



PARK CITY MUNICIPAL CORPORATION
STORM WATER MANAGEMENT PLAN

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SECTION 1.0 STORM WATER MANAGEMENT PLAN PURPOSE AND GOALS

The purpose for this storm water management plan (SWMP) is to facilitate and improve the management of storm water in Park City with the intent of improving water quality. The goals for the SWMP are as follows:

- Increase public participation in addressing storm water management issues and best management practices.
- Minimize illicit discharges through education and implementing detection program.
- Minimize construction-site storm water runoff by educating contractors and implementing practical institutional controls.
- Improve and promote pollution prevention and good housekeeping practices.
- Improve and promote practical and achievable “Best Management Practices” (BMP) and measurable goals.
- Improve storm water quality and comply with applicable local public notice requirements.

With these goals in mind, Park City Municipal Corporation (PCMC) has structured this SWMP in a format to:

- **Address** the USEPA Phase II NPDES Standards (Utah adopted).
- **Identify** current practices.
- **Establish** practical goals for improving upon PCMC practices and standards.

PCMC recognizes that the city is not currently regulated under Utah’s Pollutant Discharge Elimination System (UDES) Small Municipal Storm Water General Permit; nonetheless the city has chosen to utilize these standards as the framework to be proactive in voluntarily addressing storm water management issues.

SECTION 2.0 STAKEHOLDERS

The success of any plan depends on the support and involvement of the storm water plan’s stakeholders. Stakeholders should be cognizant of their involvement and how they can play an important role in the SWMP success. Table 2.1 titled Stakeholders and Interest identify stakeholders and their interest:

Table 2.1 Stakeholders and Interest

Stakeholder	Interest
PCMC Community Development Department (Environmental Specialist)	Prepare and administer SWMP. Document progress and provide reports on an as needed basis to UDEQ. Administer scaled water fees and provisions of water conservation rebates for households that install drought-tolerant landscapes.
PCMC Building Department	Building inspectors enforces compliance with ordinances related to storm water controls. Permits and mitigation plans are also approved within this department.
PCMC Public Works Department	Maintain streets and conduct sweeping activities. Maintain wash bay and other vehicular activities.
PCMC Parks and Recreation Department	Manage and maintain xeriscape garden located at the north end of the City Park.
PCMC Golf Course (Part of Parks and Recreation Department)	Develop and implement nutrient management plan (NMP). Employ BMP's capable of minimizing off-site nutrient migration. Monitor and sample outfalls.
PCMC City Engineer Department	Utility construction permits are issued from this department for utilities.
Summit County	Coordination of educational material and workshops with contractors and homeowners.
East Canyon Urban Runoff Subcommittee	Identification of storm water management issues and development of new ideas.
BFI	Collection of refuse at the Old Town Trash Compactor Building.
Recycle Utah	Household Hazardous Waste Collection
Park City Residents	Minimizing impacts to storm water by employing "Best Management Practices".

SECTION 3.0

EDUCATION

The purpose of this section of the SWMP is to define PCMC public education efforts in addition to the educational resources that are available to the community. This section will also identify other outreach activities that educate the community about storm water issues and the steps that can be taken to reduce pollutants in storm water runoff.

Subsection 3.1 Public Outreach Education and Participation

PCMC in conjunction with Summit County has implemented a storm water public education outreach program. This program was funded by a grant titled "Park City Clean Creeks Initiative" under the 2000 Clean Water Act 104 (b) (3) program. The intent of this grant was to support the development of informational storm water runoff material while educating homeowners and contractors.

As a result, educational workshops have been scheduled and some have been completed that are directed at homeowner associations and community leaders. Furthermore, a public workshop to solicit comments and input on the SWMP has been conducted. In order to make the community aware of the public workshops, notices are conveyed via radio and newspaper announcements. Additional efforts are made, by mailing notices to registered Homeowner Association presidents within the City and County. Upon finalizing the SWMP, additional workshops will be planned to broaden the public awareness on the final proposal.

In addition, because of a cooperative educational approach between the PCMC and Summit County, contractors, homebuilders, and developers are also educated in a variety of ways. Educational workshops on construction site runoff control are presented to contractors, homebuilders, and developers and workshops are held for City and County employees. The workshops include information on construction site BMPs and providing attendees with educational information. PCMC has developed an educational brochure titled "Guide to Construction Mitigation Plans" and this resource is available at the Marsac Building. Also, PCMC provides other free educational resources in the format of handouts and these are available at the Marsac Building, Park City Library, and Education Center. Table 3.1.1 summarizes the current educational resources.

Table 3.1.1 Current Educational Resources

Title	Publisher	Summary	Storm water Topic Areas
Landscape Water Control Guide	Park City Municipal Corporation	Tri-fold brochure describes water-saving tips to reduce water usage and improve lawn health	More efficient landscape watering reduces the amount of irrigation runoff entering the storm water system; healthier lawn reduces need for fertilizers/ herbicides
Recycle Utah	A Recycle Utah with support from Park City, Summit County, and others	Tri-fold brochure describes locations of recycling drop-off centers & items accepted. Also describes public education activities	Reduces trash-related contamination of storm water runoff
Water Conserving Grasses for Front Range Landscaping	Xeriscape Colorado	4-fold 11x17 brochure lists characteristics, planting guidelines, and maintenance guidelines for native, water-conserving grasses	Reduced water, fertilizer, and herbicide use reduces contamination of storm water from residential landscaping practices
Park City 1999 Annual Drinking Water Quality Report	Park City Municipal Corporation	4-fold 8.5x11 brochure describes origin, composition, testing and treatment measures for Park City drinking water	Heightens public awareness and understanding of water quality issues and importance to public health
Water Conservation Tips	Park City Municipal Corporation	8.5x11 handout describes water-saving tips for indoor and outdoor activities	More efficient outdoor water use reduces the amount of irrigation runoff entering the storm water system
Xeriscaping: garden flowers for low-water landscapes	Colorado State University Cooperative Extension	Stapled 4-page handout includes flower species lists, shade/ sun requirements, soil condition guidelines for using flowers in xeriscapes	More efficient landscaping water use reduces the amount of irrigation runoff entering the storm water system
Park City Water Conservation Program	Park City Municipal Corporation	8.5x11 folder with handouts describing how to apply for a water conservation rebate; includes approved drought-tolerant plant list and rebate application forms	More efficient landscaping water use reduces the amount of irrigation runoff entering the storm water system; also potentially reduces fertilizer and herbicide levels in runoff
Utah's Water Supply	Utah Division of Water Resources	10-pg. 8.5x11 brochure. Describes the origin of Utahs water supply, precipitation patterns, water distribution systems, water conservation tips, water treatment and testing	Heightens public awareness and understanding of water supply and water quality issues
Reducing Construction and Demolition Waste	Center for Resourceful Building Technology	40-page handout describes techniques for reducing and recycling construction waste; tips provided for home owners, designers, contractors, and suppliers	Reduces trash-related contamination of storm water runoff; reduces area of disturbed, erosion-prone soil during construction

Subsection 3.2 Water Conservation Outreach and Education

The City has a well-developed water conservation program that provides educational resources to homeowners interested in xeriscaping and reducing household water use (Table 3.1.1). The City provides financial incentives to homeowners that employ water conservation practices by installing drought-tolerant landscapes. Through the PCMC Xeriscape Program a homeowner can reduce water impact fees by installing drought resistant landscaping. To promote this program a demonstration xeriscape garden has been installed at the north end of the City Park. The area allows real estate agents, developers, homeowners, and landscaping companies a visible resource to show customers the natural appearance that xeriscape can provide to a property owner. Lastly, the promotion of xeriscape to property owners yields the following benefits related to storm water quality:

- Less land disturbance will result in less erosion and sediment migrating off-site.
- Less application of herbicides, pesticides, and fertilizer results in a reduction of pollutant concentrations migrating off-site with storm water flows.
- Reduction in overall run-off volume.
- Lower water usage from the culinary system.

Subsection 3.3 Committee Outreach Involvement

The City has been actively involved in the East Canyon Urban Runoff Subcommittee, which was specifically established to deal with storm water management issues. This subcommittee is a subgroup of the more broadly focused East Canyon Water Quality Steering Committee. These committee meetings are open to the public and are regularly attended by representatives of local and regional agencies. Local business representatives and environmental groups also attend these meetings. The Committee thereby provides a forum for public participation and stakeholder input regarding water quality issues within the City.

Subsection 3.4 Education Measurable Goals

As defined above, the PCMC existing and planned efforts fulfill the educational requirements of the Final Storm Water Phase II Rule. The Implementation Measures identified in Table 3.4.1 identifies additional BMP's for future implementation and the associated measurable goals to further comply with the rule.

Table 3.4.1 Education Measurable Goals:

Opportunity/Goal	Action Item/Schedule	Lead Entity/Funding
Expand the City Park xeriscape demonstration project to include interpretive/ educational displays that explain the water conservation benefits of xeriscaping.	Install interpretive / educational signs by June 2004.	Community Development Department Existing City landscaping budget
Develop or locate a Waste Oil Recycling brochure that documents all local vendors willing to accept waste oil.	Brochure and information compiled by December 2002.	Community Development Department Existing budget
Expand availability of educational handouts by putting storm water related handouts on PCMC web site and provide links to other storm water websites such as the Center for Watershed Protection website. Provide display stands and brochures at libraries, vehicle registration and voter registration sites, and home improvement/garden/paint stores.	Distribute homeowner pamphlet to new sites and provide website links by December 2002.	Community Development Department Existing budget
Coordinate with Summit County to develop a watershed interpretation program to increase the public's awareness of their connection to and impacts on waterways within the City and County.	Identify appropriate locations for interpretive displays and/or water body identification signage in coordination with Summit County's schedule.	Community Development Department Existing budget
Develop a Storm Water News Letter for Park City residents to be distributed.	June 2002	Written and coordinated by Environmental Specialist and distribute monthly the first year, bimonthly the second year.

SECTION 4.0 POST-CONSTRUCTION STORM WATER MANAGEMENT

The purpose for this section is to identify PCMC implemented ordinances and enforcement mechanisms to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre. PCMC currently administers several programs and regulations that either directly or indirectly addresses storm water runoff from construction, development sites, and natural areas within the city. The intent for these ordinances is to ensure that controls are in place to minimize water quality impacts. Therefore this section will reflect PCMC commitments to the following:

- Ordinance that require the implementation of post-construction runoff controls.
- Strategies and the identification of the combination of structural and or non-structural BMPs.
- Identification of adequate long-term operation and maintenance controls.
- Identification appropriate BMPs and measurable goals for this minimum control measure.

Subsection 4.1 Construction Mitigation Plans

Construction mitigation plans are required for all construction projects within the City that require a building permit. As a result, these plans are reviewed and approved during the building permit process. Stockpiling and staging of material may be required to reduce the number of delivery trips to the construction site. However, as specified in the plan dust and mud from the construction site must be controlled. Furthermore, provisions must be made to prevent the tracking of mud on city streets and any mud that does exist must be removed daily. Gravel placement on ingress and egress areas is recommended to help with dust and mud control. Also, required within the submitted plans is the installation of silt screen fencing or other barriers such as straw bales to minimize run-off.

4.1.1 Limits of Disturbance (LOD)

All new construction is required to set a Limits of Disturbance (LOD) boundary to protect existing construction site vegetation. This minimizes the development's future water demands and reduces visual and ecological impact. All construction activity must be contained within the LOD line. A security deposit is posted to ensure compliance with the LOD plan. Building lot LOD lines are generally identified either through the subdivision of property process or through the building permit process.

4.1.2 Landscape Security

The Building Permit requires a landscaping security deposit of \$0.75 per square foot of area located within the Limits of Disturbance boundary to insure that the site's landscape plan is implemented effectively. This security is to ensure that the responsible party "stabilizes" the disturbed area with either vegetation or permanent surfacing (i.e., driveway, walkway, patio).

Successful soil stabilization is demonstrated to site inspectors who check for 80 percent plant cover of approved plant species over a representative 10-foot by 10-foot area. After one year of "no activity" at the construction site, Park City will use the security to fund site stabilization. This generally is accomplished by seeding the area with an appropriate seed mix.

4.1.3 Soil Cover Requirements

Due to Park City's historical mining background, areas designated to be within Park City's Prospector Soil Ordinance Area are required to maintain a topsoil cap of six inches in unpaved areas. The topsoil cap is required to be vegetated with plant material suitable to prevent the erosion of topsoil. Furthermore, the parking of vehicles on these areas is prohibited, thereby minimizing sediment displacement and vegetation damage. **The implementation of this ordinance results in minimizes storm water flow contact with heavy metals and sediment.**

Subsection 4.2 Sensitive Area Overlay Zone Regulations (SAO)

The Sensitive Area Overlay Zone (SAO) regulation (also called the Sensitive Lands Ordinance) was adopted by the Park City Council in 1992 with the primary intent of restricting development in aesthetically and environmentally sensitive areas. The sensitive areas protected by the ordinance include steep slopes, ridgelines, entry corridors, wetlands, streams, and wildlife habitat Figure 4. The ordinance aims to encourage large expanses of open space and the clustering of development while still allowing a reasonable use of property.

Mapping of the following information is required for all property within the SAO:

- Steep slopes (>15 percent).
- Ridgeline areas.
- Vegetative cover.
- Designated entry corridors and vantage points.
- Wetlands.
- Stream corridors.
- Wildlife habitat areas.

The following additional information may be required, as determined by the Community Development Director:

- Visual assessment.
- Soil investigation report.
- Geotechnical report.
- Additional slope information.
- Fire protection report.
- Hydrological report.
- Wetland/stream corridor resource evaluation.
- Wildlife habitat report.

Using the above information the Community Development Department can calculate density transfers and determine the location of open spaces, setbacks, and buffers.

4.2.1 SAO Relationship to Improving Storm Water Quality

In general, the following SAO requirements directly relate to storm water management:

- No development on or within 50-feet of slopes steeper than 40 percent.
- Development on slopes between 15 and 40 percent requires construction mitigation.
- Only 25 percent of steep slope area can be developed, the remainder is open space.
- No terracing to create larger building sites.
- Cutting and filling and road construction on steep slopes must be minimized and mitigated.
- Retaining walls are encouraged (to promote revegetation and reduce erosion).
- Revegetation plans are required for all developments within the SAO.
- All development adjacent to wetlands is required to have temporary and permanent runoff controls to minimize sediment and other contaminants.

4.2.2 Required SAO Setbacks

The primary purpose of setbacks is to maintain a buffer area and improve water quality within protected resource sites. Furthermore, PCMC recognizes the benefits of setbacks as creating open space between the resource and adjacent uses, helping to maintain or improve wildlife habitat values and wetland hydrology, and protecting the aesthetic value of the city.

The SAO requires the following setbacks, which prohibit any development within the setback area:

- **Wetland** = 50 feet
- **Stream corridor** = 50 feet
- **Irrigation ditch** = 20 feet

Exceptions to the setbacks are only granted in the event of “special determinants” related to the construction logistics or other special circumstances related to development.

4.2.3 SAO Relationship to Ski Areas

The requirements of the SAO do not directly apply to ski area construction and expansion. Ski area development approval requires that the developer submit a plan detailing the location, alignment, and scope of the proposed project. If the Community Development Director determines that the project may have significant visual and environmental impacts, a consultation meeting is scheduled. The developer may be required to develop project alternatives and prepare a plan to mitigate the project’s environmental and visual impacts. All ski area facilities should be designed to preserve the natural character of sensitive areas. It should be noted that all runs at “The Canyons” and most of the runs at “Park City Mountain Resort” are outside Park City limits.

Subsection 4.3 Land Management Code

PCMC Land Management Code adopted in 1984 contains regulatory standards that relate to storm water management and improving water quality. These standards were promulgated with the intent of minimizing the potential for human and environmental exposure to contamination associated with the mining history of Park City. The code is very comprehensive and results in institutional controls that PCMC enforces to minimize environmental impacts.

4.3.1 Developmental Site Plans

Accompanying construction permits are site plans, which are required for all development projects, including the mapping of the following site elements that apply to storm water management:

- Existing and proposed grading and drainage plans.
- Landscaping plans.
- Drainage works and other utilities.

When site plans are reviewed, if there are any concerns related to the above-mentioned items they are addressed to minimize storm water impact.

4.3.2 Master Planned Developments

The Master Planned Development (MPD) process is used to encourage the establishment of open space, reduce infrastructure costs, and to preserve natural and scenic landscape features. This is accomplished through establishing open space requirements (approximately 60 percent of site) and clustering of buildings at greater densities than the applicable zone allows. The MPD process is required prior to developing subdivisions and residential projects on contiguously owned property larger than five acres and for commercial projects larger than two acres. The following required items are related to storm water management:

- Existing vegetation, topography, soils, and floodplain mapping.
- Sensitive lands review (if applicable).
- Temporary erosion control plan.
- Utility and drainage system plan.
- Limits of disturbance plan.
- Existing natural drainage ways should be maintained and designed around.
- Open space should coincide with significant vegetation.
- Landscape design should include water conservation principles.
- Cut and fill slopes should be minimized.

4.3.3 Best Management Practice - Subdivision Regulations

All lot improvements associated with the subdivision of properties are required to conform to the following regulations, as applicable to storm water management:

- Provision of adequate storm water facilities for flooding.
- Limits of disturbance.
- Vegetation protection.
- Minimize landscaping area for water conservation.
- Topsoil should be stored on-site and redistributed for landscaping.
- Slope stabilization and erosion control may be required, as determined necessary by the City Engineer.
- All lots must be revegetated

Subsection 4.4 Water and Irrigation Fees

In 1990, Park City Council adopted goals and revised ordinances related to water conservation. As a result, the Water Development and Connection Fee Ordinance was amended to include outside irrigation as part of the Water and Irrigation Fee calculation. The outside irrigation fees assess \$300.00 per 1,000 square feet of disturbed area. The city also changed its water rates to a

scaled rate structure in which water users pay higher rates for increasing water usage. As mentioned in Section 3.2, the city encourages xeriscaping (the use of drought-tolerant landscape plants) through the Water Impact Fee Rebate Program. Up to 50 percent of the Water Impact Fee will be rebated for landscaping a site primarily with water conserving plants. Park City provides a drought-tolerant plant list to the public that documents the benefits of the program. Also, PCMC has a “**Streets and Storm Water Facilities Impact Fee**” that is assessed to construction projects and comprises of 0.60% of the construction value. The ordinance where this fee is located is Chapter 13 11-13-2 and is titled Assessment and Calculation of Impact Fees”.

Subsection 4.5 Open Space Property Acquisition

PCMC has been very proactive in acquiring open space. PCMC recognizes that open space designations have many benefits related to storm water such as reducing impervious cover, storm water pollutants, construction costs, grading, and the loss of natural areas.

PCMC has purchased more than 1,440 acres of open space properties since 1990 (Table 4.5.1). These areas include more than three miles of riparian/stream protection zones to buffer McLeod Creek and Silver Creek from storm water runoff impacts. These open space properties are primarily comprised of sensitive lands, including steep slopes, wetlands, stream riparian areas, visual corridors, wildlife habitat, and agricultural lands. **PCMC believes the open space properties provide storm water runoff protection by allowing for increased water infiltration, and stream bank and wetland protection.** The open space program is funded from a variety of sources including a \$10 million open space bond issue. The program is managed by PCMC.

Table 4.5.1 Description of Park City Open Space Properties

Open Space Area Name	General Project Description
Deer Valley Open Spaces	Numerous steep hillsides and wetland areas protected by strict zoning.
McLeod Creek	126 acres, McPolin-Osguthorpe Farm.
Huntsman Wetland Preserve	20 acres of riparian, stream side wetlands, riparian restoration project.
Silver Creek	24 acres Baingo-Wortley, Prospector Park, City Park, PC Hill.
Willow Ranch Wetlands	28 acres Peterson wetlands, 10 acres protected by plat restrictions.
Thaynes Canyon/Iron Canyon	Numerous stream channels and riparian areas protected by strict zoning.
Coleman	9.4 acres of steep brushy hillside in Empire Canyon.
Gilmor Open Space	520 acres of upland hillsides.
Richards Parcel	20 acres of grazing land.
Pace Farm	218 acres of fallow pasture.
Round Valley	480 acres of dry land pasture is planned to be purchased by 2002.
Lot 9 - Snow Creek Crossing	6 acres of wetland buffer.

Subsection 4.6 Post-Construction Storm Water Management Measurable Goals

As described above, PCMC is committed to developing and implementing structural and non-structural BMPs in accordance with Phase II requirements. As a result, Phase II control measures listed above are met through PCMC existing programs.

The city's Sensitive Area (SAO) regulations which includes stream and wetland buffers, open space and water conservation programs, and limits of disturbance regulations are very effective "indirect" storm water management tools. Furthermore, a "direct" approach, requiring construction and post-construction runoff controls further meets the remaining control measures. This "direct" approach should include specific requirements for post-construction runoff controls that address on-site retention and infiltration.

Lastly, PCMC will consider in the future the establishment of a comprehensive storm water ordinance that requires all activities that affect the quality and quantity of storm water runoff to provide construction and post-construction runoff controls.

Table 4.6.1 represents PCMC commitment to further reduce post-construction runoff.

Table 4.6.1 Post-Construction Storm Water Management Measurable Goals

Opportunity/Goal	Action Item Schedule	Lead Entity Funding
Complete Purchase of Round Valley 440 acre allotment to further reflect PCMC commitment to acquire open space.	2002	\$10 million PCMC Bond and Impact Fee Revenue
PCMC will consider fencing off Richards Parcel and restoring the streams within the parcel.	2002-2003	Dependent on obtaining outside funding for material.
Continue to implement Storm Water Management programs that include requirements for construction and post-construction runoff controls.	Ongoing	Park City Staff Developer Fees
Continue to implement erosion and sediment controls for all grading and excavation, including ski area construction and development.	Ongoing	Park City Staff Developer Fees

SECTION 5.0 CONSTRUCTION SITE RUNOFF CONTROL

The Final Storm Water Phase II Rule references construction site runoff control measures for an operator of a regulated small MS4 to develop, implement, and enforce a program to reduce pollutant impacts to storm water runoff. This standard mainly applies to construction activities that result in a land disturbance of greater than or equal to 1 acre. Within this section PCMC will identify the following:

- Ordinances or other regulatory mechanism requiring the implementation of proper erosion and sediment controls, and controls for other wastes, on applicable construction sites.
- Site plan review procedures for construction plans that are considered to have a potential water quality impact.
- Procedures for site inspection and enforcement of control measures.
- Sanctions to ensure compliance (established in the ordinance or other regulatory mechanism).
- Procedures for the receipt and consideration of information submitted by the public.
- The appropriate BMPs and measurable goals for this minimum control measure.

Subsection 5.1 Adopted Ordinances

PCMC currently provides construction site runoff control through various ordinances, development codes, City design standards, construction specifications, and standard drawings. The Park City Building Department provides all contractors with a one-page handout called “Guide to Construction Mitigation Plans” which provides information about when Mitigation Plans are required and who reviews the Mitigation Plan. In addition this brochure identifies what is needed in the plan before submitted. Table 5.1.1 identifies the required contents of the plan once submitted.

Table 5.1.1 Mitigation Plans Content

Requirement	Definition
Silt Screen Fencing	Specification of the installation of silt screen fencing or other measures to control runoff.
Dust and Mud Control	Requires dust control and prohibits off-site mud tracking
Trash management and recycling of materials	Requires adequate storage and removal
Grading and excavation	Restricts trucking routes and hours of operation
Hours of operation	Specifying the set times for active construction
Construction phasing	Reduces congestion due to narrow streets, etc.
Parking	Defines parking restrictions and requires an approved parking plan
Deliveries	Regulates time and routing of deliveries
Stockpiling and staging	Reduces the number of delivery trips
Noise	Restricts loud noises
Temporary lighting	Requires a temporary lighting plan
Construction sign	Requires a construction sign with contractor contact information
Other issues	Prohibits dogs at construction sites and encourages communication with neighboring property owners

5.1.2 Limits of Disturbance (LOD)

PCMC also requires all new construction to establish a Limits of Disturbance (LOD) as described in Section 4.1.1. This requirement provides protection of vegetation, streams, wetlands, riparian areas, while also providing erosion and sediment control via protection of natural areas. To ensure compliance with the LOD Plan, a security deposit must be posted. PCMC also requires a landscaping security deposit to ensure the stabilization (erosion control) of disturbed areas within the LOD. A more detailed discussion of Landscaping requirements is provided in Subsection 4.1.

5.1.3 Land Management Plan and Temporary Erosion Control Plan

PCMC Land Management Plan requires a Temporary Erosion Control Plan for Master Planned Developments. Temporary Erosion Control Plans are not always required for other construction activities. Currently, the Park City Design Standards Construction Specifications and Standard Drawings, provide general requirements and specifications within drawings for the following items related to Construction Site Runoff Control:

- General requirement for “Temporary Construction Drainage” making the contractor responsible for maintaining control of drainage and erosion during construction.
- The “General Improvements Requirements and Design Guidelines” require complete and detailed construction plans and drawings of improvements to be submitted to the City Engineer prior to commencing construction.
- The “Street Construction and Related Work” provides specific instructions for Earth Work and Excavation for Structures, which are indirectly related to erosion control and channel preservation.
- The “Street Construction and Related Work” also provides specifications for topsoil placement, seeding, fertilizer application, mulching, and placement of sod. All of these are important for surface protection (erosion control).
- The “Street Construction and Related Work” also provides specifications for catch basins and inlets related to permanent storm water runoff controls.
- Standard Drawings are provided for “Excelsior Mat Installation,” Jute Mesh Installation,” and “Straw Bale Installation for Erosion Control.”

Table 5.1.4 compares PCMC current Construction Site Runoff Control measures with EPA's minimum Phase II requirements.

Table 5.1.4 Comparison of USEPA Phase II requirements and PCMC existing program.

<p>EPA Phase II Construction Site Runoff Control Requirement</p>	<p>Control Measures Required by Park City’s Codes and Ordinances</p>
<p>Develop, implement, and enforce a program to reduce pollutants in storm water runoff from construction activities that result in land disturbance of greater than or equal to 1 acre.</p>	<ul style="list-style-type: none"> • Park City Building ordinances require a Construction Mitigation Plan to be submitted and approved by the Community Development Department. • Park City’s Sensitive Lands Ordinance includes provisions to protect and enhance wetlands and stream corridors within the SAO. This reduces pollutant levels in storm water runoff by reducing erosion. • Park City’s Master Planned Development (MPD) process is required for residential development sites larger than 5 acres and for commercial sites larger than 2 acres; MPDs must submit Temporary Erosion Control Plans. An MPD site (because of its 60 percent open space requirement) is typically much larger than the actual land disturbance area and therefore this requirement is typically met for MPDs.
<p>Require implementation of proper erosion and sediment controls.</p>	<ul style="list-style-type: none"> • Final Plans should include a LOD Plan and Master Planned Developments are required to have a Temporary Erosion Control Plan. • All construction sites are required to have controls for dust and off-site tracking of mud. • All construction areas must be vegetated with plant material suitable to prevent erosion of topsoil. • Site drainage and ditches must be constructed to conform to natural flow of water to inlets, catch basins, culverts, or channels with proper protection to ensure no erosion occurs. • Under Sensitive Lands Ordinance regulations, all projects adjacent to wetlands must apply Best Management Practices for both temporary and permanent runoff control to minimize sediments and other contaminants.
<p>Require implementation of controls for other wastes.</p>	<ul style="list-style-type: none"> • At construction sites, the contractor or owner is responsible for controlling dust and mud on streets. • Soil deemed non-hazardous will be disposed of in a Utah State Department of Health approved facility or covered on-site with six inches of topsoil and revegetated. • No debris shall be deposited in any stream or body of water without consent. Refuse shall be hauled to an approved waste site.
<p>Have procedure for site plan review of construction plans that consider potential water quality impacts.</p>	<ul style="list-style-type: none"> • The Community Development Department and City Engineer review all Draft and Final construction plans.
<p>Have procedures for site inspection and enforcement of control measures, and have sanctions to ensure compliance.</p>	<ul style="list-style-type: none"> • Park City Building Department will inspect the site for compliance. Park City performs routine inspections to assure proper erosion and sediment controls. A certificate of compliance is issued when property is in compliance. • Requests for inspection are voluntary with the exception of new construction. • Failure to maintain landscaping, control dust or mud, or properly dispose of tailings constitutes a public nuisance and/or ordinance violation.
<p>Establish procedures for the receipt and consideration of information submitted by the public.</p>	<ul style="list-style-type: none"> • A construction sign is required to be posted in a location visible from street or driveway to the construction site. The sign should contain the contractor name, address, and phone number, as well as the name, address, and phone number of the responsible party, and an emergency phone number. Park City receives complaints regarding non-compliance at the Building Department, which responds to each complaint.

Subsection 5.2 Construction Storm Water Management Measurable Goals

PCMC currently meets Phase II Post Construction Storm Water Management minimum control measure requirements defined within this section. Currently, the strategy has strong political support for environmental controls dispersed between a municipal code, construction mitigation plans, and design standards.

As previously described, PCMC existing efforts meet Final Storm Water Phase II Rule requirements for construction site runoff control. Park City's Development Code makes reference to requiring Temporary Erosion Control Plans, as previously described, for certain construction sites. Adoption of a specific storm water and erosion control ordinance that includes design standards, application specifications, implementation methods, and maintenance requirements may be considered in a future ordinance.

Implementation measures and BMPs to further meet the Phase II requirements for Construction Site Runoff Control minimum control measures are listed in Table 5.2.2.

Table 5.2.1 Construction Storm Water Management Goals

Opportunity/Goal	Action Item Schedule	Lead Entity/Funding
<ul style="list-style-type: none"> • Incorporate standard and innovative storm water controls in the design and construction of new development sites by providing drawings and specifications in the Park City Design Standards Construction Specifications and Standard Drawings. • Standard controls will cover all aspects of erosion and sediment controls for disturbed sites including mud and dust controls in the egress and ingress areas to a job site. • Innovative controls include on-site infiltration for all storm water runoff (i.e., depressions in lawn for runoff from driveways and roofs), bioretention and/or filtration areas for parking lot runoff, grass swales for roadside drainage and A General Water Quality Protection Measures for Developments described in Chapter 1. • A list of innovative storm water controls and appropriate design standards should be compiled by Park City from available sources, incorporated into PCMC Design Standards Construction Specifications and Standard Drawings, and provided to developers in the area. • New developments should be required to incorporate these controls in their initial plans. • PCMC will continue to use the review process to determine if adequate controls are in the plans. 	<p>Develop and add design standards and specifications for standard and innovative storm water controls to the Park City Design Standards Construction Specifications and Standard Drawings. April 2003.</p>	<p>Park City Engineer with drawings provided by Utah Division of Water Quality</p> <p>Existing Funds</p>

SECTION 6.0 LONG-TERM STRUCTURAL STORM WATER BEST MANAGEMENT PRACTICES (BMPS)

The requirements relevant to Park City's structural storm water facility activities are identified under the Post-Construction Storm Water Management minimum control measure. Under this provision, PCMC will identify the development, implementation, and enforcement of programs designed to reduce pollutants in post-construction runoff from new development and redevelopment projects (land disturbance greater than or equal to 1 acre).

- Developmental and implementation strategies, which include a combination of structural and/or non-structural BMPs.
- Ordinances or other regulatory mechanism requiring the implementation of post-construction runoff controls to the extent allowable under State, Tribal, or local law.
- Assurances of adequate long-term operation and maintenance of controls.
- Determine the appropriate BMPs and measurable goals for the control measure.

Subsection 6.1 Wet Detention Ponds

PCMC has been proactive in the construction of detention ponds that contain storm water flow instead of directing the storm water flows directly into stream areas. These impoundments are located throughout the city and are managed by PCMC. The impoundments retain storm water, allowing many pollutants to settle to the bottom of the pond instead of migrating into Utah waterbodies.

In addition, Park City has constructed several long-term structural storm water detention ponds to further reduce pollutant loads from development sites. Furthermore, the two PCMC golf courses (Park City Municipal Golf Course and Park Meadows) have ponds designed for storm water retention and irrigation. Table 6.1.1 identifies the wet detention ponds that reside within the city limits:

Table 6.1.1 Location of Wet Detention Ponds

Detention Pond	Location	Type of Containment
Aspen Springs Pond	Aspen Springs Subdivision	Surface and Storm water
Iron Canyon Pond	Iron Canyon Subdivision	Surface and Storm water
Deer Lake	Deer Lake Village	Surface and Storm water
Snow Park Ponds	Deer Valley	Surface and Storm water
Prospector Park Pond	Prospector Subdivision	Surface and Storm water
Dan's Ponds (dry)	Snow Creek Commons	Surface and Storm water
Parking Lot Detention Pond	Park Meadows	Surface and Storm water
Debris Basin	Ontario Canyon	Surface and Storm water
Debris Basin	Empire Canyon	Surface and Storm water
Windrift Condominiums Pond	Windrift Condominiums	Surface and Storm water
248 Detention Basin	UDOT Highway 248	Surface and Storm water
Detention Pond 12, 12B, 13, 14, 18.	PCGC Golf Course	Mine, Surface and Storm water
Detention Pond 1, 2, 4 Green, 4 Elbow, 4 Tee, 6, 7.	PCGC Golf Course	Mine, Surface and Storm water
Phase I Detention Basin	Cove at Eagle Mountain	Surface and Storm water

Subsection 6.2 Streambank Protection and Buffer Projects

PCMC has expended a considerable amount of resources acquiring (see Subsection 4.5) and protecting streams and natural riparian corridors as part of a Streambank Protection and Buffer Enhancement Project.

These projects include the McLeod Creek wetland purchase and preservation project, the Huntsman Wetland Preserve, Kearns Boulevard Open Channel Construction, Silver Creek Open Streambank Areas, Old Town, Prospector, Willow Ranch Wetland Areas, and several different open and protected streams draining from Thaynes Canyon.

Subsection 6.3 Long-term Structural Storm Water BMPs

PCMC guidelines and regulations for Long-term Structural Storm Water BMPs are predominantly in the Park City Municipal Code (Title 15) and the Park City Design Standards Construction Specifications and Standard Drawings. Defined within the municipal code are the requirements specifying adequate drainage to an approved watercourse or facility in order for a subdivision to be approved. Furthermore, the Planning Commission shall not recommend for approval any development or subdivision, which does not provide adequate storm water drainage.

In order to ensure storm water controls are adequate, the design accounts for upstream drainage and runoff as well as impacts on downstream drainage and runoff. Individual lot drainages must follow general storm drainage over the area and avoid concentrating runoff from any lot to adjacent lots. In addition, in areas where under-drains discharge onto fills or upgrades cut slopes, PCMC mandates protection against erosion at the discharge site, mainly by placement of crushed gravel or other approved materials. PCMC also requires inspections in order to ensure maintenance and operation of storm water controls. The City Engineer conducts the inspections. Inspectors have the authority to halt construction if violations occur. Materials used must also pass inspection and be certified either by ANSI or ASTM. These BMP goals are summarized in Table 6.3.1.

Table 6.3.1 Long-term structural storm water BMP Goals

Opportunity/Goal	Action Item Schedule	Lead Entity/Funding
PCGC sediment removal of detention ponds to increase containment capacity.	Dependent on funding and sediment characteristics.	PCGC
PCMC will assure new gas stations will comply with UDEQ storm water requirements. Those stations that do not comply will be referred to the appropriate UDEQ storm water representative.	On-going	Park City Staff Existing Funds
Continue to approach owners of old parking lots (parking lots without long-term storm water runoff controls) to retrofit on-site runoff controls wherever necessary.	Continue to require storm water control retrofits on large parking lots.	Park City Staff Existing Funds

SECTION 7.0 POLLUTION PREVENTION AND GOOD HOUSEKEEPING

The Final Storm Water Phase II Rule establishes a pollution prevention/good housekeeping minimum control measure for municipal operations. Within this section PCMC will identify the following:

- Operational and maintenance program with the ultimate goal of preventing or reducing pollutant runoff from municipal operations into the storm sewer system.
- Training of employees to incorporate pollution prevention/good housekeeping techniques into municipal operations such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.
- Identification of appropriate BMPs and measurable goals for minimum control measure.

Subsection 7.1 Park City Municipal Golf Course Operations

The Park City Municipal Parks and Golf Department manages the Park City Municipal Golf Course (PCGC). The PCGC currently employs a variety of practices that protect water quality and reduce storm water impacts. The majority of these practices are identified in a comprehensive document titled Watershed Restoration and Protection Management Plan (RPMP). The RPMP contains the following information:

Management Plan Content	Description
Operations	General description of PCGC operations.
Water and Irrigation Usage	Course water use and irrigation practices.
Fertilizer Application	Application rates, method, nutrient rates.
Storm water control facilities and drainage plans.	Drainage plans and detention facilities located on the golf course.
Water and Soil Sampling Program	Monitoring and sampling plan.
Waste Water Facilities	Waste water facilities.
Inventory of current conditions and problem areas.	Potential problems identified on the golf course.
Potential Water Quality Impacts	Identification of non-point source contributors.
Best Management Practices	Practices that are employed at PCGC.

7.1.1 Fertilizer Application and Nutrient Management BMPs

PCGS has been very proactive in adopting innovative fertilizer application and nutrient management techniques, which are further defined in the RPMP.

Soil testing is regularly conducted to determine nutrient and metal levels within the golf course soils. To assure agronomic balances occur between the fertilizer and available nutrients, fertilizer types and application rates are adjusted based on the results of the soil tests. This practices results in minimal nutrient migration from the site. The RPMP defines the guidelines for proper timing as well as specifying the amount of fertilizer applied. The following are additional fertilizer application BMPs that the PCGC employs:

- Aerate compacted soil to reduce runoff.
- Minimize fertilizer application rates on slopes.
- Use slow-release fertilizers on sandy soils to reduce leaching potential.
- Avoid application of quick-release fertilizers before heavy rainfall.
- Irrigate after application of quick-release fertilizer to infiltrate nutrients and avoid runoff losses.
- Avoid over-irrigating to prevent leaching.
- Recycle grass clippings and do not place in or near ditches or water bodies.
- Use a drop or gravity spreader (not centrifugal or rotary) near bodies of water to reduce potential for heavy granules to enter water.

7.1.2 Golf Course Set-Back Distances

Fertilizers (and herbicides) are generally not applied within **20-feet** of streams and ponds. On greens and tee areas PCGC practices a 5' buffer zone and utilizes drop spreader techniques to strategically place fertilizer. Fairways, roughs, and parks fields will be protected by a 20' buffer zone. Designation of a wider "chemical free" buffer area along streams as well as the creation of an "no mow" zone along streams has been implemented. Some buffer zones receive mowing on a regular basis, however the zone is free of all broadcast applications of fertilizers and chemicals.

7.1.3 Pest Management BMPs

The PCGC relies on Integrated Pest Management (IPM) techniques to manage golf course pests. This approach emphasizes alternative control methods such as host resistance, natural enemies, and cultural practices so that the use of traditional chemical pesticides can be reduced. The Park City Municipal Parks and Golf Integrated Pest Management Program, identifies specific weed and pest damage tolerance thresholds for greens, tees, fairways, and roughs. The program also lists individual turf grass weeds, fungi, insect, and vertebrate pest species and provides specific cultural practices and chemical control measures for each pest species. BMPs for pesticide selection, use, storage, and disposal are listed in Section 2 of the RPMP. Specific recommendations relevant to water quality protection include:

- Using pesticides that have a low pesticide leaching potential (PLP) index.
- Training employees in proper application techniques.
- Spot treating whenever possible.
- Mixing and storing pesticides in areas where spills may be safely contained and cleaned.
- Filling spray tanks away from water bodies.
- Storing pesticides in properly built, maintained, and secured facilities away from water bodies.

7.1.4 Irrigation Practices BMPs

Irrigation practices used by PCGC are described in Section 1 of the RPMP. The golf course relies on a computerized irrigation system tied to a weather station that assists in determining the exact water application rates. The RPMP establishes watering priorities for different areas of the golf course. Greens and tees receive high watering priority, while fairways, roughs, and natural areas receive lower priority and are watered at reduced application rates during low water years. For instances, because 2001 is a dry year, the roughs at the PCGC have been allowed to revert to dormancy (brown characteristics) so that water can be conserved.

Furthermore, course sprinkler heads are set to have split run times, meaning sprinklers run for 3 separate short periods rather than an extended period of time. This allows water to infiltrate and to avoid nutrient runoff from irrigation flows.

7.1.5 Compliance Inspections

The PCGC also conducts course inspections of every green, tee, fairway, and rough area on a daily basis to note areas of over watering and drought stress. Irrigation rates are adjusted accordingly, based on the results of these inspections. Additional specific guidelines for maintaining healthy turf while conserving water and minimizing irrigation runoff are also practices the course employs. Lastly, the Golf Course Superintendent Association of America is considering using the PCGC's irrigation practices and procedures as a national example of how golf courses can use water more efficiently.

7.1.6 Detention Ponds

PCGC detention ponds have been identified within this document under Subsection 6.1. A total of 13 ponds are located on PCGC property. Because of concerns over the overabundant vegetation, poor appearance, and declining fishery conditions of these ponds, the City contracted with American Lake Doctors (ALD) in 1996 to conduct field surveys of the ponds and develop short and long-term improvement strategies. The surveys found that all but two of the ponds have experienced substantial sediment accumulation over the past 15 years. Two large ponds within the Treasure Hollow drainage have captured large amounts of sediment transported from upstream sources including the Park City Mountain Resort ski area. These two large ponds have surface areas of approximately 1.5 and 2 acres, and measured depths of sediment accumulation range from 1 to 5 feet in each pond. As described in the RPMP, the golf course is actively pursuing a plan for removing this sediment, however dredging and disposal costs could be excessive due to the sediments exhibiting heavy metals (mine related impact). No definite plan or time frame for sediment removal has been established to date. However, the PCGC and Park City Mountain Resort have recently reached an agreement whereby the Resort will fund construction and maintenance of additional detention ponds at the upstream end of the golf course. These ponds will be designed so that they can easily be maintained, and it is anticipated that they will reduce sediment loads reaching the larger ponds downstream.

7.1.7 Wetland Protection BMPs

The golf course RPMP also includes sections that outline construction mitigation measures and wetland and riparian protection measures. The construction measures section states that the PCGC will abide by Summit County Ordinance 381 (see the Construction Site Runoff Control section in Chapter 1 of this document for details) when undertaking construction activities that could potentially affect water resources. The wetlands protection section includes guidelines for delineating, protecting, and preserving wetland areas during site design and construction activities. Additional wetland BMPs listed in the RPMP include:

- Minimizing irrigation water runoff to wetland areas.
- Stabilizing stream banks and ditches to limit erosion.
- Establishing fertilizer and chemical-free buffer zones around wetlands.
- Avoiding directing runoff from parking lots and drives directly into wetlands.

7.1.8 Employee Training

PCGC recognizes the importance of providing training opportunities to the course staff. As a result, employees engaged in pesticide and herbicide application obtain a Non Commercial Chemical Applicators License from the Utah State Department of Agriculture (UDA) **prior** to handling pesticides or giving recommendation on the use of pesticides. The licensing program requires employees to attend 8 hour initial training and completion of an examination in a USDA approved training course. Every three-years re-certification is accomplished through an 8-hour accredited course and “take home” resources are supplied to all trainees for preparation for the final exam. Furthermore, employees making recommendations and/or applying pesticides are aware not to exceed the label restrictions. PCGC employees are aware of the label recommendations of the product. In addition, pesticide usage is consistent with label instructions that are prohibitive due to state and federal regulations. All used pesticide containers are triple rinsed and disposed of appropriately.

Lastly, PCGC conducts “in-house” training to course staff on irrigation techniques, fertilizer, and chemical application practices. The staff at the PCGC has also been trained in hazardous waste management and disposal.

7.1.9 Record Keeping

PCGC retains all chemical and fertilizer application records that document application rate, date, time, reason, applicator name, EPA TSCA Registration Number, and weather conditions. These records are retained permanently as well as the employee training records and personal protection equipment PPE Training. Additionally, records are kept on plant growth and clipping volumes. Records are monitored to insure proper fertilization rates are balanced in order to minimize over application.

7.1.10 Water Quality Monitoring

Refer to Section 9.0 to reference PCGC water monitoring efforts.

Subsection 7.2 Community Recycling Program

A test curbside pickup recycling program has been initiated within Park City. The program is operated through a contract with BFI. In addition, Recycle Utah, a Park City based non-profit membership organization, manages several recycling drop-off centers in the city and Summit County. The Recycle Utah facility in Park City accepts aluminum and tin cans, glass, newspaper, white office paper, phone books, cardboard, brown paper sacks, junk mail, and white envelopes. Within Park City owned buildings and facilities, recycling bins are available for aluminum cans and paper. A Recycle Utah informational handout is provided at the Park City Office building (see Table 3.1.1). In addition, PCMC supports the Recycle Utah Program for the collection of household hazardous waste. Information on hazardous waste disposal options at County and State facilities and will be included in the homeowner brochure. Lastly, PCMC retains a contract for weekly services that collects and properly disposes of used oil from PCMC owned vehicles and equipment.

Subsection 7.3 Street and Drain Maintenance

Park City owns two street-sweeping machines that sweep City streets every 16 days. Storm drains are cleaned out (vacuumed) once per year, and roadside ditches are cleaned out on an as-needed basis, which is generally once per year.

Subsection 7.4 Park Maintenance Activities

The City manages its park areas using the IPM techniques outlined in the Park City Municipal Parks and Golf Integrated Pest Management Program document (see 7.1.3 Pest Management). Irrigation practices coincide with those used by PCGC. Playing fields receive the highest watering priority due to safety concerns; other park areas receive lower watering priority. For instance, some areas during the summer months are watered at 50% of normal rates to compensate for the dry season (exceptions are made for the ballparks).

7.4.1 Park Maintenance Fertilizer Application and Setbacks

The City Parks staff practices fertilizer application guidelines and standards followed by PCGC. This includes no fertilizers or chemicals being applied within **25-feet** of streams or water bodies (refer to Subsection 7.1).

Subsection 7.5 Storm Water Management at City Facilities

Currently, the City owns and manages the following facilities and properties:

- Park City Municipal Corporation Office Building (Marsac Avenue)
- Park City Library
- Miner's Hospital
- Park City Municipal Golf Course
- Park City Racquet Club
- Parks Maintenance Building
- Public Works Maintenance facility/ garage at Ironhorse Drive
- Historic City Hall on Old Main Street
- Various open space properties
- Various parks and trails

7.5.1 PCMC Public Works Department

PCMC Public Works facility is located on Ironhorse Drive. The Public Works facility is equipped with a car wash bay for City vehicles and equipment. Wash wastewater generated from the bay is treated through a series of detention chambers that are regularly maintained.

7.5.2 PCMC Public Works BMPs

Road salt (a mixture of salt and Uti-Lite de-icing material) is contained both at the Ironhorse Drive building and at the Marsac Avenue building. Salt piles at both locations are retained in bermed concrete storage areas that prevent off-site migration of the material during storm events.

Also, City parking lots are swept on a monthly basis. Furthermore, a contracted cleaning service that washes down and scrubs the parking lots twice a year has been retained. Regarding the parking lot runoff drains, these catch basins are regularly maintained.

Subsection 7.6 Landscaping

PCMC subcontracts roadside landscaping maintenance work for the City's streets and roads. This work includes mowing, watering, and hand-pulling weeds. The Parks Department employs environmentally friendly techniques such as weed barriers, mulches, and manual weed pulling to reduce the reliance on herbicides.

Subsection 7.7 Employee Training

The City, in coordination with Summit County, has initiated employee training on how to incorporate pollution prevention for new construction, other land disturbances, and storm water system maintenance. Training for this effort was funded by EPA 104(b)(3) grant funds. The training included a half-day in class session and a construction site visit to discuss pollution prevention in the field.

Subsection 7.8 Pollution Prevention and Good Housekeeping Measurable Goals

PCMC operation and maintenance practices currently incorporate practical storm water BMPs such as:

- Frequent street sweeping.
- Washing vehicles in a designated wash bay that drains to detention chambers.
- Storing salt and sand in bermed areas.
- Providing paper and aluminum can recycling in City buildings.
- Avoiding use of herbicides for weed control and directing parking lot runoff to catch basins.

Table 7.8.1 contains further considerations that PCMC will employ in the future.

Table 7.8.1

Pollution Prevention and Good Housekeeping Measurable Goals

Opportunity/Goal	Action Item Schedule	Lead Entity/Funding
Continue to hold training workshops for City staff and subcontractors (road maintenance personnel, landscapers, grounds keepers, heavy equipment operators) that explain appropriate good housekeeping practices regarding storm water. Topics should include proper fertilizer application techniques; water-conserving irrigation practices; proper maintenance and disposal of vehicle fluids (antifreeze, oil, other fluids); proper techniques for clean up of spills; and benefits of sweeping rather than hosing down parking lots.	Continue ongoing training and document workshop attendance.	City general funds and existing training budget (use workshop materials already developed for home owner workshops).
Restoration of PCGC stream banks requiring reinforcement of banks, river rock, and other measures.	2002	Golf Course Supervisor
PCGC has an on going buffer/natural area around lakes and streams. Expanding area by 20% for further protection to stream and river corridors.	2003 Attempt to have 20% of stream edges buffered.	Golf Course Supervisor
PCGC is seeking Audubon Cooperative Sanctuary certification.	Obtain by 2004	Golf Course Supervisor
PCGC sediment removal of detention ponds.	Dependent on funding and sediment characteristics.	PCGC

SECTION 8.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

In accordance with the Final Storm Water Phase II Rule, development and implementation of an illicit discharge and elimination program is required as a minimum control measure. Within this section PCMC will identify the following:

- The consideration of a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls.
- Prohibitions on non-storm water discharges through ordinances or other regulatory mechanism, and appropriate procedures and action.
- PCMC program for detecting and addressing non-storm water discharges, including illegal dumping.
- The education of public employees, businesses, and the general public about the hazards associated with illegal discharges and improper disposal of waste.
- The determination of appropriate BMPs and measurable goals for this minimum control measure.

Subsection 8.1 Illicit Discharge Enforcement

City code enforcement officers actively provide illicit discharge enforcement under State law. Officers in the field that witness illicit discharging to the storm drains or water bodies have the authority to stop the offender and inform them that such discharges are illegal. Furthermore, the City can issue citations and/or penalties such as revoking building permits if necessary to prevent further illicit discharge occurrences.

City code enforcement officers also have the authority to enforce the State Utah Fire Code that has adopted the International Fire Code that prohibits the release of hazardous materials (IFC 2703.3). Under this code the following prohibition is specified regarding releases:

IFC 2703.3

Release of Hazardous Materials. Hazardous materials in any quantity shall not be released into the sewer, storm drain, ditch, drainage canal, creek, stream, river, lake or tidal waterway, or on the ground, sidewalk, street, and highway or into the atmosphere.

Furthermore, PCMC also rely on the public who continually visit the natural walkways adjacent to the waterways and other scenic areas to report illegal discharges. These reports are routinely reported to the Building Department and an officer is expeditiously dispatched to investigate the complaint.

PCMC is considering the compilation of a storm sewer map illustrating storm drain inlets and outfalls in order to locate all-important outfalls. The City does have a 1981 Drainage Map that was completed as part of the Park City Storm Drain Improvements Master Plan. This map shows the locations of designed and proposed detention ponds, primary drainage channels, and drainage boundaries.

Subsection 8.2 Education

The planned homeowner workshops and the planned brochure provide for education of the general public about illicit discharges. Construction Site Erosion and Sediment Control Workshops are held for City and County staff and local contractors and developers in March 2001. The workshops are a venue for the discussion of enforcement and regulatory procedures under County Ordinance 381, which addresses storm water discharges from construction sites. Furthermore, information concerning proper disposal of household hazardous waste and the problems caused by illicit dumping will be included in the storm water brochure for home owners that will be completed in fall 2001. The topic of illicit discharges is also be covered in the homeowner workshops.

The future activities recommended in Table 8.3.1 further defines PCMC goals on education.

Subsection 8.3 *Illicit Discharge Enforcement Measurable Goals*

Recommended implementation measures for Illicit Discharge Detection and Elimination control measures are listed in Table 8.3.1.

Table 8.3.1 *Illicit Discharge Enforcement Measurable Goals*

Opportunity/Goal	Action Item/Schedule	Lead Entity/Funding Source
Purchasing of ArcView Software and computer hardware that will be used for mapping storm water drains and outfall.	Dependent on outside funding (grant) to purchase within 2002.	Park City Staff
Retaining entity to locate storm water drains and obtain GIS coordinates and stenciling Ids.	Dependent on outside funding (grant) to purchase within 2002.	Park City Staff
Develop information pamphlet for the public.	Dependent on outside funding (grant) to purchase within 2002.	Park City Staff
Establish an effective procedure for coordinating with Summit County and Utah DEQ to follow-up on illicit discharge reports.	Make phone calls as necessary. Coordinate with Summit County Health Department Environmental Director and Utah DWQ.	Park City Staff Existing City budget
Support Summit County's educational program for commercial businesses. The program should include development of posters, educational materials, and workshops describing proper storm water practices (i.e., proper waste disposal practices, parking lot sweeping, fueling practices, spill clean-up) and problems caused by illicit discharges.	Jointly with Summit County	Park City Staff Existing Funds

SECTION 9.0 MONITORING

In accordance with the Final Storm Water Phase II Rule, the following information should be accounted for within the Storm Water Management Plan.

- Measurable goals for each minimum control measure (Section 11.0).
- Estimated months and year that the goals will be accomplished (Section 11.0).
- Person or persons responsible for implementing or coordinating the storm water program (Section 10.0).

Also within this section PCMC will identify other monitoring that the city has committed to in order to further improve the SWMP's intent.

Subsection 9.1 Water Quality Monitoring

Currently, Park City performs water quality monitoring and sampling activities on an as-needed basis; regular monitoring of storm drain outfalls is not conducted. However, PCGC conducts regular water quality sampling at approximately 7 locations on the course where streams enter and exit the golf course. The samples are analyzed for the following analytical constituents:

- Nutrients
- Total suspended solids (TSS)
- Visual observation

This monitoring assists PCGC to detect fertilizer leaching and assess management practices. The sampling frequency for this monitoring is done once every 2-months during the winter and once per-month during the golfing season.

Also, PCMC is engaged in a cooperative effort with Utah Division of Water Quality to further research pollutant loads impacting Silver and East Canyon Creek. The purpose of this effort is to further quantify pollutant loads and background contributors associated with storm water run-off. This data will be utilized within Utah's Total Maximum Daily Load (TMDL) program to add credible scientifically based results to the TMDL for these water bodies. Furthermore, PCMC is also involved in the East Canyon Watershed Water Quality Technical Advisory Committee for the East Canyon Watershed. The formulation of this committee has resulted in the establishment of a water quality monitoring sub-committee. This sub-committee has collected water quality samples with the main tributaries of East Canyon Creek. PCMC has conveyed its support to continue sampling storm water runoff on a periodic basis.

Lastly, PCMC staff (i.e. building inspectors, environmental specialist) also conducts periodic visual water quality monitoring and if discrepancies are observed further investigation measures are implemented to locate the source.

Subsection 9.2 Reporting

All activity and records associated with the compliance of the SWMP will be managed by the Environmental Specialist and retained in the PCMC Environmental Database. Upon completing measurable goals or training this information will be entered into the database for historical purposes. In the event UDEQ request a report on the progress of the SWMP these reports will be generated upon request. The following will be retained in the database:

- Measurable Goal Status and Completion
- Assessments of BMPs
- Storm Water Activity
- BMP Modifications
- Inspections Related to Storm Water
- Training Dates

SECTION 10.0 PCMC FINANCIAL AND PERSONNEL COMMITMENT

Within this section PCMC will identify the financial and staff commitment for implementing the SWMP and its components.

Subsection 10.1 Staffing

The Environmental Specialist who resides in the Community Development Department has the primary responsibility for employing the SWMP and its content. Further support is found within the Building Department with the inspectors (6) that continually investigate building sites, plans, and complaints. Lastly, PCGC has a very proactive Golf Course Supervisor that addresses the storm water issues associated with the course.

Subsection 10.2 Table Documenting PCMC Financial Commitment

The following table represents the PCMC funding sources and the applicability to the SWMP.

Funding Source	Item	SWMP Relationship
\$10 million Open Space Bond	Open Space and River Corridors	Subsection 4.5
PCGC Budget Parks and Recreation Department	Golf Course BMPs	Subsection 7.1
PCGC Budget Parks and Recreation Department	Golf Course Supervisor	Section 7.0
PCMC Budget Building Department	Building Department Inspectors (6)	Section 4.0
PCMC Budget Community Development Department	Environmental Specialist	Subsection 10.1

SECTION 11.0

SUMMARIZATION OF PCMC MEASURABLE GOALS

Opportunity/Goal	Action Item/Schedule	SWMP Area and Responsible Department
Expand the City Park xeriscape demonstration project to include interpretive/ educational displays that explain the water conservation benefits of xeriscaping.	Install interpretive / educational signs by June 2002.	Section 3.0 Education Community Development Department
Add to interpretive/ educational displays into planned cross-country ski trail.	Identify appropriate location/ content for display(s); schedule will depend on schedule for ski trail relocation	Section 3.0 Education Community Development Department
Develop or locate a Waste Oil Recycling brochure that documents all local vendors willing to accept waste oil.	Brochure and information compiled by December 2002.	Section 3.0 Education Community Development Department
Expand availability of educational handouts by putting storm water related handouts on PCMC web site and provide links to other storm water websites such as the Center for Watershed Protection website. Provide display stands and brochures at libraries, vehicle registration and voter registration sites, and home improvement/garden/paint stores.	Distribute homeowner pamphlet to new sites and provide website links by December 2002.	Section 3.0 Education Community Development Department
Coordinate with Summit County to develop a watershed interpretation program to increase the public's awareness of their connection to and impacts on waterways within the City and County.	Identify appropriate locations for interpretive displays and/or water body identification signage in coordination with Summit County's schedule.	Section 3.0 Education Community Development Department
Develop a Storm Water News Letter for Park City residents to be distributed.	June 2002	Section 3.0 Education Community Development Department
Purchase of Round Valley 440 acre allotment to further reflect PCMC commitment to acquiring open space.	2001	Subsection 4.6 Post-Construction Storm Water Management Measurable Goals Community Development Department
PCMC will consider fencing off Richards Parcel and improving the streams within the parcel.	2002-2003 Dependent on obtaining outside funding for material.	Subsection 4.6 Post-Construction Storm Water Management Measurable Goals Community Development Department
Continue to implement Storm Water Management programs that include requirements for construction and post-construction runoff controls.	Ongoing	Subsection 4.6 Post-Construction Storm Water Management Measurable Goals Community Development Department
Continue to implement erosion and sediment controls for all grading and excavation, including ski area construction and development.	Ongoing	Subsection 4.6 Post-Construction Storm Water Management Measurable Goals Community Development Department

Section 11.0 Summarization of PCMC Measurable Goals Continuance

Opportunity/Goal	Action Item Schedule	SWMP Area and Responsible Department
<ul style="list-style-type: none"> • Incorporate standard and innovative storm water controls in the design and construction of new development sites by providing drawings and specifications in the Park City Design Standards Construction Specifications and Standard Drawings. • Standard controls will cover all aspects of erosion and sediment controls for disturbed sites including mud and dust controls in the egress and ingress areas to a job site. • Innovative controls include on-site infiltration for all storm water runoff (i.e., depressions in lawn for runoff from driveways and roofs), bioretention and/or filtration areas for parking lot runoff, grass swales for roadside drainage and A General Water Quality Protection Measures for Developments described in Chapter 1. • A list of innovative storm water controls and appropriate design standards should be compiled by Park City from available sources, incorporated into PCMC Design Standards Construction Specifications and Standard Drawings, and provided to developers in the area. • New developments should be required to incorporate these controls in their initial plans. • PCMC will continue to use the review process to determine if adequate controls are in the plans. 	<p>Develop and add design standards and specifications for standard and innovative storm water controls to the Park City Design Standards Construction Specifications and Standard Drawings. December 2002</p>	<p style="text-align: center;">Section 5.0 Construction Site Runoff Control</p> <p style="text-align: center;">Park City Engineer with drawings provided by Utah Division of Water Quality</p>
<p>PCMC will assure new gas stations will comply with UDEQ storm water requirements. Those stations that do not comply will be referred to the appropriate UDEQ representative.</p>	<p style="text-align: center;">On-going</p>	<p style="text-align: center;">Section 6.0 Long Term Structural BMPs</p> <p style="text-align: center;">Community Development Department</p>
<p>Continue to approach owners of old parking lots (parking lots without long-term storm water runoff controls) to retrofit on-site runoff controls wherever necessary.</p>	<p>Continue to require storm water control retrofits on large parking lots.</p>	<p style="text-align: center;">Section 6.0 Long Term Structural BMPs</p> <p style="text-align: center;">Community Development Department</p>

Section 11.0 Summarization of PCMC Measurable Goals Continuance

Opportunity/Goal	Action Item Schedule	SWMP Area and Responsible Department
<p>Continue to hold training workshops for City staff and subcontractors (road maintenance personnel, landscapers, grounds keepers, heavy equipment operators) that explain appropriate good housekeeping practices regarding storm water. Topics should include proper fertilizer application techniques; water-conserving irrigation practices; proper maintenance and disposal of vehicle fluids (antifreeze, oil, other fluids); proper techniques for clean up of spills; and benefits of sweeping rather than hosing down parking lots.</p>	<p>Continue ongoing training and document workshop attendance.</p>	<p>Section 7.0 Pollution Prevention and Housekeeping</p> <p>City general funds and existing training budget (use workshop materials already developed for home owner workshops).</p>
<p>Restoration of PCGC stream banks requiring reinforcement of banks river rock and other measures.</p>	<p>2002</p>	<p>Section 7.0 Pollution Prevention and Housekeeping</p> <p>PCGC Golf Course Supervisor</p>
<p>PCGC has an on going buffer/natural area around lakes and streams. Expanding area by 20% annually for further protection to stream and river corridors.</p>	<p>2003 Attempt to have 20% of stream edges classified as buffer on an annual basis.</p>	<p>Section 7.0 Pollution Prevention and Housekeeping</p> <p>PCGC Golf Course Supervisor</p>
<p>PCGC is seeking Audubon Cooperative Sanctuary certification.</p>	<p>Obtain by 2004</p>	<p>Section 7.0 Pollution Prevention and Housekeeping</p> <p>PCGC Golf Course Supervisor</p>
<p>PCGC sediment removal of detention ponds.</p>	<p>Dependent on funding and sediment characteristics.</p>	<p>Section 7.0 Pollution Prevention and Housekeeping</p> <p>PCGC Golf Course Supervisor</p>
<p>Purchasing of ArcView Software and computer hardware that will be used for mapping storm water drains and outfall.</p>	<p>Dependent on outside funding (grant) to purchase within 2002.</p>	<p>Section 8.0 Illicit Discharge Detection and Elimination</p> <p>Community Development Department</p>
<p>Retaining entity to locate storm water drains and obtain GIS coordinates.</p>	<p>Dependent on outside funding (grant) to purchase within 2002.</p>	<p>Section 8.0 Illicit Discharge Detection and Elimination</p> <p>Community Development Department</p>

Section 11.0 Summarization of PCMC Measurable Goals Continuance

Opportunity/Goal	Action Item Schedule	SWMP Area and Responsible Department
Develop information pamphlet for the public.	Dependent on outside funding (grant) to purchase within 2002.	<p align="center">Section 8.0</p> <p align="center">Illicit Discharge Detection and Elimination</p> <p align="center">Community Development Department</p>
Establish an effective procedure for coordinating with Summit County and Utah DEQ to follow-up on illicit discharge reports.	Make phone calls as necessary. Coordinate with Summit County Health Department Environmental Director and Utah DWQ.	<p align="center">Section 8.0</p> <p align="center">Illicit Discharge Detection and Elimination</p> <p align="center">Community Development Department</p>
Support Summit County's educational program for commercial businesses. The program should include development of posters, educational materials, and workshops describing proper storm water practices (i.e., proper waste disposal practices, parking lot sweeping, fueling practices, spill clean-up) and problems caused by illicit discharges.	Jointly with Summit County	<p align="center">Section 8.0</p> <p align="center">Illicit Discharge Detection and Elimination</p> <p align="center">Community Development Department</p>