

Town of Lake Lure / Morse Park Stormwater Plan

Final Report

February 16, 2011

Stormwater Plan- A plan has been crafted for the town of Lake Lure to address stormwater issues as they relate to the marina parking area and the multi-use field. This plan is multi-functional as it also addresses the following:

- Existing stormwater conveyance deficiencies (ponding in the parking areas);
- Increase the treatment potential for stormwater which is generated in the marina parking area and is currently draining directly to Lake Lure with little water quality treatment;
- Increase total area for recreation use;
- Provide opportunities to incorporate wetland interpretation as an educational component of Morse Park;
- Include recommendations from the USACE meeting for pursuing Nationwide 27 Permit; and
- Enhance the visual character and interest of the park system.

Planting Plan- A planting plan to enhance the existing wetland area was drafted to provide guidance not only to enhance the visual character of the wetland, but to suggest appropriate plant material which will aid the wetland system in functioning properly. The planting focuses on the ground layer of the wetland using herbaceous plants to provide root structure and flowering/seasonal interest at staggered intervals throughout the year. An all native planting palette was utilized in the plan which can tolerate saturation and drought once established. The spacing of the planting plan was intended to compete with existing exotic invasive stock which is located around the wetland and will need to be removed prior to planting. A mow strip was also incorporated along the edge of the wetland cell so that invasive movement can be readily monitored in addition to aid in deterring invasive migration from nearby locations. This mow edge will also help keep a more “managed” look to the perimeter of the wetland.

Potential Costs- \$82,000

The cost estimate is intended to serve as "back of the napkin" idea to provide guidance on future progress to implement the plan as designed. Costs are anticipated to include items such as: grading, planting, and stormwater conveyance structures.

Potential Funding- Because the Morse Park Stormwater Plan is serving such a variety of ecological, social, water quality, and educational functions, the project should provide great opportunity to seek funding through (but not limited to) a wide selection of sources. (See attached)

Next Steps for Park & Recreation Board-

1. Complete a Wetland Delineation: Prior to the Jurisdiction Determination to be finalized by the USACE, Equinox highly recommends that a wetland delineation be performed. This may reduce the land that is currently considered the wetland area, roughly 4.55 acres by the USACE. This

wetland delineation can be performed by Clint Calhoun or a qualified wetland delineator. This is important because if the USACE does not qualify the project for a Nationwide 27 Permit and the current wetland boundary does not change, an Individual Permit may be needed as disturbance necessary to provide adequate drainage solutions will likely exceed the nationwide threshold of 1/2 acre.

2. Invasive management plan: The proliferation of invasive exotic (“non-native,” “alien,” or “non-indigenous”) plant species is becoming one of the most pressing issues for property managers. During the site analysis performed by Equinox for Morse Park, several species of invasive exotic species were identified. Invasive plants contribute to site degradation, threaten native vegetation and ecosystems, and left unchecked, can result in significant economic losses. The purpose of a management plan would be to provide a guiding document for the Town of Lake Lure to effectively control, monitor, and potentially eradicate invasive exotic plant species within the project area. The plan would identify several strategies and actions required to achieve these goals as well as a time frame for completion. As well, the visual quality of the wetlands will be maintained if a management plan is created and implemented over time. Otherwise the wetland areas will naturally revert to a “wooded marshy area” and the new plantings proposed (as part of the plan) will be overtaken by other plants in time.
3. Obtain Nationwide 27 Permit Designation: Submit Final Plans and a Narrative to the USACE to request the project qualify for a Nationwide 27: Restoration/Enhancement Permit. Equinox would also recommend the representatives for the project provide a “presentation” to the USACE during review of the narrative and plans. Any effort to help qualify this project for a Nationwide 27 permit will be well worth it in the long run, as a true enhancement to the existing conditions will meet the Parks and Recreation Board's objective to incorporate the wetland areas a part of the park experience while gaining "usable" recreational space within Morse Park and the municipal area in general. Please note, that before a permit can be submitted, the first step will be getting the project to qualify for the Nationwide 27 Permit designation. This begins with the wetland delineation mentioned above and a pre-submittal presentation to a USACE field representative.
4. Work with USACE: Equinox has found that when working with the USACE it is better to be patient and work with them to solve issues rather than take a hard position against certain decisions. If this position is taken, the USACE tends to be more willing to help reach a positive outcome.
5. Grants/Funding: Concurrently begin preparing plans, applications, and supporting documentation to apply for grant opportunities to provide more detailed design (construction documents), construction oversight, and construction.
6. A FEMA no rise may be needed for this project prior to construction. When modifications are made in the 100 year floodplain it can trigger the need for a no-rise analysis and report. The FEMA no-rise report demonstrates, using modeling of FEMA stream data to reflect proposed

changes in the 100 year floodplain, that there is no increase in the water depth at the 100 year storm. If the disturbance does cause a rise in the 100 year storm stream flood level, then a FEMA CLOMR (Conditional Letter of Map Revision prior to construction) and LOMR (Letter of Map Revision done post construction) is required. The grading for the site is close to being balanced which should avoid the need for a CLOMR and LOMR. A final determination regarding this issue can be made by the Town of Lake Lure's Environment Management Officer.

Equinox Environmental has appreciated the opportunity and experience of working with the Town of Lake Lure and the Parks and Recreation Board. We feel that the final plan provided not only meets all objectives originally indicated for the project, but also provides great opportunities to create a true destination park.

Potential Funding Opportunities (Water Quality Based)

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Jurisdiction	Funding Type	Funding Program	Funding Cycle	Short Description	Intended For	Max Level Funds	Funding Match Requirements	Implementing Agency	Title	Website
State	Grant	NC CWMTF	Feb. 1, 2011	Funds from CWMTF may be used to help finance projects that improve surface water quality and eliminate pollution	promotion of healthy surface waters	\$3M annually may not exceed construction costs	recommended 50% local match	General Assembly	Restoration/Stormwater Project Manager	http://www.cwmtf.net/a/index.html#restostorm-adm.htm
State	Grant	NCPARTF	Jan. 31, 2011	provides dollar-for-dollar matching grants to local governments for parks and recreational projects to serve the general public.	build/renovate parks and their facilities	\$500K	50% \$ for \$ match (allows other St./Fed \$ to count)	NC General Assembly	Program Manager	http://www.ncparks.gov/About/grants/partf_main.php
State	Grant	NC CCAP			water quality, stormwater management and retrofit practices, 303-d listed streams			DWQ	CCAP Coordinator	http://portal.ncdenr.org/web/swc/ccaplandingpage
State	Matching	LWCF	Jan. 31, 2010	to create parks and open space, protect wilderness, wetlands, and refuges, preserve habitat and enhance outdoor recreational opportunities.	conservation and outdoor recreation projects	\$250K	\$ for \$; cash, in-kind, prop value	NPS / DOI	Program Manager	http://www.ncparks.gov/About/grants/lwcf_main.php
Regional	Grant	Appalachian Regional Commission (ARC)		federal-state partnership that works with the people of Appalachia to create opportunities for community and economic development	promote health through wellness and prevention; build and enhance environmental assets.	up to 90% federal	match recommended, not required		Appalachian Program Manager	http://www.arc.gov/grants
State	Grant	Water Resources Development Project Grant Program	Jul. 1, Jan. 1, 2011	designed to provide cost-share grants and technical assistance to local governments throughout the State	water management, stream restoration	\$300K	1/3 (33%) local/state match			http://www.ncwater.org/Financial_Assistance/
Federal	Grant	National Wetland Program Development Grants	Oct. 21	Developing a comprehensive monitoring / assessment program; improving the effectiveness of compensatory mitigation; and refining the protection of vulnerable wetlands and aquatic resources.	develop or refine state/tribal/local government wetland programs	\$200K	25% local/state match	EPA	US EPA Region 4	http://water.epa.gov/grants_funding/wetlands/grant_guidelines/index.cfm
Federal	Grant	Section 319(h)		319(h) authorizes EPA to award grants to states with approved Nonpoint Source Assessment Reports and Nonpoint Source Management Programs; used to implement programs and projects designed to reduce nonpoint source pollution.	Implementing ground water protection activities; Funding urban storm water runoff activities; Implementing lake protection and restoration activities	TBD by state	cost/share, 60% federal		Supervisor - NPS Unit, DWQ	http://www.epa.gov/owow/_keep/NPS/cwact.html
Private	Grant	Pigeon River Fund Grant	March 15; Sept. 15	The Pigeon River Fund exists to improve the streams and rivers of Haywood, Buncombe and Madison counties.	Improving surface water quality,] enhancing fish and wildlife management and habitats	\$2500-\$25K; or + as applicable	no match required	Community Foundation of WNC	Program Officer	http://cfwnc.org/grants/PigeonRiver.html

Potential Funding Opportunities (Greenway/Park Based)

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Jurisdiction	Funding Type	Funding Program	Funding Cycle	ShortDescription	IntendedFor	Max Level Funds	Funding Match Requirements	Implementing Agency	Title	Website
Nationwide	Federal	Healthy People 2020 Community Implementation Grants Program	TBD	Healthy People provides science-based, 10-year national objectives for promoting health and preventing disease.	activities that support the goals of Healthy People 2020	based on community qualifications		Federal Department of Health and Human Services	Office of Disease Prevention and Health Promotion	http://www.healthypeople.gov/2020/default.aspx ; http://www.healthypeople.gov/hp2020/Objectives/TopicArea.aspx?id=19&TopicArea=Educational+and+Community-Based+Programs
Regional	Federal	Appalachian Regional Commission (ARC)	1-Apr-11	provides funding for projects in the Appalachian Region for: business development, education and job training, telecommunications, infrastructure, community development, housing, and transportation.	economic growth, infrastructure, community development	\$200,000	between 50-80%, depending upon eligibility	A.R.C	ARC Program Manager: Division of Community Assistance	http://www.arc.gov/funding/ARCGrantsandContracts.asp
Nationwide	Federal	Energy Efficiency and Conservation Block Grant Program	TBD	represents a Presidential priority to deploy the cheapest, cleanest, and most reliable energy technologies we have across the country.	renewable energy retrofit, renewable infrastructure designs	2.5 million for NC		Department of Energy		http://www1.eere.energy.gov/wip/eecbg.html
Nationwide	Private	Fish America Foundation	12/10/2011 (for 2012)	offer grants for freshwater fisheries habitat restoration/family fishing waters improvement projects.	can include greenways that enhance or conserve water resources	\$5,000-30,000	no match required, but advised	Fish America Foundation	Grants Administrator	http://www.asafishing.org/content/conservation/fishamerica/
Nationwide	Private	Oracle Corporate Giving Program	Open	endangered animal and environmental protection	environmental education/enhancement; can include trails/greenways	\$5,000-\$10,000		Oracle	see website	http://www.t4cd.org/Resources/ICT_Resources/Grants/Pages/ICTGrant_131.aspx
Nationwide	Private	Global ReLeaf	January 15, July 1, annually	Dec 2010: still in effect, does not specifically fund trail restoration, but funds reestablishment of forests and replanting of trees;	planting tree seedlings on public lands		cost-share funding	American Forests		http://www.americanforests.org/global_releaf/grants/
Nationwide	Federal	Community Development Block Grant Program (CDBG)	20-Aug-11	provides annual grants to develop viable urban communities	can include greenways/trails	based on 'entitlement'	match is optional	U.S. Department of Housing and Urban Development (HUD)	Director, Office of Grant Block Assistance	http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm
Nationwide	Federal	Land and Water Conservation Fund (LWCF) Grants	Yearly (not yet announced)	The LWCF program provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities.	includes trails and greenways	\$10,000-\$200,000	50% \$-\$ local match	National Park Service	Grants Program Manager	http://www.nps.gov/nrcr/programs/lwcf/
Nationwide	Private	National Trails Fund	closed for 2011	Dec 2010: program in effect, funds grassroots orgs. Aiming to establish, protect and maintain foot trails	hiking trails and footpaths	usually ~80% Fed share, max 95%	some states require 50% match	American Hiking Society	Acting Manager	http://www.americanhiking.org/our-work/national-trails-fund/
Nationwide	Federal	Recreational Trails Program		provides funds to States to develop/maintain rec trails and related facilities for both nonmotorized and motorized uses	trails/walking + biking paths	usually ~80% Fed share, max 95%	some states require 50% match	U.S. Department of Transportation's Federal Highway Administration (FHWA)	Recreational Trails Program Manager	http://www.fhwa.dot.gov/environment/recreails/index.htm
Nationwide	Federal	Transportation and Community and System Preservation Pilot Program		provides funding for planning grants, implementation grants, and research to investigate and address the relationship between transportation and community and system preservation	planning and implementing a variety of transportation programs; can include trails	80% Federal share		Federal Highway Administration		http://www.fhwa.dot.gov/tcsp/index.html
Nationwide	Federal	Economic Development Grants for Public Works and Development of Facilities	TBD	upports the construction, expansion or upgrade of essential public infrastructure and facilities	can include trail development and greenway facilities; planning	may not exceed 50% of project cost	50%	U. S. Department of Commerce, Economic Development Administration (EDA)	Public Works Division, EDA	http://www.eda.gov/InvestmentsGrants/Investments.xml
Nationwide	Federal	Surface Transportation Program (STP)	TBD	provides flexible funding that may be used by States and localities for projects on any Federal-aid highway	greenway/trail planning and construction; EA	no set maximum; typically 80% Federal share	20%			
NC	State	Bicycle and Pedestrian Planning Grant Initiative	3-Dec-11	annual matching grant program to encourage municipalities to develop comprehensive bicycle plans and pedestrian plans.	bicycle and pedestrian trails and paths	~\$60,000	20-50% match (dependent upon municipal population)	NCDOT Division of Bicycle and Pedestrian Transportation	Planning Program Manager	http://www.ncdot.gov/bikeped/funding/default.html

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NC	State	NC Blue Cross Blue Shield Healthy Active Communities	check back mid-January 2011 for application period	Increasing physical activity in rural environments	master plans	based on scope of project	match preferred	BCBS: NC	Program Manager	http://www.bcbsncfoundation.org/healthy-active-communities/
NC / SC	Private	The Duke Endowment	check back in April for next period	supporting innovative solutions to widespread problems and by funding systems and facilities that strengthen organizations.	community health; workplace wellness	Recession of 2009-2010 has led to a decrease in funding. Only projects involving health are being considered.		Duke Energy	Vice President	
NC	State	Adopt-A-Trail Grant Program	28-Feb-11	dedicated to helping citizens, organizations and agencies plan, develop and manage all types of trails ranging from greenways and trails for hiking, biking and horseback riding to river trails and off-highway vehicle trails.	Trails		no match required	Dept of Environment & Natural Resources, through Div. of Pks & Rec; through State Trails Program	Mountain Region Trails Specialist	http://www.ncparks.gov/About/trails_grants.php
NC	State	Recreational Trails Program	28-Jan-11	provides funds to the States to develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses.	trail development	\$75,000	20% match	NC Division of Parks and Recreation	State Trails Program Coordinator	http://ncparks.gov/About/grants/trails_grant.php
NC	State	Natural Heritage Trust Fund	3/15/2011; 9/15/2011	supplemental funding source for state agencies to acquire and protect the state's ecological diversity and cultural heritage	includes acquiring natural lands for outdoor recreation			NC Division of Parks & Recreation, Natural Heritage Trust Fund	Executive Director	http://www.ncnhtf.org/
NC	State	NC Clean Water Management Trust Fund (CWMTF)	1-Feb-11	to develop a grant program to clean up impaired waters and to protect remaining pristine waters of the state	can include greenways or trails	up to 100% of project cost	match recommended	NC Department of Environment and Natural Resources	Water Quality Advisor	http://www.cwmtf.net/a/index.html#appmain.htm
NC	State	Eat Smart, Move More	Fall 2011 for 2013-2014; two year cycle	supports local health departments in North Carolina in their efforts to develop community-based interventions that encourage, promote and facilitate physical activity and healthy eating.	projects to address childhood obesity; can include trail building, gardens;	\$150,000	20% State or local match	North Carolina Physical Activity and Nutrition (PAN) Branch in the Division of Public Health		http://www.eatsmartmovemorenc.com/Funding/Funding.html
NC	State	NC Parks & Recreation Trust Fund (PARTF)	31-Jan-11	to fund improvements in the state's park system, to fund grants for local governments and to increase the public's access to the state's beaches.	preservation of natural resources & development of public park & recreation facilities	\$500,000	50% \$-\$ local match	NC Division of Parks & Recreation	Program Manager	http://www.ncparks.gov/About/grants/partf_main.php