Storm Water Management Program

Minimum Control Measures

RECEIVED
WATER PROTECTION PROGRAM

MCM #1: Public Education and Outreach on Storm Water Impacts

4.2.1.1 Permit Requirements

Platte County plans to implement a public education program by distributing educational materials to the community and conducting outreach activities. The focus of these efforts will be to educate the public with activities discussing the impact of stormwater discharges on water bodies and the steps the public can take to reduce pollutants in stormwater runoff.

4.2.1.2 Decision Process

Platte County developed their stormwater public education and outreach program in cooperation with other local governments in the region through the Mid-America Regional Council (MARC) in a multi-tiered public education program on watershed health and water quality. The following is the documentation for Platte County's decision process and rationale statement for the development of a public education and outreach program. It documents the overall program and the individual BMPs, measurable goals, and responsible persons for the program.

4.2.1.2.1 Inform Public on Steps

Platte County plans to inform individuals and households in the community about the steps they can take to reduce stormwater pollution with the following programs:

	Year 1	Year 2	Year 3	Year 4	Year 5
Educational Materials:					
Post Information on Website	X	X	X	X	X
Display Posters	X	X	X	X	X
Maintain a Library of Stormwater Educational Materials	X	X	X	X	X
Distribute Brochures*:	X	X	X	X	X

*The topics for the brochures will be dependent on the topics in Mid-America Regional Council's (MARC) seasonal campaign for public educational. Additional topics will be included in the program, depending on the immediate needs of the surrounding communities. Detailed information about each seasonal campaign will be included in Platte County's annual report.

	Year 1	Year 2	Year 3	Year 4	Year 5
Public Awareness:					
Issue Press Release Regarding Local Storm Water Issues	X	X	X	X	X
Publish Articles in Local Newspaper	X	X	X	X	X

Run Printed Ads in Local Newspapers and on Local Websites	X	X	X	X	X
Run Public Service Announcement on Local Radio Stations	X	X	X	X	X
Conduct Public Attitude Survey		X		X	

4.2.1.2.2 How to Become Involved

Platte County plans to inform individuals and groups on how to become involved in the stormwater program by providing those instructions in all materials distributed to the public. This is described in more detail in 4.2.2 Public Involvement/Participation.

4.2.1.2.3 Target Audiences

The target audiences were selected because changing their behavior would have a significant stormwater quality impact on the target pollutants. The target audiences for the public education program are:

1. Citizens (Homeowners)
2. Developers and Home Builders
3. Contractors
4. Elected Officials
5. County Staff

4.2.1.2.4 Target Pollutant Sources

The target pollutant sources having a major impact on stormwater quality were identified. The following is a list of these sources:

The following is a list of potential sources of pollutants that are experienced in the permitted area. (1 = Major impact, 2 = Minor impact, 3 = Not an impact)

1 Construction activities (sediment, construction chemicals and debris, solid and sanitary wastes)
2 Overapplication of fertilizer, herbicides, pesticides
2 Improper disposal of paint and household hazardous chemicals
2 Pet waste contamination
3 Improper disposal of waste oil, grease, and gasoline disposal
2 Trash, debris, and illegal dumping
3 Detergents washed into drains
2 Snow removal (salt, sand and snow disposal)
3 Sanitary sewer overflows
3 Infiltration from cracked sanitary sewers

2	Failing septic systems
3	Sewer service connections to storm drainage system
3	Foundation drains connected to storm drainage system
3	Downspouts connected to storm drainage system
3	Lake or water body used for motor boating
3	Spills from roadway accidents or fires
3	Connected impervious areas covering large acreages (such as malls, institutions with large parking areas)
2	Stream bank erosion
N/A	Waste transfer station

4.2.1.2.5 Outreach Strategy & Partnerships

Platte County's outreach strategy is to partner with other local governments in the region through the Mid-America Regional Council (MARC) in a multi-tiered public education program on watershed health and water quality. The mechanisms are described above in 4.2.1.2.1 of this permit application.

The number of people targeted to be reached by the public education and outreach strategy is 15,000 per year.

4.2.1.2.6 Person Responsible

The person responsible for overall management and implementation of the permittee's stormwater public education and outreach program is the **PLATTE COUNTY PLANNING AND ZONING DIRECTOR**. Others may be involved in the execution of each of the individual activities in the programs.

4.2.1.2.7 Measurable Goals Selection

Platte County selected the measurable goals for each of the BMPs after reviewing EPA & ASCE research on the effectiveness of certain BMPs. The BMPs selected were chosen because of the evidence that they will have a positive impact the target pollutants identified as a concern for Platte County. The public education and outreach BMPs were also selected because many have been effective methods of communicating with the public for our community. The implementation of BMPs selected will determine the success of the measure on water quality.

MCM #2: Public Involvement and Participation

4.2.2.1 Permit Requirements

Platte County will comply with State and Local public notice requirements when implementing the public involvement and participation program.

4.2.2.2 Decision Process

The following is the documentation for Platte County's decision process and rationale statement for the development of a stormwater public involvement and participation program. It documents the overall program and the individual BMPs, measurable goals, and responsible persons for the program.

4.2.2.2.1 Involving the Public in Developing the Submittal

Platte County has involved the public in the development and submittal of the application and stormwater management program as follows:

1. Held Stakeholder Meetings
2. Held Public Meetings
3. Posted Public Meeting Announcements
4. Administered public attitude surveys through MARC's Water Quality Public Education Program

4.2.2.2.2 Involving the Public in Program Implementation

Platte County plans to actively involve the public in the development and implementation of the stormwater program through a number of different methods selected because they are existing effective methods used by Platte County or because of EPA guidance documents that list these BMPs as effective public involvement methods.

4.2.2.2.3 Target Audiences to Involve in Program

The target audiences for the permittee's public involvement program are:

1. Citizens (Homeowners)
2. Watershed Organizations
3. Mass Media
4. Local Elected Officials
5. Local Government Agencies
6. Homeowners Associations
7. Developers and Home Builders
8. County Staff

4.2.2.2.4 Public Involvement Activities

Platte County plans will involve the public through the activities described below:

	Year 1	Year 2	Year 3	Year 4	Year 5
Hold Storm Water Committee Meetings	X	X	X	X	X
Hold Public Meetings	X	X	X	X	X
Conduct Volunteer Train-the-Trainer Events		X			X
Promote and Fund Steam Clean-up Activities	X	X	X	X	X

4.2.2.2.5 Person Responsible

The person responsible for the overall management and implementation of the permittee's stormwater public involvement and participation program is the **PLATTE COUNTY PLANNING AND ZONING DIRECTOR**. Others will be involved in the execution of each of the individual activities in the programs.

4.2.2.2.6 Measurable Goals Selection

Platte County selected the measurable goals for each of the BMPs after reviewing EPA & ASCE research on the effectiveness of certain BMPs. The BMPs selected were chosen because of the evidence that they will have a positive impact the target pollutants identified as a concern for Platte County. Some of the public involvement methods selected were also chosen because they have been used effectively by Platte County in the past. The implementation of BMPs selected will determine the success of the measure on water quality.

MCM #3: Illicit Discharge Detection and Elimination

4.2.3.1 Permit Requirement.

4.2.3.1.1 Overview

Platte County will develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 10 CSR 20-6.200) into their small MS4.

4.2.3.1.2 Map

Platte County will continue to update their storm sewer system map, showing the location of all outfalls and the names and location of all waters of the State that receive discharges from those outfalls.

The map will be developed using:

	Year 1	Year 2	Year 3	Year 4	Year 5
Storm Sewer Mapping	X	X	X	X	X
Aerial Photography			X		
Public Complaints	X	X	X	X	X

4.2.3.1.3 Enforcement

Platte County will effectively prohibit non-stormwater discharges into the stormwater system of Platte County's stormwater system via the following ordinances and regulations. Each ordinance/regulation is enforceable by Platte County with appropriate procedures and consequential actions.

4.2.3.1.4 Methods to Detect

Platte County will implement a plan using the following methods to detect and address non-stormwater discharges, including illegal dumping to the stormwater system:

	Year 1	Year 2	Year 3	Year 4	Year 5
Visual Inspection	X	X	X	X	X
Visual Screening	X	X	X	X	X
Public Watch Programs	X	X	X	X	X

4.2.3.1.5 Informing the Public

Platte County will inform public employees, businesses and the general public of hazards associated with illegal discharges and improper disposal of waste using the following methods:

	Year 1	Year 2	Year 3	Year 4	Year 5
Educational Programs:					
Distribute Literature			X		

	Year 1	Year 2	Year 3	Year 4	Year 5
Volunteer Programs:					
Storm Drain Stenciling	X	X	X	X	X
Illegal Dumping Hotline	X	X	X	X	X

4.2.3.1.6 Not Significant Contributors

Platte County has not identified any of the following categories of non-stormwater discharges or flows (i.e. illicit discharges) as significant contributors of pollutants to their small MS4: landscape irrigation, rising ground waters, uncontaminated ground water infiltration (as defined in 10 CSR 20-6.200), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, and street wash water (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-stormwater and will only be addressed where they are identified as significant sources of pollutants to waters of the State).

4.2.3.1.7 Occasional Incidental Non-Stormwater Discharges

Platte County's illicit discharge ordinance does not include a list of other similar occasional incidental non-stormwater discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges because they are not reasonably significant sources of pollutants to the MS4. Should these occasional or incidental non-stormwater discharges be identified in the future, those entities responsible for discharging will be prohibited or conditions placed on them so as to minimize their discharge of pollutants.

4.2.3.2 Decision Process

Platte County has documented their decision process for the development of a storm water illicit discharge detection and elimination program. Platte County's rationale statement addresses both their overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for their program.

4.2.3.2.1 Sources for Mapping

Platte County has developed a storm sewer map showing the location of all outfalls and the names and location of all receiving waters. Platte County used the following sources to compile the maps:

1. Storm Sewer Mapping
2. Aerial Photography
3. Public Complaints

Platte County will use proposed construction plans to locate new outfalls and update the maps.

4.2.3.2.2 Regulatory Mechanism

Platte County will use County Ordinances to effectively prohibit illicit discharges to the MS4. This mechanism was selected because ordinances are commonly used by Platte County to establish laws and set forth the enforcement mechanisms. The ordinance establishes legal authority: to regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) of stormwater discharges by any use; to prohibit illicit connections and discharges to the MS4; and to establish legal authority to carry out all inspections, surveillance and monitoring procedures necessary to ensure compliance.

Platte County will develop and implement the following plan to effectively prohibit illicit discharges to the MS4 on the respective schedule:

	Year 1	Year 2	Year 3	Year 4	Year 5
County Ordinance	X				
Inspection	X	X	X	X	X
Public Complaints	X	X	X	X	X

4.2.3.2.3 Enforcement

Platte County will set forth in the ordinance enforcement procedures intended to remove the source of the illicit discharge detected.

Platte County will ensure implementation of the mechanism described in 4.2.3.2.2 above with the following enforcement actions:

	Year 1	Year 2	Year 3	Year 4	Year 5
Civil Penalties	X	X	X	X	X

4.2.3.2.4 Detection

Platte County will detect and address illicit discharges to the MS4, including discharges from illegal dumping and spills using the following methods:

	Year 1	Year 2	Year 3	Year 4	Year 5
Dry weather field screening	X	X	X	X	X
Illegal Dumping Hotline	X	X	X	X	X

4.2.3.2.4.1 Identify Priority Areas

Platte County will use the system maps identified in 4.2.3.1.2 above and other data to identify priority areas with likelihood of illicit connections.

4.2.3.2.4.2 Trace the Source

N/A

4.2.3.2.4.3 Removal

Platte County will follow the ordinance adopted and the enforcement mechanisms detailed in the ordinance including those legal actions described in 4.2.3.1.3 above to enforce the removal of an identified illicit discharge

4.2.3.2.4.4 Program Evaluation

The success of the described program will be evaluated annually by analyzing the number of illicit discharges discovered and eliminated.

4.2.3.2.5 Public Information

Platte County will inform public employees, business and the general public of hazards associated with illegal discharges and improper disposal of waste through the following methods:

	Year 1	Year 2	Year 3	Year 4	Year 5
Educational Programs:					
Distribute Literature			X		

	Year 1	Year 2	Year 3	Year 4	Year 5
Volunteer Programs:					
Storm Drain Stenciling	X	X	X	X	X
Illegal Dumping Hotline	X	X	X	X	X

Where applicable the information distributed through these means will coordinate with the information distributed in the Public Education minimum control measure (e.g., consistent/coordinated messages in literature).

4.2.3.2.6 Responsible Party

The **PLATTE COUNTY PLANNING AND ZONING DIRECTOR** will be responsible for overall management and implementation of Platte County's stormwater illicit discharge detection and elimination program. Others will be involved in the execution of each of the individual BMPs identified for this program.

4.2.3.2.7 Measurable Goals Selection

Platte County will evaluate the success of the program based on the number of illicit discharges found and eliminated.

Platte County selected the measurable goals for each of the BMPs after reviewing EPA & ASCE research on the effectiveness of certain BMPs. The BMPs selected were chosen because of the evidence that they will have a positive impact the target pollutants identified as a concern for Platte County. Some of the methods to detect and eliminate illicit discharges were also chosen because they have been used effectively by Platte County in the past. The implementation of BMPs selected will determine the success of the measure on water quality.

MCM #4: Construction Site Stormwater Runoff Control

4.2.4.1 Permit Requirements

Platte County plans to develop, implement, and enforce a program to reduce pollutants in any stormwater runoff from construction activities that result in disturbance of greater than or equal to one acre. Platte County also plans to reduce pollutants in stormwater runoff from construction activities that disturb an area less than one acre if the site is part of a larger common plan of development or sale.

4.2.4.1.1 Regulatory Mechanism

Platte County has adopted an ordinance that requires erosion and sediment controls, as well as sanctions to ensure compliance.

4.2.4.1.2 Best Management Practices (BMPs)

Platte County will require construction site operators to implement the appropriate erosion and sediment control best management practices (BMPs). Platte County has adopted the Kansas County Metro American Public Works Association (APWA)'s Erosion and Sediment Control specifications as part of their ordinance which includes the construction specifications and design standards.

4.2.4.1.3 Wastes to Be Controlled

Platte County will require construction site operators to control wastes that may cause adverse impacts to water quality such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site.

4.2.4.1.4 Site Plan Review

Platte County has procedures in their ordinance for site plan review, which incorporates consideration of potential water quality impacts.

4.2.4.1.5 Receipt & Consideration of Public Comment

Platte County will not implement procedures in their ordinance for receipt and consideration of information submitted by the public.

4.2.4.1.6 Site Inspection

Platte County has procedures in their ordinance for site inspection and enforcement of erosion and sediment control measures.

4.2.4.2 Decision process

The following is the rationale statement for the development of Platte County's overall construction site storm water control program. It documents the individual BMPs, measurable goals, and responsible persons for their program.

4.2.4.2.1 Regulatory Mechanism

Platte County has an ordinance that requires the use of erosion and sediment controls on construction sites. The ordinance outlines the requirements for designers and contractors before, during and after the construction activities. The ordinance provides enforcement measures for those designers and contractors who do not follow the ordinance.

4.2.4.2.2 Enforcement

Platte County has an enforcement section in the ordinance detailing the sanctions and enforcement mechanisms to ensure compliance. Platte County uses the following sanctions:

1. Non-Monetary Penalties (such as Stop Work Orders)
2. Fines
3. Bonding Requirements
4. Permit Denial for Non-Compliance
5. Ordinance

4.2.4.2.3 Construction Site Operators

Platte County has an ordinance that requires construction site operators to implement appropriate erosion and sediment control BMPs and control wastes at construction sites that may have adverse impacts on water quality including discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.

4.2.4.2.4 Pre-Construction Site Plan Review

Platte County has procedures for site plan review, including the review of pre-construction plans, which look at the potential water quality impacts. The estimated percentage of sites that will have a pre-construction site plan review is 100%.

4.2.4.2.5 Public Input on Submittals

Platte County will not implement procedures for receipt and consideration of information submitted by the public.

4.2.4.2.6 Site Inspection & Enforcement

Platte County has procedures for site inspection and enforcement of control measures. The site with the most potential risk to the community will be top on the priority list.

4.2.4.2.7 Person Responsible

The person responsible for overall management and implementation of the permittee's construction site stormwater runoff control program is the **PLATTE COUNTY PLANNING AND ZONING DIRECTOR**. Others will be involved in the execution of each of the individual activities in the programs.

4.2.4.2.8 Measurable Goals Selection

Platte County selected the measurable goals for each of the BMPs after reviewing EPA & ASCE research on the effectiveness of certain BMPs. The BMPs selected were chosen because of the evidence that they will have a positive impact on the target pollutants identified for Platte County. The implementation of BMPs selected will determine the success of the measure on water quality.

MCM #5: Post-Construction Stormwater Management in New Development and Redevelopment

4.2.5.1 Permit Requirement

4.2.5.1.1 Overview

Platte County will develop, implement, and enforce a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale.

4.2.5.1.2 Strategies

Platte County will develop and implement strategies, which will include a combination of structural and/or non-structural Best Management Practices (BMPs), appropriate for the community.

4.2.5.1.3 Ordinance

Platte County will use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or Local law.

4.2.5.1.4 Long-Term Operation & Maintenance

Platte County will ensure adequate long-term operation and maintenance of BMPs.

4.2.5.2 Decision Process

The following is the rationale statement for the development of a post-construction stormwater management program. It documents the BMPs, measurable goals, and responsible persons for the program.

4.2.5.2.1 Priority Areas

Platte County will implement regulatory procedures to address stormwater runoff from new development and redevelopment projects. There are no areas identified as a priority for regulatory procedures.

4.2.5.2.2 Regulatory Procedures

Platte County will implement regulatory procedures that will be specifically tailored for the community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions.

	Year 1	Year 2	Year 3	Year 4	Year 5
Ordinance	X	X		X	X
Zoning Regulations	X		X		
Comprehensive Plan	X				
Publication of BMPs				X	

4.2.5.2.3 Non-Structural Best Management Practices (BMPs)

4.2.5.2.3.1 Policies & Ordinances

Platte County will implement policies and ordinances that will help minimize water quality impacts.

	Year 1	Year 2	Year 3	Year 4	Year 5
Direct Growth to Identified Areas	X				
Protect Sensitive Areas, such as Wetlands and Riparian Areas					X
Update Conservation Zoning District Regulations			X		
Update Stream Preservation and Buffer Zone Requirements					X
Provide BMP Manual for Land Development				X	
Update Stormwater Detention and Retention Requirements		X			

4.2.5.2.3.2 Infill Development

N/A

4.2.5.2.3.3 Education

Platte County will implement education programs for developers and the public about project designs that minimize water quality impacts.

4.2.5.2.3.4 Other Non-Structural Measures

N/A

4.2.5.2.4 Structural BMPs

4.2.5.2.4.1 Storage Practices

Platte County currently requires stormwater detention and retention facilities in accordance with KC-APWA 5600, which allows for the use of both wet ponds and dry bottom basins. Platte County will implement updated detention specifications if and when they are approved and adopted by KC-APWA.

4.2.5.2.4.2 Filtration Practices

Platte County will implement an ordinance or other regulatory mechanism to apply stormwater Best Management Practices (BMPs) to land development in Platte County. These mechanisms will allow for filtration practices such as grassed swales, bioretention cells, sand filters and filter strips.

4.2.5.2.4.3 Filtration Practices

Platte County will implement an ordinance or other regulatory mechanism to apply stormwater Best Management Practices (BMPs) to land development in Platte County. These mechanisms will allow for infiltration basins and infiltration trenches.

4.2.5.2.5 Regulatory Mechanism

Platte County will implement an ordinance or other regulatory mechanism to address post-construction runoff from new developments and redevelopments. These mechanisms will help to not only recommend proper practices, but will help enforce the proper use of the practices under certain circumstances. They include:

	Year 1	Year 2	Year 3	Year 4	Year 5
Ordinance	X	X		X	X
Zoning Regulations	X		X		
Comprehensive Plan (Land Use Plan Update)	X				
Publication of BMPs			X		

Platte County will ensure compliance with the developed ordinances by way of sanctions and enforcement mechanisms. Platte County will implement the following sanctions in their ordinances:

1. Non-Monetary Penalties (such as Stop Work Orders)
2. Fines
3. Bonding Requirements
4. Permit Denial for Non-Compliance
5. Ordinance

4.2.5.2.6 Long-Term Operation & Maintenance

Platte County will implement options to help ensure the long-term operation and maintenance of their selected BMPs. These options will help ensure that future O&M responsibilities are clearly identified.

4.2.5.2.7 Responsible Party

The person responsible for overall management and implementation of the permittee's post-construction stormwater management program is the **PLATTE COUNTY PLANNING AND ZONING DIRECTOR**. Others will be involved in the execution of each of the individual activities in the programs.

4.2.5.2.8 Measurable Goals Selection

Platte County selected the measurable goals for each of the BMPs after reviewing EPA & ASCE research on the effectiveness of certain BMPs. The BMPS selected were chosen because of the evidence that they will have a positive impact on the target pollutants identified as a concern for Platte County. The implementation of BMPs selected will determine the success of the measure on water quality.

MCM #6: Pollution Prevention/Good Housekeeping for Municipal Operations

4.2.6.1 Permit Requirement.

4.2.6.1.1 Overview

Platte County will develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations.

4.2.6.1.2 Training

Using training materials that are available from EPA, State and other organizations, Platte County's program will include employee training to prevent and reduce stormwater pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.

4.2.6.2 Decision Process

Platte County has documented their decision process for the development of a pollution prevention/good housekeeping program for municipal operations. Platte County's rational statement addresses both their overall pollution prevention/good housekeeping program and the individual BMPs, measurable goals, and responsible persons for the program. The rational statement is as follows:

4.2.6.2.1 Pollution Prevention & Good Housekeeping Measures

Platte County will implement pollution prevention and good housekeeping measures in the following County activities:

	Year 1	Year 2	Year 3	Year 4	Year 5
Employee Training	X	X	X	X	X
Prairie Restoration of Parkland	X	X	X		
Installation of Rain Gardens in Parkland	X	X			

Platte County does not own or operate any industrial facilities that are subject to EPA's Multi-Sector General Permit (MSGP) or individual NPDES permits for discharges of storm water associated with industrial activity.

4.2.6.2.2 Employee Training

Platte County will formalize and implement an employee-training program in the following areas so as to prevent and reduce stormwater pollution from the following activities:

	Year 1	Year 2	Year 3	Year 4	Year 5
New Construction and Land Disturbances	X			X	
Park and Open Space Maintenance		X			
Storm Sewer System Maintenance			X		
Minimize Pesticides Used					X

These activities will be coordinated with the outreach programs developed for the public information and illicit discharge minimum control measures so that a consistent message is presented throughout Platte County's program.

4.2.6.2.3 Platte County's program will address the following areas:

4.2.6.2.3.1 Maintenance Activities

The following activities will be implemented to reduce the floatables and other pollutants in the small MS4:

	Year 1	Year 2	Year 3	Year 4	Year 5
Prairie Restoration of Parkland	X	X	X		
Rain Garden Installation in Parkland	X	X			
Minimize Pesticides Used					X

4.2.6.2.3.2 Pollutant Locations

There are no county-owned Public Works facilities within the Urbanized Area of Platte County.

4.2.6.2.3.3 Pollutant Removal

Platte County will implement training procedures for the removal of dredge spoil, accumulated sediments, floatables, and other debris.

4.2.6.2.3.4 Flood Management

Platte County will review their current regulations concerning flood management to ensure they allow for:

1. Assessment and implementation of solutions that address impacts to water quality for new projects and;
2. Review of existing projects for inclusion of water quality aspects.

4.2.6.2.4 Responsible Party

The **PLATTE COUNTY PLANNING AND ZONING DIRECTOR** will be responsible for overall management and implementation of the pollution prevention and good housekeeping program for Platte County. Others will be involved in the execution of each of the individual activities in the programs.

4.2.3.2.5 Program Evaluation

Platte County will evaluate the success of the pollution prevention and good housekeeping minimum control measure by tracking the progress of each measure against the implementation schedule. Each one of the measures described in this permit was chosen based on its implementability by Platte County staff and impact on water quality.

Minimum Control Measures

Appendix

Construction Site Storm Water Runoff Control

4.2.4.2.1

*Platte County Sediment and Erosion Control Regulations

*Note: Draft of proposed regulations is attached. It is anticipated that Platte County will formally adopt these regulations in the fall of 2007.

ARTICLE III. ADDITIONAL DISTRICT PROVISIONS

SECTION 400.XXX: SEDIMENT AND EROSION CONTROL REGULATIONS

A. *Title, Purpose And Scope.*

1. *Title.* These regulations shall be known by short title as the "Platte County Sediment and Erosion Control Regulations", may be cited as such and will be referred to herein as "this Section".

2. *Purpose and scope.*

   a. The purpose of these regulations is to control soil erosion on land that is undergoing land disturbance activities for non-agricultural uses and to prevent sediment and soil erosion from being transported onto adjacent property and into streams, rivers, lakes, ponds, or other areas. The regulations are intended to do the following:
      1. Protect and enhance the water quality of watercourses, water bodies, and wetlands.
      2. Minimize soil erosion and sedimentation caused by land disturbance activities.
      3. Reduce maintenance costs of public and private improvements and services.
      4. Promote and protect the public's health, safety, comfort, and welfare.

   b. The adjoining ground to development sites shall be provided with protection from accelerated and increased surface water, silt from erosion, and any other consequences of erosion during development.

   c. The property owner is responsible for the Land Disturbance activities including the protection of downstream and adjacent properties from siltation and erosion.

   d. Regardless of whether or not a Land Disturbance activity requires a permit, any person engaged in any Land Disturbance activity shall comply with the spirit and intent of this Section. At a minimum, such persons shall employ BMP methods for sediment and erosion control in proportion to the scale of the activity to reduce the amount of sediment or other pollutants in stormwater discharges associated with those activities.

B. *Definitions.* For the purpose of this Section 400.XXX, certain terms, phrases, words and their derivatives shall be defined as specified in this Section. Where terms are not

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defined, they shall have their ordinary accepted meanings within the context with which they are used. Words in the singular include the plural and the plural the singular. Words used in the masculine gender include the feminine and the feminine the masculine. The following terms shall have the following meanings in this Section 400.XXX. In the event of a conflict between defined terms in Article I, Section 400.090 and the terms defined herein, this Section 400.XXX shall control.

BEST MANAGEMENT PRACTICES (BMPs): Physical facilities, schedules of activities, prohibitions of practices, maintenance procedures, and other management practices which, when properly designed, installed and maintained, will be effective to prevent or reduce the discharge of water or air pollution associated with Land Disturbance activities.

CLEARCUTTING: Cutting essentially all trees in a given area.

CLEARING: Any activity by which vegetative cover, structures or surface material are removed, including, but not limited to, surface layer, root or topsoil removal.

DRAINAGE WAY: Any channel that conveys surface runoff throughout the site.

EROSION: The wearing away of land by the action of wind, water, gravity, ice, or artificial means, and/or land disturbance activities.

EROSION CONTROL: Measures that prevent erosion.

GRADING: Excavation or fill material, including the resulting conditions thereof.

LAND DISTURBANCE: Any activity that changes the physical conditions of landform, vegetation and hydrology, creates bare soil, or otherwise may cause erosion or sedimentation. Such activities include, but are not limited to, clearing, removal of vegetation, stripping, grading, grubbing, excavating, filling, logging and storing of materials.

LAND DISTURBANCE PERMIT: A permit issued by Platte County for the construction or alteration of ground improvements and structures for the control of erosion, runoff and grading.

PERENNIAL VEGETATION: Grass or other appropriate natural growing vegetation that provides substantial land cover, Erosion protection and soil stability and that is capable of sustained and healthy growth over multiple years under the constraints of shade, temperature, and moisture that will be prevalent on the site.

PERIMETER CONTROL: A barrier that prevents sediment from leaving a site either by filtering sediment-laden runoff, or diverting it to a sediment trap or basin.

PHASING: Clearing a parcel of land in distinct phases, with the stabilization of each phase before the clearing of the next.

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SEDIMENT: Soils or other materials transported or deposited by the action of wind, water, gravity, ice, or artificial means.

SEDIMENT AND EROSION CONTROL PLAN: A plan for the control of sedimentation and erosion resulting from land disturbance activities, and may include, without being limited to, the drawings, specifications, construction documents, schedules, or other related documents upon which the Best Management Practices to be used on a site are set forth, including such information as necessary to review the basis for their design and to ensure their proper installation, maintenance, inspection and removal.

SEDIMENT CONTROL: Measures that prevent eroded sediment from leaving the site.

SITE: A parcel of land, or a contiguous combination thereof, where grading work is performed as a single unified operation.

STABILIZATION: The use of practices that prevent exposed soil from eroding.

TREE: Vegetative growth with a trunk 6 inches in diameter and larger, measured 3 feet above ground.

VEGETATIVE COVER: Any grasses, shrubs, trees and other vegetation that protects and stabilizes soils.

WATERCOURSE: Any body of water, including, but not limited to lakes, ponds, rivers, streams, and bodies of water which are delineated by Platte County.

WATERWAY: A channel that directs surface runoff to a watercourse, or to the public storm drain.

C. *Permits, Fees, Application And Inspections.*

1. *Permits required.* The owner of all property on which any project disturbing one or more acres is constructed, excluding agricultural use, shall obtain a land disturbance permit from Platte County. The property owner may also need to obtain any Federal, State, or local permits for the project as required by any other entity. The property owner shall ensure that all contractors conform to and comply with all permits and conditions.

2. *Application for permit.*

    a. Prior to any land disturbance activity, the property owner must obtain a land disturbance permit from Platte County. The County will issue a land disturbance permit when the following have occurred.

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1. The sediment and erosion control plan has been submitted to and approved by the Director of Planning and Zoning or his duly designated alternate.
2. The performance guarantees for grading and for sediment and erosion control have been accepted by the County Commissioners.

b. Application for a land disturbance permit shall be made in writing by the property owner or developer of the site, or by an agent of the owner. Each application shall bear the name(s) and address(es) of the owner or developer of the site, and of any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm.

c. The application shall include a permit fee as ordered by the County Commission.

d. Each application shall include a statement that all land disturbance and construction activities shall be in accordance with the Sediment and Erosion Control Plan.

e. Review and approval

1. The Director of Planning and Zoning or his duly designated alternate will review each application for a land disturbance permit to determine its conformance with the provisions of this section. Within thirty (30) days after receiving an application, the Director of Planning and Zoning or his duly designated alternate shall, in writing:

1) approve the permit application;

2) approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this regulation, and issue the permit subject to these conditions; OR

3) disapprove the permit application, indicating the deficiencies and the procedure for submitting a revised application and/or submission

2. Failure of Platte County to act on original or revised applications within thirty (30) days of receipt shall authorize the applicant to proceed in accordance with the plans as filed unless such time is extended by agreement between the applicant and Platte County. Pending preparation and approval of a revised plan, development

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activities shall be allowed to proceed in accordance with conditions established by Platte County.

3. *Exemptions.* No land disturbance permit is required for the following activities:

    a. Any emergency activity which is immediately necessary for the protection of life, property or natural resources.

    b. Mowing, brush hog clearing, tree cutting (excluding clearcutting) or similar activities which do not grade, dig, excavate or otherwise remove or kill surface growth and root system of the vegetative cover.

    c. Agricultural uses.

    d. Federal and State projects.

4. *Permit fees.* The property owner shall pay a land disturbance permit fee in accordance with the schedule established by the County Commission.

5. *Inspection*

    a. By applying for a land disturbance or building permit, the applicant consents to inspections of the proposed site and all work in progress.

    b. The permitee shall make regular inspections of all control measures in accordance with the inspection schedule outlined on the approved sediment and erosion control plan. The purpose of such inspections will be to determine the overall effectiveness of the control plan, the need for additional control measures, and the need for maintenance of existing control measures.

    c. Platte County shall enter the property of the applicant as deemed necessary to make regular inspections to ensure compliance with the approved sediment and erosion control plan.

6. *Removal of Temporary Sediment and Erosion Control Measures.* Prior to land disturbance activities being considered complete, all temporary sediment and erosion control measures must be removed in the manner described in the sediment and erosion control plan. Such removal shall be complete prior to closure of the permit which authorized the land disturbance.

7. *Completion.* Land disturbance activities are considered to be complete when the site is stabilized. The site is considered to be stabilized when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed. With respect to areas that have been vegetated,

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vegetative cover shall be at least 70% of fully established plant density over 100% of the disturbed area.

8. *Expiration of land disturbance permits.* The land disturbance permit will expire one year from the issue date of the permit. If the project completion date will be after the expiration date of the permit, then the permittee must reapply to Platte County for a permit.

9. *Revocation of land disturbance permits.* The Director of Planning and Zoning or his duly designated alternate shall have the power to revoke any land disturbance permit failing to comply with the provisions of this Section.

10. *Penalty.* Failure to comply with the provisions of this Section shall be deemed a violation of this Zoning Order subject to the penalties and relief set forth in Article VIII, Section 400.790.

D. *Sediment and Erosion Control Plan.*

1. Sediment and Erosion Control Plans submitted to the County for review must be prepared and certified by a licensed professional engineer or by a Certified Professional in Erosion and Sediment Control. The engineer must be licensed to practice in the State of Missouri.

2. The Sediment and Erosion Control Plan shall include, at a minimum, the following information:
    a. The property owner's name, address and telephone number.
    b. Location map.
    c. Existing and proposed contours at two (2) foot intervals on USGS datum.
    d. Clearing limits.
    e. Delineation of the 100-year flood plain and floodway.
    f. Location of proposed and existing utilities.
    g. Proposed sediment and erosion control BMPs to be employed.
    h. Phasing of sediment and erosion control measures.
    i. Seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer application, and kind and quantity of mulching for both temporary and permanent vegetative control measures.
    j. Maintenance and inspection requirements.
    k. Detailed drawings with proper identifications, dimensions, materials and other information necessary to insure the desired construction.

   The Director of Planning and Zoning or his duly designated alternate may require additional information or data deemed appropriate to ensure compliance with the intent, purpose and provisions of the County's Sediment and Erosion Control Regulations.

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3. Modifications to the plan

    a. Major amendments of the erosion and sediment control plan shall be submitted to the Director of Planning and Zoning or his duly designated alternate and shall be processed and approved, or disapproved, in the same manner as the original plans.

    b. Field modifications of a minor nature may be authorized by the Director of Planning and Zoning or his duly designated alternate by written authorization to the permitee.

4. In addition to sediment, the Sediment and Erosion Control Plan shall provide for the control of other pollutants related to land disturbance activities that might cause an adverse impact to water quality, including, but not limited to, discarded building materials, concrete truck washout, fuel, hydraulic fluids, chemicals, litter, and sanitary wastes.

E. *Design and Implementation Requirements.*

Grading, erosion control practices, sediment control practices, and waterway crossings shall meet the design criteria set forth in the most recent version of the Kansas City Metropolitan Chapter of the American Public Works Association (KC-APWA) Standard Specifications and Design Criteria, unless waived for good cause by the Director of Planning and Zoning or his duly designated alternate, and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the Director of Planning and Zoning or his duly designated alternate.

1. Clearing and Grading

    a. Clearing techniques that retain natural vegetation and retain natural drainage patterns, as described in the KC-APWA Standard Specifications and Design Criteria, shall be used to the satisfaction of Platte County.

    b. Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed and have been stabilized.

    c. All excavations, grading or filling shall have a finished grade not to exceed a 3:1 slope. Steeper grades may be approved by the Director of Planning and Zoning or his duly designated alternate if the excavation is through rock or if the excavation or the fill is adequately protected (a designed head wall or toe wall may be required). Permanent safety guards shall be constructed in accordance with the appropriate section(s) of the adopted County building code.

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2. Erosion Control

   a. Where land disturbance activities have temporarily or permanently ceased on a portion of a project site for over 21 consecutive days, the disturbed areas shall be protected from erosion by stabilizing the areas with mulch or other similarly effective soil stabilizing BMPs, unless the timeframe for compliance is extended by the Director of Planning and Zoning or his duly designated alternate. Where implementation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practical.

   b. If vegetation erosion control methods, such as seeding, have not become established within two weeks after initial seeding, Platte County may require that the site be reseeded, or that a non-vegetative option be employed.

   c. On steep slopes or in drainage ways, special techniques that meet the design criteria outlined in the KC-APWA Standard Specifications and Design Criteria shall be used to ensure stabilization.

   d. Techniques shall be employed to prevent the blowing of dust or sediment from the site.

   e. Techniques that divert upland runoff past disturbed slopes shall be employed.

3. Sediment Controls

   a. Sediment controls shall be provided in the form of settling basins or sediment traps or tanks, and perimeter controls.

   b. Where possible, settling basins shall be designed in a manner that allows adaptation to provide long term stormwater management.

   c. Adjacent properties shall be protected by the use of a vegetated buffer strip, in combination with perimeter controls.

4. Waste Control

   a. Measures must be taken to control waste that may have an adverse impact on water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.

   b. All trash and solid waste from the site must be disposed of in accordance with State law. Dumpsters or other collection facilities must be provided as needed. Solid waste may not be buried on the site.

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c. Concrete trucks should be allowed to wash only in locations where discharge is directed to a sediment basin. It is not permissible to discharge concrete wash directly into streams or storm drains.

d. Waste from sanitary facilities on the site may be disposed only in locations having a State permit.

5. Waterways and Watercourses

a. When a wet watercourse must be crossed regularly during construction, a temporary stream crossing shall be provided, and an approval obtained from Platte County.

b. When in-channel work is conducted, the channel shall be stabilized before, during, and after work.

c. All on-site stormwater conveyance channels shall be designed according to the criteria outlined in the KC-APWA Standard Specifications and Design Criteria.

d. Stabilization adequate to prevent erosion must be provided at the outlets of all pipes and paved channels.

6. Construction Site Access

a. A temporary access road shall be provided at all sites.

b. Other measures may be required at the discretion of Platte County in order to ensure that sediment is not tracked onto public streets by construction vehicles, or washed into storm drains.

c. Mud, dirt, rocks, sticky substances, litter and/or other foreign matter are not allowed to erode onto public streets, nor tracked onto the streets by construction vehicles. Should any mud or other debris be tracked onto the street, the contractor shall take immediate steps to have it removed.

7. Vegetation

a. Vegetation practices shall conform to KC-APWA Standard Specifications and Design Criteria.

b. Seedings must be inspected for erosion or die out for at least a year. Bare and sparse areas shall be repaired by filling rills and gullies, refertilizing, reseeding, and mulching.

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F. *Construction Less Than One Acre.*

1. The construction of residential and commercial buildings shall conform to the sediment and erosion control requirements of Platte County, including compliance with the most recent version of the KC-APWA Standard Specifications and Design Criteria.

2. Contractor Responsibilities

   a. The building permit holder is responsible for the on-going maintenance of all lot specific sediment and erosion control devices.

   b. Periodic inspection shall be whatever is deemed necessary to ensure that sediment and erosion control measures are functioning as intended. In addition to standard periodic inspections, an inspection shall be conducted after each rain event of ¼" or more in a 24-hour period. Any problems noted during these inspections shall be corrected immediately.

   c. Temporary driveways are to be installed immediately after foundation walls are backfilled. Driveways shall be rocked to a minimum depth of four (4) inches and a minimum width of twelve (12) feet for the entire length of the driveway. Rock shall be ¾" or larger coarse aggregate. An underlayment of stabilization fabric is required to keep the rock from becoming saturated with mud. All deliveries of material to the construction site shall be required to use the temporary driveway.

   d. The building permit holder is responsible for ensuring that mud, dirt, rocks, sticky substances, litter and/or other foreign matter are not allowed to erode onto County streets and sidewalks, nor tracked onto the streets by construction vehicles. Contractors and subcontractors shall only park their vehicles on a stabilized drive or on the street. Should any mud or other debris be tracked onto the street, the contractor shall take immediate steps to have it removed.

   e. Measures must be taken to control waste that may have an adverse impact on water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.

   f. Large vegetated rural sites may not always require specific controls. A determination will be made by the County inspector.

3. Maintenance

   a. Sediment fences shall be inspected at least once a week and after each rainfall. Any necessary repairs shall be made immediately.

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b. If the fabric of the sediment fence should collapse, tear, decompose, or become ineffective, it shall be replaced promptly.

c. Sediment deposits shall be removed as necessary to provide adequate storage volume for the next rain and to reduce pressure on the fence. Care shall be taken to avoid damaging or undermining the fence during cleanout.

d. If the utilities are installed after sediment and erosion controls have been put in place, the building permit holder is responsible for control of sediment and erosion during the construction process and they are responsible to ensure that all controls are reinstalled per the original design.

4. Enforcement

a. By the time the ground rough plumbing inspection is requested, all sediment and erosion control devices shall be in place unless the County inspector determines that the sediment and erosion control devices must be installed earlier. If the building permit holder fails to install the proper sediment and erosion control measures, the building inspection will be denied.

b. County inspectors will normally inspect sediment and erosion control measures in conjunction with routine inspections. Inspections will check for the proper placement, installation, and maintenance of sediment and erosion control measures.

c. If the County inspector concludes that sediment and erosion control devices are not adequate or functioning properly for any reason, the scheduled inspection will not be performed, and the building permit holder will be required to reschedule the inspection.

d. Failure to comply with the provisions of this Section shall be deemed a violation of this Zoning Order subject to the penalties and relief set forth in Article VIII, Section 400.790.

5. Final Grading

a. Sediment and erosion control devices may be removed in order to complete final grading and sodding of a lot. If sodding of the lot is delayed, the building permit holder is required to maintain the sediment and erosion control devices until the sod can be put down. If the lot is to be seeded and mulched, sediment and erosion control devices should remain in place until vegetation is established.

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b. Construction is considered to be complete when the site is stabilized. The site is considered to be stabilized when perennial vegetation, pavement, buildings, or structures using permanent materials cover all areas that have been disturbed. With respect to areas that have been vegetated, vegetative cover shall be at least 70% of fully established plant density over 100% of the disturbed area

c. Vegetation shall be established before an occupancy permit may be issued except that a temporary occupancy permit may be issued by the Planning and Zoning Department in cases of undue hardship because of unfavorable ground conditions as determined by a County inspector. A ground cover, such as mulch, must be applied to protect against erosion until ground conditions are favorable for seeding or sodding. Mulch must be anchored by crimping, netting or tacking on steep slopes, ridges and in channels.

d. If it is determined by a County inspector that any ground adjacent to the lot has been disturbed by the building permit holder, vegetation must be established on the disturbed ground prior to issuing an occupancy permit.

G. *Enforcement.*

1. *Authority.* The Director of Planning and Zoning or his duly designated alternate are hereby authorized and directed to enforce all the provisions of this Section.

2. *Stop-Work Order.* In the event that any person holding a land disturbance or building permit pursuant to this Section violates the terms of the permit, or implements site development in such a manner as to materially adversely affect the health, welfare, or safety of persons residing or working in the neighborhood or development site so as to be materially detrimental to the public welfare or injurious to property or improvements in the neighborhood, Platte County may suspend or revoke the land disturbance or building permit.

3. *Violations.* No person shall construct, enlarge, alter, repair, or maintain any grading, excavation, or fill, or cause the same to be done, contrary to or in violation of any terms of this Section. Any person violating any of the provisions of this Section shall be deemed guilty of a misdemeanor, and each day during which any violation of any of the provisions of this Section is committed, continued or permitted, shall constitute a separate offense.

4. *Penalty.* Failure to comply with the provisions of this Section shall be deemed a violation of this Zoning Order subject to the penalties and relief set forth in Article VIII, Section 400.790.

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5. *Other Laws.* Neither this Section nor any administrative decision made under it exempts the permit holder from other requirements of local, state, and federal laws, or from procuring other required permits, including any state or federal stormwater permits authorized under the National Pollutant Discharge Elimination System (NPDES), or limits the right of any person to maintain, at any time, any appropriate action at law or in equity, for relief or damages against the permit holder or any person arising from the activity regulated by this Section.

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Post-Construction Storm Water Management in New Development and Redevelopment

4.2.5.2.5.5

Platte County Conservation Zoning District Regulations

SECTION 400.300: CONSERVATION DISTRICT

A. *General Description.* This district's purpose is to allow for an alternative to conventional rural subdivision design in order to preserve and maintain the natural features and rural amenities in the County by allowing cluster style development. It is not the intent of this district to allow non-buildable land to be developed by circumventing rural district area regulations.

B. *Permitted Uses.*

1. Agricultural crops.
2. Detached single-family dwelling units.
3. Two-family dwelling units.
4. Churches and similar places of worship.
5. Public parks and playgrounds.
6. Public service or utility uses.
7. Railroad and public utility rights-of-way.
8. Home occupations.
9. Model home.
10. Accessory structures.
11. Accessory signs (see Article III, Section 400.370).

C. *Special Uses.*

1. Recreation facilities such as country clubs, golf courses, golf driving ranges, tennis clubs and swimming pools.
2. Telecommunication, radio and television exchanges, stations and communications towers.
3. Public and private hospitals and sanitariums for general medical care.
4. Cemeteries and/or mortuaries.
5. Airports.
6. Day camp.
7. Schools of special instruction.
8. Schools of general instruction.
9. Libraries, museums and public art galleries.
10. Bed and breakfast facilities.

11. Nursery schools and child care centers.

12. Retail garden center.

13. Country Store.

14. Farm-Related Entertainment.

15. Animal Husbandry.

Any special uses that are proposed to be conducted on the common area must first have approval of the existing homeowners' association.

D. *Conservation District Subdivision Design.* A Conservation District subdivision shall require a minimum of thirty percent (30%) of the total acreage of the proposed development to be designated as common area. The common area shall consist of areas that contain natural growth or other areas approved by the Planning Commission. The common area within the subdivision shall be placed on the perimeter of the entire property and along the road from which the subdivision is accessed. All common area must be contiguous or easily accessed by residents of the development.

E. *Area Regulations.*

1. The conservation subdivision design may provide for modification of setbacks, frontage and lot width requirements.

2. The minimum recommended size of the site upon which a Conservation District shall be located shall not be less than ten (10) acres.

3. No lot in a Conservation District shall be less than ten thousand (10,000) square feet in lot area.

F. *Number Of Permitted Dwelling Units.* The table below is a sliding scale that designates the number of dwelling units allowed in the development compared to the amount of common area designated on the plan. The *"total acreage of development"* shall be the total acreage of a tract of land prior to the dedication of right-of-way. If the sliding scale produces a number of dwelling units which is not a whole number, for example thirty-three and one-third (33.3), the number will be rounded up to the nearest whole number. For the purpose of this Section, a duplex will be considered two (2) dwelling units.

% Common Area	Maximum Number of Dwelling Units Allowed
30%–49%	1 per 3 acres of total acreage of development
50%–59%	1 per 2.5 acres of total acreage of development
60%–69%	1 per 2 acres of total acreage of development
70% +	1 per 1.5 acres of total acreage of development

G. *Perimeter Requirements.* No portion of a building or structure shall be closer than fifty (50) feet from a perimeter property line.

H. *Conservation District Plan.* The applicant shall submit a Conservation District Plan in support of the Conservation District application. The Conservation District Plan shall contain all the requirements as a preliminary plat as mandated by the Platte County Subdivision Regulations. The

plan shall also include a general wastewater treatment plan. Said plan and application shall be considered the same as a rezoning request and the same procedures shall be followed concerning application, Planning Commission review, public hearings and legal protest. Approval of the Conservation District Plan by the Planning Commission and the County Commission shall also constitute approval of a preliminary plat for the Conservation District as required under the Platte County Subdivision Regulations. Upon such approval, the letters "CD" shall be affixed to the appropriate part of the county's official zoning district map.

I. *Final Plat Required.* A final plat of the Conservation District Plan shall be required and shall be in compliance with the Platte County Subdivision Regulations. The final plat shall indicate the location of the common areas. Additionally, a landscaping and dwelling location plan shall also be submitted at the time the final plat is submitted.

J. *Home Association.* The developer shall provide for a homes (or property owners') association or such other private, governmental, quasi-governmental or political subdivision as may be approved by the Planning Commission for the maintenance of the common area. The Bylaws, Charter, Articles of Incorporation, Declaration and other instruments which govern the right, duties, obligations and operation of the homes association or other approved body shall be subject to approval by the counsel for the Planning Commission. The applicable documentation of the homes association shall grant to each person who is a member of the homes association the right to personally and individually enforce the homeowners' association rights, obligations and duties for maintenance and upkeep of the common areas within the subdivision. Additionally, the applicable documentation of the homes association shall include the following provisions unless the inclusion of such provision is waived by the Planning Commission:

1. The homes association shall be organized by the applicant and shall be fully organized prior to the sale of any lots within the subdivision.

2. Membership in the homes association is automatic (mandatory) for all purchasers of dwelling units and/or lots therein and their successors. The conditions and timing of transferring control of the association from applicant to homeowners shall be identified.

3. The homes association shall be responsible for maintenance of insurance and taxes on all common areas, enforceable by liens placed by the County on the homes association property. The homes association may place liens on the homes or lots of its members who fail to pay their association dues in a timely manner. Such liens may require the imposition of penalty and interest charges and require that the defaulting homeowner pay all cost of enforcement including attorneys fees.

4. The members of the homes association shall share equitably the costs of maintaining and developing the common area. Shares shall be defined within its bylaws.

5. The homes association shall be required to provide maintenance and upkeep for the common area on a basis which is consistent with the "Maintenance and Upkeep Standards" approved according to the terms of Subsection (K) of this Section 400.300. Failure by the homes association to maintain and provide upkeep of the common area shall constitute a violation of this Zoning Order and the violating party shall be guilty of a misdemeanor and be subject to the penalties imposed by Article VIII, Section 400.790 of this Zoning Order and shall also be subject to such other criminal or civil actions as deemed appropriate by the Enforcement Officer.

6. In the event of a proposed transfer of common area by the homes association or of the assumption of maintenance of the common area by any third (3rd) party, notice of such action shall be given to all property owners within the subdivision.

7. The homes association shall make adequate provision to administer common facilities and properly and continually maintain the common area.

8. The homes association may lease common area to any other qualified person or corporation for operation and maintenance thereof, but such a lease agreement shall provide:

   a. That the residents of the subdivision shall at all times have access to the common area contained therein (except croplands during the growing season);

   b. That the common area to be leased shall be maintained for the purposes set forth in this Chapter; and

   c. That the operation of common area facilities may be for the benefit of the residents only or may be open to the residents of the County, at the election of the applicant and/or homes association, as the case may be.

9. The lease and any transfer or assignment of the lease shall be subject to the approval of the homes association's board of directors. All residents of the subdivision shall have prior written notice of such an issue being taken up for consideration or vote by the board of directors. Lease agreements so entered shall be recorded with the County Recorder of Deeds within thirty (30) days of their execution and a copy of the recorded lease shall be filed with the County.

K. *Maintenance And Upkeep Standards*. The applicant shall submit to the Planning Commission for approval Maintenance and Upkeep Standards which, when approved, shall be incorporated into the applicable document (bylaws, declaration, etc.). In submitting the Maintenance and Upkeep Standards, the applicant shall give consideration to the need to trim and prune trees and brushes, fertilize, seed and mow meadows, maintain or improve existing wildlife habitat, maintain walking or riding paths, prohibit the introduction of waste, litter, refuse, abandoned property, debris or other materials which are offensive to the maintenance of the natural state of the particular common area and shall require inspections of the common area by the representatives of the homes association at least annually. (County Order of 1990)

4.2.5.2.5.5

Platte County Stream Preservation and Buffer Zone Requirements

Exhibit A

Platte County Zoning Order of 1990
Article III, Section 400.350, Subsection B. shall be amended and/or added as follows:

4. All Site Development Plans shall be subject to the regulations outlined in the Platte County Subdivision Regulations of 1992, as amended, Article IV, Section 405.225.

Platte County Subdivision Regulations of 1992
Article IV, Section 405.225 Stream Preservation and Buffer Zone Requirements shall be amended and/or added as follows:

A. *Title and Purpose*

1. *Title.* These regulations shall be known by short title as the "Platte County Stream Preservation and Buffer Zone Requirements", may be cited as such and will be referred to herein as "this Section".

2. *Purpose.* The purpose of this section is to establish minimal acceptable requirements to preserve and protect stream corridors in Platte County.

B. *Definitions.* For the purpose of this Section 405.225, certain terms, phrases, words and their derivatives shall be defined as specified in this Section. Where terms are not defined, they shall have their ordinary accepted meanings within the context with which they are used. Words in the singular include the plural and the plural the singular. Words used in the masculine gender include the feminine and the feminine the masculine. The following terms shall have the following meanings in this Section 405.225. In the event of a conflict between defined terms in Article I, Section 405.090 and the terms defined herein, the Section 405.225 shall control.

BEST MANAGEMENT PRACTICES (BMPs): The utilization of methods, techniques or products that have been demonstrated to be the most effective and reliable in minimizing adverse impacts on water bodies and their adjacent Stream Corridor.

BUFFER ZONE: An area consisting of the stream corridor that is formally designated on a final plat or site development plan in conformance with this Section. See illustration below.

CONTRIBUTING DRAINAGE BASIN: All land draining to the point of consideration, regardless of ownership.

EDGE OF THE STREAM: A line formed by the outer boundary of the stream as delineated by the bank-full flow caused by approximately the two-year rainfall event.

NATIVE VEGETATION: Vegetation comprised of plant species that are indigenous to the area in question.

RECREATIONAL FIELD: A facility such as picnic area, playground, soccer, baseball, softball and football fields, excluding parking lots and paved facilities such as tennis and basketball courts.

RIPARIAN EDGE ZONE: An area within the Stream Corridor that consists of the land from the edge of the Streamside Zone to the boundary of the Stream Corridor buffer. See illustration below.

STORM SEWER SYSTEM: Structures such as pipes, culverts, reinforced concrete boxes, open improved channels, and other man-made appurtenances which serve to convey storm water runoff.

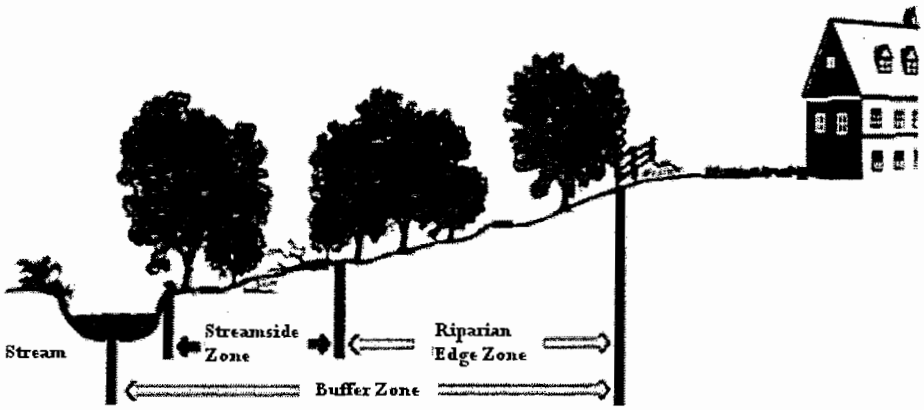
STREAM: A body of running water moving over the earth's surface in a channel or bed, such as a creek, rivulet or river that flows at least part of the year. Streams are dynamic in nature and their structure is maintained through build up and loss of sediment.

STREAM CORRIDOR: A stream and the adjacent land that is set aside in conformance to this Section and which is substantially preserved in a natural state.

STREAMSIDE ZONE: An area within the Stream Corridor that consists of the stream and the land 25 feet from each edge of the stream. See illustration below.

Stream Corridor Buffer Zones

(Modified from Center for Watershed Protection)



C. *Applicability.* This Section shall apply to all new development and redevelopment within the unincorporated area of Platte County, Missouri. No new development or redevelopment shall occur except in accordance with this Section unless development occurs as part of a preliminary plat, site development plan, or special use permit that was approved prior to the effective date of this Section. This Section shall not apply to new development or redevelopment which is

covered by an approved preliminary plat or site development plan, where such approval was given prior to the effective date of this Section.

D. *Designation of Stream Corridor.* Stream Corridor buffer zones shall be established around all streams. The limit of the buffer zones shall be shown on the preliminary plat and formally designated on the final plat or site development plan. Buffer widths as measured from the centerline of the stream outward in each direction shall be at a minimum the following:

Contributing Drainage Basin Size (Acres)	Buffer Width, From Centerline Outwards, Measured Separately in Each Direction
25 acres to 40 acres	50 feet
40 acres to 160 acres	75 feet
160 acres to 5,000 acres	125 feet
Greater than 5,000 acres	150 feet

1. Upon the recommendation of the Director of Planning and Zoning, the Planning and Zoning Commission may require wider buffers for less stable streams or special conditions to address water quality needs, ecological needs, or the recommendations of a watershed study. These widths provide only moderate allowance for widening or migration in local streams of average stability. Geotechnical studies may be required if there is a risk of slope failure due to underlying soil or rock materials, and the buffer width shall be expanded to contain the zone of failure.

2. Reduced buffer widths in isolated locations may be allowed where provision of the full width is shown to be impractical and bank stability concerns have been addressed. Evidence of the impracticality must be provided to the Director of Planning and Zoning and approved by the Planning and Zoning Commission.

3. For work on existing facilities already located closer to the stream than allowed above, the new construction shall not encroach closer to the stream. Bank stability concerns shall be addressed. Formal designation of a buffer zone is not required.

4. Exceptions

    a. Streams of less than 300 feet in length measured along the centerline of the stream and which are between portions of an existing storm sewer system may be enclosed within a pipe or box structure.
    b. Streams adjoining an existing storm sewer system may be enclosed within a pipe or box structure, if the application of this Section would otherwise leave a stream remnant less than 300 feet in length measured along the centerline of the stream.
    c. Streams with contributing drainage basin areas less than 25 acres are not subject to stream corridor buffer zone requirements and may be constructed as a storm sewer system in accordance with the design and construction specifications of Platte County.

d. Stream corridor buffer zones are not required for man made ditches within street right-of-way.

E. *Delineation of the Stream Corridor.* The Stream Corridor buffer zone shall be delineated on preliminary plats, final plats, site development plans, special use permits, and construction plans. Additionally, the final plat, site development plan, or special use permit shall contain the following language:

Steam Corridor Buffer Zone (B/Z): Stream Corridor Buffer Zones indicated on the plat as "B/Z" shall be subject to the regulations outlined in the Platte County Zoning Order, Article III, Section 400.350, Subsection B.4.

F. *Waiver.*

1. The use of rip-rap, retaining walls, gabions, revetments or other bank armoring techniques shall not be used to reduce the buffer widths. The Director of Planning and Zoning or his duly designated alternate may grant a waiver to allow such activities when it is determined to be necessary to protect structures, primarily when stream migration has exceeded the original estimate of natural channel migration. The Director may grant a waiver to allow bank stabilization measures that are designed to incorporate natural channel features and vegetation in situations where projects will enhance the value of the stream and minimize the likelihood of more extreme measures being needed at a later time.

2. The applicant seeking a waiver to reduce the buffer width may appeal a decision to deny or conditionally approve said waiver to the Board of Zoning Adjustment as outlined in the Platte County Zoning Order, Article VII, Section 480.730.

G. *Allowable Uses.*

1. *Streamside Zone.* The Streamside Zone allowable uses should utilize best management practices to minimize disturbances to and impacts on the stream corridor and include:
   a. Conservation uses, wildlife sanctuaries, nature preserves, forest preserves, fishing areas, and passive areas of parklands.
   b. Crossings for foot, bicycle, golf cart, and other similar uses.
   c. Unpaved recreational trails and greenways.
   d. Roadway crossings, limited to minimum required to provide access for orderly development.
   e. Sanitary sewer line crossings.
   f. Other utility crossings, as approved by the Director.
   g. Flood control structures and stormwater treatment facilities.
   h. Storm sewer pipe discharge.
   i. Activities associated with the restoration and enhancement of the Stream Corridor.
   j. Stream gauging and water quality monitoring.

k. Pump stations and structures required to transport water from the stream.
l. Agricultural uses.

Crossing the Streamside Zone shall be minimized, crossing at skewed angles shall be avoided, and the length and area disturbed shall be restricted to the maximum extent feasible. Only native vegetation shall be planted within the Streamside Zone. Non-native species of ground covers shall not be allowed.

2. *Riparian Edge Zone.* The Riparian Edge Zone allowable uses should utilize best management practices to minimize disturbances to and impacts on the stream corridor and include:
   a. All activities allowed in the Streamside Zone.
   b. Paved or unpaved recreational trails. Trails must be constructed near natural grade to minimize clearing, filling and grading.
   c. Utility installations are allowed only when it is demonstrated installing the utility outside the Stream Corridor is not feasible.
   d. Recreational fields, public parklands and golf course fairways may encroach into the stream corridor up to one-quarter of the overall buffer width.
   e. Agricultural uses.
   f. Other uses approved by the Director of Planning and Zoning that meet the intent of this Section. Allowable uses in the Stream Corridor are limited to low-impact passive uses that require little or no disturbance, grading, clearing, or filling of the existing native vegetation, and are related to recreation, public enjoyment, and protection of the Stream Corridor. These uses may include small non-habitable structures ancillary to the approved use. Examples of these structures include, but are not limited to, decks, gazebos, picnic tables, play equipment, and small concrete slabs built to accommodate such structures. Allowable uses do not include parking facilities.

3. Lakes, detention and retention ponds, and other impoundments for recreational, aesthetic, or irrigation purposes are allowed within the streamside zone and riparian edge zone. Where an existing or new private lake or pond is created, the stream corridor buffer zone shall terminate at the normal pool level where stormwater discharges into the body of water and resumes 10 feet below the toe of the dam embankment. Where private lakes are removed or filled as part of a development, the stream shall be restored through that area and the stream corridor buffer zone shall be created through that the area.

H. *Maintenance.* Unless otherwise accepted by the County, any maintenance of the Stream Corridor shall be the responsibility of the property owner.

I. *Enforcement.* Failure to comply with the provisions of this Section shall be deemed a violation of this Zoning Order subject to the penalties and relief set forth in Article VIII, Section 400.790.

4.2.5.2.5.5

Platte County Stormwater Detention and Retention Requirements

ARTICLE IV. DESIGN AND IMPROVEMENT SPECIFICATIONS

SECTION 405.150: GENERAL REQUIREMENTS FOR DESIGN, LAYOUT AND CONSTRUCTION SPECIFICATIONS

A. *Conformance To Applicable Rules And Regulations.* In addition to the requirements established within these regulations, all subdivision plats shall comply with the following guidelines and requirements:

1. All applicable provisions of the Missouri Statutes.

2. The County Zoning Order, County Flood Plain Management Ordinance and building codes.

B. *Improvement Standards And Specifications.* Unless otherwise stated herein, the minimum design criteria, construction methods and material specifications for all public improvements shall conform to the most recent published guidelines of the Kansas City Metropolitan Chapter of the American Public Works Association.

C. *Monumentation.* Monuments shall be set in accordance with Title 10; Department of Natural Resources, Division 30; Land Survey, Chapter 2; Minimum Standards For Property Boundary Surveys, k. CSR 30; 2.010 Standards For Property Boundary Surveys.

D. *Debris And Waste.* All debris and waste, such as cut trees, rock, construction waste, rubbish and other waste material, shall be disposed of in accordance with State and local regulations prior to acceptance of work.

E. *Privately Maintained Improvements.* Improvements that are to be maintained privately shall be designed and constructed in accordance with the standards and specifications as stated or referenced in these regulations. The applicant shall file, with the Recorder of Deeds, a covenant running with the land establishing a homeowners' association or other mechanism for improvements that are to be privately maintained. The approval process for a subdivision where improvements are to be privately maintained shall be done in accordance with the requirements of Article IV of the Platte County Zoning Order of 1990 and the requirements of these regulations.

F. *Impact Study.* The Planning Commission may require a developer to submit an impact study performed by a professionally licensed or certified individual or entity addressing public health, safety and environmental issues raised in connection with the proposed development. Factors to be included in such a study shall include, but not be limited to, the following:

1. Pedestrian activity.

2. Population density.

3. Vehicle parking practices.

4. Traffic pattern and access within the proposed development and in the surrounding area.

5. Traffic access and distance to arterial and collector streets in the surrounding area.

SECTION 5608 STORMWATER DETENTION AND RETENTION

5608.1 Scope:

This section governs the requirements and design of stormwater detention and retention facilities.

5608.2 Access and Easements

Permanent access and buffers must be provided for maintenance of a detention facility with the following minimum requirements:

A. The water surface of the design storage pool shall be a minimum of 20 feet from property lines and building structures. A greater distance may be necessary when the detention facility might compromise foundations or slope stability is a consideration.

B. A 15 foot wide access strip, with slopes less than 5 horizontal to 1 vertical, shall be provided around the perimeter of the facility, unless it can be demonstrated that all points of the facility can be maintained with less access provided.

C. The property owner shall also maintain a minimum 15 foot wide access route to the detention facility from a street or parking lot.

D. Structures, inlet pipes, outlet pipes, spillways, and appurtenances required for the operation of the facility shall also be provided access which is no less than easement widths established in Sections 5606.1 and 5607.2.

Easements are frequently not required for detention facilities, because a detention facility is typically maintained by the property owner. If the detention facility is not maintained by the property owner or involves multiple ownerships, easements must be dedicated to the party responsible for maintenance. At a minimum the dedicated easements shall include: 1) the detention pond per se, which extends to the design storage pool elevation and the toe of the embankment slope; 2) appurtenances; and 3) access required by items B through D above.

5608.3 Maintenance and Continued Performance

Maintenance responsibility for all elements of the detention facility should be designated prior to construction of any detention facility. However, when no designation is made the property owner shall be considered the responsible party. Annual or more frequent inspections shall be made by the responsible party to assure that all inlet and outlet structures are fully functional and the detention basin has full storage capacity.

5608.4 Performance Criteria:

A. General Provisions:

1. Detention/retention facilities shall have 1,000 acres or less area tributary to the facility.

2. Dams which are greater than 10 feet in height but do not fall into State or Federal requirement categories shall be designed in accordance with latest edition of SCS Technical Release No. 60, "Earth Dams and Reservoirs", as Class "C" structures.

3. All lake and pond development must conform to local, state, and federal regulations. Legal definitions and regulations for dams and reservoirs can be found in the Missouri Code of State Regulations, Division 22, and the State of Kansas Rules and Regulations, KSA 82a-301 through 305a.

B. Computational Methods:

1. Time of Concentration and Travel Time: Refer to Section 5602 for acceptable hydrology methods.

2. Temporary Storage Volume: A preliminary value of the storage requirement may be obtained through methods outlined in (SCS, 1986, Chapter 6) or other acceptable methods. The storage shall be checked during routing of design hydrographs through the basin and adjusted appropriately.

3. Hydrograph Routing: The storage indication method (Modified Puls) of routing a hydrograph through a detention basin may be utilized. Reference: (Chow, 1964).

C. Release Rate: The maximum release rate from any development for the 1%, 10% and 100% storms shall be limited according to Section 5601.5-A-4 and the decision flowchart in Figure 5601-1, "Guide to Stormwater Management for Site Development".

D. Detention Basin Size: Owners/engineers may utilize methodology outlined in (SCS, 1986). A Type II rainfall distribution shall be the required storm hyetograph. Hydrologic simulation models shall be based on not less than Antecedent Moisture Condition II (see Section 5602.2). Maximum detention storage shall be based upon the allowable release rate and upon the developed condition for the site. Basin volume shall be sized for the 1%, 24-hour design storm. Cities and Counties may establish additional standards for other storm sizes in order to provide stream channel and water quality protection.

E. **Primary Outlet Works:** The primary outlet shall be designed to meet the following requirements:

1. The outlet shall be designed to function without requiring attendance or operation of any kind or requiring use of equipment or tools, or any mechanical devices.

2. All discharge from the detention facility when inflow is equal to or less than the 1% inflow shall be via the Primary outlet.

3. The design discharge rate via the outlet shall continuously increase with increasing head and shall have hydraulic characteristics similar to weirs, orifices or pipes.

4. For dry detention basins, the design shall allow for discharge of at least 80 percent of the detention storage volume within 24 hours after the peak or center of mass of the inflow has entered the detention basin.

5. Ponds shall be designed with a non-clogging outlet such as a reverse-slope pipe, or a weir outlet with a trash rack. A reverse-slope pipe draws from below the permanent pool extending in a reverse angle up to the riser and establishes the water elevation of the permanent pool. Because these outlets draw water from below the level of the permanent pool, they are less likely to be clogged by floating debris.

6. All openings shall be protected by trash racks, grates, stone filters, or other approved devices to insure that the outlet works will remain functional. No orifice shall be less than 3 inches in diameter. (Smaller orifices are more susceptible to clogging).

F. **Emergency Spillways:** The emergency spillway may either be combined with the outlet works or be a separate structure or channel meeting the following criteria:

1. **Elevation:** Emergency spillways shall be designed so that their crest elevation is 0.5 feet or more above the maximum water surface elevation in the detention facility attained by the 1% storm.

2. **Capacity:** In cases where the impoundment/emergency spillway is not regulated by either State or Federal agencies, the emergency spillway shall be designed to pass the 1% storm with 1 foot of freeboard from the design stage to the top of dam, assuming zero available storage in the basin and zero flow through the primary outlet. This design provides an added level of protection in the event of a clogged primary outlet or a subsequent 1% storm event that occurs before the flood pool from the initial storm event recedes to the principal outlet elevation.

G. **Draw Down Provision:** Drain works consisting of valves, gates, pipes, and other devices as necessary to completely drain the facility in 72 hours or less when required for maintenance or inspection shall be provided.

H. **Erosion Control:** Primary outlet works, emergency spillways, and drain works, as well as conveyance system entrances to detention basins, shall be equipped with energy dissipating devices as necessary to limit shear stresses on receiving channels. See Tables 5605-1 and 5606-2 for shear stress criteria.

5608.5 Detention Methods:

In addition to the foregoing criteria, the following shall be applicable, depending on the detention alternative(s) selected:

A. **Wet Bottom Basins/Retention Facility:** For basins designed with permanent pools:

1. **Sediment Forebay:** A sediment forebay shall be provided to trap coarse particles. Refer to the "Mid-America Regional Council and American Public Works Association; Manual for Best Management Practices for Stormwater Quality" for typical design specifications and configurations of sediment forebays.

2. **Minimum Depth:** The minimum normal depth of water before the introduction of excess stormwater shall be four feet plus a sedimentation allowance of not less than 5 years accumulation. Sedimentation shall be determined in accordance with the procedures shown in Figure 5608-1

3. **Depth for Fish:** If the pond is to contain fish, at least one-quarter of the area of the permanent pool must have a minimum depth of 10 feet plus sedimentation allowance.

4. **Side Slopes:** The side slopes shall conform as closely as possible to regraded or natural land contours, and should not exceed three horizontal to one vertical. Slopes exceeding this limit shall require erosion control and safety measures and a geotechnical analysis.

B. **Dry Bottom Basins/Detention Facility: For basins designed to be normally dry:**

1. **Interior Drainage:** Provisions must be incorporated to facilitate interior drainage to outlet structures. Grades for drainage facilities shall not be less than two percent on turf. Concrete swales, with a minimum gradient of 1.0 percent, may be used as needed to conduct stormwater from turfed bottom areas to the outlet structure if the shear stress ratio is greater than 1.

2. **Earth Bottoms:** Earth bottoms shall be sodded.

3. **Side Slopes:** The side slopes of dry ponds should be relatively flat to reduce safety risks and help to lengthen the effective flow path. Slopes shall not be steeper than three horizontal to one vertical and at least 25% of the perimeter shall have a slope of 5 to 1 or flatter.

4. **Multipurpose Feature:** These shall be designed to serve secondary purposes for recreation, open space, or other types of use which will not be adversely affected by occasional or intermittent flooding, if possible.

C. Rooftop Storage: Detention storage may be met in total or in part by detention on roofs. Details of such designs shall include the depth and volume of storage, details of outlet devices and downdrains, elevations and details of overflow scuppers, and emergency overflow provisions. Connections of roof drains to sanitary sewers are prohibited. Design loadings and special building and structural details shall be subject to approval by the City/County Engineer.

D. Parking Lot Storage: Paved parking lots may be designed to provide temporary detention storage of stormwater on a portion of their surfaces. Generally, such detention areas shall be in the more remote portions of such parking lots. Depths of storage shall be limited to a maximum depth of seven inches, and such areas shall be located so that access to and from parking areas is not impaired.

E. Other Storage: All or a portion of the detention storage may also be provided in underground or surface detention areas, including, but not limited to, oversized storm sewers, vaults, tanks, swales, etc.

5608.6 Required Submittals:

A. The Owner shall submit the following information and data to the City/County Engineer.

1. Elevation-area-volume curves for the storage facility including notation of the storage volumes allocated to runoff, sediment, and permanent residual water storage for other uses (wet basins only).

2. Inflow hydrographs for all (1, 10, and 100-percent) design storms.

3. Stage-discharge rating curves for each emergency spillway, primary outlet works and combined outlets and overflows.

4. Routing curves for all (1, 10 and 100-percent) design storms with time plotted as the abscissa and the following plotted as ordinates:

   a. Cumulative inflow volume.

b. Cumulative discharge.

c. Stage elevation.

d. Cumulative storage.

5608.7 Additional Requirements:

A. Access: Provisions shall be made to permit access and use of auxiliary equipment to facilitate emptying, cleaning, maintenance, or for emergency purposes.

B. Underground Storage: Underground detention facilities shall be designed with adequate access for maintenance (cleaning and sediment removal). Such facilities shall be provided with positive gravity outlets. Venting shall be sufficient to prevent accumulation of toxic or explosive gases.

4.2.5.2.5.5

*Platte County Land Use Plan

*Note: Due to the size of the document, it has not been attached. A copy of the document can be found at: http://www.co.platte.mo.us/docs/action/Land%20Use%20Plan.pdf.