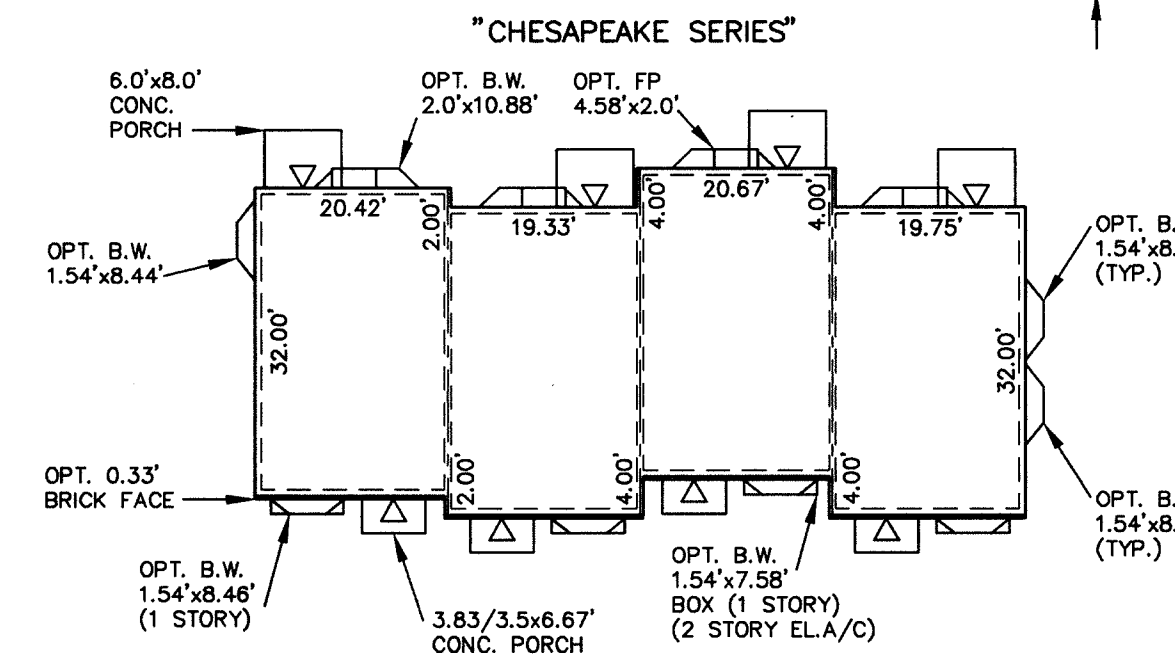
BENCH MARKS - NAD '83

HO. CO. No. 18G1 EL. 408.542
CONC. MONUMENT AT SURFACE, 4' N. OF
MAC. SHOULDER OF RT. 40 WEST
18' W. OF YELLOW BLINKING SIGNAL
N 589,984.9578 E 1,367,750.2376

HO. CO. No. 24C2 EL. 354.930
CONC. MONUMENT AT SURFACE, 5.5' S.
OF LEFT TURN LANE OF RT. 40 WEST
14' E. OF EAST EDGE OF CROSSOVER
TO RT. 99 S.
N 588,648.3158 E 1,366,038.1347

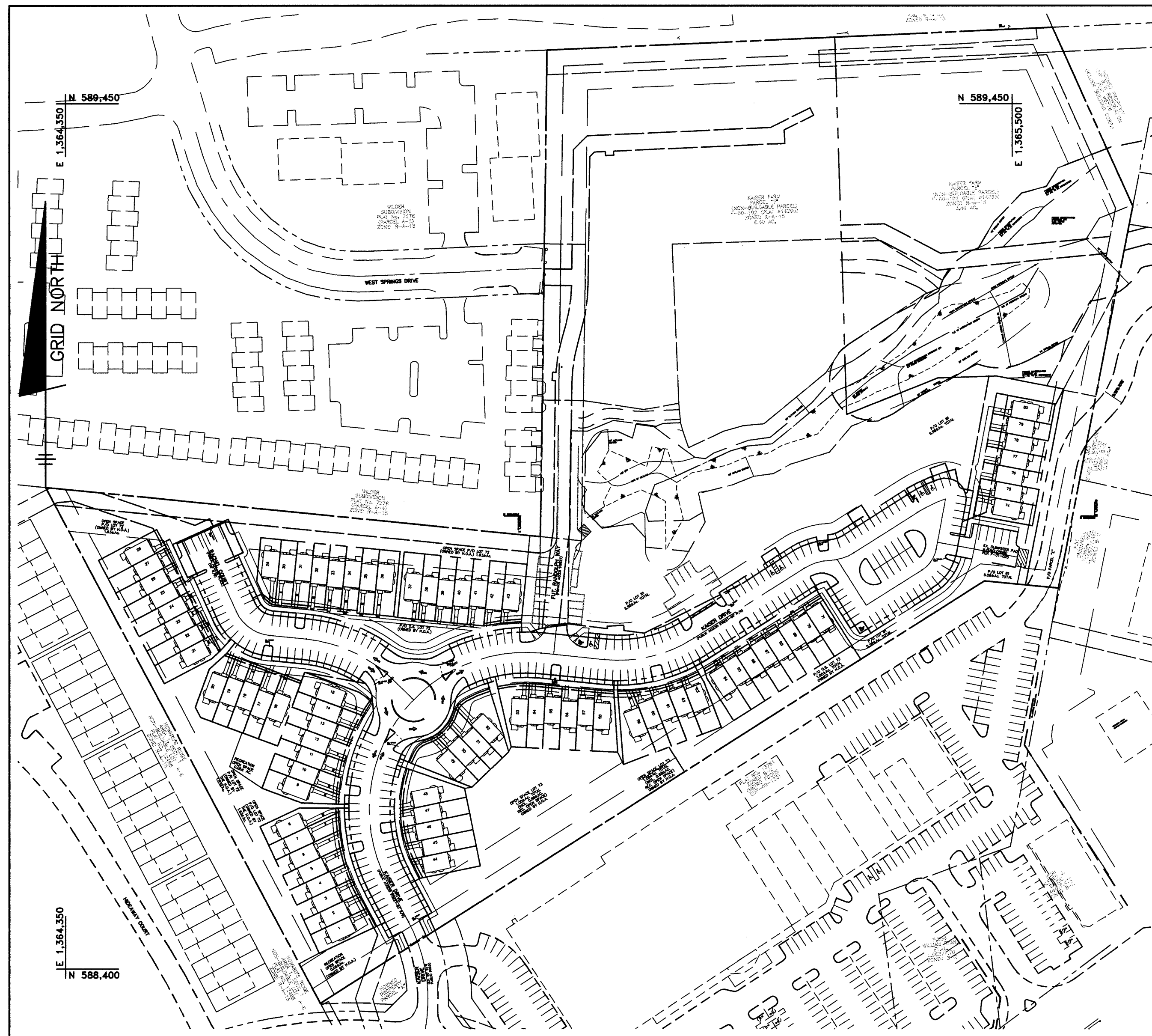


VICINITY MAP
SCALE: 1" = 2000'



LEGEND

SOILS CLASSIFICATION	AbC1
SOILS DELINEATION	-----
EXISTING CONTOURS	999
PROPOSED CONTOURS	999
LIMIT OF WETLANDS	~~~~~
EXISTING WOODS LINE	~~~~~
PROPOSED WOODS LINE	~~~~~
EXISTING STRUCTURE	[Symbol]
PROPOSED STRUCTURE	[Symbol]
LIMIT OF DISTURBANCE	-----
STABILIZED CONSTRUCTION ENTRANCE	[Symbol]
SILT FENCE	[Symbol]
SUPER SILT FENCE	[Symbol]
SOIL STABILIZATION MATTING	[Symbol]
EARTH DIKE	[Symbol]
INLET PROTECTION	[Symbol]
ENTRANCE LOCATION	[Symbol]



LOCATION PLAN
SCALE: 1" = 100'

UNIT/LOT COVERAGE
LARGEST UNIT: 20.67'x32' = 661SF/60% COVERAGE = 1102SF MIN. LOT SIZE

NOTE: AN APPROVED ILLUSTRATION IS ON FILE WITH THIS SITE PLAN WHICH DEMONSTRATES THE MITIGATION OF THE VISUAL IMPACT FOR STRUCTURES EXCEEDING THE MAXIMUM LENGTH OF 120' PER HOWARD COUNTY ZONING REGULATIONS SEC.112(D)(1)(e)

A HOUSE-TYPE REVISION (RESITE) IS REQUIRED WHEN THE FOLLOWING OCCURS:

1. A HOUSE TYPE IS ADDED OR DELETED.
2. A CHANGE IN ELEVATION OF HOUSE 1 (ONE) FOOT OR MORE.
3. TO CHANGE THE GRADING FROM AN IN-GROUND BASEMENT TO A WALK-OUT BASEMENT.

HOUSE TYPICAL - FOOTPRINT
SCALE: 1" = 20'

ADDRESS CHART							
LOT NO.	STREET ADDRESS	LOT NO.	STREET ADDRESS	LOT NO.	STREET ADDRESS	LOT NO.	STREET ADDRESS
1	3203 KAISER DRIVE	21	8819 RACHEL COURT	41	3245 KAISER DRIVE	61	3254 KAISER DRIVE
2	3205 KAISER DRIVE	22	8821 RACHEL COURT	42	3247 KAISER DRIVE	62	3256 KAISER DRIVE
3	3207 KAISER DRIVE	23	8823 RACHEL COURT	43	3249 KAISER DRIVE	63	3258 KAISER DRIVE
4	3209 KAISER DRIVE	24	8825 RACHEL COURT	44	3214 KAISER DRIVE	64	3262 KAISER DRIVE
5	3211 KAISER DRIVE	25	8827 RACHEL COURT	45	3216 KAISER DRIVE	65	3264 KAISER DRIVE
6	3213 KAISER DRIVE	26	8829 RACHEL COURT	46	3218 KAISER DRIVE	66	3266 KAISER DRIVE
7	3215 KAISER DRIVE	27	8831 RACHEL COURT	47	3220 KAISER DRIVE	67	3268 KAISER DRIVE
8	3217 KAISER DRIVE	28	8833 RACHEL COURT	48	3222 KAISER DRIVE	68	3270 KAISER DRIVE
9	3221 KAISER DRIVE	29	8814 RACHEL COURT	49	3228 KAISER DRIVE	69	3272 KAISER DRIVE
10	3223 KAISER DRIVE	30	8812 RACHEL COURT	50	3228 KAISER DRIVE	70	3274 KAISER DRIVE
11	3225 KAISER DRIVE	31	8810 RACHEL COURT	51	3230 KAISER DRIVE	71	3276 KAISER DRIVE
12	3227 KAISER DRIVE	32	8808 RACHEL COURT	52	3232 KAISER DRIVE	74	3286 KAISER DRIVE
13	3229 KAISER DRIVE	33	8806 RACHEL COURT	53	3236 KAISER DRIVE	75	3288 KAISER DRIVE
14	3231 KAISER DRIVE	34	8804 RACHEL COURT	54	3238 KAISER DRIVE	76	3290 KAISER DRIVE
15	3233 KAISER DRIVE	35	8802 RACHEL COURT	55	3240 KAISER DRIVE	77	3292 KAISER DRIVE
16	8807 RACHEL COURT	36	8800 RACHEL COURT	56	3242 KAISER DRIVE	78	3294 KAISER DRIVE
17	8809 RACHEL COURT	37	3237 KAISER DRIVE	57	3244 KAISER DRIVE	79	3296 KAISER DRIVE
18	8811 RACHEL COURT	38	3239 KAISER DRIVE	58	3246 KAISER DRIVE	80	3298 KAISER DRIVE
19	8813 RACHEL COURT	39	3241 KAISER DRIVE	59	3250 KAISER DRIVE		
20	8815 RACHEL COURT	40	3243 KAISER DRIVE	60	3252 KAISER DRIVE		

SITE DATA TABULATION

GENERAL SITE DATA

- 1.) PRESENT ZONING: R-A-15
- 2.) APPLICABLE DPZ FILE REFERENCES: S-98-005, SP-00-003, P-99-017, F-00-102, F-01-025
- 3.) PROPOSED USE OF SITE: SINGLE-FAMILY ATTACHED
- 4.) PROPOSED WATER: PUBLIC
- PROPOSED SEWER: PUBLIC

AREA TABULATION

- 1.) TOTAL PROJECT AREA: 17.57± AC.
- 2.) AREA OF 100 YR. FLOODPLAIN: N/A
- 3.) NET AREA OF SITE: 17.57± AC.
- 4.) AREA OF THIS PLAN SUBMISSION: 3.07± AC.
- 5.) APPROXIMATE LIMIT OF DISTURBANCE: 3.63± AC.

PARKING SPACE DATA

	THIS PLAN (SDP-02-022)	APARTMENTS (SDP-02-024)	TOTALS REQUIRED
1.) NUMBER OF PARKING SPACES REQUIRED BY ZONING REGULATIONS AND/OR FDP CRITERIA			
SFA/TOWNHOMES (2 SPACES/UNIT)	78 UNITS x 2/UNIT = 156	98 UNITS x 2/UNIT = 196	156
MFA/APARTMENTS (2 SPACES/UNIT)	78 UNITS x 0.3/UNIT = 23	98 UNITS x 0.3/UNIT = 29	196
OVERFLOW (0.3 SPACES/UNIT)			52
TOTAL	179	225	404
2.) TOTAL NUMBER OF PARKING SPACES PROVIDED ON-SITE	243 (PROVIDED ON F-01-025)	184 (SDP-02-024)	427 TOTAL*
* - (INCLUDES 10 HANDICAPPED SPACES w/2 VAN ACCESS)			

PERMIT INFORMATION CHART					
SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL			
KAISER FARM	-	P.681 & p/o P.848			
PLAT No.	BLOCK No.	ZONING	TAX MAP	ELEC. DIST.	CENSUS
14767 TO 14770	23 & 24	R-A-15	17	2nd	-
WATER CODE	F03	SEWER CODE	1453600		

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

[Signature] 2/20/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3/1/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 3/5/02
DIRECTOR DATE

BENCHMARK ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE SUITE 418
ELLICOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844
E-MAIL: benchmark@cois.com

2/12/02

DEVELOPER: KAISER FARM, L.L.C.
P.O. BOX 417
ELLICOTT CITY, MD 21041
PHONE: 410-465-4244

PROJECT: KAISER FARM
SINGLE-FAMILY ATTACHED HOMES
LOTS 1 THRU 71 AND 74 THRU 80

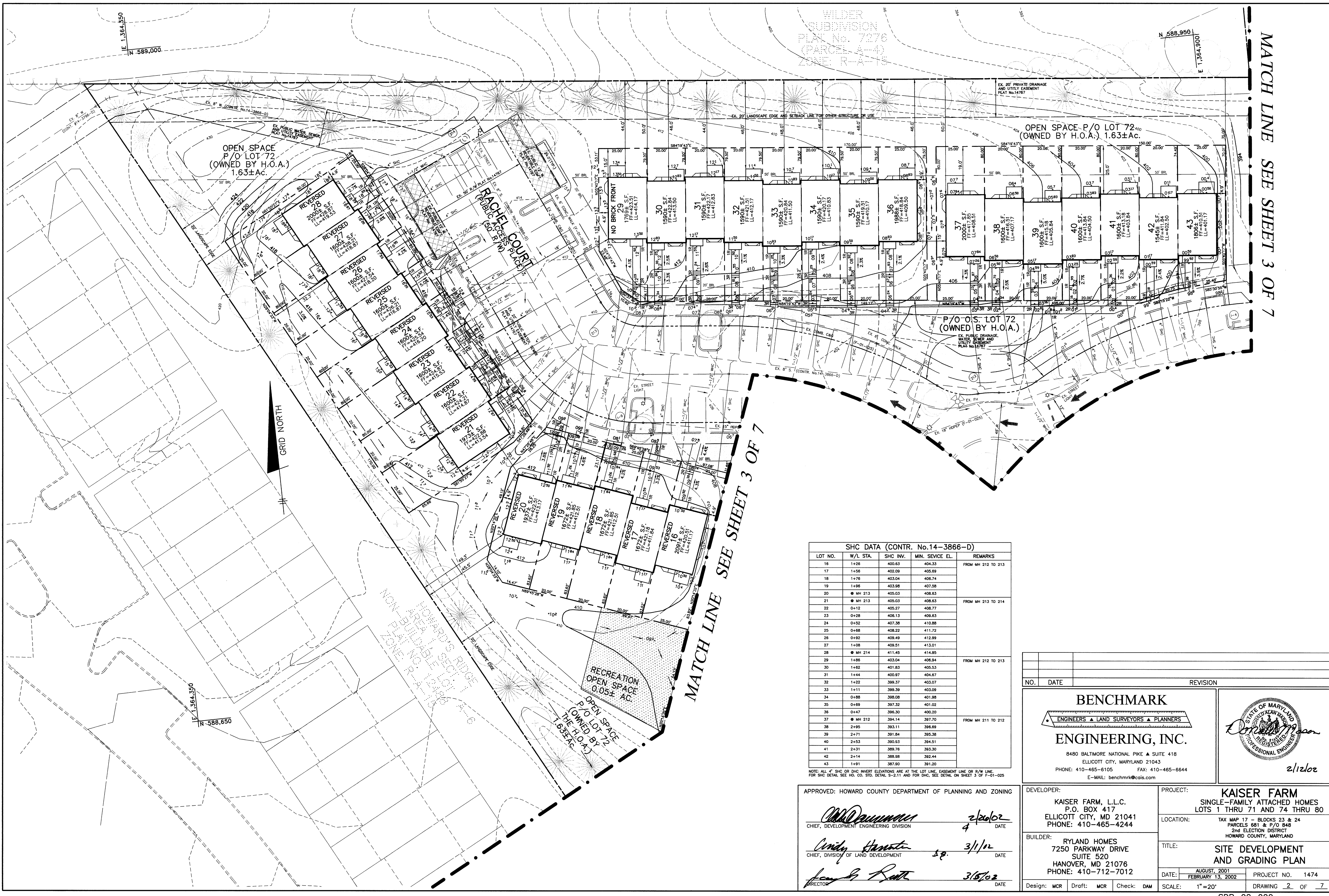
LOCATION: TAX MAP 17 - BLOCKS 23 & 24
PARCELS 881 & P/O 848
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

BUILDER: RYLAND HOMES
7250 PARKWAY DRIVE
SUITE 520
HANOVER, MD 21076
PHONE: 410-712-7012

TITLE: COVER SHEET

DATE: AUGUST, 2001
FEBRUARY 13, 2002 PROJECT NO. 1474

Design: MCR Draft: MCR Check: DAM SCALE: AS SHOWN DRAWING 1 OF 7



MATCH LINE SEE SHEET 3 OF 7

SHC DATA (CONTR. No.14-3866-D)				
LOT NO.	W/L STA.	SHC INV.	MIN. SERVICE EL.	REMARKS
16	1+28	400.63	404.33	FROM MH 212 TO 213
17	1+56	402.00	405.69	
18	1+76	403.04	406.74	
19	1+96	403.98	407.58	
20	● MH 213	405.03	408.63	
21	● MH 213	405.03	408.63	FROM MH 213 TO 214
22	0+12	405.27	408.77	
23	0+28	406.13	409.63	
24	0+52	407.38	410.88	
25	0+68	408.22	411.72	
26	0+92	409.49	412.99	
27	1+08	409.51	413.01	
28	● MH 214	411.45	414.85	
29	1+86	403.04	408.94	FROM MH 212 TO 213
30	1+62	401.83	405.53	
31	1+44	400.97	404.67	
32	1+22	399.37	403.07	
33	1+11	399.39	403.09	
34	0+88	398.08	401.98	
35	0+69	397.32	401.02	
36	0+47	396.30	400.20	
37	● MH 212	394.14	397.70	FROM MH 211 TO 212
38	2+95	393.11	396.69	
39	2+71	391.84	395.38	
40	2+53	390.93	394.51	
41	2+31	389.76	393.30	
42	2+14	388.98	392.44	
43	1+91	387.90	391.20	

NOTE: ALL 4" SHC OR DMC INVERT ELEVATIONS ARE AT THE LOT LINE, EASEMENT LINE OR R/W LINE. FOR SHC DETAIL SEE HO. CO. STD. DETAIL S-2.11 AND FOR DMC, SEE DETAIL ON SHEET 3 OF F-01-025

NO.	DATE	REVISION

BENCHMARK

ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE 4 SUITE 418
 ELLICOTT CITY, MARYLAND 21043
 PHONE: 410-465-6105 FAX: 410-465-6844
 E-MAIL: benchmark@cois.com

2/12/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Chad P. ... 2/26/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy ... 3/1/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

James ... 3/5/02
 DIRECTOR DATE

DEVELOPER: KAISER FARM, L.L.C.
 P.O. BOX 417
 ELLICOTT CITY, MD 21041
 PHONE: 410-465-4244

PROJECT: KAISER FARM
 SINGLE-FAMILY ATTACHED HOMES
 LOTS 1 THRU 71 AND 74 THRU 80

LOCATION: TAX MAP 17 - BLOCKS 23 & 24
 PARCELS 681 & P/O 848
 2nd ELECTION DISTRICT
 HOWARD COUNTY, MARYLAND

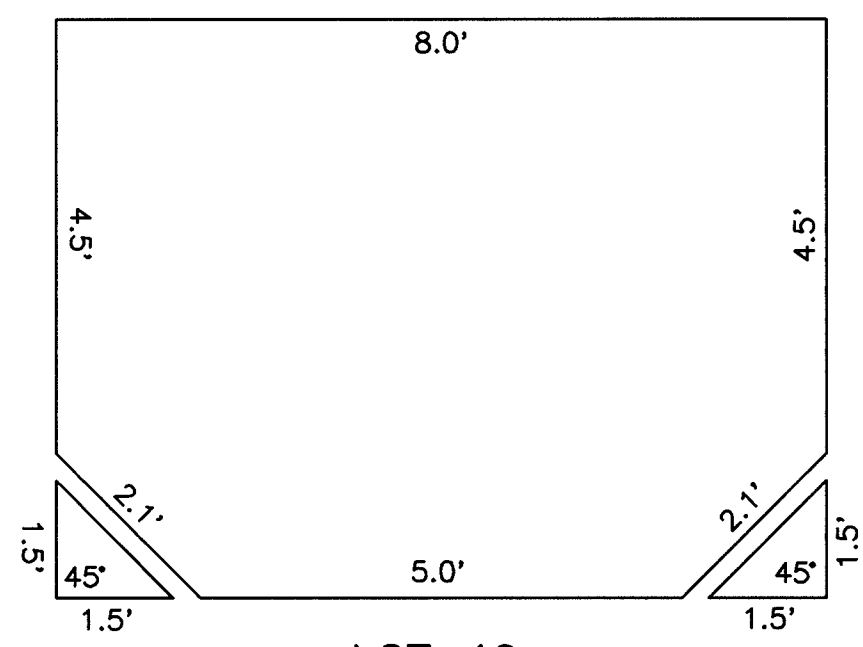
BUILDER: RYLAND HOMES
 7250 PARKWAY DRIVE
 SUITE 520
 HANOVER, MD 21076
 PHONE: 410-712-7012

TITLE: SITE DEVELOPMENT AND GRADING PLAN

DATE: AUGUST, 2001
 FEBRUARY 13, 2002 PROJECT NO. 1474

Design: MCR Draft: MCR Check: DAM SCALE: 1"=20' DRAWING 2 OF 7

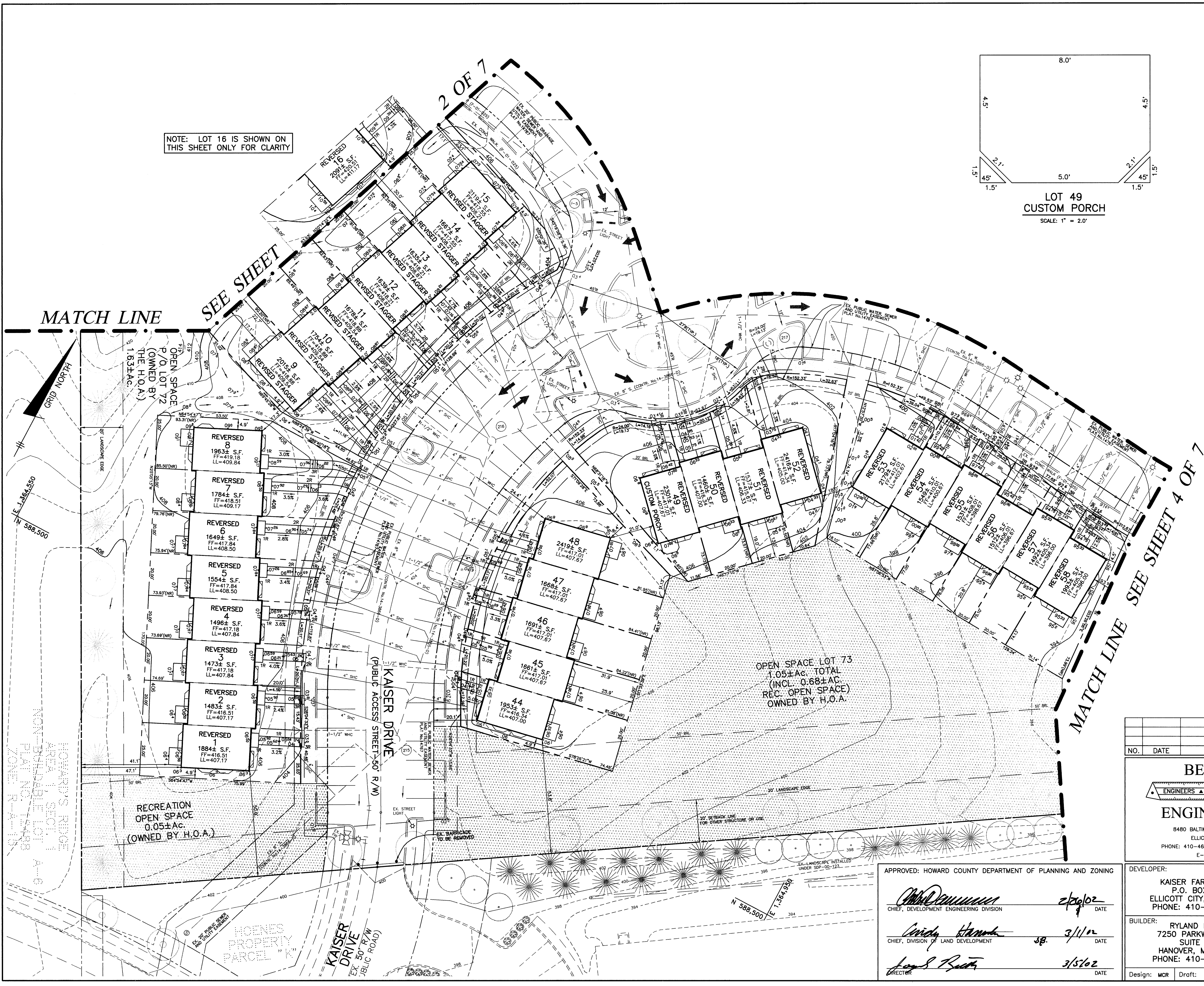
NOTE: LOT 16 IS SHOWN ON THIS SHEET ONLY FOR CLARITY



LOT 49
CUSTOM PORCH
SCALE: 1" = 2.0'

SHC DATA (CONTR. No.14-3866-D)				
LOT NO.	W/L STA.	SHC INV.	MIN. SERVICE EL.	REMARKS
1	0+57	(DHC) 391.14	394.68	
2	0+05	396.26	399.92	FROM EX. MH 100 TO 215
3	0+25	396.42	400.02	
4	0+41	396.00	399.00	
5	0+52	396.69	400.29	
6	0+70	396.80	400.50	
7	0+93	396.90	400.60	
8	1+10	396.92	400.82	
9	1+23	396.97	400.87	
10	1+38	396.92	400.82	
11	● MH 216	397.42	401.12	
12	● MH 216	397.42	401.02	
13	0+17	397.45	401.05	FROM MH 216 TO 217
14	0+30	397.81	401.21	
15	0+55	397.89	401.49	
44	0+23	395.63	399.33	FROM MH 215 TO 216
45	0+50	395.84	399.54	
46	0+68	395.88	399.59	
47	0+91	396.05	399.75	
48	1+08	396.19	399.69	
49	0+50	396.79	400.49	FROM MH 216 TO 217
50	0+91	397.29	400.39	
51	1+11	397.37	400.67	
52	● MH 217	397.91	401.41	
53	1+93	398.00	391.34	FROM MH 211 TO 212
54	1+59	396.34	399.66	
55	1+43	395.58	398.92	
56	1+18	394.41	397.87	
57	1+04	393.77	397.07	
58	0+77	392.50	395.74	

NOTE: ALL 4" SHC OR DHC INVERT ELEVATIONS ARE AT THE LOT LINE, EASEMENT LINE OR R/W LINE. FOR SHC DETAIL SEE HO. CO. STD. DETAL. SHEET 2-11 AND FOR DHC, SEE DETAIL ON SHEET 3 OF F-01-025



NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS

ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE • SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6644
E-MAIL: benchmark@ccis.com

2/12/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

John D. ... 2/29/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Cindy ... 3/1/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Joseph ... 3/5/02
DIRECTOR DATE

DEVELOPER: KAISER FARM, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MD 21041
PHONE: 410-465-4244

BUILDER: RYLAND HOMES
7250 PARKWAY DRIVE
SUITE 520
HANOVER, MD 21076
PHONE: 410-712-7012

PROJECT: KAISER FARM
SINGLE-FAMILY ATTACHED HOMES
LOTS 1 THRU 71 AND 74 THRU 80

LOCATION: TAX MAP 17 - BLOCKS 23 & 24
PARCELS 681 & P/O 848
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE: SITE DEVELOPMENT AND GRADING PLAN

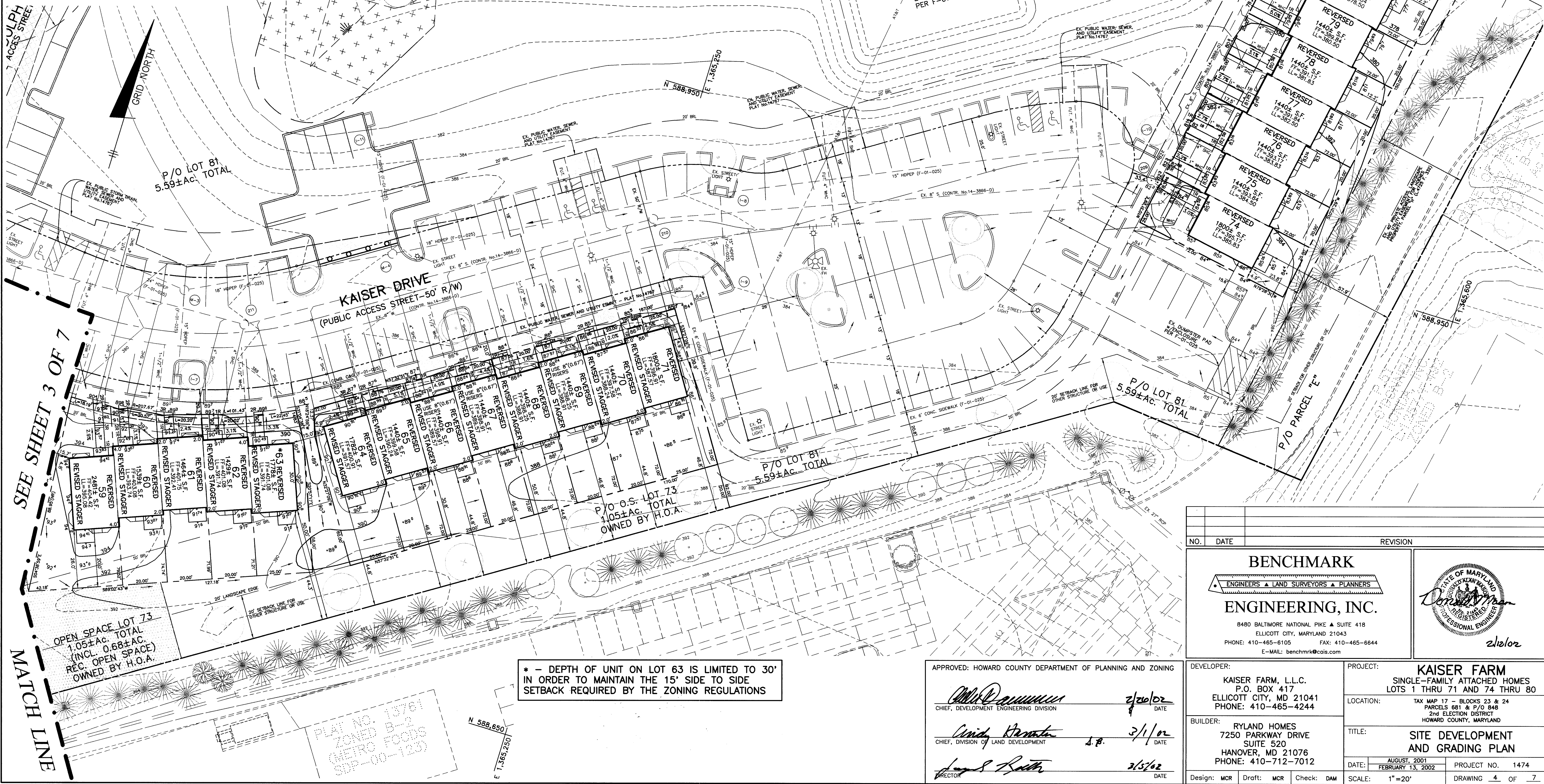
DATE: AUGUST, 2001
FEBRUARY 13, 2002 PROJECT NO. 1474

SCALE: 1"=20' DRAWING 3 OF 7

Design: MCR Draft: MCR Check: DAM

SHC DATA (CONTR. No.14-3866-D)				
LOT NO.	W/L STA.	SHC INV.	MIN. SERVICE EL.	REMARKS
FUT. BLDG. "D"	0+59	379.39	384.03	FROM MH 211 TO 212
59	0+54	381.38	384.88	
60	0+38	380.57	383.91	
61	0+10	379.10	382.44	
62	● MH 211	378.48	381.70	
63	1+83	378.20	381.54	FROM MH 210 TO 211
64	1+58	377.27	380.51	
65	1+34	376.31	379.59	
66	1+18	375.69	378.93	
67	0+95	374.77	378.05	
68	0+77	374.07	377.31	
69	0+52	373.09	376.37	
70	0+37	372.51	375.75	
FUT. BLDG. "C"	0+21	371.70	375.88	
71	0+13	371.57	374.85	
FUT. BLDG. "A"	0+20	366.05	372.15	FROM MH 209 TO 210
FUT. BLDG. "E"	1+35	369.58	373.72	
74	● MH 209	367.00	370.14	FROM MH 208 TO 209
75	1+16	366.72	370.13	
76	0+98	366.52	369.66	
77	0+76	366.32	369.50	
78	0+58	366.12	369.26	
79	0+36	365.92	369.10	
80	0+15	365.71	368.85	

NOTE: ALL "S" SHC OR DHC INVERT ELEVATIONS ARE AT THE LOT LINE, EASEMENT LINE OR R/W LINE. FOR SHC DETAIL SEE NO. CO. STD. DETAIL 3-2.11 AND FOR DHC, SEE DETAIL ON SHEET 3 OF F-01-025



SEE SHEET 3 OF 7
MATCH LINE

* - DEPTH OF UNIT ON LOT 63 IS LIMITED TO 30' IN ORDER TO MAINTAIN THE 15' SIDE TO SIDE SETBACK REQUIRED BY THE ZONING REGULATIONS

NO.	DATE	REVISION

BENCHMARK
ENGINEERS • LAND SURVEYORS • PLANNERS
ENGINEERING, INC.

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844
E-MAIL: benchmrk@cois.com

2/2/02

DEVELOPER: KAISER FARM, L.L.C. P.O. BOX 417 ELLCOTT CITY, MD 21041 PHONE: 410-465-4244	PROJECT: KAISER FARM SINGLE-FAMILY ATTACHED HOMES LOTS 1 THRU 71 AND 74 THRU 80
BUILDER: RYLAND HOMES 7250 PARKWAY DRIVE SUITE 520 HANOVER, MD 21076 PHONE: 410-712-7012	LOCATION: TAX MAP 17 - BLOCKS 23 & 24 PARCELS 681 & P/O 848 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: SITE DEVELOPMENT AND GRADING PLAN	DATE: AUGUST, 2001 FEBRUARY 13, 2002
Design: MCR Draft: MCR Check: DAM	PROJECT NO. 1474 DRAWING 4 OF 7

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

	2/2/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION	DATE
	3/1/02
CHIEF, DIVISION OF LAND DEVELOPMENT	DATE
	2/5/02
DIRECTOR	DATE

MAP SYMBOL	SOIL TYPE	MAPPING UNIT
CHB2	B	CHESTER SILT LOAM - 3 TO 8 PERCENT SLOPES - MODERATELY ERODED
CHC2	B	CHESTER SILT LOAM - 8 TO 15 PERCENT SLOPES - MODERATELY ERODED
GB2	B	GLENELO LOAM - 3 TO 8 PERCENT SLOPES - MODERATELY ERODED
GC2	B	GLENELO LOAM - 8 TO 15 PERCENT SLOPES - MODERATELY ERODED
GC3	B	GLENELO LOAM - 8 TO 15 PERCENT SLOPES - SEVERELY ERODED
GB2*	C	GLENELO SILT LOAM - 3 TO 8 PERCENT SLOPES - MODERATELY ERODED
MB2	B	MANOR LOAM - 3 TO 8 PERCENT SLOPES - MODERATELY ERODED
MC2	B	MANOR LOAM - 8 TO 15 PERCENT SLOPES - MODERATELY ERODED
MC3	B	MANOR LOAM - 8 TO 15 PERCENT SLOPES - SEVERELY ERODED
MD2	B	MANOR LOAM - 8 TO 15 PERCENT SLOPES - SEVERELY ERODED
MD3	B	MANOR LOAM - 15 TO 25 PERCENT SLOPES - SEVERELY ERODED

SOILS MAP No. 16
 - - - INDICATES HYDRIC SOIL



PLAN
 SCALE: 1" = 40'

- SUPER SILT FENCE IS TO BE INSPECTED FREQUENTLY & CLEANED, REPAIRED AND/OR RE-INSTALLED IMMEDIATELY AS NECESSARY
- ALL SEDIMENT CONTROL FEATURES LABELED AS EXISTING ARE TAKEN FROM THE SEDIMENT AND EROSION CONTROL PLANS ON APPROVED ROAD CONSTRUCTION DRAWINGS F-01-025
- SEDIMENT CONTROL LOCATION AND IMPLEMENTATION SHOWN ON THIS PLAN IS SUBJECT TO REVISIONS IN THE FIELD AT THE DISCRETION OF THE SEDIMENT CONTROL INSPECTOR
- 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.

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

DEVELOPER: STEVEN K. BREEDEN, MEMBER, KAISER FARM LLC. DATE: 2/12/02

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.

ENGINEER: DONALD A. MASON, MD P.E. No. 21443 DATE: 2/12/02

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

HOWARD SOIL CONSERVATION DISTRICT DATE: 2/25/02

REVIEWED FOR HOWARD SOIL CONSERVATION DISTRICT AND MEETS TECHNICAL REQUIREMENTS.

USDA-NATIONAL RESOURCES CONSERVATION SERVICE DATE: 2/25/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 2/26/02

CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 3/1/02

DIRECTOR DATE: 2/27/02

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
 E-MAIL: benchmark@cois.com

2/12/02

2/25/02

2/26/02

3/1/02

2/27/02

DEVELOPER: KAISER FARM, L.L.C. P.O. BOX 417 ELLICOTT CITY, MARYLAND 21043 PHONE: 410-465-4244	PROJECT: KAISER FARM SINGLE-FAMILY ATTACHED HOMES LOTS 1 THRU 71 AND 74 THRU 80
BUILDER: RYLAND HOMES 7250 PARKWAY DRIVE SUITE 520 HANOVER, MD 21076 PHONE: 410-712-7012	LOCATION: TAX MAP 17 - BLOCKS 23 & 24 PARCELS 681 & P/O 848 2nd ELECTION DISTRICT HOWARD COUNTY, MARYLAND
TITLE: SEDIMENT & EROSION CONTROL PLAN	
DATE: AUGUST, 2001 FEBRUARY 13, 2002	PROJECT NO. 1474
Design: DAM Draft: MCR Check: DAM	SCALE: AS SHOWN DRAWING 5 OF 7

SEDIMENT CONTROL NOTES

- 1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS AND PERMITS SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION.
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERMETER SLOPES AND ALL SLOPES GREATER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THEIR PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 12, OF THE HOWARD COUNTY DESIGN MANUAL, STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE 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.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMITS FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:
TOTAL AREA OF SITE 3.07 ACRES
TOTAL AREA DISTURBED 3.03 ACRES
AREA TO BE ROOFED OR PAVED 1.35 ACRES
AREA TO BE VEGETATIVELY STABILIZED 2.28 ACRES
TOTAL CUT 934 CU. YDS.
TOTAL FILL 2100 CU. YDS.
OFF-SITE BORROW NON-SITE STOCKPILE
8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROLS MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES ARE LIMITED TO THREE PIPE LENGTHS OR THAT WHICH CAN BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.
* - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY AN OFF-SITE BORROW AREA WITH AN APPROVED SEDIMENT & EROSION CONTROL PLAN.

TEMPORARY SEEDBED PREPARATION

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.

PERMANENT SEEDBED PREPARATION

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:

- 1. 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).
2. ACCEPTABLE - APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS/1000 SQ FT) AND 1000 LBS PER ACRE 10-10-10 FERTILIZER (23 LBS/1000 SQ FT) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL.

SEEDING: FOR THE PERIODS MARCH 1 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 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS PER ACRE 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 GAL/1000 SQ FT) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDBED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

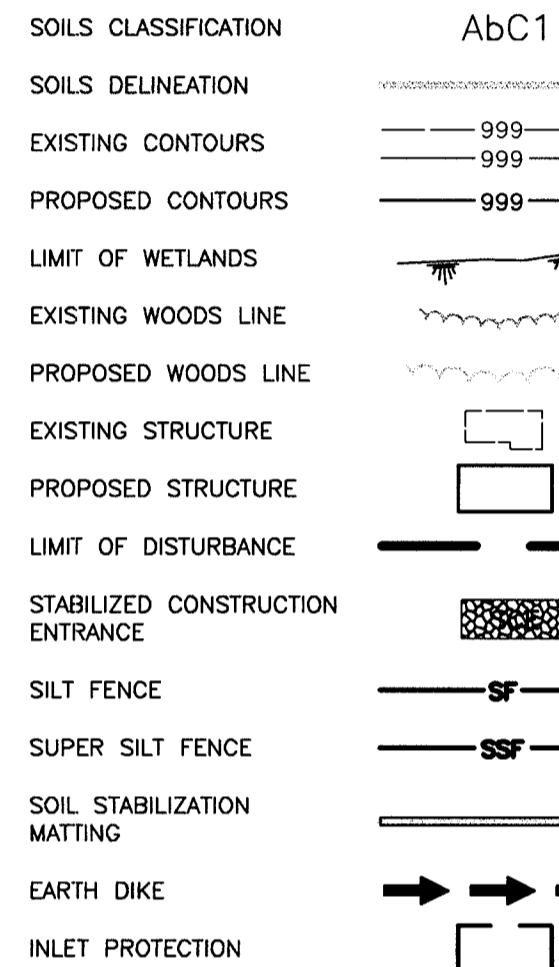
Z1.0 STANDARD AND SPECIFICATIONS FOR TOPSOIL

- Definition: Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.
Purpose: To provide a suitable medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.
Conditions Where Practice Applies:
I. This practice is limited to areas having 2:1 or flatter slopes where:
a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
c. The original soil to be vegetated contains material toxic to plant growth.
d. The soil is so acidic that treatment with limestone is not feasible.
II. For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.
Construction and Material Specifications:
I. Topsoil salvaged from the existing site may be used provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-SCS in cooperation with Maryland Agricultural Experimental Station.
II. Topsoil Specifications - Soil to be used as topsoil must meet the following:
i. Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and soil contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nutsedge, poison ivy, thistle, or others as specified.
iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate 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.
III. For sites having disturbed areas under 5 acres:
i. Place topsoil (if required) and apply soil amendments as specified in 20.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
IV. For sites having disturbed areas over 5 acres:
i. On soil meeting topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
b. Organic content of topsoil shall be not less than 1.5 percent by weight.
c. Topsoil having soluble salt content greater than 500 parts per million shall not be used.
d. 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 phytotoxic materials.
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
i. When topsoiling, maintain needed erosion and sediment control practices such as diversion, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, about 4" - 8" higher in elevation.
iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional 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.
iv. 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 seedbed preparation. G-21-2
VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribed amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by the Maryland Department of the Environment under COMAR 26.04.06.
b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a pH of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
iv. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.
References: Guideline Specifications, Soil Preparation and Sodding, MD-Pa. Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes, Revised 1973.

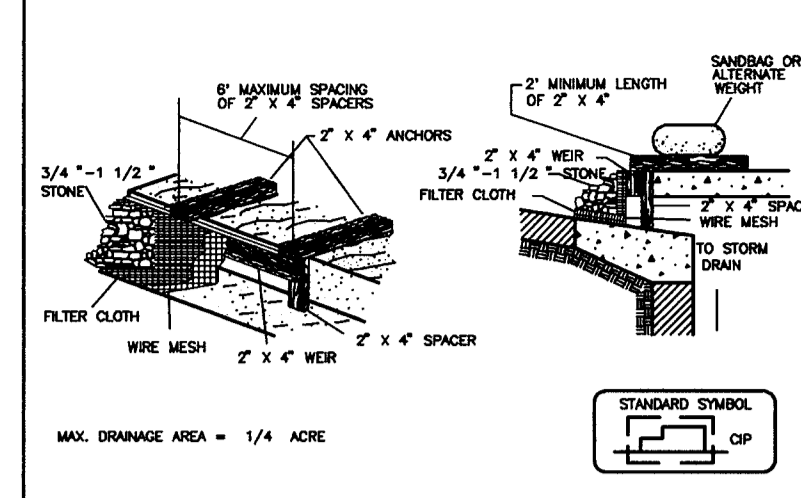
SEQUENCE OF CONSTRUCTION

- DAY 1 OBTAIN GRADING PERMIT.
DAY 2-6 INSTALL SEDIMENT CONTROL DEVICES.
DAY 7-52 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, BEGIN LOT GRADING AND BUILDING CONSTRUCTION.
DAY 53-55 SPREAD TOPSOIL IN ACCORDANCE WITH TOPSOIL SPECIFICATIONS AND STABILIZE IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
DAY 56-60 UPON APPROVAL OF HOWARD COUNTY SEDIMENT CONTROL INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES AND PERMANENTLY STABILIZE REMAINING DISTURBED AREAS AS REQUESTED IN ACCORDANCE WITH PERMANENT SEEDBED NOTES.
* NOTE: SEQUENCE IS REPRESENTATIVE OF THE CONSTRUCTION OF ONE BUILDING.

LEGEND

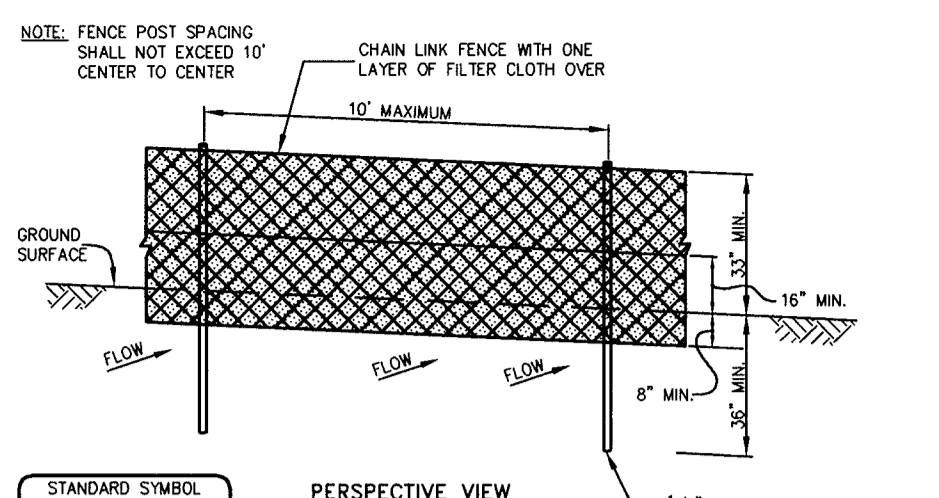


DETAIL 23C - CURB INLET PROTECTION (C/DG OR C/DG INLETS)



- Construction Specifications:
1. Attach a continuous piece of wire mesh (20" minimum width by throat length plus 4") to the 2" x 4" weir. (Overlapping throat length plus 2" is shown on the standard drawing.
2. Place a continuous piece of Geotextile Class E the same dimension as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.
3. Securely roll the 2" x 4" weir to a 6" long vertical spacer to be located between the weir and the link fence (max. 4" apart).
4. Place the Geotextile fabric over the head throat and roll (minimum 2" lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the top and be held in place by anodeposts or alternate weight.
5. The Geotextile fabric shall be placed to rest the top and bottom edges a minimum 1' beyond both ends of the throat opening.
6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the throat. Place clean 3/4" x 1 1/2" stones over the wire mesh and geotextile in such a manner to prevent water from entering the gutter or around the geotextile.
7. The top edge of geotextile must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.
8. Ensure that storm flow does not bypass the throat by installing a temporary weath or metal plate to direct the flow to the throat.

DETAIL 33 - SUPER SILT FENCE



- Construction Specifications:
1. Length - minimum of 50' (+30' for single location lot).
2. Width - 10' minimum, should be placed at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. With plan approval authority may not require single family residence to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be placed through the entrance, maintaining positive drainage. Pipe located through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the discharge. When the size is located at a high spot and has no discharge to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

SUPER SILT FENCE CONSTRUCTION SPECIFICATIONS

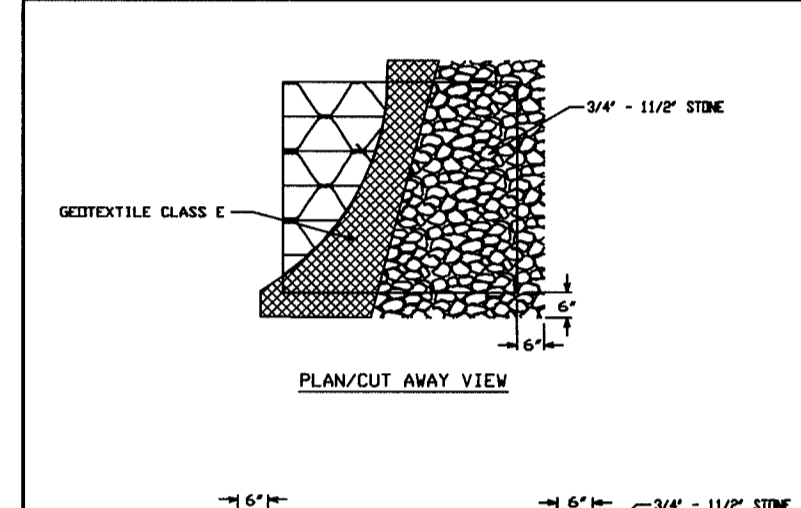
- 1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Design for Chain Link Fencing. The specification for a 6" fence shall be used, substituting 42" fabric and 6" length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.
3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" of the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height.
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class E:

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

SUPER SILT FENCE DESIGN CRITERIA

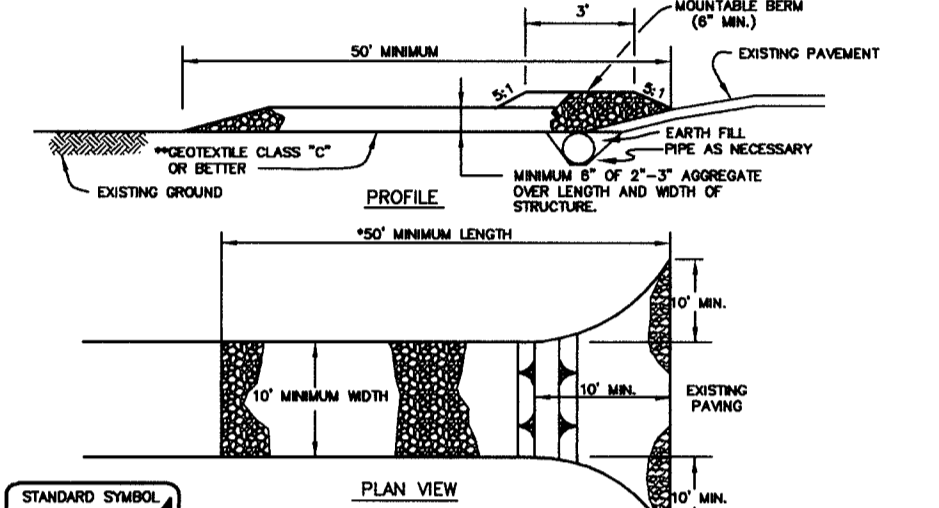
Table with columns: Slope, Slope Steadiness, Slope Length (maximum), Silt Fence Length (maximum). Rows include 0-10%, 10-20%, 20-33%, 33-50%, 50%+ slopes and their corresponding fence lengths.

DETAIL 23B - AT GRADE INLET PROTECTION



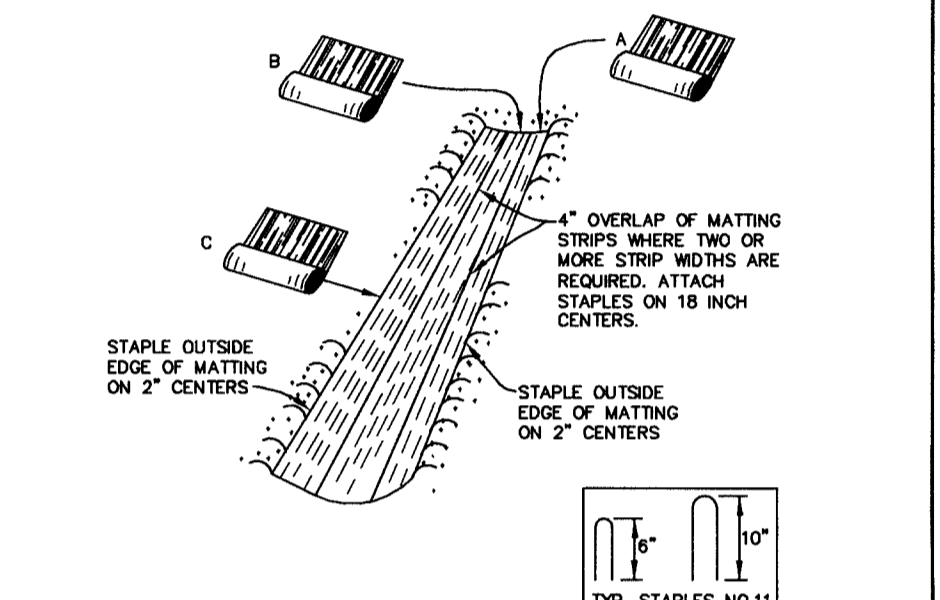
- Construction Specifications:
1. Lift grate and wrap with Geotextile Class E to completely cover all openings. Then seal grate back in place.
2. Place 3/4" to 1 1/2" stone, 4" thick on the grate to secure the fabric and provide additional filtration.
MAX. DRAINAGE AREA = 1/4 ACRE

DETAIL 24 - STABILIZED CONSTRUCTION ENTRANCE



- Construction Specifications:
1. Length - minimum of 50' (+30' for single location lot).
2. Width - 10' minimum, should be placed at the existing road to provide a turning radius.
3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. With plan approval authority may not require single family residence to use geotextile.
4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.
5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be placed through the entrance, maintaining positive drainage. Pipe located through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the discharge. When the size is located at a high spot and has no discharge to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.
6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

DETAIL 30 - EROSION CONTROL MATTING



- CONSTRUCTION SPECIFICATIONS:
1. KEY-IN THE MATTING BY PLACING THE TOP EDGES OF THE MATTING IN A NARROW TRENCH 6" IN DEPTH. BACKFILL THE TRENCH AND TAMP FIRMLY TO CONFORM TO THE CHANNEL CROSS-SECTION. SECURE WITH A ROW OF STAPLES ABOUT 4" DOWN SLOPE FROM THE TRENCH. SPACING BETWEEN STAPLES IS 6".
2. STAPLE THE 4" OVERLAP IN THE CHANNEL CENTER USING AN 18" SPACING BETWEEN STAPLES.
3. BEFORE STAPLING THE OUTER EDGES OF THE MATTING, MAKE SURE THE MATTING IS SMOOTH AND IN FIRM CONTACT WITH THE SOIL.
4. STAPLES SHALL BE PLACED 2' APART WITH 4 ROWS FOR EACH STRIP, 2 OUTER ROWS, AND 2 ALTERNATING ROWS DOWN THE CENTER.
5. WHERE ONE ROLL OF MATTING ENDS AND ANOTHER BEGINS, THE END OF THE TOP STRIP SHALL OVERLAP THE UPPER END OF THE LOWER STRIP BY 4". SHIPLAP FASHION. REINFORCE THE OVERLAP WITH A DOUBLE ROW OF STAPLES SPACED 6' APART IN A STAGGERED PATTERN ON EITHER SIDE.
6. THE DISCHARGE END OF THE MATTING LINER SHOULD BE SIMILARLY SECURED WITH WITH 2 DOUBLE ROWS OF STAPLES.

SOIL STABILIZATION MATTING

Table with columns: U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE, PAGE 0-22-2, MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION.

Professional engineering stamp and signature block for Donald A. Mason, P.E., No. 21443, dated 2/16/02. Includes title 'ENGINEER' and project details for Kaiser Farm L.L.C.

BENCHMARK ENGINEERING, INC. stamp and signature block for Steven K. Breedon, dated 2/16/02. Includes address: 8480 BALTIMORE NATIONAL PIKE SUITE 418, ELLICOTT CITY, MARYLAND 21043.

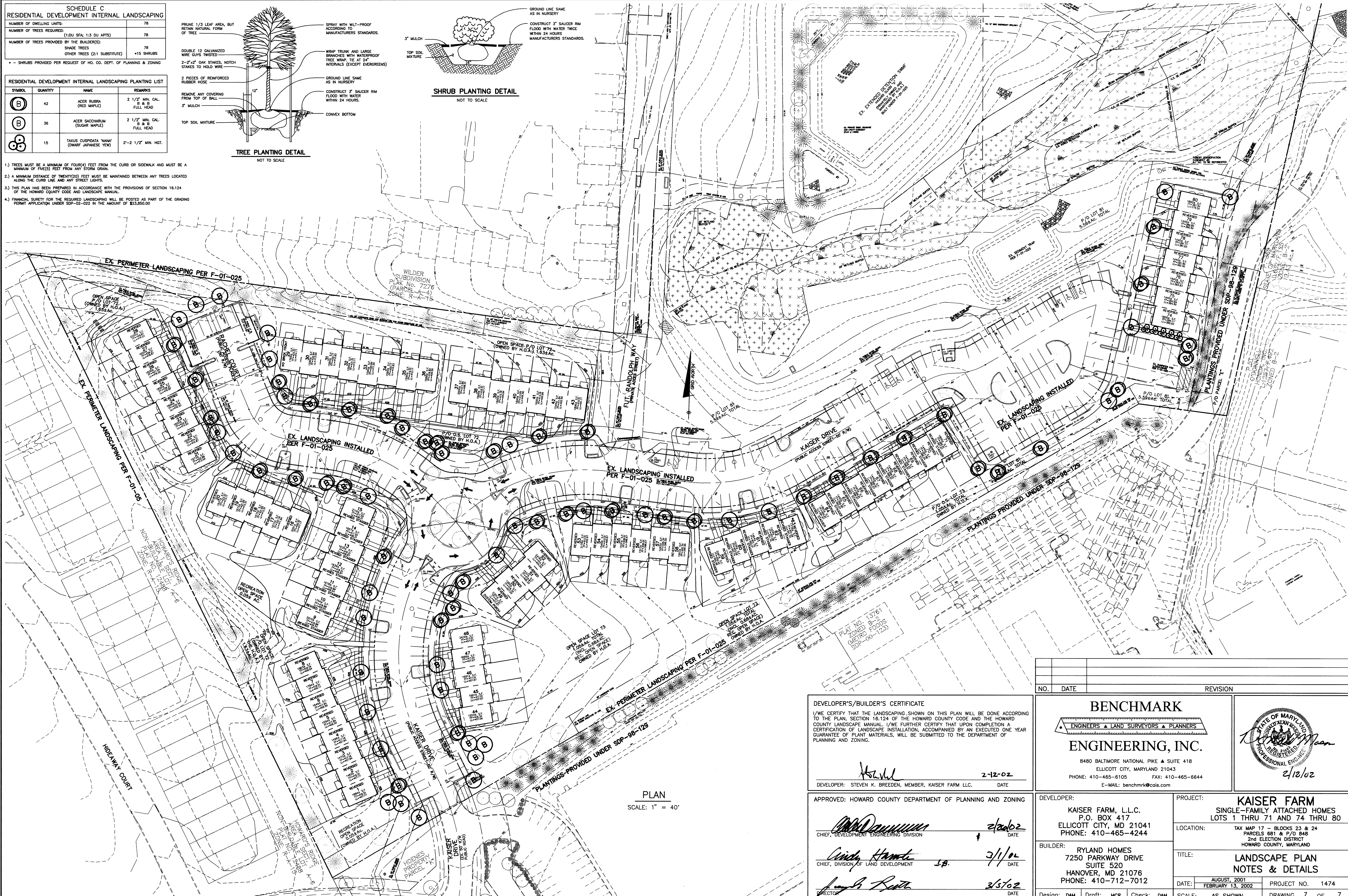
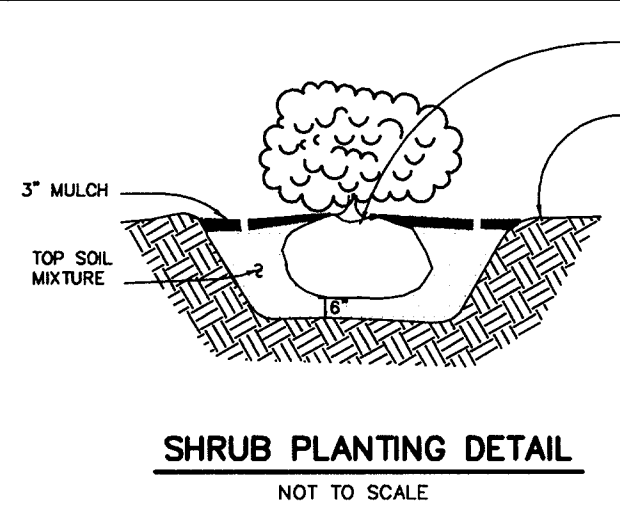
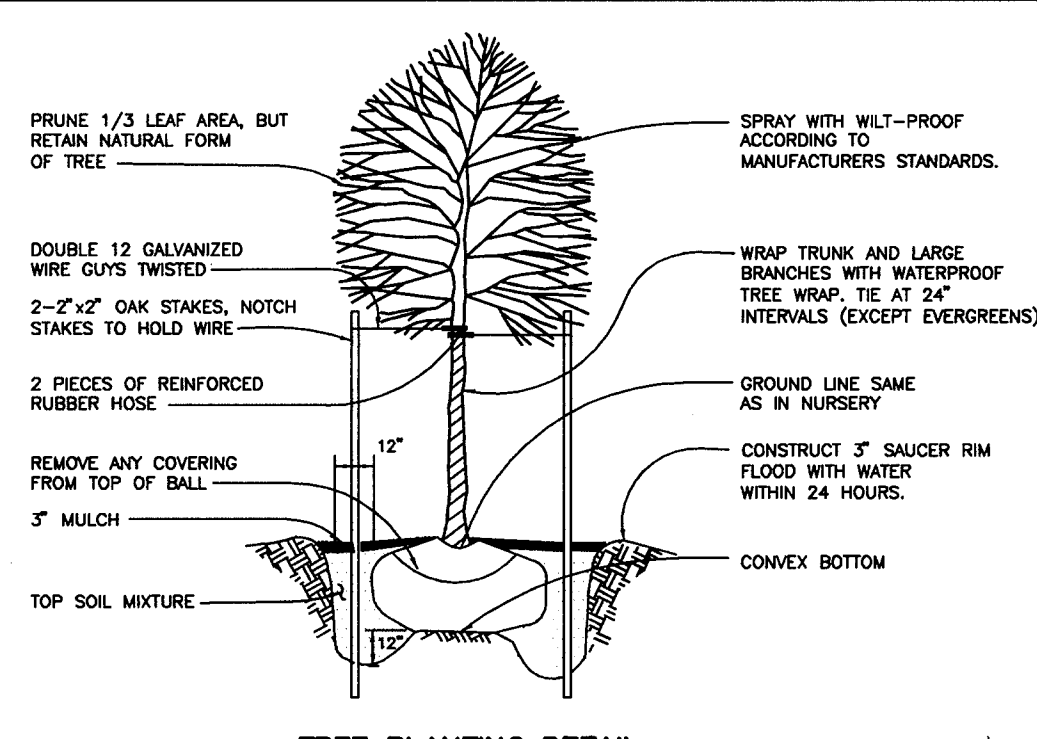
Supplementary notes for sediment control, including instructions on labeling existing features, location of structures, and installation requirements for super silt fences.

Project information block for KAISER FARM SINGLE-FAMILY ATTACHED HOMES. Includes location (TAX MAP 17 - BLOCKS 23 & 24), title 'SEDIMENT & EROSION CONTROL NOTES AND DETAILS', and drawing number '6 OF 7'.

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS:	78
NUMBER OF TREES REQUIRED: (1:DU SFA: 1:3 DU APTS)	78
NUMBER OF TREES PROVIDED BY THE BUILDER(S):	78
SHADE TREES	+15 SHRUBS
* - SHRUBS PROVIDED PER REQUEST OF HO. CO. DEPT. OF PLANNING & ZONING	

RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING PLANTING LIST			
SYMBOL	QUANTITY	NAME	REMARKS
(B)	42	ACER RUBRA (RED MAPLE)	2 1/2" MIN. CAL. B & B FULL HEAD
(B)	36	ACER SACCHARUM (SUGAR MAPLE)	2 1/2" MIN. CAL. B & B FULL HEAD
(BB)	15	TAXUS CUSPIDATA 'NANA' (DWARF JAPANESE YEW)	2'-2 1/2" MIN. HGT.

- TREES MUST BE A MINIMUM OF FOUR(4) FEET FROM THE CURB OR SIDEWALK AND MUST BE A MINIMUM OF FIVE(5) FEET FROM ANY STORM DRAIN.
- A MINIMUM DISTANCE OF TWENTY(20) FEET MUST BE MAINTAINED BETWEEN ANY TREES LOCATED ALONG THE CURB LINE AND ANY STREET LIGHTS.
- THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING WILL BE POSTED AS PART OF THE GRADING PERMIT APPLICATION UNDER SDP-02-022 IN THE AMOUNT OF \$23,850.00



PLAN
SCALE: 1" = 40'

NO.	DATE	REVISION

DEVELOPER'S/BUILDER'S CERTIFICATE

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

Handwritten Signature 2-12-02

DEVELOPER: STEVEN K. BREEDEN, MEMBER, KAISER FARM LLC. DATE

BENCHMARK ENGINEERING, INC.

ENGINEERS • LAND SURVEYORS • PLANNERS

8480 BALTIMORE NATIONAL PIKE & SUITE 418
ELLCOTT CITY, MARYLAND 21043
PHONE: 410-465-6105 FAX: 410-465-6844
E-MAIL: benchmrk@cois.com

Professional Seal 2/10/02

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Handwritten Signature 2/20/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Handwritten Signature 3/1/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Handwritten Signature 2/3/02
DIRECTOR DATE

DEVELOPER:
KAISER FARM, L.L.C.
P.O. BOX 417
ELLCOTT CITY, MD 21041
PHONE: 410-465-4244

PROJECT:
KAISER FARM
SINGLE-FAMILY ATTACHED HOMES
LOTS 1 THRU 71 AND 74 THRU 80

BUILDER:
RYLAND HOMES
7250 PARKWAY DRIVE
SUITE 520
HANOVER, MD 21076
PHONE: 410-712-7012

LOCATION: TAX MAP 17 - BLOCKS 23 & 24
PARCELS 681 & P/O 848
2nd ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

TITLE:
LANDSCAPE PLAN
NOTES & DETAILS

DATE: AUGUST, 2001
FEBRUARY 13, 2002

PROJECT NO.: 1474

SCALE: AS SHOWN

DRAWING: 7 OF 7

Design: DAM Draft: MCR Check: DAM