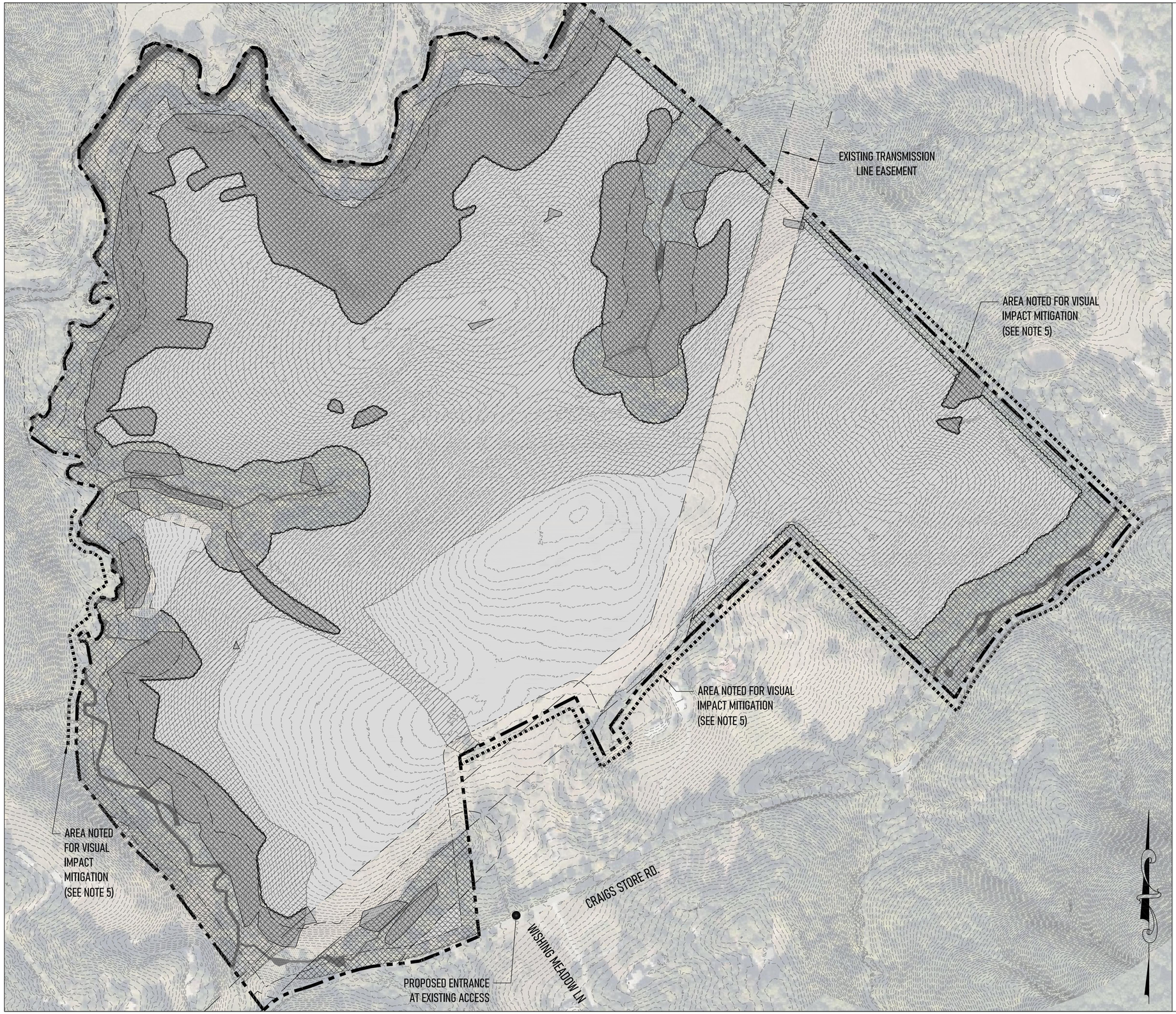

NOTES:

1. EXISTING INFORMATION TAKEN FROM BEST AVAILABLE RESOURCES. INFORMATION SHOWN IS APPROXIMATE AND WILL BE VERIFIED THROUGH FURTHER INVESTIGATION AT THE APPROPRIATE TIME AS THE PROJECT PROGRESSES.
   - 1.1. CRITICAL SLOPES SHOWN PER ALBEMARLE COUNTY GIS.
   - 1.2. TOPOGRAPHIC INFORMATION PER PUBLICLY AVAILABLE LIDAR DATA.
2. WETLANDS AS PER DELINEATION COMPLETED BY TIMMONS GROUP ON 09/08/2020 AND UNDER REVIEW BY THE US ARMY CORPS OF ENGINEERS.
3. PROPOSED PLAN NOT INTENDED TO REPRESENT FINAL LAYOUT BUT INSTEAD PROVIDED TO ILLUSTRATE MAXIMUM DEVELOPMENT EXTENTS. FURTHER DESIGN IS ANTICIPATED TO REDUCE SCOPE WITHIN THE AREAS SHOWN. SEE SHEET B FOR CONCEPTUAL GRADING PLAN PROVIDED FOR CONTEXT ONLY.
4. ADDITIONAL OFFSITE CONSTRUCTION (MINOR CLEARING & GRADING) AT EXISTING ENTRANCE LOCATED OFF CRAIGS STORE ROAD.
5. TREE CLEARING LIMITS SHOWN REPRESENT MAXIMUM POTENTIAL AND ACTUAL TREE CLEARING IS ANTICIPATED TO BE LESS THAN SHOWN. A BUFFER WILL BE ENSURED TO MITIGATE VISUAL IMPACTS BETWEEN THE SOLAR FACILITY AND THE PROPERTY LINE ALONG THE LOCATIONS SHOWN TO THE GREATEST PRACTICAL EXTENT. THE BUFFER WILL CONSIST OF EXISTING VEGETATION, PROPOSED VEGETATION, OR A COMBINATION OF THE TWO.

LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACK (50')
- TRANSMISSION EASEMENT
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING CONTOUR
- EXISTING STREAM/WETLAND
- 100' STREAM/WETLAND BUFFER
- CRITICAL SLOPES
- MAXIMUM LIMITS OF DISTURBANCE
- EXISTING VEGETATION TO BE REMOVED
- EXISTING VEGETATION TO REMAIN
- AREA FOR PERIMETER VISUAL IMPACT MITIGATION BUFFER

SCALE

0 150 300 150

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CENTRAL VIRGINIA ELECTRIC COOPERATIVE
MIDWAY SOLAR PROJECT

ALBEMARLE COUNTY
VIRGINIA

DATE 12/17/2020
PROJECT NUMBER
PROJECT NAME CVEC MIDWAY SOLAR
DESIGNED BY R. HEWITT
DRAWN BY R. HEWITT
SEAL
ISSUED FOR REVIEW

REVISIONS

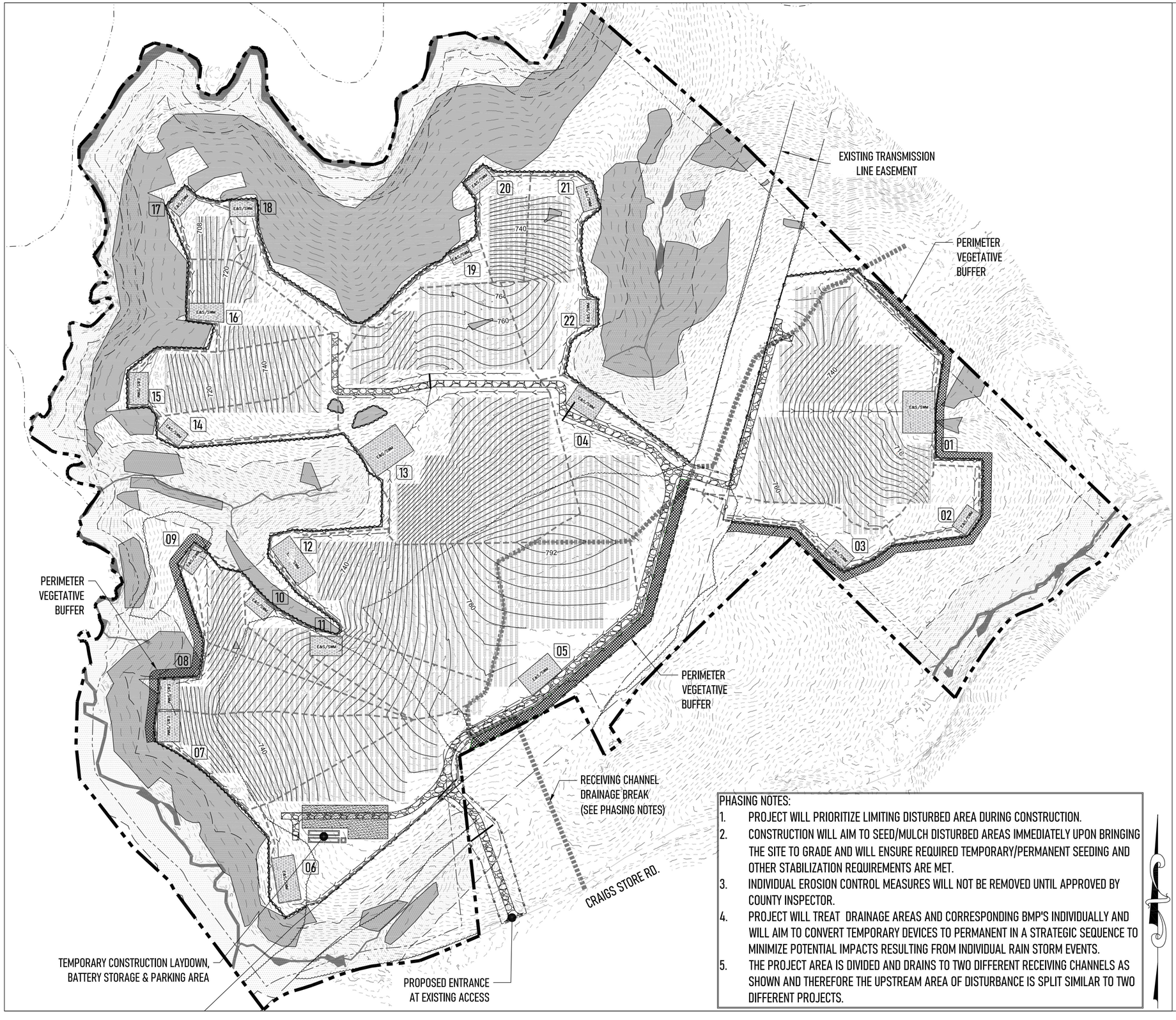
#	MM/DD/YY	DESCRIPTION

DRAWING DESCRIPTION
CONCEPTUAL LAYOUT

PLANS PRINTED AS 11x17 ARE HALF SCALE

SCALE 1" = 150'

SHEET NUMBER A



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   1.2. TOPOGRAPHIC INFORMATION PER PUBLICLY AVAILABLE LIDAR DATA.
2. WETLANDS AS PER DELINEATION COMPLETED BY TIMMONS GROUP ON 09/08/2020 AND UNDER REVIEW BY THE US ARMY CORPS OF ENGINEERS.
3. PROPOSED PLAN NOT INTENDED TO REPRESENT FINAL LAYOUT BUT INSTEAD PROVIDED TO ILLUSTRATE AN APPROXIMATE LAYOUT AND PERMANENT BMP'S. PROVIDED FOR CONTEXT ONLY. SEE SHEET A FOR CONCEPTUAL PLAN.
4. ADDITIONAL OFFSITE CONSTRUCTION (MINOR CLEARING & GRADING) AT EXISTING ENTRANCE LOCATED OFF CRAIGS STORE ROAD.
5. GRADING SHOWN INTENDED TO REPRESENT PROPOSED GRADING NECESSARY FOR MEETING SOLAR RACKING REQUIREMENTS AND IS PRELIMINARY ONLY.
6. CONCEPTUAL EROSION & SEDIMENTATION CONTROL SHOWN IS ANTICIPATED TRAPS/BASINS AND CORRESPONDING DIVERSION DITCHES. A VARIETY OF OTHER BMP'S WILL BE IMPLEMENTED DURING FUTURE DESIGN AND PERMITTING.
7. CONCEPTUAL STORMWATER MANAGEMENT SHOWN IS ANTICIPATED DETENTION BASINS AND CORRESPONDING DIVERSION DITCHES. A VARIETY OF OTHER BMP'S WILL BE IMPLEMENTED DURING FUTURE DESIGN AND PERMITTING.
8. VEGETATIVE BUFFER SHOWN AS APPROXIMATE. PLAN PROVIDED TO ENSURE A VEGETATIVE BUFFER WILL BE IMPLEMENTED IN THE GENERAL LOCATION SHOWN WHETHER BY MAINTAINING EXISTING VEGETATION OR BY INSTALLING NEW.

BMP SIZING TABLE

BMP	DRAINAGE AREA (AC)	WET DEPTH (FT)	DRY DEPTH (FT)	LENGTH (FT)	WIDTH (FT)	CN
01	9	4	4	100	130	59
02	1	3	3	50	80	58
03	1	3	3	50	80	58
04	3	3	3	70	100	60
05	4	3	3	70	120	60
06	5	3	3	70	140	68
07	3	3	3	70	100	58
08	2	3	3	60	100	58
09	1	3	3	50	80	58
10	1	3	3	50	80	58
11	2	3	3	60	100	58
12	5	3	3	70	140	58
13	10	4	4	100	140	60
14	1	3	3	50	80	58
15	2	3	3	60	100	58
16	2	3	3	60	100	58
17	1	3	3	50	80	58
18	1	3	3	50	80	58
19	0.5	3	3	70	50	58
20	1	3	3	50	80	58
21	1	3	3	50	80	58
22	1	3	3	50	80	58

**basin dimensions reflect those of top of dry volume*

LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACK (50')
- TRANSMISSION EASEMENT
- EXISTING TREELINE
- PROPOSED TREELINE
- EXISTING CONTOUR (2') — 750
- PROPOSED CONTOUR (2') — 750
- PROPOSED FENCE
- PROPOSED DIVERSION
- LIMITS OF DISTURBANCE — LOD
- PROPOSED GRAVEL ROAD
- PROPOSED LAYDOWN AREA
- EXISTING STREAM/WETLAND
- 100' STREAM/WETLAND BUFFER
- CRITICAL SLOPES
- VEGETATIVE BUFFER (NOTE 8)
- DRAINAGE BOUNDARY
- PROPOSED DETENTION BASIN — E&S/SWM 05
- PROPOSED CULVERT

SCALE

0 150 300 150

PHASING NOTES:

1. PROJECT WILL PRIORITIZE LIMITING DISTURBED AREA DURING CONSTRUCTION.
2. CONSTRUCTION WILL AIM TO SEED/MULCH DISTURBED AREAS IMMEDIATELY UPON BRINGING THE SITE TO GRADE AND WILL ENSURE REQUIRED TEMPORARY/PERMANENT SEEDING AND OTHER STABILIZATION REQUIREMENTS ARE MET.
3. INDIVIDUAL EROSION CONTROL MEASURES WILL NOT BE REMOVED UNTIL APPROVED BY COUNTY INSPECTOR.
4. PROJECT WILL TREAT DRAINAGE AREAS AND CORRESPONDING BMP'S INDIVIDUALLY AND WILL AIM TO CONVERT TEMPORARY DEVICES TO PERMANENT IN A STRATEGIC SEQUENCE TO MINIMIZE POTENTIAL IMPACTS RESULTING FROM INDIVIDUAL RAIN STORM EVENTS.
5. THE PROJECT AREA IS DIVIDED AND DRAINS TO TWO DIFFERENT RECEIVING CHANNELS AS SHOWN AND THEREFORE THE UPSTREAM AREA OF DISTURBANCE IS SPLIT SIMILAR TO TWO DIFFERENT PROJECTS.

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MIDWAY SOLAR PROJECT

ALBEMARLE COUNTY
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DRAWN BY R. HEWITT
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DRAWING DESCRIPTION
CONCEPTUAL GRADING & SWM/ESC PLAN

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SHEET NUMBER B

WATER QUALITY CALCULATION

DEQ Virginia Runoff Reduction Method New Development Compliance Spreadsheet - **Version 3.0**

☐ 2011 BMP Standards and Specifications ☒ 2013 Draft BMP Standards and Specifications

Project Name: Midway
Date: 12/4/2020

CLEAR ALL (Ctrl+Shift+R)

data input cells | constant values | calculation cells | final results

BMP Design Specifications List: 2013 Draft Stds & Specs

Site Information

AREA WITHIN 100' WETLAND STREAM BUFFER

Post-Development Project (Treatment Volume and Loads)

Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land		34.00		0.00	34.00 *
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed		94.00		0.00	94.00
Impervious Cover (acres)		4.00		0.00	4.00
					132.00

** Forest/Open Space areas must be protected in accordance with the Virginia Runoff Reduction Method*

IMPERVIOUS AREA TABLE

ITEM	AREA (AC)
GRAVEL ROAD	*1.9*
LAYDOWN AREA	*0.5*
BATTERY STORAGE	*0.1*
POSTS	*0.3*
MISCELLANEOUS	*1.2*
TOTAL	***4.0***

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

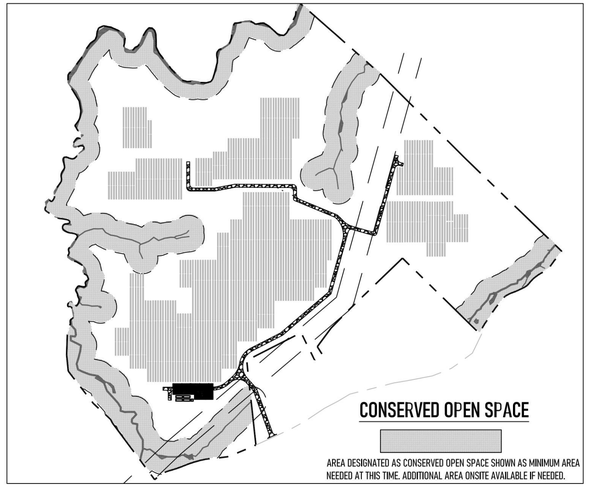
Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	-0.25	**	TP LOAD REDUCTION NOT REQUIRED

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary	
Forest/Open Space Cover (acres)	34.00
Weighted Rv (forest)	0.03
% Forest	26%
Managed Turf Cover (acres)	94.00
Weighted Rv (turf)	0.20
% Managed Turf	71%
Impervious Cover (acres)	4.00
Rv (impervious)	0.95
% Impervious	3%
Site Area (acres)	**132.00**
Site Rv	**0.18**

Treatment Volume and Nutrient Loads	
Treatment Volume (acre-ft)	1.9683
Treatment Volume (cubic feet)	85,741
TP Load (lb/yr)	53.87
TN Load (lb/yr) (Informational Purposes Only)	385.38

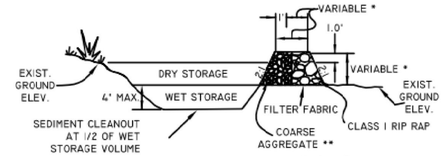


CONSERVED OPEN SPACE

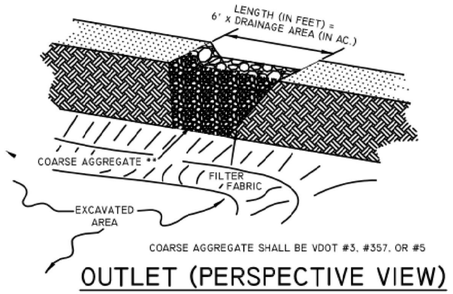
AREA DESIGNATED AS CONSERVED OPEN SPACE SHOWN AS MINIMUM AREA NEEDED AT THIS TIME. ADDITIONAL AREA ONSITE AVAILABLE IF NEEDED.

TEMPORARY SEDIMENT TRAP

STD. & SPEC. 3.13 - VA. EROSION AND SEDIMENT CONTROL HANDBOOK (1992)



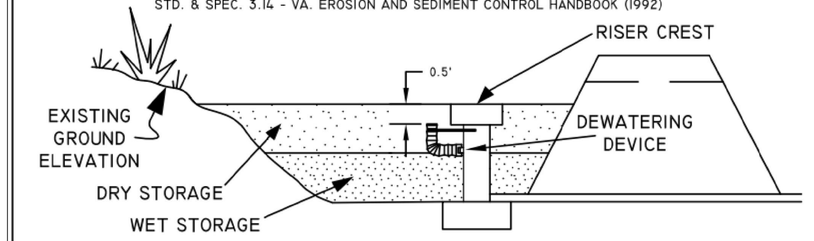
OUTLET CROSS-SECTION



OUTLET (PERSPECTIVE VIEW)

TEMPORARY SEDIMENT BASIN

STD. & SPEC. 3.14 - VA. EROSION AND SEDIMENT CONTROL HANDBOOK (1992)



Sediment Basin Conversion

When a proposed stormwater facility is used initially as a temporary sediment basin, conversion to the permanent facility should be completed after final stabilization and approval from the appropriate erosion and sediment control authority.

Sometimes, the temporary sediment basin design criteria will require more storage volume than that of a stormwater basin. In such cases, the extra volume may be allocated to the component of the facility that would derive the greatest benefit from increased storage. This will depend on the primary function of the facility (i.e., water quality enhancement, flood control, or channel erosion control).

If modifications to the riser structure are required as part of the conversion to a permanent basin, they should be designed so that a) *the structural integrity of the riser is not threatened*, and b) *large construction equipment is not needed within the basin*. Any heavy construction work required on the riser should be completed during its initial installation. It is **NOT** recommended to install a temporary sediment basin riser structure in the basin and then replace it with a permanent riser after final stabilization. This may affect the structural integrity of the existing embankment and barrel.

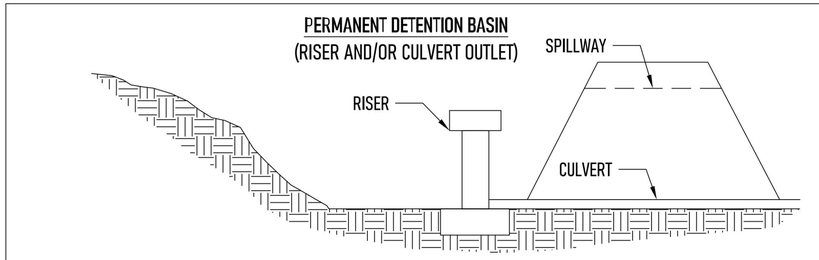
The following additional criteria should be considered for a conversion:

1. Final elevations and a complete description of any modifications to the riser structure geometry should be shown on the approved plans.
2. The wet storage area must be dewatered following the approved methods in VESCH, 1992 edition.
3. Sediment and other debris should be removed to a contained spoil area. Regrading of the basin may be necessary to achieve the final design grades and to provide an adequate topsoil layer to promote final stabilization.
4. Final modifications to the riser structure should be carefully inspected for water tight connections and compliance with the approved plans.
5. Final landscaping and stabilization should be per VESCH, 1992 edition, and **Minimum Standard 3.05, Landscaping** in this manual. Establishing vegetation may prove difficult if flow is routed through the facility prior to germination. In such cases, specifying sod or other reinforcements for the basin bottom and low flow channels may be appropriate.

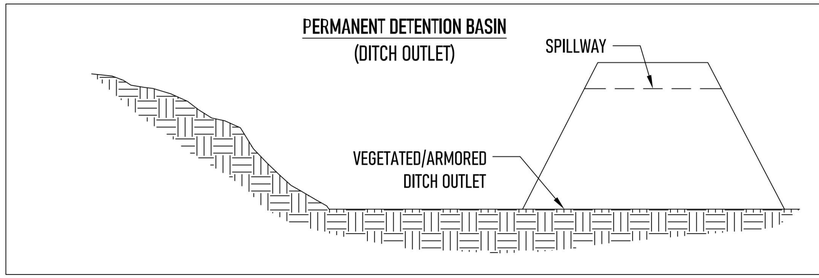
PERMANENT BMP NOTES:

1. PERMANENT BMP'S WILL BE SELECTED ON A CASE BY CASE BASIS BASED ON DRAINAGE AREA SIZE, OUTLET CONDITIONS, AND OTHER FACTORS.
2. OUTLET DEVICE SELECTION WILL PRIORITZE ADHERENCE TO THE STATE AND LOCAL REGULATIONS, MINIMIZING DISTURBANCE, AND LONG TERM MAINTENANCE STANDARDS.
3. THIS PLAN IS PRELIMINARY AND OTHER BMP'S MAY BE UTILIZED AS APPROPRIATE AND AS APPROVED BY ALBEMARLE COUNTY.

PERMANENT DETENTION BASIN
(RISER AND/OR CULVERT OUTLET)



PERMANENT DETENTION BASIN
(DITCH OUTLET)



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