

**Proposed Amendments to “PAB Draft Landscape Manual 2024 Clean 10 9 2024”**  
**Amendments shown with underlined text**

**PAI Proposed Amendment #1**

Adapted from Maryland Native Plant Coalition Amendment #9

*p. 4, Add additional information about rainwater harvesting strategies. Add after first paragraph of the “Environmental Quality” section ending with “It will additionally clarify how to proceed when there are overlapping requirements.....”*

LANDSCAPING REQUIREMENTS CAN WORK IN SYNERGY WITH OTHER ENVIRONMENTAL REQUIREMENTS IN A VARIETY OF WAYS. FOR EXAMPLE, DESIGNING PARKING LOTS WITH LANDSCAPING THAT CAN CAPTURE, ABSORB AND FILTER RUN-OFF FROM PARKING LOTS, STREETS, SIDEWALKS, ROOFS AND OTHER IMPERVIOUS SURFACES IMPROVES WATER QUALITY AND REDUCES DOWN-STREAM FLOODING. PERVIOUS PAVING OVER STRUCTURAL SOILS, SOIL CELLS, OR SUPPORTED SIDEWALKS CAN PROVIDE ADEQUATE SOIL VOLUME AND HARVESTS RAINWATER TO PROMOTE THE HEALTH AND LONGEVITY OF MAJOR DECIDUOUS TREES.



PERVIOUS PAVING USED WITH STREET TREE PLANTINGS



PERVIOUS PAVING USED IN A PARKING LOT

**PAI Proposed Amendment #2**

Adapted from Maryland Native Plant Coalition Amendment #1

*p. 8, Generation of Plant Quantities. Add additional requirements for native plants as well as information about invasive plants and clarify that invasives are not permitted. Add into the beginning of the second paragraph of Section A.*

[The use of native species is encouraged, unless it is not the “right plant for the right place.”] THIS MANUAL INCLUDES SPECIFIC REQUIREMENTS FOR NATIVE PLANT SPECIES. A MINIMUM PERCENTAGE OF NATIVE SPECIES IS REQUIRED AS SHOWN IN THE TABLE BELOW AND A HIGHER PERCENTAGE IS ENCOURAGED. SEE APPENDIX F FOR DETAILS ON COMMERCIALLY AVAILABLE NATIVE PLANTS. NATIVE SPECIES THAT ARE “THE RIGHT PLANT IN THE RIGHT PLACE” NOT ONLY PROVIDE COUNTLESS BENEFITS TO THE ECOSYSTEMS AND TO HUMAN HEALTH, BUT ALSO MITIGATE STORMWATER RUNOFF, LIMIT SOIL EROSION, REQUIRE NO IRRIGATION (EXCEPT SOMETIMES IN SEVERE DROUGHT), REQUIRE NO FERTILIZATION, CUT DOWN ON TURFGRASS MOWING, AND PRESERVE CRITICAL POLLINATOR HABITAT. NATIVE SPECIES ALSO HELP THE COUNTY ACHIEVE ITS CHESAPEAKE BAY TARGETS FOR POLLUTION REDUCTION.

A MINIMUM PERCENTAGE OF PLANTS WITHIN EACH CATEGORY SHOWN BELOW SHALL BE NATIVE SPECIES. PLANT SPECIES THAT ARE NATIVE SHALL BE INDICATED AS SUCH ON THE DESIGN DRAWINGS.

**NATIVE PLANT REQUIRED PERCENTAGES**

PLANT CATEGORY	PERCENT NATIVE
TREES—MAJOR	50%
TREES—MINOR	50%

TREES—EVERGREEN	30%
SHRUBS	30%

Additionally, using a mix of species is required. SEE APPENDIX F FOR BIODIVERSITY TARGET PERCENTAGES. Invasive species [should] SHALL not be used, including those [highlighted in the] LISTED BY THE MARYLAND INVASIVE SPECIES COUNCIL (MISC), (SEE [HTTPS://MDINVASIVES.ORG](https://mdinvasives.org)). ADDITIONAL INFORMATION CAN BE FOUND AT THE MID-ATLANTIC INVADERS TOOL (MAIT) WEBSITE ([WWW.INVASIVE.ORG/MIDATLANTIC/PLANTS.CFM](http://www.invasive.org/midatlantic/plants.cfm)) AND AT the University of Maryland Extension’S INVASIVE SPECIES WEBPAGES [resource pages: <https://extension.umd.edu/resource/invasive-plantsavoid-buying-your-yard-and-garden-maryland/>].

**PAI Proposed Amendment #3**

Adapted from Maryland Native Plant Coalition Amendment #2

*p. 11, add additional section on climate change.*

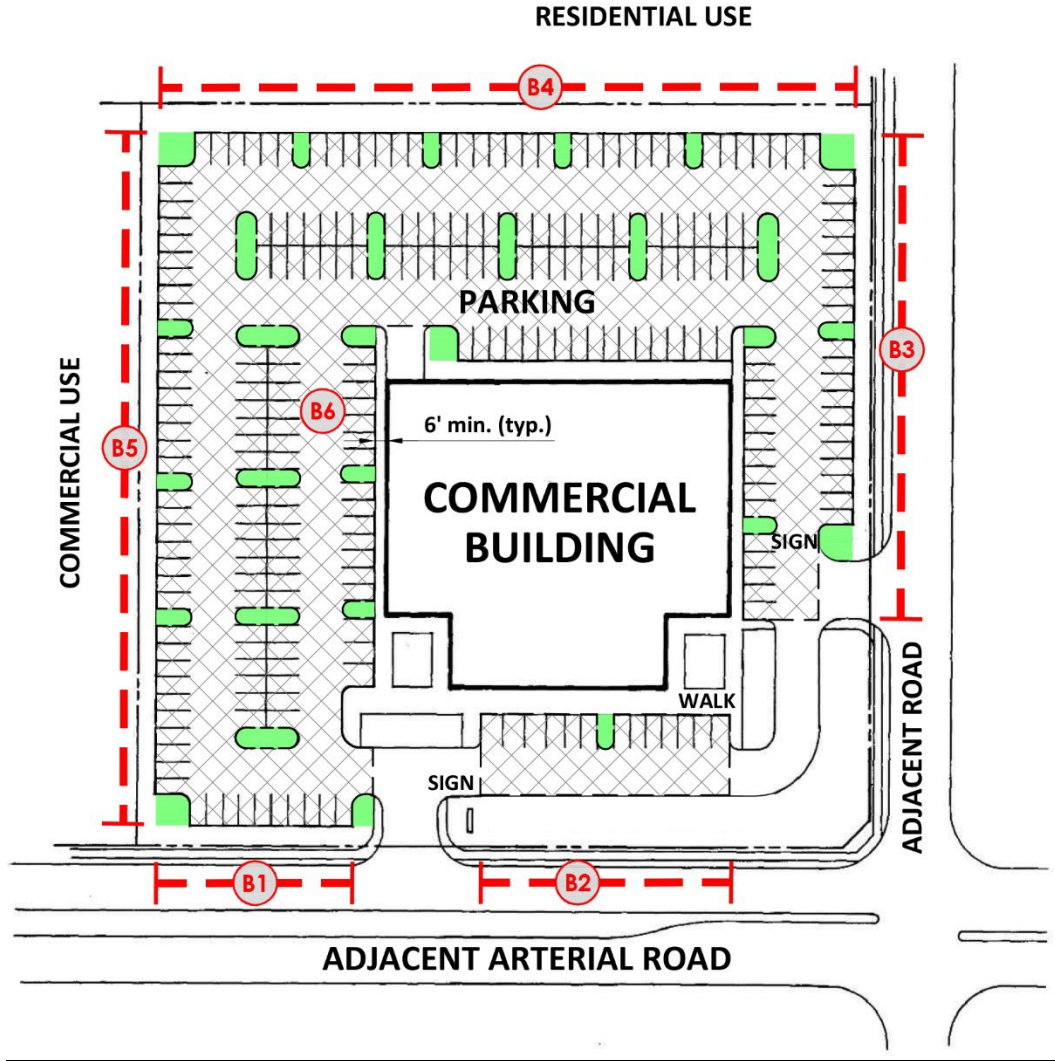
**F. ENVIRONMENTAL SUSTAINABILITY AND CLIMATE CHANGE**

PRINCIPLES AND TECHNIQUES THAT INCORPORATE ENVIRONMENTAL SUSTAINABILITY AND MITIGATION OF CLIMATE CHANGE SHOULD BE INCORPORATED INTO THE DESIGN, CONSTRUCTION, FUNCTION AND MAINTENANCE OF LANDSCAPE AREAS.

- SPECIFY PLANTS WHICH ARE MORE LIKELY TO SURVIVE EXTREME STORMS, FLOODING, HIGHER ROUTINE HEAT, AND EXTREME HEAT AND DROUGHT, WHICH ARE PREDICTED TO OCCUR MORE OVER THE COMING YEARS OF CLIMATE CHANGE. FOR EXAMPLE, SEE THE NORTHERN INSTITUTE OF APPLIED CLIMATE SCIENCE’S “CLIMATE CHANGE PROJECTIONS FOR INDIVIDUAL TREE SPECIES GREATER BALTIMORE, MARYLAND” ([HTTPS://FORESTADAPTATION.ORG/BALTIMORE](https://forestadaptation.org/baltimore)).
- SELECT MAJOR DECIDUOUS TREES THAT ARE SUITABLE FOR THE AVAILABLE PLANTING AREA AT THEIR MATURE SIZE.
- DESIGN PROJECTS WITH THE GOAL OF MINIMIZING AREAS OF SHALLOW-ROOTED TURF GRASS AND INSTEAD EMPLOY THE PRINCIPLES OF LOW-IMPACT LANDSCAPING BY USING DEEP-ROOTED, PREDOMINANTLY NATIVE PLANTS TO ABSORB STORMWATER, FILTER STORMWATER OF NUTRIENTS, REDUCE SOIL EROSION, MINIMIZE THE NEED FOR IRRIGATION, AND USE FEWER CHEMICALS. USE DESIGN ELEMENTS SUCH AS MEADOWS, RAIN GARDENS AND XERISCAPING WHENEVER POSSIBLE. CONSIDER NATIVE GRASS AND FORBS FOR GROUNDCOVER ON SLOPES AND SWALES WHERE PRACTICABLE.

**PAI Proposed Amendment #4**  
Staff

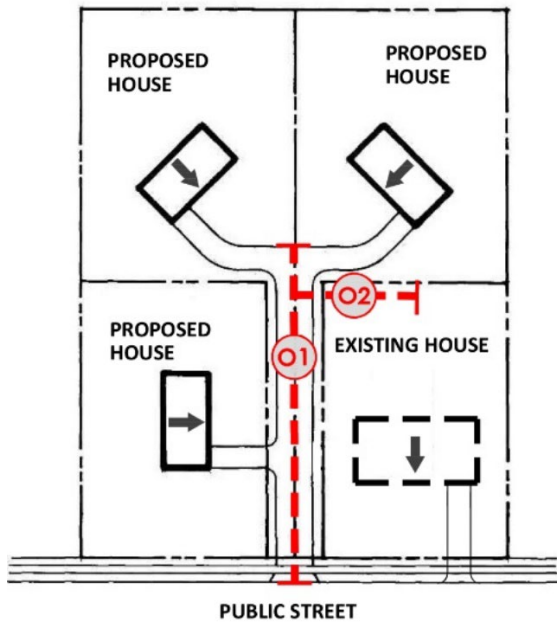
p. 23. Condition B. Replace graphic to show 6-foot minimum between building and parking space dimension.



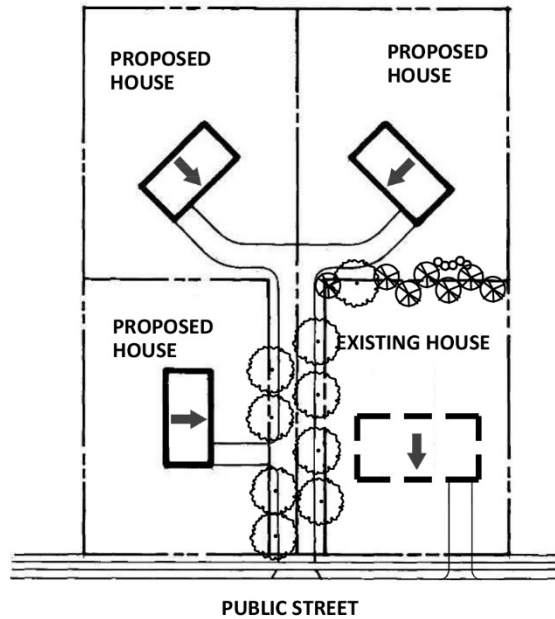
**PAI Proposed Amendment # 5**  
Staff

*p. 59. Condition O. Replace graphics showing Example Planting Unit Calculations and Example Landscape Plan to be in accordance with CMDP requirements.*

**Example Planting Unit Calculations**



**Example Landscape Plan**

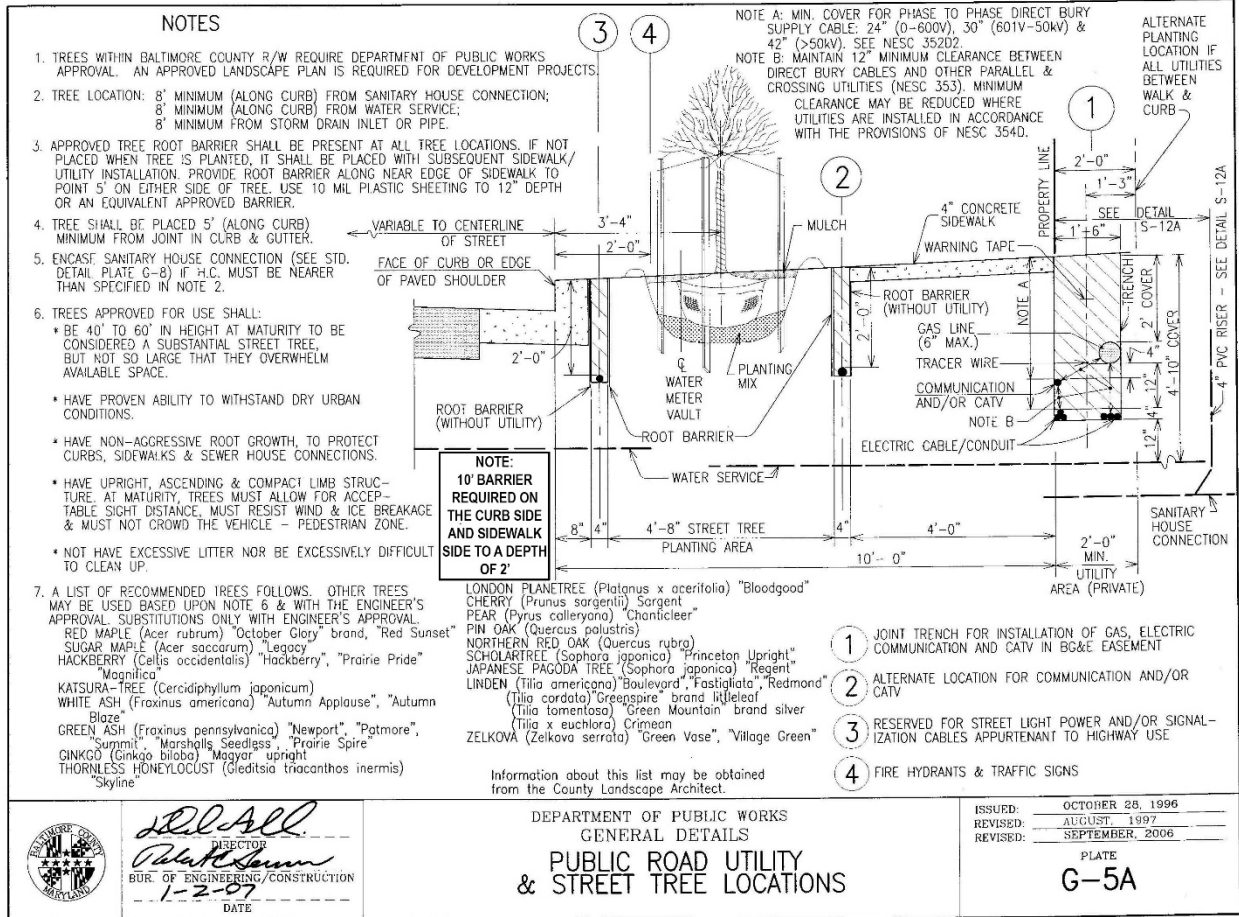


**PAI Proposed Amendment # 6**

Adapted from Maryland Native Plant Coalition Amendment #5

*p. 86, Appendix B. Add note that the list of recommended trees is no longer applicable.*

**Appendix B: Public Road Utility and Street Tree Locations: Standard Detail G-5A or Current Standard**



Please note, evidence of root barrier is required for final as-built approval. **ADDITIONALLY, THE LIST OF RECOMMENDED TREES AS SHOWN ABOVE IN NOTE 7 IS NOT APPLICABLE.** See Appendix F for additional guidance on native plants and planting techniques.

**PAI Proposed Amendment # 7**

Staff and Adapted from Maryland Native Plant Coalition Amendment # 8

p. 91, Appendix C. Add sample table for native species requirements and update graphic

**Appendix C: Landscape Unit Calculations Table Examples**

Use of a table in this format is required for each project submittal. Only list the conditions that apply to the project submitted. It is also required to show the linear foot measurements on the plan that corresponds with the key designations from the table. The table below is an example of some of the condition calculations from the Landscape Manual.

Landscape Unit Calculations				
Key	Element	Rate	Linear Feet (LF)	Planting Unit (PU)
<b>Condition A Street Frontage and Streetscape</b>				
A1	Adjacent Road	1 PU/ 40 LF	430 LF	11 PU

A2	Interior Road	1 PU/ 20 LF	75 LF	4 PU
<b>Condition B Parking Lots</b>				
B1	Parking Adjacent to Public Road (Class B)	1 PU/ 15 LF	94 LF	7 PU
B2	Parking Adjacent to Residential (Class A)	1 PU/ 15 LF	396 LF	27 PU
B3	Parking Adjacent to Commercial	1 PU/ 20 LF	380 LF	29 PU
B4	Parking Lot Interior	1 PU/ 12 Spaces	285 Spaces	24 PU
<b>Condition C Automotive Display Area</b>				
C1	Displayed Parking (Class D)	1 PU/ 10 LF	420 LF	42 PU
<b>Condition F Service Lane</b>				
F1	Service Land Adjacent to Residential Use	1 PU/ 15 LF	165 LF	11 PU
<b>Condition G Storage and Loading Areas</b>				
G1	Adjacent to Residential Street	1 PU/ 10 LF	120 LF	12 PU
G2	Adjacent to Residential Use	1 PU/ 10 LF	145 LF	15 PU
<b>Condition H Dumpsters and Ground-Mounted HVAC</b>				
H1	Dumpster Screen	1 PU/ 15 LF	50 LF	4 PU
H2	HVAC Screen	1 PU / 15 LF	50 LF	4 PU
<b>Condition J Slopes Embankments, and Retaining Walls</b>				
J1	2:1 Slope > 5' High	1 PU/ 15 LF	15 LF	1 PU
J2	3:1 Slope > 10" High	1 PU/ 15 LF	30	2 PU
J3	Retaining Wall > 5' High	1 PU/ 15 LF	45 LF	3 PU
J4	2:1 Slope @ 20' High	2 PU/ 15 LF	20 LF	3 PU
J5	3:1 Slope @ 30" High	2 PU/ 15 LF	35	4 PU
<b>Condition K Automotive and Fuel Service Uses</b>				
K1	Adjacent to Public Road (Class B)	1 PU/ 15 LF	155 LF	11 PU
K2	Adjacent to Residential (Class C)	1 PU/ 10 LF	145 LF	15 PU
K3	Adjacent to Commercial (Class B)	1 PU / 10 LF	145 LF	15 PU
				<b>Total PUs Required 244</b>

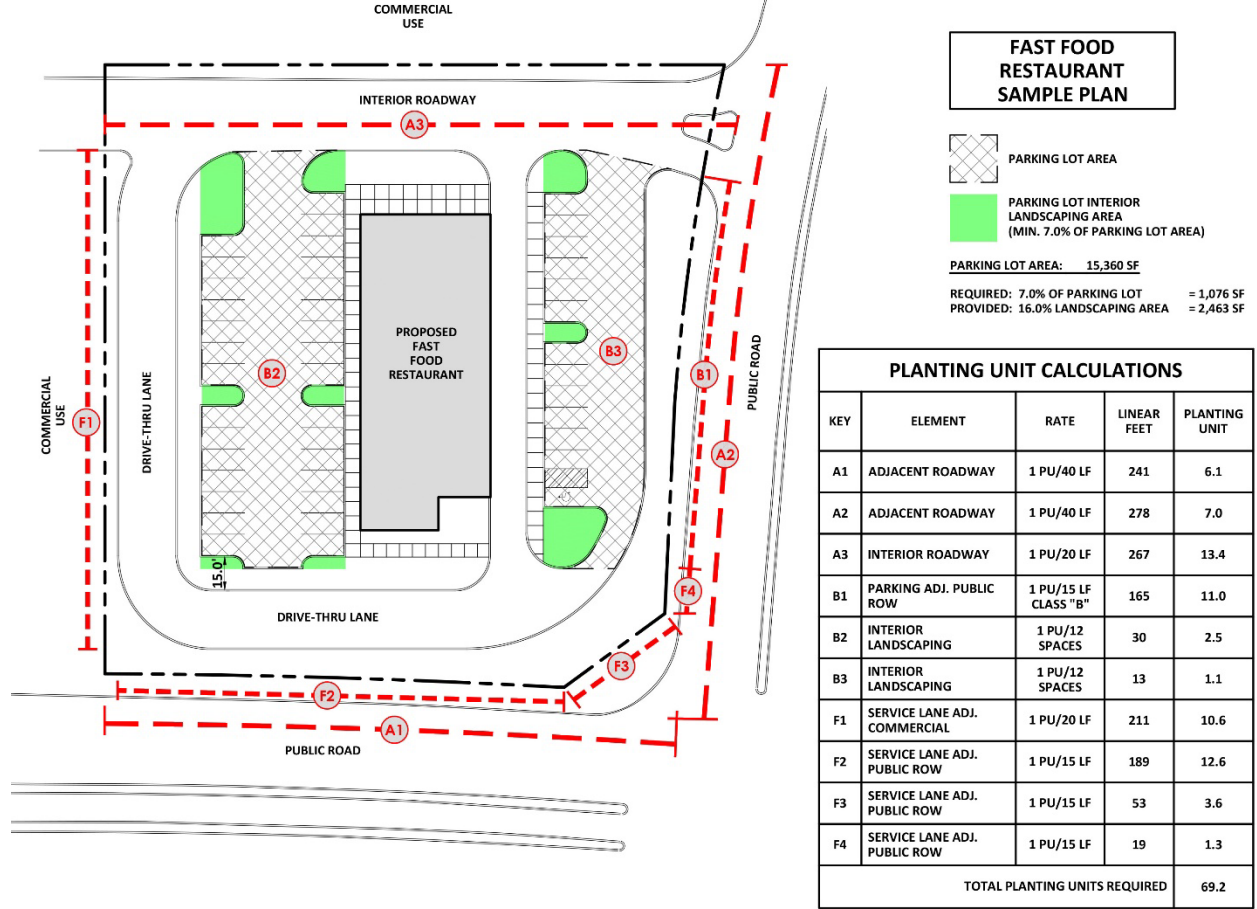
**Example Table for Calculating Planting Units with a Combination of Shrubs and Trees**

<b>Total Proposed Planting</b>			
<b>Planting Provided</b>	<b>Pus Credit Rate</b>	<b>Quantity</b>	<b>Provide Planting PUs</b>
Major Trees Provided	1 PUs / Tree	59	59.0
Minor Trees Provided	1 PUs / 2 Trees	113	56.5
Evergreen Trees Provided	1 PUs / 2 Trees	137	68.5
Shrubs Provided	1 PUs / 5 Shrubs	300	60.0
Total Provided Planting Units (PUs)			244.0

**EXAMPLE TABLE FOR CALCULATING NATIVE PLANT REQUIREMENTS**

	<b># PLANTS PROVIDED</b>	<b>TOTAL NATIVES</b>	<b>% NATIVES REQUIRED</b>	<b>% NATIVES PROVIDED</b>
<u>TREES—MAJOR</u>	<u>10</u>	<u>8</u>	<u>50%</u>	<u>80%</u>
<u>TREES—MINOR</u>	<u>47</u>	<u>24</u>	<u>50%</u>	<u>51%</u>
<u>TREES—EVERGREEN</u>	<u>10</u>	<u>3</u>	<u>30%</u>	<u>30%</u>
<u>SHRUBS</u>	<u>103</u>	<u>31</u>	<u>30%</u>	<u>30%</u>

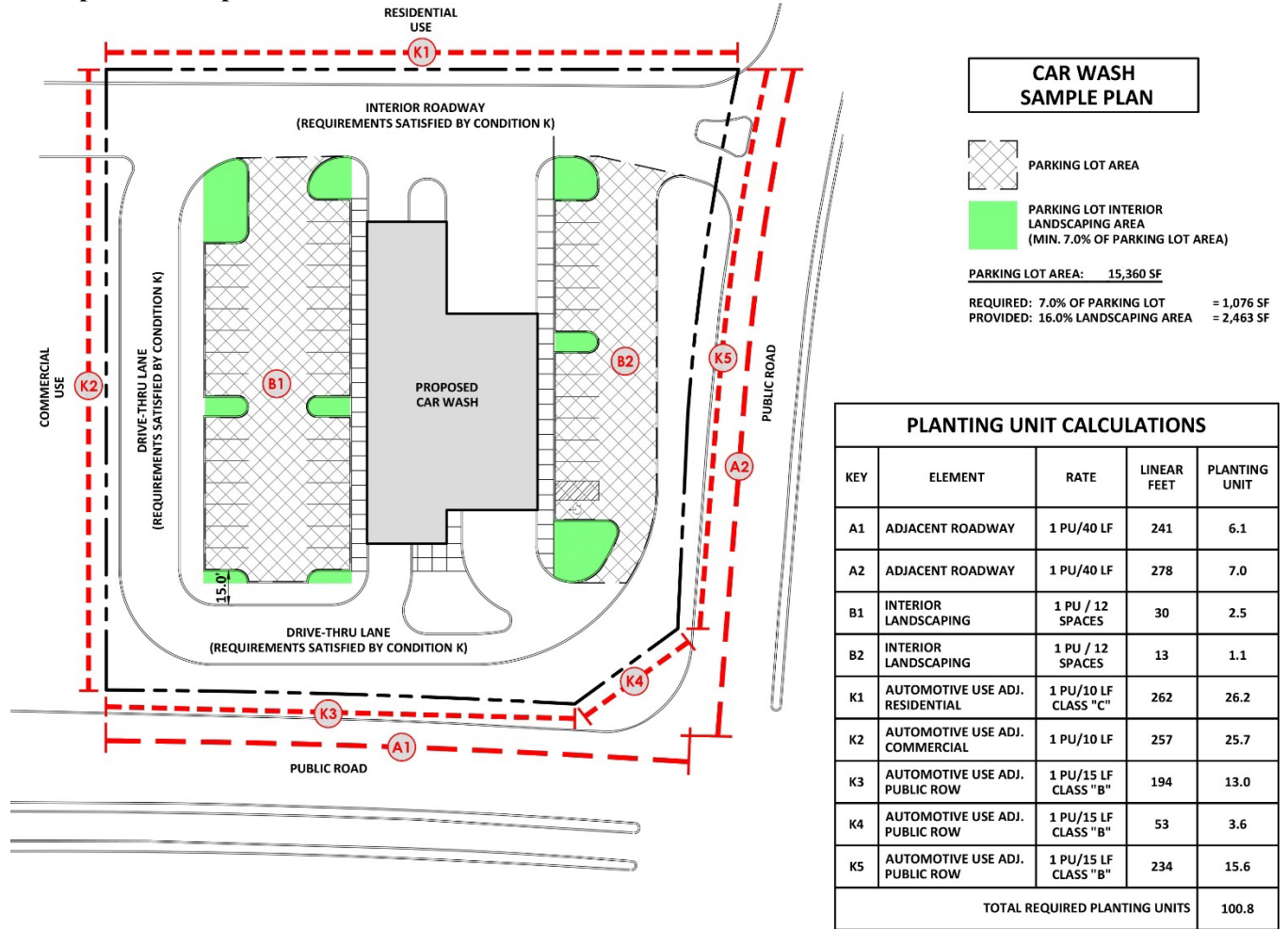
# Example Landscape Plan for a Fast-Food Restaurant



NOT TO SCALE



## Example Landscape Plan for a Car Wash



NOT TO SCALE

### PAI Proposed Amendment # 8

Adapted from Maryland Native Plant Coalition Amendments # 7

*p. 94, Appendix E: Add reference to the University of Maryland Extension (UME) Home and Garden Information Center's best practices and Maryland laws as well as other updated sources. Update existing list.*

### Appendix E: Minimum Landscape Maintenance Requirements

MANY RESOURCES PROVIDE GUIDANCE ON LANDSCAPE MAINTENANCE BEST PRACTICES. FOR INFORMATION ON PROPER MOWING, STORMWATER RUNOFF, INTEGRATED PEST MANAGEMENT, AND MANY OTHER TOPICS, SEE THE FOLLOWING WEBPAGES FROM THE UNIVERSITY OF MARYLAND EXTENSION HOME AND GARDEN INFORMATION CENTER AND FROM THE MARYLAND DEPARTMENT OF MARYLAND.

- FOR BEST PRACTICES FOR LANDSCAPE MAINTENANCE:

- [HTTPS://EXTENSION.UMD.EDU/RESOURCE/HOME-LANDSCAPE-BEST-MANAGEMENT-PRACTICES](https://extension.umd.edu/resource/home-landscape-best-management-practices)
- FOR INFORMATION ON MARYLAND’S LAWN FERTILIZER LAW AND FERTILIZER SCHEDULES:
  - [HTTPS://MDA.MARYLAND.GOV/PAGES/FERTILIZER.ASPX](https://mda.maryland.gov/pages/fertilizer.aspx)
  - [HTTPS://EXTENSION.UMD.EDU/RESOURCE/LAWN-FERTILIZER-SCHEDULE-TABLE](https://extension.umd.edu/resource/lawn-fertilizer-schedule-table)
- FOR GUIDANCE ON PROPER MULCHING TECHNIQUES:
  - [HTTPS://EXTENSION.UMD.EDU/RESOURCE/MULCHING-TREES-AND-SHRUBS](https://extension.umd.edu/resource/mulching-trees-and-shrubs)
  - [HTTPS://EXTENSION.UMD.EDU/RESOURCE/EXCESS-MULCH-PROBLEMS](https://extension.umd.edu/resource/excess-mulch-problems)

#### LANDSCAPE MAINTENANCE REQUIREMENTS

1. TO IMPROVE DROUGHT AND DISEASE RESISTANCE OF LAWN TURF AREAS IT IS ENCOURAGED TO PERMIT GRASS TO GROW TO 4 INCHES BEFORE MOWING. FOLLOW BALTIMORE COUNTY CODE REQUIREMENTS FOR MANAGING MAXIMUM LAWN HEIGHTS AND CONTROLLING WEEDS AND NOXIOUS PLANTS.
2. ALL CURBS, WALKS, AND PLANT BEDS SHALL BE EDGED AS NEEDED.
3. ALL LAWN AREAS ADJACENT TO BUILDINGS AND FENCES SHALL BE TRIMMED.
4. MAINTAIN LAWN AREAS IN A HEALTHY GROWING CONDITION IN ACCORDANCE TO THE MARYLAND FERTILIZER LAW AND CURRENT EDITION OF THE LANDSCAPE CONTRACTORS’ ASSOCIATION (MD, DV, VA) LANDSCAPE SPECIFICATIONS AND GUIDELINES, PART 2 -EXTERIOR LANDSCAPE MAINTENANCE. REPAIR BARE AND ERODED AREAS WITH NEW SEED OR SOD.
5. MAINTAIN SHRUB BEDS AND GROUND COVER AREAS BY REPLACING ORGANIC MULCH AND REMOVING WEEDS. FOLLOW THE CURRENT EDITION OF THE LANDSCAPE CONTRACTORS’ ASSOCIATION (MD, DC, VA), LANDSCAPE SPECIFICATION GUIDELINES, PART 2 - EXTERIOR LANDSCAPE MAINTENANCE.
6. ALL TRASH, LITTER AND DEBRIS SHALL BE REMOVED FROM LAWN AREAS, PARKING LOTS, AND SHRUB BEDS AS NEEDED.
7. DECIDUOUS AND EVERGREEN TREES SHALL BE PERMITTED TO GROW TO THEIR MATURE SIZES (CANOPY, TRUNK DIAMETER, AND HEIGHT), AND SHALL BE MAINTAINED IN THEIR NATURAL FORM AND IN A MANNER THAT FULFILLS THE GOALS, OBJECTIVES AND REQUIREMENTS OF THE LANDSCAPE MANUAL.
8. TREE TOPPING AND OTHER SEVERE TRIMMING TECHNIQUES THAT DISFIGURE, INJURE, KILL, OR PREVENT THE TREES FROM MEETING THEIR DESIGN OBJECTIVES ACCORDING TO THE LANDSCAPE MANUAL SHALL BE REPLACED WITH THE EQUIVALENT TRUNK DIAMETER SIZES MEASURED AT THE TIME OF THEIR REMOVAL.
9. SHRUBS AND HEDGES SHALL BE PERMITTED TO GROW TO THEIR DESIGN HEIGHT AND WIDTH AND BE MAINTAINED IN A MANNER THAT FULFILLS THE GOALS, OBJECTIVES AND REQUIREMENTS OF THIS LANDSCAPE MANUAL AND BE MAINTAINED AT THE WIDTH AND HEIGHT THAT MEETS THE DESIGN OBJECTIVES ACCORDING TO THE LANDSCAPE MANUAL.
10. ANY PLANT MATERIAL THAT IS UNHEALTHY, DISFIGURED, OR DEAD SHALL BE REMOVED AND REPLACED.

1. Lawn areas shall be mowed to a height of 2 to 3 inches and not allowed to reach a height of 4 inches before mowing.
2. All curbs and walks shall be edged as needed.
3. All lawn areas adjacent to building faces or structures shall be trimmed.
4. A slow-release nitrogen balanced fertilizer with a 2-1-1 ratio shall be applied at a rate of 2 pounds of nitrogen per 1000 square feet in September, October, and February.
5. Lime shall be applied at the rate determined by a soils report.
6. It is recommended that lawn areas be treated in mid-March to early April with pre-emergent herbicide or equal applied at the manufacturer's recommended rate.
7. A post-emergent herbicide or equal is recommended to be sprayed on lawn areas in the late spring or the early fall. Follow manufacturer's rates and recommendations.
8. Insecticides and fungicides are recommended for insect and disease control.
9. Reseed bare areas of lawn as necessary. Yearly aeration is recommended.
10. All trash, litter, and debris shall be removed from lawn areas, parking lots, and shrub beds as needed.
11. Mulch all shrub and groundcover beds yearly with 3 inches of shredded hardwood bark.
12. Permit shrubs and trees to grow and enlarge to their design size. Consult project landscape architect for details.]

**PAI Proposed Amendment # 9**

Adapted from Maryland Native Plant Coalition Amendments #3 and 8

*p. 96, update Appendix F: Native Plants for Mid-Atlantic United States A Guide for Homeowners*

**Appendix F: Native Plants AND ADDITIONAL PLANTING SPECIFICATIONS [for Mid-Atlantic United States: A Guide for Homeowners]**

A. NATIVE PLANTS

FOR COMMERCIALLY AVAILABLE MARYLAND NATIVE PLANTS, SEE THE COMMERCIAL MARYLAND NATIVE PLANT LIST ON THE WEBSITE OF THE UNIVERSITY OF MARYLAND EXTENSION

([HTTPS://EXTENSION.UMD.EDU/RESOURCE/COMMERCIAL-MARYLAND-NATIVE-PLANT-LIST](https://extension.umd.edu/resource/commercial-maryland-native-plant-list)). THIS LIST IS SPECIFIED BY THE 2023 MARYLAND NATIVE PLANTS PROGRAM ACT, CH489 ([HTTPS://MGA.LEG.MARYLAND.GOV/2023RS/CHAPTERS\\_NOLN/CH\\_489\\_HB0950E.PD.F950](https://mga.leg.maryland.gov/2023RS/CHAPTERS_NOLN/CH_489_HB0950E.PD.F950)).

PROVIDING MORE NATIVE PLANTS THAN REQUIRED MAY HELP OFFSET A MODIFICATION REQUEST, DEPENDING ON THE SITE CONDITIONS.

B. ADDITIONAL PLANTING SPECIFICATIONS

1. BIODIVERSITY

TO AMELIORATE THE RISK OF DISEASE AND PESTS CAUSING WIDESPREAD DAMAGE OR MORTALITY TO A PARTICULAR PLANT SPECIES, LANDSCAPE PROJECTS SHOULD INCORPORATE A VARIETY OF SPECIES OF EACH PLANT TYPE AS PART OF THE DESIGN. DESIGNERS SHOULD ALSO CONSIDER THE PROJECTED EFFECT OF CLIMATE CHANGE ON EACH SPECIES SPECIFIED IN THE DESIGN. FOR RESEARCH ON THE PROJECTED PERFORMANCE OF NATIVE TREE SPECIES IN THE BALTIMORE AREA, SEE TREE SPECIES PROJECTIONS FOR

GREATER BALTIMORE, MARYLAND CLIMATE CHANGE RESPONSE FRAMEWORK ([HTTPS://FORESTADAPTATION.ORG/BALTIMORE](https://forestadaptation.org/baltimore)).

THE TABLE BELOW SPECIFIES BIODIVERSITY RECOMMENDATIONS FOR TREES, BUT DESIGNERS ARE STRONGLY ENCOURAGED TO PROVIDE MEANINGFUL DIVERSITY WITHIN OTHER PLANT TYPES.

**BIODIVERSITY TARGETS**

<u>NUMBER OF TREES</u>	<u>MAXIMUM % OF ONE TREE SPECIES</u>
<u>1-10</u>	<u>100%</u>
<u>11-30</u>	<u>50%</u>
<u>31-75</u>	<u>25%</u>
<u>76+</u>	<u>15%</u>

PROVIDING BIODIVERSITY AT THESE TARGET LEVELS MAY HELP OFFSET A MODIFICATION REQUEST, DEPENDING ON THE SITE CONDITIONS.

2. TREES IN CONSTRAINED AREAS

MAJOR TREES IN URBAN SITES, STREETSCAPES, PARKING LOTS, AND OTHER CONSTRAINED SPACES HELP MITIGATE URBAN HEAT ISLANDS BY SHADING EXPANSES OF IMPERVIOUS SURFACES AND REDUCING POLLUTION BY ABSORBING NATURAL AND HUMAN-GENERATED CHEMICALS. ENSURE LONG-TERM TREE VITALITY AND BENEFITS AS FOLLOWS:

- SELECT TREE SPECIES THAT ARE WELL SUITED FOR THE ENVIRONMENTAL FACTORS OF THE SITE, INCLUDING LOCAL SOIL CONDITIONS (I.E. COMPACTION, POROSITY, STRUCTURE, TEXTURE, AND PH), HIGH EXPOSURE TO STRESSORS (I.E. SALT, POLLUTION, DROUGHT, AND EXCESSIVE HEAT), AND RESISTANCE TO INSECT PESTS AND DISEASES.
- WHEN POSSIBLE, PROVIDE A MINIMUM OF 1000 CUBIC FEET OF SOIL VOLUME PER SINGLE MAJOR DECIDUOUS TREE AND 700 CUBIC FEET PER TREE IN PLANTING BEDS SHARED BY TWO OR MORE TREES. WHERE SPACE IS LIMITED, PROVIDE ADEQUATE SOIL VOLUME UTILIZING METHODS DESCRIBED IN APPENDIX B. PROVIDING CUBIC FEET OF SOIL AT THIS VOLUME MAY HELP OFFSET A MODIFICATION REQUEST, DEPENDING ON THE SITE CONDITIONS.

FOR RECOMMENDED URBAN TREE SPECIES, REFER TO THE URBAN TREE CANOPY PLANTING LIST DEVELOPED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND SUSTAINABILITY ([WWW.BALTIMORECOUNTYMD.GOV/FILES/DOCUMENTS/ENVIRONMENT/FORESTAN DTREES/EPSFMTREELIST.PDF](http://www.baltimorecountymd.gov/files/documents/environment/forestanDTrees/epsfMTREELIST.pdf))

ADDITIONALLY, IN CONSTRAINED AREAS WHERE THE MINIMUM SOIL VOLUME CANNOT BE PROVIDED, EMPLOY THE ALTERNATIVE METHODS DESCRIBED IN TREE SPACE DESIGN: GROWING THE TREE OUT OF THE BOX BY

CASEY TREES ([HTTPS://CASEYTREES.ORG/RESOURCES-LIST/TREE-SPACE-DESIGN-GROWING-TREE-BOX](https://CASEYTREES.ORG/RESOURCES-LIST/TREE-SPACE-DESIGN-GROWING-TREE-BOX)) INCLUDING:

- A. OPEN SOIL AREA
- B. ROOT PATHS UNDER PAVEMENT TO ADJACENT GREEN SPACES
- C. SOIL CELLS
- D. SIDEWALK SUPPORT
- E. STRUCTURAL SOILS
- F. PERMEABLE PAVING
- G. TREE TRENCHES
- H. MICRO-RETENTION AREAS



CONTINUOUS TREE TRENCHES PROVIDE ADEQUATE SOIL VOLUME FOR MAJOR DECIDUOUS TREES

[Native materials will not invade nearby natural and environmentally sensitive areas. Plants listed readily survive transplanting and are available in most local nurseries. See U.S. Fish & Wildlife Service’s Publication, “Native Plants for Wildlife Habitat and Conservation Landscaping: Chesapeake Bay Watershed”

(<https://dnr.maryland.gov/criticalarea/documents/chesapeake natives.pdf>).

\*Indicates also suitable in wetland conditions

TREES

Red maple *Acer rubrum* \*

Sugar maple *Acer saccharum*

Amelanchier *Amelanchier* spp.

Pawpaw *Asimina triloba*

River birch *Betula nigra* \*

Paperbark birch *Betula papyrifera*

Hickory *Carya alba*, *Carya cordiformis*, *Carya glabra*,

*Carya ovata*

Hackberry *Celtis occidentalis*

Redbud *Cercis canadensis*

Florida dogwood *Cornus florida* Cockspur

hawthorn *Crataegus crusgalli*

Washington hawthorn *Crataegus phaenopyrum*

Winter king hawthorn *Crataegus viridis*

American Persimmon *Diospyros virginiana*

Beech *Fagus grandifolia*

Honeylocust Gleditsia triacanthos  
Kentucky coffeetree Gymnocladus dioicus  
Carolina silverbell Halesia tetraptera  
Walnut Juglans nigra  
American sweetgum Liquidambar styraciflua\*  
Sweetbay Magnolia virginiana\*  
American planetree Plantanus occidentalis\*  
White oak Quercus alba  
Swamp oak Quercus bicolor\*  
Scarlet oak Quercus coccinea  
Shingle oak Quercus imbricaria  
Pin oak Quercus palustris \*  
Willow oak Quercus phellos  
Northern red oak Quercus rubra  
Lindon Tilia americana  
(aka American Basswood)

### **SHRUBS**

Alder – American Alnus serrulate  
Red chokeberry Aronia brilliantissima  
Black chokeberry Aronia melanocarpa  
New Jersey Tea Ceanothus americanus  
White fringetree Chionanthus virginicus  
Summersweet Clethra alnifolia \*

Sweetshrub Calycanthus floridus  
Buttonbush Cephalanthus  
occidentalis\*  
Pagoda dogwood Cornus alternifolia  
Gray dogwood Cornus racemosa \*  
Yellowtwig dogwood Cornus sericea \*  
Hazelnut – American Corylus americana  
Vernal witchhazel Hamamelis vernalis  
Common witchhazel Hamamelis virginiana  
Winterberry holly  
Ilex verticillata \*  
Spicebush Lindera benzoin \*  
Bayberry` Myrica pennsylvanica  
Sumac Rhus  
Shining rose Rosa nitida  
Elderberry Sambucus nigra ssp. Canadensis  
Arrowood Viburnum Viburnum dentatum\*  
Nannyberry Viburnum lentago\*  
Blackhaw Viburnum prunifolium  
Blueberry – Vaccinium corymbosum  
Low or Highbush]