City of White House

Stormwater Utility Credit and Adjustment Policy Manual

2015

Stormwater Utility Credit and Adjustment Policy Manual

City of White House, Tennessee

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Prepared for:
Public Services Department
725 Industrial Drive
White House, TN 37188

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Stormwater Utility Credit
And
Adjustment Manual

I. Overview

On December 18, 2014, the City of White House Board of Mayor and Alderman passed Ordinance No. 14-28 to establish Title 20, entitled, Stormwater, and provided for a Stormwater Utility rate structure for a dedicated user fee to support the stormwater program.

The stormwater user fee provides a stable and adequate source of revenue for the stormwater management program. The program allocates the costs of stormwater services across every stormwater "user" within the City's stormwater service area through a stormwater user fee (or service charge). Developed land is charged a fee based on the amount of impervious surface area on the property. The stormwater user fee that a property owner pays is directly proportional to the impervious area found on the property. A credit is an ongoing downward adjustment in the service charge. The rate ordinance provides for adjustments to the stormwater user fee for properties that reduce demand on the stormwater system.

The purpose of the credit policy is to provide properties with credit for mitigating stormwater runoff impacts through education, source controls, or for quantity or quality of water. The available credits are:

- Detention Credit up to 50%
- Quality Credit up to 25%
- Education Credit up to 10%

A property may qualify for more than one credit, but the maximum credit that a property can receive is 75%.

To qualify for credits, the stormwater user must submit a credit application form (Appendix 1) and submit it to the White House Public Services Department (Department). The application will be evaluated to determine credit eligibility and the amount of credit the user will receive. The mailing address for credit applications is:

Stormwater Utility Credit Application
Public Services Department
725 Industrial Drive
White House, TN 37188

The Stormwater Utility Credit and Adjustment Manual stipulates the design and performance standards of on-site systems, facilities, activities, and services that qualify for application of a stormwater user fee credit.

II. Definitions

Best Management Practices: or BMP's, shall mean the physical, structural, and/or managerial practices that, when used singly or in combination, prevent or reduce pollution of water, that have been approved by the City of White House, and that have been incorporated by reference into the Stormwater Management Ordinance as if fully set out therein.

Construction: shall mean the erection, building, acquisition, alteration, reconstruction, improvement or extension of stormwater facilities; preliminary planning to determine the economic and engineering feasibility of stormwater facilities; the engineering, legal, fiscal and economic investigations and studies, surveys, designs, plans, working drawings, specification, procedures, and other action necessary in the construction of stormwater facilities; and the inspection and supervision of the construction of stormwater facilities.

Credit: shall mean an ongoing reduction in a property's stormwater normally calculated fee given for certain qualifying activities that reduce the impact of increased stormwater runoff resulting from development, provide for an ongoing public benefit related to stormwater management, or implementing an approved education program as discussed herein.

Department: shall mean the City of White House Public Services Department.

Detention Facility: shall mean a stormwater structure that by means of a single control point, provides temporary storage of stormwater runoff for future release and is used to delay and attenuate peak flow.

Developed Property or Developed land: shall mean real property which has been altered from its natural state by the creation or addition of buildings, structures, pavement or other impervious surfaces, or by the alteration of the property that results in a meaningful change in the hydrology of the property during and following rainfall events.

Director: shall mean the City of White House Director of Public Services.

Exempt Property: shall mean all public rights-of-way, public streets and public roads, public alleys, public sidewalks and public greenways, "public park and ride" facilities and public bus stops within the City of White House. For purposes of this definition, "public" shall mean that which is maintained by or is to be dedicated to the City of White House and/or the State of Tennessee or the government of the United States.

Green Infrastructure: shall mean stormwater management systems that mimic nature by promoting infiltration of stormwater runoff. These stormwater management systems may include downspout disconnection, rainwater harvesting, rain gardens, planter boxes, bios wales, permeable pavements, green alleys and streets, green parking, green *roofs,* urban tree canopy, and land conservation as approved by the Department.

Impervious Surface Area: shall mean the number of square feet of horizontal surface

covered by buildings, and other impervious surfaces. All building measurements shall be made between exterior limits of the structure, foundations, columns or other means of support or enclosure.

Impervious Surface: shall mean a surface which is compacted or covered with material that is resistant to infiltration by water, including, but not limited to, most conventionally surfaced streets, roofs, sidewalks, patios, driveways, parking lots, and any other oiled, graveled, graded, compacted, or any other surface which impedes the natural infiltration of surface water.

National Pollutant Discharge Elimination System, or NPDES: shall mean the Federal Environmental Protection Agency's (USEPA) national program for issuing, modifying, revoking, reissuing, terminating, monitoring, and enforcing permits and imposing and enforcing pretreatment requirements under sections 307, 318, 402, and 405 of the Clean Water Act, United States Code, title 33,sections 1317, 1328, 1342, and 1345.

Other Developed Property: shall mean Developed Property other than single family residential property. Such property shall include, but not be limited to, commercial properties, industrial properties, parking lots, hospitals, schools, recreational and cultural facilities, hotels, offices, and churches. Such property shall also include single family dwellings that are attached to or otherwise a part of a building housing a commercial enterprise. Any single family residential structure which contains more than two attached dwelling units is specifically included in this definition.

Person: shall mean any and all persons, natural or artificial, including any individual, firm or association, and any municipal or private corporation organized or existing under the laws of this or any other state or country.

Property Owner or Owner: shall mean the property owner of record as listed in the City's and/or County's tax assessment roll. A property owner includes any individual, corporation, firm, partnership, or group of individuals acting as a unit, and any trustee, receiver, or personal representative.

Qualified Control Structure: shall mean a device or structure meeting design standards and approved by the Department that substantially limits the discharge of stormwater from a parcel of property into or through any Public System or that substantially improves the purity of stormwater so discharged.

Single-Family Residential Property: shall mean a developed property which serves the primary purpose of providing a permanent dwelling unit to a single family. A single family detached dwelling, a townhouse, an accessory apartment or second dwelling unit, a duplex, a condominium, a villa, or a garden home is included in this definition. A single family dwelling which is attached to, or otherwise a part of, a building housing a commercial enterprise is not included in this definition.

Stormwater: shall mean runoff, snow melt runoff, surface runoff, infiltration, and drainage.

Stormwater Management: shall mean the planning, design, construction, regulation, improvement, repair, maintenance, and operation of facilities and programs relating to water, floodplains, flood control, grading, erosion, tree conservation, and sediment control. The programs to manage quality and quantity of stormwater runoff.

Stormwater System: shall mean all manmade and natural conveyances and structures, stormwater facilities, and flood control facilities within the corporate limits of the City of White House and all improvements thereto for which the partial or full purpose or use is, among other things, to control discharges and flows necessitated by rainfall events; and incorporate methods to collect, convey, store, absorb, inhibit, treat, prevent or reduce flooding, over drainage, environmental degradation and water pollution or otherwise affect the quality and quantity of discharge from such system. This includes all natural conveyances 1.) For which the City of White House has assumed a level of maintenance responsibility; 2.) To which the City of White House has made improvements; 3.) Which have or may pose a threat to public property because of flooding; or 4.) For which the City of White House is accountable under federal or state regulations for protecting the water quality within its jurisdictional boundaries.

Stormwater User or User: shall mean the owner or customer of record of property subject to the stormwater user fee imposed by the Stormwater Ordinance.

Stormwater User Fee or Fee: shall mean the utility service fee established by the Stormwater Ordinance and levied on owners or users of parcels or pieces of real property to fund the costs of stormwater management and of operating, maintaining, and improving the stormwater system in the City of White House. The stormwater user fee is in addition to other fees that the City of White House has the right to charge under any other rule or regulation of the City of White House.

Stormwater Utility: shall mean a management structure that is responsible solely and specifically for the stormwater management program and system.

Stormwater Ordinance: shall mean Ordinance 14-28, Title 20 of the White House Code of Ordinances.

Surface Water: shall mean waters upon the surface of the earth in bounds created naturally or artificially including, but not limited to, streams, other watercourses, lakes, ponds, wetlands, marshes and sinkholes.

Ten Percent Rule: shall mean analyzing the development's downstream impact to stormwater runoff to the point where the site makes up ten percent or less of the total drainage area to the point in question. This analysis consists of developing a simplified hydrologic model of the development site and contributing areas to insure there is no increase in flow values at each significant junction point down to the point where the site is ten percent or less of the total land area.

Vacant/Undeveloped Property: shall mean property on which there is no structure for which a certificate of occupancy has been issued.

Words used in the singular shall include the plural, and the plural shall include the singular; words used in the present tense shall include the future tense. The word "shall" is mandatory and not discretionary. The word "may" is permissive. Words not defined in this section shall be construed to have the meaning given by common and ordinary use as defined in the latest edition of Webster's Dictionary.

III. User Fee Credits

Overview

The purpose of user fee credits is to provide an ongoing reduction in fees to customers that place an ongoing reduction in demand on the stormwater system than would be reflected in the calculation of their stormwater user fee or for specific customer types who through private efforts provide a direct reduction in the cost of stormwater programs funded by the stormwater user fee.

General Policies

General policies for stormwater user fee credits are listed below. See the following pages for details for individual credits.

Credits are limited to ***"other developed properties"*** as defined in Title 20, Chapter 2, Section 20-203 of the City of White House Code of Ordinances, entitled, "Definitions" (i.e. non-single family residential property) with exception to a Small Homes Credit, which is available exclusively for single family residential property as outlined in this manual. The rate structure already recognizes the lesser runoff intensity of Single Family Residential (SFR) properties and charges a reduced rate when compared to other developed properties.

It is the responsibility of the property owner (or his/her designee) to apply for stormwater user fee credits, and to provide the necessary substantiating information with a credit application, as described herein.

The ***Credit Application*** and supporting documents are included in the appendices to the Credit Manual. The Department shall not be responsible for initiating applications, performing engineering calculations, or otherwise assisting with the preparation of credit applications.

Credits can be combined for a maximum credit of 75%.

Credits are granted only upon approval of a credit application. A non-refundable review fee of $100 shall accompany credit applications.

The Department will review credit applications within four (4) weeks after a complete application is submitted.

The Department maintains the right to inspect properties to ascertain credit applicability at the time of credit application and at any time during which the site is receiving credit.

Credits shall be valid for a period of 5-years. It is the user's responsibility to reapply for credits no later than 60-days prior to expiration in order to assure continuity of the credits applied to the user fee.

Credits can be revoked or reduced at any time that it is determined by the Department that controls, measures, or activities are not performing to the requisite design standard, that controls are not being maintained to function as designed, or that the controls, measures, or activities no longer meet the purpose of the credit.

Any approved credit application received by June 30, 2015 will apply retroactively to the first billing of the property or January 1, 2015.

The Small Homes Credit

The small homes credit is available only to single-family residential properties that have a total impervious surface of less than nine hundred (900) square feet within the bounds of the property lines. The rationale behind this credit is that properties that have little impervious area (e.g., less than 900 square feet) discharge less runoff to the public drainage system than properties with large amounts of impervious areas. In the application of the small homes credit, total impervious area of a property does not mean the total square footage of a house. The square footage of home often includes only the livable space, or the total "heated" area of the home. The total square footage is not equal to the total impervious area, and in most cases, cannot be used to measure the total impervious area of the house. The total impervious area can include the area of the rooftop of the house, as well as any driveway, patio areas, walkways, storage areas and any other surface that prevents or impedes the natural infiltration of stormwater runoff. Please see Appendix 6 for, "Example Measurements for Residential Impervious Areas".

The following policies apply to the small homes credit:

• Single family residential properties that have a total impervious area equal to or less than 900 square feet, and who apply for and are accepted for a credit, shall receive a 40% reduction of the total assessed stormwater utility fee.

• In order to qualify for such a credit the homeowner must fill out a Small Homes Credit Application Form. The form must include sketched dimensions of total impervious area measured from edge of road pavement to the edges of the property line. The City will not make such measurements on behalf of property owners unless the resident is physically incapable of making the required measurements.

• Any approved credit application received within one (1) year of the date of the initiation of user fee billing by the Stormwater Utility will apply retroactively to:

1. The date of the initiation of user fee billing by the Stormwater for existing developed property; or,

2. The date of initiation of billing for new construction.

• One year after the date of the initiation of user fee billing by the Stormwater Utility, the Utility will not refund any portion of the stormwater fees paid prior to the approval of an applicant's credit application.

Stormwater Detention Credit (up to 50%)

Qualified properties with structural controls or measures such as detention facilities for reducing peak demand and controlling the rate at which the runoff volume enters the stormwater system may be eligible for a Stormwater Detention Credit up to 50%.

Properties may be eligible for a full credit of up to 50% where a stormwater detention facility is utilized to reduce post-developed discharges to ***pre-developed*** levels for the 2-year through 100-year flood events along with performing a downstream analysis for the ***"Ten Percent Rule"***. The Ten Percent Rule analyzes the development's downstream impact to stormwater runoff to the point where the site makes up ten percent or less of the total drainage area to the point in question. This analysis consists of developing a simplified hydrologic model of the development site and contributing areas to insure there is no increase in flow values at each significant junction point down to the point where the site is ten percent or less of the total land area. Properties may be eligible for a partial credit of **40%** where a stormwater detention facility is utilized to reduce post-developed discharges to ***pre-developed*** levels for the 2-year through 100-year flood events.

Properties may be eligible for a partial credit of **25%** where a stormwater detention facility is used to reduce post-developed discharges to pre-developed levels for the 2-year through 25-year flood events. This level of detention may be achieved, for example, by rehabilitating a temporary sediment control pond to serve as a permanent stormwater detention facility.

Conditions of Credit:

The property owner must submit a site plan, design calculations, as-built drawings, and/or other data **signed and sealed by a valid State of Tennessee professional licensed engineer** that are sufficient for the Department to render an opinion regarding the applicability of credit. Original design plans currently verified "as built" by a professional engineer will suffice.

The property owner must submit a maintenance plan, maintenance agreement, and annual documentation of maintenance on all structural controls and non-structural activities that serve as the basis for the credit according to the assessment by the Department.

Stormwater Quality Credit (up to 25%)

Qualified properties with structural controls or measures that reduce stormwater runoff pollution to the Municipal Separate Storm Sewer System (MS4) may be eligible for a Stormwater Quality Credit up to **25%**. These controls should provide runoff pollution characteristics similar to undeveloped land.

Properties may be eligible for the full **25%** credit if they contain water quality Best Management Practices (BMP) that meet performance criteria for the capture and infiltration of the first one inch of runoff through the use of Green Infrastructure.

Properties may be eligible for a partial credit of **10%** if they contain water quality Best Management Practices (BMP) that meet minimum performance criteria for removal of 80% total suspended solids (TSS) and remain in compliance with The City of White House's State of Tennessee NPDES Phase II Municipal Separate Storm Sewer Systems (MS4) General Permit for Discharges.

Industrial properties may be eligible for a partial credit of **10%** if they maintain a separate approved State of Tennessee NPDES permit for stormwater management.

Conditions of Credit:

The property owner must submit a site plan, design calculations, as-built drawings, and/or other data **signed and sealed by a valid State of Tennessee professional licensed engineer** that are sufficient for the Department to render an opinion regarding the applicability of credit. Original design plans currently verified "as built" by a professional engineer will suffice.

The property owner must submit a maintenance plan, maintenance agreement, and annual documentation of maintenance on all structural controls and non-structural activities that serve as the basis for the credit according to the assessment by the Department. Reports are due annually **by July 1**.

Stormwater Education Credit (up to 10%)

A credit of up to 10% will be available to public or private educational institutions that provide to students a regular and continuing program of education approved by the Department and concentrating on stewardship of water resources and minimization of demand on the public stormwater system. Qualified educational institutions have the ability to provide significant stormwater education that will not only assist the City of White House in meeting NPDES permit requirements, but will also instill an appreciation and stewardship of water resources that will benefit and/or decrease the demand on the stormwater system, or program, in the long term.

The credit eligibility will be determined by the Department based on the content of the education materials, the ability for the education to meet the NPDES permit requirements, the number of students receiving education, and the potential for reducing the water quantity and quality demand on the public stormwater system.

Conditions of Credit:

The Institution must submit a description of the educational program, curriculum or program materials, and estimated number of students that will receive the education for review by the Department for credit approval.

The Institution must provide educational take-home materials to all students at least once annually.

The Institution must submit an annual report documenting the number of students that received the education in that year.

The credit will be applied only to the property(s) where the curriculum is taught (e.g., if the curriculum is taught only at an Elementary School, the credit will be applied only to that property, not the entire school system).

To receive the credit, the curriculum must be scheduled with the intention that all students will receive the curriculum at least once during a typical tenure at the institution. For example, a typical tenure for high school would be four (4) years, so it would be expected that approximately **25%** of students in the school would be taught the curriculum each year and that a student that attended the school for four years would receive the education at least once.

Appendices

Appendix 1
Credit Application Form

Owner or Owner's Representative (Contact):	Property Parcel Number:
Property Address:	
Contact Phone Number:	Contact Email:
Mailing Address (if different than property address):	

Credits for Consideration
(check all that apply):

- Detention Credit (up to 50%) - Attached

✓ Supporting Drawings and Calculations
✓ Executed Maintenance Agreement
✓ Maintenance Plan
✓ Executed Right of Entry Form

- Quality Credit (up to 25%) - Attached:

✓ Supporting Drawings and Calculations
✓ Executed Maintenance Agreement
✓ Maintenance Plan
✓ Executed Right of Entry Form

- Education Credit (up to 10%) - Attached

✓ Description of Education Program
✓ (list of education tools used, est. number of students that will complete education)
✓ Stormwater Education Credit Form
✓ Executed Right of Entry Form

This application is to request credit or adjustment to the assigned stormwater user fee for the property at the above location.

Owner's Signature	Date

Appendix 2

SMALL HOMES CREDIT APPLICATION

For review of this application, you must:

- Fill out this application completely;
- Provide a sketch of your property showing the appropriate measured lengths.

Instructions:

You must measure the impervious surfaces that exist on your property and to provide those measurements, with this application, to the City of White House Public Services Department. You must provide sufficient information to allow the Stormwater Manager to determine the amount of impervious area on your property. You must provide a similar sketch of your property, with the appropriate measurements clearly indicated. The impervious surfaces are those surfaces that prevent the infiltration of rainfall into the soil. Common impervious surfaces may include rooftops, sidewalks, walkways, patio areas, driveways, parking lots, storage buildings/pads, compacted gravel or soil surfaces, awnings (and other fabric or plastic coverings) and any other surface that prevents or impedes the natural infiltration of stormwater runoff.

Property Owner Information

Name: _____ Phone: _____

Address:

Applicant Information (if different from owner)

Name: _____ Phone: _____

Address: _____

Property Information (if different from above)

Address: _____

Parcel Identification Number (if known): _____

Utility Account Number: _____

___ **Check here if the following statement applies:**

I am physically incapable of making the required measurements. I hereby request that the City of White House staff measure the impervious area on my property.

I hereby request the City of White House to review this application for a Small Homes Credit to my stormwater utility fee. I certify that I have the authority to make such a request and grant such authority for this property. The attached information is true and correct to the best of my knowledge and belief. I agree to provide corrected information to the City of White House Public Services Department should there be any change in the information provided herein. I further authorize the City of White House to access the property identified in this application for the purpose of assessment for a stormwater fee credit.

Signature: _____ Name: _____

Date: _____

Do not write in shaded area – for City use only

Calculated Impervious Area: _____sf Credit Approved? ___Yes ___ No

Signature: _____ Name: _____

Title: _____ Date: _____

Appendix 3

Inspection and Maintenance Agreement
Of
Private Stormwater Management Facilities

THIS AGREEMENT, made this ____ day _____of 20____by and between

----------" hereafter referred to as the "OWNER{s}" of the following property: ----------" Map Parcel White House, TN 37188, and the City of White House, Tennessee hereafter referred to as the "CITY".

WITNESSETH:

I/WE, the OWNER(S) with full authority to execute deeds, mortgages, other covenants, all rights, titles and interests inthe property described above, do hereby covenant with the CITY and agree as follows:

1. The OWNER(S) covenant and agree with the CITY that they shall provide for adequate long term maintenance and continuation of stormwater control measures to ensure that the facilities are and remain in proper working condition in accordance with approved design standards, rules and regulations, and applicable laws. The OWNER(S) shall perform preventive maintenance activities at intervals described in the Post Construction Long-Term Water Quality Maintenance Plan attached hereto along with necessary landscaping (grass cutting, etc.) and trash removal as part of regular maintenance.

2. The OWNER(S) shall submit to the CITY an annual report by July 1st of each year. The report will include the Long Term Maintenance Plan that documents inspection schedules, times of inspections, remedial actions taken to repair, modify or reconstruct the system and the state of control measures.

3. The OWNER(S) shall grant to the CITY or its agent or contractor the right of entry at a reasonable time and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining or repairing the facility.

4. The OWNER(S) shall grant to the CITY the necessary easements and rights-of-way and maintain perpetual access from the public rights-of-way to the facility for the CITY or its agent and/or contractor in accordance with the Stormwater Management Ordinance. The OWNER(S) agree that should maintenance not be properly performed, after due notice, the CITY may order the work performed. The OWNER(S) shall reimburse the CITY, upon immediate demand, the costs incurred and any enforcement action costs according to the Stormwater Management Ordinance.

5. The OWNER(S) shall indemnify and hold the CITY harmless from any and all claims for damages to persons or property arising from the construction, maintenance, and use of the facility.

6. This AGREEMENT and covenants contained herein shall apply to and bind the OWNER(S) and the OWNERS(S) heirs, executors, successors, and assigns and shall bind all present and subsequent owners of the property served by the facility.

7. The OWNER(S) shall not be able to transfer, assign or modify its responsibilities with respect to this agreement without the CITY's written prior consent. Nothing herein shall be construed to prohibit a transfer by OWNER(S) to subsequent owners and assigns.

8. The OWNER(S) shall record this AGREEMENT in the office of the Register of Deeds for the County of_____Tennessee.

FOR THE OWNER(S): _____
Company Name

_____ _____
Signature Title

_____ _____
Printed Name Phone Number

STATE OF
TENNESSEE
County of
_____

Before me, of the State and county mentioned, personaly appeared with whom I am personally acquainted (or provided to me on the basis of satisfactory evidence), and who, upon oath, acknowledges themselves to be the officer authorized to execute this instrument of the company heretofore named and executed the foregoing instrument for the purposes therein contained.

Witness my hand and official seal at office in TN,

This _____day of _____20_____.

_____ _____
Notary Public My Commission Expires

REVIEWED BY: _____

CITY OF WHITE HOUSE PUBLIC SERVICES
725 INDUSTRIAL DRIVE
WHITE HOUSE, TN 37072

STATE OF TENNESSEE
COUNTY OF _____

Before me, of the State and county mentioned, personally appeared _____ with whom I am personally acquainted (or provided to me on the basis of satisfactory evidence), and who, upon oath, acknowledges themselves to be the Stormwater Management Manager of the City of White House, Tennessee and that as such Stormwater Management Manager, being authorized to do so, executed the foregoing instrument for the purposes therein contained.

Witness my hand and official seal at office in TN, this _____Day _____of 20_____.

_____ Notary Public

_____ My Commission Expires

Appendix 4
Right-of-Entry Form

Owner or Owner's Representative (Contact):	Property Parcel Number:
Property Address:	
Contact Phone Number:	Contact Email:
Mailing Address (if different than property address):	

This agreement gives authorization by the property owner, _____ (Owner) to White House Public Services Department (Department) to enter onto the property at the above listed location, for the purposes of inspection. Inspections may be conducted of any stormwater facility for which a user fee credit was applied. Inspections may be performed by the Department employees or their designee, including consulting engineers,contractors or other representatives.

IN WITNESS WHEREOF, the parties have caused their respective names to be signed hereto on The _____day of,_____20_____

Owner's Signature	Date
Department Representative's Signature	Date

Appendix 5
Education Credit Form

Owner or Owner's Representative (Contact):	Property Parcel Number:
Property Address:	
Contact Phone Number:	Contact Email:
Mailing Address (if different than property address):	

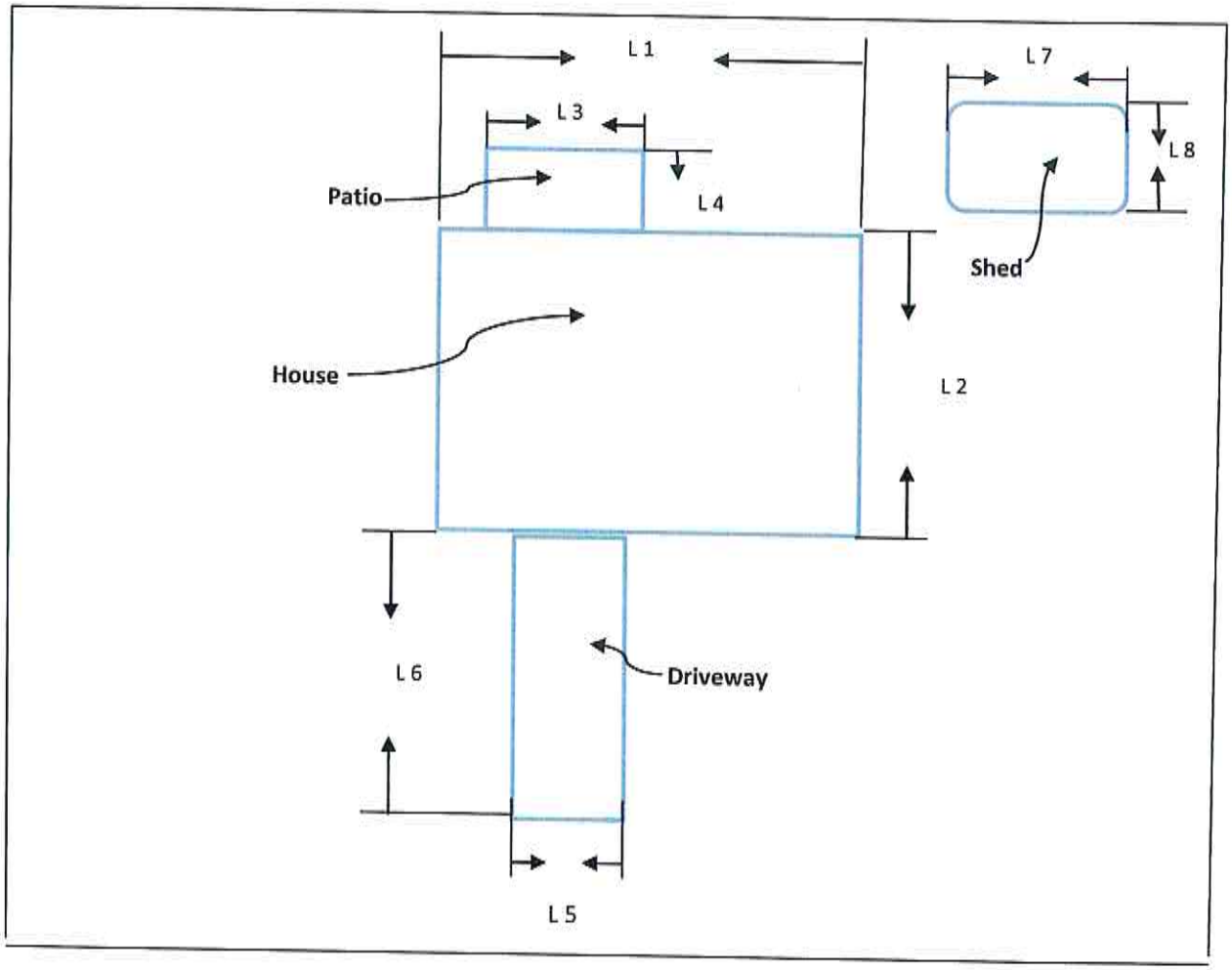
Applicant must provide adequate documentation to demonstrate to White House Public Services Department (Department) that sufficient focus and instruction upon stormwater management issues and water quality protection are covered in the time frame suggested. Summarize all appropriate documentation in the table below and attach documentation to the application.

Method and Tools for Stormwater Education	Grade Level(s)	Number of Students Annually	Percent of Total Students	Contact Hours

Appendix 6

Example Measurements for Residential Impervious Areas

Instructions: The drawing below shows example measurements that should be taken for the impervious areas shown on the property. Each length (e.g., L1, L2, up to L8) can be measured using a standard measuring tape, and the measurements written in the spaces provided below the drawing. Make a similar drawing of your property, measuring the basic dimensions of each impervious area. The layout of your house could require you to record more, or less, measurements than that shown in the example below, depending upon the design of your house and the other impervious areas on your property. Be sure to label the drawing to show all the lengths that you measure, and identify which measurements are for the house, the driveway, and for other impervious areas. It is not necessary to measure more complicated structures, such as bay windows, landscape pavers, short sidewalks, awnings, and other small, irregular surfaces.



House Measurements	Patio Measurements	Driveway Measurements	Storage Shed Measurements
L1 = _____	L3 = _____	L5 = _____	L7 = _____
L2 = _____	L4 = _____	L6 = _____	L8 = _____