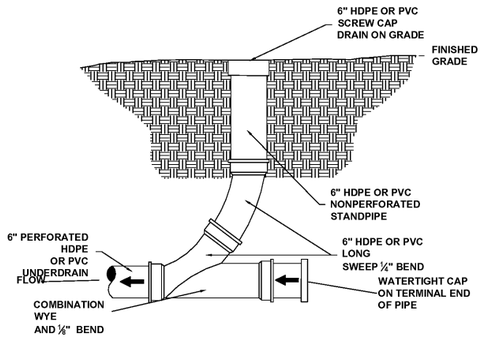
CONSTRUCTION SEQUENCING NOTES:

1. CONSTRUCTION OF THE BIORETENTION AREA SHOULD BEGIN AFTER THE ENTIRE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED WITH VEGETATION. THIS IS THE MOST IMPORTANT FACTOR DETERMINING THE SUCCESS OR FAILURE OF THE BIORETENTION AREA. BIORETENTION AREAS WILL FAIL IF SEDIMENT IS ALLOWED TO FLOW INTO THEM. IT MAY BE NECESSARY TO BLOCK CERTAIN CURB OR OTHER INLETS WHILE THE BIORETENTION AREA IS BEING CONSTRUCTED.THE PROPOSED SITE SHOULD BE CHECKED FOR EXISTING UTILITIES PRIOR TO ANY EXCAVATION.
2. THE DESIGNER AND THE INSTALLER SHOULD HAVE A PRE-CONSTRUCTION MEETING, CHECKING CHECKING THE BOUNDARIES OF THE CONTRIBUTING DRAINAGE AREA AND THE ACTUAL INLET ELEVATIONS TO ENSURE THEY CONFORM TO ORIGINAL DESIGN. SINCE OTHER CONTRACTORS MAY BE RESPONSIBLE FOR CONSTRUCTING PORTIONS OF THE SITE, IT IS QUITE COMMON TO FIND SUBTLE DIFFERENCES IN SITE GRADING, DRAINAGE AND PAVING ELEVATIONS THAT CAN PRODUCE HYDRAULICALLY IMPORTANT DIFFERENCES FOR THE PROPOSED BIORETENTION AREA. THE DESIGNER SHOULD CLEARLY COMMUNICATE, IN WRITING, ANY PROJECT CHANGES DETERMINED DURING THE PRECONSTRUCTION MEETING TO THE INSTALLER AND THE PLAN REVIEW/ INSPECTION AUTHORITY.
3. TEMPORARY EPSC CONTROLS ARE NEEDED DURING CONSTRUCTION OF THE BIORETENTION AREA TO DIVERT STORMWATER AWAY FROM THE BIORETENTION AREA UNTIL IT IS COMPLETED. SPECIAL PROTECTION MEASURES SUCH AS EROSION CONTROL FABRICS MAY BE NEEDED TO PROTECT VULNERABLE SIDE SLOPES FROM EROSION DURING CONSTRUCTION PROCESS.
4. ANY PRE-TREATMENT CELLS SHOULD BE EXCAVATED FIRST AND THEN SEALED TO TRAP SEDIMENTS.
5. EXCAVATORS OR BACKHOES SHOULD WORK FROM THE SIDES TO EXCAVATE THE BIORETENTION AREA TO ITS APPROPRIATE DESIGN DEPTH AND DIMENSIONS. EXCAVATING EQUIPMENT SHOULD HAVE SCOOPS WITH ADEQUATE REACH SO THEY DO NOT HAVE TO SIT INSIDE THE FOOTPRINT OF THE BIORETENTION AREA. CONTRACTORS SHOULD USE A CELL CONSTRUCTION APPROACH IN LARGER BIORETENTION BASINS, WHEREBY THE BASIN IS SPLIT INTO 500 TO 1,000 SQ. FT. TEMPORARY CELLS WITH A 10-15 FOOT EARTH BRIDGE IN BETWEEN, SO THAT CELLS CAN BE EXCAVATED FROM THE SIDE.
6. PLACE GEOTEXTILE FABRIC ON THE SIDES OF THE BIORETENTION AREA WITH A 6-INCH OVERLAP ON THE SIDES. IF A STONE STORAGE LAYER WILL BE USED, PLACE THE 12 INCHES OF #57 STONE ON THE BOTTOM ON WHICH TO INSTALL THE PERFORATED UNDERDRAIN PIPE.
7. LAY THE PERFORATED PIPE UNDER THE LENGTH OF THE BIORETENTION CELL, AND INSTALL NONPERFORATED PIPE AS NEEDED TO CONNECT WITH THE STORM DRAINAGE SYSTEM OR TO DAYLIGHT. INSTALL T's AND Y's AS NEEDED DEPENDING ON THE UNDERDRAIN CONFIGURATION. EXTEND CLEANOUT PIPES TO THE SURFACE ELEVATION WITH VENTED CAPS AT ALL T's AND Y's.
8. PACK #57 STONE TO 3 INCHES ABOVE THE UNDERDRAIN PIPE AND INSTALL GEOTEXTILE FABRIC OVER THE STONE LAYER WITH A MINIMUM 6" OVERLAP ON THE FABRIC WHICH IS ALONG THE SIDE SLOPES.
9. DELIVER OR PREPARE THE SOIL MEDIA, AND STORE IT ON AN ADJACENT IMPERVIOUS AREA OR PLASTIC SHEETING. APPLY THE MEDIA IN 12-INCH LIFTS UNTIL THE DESIRED TOP ELEVATION OF THE BIORETENTION AREA IS ACHIEVED. WAIT A FEW DAYS TO CHECK FOR SETTLEMENT, AND ADD ADDITIONAL MEDIA, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION.
10. REPAIR PLANTING HOLES FOR ANY TREES AND SHRUBS, INSTALL THE VEGETATION, AND WATER ACCORDINGLY. INSTALL ANY TEMPORARY IRRIGATION AS NECESSARY.
11. INSTALL THE PLANT MATERIALS AS SHOWN IN THE LANDSCAPING PLAN, AND WATER THEM DURING WEEKS OF NO RAIN FOR THE FIRST TWO MONTHS.
12. CONDUCT THE FINAL CONSTRUCTION INSPECTION AND SUBMIT ASBUILT TO CSD.

GENERAL NOTES:

1. THE ENGINEERED SOIL MEDIA SHALL CONSIST OF THE FOLLOWING MATERIALS:
   - MAXIMUM SAND 70% to 85%
   - MAXIMUM SILT & CLAY 10% to 20% (WITH NO MORE THAN 10% CLAY)
   - ORGANIC MATERIAL 5% to 10%.
2. RIVER ROCK SHALL BE THROUGHOUT THE ENTIRE BIORETENTION AREA TO A THICKNESS OF 3 INCHES. CONTRACTOR SHALL SUPPLY ALL UNDERAIN AND CLEANOUT MATERIALS.
3. SEE THE PLANTING PLAN FOR AMOUNTS, SPECIES, AND SPACING REQUIREMENTS OF PLANTINGS.
4. PLANT MATERIAL, SIZE, AND GRADE SHALL CONFORM TO "AMERICAN STANDARDS FOR NURSERY STOCK "AMERICAN ASSOCIATION OF NURSERYMEN, INC. LATEST APPROVED REVISION, ANSI Z-60-1.
6. ALL DRAINAGE AREAS TO A BIORETENTION FACILITY AND A WATER QUALITY SWALE ARE TO BE STABILIZED PRIOR TO INSTALLATION OF AMENDED SOILS, MULCH OR PLANTINGS.
7. INSTALL WIRE SCREENING AROUND ALL OUTLET OPENINGS TO PREVENT LOSS OF MULCH.
8. UNDERDRAIN PIPE SHOULD BE MIN. 6" PERFORATED SCHEDULE 40 PVC (PER AASHTO M278) OR DOUBLE WALL HDPE (PER AASHTO M252). PERFORATIONS SHOULD BE 3/8" SPACED 3" ON CENTER ALONG 4 LONGITUDINAL ROWS SPACED 90° APART.
9. UNDERDRAIN CLEANOUTS SHOULD EXTEND A MIN. OF 6" ABOVE MAXIMUM PONDING ELEVATION. ONE CLEANOUT MAY BE FLUSH WITH TOP OF SURFACE TO ALLOW DRAW DOWN.
10. ONLY SMALL MATURING TREES ARE ALLOWED TO BE PLANTED IN THE AMENDED SOILS.
11. FILTER MEDIA WITHIN THE PLANTING HOLES FOR SHRUBS, SHALL CONTAIN A RATIO OF 50% SAND, 30% TOPSOIL, AND 20% ACCEPTABLE LEAF COMPOST.



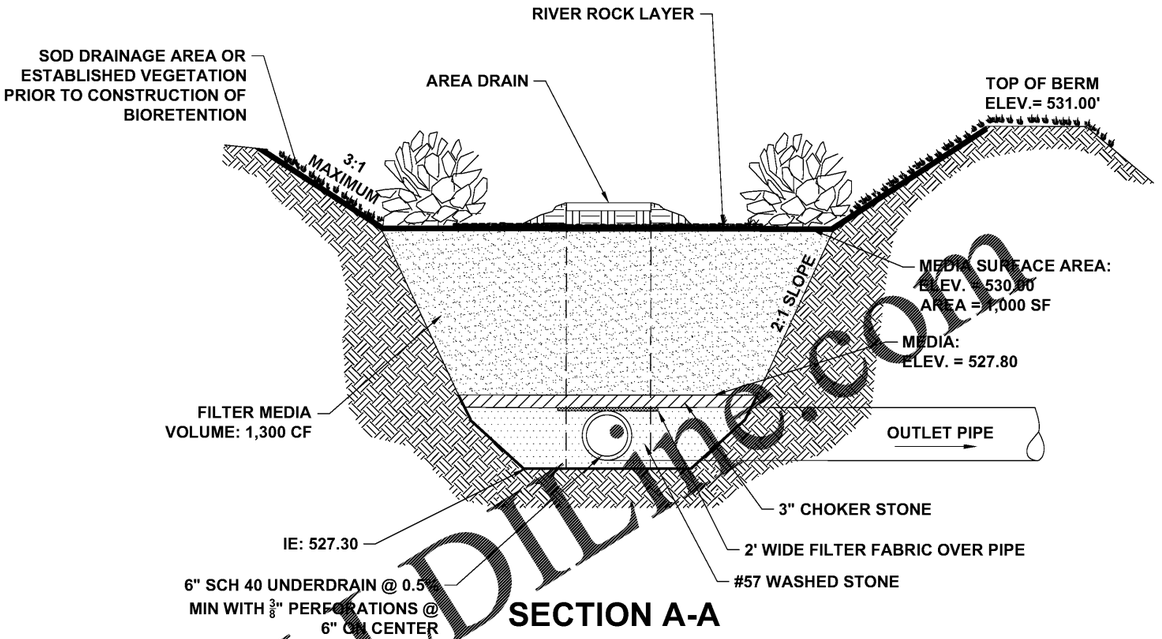
BIORETENTION CLEANOUT DETAIL (NTS)

BIO-RETENTION #1 PLANT SCHEDULE

KEY	QUANTITY	COMMON NAME	BOTANICAL NAME	HEIGHT	SPREAD	TRUNK	REMARKS
SHRUBS							
IB	9	INKBERRY	ILEX GLABRA	18"-24"		3 GAL.	3' O.C.
AV	9	ARROWWOOD VIBURNUM	VIBURNUM DENTATUM	18"-24"		3 GAL.	3' O.C.
PERENNIALS							
BS	9	BLACK-EYED SUSAN	RUDBECKIA HIRTA	24"		1 GAL.	2' O.C.

BIO-RETENTION #2 PLANT SCHEDULE

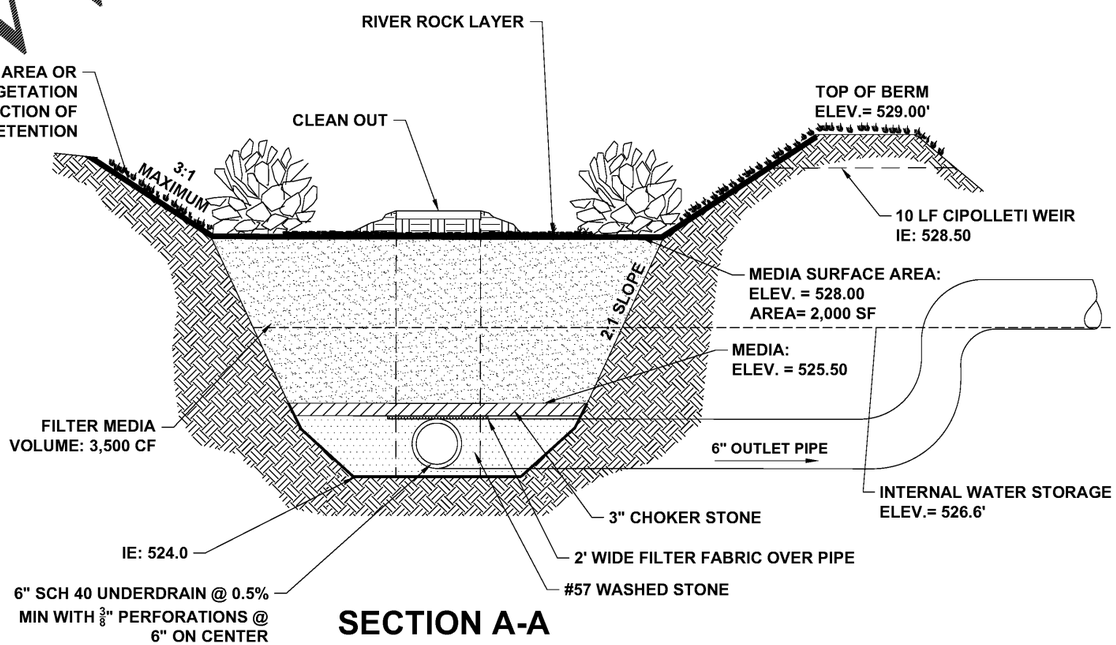
KEY	QUANTITY	COMMON NAME	BOTANICAL NAME	HEIGHT	SPREAD	TRUNK	REMARKS
SHRUBS							
IB	16	INKBERRY	ILEX GLABRA	18"-24"		3 GAL.	3' O.C.
AV	16	ARROWWOOD VIBURNUM	VIBURNUM DENTATUM	18"-24"		3 GAL.	3' O.C.
PERENNIALS							
BS	16	BLACK-EYED SUSAN	RUDBECKIA HIRTA	24"		1 GAL.	2' O.C.



SECTION A-A

BIORETENTION #1 CROSS-SECTION

NOT TO SCALE



SECTION A-A

BIORETENTION #2 CROSS-SECTION

NOT TO SCALE

Order Plans @ www.LDline.com

EDWARD C. BURCHETT REGISTERED ENGINEER AGRICULTURE COMMERCIAL 3/11/19 STATE OF TENNESSEE

REVISIONS

DATE	COMMENTS
3/11/19	RAISED BERM ON BIORETENTION #1

STANDARD DETAILS

CLARKSVILLE
MONTGOMERY COUNTY, TENNESSEE
March 11, 2019

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1545 Madison Street
Clarksville, TN 37040
Ph # 931-245-3095

FILE: 2-Projects\2018\003-19 Hinkley Rd\+ Barns\Drwg\HOLLOWAY INN - Phase 1.dwg

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SHEET: D.4