SITE DEVELOPMENT PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SHEET INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	SITE DEVELOPMENT PLAN
3	SITE DIMENSION PLAN
4	MEADOWRIDGE ROAD CROSS-SECTIONS
5	MEADOWRIDGE ROAD PROFILE
6	SEDIMENT AND EROSION CONTROL PLAN
7	STORM DRAIN PROFILES
8	STORM DRAIN PROFILES
9	DRAINAGE AREA MAP
10	LANDSCAPE PLAN & SWM PLANTING
11	HDCP. PARKING DETAILS, BLDG. FOOTPRINTS & SEQUENCE OF CONSTRUCTION
12	SEDIMENT CONTROL NOTES AND DETAILS
13	PRIVATE SEWER MAIN PROFILES
14	PRIVATE SEWER MAIN PROFILES
15	STORMWATER MANAGEMENT NOTES AND DETAILS
16	STORMWATER MANAGEMENT NOTES AND DETAILS
17	STORMWATER MANAGEMENT NOTES AND DETAILS
18	PAVEMENT MARKING / SIGNING PLAN
19	ON-SITE FOREST CONSERVATION PLAN
20	OFF-SITE REFORESTATION PLAN
21	FOREST CONSERVATION PLAN NOTES AND DETAILS
22	SOIL BORINGS AND TURNING RADIUS DETAILS
23	RETAINING WALL CONSTRUCTION DETAIL SHEET
24	TRAFFIC CONTROL PLAN

STREET ADDRESS CHART

UNIT No.	STREET ADDRESS
1	7930 BRIARGLEN DRIVE
2	7928 BRIARGLEN DRIVE
3	7926 BRIARGLEN DRIVE
4	7924 BRIARGLEN DRIVE
5	7922 BRIARGLEN DRIVE
6	7918 BRIARGLEN DRIVE
7	7916 BRIARGLEN DRIVE
8	7914 BRIARGLEN DRIVE
9	7912 BRIARGLEN DRIVE
10	7910 BRIARGLEN DRIVE
11	5906 ABRIANNA WAY
12	5904 ABRIANNA WAY
13	5902 ABRIANNA WAY
14	5900 ABRIANNA WAY
BUILDING 'A'	5945 ABRIANNA WAY
BUILDING 'B'	5935 ABRIANNA WAY
BUILDING 'C'	5925 ABRIANNA WAY
BUILDING 'D'	5915 ABRIANNA WAY
BUILDING 'E'	7815 OXFORD DRIVE
BUILDING 'F'	7925 BRIARGLEN DRIVE
BUILDING 'G'	7915 BRIARGLEN DRIVE

PARKING SPACE TABULATION

RESIDENTIAL:

STANDARD PARKING SPACES:	140 SPACES
HANDICAPPED PARKING SPACES:	7 SPACES
ATTACHED GARAGE PARKING SPACES: (2 PER UNIT - 1 GARAGE AND 1 DRIVEWAY)	28 SPACES
	175 SPACES TOTAL

STREET SIGN CHART

STREET NAME	STATION	OFFSET	POSTED SIGN	SIGN CODE
ABRIANNA WAY	0+60	32' L	DO NOT ENTER	R5-1
ABRIANNA WAY	0+42	---	KEEP RIGHT	R4-7
ABRIANNA WAY	0+74	---	KEEP RIGHT	R4-7
ABRIANNA WAY	0+55	32' R	STOP	R1-1
ABRIANNA WAY	11+30	15' R	STOP	R1-1
ABRIANNA WAY	0+25	25' L	STOP	R1-1
OXFORD DRIVE	0+27	15' L	STOP	R1-1
OXFORD DRIVE	2+55	15' R	STOP	R1-1
BRIARGLEN DRIVE	1+25	15' L	STOP	R1-1

NOTE: FOR PLAN VIEW, SEE STRIPING PLAN ON SHEET 18.

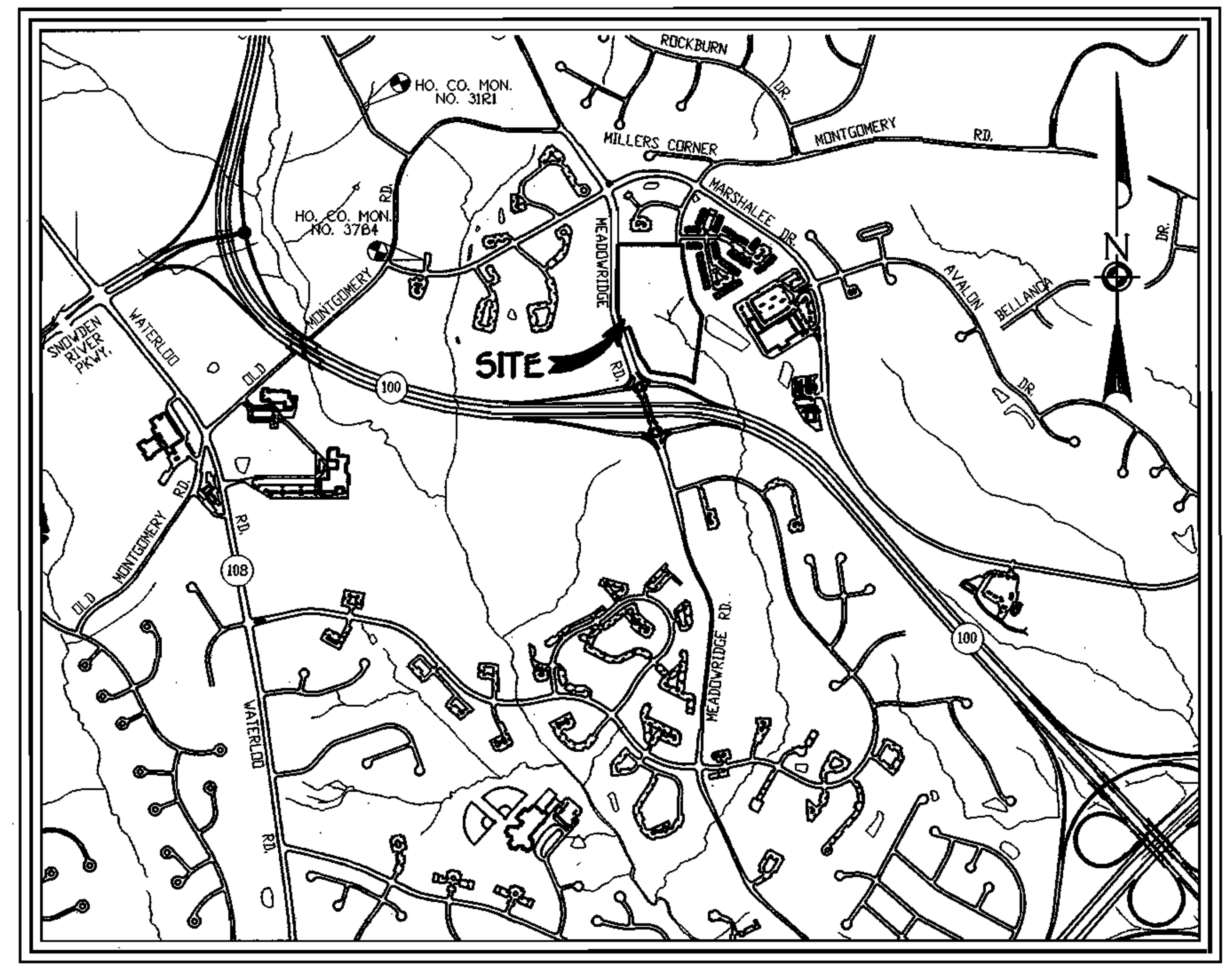
STREET LIGHT CHART

STREET NAME	STATION	OFFSET	FIXTURE/POLE TYPE	COMMENTS
MEADOWRIDGE ROAD	C.L. STA. 3+62	49'R	150-WATT H.P.S. VAPOR PENDANT (CUTT-OFF) MOUNTED AT 30-FOOT ON A BRONZE FIBERGLASS POLE USING A 12' ARM.	----
ABRIANNA WAY	C.L. STA. 10+45	18'R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.	----
ABRIANNA WAY	C.L. STA. 7+46	32'L	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.	----
OXFORD DRIVE	C.L. STA. 1+94	18'R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.	----
BRIARGLEN DRIVE	C.L. STA. 4+31	18'R	100-WATT "TRADITIONAIRE" H.P.S. VAPOR COLONIAL POST TOP FIXTURE MOUNTED ON A 14-FOOT BLACK FIBERGLASS POLE.	----

PHASING TABULATION

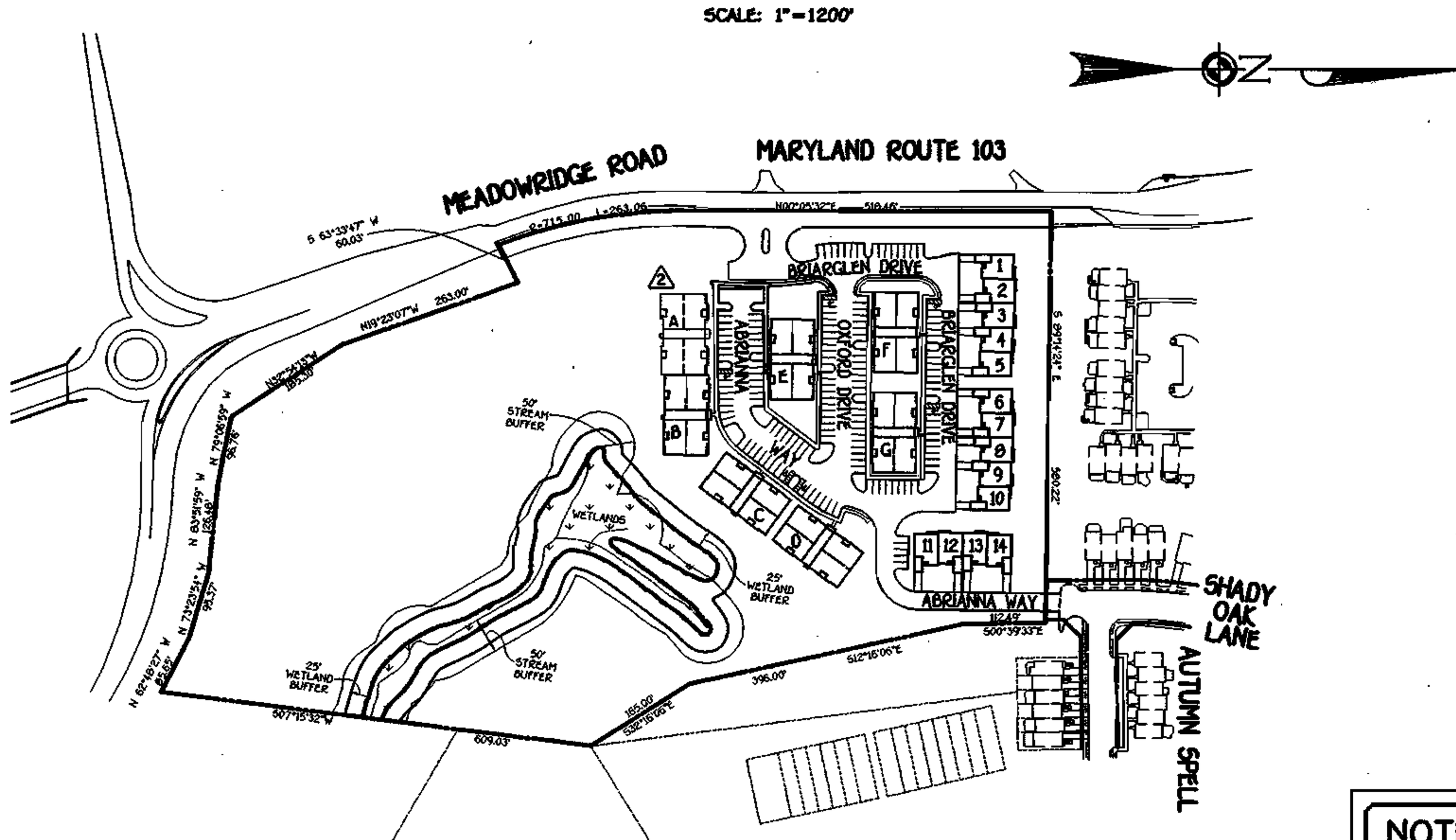
PHASE	ALLOCATION YEAR	NUMBER OF RESIDENTIAL UNITS *
I	2004	104
II	2005	2

* NOTE: FOR THE SENIOR EAST PLANNING AREA



VICINITY MAP

SCALE: 1"=1200'



PLAN VIEW

SCALE: 1"= 200'

NOTE:
SEE GENERAL NOTE NO. 28 FOR REFUSE COLLECTION RESPONSIBILITIES.

GENERAL NOTES:

1. THIS PLAN IS SUBJECT TO THE 5th EDITION OF THE HOWARD COUNTY SUBDIVISION REGULATIONS AND THE AMENDED HOWARD COUNTY ZONING REGULATIONS, COUNCIL BILL 50-2001.
2. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST (5) FIVE WORKING DAYS PRIOR TO THE START OF WORK.
3. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
4. THIS PROJECT IS SUBJECT TO HOWARD COUNTY FILES: ZB CASE NO. 1013M
5. BOUNDARY SURVEY PERFORMED BY FISHER, COLLINS AND CARTER, INC. ON OR ABOUT MARCH, 1997.
6. THE SUBJECT PROPERTY IS ZONED POR PER ZB CASE No. 1013M.
7. IN ACCORDANCE WITH SECTION 128 OF THE HOWARD COUNTY ZONING REGULATIONS, BAY WINDOWS, CHIMNEYS OR EXTERIOR STAIRWAYS NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NOT MORE THAN 4 FEET INTO ANY SETBACKS, PORCHES OR DECKS, OPEN OR ENCLOSED MAY PROJECT NOT MORE THAN 10 FEET INTO THE FRONT OR REAR YARD SETBACK.
8. HORIZONTAL AND VERTICAL CONTROL DATUM IS BASED ON HOWARD COUNTY GEODETIC CONTROL STATIONS:

HOWARD COUNTY MONUMENT 31R1	N 565,303.4789 E 1,372,517.742	ELEV. = 401.735
HOWARD COUNTY MONUMENT 3784	N 563,928.5575 E 1,373,109.114	ELEV. = 402.135

9. ANY DAMAGE TO THE COUNTY'S RIGHT-OF-WAY SHALL BE CORRECTED AT THE DEVELOPER'S EXPENSE.
10. CONTRACTOR WILL CHECK SEWER HOUSE CONNECTION ELEVATION AT EASEMENT LINE PRIOR TO CONSTRUCTION.
11. STORMWATER MANAGEMENT IS PRIVATELY OWNED AND MAINTAINED.
12. THIS SITE WILL UTILIZE PUBLIC WATER AND PRIVATE SEWER.
13. SITE ANALYSIS DATA:
    - A. TOTAL PROJECT AREA: 16.375 AC.±
    - B. AREA OF PLAN SUBMISSION: 16.375 AC.±
    - C. LIMIT OF DISTURBED AREA: 9.66 AC.±
    - D. PRESENT ZONING: POR
    - E. BUILDING COVERAGE OF SITE: 1.61 AC.±
14. PROPOSED USE FOR SITE AND STRUCTURES: CONDOMINIUM APARTMENTS AND TOWNHOUSES FOR ELDERLY HOUSING.
15. PARKING REQUIRMENTS:

	NO. OF SPACES REQUIRED	NO. OF SPACES PROVIDED
TOWNHOUSES	28	28
APARTMENTS	92	147
TOTAL	120	175

16. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISION OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. FINANCIAL SURETY FOR THE REQUIRED 127 SHADE TREES, 37 EVERGREEN TREES AND 353 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $54,240.00.
17. UNMITIGATED 65 dBA NOISE LINE BASED ON LOCATION PROVIDED BY WILDMAN ENVIRONMENTAL SERVICES DATED NOVEMBER, 2001.
18. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARDS AND SPECIFICATIONS IF APPLICABLE.
19. THE ON-SITE WATER MAIN IS PUBLIC, AND WAS CONSTRUCTED UNDER CONTRACT No. 44-4016-D.
20. THE TRAFFIC STUDY REQUIRED FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC., DATED NOVEMBER 15, 2001.
21. THERE ARE NO HISTORIC STRUCTURES LOCATED ON THIS SITE.
22. THERE ARE NO CEMETERIES ON-SITE OR ON ANY ADJOINING PROPERTIES.
23. REFER TO THE MD. S.H.A. MANUAL ON UNIFORM TRAFFIC CONTROL (M.U.T.C.D.) FOR ROAD WIDENING WORK.
24. WETLAND DELINEATION AND FOREST STAND DELINEATION PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED NOVEMBER, 2001 .
25. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE REQUIRED WETLANDS, STREAMS OR THEIR BUFFERS AND FOREST CONSERVATION EASEMENT AREAS EXCEPT, AS DEEMED NECESSARY BY THE HOWARD SCD FOR STABILIZED OUTFALLS INTO THE STREAM. THIS PROJECT IS SUBJECT TO MDE PERMIT/TRACKING • 200263763.
26. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
27. THE FOREST CONSERVATION REQUIREMENTS PER SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL FOR THIS PROJECT HAS BEEN FULFILLED BY THE ON-SITE RETENTION OF EXISTING FOREST IN THE AMOUNT OF 1.9 ACRES. THE OUTSTANDING FOREST CONSERVATION REFORESTATION OBLIGATION IS MET THROUGH OFF-SITE PLANTING (3.8 ACRES). PART OF THE FOREST CONSERVATION OBLIGATIONS REQUIRED UNDER THE TERMS OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM WILL BE MET BY THE CREATION OF OFF-SITE EASEMENTS TOTALING 3.8 ACRES, ON THE PROPERTY DESCRIBED AS LOT 5, OF THE CHASE FARM SUBDIVISION, FILE NO. F-95-178, PLAT NO. 12067, TAX MAP NO. 21.
    SURETY FOR ON-SITE RETENTION (1.9 AC. x 0.20 = $16,552.80) AND OFF-SITE AFFORESTATION (3.8 AC. x 0.50 = $82,764.00) IS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION. THE TOTAL FOREST CONSERVATION SURETY AMOUNT FOR THIS SUBDIVISION IS $99,316.80.
28. a. REFUSE COLLECTION TO BE PROVIDED BY PRIVATE CONTRACTOR. THERE WILL BE INTERNAL TRASH COLLECTION WITHIN THE CONDOMINIUM BUILDINGS TO BE REMOVED BY A PRIVATE JANITORIAL SERVICE FOR CURBSIDE PICK-UP.
    b. SNOW REMOVAL AND ROAD MAINTENANCE TO BE PRIVATE.
29. THE FOREST CONSERVATION EASEMENTS SHOWN HEREON HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS. ANY UNAUTHORIZED ACTIVITIES THAT RESULT IN ADDITIONAL CLEARING, OR THAT AFFECT PROPOSED PLANTING/RETENTION AREAS SHOWN ON THE FOREST CONSERVATION PLAN MAY RESULT IN A REQUEST FOR RECALCULATION OF FOREST CONSERVATION REQUIREMENTS AND DESIGNATION OF ADDITIONAL PLANTING/RETENTION AREAS IF NEEDED TO MEET THE OBLIGATIONS OF THE FOREST CONSERVATION PROGRAM. ANY FUTURE RESUBDIVISION, DEVELOPMENT, OR CHANGE IN LAND USE MAY BE SUBJECT TO ADDITIONAL REQUIREMENTS OF THE HOWARD COUNTY FOREST CONSERVATION PROGRAM.
30. THE TWO UNITS, 13 AND 14 HAVE BEEN ADDED TO THIS PLAN AFTER 7/1/02 BUT BEFORE 11/1/02. THIS WINDOW COINCIDES WITH THE SUBMISSION MILESTONE FOR THE TWO UNITS WHICH RECEIVED ALLOCATIONS FOR 2005.

REVISION BLOCK

DATE	DESCRIPTION
7/31/03	(2) REVISED PARKING & CONDO BUILDING 'A' (PLAN VIEW), ADDED SIDEWALK AND ASSOCIATED GRADING ALONG MEADOWRIDGE ROAD, ADDED STORM DRAIN EASEMENT AT I-13, REVISED GRADING AT SITE ENTRANCE, ADDED INLET I-19 AND PIPE TO I-2, REVISED 8" SEWER MAIN MH-120 AND MH-126, REVISED WHC TO 2" AND 6" AND REMOVED BASEMENT ELEVATION FROM CONDO BUILDINGS 'E', 'F' & 'G'.
1	REVISED GENERAL NOTE 30 TO INCLUDE UNITS 13 & 14 TO THIS SUBMISSION 10/29/02

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

K:/Drawings 3/30744/SDP-No Office Building/Titlesheet.Dwg

STATE OF MARYLAND — CHARLES J. CROVO, SR. — 13204 — REGISTERED PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D 04		SEWER CODE	2610000	

TITLE SHEET

THE COURTYARDS AT THE TIMBERS
TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS
ZONED: POR
TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002
SHEET 1 OF 24 **SDP 02-55**

NOISE WALL DETAIL

SCHEDULE				
H	S	D	d	POST SIZE
6	8'	6'	16"	8"X8"

MARYLAND ROUTE 100 RIGHT OF WAY SHA PLAT 53943 & 53944 ZONED R-SC

1. GENERAL:
   A. HEIGHT OF BARRIER SHALL BE BASED ON ACOUSTIC REQUIREMENTS.
   B. BARRIER WALLS HAVING A HEIGHT (H) NOT INDICATED IN THE TABLES SHALL BE CONSTRUCTED AS SHOWN IN THE HIGHER HEIGHT CATEGORY.
2. SIDING:
   A. 2 INCH WOOD DECKING MATERIAL SHALL BE UTILIZED TO SPAN HORIZONTALLY BETWEEN POSTS. DESIGN CRITERIA IS BASE ON AN ALLOWABLE BENDING STRESS OF 1400 LBS. PER SQ.IN. AND 33 1/3% INCREASE IN STRESS FOR WIND LOADS AS CONSIDERED APPROPRIATE.
   B. SIDING IN CONTACT WITH THE GROUND AND FOR A DISTANCE OF 6" ABOVE GRADE SHALL BE TREATED WITH WOOD PRESERVATIVE.
3. POST:
   A. WOOD POST SHALL BE UTILIZED AT THE SPACING INDICATED ON THE SCHEDULE. DESIGN CRITERIA IS BASE ON AN ALLOWABLE BENDING STRESS OF 1400 LBS. PER SQ. IN. AND A 33 1/3% INCREASE FOR WIND LOAD.
   B. POST EMBEDDED IN CONCRETE SHALL BE TREATED WITH A WOOD PRESERVATIVE IN THE AREA OF EMBEDMENT AND 12" ABOVE GRADE.
4. CONCRETE:
   A. CONCRETE IN THE PIERS HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2500 LBS. PER SQ. FT.
   B. CONCRETE SHALL BE PLACED IN DRILLED PIERS UTILIZING THE EARTH AS THE FORMS.
5. FOUNDATIONS:
   A. THE DRILLED PIERS HAVE BEEN DESIGNED UTILIZING AN ALLOWABLE PASSIVE PRESSURE OF 300 LBS. PER SQ. FT. AND THE FOLLOWING FORMULA:
   $D = [(4.52M)/(Pd)]^{1/3}$
   M= MOMENT AT TOP OF DRILLED PIER (FT/LBS)
   P= ALLOWABLE PASSIVE PRESSURE (300 LBS. PER SQ.FT.)
   d= DIAMETER OF PIER (FT.)
   D= DEPTH OF PIER (FT.)
6. ALTERNATIVE #1 (PRESERVATIVE TREATMENT) ALTERNATIVE #1 REPRESENTS THE ADDITIONAL COST FACTOR FOR TREATING THE BASIC WOOD STRUCTURE INDICATED ON THIS REFERENCE PLAN. THE NECESSITY FOR TREATMENT AND THE TYPE OF PRESERVATIVE WILL BE SUBJECT TO LOCAL CONDITIONS. ALL TREATMENTS SHALL CONFORM TO AWPA STD C-14.
7. ALTERNATIVE #2 (PAINTING) ALTERNATIVE #2 REPRESENTS THE ADDITIONAL COST FACTOR REQUIRED TO PAINT ONE SIDE OF THE BASIC WOOD STRUCTURE SHOW ON THIS REFERENCE PLAN. PAINTING SHALL CONSIST OF 3 APPLICATIONS OF PAINT. 2 COATS OF LATEX BASE PAINT CONFORMING TO FEDERAL SPECIFICATION TT-P-009966 SHALL BE APPLIED OVER PRIMER COAT CONFORMING TO FEDERAL SPECIFICATION TT-P-00250.
8. ALTERNATIVE #3 (STAINING) ALTERNATIVE #3 REPRESENTS THE ADDITIONAL COST FACTOR REQUIRED TO STAIN ONE SIDE OF BASIC WOOD STRUCTURE. STAIN SHALL CONSIST OF 2 COATS OF SEMI-TRANSPARENT SEALER STAIN APPLIED IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS.

PARCEL A-6 LYNDWOOD SQUARE PARCELS A-1 THRU A-6, B-2 AND PARCEL Q-1 ZONED R-SC

B.M.P. NO. 1
S.W.M. POND
(PRIVATELY OWNED AND MAINTAINED)
TYPE: MICRO-POOL
HAZARD CLASS 'A'

PLAN
SCALE: 1" = 50'

NOTES:

1. SEE SHEET 10 FOR PROPOSED STRIPING FOR MARYLAND ROUTE 103.
2. SEE SHEET 10 FOR PROPOSED TRAFFIC SIGN LOCATIONS.
3. SEE SHEET 11 FOR HANDICAPPED PARKING AREA GRADING DETAILS.
4. SEE SHEET 3 FOR SWM SUMMARY TABLE.
5. SEE SHEET 11 FOR P-2 PAVING SECTION DETAIL.

LEGEND

SYMBOL	DESCRIPTION
- - - - - -	EXISTING CONTOUR 2' INTERVAL
—— ——	EXISTING CONTOUR 10' INTERVAL
————	PROPOSED CONTOUR 2' INTERVAL
━━━━	PROPOSED CONTOUR 10' INTERVAL
+98.5	SPOT ELEVATION
F.F.	FIRST FLOOR ELEVATION
B.E.	BASEMENT ELEVATION
	EXISTING TREE LINE
	PROPOSED TREE LINE
	15% - 24.99% SLOPES
	25% OR GREATER SLOPES
	UNMITIGATED 65 dBa NOISE LINE
••••••	MITIGATED 65 dBa NOISE LINE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE		DESCRIPTION
7/31/03	2	Revised Parking & Condo Building 'A' (Plan View). Added Sidewalk And Assoc. Grading Along Meadowridge Road. Added Storm Drain Easement At I-13. Revised Grading At Site Entrance. Added I-15 And Pipe To I-2. Revised 8" Sewer Main MH 12.0 And MH 12.5. Revised WHC's To 2" And 6". Removed Basement Elevation From Condo Buildings 'E', 'F' & 'G'.
	3	Rev. grd. lots 1-5 to show As-Built Conditions
	4	Rev F.F. elev., Bldg A/B, to show As Built Cond. 10/22/04
	1	ADD UNITS 13 & 14 10/25/02

REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO, SR. — PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION	SECTION/AREA	PARCEL NO.
THE COURTYARDS AT THE TIMBERS		617

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030

WATER CODE	SEWER CODE
D 04	2610000

SITE DEVELOPMENT PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

APPROVED REVISIONS DATE 4/14/16 SIGNATURE

03/24/16

STORMWATER MANAGEMENT SUMMARY TABLE

Re$_v$	WQ$_v$	Cp$_v$
Re$_v$ managed in dry swale (BMP No. 2)	a. Apply Natural Area Conservation Credit b. Subtract Re$_v$ managed in BMP No. 2 (dry swale) c. Remaining WQ$_v$ management in BMP No. 1 (micro-pool extended detention pond)	a. Apply Natural Area Conservation Credit to modify CN b. Remaining WQ$_v$ management in BMP No. 1 (micro-pool extended detention pond)
Re$_v$ managed in dry swale (BMP No. 2)	No disturbance in area 2, therefore no WQ$_v$ management required.	No Cp$_v$ management required. 1-yr frequency storm discharge is less than 2 cfs.
Re$_v$ managed in dry swale (BMP No. 2)	WQ$_v$ management in grass channel along Meadowridge Road	No Cp$_v$ management required. 1-yr frequency storm discharge is less than 2 cfs.

Type of Requirement	Volume Required	Volume Provided
Re$_v$ (Recharge Vol. for Entire Site)	1.12 acres or 0.1011 acre-feet	0.1102 acre-feet
WQ$_v$		
Study Point #1 (15.87 acres)	12,507 cu ft	12,507 cu ft
Study Point #2 (0.35 acres)	292 cu ft	N/A
Study Point #3 (0.15acres)	126 cu ft	126 cu ft
Cp$_v$		
Study Point #1 (15.87 acres)	0.476 acre-feet	0.4760 acre-feet
Study Point #2 (0.35 acres)	0.004 acre-feet	N/A
Study Point #3 (0.15acres)	0.004 acre-feet	N/A

Note: Both Q_p (Overbank Flood Protection or 10-year storm) and Q_f (Extreme Flood Volume or 100-year storm) are not required for this site since this watershed area is not classified as one of the sensitive watershed areas for Howard County.

The recharge volume for the entire site is met through the use of a dry swale structural BMP located near the northern border of the site. The water quality volume for Study Point #1 is reduced by applying the Natural Area Conservation Credit, eliminating the area to the south of the stream which will have future management, and subtracting the recharge volume treated upstream of the facility. The remaining water quality volume is met through the use of an extended detention micropool pond. Water quality volume for Study Point #2 is not required because there is no disturbance in this area. Water quality volume for Study Point #3 is provided in the roadside ditch associated with the Meadowridge Road improvements. The channel protection volume for Study Point #1 has been reduced by eliminating the area to the south of the stream which will have future management. The remaining channel protection volume is met through the use of an extended detention micropool pond using a 24 draw-down. Study Point #2 and Study Point #3 do not require channel protection volume since the 1-year storm runoff is less than 2.0 cfs.

PLAN

SCALE: 1" = 50'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION	
1	ADD UNITS 13 & 14	10/29/02

REVISION BLOCK

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."

CHARLES J. CROVO, SR., P.E., L.S. — 7/9/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 9/9/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D 04		SEWER CODE	2610000	

SITE DIMENSION PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

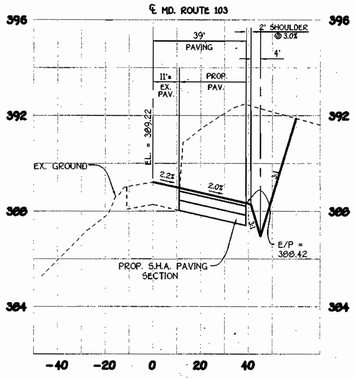
ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

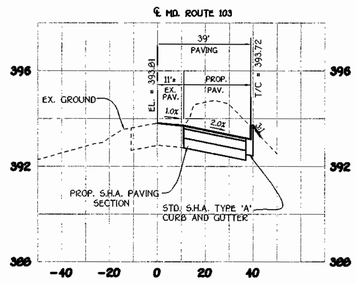
APPROVED REVISIONS

SDP 02-55

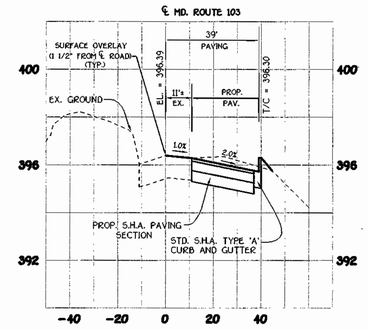
K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT 3 DIMENSION PLAN.dwg, 9/9/2002 5:21:47 PM
E:/Drawings3/30744/SDP-No Office Bldg/Site Plan.dwg



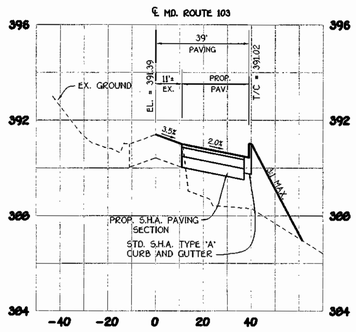
1+00



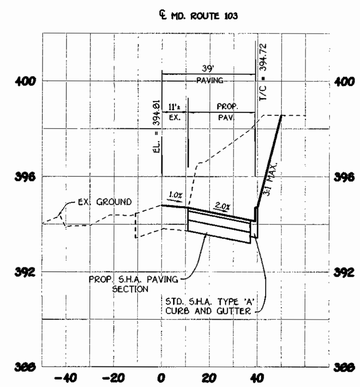
2+50



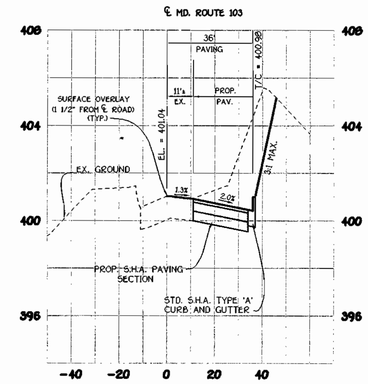
4+50



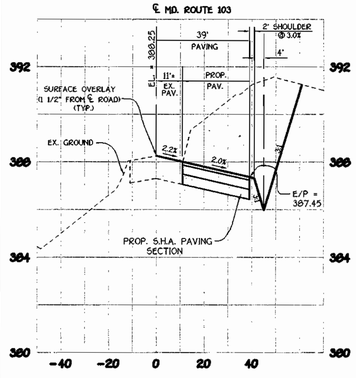
6+00



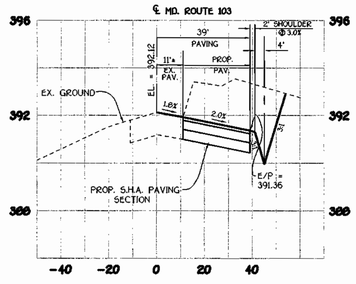
7+50



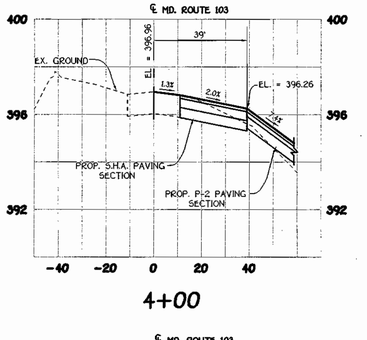
8+50



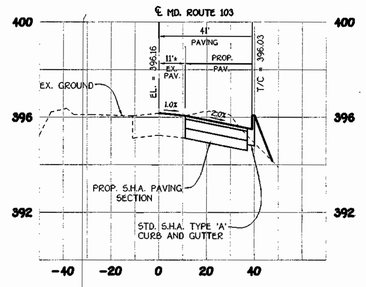
0+50



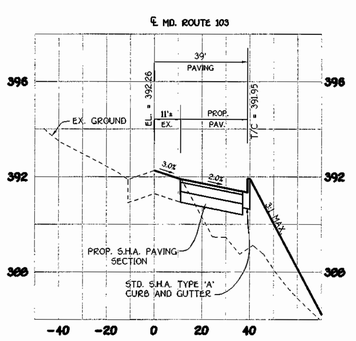
2+00



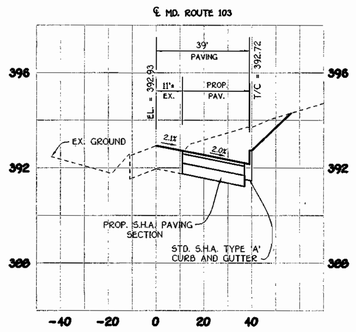
4+00



3+50

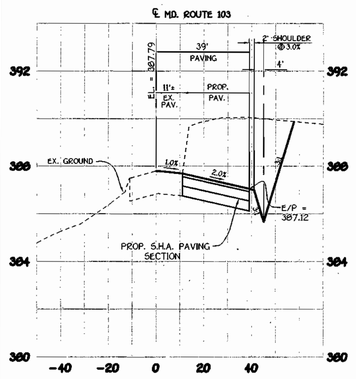


5+50

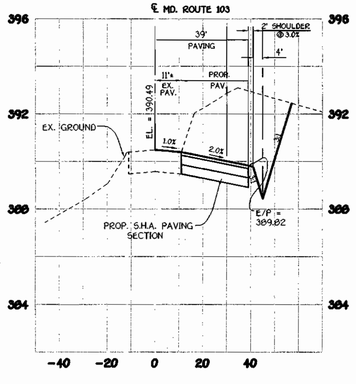


7+00

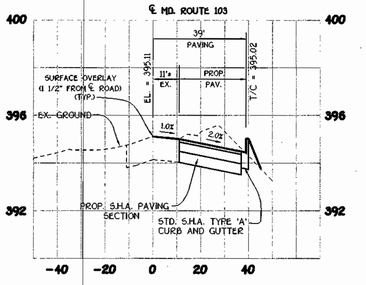
8+00



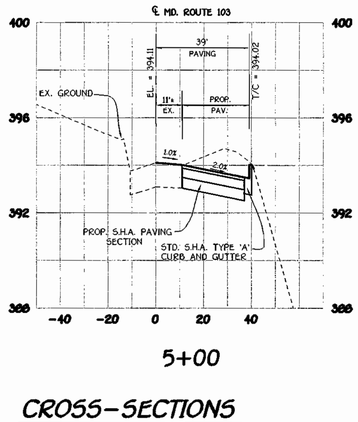
0+00



1+50



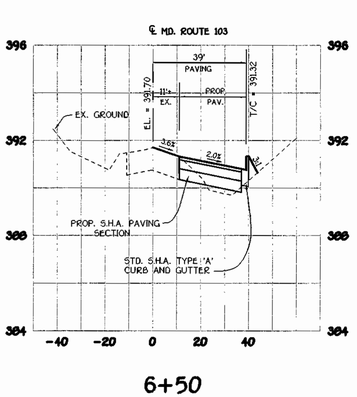
3+00



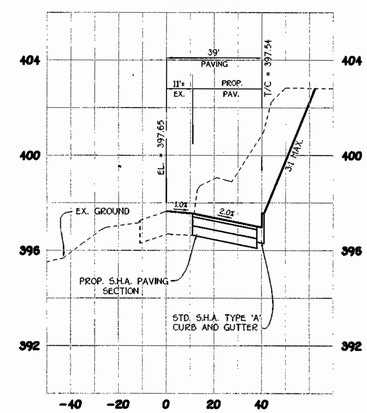
5+00

CROSS-SECTIONS

SCALE: HORIZ. : 1" = 30'
VERT. : 1" = 3'



6+50



8+00

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — No. 17394 — REGISTERED PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

DEVELOPER/OWNER

R2SK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER

RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/2/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION	SECTION/AREA	PARCEL NO.
THE COURTYARDS AT THE TIMBERS		617

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR.	37	1st.	6030

WATER CODE	SEWER CODE
D 04	2610000

CROSS-SECTIONS FOR MEADOWRIDGE ROAD

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

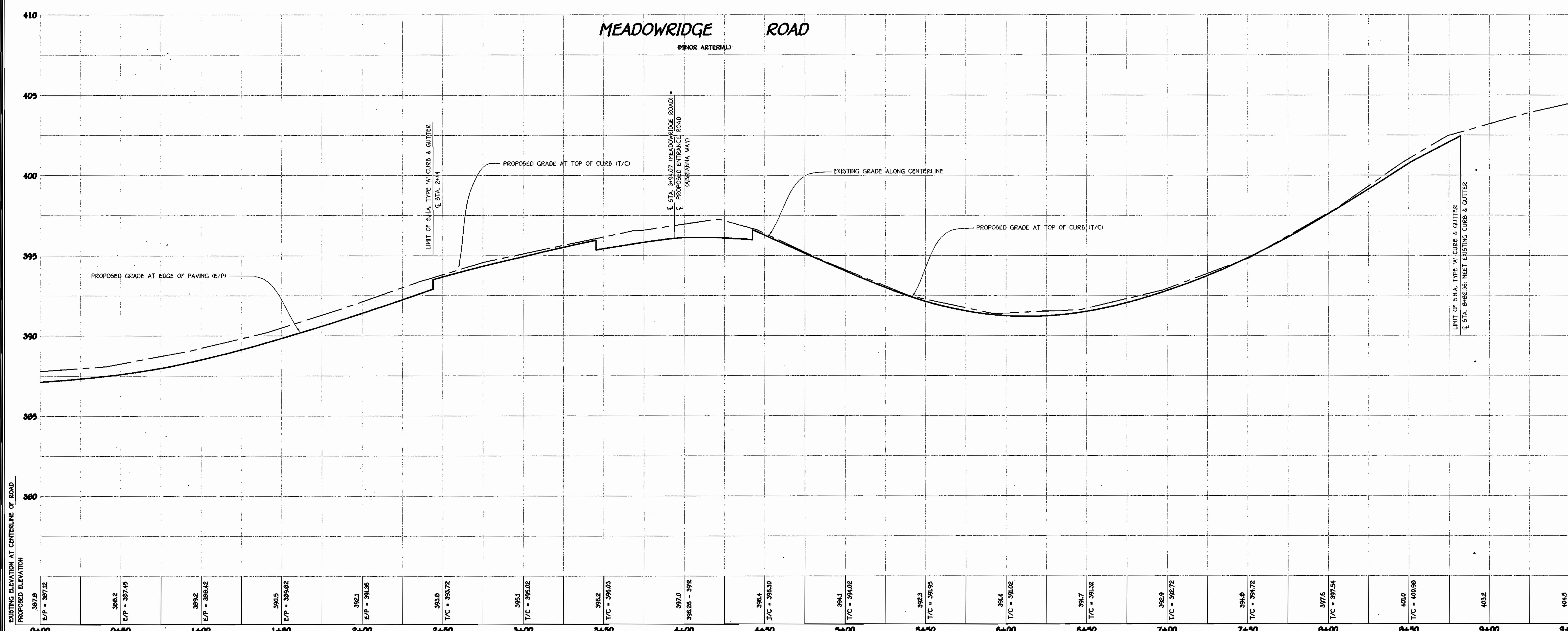
TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 4 OF 24 **SDP 02-55**

K:\Drawings 330\744 KHAN Property\SDP - NO OFFICE BLDG\330744 SHT 4&5 CROSS SECTIONS.dwg, 9/22/2002 1:39:03 PM

MEADOWRIDGE ROAD

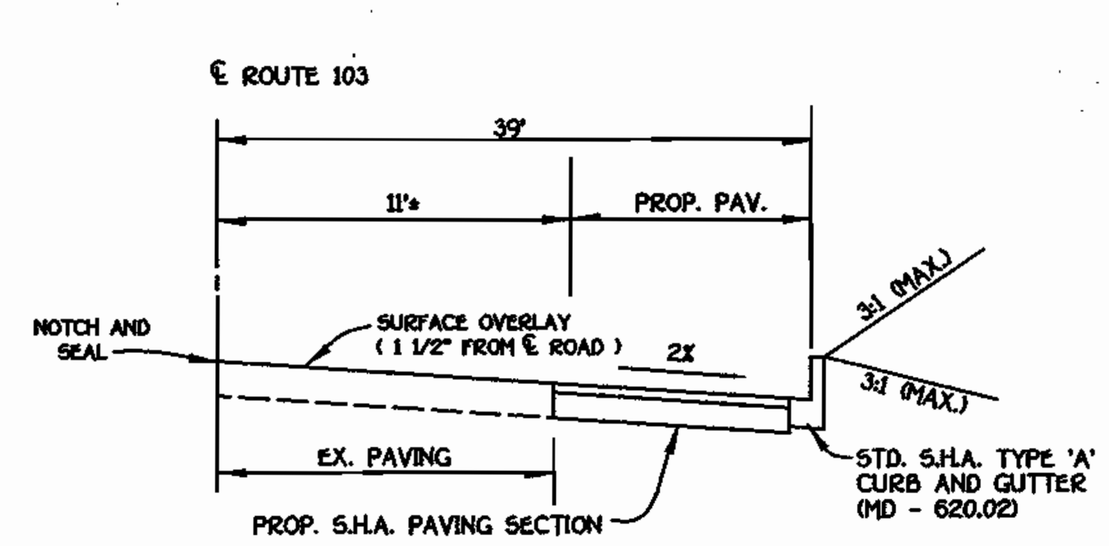
(MINOR ARTERIAL)



Station	Existing elevation at centerline of road	Proposed elevation
0+00	387.8	E/P = 387.12
0+50	388.2	E/P = 387.45
1+00	389.2	E/P = 388.42
1+50	390.5	E/P = 389.82
2+00	392.1	E/P = 391.36
2+50	393.8	T/C = 393.72
3+00	395.1	T/C = 395.02
3+50	396.2	T/C = 396.03
4+00	397.0	396.26 - 39'R
4+50	396.4	T/C = 396.30
5+00	394.1	T/C = 394.02
5+50	392.3	T/C = 391.95
6+00	391.4	T/C = 391.02
6+50	391.7	T/C = 391.32
7+00	392.9	T/C = 392.72
7+50	394.8	T/C = 394.72
8+00	397.6	T/C = 397.54
8+50	401.0	T/C = 400.98
9+00	403.2	
9+50	404.5	

PROFILE

SCALE: HORIZ. : 1" = 30'
VERT. : 1" = 3'

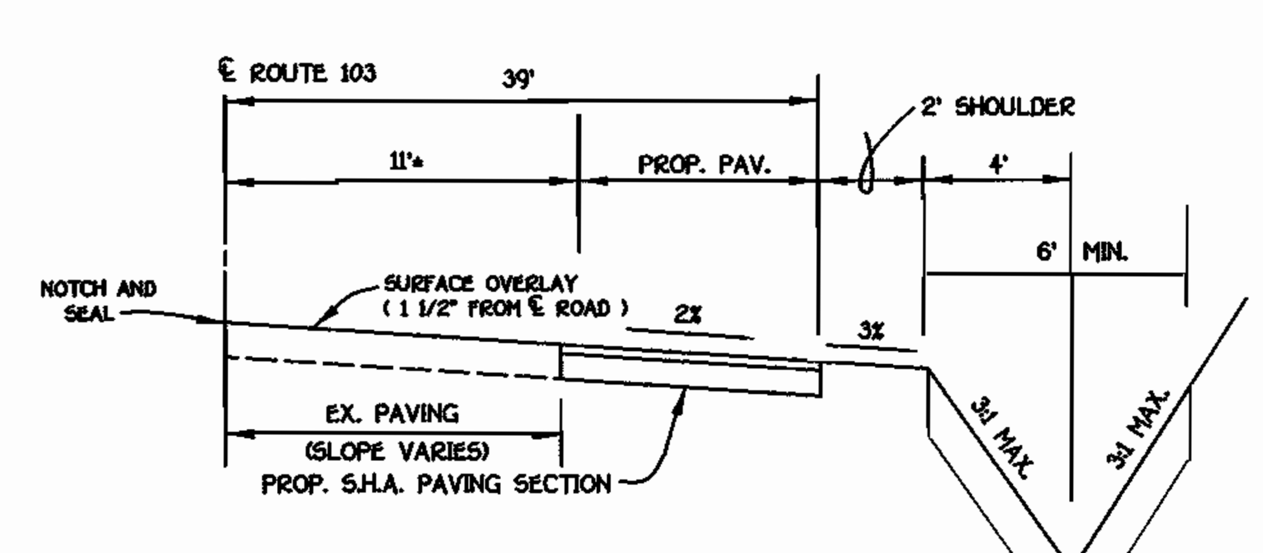


S.H.A. SECTION SHALL BE 3" (NOMINAL) BITUMINOUS CONCRETE SURFACE (TWO 1 1/2" COURSES), 4" (NOMINAL) BITUMINOUS CONCRETE BASE AND EITHER ONE OF THE FOLLOWING: 6" BASE COURSE USING GRADED AGGREGATE BASE, GA BASE OR A 7" BASE COURSE USING BANK-RUN GRAVEL BASE, BRG BASE

STA. 2+44 TO STA. 8+81

TYPICAL ROADWAY SECTION FOR MD. ROUTE 103 w/ CURB

NO SCALE



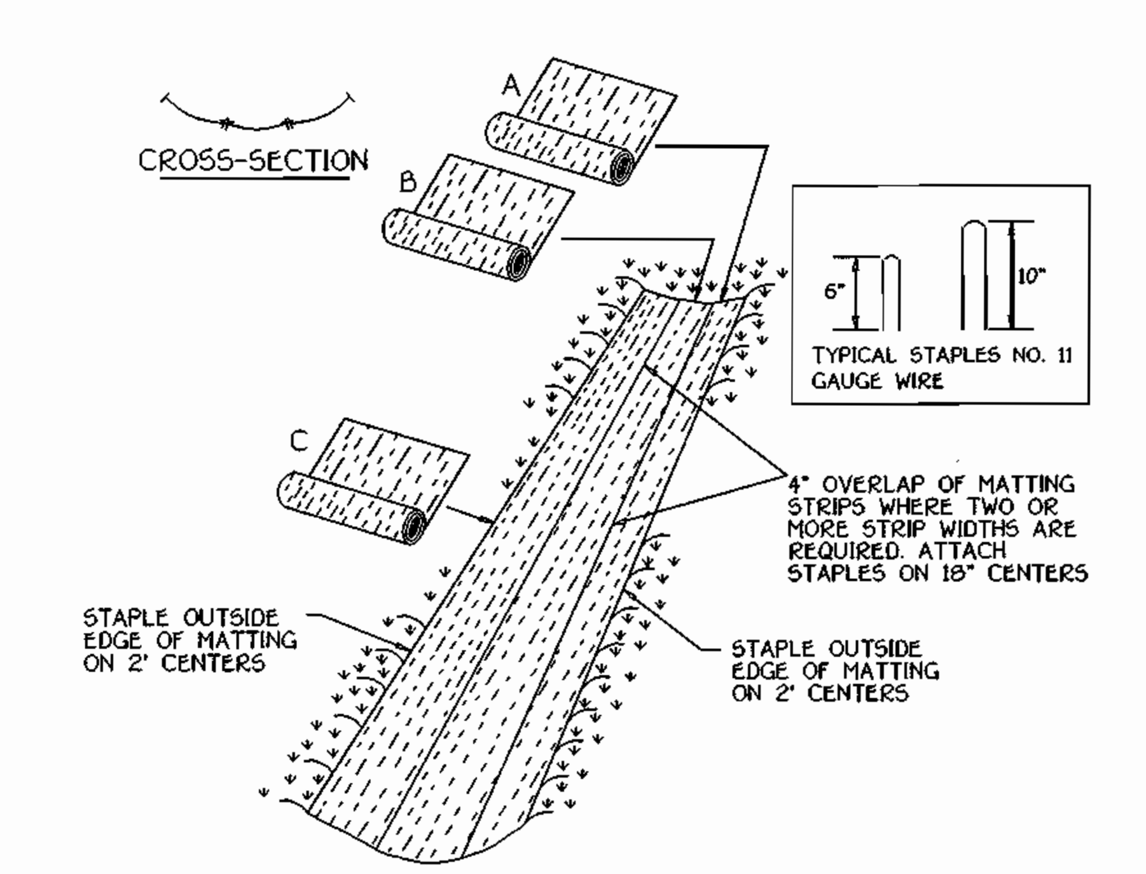
S.H.A. SECTION SHALL BE 3" (NOMINAL) BITUMINOUS CONCRETE SURFACE (TWO 1 1/2" COURSES), 4" (NOMINAL) BITUMINOUS CONCRETE BASE AND EITHER ONE OF THE FOLLOWING: 6" BASE COURSE USING GRADED AGGREGATE BASE, GA BASE OR A 7" BASE COURSE USING BANK-RUN GRAVEL BASE, BRG BASE

STA. 0+00 TO STA. 2+44

TYPICAL ROADWAY SECTION FOR MD. ROUTE 103 w/ DITCH

NO SCALE

EROSION CONTROL MATTING FOR DITCH LINING



Construction Specifications

1. Key-in the matting by placing the top ends of the matting in a narrow trench, 6" in depth. Backfill the trench and tamp firmly to conform to the channel cross-section. Secure with a row of staples about 4" down slope from the trench. Spacing between staples is 6".
2. Staple the 4" overlap in the channel center using an 18" spacing between staples.
3. Before stapling the outer edges of the matting, make sure the matting is smooth and in firm contact with the soil.
4. Staples shall be placed 2' apart with 4 rows for each strip, 2 outer rows, and 2 alternating rows down the center.
5. Where one roll of matting ends and another begins, the end of the top strip shall overlap the upper end of the lower strip by 4", shiplap fashion. Reinforce the overlap with a double row of staples spaced 6" apart in a staggered pattern on either side.
6. The discharge end of the matting liner should be similarly secured with 2 double rows of staples.

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

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development S.B. — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D 04		SEWER CODE	2610000	

PROFILE AND DETAILS FOR MEADOWRIDGE ROAD WIDENING

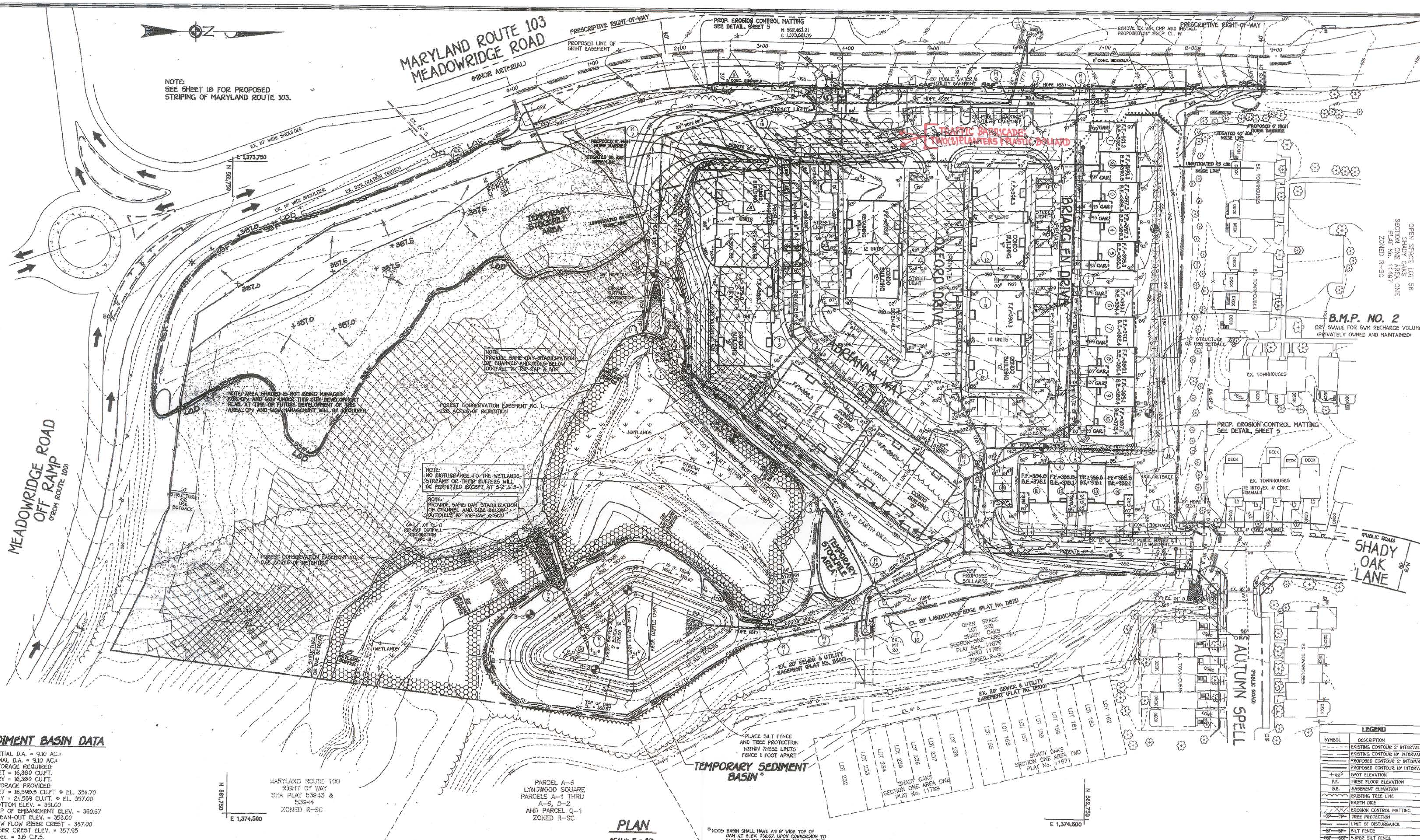
THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

 SDP 02-55



*NOTE: BASIN SHALL HAVE AN 8' WIDE TOP OF DAM AT ELEV. 360.67. UPON CONVERSION TO SWM POND THE EMBANKMENT SHALL BE CUT DOWN TO ELEV. 360.00 AND HAVE A 12' WIDTH.

SEDIMENT BASIN DATA

INITIAL D.A. = 9.10 AC.±
FINAL D.A. = 9.10 AC.±
STORAGE REQUIRED:
WET = 16,380 CU.FT.
DRY = 16,380 CU.FT.
STORAGE PROVIDED:
WET = 16,598.5 CU.FT @ EL. 354.70
DRY = 24,569 CU.FT. @ EL. 357.00
BOTTOM ELEV. = 351.00
TOP OF EMBANKMENT ELEV. = 360.67
CLEAN-OUT ELEV. = 353.00
LOW FLOW RISER CREST = 357.00
RISER CREST ELEV. = 357.95
Q2ex. = 3.8 C.F.S.
Q2prop. = 3.7 C.F.S.

LEGEND

SYMBOL	DESCRIPTION
	EXISTING CONTOUR 2' INTERVAL
	EXISTING CONTOUR 10' INTERVAL
	PROPOSED CONTOUR 2' INTERVAL
	PROPOSED CONTOUR 10' INTERVAL
+98.5	SPOT ELEVATION
F.F.	FIRST FLOOR ELEVATION
B.E.	BASEMENT ELEVATION
	EXISTING TREE LINE
	EARTH DIKE
	EROSION CONTROL MATTING
—TP—TP—	TREE PROTECTION
	LIMIT OF DISTURBANCE
—SF—SF—	SILT FENCE
—SSF—SSF—	SUPER SILT FENCE
	15% - 24.99% SLOPES
	25% OR GREATER SLOPES

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03 (3)	Revise Parking & Condo Building 'A' (Plan View), Added Sidewalk and Assoc. Grading Along Meadowridge Road. Added Storm Drain Easement at I-13, Revised Grading at Site Entrance. Added Inlet I-15 and Pipe. Revised 8" Sewer MH 120 And MH 125, Revised WHC To 2" and 6". Removed Basement Elevations From Condo Buildings 'E', 'F' & 'G'.
2	EXPAND L.O.D. — 8/20/03
1	ADD UNITS 13 & 14 — 10/29/02
DATE	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — No. 10204 — REGISTERED PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8-22-02
Signature of Developer (print name below signature) — Date

These Plans Have Been Reviewed For The Howard Soil Conservation District And Meet The Technical Requirements For Small Pond Construction, Soil Erosion And Sediment Control.

USDA-Natural Resources Conservation Service — 9/16/02 — Date

These Plans For Small Pond Construction, Soil Erosion And Sediment Control Meet The Requirements Of The Howard Soil Conservation District.

Howard Soil Conservation District — 9/16/02 — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 10/3/02 — Date
Chief, Division of Land Development — S.B. — 10/3/02 — Date
Chief, Development Engineering Division — 9/20/02 — Date

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D 04		SEWER CODE	2610000	

SEDIMENT & EROSION CONTROL PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

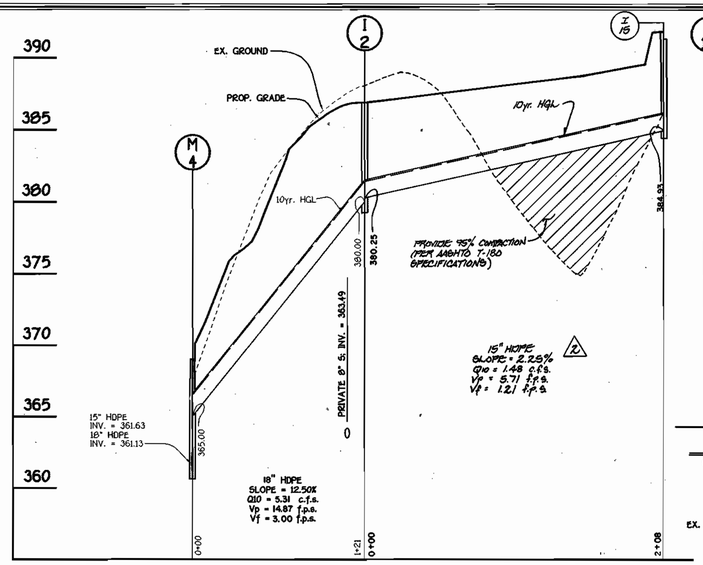
ZONED: POR
TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

APPROVED REVISIONS — SIGNATURE — DATE 4/14/11

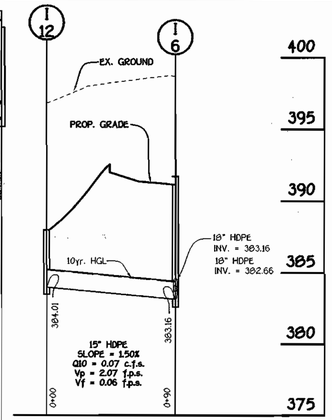
SHEET 6 OF 24 **SDP 02-55**

E:/Drawings 3/30744 Khan Property/Site Plan.Dwg

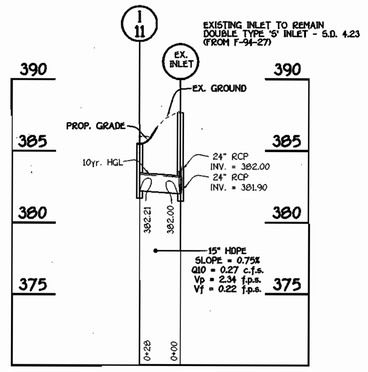
K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT 6 SEDCON PLAN.dwg, 8/22/2002 1:46:37 PM



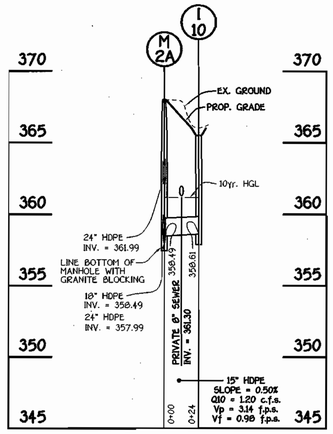
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



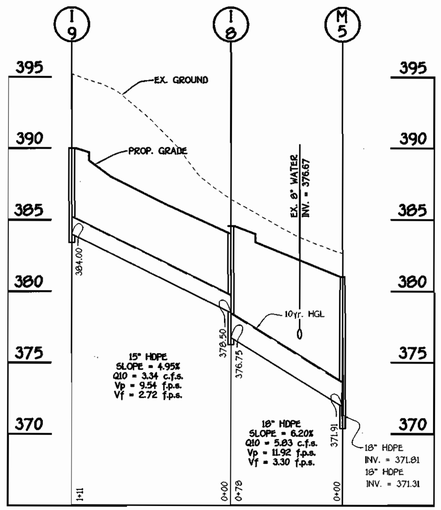
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



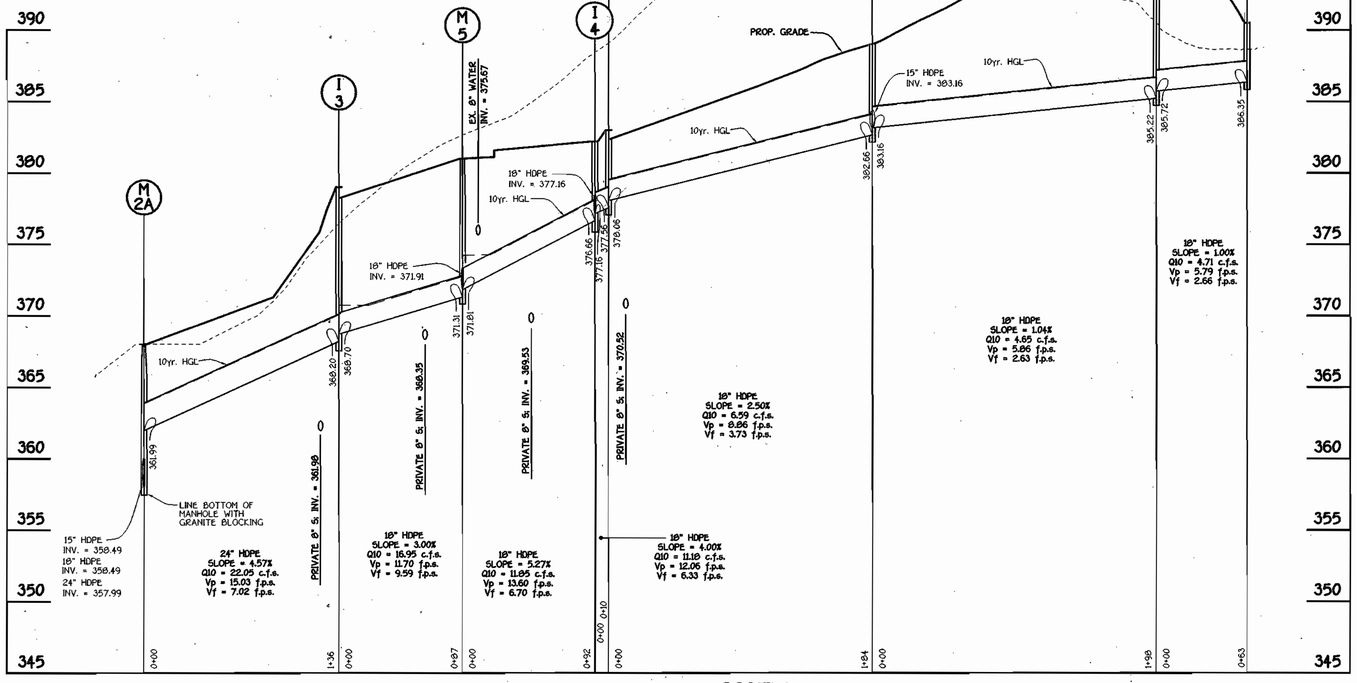
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



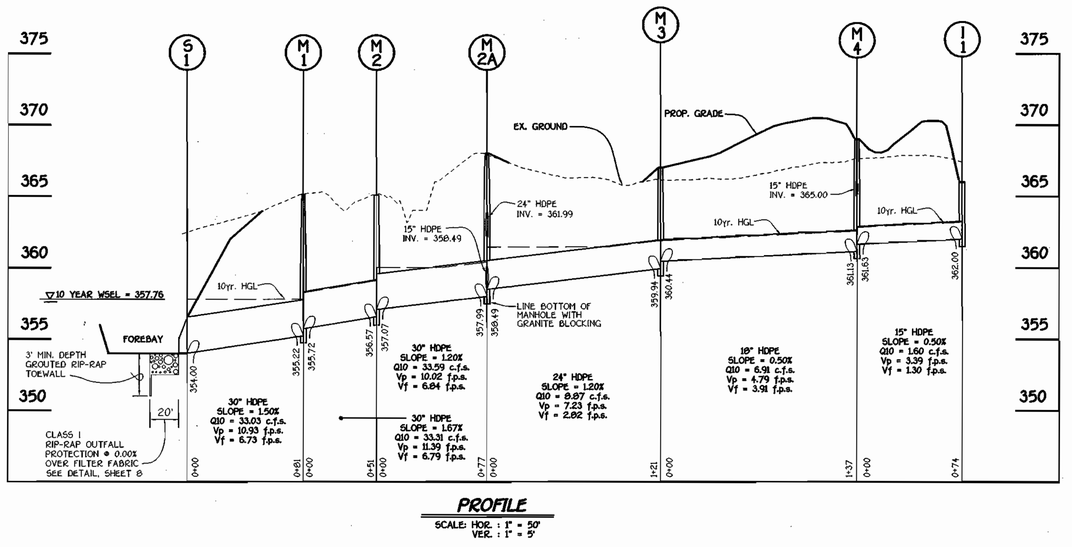
PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'



PROFILE
SCALE: HOR. : 1" = 50'
VER. : 1" = 5'

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT 7&8 SD PROFILES.dwg, 8/22/2002 1:52:56 PM

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03	2 ADDED I-16 AND STORM DRAIN PIPE TO I-2.

REVISION BLOCK

Ex/Drawings 3/30744 Khan Property/SDP-no office building/Stormdrain Profiles

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director, Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

STORM DRAIN PROFILES

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 7 OF 24

SDP 02-55

STRUCTURE SCHEDULE

STRUCTURE NO.	TOP ELEVATION	INV.IN	INV.OUT	ROAD NAME	ROAD STA.	OFFSET	TYPE	REMARKS
I-1	* 366.00	-----	362.00	----------	N 562,283.38 E 1,373,987.29	-----	'D' INLET	S.D. 4.39
I-2	386.88	380.25	380.00	ABRIANNA WAY	℄ STA. 9+44.50	12' L	A-10	S.D. 4.41
I-3	379.00	368.70	368.20	ABRIANNA WAY	℄ STA. 1+07.50	12' R	A-10	S.D. 4.41
I-4	* 382.20	377.26, 377.26	376.76	----------	N 561,944.91 E 1,375,878.23	-----	'D' INLET	S.D. 4.39
I-5	383.00	378.06	377.56	BRIARGLEN DRIVE	N 562,724.09 E 1,374,062.29	-----	A-10	S.D. 4.41
I-6	391.73	383.16, 383.16	382.66	BRIARGLEN DRIVE	℄ STA. 4+77	12' L	A-10	S.D. 4.41
I-7	390.50	-----	386.35	MARYLAND ROUTE 103	℄ STA. 6+07	39' R	COS-10 INLET	MD-374.61
I-8	384.58	378.50	376.75	OXFORD DRIVE	N 562,604.74 E 1,374,000.02	-----	A-10	S.D. 4.41
I-9	390.00	-----	384.00	OXFORD DRIVE	℄ STA. 1+74.50	32' L	A-10	S.D. 4.41
I-10	* 365.50	-----	358.61	----------	N 562,519.76 E 1,374,252.77	-----	'D' INLET	S.D. 4.39
I-11	* 385.50	382.00	381.90	----------	N 562,862.77 E 1,374,160.91	-----	'D' INLET	S.D. 4.39
I-12	* 387.17	-----	384.01	BRIARGLEN DRIVE	℄ STA. 4+85	76'R	'D' INLET	S.D. 4.39
I-13	* 390.00	-----	384.06	MARYLAND ROUTE 103	℄ STA. 6+09	22'L	DOUBLE 'K' INLET	MD-378.11
I-14	* 384.15	380.90	380.15	----------	N 562,826.82 E 1,374,074.43	-----	'D' INLET	S.D. 4.39
I-15	391.80	-----	384.93	BRIARGLEN DRIVE	℄ STA. 0+28	12' R	A-10	S.D. 4.41
M-1	365.10	355.72	355.22	----------	N 562,390.05 E 1,374,285.25	-----	4' STD. MANHOLE	G. 5.12
M-2	365.04	357.07	356.57	----------	N 562,439.70 E 1,374,274.45	-----	4' STD. MANHOLE	G. 5.12
** M-2A	368.00	361.99, 358.49, 358.49	357.99	----------	N 562,504.10 E 1,374,232.65	-----	5' STD. MANHOLE	G. 5.13
M-3	367.00	360.44	359.94	----------	N 562,446.10 E 1,374,125.94	-----	4' STD. MANHOLE	G. 5.12
M-4	369.00	361.63, 365.00	361.13	----------	N 562,344.61 E 1,374,033.87	-----	4' STD. MANHOLE	G. 5.12
M-5	381.00	371.91, 371.81	371.31	ABRIANNA WAY	℄ STA. 0+26	-----	4' STD. MANHOLE	G. 5.12
M-6	396.50	385.72	385.22	----------	N 562,736.46 E 1,373,680.44	-----	4' STD. MANHOLE	G. 5.12
M-7	384.00	373.04	372.54	----------	N 562,250.25 E 1,373,717.19	-----	4' STD. MANHOLE	G. 5.12
M-7A	370.00	366.13	362.15	----------	N 562,245.23 E 1,373,869.11	-----	4' STD. MANHOLE	G. 5.12
M-8	393.75	379.98	379.48	----------	N 562,396.12 E 1,373,678.22	-----	4' STD. MANHOLE	G. 5.12
M-9	396.00	383.10	382.60	----------	N 562,658.58 E 1,373,676.81	-----	4' STD. MANHOLE	G. 5.12
R-1	359.50	353.00	352.50	----------	N 562,163.15 E 1,374,290.52	-----	CONC. RISER	
S-1	356.00	354.00	354.00	----------	N 562,306.78 E 1,374,279.99	-----	HDPE END SECTION	
S-2	353.63	351.13	351.13	----------	N 562,139.92 E 1,374,243.22	-----	CONC. END SECTION	S.D. 5.52
S-3	364.00	362.00	362.00	----------	N 562,244.74 E 1,373,884.10	-----	HDPE END SECTION	

* - DENOTES THROAT ELEVATION

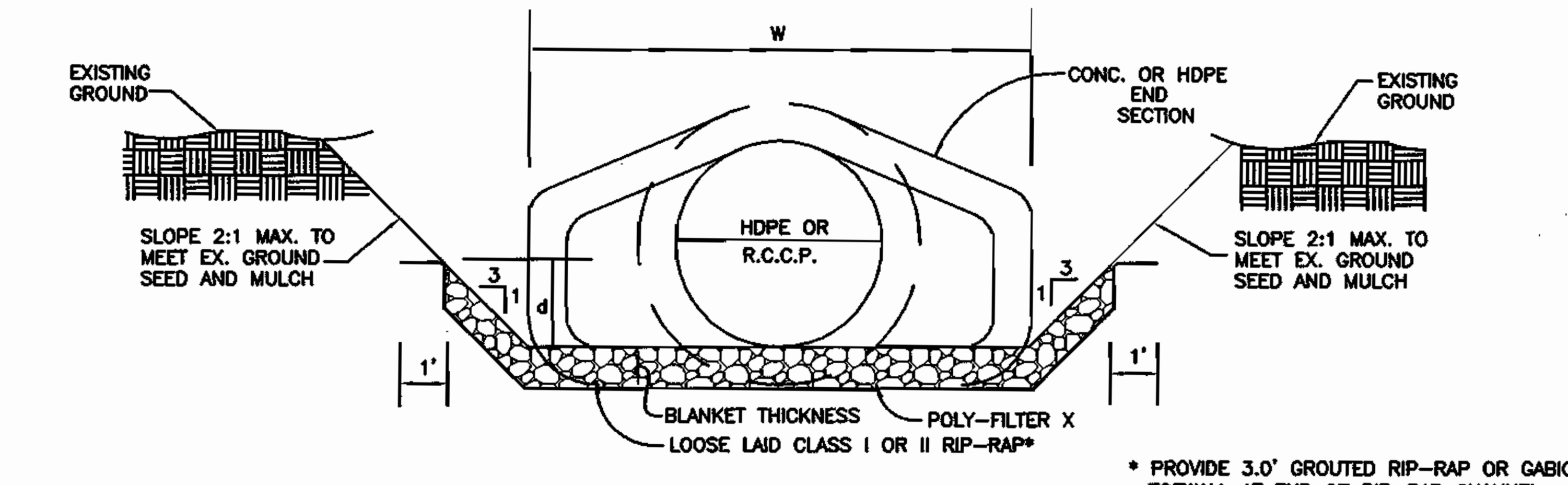
** - LINE BOTTOM OF MANHOLE WITH GRANITE BLOCKING

PIPE SCHEDULE

SIZE	CLASS	LENGTH
15"	HDPE	638'
18"	HDPE	970'
24"	HDPE	837'
30"	HDPE	209'
24"	RCCP. CL. IV	77'

CONSTRUCTION SPECIFICATIONS FOR RIP-RAP OUTFALLS

1. The subgrade for the filter, riprap or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.
2. The rock or gravel shall conform to the specified grading limits when installed respectively in the riprap or filter.
3. Filter cloth shall be protected from punching, cutting or tearing. Any damage other than an occasional shall hole shall be repaired by placing another piece of cloth over the damaged part or by completely replacing the cloth. All overlaps whether for repairs or for joining two pieces of cloth shall be a minimum of one foot.
4. Stone for the riprap or gabion outlets may be placed by equipment. Both shall each be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for riprap or gabion outlets shall be delivered and placed in a manner that will insure that it is reasonably homogenous with the smaller stones and spalls filling the voids between the larger stones. Riprap shall be placed in a manner to prevent damage to the filter blanket or filter cloth. Hand placement will be required to the extent necessary to prevent damage to the permanent works.



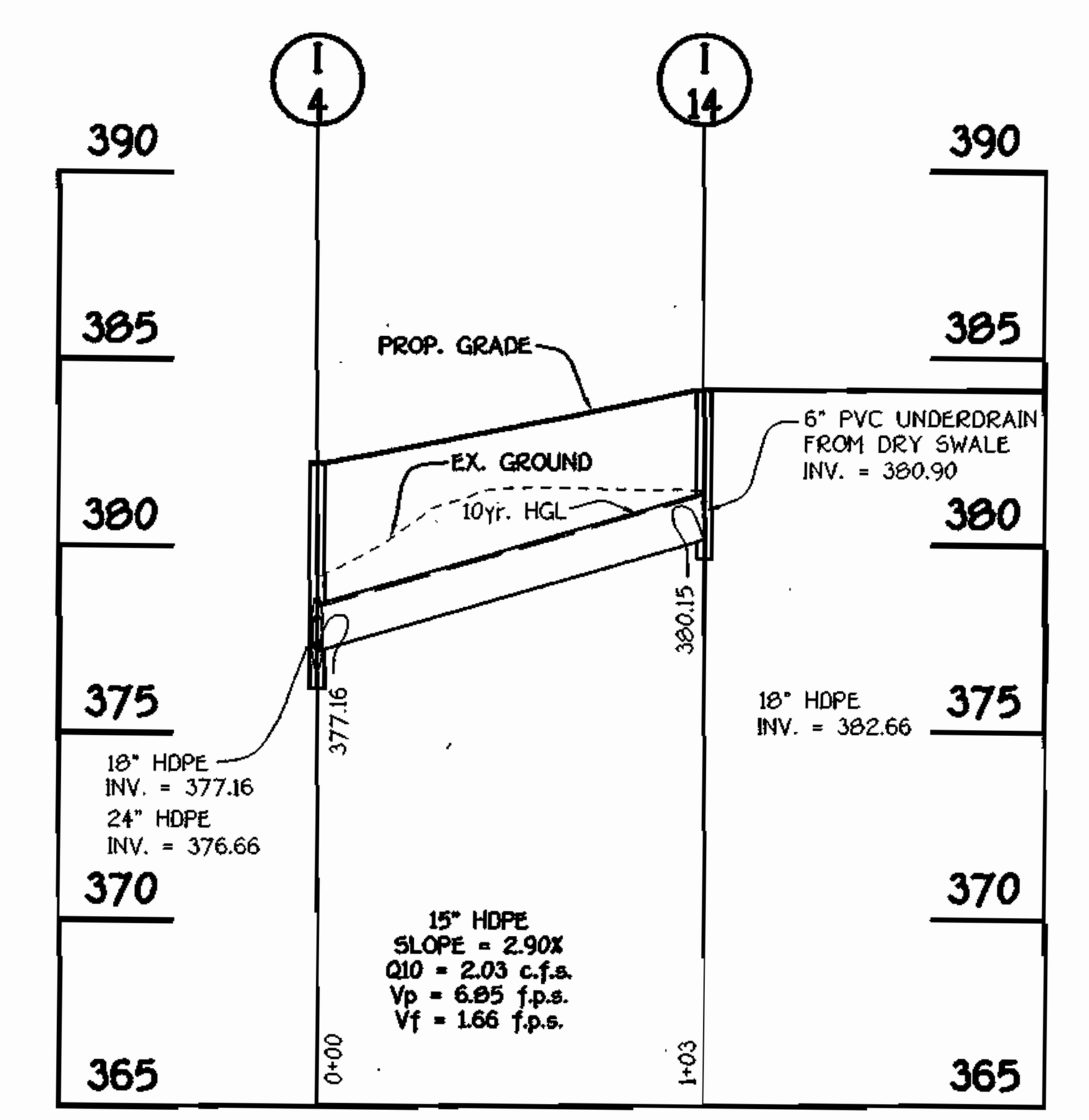
* PROVIDE 3.0' GROUTED RIP-RAP OR GABION TOEWALL AT END OF RIP-RAP CHANNEL

RIP RAP CHANNEL DETAIL

NO SCALE

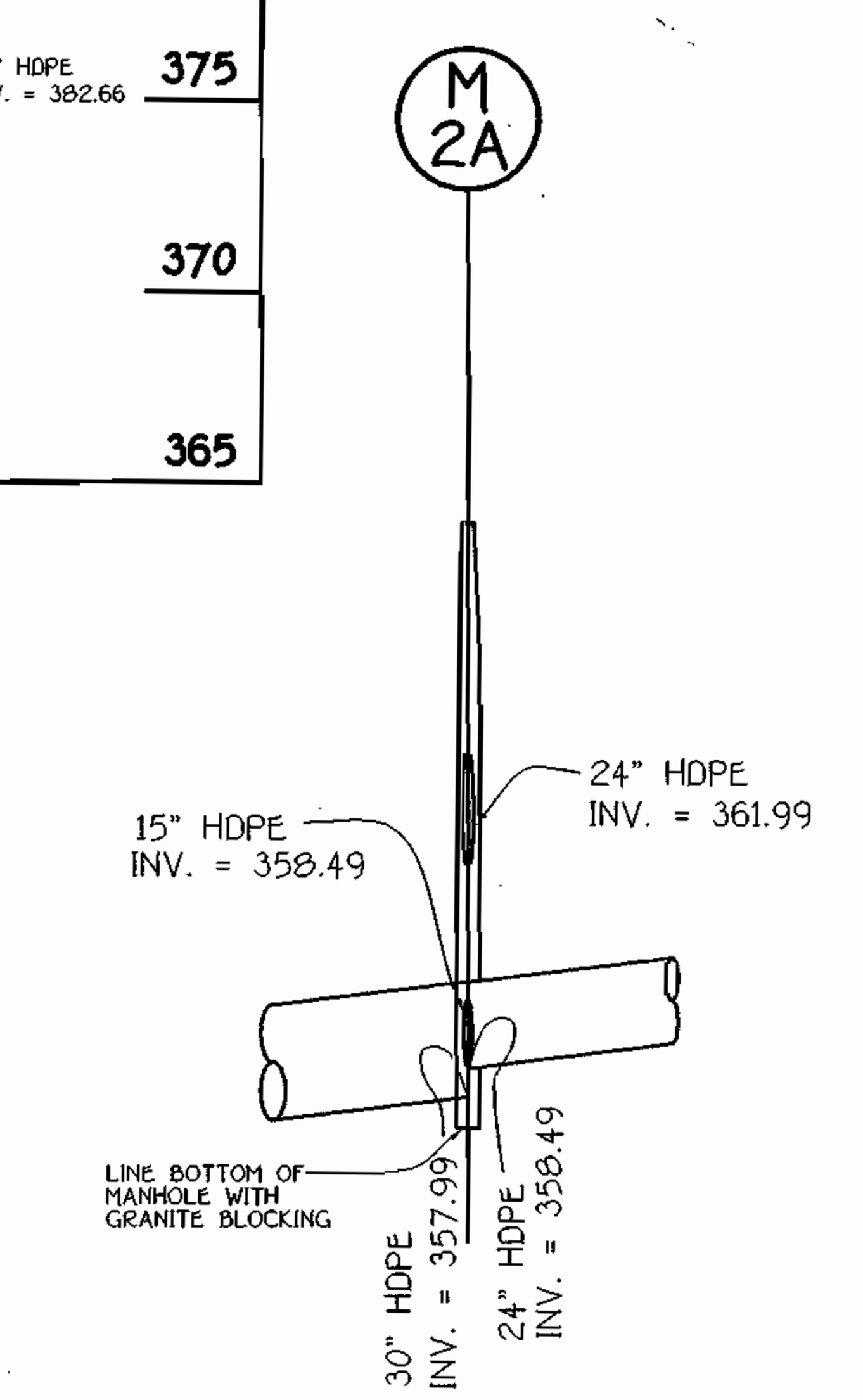
RIP-RAP CHANNEL DESIGN DATA

STRUCTURE	AREA	WETTED PERIMETER	R	R 2/3	S	S 1/2	W	d	N	V (F.P.S.)	Q10 (C.F.S.)	10 YR WSEL	RIP-RAP SIZE CLASS	d_{50}	d_{MAX}	BLANKET THICKNESS	PIPE DIA.
S-1	13.11 SF	13.96'	0.9391	0.9590	0.0050	0.0707	5.0'	1.42'	0.04	2.52	33.03	357.76	I	9.5"	15"	19"	30"
S-2	13.10 SF	13.96'	0.9384	0.9585	0.0050	0.0707	5.0'	1.42'	0.04	2.52	33.0	351.53	II	16"	24"	32"	30"
S-3	9.09 SF	11.93'	0.7619	0.8342	0.0050	0.0707	5.0'	1.10'	0.04	2.19	19.91	363.10	I	9.5"	15"	19"	24"
											100 YR FOR S-3						



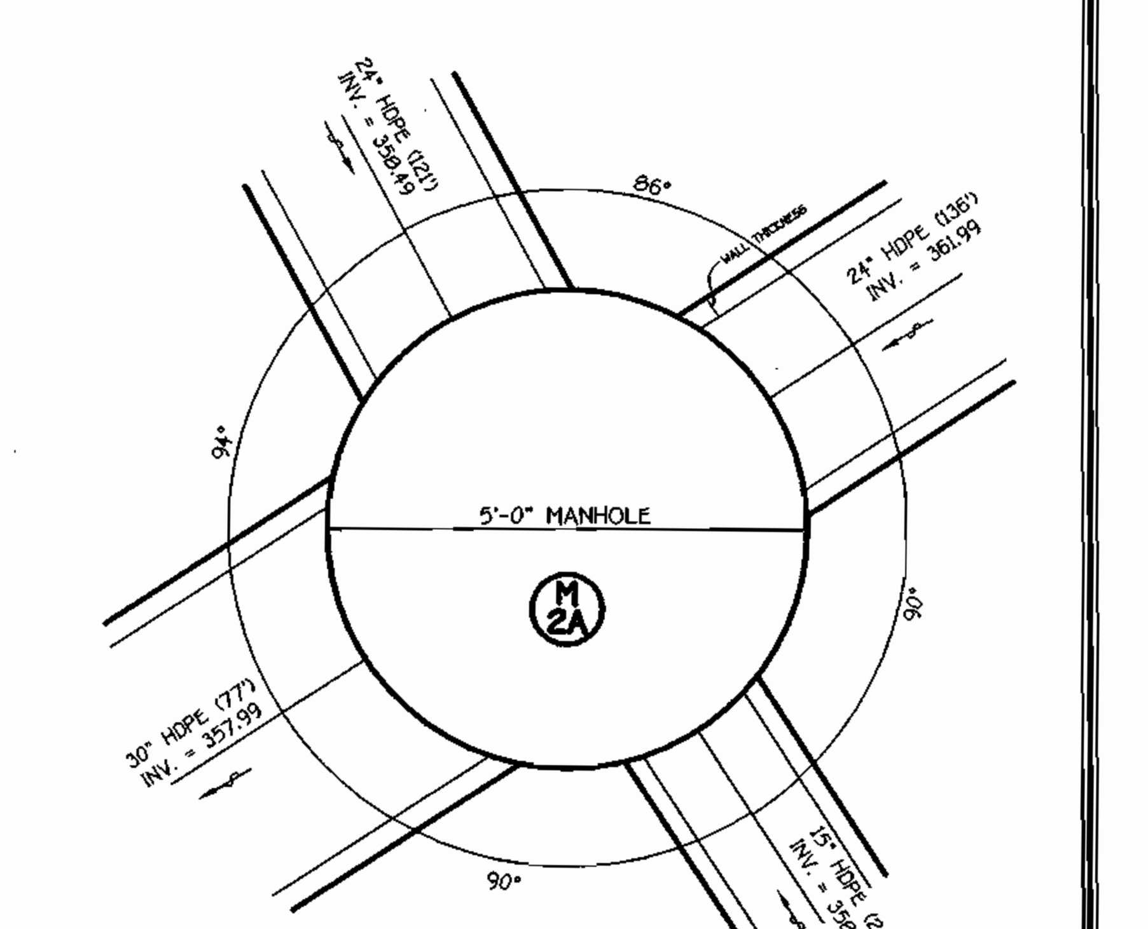
PROFILE

SCALE: HOR. : 1" = 50' VER. : 1" = 5'



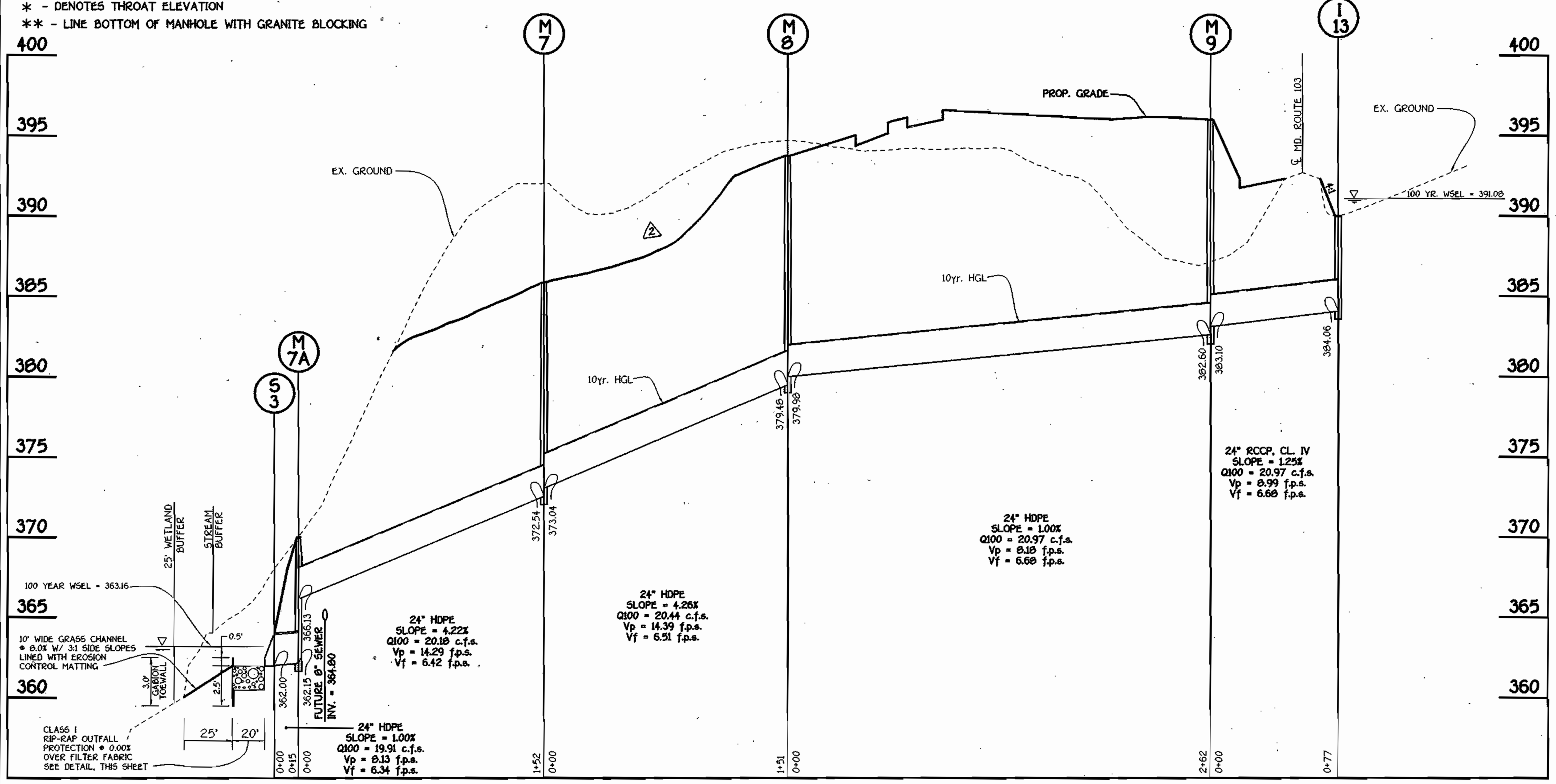
PROFILE AT M-2A

NO SCALE



DETAIL AT M-2A

SCALE: 1" = 2'



PROFILE

SCALE: HOR. : 1" = 50' VER. : 1" = 5'

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

STATE OF MARYLAND — CHARLES J. CROVO — No. 13804 — PROFESSIONAL ENGINEER

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03	ADDED INLET I-15 AND STORM DRAIN PIPE TO I-2 AND REVISED STRUCTURE AND PIPE SCHEDULES (2)

REVISION BLOCK

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION	SECTION/AREA	PARCEL NO.
THE COURTYARDS AT THE TIMBERS		617

DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030

WATER CODE D 04 — SEWER CODE 2610000

STORM DRAIN PROFILES

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 8 OF 24 **SDP 02-55**

DRAINAGE AREA DATA

STRUCTURE NO.	DRAINAGE AREA	AREA	'C'	ZONED	% IMP.
I-1	A	0.64 AC.	0.30	POR	13%
M-3	B	0.32 AC.	0.87	POR	67%
I-2	C	0.74 AC.	0.67	POR	69%
I-3	D	0.97 AC.	0.75	POR	82%
I-4	E	0.20 AC.	0.45	POR	36%
I-5	F	0.61 AC.	0.66	POR	69%
I-6	G	0.47 AC.	0.61	POR	61%
I-7	H	0.95 AC.	0.44	POR	35%
I-8	I	0.42 AC.	0.76	POR	83%
I-9	J	0.51 AC.	0.77	POR	85%
I-10	K	0.70 AC.	0.24	POR	0%
I-11	L	0.16 AC.	0.22	POR	0%
I-12	M	0.04 AC.	0.21	POR	0%
I-13	N	5.86 AC.	0.45	R-SC	65%
I-14	O	0.65 AC.	0.38	POR	26%
I-15	P	0.26 AC.	0.67	POR	69%

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

K:/Drawings 3/30744 Khan Property/Site Plan.Dwg

DATE	DESCRIPTION
7/31/03	REVISED PARKING & CONDO BUILDING 'A' (PLAN VIEW), ADDED SIDEWALK AND ASSOCIATED GRADING ALONG MEADOWRIDGE ROAD. ADDED STORM DRAIN EASEMENT AT I-13, REVISED GRADING AT SITE ENTRANCE, ADDED INLET I-15 AND STORM DRAIN PIPE TO I-2, REVISED 8" SEWER MAIN MH-120 AND MH-125, REVISED WHC TO 2" AND 6", AND REMOVED BASEMENT ELEVATION FROM CONDO BUILDINGS 'E', 'F' & 'G'
1	ADD UNITS 13 & 14 10/29/02

REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER

RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER

RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02

Chief, Division of Land Development — Date 10/3/02

Chief, Development Engineering Division — Date 9/30/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D-04		SEWER CODE	2610000	

DRAINAGE AREA MAP

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

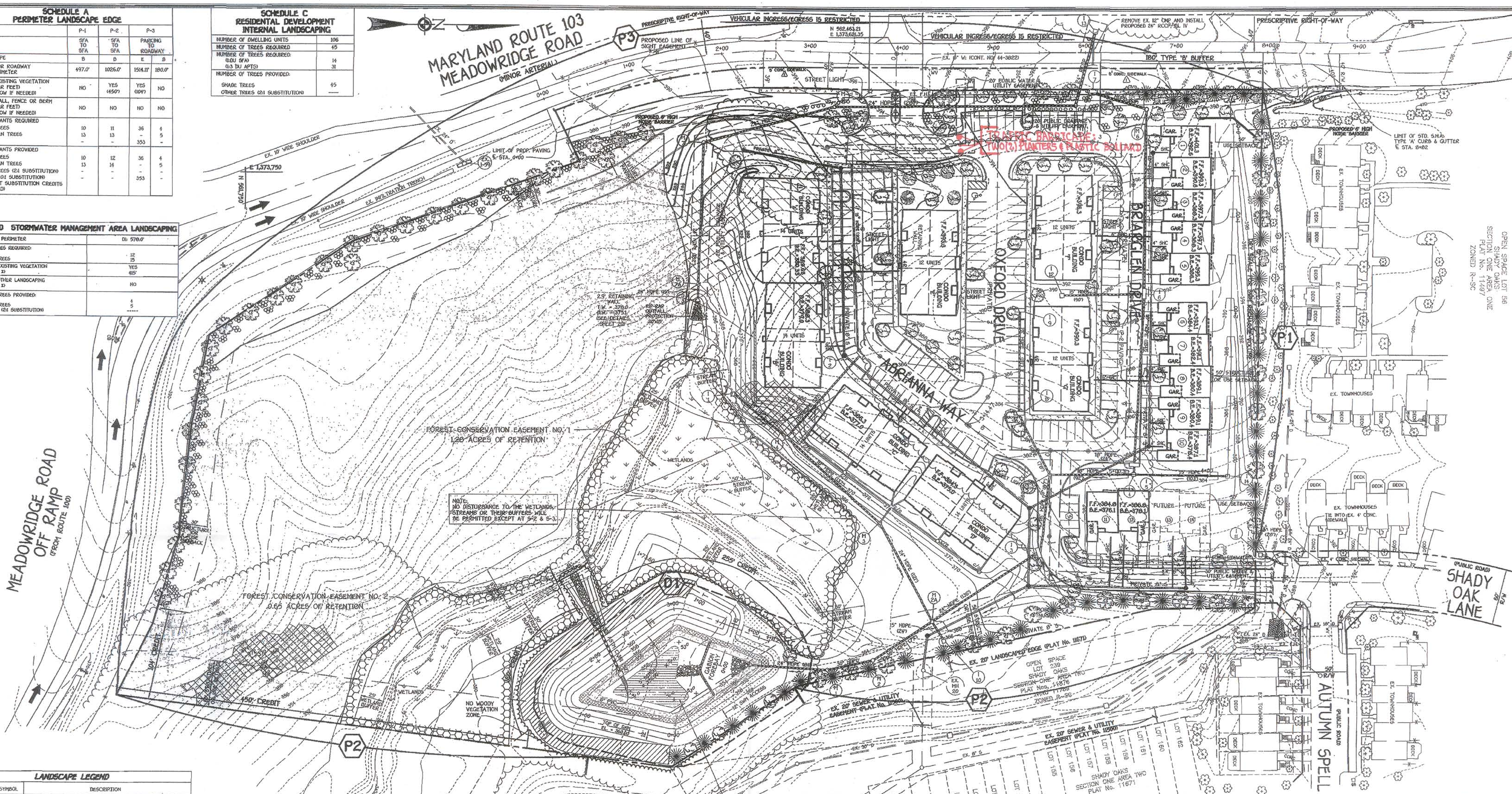
APPROVED REVISIONS 4/14/04

SDP 02-55

SCHEDULE A PERIMETER LANDSCAPE EDGE				
PERIMETER	P-1	P-2	P-3	
CATEGORY	SFA TO SFA	SFA TO SFA	PARKING TO ROADWAY	
LANDSCAPE TYPE	B	B	E	B
LINEAR FEET OR ROADWAY FRONTAGE/PERIMETER	497.0'	1026.0'	1514.11'	180.0'
CREDIT FOR EXISTING VEGETATION (YES, NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	YES (450')	YES (104')	NO
CREDIT FOR WALL, FENCE OR BERM (YES, NO LINEAR FEET) (DESCRIBE BELOW IF NEEDED)	NO	NO	NO	NO
NUMBER OF PLANTS REQUIRED				
SHADE TREES	10	11	36	4
EVERGREEN TREES	13	13	-	5
SHRUBS	-	-	353	-
NUMBER OF PLANTS PROVIDED				
SHADE TREES	10	12	36	4
EVERGREEN TREES	13	14	-	5
OTHER TREES (2:1 SUBSTITUTION)	-	-	-	-
SHRUBS (10:1 SUBSTITUTION)	-	-	353	-
(DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)				

SCHEDULE C RESIDENTAL DEVELOPMENT INTERNAL LANDSCAPING	
NUMBER OF DWELLING UNITS	106
NUMBER OF TREES REQUIRED	45
NUMBER OF TREES REQUIRED: (1:DU SFA)	14
(1:3 DU APTS)	31
NUMBER OF TREES PROVIDED:	
SHADE TREES	45
OTHER TREES (2:1 SUBSTITUTION)	-----

SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING	
LINEAR FEET OF PERIMETER	D1: 570.0'
NUMBER OF TREES REQUIRED: SHADE TREES	12
EVERGREEN TREES	15
CREDIT FOR EXISTING VEGETATION (NO, YES AND X)	YES 415'
CREDIT FOR OTHER LANDSCAPING (NO, YES AND X)	NO
NUMBER OF TREES PROVIDED: SHADE TREES	4
EVERGREEN TREES	5
OTHER TREES (2:1 SUBSTITUTION)	-----



PROPOSED S.W.M. POND NO. 1
TYPE : MICRO-POOL
HAZARD CLASS 'A'

SCHEDULE B - RESIDENTIAL PARKING LOT INTERNAL LANDSCAPING	
NUMBER OF PARKING SPACES	152
NUMBER OF TREES REQUIRED (1:10)	16
NUMBER OF TREES PROVIDED:	
SHADE TREES	16
OTHER TREES (2:1 SUBSTITUTION)	-----

LANDSCAPE LEGEND

QUANTITY	SYMBOL	DESCRIPTION
62		PLATANUS X ACERIFOLIA', 'BLOODGOOD' BLOODGOOD LONDON PLANE 2-1/2"-3" CAL.
65		ACER RUBRUM', RED SUNSET, RED MAPLE 2-1/2"-3" CAL.
37		PINUS STROBUS/EASTERN WHITE PINE 6'-8' HEIGHT
353	○	AZALEA 'GUMPO PINK'/ GUMPO PINK AZALEA 18" - 24" SP.

NOTE: TREE AND SHRUB TYPES ARE ONLY AN RECOMMENDATION. THESE MAY BE REVISED TO A COUNTY APPROVED EQUIVALENT FROM THE HOWARD COUNTY LANDSCAPE MANUAL.
"THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL."
FINANCIAL SURETY FOR THE 164 REQUIRED LANDSCAPE TREES AND 353 SHRUBS HAS BEEN POSTED AS PART OF THE DEVELOPER'S AGREEMENT IN THE AMOUNT OF $54,240.00.

PLAN

SCALE: 1" = 50'

PLANTING AREA	SWM ZONE	HYDROLOGIC CONDITIONS	MDE PLANTING ZONE	PLANT MATERIAL NAME	SCIENTIFIC NAME	QUANTITY	MAX. SPACING
	MICRO-POOL	1-6' PERMANENT POOL	ZONE 1	CARDINAL FLOWER GOLDEN-ROD ARCTIC RUSH CRESTED SEDGE	LOBELIA CARDINALIS SOLIDAGO AUSTRINA JUNCUS ARCTICUS CAREX CRISTATELLA	500 500 SEED MIX SEED MIX	16" O.C. 16" O.C. N/A - GRASS N/A - GRASS
	1' BELOW WQv	6 INCHES TO 1' DEEP PERIODIC INUNDATION (>1x/yr)	ZONE 3	CARDINAL FLOWER SWITCHGRASS CRESTED SEDGE	LOBELIA CARDINALIS PANICUM VIRGATUM CAREX CRISTATELLA	600 SEED MIX SEED MIX	N/A N/A - GRASS N/A - GRASS
	EX. DETENTION SAFETY BENCH	6 INCHES TO 1' DEEP PERIODIC INUNDATION (1x/yr)	ZONE 4	CARDINAL FLOWER BROOM-SEDGE CRESTED SEDGE	LOBELIA CARDINALIS ANDROPOGON VIRGINICUS CAREX CRISTATELLA	700 SEED MIX SEED MIX	N/A N/A - GRASS N/A - GRASS
	ABOVE 10 YR. WSEL (CUT AREAS ONLY)	INFREQUENT INUNDATION	ZONE 5	BROOM-SEDGE ROUGH-LEAF DOGWOOD FARKLEBERRY AMERICAN WITCH-HAZEL	ANDROPOGON VIRGINICUS CORNUS ASPERIFOLIA VACCINIUM ARBOREUM HAMAMELIS VIRGINIANA	SEED MIX 10 10 15	N/A - GRASS 12' O.C. 12' O.C. 12' O.C.
	EMBANKMENT FILL AREAS ACCESS ROAD FOREBAY		NO PLANTING ALLOWED	NONE	NONE	NONE	NONE

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461-2855

DATE	DESCRIPTION
7/31/03 ⚠	Revised Parking & Condo Bldg. 'A' (PLAN VIEW). Added Sidewalk And Assoc. Grading Along Meadowridge Road. Added Storm Drain Easement at I-13. Revised Grading At Site Entrance. Added I-15 and Pipe to I-2. Revised 8" Sewer Main MH 120 & MH 125. Revised WHC'S to 2" and 6". Removed Basement Elevation From Condo Bldg's. 'E', 'F' & 'G'.

REVISION BLOCK

STATE OF MARYLAND · CHARLES J. CROVO · REGISTERED · PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF. 5609 / 611	BLOCK NO. 3	ZONE POR	TAX/ZONE 37	ELEC. DIST. 1st.	CENSUS TR. 6030
WATER CODE D 04			SEWER CODE 2610000		

LANDSCAPE PLAN & SWM PLANTING

THE COURTYARDS AT THE TIMBERS

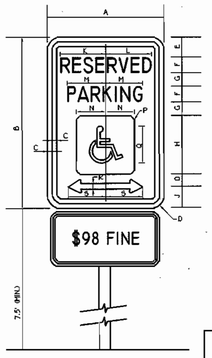
TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR
TAX MAP No.: 37 PARCEL No.: 617 GRID No.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

APPROVED REVISIONS 4/14/14

SHEET 10 OF 24 SDP 02-55

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT10 LANDSCAPE PLAN.dwg, 8/22/2002 2:00:45 PM



COLORS

DIRECTIONAL
LEGEND - WHITE
BACKGROUND - BLUE

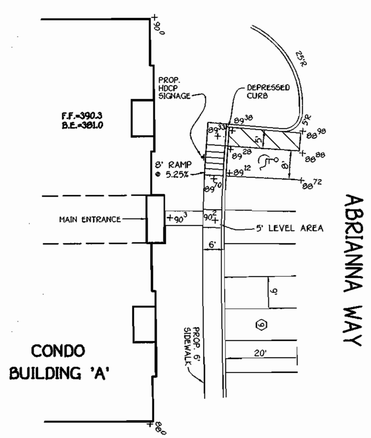
REGULATORY
LEGEND - GREEN OR BLACK
BACKGROUND - WHITE

DIMENSIONS (INCHES)

SIGN SIZE	A	B	C	D	E	F	G	H	J
MIN.	6	12	3/8	3/8	1-1/2	1-1/2	10	1/2	1-1/2D
STD.	9	18	3/8	3/8	1-1/2	2-1/4	1-1/2D	1	2D

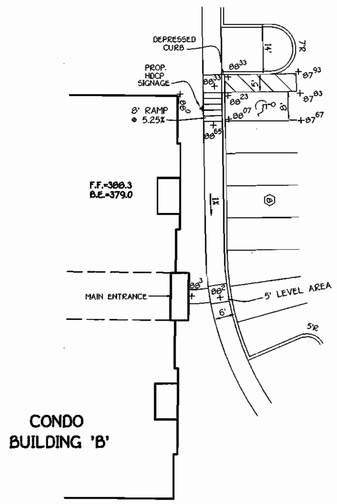
DIMENSIONS (INCHES)

SIGN SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
STD.	12	18	1/2	1-1/2	2	2 C	1	6	2-1/2	4-7/8	5	4-1/4	3	1/2	4	3/4	3-7/8



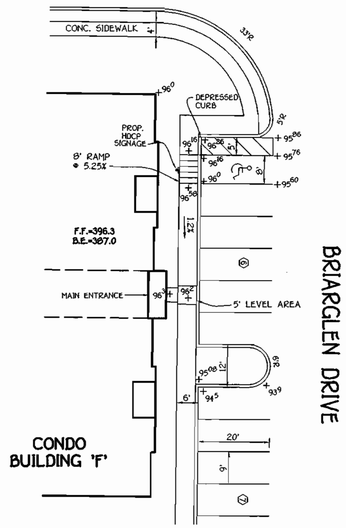
HANDICAPPED ACCESSIBLE PARKING DETAIL

SCALE: 1" = 20'



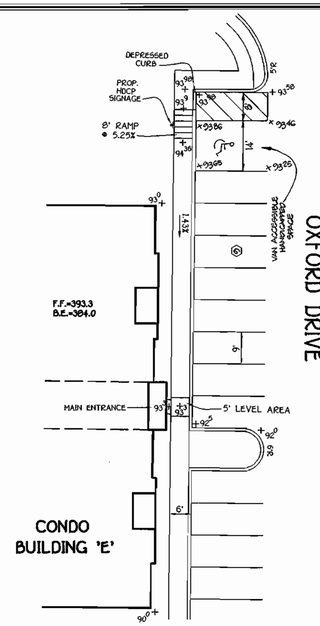
HANDICAPPED ACCESSIBLE PARKING DETAIL

SCALE: 1" = 20'



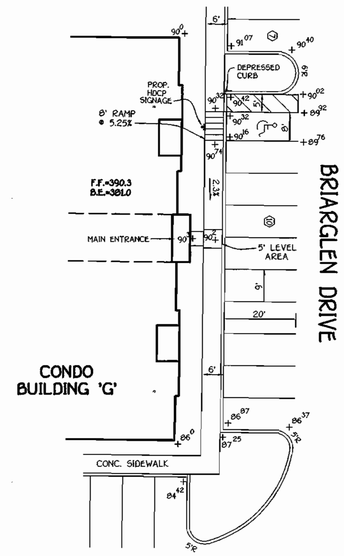
HANDICAPPED ACCESSIBLE PARKING DETAIL

SCALE: 1" = 20'



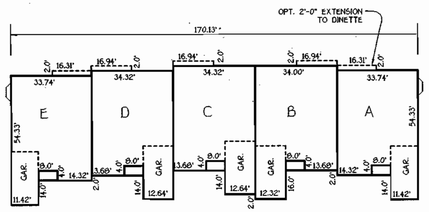
HANDICAPPED ACCESSIBLE PARKING DETAIL

SCALE: 1" = 20'



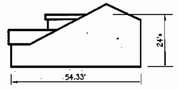
HANDICAPPED ACCESSIBLE PARKING DETAIL

SCALE: 1" = 20'



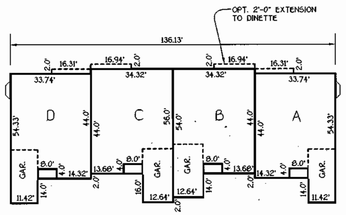
5 UNIT TOWNHOUSE FOOTPRINT

SCALE: 1" = 30'



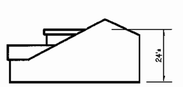
RIGHT SIDE ELEVATION

SCALE: 1" = 30'



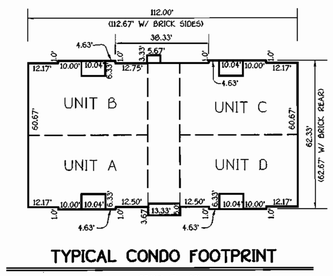
4 UNIT TOWNHOUSE FOOTPRINT

SCALE: 1" = 30'



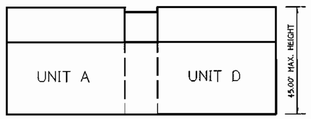
RIGHT SIDE ELEVATION

SCALE: 1" = 30'



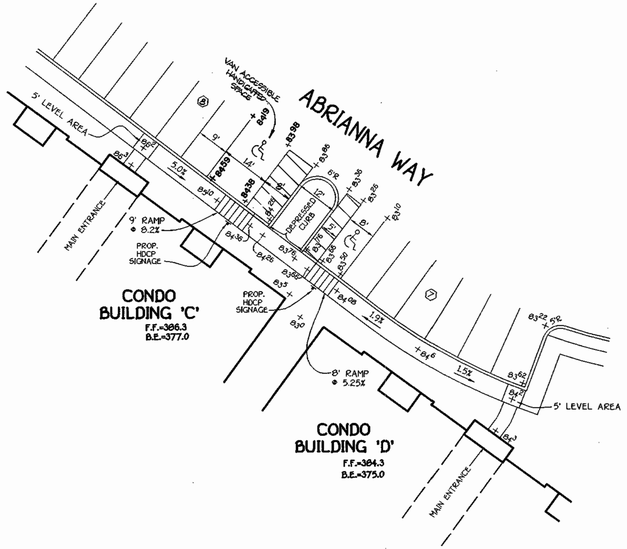
TYPICAL CONDO FOOTPRINT

SCALE: 1" = 30'



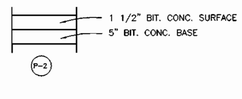
CONDO ELEVATION

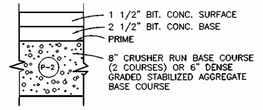
SCALE: 1" = 30'



HANDICAPPED ACCESSIBLE PARKING DETAIL

SCALE: 1" = 20'





PAVING SECTION P-2

NO SCALE

SEQUENCE OF CONSTRUCTION

1. OBTAIN A GRADING PERMIT.
2. NOTIFY "MISS UTILITY" AT LEAST 48 HOURS BEFORE BEGINNING ANY WORK AT 1-800-257-7777. NOTIFY THE HOWARD COUNTY OFFICE OF CONSTRUCTION/INSPECTION AT 410-313-1330 24 HOURS BEFORE STARTING WORK.
3. INSTALL ALL TREE PROTECTION FENCE FOR TREES TO BE UNDISTURBED AS INDICATED ON THE PLANS (2 DAYS). CLEAR AND GRUB FOR SEDIMENT BASIN/SWM POND ONLY. INSTALL STABILIZED CONSTRUCTION ENTRANCE. (2 WEEKS)
4. INSTALL SEDIMENT BASIN/SWM POND AND ASSOCIATED SILT FENCE AS INDICATED ON THE PLANS. NO BLASTING WILL BE PERMITTED FOR THE EXCAVATION OF SEDIMENT BASIN/SWM POND EMBANKMENT. WHERE NECESSARY, RIPPING AND JACK HAMMERING SHOULD BE UTILIZED IN THE EXCAVATION OF THE FACILITY. (2 WEEKS)
5. A 5 DAY CLEAR WEATHER FORECAST IS REQUIRED BEFORE BEGINNING THIS PHASE OF THE GRADING. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CONSTRUCT STORM DRAIN SYSTEM FROM S-3 TO S-4, WHICH ENTAILS REMOVING THE EXISTING 15" CMP UNDER MEADOWRIDGE ROAD AND RTE 103) AND INSTALLING THE PROPOSED 24" RCCP (CLASS IV) UNDER MEADOWRIDGE ROAD. THE CONTRACTOR MUST CONTACT THE MARYLAND SHA TO COORDINATE THE ACTIVITY ON MEADOWRIDGE ROAD. CONSTRUCT STORM DRAIN SYSTEM FROM S-1 TO I-1, WHICH IS ALONG THE REAR OF CONDO BUILDINGS 'B', 'C', AND 'D'. GRADE SWALES SHOWN ON THE GRADING PLAN ALONG THE REAR OF CONDO BUILDINGS 'A', 'B', 'C', AND 'D'. COMPLETELY STABILIZE ALL DISTURBED AREAS WITH RIP-RAP AND/OR SOLID SODDING. USE EROSION CONTROL MATTING AND SOLID SODDING WITHIN THE SWALES. (3 WEEKS)
6. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CLEAR AND GRUB FOR REMAINING SEDIMENT CONTROL MEASURES. INSTALL REMAINING SEDIMENT CONTROL MEASURES, EARTH DIKES, AND SILT FENCE AS INDICATED ON THE PLANS. (1 WEEK)
7. RECEIVE PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR PRIOR TO PROCEEDING. CLEAR AND GRUB THE REMAINDER OF THE SITE. (10 DAYS)
8. GRADE SITE TO THE PROPOSED SUB-GRADE AND INSTALL THE SEWER AND WATER ALONG THE PROPOSED ROADS AND THE REMAINING STORM DRAIN SYSTEM. STABILIZE ALL SLOPES IMMEDIATELY UPON COMPLETION OF GRADING. (8 WEEKS)
9. CONSTRUCT CURB AND GUTTER AND ROAD BASE COURSE. (2 WEEKS)
10. STABILIZE ALL DISTURBED AREAS AND OBTAIN PERMISSION FROM THE SEDIMENT CONTROL INSPECTOR TO PROCEED.
11. WHEN ALL CONTRIBUTING AREAS TO THE SEDIMENT CONTROL DEVICES AND THE POND HAVE BEEN STABILIZED AND WITH THE PERMISSION OF THE SEDIMENT CONTROL INSPECTOR, THE DEVICES MAY BE REMOVED AND/OR BACKFILLED AND THE REMAINING AREAS BROUGHT TO FINAL DESIGN GRADE. STABILIZE ALL REMAINING AREAS IN ACCORDANCE WITH PERMANENT SEEDING NOTES. (2 WEEKS)
12. THE CONTRACTOR SHALL INSPECT AND PROVIDE NECESSARY MAINTENANCE ON ALL SEDIMENT AND EROSION CONTROL STRUCTURES SHOWN HEREON, AFTER EACH RAINFALL AND ON A DAILY BASIS. REMOVE SEDIMENT FROM THE POND WHEN THE CLEANOUT ELEVATION HAS BEEN REACHED. ALL SEDIMENT MUST BE PLACED UPSTREAM OF THE APPROVED TRAPPING DEVICE.
13. NOTIFY HOWARD COUNTY OFFICE OF INSPECTIONS AND PERMITS FOR FINAL INSPECTION OF THE COMPLETED PROJECT.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

E:\Drawings 3\30744\SDP-No Office Building\Detail Sheet.Dwg

DATE	DESCRIPTION
	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — No. 13204 — REGISTERED PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02

Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02

Signature of Developer (print name below signature) Date

DEVELOPER/OWNER

RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER

RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/9/02

Chief, Division of Land Development — Date 10/3/02

Chief, Development Engineering Division — Date 9/30/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

HANDICAPPED PARKING DETAILS, BUILDING FOOTPRINTS & SEQUENCE OF CONSTRUCTION

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 11 OF 24 SDP 02-55

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT11 DETAILSHEET.dwg, 8/22/2002 2:01:38 PM

20.0 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION

DEFINITION

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

PURPOSE

Vegetative stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and run-off to downstream areas, and improving wildlife habitat and visual resources.

CONDITIONS WHERE PRACTICE APPLIES

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration O(up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary Soil Stockpiles, cleared areas being left idle between construction phases, earth dikes, etc. and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

EFFECTS ON WATER QUALITY AND QUANTITY

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.
Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.
Sediment control devices must remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters.

SECTION 1 - VEGETATIVE STABILIZATION METHODS AND MATERIALS

A. Site Preparation
   i. Install erosion and sediment control structures (either temporary of permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
   ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
   iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.
B. Soil Amendments (Fertilizer and Lime Specifications)
   i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of Maryland or a recognized commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
   ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
   iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98-100% will pass through a #20 mesh sieve.
   iv. Incorporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
C. Seedbed Preparation
   i. Temporary Seeding
      a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened it should not be rolled or dragged smooth, but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
      b. Apply fertilizer and lime as prescribed on the plans.
      c. In corporate lime and fertilizer into the top 3-5" of soil by disking or other suitable means.
   ii. Permanent Seeding
      a. Minimum soil conditions required for permanent vegetative establishment:
         1. Soil pH shall be between 6.0 and 7.0.
         2. Soluble salts shall be less than 500 parts per million (ppm).
         3. The soil shall contain less than 40% clay, but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serecia lespedezas is to be planted, then a sandy soil (<30% silt plus clay) would be acceptable.
         4. Soil shall contain 1.5% minimum organic matter by weight.
         5. Soil must contain sufficient pore space to permit adequate root penetration.
         6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 21 Standard and Specification for Topsoil.
      b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3-5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
      c. Apply soil amendments as per soil test or as included on the plans.
      d. Mix soil amendments into the top 3-5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed and application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1-3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.
D. Seed Specifications
   i. All seed must meet the requirements of the Maryland State Seed Law. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.
   Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.
   ii. Inoculant - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75°-80° F. can weaken bacteria and make the inoculant less effective.
E. Methods of Seeding
   i. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeded, or a cultipacker seeder.
      a. If fertilizer is being applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorous); 200 lbs/ac; K20 (potassium): 200 lbs/ac.
      b. Lime - use only ground agricultural limestone, (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding.
      c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
   ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
      a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 265 or 26. The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
   iii. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.
      a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
      b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.
F. Mulch Specifications (In order of preference)
   i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonable bright in color, and shall not be musty, moldy, caked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified in the Maryland Seed Law.
   ii. Wood Cellulose Fiber Mulch (WCFM)
      a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
      b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
      c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
      d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
      e. WCFM material shall contain no elements or compounds at concentration levels that will be phytol-toxic.
      f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
   Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
G. Mulching Seeded Areas - Mulch shall be applied to all seeded areas immediately after seeding.
   i. If grading is completed outside of the seeding season, mulch along shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
   ii. When straw mulch is used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
   iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.
H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:
   i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
   ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
   iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and crest of banks. The remainder of area should be appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agro-Tack), DCA-70 Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
   iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes
   i. All cuts slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
   ii. Construction sequence (Refer to Figure 3 below):
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
      b. Perform Phase 1 excavation, dress, and stabilize.
      c. Perform Phase 2 excavation, dress and stabilize. Overseed Phase 1 areas as necessary.
      d. Perform final phase excavation, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions int he operation of completing the operation out of the seeding season will necessitate the application of temporary stabilization.
J. Incremental Stabilization of Embankments - Fill Slopes
   i. Embankments shall be constructed in lifts as prescribed on the plans.
   ii. Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15", or when the grading operation ceases as prescribed in the plans.
   iii. At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
   iv. Construction sequence: Refer to Figure 4 (below).
      a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct slope silt fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
      b. Place Phase 1 embankment, dress and stabilize.
      c. Place Phase 2 embankment, dress and stabilize.
      d. Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.
Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

SECTION 2 - TEMPORARY SEEDING

Vegetation - annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

A. Seed mixtures - Temporary Seeding
   i. Select one or more of the species or mixtures listed in Table 26 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary seeding summary below, along with application rates, seeding dates and seeding depths. If this summary is not put on the plans and completed, then Table 26 must be put on the plans.
   ii. For sites having soil tests performed, the rates shown on this table shall be deleted and the rates recommended by the testing agency shall be written in. Soil tests are not required for Temporary Seeding.

Seed Mixture (Hardiness Zone __6a___) From Table 26					Fertilizer Rate (10-10-10)	Lime Rate
No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths		
1	RYE	140	3/15 - 5/31, 8/1 - 10/31	1" - 2"	600 lb/ac (15 lb/1000sf)	2 tons/ac (100 lb/1000sf)
2	BARLEY OR RYE PLUS FOXTAIL MILLOT	150	6/1 - 7/31	1"		

SECTION 3 - PERMANENT SEEDING

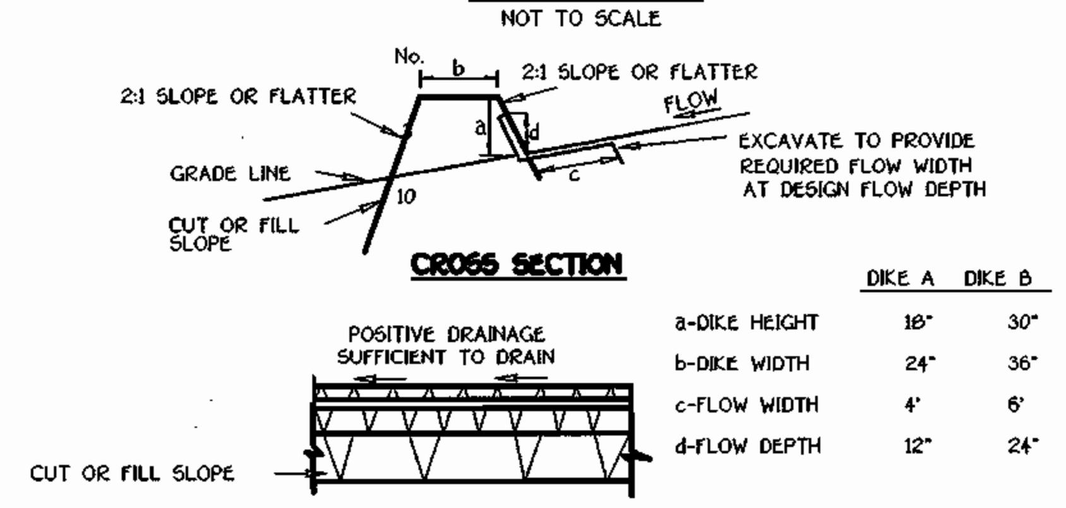
Seeding grass and legumes to establish groung cover for a minimum of one year on disturbed areas generally receiving low maintenance.

A. Seed mixtures - Permanent Seeding
   i. Select one or more of the species or mixtures listed in Table 25 for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 26. If this summary is not put on the construction plans and completed, then Table 25 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Techinical Field Office Guide, Section 342 - Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.
   ii. For sites having disturbed area over 5 areas, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.
   iii. For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.

Seed Mixture (Hardiness Zone __6a___) From Table 25					Fertilizer Rate (10-20-20)			Lime Rate
	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	N	P205	K20	
	TALL FESCUE (85%) KENTUCKY BLUEGRASS (5%) PERENNIAL RYEGRASS (10%)	125 15 10	3/15 - 6/1, 8/1 - 10/1	1" - 2"	90 lb/ac (2.0 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	175 lb/ac (4 lb/ 1000sf)	2 tons/ac (100 lb/ 1000sf)
	TALL FESCUE (80%) HARD FESCUE (20%)	120 30	3/15 - 6/1, 8/1 - 10/1	1" - 2"				

EARTH DIKE

NOT TO SCALE



	DIKE A	DIKE B
a-DIKE HEIGHT	18"	30"
b-DIKE WIDTH	24"	36"
c-FLOW WIDTH	4'	6'
d-FLOW DEPTH	12"	24"

STANDARD SYMBOL
A-2 B-3
—►— / —►—

FLOW CHANNEL STABILIZATION
GRADE 0.5% MIN. 10% MAX.

1. Seed and cover with straw mulch.
2. Seed and cover with Erosion Control Matting or line with sod.
3. 4" - 7" stone or recycled concrete equivalent pressed into the soil 7" minimum

Construction Specifications

1. All temporary earth dikes shall have uninterrupted positive grade to an outlet. Spot elevations may be necessary for grades less than 1%.
2. Runoff diverted from a disturbed area shall be conveyed to a sediment trapping device.
3. Runoff diverted from an undisturbed area shall outlet directly into an undisturbed, stabilized area at a non-erosive velocity.
4. All trees, brush, stumps, obstructions, and other objectionable material shall be removed and disposed of so as not to interfere with the proper functioning of the dike.
5. The dike shall be excavated or shaped to line, grade and cross section as required to meet the criteria specified herein and be free of bank projections or other irregularities which will impede normal flow.
6. Fill shall be compacted by earth moving equipment.
7. All earth removed and not needed for construction shall be placed so that it will not interfere with the functioning of the dike.
8. Inspection and maintenance must be provided periodically and after each rain event.

TOPSOIL SPECIFICATIONS

Definition

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

Purpose

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

Conditions Where Practice Applies

I. This practice is limited to areas having 2:1 or flatter slopes where:

a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant growth.

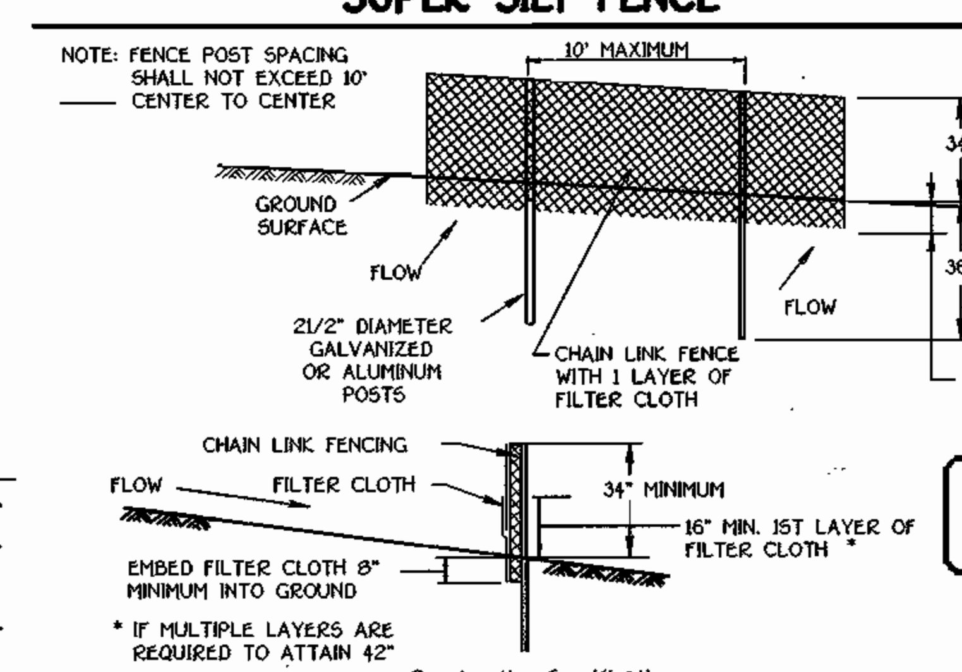
c. The original soil to be vegetated contains material toxic to plant growth.

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 shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2" in diameter.
 ii. Topsoil must be free of plants or plant parts such as Bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, or others as specified.
 iii. Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at a 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.
II. For sites having disturbed areas under 5 acres:
 i. Place topsoil (if required) and apply soil amendments as specified in 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
III. For sites having disturbed areas over 5 acres:
 i. On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:
  a. pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.
  b. Organic content of topsoil shall be not less than 1.5 percent by weight.
  c. Topsoil having soluble salt 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 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 10.0 Vegetative Stabilization - Section I - Vegetative Stabilization Methods and Materials.
V. Topsoil Application
 i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
 ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
 iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. any irregularities in the surface resulting from 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.
VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:
 i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements.
 a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) bt 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.

SUPER SILT FENCE



STANDARD SYMBOL
——SSF——

Construction Specifications

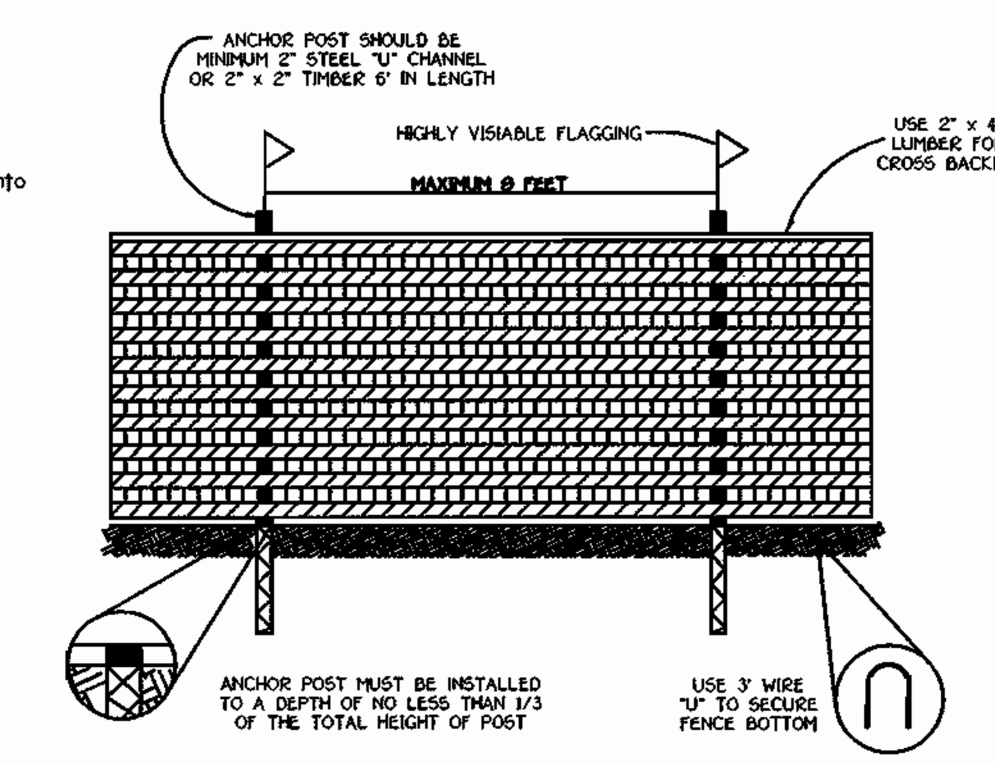
1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.
2. Chain link fence shall be fastened securely to the fence posts with wire 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" at the top and mid section.
4. Filter cloth shall be embedded a minimum of 8" into the ground.
5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height
7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

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

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

BLAZE ORANGE PLASTIC MESH



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

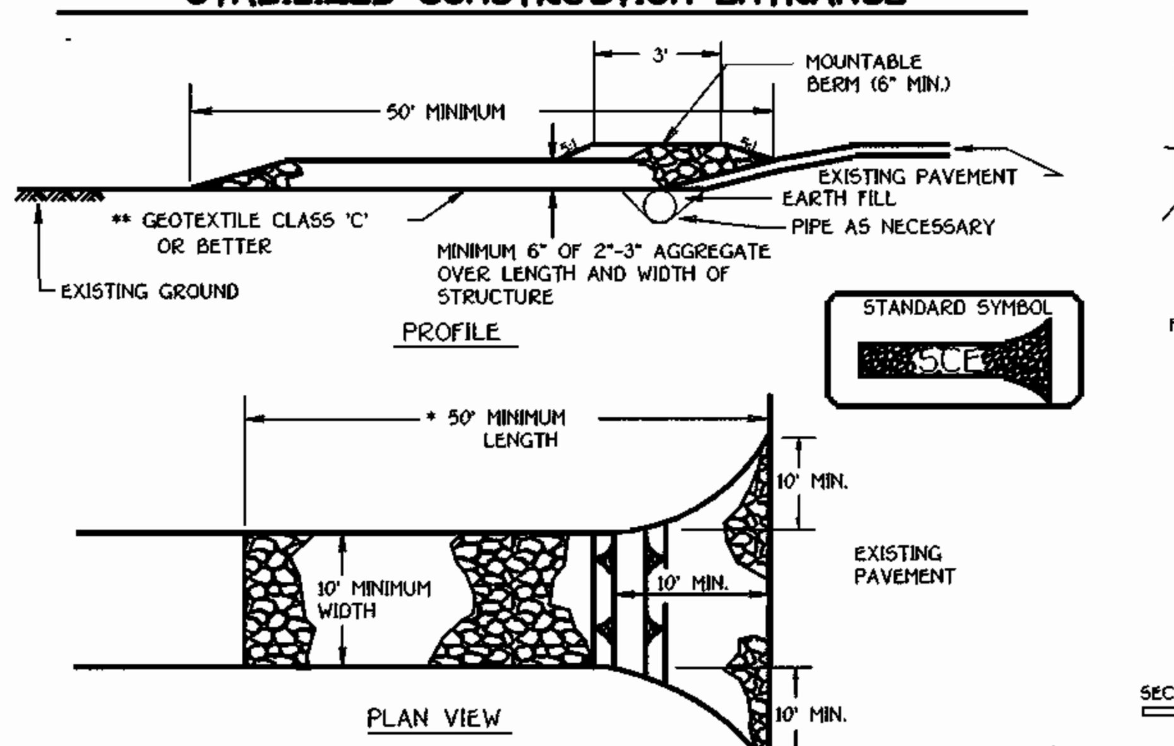
SEDIMENT CONTROL NOTES

1) A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LISCENSES AND PERMITS, SEDIMENT CONTROL DIVISION PRIOR TO THE START OF ANY CONSTRUCTION (313-1855).
2) ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE MOST CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND REVISIONS THERETO.
3) FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: a) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER 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 SEEDING (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 PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7) SITE ANALYSIS:

TOTAL AREA OF SITE	16.375	ACRES
AREA DISTURBED	9.754	ACRES
AREA TO BE ROOFED OR PAVED	4.515	ACRES
AREA TO BE VEGETATIVELY STABILIZED	5.239	ACRES
TOTAL CUT	12,000	CU.YDS.
TOTAL FILL	12,000	CU.YDS.
ONSITE BORROW AREA LOCATION	N/A	CU.YDS.

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 IS LIMITED TO THREE PIPE LENGHTS OR THAT WHICH SHALL BE BACK-FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

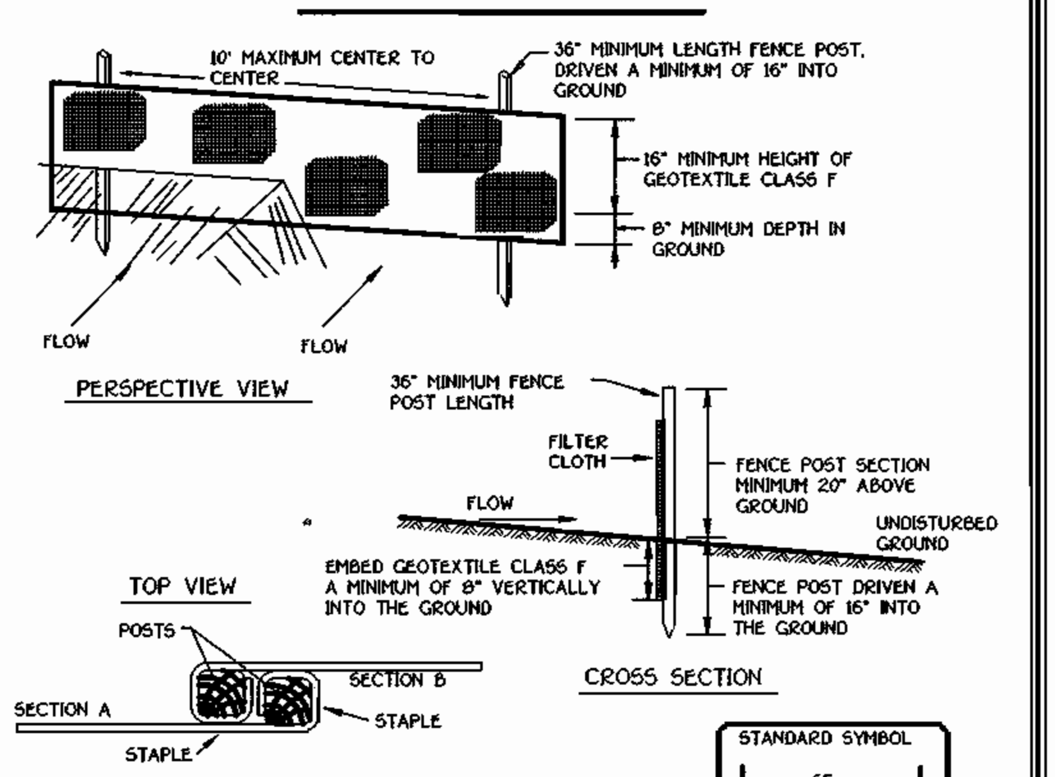
STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

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

SILT FENCE



STANDARD SYMBOL
——SF——

Construction Specifications

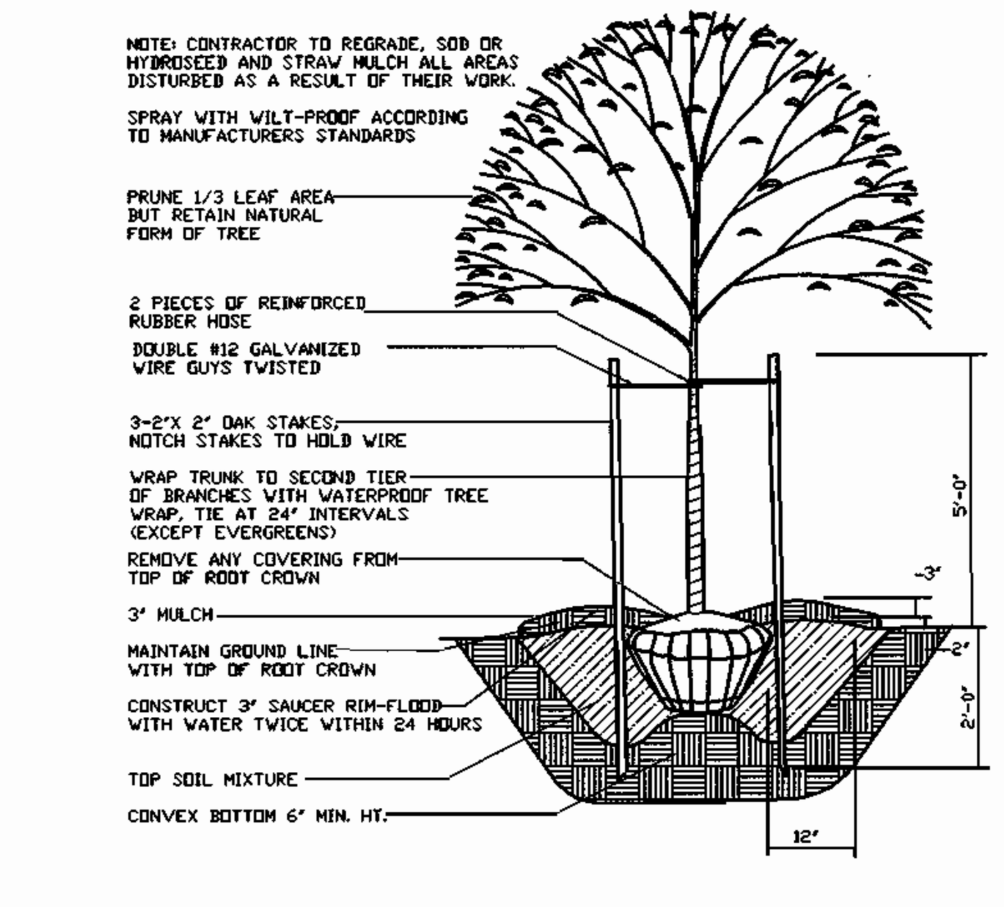
1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

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

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft / minute (max.)²	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

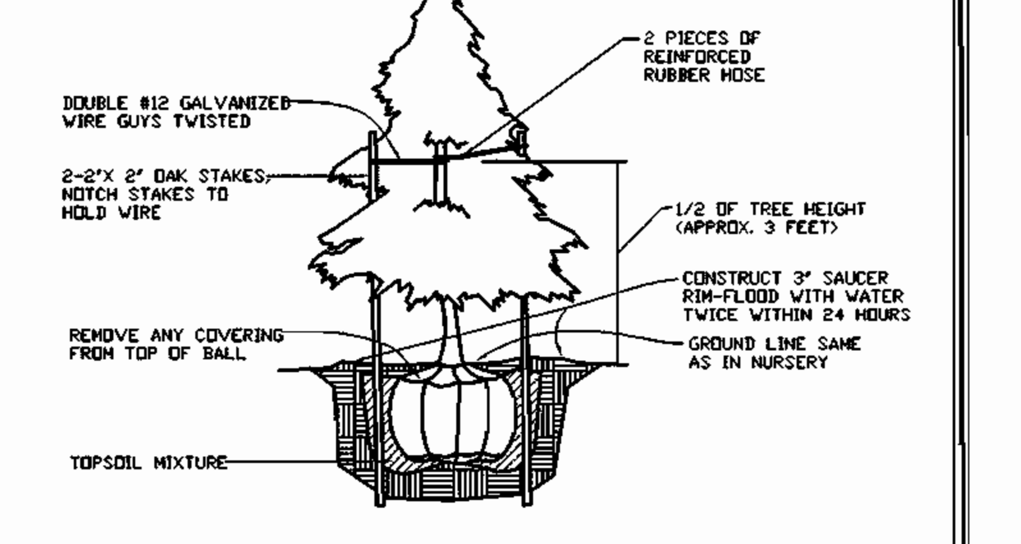
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

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

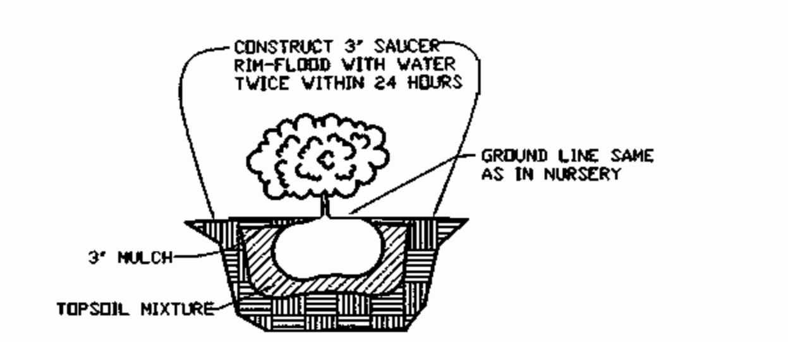


TREE PLANTING DETAIL

NOT TO SCALE



EVERGREEN PLANTING DETAIL



SHRUB PLANTING DETAIL

PLANTING SPECIFICATIONS

Plants, related material, and operations shall meet the detailed description as given on the plans and as described herein.

All plant material, unless otherwise specified, shall be nursery grown, uniformly branched, have a vigorous root system, and shall conform to the species, size, root and shape shown on the plant list and the American Association of Nurserymen (AAN) Standards. Plant material shall be healthy, vigorous, free from defects, decay, disfiguring roots, sun scald injuries, abrasions of the bark, plant disease, insect pest eggs, borers and all forms of insect infestations or objectionable disfigurements. Plant material that is weak or which has been cut back from larger grades to meet specified requirements will be rejected. Trees with forked leaders will not be accepted. All plants shall be freshly dug; no healed-in plants from cold storage will be accepted.

Unless otherwise specified, all general conditions, planting operations, details and planting specification shall conform to "Landscape Specification Guidelines for Baltimore-Washington Metropolitan Areas", (hereinafter "Landscape Guidelines") approved by the Landscape Contractors Association of Metropolitan Washington and the Potomac Chapter of the American Society of Landscape Architect, latest edition, including all agenda.

Contractor shall be required to guarantee all plant material for a period of one year after date of acceptance in accordance with the appropriate section of the Landscape Guidelines Contractor's attention is directed to the maintenance requirements found within the one year specifications including watering and replacement of specified plant material.

Contractor shall be responsible for notifying utility companies, utility contractors and "Miss Utility" a minimum of 48 hours prior to beginning any work. Contractor may make minor adjustments in spacing and location of plant material to avoid conflicts with utilities. Damage to existing structure and utilities shall be repaired at the expense of the Contractor.

Protection of existing vegetation to remain shall be accomplished by the temporary installation of 4 foot high snow fence or blaze orange safety fence at the drip line.

Contractor id responsible for installing all material in the proper planting season for each plant type. All planting is to be completed within the growing season of completion of site construction.

Bid shall be base on actual site conditions. No extra payment shall be made for work arising from site conditions differing from those indicated on drawings and specifications

Plant quantities are provided for the convenience of the contractor only. If discrepancies exist between quantities shown on plan and those shown on the plant list, the quantities on the plan take precedence

All shrubs shall be planted in continuous trenches or prepared planting beds and mulched with composted hardwood mulch as details and specified except where noted on plans.

Positive drainage shall be maintained in planting beds 2 percent slope).

Planting mix shall be as follows: Deciduous Plants - Two parts topsoil, one part well-rotted cow or horse manure. Add 3 lbs. of standard fertilizer per cubic yard of planting mix. Evergreen Plants - two parts topsoil, one part humus or other approved organic material. Add 3 lbs. of evergreen (acidic) fertilizer per cubic yard of planting mix. Topsoil shall conform to the Landscape Guidelines.

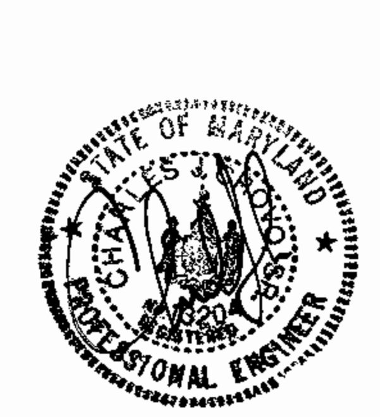
Weed Control: Incorporate a pre-emergent herbicide into the planting bed following recommended rates on the label. Caution: Be sure to carefully check the chemical used to assure its adaptability to the specific ground cover to be treated.

All areas within contract limits disturbed during or prior to construction not designated to receive plants and mulch shall be fine graded and seeded.

This plan is intended for landscape use only. see other plan sheets for more information on grading, sediment control, layout, etc.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK



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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.
U.S.D.A.-Natural Resources Conservation Service 9/16/02 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Howard SCD 9/16/02 Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Director - Department of Planning and Zoning 10/3/02 Date
Chief, Division of Land Development 10/3/02 Date
Chief, Development Engineering Division 9/20/02 Date

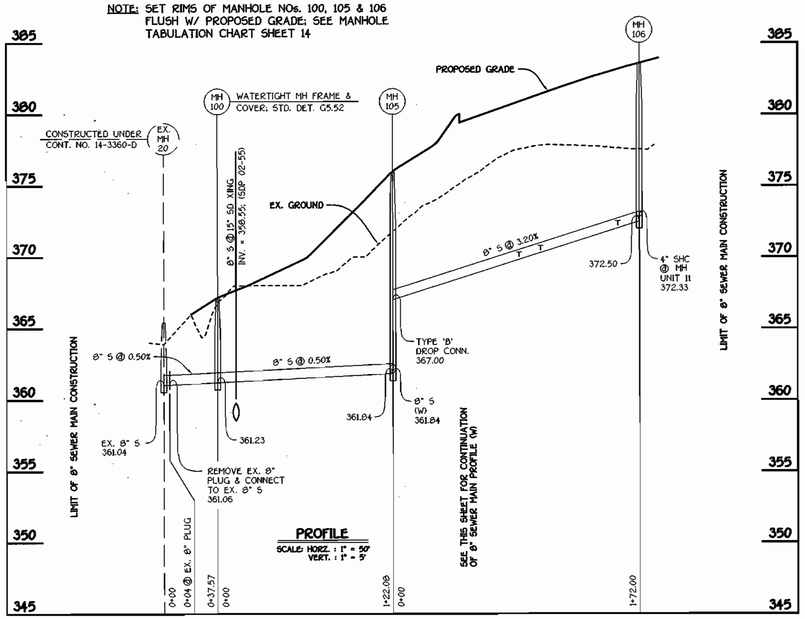
SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D 04		SEWER CODE	2610000	

SEDIMENT CONTROL NOTES AND DETAILS

THE COURTYARDS AT THE TIMBERS
TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS
ZONED: POR
TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002
SHEET 12 OF 24 SDP 02-55

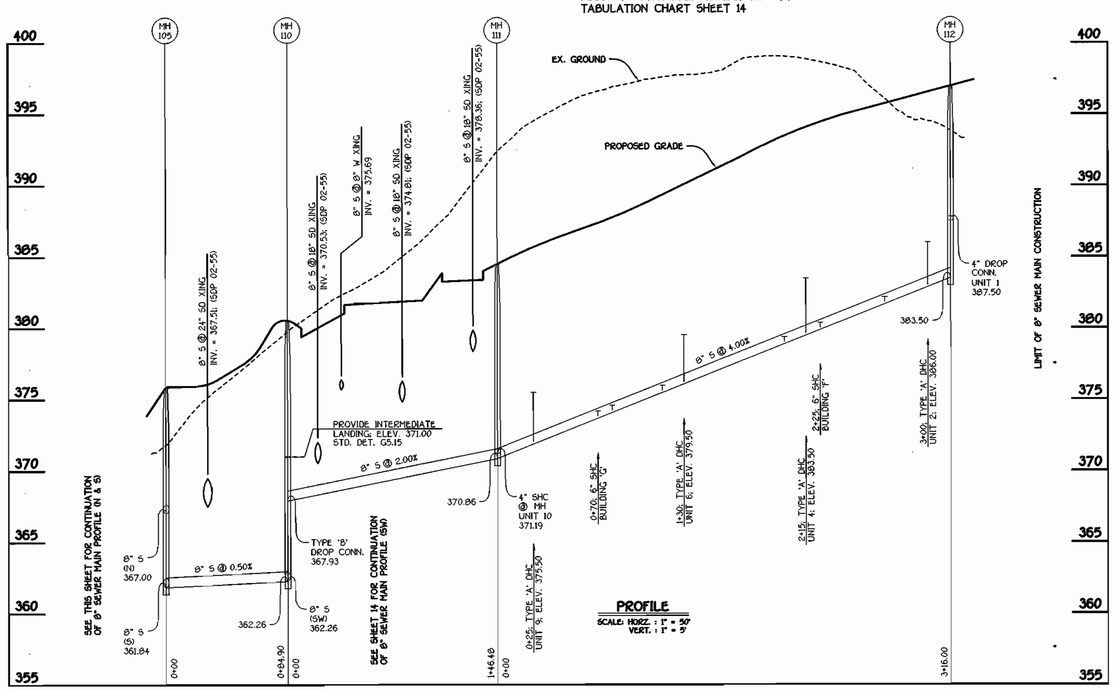
K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT12 SEDCON DETAILS.dwg, 8/22/2002 2:02:41 PM

NOTE: SET RIMS OF MANHOLE NOs. 100, 105 & 106 FLUSH W/ PROPOSED GRADE; SEE MANHOLE TABULATION CHART SHEET 14



8" SEWER MAIN: UNITS 11 THRU 14

NOTE: SET RIMS OF MANHOLE NOs. 105 & 110 THRU 112 FLUSH W/ PROPOSED GRADE; SEE MANHOLE TABULATION CHART SHEET 14



8" SEWER MAIN: UNITS 1 THRU 10 AND BUILDINGS 'F' & 'G'

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

K:\Drawings 3\30744 Khan Property\SDP - no office bldg\Private Sewer Main Profiles

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."

Signature of Engineer — CHARLES J. CROVO, SR., P.E., L.S. (print name below signature) — Date 8/22/02

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 of Developer — DONALD R. REUWER, JR. (print name below signature) — Date 8/22/02

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/2/02

Chief, Division of Land Development — Date 10/3/02

Chief, Development Engineering Division — Date 9/25/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

PRIVATE SEWER MAIN PROFILES

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

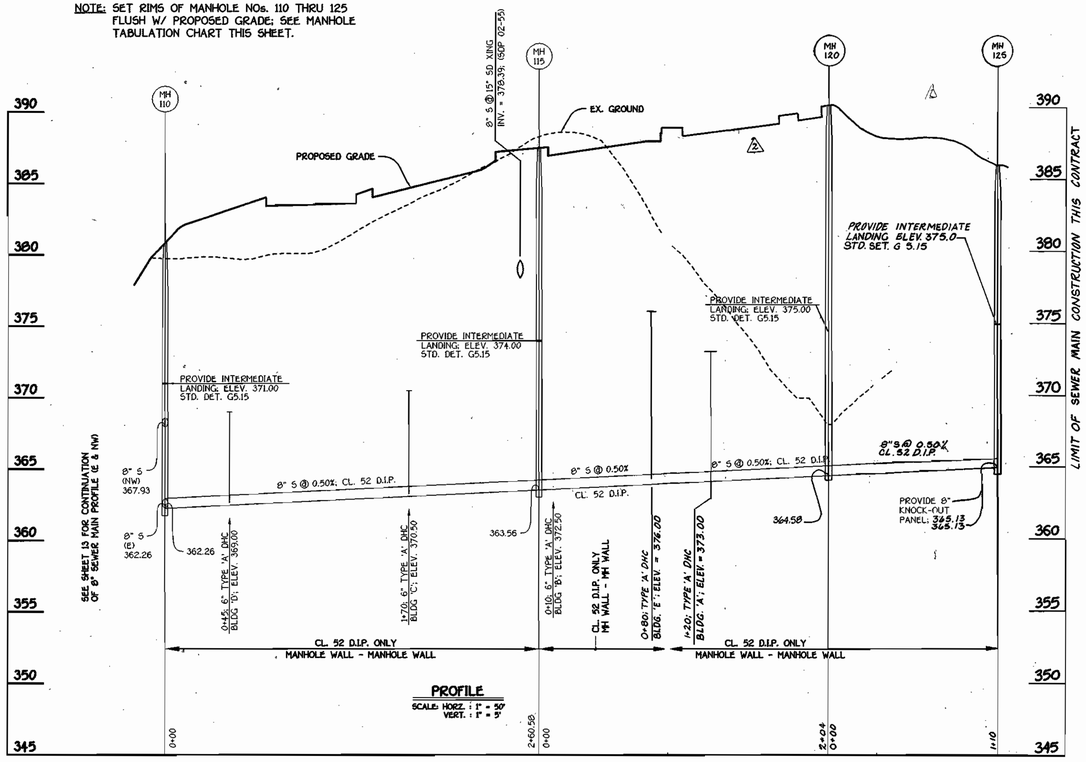
TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 13 OF 24 SDP 02-55

NOTE: SET RIMS OF MANHOLE NOs. 110 THRU 125 FLUSH W/ PROPOSED GRADE; SEE MANHOLE TABULATION CHART THIS SHEET.



PROFILE
SCALE: HORZ. : 1" = 50'
VERT. : 1" = 5'

8" SEWER MAIN: BUILDINGS 'A' THRU 'E'

SHC INVERT @ PROPERTY LINE CHART

STATION	UNIT	ELEVATION
MH 105 TO MH 106		
0+88 LT.	14	371.07
1+03 LT.	13	371.59
1+57 LT.	12	373.31
@ MH 106 LT.	11	373.41
MH 110 TO MH 111		
@ MH 111 RT.	10	371.51
MH 111 TO MH 112		
0+25 RT.	9 (DHC)	375.86
0+70 LT.	BUILDING 'G'	375.05
0+80 RT.	8	374.59
1+15 RT.	7	375.95
1+30 RT.	6 (DHC)	379.78
2+00 RT.	5	379.35
2+15 RT.	4 (DHC)	383.86
2+25 LT.	BUILDING 'F'	381.25
2+70 RT.	3	382.19
3+00 RT.	2 (DHC)	386.32
@ MH 112 RT.	1 (DROP CONN. @ MH)	387.78
MH 110 TO MH 115		
0+45 LT.	BUILDING 'D' (DHC)	369.22
1+70 LT.	BUILDING 'C' (DHC)	370.84
MH 115 TO MH 120		
0+10 LT.	BUILDING 'B' (DHC)	372.90
0+80 RT.	BUILDING 'E' (DHC)	377.16
1+20 LT.	BUILDING 'A' (DHC)	373.44

MANHOLE TABULATION CHART

NO.	NORTHING	EASTING	RIM ELEVATION
100*	562498.90	1374247.95	387.17
105*	562508.36	1374193.89	376.05
106*	562780.34	1374196.17	383.59
110*	562809.48	1374108.99	380.60
111*	562739.86	1374042.23	384.50
112*	562744.05	1373726.26	387.00
115*	562406.77	1373945.25	387.50
120*	562403.95	1373741.27	389.50
125*	562394.74	1373728.08	386.30

* SET MH RIMS FLUSH W/ PROPOSED FINISHED GRADE

M.C.E. CHART

UNIT	M.C.E.
1	391.88
2	390.42
3	386.29
4	387.96
5	383.45
6	383.88
7	380.05
8	378.69
9	379.95
10	375.61
11	377.51
12	377.41
13	375.69
14	375.17
BUILDING 'A'	379.30
BUILDING 'B'	378.10
BUILDING 'C'	376.04
BUILDING 'D'	374.42
BUILDING 'E'	383.38
BUILDING 'F'	382.70
BUILDING 'G'	380.45

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03	REVISED 8" SEWER MAIN PROFILE, MH 120 & MH 125, REVISED SHT & MANHOLE TABULATION CHART

REVISION BLOCK

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 10/3/02 Date
Chief, Division of Land Development — S.B. — 10/3/02 Date
Chief, Development Engineering Division — DVD — 9/20/02 Date

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

PRIVATE SEWER MAIN PROFILES

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

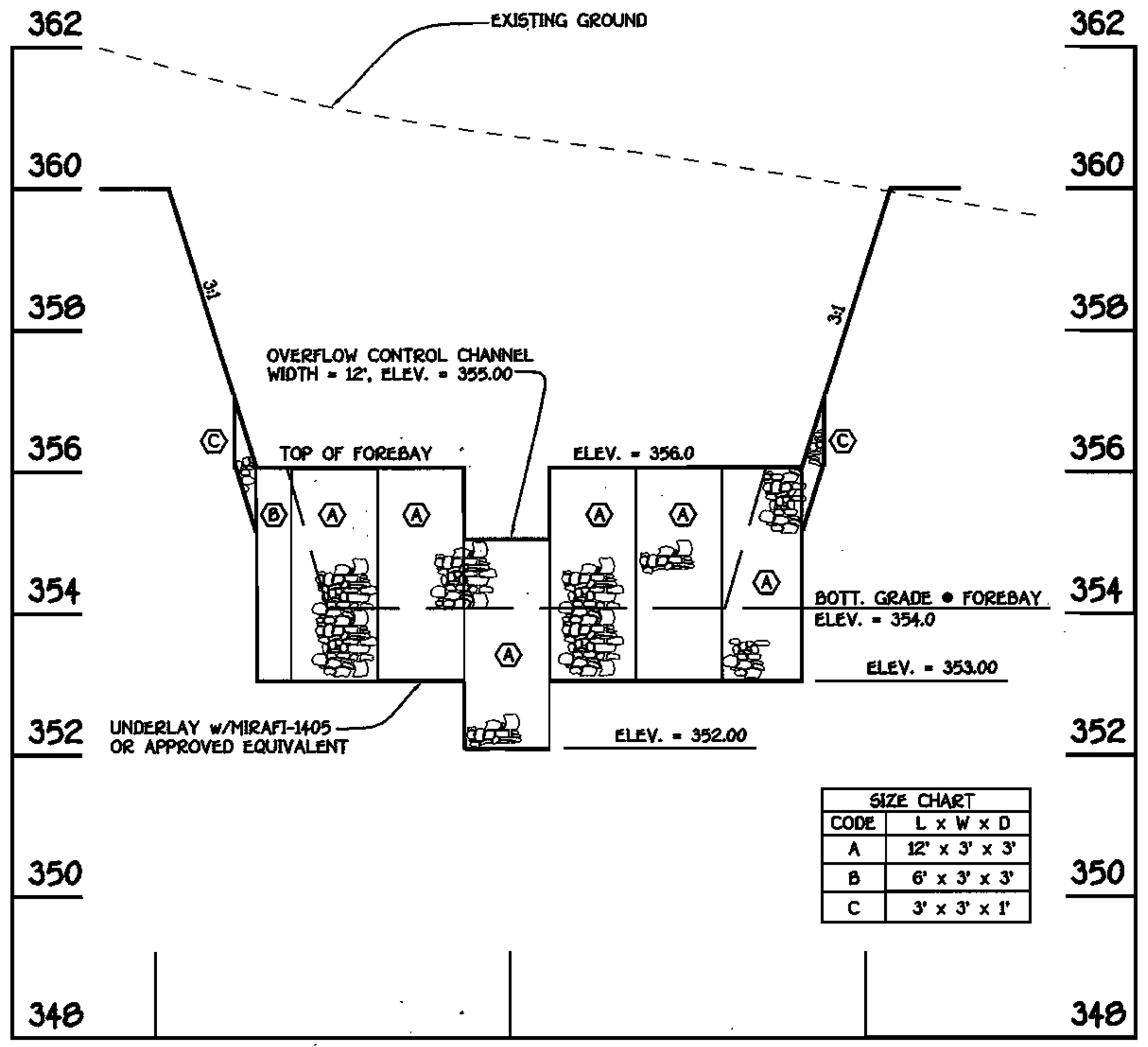
ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 14 OF 24 SDP 02-55

K:\Drawings 3\30744 Klein Property\SDP - NO OFFICE BLDG\30744 SHT13&14 Sewer Main Profiles.dwg, 8/22/2002 2:04:11 PM

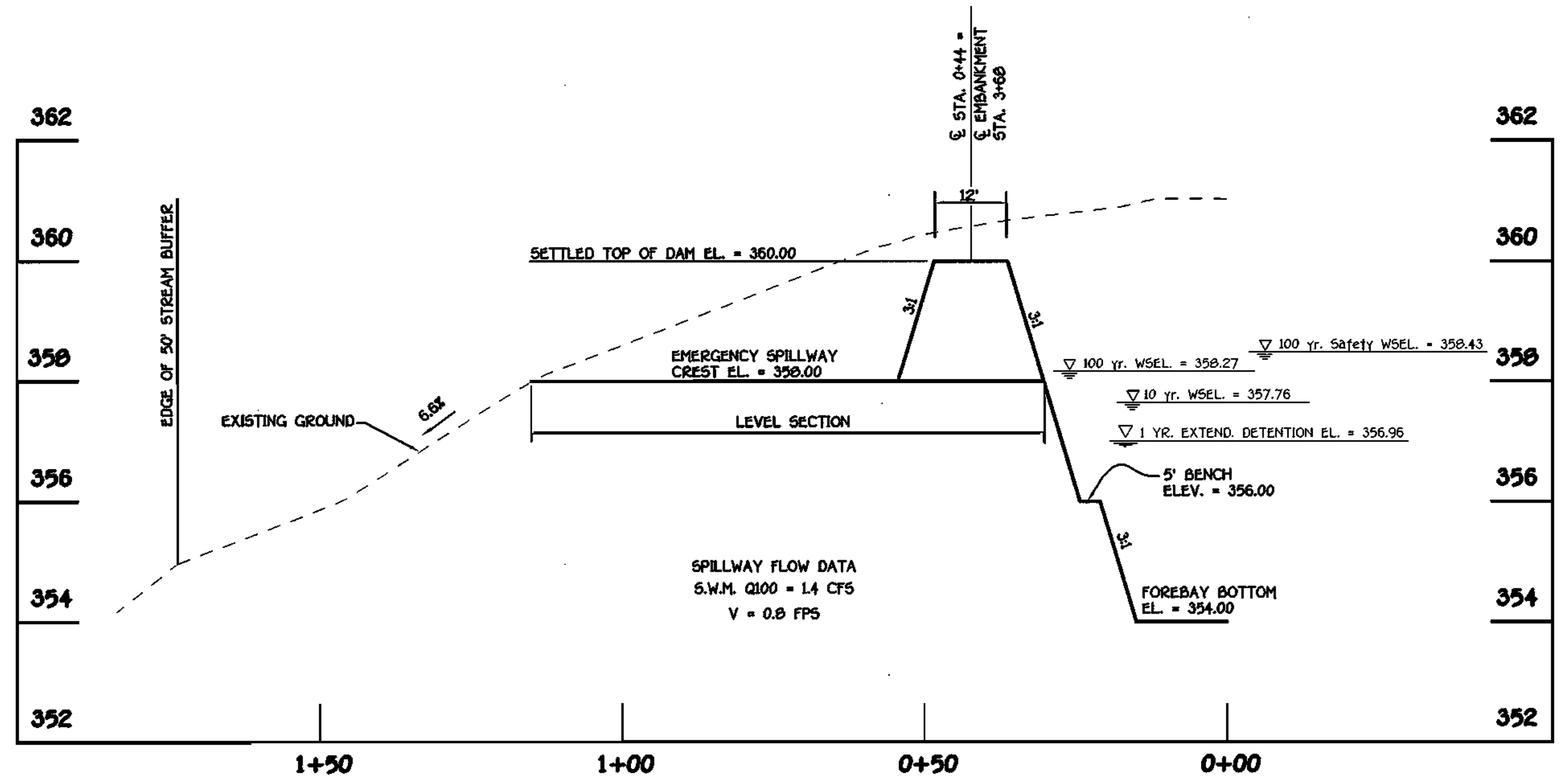
K:/Drawings 3/30744 Klein Property/SDP-no office building/Private Sewer Main Profiles



SIZE CHART	
CODE	L x W x D
A	12' x 3' x 3'
B	6' x 3' x 3'
C	3' x 3' x 1'

BMP FACILITY NO. 1 - GABION FOREBAY PROFILE

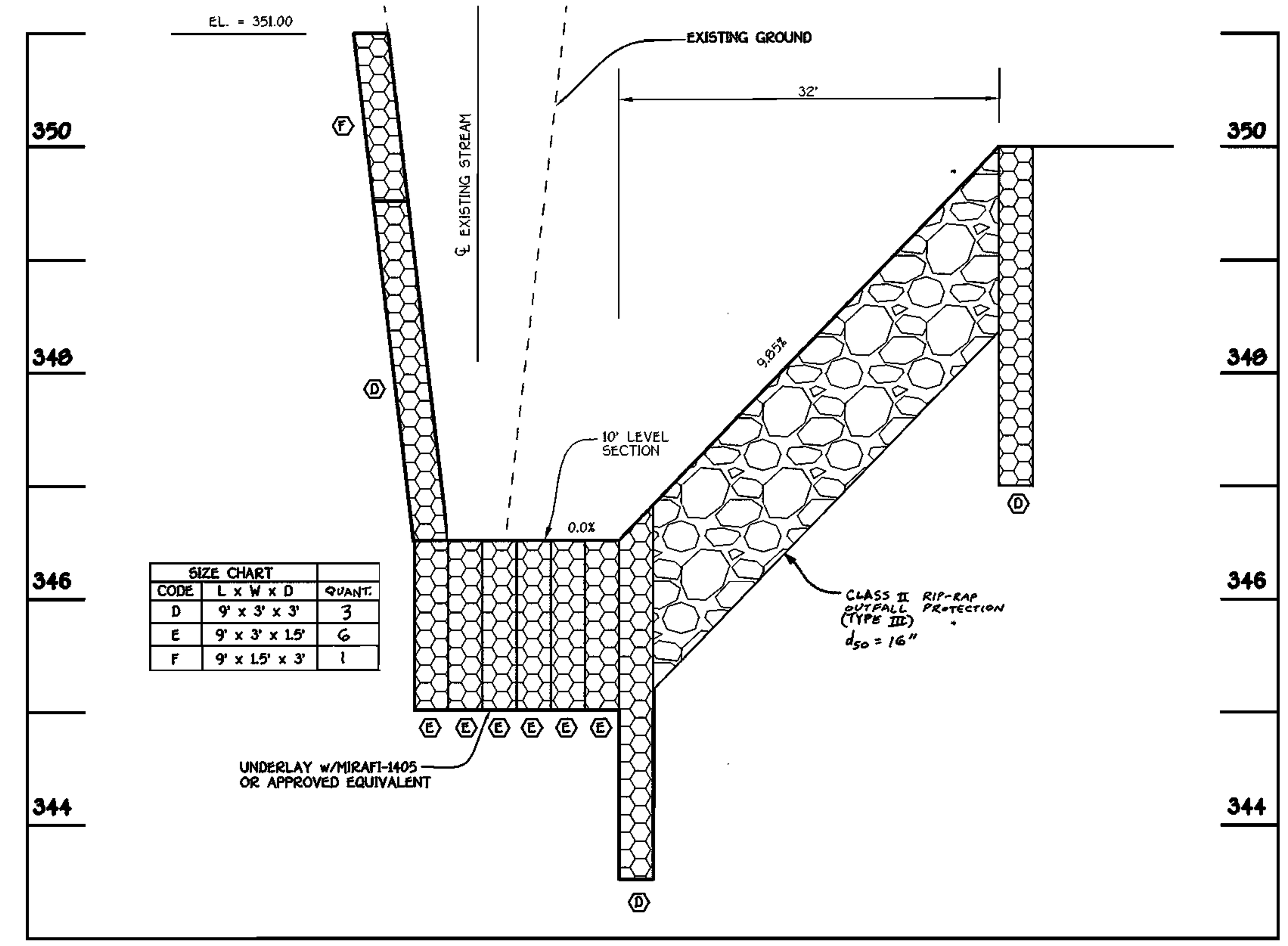
SCALE: HORIZ. 1" = 20'
VERT. 1" = 2'



SPILLWAY FLOW DATA
S.W.M. Q100 = 1.4 CFS
V = 0.8 FPS

EMERGENCY SPILLWAY PROFILE

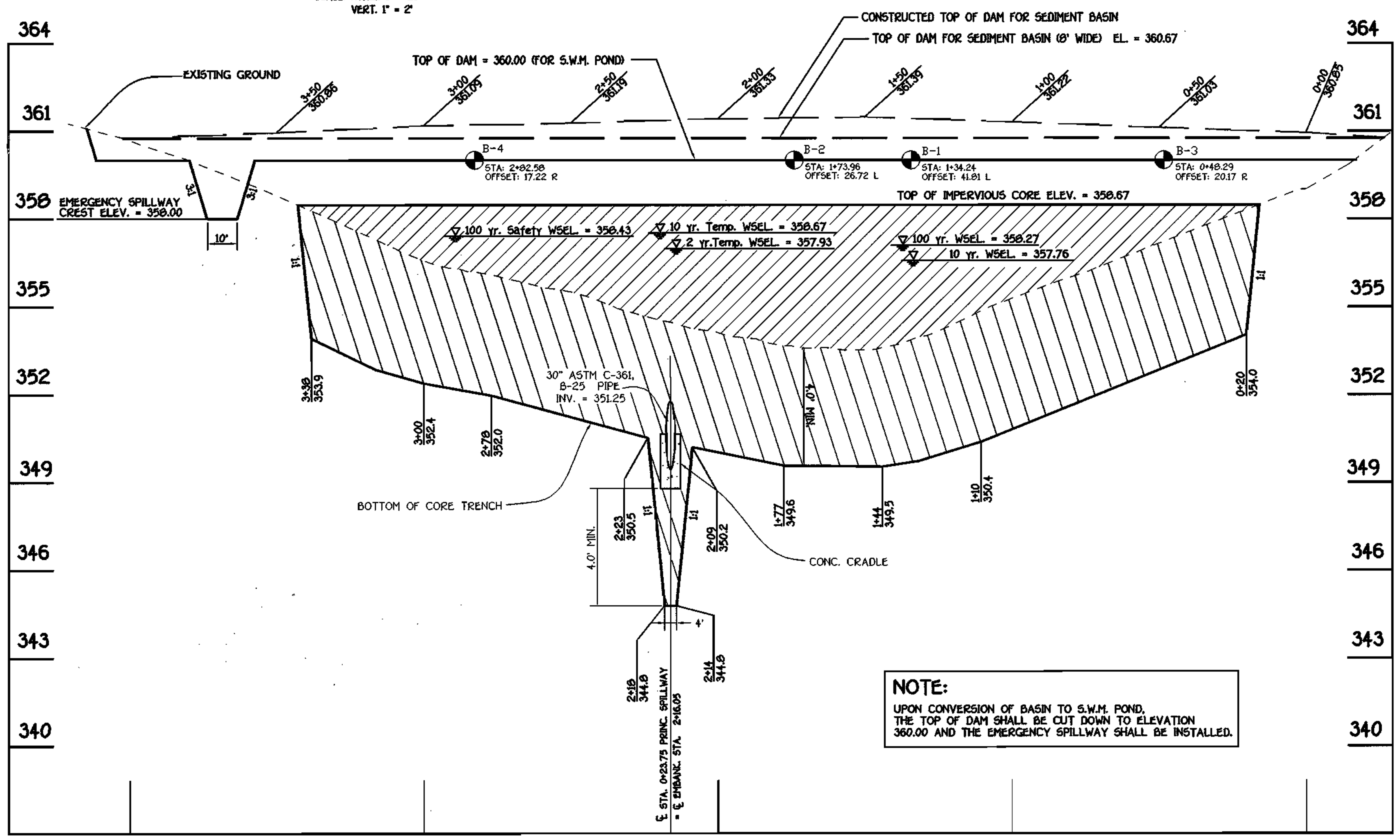
SCALE: HORIZ. : 1" = 20'
VERT. : 1" = 2'



SIZE CHART		
CODE	L x W x D	QUANT.
D	9' x 3' x 3'	3
E	9' x 3' x 1.5'	6
F	9' x 1.5' x 3'	1

GABION DETAIL @ PRINCIPAL SPILLWAY PROFILE

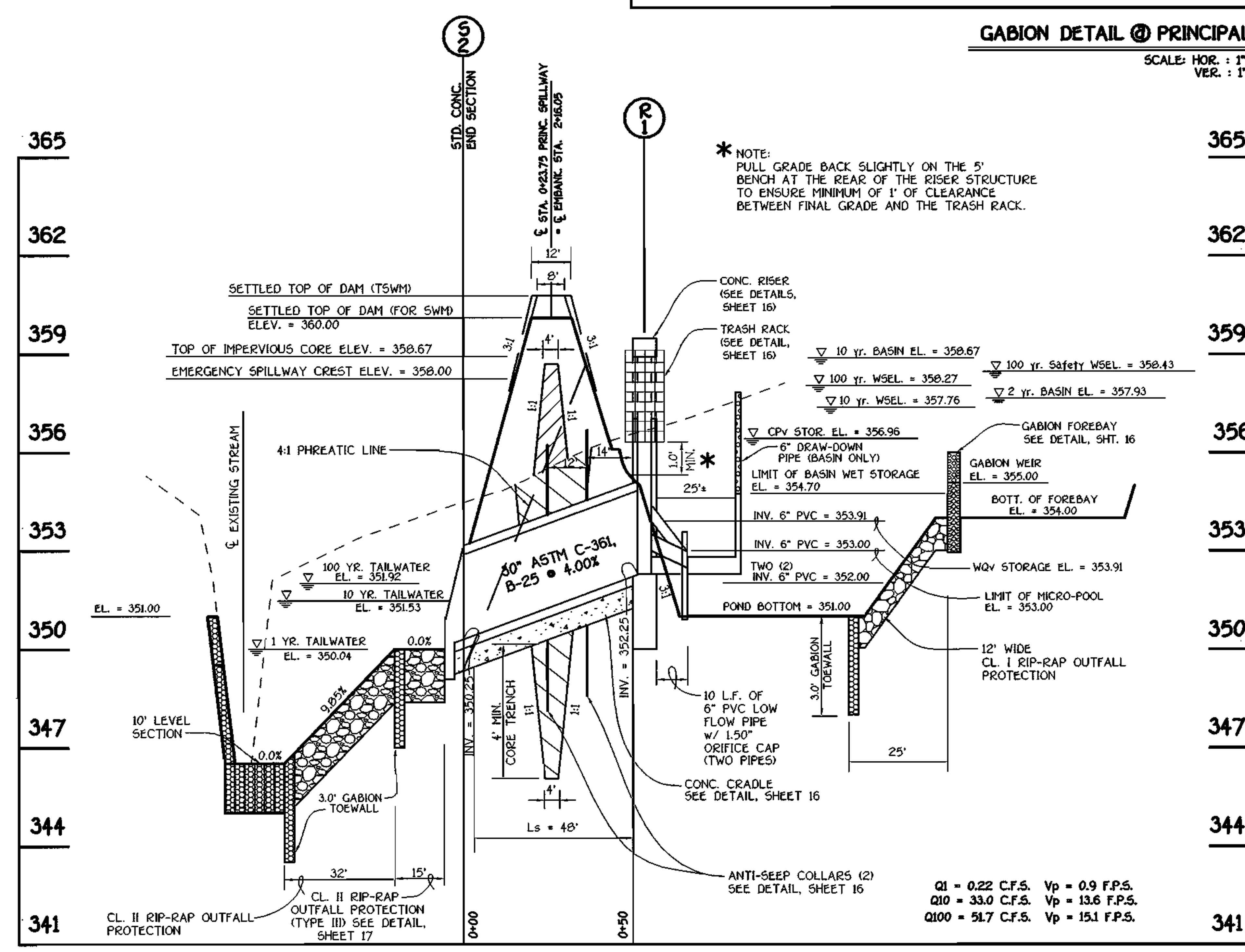
SCALE: HOR. : 1" = 10'
VER. : 1" = 1'



NOTE:
UPON CONVERSION OF BASIN TO S.W.M. POND, THE TOP OF DAM SHALL BE CUT DOWN TO ELEVATION 360.00 AND THE EMERGENCY SPILLWAY SHALL BE INSTALLED.

S.W.M. FACILITY PROFILE ALONG ℄ EMBANKMENT

SCALE: HORIZ. 1" = 30'
VERT. 1" = 3'



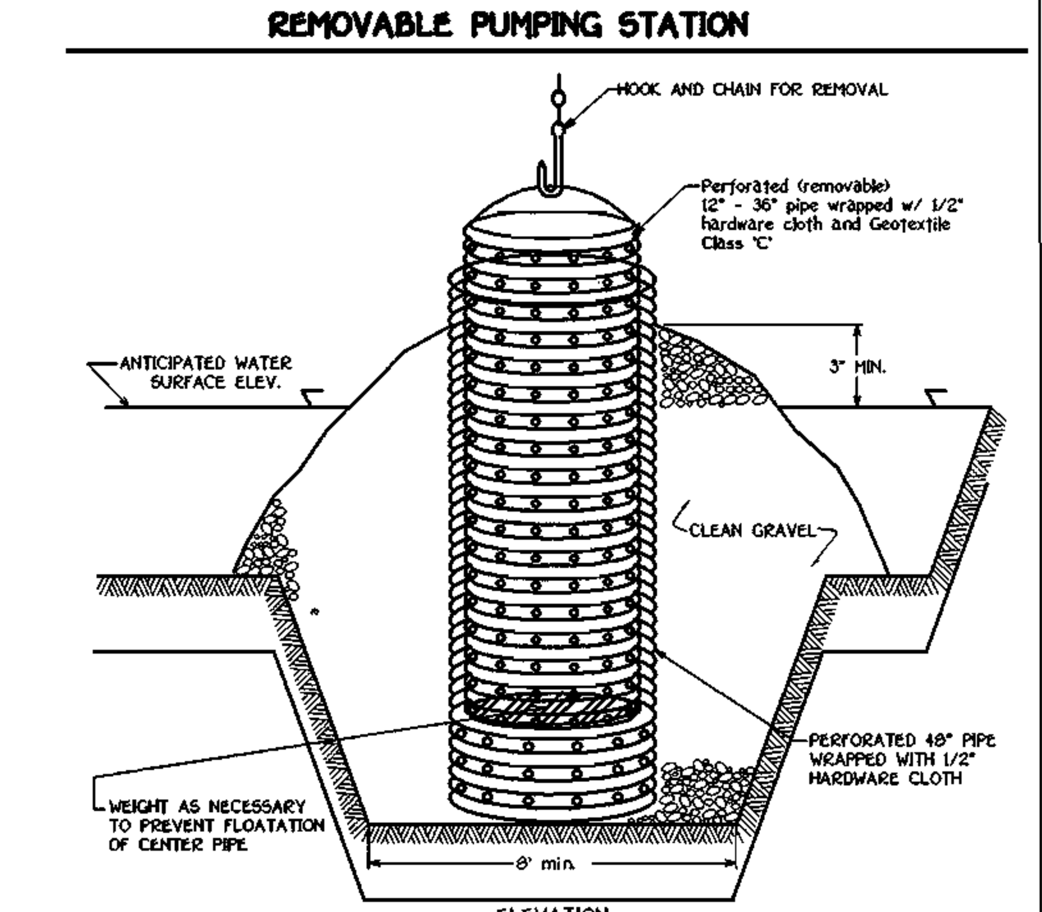
* NOTE:
PULL GRADE BACK SLIGHTLY ON THE 5' BENCH AT THE REAR OF THE RISER STRUCTURE TO ASSURE MINIMUM OF 1' OF CLEARANCE BETWEEN FINAL GRADE AND THE TRASH RACK.

Q1 = 0.22 C.F.S. Vp = 0.9 F.P.S.
Q10 = 33.0 C.F.S. Vp = 13.6 F.P.S.
Q100 = 51.7 C.F.S. Vp = 15.1 F.P.S.

S.W.M. FACILITY
PRINCIPAL SPILLWAY PROFILE

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

REMOVABLE PUMPING STATION



ELEVATION

Construction Specifications

1. The outer pipe should be 48" dia. or shall, in any case, be at least 4" greater in diameter than the center pipe. The outer pipe shall be wrapped with 1/2" hardware cloth to prevent backfill material from entering the perforations.

2. After installing the outer pipe, backfill around outer pipe with 2" aggregate or clean gravel.

3. The inside stand pipe (center pipe) should be constructed by perforating a corrugated or PVC pipe between 12" and 36" in diameter. The perforations shall be 1/2" X 6" slits or 1" diameter holes 6" on center. The center pipe shall be wrapped with 1/2" hardware cloth first, then wrapped again with Geotextile Class C.

4. The center pipe should extend 12" to 18" above the anticipated water surface elevation or riser crest elevation when dewatering a basin.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

Reviewed for HOWARD SCD and meets Technical Requirements.
U.S.D.A.-Natural Resources Conservation Service — Date 9/16/02

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Howard SCD — Date 9/16/02

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA	PARCEL NO.	
THE COURTYARDS AT THE TIMBERS				617	
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

STORMWATER MANAGEMENT NOTES AND DETAILS

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

 SDP 02-55

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.
U.S.D.A.-Natural Resources Conservation Service — Date 9/16/02

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.
Howard SCD — Date 9/16/02

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION				SECTION/AREA	PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

STORMWATER MANAGEMENT NOTES AND DETAILS

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

STORM WATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS

These specifications are appropriate to all ponds within the scope of the Standard for practice MD-378. All references to ASTM and AASHTO specifications apply to the most recent version.

Site Preparation

Areas designated for borrow areas, embankment, and structural works shall be cleared, grubbed and stripped of topsoil. All trees, vegetation, roots and other objectionable material shall be removed. Channel banks and sharp breaks shall be sloped to no steeper than 1:1. All trees shall be cleared and grubbed within 15 feet of the toe of the embankment.

Areas to be covered by the reservoir will be cleared of all trees, brush, logs, fences, rubbish and other objectionable material unless otherwise designated on the plans. Trees, brush, and stumps shall be cut approximately level with the ground surface. For dry stormwater management ponds, a minimum of a 25-foot radius around the inlet structure shall be cleared.

All cleared and grubbed material shall be disposed of outside and below the limits of the dam and reservoir as directed by the owner or his representative. When specified, a sufficient quantity of topsoil will be stockpiled in a suitable location for use on the embankment and other designated areas.

EARTH FILL

Material - The fill material shall be taken from approved designated borrow areas. It shall be free of roots, stumps, wood, rubbish, stones greater than 6", frozen or other objectionable materials. Fill material for the center of the embankment, and cut off trench shall conform to Unified Soil Classification GC, SC, CH, or CL and must have at least 30% passing the #200 sieve. Consideration may be given to the use of other materials in the embankment if designed by a geotechnical engineer. Such special designs must have construction supervised by a geotechnical engineer. Materials used in the outer shell of the embankment must have the capability to support vegetation of the quality required to prevent erosion of the embankment.

Placement - Areas on which fill is to be placed shall be scarified prior to placement of fill. Fill materials shall be placed in maximum 8-inch thick (before compaction) layers which are to be continuous over the entire length of the fill. The most permeable borrow material shall be placed in the downstream portions of the embankment. The principal spillway must be installed concurrently with fill placement and not excavated into the embankment.

Compaction - The movement of the hauling and spreading equipment over the fill shall be controlled so that the entire surface of each lift shall be traversed by not less than one tread track of heavy equipment or compaction shall be achieved by a minimum of four complete passes of a sheepsfoot, rubber tired or vibratory roller. Fill material shall contain sufficient moisture such that the required degree of compaction will be obtained with the equipment used. The fill material shall contain sufficient moisture so that if formed into a ball it will not crumble, yet not be so wet that water can be squeezed out.

When required by the reviewing agency the minimum required density shall not be less than 95% of maximum dry density with a moisture content within +2% of the optimum. Each layer of fill shall be compacted as necessary to obtain that density, and is to be certified by the Engineer at the time of construction. All compaction is to be determined by AASHTO Method T-99 (Standard Proctor).

Cut Off Trench - The cutoff trench shall be excavated into impervious material along or parallel to the centerline of the embankment as shown on the plans. The bottom width of the trench shall be governed by the equipment used for excavation, with the minimum width being four feet. The depth shall be at least four feet below existing grade or as shown on the plans. The side slopes of the trench shall be 1 to 1 or flatter. The backfill shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability.

Embankment Core - The core shall be parallel to the centerline of the embankment as shown on the plans. The top width of the core shall be a minimum of four feet. The height shall extend up to at least the 10 year water elevation or as shown on the plans. The side slopes shall be 1 to 1 or flatter. The core shall be compacted with construction equipment, rollers, or hand tampers to assure maximum density and minimum permeability. In addition, the core shall be placed concurrently with the outer shell of the embankment.

Structure Backfill

Backfill adjacent to pipes or structures shall be of the type and quality conforming to that specified for the adjoining fill material. The fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material needs to fill completely all spaces under and adjacent to the pipe. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a concrete structure or pipe, unless there is a compacted fill of 24" or greater over the structure or pipe.

Structure backfill may be flowable fill meeting the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 313 as modified. The mixture shall have a 100-200 psi, 28 day unconfined compressive strength. The flowable fill shall have a minimum pH of 4.0 and a minimum resistivity of 2,000 ohm-cm. Material shall be placed such that a minimum of 6" (measured perpendicular to the outside of the pipe) of flowable fill shall be under (bedding), over and, on the sides of the pipe. It only needs to extend up to the spring line for rigid conduits. Average slump of the fill shall be 7" to assure flowability of the material. Adequate measures shall be taken (sand bags, etc.) to prevent floating the pipe. When using flowable fill, all metal pipe shall be bituminous coated. Any adjoining soil fill shall be placed in horizontal layers not to exceed four inches in thickness and compacted by hand tampers or other manually directed compaction equipment. The material shall completely fill all voids adjacent to the flowable fill zone. At no time during the backfilling operation shall driven equipment be allowed to operate closer than four feet, measured horizontally, to any part of a structure. Under no circumstances shall equipment be driven over any part of a structure or pipe unless there is a compacted fill of 24" or greater over the structure or pipe. Backfill material outside the structural backfill (flowable fill) zone shall be of the type and quality conforming to the specified for the core of the embankment or other embankment materials.

Pipe Conduits

All pipes shall be circular in cross section.

Corrugated Metal Pipe - All of the following criteria shall apply for corrugated metal pipe:

1. Materials - (Polymer Coated steel pipe) - Steel pipes with polymeric coatings shall have a minimum coating thickness of 0.01 inch (10 mil) on both sides of the pipe. This pipe and its appurtenances shall conform to the requirements of AASHTO Specifications M-245 & M-246 with watertight coupling bands or flanges.

Materials - (Aluminum Coated Steel Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-274 with watertight coupling bands or flanges. Aluminum Coated Std Pipe, when used with flowable fill or when soil and/or water conditions warrant the need for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Any aluminum coating damaged or otherwise removed shall be replaced with cold applied bituminous coating compound. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt.

Materials - (Aluminum Pipe) - This pipe and its appurtenances shall conform to the requirements of AASHTO Specification M-196 or M-211 with watertight coupling banks or flanges. Aluminum Pipe, when used with flowable fill or when soil and/or water conditions warrant for increased durability, shall be fully bituminous coated per requirements of AASHTO Specification M-190 Type A. Aluminum surfaces that are to be in contact with concrete shall be painted with one coat of zinc chromate primer or two coats of asphalt. Hot dip galvanized bolts may be used for connections. The pH of the surrounding soils shall be between 4 and 9.

2. Coupling bands, anti-seep collars, end sections, etc., must be composed of the same material and coatings as the pipe. Metals must be insulated from dissimilar materials with use of rubber or plastic insulating materials at least 24 mils in thickness.

3. Connections- All connections with pipes must be completely watertight. The drain pipe or barrel connection to the riser shall be welded all around when the pipe and riser are metal. Anti-seep collars shall be connected to the pipe in such a manner as to be completely watertight. Dimple bands are not considered to be watertight.

All connections shall use a rubber or neoprene gasket when joining pipe sections. The end of each pipe shall be re-rolled an adequate number of corrugations to accommodate the bandwidth. The following type connections are acceptable for pipes less than 24-inches in diameter: flanges on both ends of the pipe with a circular 3/8 inch closed cell neoprene gasket, prepunched to the flange bolt circle, sandwiched between adjacent flanges; a 12-inch wide standard Rip type band with 12-inch wide by 3/8-inch thick closed cell circular neoprene gasket; and a 12-inch wide hugger type band with o-ring gaskets having a minimum diameter of 1/2-inch greater than the corrugation depth. Pipes 24-inches in diameter and larger shall be connected by a 24-inch long annular corrugated band using a minimum of 4 (four) rods and lugs, 2 on each connecting pipe end. A 24-inch wide by 3/8-inch thick closed cell circular neoprene gasket will be installed with 12-inches on the end of each pipe. Flanged joints with 3/8-inch closed cell gaskets the full width of the flange is also acceptable.

Helically corrugated pipe shall have either continuously welded seams or have lock seams with internal caulking or a neoprene bead.

4. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

5. Backfilling shall conform to "Structure Backfill".

6. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Reinforced Concrete Pipe - All of the following criteria shall apply for reinforced concrete pipe:

1. Materials - Reinforced concrete pipe shall have bell and spigot joints with rubber gaskets and shall equal or exceed ASTM C-361.

2. Bedding - Reinforced concrete pipe conduits shall be laid in a concrete bedding/cradle for their entire length. This bedding/cradle shall consist of high slump concrete placed under the pipe and up the sides of the pipe at least 50% of its outside diameter with a minimum thickness of 6 inches. Where a concrete cradle is not needed for structural reasons, flowable fill may be used as described in the "Structure Backfill" section of this standard. Gravel bedding is not permitted.

3. Laying pipe - Bell and spigot pipe shall be placed with the bell end upstream. Joints shall be made in accordance with recommendations of the manufacturer of the material. After the joints are sealed for the entire line, the bedding shall be placed so that all spaces under the pipe are filled. Care shall be exercised to prevent any deviation from the original line and grade of the pipe. The first joint must be located within 4 feet from the riser.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (Anti-seep collars, valves, etc.) shall be as shown on the drawings.

Plastic Pipe

The following criteria shall apply for plastic pipe:

1. Materials - PVC pipe shall be PVC-1120 or PVC-1220 conforming to ASTM D-1785 or ASTM D-2241. Corrugated High Density Polyethylene (HDPE) pipe, couplings and fittings shall conform to the following: 4" - 10" inch pipe shall meet the requirement of AASHTO M252 Type S, and 12" through 24" inch shall meet the requirement of AASHTO M294 Type S.

2. Joints and connections to anti-seep collars shall be completely watertight.

3. Bedding - The pipe shall be firmly and uniformly bedded throughout its entire length. Where rock or soft, spongy or other unstable soil is encountered, all such material shall be removed and replaced with suitable earth compacted to provide adequate support.

4. Backfilling shall conform to "Structure Backfill".

5. Other details (anti-seep collars, valves, etc.) shall be as shown on the drawings.

Drainage Diaphragms - When a drainage diaphragm is used, a registered professional engineer will supervise the design and construction inspection.

Concrete

Concrete shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 414, Mix No. 3.

Rock Riprap

Rock riprap shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 311.

Geotextile shall be placed under all riprap and shall meet the requirements of Maryland Department of Transportation, State Highway Administration Standard Specifications for Construction and Materials, Section 921.09, Class C.

Care of Water during Construction

All work on permanent structures shall be carried out in areas free from water. The Contractor shall construct and maintain all temporary dikes, levees, cofferdams, drainage channels, and stream diversions necessary to protect the areas to be occupied by the permanent works. The contractor shall also furnish, install, operate, and maintain all necessary pumping and other equipment required for removal of water from various parts of the work and for maintaining the excavations, foundation, and other parts of the work free from water as required or directed by the engineer for constructing each part of the work. After having served their purpose, all temporary protective works shall be removed or leveled and graded to the extent required to prevent obstruction in any degree whatsoever of the flow of water to the spillway or outlet works and so as not to interfere in any way with the operation or maintenance of the structure. Stream diversions shall be maintained until the full flow can be passed through the permanent works. The removal of water from the required excavation and the foundation shall be accomplished in a manner and to the extent that will maintain stability of the excavated slopes and bottom required excavations and will allow satisfactory performance of all construction operations. During the placing and compacting of material in required excavations, the water level at the locations being refilled shall be maintained below the bottom of the excavation at such locations which may require draining the water sumps from which the water shall be pumped.

Stabilization

All borrow areas shall be graded to provide proper drainage and left in a sightly condition. All exposed surfaces of the embankment, spillway, spoil and borrow areas, and berms shall be stabilized by seeding, liming, fertilizing and mulching in accordance with the Natural Resources Conservation Service Standards and Specifications for Critical Area Planting (MD-342) or as shown on the accompanying drawings.

Erosion and Sediment Control

Construction operations will be carried out in such a manner that erosion will be controlled and water and air pollution minimized. State and local laws concerning pollution abatement will be followed. Construction plans shall detail erosion and sediment control measures.

OPERATION AND MAINTENANCE

An operation and maintenance plan in accordance with Local or State Regulations will be prepared for all ponds. As a minimum, the dam inspection checklist located in Appendix A shall be included as part of the operation and maintenance plan and performed at least annually. Written records of maintenance and major repairs needs to be retained in a file. The issuance of a Maintenance and Repair Permit for any repairs or maintenance that involves the modification of the dam or spillway from its original design and specifications is required. A permit is also required for any repairs or reconstruction that involve a substantial portion of the structure. All indicated repairs are to be made as soon as practical.

STORMWATER MANAGEMENT POND MAINTENANCE SCHEDULE

A. ROUTINE MAINTENANCE

Facility Shall Be Inspected Annually And After Major Storms. Inspections Should Be Performed During Wet Weather To Determine If The Pond Is Functioning Properly.

Top And Side Slopes Of The Embankment Shall Be Mowed A Minimum Of Two (2) Times A Year, Once In June And Once In September. Other side Slopes, The Bottom Of The Pond, And Maintenance Access Should Be Mowed As Needed.

Debris And Litter Next To The Outlet Structure Shall Be Removed During Regular Mowing Operations And As needed.

Visible Signs Of Erosion In The Pond As Well As Rip-Rap Outlet Area Shall Be Repaired As Soon As It Is Noticed.

Sediment Should Be Removed When Its Accumulation Reaches 6".

The Low Flow PVC Pipes Shall Be Visually Inspected For Clogging A Minimum Of Two (2) Times A Year, Once In June And Once In September. This Should Be Accomplished At The Same Time As The Mowing Of The Embankment.

B. NON-ROUTINE MAINTENANCE

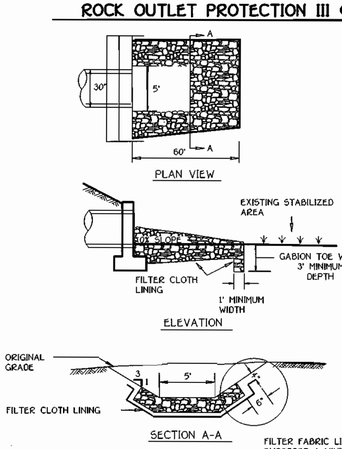
Structural Components Of The pond Such as The Dam, Riser Structure And The Pipes Shall Be Repaired Upon The Detection Of Any Damage. The Components Should Be Inspected During Routine Maintenance Operations.

Sediment Should Be Removed When Its Accumulation Significantly Reduces The Design Storage, Interfere With The Function Of The Riser, When Deemed Necessary For Aesthetic Reasons, Or When Deemed Necessary By The Howard County Department Of Public Works.

Embankment and Cut-off Trench Construction

THE AREA OF THE PROPOSED SWM POND SHOULD BE STRIPPED OF TOPSOIL AND ANY OTHER UNSUITABLE MATERIALS FROM THE EMBANKMENT OR STRUCTURE AREA IN ACCORDANCE WITH SOIL CONSERVATION GUIDELINES. AFTER STRIPPING OPERATIONS HAVE BEEN COMPLETED, THE EXPOSED SUBGRADE MATERIALS SHOULD BE PROOFROLLED WITH A LOADED DUMP TRUCK OR SIMILAR EQUIPMENT IN THE PRESENCE OF A GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE UTILIZING A DYNAMIC CONE PENETROMETER. ANY EXCESSIVELY SOFT OR LOOSE MATERIALS IDENTIFIED BY PROOFOLLING OR PENETROMETER TESTING SHOULD BE EXCAVATED TO SUITABLE FIRM SOIL, AND THEN GRADES RE-ESTABLISHED BY BACKFILLING WITH SUITABLE SOIL.
A REPRESENTATIVE OF THE GEOTECHNICAL ENGINEER SHOULD BE PRESENT TO MONITOR PLACEMENT AND COMPACTION OF FILL FOR THE EMBANKMENT AND CUT-OFF TRENCH. IN ACCORDANCE WITH MARYLAND SOIL CONSERVATION SPECIFICATION 370 SOILS CONSIDERED SUITABLE FOR THE CENTER OF EMBANKMENT AND CUT-OFF TRENCH SHALL CONFORM TO UNIFIED SOIL CLASSIFICATION GC, SC, CH, OR CL.
IT IS OUR PROFESSIONAL OPINION THAT IN ADDITION TO THE SOIL MATERIALS DESCRIBED ABOVE A FINE GRAINED SOIL, INCLUDING SILT (ML) WITH A PLASTICITY INDEX OF 10 OR MORE CAN BE UTILIZED FOR THE CENTER OF THE EMBANKMENT AND CORE TRENCH. BASED ON OUR VISUAL CLASSIFICATIONS IT APPEARS THAT SOME OF THE ON-SITE SOILS, ESPECIALLY THE NEAR SURFACE SOILS, WILL BE SUITABLE FOR USE AS CORE TRENCH MATERIAL. IT IS RECOMMENDED THAT ADDITIONAL EXPLORATION AND LABORATORY TESTING BE PERFORMED PRIOR TO POND CONSTRUCTION TO IDENTIFY AND QUANTIFY POTENTIAL BORROW AREAS FOR CORE TRENCH MATERIAL. ALL FILL MATERIALS MUST BE PLACED AND COMPACTED WITH MD SCS 378 SPECIFICATIONS.

ROCK OUTLET PROTECTION III ● S-2



Construction Specifications

1. The subgrade for the filter, rip-rap, or gabion shall be prepared to the required lines and grades. Any fill required in the subgrade shall be compacted to a density of approximately that of the surrounding undisturbed material.

2. The rock or gravel shall conform to the specified grading limits when installed respectively in the rip-rap or filter.

3. Geotextile shall be protected from punching, cutting, or tearing. Any damage other than an occasional small hole shall be repaired by placing another piece of geotextile over the damaged part or by completely replacing the geotextile. All overlaps whether for repairs or for joining two pieces of geotextile shall be a minimum of one foot.

4. Stone for the rip-rap or gabion outlets may be placed by equipment. They shall be constructed to the full course thickness in one operation and in such a manner as to avoid displacement of underlying materials. The stone for rip-rap or gabion outlets shall be delivered and placed in a manner that will ensure that it is reasonably homogeneous with the smaller stones and spalls filling the voids between the larger stones. Rip-rap shall be placed in a manner to prevent damage to the filter blanket or geotextile. Hand placement will be required to the extent necessary to prevent damage to the permanent works.

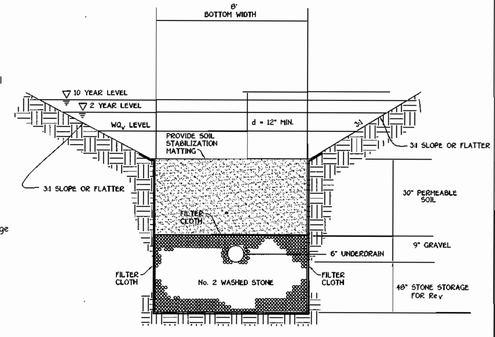
5. The stone shall be placed so that it blends in with the existing ground. If the stone is placed too high then the flow will be forced out of the channel and scour adjacent to the stone will occur.

NOTES: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

FILTER FABRIC LINING SHALL BE EMBEDDED A MINIMUM OF 4" AND SHALL EXTEND AT LEAST 6' BEYOND THE EDGE OF THE RIP-RAP

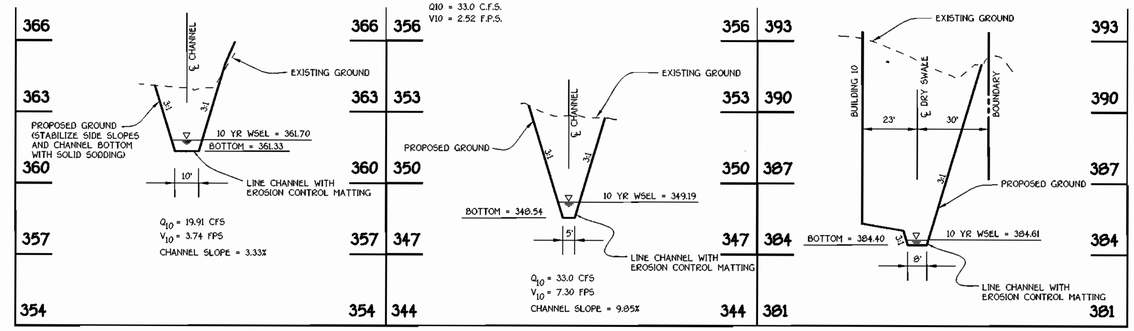
RIP-RAP TO BE CLASS II
d50 = 16"
dmax. = 24"
Thickness = 32"

Q10 = 33.0 C.F.S.
V10 = 2.52 F.P.S.



DRY SWALE CROSS SECTION

NO SCALE



CROSS-SECTION THRU CHANNEL 35' FROM S-3

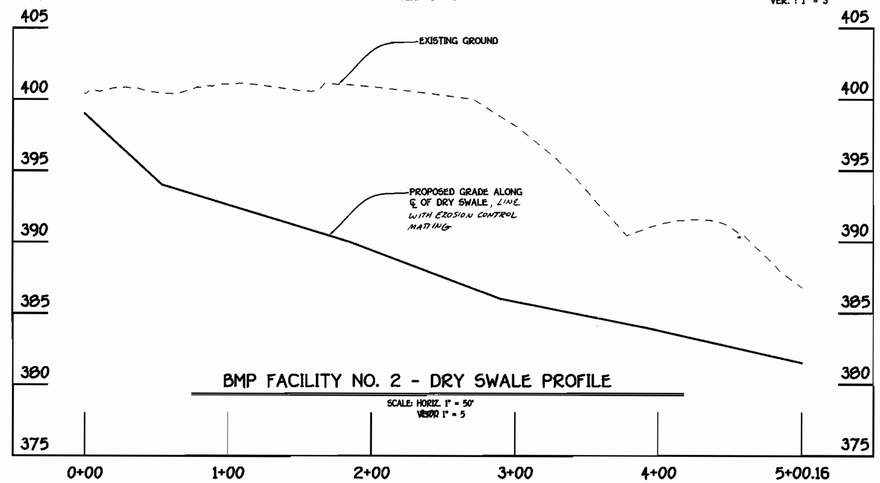
SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

CROSS-SECTION THRU CHANNEL 35' FROM S-2

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'

CROSS-SECTION THRU DRY SWALE ● STA. 3+62

SCALE: HOR. : 1" = 30'
VER. : 1" = 3'



BMP FACILITY NO. 2 - DRY SWALE PROFILE

SCALE: HORIZ. 1" = 50'
VERT. 1" = 5

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/26/02
Signature of Developer (print name below signature) Date

Reviewed for HOWARD SCD and meets Technical Requirements.

U.S.D.A.-Natural Resources Conservation Service — 9/16/02 Date

This development plan is approved for soil erosion and sediment control by the HOWARD SOIL CONSERVATION DISTRICT.

Howard SCD — 9/16/02 Date

DEVELOPER/OWNER

RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER

RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 129
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — 10/9/02 Date

Chief, Division of Land Development — 10/4/02 Date

Chief, Development Engineering Division — 9/20/02 Date

SUBDIVISION		SECTION/AREA	PARCEL NO.
THE COURTYARDS AT THE TIMBERS			617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE		SEWER CODE	
D 04		2610000	

STORMWATER MANAGEMENT NOTES AND DETAILS

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 17 OF 24 **SDP 02-55**

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — No. 4204 — PROFESSIONAL ENGINEER

K:\Drawings 3\30744\SDP-No Office Building\SWM Details.dwg

K:\Drawings 3\30744\KHAN Property\SDP - NO OFFICE BLDG\30744 SHTTS-17 SWM DETAILS.dwg, 9/23/2002 11:11:05 AM

PHOTO OF EXISTING STRIPING

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03	REVISED PARKING & COND BUILDING 'A' (PLAN VIEW), ADDED SIDEWALK AND ASSOCIATED GRADING ALONG MEADOWRIDGE ROAD

REVISION BLOCK

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF. 5609 / 611	BLOCK NO. 3	ZONE POR	TAX/ZONE 37	ELEC. DIST. 1st.	CENSUS TR. 6030
WATER CODE D 04			SEWER CODE 2610000		

PAVEMENT MARKING / SIGNING PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 18 OF 24 SDP 02-55

APPROVED REVISIONS

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT18 STRIPING PLAN.dwg, 8/22/2002 2:10:10 PM

PLAN

SCALE: 1" = 50'

SEE SHEET 20 FOR FOREST CONSERVATION PLAN NOTES, CALCULATIONS, DETAILS, SPECIFICATIONS AND OFF-SITE REFORESTATION OBLIGATIONS.

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD06100448
JOHN P. CANOLES

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03	REVISED PARKING & CONDO BUILDING 'A' (PLAN VIEW). ADDED SIDEWALK AND ASSOCIATED GRADING ALONG MEADOWRIDGE ROAD. ADDED STORM DRAIN EASEMENT AT I-13, REVISED GRADING AT SITE ENTRANCE, ADDED INLET I-15 AND STORM DRAIN PIPE TO I-2. REVISED 8" SEWER MAIN MH-120 AND MH-125, REVISED WHC TO 2" AND 6", AND REMOVED BASEMENT ELEVATION FROM CONDO BUILDINGS 'E', 'F' & 'G'

REVISION BLOCK

K:/Drawings3/30744/SDP-No Office Bldg/FOREST CONSERVATION PLAN.dwg

STATE OF MARYLAND — CHARLES J. CROVO, SR. — PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S.
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

Prepared By:
John Canoles - Certification # WDCP93MD06100448
8/21/02
Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA	PARCEL NO.	
THE COURTYARDS AT THE TIMBERS				617	
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

ON-SITE FOREST CONSERVATION PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR
TAX MAP No.: 37 PARCEL No.: 617 GRID No.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

APPROVED REVISIONS SIGNATURE 4/4/16

SHEET 19 OF 24 SDP 02-55

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT19 FOREST CON PLAN.dwg, 8/21/2002 8:27:12 AM

PLANTING/SOIL SPECIFICATIONS

1. PLANTING OF NURSERY STOCK SHALL TAKE PLACE BETWEEN MARCH 15th. AND APRIL 30th. OR SEPTEMBER 15th. AND NOVEMBER 15th.
2. A TWELVE (12) INCH LAYER OF TOPSOIL SHALL BE SPREAD OVER ALL FORESTATION AREAS IMPACTED BY SITE GRADING TO ASSURE A SUITABLE PLANTING AREA. DISTURBED AREAS SHALL BE SEEDED AND STABILIZED AS PER GENERAL CONSTRUCTION PLAN FOR PROJECT. PLANTING AREAS NOT IMPACTED BY SITE GRADING SHALL HAVE NO ADDITIONAL TOPSOIL INSTALLED.
3. ALL BAREROOT PLANTING STOCK SHALL HAVE THEIR ROOT SYSTEMS DIPPED INTO AN ANTI-DESICCANT GEL PRIOR TO PLANTING.
4. PLANTS SHALL BE INSTALLED SO THAT THE TOP OF ROOT MASS IS LEVEL WITH THE TOP OF EXISTING GRADE. BACKFILL IN THE PLANTING PITS SHALL CONSIST OF 3 PARTS EXISTING SOIL TO 1 PART PINE FINES OR EQUIVALENT.
5. FERTILIZER SHALL CONSIST OF AGRIFORM 22-6-2, OR EQUIVALENT, APPLIED AS PER MANUFACTURER'S SPECIFICATIONS.
6. A TWO (2) INCH LAYER OF HARDWOOD MULCH SHALL BE PLACED OVER THE ROOT AREA OF ALL PLANTINGS.
7. PLANT MATERIAL SHALL BE TRANSPORTED TO THE SITE IN A TARPED OR COVERED TRUCK. PLANTS SHALL BE KEPT MOIST PRIOR TO PLANTING.
8. ALL NON-ORGANIC DEBRIS ASSOCIATED WITH THE PLANTING OPERATION SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR.

SEQUENCE OF CONSTRUCTION

1. SEDIMENT CONTROL AND TREE PROTECTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLAN FOR SITE. SITE SHALL BE GRADED IN ACCORDANCE WITH GENERAL CONSTRUCTION PLANS.
2. PROPOSED FORESTATION AREAS IMPACTED BY SITE GRADING SHALL BE TOPSOILED AND STABILIZED AS PER NOTE NO. 2 OF PLANTING/SOIL SPECIFICATIONS FOR PROJECT.
3. PLANTS SHALL BE INSTALLED AS PER PLANT SCHEDULE AND THE PLANTING/SOIL SPECIFICATIONS FOR THE PROJECT.
4. UPON COMPLETION OF THE PLANTING, SIGNAGE SHALL BE INSTALLED AS PER THE FOREST PROTECTION DEVICES SHOWN ON THE FOREST CONSERVATION PLAN.
5. PLANTINGS SHALL BE MAINTAINED AND GUARANTEED IN ACCORDANCE WITH THE MAINTENANCE AND GUARANTEE REQUIREMENTS FOR PROJECT.

MAINTENANCE OF PLANTINGS

1. MAINTENANCE OF PLANTINGS SHALL LAST FOR A PERIOD OF 26 MONTHS.
2. ALL PLANT MATERIAL SHALL BE WATERED TWICE A MONTH DURING THE 1st. GROWING SEASON. WATERING MAY BE MORE OR LESS FREQUENT DEPENDING IN WEATHER CONDITIONS. DURING 2nd. GROWING SEASON, ONCE A MONTH DURING MAY-SEPTEMBER, IF NEEDED.
3. INVASIVE EXOTICS AND NOXIOUS WEEDS WILL BE REMOVED FROM FORESTATION AREAS. OLD FIELD SUCCESSIONAL SPECIES WILL BE RETAINED.
4. PLANTS WILL BE EXAMINED A MINIMUM TWO TIMES DURING THE GROWING SEASON FOR SERIOUS PLANT PESTS AND DISEASES. SERIOUS PROBLEMS WILL BE TREATED WITH THE APPROPRIATE AGENT.
5. DEAD BRANCHES WILL BE PRUNED FROM PLANTINGS.

GUARANTEE REQUIREMENTS

1. A 75 PERCENT SURVIVAL RATE OF FORESTATION PLANTINGS WILL BE REQUIRED AT THE END OF THE 24 MONTH MAINTENANCE PERIOD. ALL PLANT MATERIAL BELOW THE 75 PERCENT THRESHOLD WILL BE REPLACED AT THE BEGINNING OF THE NEXT GROWING SEASON.

SURETY FOR FORESTATION

1. THE DEVELOPER SHALL POST A SURETY (BOND, LETTER OF CREDIT) TO ENSURE THAT FORESTATION PLANTINGS ARE COMPLETED. AT THE END OF THE POST-CONSTRUCTION MANAGEMENT AND PROTECTION PERIOD, THE DESIGNATED RESPONSIBLE PROFESSIONAL SHALL CONVEY TO THE DEPARTMENT OF PLANNING AND ZONING CERTIFICATION THAT ALL FOREST CONSERVATION AREAS HAVE REMAINED INTACT OR HAVE BEEN ACHIEVED, AND THAT ANY PERMANENT PROTECTION MEASURES REQUIRED BY THE PLAN ARE IN PLACE. UPON REVIEW OF THE FINAL CERTIFICATION DOCUMENT FOR COMPLETENESS AND ACCURACY, THE COUNTY WILL NOTIFY THE DEVELOPER OF THE RELEASE OF SURETY AND ALL FUTURE OBLIGATIONS. THE DEVELOPER'S LAST OFFICIAL RESPONSIBILITY WILL BE TO TRANSMIT A COPY OF THIS NOTIFICATION TO THE OWNERS OF THE PROPERTIES. SUCH TRANSMITTAL WILL SERVE AS OFFICIAL NOTICE TO OWNERS OF THE ASSUMPTION OF FULL RESPONSIBILITY FOR ALL FUTURE FOREST CONSERVATION OBLIGATIONS.
2. SURETY FOR ON-SITE RETENTION 0.9 AC. x 0.20 = $15,552.80, AND OFF-SITE AFFORESTATION 3.8 AC. x 0.50 = $82,764.00 IS POSTED WITH THE DEVELOPER'S AGREEMENT FOR THIS SUBDIVISION. TOTAL FOREST CONSERVATION SURETY AMOUNT FOR THIS SUBDIVISION IS $99,316.80.

ON-SITE SIGNAGE

15" MINIMUM

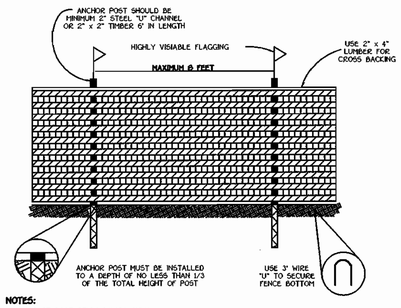
FOREST CONSERVATION EASEMENT

UNAUTHORIZED DISTURBANCE OF VEGETATION IS PROHIBITED. VIOLATORS SUBJECT TO PENALTIES UNDER THE HOWARD COUNTY FOREST CONSERVATION ACT OF 1991.

TREES FOR YOUR FUTURE

11" MINIMUM

BLAZE ORANGE PLASTIC MESH



NOTES:
1. FOREST PROTECTION DEVICE ONLY.
2. RETENTION AREA WILL BE SET AS PART OF THE REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE.
4. ROOT DAMAGE SHOULD BE AVOIDED.
5. PROTECTIVE SIGNAGE MAY ALSO BE USED.
6. DEVICE SHOULD BE MAINTAINED THROUGHOUT CONSTRUCTION.

TREE PROTECTION DETAIL

NOT TO SCALE

FCP NOTES

1. ANY FOREST CONSERVATION EASEMENT (FCE) AREA SHOWN HEREON IS SUBJECT TO PROTECTIVE COVENANTS WHICH MAY BE FOUND IN THE LAND RECORDS OF HOWARD COUNTY WHICH RESTRICT THE DISTURBANCE AND USE OF THESE AREAS.
2. THE FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE, FOREST CONSERVATION ACT. NO CLEARING, GRADING, OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENTS, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT ARE ALLOWED.
3. FORESTED AREAS OCCURRING OUTSIDE OF THE FCE SHALL NOT BE CONSIDERED PART OF THE FCE AND SHALL NOT BE SUBJECT TO PROTECTIVE LAND COVENANTS.
4. LIMITS OF DISTURBANCE SHALL BE RESTRICTED TO AREAS OUTSIDE THE LIMIT OF TEMPORARY FENCING OR THE FCE BOUNDARY, WHICHEVER IS GREATER.
5. THERE SHALL BE NO CLEARING, GRADING, CONSTRUCTION OR DISTURBANCE OF VEGETATION IN THE FOREST CONSERVATION EASEMENT, EXCEPT AS PERMITTED BY HOWARD COUNTY DPZ.
6. NO STOCKPILES, PARKING AREAS, EQUIPMENT CLEANING AREAS, ETC. SHALL OCCUR WITHIN AREAS DESIGNATED AS FOREST CONSERVATION EASEMENTS.
7. TEMPORARY FENCING SHALL BE USED TO PROTECT FOREST RESOURCES DURING CONSTRUCTION. THE FENCING SHALL BE PLACED ALONG ALL FCE BOUNDARIES WHICH OCCUR WITHIN 15 FEET OF THE PROPOSED LIMITS OF DISTURBANCE.
8. PERMANENT SIGNAGE SHALL BE PLACED 50' - 100' APART ALONG BOUNDARIES OF ALL AREAS INCLUDED IN FOREST CONSERVATION EASEMENTS.
9. THE OUTSTANDING FOREST CONSERVATION REFORESTATION OBLIGATION SHALL BE MET THROUGH OFF-SITE PLANTING (3.8 AC.) ON LOT 5 IN "CHASE FARM", PREVIOUSLY RECORDED AS PLAT NO. 12067.

FOREST DATA

	ACRES
GROSS AREA:	16.4
NET TRACT AREA (NTA):	16.4
EXISTING FOREST (NTA):	7.2
CONSERVATION THRESHOLD:	3.3
FOREST TO BE CLEARED (NTA):	5.3
FOREST TO BE RETAINED IN FCE (NTA):	1.9
REFORESTATION REQUIRED:	3.8
OFFSITE FORESTATION PROPOSED:	3.8

Forest Conservation Worksheet

BASIC SITE DATA	ACRES
Gross Site Area:	16.4
Area within 100 year floodplain:	
Area within agricultural use or preservation parcel:	
Area within overhead transmission lines:	
Net Tract Area (NTA):	16.4
Land Use Category: POR	

INFORMATION FOR CALCULATIONS	
Net Tract Area (NTA):	16.4
Forest conservation threshold (20% x NTA):	3.3
Afforestation threshold (15% x NTA):	2.5
Existing forest on NTA:	7.2
Existing forest above conservation threshold:	3.9
Break even point (if applicable):	4.1
Forest to be cleared:	5.3
Forest to be retained:	1.9

AFFORESTATION CALCULATIONS

No forest clearing: Afforestation Threshold - Existing Forest

Forest clearing: (Aff. thresh. - ex. forest) + (forest to be cleared x 2)

REFORESTATION CALCULATIONS

Clearing above threshold

a. Forest cleared above threshold _____ x 1/4: _____ acres
b. Forest retained above threshold: _____ acres

Reforestation Required (a+b):

Clearing below threshold

a. Forest cleared above threshold - 3.9 x 1/4 = 1.0 acres
b. Forest cleared below threshold - 1.4 x 2 = 2.8 acres

Reforestation Required (a+b): 3.8

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO, SR. — No. 21078 — PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. — 8/22/02
Signature of Engineer (print name below signature) — 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."

DONALD R. REUWER, JR. — 8/22/02
Signature of Developer (print name below signature) — Date

Prepared By:
John Canoles - Certification # WDCP93MD0610044B
8/21/02
Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION				SECTION/AREA	PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

FOREST CONSERVATION PLAN NOTES AND DETAILS

THE COURTYARDS AT THE TIMBERS

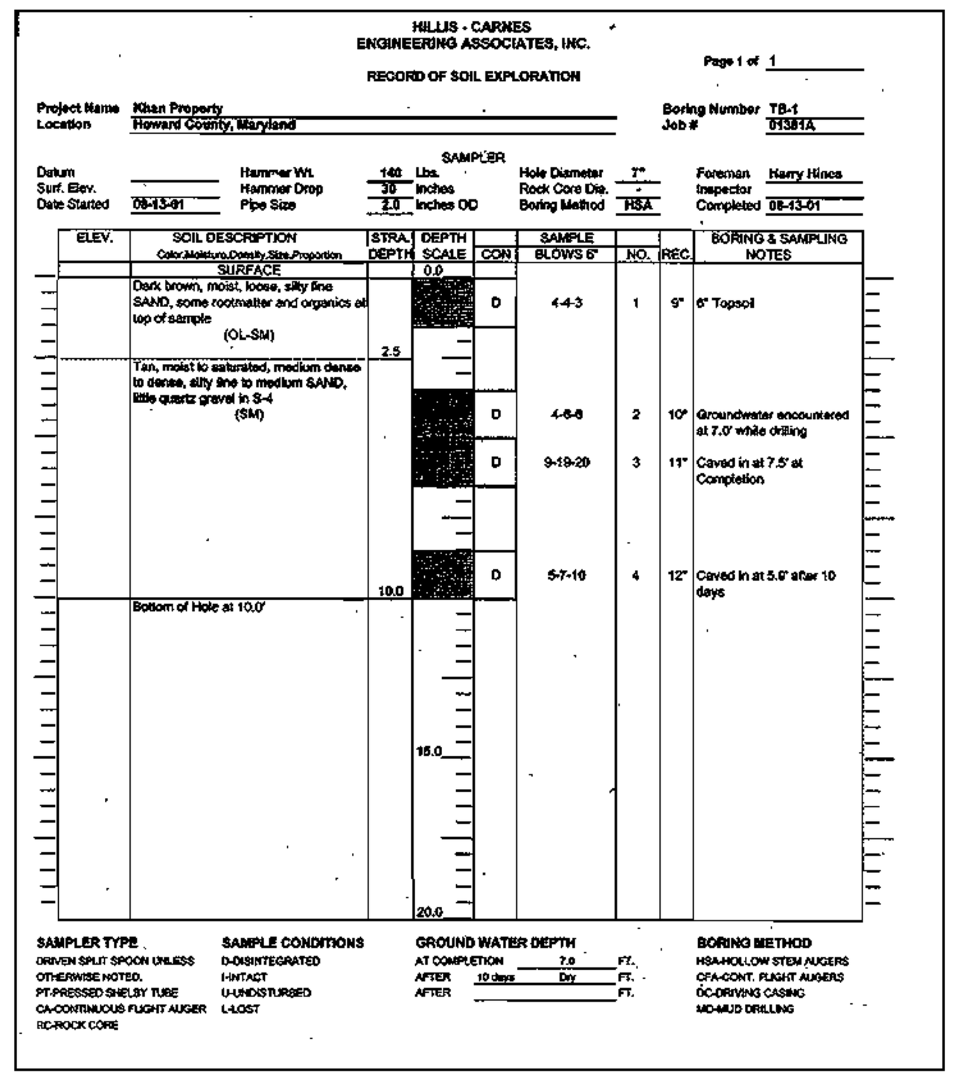
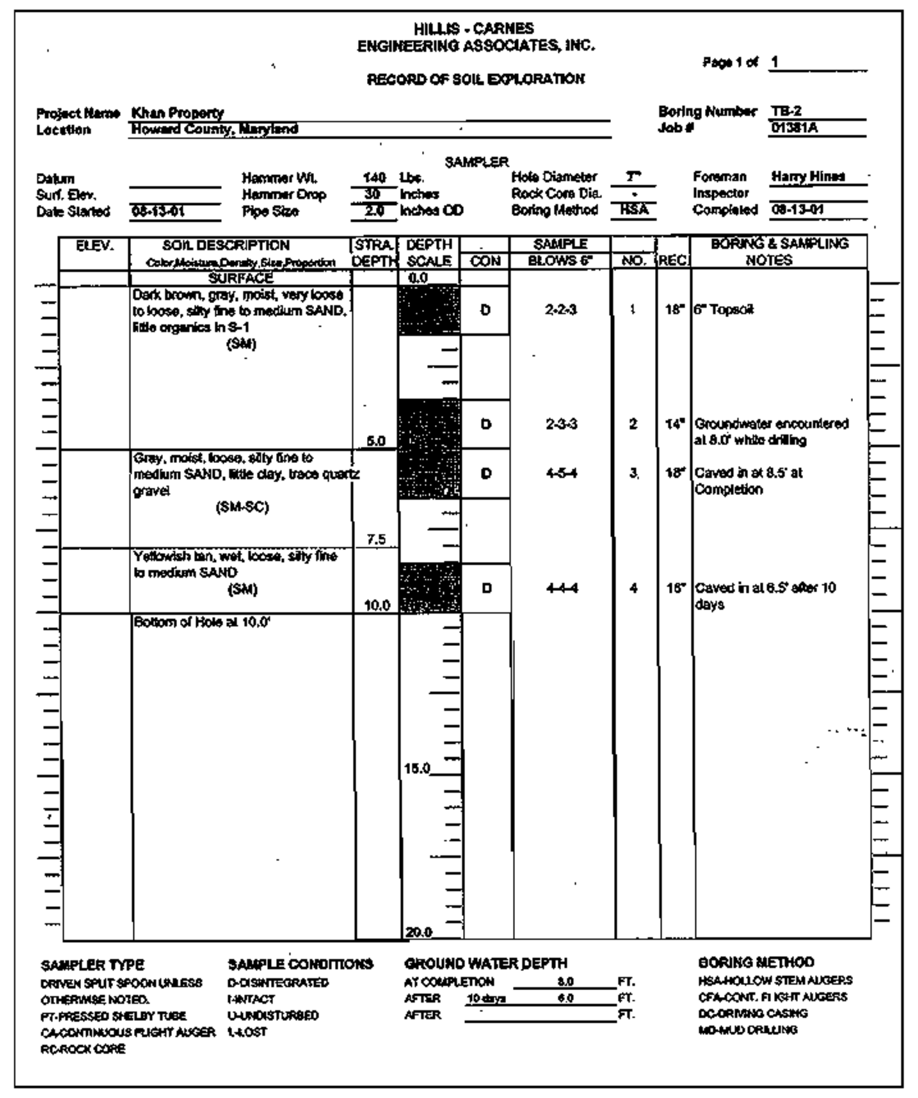
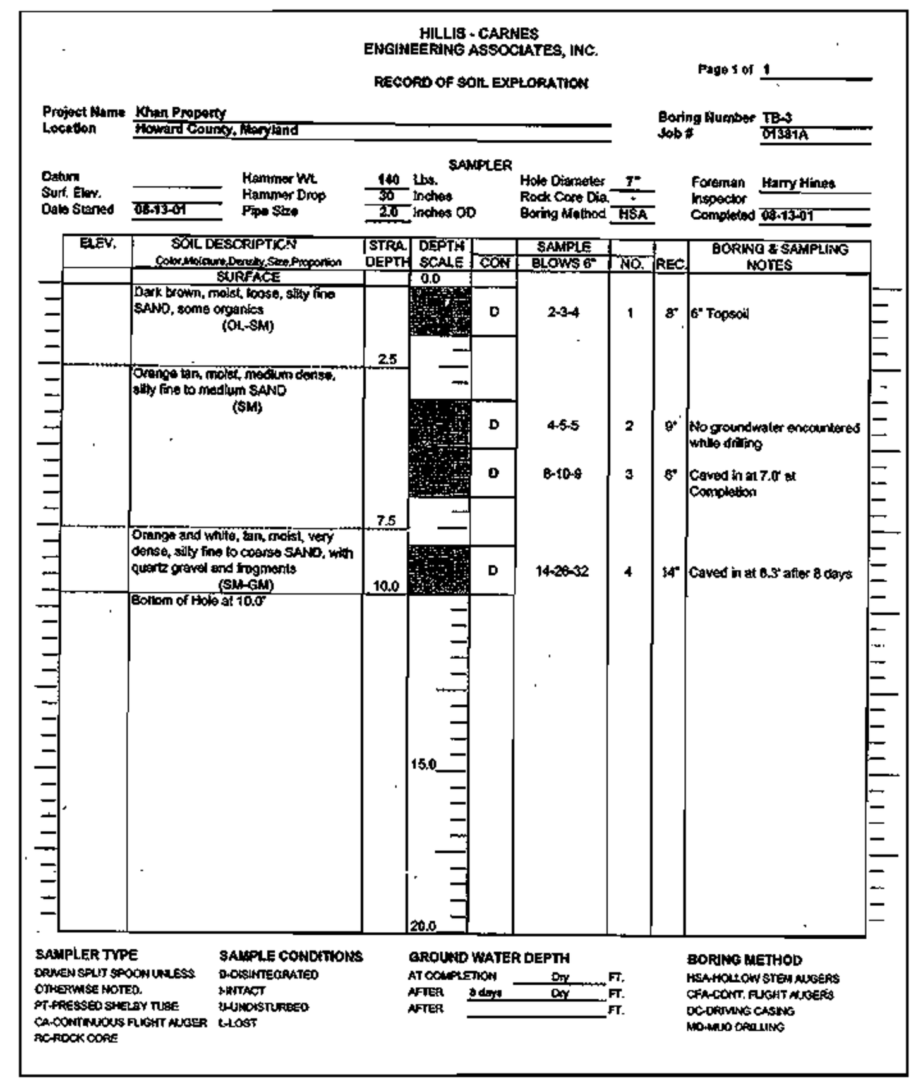
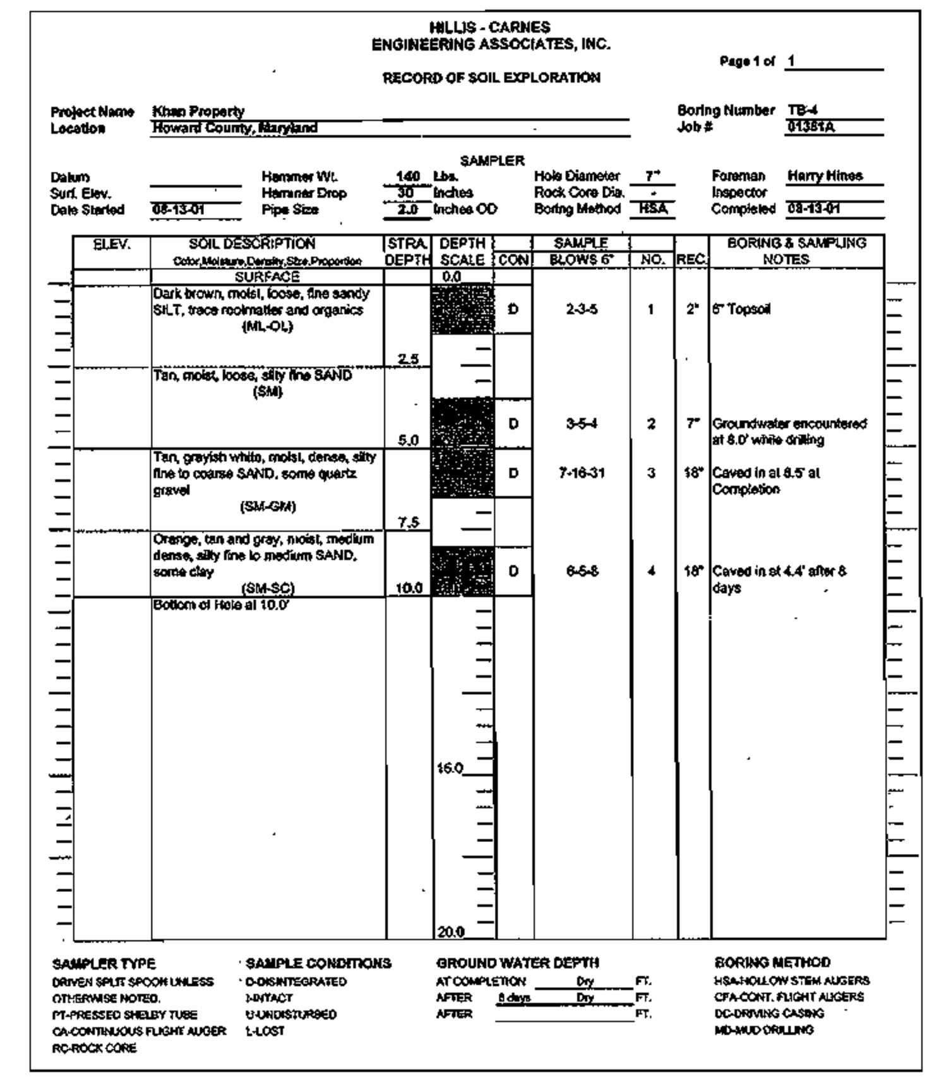
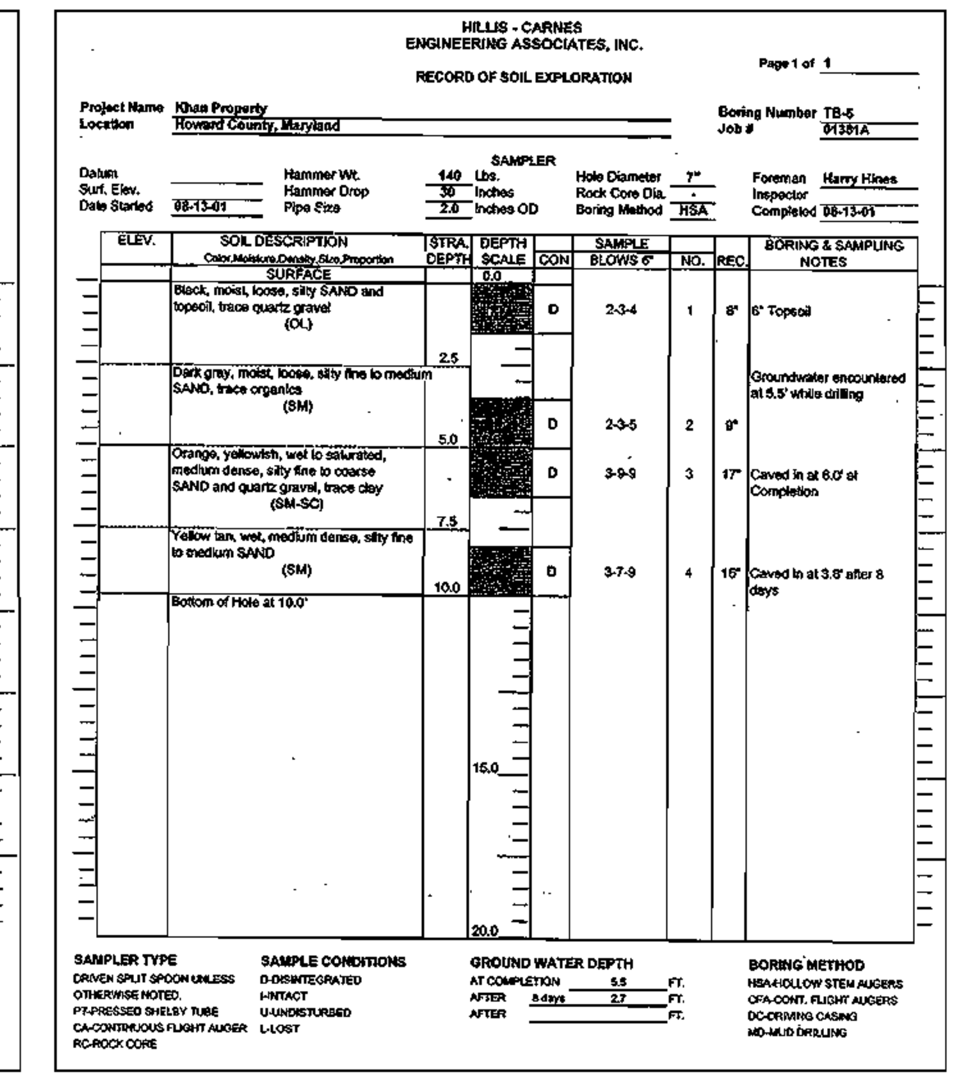
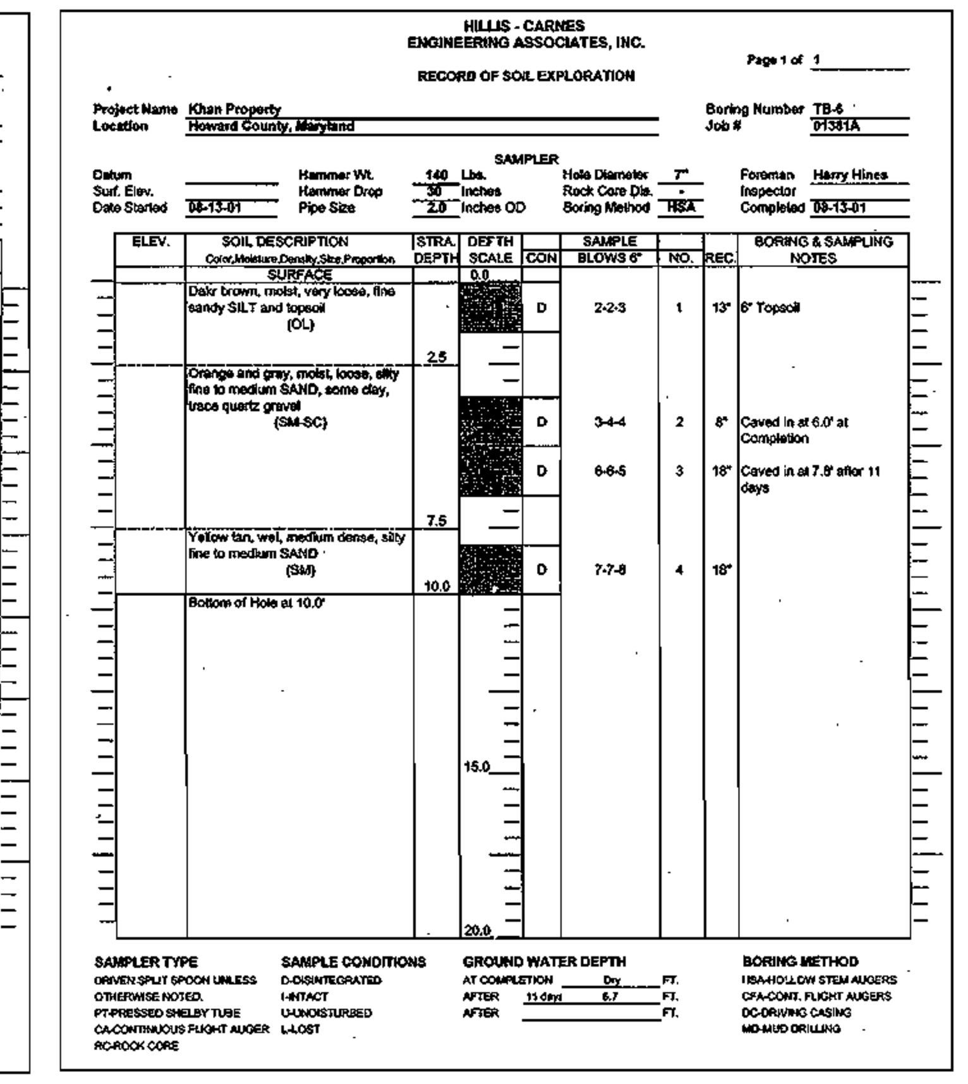
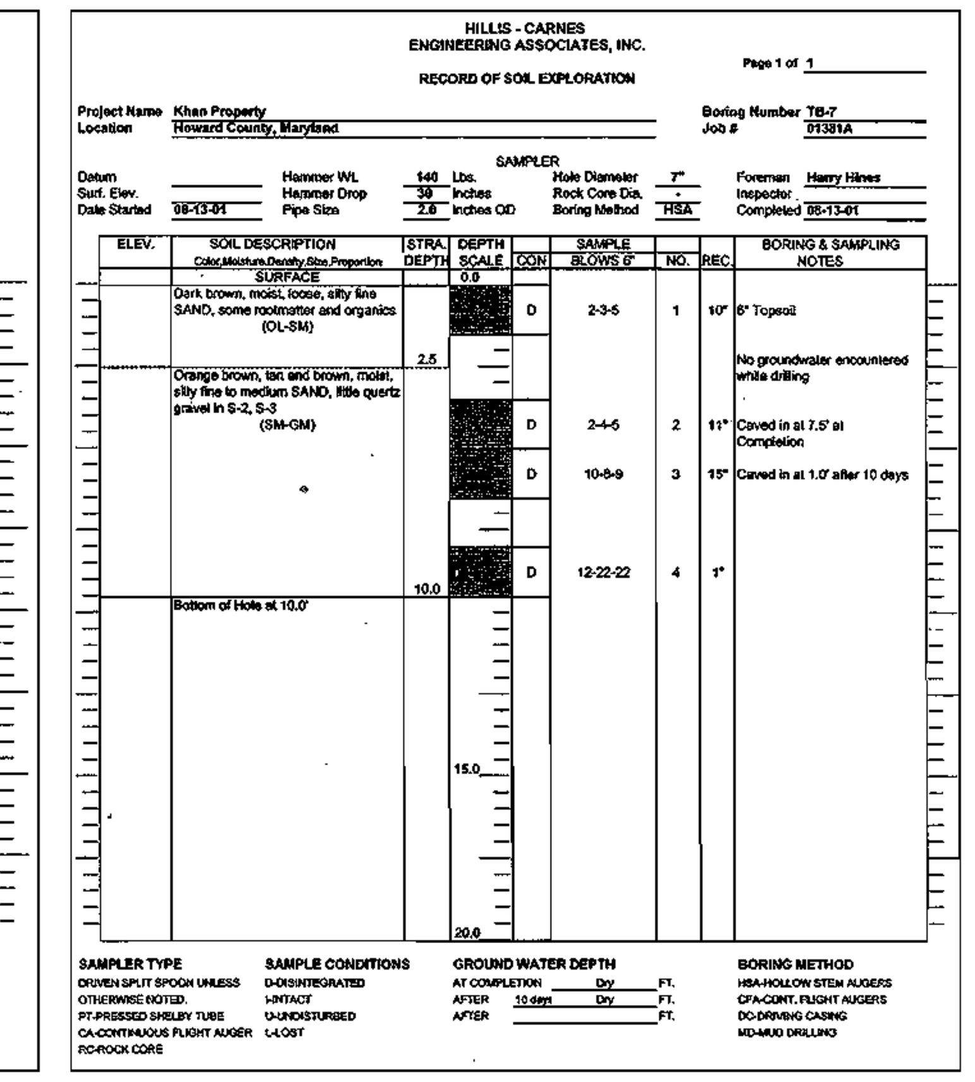
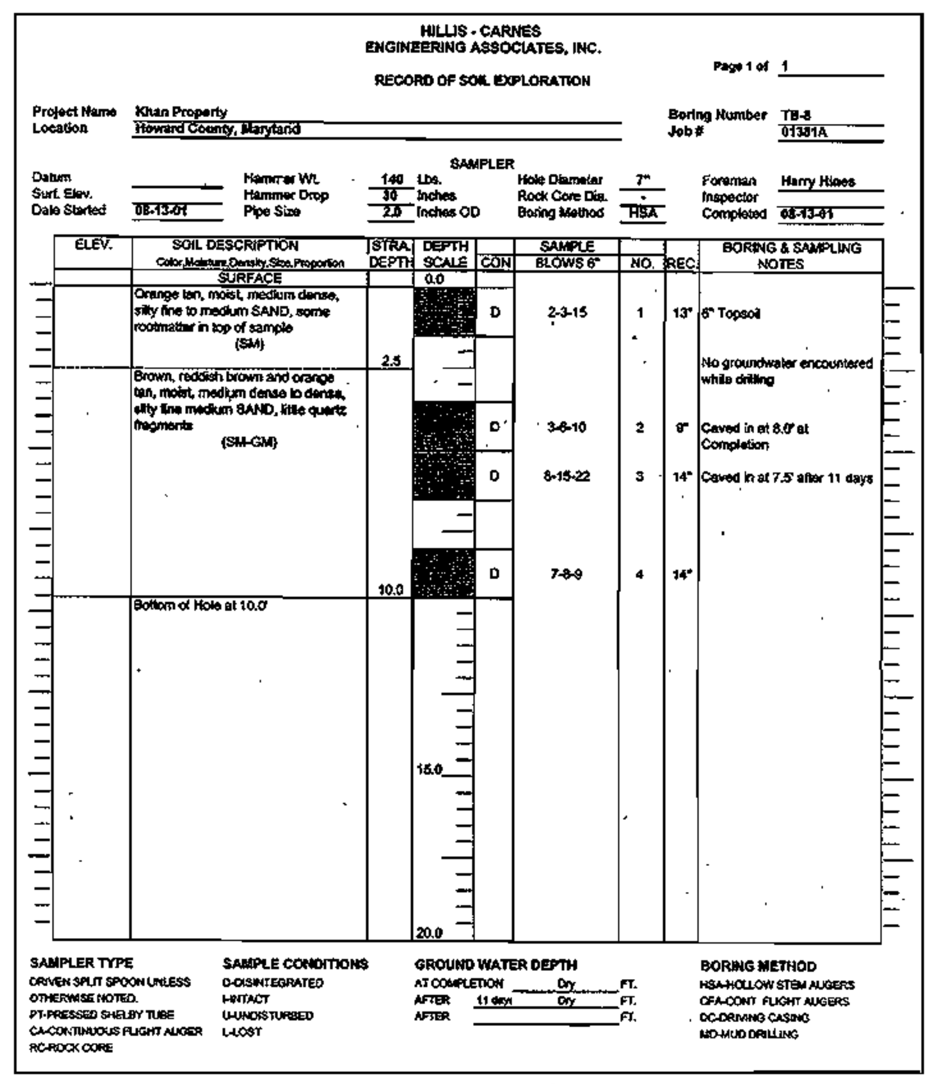
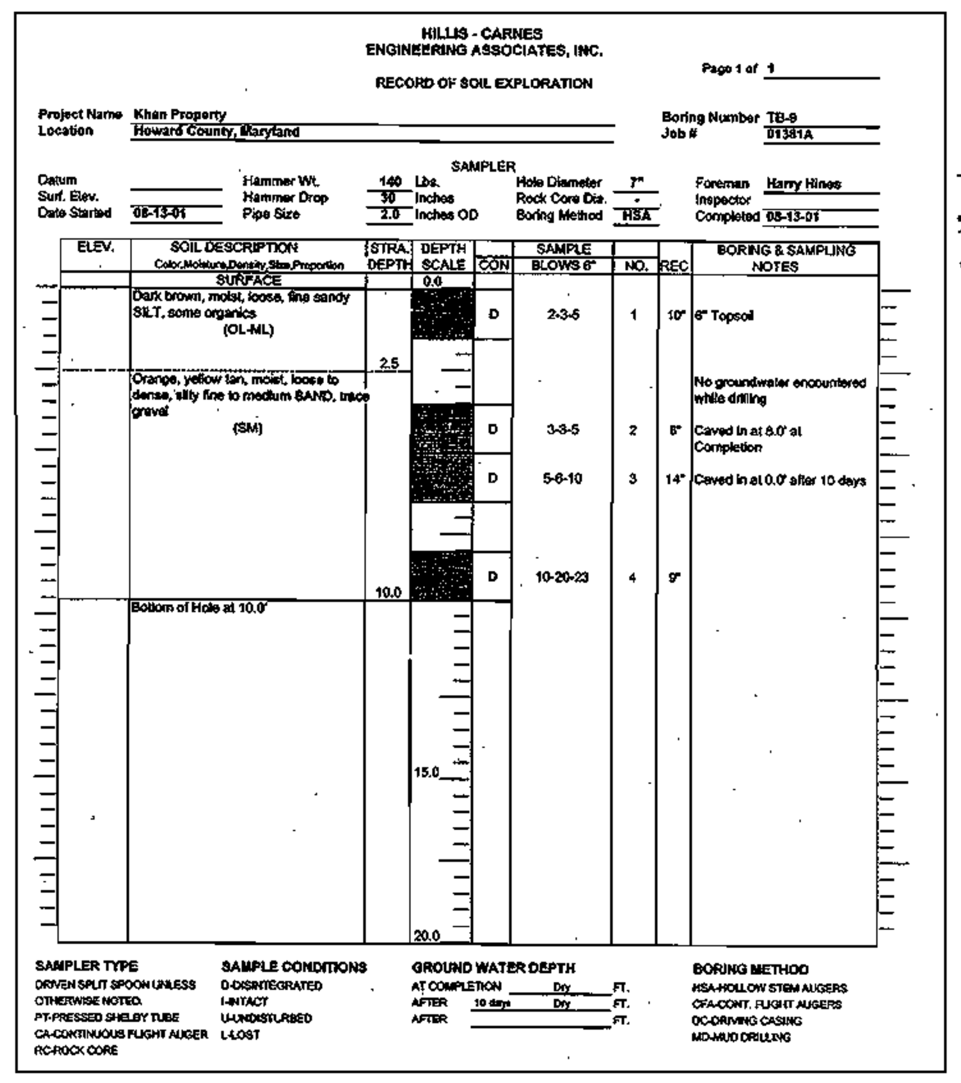
TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

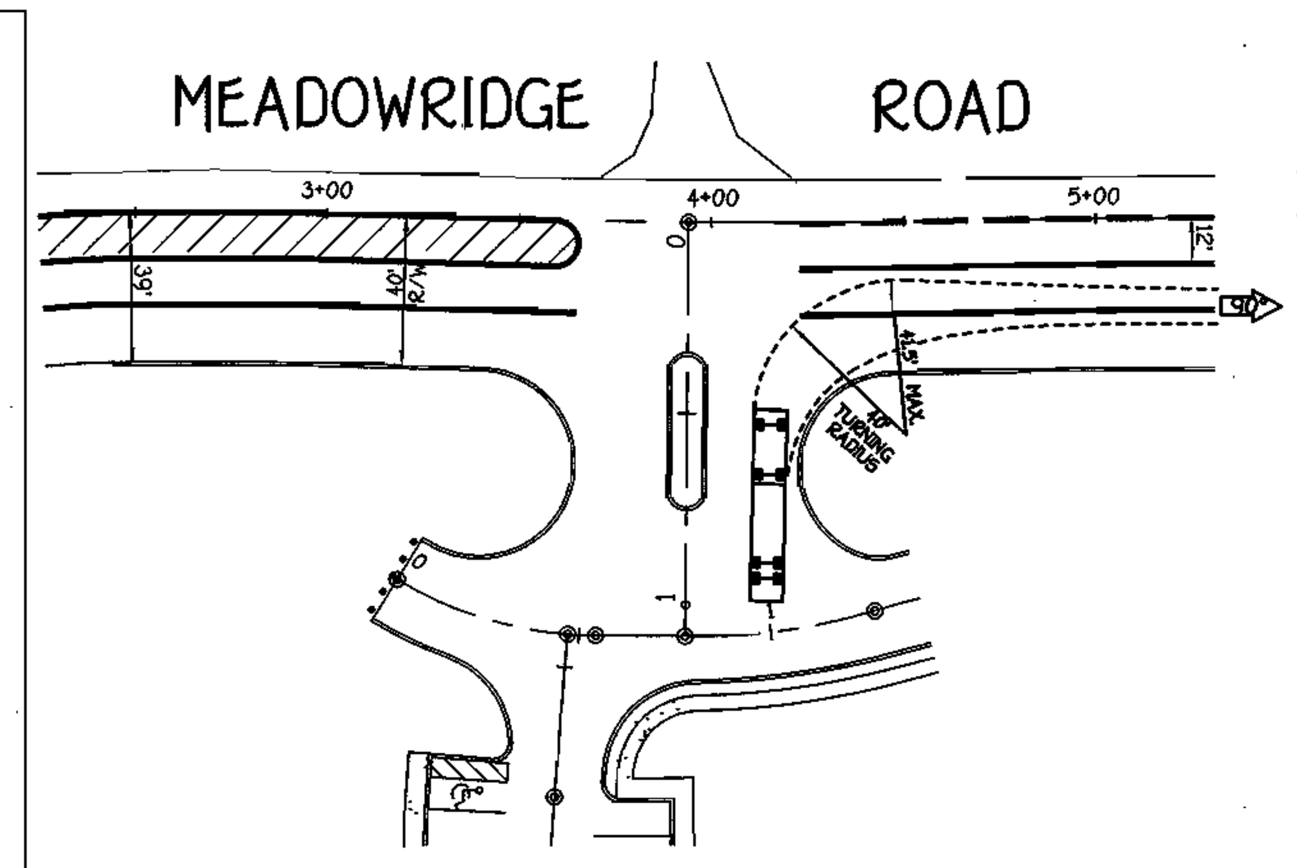
ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 21 OF 24 **SDP 02-55**

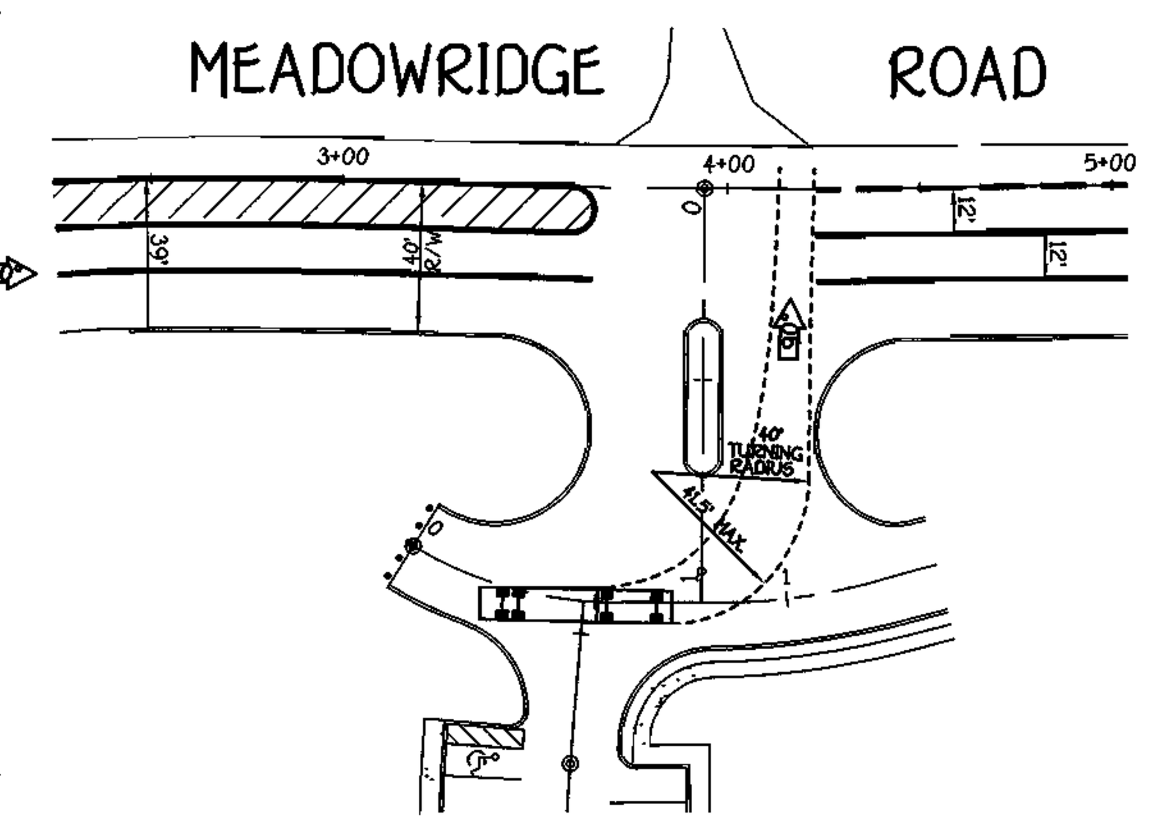
K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT20 FOREST CON NOTES.dwg, 8/21/2002 8:27:33 AM



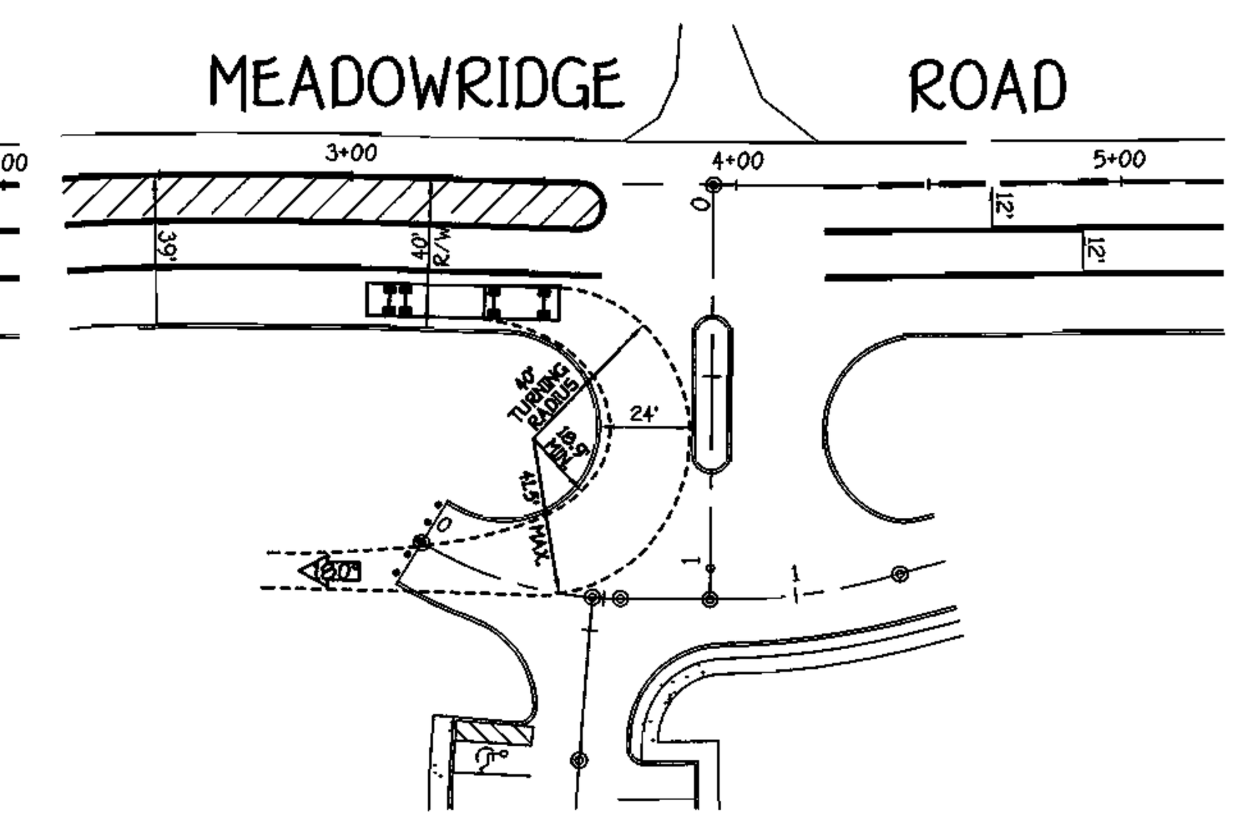
MINIMUM TURNING PATH FOR WB-40 DESIGN VEHICLE

SCALE: 1" = 50'



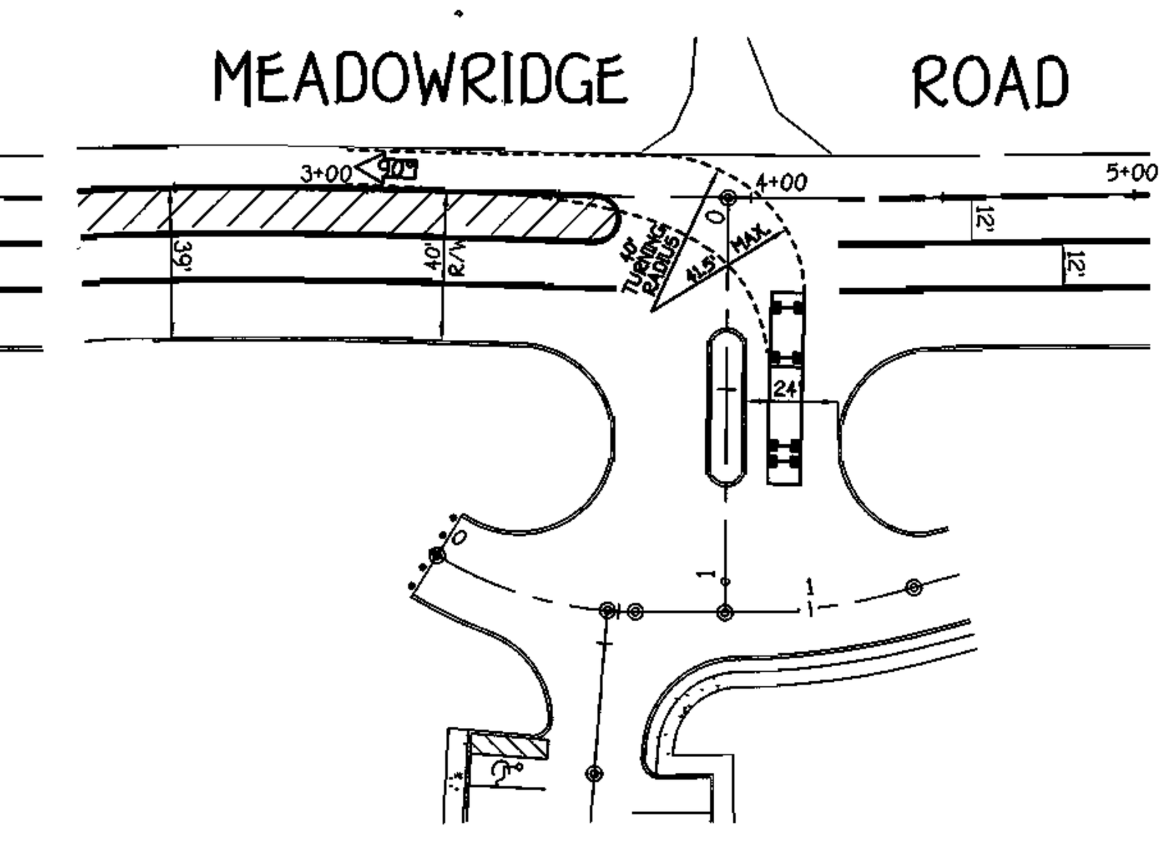
MINIMUM TURNING PATH FOR WB-40 DESIGN VEHICLE

SCALE: 1" = 50'



MINIMUM TURNING PATH FOR WB-40 DESIGN VEHICLE

SCALE: 1" = 50'



MINIMUM TURNING PATH FOR WB-40 DESIGN VEHICLE

SCALE: 1" = 50'

4.5 Groundwater

Groundwater levels were monitored in the open boreholes. In the proposed building area, groundwater was only encountered on the sampling spoon at a depth of 29± ft in Boring TB-13.

A more accurate determination of the hydrostatic water table would require the installation of perforated pipes or piezometers which could be monitored over an extended period of time. The actual level of the hydrostatic water table and the amount and level of perched water should be anticipated to fluctuate throughout the year, depending on variations in precipitation, surface run-off, infiltration, site topography, and drainage.

5.0 EVALUATIONS AND RECOMMENDATIONS

Our findings indicate that the site can be developed for the proposed construction utilizing conventional spread footings and ground-supported slab construction. Special consideration should be given to the proper monitoring of fill operations, footing excavations, and concrete placement in all structural areas. Footings should not be constructed on or over any existing fill materials, should such materials be encountered at the site.

The following recommendations have been developed on the basis of the previously described project characteristics and subsurface conditions. If there are any changes to the project characteristics or if different subsurface conditions are encountered during construction, HCEA should be consulted so that the recommendations of this report can be reviewed and revised, if necessary.

5.1 General Site Preparation

The initial step in the development of this site should be the controlled removal of surficial topsoil, wet or soft soils, and deleterious materials from the areas to be developed. Stripping operations should be performed in a manner consistent with good erosion and sediment control practices.

After the initial stripping process is completed, areas of the site to receive fill, or areas of the site at-grade where structures will be located, should be proofrolled. The proofrolling operations should be performed using a 20-ton, fully-loaded dump truck. The purpose of the proofrolling will be to provide surficial densification and to locate any near-surface pockets of soft or loose soils requiring undercutting. A Geotechnical Engineer or experienced Soils Inspector should witness the proofrolling operations and should determine which areas need further undercutting and/or stabilization.

5.2 Fill Selection, Placement and Compaction

All material to be used as fill or backfill should be inspected, tested and approved by the Geotechnical Engineer. In general, the on-site soils which are free from organic and other deleterious components can be re-used as general site fill. Materials suitable for various construction purposes can be identified by an experienced Soils Inspector during grading operations.

Extensive moisture conditioning (that is, wetting or drying) of the clayey soils should be anticipated to achieve proper compaction. The moisture contents of the soils should be controlled properly to avoid extensive construction delays. If imported fill material is required, those materials should have Unified Soil Classifications of SM or better.

It is recommended that the more granular materials encountered be utilized in the upper 2± feet of the pavement areas, if possible. Selectively placing these materials could result in higher subgrade California Bearing Ratio (CBR) values, thereby reducing paving costs.

All fill should be placed in relatively horizontal 8-inch (maximum) loose lifts and should be compacted to a minimum of 95 percent of the Standard Proctor (ASTM D-698) maximum dry density. Fill materials in landscape and other non-structural areas should be compacted to at least 90 percent of the Standard Proctor maximum dry density if significant subsidence of the fill under its own weight is to be avoided. Field moisture contents should be maintained within 2 percentage points of the optimum moisture content in order to provide adequate compaction.

Structural fill should extend a minimum of ten feet beyond building lines where floor slabs are to be constructed on the fill. Fill slopes no steeper than 2(H):1(V), or flatter, should be used. A sufficient number of in-place density tests should be performed by an experienced Engineering Technician on a full-time basis to verify that the proper degree of compaction is being obtained.

5.3 Foundations

Based on the plan provided to this office, it appears that the proposed finished floor elevation will result in the building being located predominantly in cut. As much as 18± ft of cut will be required on the western side of the building. The northeastern corner of the building will be located roughly near existing grades. As such, it is anticipated that the proposed building will be supported on natural soils.

Our findings indicate that the proposed structure can be supported on spread footings bearing on firm natural soils. Based on the maximum anticipated structural loads, the maximum allowable settlement, and the general soil conditions which were encountered, it is our judgment that a net allowable design soil bearing pressure of 4000 lbs/sq ft will be appropriate for proportioning foundations support on firm, natural soils.

All footing excavations should be inspected by a Geotechnical Engineer or experienced Soils Inspector prior to the placement of concrete. The purpose of the inspection would be to verify that the exposed materials will be capable of supporting the design bearing pressure. If soft or loose pockets are encountered in the footing excavations, the unsuitable materials should be removed and the footings should be located at a lower elevation. Alternatively, the unsuitable materials could be undercut and replaced with lean (2000 psi) concrete. Particular attention should be paid to the vicinity of Boring TB-13 where loose materials were encountered near anticipated foundation bearing elevation. Attention should also be paid to areas where minimal cuts are required to reach proposed finished grades.

To preclude punching shear failures, wall footings should be at least 18 inches wide and column footings should be at least 24 inches wide. Since a net soil pressure is specified, the weights of the footing concrete and backfill need not be added to the structural loads when proportioning the footings.

Exterior footings and footings in unheated areas should be located at depths of at least 2.5 ft below final exterior grades so as to provide adequate protection from frost heave. If the structure is to be constructed during the winter months or if the building interior will likely be subjected to freezing temperatures after footing construction, then all footings should be provided with adequate frost cover protection. Otherwise, interior footings can be located on suitable materials at nominal depths below finished floor grade.

5.4 Ground-Supported Slabs

Floor slabs should be supported on approved, firm natural soils, or on new compacted fill. The slab subgrade should be prepared in accordance with the procedures outlined in Sections 5.1 and 5.2 of this report. In particular, the slab subgrade should be heavily proofrolled to delineate any soft or loose areas requiring undercutting and/or stabilization.

It is recommended that the slab be directly supported on a minimum 4-inch layer of clean granular materials such as washed sand, clean sand and gravel, or screened, crushed stone. These materials will require acquisition from an off-site source. A suitable moisture/vapor barrier (that is,

polyethylene sheeting) should also be provided. These procedures will provide a moisture break that will help to prevent capillary rise, dampness of the floor slabs and also help to cure the slab concrete. It is also recommended that construction joints on the slab surface and isolation joints between the slab and structural walls be provided (such that the slab would be ground-supported).

On most projects, there is a significant time lag between initial grading and a point when the contractor is ready to pour the slabs-on-grade. Environmental conditions and construction traffic often disturb the subgrade soils. Provisions should be made in the construction specifications for the restoration of the subgrade soils to a stable condition prior to the placement of the concrete for the floor slabs.

5.5 Groundwater and Drainage

In the proposed building area, groundwater was only encountered on the sampling spoon at a depth of 29± ft in Boring TB-13. Therefore, major groundwater-related problems are not anticipated during the building construction.

Any water infiltration resulting from precipitation, surface run-off, or perched water should be able to be controlled by means of sump pits and pumps, or by gravity ditching procedures. If conditions are encountered that cannot be handled in such a manner, the Geotechnical Engineer should be consulted.

Adequate drainage should be provided at the site to minimize any increases in the moisture contents of the foundation soils. All pavement or parking areas should be sloped away from the structure to prevent ponding of water around the building. The site drainage should also be such that run-off onto adjacent properties is controlled properly.

5.6 Below-Grade and Retaining Walls

The magnitude of lateral earth pressure against subsurface walls is dependent on the type of backfill soil, drainage provisions, and whether the walls are permitted to yield during and/or after placement of the backfill. If the walls are designed as free-standing walls with unrestricted rotation at the top, then an equivalent fluid pressure distribution considering an equivalent fluid weight of 45 lbs/ft can be used for design purposes. For walls that are designed such that movement of the top of the wall is prohibited, an equivalent fluid pressure distribution considering an equivalent fluid weight of 60 lbs/ft should be used for design purposes. Any surcharge loadings must also be considered in the wall designs.

Generally, backfill materials behind the walls should consist of granular soils having classifications of SM or better. Because of a potential for swelling, cohesive materials should not be used as wall backfill except, perhaps, in the upper most 1 ft where a relatively impermeable layer will be desirable in order to minimize the infiltration of the subsurface drainage into the granular backfill behind the wall. It is considered essential that all backfill materials be inspected and approved by the Geotechnical Engineer prior to their use.

Wall backfill materials should be compacted to dry densities on the order of 95 percent of the Standard Proctor maximum dry density. We wish to point out that it may be necessary to use smaller walk-behind compaction equipment near the walls to attain the proper compaction but to avoid damaging the walls. Also, the walls should be properly braced during backfilling operations.

An adequate drainage system should be provided behind walls such that any surface infiltration or groundwater is intercepted and disposed. Otherwise, hydrostatic pressures should also be considered in the wall design.

5.7 Stormwater Management by Infiltration

We have evaluated the site subsurface conditions at the test boring locations drilled in the vicinities of the proposed SWM facilities in accordance with the State of Maryland's, "2000 Maryland Stormwater Design Manual, Volumes I & II". The following information is provided for planning stormwater management measures:

1. Location of seasonal high groundwater table.

Groundwater was monitored during the drilling of the borings. Groundwater was encountered at the following locations :

Boring	Approximate Depth to Groundwater (ft)
TB-1	7.0
TB-2	6.0
TB-4	8.0
TB-5	5.5
TB-6	6.7

An accurate determination of the hydrostatic water table would require the installation of perforated pipes or piezometers which could be monitored over an extended period of time. The actual level of the hydrostatic water table and the amount and level of perched

water should be anticipated to fluctuate throughout the year, depending on variations in precipitation, surface run-off, infiltration, site topography, and drainage. Site grading operations at other parts of the site can also influence the level of the groundwater at the stormwater management area significantly. HCEA cannot be responsible for changes in groundwater conditions at the site due to seasonal variation and changes caused by other factors such as grading operations at the site.

2. Subsurface Conditions

The soils encountered in the borings consisted predominantly of silty sand and gravel (SM-GM), silty sand (SM), and silty sand with clay (SC-SM). In-situ infiltration testing was performed at locations offset from each borehole, except for Boring B-5 where groundwater was encountered at depths shallower than the proposed in-situ infiltration test depth in the boring. We must point out that the in-situ infiltration rates obtained have had no factor of safety applied to them. The results of the in-situ tests are as follows:

Boring	Measured In-Situ Infiltration Rate (in/hr)
TB-1	0.000
TB-2	0.125
TB-3	2.188
TB-4	0.000
TB-6	0.063
TB-7	6.750
TB-8	5.375
TB-9	0.000
TB-A	4.125
TB-B	5.188
TB-C	2.063

Information pertaining to the soil and groundwater conditions encountered in the SWM area borings can be found on the Records of Soil Exploration in the Appendix.

3. Bedrock

Bedrock was not encountered within the depths explored in the SWM area borings during this exploration. However, seams of denser material were encountered at various locations within the borings.

Based on the State of Maryland's "2000 Maryland Stormwater Design Manual, Volumes I & II", infiltration basins and trenches are not acceptable practices when an infiltration rate of less than 0.52 inches per hour is obtained. Bioretention facilities in areas with in-situ infiltration rates of less than 0.52 inches per hour require underdrains. Also, the bottom of the facility should be located a minimum of 4 ft above the seasonally high water table and/or bedrock.

Specific details pertaining to the design of the proposed SWM facilities were not available at the time that this report was being prepared. HCEA is therefore unable to comment on the feasibility of utilizing infiltration methods of SWM for the various facilities at the site.

6.0 RECOMMENDED ADDITIONAL SERVICES

Additional soil and foundation engineering, testing, and consulting services recommended for this project are summarized below:

Site Preparation and Proofrolling: A Geotechnical Engineer or experienced Soils Inspector should inspect the site after it has been stripped and excavated. The inspector should determine if any undercutting or in-place densification is necessary to prepare a subgrade for fill placement or for slab support.

Fill Placement and Compaction: A Geotechnical Engineer or experienced Soils Inspector should witness any required filling operations and should take sufficient in-place density tests to verify that the specified degree of fill compaction is achieved. He should observe and approve borrow materials used and should determine if their existing moisture contents are suitable.

Footing Excavation Inspections: A Geotechnical Engineer or experienced Soils Inspector should inspect the footing excavations for the building foundations. He should verify that the design bearing pressure is available and that no loose pockets exist beneath the bearing surfaces of the footing excavations. Based on the inspection, the Inspector would either approve the bearing surfaces or recommend that loose or soft soils be undercut to expose satisfactory bearing materials.

7.0 REMARKS

This report has been prepared to aid in the evaluation of the site for the proposed office building construction. It is considered that adequate recommendations have been provided to serve as a basis for design and preparation of plans and specifications. Additional recommendations can be provided as needed.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. 8/22/02
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development S.B. — Date 10/3/02
Chief, Development Engineering Division QWO — Date 9/20/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE	D 04		SEWER CODE	2610000	

SOIL BORINGS AND DETAILS

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

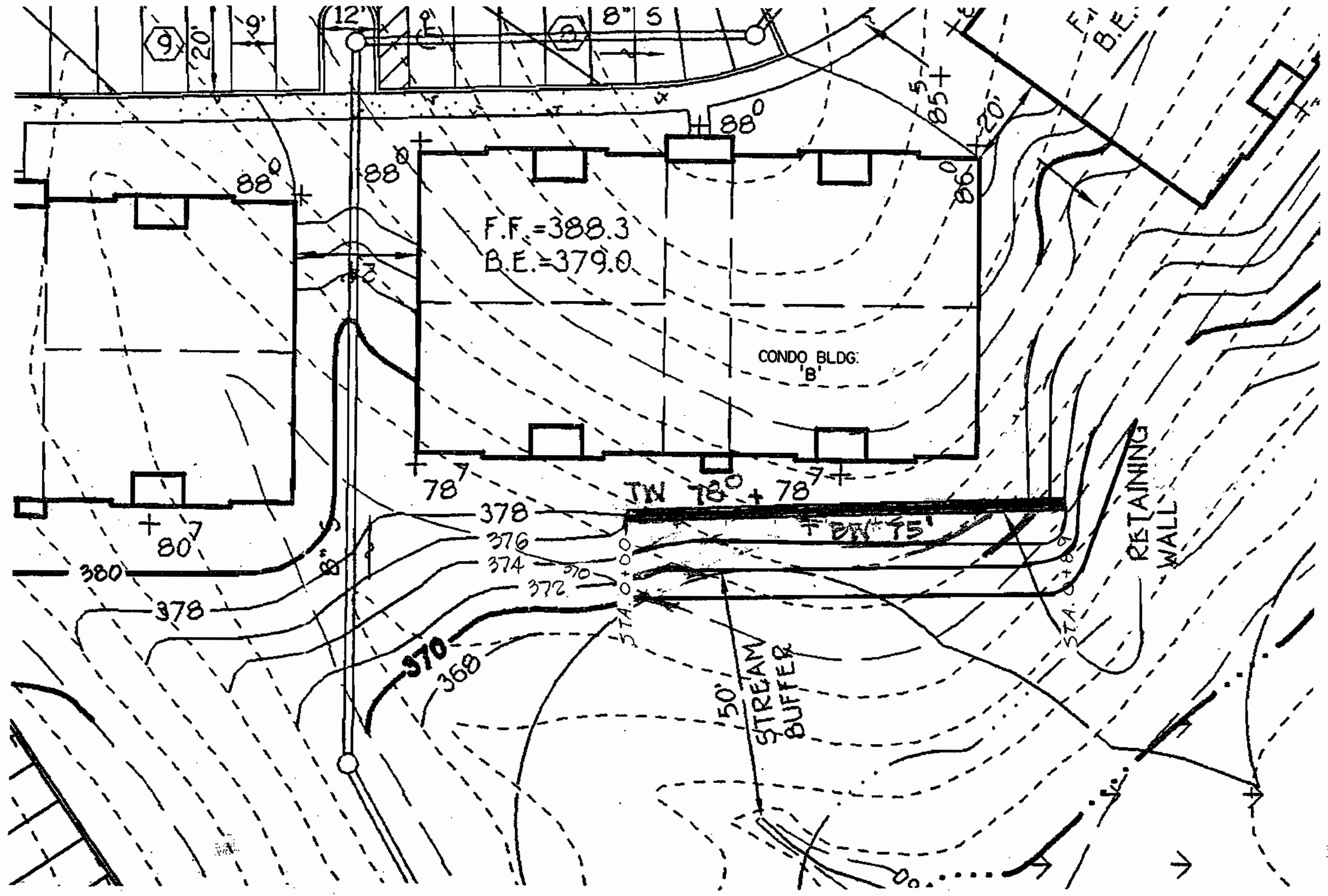
ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

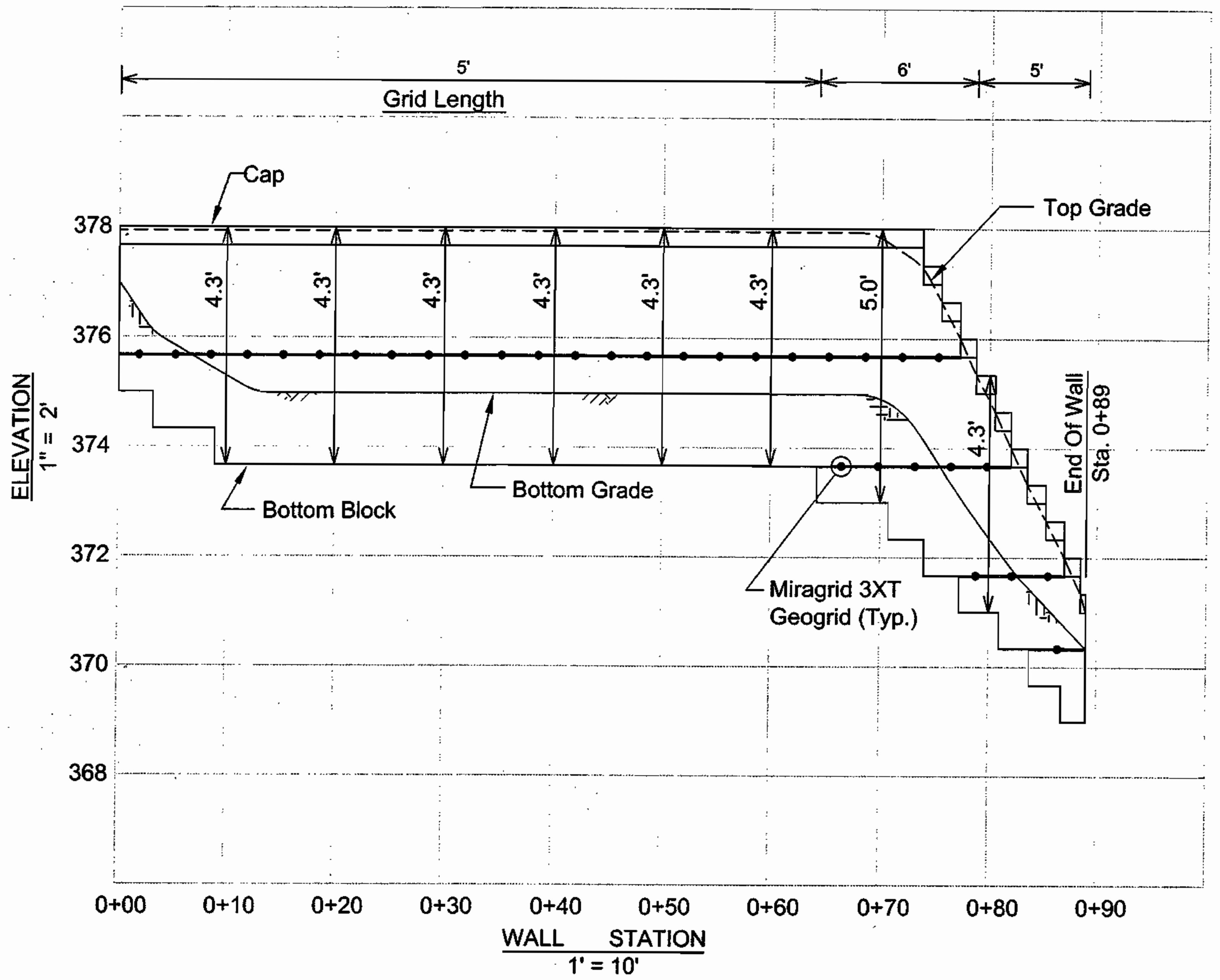
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 22 OF 24 **SDP 02-55**



RETAINING WALL LOCATION PLAN
1" = 20'



WALL ELEVATION

SPECIFICATIONS
KEYSTONE MODULAR CONCRETE BLOCK RETAINING WALL

PART 1:GENERAL

1.01 Description

A. Work shall consist of furnishing and construction of a KEYSTONE Retaining Wall System in accordance with these specifications and in reasonably close conformity with the lines, grades, design, and dimensions shown on the plans.

B. Work includes preparing foundation soil, furnishing and installing leveling pad, unit drainage fill and backfill to the lines and grades shown on the construction drawings.

C. Work includes furnishing and installing geogrid soil reinforcement of the type, size, location, and lengths designated on the construction drawings.

1.02 Delivery, Storage and Handling

A. Contractor shall check all materials upon delivery to assure that the proper type, grade, color, and certification has been received.

B. Contractor shall protect all materials from damage due to job site conditions and in accordance with manufacturer's recommendations. Damaged materials shall not be incorporated into the work.

PART 2: PRODUCTS

2.01 Modular Concrete Retaining Wall Units

A. Modular concrete units shall conform to the following architectural requirements:
Face color - concrete gray - standard manufacturers' color may be specified by the Owner.
Face finish - sculptured rock face in angular tri-planer configuration. Other face finishes will be allowed with written approval of Owner.
Bond configuration - running with bonds nominally located at midpoint of vertically adjacent units, in both straight and curved alignments.
Exposed surfaces of units shall be free of chips, cracks or other imperfections when viewed from a distance of 10 feet under diffused lighting.

B. Modular concrete materials shall conform to the requirements of ASTM C1372 - Standard Specifications for Segmental Retaining Wall Units.

C. Modular concrete units shall conform to the following structural and geometric requirements measured in accordance with appropriate references:
Compressive strength = 3000 psi minimum;
Absorption = 8 % maximum
Dimensional tolerances = ± 1/8" from nominal unit dimensions not including rough split unit dimensions, ±1/16" unit height - top and bottom planes;
Unit size - As specified on plan.

D. Modular concrete units shall conform to the following constructability requirements:
Vertical setback = 1/8"± per course (near vertical) or 1"+ per course per the design;
Alignment and grid positioning mechanism - fiberglass pins, two per unit minimum;
Maximum gap between erected units shall be - 1/2 inch.

2.02 Shear Connectors

A. Shear connectors shall be 1/2 inch diameter thermoset isopthalic polyester resin-protruded fiberglass reinforcement rods or equivalent to provide connection between vertically and horizontally adjacent units. Strength of shear connectors between vertical adjacent units shall be applicable over a design temperature of 10 degrees F to + 100 degrees F.

B. Shear connectors shall be capable of holding the geogrid in the proper design position during grid pre-tensioning and backfilling.

2.03 Base Leveling Pad Material

A. Material shall consist of a compacted #57 crushed stone base as shown on the construction drawings.

2.04 Unit Drainage Fill

A. Unit drainage fill shall consist of #57crushed stone

B. One cubic foot, minimum, of drainage fill shall be used for each square foot of wall face. Drainage fill shall be placed within cores of, between, and behind units to meet this requirement.

2.05 Reinforced Backfill

A. Reinforced backfill shall be type SM, be free of debris and meet the following gradation tested in accordance with ASTM D-422 and meet other properties shown on the plan:

Sieve Size	Percent Passing
2 inch	100-75
3/4 inch	100-75
No. 40	0-60
No. 200	0-35

Plasticity Index (PI) <15 and Liquid Limit <40 per ASTM D-4318.

B. Material can be site excavated soils where the above requirements can be met. Unsuitable soils for backfill (high plastic clays or organic soils) shall not be used in the reinforced soil mass.

2.06 Geogrid Soil Reinforcement

A. Geosynthetic reinforcement shall consist of geogrids manufactured specifically for soil reinforcement applications and shall be manufactured from high tenacity polyester yarn, or HDPE material.

2.07 Drainage Pipe

A. The drainage pipe shall be perforated corrugated HDPE pipe manufactured in accordance with ASTM D-1248.

PART 3: EXECUTION

3.01 Excavation

A. Contractor shall excavate to the lines and grades shown on the construction drawings. Owner's representative shall be responsible for inspecting and approving the excavation prior to placement of leveling material or fill soils.

3.02 Base Leveling Pad

A. Leveling pad material shall be placed to the lines and grades shown on the construction drawings, to a minimum thickness of 6 inches and extend laterally a minimum of 6" in front and behind the modular wall unit.

B. Leveling pad shall be prepared to insure full contact to the base surface of the concrete units.

3.03 Modular Unit Excavation

A. First course of units shall be placed on the leveling pad at the appropriate line and grade. Alignment and level shall be checked in all directions and insure that all units are in full contact with the base and properly seated.

B. Place the front of units side-by-side. Do not leave gaps between adjacent units. Layout of corners and curves shall be in accordance with manufacturer's recommendations.

C. Install shear/connecting devices per manufacturer's recommendations.

D. Place and compact drainage fill within and behind wall units. Place and compact backfill soil behind drainage fill.

E. Maximum stacked vertical height of wall units, prior to unit drainage fill and backfill placement and compaction, shall not exceed manufacturers recommendations.

3.04 Structural Geogrid Installation

A. Geogrid shall be oriented with the highest strength axis perpendicular to the wall alignment.

B. Geogrid reinforcement shall be placed at the strengths, lengths, and elevations shown on the construction design drawings or as directed by the Engineer.

C. The geogrid shall be laid horizontally on compacted backfill and attached to the modular wall units. Place the next course of modular concrete units over the geogrid. The geogrid shall be pulled taut, and anchored prior to backfill placement on the geogrid.

D. Geogrid reinforcements shall be continuous throughout their embedment lengths and placed side-by-side to provide 100% coverage at each level. Spliced connections between shorter pieces of geogrid or gaps between adjacent pieces of geogrid are not permitted.

3.05 Reinforced Backfill Placement

A. Reinforced backfill shall be placed, spread, and compacted in such a manner that minimizes the development of slack in the geogrid and installation damage.

B. Reinforced backfill shall be placed and compacted in lifts not to exceed 6 inches where hand compaction is used, or 8 - 10 inches where heavy compaction equipment is used. Lift thickness shall be decreased to achieve the required density as required.

C. Reinforced backfill shall be compacted to 95% of the maximum density as determined by ASTM D698. The moisture content of the backfill material prior to and during compaction shall be uniformly distributed throughout each layer and shall be + 3% to - 3% of optimum.

D. Only lightweight hand-operated equipment shall be allowed within 3 feet from the tail of the modular concrete unit.

E. Tracked construction equipment shall not be operated directly upon the geogrid reinforcement. A minimum fill thickness of 6 inches is required prior to operation of tracked vehicles over the geogrid. Tracked vehicle turning should be kept to a minimum to prevent tracks from displacing the fill and damaging the geogrid.

F. Rubber tired equipment may pass over geogrid reinforcement at slow speeds, less than 10 MPH. Sudden braking and sharp turning shall be avoided.

G. At the end of each day's operation, the Contractor shall slope the last lift of reinforced backfill away from the wall units to direct runoff away from wall face. The Contractor shall not allow surface runoff from adjacent areas to enter the wall construction site.

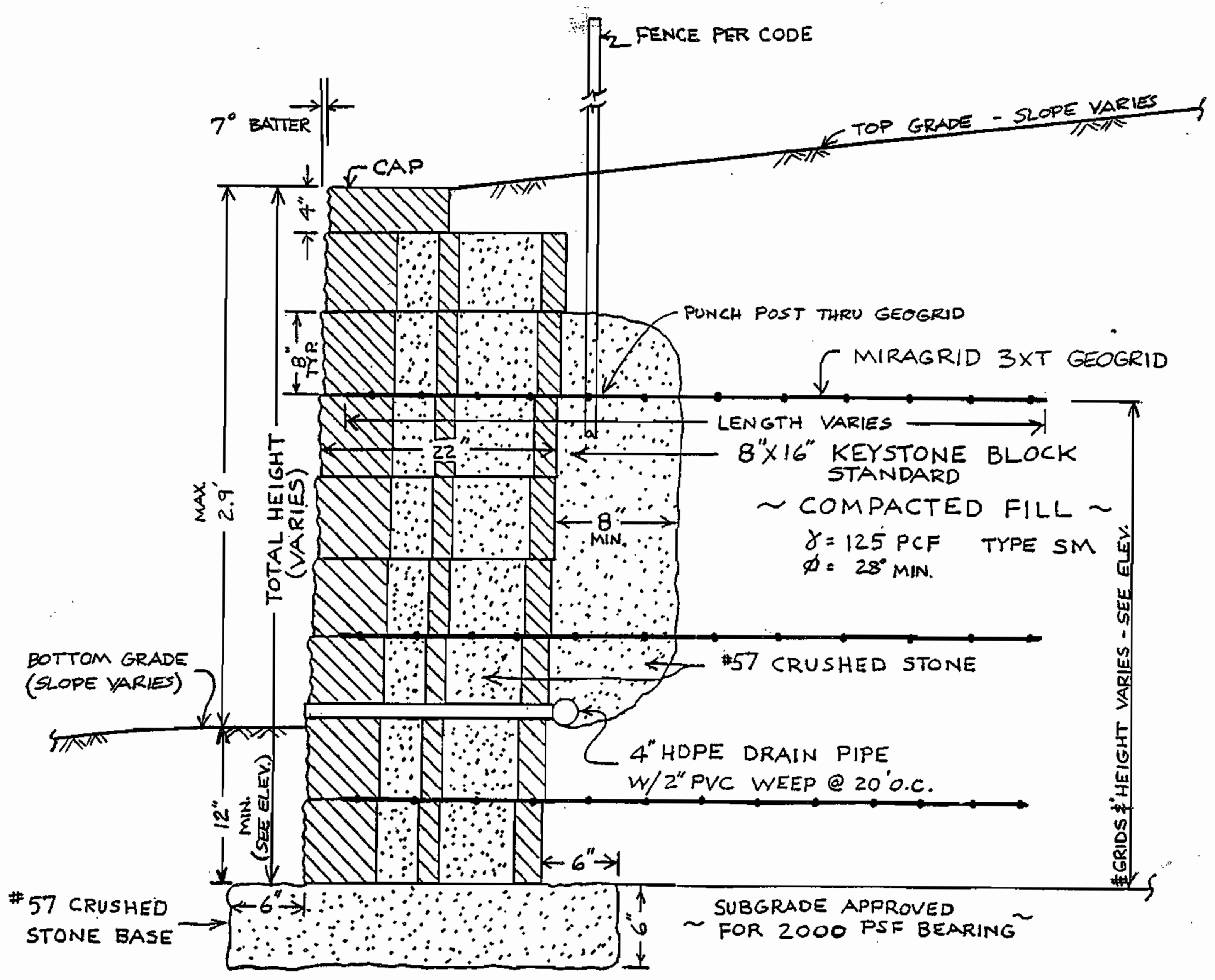
3.06 Cap Installation

A. Cap units shall be glued to underlying units with an all-weather adhesive recommended by the manufacturer.

3.07 Field Quality Control

A. The Owner shall engage inspection and testing services, including independent laboratories, to provide quality assurance and testing services during construction.

B. As a minimum, quality assurance testing should include foundation soil inspection, soil bearing and backfill testing, verification of design parameters, and observation of construction for general compliance with design drawings and specifications.



TYPICAL WALL SECTION
N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning	Date 10/3/02
Chief, Division of Land Development	Date 10/3/02
Chief, Development Engineering Division	Date 9/30/02

SUBDIVISION				SECTION/AREA		LOT NO.
THE COURTYARDS AT THE TIMBERS						
PLAT NO.	BLOCK NO. 3	ZONE POR	TAX/ZONE 37	ELEC. DIST. 1ST	CENSUS TR. 6030	
WATER CODE			SEWER CODE			

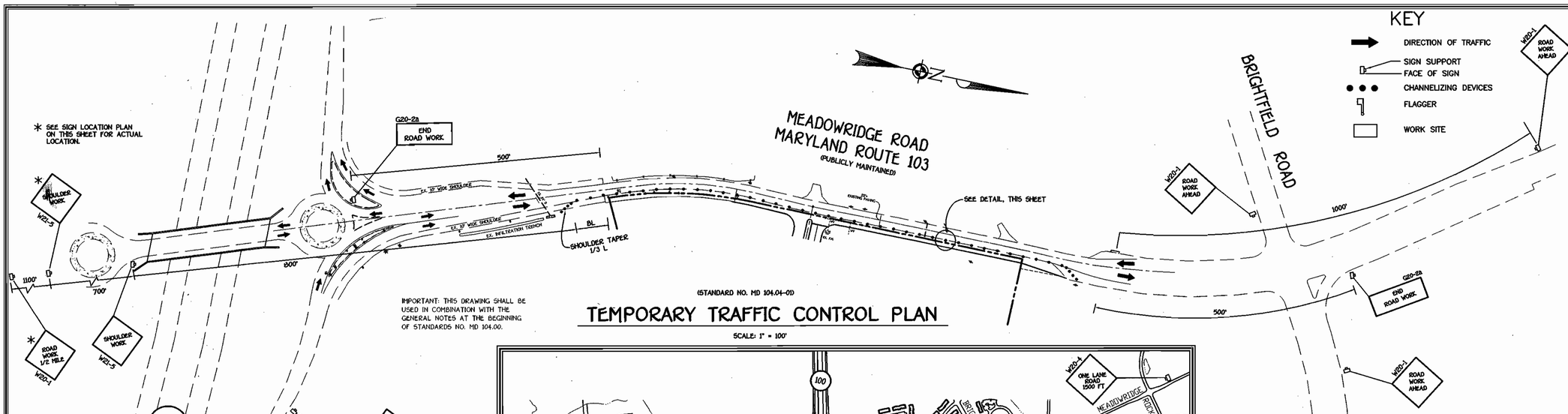
DEVELOPER/OWNER
LAND DESIGN AND DEVELOPMENT, L.L.C.
800 MAIN STREET
ELLICOTT CITY, MARYLAND 20143

BUILDER
RYAN HOMES, INC
11460 CRONRIDGE DRIVE #128
OWINGS MILLS, MD. 21117

HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
12011 Guilford Road - Suite 106, Annapolis Junction, Maryland
(410) 880-4788 Fax: (410)880-4098

JOB NUMBER: 00188-A	DESIGNED BY: RWS		
SCALE: AS SHOWN	DRAWN BY: AM		
DATE: 9/7/01	APPROVED BY: RMH		
PAGE	REVISED DATE:		

RETAINING WALL CONSTRUCTION DETAIL
THE COURTYARDS AT THE TIMBERS HOWARD COUNTY, MARYLAND

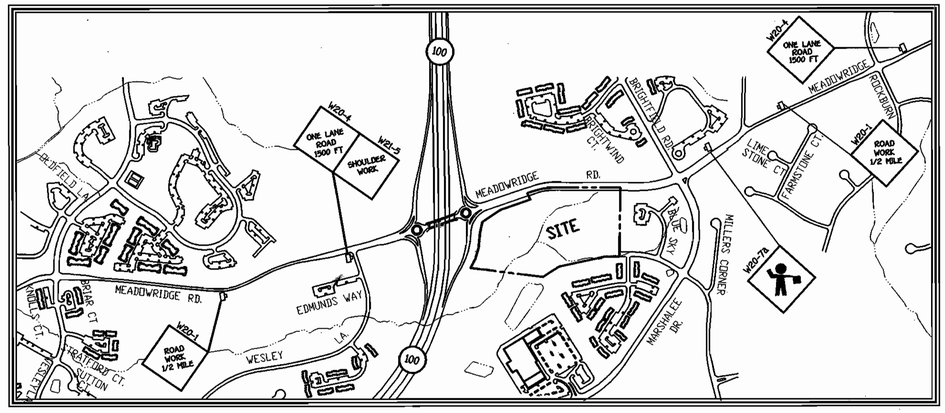


(STANDARD NO. MD 104.04-01)

TEMPORARY TRAFFIC CONTROL PLAN

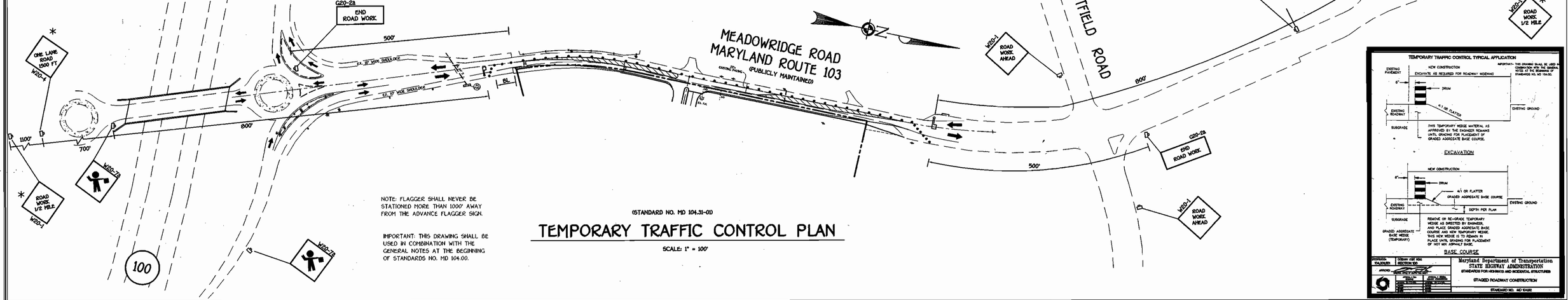
SCALE: 1" = 100'

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. MD 104.00.



SIGN LOCATION PLAN

SCALE: 1" = 600'



NOTE: FLAGGER SHALL NEVER BE STATIONED MORE THAN 1000' AWAY FROM THE ADVANCE FLAGGER SIGN.

IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES AT THE BEGINNING OF STANDARDS NO. MD 104.00.

(STANDARD NO. MD 104.31-01)

TEMPORARY TRAFFIC CONTROL PLAN

SCALE: 1" = 100'

KEY

- DIRECTION OF TRAFFIC
- SIGN SUPPORT
- FACE OF SIGN
- CHANNELIZING DEVICES
- FLAGGER
- WORK SITE

MAINTENANCE OF TRAFFIC SPECIAL PROVISIONS

GENERAL

1. THE PURPOSE OF THIS PORTION OF THE SPECIAL PROVISION IS TO SET FOR THE TRAFFIC CONTROL REQUIREMENTS NECESSARY FOR THE SAFE AND EFFICIENT MAINTENANCE TO TRAFFIC WITHIN WORK AREAS, AND TO MINIMIZE ANY INCONVENIENCES TO THE TRAVELING PUBLIC AND THE CONTRACTOR AND/OR PERMITTEE.
2. PROPERTY TRAFFIC CONTROL THROUGH WORK AREAS IS ESSENTIAL FOR INSURING THE SAFETY AND THAT OF HIGHWAY WORKERS. HAS THE HIGHEST PRIORITY OF ALL TASKS WITHIN THIS PROJECT. THE PROPERTY APPLICATION OF THE APPROVED TRAFFIC CONTROL PLAN (TCP) WILL PROVIDE THE DESIRED LEVEL OF SAFETY.
3. THROUGHOUT THESE SPECIAL PROVISIONS, ANY MENTION OF THE TCP SHALL BE IMPLIED TO INCLUDE ANY COMBINATION OF TYPICAL TRAFFIC CONTROL STANDARDS WHICH FORM THE OVERALL TCP FOR THIS PROJECT WHICH HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER.
4. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE PROVISIONS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), 1988 EDITION, ESPECIALLY PART VI, AND TO SECTION 104 OF THE MARYLAND DOT STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS (JANUARY, 1982) INCLUDING ALL REVISIONS AND SUPPLEMENTS TO EACH.
5. THE CONTRACTOR AND/OR PERMITTEE SHALL BE REQUIRED TO ADHERE TO THE REQUIREMENTS SET FOR IN THE TCP AND THESE SPECIAL PROVISIONS, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. ANY REQUESTS TO MAKE MINOR CHANGES TO THE TCP OR THE SPECIAL PROVISIONS WITH REGARD TO THE TRAFFIC CONTROL ITEMS SHALL BE MADE IN WRITING TO THE ENGINEER A MINIMUM OF THREE(3) WORKING DAYS PRIOR TO THE PROPOSED SCHEDULING CHANGE. THE CONTRACTOR AND/OR PERMITTEE SHALL HAVE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO THE IMPLEMENTATION OF ANY CHANGE.
6. NO WORK SHALL BEGIN ON ANY WORK ACTIVITY OR WORK PHASE UNTIL ALL REQUIRED TRAFFIC CONTROL PATTERNS AND DEVICES INDICATED ON THE TCP FOR THAT ACTIVITY OR PHASE ARE COMPLETELY AND CORRECTLY IN PLACE, TO HAVE BEEN CHECKED FOR APPROVED USAGE.
7. GENERAL AND SPECIFIC WARNING SIGNS SHALL ONLY BE IN PLACE WHEN SPECIFIC WORK TASKS AND ACTIVITIES ARE ACTUALLY UNDERWAY OR CONDITIONS EXIST THAT POSE A POTENTIAL HAZARD TO THE PUBLIC, AND ANY ADDITIONAL SIGNING HAS BEEN APPROVED BY THE APPROPRIATE SHA TRAFFIC ENGINEER. NOTE: THE PRACTICE OF PLACING SIGNING AND OTHER TRAFFIC CONTROL DEVICES IN ADDITION TO THOSE INDICATED ON THE APPROVED TCP IS NOT PERMITTED.
8. THE CONTRACTOR AND/OR PERMITTEE SHALL PROVIDE, MAINTAIN IN NEW CONDITION, AND MOVE WHEN NECESSARY, OR AS DIRECTED BY THE ENGINEER, ALL TRAFFIC CONTROL DEVICES USED FOR THE GUIDANCE AND PROTECTION OF MOTORISTS, PEDESTRIANS, AND WORKERS.
9. ALL TRAFFIC CONTROL DEVICES REQUIRED BY THE TCP SHALL BE KEPT IN GOOD CONDITION, FULLY PERFORMING AS SET FORTH IN THE TCP, THE MUTCD, AND/OR SECTION 104 OF THE SPECIFICATIONS. FOR REFLECTIVE DEVICES, A PARTICULAR DEVICE IS ASSUMED TO HAVE FAILED TO MEET MINIMUM OPERATIONAL STANDARDS WHEN THE DEVICE NO LONGER HAS RETRO-REFLECTANCE CAPABILITY OF AT LEAST 60% OF THE SPECIFIED MINIMUM VALUE OVER AT LEAST 50% OF THE VISIBLE REFLECTIVE SURFACE.
10. ALL TRAFFIC CONTROL DEVICES NOT REQUIRED FOR THE SAFE CONDUCT OF TRAFFIC SHALL BE PROMPTLY REMOVED, COMPLETELY COVERED, TURNED AWAY FROM TRAFFIC, OR OTHERWISE TAKEN OUT OF SERVICE. IT IS INTENDED THAT NO TRAFFIC CONTROL DEVICE IS TO BE IN SERVICE WHEN THERE IS NO CLEAR CUT REASON FOR THE DEVICE.
11. THROUGHOUT THE PERIODS OF WORK ACTIVITIES, TRAFFIC SHALL BE MAINTAINED BY IMPLEMENTING THE APPROVED TCP. IN LIEU OF THE TCP PREPARED FOR THIS PROJECT, AND/OR INDIVIDUAL TYPICAL TRAFFIC CONTROL STANDARDS, THE CONTRACTOR AND/OR PERMITTEE HAS THE OPTION OF PREPARING AND SUBMITTING A TCP, WHOLLY OR IN PART, OF HIS OWN DESIGN, FOLLOWING GUIDELINES SET FORTH IN THE MUTCD AND PRESCRIBED BY THE ADMINISTRATION. A TCP DEVELOPED BY THE CONTRACTOR AND/OR PERMITTEE SHALL NOT BE IMPLEMENTED UNTIL ADVANCE WRITTEN APPROVAL IS OBTAINED FROM THE ENGINEER. TCPS MAY BE IMPLEMENTED WITHIN A SINGLE PROJECT OR JOINTLY BETWEEN TWO OR MORE PROJECTS. IN SITUATIONS WHERE TCP'S JOINTLY IMPLEMENTED, CARE SHALL BE EXERCISED TO PRESENT CORRECT AND NON-CONFLICTING GUIDANCE TO THE TRAVELING PUBLIC.
12. THROUGHOUT THESE SPECIAL PROVISIONS, WHERE SPEED OF TRAFFIC IS NOTED, THIS MEANS THE POSTED SPEED OR PREVAILING TRAVEL SPEED, WHICHEVER IS HIGHER, UNLESS OTHERWISE NOTED.
13. TRAFFIC SHALL BE MAINTAINED AT ALL TIMES THROUGHOUT THE ENTIRE LENGTH OF THE PROJECT, UNLESS OTHERWISE NOTED. NO TRAVEL LANE(S) OTHER THAN THOSE DESIGNATED FOR POSSIBLE CLOSURE, IN THE TCP SHALL BE CLOSED WITHOUT OBTAINING PRIOR APPROVAL FORM THE ENGINEER. ALL INGRESS AND EGRESS TO THE WORK AREA BY THE CONTRACTOR AND/OR PERMITTEE SHALL BE PERFORMED WITH THE FLOW OF TRAFFIC.

KEY

- DIRECTION OF TRAFFIC
- SIGN SUPPORT
- FACE OF SIGN
- CHANNELIZING DEVICES
- FLAGGER
- WORK SITE

* SEE SIGN LOCATION PLAN ON THIS SHEET FOR ACTUAL LOCATION.

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
	REVISION BLOCK

STATE OF MARYLAND — CHARLES J. CROVO — 13804 — REGISTERED PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S. — Signature of Engineer (print name below signature) — Date 8/22/02

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."

DONALD R. REUWER, JR. — Signature of Developer (print name below signature) — Date 8/22/02

DEVELOPER/OWNER

RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER

RYAN HOMES
11460 CRONRIDGE DRIVE
SUITE 120
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING

Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/15/02
Chief, Development Engineering Division — Date 9/30/02

SUBDIVISION			SECTION/AREA		PARCEL NO.
THE COURTYARDS AT THE TIMBERS					617
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

TRAFFIC CONTROL PLANS

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3

FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND

SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 24 OF 24 **SDP 02-55**

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT23 TRAFFIC CONTROL.dwg, 8/22/2002 2:12:57 PM

PLAN

SCALE: 1" = 50'

SEE SHEET 20 FOR FOREST CONSERVATION PLAN NOTES, CALCULATIONS, DETAILS, SPECIFICATIONS AND OFF-SITE REFORESTATION OBLIGATIONS.

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS

MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0610044B
JOHN P. CANOLES

FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
ELLICOTT CITY, MARYLAND 21042
(410) 461 - 2855

DATE	DESCRIPTION
7/31/03	REVISED PARKING & CONDO BUILDING 'A' (PLAN VIEW). ADDED SIDEWALK AND ASSOCIATED GRADING ALONG MEADOWRIDGE ROAD. ADDED STORM DRAIN EASEMENT AT I-13, REVISED GRADING AT SITE ENTRANCE, ADDED INLET I-15 AND STORM DRAIN PIPE TO I-2. REVISED 8" SEWER MAIN MH-120 AND MH-125, REVISED WHC TO 2" AND 6", AND REMOVED BASEMENT ELEVATION FROM CONDO BUILDINGS 'E', 'F' & 'G'

REVISION BLOCK

K:/Drawings3/30744/SDP-No Office Bldg/FOREST CONSERVATION PLAN.Dwg

STATE OF MARYLAND — CHARLES J. CROVO, SR. — REGISTERED — PROFESSIONAL ENGINEER

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."

CHARLES J. CROVO, SR., P.E., L.S.
Signature of Engineer (print name below signature) 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."

DONALD R. REUWER, JR. 8/22/02
Signature of Developer (print name below signature) Date

Prepared By:
John Canoles - Certification # WDCP93MD0610044B
8/21/02
Date

DEVELOPER/OWNER
RRSK, L.L.C.
c/o LAND DESIGN AND DEVELOPMENT, INC.
8000 MAIN STREET
ELLICOTT CITY, MARYLAND 21043

BUILDER
RYAN HOMES, INC.
11460 CRONRIDGE DRIVE
SUITE 128
OWINGS MILLS, MARYLAND 21117

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Director - Department of Planning and Zoning — Date 10/3/02
Chief, Division of Land Development — Date 10/3/02
Chief, Development Engineering Division — Date 9/20/02

SUBDIVISION			SECTION/AREA	PARCEL NO.	
THE COURTYARDS AT THE TIMBERS				617	
DEED REF.	BLOCK NO.	ZONE	TAX/ZONE	ELEC. DIST.	CENSUS TR.
5609 / 611	3	POR	37	1st.	6030
WATER CODE			SEWER CODE		
D 04			2610000		

ON-SITE FOREST CONSERVATION PLAN

THE COURTYARDS AT THE TIMBERS

TOWNHOUSE CONDOMINIUMS & CONDOMINIUM BUILDINGS

ZONED: POR

TAX MAP No.: 37 PARCEL No.: 617 GRID NO.: 3
FIRST ELECTION DISTRICT HOWARD COUNTY, MARYLAND
SCALE: AS SHOWN DATE: AUGUST 21, 2002

SHEET 19 OF 24 **SDP 02-55**

K:\Drawings 3\30744 KHAN Property\SDP - NO OFFICE BLDG\30744 SHT19 FOREST CON PLAN.dwg, 8/21/2002 8:27:12 AM