



10-Year
Capital Needs / Infrastructure Improvement Plan
2017 – 2026

Great Parks of Hamilton County
July 26, 2016

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Legend

Abbreviation	Park
ARM	Otto Armleder Memorial Park
CLP	Campbell Lakes Preserve
EW	Embshoff Woods
FWNP	Farbach-Werner Nature Preserve
FP	Fernbank Park
FR	Francis RecreAcres
GG	Glenwood Gardens
LI	Lake Isabella
LMGC	Little Miami Golf Center
MWF	Miami Whitewater Forest
MMF	Mitchell Memorial Forest
SW	Sharon Woods
SL	Shawnee Lookout
TC	Triple Creek
WW	Winton Woods
WNP	Withrow Nature Preserve
WM	Woodland Mound

Introduction

The following report provides an overview of anticipated capital improvement project needs for the next ten years. These infrastructure repair and/or replacement projects have been identified through an in-house staff review process. The associated cost estimates are considered preliminary and inclusive of standard design and engineering costs.

Priority 1 Projects - These are projects that should be addressed over the next ten years in order to adequately insure and improve guest experience; protect and preserve natural resource assets, and; protect and maintain capital assets. These projects are considered to be significant and / or critical at this time and if left unattended, will become potential liabilities in the future.

Priority 2 Projects - These are projects that should be addresses in the 10 years as resources are available. They are considered important and / or becoming critical in order to adequately insure and improve guest experience; protect and preserve natural resource assets, and; protect and maintain capital assets. These projects will ascend to Priority 1 status during the next ten years.

A detailed review of priority 1 projects should be undertaken to better determine actual costs and a recommended timeline for implementation. The project categories and estimated total costs are as follows:

Capital Asset Categories	Priority 1	Priority 2	Total
Natural Resource Management and Restoration	\$11,625,000	\$4,877,000	\$16,502,000
Recreational Facilities	\$1,615,000	\$197,000	\$1,812,000
Education and Interpretive Exhibits	\$1,700,000	\$150,000	\$1,850,000
Playground Improvement	\$3,000,000	\$1,350,000	\$4,350,000
Signage Improvements	\$1,998,000	\$160,000	\$2,158,000
Park Infrastructure - Paved Roads, Trails, Paths and Parking Lots	\$6,825,000	\$2,100,000	\$8,925,000
Park Infrastructure - Utilities	\$5,030,220	\$6,922,220	\$11,952,440
Park Infrastructure - Dams and Bridges	\$3,846,969	\$2,022,601	\$5,869,570
Park Infrastructure - Building Repairs and Renovations - Specific Buildings	\$3,922,200	\$2,247,900	\$6,170,100
Park Infrastructure - Buildings: General Building Upkeep and Repairs, All Parks	\$3,085,000	\$3,369,000	\$6,454,000
Total	\$42,647,389	\$23,395,721	\$66,043,110

NATURAL RESOURCE MANAGEMENT AND RESTORATION

Great Parks operates with a land management policy where 80% (over 13,000 acres) of its parkland is dedicated for natural resource conservation purposes. Forests, meadows, grasslands, brush lands, prairies and wetlands are carefully managed to enhance biological diversity of plants and animals. In addition to annual operating expenditures within the Natural Resources Division, individual projects are required to protect, maintain and enhance these natural resource assets.

Park	Project Name	10 Year Total
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PRIORITY 1

ALL	EAB Hazard Tree Management	\$2,950,000
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To insure and improve guest safety, the park district is removing dead and dying ash trees from Great Parks areas. Over 18,000 trees, which could pose a potential safety concern, have been systematically identified with GPS locations across Great Parks. To date, over 8,300 trees located in, or near high guest contact areas (trails, roadways, picnic areas, campgrounds and golf courses) have been felled through a combination of contract removal, Great Parks staff removal and natural causes. Great Parks will be aggressively and proactively moving forward with additional tree removal projects each year.

ALL	Streambank Erosion	\$500,000
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This project includes design and construction cost to address unforeseen streambank erosion areas that threaten infrastructure such as roads, trails, parking lots, and buildings. Typically OPWC Clean Ohio funds are leveraged to complete these projects. For example, several streambank erosion projects were completed at Miami Whitewater Forest Dry Fork Creek in excess of \$2 million dollars.

ALL	Landslide Repairs	\$500,000
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This project includes design and construction costs to address current known landslide prone areas. Staff has identified 10 sites with active hillside movement (slow moving landslides) continue to impact several roads, trails, or threaten buildings in Glenwood Gardens (1), Winton Woods (6), Miami Whitewater Forest (2), and Shawnee Lookout (1). For example, in 2012, SL Pier Wall System cost \$250,000 to correct 700 lineal feet of roadway damage.

ALL	Invasive Species Management	\$400,000
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To combat new or recent invasions of non-native/invasive plants and animals which are expected to become significant ecological problems. There are currently 9 new plant species and 2 insect species which are placing the parks at risk.

NATURAL RESOURCE MANAGEMENT AND RESTORATION continued

Park Project Name 10 Year Total

MWF Dredging (400,000 cubic yards of silt) x (\$15/cubic yard-hydraulic dredging) \$6,000,000

Estimate 400,000 cubic yards of sediment removal will be needed at Miami Whitewater Forest Lake. The estimate of \$15/cubic yard is a conservative estimate that is intended to include design, construction and hydraulic dredging costs. In 1994, Strimple Creek silt retention dam was constructed upstream from Miami Whitewater Forest Lake. This dam is permitted by the Ohio Department of Natural Resources as a Class III Dam, file number 9145-032. The purpose of the dam was to trap silt and sediment before it enters Miami Whitewater Forest Lake. The drainage area above the dam site is approximately 1,043 acres. While this dam facility is working properly, a dredging project is still likely to be needed in the future.

SW Dredging (85,000 cubic yards of silt) x (\$15/cubic yard-hydraulic dredging) \$1,275,000

Estimate 85,000 cubic yards of sediment removal will be needed at Sharon Lake. The estimate of \$15/cubic yard is a conservative estimate that is intended to include design, construction and hydraulic dredging costs. In 1988, Sharon Lake was mechanically dredged.

PRIORITY 2

ALL Reforestation \$100,000

Reforestation of canopy openings in natural areas due to tree mortality as a result of invasive species and disease. This is an important step to keep Amur honeysuckle from gaining a foot-hold.

WW Dredging (318,000 cubic yards of silt) x (\$15/cubic yard-hydraulic dredging) \$4,777,000

Estimate 318,000 cubic yards of sediment removal will be needed at Winton Lake. The estimate of \$15/cubic yard is a conservative estimate that is intended to include design, construction and hydraulic dredging costs. In 1994, Winton Woods Retention Basin was constructed by Great Parks of Hamilton County. It is permitted by the Ohio Department of Natural Resources as a Class II Dam, file number 924-033. The basin is located northwest of the West Fork of the Mill Creek Dam, adjacent to the downstream end of Winton Lake. The basin occupies 37 surface acres to the out slopes of the dike walls. The interior impoundment area is approximately 26 acres. The design volume of the basin is approximately 1,100,000 cubic yards. Winton Lake had 990,000 cubic yards of sediment removed. It may be possible to use existing space within this basin for future dredging and subsequently reduce costs.

TOTAL NATURAL RESOURCE MANAGEMENT AND RESTORATION \$16,502,000

RECREATIONAL FACILITIES

Great Parks maintains a wide variety of recreational facilities and activity areas including golf courses, fishing and boating facilities, campgrounds, athletic fields and disc golf courses. The following includes anticipated project needs to repair, renovate, and enhance these recreation related assets during the next 10 years.

Park	Project Name	10 Year Total
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PRIORITY 1

ALL	Golf Course Updates and Renovation	\$560,000
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Great Parks have 117 golf holes that make up the 7 golf course facilities. The age of the courses range from 75 years to 20 years old. Necessary updates involve renovating feature items such as greens, tees, fairways, and sand traps as well as the 3 driving ranges. Aging infrastructure items include underground drainage lines, culverts, and foot bridges.

ALL	Deck Replacement, Railings, and Mounting Hardware for Dock (Lake Isabella, Sharon Woods, Woodland Mound & Winton Woods)	\$115,000
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There are six floating dock structures at five park district harbor facilities. The oldest of these is approximately 25 years and the newest is 15 years. Periodic replacement of the treated wood decking and refinishing of the galvanized railings are required for safety and appearance. This work is estimated to cost in a range of \$10,000 to \$40,000 each depending on the square footage of dock space.

ALL	Disc Golf Course Upgrades	\$60,000
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This project includes renovation to disc golf courses at Embshoff Woods, Miami Whitewater Forest, Winton Woods and Woodland Mound. Great Parks operates four disc golf courses, totaling 54 holes. Due to age and use, all are, at a minimum, in need of upgrades to baskets, tee boxes, greens, and signs.

ALL	Fitness Trail Updates and Renovation	\$360,000
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This project includes costs to upgrade, renovate and/or replace the fitness equipment and trail surfacing on fitness trails. Great Parks currently maintains six fitness trails. Of the four oldest trails, one was installed in the late 1970s and the next three date to the early 1980s. The equipment on these trails is very basic. The materials are simple and very rustic in nature, often requiring frequent repairs to keep them in operable condition. Just two of the trails currently in use are installed along paved surfaces, with the gravel bases of remaining trails requiring frequent attention to replenish gravel, remove roots and other trip hazards and repair erosion damage.

MWF	Miami Whitewater Forest- Soccer Complex Irrigation and Field Improvements (16 fields)	\$520,000
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This project includes renovation and upgrades to 16 soccer fields. The first six fields at Miami Whitewater Forest Soccer Complex opened in 1996. The complex now supports 16 fields in all. Due to years of play and settling most fields require re-grading/reseeding and all fields require replacement of the existing irrigation system and well.

RECREATIONAL FACILITIES continued

Park Project Name 10 Year Total

PRIORITY 2

ALL Soccer Goal Replacement (Francis RecreAcres 5 fields, Miami Whitewater Forest 16 fields) \$2,000 per field \$42,000

This project is to replace 21 sets of soccer goals. There are two aluminum soccer goals required per field at Miami Whitewater Forest and Francis RecreAcres soccer complexes. The estimated useful life of these goals due to exposure to weather and game play is approximately 15 years. Replacement of the older MWF goals will take place first, followed by Francis RecreAcres.

TC Triple Creek- (4 Ballfields) \$155,000

This project includes upgrades to irrigation system, fencing and warning path surfacing. The existing infield irrigation system used to control dust and enhance play conditions is in poor condition due to age. It requires replacement at an estimated cost of \$25,000 for four fields. The crushed brick warning path surfacing was completed in 2014 and must be repeated every five years for \$10,000 or \$2,500 per field. Outfield and backstop fencing was last replaced in 2008 and has a life-cycle of approximately 15 years. Replacement of all fencing is estimated at \$100,000.

TOTAL RECREATIONAL FACILITIES \$1,812,000

EDUCATION AND INTERPRETIVE EXHIBITS

Great Parks operates five visitor / nature centers that provide a base of operations for nature education. Additionally, interpretive displays and exhibits are also included in the Highfield Discovery Garden at Glenwood Gardens. The following projects include upgrades and replacement of educational and interpretive exhibits.

Park	Project Name	10 Year Total
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PRIORITY 1

FWNP	Ellenwood Nature Barn Exhibits (partial funding)	\$150,000
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This project includes updating and replacing nature education exhibits. Exhibits are typically custom designed and themed, to meet the goals of the specific habitat being interpreted. Existing Great Parks exhibits are very old and need replacement to effectively convey nature education message. Budgets would provide very basic improvements, and need to supplemented with outside funds.

GG	Highfield Discovery Garden Exhibits	\$500,000
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This project includes updating and replacing nature education exhibits which were installed in 2003. Exhibits are typically custom designed and themed, to meet the goals of the specific habitat being interpreted. Existing exhibits need replacement to effectively convey nature education message. Budgets would provide very basic improvements, and need to supplemented with outside funds.

MWF	Visitor Center Exhibits	\$350,000
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This project includes updating and replacing nature education exhibits. Exhibits are typically custom designed and themed, to meet the goals of the specific habitat being interpreted. Existing Great Parks exhibits are very old and need replacement to effectively convey nature education message. Budgets would provide very basic improvements, and need to supplemented with outside funds.

SW	Visitor Center Exhibits	\$350,000
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This project includes updating and replacing nature education exhibits which were installed in 1999. Exhibits are typically custom designed and themed, to meet the goals of the specific habitat being interpreted. Existing exhibits need replacement to effectively convey nature education message. Budgets would provide very basic improvements, and need to supplemented with outside funds.

WM	Seasongood Exhibits	\$350,000
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This project includes updating and replacing nature education exhibits which were installed in 1990. Exhibits are typically custom designed and themed, to meet the goals of the specific habitat being interpreted. Existing exhibits need replacement to effectively convey nature education message. Budgets would provide very basic improvements, and need to supplemented with outside funds.

PRIORITY 2

WW	Winton Centre Exhibits	\$150,000
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This project includes updating and replacing nature education exhibits. Exhibits are typically custom designed and themed, to meet the goals of the specific habitat being interpreted. Existing Great Parks exhibits are very old and need replacement to effectively convey nature education message. Budgets would provide very basic improvements, and need to supplemented with outside funds.

TOTAL EDUCATION AND INTERPRETIVE EXHIBITS		\$1,850,000
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PLAYGROUND IMPROVEMENT

Great Parks maintains 22 playgrounds and play areas as well as four wet play areas throughout its 21 parks and nature preserves with a total replacement value of approximately \$10.2 million. Renovations and equipment replacements are necessary on an ongoing basis to stay current with safety standards and/or improve play value. Full replacement is typically required every 15–20 years depending on usage. Each wet play area is nearing its useful life requiring significant repair or replacement during the next 10 years.

Park	Project Name	10 Year Total
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PRIORITY 1

MWF	Wet Play Parky's Pirate Cove	\$500,000
SW	Adventure Station Improvements This project includes full renovation and/or replacement of equipment to meet current safety standards and improve play value.	\$300,000
SW	Visitor Center Playground Equipment replacement.	\$350,000
WW	Harbor Playground Equipment replacements.	\$350,000
WM	Wet Play Parky's Wetland Adventure	\$500,000
WW	Wet Play Parky's Ark	\$500,000
WW	Parky's Farm Playground Safety surface replacement.	\$50,000
WW	Parky's Farm Playbarn Equipment Replacement This project includes full renovation and/or replacement of equipment to meet current safety standards and improve play value.	\$300,000
WM	Breezy Point Playground Equipment replacement.	\$150,000

PLAYGROUND IMPROVEMENT continued

Great Parks maintains four wet play or spraygrounds in four separate parks. Each wet play area is nearing its useful life and will be in need of significant repair and/or replacement.

Park	Project Name	10 Year Total
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PRIORITY 2

ALL	General Playground Update and Needs Ongoing replacement of individual items of equipment, such as swings seats, chains, frames, and safety surfacing.	\$100,000
FP	Fernbank Playground Equipment replacement.	\$400,000
MWF	Campground- Safety Surface Safety surface replacement.	\$50,000
MWF	Harbor Playground- Safety Surface Safety surface replacement.	\$50,000
SW	Harbor Playground Equipment replacement.	\$350,000
SW	Wet Play Sharon Harbor	\$300,000
WW	Campground- Safety Surface Safety surface replacement.	\$50,000
WW	Harper Meadows-Safety Surface Safety surface replacement.	\$50,000
TOTAL PLAYGROUND IMPROVEMENT		\$4,350,000

SIGNAGE IMPROVEMENTS

Great Parks maintains approximately 5,000 signs throughout its 21 parks and nature preserves. The following projects include replacement and/or upgrades to various types of signage.

Park Project Name 10 Year Total

PRIORITY 1

All Entrance Signs 50 Signs \$150,000
This cost includes labor and material for replacement of approximately 50 entry signs including sign facing and structural support systems. Average cost = \$10,000/sign.

All Wayfinding Signage \$207,900
This project includes upgrade and replacement of existing wayfinding signage including building identification, major area identification and small area identification (840 signs).

All Entrance Signs 50 Signs \$350,000
This cost includes labor and material for replacement of approximately 50 entry signs including sign facing and structural support systems. Average cost = \$10,000/sign.

All Information, and Interpretive Signs - 1,150 Signs \$205,000
This cost includes labor and material to replace approximately 1,150 informational and interpretive signs across the park district. Average cost = +/- \$178/sign.

All Kiosks \$600,000
This project includes design and installation of +/- 40 free standing kiosks. These kiosks would be located at harbors, trailheads, and other similar activity areas and would include large scale maps, area information, brochures, calendars, donor recognition (where appropriate), and general park information.

All Wayfinding Signage \$485,100
This project includes upgrade and replacement of existing wayfinding signage including building identification, major area identification and small area identification (840 signs).

PRIORITY 2

All Traffic and Safety Signs (Regulatory Signs) - 1,600 Signs \$160,000
This project includes labor and material to replace approximately 1,600 traffic and safety signs across the park district. Average cost = \$100/sign.

TOTAL SIGNAGE IMPROVEMENTS \$2,158,000

PARK INFRASTRUCTURE – PAVED ROADS, TRAILS, PATHS AND PARKING LOTS

Great Parks maintains a wide variety of asphalt roads, trails, paths and parking areas. For example, the total amount of existing pavement roughly equals the amount needed to build a road from Cincinnati to Columbus. The following projects include anticipated asphalt paving needs during the next 10 years.

Park	Project Name	10 Year Total
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PRIORITY 1

ALL	Golf Cart Path Overlays	\$500,000
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This project includes resurfacing golf cart paths annually (i.e. 6-8 holes per year). Great Parks maintains 33 miles of 6' wide asphalt golf cart paths in our seven (7) golf course facilities or 117 holes with an estimated replacement cost of \$5,200,000 (assume \$5/s.f.). Estimate \$50,000 per year (assume \$0.75/s.f.) to purchase only asphalt pavement materials and incidentals. All labor and heavy construction equipment will be furnished by the Projects Department. Cart paths would be repaired and resurfaced every twenty (20) years. \$50,000 per year could repair and resurface 2.1 miles of cart path or approximately 6 to 8 holes per year.

ALL	Asphalt Trail Maintenance	\$750,000
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This project includes repair and resurfacing of asphalt trails. Great Parks maintains 27 miles of 12' wide asphalt trail with estimated replacement cost of \$11,000,000. Repair and resurface with in-house crew from the Projects Department. \$75,000 to complete repairs on 1 to 1.5 miles per year or ten year program at \$750,000 to complete repairs on 10 to 15 miles of trail every ten years.

ALL	Asphalt Sidewalks	\$250,000
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This project includes repair and resurface of +/-16,600 s.f. of asphalt sidewalk/year. Great Parks maintains 13.5 miles of 6' wide asphalt walk or 430,382 s.f. of walk serving shelters, buildings, and service areas. Total replacement cost is \$2.1 million (assume \$5/s.f.).

ALL	Asphalt Road and Parking Areas	\$2,000,000
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Great Parks maintains 29 miles of 20' wide asphalt roads and 87 acres of asphalt parking lot for total pavement network of 6 million s.f. Total replacement cost is \$60,000,000 (assume \$10/s.f.). Current funding, Great Parks receives \$300,000 in ODOT Biennium Funds (\$150,000 per year) to repair and resurface roads and parking lots. Recommend supplementing ODOT funds with an annual park contribution in the amount of \$200,000 per year. This project will supplement funds provided by ODOT to repair, resurface, and rehabilitate all pavement every 15 to 25 years. Note: A roadway pavement condition inventory database is routinely updated by park engineers every five years.

ALL	Concrete Walks and Courtyards	\$500,000
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This project includes repair or replacement of 8,500 s.f. of concrete walks and paving system per year. 10 acres (438,450 s.f.) of walk / courtyard surfaces constructed of concrete, concrete paver systems, ornamental stone, and brick. Total replacement cost is \$4.3 million (assume \$10 per square feet).

PARK INFRASTRUCTURE – PAVED ROADS, TRAILS, PATHS AND PARKING LOTS continued

Park	Project Name	10 Year Total
FWNP	Pin Oak Trail (0.6 miles) Pin Oak Trail's estimated replacement cost is \$190,000. Resurfaced in 2009. The repair, rehabilitation, and resurfacing cost for 0.6 miles of asphalt trail is \$80,000.	\$80,000
GG	Garden Loop (1.1 miles) Garden Loop Trail's estimated replacement cost is \$350,000. In 2000 built 1.1 miles. The repair, rehabilitation, and resurfacing cost for 1.1 miles of asphalt trail is \$140,000.	\$140,000
MWF	Shaker Trace Trail Resurfacing and Striping (9.2 miles) Shaker Trace Trail's estimated replacement cost is \$3,000,000. In 1992 built 9 miles. In 2003 resurfaced 7 miles. The repair, rehabilitation, and resurfacing cost for 9.2 miles of asphalt trail is \$1,190,000.	\$1,190,000
MWF	Harbor Parking Lot Rehabilitation and Sustainability Improvements Phase One This project includes rehabilitation of main parking lot at Miami Whitewater Forest Harbor. 3.2 acre harbor parking lot does not meet current engineering standards and has traffic flow/congestion issues. In lieu of repairs, resurfacing, and minor site improvements, the staff recommends renovating lots to meet park objectives (sustainable design features) and address issues concerning parking lots, landscaped islands, and traffic circulation.	\$525,000
SW	SW Harbor Loop Trail Asphalt Resurfacing (2.6 miles) Sharon Woods Harbor Loop Trail's estimated replacement cost is \$825,000. The repair, rehabilitation, and resurfacing cost of 2.6 miles of asphalt trail are \$400,000. Cost is higher to meet trail standards and challenging site conditions.	\$400,000
WW	Harbor Trail and West Branch Trail (2.6 miles) Harbor Trail & West Branch Trail's estimated replacement cost is \$825,000. The repair, rehabilitation, and resurfacing cost for 2.6 miles of asphalt trail is \$330,000.	\$330,000
WM	Woodland Mound Shared-Use Trail (1.2miles) Woodland Mound Trail's estimated replacement cost is \$380,000. Built in 2003. The repair, rehabilitation, and resurfacing cost for 1.2 miles of asphalt trail is \$160,000.	\$160,000

PRIORITY 2

ALL	Gravel Trails, Roads, and Parking Lots This project includes purchase of gravel material to provide ongoing maintenance and repair of gravel roads, trails, service drives, and parking lots. Great Parks maintains more than 46 acres of gravel roads, trails, service drives and parking lots district wide. Total replacement cost is \$3,200,000 (assume \$1.5/s.f.). All labor and heavy construction equipment will be furnished by the Projects Department.	\$270,000
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PARK INFRASTRUCTURE – PAVED ROADS, TRAILS, PATHS AND PARKING LOTS continued

Park	Project Name	10 Year Total
ALL	Gate, Curb, Parking Block and Guard Rail Replacements This project includes costs to replace gates, curbing, parking blocks and guardrails in association with other paving projects.	\$150,000
ALL	Concrete Walks and Courtyards This project includes repair or replacement of 8,500 s.f. of concrete walks and paving system per year. 10 acres (438,450 s.f.) of walk / courtyard surfaces constructed of concrete, concrete paver systems, ornamental stone, and brick. Total replacement cost is \$4.3 million (assume \$10 per square feet).	\$350,000
ARM	Armleder Trail (1.9 miles) This project includes repair and resurface of asphalt trails at Armleder. Armleder Trail's estimated replacement cost is \$950,000. In 2005 built 2.0 miles. In 2010 built 1.0 mile. The repair, rehabilitation, and resurfacing cost for 3.0 miles of asphalt trail is \$390,000.	\$390,000
FB	Fernbank Trail (1.2 miles) This project includes repair and resurface of asphalt trail at Fernbank Park. Fernbank Trail's estimated replacement cost is \$390,000. In 2005 built 1.2 miles. The repair, rehabilitation, and resurfacing cost for 1.2 miles of asphalt trail is \$160,000.	\$160,000
LMGC	Little Miami Scenic Trail (6.1 miles) Little Miami Scenic Trail's estimated replacement cost is \$2,000,000. In 2005 built 2.7 miles. In 2015 built 3.4 miles. The repair, rehabilitation, and resurfacing cost for 6.1 miles of asphalt trail is \$780,000.	\$780,000
TOTAL PARK INFRASTRUCTURE – ROADS AND PARKING		\$8,925,000

PARK INFRASTRUCTURE – UTILITIES

Great Parks maintains a variety of underground utilities including water, electric, sewer, fiber optic, telephone, and storm sewer systems. In total, Great Parks is responsible for approximately 168 miles of underground utilities. The following projects include anticipated upgrades, repairs and/or replacements during the next 10 years.

Park	Project Name	10 Year Total
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PRIORITY 1

ALL	Storm Sewer and Culvert Repairs	\$565,220
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This project includes repair of 0.40 miles of storm sewer system per year for 10 years. Great Parks maintains a storm network of 105,291 l.f. or 20 miles of storm sewer, culverts, and drain pipe that vary in age, condition, material type, depth, and diameter (4" to 84") with a total replacement cost of \$5,652,175. Costs based on pipe diameter and lineal feet with a useful life of 50 years. The network includes storm inlet and manhole structures, headwalls, rock channel protection, site restoration, and other related appurtenances.

ALL	Equipment - Electric, Telephone/Data, Propane, Natural Gas	\$250,000
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Replacement of park owned utility equipment for ongoing repairs, preventative maintenance, aging utility infrastructure and utility upgrades and enhancements.

ALL	Sanitary Sewer Line Repairs	\$720,000
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This project includes repairs and replacement of 0.25 mile of sewer lines per year for 10 years. Great Parks maintains 11.3 miles, (17,371 l.f. of sanitary sewer force mains) and (42,245 lineal feet of gravity sanitary sewer mains) with an estimate replacement cost of \$4,000,000. The sanitary sewer system varies in age, construction materials, and conduit size, including manholes, pump stations, and appurtenances. Costs based on lineal feet with a useful life of 50 years.

ALL	Water Line Repairs	\$900,000
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This project includes repair and replacement of 0.30 mile of domestic water lines per year for 10 years. Great Parks' domestic water network consists of 126,165 l.f. or 23 miles of water mains and service branches that vary in age, material type, and size with a total replacement cost of \$10,000,000 (assume \$100 per l.f. for mains and \$50 per l.f. branches). The network includes meter pits, valves, backflow preventers, and other appurtenances. Costs based on lineal feet with a useful life of 75 years.

ALL	Golf Course Irrigation	\$1,773,000
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Great Parks currently maintains and operates irrigation systems at seven golf courses in six parks. A usable life expectancy range for these systems from professional industry sources has been listed as 10-30 years, on average. Only two of the systems currently in operation are newer than 1990. Three of the remaining systems were put into service during the 1980s, one system began operation in 1979 and one (LMGC regulation nine) dating to the 1960s. Even using the conservative life expectancy figure of 30 years, the complete replacement of several of these systems should be anticipated in the near future. Total replacement costs for all seven courses is estimated to be \$5,910,000.

PARK INFRASTRUCTURE – UTILITIES continued

Park	Project Name	10 Year Total
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Little Miami Golf Center Regulation Nine Irrigation System (1960s)
 Miami Whitewater Forest Golf Course Irrigation System (1984)
 Shawnee Lookout Golf Course Irrigation System (1979)
 Sharon Woods Golf Course Irrigation System (1987)
 Woodland Mound Vineyard Golf Course Irrigation System (1986)
 Winton Woods Golf Course (Mill Course and Meadow Links) (1993)

MWF	Harbor Point Sewage Treatment Plant	\$333,000
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This project includes the elimination of the existing waste water treatment plant and replacement with new pump station, including 6,000 l.f. of force main to Harrison public sewer on New Haven Road.

WM	Breezy Point Sewage Treatment Plant	\$389,000
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This project includes the elimination of the existing waste water treatment plant and replacement with new pump station, including 7,800 l.f. of force main to Clermont County public sewer.

WW	Mill Golf Course Septic System	\$100,000
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This project includes elimination of septic tank & leach field at golf course restroom and replace with new pump station, including 1,800 l.f. of force main to public sewer near clubhouse.

PRIORITY 2

ALL	Storm Sewer and Culvert Repairs	\$565,220
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This project includes repair of 0.40 miles of storm sewer system per year for 10 years. Great Parks maintains a storm network of 105,291 l.f. or 20 miles of storm sewer, culverts, and drain pipe that vary in age, condition, material type, depth, and diameter (4" to 84") with a total replacement cost of \$5,652,175. Costs based on pipe diameter and lineal feet with a useful life of 50 years. The network includes storm inlet and manhole structures, headwalls, rock channel protection, site restoration, and other related appurtenances.

ALL	Sanitary Sewer Line Repairs	\$80,000
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This project includes repairs and replacement of 0.25 mile of sewer lines per year for 10 years. Great Parks maintains 11.3 miles, (17,371 l.f. of sanitary sewer force mains) and (42,245 lineal feet of gravity sanitary sewer mains) with an estimate replacement cost of \$4,000,000. The sanitary sewer system varies in age, construction materials, and conduit size, including manholes, pump stations, and appurtenances. Costs based on lineal feet with a useful life of 50 years.

PARK INFRASTRUCTURE – UTILITIES continued

Park	Project Name	10 Year Total
ALL	Water Line Repairs This project includes repair and replacement of 0.30 mile of domestic water lines per year for 10 years. Great Parks' domestic water network consists of 126,165 l.f. or 23 miles of water mains and service branches that vary in age, material type, and size with a total replacement cost of \$10,000,000 (assume \$100 per l.f. for mains and \$50 per l.f. branches). The network includes meter pits, valves, backflow preventers, and other appurtenances. Costs based on lineal feet with a useful life of 75 years.	\$600,000
ALL	Golf Course Irrigation Great Parks currently maintains and operates irrigation systems at seven golf courses in six parks. A usable life expectancy range for these systems from professional industry sources has been listed as 10-30 years, on average. Only two of the systems currently in operation are newer than 1990. Three of the remaining systems were put into service during the 1980s, one system began operation in 1979 and one (LMGC regulation nine) dating to the 1960s. Even using the conservative life expectancy figure of 30 years, the complete replacement of several of these systems should be anticipated in the near future. Total replacement cost for all seven courses is estimated to be \$5,910,000. Little Miami Golf Center Regulation Nine Irrigation System (1960s) Miami Whitewater Forest Golf Course Irrigation System (1984) Shawnee Lookout Golf Course Irrigation System (1979) Sharon Woods Golf Course Irrigation System (1987) Woodland Mound Vineyard Golf Course Irrigation System (1986) Winton Woods Golf Course (Mill Course and Meadow Links) (1993)	\$4,137,000
ALL	Expansion of Fiber Optic Fiber Optic lines are becoming essential components of the park districts' information technology network. This project includes installing approximately 110,000 l.f. of 2" conduit with fiber optic cable, including furnishing and installing pull boxes and all hardware requirements for connectors, splices, patch panels, closers to provide service into 33 major facilities.	\$615,000
ALL	Drinking Fountain & Hydrant Replacement This project includes repair or replacement of 10 drinking fountains and hydrants per year for 10 years. Great Parks currently maintains over 200 drinking fountains and potable water hydrants for public use throughout the parks. The average service life of this equipment is highly variable and directly related to the frequency and type of use. Example: electrically-cooled drinking fountains with compressors may function without issues for 10 or more years; water hydrants in campgrounds and reserved areas which receive sustained, daily use may last just 5 years (or less) before replacement is required. For new (and some replacement) installations, including ADA-related improvements, some local codes now require approval and a building permit for changing, replacing or improving these amenities.	\$250,000
EW	Sanitary Sewer Line Construction	\$87,000

PARK INFRASTRUCTURE – UTILITIES continued

Park	Project Name	10 Year Total
	<p>This project includes the elimination of the existing waste water treatment plant and replacement with a new pump station, including 1,900 l.f. of force main to public sewer on Paul Road.</p>	
FR	Francis RecreAcres Athletic Field Irrigation System (1992)	\$240,000
	<p>This project includes replacement of irrigation system at Francis RecreAcres. A usable life expectancy range for athletic field irrigation systems from professional industry sources has been listed as 10-30 years, on average. The system currently in use at Francis RecreAcres was installed and put into service in 1992. Even using the conservative life expectancy figure of 30 years, the complete replacement of this system should be anticipated in the near future.</p>	
MWF	Big Sycamore Sewage Treatment Plant	\$92,000
	<p>This project includes the elimination of the existing waste water treatment plant and replacement with a new pump station, including 2,000 l.f. of force main to Harrison public sewer near Junior Senior High School on West Road.</p>	
MWF	Miami Whitewater Forest Soccer Complex Irrigation	\$256,000
	<p>This project includes field leveling as well as repair and upgrades of well and irrigation system for the Miami Whitewater Forest Soccer Complex (16 fields x \$16,000/field).</p>	
	TOTAL PARK INFRASTRUCTURE - UTILITIES	\$11,952,440

PARK INFRASTRUCTURE – DAMS AND BRIDGES

Great Parks has 103 bridges that serve its roads, driveways, trails, golf courses, and lakes with an estimated replacement cost of approximately \$17,000,000. Additionally, there are large culvert systems and dams that are maintained. The following includes anticipated repair, upgrade and/or replacement project during the next 10 years.

Park	Project Name	10 Year Total
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PRIORITY 1

- | | | |
|------------|---|--------------------|
| ALL | Large and Small Dam Repair and Maintenance Program
Periodic repairs to maintain integrity of small dams throughout district. | \$153,000 |
| ALL | Winton Harbor and Miami Whitewater Forest Harbor Sheet Pile Repair
Repairs to stabilize failing sheet pile walls at MWF and WW lakes. | \$70,000 |
| ALL | Major Road Bridge Repairs (11 Total)
This project includes repairs to major vehicle bridges. There are eleven (11) major road bridges with a replacement cost of \$5,200,000. The major bridges vary in age, structural type, construction materials, and traffic loading. Costs were calculated based on the area of the bridge deck (length and span) with a useful life of 50 years. Note: These major road bridges are part of the ODOT Bridge Inventory System and are inspected annually by Great Park’s Engineers. Five (5) major road bridge projects have been identified for rehabilitation or replacement for a total cost of \$1,650,000. | \$944,307 |
| ALL | Major Trail Bridge Repairs (23 Total)
This project includes repairs to major trail bridges. There are twenty three (23) major trail bridges with a replacement cost of \$6,900,000. These bridges vary in age, structural type, construction materials, and traffic loading. Costs were calculated based on the area of the bridge deck (length and span) with a useful life of 50 years. An example of a major trail bridge would be the GG Walking Trail Bridges (2 each), LMS Trail Bridge (2 each) near Newtown; SW Gorge Trail Bridge; MWF Shaker Trace Trail Bridges (4 each). | \$1,208,340 |
| ALL | Minor Road/Trail Bridge Repairs (68 total)
This project includes repairs to minor vehicular and trail bridges. There are sixty eight (68) minor road / trail bridges & dock systems with a replacement cost of \$4,700,000. These structures vary in age, structural type, construction materials, and traffic loading. Costs were calculated based on the area of the bridge deck (length and span) with a useful life of 50 years. | \$371,322 |
| WW | Lakeview Drive Culvert at Locust Creek near Carlsbad Drive (Age 58)
Built in 1957, age 58, current ODOT bridge rating 4, condition poor. Replace the two steel multi-plate elliptical culvert structures with a new prefabricated large concrete box culvert at \$400,000. | \$400,000 |

PARK INFRASTRUCTURE – DAMS AND BRIDGES continued

Park	Project Name	10 Year Total
WW	Southshore Drive Bridge over Daly Creek (Age 62) Built in 1953, age 62, current ODOT bridge rating 5, condition fair. Replace steel arch fill, concrete spandrel wall, bridge with 49' span with a new pre-stressed concrete box beam structure at \$600,000.	\$600,000
WW	Valleyview Drive Culvert at Kingfisher Creek (Age 57) Built in 1958, age 57, current ODOT bridge rating 6, condition satisfactory. Rehabilitate steel multi-plate, 16' diameter culvert structure at \$100,000.	\$100,000

PRIORITY 2

ALL	Large and Small Dam Repair and Maintenance Program Periodic repairs to maintain integrity of small dams throughout district.	\$17,000
ALL	Major Road Bridge Repairs (11 Total) This project includes repairs to major vehicle bridges. There are eleven (11) major road bridges with a replacement cost of \$5,200,000. The major bridges vary in age, structural type, construction materials, and traffic loading. Costs were calculated based on the area of the bridge deck (length and span) with a useful life of 50 years. Note: These major road bridges are part of the ODOT Bridge Inventory System and are inspected annually by Great Park's Engineers. Five (5) major road bridge projects have been identified for rehabilitation or replacement for a total cost of \$1,650,000.	\$104,923
ALL	Major Trail Bridge Repairs (23 Total) This project includes repairs to major trail bridges. There are twenty three (23) major trail bridges with a replacement cost of \$6,900,000. These bridges vary in age, structural type, construction materials, and traffic loading. Costs were calculated based on the area of the bridge deck (length and span) with a useful life of 50 years. An example of a major trail bridge would be the GG Walking Trail Bridges (2 each), LMS Trail Bridge (2 each) near Newtown; SW Gorge Trail Bridge; MWF Shaker Trace Trail Bridges (4 each).	\$134,260
ALL	Minor Road/Trail Bridge Repairs (68 total) This project includes repairs to minor vehicular and trail bridges. There are sixty eight (68) minor road / trail bridges & dock systems with a replacement cost of \$4,700,000. These structures vary in age, structural type, construction materials, and traffic loading. Costs were calculated based on the area of the bridge deck (length and span) with a useful life of 50 years.	\$866,418
MWF	Oakleaf Trail Dam Removal, Bioengineering and Boardwalk Construction This project includes removal of existing pond dam and spillway to achieve a watershed restoration plan. The project will return a small lake area to the original forested stream corridor with wetland habitat at the Oakleaf Trail.	\$350,000

PARK INFRASTRUCTURE – DAMS AND BRIDGES continued

Park	Project Name	10 Year Total
WW	Lakeview Drive Culvert at Locust Creek near Locust Dell Picnic Area (Age 58)	\$250,000
	Built in 1957, age 58, current ODOT bridge rating 6, condition satisfactory. Replace steel multi-plate, 9' diameter culvert structure with a new prefabricated large concrete box culvert at \$250,000.	
WW	Valleyview Drive Culvert at Stoney brook Creek (Age 36)	\$300,000
	Built in 1979, age 36, current ODOT bridge rating 6, condition satisfactory. Replace steel multi-plate, 11.5' diameter culvert structure with con-span structure at \$300,000.	
	TOTAL PARK INFRASTRUCTURE – DAMS AND BRIDGES	\$5,869,570

BUILDING REPAIRS AND RENOVATIONS –SPECIFIC BUILDINGS

Great Parks maintains approximately 400 buildings (major and minor) across its 21 parks and nature preserves with an estimated replacement value of \$86,000,000. The following includes anticipated repairs, upgrades and renovation projects for specific buildings during the next 10 years.

Park Project Name 10 Year Total

PRIORITY 1

ALL Picnic Shelter Renovations (80 Total) \$800,000

This project is for renovation or replacement of approximately 80 picnic shelters with an estimated replacement cost of \$6,000,000. Shelters were constructed in 1970's, 1980's, 1990's, and 2000's. Typical cost for a new shelter, including site work and amenities is \$75,000. Shelter renovations are required on the deteriorated wood columns and concrete slabs at a cost of \$15,000 per shelter. Renovate five (5) shelters per year at \$75,000 or replace one shelter per year on case by case basis. Note: A shelter condition inventory database is completed.

ALL Freestanding Restrooms (38 Total) \$570,000

This project includes repairs to approximately 38 freestanding restrooms located in active and passive areas of the parks. Total cost includes contractor labor and materials for upgrading components within the facilities.

MWF Visitor Center (11,400 s.f. x \$50/s.f.) \$627,000

This project includes general upgrades and minor renovations to various areas in the facility including front desk/retail space, classroom, auditorium, interpretive space (2 floors), snack bar, restrooms, Ranger station, storage and mechanical areas.

SW Lakeside Lodge Renovation \$495,000

This project includes renovation and upgrades to the kitchen, main floor space and restrooms to address aging issues with floors, windows, lighting and electrical systems as well as improvements to the HVAC system to provide year round temperature control with heat and AC through high efficiency and sustainable systems.

WW Mill Race Golf Clubhouse/Banquet Center \$808,500

This project includes general upgrades and renovations to various areas on the first and second floor of the facility including entry areas, pro shop, snack bar dining area, kitchen, offices, banquet center, restrooms, storage and mechanical areas as well as exterior wood finish, stone and mill water feature improvements.

WW Adventure Outpost Renovation \$93,700

This project includes the addition of a new storage building for trailer, canoe, kayak and paddling equipment storage including electric and lighting improvements. Renovation of the existing gear storage room and kitchen to include additional storage space and upgraded kitchen equipment to accommodate current programming needs and future growth.

SPECIFIC BUILDING REPAIRS AND RENOVATIONS continued

Park	Project Name	10 Year Total
WM	Seasongood Nature Center	\$528,000
	This project includes general upgrades and renovations to various areas on the main floor and lower level of the facility including entry area atrium, front desk, retail space, offices, auditorium, interpretive space, trail room, restrooms, garage, storage and mechanical areas as well as exterior wood finish improvements.	
<u>PRIORITY 2</u>		
FWNP	Ellenwood Nature Barn (2,500 s.f. x \$150/s.f.)	\$412,500
	This project includes the renovation of the barn area including exhibit and staff areas as well as minor structural work on the historic interior wood beams, joists and framing.	
MWF	Golf Clubhouse Basement Renovation (2,051 s.f. x \$75/s.f.)	\$169,400
	This project includes renovation of the basement to address aging issues with floors, walls, ceilings, lighting, electrical, plumbing and HVAC systems. The renovated space would be used for much needed storage with options for office space.	
SL	Golf Clubhouse Kitchen Renovation (936 s.f. x \$150/s.f.)	\$154,400
	This project includes renovation of kitchen area including equipment replacement to address aging issues with floors, walls, ceilings, lighting, electrical and plumbing systems.	
SW	Sharon Centre & Training Center Renovation	\$306,000
	This project is focused on repurposing the Training Center building that was constructed in 1953. Possible ideas include relocating training center activities to the second floor of the Sharon Centre. The second floor renovation would include creating space for large and small group training and education programming, conference room needs for staff and year round computer training as well as AV and IT upgrades; potential rental for public use; possible relocation of Heritage Village storage to the Training Center with minor interior upgrades to accommodate their needs.	
TC	Maintenance Building Renovation	\$39,600
	This project includes minor renovation to the facility to address issues with inadequate lighting, electrical, plumbing and ventilation systems.	
WW	Winton Centre Renovation	\$1,166,000
	This project includes renovation of interior spaces of Winton Centre to address changing needs. For example: addition of new office space in the Planning area to accommodate staff from the white house and within Winton Centre. Renovation of guest and staff areas to provide separate public space for Naturalist offices, interpretive areas, educational programming and classrooms.	
	TOTAL SPECIFIC BUILDING REPAIRS AND RENOVATIONS	\$6,170,100

BUILDINGS: GENERAL BUILDING UPKEEP AND REPAIRS, ALL PARKS

The following projects include repairs, upgrades and replacement of general building systems throughout all buildings across Great Parks.

Park Project Name 10 Year Total

PRIORITY 1

ALL HVAC \$500,000

Approximately 300 units of HVAC equipment for all 133 major facilities. Equipment is on a preventative maintenance plan and a proactive replacement schedule. New systems are higher efficiency and more sustainable for an increased life cycle (66 units to replace in next 10 years).

ALL Painting \$400,000

This project includes exterior painting of approximately 20 large major facilities (2 per year). The total cost would include contractor labor and paint supplies as well as some trim level building materials that need to be replaced due to weathering and decay.

ALL Restroom Upgrades \$200,000

This project includes general repairs and replacement of interior restroom fixtures and furnishings at 20 large major facilities. Total cost includes materials and contractor labor for approximately 10 individual restrooms (men, women or family) per year.

ALL Roofing \$1,000,000

This project includes replacement of roof systems on all major and minor facilities including materials and contractor labor. Approximately 130 existing shelter roofs and 23 facility roofs need replacement in the next 10 years. These numbers reflect a proactive schedule for roof replacement.

ALL Hot Water Systems \$200,000

This project includes replacement of approximately 95 aging hot water systems including more efficient tank sizes and higher efficiency and sustainable instantaneous hot water units. An average unit replacement cost is \$4,000 including materials and contractor labor.

ALL Insulation \$375,000

This project includes replacement of insulation at all 133 major facilities that have reached the end of their 20 to 30 year life cycle (3 per year)

ALL Windows \$250,000

This project includes replacement of windows on major and minor facilities including materials and contractor labor. These estimates reflect a proactive schedule for window replacement to increase energy efficiency.

ALL HVAC \$160,000

Approximately 300 units of HVAC equipment for all 133 major facilities. Equipment is on a preventative maintenance plan and a proactive replacement schedule. New systems are higher efficiency and more sustainable for an increased life cycle (66 units to replace in next 10 years).

BUILDINGS: GENERAL BUILDING UPKEEP AND REPAIRS, ALL PARKS continued

Park Project Name 10 Year Total

PRIORITY 2

ALL Doors \$1,000,000

This project includes repairs and/or replacement of 25 doors per year for 10 years. There are approximately 550 exterior doors for all major and minor facilities. A single steel door replacement costs \$3,000 including contractor labor and hardware. Glass and aluminum store front entry door systems cost \$10,000 including labor and hardware and some facilities have double doors due to air locks or vestibules. These numbers reflect a proactive schedule for door replacement.

ALL Flooring \$300,000

This project includes replacement of existing flooring for 133 major facilities with an average of five projects annually. Cost includes material and contractor labor. Flooring includes but is not limited to carpet, tile, laminate, vinyl, safety flooring and floor coatings. New flooring materials are commercial grade and made from more sustainable materials for an increased life cycle.

ALL Lighting Systems \$350,000

This project includes replacement of interior and exterior lighting fixtures and lamps that serve all major and minor facilities (326 buildings). New fixtures and lamps are high efficiency (LED) and incorporate sustainable energy practices resulting in energy savings and increased life cycle.

ALL Hot Water Systems \$200,000

This project includes replacement of approximately 95 aging hot water systems including more efficient tank sizes and higher efficiency and sustainable instantaneous hot water units. An average unit replacement cost is \$4,000 including materials and contractor labor.

ALL Insulation \$375,000

This project includes replacement of insulation at all 133 major facilities that have reached the end of their 20 to 30 year life cycle (3 per year)

ALL Restroom Upgrades \$200,000

This project includes general repairs and replacement of interior restroom fixtures and furnishings at 20 large major facilities. Total cost includes materials and contractor labor for approximately 10 individual restrooms (men, women or family) per year.

**BUILDINGS: GENERAL BUILDING UPKEEP AND REPAIRS, ALL PARKS
continued**

Park	Project Name	10 Year Total
ALL	Roofing This project includes replacement of roof systems on all major and minor facilities including materials and contractor labor. Approximately 130 existing shelter roofs and 23 facility roofs need replacement in the next 10 years. These numbers reflect a proactive schedule for roof replacement.	\$694,000
ALL	Windows This project includes replacement of windows on major and minor facilities including materials and contractor labor. These estimates reflect a proactive schedule for window replacement to increase energy efficiency.	\$250,000
TOTAL GENERAL BUILDING UPKEEP AND REPAIR ALL PARKS		\$6,454,000