

# GAR Review Aid for Projects with Stormwater Requirements

(It is assumed that stormwater BMPs are reviewed for technical sufficiency during the stormwater review; and therefore, technical questions are not included in this checklist, except for vegetation and ensuring consistency with stormwater plans.)

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<b><i>GAR Application Content</i></b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
1	Is the project's GAR plan under the transition period? This applies to projects which initiated key steps in the permitting process prior to October 1, 2013. [Chapter 2, page 4 – Subtitle C § 601.4]			
2	Is GAR review required? If not, has the project submitted the GAR Exemption Application for zoning review in ProjectDox? The GAR exemption forms can be downloaded from the GAR forms list at <a href="http://ddoe.dc.gov/gar">http://ddoe.dc.gov/gar</a> . Zones R-, RF-, USN, STE, HE, WR-1, and WR-6 are exempt from GAR, and do not require the exemption form. Confirm the zone entered in the database with PropertyQuest ( <a href="https://propertyquest.dc.gov/">https://propertyquest.dc.gov/</a> ). No additional documents or review is required if the exemption is approved. [Chapter 2, pages 3-4 - Subtitle C § 601.2 and 601.3]			
3	Has the applicant paid their initial filing fee? Is a copy of the paid invoices uploaded to the Surface and Groundwater System (SGS)? If paid online, receipts are not required. [Chapter 4, page 16]			
4	Has GAR intake been confirmed? Intake is complete once the plans and the paid, stamped invoice are uploaded to the SGS. Intake is done automatically if the fees are paid online.			
5	Is the Certified Landscape Expert (CLE), their credentials, and their contact info provided in the SGS? Does the CLE match the CLE Signature template in the plan set?			
6	Is the correct zone entered into the SGS? Projects submitted after September 6, 2016 must follow 2016 zones. Go to <a href="http://propertyquest.dc.gov">http://propertyquest.dc.gov</a> for summary. Confirm with OZA if necessary. [Chapter 2, page 6]			
7	Is the applicant claiming the property zoned PDR-1 or PDR-2, and the structure to remain a 1-story or 2-story building, respectively? If so, verify with OZA prior to approval. [Chapter 2, page 6]			
8	Has the project area been entered in the SGS?			
9	Has the building permit number been entered in the SGS?			

<b>GAR Plan Set General Requirements</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
Do the GAR plans contain the following items:				
10	<p>A Certified Landscape Expert Signature Template, fully filled out with contact information and signed by a recognized Landscape Expert, as defined below?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> DC Licensed Landscape Architect (beginning January 29, 2021) <a href="https://design.dcopla.com/Public/MemberSearch/BOAIDLICENSE">https://design.dcopla.com/Public/MemberSearch/BOAIDLICENSE</a></li> <li><input type="checkbox"/> Maryland Licensed Landscape Architect <a href="https://www.dllr.state.md.us/cgi-bin/ElectronicLicensing/OP_search/OP_search.cgi?calling_app=LA::LA_qselect">https://www.dllr.state.md.us/cgi-bin/ElectronicLicensing/OP_search/OP_search.cgi?calling_app=LA::LA_qselect</a></li> <li><input type="checkbox"/> Virginia Licensed Landscape Architect <a href="http://www.dpor.virginia.gov/LicenseLookup/">http://www.dpor.virginia.gov/LicenseLookup/</a></li> <li><input type="checkbox"/> International Society of Arboriculture (ISA) Certified Arborist <a href="http://www.isa-arbor.com/findanarborist/verify.aspx">http://www.isa-arbor.com/findanarborist/verify.aspx</a></li> <li><input type="checkbox"/> Maryland Professional Horticulturist <a href="http://www.mnlga.org/AF_MemberDirectory.asp">http://www.mnlga.org/AF_MemberDirectory.asp</a></li> <li><input type="checkbox"/> Landscape Contractors Association, DC-MD-VA Landscape Industry Certified Technician <a href="http://www.lcamddcva.org/page/certification">http://www.lcamddcva.org/page/certification</a></li> </ul> <p>[Subtitle C § 604.2]</p>			
11	<p>GAR Scoresheet, filled out with the correct lot, square, zone, property size, and minimum score information?</p> <p>[Appendix A-3]</p>			
12	<p>A GAR Worksheet (if the plan expands across more than one sheet)?</p> <p>[Appendix A-2]</p>			
13	<p>A labeled graphic scale and north arrow?</p> <p>[Chapter 4, page 18]</p>			
14	<p>Are the GAR plans consistent with the SWM and ESC plans?</p>			

15	Is the project in the AWDZ? If the site is in the AWDZ, the maintenance plan must follow Integrated Pest Management per the 2020 SWM Guidebook. [Chapter 4, page 24]			
16	Are all property lines clearly shown? [Chapter 3, page 13]			
17	Is the project spread across multiple record lots? If so, then a GAR score sheet for each lot must be provided, and each lot must meet its designated minimum GAR score. [Chapter 3, page 13]			
18	Are the lots being combined into one record lot? If so, then request a copy of the proposed plat of the new lot. [Chapter 3, page 13]			
19	Is the lot divided into more than one zone? If so, a GAR score sheet must be provided for each zone, and the "lot size" is the surface area of each zone within the lot. If one zone does not require GAR (for example, it is an R-# zone), then the "lot size" is for the zone which does require GAR. Landscape elements do not have to be located within the zone using them for credit. They may be credited from anywhere within the property. However, each landscape element may not be used to meet both scores. For example, if there is one tree to be planted within the property, then it may be used on only one score sheet. If three trees are planted, they may be divided between the two score sheets (i.e., two trees apply to score sheet one, one tree applies to score sheet two).			
20	Is the project a campus plan? If so, the applicant must provide confirmation from the DC Zoning Commission stating that the proposed project limits and minimum score are compliant with the intent of the GAR regulations. [Chapter 2, page 5]			
21	Are there any Zoning Commission decisions, PUDs, or BZA orders on a project that impact the GAR score? If so, upload documentation to the SGS.			
22	Is the project a phased plan? If so, has a master plan been submitted to the database?			
23	Are all elements seeking credit located within the property or otherwise designated boundary line? Boundaries may vary for phased or campus projects.			

24	Does the maintenance plan contain the following note?: “The property owner is required to maintain the lot’s minimum GAR score through appropriate stewardship and maintenance of landscape elements after the property is granted its Certificate of Occupancy.” [Section 4, page 23]			
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<b>Section A – Landscape Areas, A1-A2: Soils and Amendments</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
25	<p>Is the project seeking credits for:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Soils less than 2-feet deep: A1, and/or</li> <li><input type="checkbox"/> Soils 2-feet or greater: A2</li> </ul> <p>[Section 5.1, page 29]</p>			
26	<p>Are soils calculated appropriately, based on the plants installed (refer to credits B1-B9)?</p>			
	<ul style="list-style-type: none"> <li><input type="checkbox"/> New plants less than 2 feet tall: A1 (unless within tree soil areas)</li> </ul>			
	<ul style="list-style-type: none"> <li><input type="checkbox"/> New plants greater than 2 feet tall: A1 (unless within tree soil areas)</li> </ul>			
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Trees: A2 (when located within a 16 or 27-foot radius of newly planted trees, or within the undisturbed critical root zone of preserved trees)</li> </ul>			
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Green Facades: A2</li> </ul>			
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Soils marked for preservation: A2</li> </ul> <p>[Section 5.1, page 29]</p>			
27	<p>Are soils credited for Group A1-A2 called out or otherwise labeled in the plans, including surface area?</p> <p>[Section 5.1, page 29]</p>			
28	<p>Do the soil areas on the plan match those in the score sheet?</p> <p>[Section 5.1, page 29]</p>			
29	<p>If soils are to be preserved, are the following included:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Soil protection measures</li> <li><input type="checkbox"/> Plant species located on the protected soils have been identified</li> <li><input type="checkbox"/> Consistent with the ESC plans</li> </ul> <p>[Section 5.1, page 31]</p>			

30	<p>If preserving soils, is a note included stating that if soils are disturbed a minimum of 5% organic matter (by weight) must be provided to a 12-inch or greater soil depth?</p> <p>[Section 5.1, page 31]</p>			
31	<p>Do the plans include topsoil and/or soil amendment specifications?</p> <p>[Section 5.1, pages 32-36]</p>			
32	<p>Do the topsoil soil improvement physical and chemical specifications meet the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Texture class: loam, silt loam, sandy clay loam, sandy loam, clay loam</li> <li><input type="checkbox"/> % sand (0.05 mm-2.00 mm): &lt; 70%</li> <li><input type="checkbox"/> % silt (0.002 mm-0.05 mm): &lt; 70%</li> <li><input type="checkbox"/> % clay (&lt; 0.002 mm): &lt; 30%</li> <li><input type="checkbox"/> % organic matter (by weight): <ul style="list-style-type: none"> <li>o Lawn areas, 4%-6%</li> <li>o Planting beds, 5%-7%</li> </ul> </li> <li><input type="checkbox"/> pH: 6.0-7.2 (specific plantings may require alternate values)</li> <li><input type="checkbox"/> Macronutrients &amp; micronutrients: determined by professional soil scientist</li> <li><input type="checkbox"/> No herbicides, heavy metals, biological toxins, or hydrocarbons are found</li> </ul> <p>[Section 5.1, page 32]</p>			
33	<p>Do the topsoil soil improvement debris content specifications meet the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> No particles and stone greater than 1 inch in the longest dimension are allowed. This includes fragments of brick, concrete, wood, glass, metal, stone, and plastic.</li> <li><input type="checkbox"/> Total volume &lt; 1-inch long: ≤ 5% of soil volume</li> <li><input type="checkbox"/> Stones 0.5 inches-1.0 inches (1.25 cm-2.5 cm): ≤ 5% of soil volume</li> <li><input type="checkbox"/> Gravel 0.25 inches-0.5 inches (0.6 cm-1.25 cm): ≤ 5% of soil volume</li> </ul> <p>[Section 5.1, page 32]</p>			

34	<p>If irrigation is to be installed, do the percolation specifications after subgrade preparation meet the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> The subgrade has a percolation rate of 1-2 inches per hour</li> <li><input type="checkbox"/> If the native subsoil has a drainage rate less than 1 inch per hour, a drainage system is installed</li> </ul> <p>[Section 5.1, page 34]</p>			
35	<p>Are the following handling, storage, and spreading topsoil specifications provided:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Material shall not be handled or hauled when wet or frozen. Soil shall be handled only when the moisture content is less than at field capacity. Stockpiles shall be covered during wet weather.</li> <li><input type="checkbox"/> Spread topsoil in no greater than 12-inch lifts, using the lightest possible equipment. Compact the topsoil to the property soil density so that it is suitable for root growth and plant stability.</li> </ul> <p>[Section 5.1, page 34]</p>			
36	<p>Does the soil density and compaction of topsoil meet the following specifications:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Uses a rod penetrometer, which is inserted at a rate of 72 inches per minute, according to ASAE Soil Testing Specifications</li> <li><input type="checkbox"/> Soils and subsoils: &lt; 260 psi through the depth of credited soil</li> </ul> <p>[Section 5.1, page 34]</p>			
37	<p>Do the amendment soil improvement specifications meet the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Derived from plant material as a result of biological degradation and transformation under conditions that promote aerobic decomposition</li> <li><input type="checkbox"/> Provided by a member of the U.S. Composting Seal of Testing Assurance (STA) program</li> <li><input type="checkbox"/> The materials shall be well composted, free of viable weed seeds, and stable with regard to oxygen consumption and carbon dioxide generation</li> <li><input type="checkbox"/> Has no visible free water or dust when handling</li> </ul> <p>[Section 5.1, page 35]</p>			



38	<p>Do the amendment soil improvement soil specifications meet the following criteria, as reported by the U.S. Composting Council Seal of Testing Assurance Compost Technical Data Sheet provided by the vendor:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 100% of the material must pass through a 1/2-inch screen</li> <li><input type="checkbox"/> pH: 6-8</li> <li><input type="checkbox"/> Manufactured inert material (plastic, concrete, ceramics, metal, etc.): &lt; 1.0% by weight</li> <li><input type="checkbox"/> Organic content: 35%-65%</li> <li><input type="checkbox"/> Soluble salt content: &lt; 6.0 mmhos/cm</li> <li><input type="checkbox"/> Maturity: &gt; 80%</li> <li><input type="checkbox"/> Stability: ≤ 7</li> <li><input type="checkbox"/> Carbon/nitrogen ratio: &lt; 25:1</li> <li><input type="checkbox"/> Trace metal test result = “pass”</li> <li><input type="checkbox"/> Dry bulk density: 40-50 lb/ft<sup>3</sup></li> </ul> <p>[Section 5.1, page 35]</p>			
39	<p>Is the following compost application rate specification (to achieve minimum 5% organic matter content) provided:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Add 1.75 inches of compost per 8 inches of existing topsoil and incorporate by rototilling or mixing prior to resspreading stockpiled topsoil. Scarify the subgrade down to a 4-inch depth.</li> <li><input type="checkbox"/> For deeper soils, such as planting beds, mix compost and topsoil at the same rate.</li> </ul> <p>[Section 5.1, page 36]</p>			
40	<p>Do additional amendments meet the following specifications:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Limestone: dolomitic limestone containing no less than 50% total carbonates and 25% total magnesium with a neutralizing value of at least 100%</li> <li><input type="checkbox"/> Acidulant: commercial grade sulfur, ferrous sulfate, and aluminum sulfate for horticultural use</li> <li><input type="checkbox"/> Fertilizer: granular or pelleted slow-release fertilizer consisting of 50% water-insoluble nitrogen, phosphorous, and potassium in a composition recommended by the soil testing laboratory</li> </ul> <p>[Section 5.1, page 36]</p>			

41	<p>Depending on the type of plantings, credited soils should comply with required soil depths. Do credited soils comply with the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Turfgrass: at least 6", but less than 12"</li> <li><input type="checkbox"/> Perennials, groundcovers, and ornamental grasses: at least 12", but less than 18"</li> <li><input type="checkbox"/> Shrubs: at least 18", but less than 24"</li> <li><input type="checkbox"/> Trees: at least 24". Maximum credited depth is 36"</li> </ul> <p>[Section 5.1, page 31]</p>			
42	<p>Soil Volume Requirements: Depending on the type of plantings, credited soils should comply with required soil volumes. Do credited soils comply with the following (volumes are calculated within the maximum allowable depth of 36-inches):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Volumes are calculated within the maximum allowable depth of 36"</li> <li><input type="checkbox"/> New trees with mature canopy spread of less than 40-ft: minimum of 400 cf to 600 cf of soil (no maximum), accessible within a 16-ft radius</li> <li><input type="checkbox"/> New trees with mature canopy spread of 40-ft or greater: minimum of 1,000 cf to 1,500 cf of soil (no maximum), accessible within a 27-ft radius</li> <li><input type="checkbox"/> Vegetated walls: 1 cf of soil per 10 sf of credited growth</li> </ul> <p>[Section 5.1, page 32]</p>			
43	<p>Are Soils and Amendments included in the maintenance plan, per GAR guidelines?</p> <p>[Chapter 6, page 100]</p>			

<b>Section A – Landscape Areas, A3: Bioretention</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
44	<p>Is the project seeking credits for:</p> <p><input type="checkbox"/> Bioretention: A3</p> <p>[Section 5.2, page 39]</p>			
45	<p>If soils are credited under A3 – Bioretention, are they credited as bioretention in the stormwater plans?</p> <p>[Section 5.2, page 39]</p>			
46	<p>Are soils seeking A3 credit called out or otherwise labeled in the plans, including surface area?</p> <p>[Section 5.2, page 39]</p>			
47	<p>Do the area calculations include only the base of the bioretention, and do not include the side slopes? Side slopes are credited as A1 or A2 (see credits A1-A2 checklist).</p> <p>[Section 5.2, page 39]</p>			
48	<p>Do the bioretention surface areas on the plan match those in the score sheet?</p> <p>[Section 5.2, page 39]</p>			
49	<p>Are the bioretention areas in the GAR plans consistent with the areas of on-site bioretention in the SWM plan? There may be some discrepancy as stormwater considers the area at ponding height to be the bioretention practice.</p> <p>[Section 5.2, page 39]</p>			

<b>Section B – New and Existing Plantings, B1-B4: New Plantings</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
50	What types of plants are being credited (B1, B2, B3, and/or B4)? [Section 5.3, page 44]			
51	Is every plant credited shown in the plans? Ground covers and small shrubs may be hatches, large shrubs and trees should be plant-shaped elements. [Section 5.3, page 44]			
52	If a plant is represented by a hatch, is the size of that area labeled? [Section 5.3, page 44]			
53	Does the plan include a plant schedule? Does the plant schedule contain at least the following items: <ul style="list-style-type: none"> <li><input type="checkbox"/> Common name and botanical name of plant</li> <li><input type="checkbox"/> Installed size of the plant (by height, container size, or caliper)</li> <li><input type="checkbox"/> Plant spacing</li> <li><input type="checkbox"/> Quantity of the plants installed</li> <li><input type="checkbox"/> Whether the plant is counted towards a native plant bonus (See Section F1 – Native Bonus)</li> <li><input type="checkbox"/> The GAR category each plant is being counted towards (B1, B2, B3, or B4)</li> </ul> [Section 5.3, page 46]			
54	Do the species and quantities of plants tabulated in the plant schedule match what is shown in the plans?			
55	Does each of the plants in the plant schedule correspond to the correct plant category? Refer to the GAR Plant List as a reference. [Section 5.3, page 45]			
56	Do plants seeking B1 Credit – less than 2 feet tall at maturity – meet the following requirements: <ul style="list-style-type: none"> <li><input type="checkbox"/> Shrubs, perennials, and ornamental grasses less than 2 feet in height</li> <li><input type="checkbox"/> Turf grass</li> </ul> [Section 5.3, page 45]			

57	<p>Do plants seeking B2 Credit – at least 2 feet tall at maturity – meet the following requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Shrubs, perennials, and ornamental grasses above 2 feet in height</li> <li><input type="checkbox"/> Trees with less than 1.5-inch caliper, multi-stem trees less than 8 feet in height, or new trees with soil volumes less than 400 cubic feet</li> </ul> <p>[Section 5.3, page 40]</p>			
58	<p>Do trees seeking B3 credit meet the following requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Mature tree canopy diameter for new trees will measure on average less than 40 feet, and</li> <li><input type="checkbox"/> Have 400 cf to 600 cf of soil accessible within a 16-ft radius</li> </ul> <p>[Section 5.3, page 46; and Section 5.1, page 32]</p>			
59	<p>Do trees seeking B4 credit meet the following requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Mature tree canopy diameter for new trees will measure on average 40 feet or more, and</li> <li><input type="checkbox"/> Have 1,000 cf to 1,500 cf of soil accessible within a 27-ft radius</li> </ul> <p>[Section 5.3, page 46; and Section 5.1, page 32]</p>			
60	<p>Are any of the plants on the following lists of invasive species:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Plant Invaders of the Mid-Atlantic: <a href="https://www.nps.gov/planTs/alien/pubs/midatlantic/toc.htm">https://www.nps.gov/planTs/alien/pubs/midatlantic/toc.htm</a></li> <li><input type="checkbox"/> Mid-Atlantic Exotic Pest Plant Council Plant List (DC, MD, VA): <a href="https://www.invasive.org/maweeds.cfm">https://www.invasive.org/maweeds.cfm</a></li> <li><input type="checkbox"/> Virginia Invasive Plant Species List: <a href="http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf">http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf</a></li> </ul> <p>Invasive plant species are not allowed to be installed on GAR projects.</p> <p>[Section 5.11, page 88]</p>			
61	<p>Are all plants planted in soils of the appropriate soil depth and soil volume?</p> <p>[Section 5.1, page 31]</p>			
62	<p>Are all plants spaced based on their mature size?</p> <p>[Section 5.3, page 47]</p>			

63	Are any plants shown to be planted within the root ball or existing root flair of any larger vegetation? [Section 5.3, page 47]			
64	Is vegetation planted according to its preferred lighting and soil conditions (i.e. plants that prefer full shade are not planted in full sun, plants that prefer dry soils are not planted with vegetation that requires regular irrigation)? [Section 5.3, page 48]			
65	Are planting areas protected from vehicular traffic by way of wheel stops, curbs, bollards, fencing, etc.? Are they shown on the plans and are details provided? [Section 5.3, page 48]			
66	Have planting details for each type of planting included in the plans been provided? (Perennials, shrubs, trees, and planting spacing) [Section 5.3, page 46]			
67	Do single trunk trees have a minimum 1.5-inch caliper measurement taken 6 inches above the ground? [Section 5.3, page 45]			
68	Do clump-form, multi-stem, and shrub-form trees have a minimum height of 8 feet? [Section 5.3, page 45]			
69	Do the plans contain planting construction notes? [Section 5.3, pages 48-50]			
70	Do the plans include a note that all new plant materials must meet the standards in the ANLA American Standards for Nursery Stock (ANSI Z60.1-2014)? [Section 5.3, page 46]			
71	Do the plans include a note that trees and shrubs must have a species identification tag from the nursery to remain on 2 of each planted species until the Landscape Checklist is signed? Tags may be removed after final inspection to prevent girdling. [Section 5.3, page 46]			

72	<p>When planted within tree pits, do the tree planting details include a note that the tree pit openings should be at least 3 times the mature tree's trunk diameter at chest height or greater?</p> <p>[Section 5.3, page 48]</p>			
73	<p>Does the maintenance plan include maintenance items for New and Existing Plantings, per the GAR Guidebook?</p> <p>[Section 6, pages 102-103]</p>			

<b>Section B – New and Existing Plantings, B5-B8: Tree Preservation</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
74	<p>If any trees are claiming preservation credit, is a tree survey included with the following information:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Conducted by a certified arborist or a licensed Maryland or Virginia landscape architect</li> <li><input type="checkbox"/> Location of each tree</li> <li><input type="checkbox"/> Common and botanical name of each tree</li> <li><input type="checkbox"/> Trunk size in DBH</li> <li><input type="checkbox"/> Condition of the tree (trees in poor condition may not receive credit)</li> <li><input type="checkbox"/> Extent of the critical root zone (CRZ). The CRZ must meet the minimum 1.5-foot radius per inch of trunk DBH</li> </ul> <p>[Section 5.4, page 54]</p>			
75	<p>Are any of the plants on the following lists of invasive species:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Plant Invaders of the Mid-Atlantic: <a href="https://www.nps.gov/plant/aliens/pubs/midatlantic/toc.htm">https://www.nps.gov/plant/aliens/pubs/midatlantic/toc.htm</a></li> <li><input type="checkbox"/> Mid-Atlantic Exotic Pest Plant Council Plant List (DC, MD, VA): <a href="https://www.invasive.org/maweeds.cfm">https://www.invasive.org/maweeds.cfm</a></li> <li><input type="checkbox"/> Virginia Invasive Plant Species List: <a href="http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf">http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf</a></li> </ul> <p>The tree does NOT have to be removed, but it may not receive credit.</p> <p>[Section 5.11, page 88]</p>			
76	<p>Is a tree preservation plan included, or are tree protection measures shown in the ESC plan?</p> <p>[Section 5.4, page 54]</p>			
77	<p>Do the tree protection measures follow those described in DDOT’s 2009 Standard Specifications for Highways and Structures Section 611.07 Tree Protection and Replacement, and DOEE’s ESC Manual?</p> <p>[Section 5.4, page 55]</p>			



78	Does the maintenance plan include maintenance items for Tree Preservation, per the GAR Guidebook? [Section 6, pages 102-103]			
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<b>Section B – New and Existing Plantings, B9: Vegetated Walls</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
79	<p>Does the plan specify the type of vegetated wall(s) to be installed:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Green façade</li> <li><input type="checkbox"/> Living wall</li> </ul> <p>[Section 5.5, page 59]</p>			
80	<p>Do the plans show a living retaining wall with built-in growing media? This type of structure does not qualify for credit under this category. See Section B – New and Existing Plantings.</p> <p>[Section 5.5, page 62]</p>			
81	<p>Do the plans clearly indicate the location and extent of the vegetated wall(s)?</p> <p>[Section 5.5, page 59]</p>			
82	<p>Do the plans show the setback dimensions from any property lines? (As necessary)</p> <p>[Section 5.5, page 59]</p>			
83	<p>Is the vegetated wall at least 5-feet from lot lines if it meets the following:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Is located along a side or rear lot line and faces adjacent lots with zero-lot line development</li> </ul> <p>This setback does not apply to lot lines abutting streets or alleys.</p> <p>[Section 5.5, page 60]</p>			
84	<p>Is the vegetated wall at least 5-feet from adjacent, facing structures to allow adequate light penetration?</p> <p>[Section 5.5, page 60]</p>			

85	<p>Are the plants composing the vegetated wall specified in the plant schedule? Does the plant schedule contain at least the following items:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Common name and botanical name of plant</li> <li><input type="checkbox"/> Installed size of the plant (by height, container size, or caliper)</li> <li><input type="checkbox"/> Plant spacing</li> <li><input type="checkbox"/> Quantity of the plants installed</li> <li><input type="checkbox"/> Mature height (green façades)</li> <li><input type="checkbox"/> Whether the plant is counted towards a native plant bonus (See Section F1 – Native Bonus)</li> </ul> <p>[Section 5.5, page 59]</p>			
86	<p>Is vegetation planted according to its preferred lighting and soil conditions (i.e. plants that prefer full shade are not planted in full sun, plants that prefer dry soils are not planted with vegetation that requires regular irrigation)?</p> <p>[Section 5.3, page 48]</p>			
87	<p>Do the plans include vertical and cross-sectional details that show the height of the vegetated wall, its support structure, and extent of soil?</p> <p>[Section 5.5, page 59]</p>			
88	<p>If tendrils or twining vines are specified, do they have a cable or lattice system to attach? If clinging vines are specified, they may attach directly to a wall surface.</p> <p>[Section 5.5, page 61]</p>			
89	<p>If the structure is a green façade, does the plan show a minimum of 1 cubic foot of soil per 10 square feet of credited area?</p> <p>[Section 5.5, page 60]</p>			
90	<p>If the structure is a green façade, are the plantings spaced no greater than 4 feet apart O.C.?</p> <p>[Section 5.5, page 60]</p>			

91	<p>If the structure is a green façade, is the credited height limited to 30 feet or below (from planting level)? This restriction does not apply for living walls.</p> <p>[Section 5.5, page 59]</p>			
92	<p>Does the designer attempt to double-count credit for this category and another category under New and Existing Plantings? This is not allowed.</p> <p>[Section 5.5, page 59]</p>			
93	<p>Does the designer correctly calculate the credited area as the length of the wall multiplied by the wall height? Sections of wall or spaces between the systems which do not have vegetated wall coverage are not credited.</p> <p>[Section 5.5, page 59]</p>			
94	<p>Is an irrigation plan included, either permanent irrigation or temporary irrigation in the form of hose bibs? Living walls require permanent irrigation.</p> <p>[Section 5.5, page 60]</p>			
95	<p>Are any of the plants on the following lists of invasive species:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Plant Invaders of the Mid-Atlantic: <a href="https://www.nps.gov/plants/alien/pubs/midatlantic/toc.htm">https://www.nps.gov/plants/alien/pubs/midatlantic/toc.htm</a></li> <li><input type="checkbox"/> Mid-Atlantic Exotic Pest Plant Council Plant List (DC, MD, VA): <a href="https://www.invasive.org/maweeds.cfm">https://www.invasive.org/maweeds.cfm</a></li> <li><input type="checkbox"/> Virginia Invasive Plant Species List: <a href="http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf">http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf</a></li> </ul> <p>Invasive plant species are not allowed to be installed on GAR projects.</p> <p>[Section 5.11, page 88]</p>			
96	<p>Does the maintenance plan include maintenance items for Vegetated Walls, per the GAR Guidebook?</p> <p>[Section 6, pages 103-104]</p>			

<b>Section C – Vegetated Roofs</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
97	Do the plans label the area and growing depth of each vegetated roof space? [Section 5.6, page 63]			
98	Do the plans provide vegetated roof details and specifications? They may be located within the stormwater plans if being used to meet both requirements. [Section 5.6, page 64]			
99	Are the vegetated roof plant species, size, spacing, type of root system included in the plant schedule? [Section 5.6, page 64]			
100	Does the plant spacing or mat meet the following minimum requirements: <ul style="list-style-type: none"> <li><input type="checkbox"/> A minimum of 80% coverage after 2 years</li> <li><input type="checkbox"/> Succulent plantings: 2 plugs per square foot</li> <li><input type="checkbox"/> Succulent cuttings: 10 pounds per 100 square feet</li> </ul> [Section 5.6, page 65]			
101	Are the source, type, and location of supplemental irrigation to the vegetated roof specified? [Section 5.6, page 65]			
102	If plantings are not drought-tolerant, is a permanent supplemental irrigation system provided? [Section 5.6, page 65]			
103	Does the designer attempt to credit groundcover plants on the vegetated roof under B1? Groundcovers are ineligible for additional credit if they are on vegetated roofs. They are included in the vegetated roof credit. [Section 5.6, page 63]			
104	Is vegetation planted according to its preferred lighting and soil conditions (i.e. plants that prefer full shade are not planted in full sun, plants that prefer dry soils are not planted with vegetation that requires regular irrigation)? [Section 5.3, page 48]			

105	Do the plants meet the requirements outlined in Table 6 of Section 5.6 - Vegetated Roofs? [Section 5.6, page 66]			
106	<p>Are any of the plants on the following lists of invasive species:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Plant Invaders of the Mid-Atlantic: <a href="https://www.nps.gov/plants/alien/pubs/midatlantic/toc.htm">https://www.nps.gov/plants/alien/pubs/midatlantic/toc.htm</a></li> <li><input type="checkbox"/> Mid-Atlantic Exotic Pest Plant Council Plant List (DC, MD, VA): <a href="https://www.invasive.org/maweeds.cfm">https://www.invasive.org/maweeds.cfm</a></li> <li><input type="checkbox"/> Virginia Invasive Plant Species List: <a href="http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf">http://www.dcr.virginia.gov/natural-heritage/document/nh-invasive-plant-list-2014.pdf</a></li> </ul> <p>Invasive plant species are not allowed to be installed on GAR projects. [Section 5.11, page 88]</p>			
107	<p>Is the credited depth calculated correctly? To calculate credited depth, measure the depth of the growth media only. Growth medium with a depth 1 inch or greater and less than 2 inches may be credited if supplied with an additional water-retention layer with depth of 1-inch or greater. Otherwise, the water-retention layer is not included in the growing media depth. [Section 5.6, page 63]</p>			
108	<p>Does the GAR vegetated roof surface area match that from the stormwater management plans? There may be discrepancies if the vegetated roof does not meet stormwater requirements (i.e., rooftop agriculture, non-bioretenention planter boxes, etc.). [Section 5.6, page 65]</p>			
109	<p>Does the maintenance plan include maintenance items for Vegetated Roofs, per the GAR Guidebook (if the BMP is not being used to meet stormwater requirements)? [Section 6, pages 104-105]</p>			

<b>Section D – Permeable Paving</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
110	Do the plans label the area and reservoir depth of each permeable pavement system? [Section 5.7, page 69]			
111	Is the practice counted correctly under the proper category, according to the depth of the reservoir layer? The reservoir depth is considered the stone or other material between the bottom of the permeable pavement and the top of the in-situ soils. <input type="checkbox"/> D1: 6-24 inches <input type="checkbox"/> D2: ≥ 24 inches [Section 5.7, pages 69-70]			
112	Is the permeable practice used in conjunction with an enhanced tree growth system? If so, the depth of soil may be counted towards the permeable pavement reservoir layer for GAR purposes. [Section 5.7, page 70]			
113	Is the credit given to both permeable pavement and enhanced tree growth systems combined less than 1/3 of the total GAR score? [Section 5.7, page 69]			
114	Does the surface area of permeable paving in the GAR plan match that of on-site permeable pavement in the stormwater management plan? There may be discrepancies if the amount of permeable pavement used to meet stormwater requirements is greater than the maximum allowed permeable pavement score for GAR (1/3 of the total GAR score). [Section 5.7, page 71]			

<b>Section E – Other Landscape Features, E1: Enhanced Tree Soil Systems</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
115	Do the plans label the area of each enhanced tree soil system? [Section 5.8, page 73]			
116	Is the depth of soil a minimum of 24 inches and connected to an adjacent planting area where trees are grown? [Section 5.8, page 74]			
117	Is a detail of the system provided with associated dimensions? [Section 5.8, page 73]			
118	If necessary, is irrigation provided? [Section 5.8, page 73]			
119	Does the plan identify the type of enhanced tree soil system: suspended pavement, sand-based structural soil system, or aggregate structural soils? [Section 5.8, page 75]			
120	Is the enhanced tree growth system used in conjunction with permeable pavement? If so, the depth of soil may be counted towards the permeable pavement reservoir layer for GAR purposes. [Section 5.7, page 70]			
121	Does the system satisfy the requirements in the Stormwater Management Guidebook – Engineered Tree Pits? [Section 5.8, page 74]			
122	Does the maintenance plan include maintenance items for enhanced tree soil systems, per the GAR Guidebook? [Section 5.8, page 106]			



<b>Section E – Other Landscape Features, E2: Renewable Energy</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
123	Do the plans label the area of each renewable energy system? [Section 5.9, page 77]			
124	Are all renewable energy systems either solar PV or solar thermal systems? [Section 5.9, page 77]			
125	Are reference notes included on the GAR plans listing all electrical, plumbing, mechanical, or other relevant plan sheet details and specifications that are part of the total building permit approval? [Section 5.9, page 77]			
126	Has a copy of the plan documents for the project electrical, plumbing, and building permitting been provided? [Section 5.9, page 78]			
127	Has the supplemental solar permit number been provided (not required, but helpful)? [Section 5.9, page 77]			
128	Do these plans show locations of solar arrays, the number of collectors or panels, the system size, the array dimensions, and location of array mounting? [Section 5.9, page 77]			
129	Has a schematic diagram been provided showing the balance of system components? (System wiring, disconnects, inverters, valves, pipes, tanks, pumps.) [Section 5.9, page 78]			
130	Has a shading analysis been provided? Request from the solar professional if more than 20% shading exists on the array location. <a href="http://www.builditsolar.com/References/SunChartRS.htm">http://www.builditsolar.com/References/SunChartRS.htm</a> [Section 5.9, page 78]			

131	<p>Is the renewable energy system located over a green roof, permeable pavement, or soils? If so, these elements may be credited over the same area as long as they meet the PV over green roof criteria defined in the DOEE Stormwater Management Guidebook.</p> <p>[Section 5.6, page 63]</p>			
132	<p>Does the maintenance plan include maintenance items for renewable energy, per the GAR Guidebook?</p> <p>[Section 6, pages 106-107]</p>			

<b>Section E – Other Landscape Features, E3: Water Features</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
133	Do the plans label the area of each water feature? [Section 5.10, page 83]			
134	Is the area credited covered with water a minimum of six months of the year? [Section 5.10, page 83]			
135	Is the area credited supplied by a minimum of 50% of harvested rainwater as a percentage of annual flow? [Section 5.10, page 83]			
136	Is the water recirculated to conserve water and inhibit the breeding of mosquitos? [Section 5.10, page 84]			
137	Does the water feature follow design guidelines for Harvested Rainwater as outlined in the 2020 SW Guidebook? [Section 5.10, page 84]			
138	Do the plans include a plumbing and drainage plan, demonstrating that harvested rainwater provides at least 50% of annual water flow? [Section 5.10, page 83]			
139	Do the plans include a monthly and annual water budget indicating the percentage of water demand met by rainwater? [Section 5.10, page 83]			
140	Do the plans include relevant dimensions and details associated with the water features, demonstrating that the feature will be covered by water a minimum of 6 months of the year? [Section 5.10, page 83]			
141	Does the maintenance plan include maintenance items for water features, per the GAR Guidebook? [Section 6, page 107]			

<b>Section F – Bonus Credits, F1: Native Plants</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
142	Are plants being counted for the native bonus indicated as native in the plant schedule? [Section 5.11, page 88]			
143	Is each proposed native plant (or a cultivar of the plant) found in at least one of the following references: <ul style="list-style-type: none"> <li><input type="checkbox"/> U.S. Fish and Wildlife Native Plants for Wildlife Habitat and Conservation Landscaping, Chesapeake Bay Watershed;</li> <li><input type="checkbox"/> the Chesapeake Bay Native Plants Center online database;</li> <li><input type="checkbox"/> the GAR Plant List</li> </ul> [Section 5.11, page 88]			
144	If a proposed native plant cannot be found in one of the previous references, have two references in current publication been provided to support the plant's designation as a regional native? [Section 5.11, page 88]			
145	Are the plants credited in section B or C? Plants must receive initial credit to be eligible for the native bonus. [Section 5.11, page 87]			

<b>Section F – Bonus Credits, F2: Food Cultivation</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
146	Are plants being counted for the food cultivation bonus indicated as such in the plant schedule? [Section 5.12, page 91]			
147	Are cover crops included in the plant schedule for non-food production seasons? [Section 5.11, page 92]			
148	Is the food cultivation area accessible by at least one building occupant? [Section 5.12, page 92]			
149	Has a permanent water source been provided for all food cultivation plantings? [Section 5.12, page 92]			
150	Do the plans contain food cultivation bonus calculations? [Section 5.12, pages 91-92]			
151	Does the maintenance plan include maintenance items for Food Cultivation, per the GAR Guidebook? [Section 6, pages 107-108]			

<b>Section F – Bonus Credits, F3: Harvested Rainwater Irrigation</b>		<b>Sheet #</b>	<b>Yes/No</b>	<b>Comments</b>
152	Do the plans contain a schematic irrigation and drainage plan showing:			
	<input type="checkbox"/> Areas to receive irrigation			
	<input type="checkbox"/> Delivery system (spray, drip)			
	<input type="checkbox"/> Calculations showing the anticipated water demand from plantings that require irrigation <a href="https://www.epa.gov/watersense/water-budget-data-finder">https://www.epa.gov/watersense/water-budget-data-finder</a>			
	<input type="checkbox"/> Water budget indicating the percentage of water demand met by rainwater, calculated on a monthly and annual basis			
	<input type="checkbox"/> Drainage plan for all irrigated areas [Section 5.13, page 93]			
153	If the plan proposes spray irrigation, are the treatment standards consistent with the DOEE Stormwater Guidebook? [Section 5.13, page 93]			
154	Is the percent of irrigation water demand met by harvested rainwater greater than 50%? [Section 5.13, pages 94-95]			
155	If the anticipated water demand is greater than 1.0"/week, has a justification been provided? [Section 5.13, page 95]			
156	Does the maintenance plan include maintenance items for Harvested Rainwater Irrigation? [Section 6, pages 108-109]			