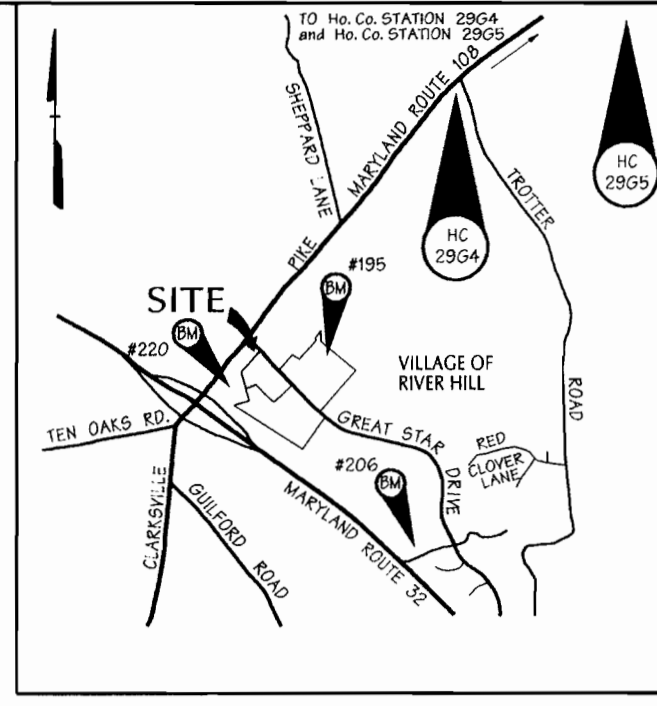


SITE DEVELOPMENT PLAN COLUMBIA

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS

VILLAGE OF RIVER HILL ♦ SECTION 4 ♦ AREA 1 ♦ PHASE 1 ♦ PARCEL B-1

5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



VICINITY MAP
SCALE: 1"=2000'

SHEET	DESCRIPTION
1	COVER SHEET
2	SITE PLAN
3	GRADING PLAN
4	SITE DETAILS
5	SITE DETAILS
6	STORM DRAIN PROFILES
7	SANITARY SEWER AND WATER PROFILES
8	DRAINAGE AREA MAP & SEDIMENT AND EROSION CONTROL PLAN
9	SEDIMENT & EROSION CONTROL DETAILS
10	SEDIMENT & EROSION CONTROL DETAILS
11	LANDSCAPE PLAN
12	LANDSCAPE & DETAILS
13	STORMWATER MANAGEMENT DRAINAGE AREA MAP
14	STORMWATER MANAGEMENT PLAN VIEW
15	STORMWATER MANAGEMENT PROFILES & DETAILS
16	STORMWATER MANAGEMENT CONSTRUCTION SPECIFICATIONS
17	SOIL BORING SPECIFICATIONS

SITE ANALYSIS :

- Zoning: New Town Apartments Per FDP Ph.222-A-1, Part 1
- Project Area 5.8 AC
- Area of submission 7.1 AC
- Proposed Use: Four - 4 Story Condominium Buildings
- Area Tabulation:
Total units allowed VORH A-1 + B-1 = 215 Units (A-1 is Currently Undeveloped)
Total units provided 108 Units Provided
A. Proposed Building Area Coverage = (4 X 15,000 SQFT.) + (5 X 1,584 SQFT.) / 5.8 AC = 27%
B. Limit of Disturbance 7.1 AC
- Parking Required 2 x 108 = 216
- Parking Provided: 88 Garages
88 Driveways
30 Detached Garages
46 Common Parking Spaces
252 Total Spaces

BENCHMARK

POINT No.	DESCRIPTION	ELEV.
195	1/2" x 1/8" REBAR w/ TRAV. CAP	445.28 N 561932.019 E 1331138.577
206	1/2" x 1/8" REBAR w/ TRAV. CAP	374.53 N 569936.249 E 1332328.583
220	1/2" x 1/8" REBAR w/ TRAV. CAP	457.14 N 561238.646 E 1329635.522

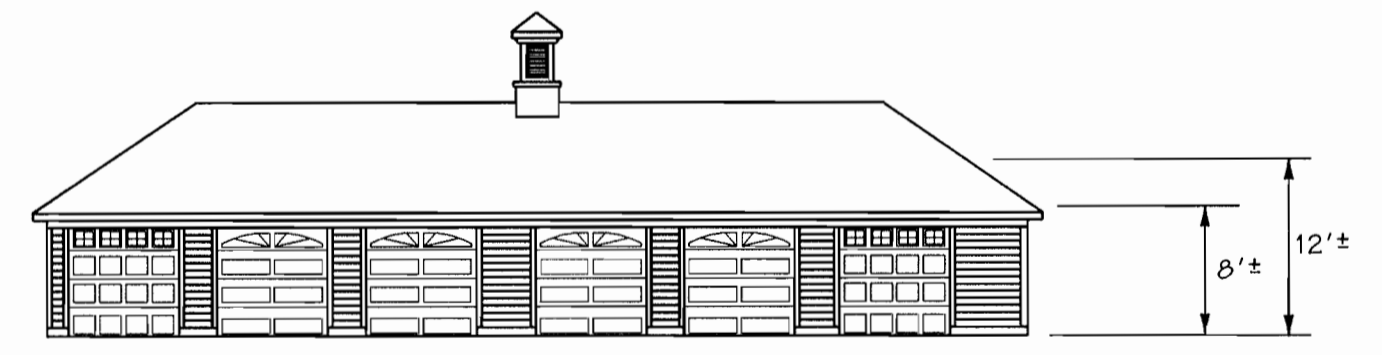
COORDINATES SHOWN HEREON ARE BASED ON MARYLAND COORDINATE SYSTEM MAD 83 AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS 29G4 AND 29G5

Address Chart

Bldg.	Street Address
A	5900 GREAT STAR DRIVE
B	5910 GREAT STAR DRIVE
C	5920 GREAT STAR DRIVE
D	5930 GREAT STAR DRIVE



BUILDING ELEVATION
NOT TO SCALE

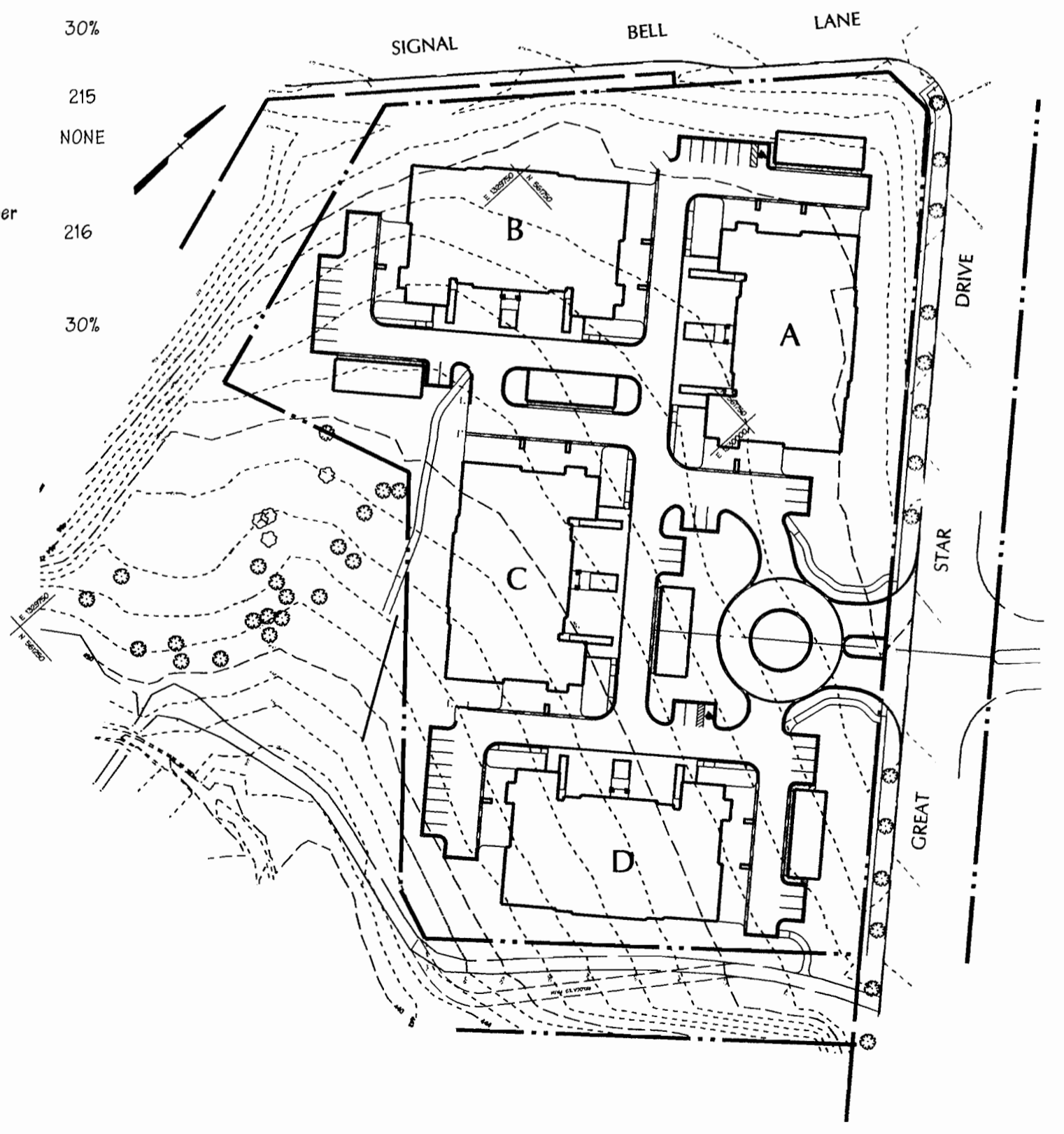


GARAGE ELEVATION
NOT TO SCALE

Address Chart

GARAGE NO.	Street Address
1	5902 GREAT STAR DRIVE
2	5912 GREAT STAR DRIVE
3	5914 GREAT STAR DRIVE
4	5922 GREAT STAR DRIVE
5	5932 GREAT STAR DRIVE

FDP Criteria	(FDP 222-A-1, Part 1)	Apartment Use
Item 6B-1.a.	Setback from public road	30'
Item 6B-1.b.	Setback from property line	40'
Item 6D-1.c.	Distance between parallel buildings Distance between buildings, all other situations	90' 40'
Item 6D-1.d.	Distance from parking areas and access drives to buildings	20'
Item 6D-1.f.	Maximum lot coverage by buildings and structures	30%
Item 7D-1.	Maximum number of apartment units Permitted on Parcels A-1 and B-1	215
Item 8D-1.	Height Limitation	NONE
Item 9D-1.	Parking Requirement Two off-street parking spaces required per unit (2 spaces/unit x 108 units); (162 sq.ft./space)	216
Item 12D-1.	Coverage Requirement Maximum coverage by buildings and structures	30%



LEGEND

- 370 --- 10' EXISTING CONTOUR
- 372 --- 2' EXISTING CONTOUR
- 370 --- 2' PROPOSED CONTOUR
- 372 --- 2' PROPOSED CONTOUR
- 372 --- STANDARD CURB & GUTTER R-3.01
- 372 --- REVERSE CURB & GUTTER R-3.01
- 372 --- DEPRESSED CURB R-3.01
- 24" S.D. --- PROPOSED STORM DRAIN
- 8" S. --- PROPOSED SEWER
- 8" W. --- PROPOSED WATER
- (12) --- PARKING COUNT
- ⊕ --- LIGHTING BY OTHERS (PEDESTRIAN FIXTURE MOUNTED ON 12'-14" POLE, METAL HALIDE LAMP)
- ⊙ --- PROPOSED STREET LIGHT 250 - WATT HPS VAPOR PENDANT FIXTURE (SAG LENS), MOUNTED AT 30' HT. ON A BRONZE FIBER GLASS POLE USING A 12" ARM.

GENERAL NOTES

- All construction shall be in accordance with the latest standards and specifications of Howard County.
- The contractor shall notify the Bureau of Engineering/Construction Inspection Division at (410) 313-1880 at least five (5) working days prior to the start of work.
- The contractor shall notify 'Misc Utility' at 1-800-257-7777 at least 48 hours prior to any excavation work.
- Traffic control devices, markings, and signing shall be in accordance with the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD). All street and regulatory signs shall be in place prior to the placement of any asphalt.
- All plan dimensions are to the face of curb unless otherwise noted.
- Topography was field run surveyed by Daft-McCune-Walker, Inc. dated 2/01.
- Coordinates and bearings shown hereon are referred to the Maryland Coordinate system (NAD 83) as projected by Howard County Geodetic Control stations No. 29G4 & 29G5.
- Stormwater management (SWM) is provided for quantity as proposed, per F-96-110. The water quality requirement is met in the wet pool portion of SWM Facility. The recharge requirement is met in a recharge trench located on site as shown. Water quantity is provided elsewhere within the overall Village or River Hill master plan. SWM is designed in accordance with the 2000 Howard Co. Design Manual.
- No wetlands exist within the limits of disturbance.
- The existing utilities were located from available records and field survey prepared by Daft-McCune-Walker, Inc. The contractor must dig test pits, by hand, at all utility crossings and connection points at least 5 days prior to starting work to verify exact location.
- The Soils analysis report was prepared by Hardin-Kight, Inc.
- Any damage to County owned right-of-way to be corrected at the contractor's expense.
- All sidewalks shall be cross sloped at 1/4 inch per foot.
- Trench bedding for storm drainage structures shall be in accordance with Howard County Standard G2.01.
- Department of Planning and Zoning reference file numbers: S-93-21, P-95-10, F-96-89, Plat 12693, F-96-110, FDP Ph 222-A-1, Part 1, F-02-07.
- All inlets shall be constructed in accordance with Howard County standards or MSHA Standards as specified on the structure schedule.
- All materials and construction is to be in accordance with the Howard County Design Manual Volume IV.
- The building setback restrictions from the property lines and right-of-way lines of any public road shall be in accordance with FDP Phase 222-A-1, Part 1.
- All on-site roadways and parking areas to be privately maintained.
- All curb radii are five foot unless otherwise labeled.
- All equipment and tools shall be placed as not to interfere with vehicular or pedestrian movement unless specified.
- The contractor shall be responsible for any damage to existing property which may occur as a result of his negligence in the execution of the work.
- All proposed handicap ramps shall be in accordance with the current A.D.A. Standards.
- There is no floodplain on this site.
- Traffic study approved as submitted with S-93-21.
- Public Water is utilized for this site. Meters will be located inside the building. Public sewer service provided per contract #34.3889.D, #30.3436.D, #34.3436.D and is within the Middle Patuxent drainage area in the Metropolitan District.
- This project is exempt from the Forest Conservation requirements in accordance with Section 16.1202 (b) (1) (v) of the Howard County Code because it is part of a planned unit development (New Town) with preliminary plan approval prior to 12/31/92.
- This property is located within the Metropolitan District.
- There are no slopes greater than 25% greater than 20,000 contiguous S.F.
- All exterior lighting shall comply with Section 134 of the Howard County Zoning Regulations.
- The site is previously graded under F-96-110.
- Garages shall be used for parking purposes in accordance with Section 133.D.2 of the Zoning Regulations and FDP Phase 222-A-1, Part 1 criterion 9B-1.
- Tentative allocations were granted with S-93-21 and permanent allocations for 467 units for 1996 and 15 units for 1997 was granted with F-96-110.
- There will be no trash or recycling collection provided to this area by Howard County. Trash and recycling will be provided privately. All roadways are private.
- Automobiles parked in driveways may not extend into, or impede the use of, the private roads.
- All buildings will have an automatic fire protection system.
- There are no historic structures or cemetery sites located on the subject property.
- No clearing, grading or construction is permitted within the wetlands, stream or their required buffers except as determined as an essential disturbance by the Dept. of Planning and Zoning and the Soil Conservation District, in accordance with Section 16.116(c) of the Subdivision Regulations and Land Development Regulations.
- The proposed water quality facility outfall pipe and rip-rap apron located within the 25' wetland buffer and 75' stream buffer were determined to be essential by DPZ and SCD on October 23, 2001.
- All sanitary cleanouts, water meter and gas valves, and SWM observation well located in pavement are to be heavy duty traffic bearing.
- The Howard County Planning Board at their meeting of December 13, 2001 granted approval of various setback reductions from the Final Development Plan requirements for the location of the buildings and detached garage structures as shown on the approved site development plan.

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 3/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

[Signature] 3/23/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

[Signature] 3/22/02
DIRECTOR DATE

Date	No.	Revision Description
Jan 7, 2002	1	CHANGES AS PER CLIENT COMMENTS.

**FIELDSTONE AT PHEASANT RIDGE
CONDOMINIUM UNITS**

VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HED LAND HOLDINGS, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD 21044
410-992-6084

DEVELOPER: BEAZER HOMES, INC.
8965 GULFORD ROAD
SUITE 280
COLUMBIA, MD 21046
410-722-9271

DMW
Daft-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners,
Landscape Architects,
Golf Course Architects,
Engineers, Surveyors &
Environmental Professionals

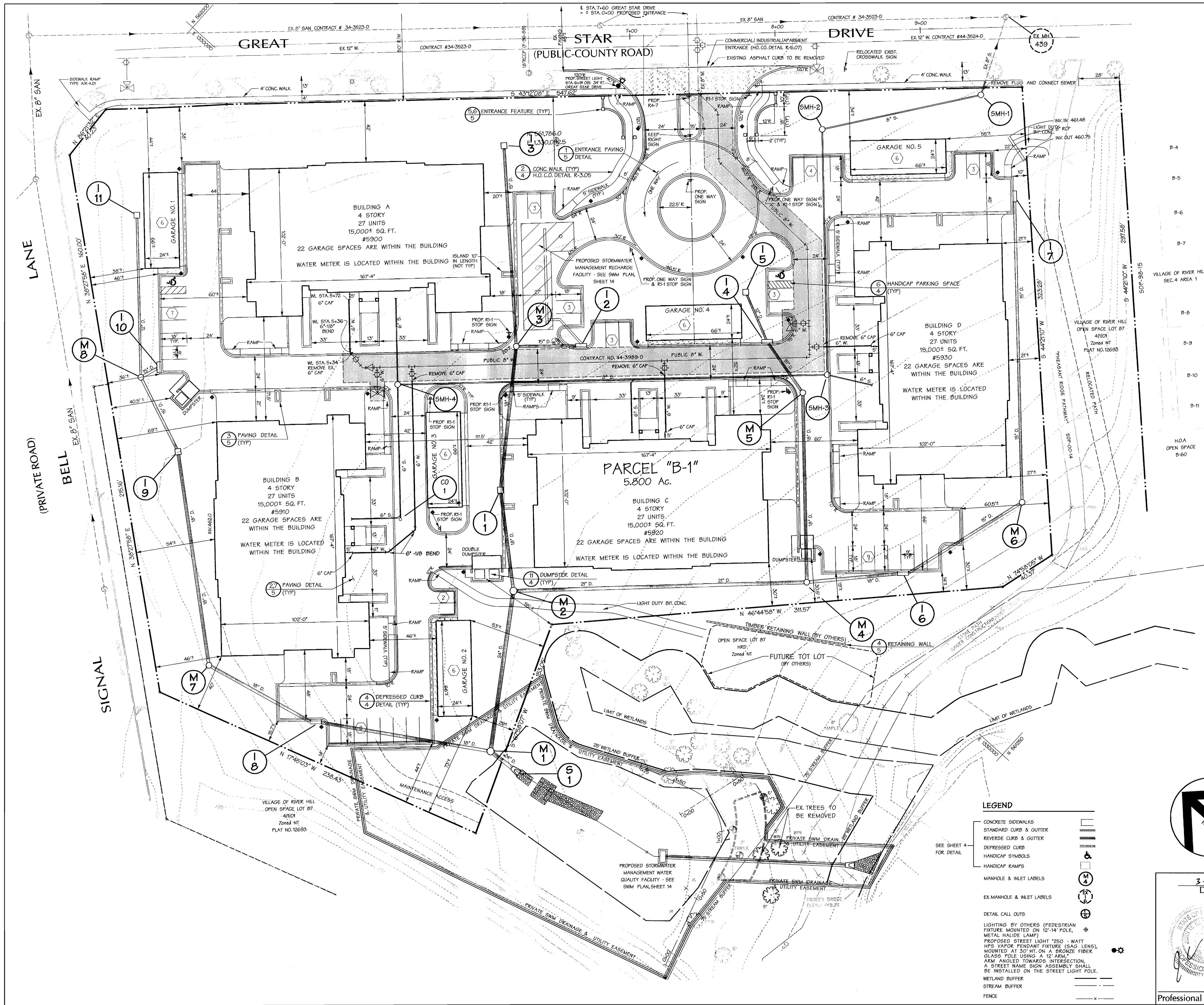
SUBDIVISION NAME VILLAGE OF RIVER HILL	SECTION AREA SEC. 4, AREA 1, PHASE 1	LOT/PARCEL PARCEL B-1
FOUR BLOCK POINT #93	TAX MAP SHEET 6/12 NT	CENSUS TRACT 5TH 6055.01
WATER CODE I-10	SEWER CODE 6663000	

COVER SHEET

Drn. By: ADL,WDE	Scale: 1"=100'	Proj. No. 01015
Des. By: JLM	Date: 10/12/01	1 of 17
Chk. By:	Approved:	

Professional Engr. No. 10551

VICINITY MAP
SCALE: 1"=100'



- GENERAL NOTES:**
- The Contractor shall be governed by the standards and requirements of the following publications:
 - Manual on Uniform Traffic Control Devices (MUTCD), 1988 Edition and subsequent revisions.
 - AASHTO - Specifications for the Design and Construction of Structural Supports for Highway Signs, April 1975 Edition.
 - AASHTO - Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, April 1985 Edition.
 - Standard sign panel layouts shall be based on the MUTCD.
 - Signs shall be located as shown on the plans. Any required changes in the locations of signs necessary due to field conditions shall have the prior approval of the Engineer.
 - It shall be the responsibility of the Contractor to locate and protect all existing facilities that may be affected by this work.
 - All new signs shown on this plan shall have Non Reflective (Black Copy) or High Intensity Reflective Sheeting (All Other Colors) background and copy. Reflective Sheeting shall be Type III-A Encapsulated Lens Reflective Element Material.
 - All new sheet aluminum signs shall have Non-Demountable Copy.
 - The following minimum thicknesses shall be used for the appropriate size of Sheet aluminum sign blanks:

Longest Dimension (Inches) - Minimum Thickness	Minimum Thickness
Up to 12"	0.040"
12" to 24"	0.063"
24" to 36"	0.080"
36" to 48"	0.100"
Over 48"	0.125"
 - All traffic control signs shall be mounted on Howard County standard posts. A single post shall be provided for signs with an area of 9.0 square feet or less. For signs with an area greater than 9.0 square feet, two (2) posts shall be provided. Sign posts shall be installed in the ground to a minimum depth of 3.0 feet and the sign post shall extend to the top of the sign panel.
 - Signs shall be mounted such that the clearance to the bottom edge of the sign panels is a minimum of six (6) feet above finished grade.
- NOTE: ALL WATER METERS ARE INSIDE THE UNITS AND ARE PUBLIC.

LEGEND

EX CURB & GUTTER	15" R/COP CL.V
EX MAJOR CONTOURS	8" S.
EX MINOR CONTOURS	8" W.
PROP. STORM DRAIN	EX 21" R/COP
PROP. SEWER	EX 8" S.
PROP. WATER	EX 8" W.
EX STORM DRAIN	
EX SEWER	
EX WATER	
PARKING COUNT LABELS	(10)
PROP. SIGN	◆
PROP. LIGHT	◆

APPROVED
 PLANNING
 DEPARTMENT
 OF HOWARD COUNTY
 DATE 12/13/01
 1/3

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Chief, Development Engineering Division	3/21/02
Chief, Division of Land Development	3/22/02
Director	3/23/02

Date	No.	Revision Description
Jan 7, 2002	1	CHANGES AS PER CLIENT COMMENTS.

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
 VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HRD LAND HOLDINGS, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD 21044
 410-392-6084

DEVELOPER: BEAZER HOMES, INC.
 8965 GUILFORD ROAD
 SUITE 290
 COLUMBIA, MD 21046
 410-720-5071

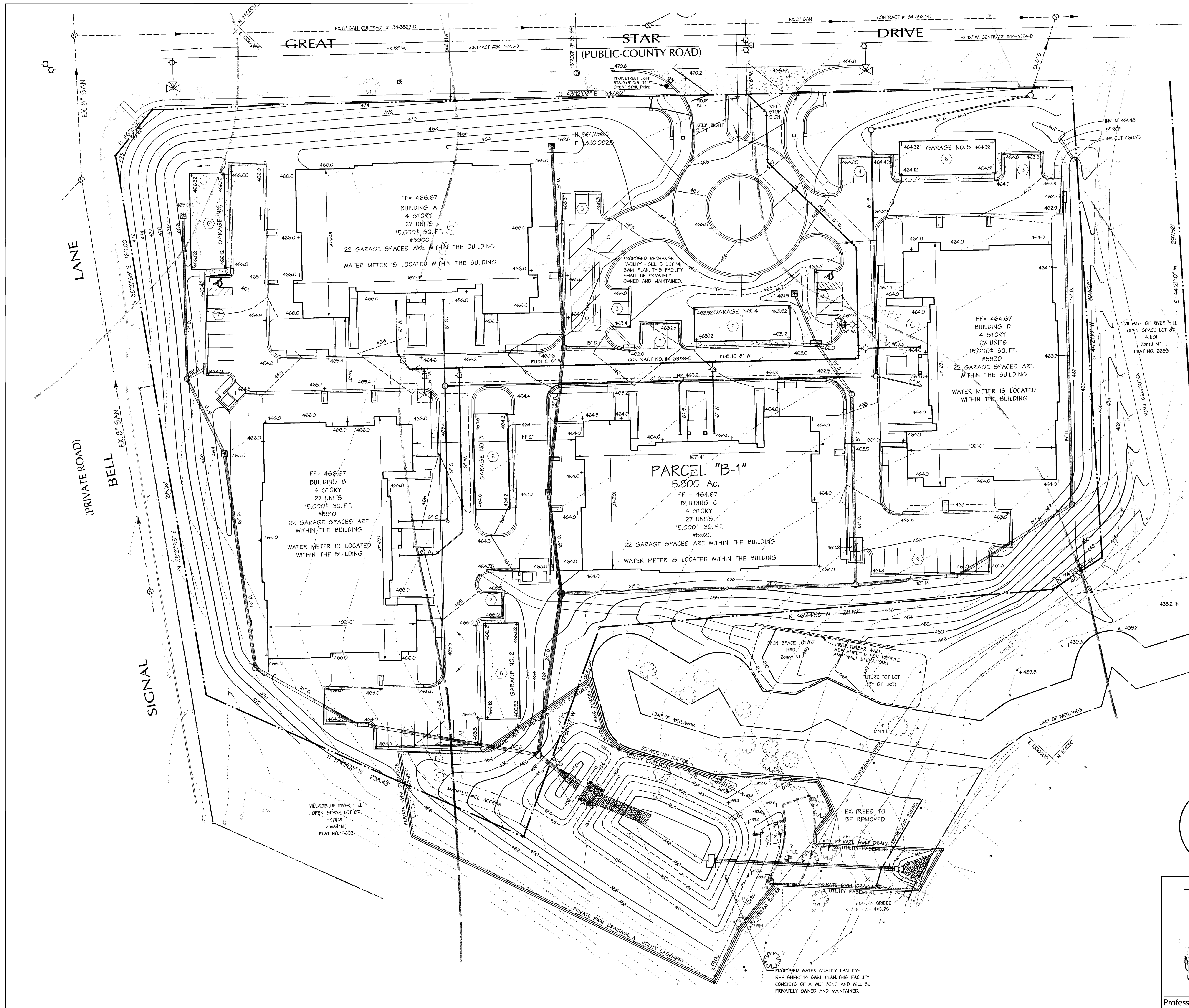
DMW
 DaR-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3352
 Fax 296-4705

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VILLAGE OF RIVER HILL	SEC. 4, AREA 1, PHASE 1	PARCEL B-1
BLK OR LIT (BLOCK) ZONE	TAX ZONE MAP	ELECT. DISTRICT
11283	6/12 NT	34 5TH
CENSUS TRACT		6085.01
WATER CODE	1-10	SEWER CODE 6653000

SITE PLAN

Drn. By: ADL/BKC	Scale: 1"=30'	Proj. No. 01015
Des. By: JLM	Date: 9/7/01	
Chk. By:	Approved:	2 of 17



LEGEND

- CONCRETE SIDEWALKS
- STANDARD CURB & GUTTER
- REVERSE CURB & GUTTER
- HANDICAP SYMBOLS
- HANDICAP RAMP
- MANHOLE & INLET LABELS
- EX-MANHOLE & INLET LABELS
- DETAIL CALL OUTS
- LIGHTING BY OTHERS (PEDESTRIAN FIXTURE MOUNTED ON 12'-14" POLE, METAL HALIDE LAMP)
- PROPOSED STREET LIGHT "250 - WATT HPS VAPOR PENDANT FIXTURE (SAG LENS), MOUNTED AT 30' HT. ON A BRONZE FIBER GLASS POLE USING A 12' ARM, 45° ARM-ANGLED TOWARDS INTERSECTION. A STREET NAME SIGN ASSEMBLY SHALL BE INSTALLED ON THE STREET LIGHT POLE.
- WETLAND BUFFER
- STREAM BUFFER
- FENCE
- SOILS LINE AND LABEL
- EX CURB & GUTTER
- EX MAJOR CONTOURS
- EX MINOR CONTOURS
- PROP. STORM DRAIN
- PROP. SEWER
- PROP. WATER
- EX STORM DRAIN
- EX SEWER
- EX WATER
- PARKING COUNT LABELS
- PROP. SIGN

NOTE: SPOT ELEVATIONS IN PARKING LOTS ARE PAVING SURFACE ELEVATION, UNLESS OTHERWISE NOTED

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 12/13/01

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

Michael Damann 3/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

Andy Hamrick 3/22/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE

David Smith 3/22/02
DIRECTOR DATE

Jan 7, 2002	1	CHANGES AS PER CLIENT COMMENTS.
Jan 24, 2002	2	SPOT GRADE ADJUST., ADDITION OF PIPE UNDER PATH.

Date No. Revision Description

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HRD LAND HOLDINGS, INC.
10275 LITTLE PATUXENT PARKWAY
COLUMBIA, MD. 21044
410-992-6084

DEVELOPER: BEAZER HOMES, INC.
8965 GUILFORD ROAD
SUITE 290
COLUMBIA, MD. 21046
410-722-1571

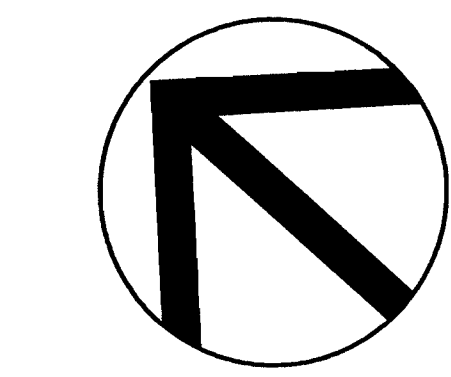
DMW
Daf-McCune-Walker, Inc.
200 East Pennsylvania Avenue
Towson, Maryland 21286
(410) 296-3333
Fax 296-4705

A Team of Land Planners,
Landscape Architects,
Engineers, Surveyors &
Environmental Professionals

SUBDIVISION NAME	SECTION AREA	LOT/PARCEL
VILLAGE OF RIVER HILL	SEC. 4, AREA 1, PHASE 1	PARCEL B-1
MAP OR FILE BLOCK/ZONE	TAXPAYER MAP ELEM. DISTRICT	CENSUS TRACT
12693	6112 NT	34 5TH 6055.01
WATER CODE	SEWER CODE	
1-10	6653000	

TITLE: **GRADING PLAN**

Drn. By: WDE	Scale: 1"=30'	Proj. No. 01015
Des. By:	Date: 9/12/01	
Chk. By:	Approved:	3 of 17



3-6-02
Date

Professional Engr. No. 10551

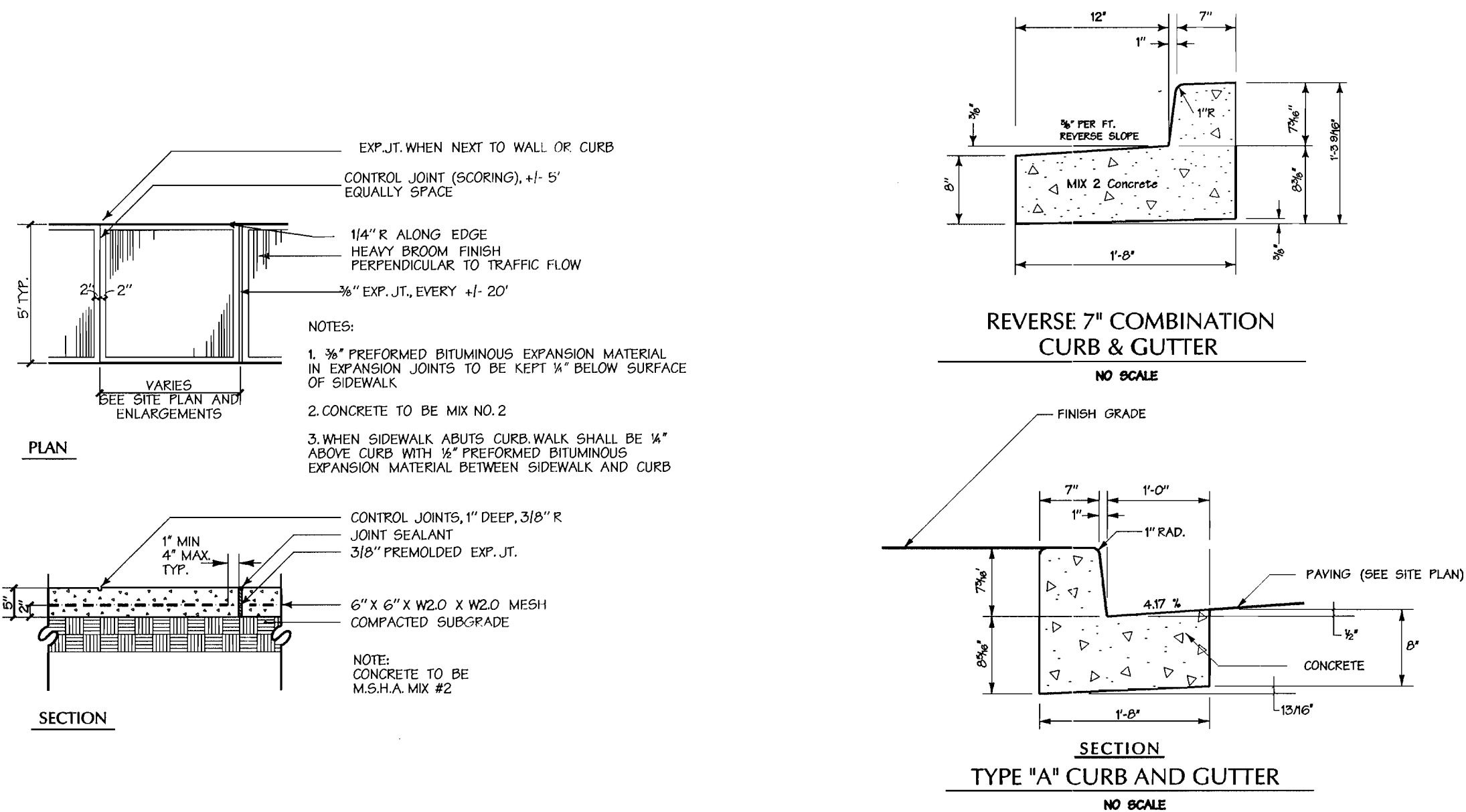
LIGHT DUTY

- 1.5" BITUMINOUS CONCRETE SURFACE COURSE (SC)
- 2.0" BITUMINOUS CONCRETE BINDER COURSE (BI)
- 6.0" CRUSHED STONE BASE COURSE (SA)
- 8.0" SOIL CEMENT TREATED SUBGRADE (54 POUNDS PER SQUARE YARD)
- SOIL SUBGRADE COMPACTED TO 98%
- OR
- 1.5" BITUMINOUS CONCRETE SURFACE COURSE (SC)
- 3.0" BITUMINOUS CONCRETE BINDER COURSE (BI)
- 12.0" SOIL CEMENT TREATED SUBGRADE (80 POUNDS PER SQUARE YARD)
- SOIL SUBGRADE COMPACTED TO 98%

HEAVY DUTY

- 1.5" BITUMINOUS CONCRETE SURFACE COURSE (SC)
- 4.0" BITUMINOUS CONCRETE BINDER COURSE (BI) - 2 COURSES
- 8.0" CRUSHED STONE BASE COURSE (SA)
- 8.0" SOIL CEMENT TREATED SUBGRADE (54 POUNDS PER SQUARE YARD)
- SOIL SUBGRADE COMPACTED TO 100%
- OR
- 1.5" BITUMINOUS CONCRETE SURFACE COURSE (SC)
- 6.0" BITUMINOUS CONCRETE BINDER COURSE (BI) - 2 COURSES
- 12.0" SOIL CEMENT TREATED SUBGRADE (80 POUNDS PER SQUARE YARD)
- SOIL SUBGRADE COMPACTED TO 100%

NOTES:
 1. THE PAVEMENT MATERIAL DESIGNATIONS ARE INDICATED IN PARENTHESIS AND MARYLAND STATE HIGHWAY ADMINISTRATION CLASSIFICATIONS WERE USED. CRUSHER RUN MAY BE USED FOR THE CRUSHED STONE BASE COURSE PROVIDED THAT THE SOURCE HAS BEEN APPROVED FOR MARYLAND STATE HIGHWAY ADMINISTRATION CONSTRUCTION. THE SOIL CEMENT APPLICATION RATE FOR THE BASE COURSE IS ESTIMATED AND WILL HAVE TO BE VERIFIED BY LABORATORY TESTING IF USED.
 2. ONE FOOT OF SOIL AT THE PAVEMENT SUBGRADE FOR BOTH PAVEMENT SECTIONS TO BE COMPACTED TO 100% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD MOISTURE DENSITY RELATIONSHIP TEST (AASHTO T-99). UNDERLYING SOILS MAY BE COMPACTED TO 95%.



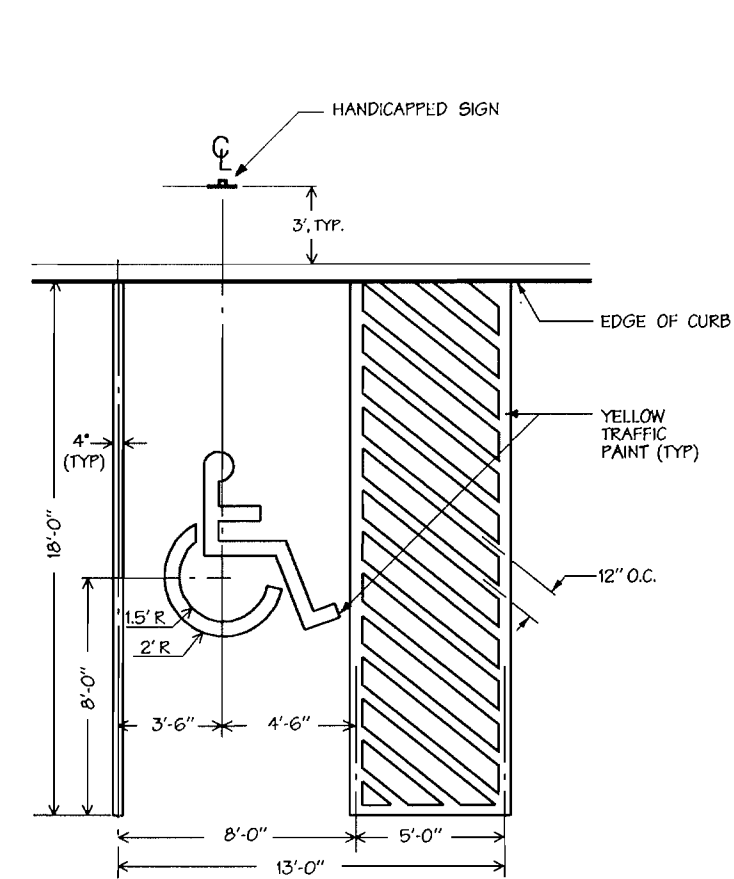
② Concrete Walk
Not To Scale
HO.CO. Detail R-3.05

③ Concrete Curb Detail
Not To Scale
HO.CO. Detail R-3.01

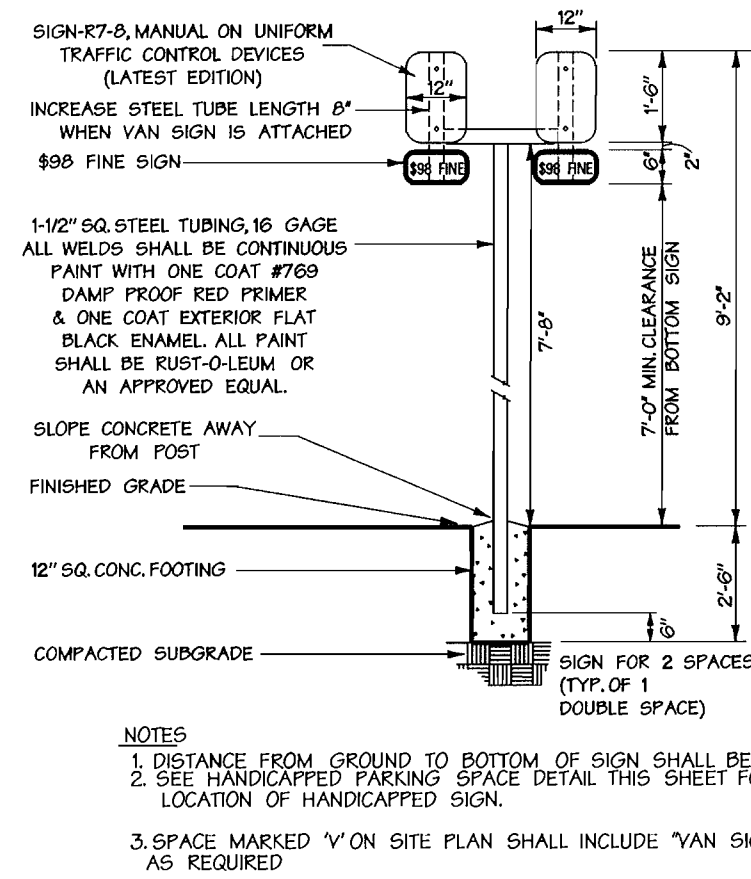
④ Depressed Curb Detail
Not To Scale

⑤ Light Pole Footing Detail
Not To Scale

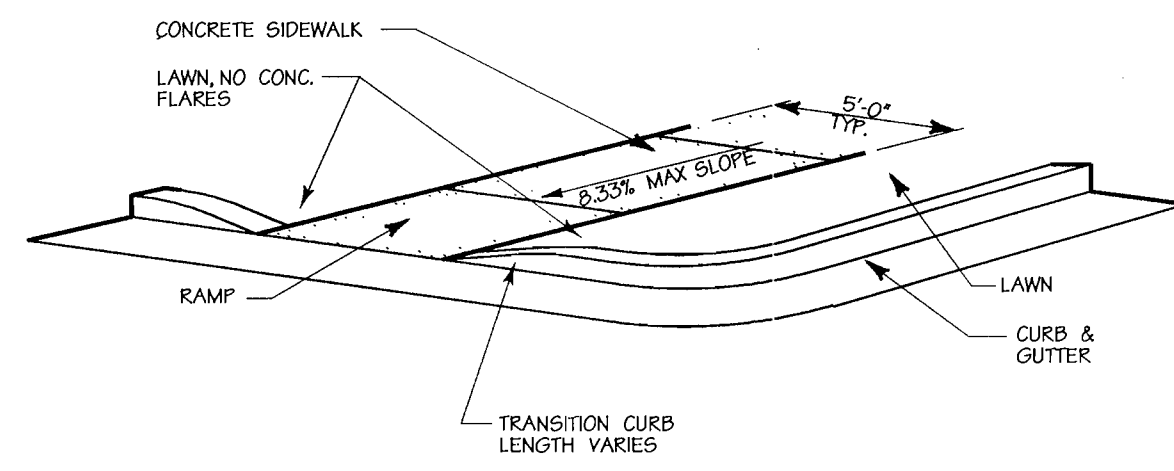
① Paving Detail
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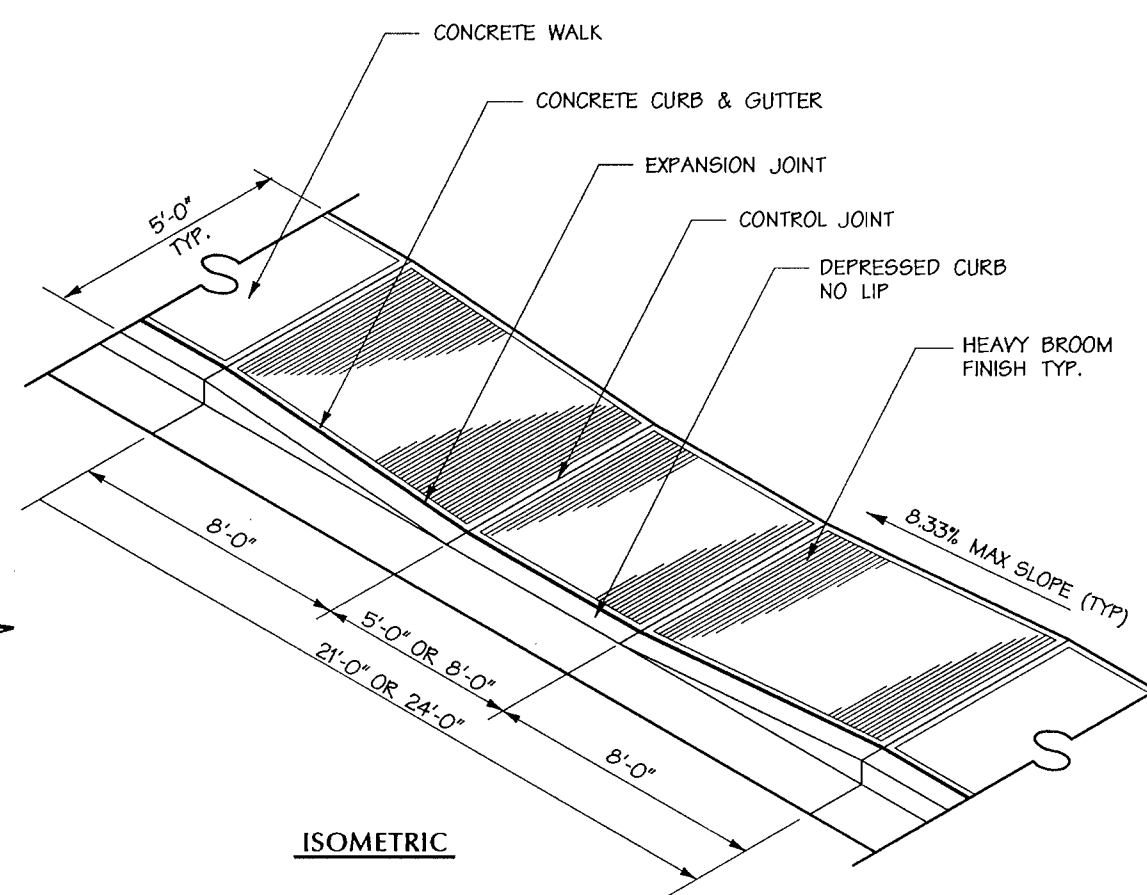
⑥ Handicap Parking Space
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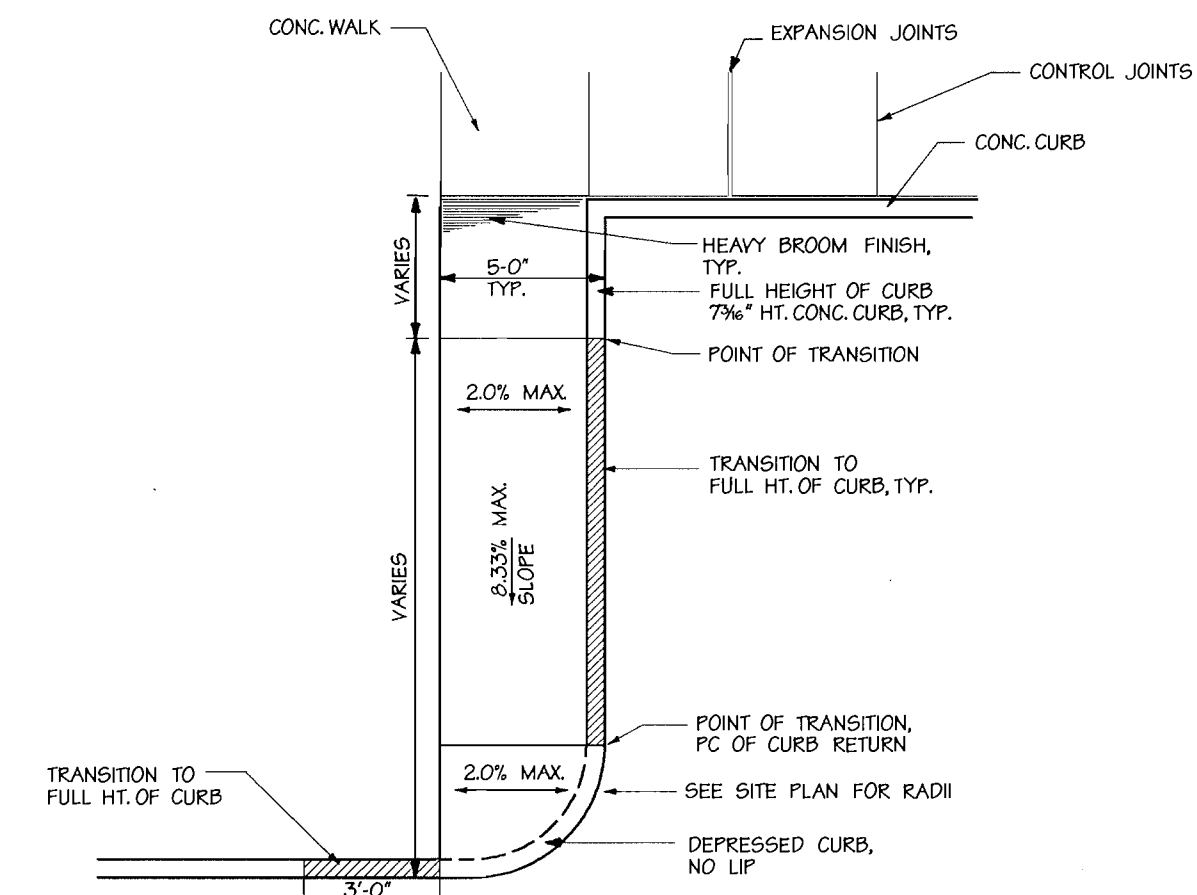
⑦ Handicap Parking Signs
Not To Scale



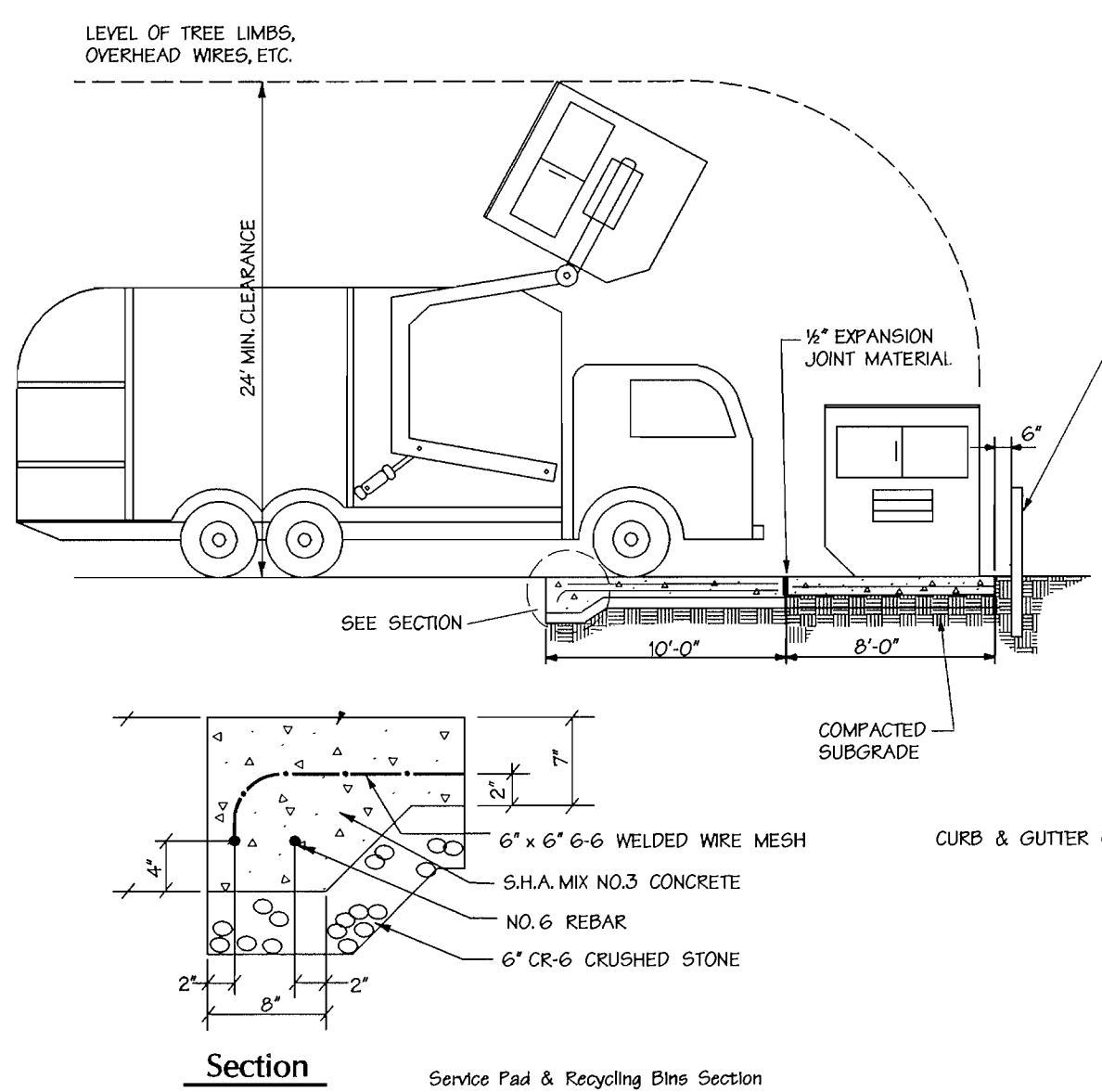
⑧ Type "A" Sidewalk Ramp
Not To Scale



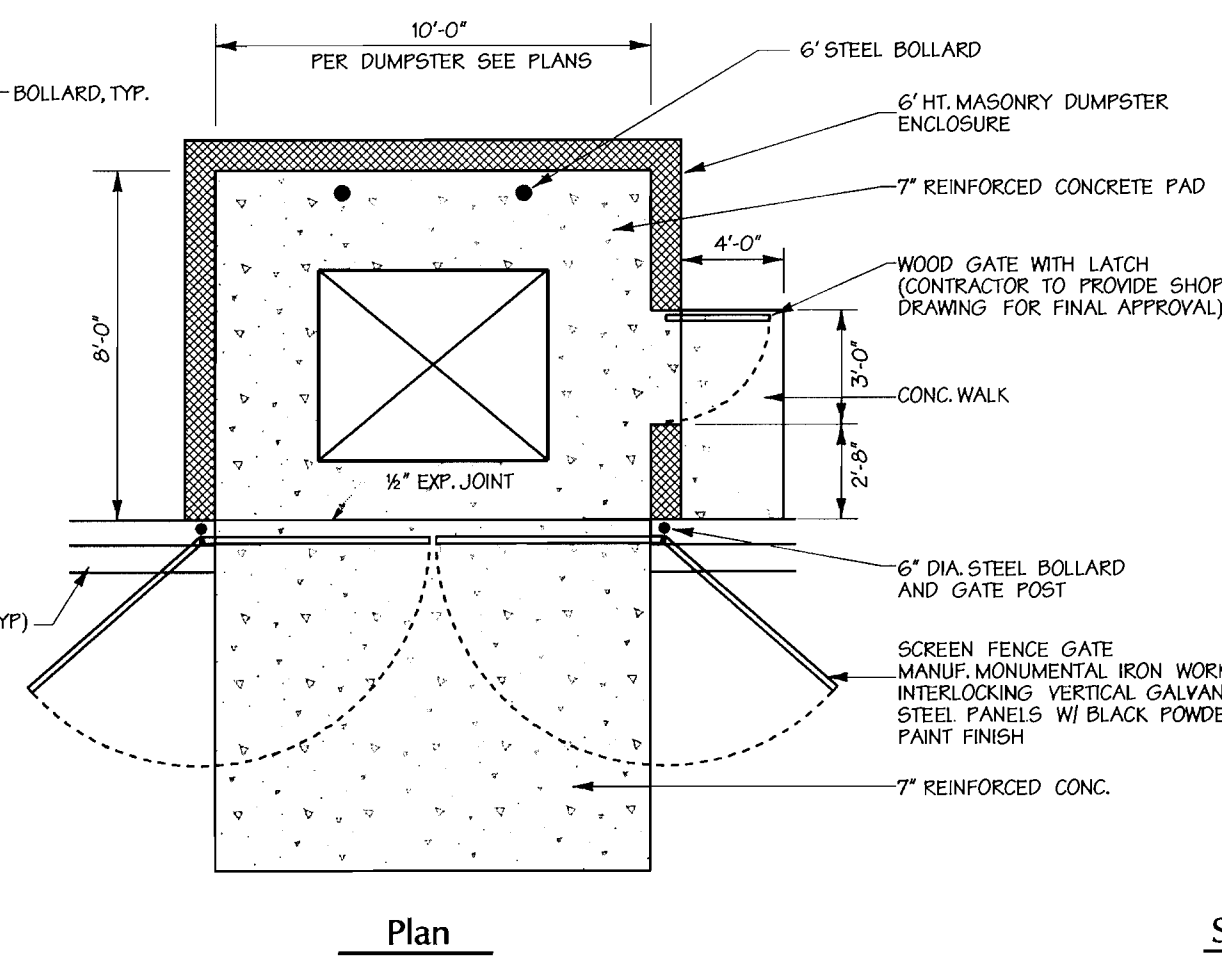
⑨ Type "B" Handicap Ramp
Not To Scale



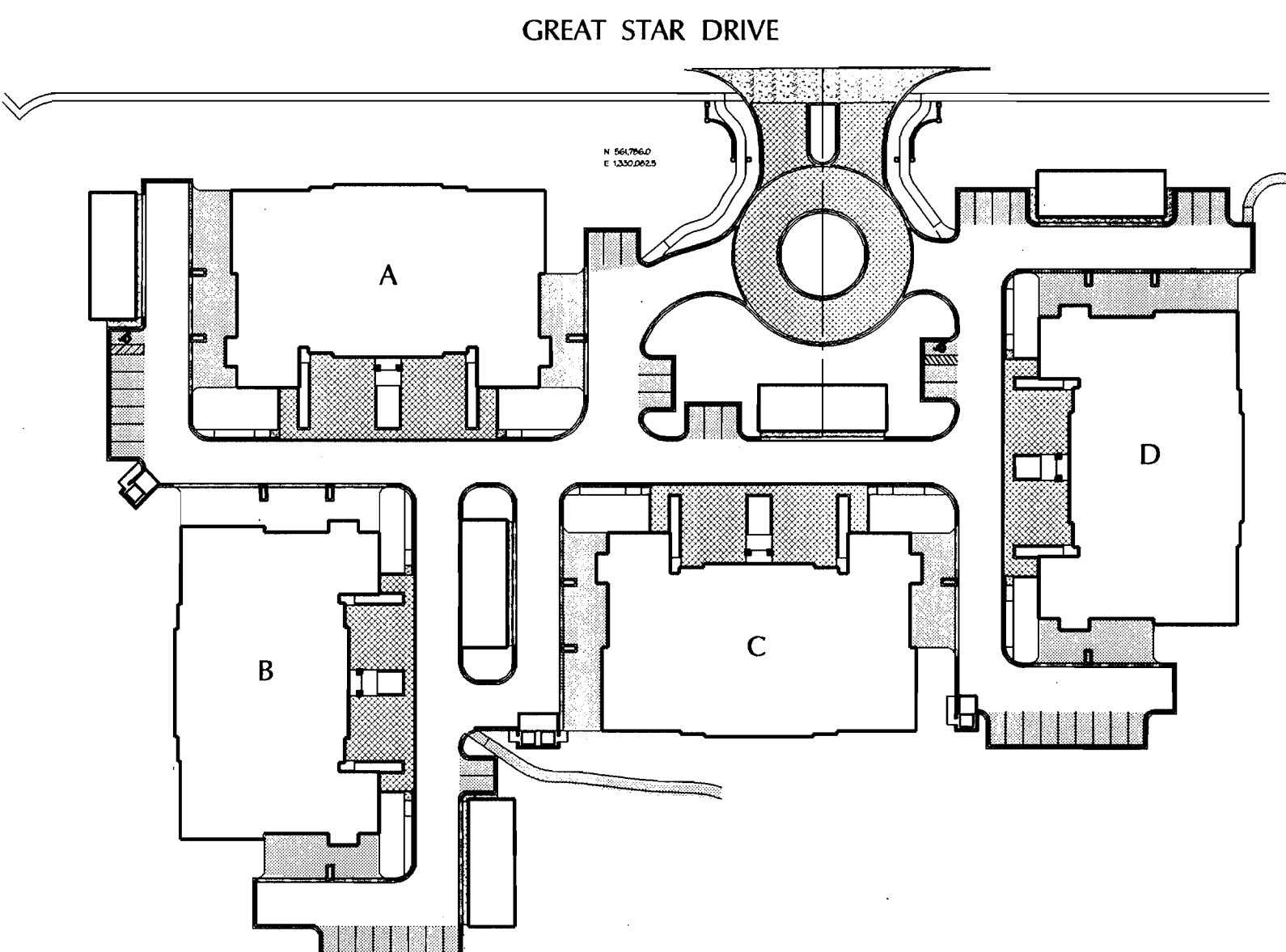
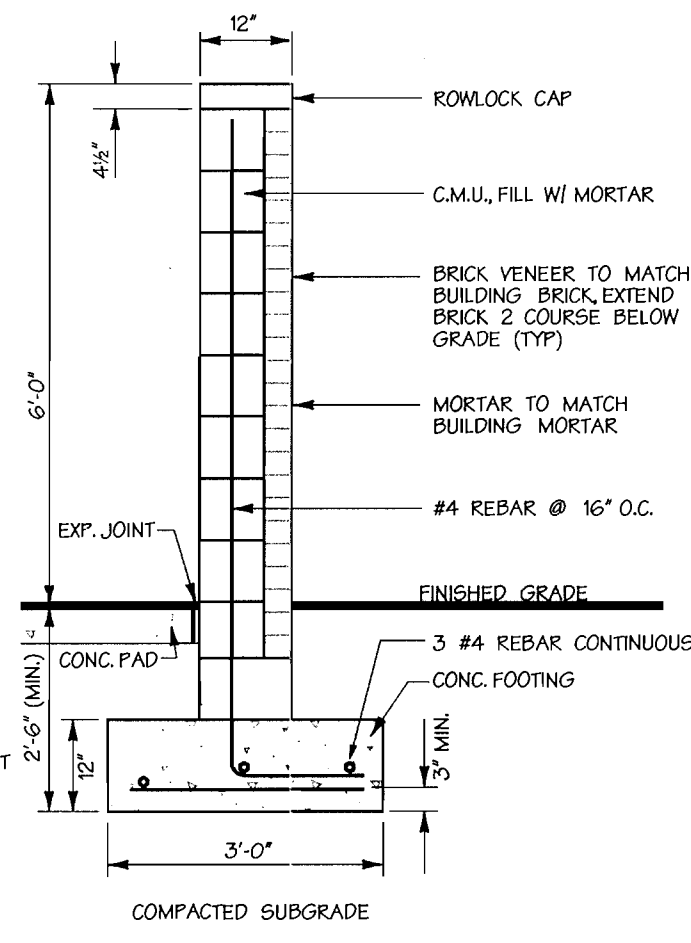
⑩ Type "C" Handicap Ramp
Not To Scale



⑪ Service Pad & Dumpster Bin
Not To Scale



Section - Brick Dumpster Enclosure Wall



⑫ Paving Plan
Not To Scale

Legend:

- 7" REINFORCED CONC. APRON (SEE HO.CO. DETAIL R-6.07)
- LIGHT DUTY
- HEAVY DUTY
- BRICK PAVING
- DEPRESSED CURB

3-6-0-
Date

Professional Engr. No. 10551

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY
 DATE 12/13/01

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 CHIEF DEVELOPMENT ENGINEERING DIVISION 3/21/02
 CHIEF, DIVISION OF LAND DEVELOPMENT 3/22/02
 DIRECTOR 3/22/02

Date	No.	Revision Description
Jan 72002	1	CHANGES AS PER CLIENT COMMENTS.

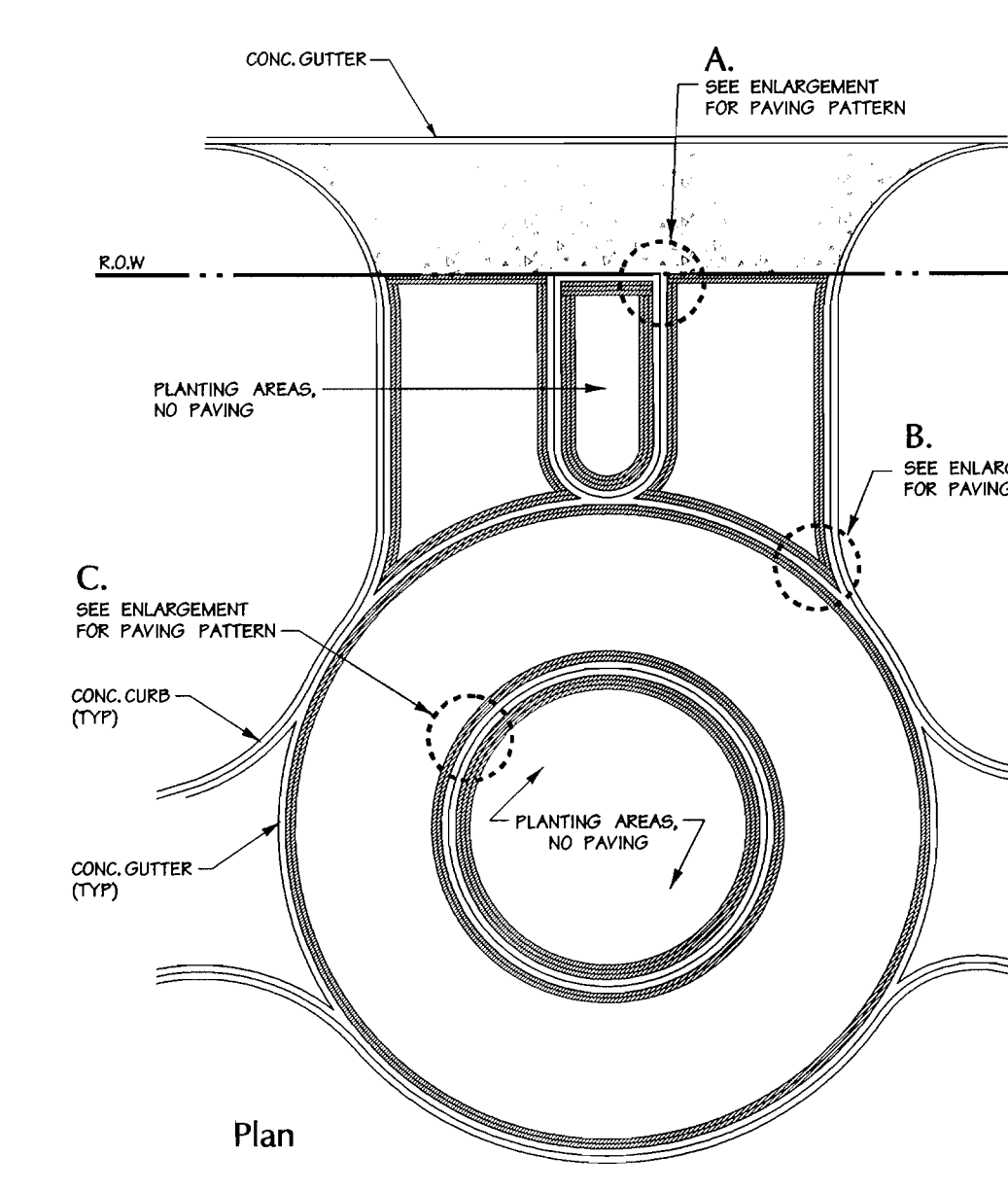
FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
 VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HRD LAND HOLDINGS, INC.
 10275 LITTLE PATUMENT PARKWAY
 SUITE 290
 COLUMBIA, MD. 21044
 410-992-6084

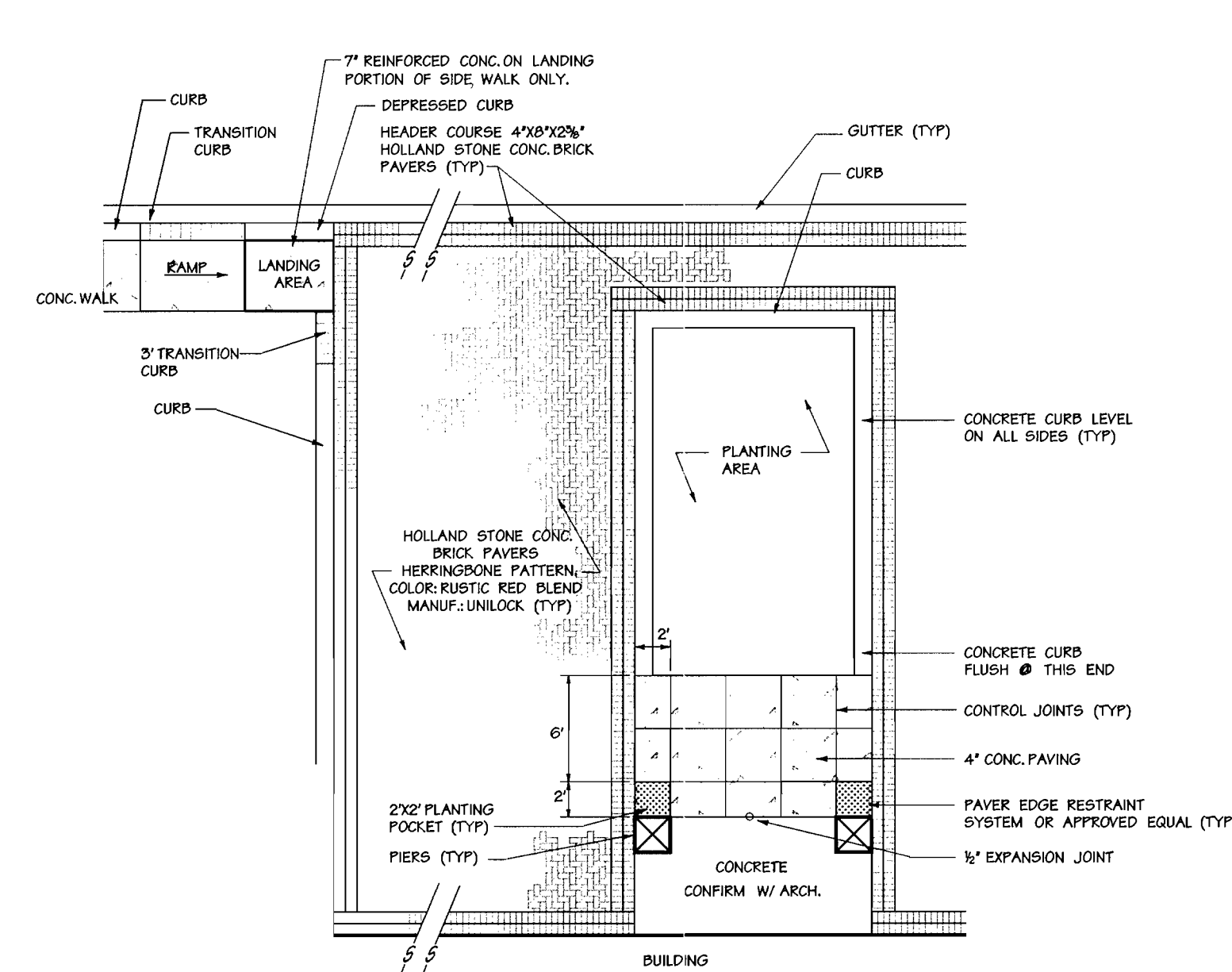
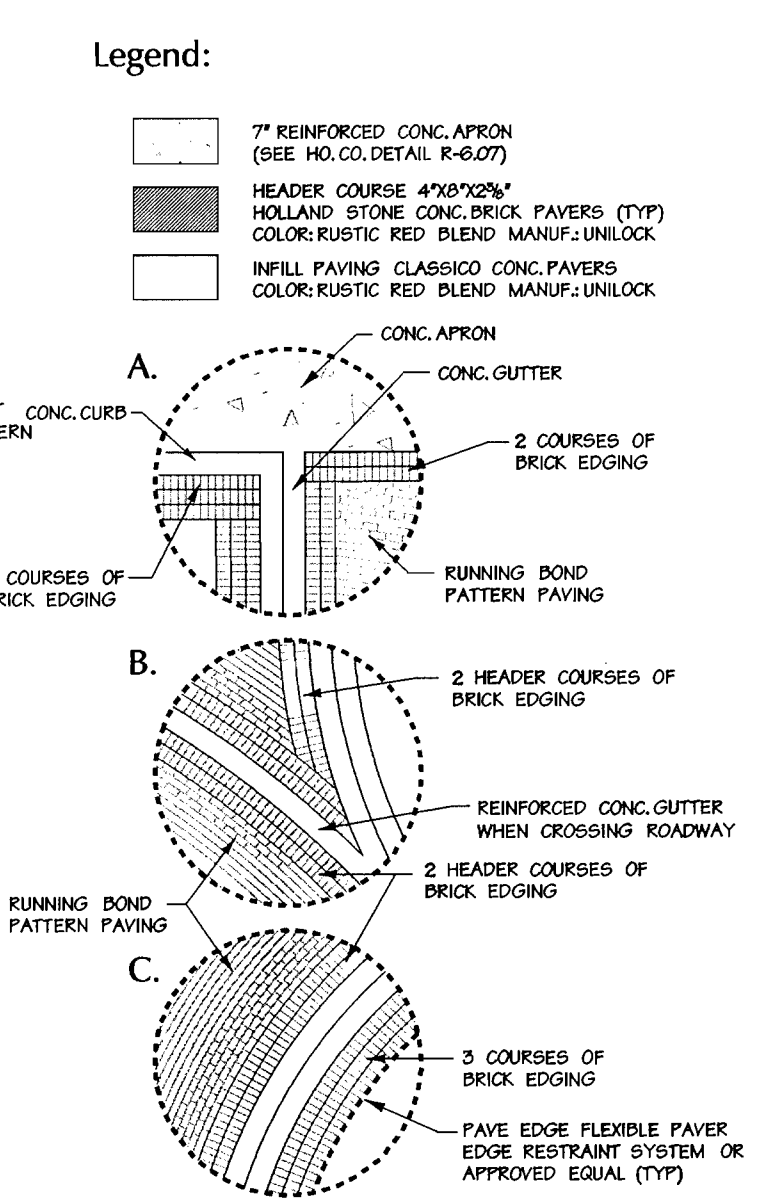
DEVELOPER: BEAZER HOMES, INC.
 8965 GUILFORD ROAD
 COLUMBIA, MD. 21046
 410-720-5071

SUBDIVISION NAME	SECTION/AREA	LOT/PARCEL
VILLAGE OF RIVER HILL	SEC. 4, AREA 1, PHASE 1	PARCEL B-1
FOR LOT/BLOCK/ZONE	TAXPAYER/NEIGH. DISTRICT	CENSUS TRCT
693	6/12 NT 34	6055.01
WATER CODE	SEWER CODE	
I-10	6653000	

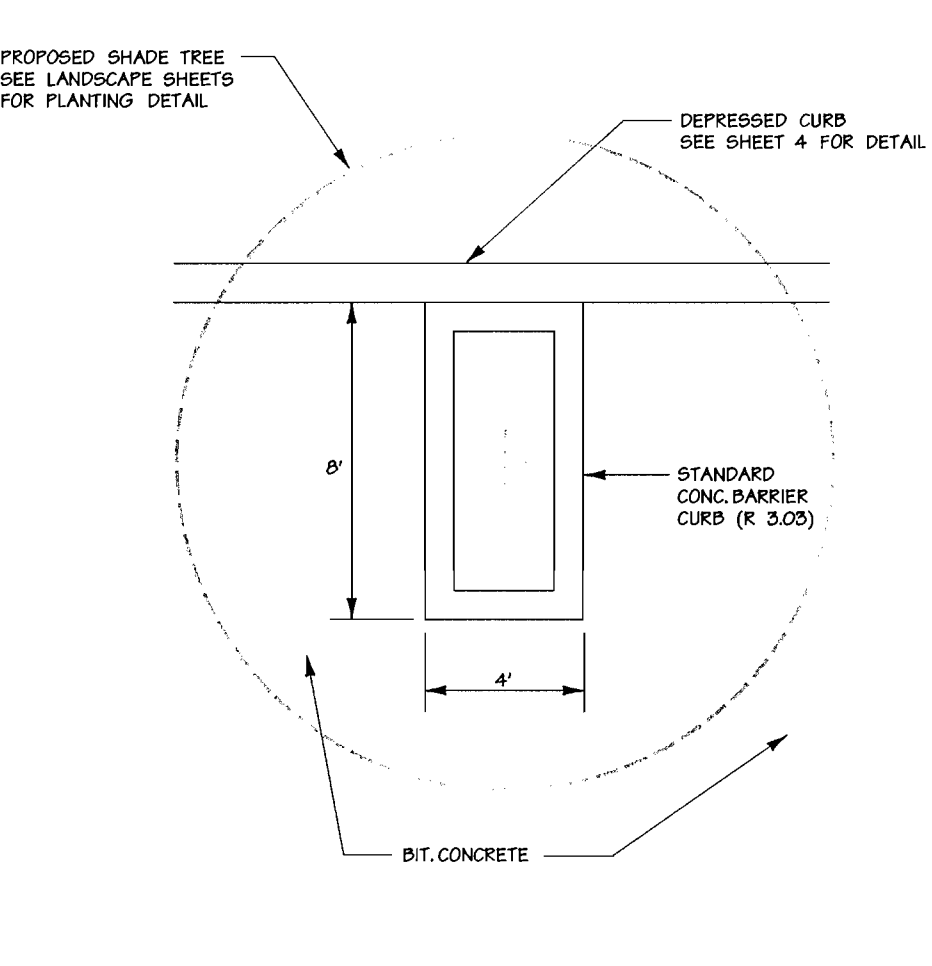
SITE DETAILS		
Drn. By: FWK	Scale: AS SHOWN	Proj. No. 01015
Des. By: FPB	Date: 10/12/01	
Chk. By: JLM	Approved:	4 of 17



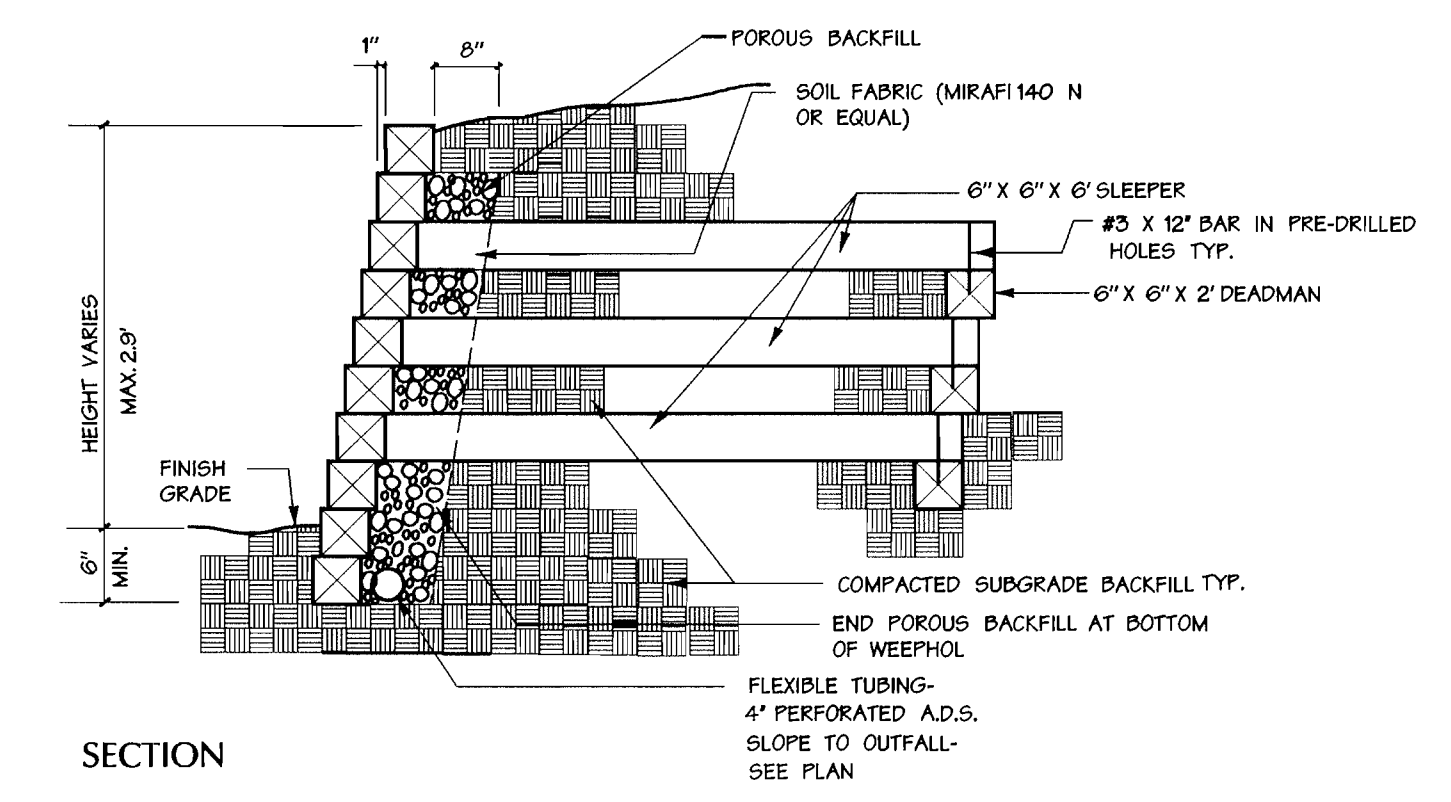
① Entrance Paving Detail
Not To Scale



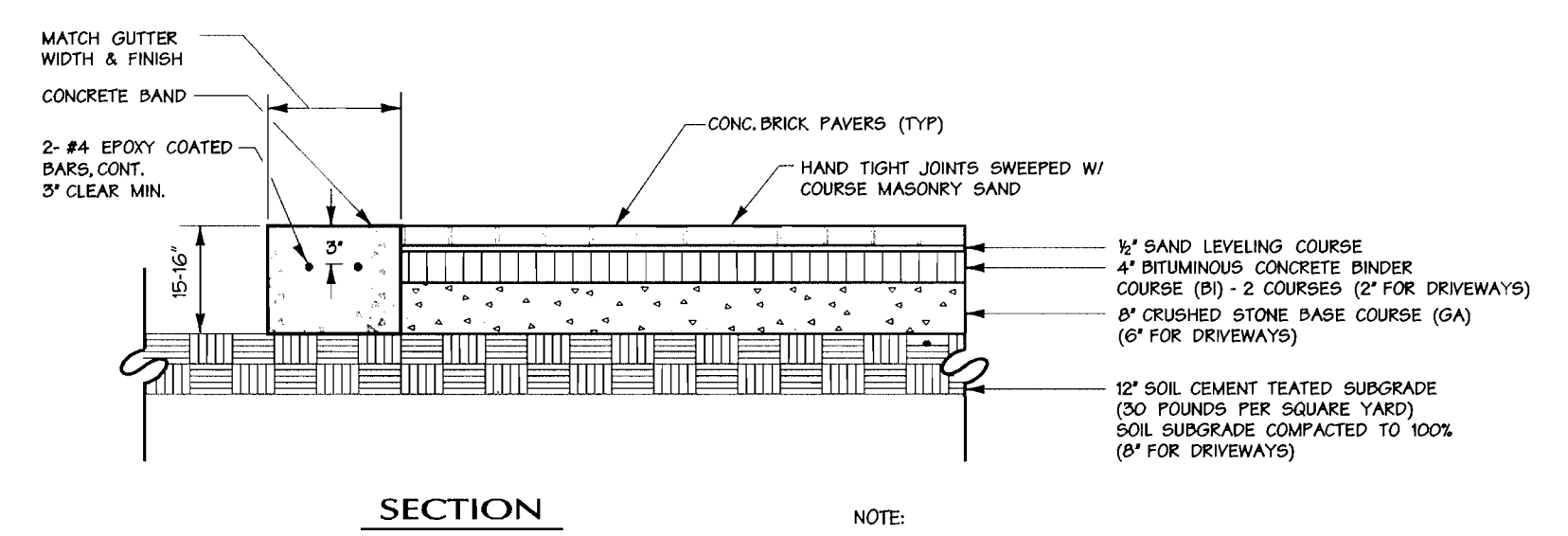
② Paving Detail 'A'
Not To Scale



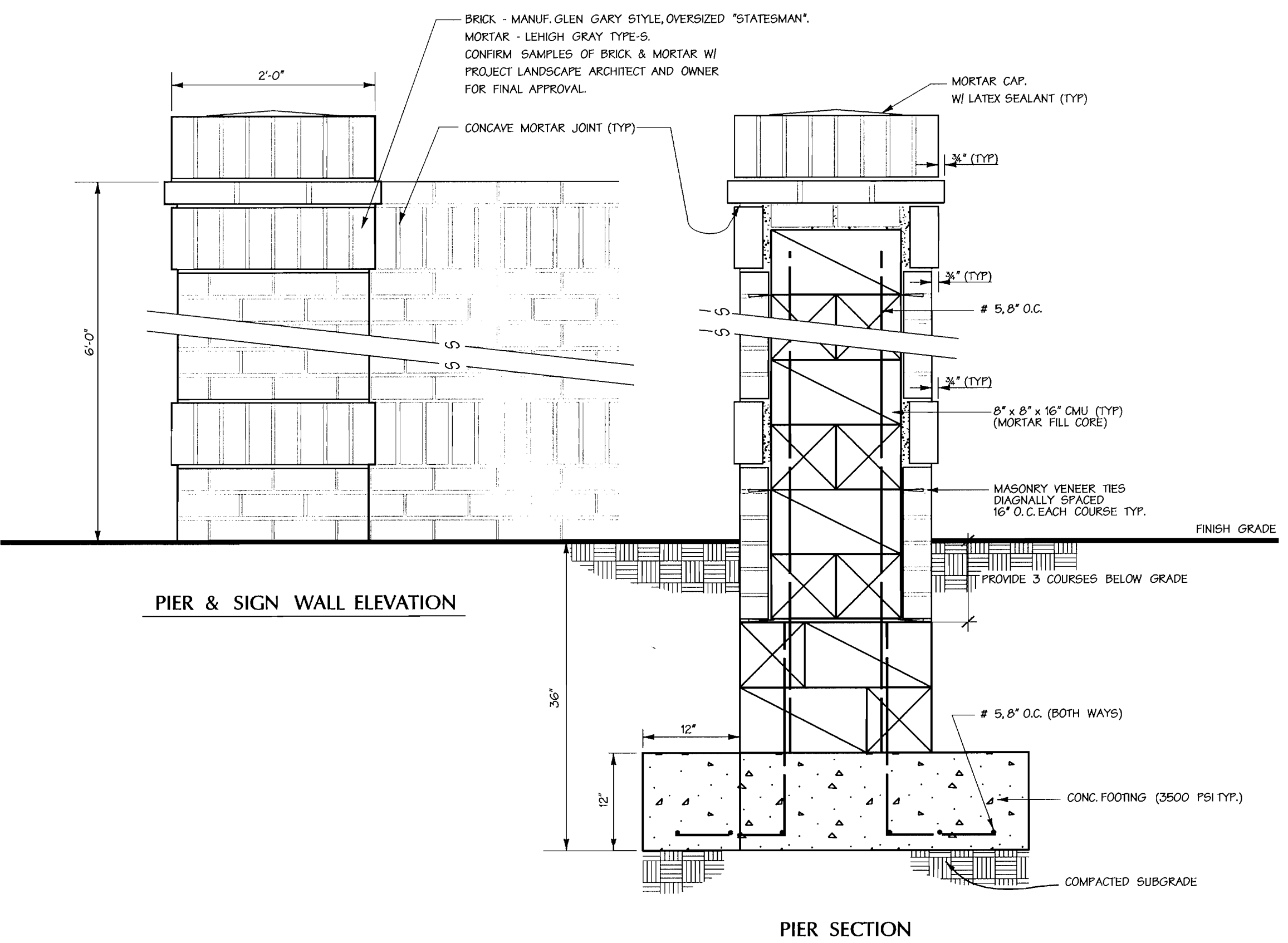
③ Paving Detail 'B'
Not To Scale



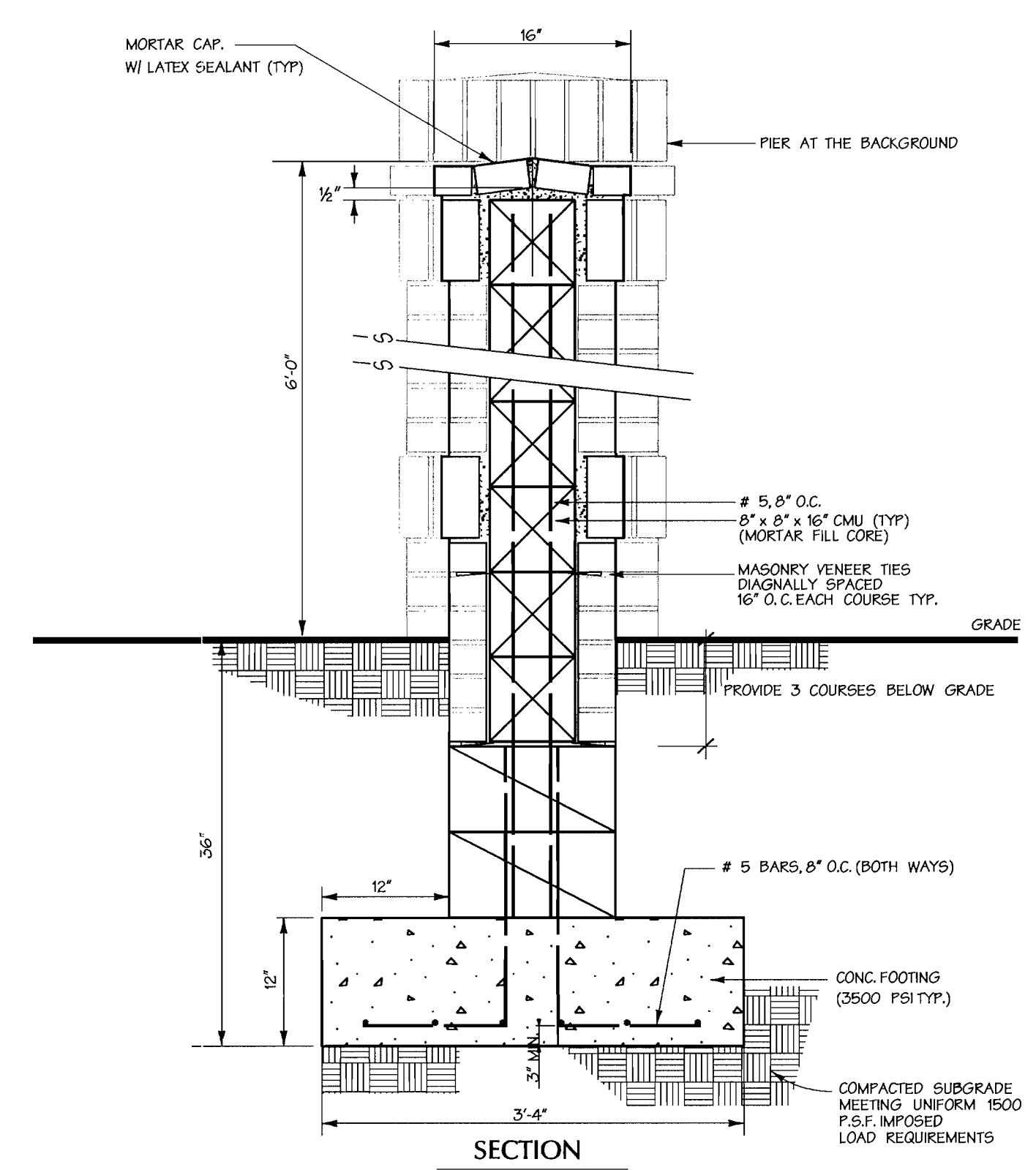
④ Retaining Wall Detail
Not To Scale



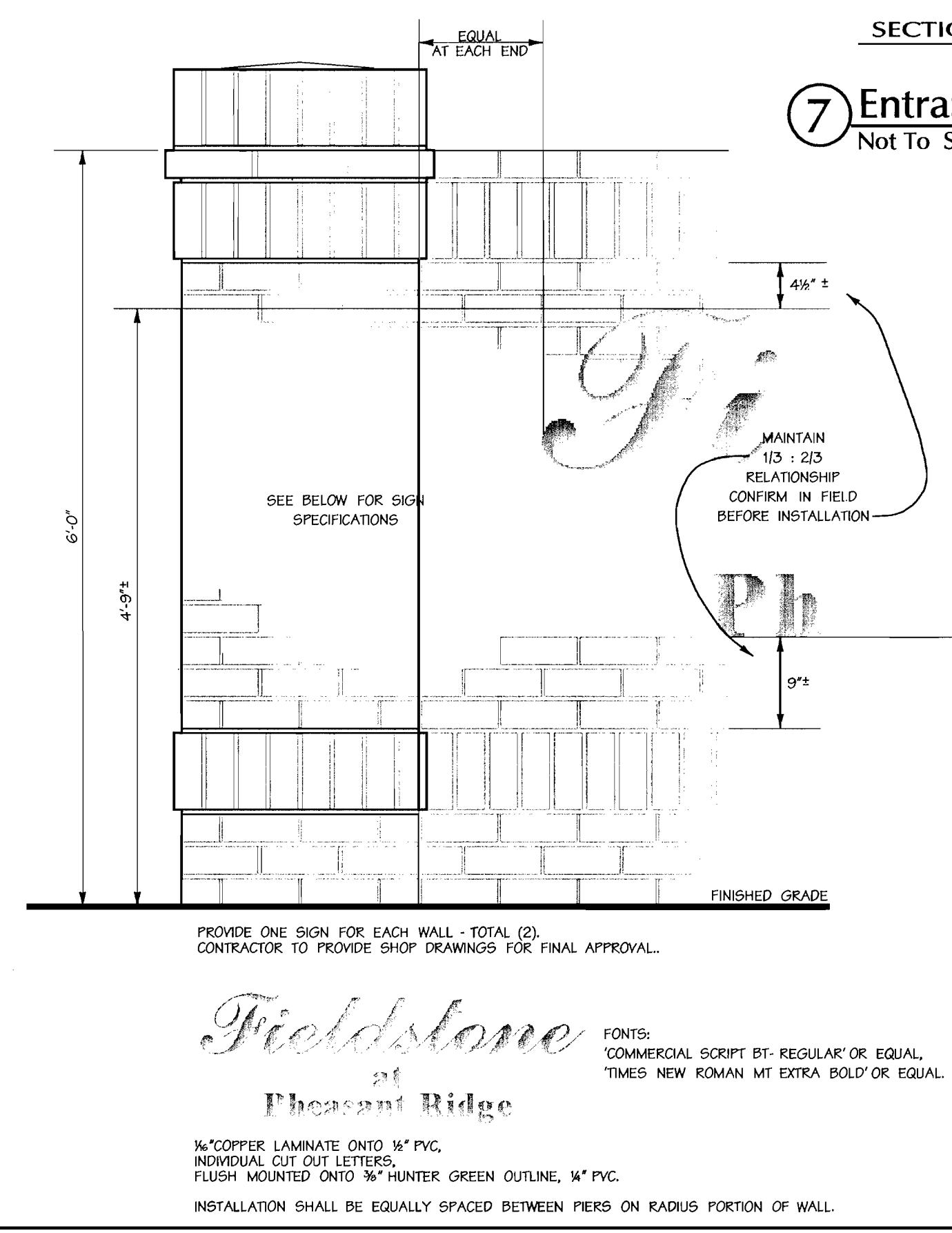
⑦ Entrance and Driveway Paving Detail
Not To Scale



⑤ Entrance Feature – Brick Pier Detail
Not To Scale



⑥ Entrance Feature – Sign Wall Detail
Not To Scale



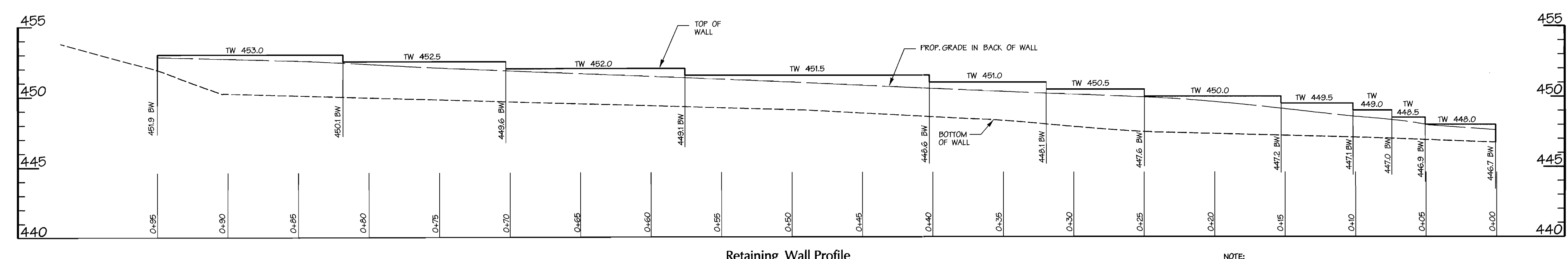
APPROVED PLANNING BOARD OF HOWARD COUNTY
DATE: 12/13/01

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE: 3/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE: 3/22/02
DIRECTOR DATE: 3/22/02

Date	No.	Revision Description
Jan 7, 2002	1	CHANGES AS PER CLIENT COMMENTS.

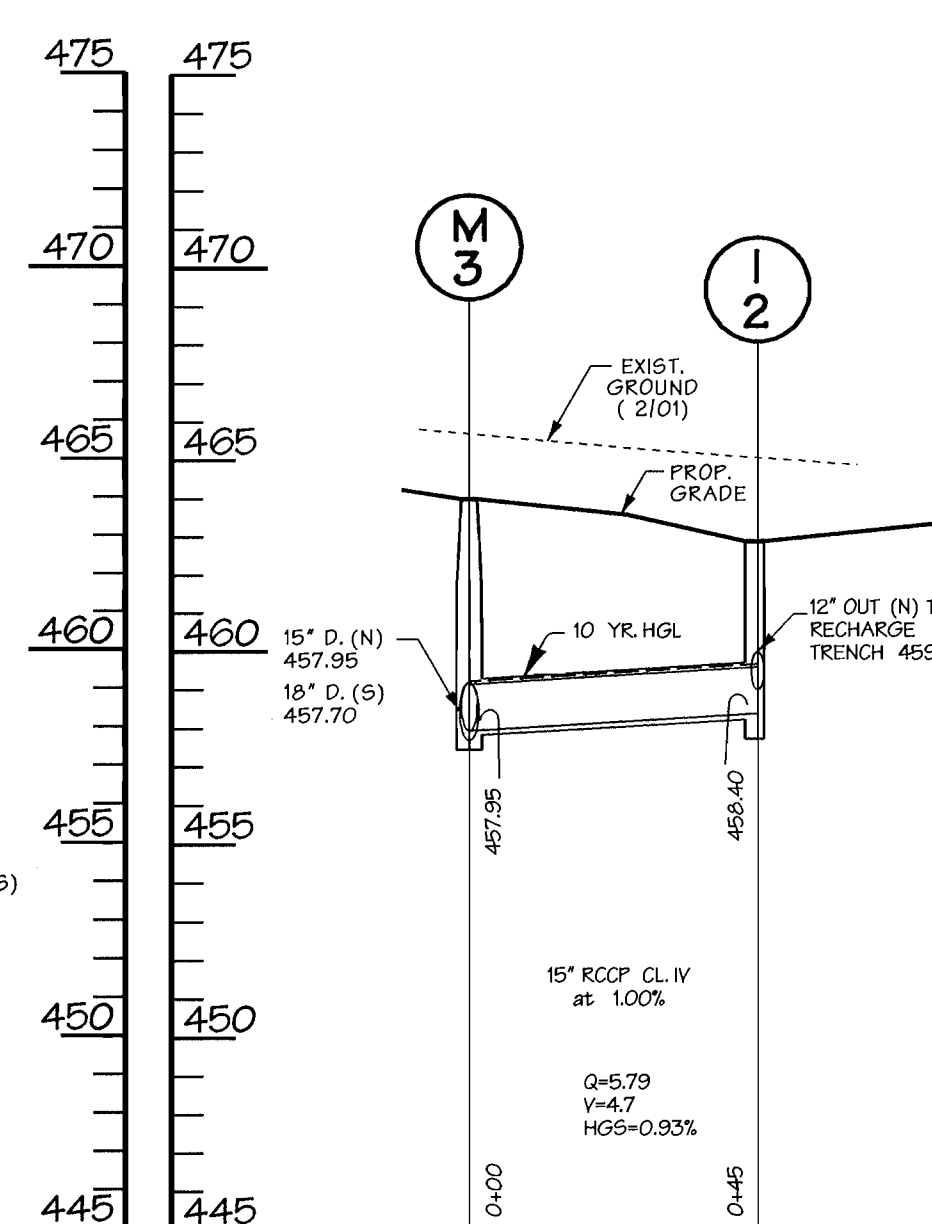
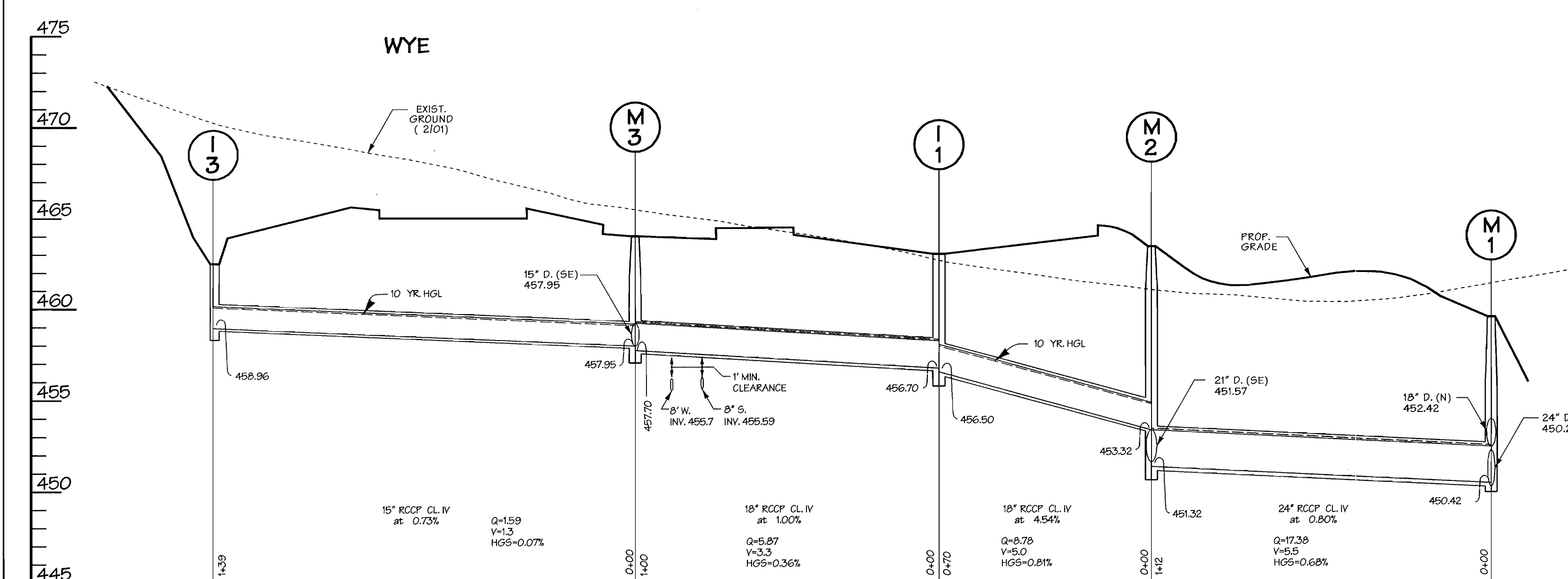
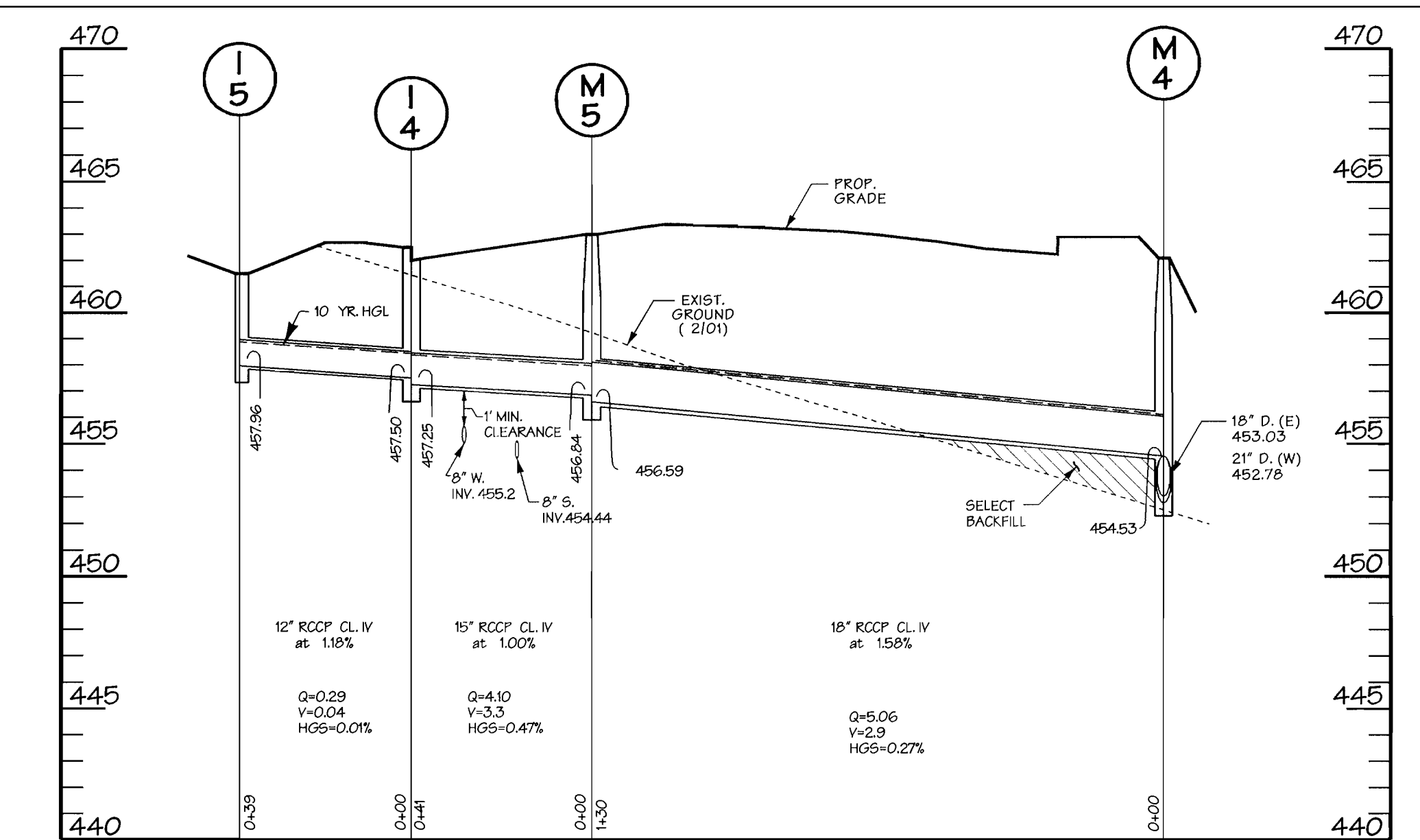
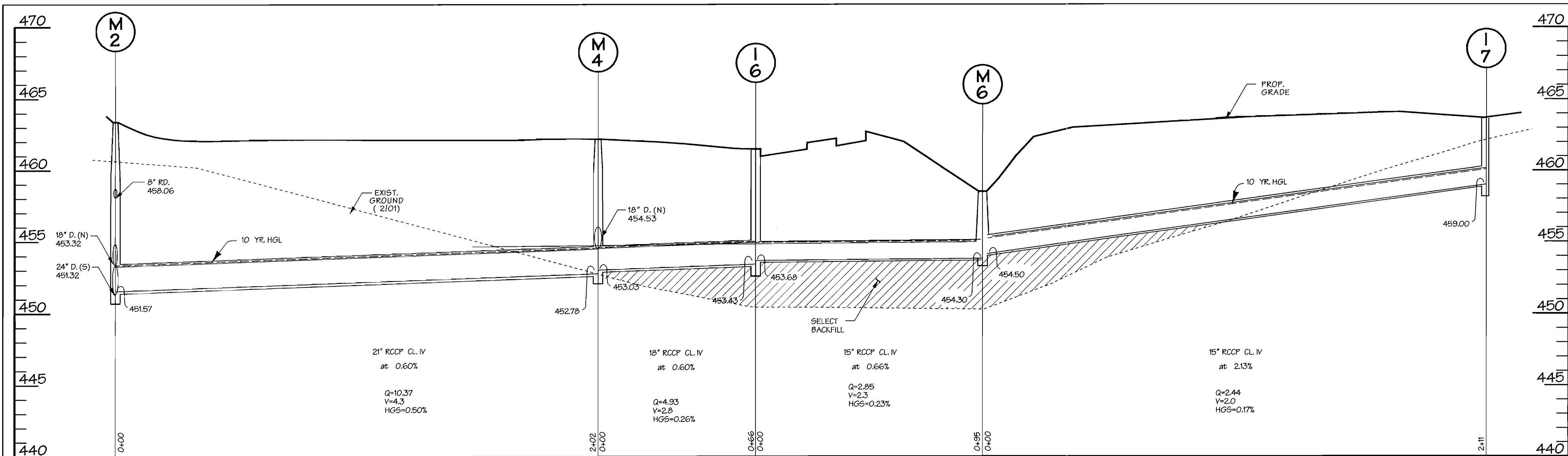
FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
OWNER: HFD LAND HOLDINGS, INC. DEVELOPER: BEAZER HOMES, INC.
10275 LITTLE PATUXENT PARKWAY SUITE 290 COLUMBIA, MD. 21044
410-992-6084 410-992-5071

SITE DETAILS			
Drn. By: FWK	Scale: AS SHOWN	Proj. No. 01015	
Des. By: FPB	Date: 10/12/01		
Chk. By: JLM	Approved:		5 of 17



Retaining Wall Profile
Scale: Horiz = 1"=5'
Vert = 1"=5'
NOTE: RETAINING WALL PROVIDED BY COLUMBIA ASSOCIATION.

3-6-02
Date
Professional Engr. No. 10551



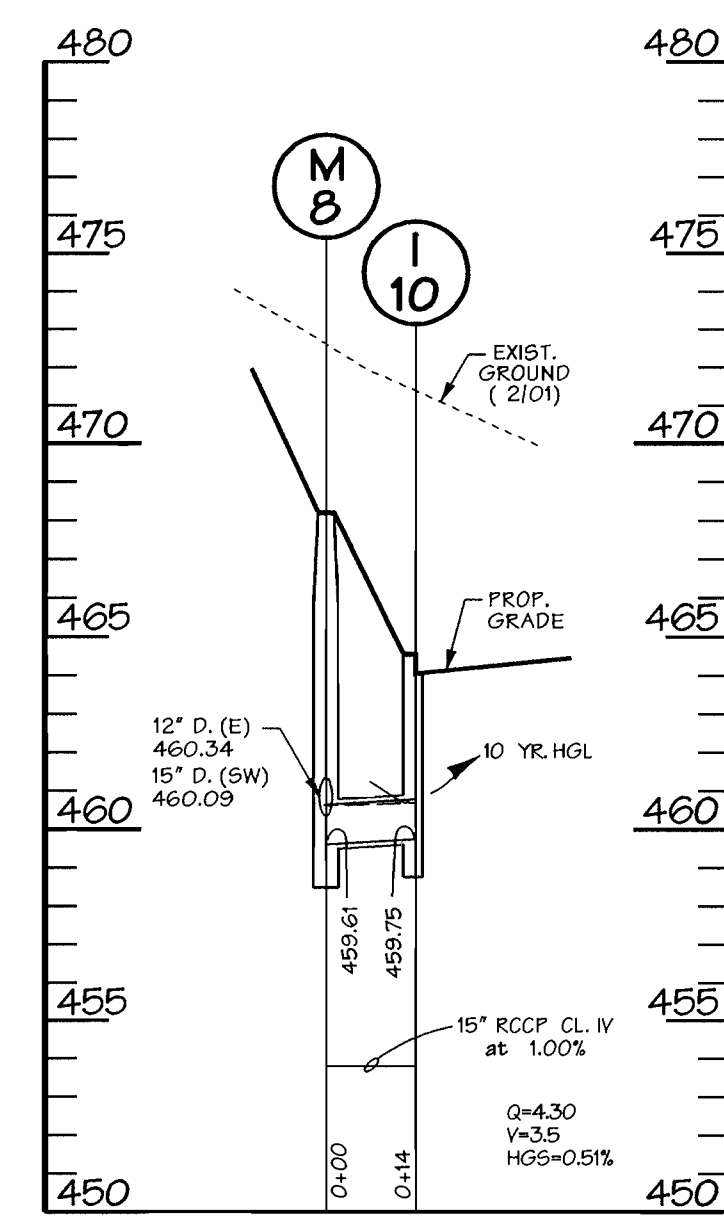
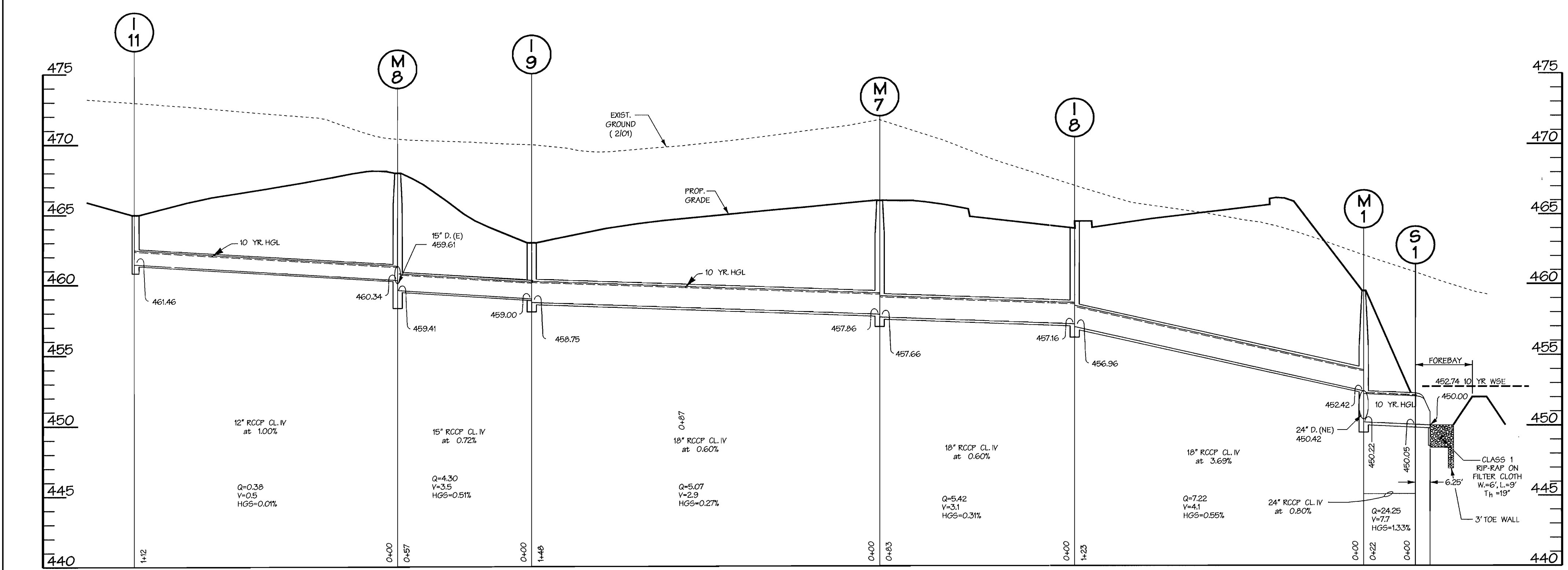
STRUCTURE SCHEDULE

NO.	TYPE	INV. IN	INV. OUT	TOP ELEV.	REMARKS
I-1	DBL. 'S' INLET	456.70	456.50	462.76	HO. CO. STD. SD-4.23
I-2	A-5 INLET (W=2.5')		458.40	463.20	HO. CO. STD. SD-4.01
I-3	YARD INLET		458.96	462.50	HO. CO. STD. SD-4.14
I-4	A-5 INLET (W=2.5')	457.50	457.25	462.60	HO. CO. STD. SD-4.40
I-5	YARD INLET		457.96	461.50	HO. CO. STD. SD-4.14
I-6	A-5 INLET (W=3.0')	453.68	453.43	461.60	HO. CO. STD. SD-4.40
I-7	A-5 INLET (W=2.5')		459.00	463.30	HO. CO. STD. SD-4.40
I-8	A-5 INLET (W=3.0')	457.16	456.96	464.60	HO. CO. STD. SD-4.40
I-9	TYPE 'S' INLET	459.00	458.75	463.00	HO. CO. STD. SD-4.22
I-10	A-5 INLET (W=2.5')	459.75	460.17	464.65	HO. CO. STD. SD-4.40
I-11	YARD INLET		461.46	465.00	HO. CO. STD. SD-4.14
M-1	STD. MANHOLE (60")	452.42	450.22	459.50	HO. CO. STD. G5.11
M-2	STD. MANHOLE (60")	450.42	451.32	463.40	HO. CO. STD. G5.11
M-3	STD. MANHOLE (48")	457.95 (2)	457.70	463.70	HO. CO. STD. G5.12
M-4	STD. MANHOLE (48")	454.53	453.03	462.20	HO. CO. STD. G5.12
M-5	STD. MANHOLE (48")	456.84	456.59	462.84	HO. CO. STD. G5.12
M-6	STD. MANHOLE (48")	454.50	454.30	458.50	HO. CO. STD. G5.12
M-7	STD. MANHOLE (48")	457.86	457.66	466.00	HO. CO. STD. G5.12
M-8	STD. MANHOLE (48")	459.61	459.41	468.20	HO. CO. STD. G5.12
S-1	24" CONC. END SECTION	450.05	450.00		HO. CO. STD. SD-5.51

NOTE: INLET TOP ELEVATIONS FOR A-5 INLETS ARE BASED ON 7 3/16" CURB & GUTTER.
 * THIS CAST-IN-PLACE INLET WILL BE MODIFIED TO ALSO SERVE AS A FLOW SPLIT DEVICE. THE FIRST-FLUSH FLOW WILL BE DIVERTED TO A 12" PVC PIPE LEADING TO THE STORM-WATER MANAGEMENT (SWM) RECHARGE TRENCH. SEE SWM PLAN AND DETAILS. SHEET 14 OF 17.
 ** FROM CHANNEL, INVERT TO INVERT

PIPE SCHEDULE

SIZE	TYPE	LENGTH
12"	RCCP CL. IV	151'
15"	RCCP CL. IV	602'
18"	RCCP CL. IV	720'
21"	RCCP CL. IV	202'
24"	RCCP CL. IV	134'



STORM DRAIN PROFILES
 SCALE: HORIZ. 1" = 30'
 VERT. 1" = 5'

APPROVED: PLANNING & ZONING
 DATE: 12/13/01

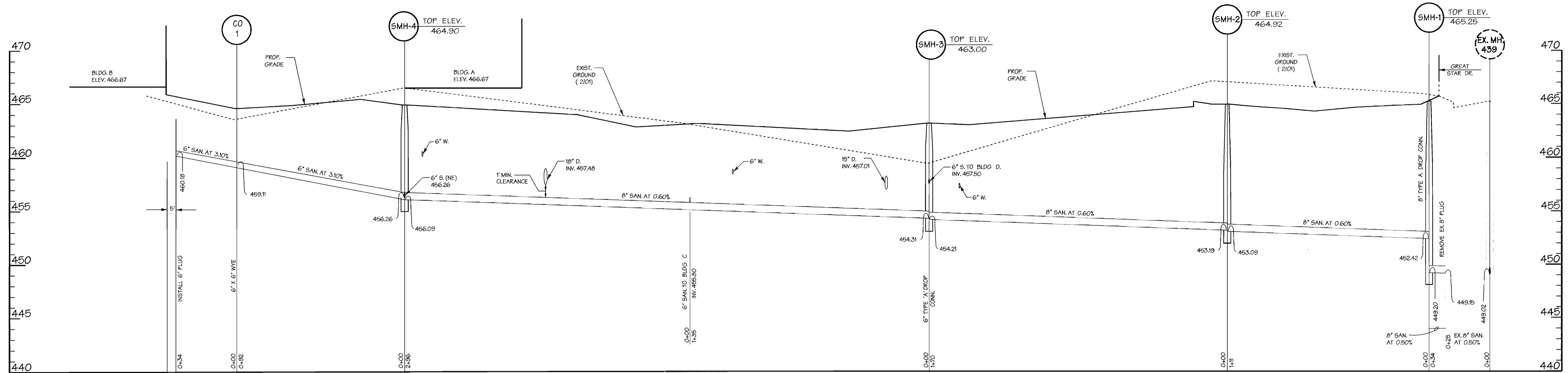
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DIRECTOR

Revision Description
FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
 VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
 OWNER: HLD HOLDINGS, INC.
 DEVELOPER: BEAZER HOMES, INC.

DMW
 Duff-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4705

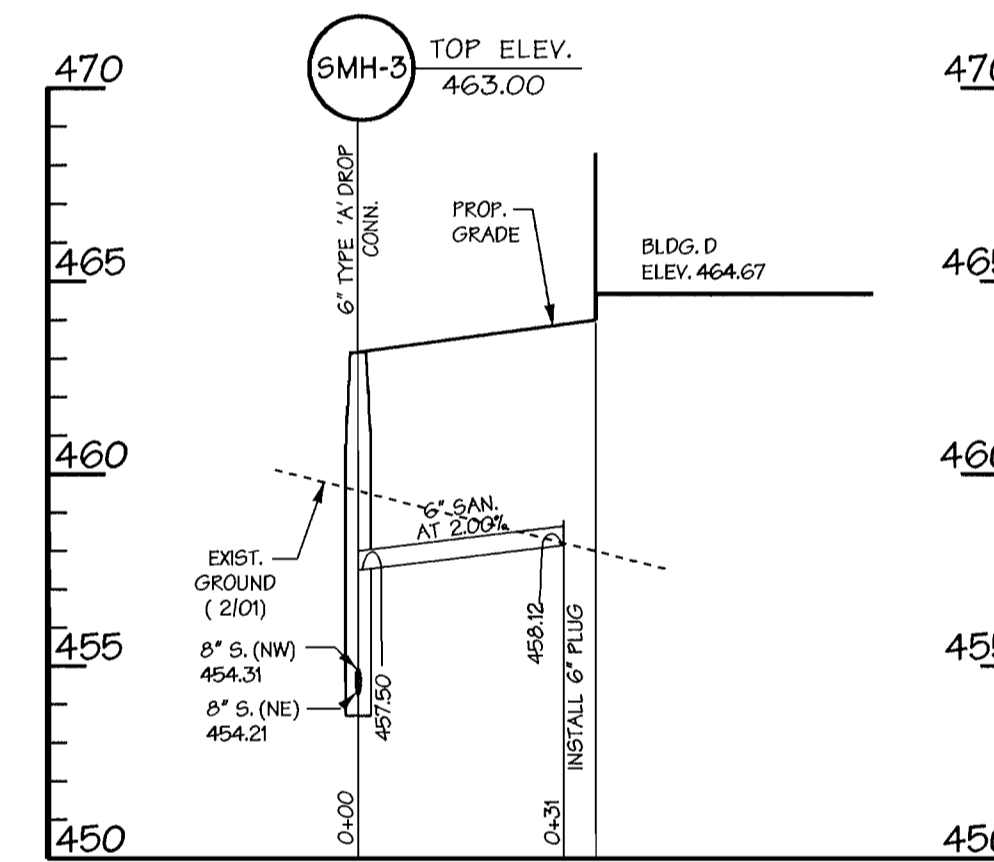
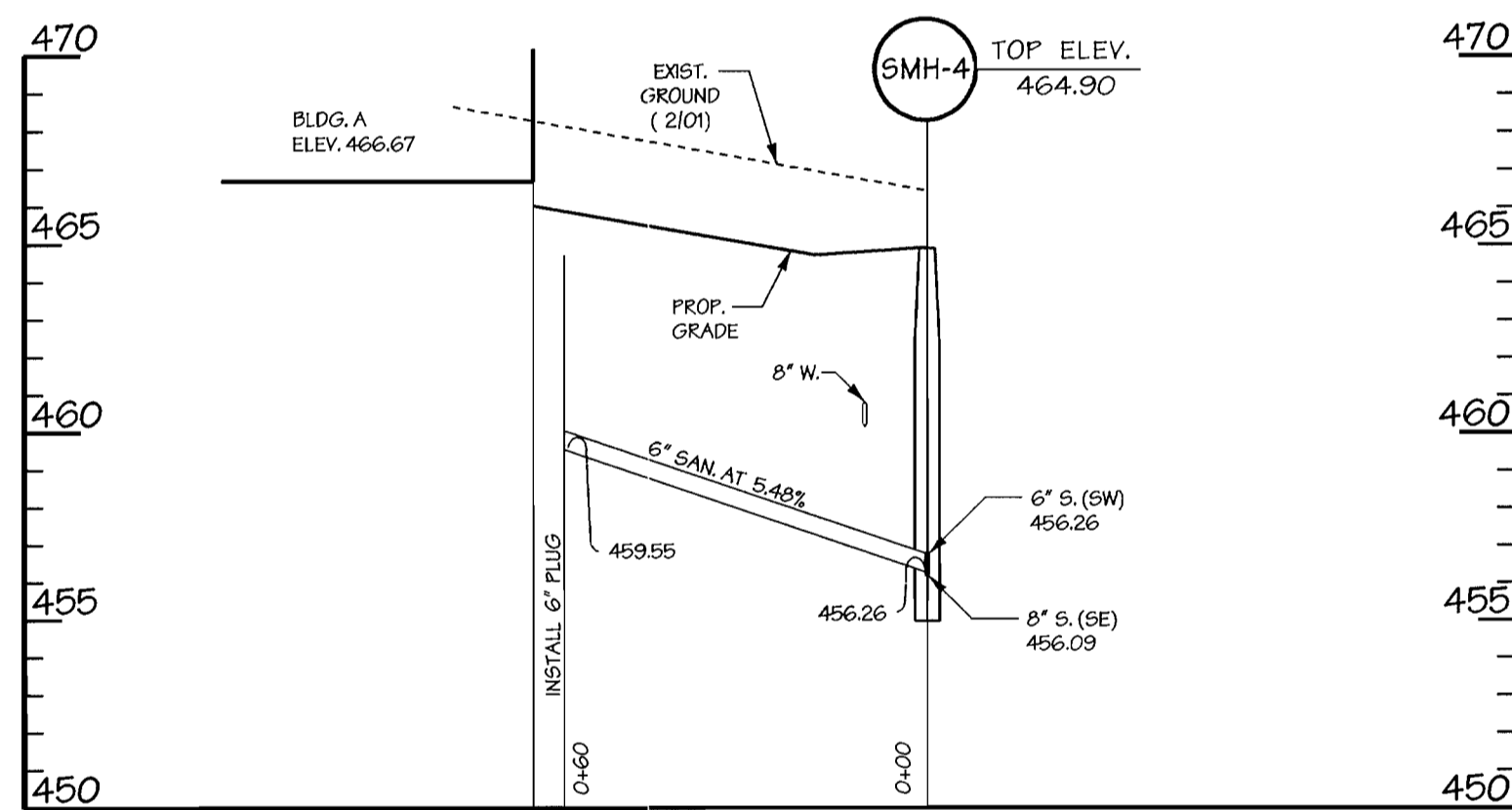
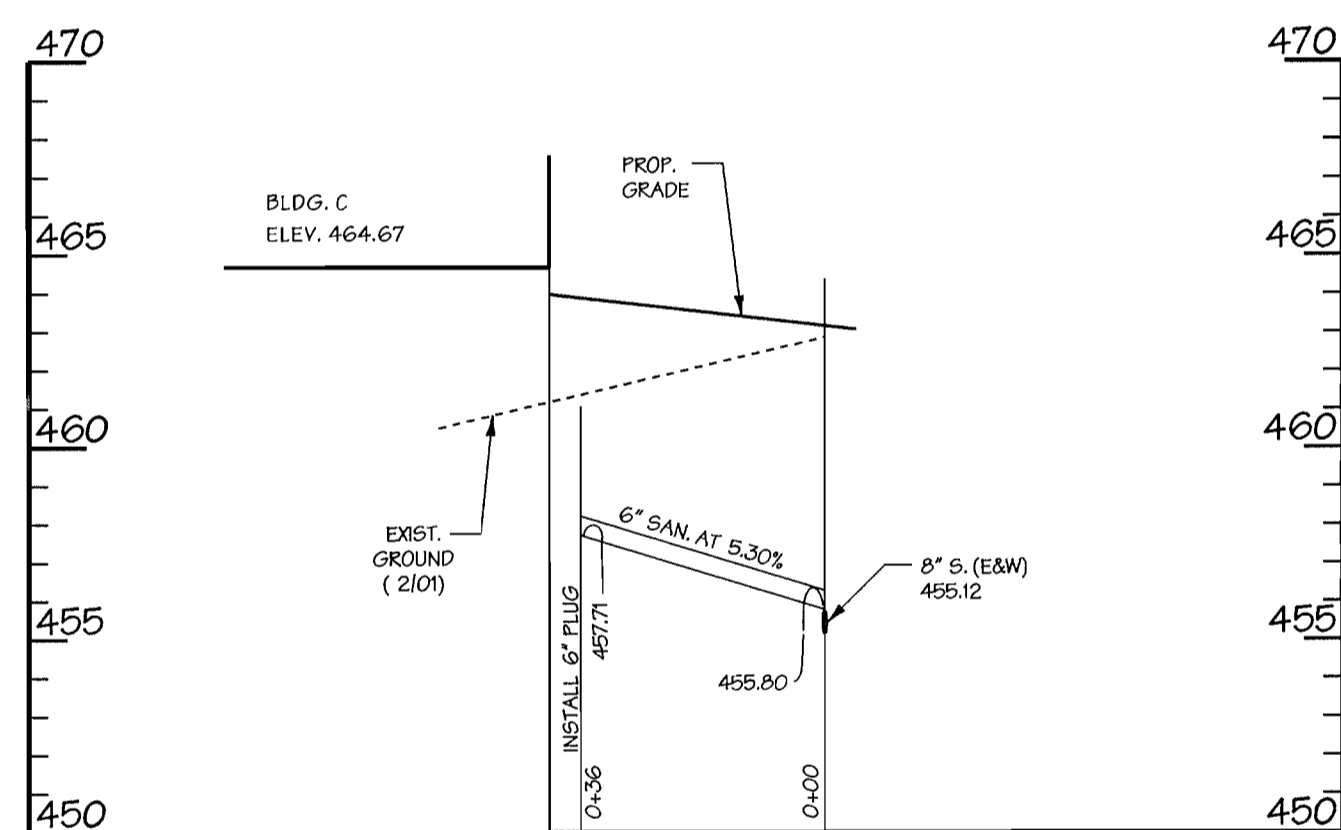
STORM DRAIN PROFILES

Drn. By: WDE Scale: AS SHOWN Proj. No. 01015
 Des. By: DFM Date: 10/12/01
 Chk. By: Approved: 6 of 17



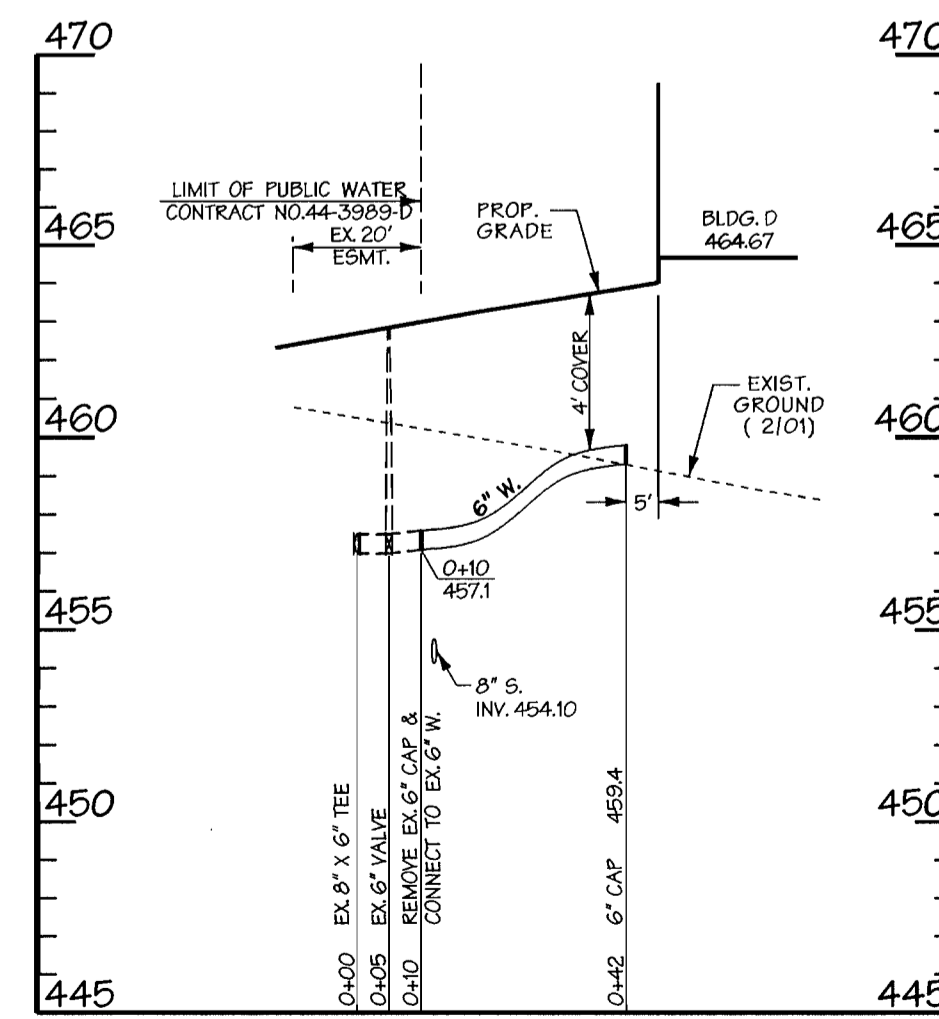
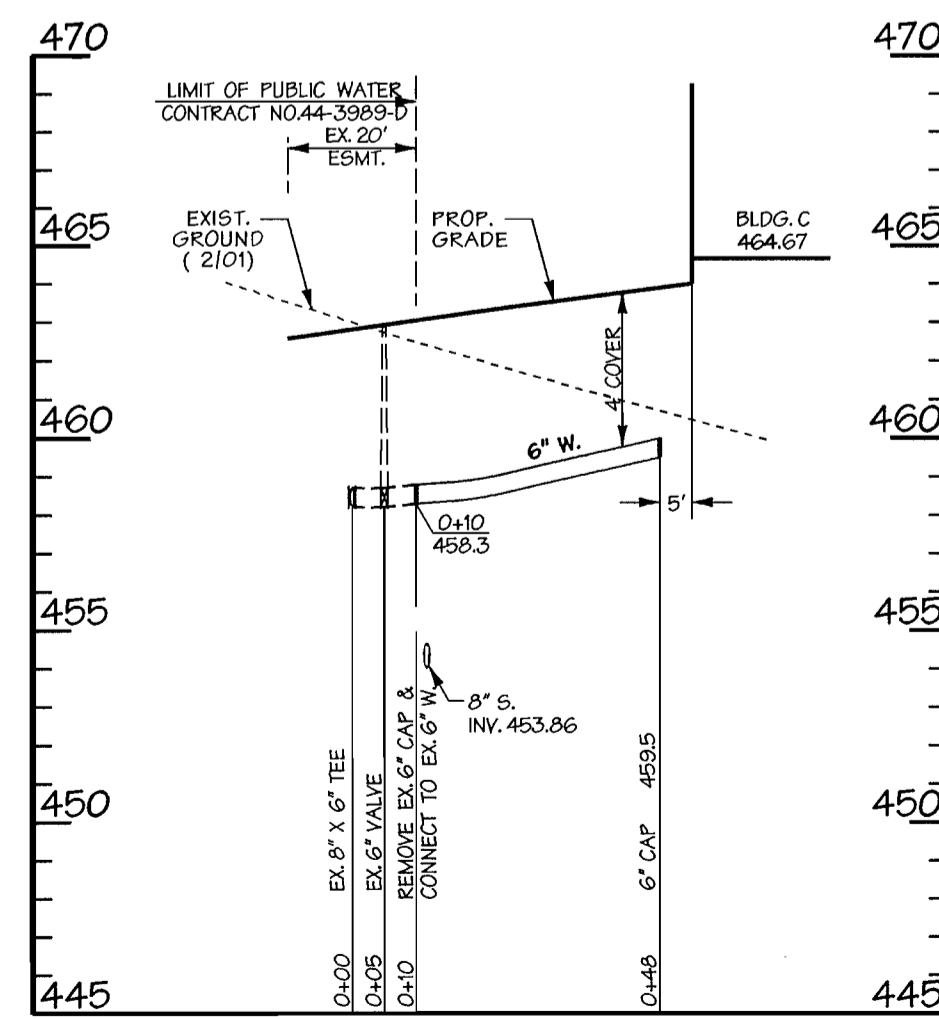
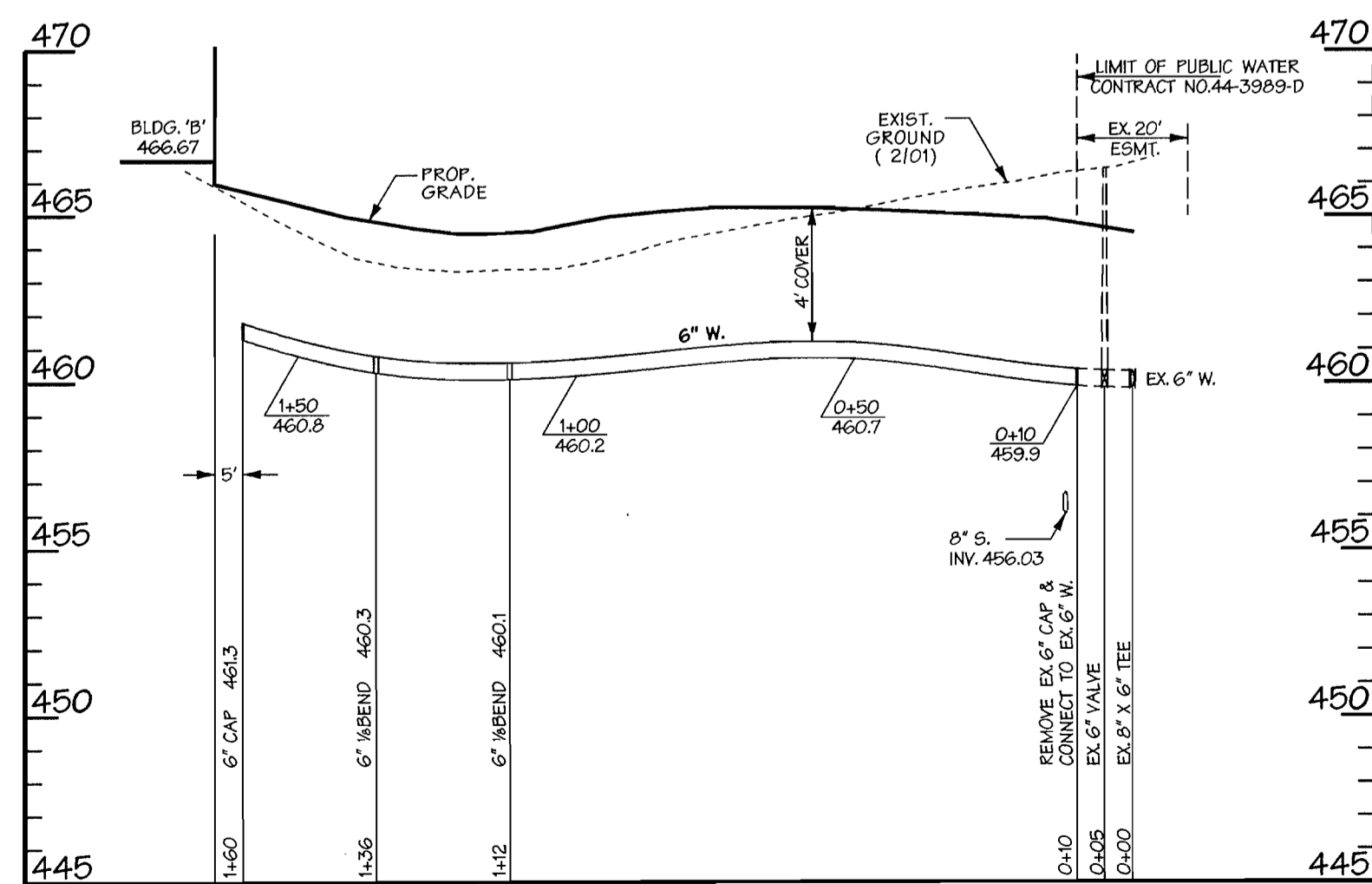
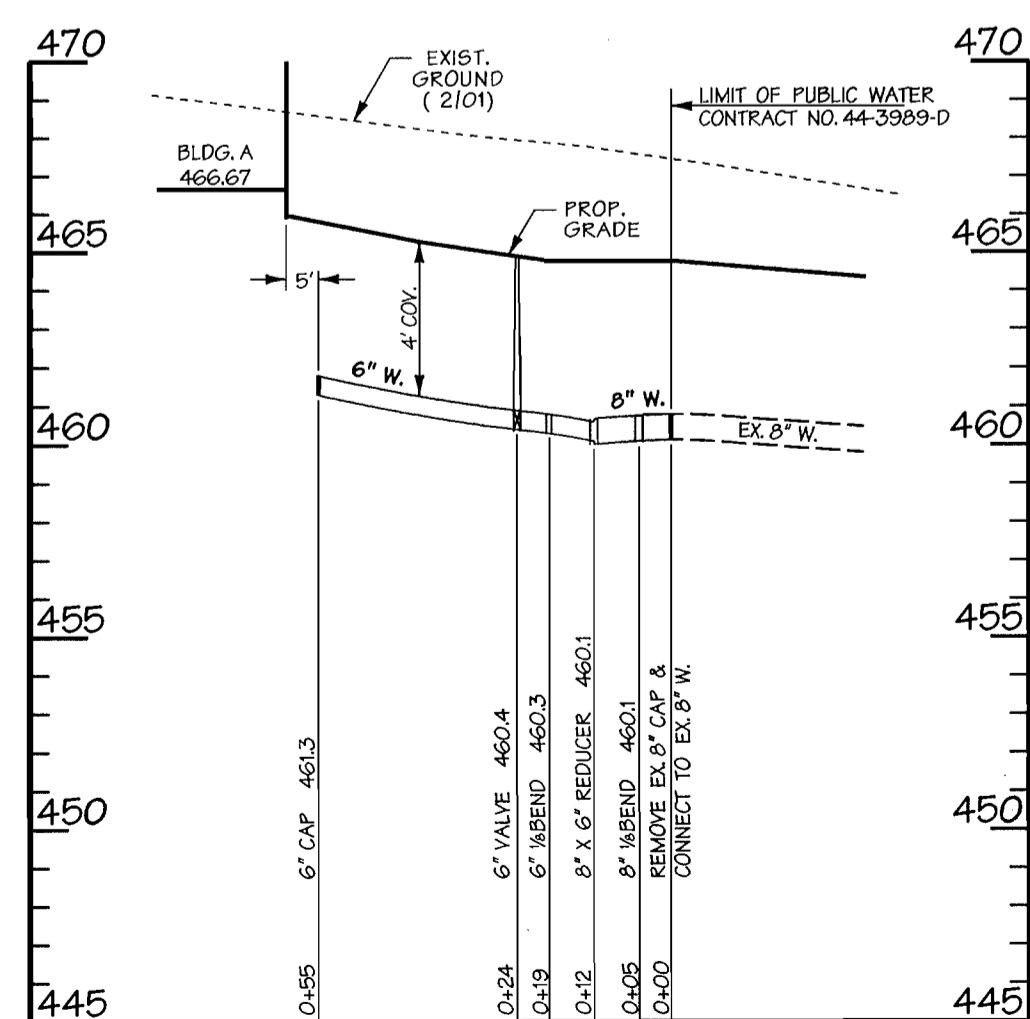
SANITARY SEWER PROFILE

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



SANITARY SEWER PROFILES

SCALE: HORIZ. 1"=30'
VERT. 1"=5'



BUILDING 'A'

BUILDING 'B'

BUILDING 'C'

BUILDING 'D'

WATER PROFILES

SCALE: HORIZ. 1"=30'
VERT. 1"=5'

APPROVED
PLANNING BOARD
of HOWARD COUNTY
DATE: 12/13/01

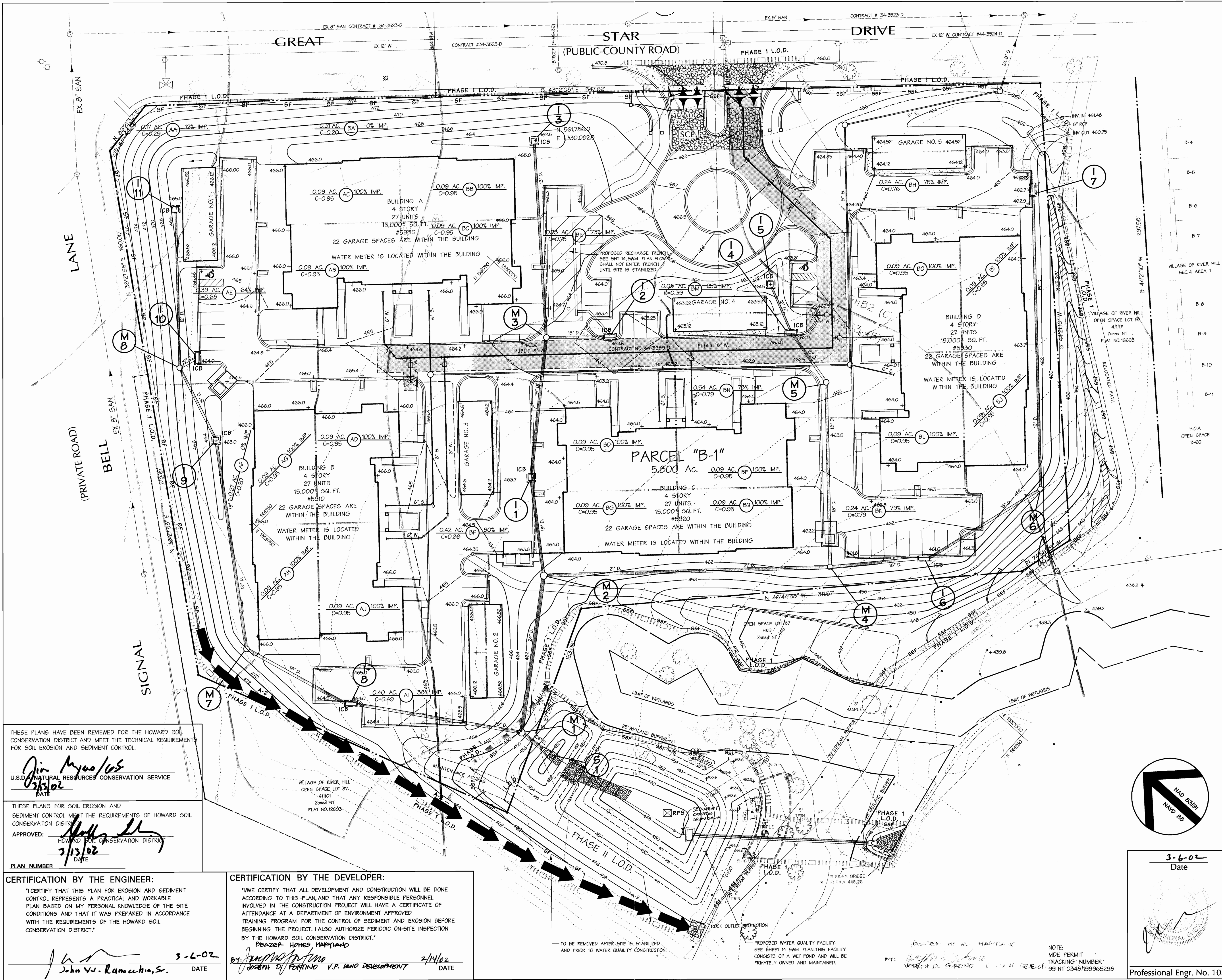
APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] 3/5/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 3/22/02
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 3/22/02
 DIRECTOR DATE

Jan 24, 2002	KGM	ADJUST. TOP SAN. MANHOLE #3 ELEV.

Date No. Revision Description
FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
 VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
 OWNER: FIRST LAND HOLDINGS, INC.
 10275 LITTLE PATENT PARKWAY
 COLUMBIA, MD. 21044
 410-992-6084
 DEVELOPER: BLAZER HOMES, INC.
 8965 GUILFORD ROAD
 SUITE 290
 COLUMBIA, MD. 21046
 410-720-5071

DMW Daft-McCune-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 586-3333 Fax 296-4705			A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals		
SUBDIVISION NAME VILLAGE OF RIVER HILL	SECTION AREA SEC. 4, AREA 1, PHASE 1	LOT/PARCEL PARCEL B-1	DATE 3-6-02		
PLAT OR LIF BLOCK/DISTRICT 6112 NT	TAXATION MAP ELECT. DISTRICT 34	CENSUS TRACT 6095.01	TITLE SANITARY SEWER AND WATER PROFILES		
WATER CODE 1-10	SEWER CODE 6653000	Dr. By: Scale: AS SHOWN Proj. No. 01015			
Des. By: DFM		Date: 10/12/01		7 of 17	
Chk. By:		Approved:		Professional Engr. No. 10551	

3-6-02
Date



LEGEND

- CONCRETE SIDEWALKS
- STANDARD CURB & GUTTER
- REVERSE CURB & GUTTER
- DEPRESSED CURB
- HANDICAP SYMBOLS
- HANDICAP RAMPS
- MANHOLE & INLET LABELS
- EX. MANHOLE & INLET LABELS
- DETAIL CALL OUTS
- LIGHTING BY OTHERS (PEDESTRIAN FIXTURE MOUNTED ON 12'-14' POLE, METAL HALIDE LAMP)
- PROPOSED STREET LIGHT 220 WATT HPS VAPOR PENDANT FIXTURE (SAG LENS), MOUNTED AT 30' HT. ON A BRONZE FIBER GLASS POLE USING A 12' ARM.
- WETLAND BUFFER
- STREAM BUFFER
- FENCE
- DRAINAGE AREA LINES
- LIMIT OF DISTURBANCE
- SUPER SILT FENCE 50 SF
- SILT FENCE 50 SF
- STABILIZED CONSTRUCTION ENTRANCE
- EARTH DIKE
- SOILS
- 4' WIDE MATTING

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John D. Fortino 2/21/02 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION

Vandy Hamaker 2/22/02 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT

Paul S. Smith 2/22/02 DATE
 DIRECTOR

Jan 7, 2002	1	CHANGES AS PER CLIENT AND COUNTY COMMENTS.
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Date No. Revision Description

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS

VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HRD LAND HOLDINGS, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD 21044
 410-992-6094

DEVELOPER: BEAZER HOMES, INC.
 8965 GUILFORD ROAD
 SUITE 290
 COLUMBIA, MD 21046
 410-720-5071

DMW
 DaR McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4705

A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

SUBDIVISION NAME	VILLAGE OF RIVER HILL	SECTION/AREA	SEC. 4, AREA 1, PHASE 1	LOT/PARCEL	PARCEL B-1
BLK/LOT OR BLOCK/ZONE	6712 NT	TAX/ZONE MAP	ELECT. DISTRICT 5TH	CENSUS TRACT	6055.01
WATER CODE	1-10	SEWER CODE	6653000		

TITLE: **DRAINAGE AREA MAP AND SEDIMENT AND EROSION CONTROL PLAN**

Dwn. By: ALF	Scale: 1"=30'	Proj. No. 01015
Des. By: MRT	Date: 9/17/01	
Chk. By:	Approved:	8 of 17

THESE PLANS HAVE BEEN REVIEWED FOR THE HOWARD SOIL CONSERVATION DISTRICT AND MEET THE TECHNICAL REQUIREMENTS FOR SOIL EROSION AND SEDIMENT CONTROL.

Jim Myrolo
 U.S.D. NATURAL RESOURCES CONSERVATION SERVICE
 DATE 2/13/02

THESE PLANS FOR SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.

APPROVED: *John D. Fortino*
 HOWARD SOIL CONSERVATION DISTRICT
 DATE 2/13/02

PLAN NUMBER

CERTIFICATION BY THE ENGINEER:

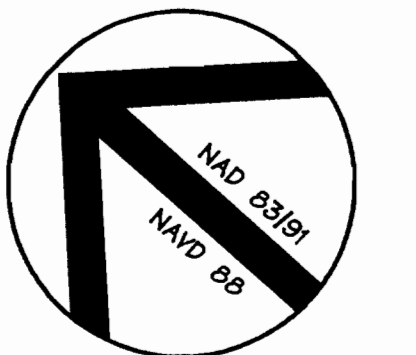
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

John W. Ramech, Sr. 3-6-02 DATE

CERTIFICATION BY THE DEVELOPER:

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF 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."

BEAZER HOMES MARYLAND
Joseph D. Fortino 2/14/02 DATE
 JOSEPH D. FORTINO V.P. LAND DEVELOPMENT



3-6-02
 Date

Professional Engr. No. 10551

General Planting Notes

- All plant material to meet A.A.N. Standards.
- Landscape Contractor to follow landscape specification guidelines for Baltimore Washington Metro area approved by L.C.A.M.W.
- No substitutions to be made without consent of Landscape Architect or Owner.
- All beds to be topped with three inches of hardwood mulch.
- Landscape Contractor to verify location of utilities with Owner before planting.
- Landscape Architect/Owner shall select, verify and/or approve all plant material. As Owner's discretion, specimen and other plant material will be selected.
- Landscape Contractor shall coordinate plant bed filling operations and plant material installation with General Contractor and Utilities Contractor. At the time of final inspection, with acceptance, all electric, water, and drainage, as well as all plant materials, shall remain undamaged. Likewise, Landscape Contractor and Utilities Contractor shall coordinate efforts to ensure that surface utilities are at the proper elevation relative to final grades.
- Contractor shall notify Miss Utility 72 hours prior to construction.
- The owner, tenant, and/or their agents shall be responsible for maintenance of the required landscaping, including both plant materials and berms, fences and walls. All plant materials shall be maintained in good growing condition, and when necessary, replaced with new materials to ensure continued compliance with applicable regulations. All other required landscaping shall be permanently maintained in good condition, and when necessary, repaired or replaced.
- This plan has been prepared in accordance with the provisions of Section 16.124 of the Ho. Co. Code per the new town alternative compliance method. Financial surety for the required landscaping in the amount of \$36,000.00 must be posted as part of the developer's agreement. (36 shade, 52 evergreen)
- Developer's/Builder's Certificate

I/we certify that the landscaping shown on this plan will be done according to the plan, Section 16.124 of the Howard County code and the Howard County Landscape Manual. I/we further certify that upon completion, a certification of landscape installation, accompanied by an executed one-year guarantee of plant materials, will be submitted to the Department of Planning and Zoning.

Joe Fortino
 NAME: JOE FORTINO
 BEAZER HOMES

SCHEDULE A PERIMETER LANDSCAPE EDGE

CATEGORY	ADJACENT TO ROADWAYS	ADJACENT TO PERIMETER PROPERTIES	LANDSCAPE CALCULATIONS
LANDSCAPE TYPE FRONTAGE/PERIMETER	PERIMETER 1 375 LF. OF LANDSCAPE TYPE 'D'		1 SHADE TREE @ 50' LF = 8 SHADE TREES 1 EVERGREEN @ 40' LF = 8 EVERGREENS
	PERIMETER 2 671 LF. OF LANDSCAPE TYPE 'D'		1 SHADE TREE @ 50' LF = 14 SHADE TREES 1 EVERGREEN @ 40' LF = 17 EVERGREENS
		PERIMETER 3 324 LF. OF LANDSCAPE TYPE 'A'	1 SHADE TREE @ 60' LF = 6 SHADE TREES
		PERIMETER 4 352 LF. OF LANDSCAPE TYPE 'A'	1 SHADE TREE @ 60' LF = 6 SHADE TREES
		PERIMETER 5 153 LF. OF LANDSCAPE TYPE 'A'	1 SHADE TREE @ 60' LF = 3 SHADE TREES
		PERIMETER 6 239 LF. OF LANDSCAPE TYPE 'A'	1 SHADE TREE @ 60' LF = 4 SHADE TREES
CREDIT FOR EXISTING VEGETATION (DESCRIBE BELOW IF NEEDED)	N/A	N/A	
CREDIT FOR BERM (DESCRIBE BELOW IF NEEDED)	N/A	N/A	
NUMBER OF PLANTS REQUIRED			41
SHADE TREES			28
EVERGREEN TREES			0
SHRUBS			0
NUMBER OF PLANTS PROVIDED			41
SHADE TREES			28
EVERGREEN TREES			0
OTHER TREES (2:1 SUBSTITUTION)			0
SHRUBS (DESCRIBE PLANT SUBSTITUTION CREDITS BELOW IF NEEDED)			0

SCHEDULE B PARKING LOT INTERNAL LANDSCAPING

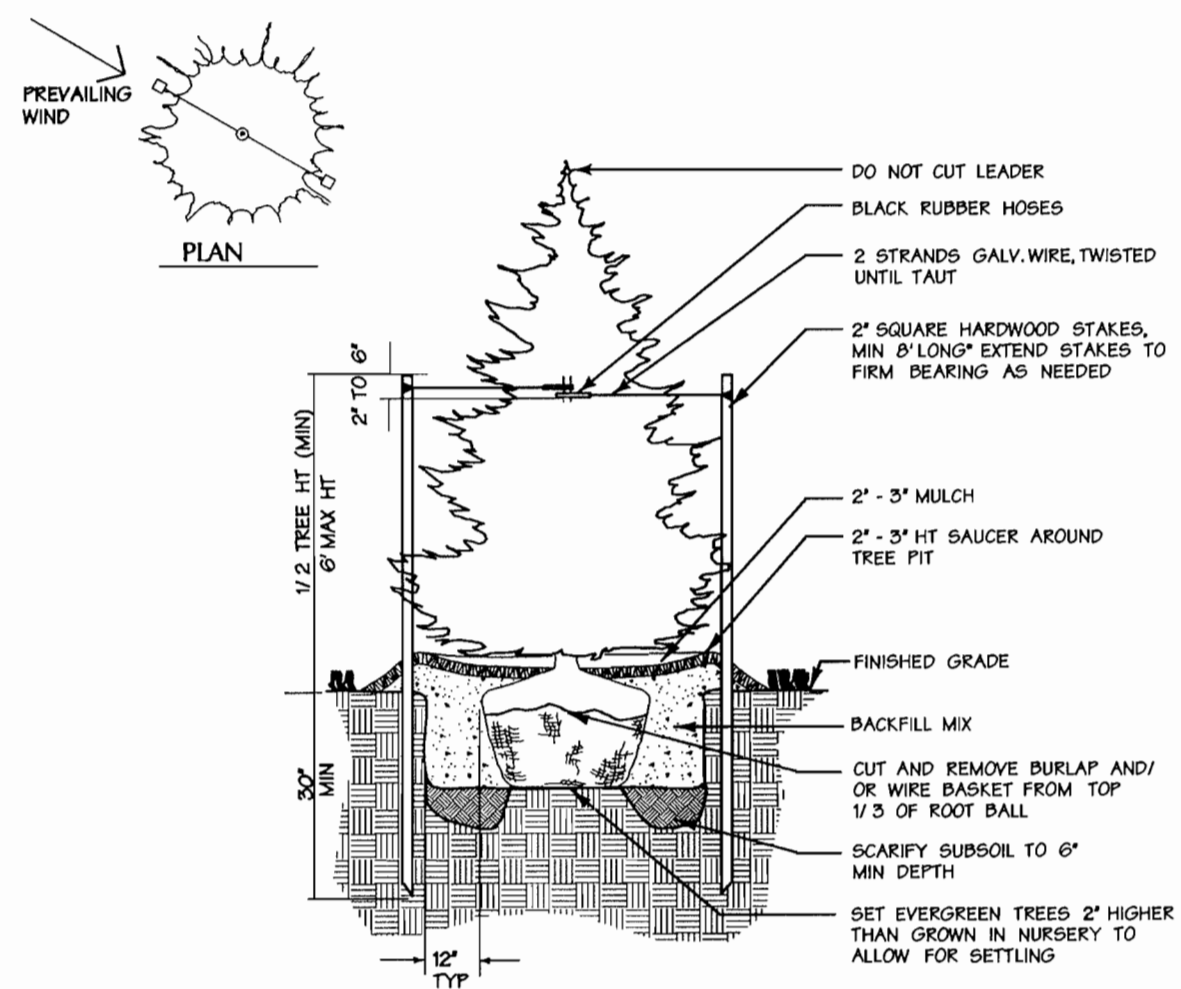
NUMBER OF PARKING SPACES	256
NUMBER OF TREES REQUIRED @ 1/20 PKG. SPACES	13
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	13
NUMBER OF ISLANDS REQUIRED @ 1 PER 20 PKG. SP.	13
NUMBER OF ISLANDS PROVIDED @ 1 PER 20 PKG. SP.	13

SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING

NUMBER OF DWELLING UNITS	108
NUMBER OF TREES REQUIRED @ 1/3 DU APTS	36
NUMBER OF TREES PROVIDED SHADE TREES OTHER TREES (2:1 SUBSTITUTION)	36

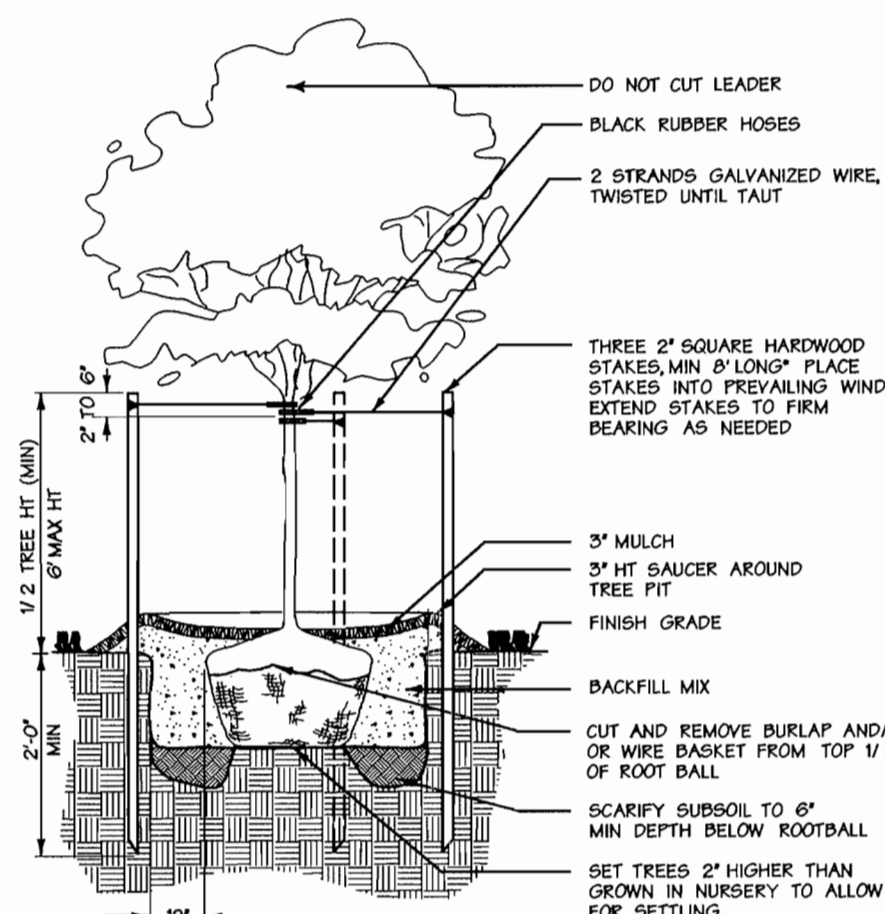
SCHEDULE D STORMWATER MANAGEMENT AREA LANDSCAPING

STORMWATER MANAGEMENT AREA	
LANDSCAPE TYPE 'B' (LINEAR FT OF PERIMETER) CREDIT FOR EX. TREES: 15 (SHADE TREES) X 50 (LF) = 750 LF OF PERIMETER	1028 LF
1028 LF OF PERIMETER - 750 LF OF PERIMETER FOR CREDIT = 278 LF PERIMETER AFTER CREDIT (SHADE TREE ONLY)	
NUMBER OF TREES REQUIRED SHADE TREES @ 1/50 LF. (AFTER CREDIT) EVERGREEN TREES @ 1/40 LF. (NO CREDIT)	6 26
CREDIT FOR EXISTING VEGETATION (SHADE TREES)	17
CREDIT FOR OTHER LANDSCAPING	NA
NUMBER OF TREES PROVIDED SHADE TREES FLOWERING TREES EVERGREEN TREES	21 0 26



Evergreen Tree Planting

Not To Scale

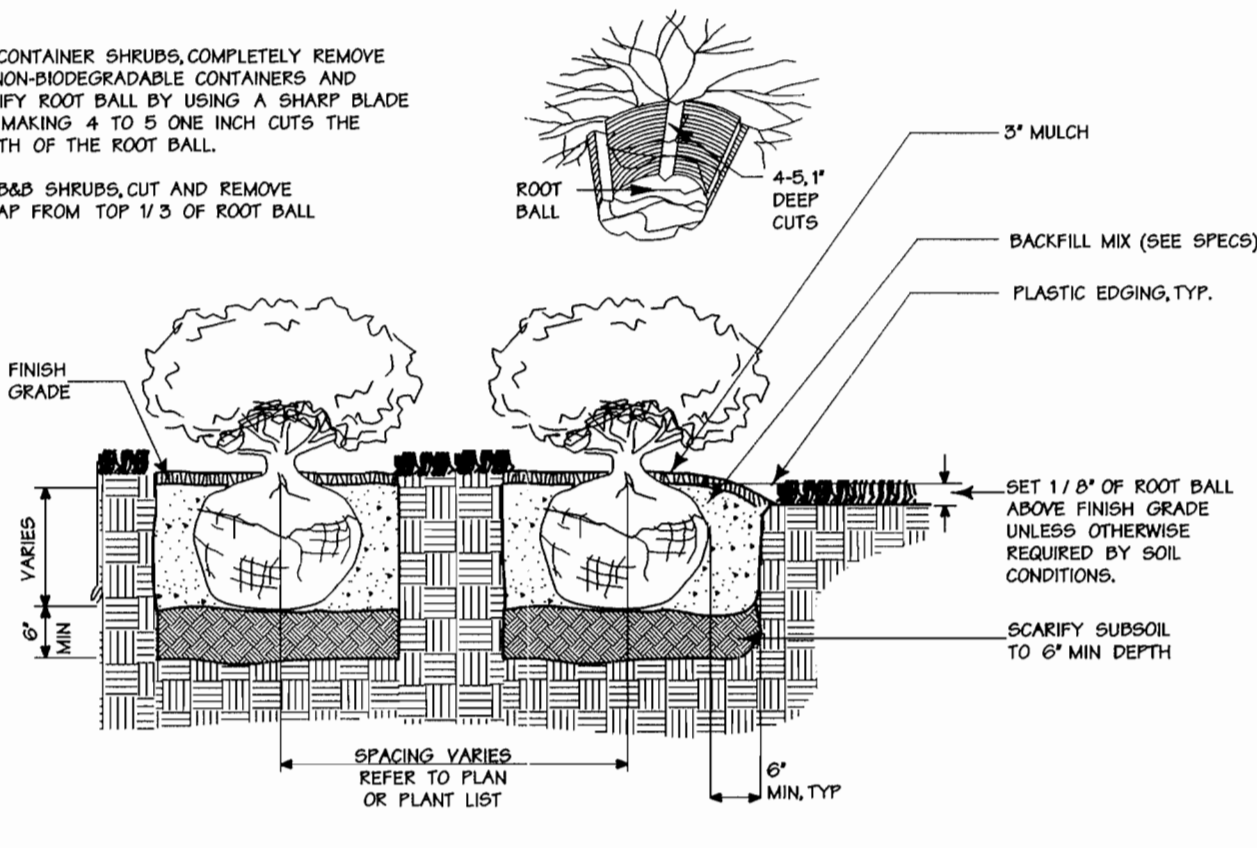


TREE PLANTING 2 1/2 - 3' CALIPER

NOT TO SCALE

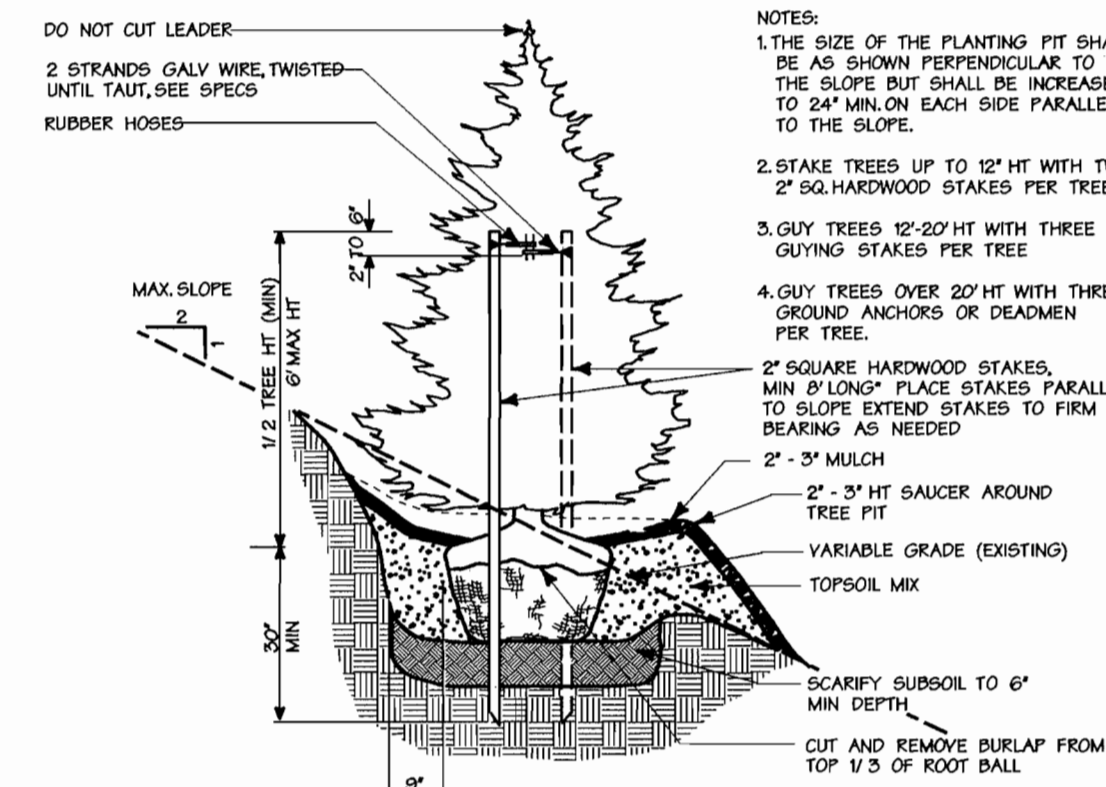
NOTES:

- FOR CONTAINER SHRUBS, COMPLETELY REMOVE ALL NON-Biodegradable CONTAINERS AND SCARIFY ROOT BALL BY USING A SHARP BLADE AND MAKING 4 TO 5 ONE INCH CUTS THE LENGTH OF THE ROOT BALL.
- FOR B&B SHRUBS, CUT AND REMOVE BURLAP FROM TOP 1/3 OF ROOT BALL.



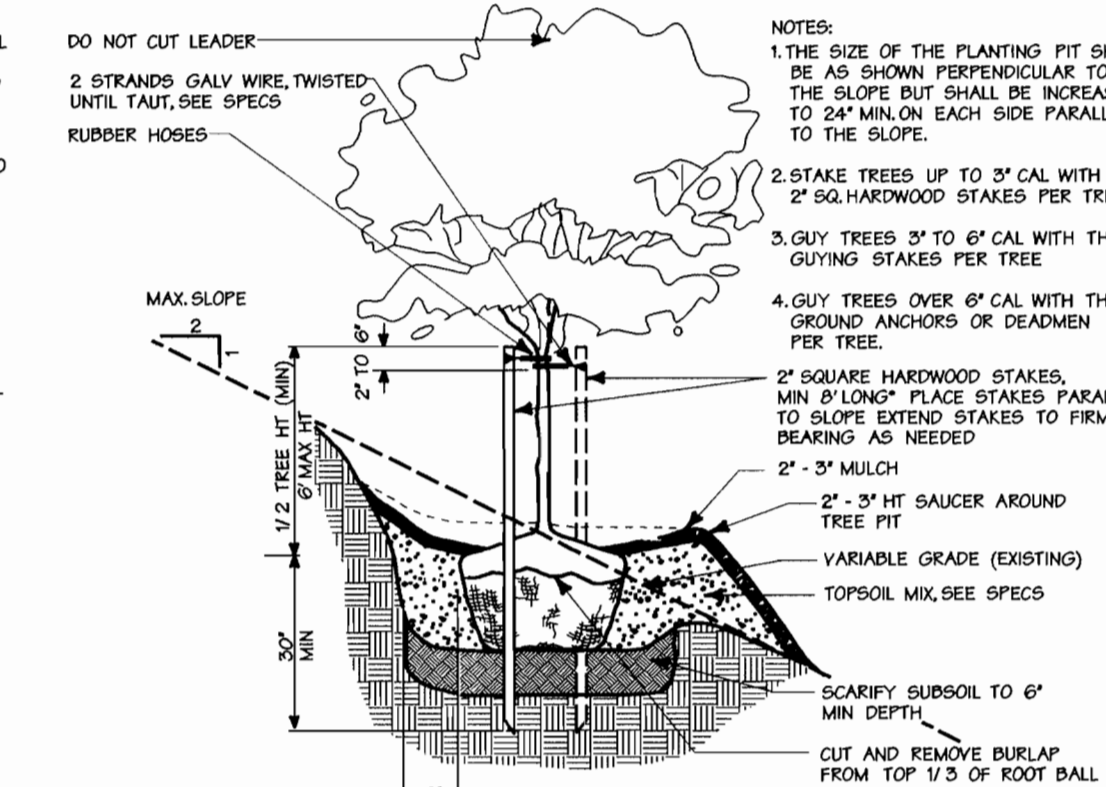
SHRUB PLANTING

NOT TO SCALE



EVERGREEN TREE PLANTING ON SLOPE

NOT TO SCALE



TREE PLANTING ON SLOPE

NOT TO SCALE

Plant List

TREES

Quantity	Code	Genus/Species	Common Name	Size	Condition	Remarks
39	ARRS	Acer rubrum 'Red Sunset'	Red Sunset Maple	2 1/2' Cal.	B & B	Full Canopy
3	AC	Amelanchier canadensis	Downy Shadblow	6' Height	B & B	Multistem/ 5 Trunk Minimum
8	CC	Cercis canadensis	Redbud	6' Height	B & B	Multistem/ 5 Trunk Minimum
4	CV	Chionanthus virginicus	White Fringetree	6' Height	B & B	Multistem/ 5 Trunk Minimum
19	FLP	Fraxinus lanceolata 'Patmore'	Patmore Ash	2 1/2' Cal.	B & B	Heavy/ Full Canopy
30	GTIS	Gleditsia triacanthos inermis	Shademaster Honey Locust	2 1/2' Cal.	B & B	Full Canopy
4	INRS	Ilex x 'Nellie R. Stevens'	Nellie R. Stevens Holly	8' Height	B & B	Heavy Specimen
18	IXF	Ilex x 'attenuata 'Fosteri'	Foster Holly	8' Height	B & B	Heavy Specimen
5	LS	Liquidambar styraciflua	Sweet Gum	2 1/2' Cal.	B & B	Full Canopy
6	MV	Magnolia virginiana	Sweetbay Magnolia	8'-10' Height	B & B	Multistem/ 5 Trunk Minimum
17	PA	Picea abies	Norway Spruce	6'-7' Height	B & B	Heavy/ Natural
161	PS	Pinus strobus	White Pine	6'-7' Height	B & B	Heavy/ Natural
42	PY	Prunus x yedoensis	Yoshino Cherry	8' Height	B & B	Full Canopy/ Match Group
14	QPA	Quercus palustris	Pin Oak	3' Cal.	B & B	Heavy/ Full Crown/ Match Group
20	ZSVG	Zelkova serrata 'Village Green'	Village Green Zelkova	2 1/2' Cal.	B & B	Uniform Branching/ Full Canopy

SHRUBS

Quantity	Code	Genus/Species	Common Name	Size	Condition	Remarks
12	AAB	Aronia arbutifolia brilliantissima	Red Chokeberry	30 in.	#3 can.	5 Canes Min.
55	CSB	Cornus sericea 'Bailey'	Red Twig Dogwood	24 in.	#3 can.	5 Canes Min.
21	ICB	Ilex crenata 'Bennett'	Bennett Japanese Holly	24 in.	#3 can.	Heavy / Branched to Ground
149	JCS	Juniperus chinensis 'Sargentii'	Sargent Juniper	24 in.	#3 can.	Heavy
39	PLOL	Prunus laurocerasus 'Otto Luyken'	Otto Luyken Laurel	24 in.	B & B	Heavy / Branched to Ground
6	RCA	Rhododendron cunningham alba	Cunningham white Rhododendron	30 in.	B & B	Heavy
24	TBR	Taxus baccata 'Repandens'	Spreading English Yew	24 in.	B & B	Heavy
77	TMW	Taxus media 'Wardii'	Ward's Yew	24 in.	B & B	Heavy
35	VDE	Viburnum dentatum	Arrowwood viburnum	36 in.	B & B	5 Canes Minimum / Specimen
15	VPTS	Viburnum plicatum tomentosum 'Shasta'	Shasta Doublefile Viburnum	36 in.	B & B	5 Canes Minimum / Specimen

PERENNIALS / GROUND COVER

Quantity	Code	Genus/Species	Common Name	Size	Condition	Remarks
100	HHR	Hemerocallis 'Happy Returns'	Happy Returns Daylily	1 gal.	cont.	2 Year Growth
15	HAM	Hosta alba marginata	Hosta	1 gal.	cont.	2 Year Growth
9	HPRS	Hosta plantaginea Royal Standard	Royal Standard Hosta	1 gal.	cont.	2 Year Growth
7595	LMBB	Liriope muscari 'Big Blue'	Big Blue Lily Tuft	1 pint	cont.	8" O.C.
150	NTH	Narcissus 'Thalia'	'Thalia' Daffodil	DN-2		8" O.C.
3076	PT	Pachysandra terminalis	Japanese Spurge	2 1/4" pp		8" O.C.
200	VM	Vinca minor	Periwinkle	2 1/4" pp		8" O.C.

APPROVED
 PLANNING BOARD
 OF HOWARD COUNTY

DATE: 12/13/02
 vs

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

John P. Smith
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 12/13/02

Andy Hambley
 CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 7/22/02

James Smith
 DIRECTOR
 DATE: 3/24/02

Jan 72002 1 REVISE PLANT LIST QUANTITIES AND SCHEDULE "D"

Date	No.	Revision Description

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS

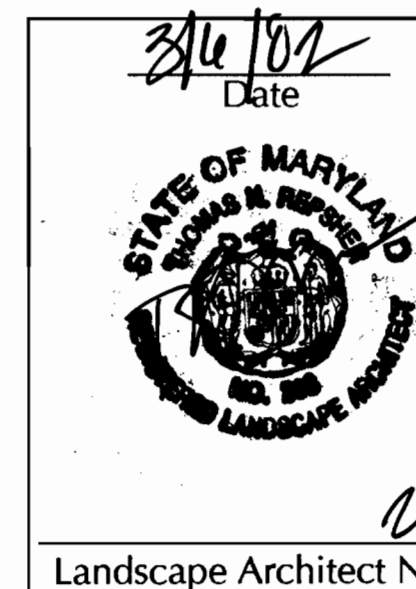
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HED LAND HOLDINGS, INC.
 10275 LITTLE PATENT PARKWAY
 COLUMBIA, MD. 21044
 410-992-6084

DEVELOPER: BEAZER HOMES, INC.
 8965 GUILFORD ROAD
 SUITE 290
 COLUMBIA, MD. 21046
 410-720-5071

DMW
 Daft-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3233
 Fax 296-4705

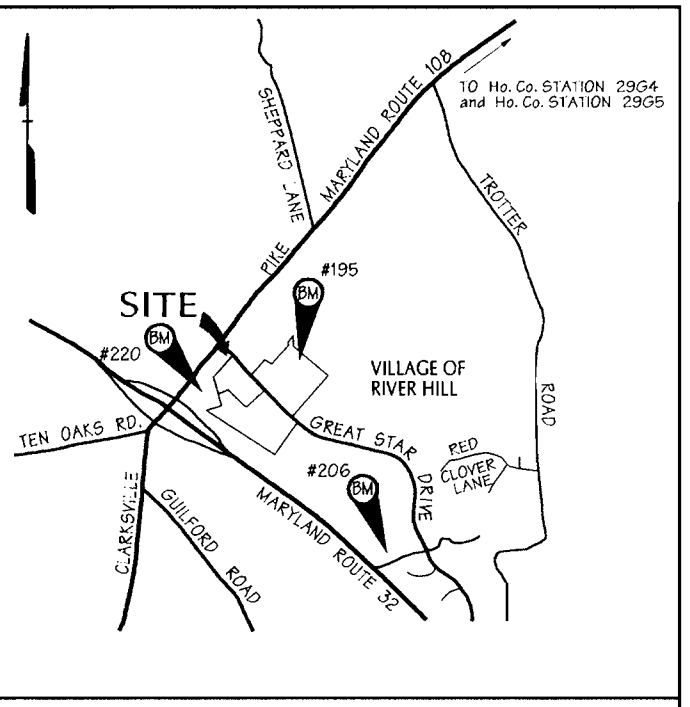
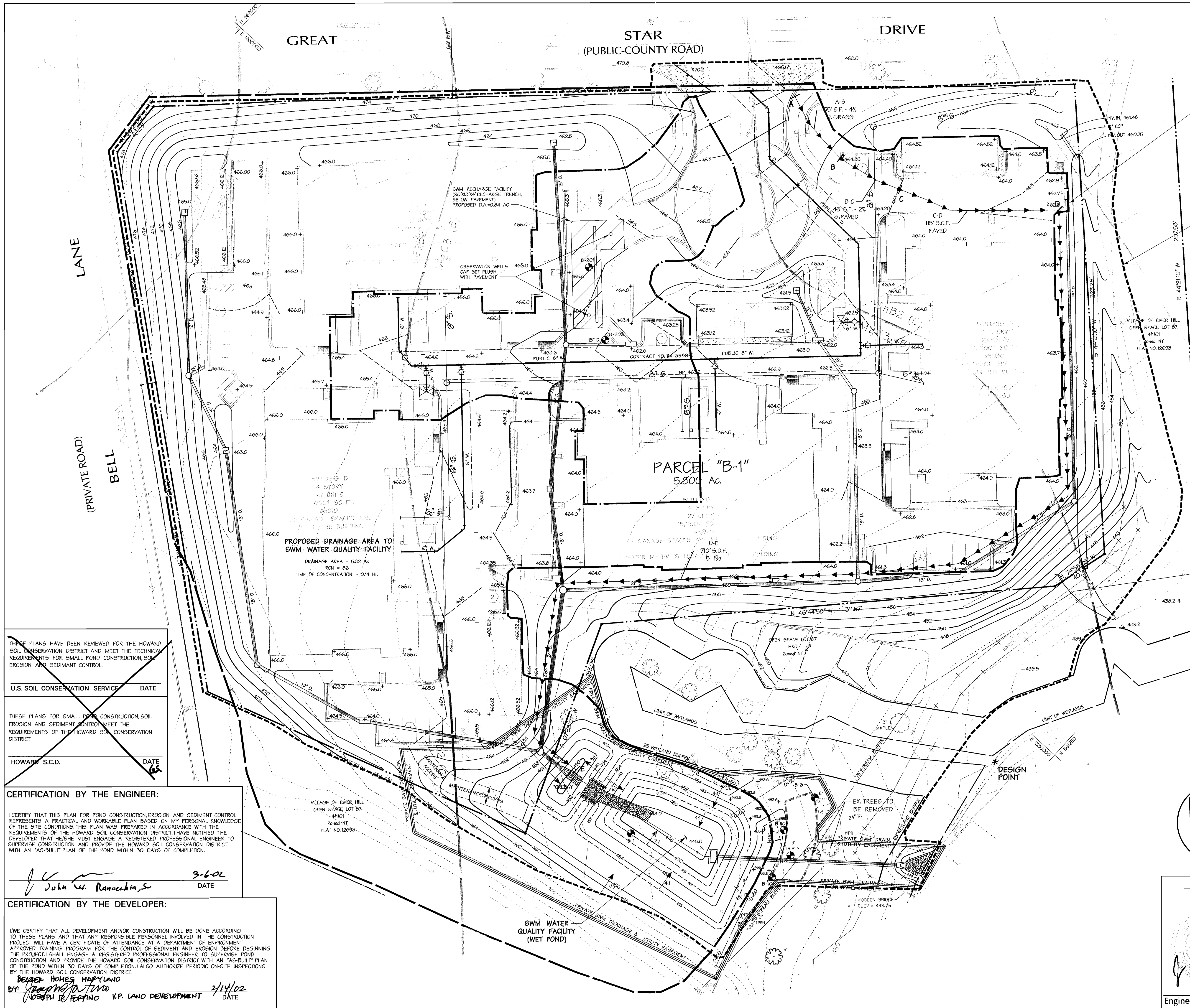
A Team of Land Planners,
 Landscape Architects,
 Golf Course Architects,
 Engineers, Surveyors &
 Environmental Professionals



SUBDIVISION NAME	SECTION AREA	LOT/PARCEL
VILLAGE OF RIVER HILL	SEC. 4, AREA 1, PHASE 1	PARCEL B-1
2700 LF (BLOCK) ZONE	TAXONOMIC DISTRICT	CENSUS TRACT
5116	34	6055.01
WATER CODE	SEWER CODE	
I-10	6653000	

LANDSCAPE DETAILS

Dwn. By: BKC	Scale: 1"=30'	Proj. No. 01015
Des. By: JLM	Date: 9/7/01	
Chk. By:	Approved:	12 of 17



PROPOSED DRAINAGE AREA (ACTUAL TO POND) FOR ROUTING OF 10,100-YR STORMS THROUGH POND
 A=6.15 AC
 RCN=87
 Tc=0.12 hr

PROPOSED SITE AREA (DISTURBED SITE) FOR DETERMINATION OF WATER QUALITY VOLUME
 A=7.57 AC
 A IMP =3.63 AC

VICINITY MAP

SCALE: 1"=2000'

- LEGEND**
- SEWER EASEMENT
 - EXISTING WATER
 - EXISTING SEWER
 - STREAM
 - PROPERTY LINE
 - SOILS
 - PROPOSED TC PATH
 - MAINT. TURNABOUT AREA
 - NON-WOODY VEGETATION BUFFER
 - PROP. SITE AREA (DISTURBED SITE) LINE - FOR WQ VOLUME
 - PROPOSED D.A. (ACTUAL TO POND) LINE - FOR 5,10,100-YR ROUTING
 - PROPOSED D.A. TO RECHARGE TRENCH

APPROVED PLANNING BOARD of HOWARD COUNTY

DATE: 12/13/01

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.

U.S. SOIL CONSERVATION SERVICE DATE

THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT

HOWARD S.C.D. DATE

CERTIFICATION BY THE ENGINEER:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.

John W. Ranocchia, S.E. 3-6-02 DATE

CERTIFICATION BY THE DEVELOPER:

I HEREBY CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.

DEVELOPER HOMES MD/VA
 BY: *Joseph D. Featino* V.P. LAND DEVELOPMENT 2/14/02 DATE

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
Chad DeWitt 3/21/02 DATE
 CHIEF, DEVELOPMENT ENGINEERING DIVISION
Cindy Hensley 3/22/02 DATE
 CHIEF, DIVISION OF LAND DEVELOPMENT
Leah Potts 3/22/02 DATE
 DIRECTOR

Jan 7, 2002	1	CHANGES AS PER CLIENT COMMENTS.
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Date	No.	Revision Description
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FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS

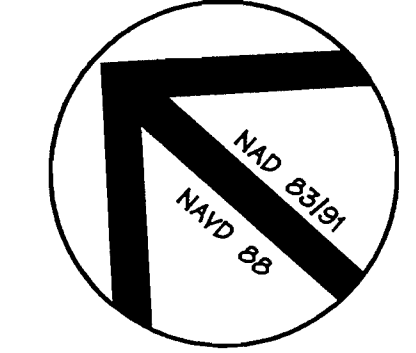
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
 OWNER: HRD LAND HOLDINGS, INC. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD 21044 410-992-6084
 DEVELOPER: BEAZER HOMES, INC. 8965 GULFORD ROAD SUITE 290 COLUMBIA, MD 21046 410-720-6071

DMW
 Daft-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 286-3933
 Fax 286-4705
 A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals

SUBDIVISION NAME	SECTION AREA	LOT PARCELS	PARCEL B-1
VILLAGE OF RIVER HILL	SEC. 4, AREA 1, PHASE 1		
WFOF LOT BLOCK/ZONE	TAX/ZONE DISTRICT		
2693	34	5TH	6085.01
WATER CODE	SEWER CODE		
1-10	6663000		

SWM DRAINAGE AREA MAP

Dwn. By: WDE	Scale: 1"=30'	Proj. No. 01015
Des. By: MRT	Date: 11/16/01	
Chk. By:	Approved:	13 of 17



3-6-02
 Date

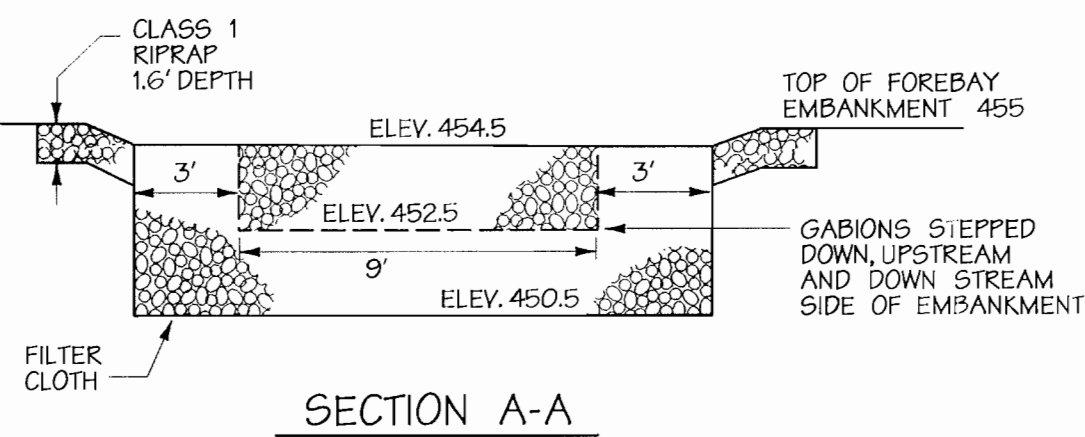
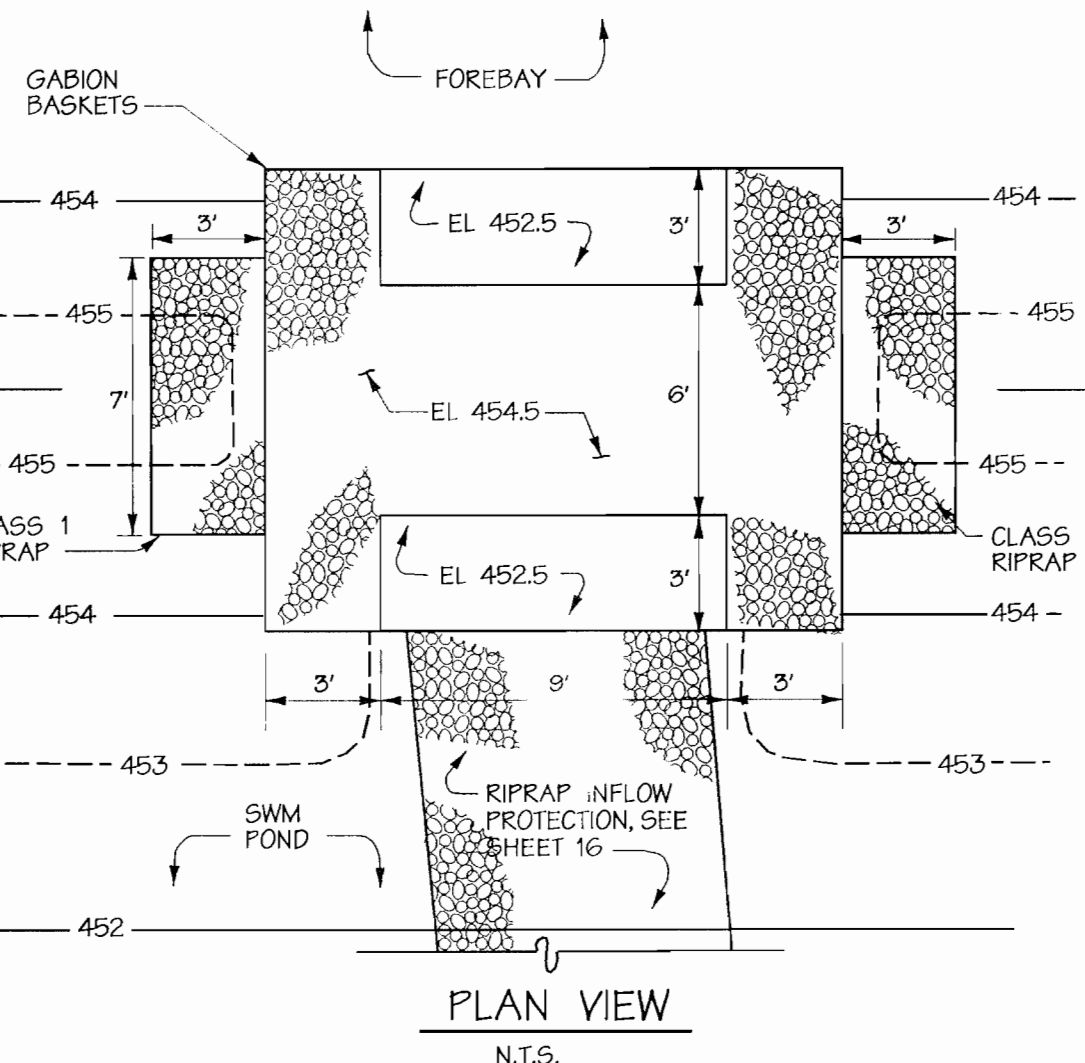
Professional Engineer Seal for Joseph D. Featino, License No. 10551.

SWM FOND DESIGN FLOW SUMMARY PROPOSED CONDITIONS

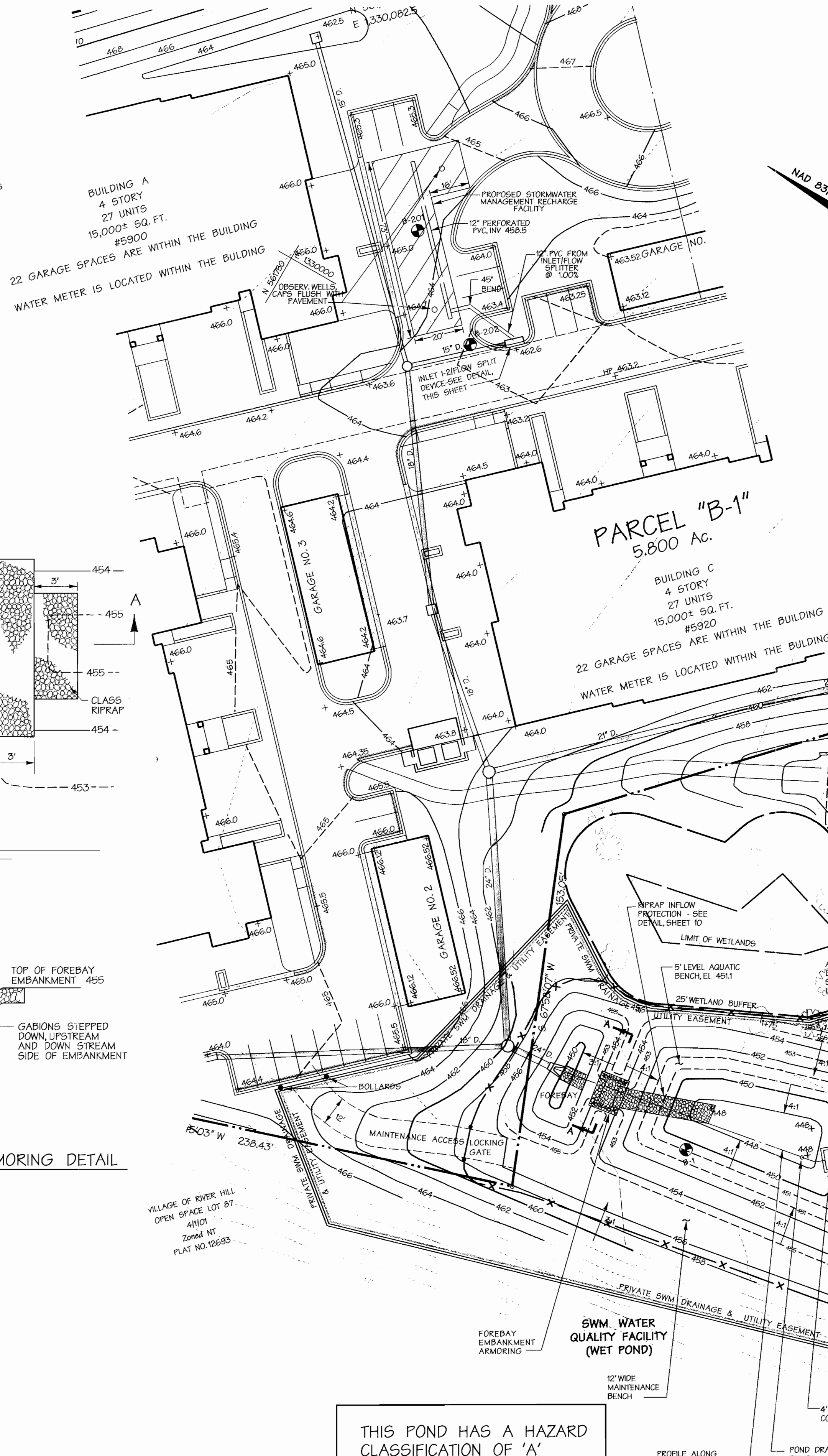
Structure Type	WET POND
Water Quality Type	WET POND
Structure Classification	'A'
Water Quality Storage Required (Ac-Ft)	0.319
Water Quality Storage Provided (Ac-Ft)	0.320
Water Surface Elevation - WQ	452.6
Water Surface Elevation - 5-Year	453.1
Water Surface Elevation - 10-Year	453.2
Water Surface Elevation - 100-Year	453.7
Water Surface Elevation - 100-Year CLOGGED	4.6
Storage Height Product - WQ	5.1
Storage Height Product 5 year	5.2
Storage Height Product 10 year	5.7
Storage Height Product 100 year	5.7
Storage Height Product 100 year CLOGGED	1.9'
Watershed Area to Facility	0.0096 SQ. MILES
Level of Management Required	Water Quality
Level of Management Provided	Water Quality
Minimum Top Width Provided	12'
Maximum Height of Fill	2.5'
Freeboard Required	1.0'
Freeboard Provided	1.9'

SWM RECHARGE FACILITY

Structure Type	Recharge Trench
Recharge storage required (Ac-Ft)	0.065
Recharge storage provided (Ac-Ft)	0.065
Prop. Drain Area to Facility (Ac)	0.84



GABION FOREBAY EMBANKMENT ARMORING DETAIL
N.T.S.

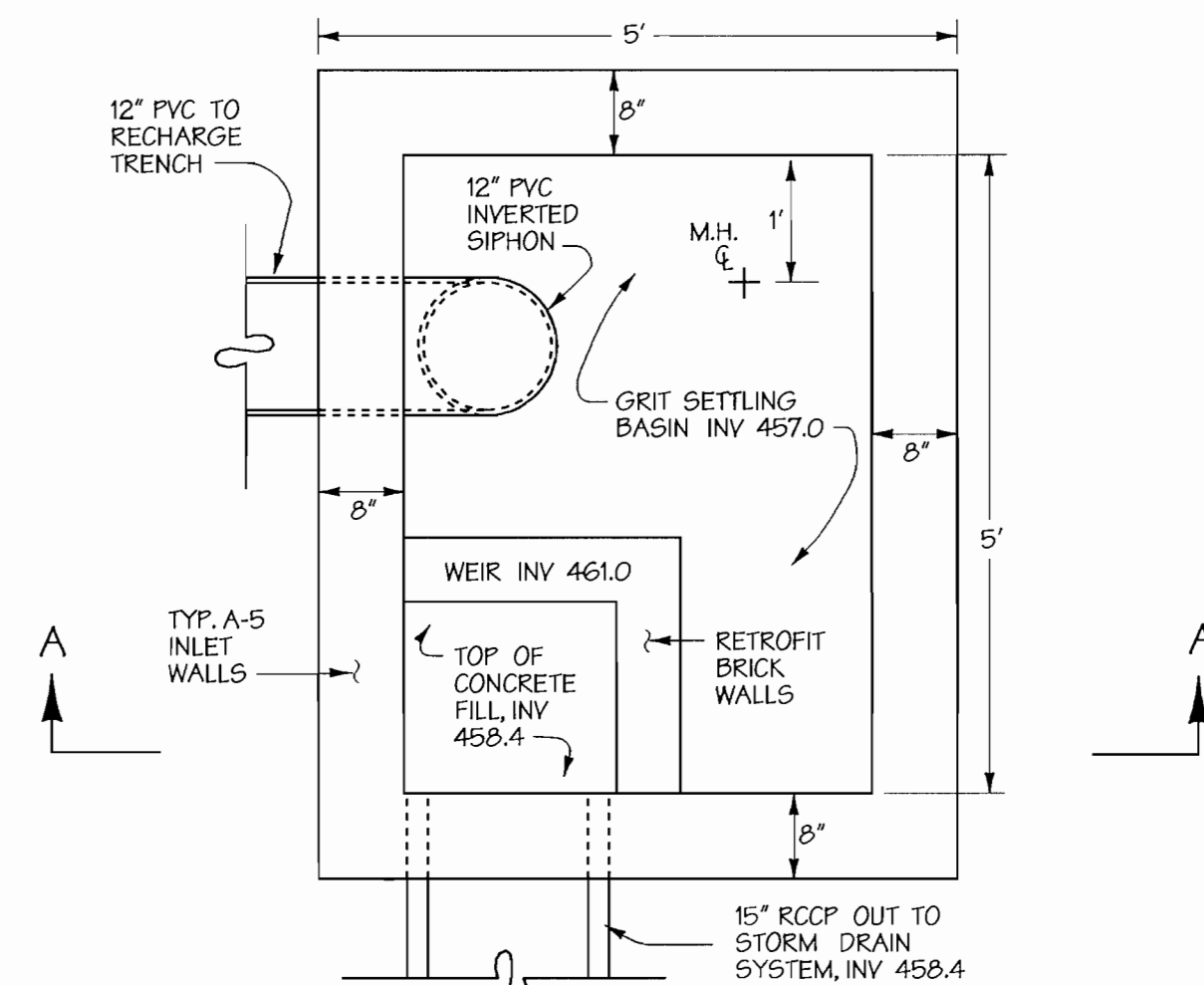
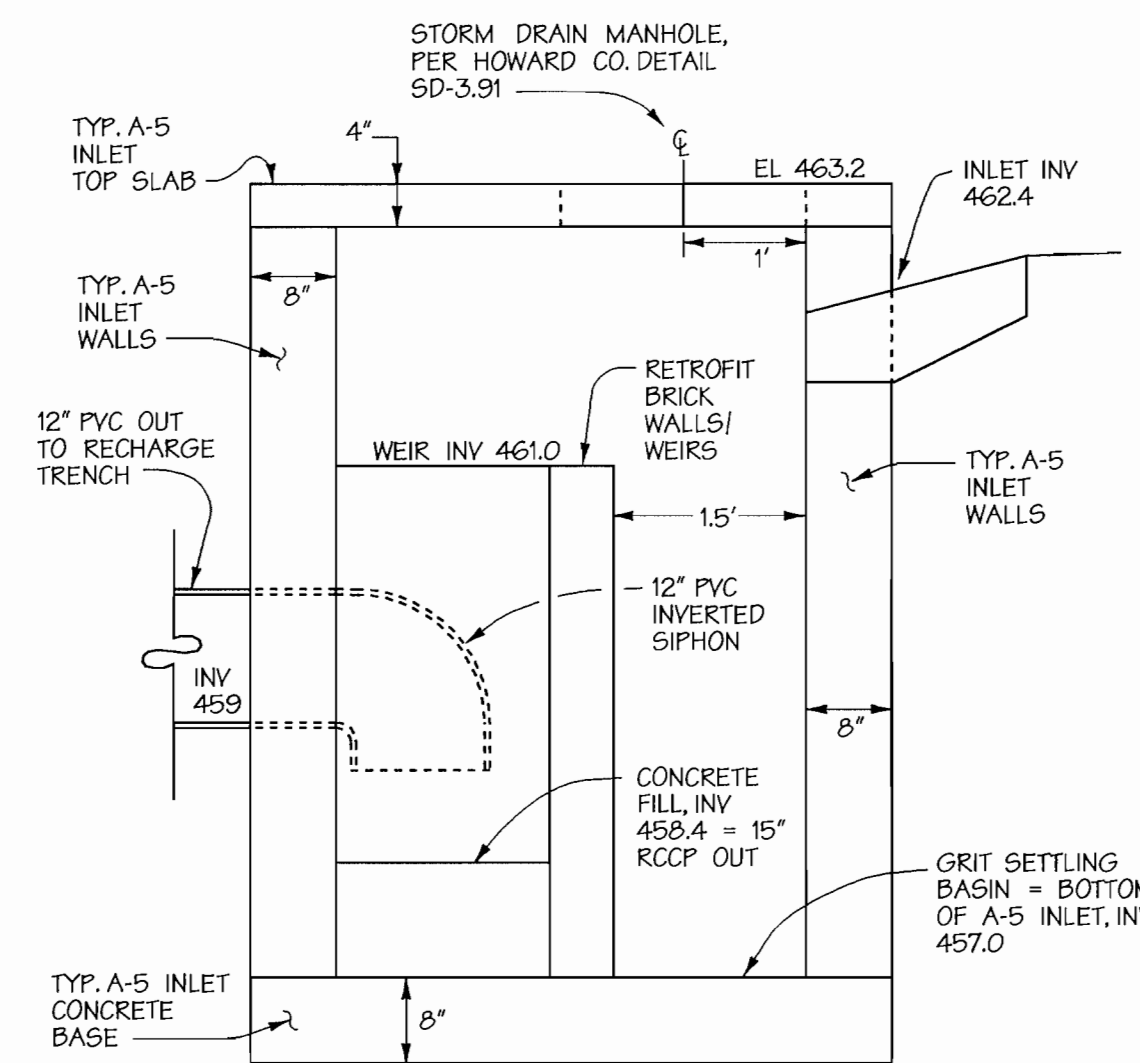


NOTES:
THIS SPLITTER IS A MODIFICATION OF A TYPE 'A-5' INLET, PER HOWARD CO. DETAIL 5P-4.01.
OIL, GREASE AND GRIT WILL COLLECT IN THE SETTLING BASIN AND SHALL BE REMOVED REGULARLY, PER THE OPERATION AND MAINTENANCE SCHEDULE, SHEET 16.
REINFORCEMENT DESIGN SHALL BE AS SHOWN ON THE HOWARD CO. STANDARD DETAIL 5P-4.01.

SECTION A-A VIEW

PLAN VIEW

INLET I-2/FLOW SPLITTER DETAIL (CAST-IN-PLACE)
N.T.S.



DEVELOPERS CERTIFICATE:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
BEAZER HOMES MARYLAND
By: *Joseph D. Fortino* 2/14/02
SIGNATURE OF DEVELOPER: **JOSEPH D. FORTINO** DATE
PRINT NAME BELOW SIGNATURE: **V.P. LAND DEVELOPMENT**

ENGINEERS CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
John W. Ranzachio, Sr. 3-6-02
SIGNATURE OF ENGINEER: **John W. Ranzachio, Sr.** DATE
PRINT NAME BELOW SIGNATURE: **BELOW SIGNATURE**

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.
Jim Mays, P.E. 3/13/02
U.S.D.A. NATURAL RESOURCES CONSERVATION SERVICE DATE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
John W. Ranzachio, Sr. 3/13/02
APPROVED: **HOWARD SOIL CONSERVATION DISTRICT** DATE
PLAN NUMBER

LEGEND

- MANHOLE & INLET LABELS (M)
- WETLAND BUFFER
- STREAM BUFFER
- J' FENCE
- MAINT. TURNABOUT AREA
- NON-WOODY VEGETATION BUFFER
- EX. CURB & GUTTER
- EX. MAJOR CONTOURS
- EX. MINOR CONTOURS
- PROP. STORM DRAIN
- PROP. SEWER
- PROP. WATER
- CONCRETE SIDEWALKS
- STANDARD CURB

APPROVED
PLANNING BOARD
OF HOWARD COUNTY
DATE: 12/13/01

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
John W. Ranzachio, Sr. 3/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
Joseph D. Fortino 3/22/02
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Robert R. Smith 3/22/02
DIRECTOR DATE

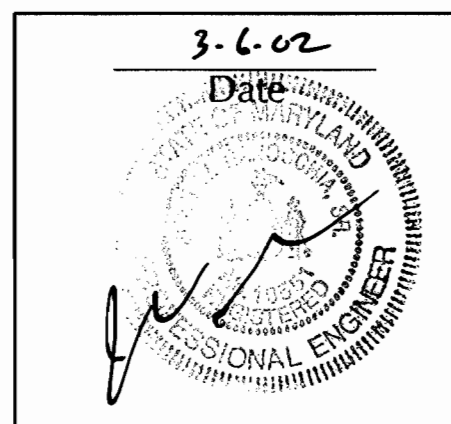
Jan 7, 2002	1	CHANGES AS PER CLIENT COMMENTS.
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FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
OWNER: HRO LAND HOLDINGS, INC. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD. 21044 410-992-6084
DEVELOPER: BEAZER HOMES, INC. 8965 GUILFORD ROAD SUITE 290 COLUMBIA, MD. 21046 410-720-1677

DMW Duff-McCune-Walker, Inc. 200 East Pennsylvania Avenue Towson, Maryland 21286 (410) 296-3333 Fax 296-4705		A Team of Land Planners, Landscape Architects, Engineers, Surveyors & Environmental Professionals	
SUBDIVISION NAME VILLAGE OF RIVER HILL	SECTION/PARCEL SEC. 4, AREA 1, PHASE 1	LOT/PARCEL 34	PARCEL B-1
PROJECT BLOCK ZONE 612	NAT. DISTRICT 5TH	CENSUS TRACT 6055.01	
WATER CODE 1-10	SEWER CODE 6663000		
TITLE STORMWATER MANAGEMENT PLAN VIEW			
Drn. By: KMF,ADL	Scale: 1" = 30'	Proj. No. 01015	
Des. By: MRT	Date: 11/16/01		
Chk. By:	Approved:	14 of 17	

THIS POND HAS A HAZARD CLASSIFICATION OF 'A'

NOTE: THIS FACILITY WILL BE PRIVATELY OWNED AND MAINTAINED.



**STORMWATER MANAGEMENT POND
GENERAL CONSTRUCTION SPECIFICATIONS**

1. GENERAL
ALL STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY'S STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION AND THE N.C.C.S. MARYLAND STANDARDS AND SPECIFICATIONS FOR PONDS (MD-379, 2000).

THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD PRACTICE MD-379. ALL REFERENCES TO ASTM AND AASHTO SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

2. 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.

3. EARTH FILL
MATERIALS - 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 TRACKS SHALL BE TRAVERSED BY NO LESS THAN ONE TREAD TRACK OF THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TREAD OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE TO PERMIT THE FILL MATERIAL TO BE COMPACTED 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 THE 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 EQUIPMENT USED FOR EXCAVATION WITH THE MINIMUM WIDTH BEING FOUR FEET SHALL COVER THE BOTTOM WIDTH OF THE TRENCH. THE DEPTH SHALL BE AT LEAST 4 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' BEAR 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.

4. 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 4 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 4 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 303 AS MODIFIED. THE MIXTURE SHALL HAVE A 100-200 P.S.F. 28 DAY UNCONFINED COMPRESSIVE STRENGTH. THE FLOWABLE FILL SHALL HAVE A MINIMUM PM 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 SPACES ADJACENT TO THE FLOWABLE FILL ZONE. AT NO TIME DURING THE BACKFILLING OPERATION SHALL DRIVEN EQUIPMENT BE ALLOWED TO OPERATE CLOSER THAN 4 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 THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

5. REMOVAL AND REPLACEMENT OF DEFECTIVE FILL
FILL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REMOVED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE FILL. THE BOTTOMS OF SUCH EXCAVATIONS SHALL BE FINISHED FLAT OR GENTLY CURVING AND AT THE SIDES OF SUCH EXCAVATIONS THE ADJACENT SOUND FILL SHALL BE TRIMMED TO A SLOPE NOT STEEPER THAN 3 FEET HORIZONTALLY TO 1 FOOT VERTICALLY EXTENDING FROM THE BOTTOM OF THE EXCAVATION TO THE FILL SURFACE.

6. PIPE CONDUITS
ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. ALL PERFORATED PIPES SHALL HAVE A MINIMUM OF 3.31 SQUARE INCHES OF OPENING PER SQUARE FOOT OF PIPE SURFACE (EX. 30 3/8-INCH HOLES PER SQUARE FOOT). PERFORATIONS ARE TO BE UNIFORMLY SPACED AROUND THE FULL PERIPHERY OF THE PIPE. ANY HOLES BLOCKED OR PARTIALLY BLOCKED BY BITUMINOUS COATING SHALL BE OPENED PRIOR TO INSTALLATION.
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 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 PERCENT OF ITS OUTSIDE DIAMETER WITH A MINIMUM THICKNESS OF 6 INCHES. WHERE 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. CONNECTIONS - ALL CONNECTIONS (TO ANTI-SEEP COLLARS, RISER, ETC.) SHALL BE WATER TIGHT.
6. OTHER DETAILS (ANTI-SEEP COLLARS, VALVES, ETC.) SHALL BE AS SHOWN ON THE DRAWINGS.

PLASTIC PIPE - ALL OF 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), COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M292 TYPE 5, AND 12" THROUGH 24" SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE 5.
2. JOINTS AND CONNECTIONS TO ANTI-SEEP COLLARS SHALL BE COMPLETELY WATER TIGHT.
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.

7. CONCRETE
CONCRETE SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.
CAST-IN-PLACE CONCRETE STRUCTURES

1. SPECIFICATIONS: MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST EDITION.
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LATEST EDITION, FOR DESIGN. CONCRETE DESIGN BY THE "SERVICE LOAD DESIGN METHOD".
2. CONCRETE SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414 AND 902, MIX NO. 3.
3. CONTRACTOR MAY ADD COLOR MIX AT PLANT IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION "C-12 MESA BEIGE" AS MANUFACTURED BY L. M. SCOFIELD COMPANY (213) 723-5285.
CONTRACTOR SHALL SUPPLY MIX DESIGN FOR APPROVAL PRIOR TO APPLICATION. LOAD AND MIX TICKETS SHALL BE SUPPLIED FOR EACH TRUCK DELIVERY. NO PARTIAL FIELD MIXES SHALL BE ALLOWED.
ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS. DESIGN FC = 1,200 PSI.
ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" x 3/4". ALL CONSTRUCTION KEYS ARE SHOWN NOMINAL SIZE.
4. REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60, WHERE NOT INDICATED. BAR LAP SPICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. THE MINIMUM CONCRETE COVER SHALL BE 2 INCHES UNLESS OTHERWISE NOTED. DESIGN FS = 24,000 PSI.
5. FOUNDATION: PRESUMED SOIL BEARING CAPACITY = 2,500 PSF. THE ENGINEER MUST APPROVE ALL FOUNDATIONS PRIOR TO CONCRETE PLACEMENT. IF UNSUITABLE MATERIAL IS ENCOUNTERED, THE MATERIAL SHALL BE UNDERCUT AND BACKFILLED WITH STRUCTURAL BACKFILL.
6. STRUCTURAL BACKFILL: CAST-IN-PLACE CONCRETE STRUCTURES AND PIPE SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL MEETING THE REQUIREMENTS OF 5HA GRADED AGGREGATE-SUBBASE. STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS OF APPROXIMATELY 6 INCHES, AND COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO T-180. THE STATIC WEIGHT OF EQUIPMENT USED ADJACENT TO WALLS SHALL NOT EXCEED 3,000 POUNDS. NO BACKFILL SHALL BE PLACED AGAINST THE CAST-IN-PLACE WALLS UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED 28 DAY STRENGTH.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS

ROUTINE MAINTENANCE:
1. FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL BE PERFORMED DURING WET WEATHER TO DETERMINE IF THE POND IS FUNCTIONING PROPERLY.
2. TOP AND SIDE SLOPES OF THE EMBANKMENT SHALL BE MOWED A MINIMUM OF TWO (2) TIMES PER YEAR. ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
3. DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
4. VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.
NON-ROUTINE MAINTENANCE:
1. STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
2. SEDIMENT SHALL BE REMOVED FROM THE POND AND FOREBAY NO LATER THAN WHEN THE CAPACITY OF THE POND OR FOREBAY IS HALF FULL OF SEDIMENT, OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RECHARGE TRENCHES

ROUTINE MAINTENANCE:
1. THE MONITORING WELLS AND DIVERSION STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
2. WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
3. A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
4. WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A REASONABLE PERIOD OF TIME, CORRECTIVE ACTION SHALL BE TAKEN.
5. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
6. ONCE THE PERFORMANCE CHARACTERISTICS OF THE RECHARGE FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.
7. THE FLOW SPLITTER DEVICE CONSISTS OF A RETROFITTED STORM DRAIN INLET. STORMWATER ENTERING THE SPLITTER FIRST ENTERS A SETTLING BASIN THAT COLLECTS OIL, GREASE AND GRIT BEFORE THE FLOW IS SPLIT AND ENTERS THE RECHARGE TRENCH. THE OIL, GREASE AND GRIT SHALL BE REMOVED EVERY SIX MONTHS FROM THE SETTLING BASIN.

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.
APPROVED: *[Signature]* DATE: 3/13/02
U.S.D.A. NATURAL RESOURCE CONSERVATION SERVICE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: *[Signature]* DATE: 3/13/02
HOWARD SOIL CONSERVATION DISTRICT
PLAN NUMBER: 2724

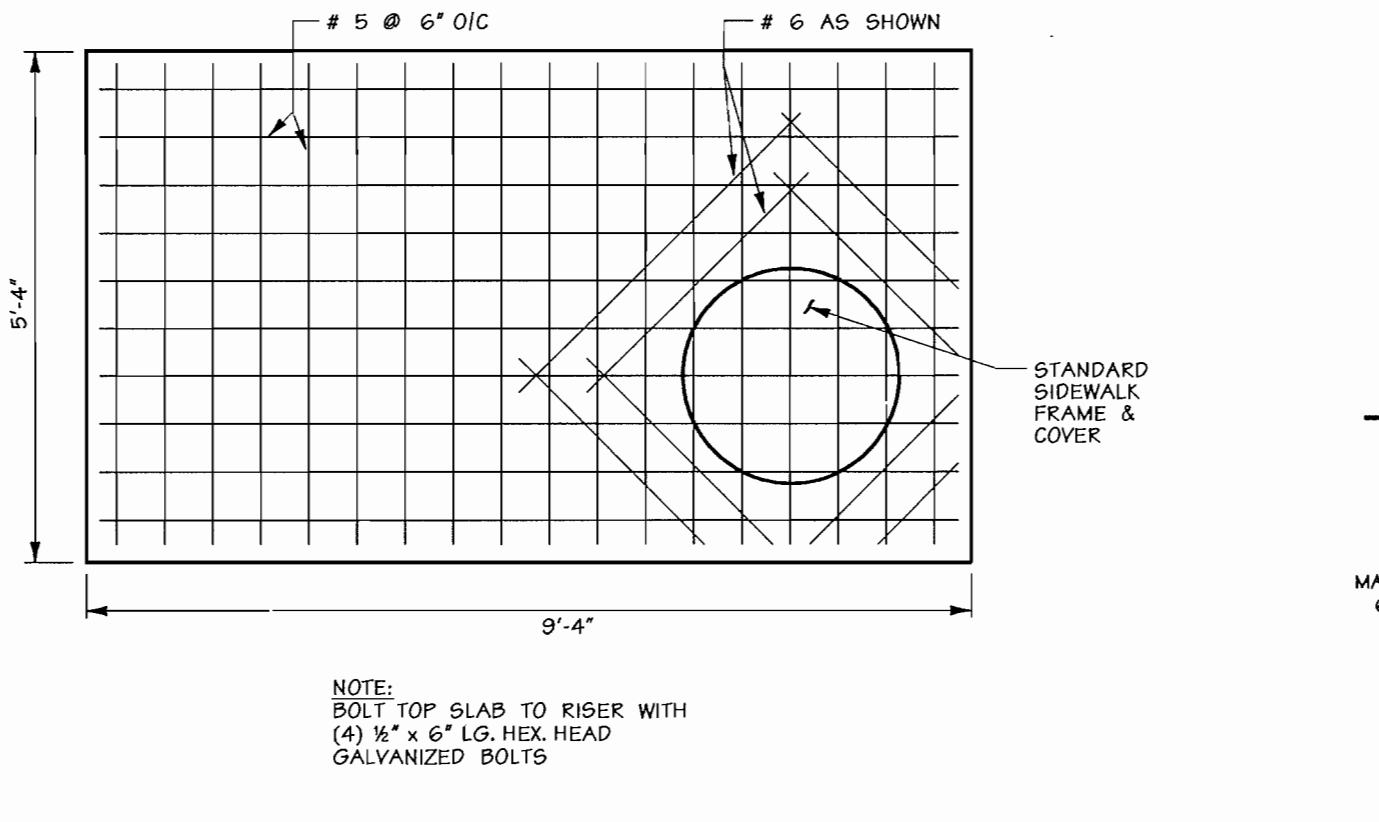
PRE-CAST CONCRETE STRUCTURES
SHOP DRAWINGS FOR PRE-CAST STRUCTURES WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER) MEETING ASTM REQUIREMENTS FOR PRE-CAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER AND THE APPROVING AGENCY (BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENT PROTECTION AND RESOURCE MANAGEMENT) FOR APPROVAL PRIOR TO FABRICATION.

8. ROCK RIP-RAP
ROCK RIP-RAP SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.
GEOTEXTILE SHALL BE PLACED UNDER ALL RIP-RAP AND SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.09, CLASS C.
THE RIP-RAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIP-RAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS.

9. 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 THE 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 OF 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 TO PUMPS FROM WHICH THE WATER SHALL BE PUMPED.

10. STABILIZATION
ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITON. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPILL 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.

11. 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 TO BE EMPLOYED DURING THE CONSTRUCTION PROCESS.
ALL DISTURBED AREAS SHALL BE CONTROLLED BY AN EROSION AND SEDIMENT CONTROL PLAN WHICH HAS BEEN APPROVED BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT (B. C. S. C. D.).



TOP SLAB
Scale: 1/2" = 1'-0"

HOWARD SOIL CONSERVATION DISTRICT (SCD) OPERATION, MAINTENANCE AND INSPECTION NOTE STORMWATER PONDS

INSPECTION OF THE POND SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SCS "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-379). THE POND OWNER AND ANY HEIRS, SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND MAINTENANCE THEREOF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SCD OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

ENGINEERS CERTIFICATE:

I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
SIGNATURE OF ENGINEER: *[Signature]* DATE: 3-6-02
PRINT NAME BELOW SIGNATURE: John W. Ranocchia, Sr.

DEVELOPERS CERTIFICATE:

I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/WE ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
BEAZER HOMES MARYLAND
BY: *[Signature]* DATE: 2/4/02
SIGNATURE OF DEVELOPER: JOSEPH D. FORTINO
PRINT NAME BELOW SIGNATURE: V.P. LAND DEVELOPMENT

12. SEEDING
SEEDING, FERTILIZING AND MULCHING SHALL BE AS FOLLOWS:
SEED MIX: 50% KENBLUE KENTUCKY BLUEGRASS
40% PENNLAWN CREEPING RED FESCUE
10% STREAKER REEDER
APPLIED AT A RATE OF 150 LBS. PER ACRE.
(OR)
REBEL II TALL FESCUE (125 LBS. PER ACRE)
PENNFINE PERENNIAL RYEGRASS (15 LBS. PER ACRE)
KENBLUE KENTUCKY BLUEGRASS (10 LBS. PER ACRE)
(OR)
PENNLAWN CREEPING RED FESCUE (70 LBS. PER ACRE)
AURORA HARD FESCUE (50 LBS. PER ACRE)
COMMON WHITE CLOVER (6 LBS. PER ACRE)
WINTER RYE (45 LBS. PER ACRE)
(OR)
70% FORAGER TALL FESCUE
30% CHEMUNG CROWNWET, INOCULATED
APPLIED AT A RATE OF 55 LBS. PER ACRE
OPTIMUM SEEDING DATES: MARCH 1 TO APRIL 30.

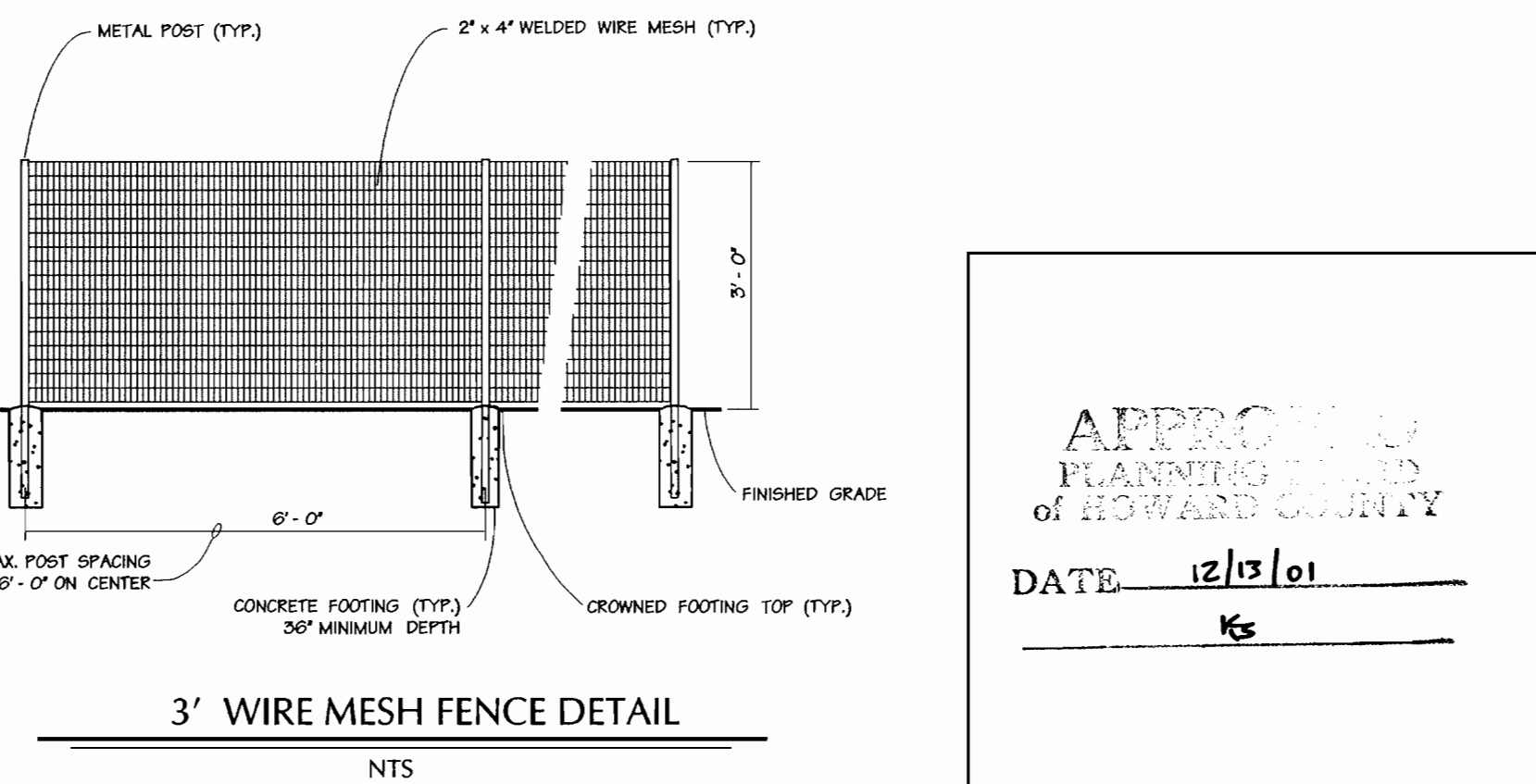
LIME: 2 TONS/ACRE DOLOMITIC LIMESTONE.
FERTILIZER: 600 LBS./ACRE 10-10-10 FERTILIZER BEFORE SEEDING,
400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER AT TIME OF SEEDING.
MULCH: STRAW AT 4,000 LBS. PER ACRE.

ANCHORING: MULCHING TOOL OR WOOD CELLULOSE FIBER BINDER AT A NET DRY BINDER RATE OF 750 POUNDS PER 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 OR AT RATES RECOMMENDED BY THE MANUFACTURER.

13. FILTER CLOTH
ALL FILTER CLOTH SHALL CONFORM TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, OR THE LATEST EDITION.

14. GABIONS
ALL GABIONS SHALL BE PVC COATED WOVEN WIRE BASKETS. STONE SIZE SHALL BE 4 INCHES TO 7 INCHES. (CLASS IV GABIONS).

15. CONSTRUCTION INSPECTION BY DESIGNATED ENGINEERS
THE CONSTRUCTION OF THE POND AND EMBANKMENT, AND CERTIFICATION THAT THE POND AND EMBANKMENT HAVE BEEN BUILT IN ACCORDANCE WITH THE PLANS SHALL BE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. THE ENGINEER SHALL BE NOTIFIED PROMPTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT ARRANGEMENTS CAN BE MADE FOR (1) INSPECTION OF PIPE TRENCH AND BEDDING, (2) INSPECTION OF RISER AND ANTI-SEEP COLLARS, AND (3) SUPERVISION OF EMBANKMENT CONSTRUCTION AND COMPACTION. TESTING THE ENGINEER SHALL DIRECT THE HANDLING OF WATER DURING CONSTRUCTION, MINOR CHANGES NOT AFFECTING THE INTEGRITY OF THE DAM IN ORDER TO COMPENSATE FOR UNUSUAL SOIL CONDITIONS, AND THE REMOVAL AND REPLACEMENT OF DEFECTIVE FILL.



3' WIRE MESH FENCE DETAIL
NTS

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
[Signature] DATE: 3/21/02
CHIEF, DEVELOPMENT ENGINEERING DIVISION
[Signature] DATE: 3/22/02
CHIEF, DIVISION OF LAND DEVELOPMENT
[Signature] DATE: 3/22/02
DIRECTOR

Date: No. Revision Description
FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
OWNER: BEAZER HOMES, INC. 10275 LITTLE PATUXENT PARKWAY COLUMBIA, MD. 21044 410-992-6084
DEVELOPER: BEAZER HOMES, INC. 9965 GULFORD ROAD SUITE 290 COLUMBIA, MD. 21046 410-720-5071

DMW
Duff-McCune-Walker, Inc.
A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals
SUBDIVISION NAME: VILLAGE OF RIVER HILL SECTION 4, AREA 1, PHASE 1 LOT/PARCEL: PARCEL B-1
PLOT/LOT/BLK/ZONE: PARCEL B-1 DISTRICT: CENSUS TRACT: 6693 6112 NT 34 5TH 605B.01
WATER CODE: 1-10 SEWER CODE: 6693000
TITLE: STORMWATER MANAGEMENT POND CONSTRUCTION SPECIFICATIONS
Dwn. By: KDE Scale: AS SHOWN Proj. No. 01015
Des. By: MRT Date: 11/16/01
Chk. By: Approved: 16 of 17

Record of Soil Exploration

Contracted With: BEAZER HOMES Boring: SWM-1
 Projects Name: RIVER HILL PARCEL B-1 Job #: 01169
 Location: CLARKSVILLE, MARYLAND

Datum: Hammer Wt. 140 lbs. Rock Core Dia. -- Foreman Duane
 Surf. Elev. 556.62 Hammer Drop 30 in. Hole Diameter 6.0" Inspector J. Daiger
 Date Started 5/31/01 Pipe Size 2 in. Boring Method HSA Date Finished 5/31/01

Elev. in ft.	Soil Description Color, Moisture, Density Plasticity, Size Proportions	Strata Depth	Depth Scale	Sample				Boring & Sample Notes
				Cas.	Bowls/F'	No.	Type Rec.	
0.0	Medium brown moist, micaceous, fine, sandy CLAY (CL)			3-4-4	1	DS	7"	5" Topsoil
454.1	Stiffer			8-7-8	2	DS	8"	
449.6	Gray brown, very moist, soft, fine, sandy SILT (ML)			1-2-2	3	DS	8"	Very hard augering at 10.5'
448.1	White, very dense, moist, coarse SAND with rock fragments (SP)			2-2-50/5"	4	DS	6"	Auger refusal on very hard rock at 11.5'
448.1	White, coarse, very dense SAND with rock fragments			50/5"	5	DS	4"	
442.0	Medium brown, moist, micaceous, silty, fine SAND with white coarse SAND							Spoon tip was wet
441.8	Bottom of Hole at 10.5'							

Sampler Type: DS - Driven Split Spoon
 Sample Conditions: D - Disintegrated
 Boring Method: HSA - Hollow Stem Augers
 Datum: Hammer Wt. 140 lbs.
 Surf. Elev. 556.62
 Date Started 5/31/01
 Hammer Drop 30 in.
 Hole Diameter 6.0"
 Pipe Size 2 in.
 Boring Method HSA
 Date Finished 5/31/01
 Foreman Duane
 Inspector J. Daiger

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS
 JUN-01-2001 16:45 410 553 0808 94% P. 02

Record of Soil Exploration

Contracted With: BEAZER HOMES Boring: SWM-2
 Projects Name: RIVER HILL PARCEL B-1 Job #: 01169
 Location: CLARKSVILLE, MARYLAND

Datum: Hammer Wt. 140 lbs. Rock Core Dia. -- Foreman Duane
 Surf. Elev. 453.6 Hammer Drop 30 in. Hole Diameter 6.0" Inspector J. Daiger
 Date Started 5/31/01 Pipe Size 2 in. Boring Method HSA Date Finished 5/31/01

Elev. in ft.	Soil Description Color, Moisture, Density Plasticity, Size Proportions	Strata Depth	Depth Scale	Sample				Boring & Sample Notes
				Cas.	Bowls/F'	No.	Type Rec.	
0.0	Orange brown, moist, micaceous, fine, sandy CLAY (CL)			1-2-4	1	DS	9"	2" Topsoil
451.8	Medium brown, moist, micaceous, silty, fine to medium SAND (SM)			4-3-6	2	DS	15"	
449.7	Orange brown to white, moist, silty, coarse SAND (SP-SM)			2-3-6	3	DS	13"	Relic structure visible
444.4	Medium brown, speckled with black and white, moist, micaceous, silty, fine SAND (SM)			50/3"	4	DS	3"	Very hard augering at 10.0' to 11.5'
442.0	White, coarse, very dense SAND with rock fragments			50/3"	5	DS	2"	
441.8	Medium brown, moist, micaceous, silty, fine SAND with white coarse SAND			50/3"	6	DS		Spoon tip was wet
	Bottom of Hole at 11.8'							

Sampler Type: DS - Driven Split Spoon
 Sample Conditions: D - Disintegrated
 Boring Method: HSA - Hollow Stem Augers
 Datum: Hammer Wt. 140 lbs.
 Surf. Elev. 453.6
 Date Started 5/31/01
 Hammer Drop 30 in.
 Hole Diameter 6.0"
 Pipe Size 2 in.
 Boring Method HSA
 Date Finished 5/31/01
 Foreman Duane
 Inspector J. Daiger

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS
 JUN-01-2001 16:45 410 553 0808 94% P. 03

Record of Soil Exploration

Contracted With: BEAZER HOMES Boring: B-101
 Projects Name: VILLAGES OF RIVER HILL Job #: 01169
 Location: HOWARD COUNTY, MARYLAND

Datum: Hammer Wt. 140 lbs. Rock Core Dia. -- Foreman D. Loomis
 Surf. Elev. 454.5 Hammer Drop 30 in. Hole Diameter 6.0" Inspector J. Penn
 Date Started 8/29/01 Pipe Size 2 in. Boring Method HSA Date Finished 8/29/01

Elev. in ft.	Soil Description Color, Moisture, Density Plasticity, Size Proportions	Strata Depth	Depth Scale	Sample				Boring & Sample Notes
				Cas.	Bowls/F'	No.	Type Rec.	
0.0	Yellow brown, dry, medium dense, slight to medium plastic, fine, sandy SILT; USDA: SILT LOAM *			2-6-8	1	DS	8"	4.5" of Topsoil
452.5	Pale brown, dry, medium dense, slightly plastic, fine sandy SILT; USDA: SILT LOAM *			11-10-10	2	DS	4"	* Visual
450.0	Variegated brown, white, moist, medium dense, non-plastic, silty, fine SAND with little mica; USDA: SANDY LOAM *			6-8-12	3	DS	12"	
				10-17-29	4	DS	16"	
				8-16-19	5	DS	9"	
439.5				9-18-32	6	DS	6"	Saprolite
	Bottom of Hole at 15.0'							

Sampler Type: DS - Driven Split Spoon
 Sample Conditions: D - Disintegrated
 Boring Method: HSA - Hollow Stem Augers
 Datum: Hammer Wt. 140 lbs.
 Surf. Elev. 454.5
 Date Started 8/29/01
 Hammer Drop 30 in.
 Hole Diameter 6.0"
 Pipe Size 2 in.
 Boring Method HSA
 Date Finished 8/29/01
 Foreman D. Loomis
 Inspector J. Penn

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS
 SEP-07-2001 12:37 410 553 0808 94% P. 02

Record of Soil Exploration

Contracted With: BEAZER HOMES Boring: B-102
 Projects Name: VILLAGES OF RIVER HILL Job #: 01169
 Location: HOWARD COUNTY, MARYLAND

Datum: Hammer Wt. 140 lbs. Rock Core Dia. -- Foreman D. Loomis
 Surf. Elev. 453.6 Hammer Drop 30 in. Hole Diameter 6.0" Inspector J. Penn
 Date Started 8/29/01 Pipe Size 2 in. Boring Method HSA Date Finished 8/29/01

Elev. in ft.	Soil Description Color, Moisture, Density Plasticity, Size Proportions	Strata Depth	Depth Scale	Sample				Boring & Sample Notes
				Cas.	Bowls/F'	No.	Type Rec.	
0.0	Orange, dry, stiff, medium plastic, fine to coarse, sandy CLAY/clayey SAND; USDA: SANDY CLAY LOAM *			2-6-8	1	DS	9"	3.0" of Topsoil
449.1	Variegated, gray, white, brown, dry, very dense, slight to non-plastic, silty, fine to coarse SAND; USDA: SANDY LOAM *			23-32-32	2	DS	10"	* Visual
444.6				33-35-50	3	DS	12"	
				30/0"	4	DS		
	Refusal at 9.0'							

Sampler Type: DS - Driven Split Spoon
 Sample Conditions: D - Disintegrated
 Boring Method: HSA - Hollow Stem Augers
 Datum: Hammer Wt. 140 lbs.
 Surf. Elev. 453.6
 Date Started 8/29/01
 Hammer Drop 30 in.
 Hole Diameter 6.0"
 Pipe Size 2 in.
 Boring Method HSA
 Date Finished 8/29/01
 Foreman D. Loomis
 Inspector J. Penn

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS
 SEP-07-2001 12:37 410 553 0808 94% P. 03

Record of Soil Exploration

Contracted With: BEAZER HOMES Boring: B-201
 Projects Name: VILLAGES OF RIVER HILL Job #: 01169
 Location: HOWARD COUNTY, MARYLAND

Datum: Hammer Wt. 140 lbs. Rock Core Dia. -- Foreman D. Loomis
 Surf. Elev. 467.6 Hammer Drop 30 in. Hole Diameter 6.0" Inspector J. Penn
 Date Started 8/30/01 Pipe Size 2 in. Boring Method HSA Date Finished 8/30/01

Elev. in ft.	Soil Description Color, Moisture, Density Plasticity, Size Proportions	Strata Depth	Depth Scale	Sample				Boring & Sample Notes
				Cas.	Bowls/F'	No.	Type Rec.	
0.0	Brown, dry, stiff, medium plastic, sandy CLAY (FILL); USDA: SANDY CLAY LOAM *			6-9-10	1	DS	8"	1" Topsoil
465.6	Variegated black, gray, white, brown, dry, dense, silty SAND with mica, little gravel; USDA: SANDY LOAM *			14-12-13	2	DS	9"	* Visual
				6-6-10	3	DS	12"	
				7-9-11	4	DS	13"	Moist
				7-6-8	5	DS	10"	
				10-13-10	6	DS	7"	
				6-10-11	7	DS	12"	
	Bottom of Hole at 18.0'							

Sampler Type: DS - Driven Split Spoon
 Sample Conditions: D - Disintegrated
 Boring Method: HSA - Hollow Stem Augers
 Datum: Hammer Wt. 140 lbs.
 Surf. Elev. 467.6
 Date Started 8/30/01
 Hammer Drop 30 in.
 Hole Diameter 6.0"
 Pipe Size 2 in.
 Boring Method HSA
 Date Finished 8/30/01
 Foreman D. Loomis
 Inspector J. Penn

STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS
 SEP-07-2001 12:39 410 553 0808 94% P. 06

Record of Soil Exploration

Contracted With: BEAZER HOMES Boring: B-202
 Projects Name: VILLAGES OF RIVER HILL Job #: 01169
 Location: HOWARD COUNTY, MARYLAND

Datum: Hammer Wt. 140 lbs. Rock Core Dia. -- Foreman D. Loomis
 Surf. Elev. 465.1 Hammer Drop 30 in. Hole Diameter 6.0" Inspector J. Penn
 Date Started 8/30/01 Pipe Size 2 in. Boring Method HSA Date Finished 8/30/01

Elev. in ft.	Soil Description Color, Moisture, Density Plasticity, Size Proportions	Strata Depth	Depth Scale	Sample				Boring & Sample Notes
				Cas.	Bowls/F'	No.	Type Rec.	
0.0	Brown, dry, stiff, medium plastic, fine, sandy SILT (FILL); USDA: SILT LOAM *			4-11-15	1	DS	8"	* Visual
463.1	Red, dry, medium dense, slightly plastic, fine, silty SAND (natural); USDA: SANDY LOAM *			8-8-8	2	DS	10"	
				3-4-4	3	DS	6"	Gray
				2-3-3	4	DS	6"	Moist, brown
				woh/6"-1-2	5	DS	7"	Possible water
451.1	Red, moist, stiff, slight to medium plastic, fine, sandy, clayey SILT; USDA: CLAY LOAM *			6-8-6	6	DS	12"	
	Bottom of Hole at 15.0'							

Sampler Type: DS - Driven Split Spoon
 Sample Conditions: D - Disintegrated
 Boring Method: HSA - Hollow Stem Augers
 Datum: Hammer Wt. 140 lbs.
 Surf. Elev. 465.1
 Date Started 8/30/01
 Hammer Drop 30 in.
 Hole Diameter 6.0"
 Pipe Size 2 in.
 Boring Method HSA
 Date Finished 8/30/01
 Foreman D. Loomis
 Inspector J. Penn

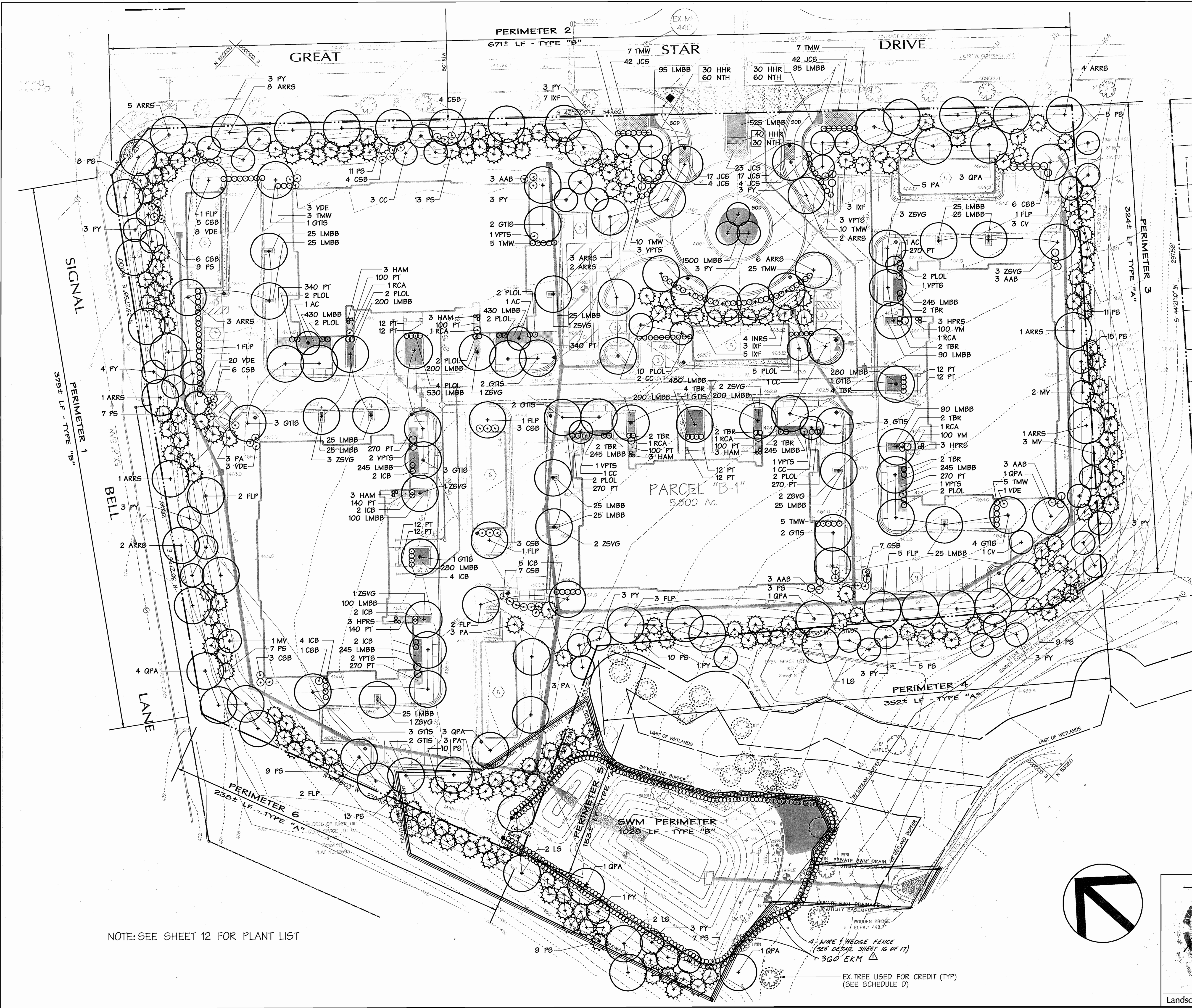
STANDARD PENETRATION TEST - DRIVING 2" OD SAMPLER WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS
 SEP-07-2001 12:39 410 553 0808 94% P. 07

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING
 CHIEF, DEVELOPMENT ENGINEERING DIVISION 9/21/02
 CHIEF, DIVISION OF LAND DEVELOPMENT 9/21/02
 DIRECTOR 9/23/02

DATE: 12/13/01
 FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
 VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1
 OWNER: HRD LAND HOLDINGS, INC.
 DEVELOPER: BEAZER HOMES, INC.
 10275 LITTLE PATUXENT PARKWAY
 SUITE 290
 COLUMBIA, MD. 21044
 410-992-6084
 410-720-5071

DMW
 Daft McCune-Walker, Inc.
 300 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3353
 Fax 296-4705
 A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals
 SUBDIVISION NAME: VILLAGES OF RIVER HILL SECTION AREA: SEC. 4, AREA 1, PHASE 1 LOT/PARCEL: PARCEL B-1
 DATE OF BLOCK/ZONE/TAX/ZONE MAP/ELECT. DISTRICT: 08/12/03 6 NT 36 5TH CENSUS TRAC.: 6055.01
 WATER CODE: 1-10 SEWER CODE: 6653000
 TITLE: SOIL BORING SPECIFICATIONS
 Dwn. By: KDE Scale: AS SHOWN Proj. No. 01015
 Des. By: MRT Date: 9/7/01
 Chk. By: Approved: 17 of 17

Professional Engr. No. 10551
 SDP 01-144
 F1 Sep 7 14:54 2001



LEGEND

- EX. CURB & GUTTER
- EX. MAJOR CONTOURS
- EX. MINOR CONTOURS
- PROP. STORM DRAIN
- PROP. SEWER
- PROP. WATER
- EX. STORM DRAIN
- EX. SEWER
- EX. WATER
- PARKING COUNT LABELS
- CONCRETE SIDEWALKS
- STANDARD CURBS
- HANDICAP SYMBOLS
- PROP. LIGHT FIXTURE
- EXISTING TREE
- PROPOSED MAJOR TREE
- PROPOSED MINOR TREE
- PROPOSED EVERGREEN
- PROPOSED SHRUB
- EX. TREE USED FOR CREDIT (SEE SCHEDULE D)

APPROVED
 PLANNING BOARD
 of HOWARD COUNTY

DATE: 12/12/01

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

[Signature] 3/21/02
 CHIEF, DEVELOPMENT ENGINEERING DIVISION (DATE)

[Signature] 3/22/02
 CHIEF, DIVISION OF LAND DEVELOPMENT (DATE)

[Signature] 3/22/02
 DIRECTOR (DATE)

3-7103	1	Add 4'-high & Hedge Fence
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Date No. Revision Description

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
 VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HRD LAND HOLDINGS, INC.
 10275 LITTLE PATUXENT PARKWAY
 COLUMBIA, MD. 21044
 410-992-6084

DEVELOPER: BEAZER HOMES, INC.
 8965 GUILFORD ROAD
 SUITE 290
 COLUMBIA, MD. 21046
 410-720-5071

DMW
 Daft-McCune-Walker, Inc.
 200 East Pennsylvania Avenue
 Towson, Maryland 21286
 (410) 296-3333
 Fax 296-4705

A Team of Land Planners,
 Landscape Architects,
 Golf Course Architects,
 Engineers, Surveyors &
 Environmental Professionals

SUBDIVISION NAME: VILLAGE OF RIVER HILL SECTION 4, AREA 1, PHASE 1 LOT PARCEL B-1
 PLAN OR L.P. BLOCK: 180 TAX ZONE: 34 ELECT. DISTRICT: 5TH CENSUS TRACT: 6085.01
 WATER CODE: 6112 NT SEWER CODE: 6663000

TITLE: **LANDSCAPE PLAN**

Drn. By: BKC Scale: 1"=30' Proj. No. 01015
 Des. By: JLM Date: 9/7/01
 Chk. By: Approved: 11 of 17

NOTE: SEE SHEET 12 FOR PLANT LIST

**STORMWATER MANAGEMENT POND
GENERAL CONSTRUCTION SPECIFICATIONS**

1. GENERAL
ALL STORMWATER MANAGEMENT FACILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH HOWARD COUNTY'S "STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION" AND THE N.R.C.S. MARYLAND "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-376, 2000).
THESE SPECIFICATIONS ARE APPROPRIATE TO ALL PONDS WITHIN THE SCOPE OF THE STANDARD PRACTICE MD-376. ALL REFERENCES TO "A" AND "ASHTO" SPECIFICATIONS APPLY TO THE MOST RECENT VERSION.

2. 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.

3. EARTH FILL
MATERIAL - THE FILL MATERIAL SHALL BE TAKEN FROM APPROVED DESIGNATED BORROW AREAS. IT SHALL BE FREE OF ROOTS, STUMPS, 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. CONSTRUCTION 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 FERREABLE 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 THE EQUIPMENT OR COMPACTION SHALL BE ACHIEVED BY A MINIMUM OF FOUR COMPLETE PASSES OF A SHEEPSFOOT, RUBBER TIRE OR VIBRATORY ROLLER. FILL MATERIAL SHALL CONTAIN SUFFICIENT MOISTURE SUCH THAT THE REQUIRED DENSITY 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 THE 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 EQUIPMENT USED FOR EXCAVATION WITH THE MINIMUM WIDTH BEING FOUR FEET SHALL GOVERN THE BOTTOM WIDTH OF THE TRENCH. THE DEPTH SHALL BE AT LEAST 4 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 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.

4. 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 6 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 4 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 414 AND 402. MIX NO. 3. UNCOMPACTED 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 FLOWABLE FILL) SHALL BE ABOVE (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 SIX 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 4 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 THAT SPECIFIED FOR THE CORE OF THE EMBANKMENT OR OTHER EMBANKMENT MATERIALS.

5. REMOVAL AND REPLACEMENT OF DEFECTIVE FILL
FILL PLACED AT DENSITIES LOWER THAN SPECIFIED MINIMUM DENSITY OR AT MOISTURE CONTENTS OUTSIDE THE SPECIFIED ACCEPTABLE RANGE OF MOISTURE CONTENT OR OTHERWISE NOT CONFORMING TO THE REQUIREMENTS OF THE SPECIFICATIONS SHALL BE REWORKED TO MEET THE REQUIREMENTS OR REMOVED AND REPLACED BY ACCEPTABLE FILL. THE BOTTOMS OF SUCH EXCAVATIONS SHALL BE FINISHED FLAT OR GENTLY CURVED AND AT THE SIDES OF SUCH EXCAVATIONS THE ADJACENT SOIL FILL SHALL BE TRIMMED TO A SLOPE NOT STEEPER THAN 3 FEET HORIZONTALLY TO 1 FOOT VERTICALLY EXTENDING FROM THE BOTTOM OF THE EXCAVATION TO THE FILL SURFACE.

6. PIPE CONDUITS
ALL PIPES SHALL BE CIRCULAR IN CROSS SECTION. ALL PERFORATED PIPES SHALL HAVE A MINIMUM OF 3.31 SQUARE INCHES OF OPENING PER SQUARE FOOT OF PIPE SURFACE (EX. 30 3/8-INCH HOLES PER SQUARE FOOT). PERFORATIONS ARE TO BE UNIFORMLY SPACED AROUND THE FULL PERIPHERY OF THE PIPE. ANY HOLES BLOCKED OR PARTIALLY BLOCKED BY BITUMINOUS COATING SHALL BE OPENED PRIOR TO INSTALLATION.

PLASTIC PIPE - ALL OF 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), COUPLINGS AND FITTINGS SHALL CONFORM TO THE FOLLOWING: 4" - 10" INCH PIPE SHALL MEET THE REQUIREMENTS OF AASHTO M252 TYPE 5, AND 12" THROUGH 24" SHALL MEET THE REQUIREMENTS OF AASHTO M294 TYPE 5.
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.

7. CONCRETE
CONCRETE SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414, MIX NO. 3.

CAST-IN-PLACE CONCRETE STRUCTURES
1. SPECIFICATIONS: MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, LATEST EDITION.
AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, LATEST EDITION, FOR DESIGN, CONCRETE DESIGN BY THE "SERVICE LOAD DESIGN METHOD".

2. CONCRETE SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 414 AND 902, MIX NO. 3.
3. CONTRACTOR MAY ADD COLOR MIX AT PLANT IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATION "C-12 MESA BEIGE" AS MANUFACTURED BY L.M. SCOFIELD COMPANY (213) 723-9285.

CONTRACTOR SHALL SUPPLY MIX DESIGN FOR APPROVAL PRIOR TO APPLICATION. LOAD AND MIX TICKETS SHALL BE SUPPLIED FOR EACH TRUCK DELIVERY. NO PARTIAL FIELD MIXES SHALL BE ALLOWED.
ALL CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3,500 PSI AT 28 DAYS. DESIGN FC = 1,200 PSI.

ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" X 3/4". ALL CONSTRUCTION KEYS ARE SHOWN NOMINAL SIZE.

4. REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60, WHERE NOT INDICATED, BAR LAP SPICES SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATIONS. THE MINIMUM CONCRETE COVER SHALL BE 2 INCHES UNLESS OTHERWISE NOTED. DESIGN FS = 24,000 PSI.

5. FOUNDATION: PRESUMED SOIL BEARING CAPACITY = 2,500 PSF. THE ENGINEER MUST APPROVE ALL FOUNDATIONS PRIOR TO CONCRETE PLACEMENT. IF UNSUITABLE MATERIAL IS ENCOUNTERED, THE MATERIAL SHALL BE UNDERCUT AND BACKFILLED WITH STRUCTURAL BACKFILL.

6. STRUCTURAL BACKFILL: CAST-IN-PLACE CONCRETE STRUCTURES AND PIPE SHALL BE BACKFILLED WITH SELECT GRANULAR BACKFILL MEETING THE REQUIREMENTS OF SHA GRADED AGGREGATE-SUBBASE. STRUCTURAL FILL SHALL BE PLACED IN LOOSE LIFTS OF APPROXIMATELY 6 INCHES, AND COMPACTED TO 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH AASHTO T-100. THE STATIC WEIGHT OF EQUIPMENT USED ADJACENT TO WALLS SHALL NOT EXCEED 3,000 POUNDS. NO BACKFILL SHALL BE PLACED AGAINST THE CAST-IN-PLACE WALLS UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED 28 DAY STRENGTH.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED STORMWATER PONDS

- ROUTINE MAINTENANCE:**
- FACILITY SHALL BE INSPECTED ANNUALLY AND AFTER MAJOR STORMS. INSPECTIONS SHALL 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 PER YEAR, ONCE IN JUNE AND ONCE IN SEPTEMBER. OTHER SIDE SLOPES AND MAINTENANCE ACCESS SHALL BE MOWED AS NEEDED.
 - DEBRIS AND LITTER SHALL BE REMOVED DURING REGULAR MOWING OPERATIONS AND AS NEEDED.
 - VISIBLE SIGNS OF EROSION IN THE POND AS WELL AS THE RIP-RAP OR GABION OUTLET AREA SHALL BE REPAIRED AS SOON AS IT IS NOTICED.

- NON-ROUTINE MAINTENANCE:**
- STRUCTURAL COMPONENTS OF THE POND SUCH AS THE DAM, THE RISER, AND THE PIPES SHALL BE REPAIRED UPON THE DETECTION OF ANY DAMAGE. THE COMPONENTS SHALL BE INSPECTED DURING ROUTINE MAINTENANCE OPERATIONS.
 - SEDIMENT SHALL BE REMOVED FROM THE POND AND FOREBAY NO LATER THAN WHEN THE CAPACITY OF THE POND OR FOREBAY IS HALF FULL OF SEDIMENT, OR WHEN DEEMED NECESSARY FOR AESTHETIC REASONS, UPON APPROVAL FROM THE DEPARTMENT OF PUBLIC WORKS.

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED RECHARGE TRENCHES

- ROUTINE MAINTENANCE:**
- THE MONITORING WELLS AND DIVERSION STRUCTURES SHALL BE INSPECTED ON A QUARTERLY BASIS AND AFTER EVERY LARGE STORM EVENT.
 - WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS SHALL BE RECORDED OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
 - A LOG BOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
 - WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A REASONABLE PERIOD OF TIME, CORRECTIVE ACTION SHALL BE TAKEN.
 - THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
 - ONCE THE PERFORMANCE CHARACTERISTICS OF THE RECHARGE FACILITY HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATED THAT A MORE FREQUENT SCHEDULE IS REQUIRED.
 - THE FLOW SPLITTER DEVICE CONSISTS OF A RETROFITTED STORM DRAIN INLET. STORMWATER ENTERING THE SPLITTER FIRST ENTERS A SETTLING BASIN THAT COLLECTS OIL, GREASE AND GRIT BEFORE THE FLOW IS SPLIT AND ENTERS THE RECHARGE TRENCH. THE OIL, GREASE AND GRIT SHALL BE REMOVED EVERY SIX MONTHS FROM THE SETTLING BASIN.

PRE-CAST CONCRETE STRUCTURES

SHOP DRAWINGS FOR PRE-CAST STRUCTURES WITH SUPPORTING STRUCTURAL COMPUTATIONS (SIGNED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER) MEETING ASTM REQUIREMENTS FOR PRE-CAST STRUCTURES MUST BE SUBMITTED TO THE ENGINEER, AND THE APPROVING AGENCY (BALTIMORE COUNTY DEPARTMENT OF ENVIRONMENT PROTECTION AND RESOURCE MANAGEMENT) FOR APPROVAL PRIOR TO FABRICATION.

8. ROCK RIP-RAP
ROCK RIP-RAP SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 311.

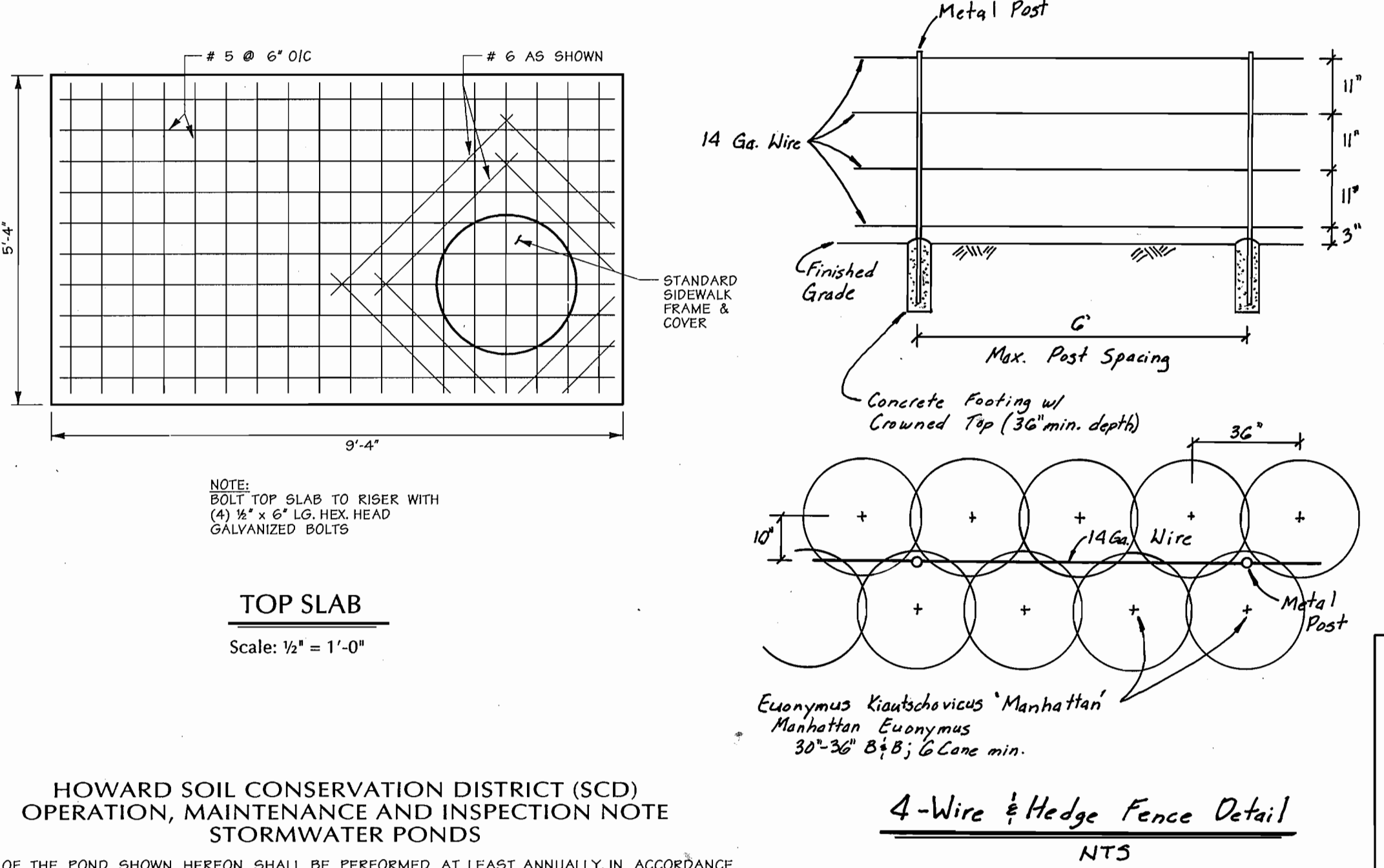
GEOTEXTILE SHALL BE PLACED UNDER ALL RIP-RAP AND SHALL MEET THE REQUIREMENTS OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, SECTION 921.03, CLASS C.
THE RIP-RAP SHALL BE PLACED TO THE REQUIRED THICKNESS IN ONE OPERATION. THE ROCK SHALL BE DELIVERED AND PLACED IN A MANNER THAT WILL INSURE THE RIP-RAP IN PLACE SHALL BE REASONABLY HOMOGENEOUS WITH THE LARGER ROCKS UNIFORMLY DISTRIBUTED AND FIRMLY IN CONTACT ONE TO ANOTHER WITH THE SMALLER ROCKS FILLING THE VOIDS BETWEEN THE LARGER ROCKS.

9. 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 THE 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 OF 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 TO PUMPS FROM WHICH THE WATER SHALL BE PUMPED.

10. STABILIZATION
ALL BORROW AREAS SHALL BE GRADED TO PROVIDE PROPER DRAINAGE AND LEFT IN A SLIGHTLY CONDITION. ALL EXPOSED SURFACES OF THE EMBANKMENT, SPILLWAY, SPILL 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.

11. 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, 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.

ALL DISTURBED AREAS SHALL BE CONTROLLED BY AN EROSION AND SEDIMENT CONTROL PLAN WHICH HAS BEEN APPROVED BY THE BALTIMORE COUNTY SOIL CONSERVATION DISTRICT (B.C.S.C.D.).



INSPECTION OF THE POND SHOWN HEREON SHALL BE PERFORMED AT LEAST ANNUALLY, IN ACCORDANCE WITH THE CHECKLIST AND REQUIREMENTS CONTAINED WITHIN USDA, SC25 "STANDARDS AND SPECIFICATIONS FOR PONDS" (MD-376). THE POND OWNER AND OUTLET OWNERS, ACCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE POND AND THE CONTINUED OPERATION, SURVEILLANCE, INSPECTION AND MAINTENANCE THEREOF. THE POND OWNER SHALL PROMPTLY NOTIFY THE SCD OF ANY UNUSUAL OBSERVATIONS THAT MAY BE INDICATIONS OF DISTRESS SUCH AS EXCESSIVE SEEPAGE, TURBID SEEPAGE, SLIDING OR SLUMPING.

ENGINEERS CERTIFICATE:
I CERTIFY THAT THIS PLAN FOR POND CONSTRUCTION, EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS. THIS PLAN WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT. I HAVE NOTIFIED THE DEVELOPER THAT HE/SHE MUST ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION.
SIGNATURE OF ENGINEER: *John W. Ranocchia, Sr.* DATE: 3-6-02

DEVELOPERS CERTIFICATE:
I/WE CERTIFY THAT ALL DEVELOPMENT AND/OR CONSTRUCTION WILL BE DONE ACCORDING TO THESE PLANS, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I/SHALL ENGAGE A REGISTERED PROFESSIONAL ENGINEER TO SUPERVISE POND CONSTRUCTION AND PROVIDE THE HOWARD SOIL CONSERVATION DISTRICT WITH AN "AS-BUILT" PLAN OF THE POND WITHIN 30 DAYS OF COMPLETION. I/ALSO AUTHORIZE PERIODIC ON-SITE INSPECTIONS BY THE HOWARD SOIL CONSERVATION DISTRICT.
BY: *Joseph D. Fortino* DATE: 2/4/02
SIGNATURE OF DEVELOPER: JOSEPH D. FORTINO
PRINT NAME BELOW SIGNATURE: V.P. LAND DEVELOPMENT

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.
Jim Meyer 3/13/02
U.S.D.A. NATIONAL RESOURCES CONSERVATION SERVICE DATE
THESE PLANS FOR SMALL POND CONSTRUCTION, SOIL EROSION AND SEDIMENT CONTROL MEET THE REQUIREMENTS OF HOWARD SOIL CONSERVATION DISTRICT.
APPROVED: *John W. Ranocchia, Sr.* 3/13/02 DATE
PLAN NUMBER

12. SEEDING
SEEDING, FERTILIZING AND MULCHING SHALL BE AS FOLLOWS:

- SEED MIX: 50% KENBLUE KENTUCKY BLUEGRASS, 40% PENNLAWN CREEPING RED FESCUE, 10% STREAKER REDTOP. APPLIED AT A RATE OF 150 LBS. PER ACRE. (OR) REBEL INTALL FESCUE (125 LBS. PER ACRE), PENNINE PERENNIAL RYEGRASS (75 LBS. PER ACRE), KENBLUE KENTUCKY BLUEGRASS (10 LBS. PER ACRE) (OR) PENNLAWN CREEPING RED FESCUE (70 LBS. PER ACRE), AURORA HARD FESCUE (50 LBS. PER ACRE), COMMON WHITE CLOVER (6 LBS. PER ACRE), WINTER RYE (45 LBS. PER ACRE).
- 70% FORAGER TA FESCUE, 30% CHEMUNG CROWNWETCH, INOCULATED APPLIED AT A RATE OF 55 LBS. PER ACRE. OPTIMUM SEEDING DATES: MARCH 1 TO APRIL 30.
- LIME: 2 TONS/ACRE DOLOMITIC LIMESTONE.
- FERTILIZER: 600 LBS./ACRE 10-10-10 FERTILIZER BEFORE SEEDING, 400 LBS./ACRE 30-0-0 UREAFORM FERTILIZER AT TIME OF SEEDING.
- MULCH: STRAW AT 4,000 LBS. PER ACRE.

ANCHORING: MULCHING TOOL OR WOOD CELLULOSE FIBER BINDER AT A NET DRY BINDER RATE OF 750 POUNDS PER 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 OR AT RATES RECOMMENDED BY THE MANUFACTURER.

13. FILTER CLOTH
ALL FILTER CLOTH SHALL CONFORM TO THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, OR THE LATEST EDITION.

14. GABIONS
ALL GABIONS SHALL BE PVC COATED WOVEN WIRE BASKETS. STONE SIZE SHALL BE 4 INCHES TO 7 INCHES. (CLASS IV GABIONS).

15. CONSTRUCTION INSPECTION BY DESIGNATED ENGINEERS
THE CONSTRUCTION OF THE POND AND EMBANKMENT, AND CERTIFICATION THAT THE POND AND EMBANKMENT HAVE BEEN BUILT IN ACCORDANCE WITH THE PLANS SHALL BE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER. THE ENGINEER SHALL BE NOTIFIED SUFFICIENTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT ARRANGEMENTS CAN BE MADE FOR (1) INSPECTION OF PIPE TRENCH AND BEDDING, (2) INSPECTION OF RISER AND ANTI-SEEP COLLARS AND (3) INSPECTION OF EMBANKMENT CONSTRUCTION AND COMPACTION TESTING. THE ENGINEER SHALL DIRECT THE HANDLING OF WATER DURING CONSTRUCTION, MINOR CHANGES NOT AFFECTING THE INTEGRITY OF THE DAM IN ORDER TO COMPENSATE FOR UNUSUAL SOIL CONDITIONS, AND THE REMOVAL AND REPLACEMENT OF DEFECTIVE FILL.

APPROVED BY:
PLANNING BOARD
OF HOWARD COUNTY
DATE: 12/13/01

APPROVED: HOWARD COUNTY DEPT. OF PLANNING & ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION	<i>John W. Ranocchia, Sr.</i>	3/21/02
CHIEF, DIVISION OF LAND DEVELOPMENT	<i>Cindy Hamilton</i>	3/22/02
DIRECTOR	<i>John W. Ranocchia, Sr.</i>	3/22/02

3-7-03 1 Revise Fence Detail (4-Wire & Hedge Fence)

Date	No.	Revision Description

FIELDSTONE AT PHEASANT RIDGE CONDOMINIUM UNITS
VILLAGE OF RIVER HILL, SECTION 4, AREA 1, PHASE 1, PARCEL B-1

OWNER: HRD LAND HOLDINGS, INC. 10275 LITTLE PATENT PARKWAY COLUMBIA, MD 21044 410-992-6084

DEVELOPER: BEAZER HOMES, INC. 8066 GULFROAD ROAD SUITE 290 COLUMBIA, MD 21046 410-720-5071

DMW
Duff-McCune-Walkers, Inc.
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Towson, Maryland 21286
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A Team of Land Planners, Landscape Architects, Golf Course Architects, Engineers, Surveyors & Environmental Professionals

Professional Engr. No. 10551

SDP 01-144

