

**Metropolitan Beaches
Budget & Operations Analysis**

**Prepared for:
The Metropolitan Beaches Commission**

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**starred items are not included in this document, but are available at
www.savetheharbor.org*

Executive Summary

Raphael and Raphael LLP analyzed the budget for the metropolitan beaches operated by the Department of Conservation and Recreation (DCR). The purpose of this analysis was to provide the Metropolitan Beaches Commission (MBC) with information that would serve as a foundation for budgeting recommendations in its beaches improvement initiative. The state has invested \$4 billion in water quality improvements, yet recent public forums indicate that metropolitan beach visitors were highly dissatisfied with numerous aspects of beach maintenance. The goal of the initiative is to enhance current levels of maintenance and programming in order to provide the people of greater Boston beaches that they can be proud to use.

Information was obtained from various state agencies, including the Executive Office for Administration and Finance, the Comptroller's Office, and numerous representatives from the DCR. This report summarizes actual expenditures from Fiscal Year 2006. More importantly, it summarizes recommendations made by DCR Regional and District Managers in charge of operations and maintenance at the beaches, who projected the levels of additional staffing and equipment that would be required to fulfill the MBC's goal.

Beaches are managed by DCR District and Regional Managers, who oversee not only beach operations, but operations at the other Urban Parks facilities in their region as well. Resources are limited, and full-time staff split their time across a region's facilities, from beaches to pools, from roadways to hiking paths. Efforts have been made to run the beaches using seasonal employees because beach maintenance seems to be seasonal in nature, but two limitations make this an ineffective long-term solution. First, seasonal

staff hired for such things as lifeguarding or cleaning do not have the licenses required to operate equipment necessary for beach maintenance. Second, beach maintenance is in fact a year-round job and is more productively managed by staff that have ongoing familiarity with a specific location's complexities, such as those arising from high seasonal usage or a physical plant in need of rehabilitation.

The DCR identifies the need for 63 additional full-time staff and 3 seasonal full-time-equivalent staff with associated annual payroll expenditures of \$2,787,040 and \$67,340, respectively, as well as \$493,500 annual operating costs for new equipment. The total cost of the new equipment is \$1,440,000. The nature of the capital budgeting process would allow the capital equipment to be funded by bond over the course of the useful lives of the equipment, possibly 5 or more years. For example, \$1,440,000 of equipment bonded over 5 years would result in first-year cash outlay of approximately \$375,000; in total, the cash outlay in year 1 for both operating and capital expenditures would be approximately \$3,650,000.

Fiscal Year 2006 operating expenditures were \$1,688,292, and capital expenditures were \$11,812,981. The following table gives perspective about the scale of the optimal additions relative to previous expenditure levels.

	Operating Expenditures	Capital Expenditures	Total
FY 2006 Beach Expenditures	\$ 1,688,292	\$ 11,812,981	\$ 13,501,272
Optimal Additions	\$ 3,347,880	\$ 375,000	\$ 3,722,880

The optimal additional amounts should not be added to the expenditures in a prior year to arrive at total operating and capital expenditures, because the prior year spending may not

accurately reflect spending levels for current & future years. The data are shown together only as an indication of proportional change.

There are a number of important points to be made about the expenditures noted above.

Comparing the additional full-time payroll expenditures to Fiscal Year 2006 payroll expenditures must be done with the awareness of a major difference in presentation. The Fiscal Year 2006 payroll expenditures represent a 40% allocation of DCR full-time staff, because the DCR approximates that only 40% of staff time for the specified regions is dedicated to beach-related work. For the additional full-time staff expenditures, 100% of the payroll expense is shown so that readers of the report will understand the total additional cost being requested. Less than 100% of the staff time, however, will be spent on work related specifically to the beaches, with the rest of the time providing benefit by allowing those staff to maintain other DCR facilities.

Current hiring strictures would make it difficult for the DCR to meet the increased staffing levels in a timely fashion. A streamlined hiring process would facilitate bringing staff levels up more quickly.

Historically, an imbalance has existed between capital and operating budgets, not just within DCR but within many state departments. Capital projects have been initiated without sufficient funds budgeted for ongoing maintenance of the projects, whether equipment or structures. For the equipment identified above, the budget required to operate and maintain the equipment has also been included. A related point, again not

unique to the DCR, is that funds approved for capital expenditures are sometimes used for operating expenses. This should be avoided, primarily because it is an expensive way to fund operations, but also because it makes it more difficult to measure, manage, and understand the capital and operating budgets.

DCR rangers maintain order on the beaches on an everyday basis. However, more serious issues of policing, emergency response, and large-scale crowd control are performed by personnel outside of DCR. Public safety responsibilities are covered mainly in the operating budgets of the Department of State Police and the municipalities' emergency services departments. Increased beach usage and programming are likely to have important budget and operational impacts on these departments as well.

Lastly, alternatives to budgeting all of the recommendations at one time include implementing the increases in operating and staffing budgets over a period of years.

Introduction

Raphael and Raphael LLP was engaged by the Metropolitan Beaches to examine the Department of Conservation and Recreation's capital and operating budget and to identify the links between the agencies and entities that affect or influence the operation of the metropolitan beaches from Nantasket to Nahant. Raphael and Raphael was charged with gathering and analyzing the financial data available for current operations on each beach in the study area, identifying the operational and resource requirements to properly manage and maintain these beaches, and formulating a prospective budget that would enable the people of the region to have beaches that we can all be proud of.

Data Collection

Through a series of meetings during the months of October, November and December 2006, Raphael and Raphael was provided with the information necessary to gain an understanding of the metropolitan beaches' current operations, budgets, and record keeping. Meeting participants included representatives of numerous agencies and other entities involved in allocating budgets, articulating standards, performing and monitoring services, and reporting on expenditures. The Senate President's office, Senate Committee on Ways and Means, Executive Office for Administration and Finance, Comptroller's Office, and numerous groups within DCR made representatives available to meet and provide information. Without exception, all participants were generous with their attention to our requests and forthcoming with information.

See Appendix A – Meeting Schedule, Participants, Topics/Highlights
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The table below summarizes data availability.

<p><u>Exhibit 1 -- Data Availability by Category/Period</u> Source: Raphael and Raphael LLP</p>
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CATEGORY	PERIOD		
	Recent Past	Distant Past	Forward-looking
Capital	Data available for expenditures made and amounts authorized	Not available	Data are available
Payroll	Data are available, but not as detailed as non-payroll operating data. Payroll expense is recorded by position; there is no mechanism in place to track payroll per location. Analysis of payroll depends upon data that has a high degree of manual intervention at the DCR Finance Office.	Not available	Data are available
Non-Payroll Operating	Data are available	Not available	Data are available

Although a great deal of historical data exist, there are material limitations on their availability and comparability. Two changes made in recent years serve to constrain data availability and comparability: the merger of MDC and DEM into DCR, and an upgrade of the state’s accounting system.

The change in organizational structure in 2002, merging the Metropolitan District Commission and the Department of Environmental Management to form the Department of Conservation and Recreation, necessitated that recordkeeping become uniform. This integration of recordkeeping methods is an evolving process and is proceeding on a go-forward basis. Historical data are not being “translated” into the new format. Representatives at DCR point out that Fiscal Year 2007 will be the first year that recordkeeping for the combined entity is as consistent and navigable as it had been when the two former entities were separate.

In 2003, the Commonwealth upgraded its Massachusetts Management Accounting & Reporting System (MMARS). In the new iteration, “New MMARS,” there were major systems changes that included a new interface and the option to capture more detailed accounting information. The new options related to data capture are sufficiently detailed to allow for a more meaningful analysis of operations at the beach level; however, systems changes are iterative, both in terms of making the best use of the new technology and in terms of training staff.

Data archived under “Old MMARS” are accessible but are too aggregated to offer the degree of granularity required for this study. The data can be extracted on an ad hoc basis, but to be useful for analysis must be heavily “scrubbed” by staff familiar with both the location being examined and the quirks of the accounting system. In Old MMARS, expenditures would typically be given a code related to the project, not the location. To associate an expenditure with a location, DCR staff familiar with DCR locations and the projects underway must scan the list of expenditures, identify which projects are associated with the expenditure, and then tie that expenditure to a location. This ad hoc inquiry option was pursued for Fiscal Year 2006 expenditures, but for years prior to 2006 this seemed like a costly and burdensome use of the DCR financial reporting staff’s time weighed against the benefit to be gained.

In implementing New MMARS, the coding options began to be substantially improved and now increasingly allow for such things as attaching a location code to a specific expenditure. The new database can be queried by these location codes, generating data relevant to measuring expense activity at a given location.

Analysis of payroll expenditures for the current year posed challenges as well, unrelated to the MMARS system upgrade or the DCR reorganization. Payroll is recorded in the state's Human Resources Compensation Management System (HR/CMS), which has limitations similar in nature to those of Old MMARS, in that payroll data is tracked at a level too aggregated to allow for querying the database for location-specific information. Payroll expense is recorded by position. There is no mechanism in place to track payroll per location. Again similar to the issues related to analyzing Old MMARS data, to furnish payroll data detailed enough for analysis, a high degree of manual intervention is required by staff at DCR who are familiar with beach operations and locations, the various full-time and seasonal job positions, and the HR/CMS system. The DCR was able to link payroll to a town via a code for mailstop (a designation for the place the payroll checks are sent). To further link payroll to a facility for this study was prohibitively labor intensive. Additionally, for a fair portrayal of payroll expenses at the beaches, payroll for maintenance workers had to be included. As most maintenance work is done by staff not specifically hired for seasonal beach work, this type of expense is grouped into a labor yard's payroll. Allocating a proportion of the labor yard payroll expense to the beaches is an informed but inexact determination made by the DCR. In order to more accurately record work performed at each location, the DCR might consider adding a location field to timecards.

A historical analysis of metropolitan beaches' operations and budgets was impractical for this study. Detailed historical data was not pursued due to the likely expense that would be incurred in overcoming the obstacles described above. Payroll and other

operating expenses for the recent past were the primary focus of analysis. The chart shown below summarizes data availability.

Operations & Expenditures

The beaches included in the MBC initiative are operated and managed by one of four DCR operational divisions, the Division of Urban Parks and Recreation. The beaches are in the DCR's North Region Coastal District and Harbor Region, running south from Lynn to Hull.

Exhibit 2 -- Beaches Included in the Study

Source: DCR

Region	Management Facility	Beach Name	Community
North - Coastal	Constitution Beach	Constitution	E. Boston
	Lynn Shore Unit	Lynn Beach	Lynn
	Nahant Beach Unit	Nahant Beach	Nahant
	Revere Beach Unit	Revere Beach	Revere
	Revere Beach Unit	Short Beach	Revere
	Revere Beach Unit	Winthrop Beach	Revere
	Lynn Shore Unit	Kings Beach	Lynn/Swampscott
	Harbor	Boston Harbor Islands*	Lovells Island Beach
Malibu Beach Unit		Malibu Beach	Dorchester
Malibu Beach Unit		Savin Hill Beach	Dorchester
Tenean Beach Unit		Tenean Beach	Dorchester
Nantasket Beach		Nantasket Beach	Hull
Wollaston Beach		Wollaston Beach	Quincy
South Boston Beach Unit		Carson Beach	S. Boston
South Boston Beach Unit		Castle Island	S. Boston
South Boston Beach Unit		City Point Beach	S. Boston
South Boston Beach Unit		M Street Beach	S. Boston
South Boston Beach Unit	Pleasure Bay Beach	S. Boston	

*Spectacle Island Beach did not open until summer 2006

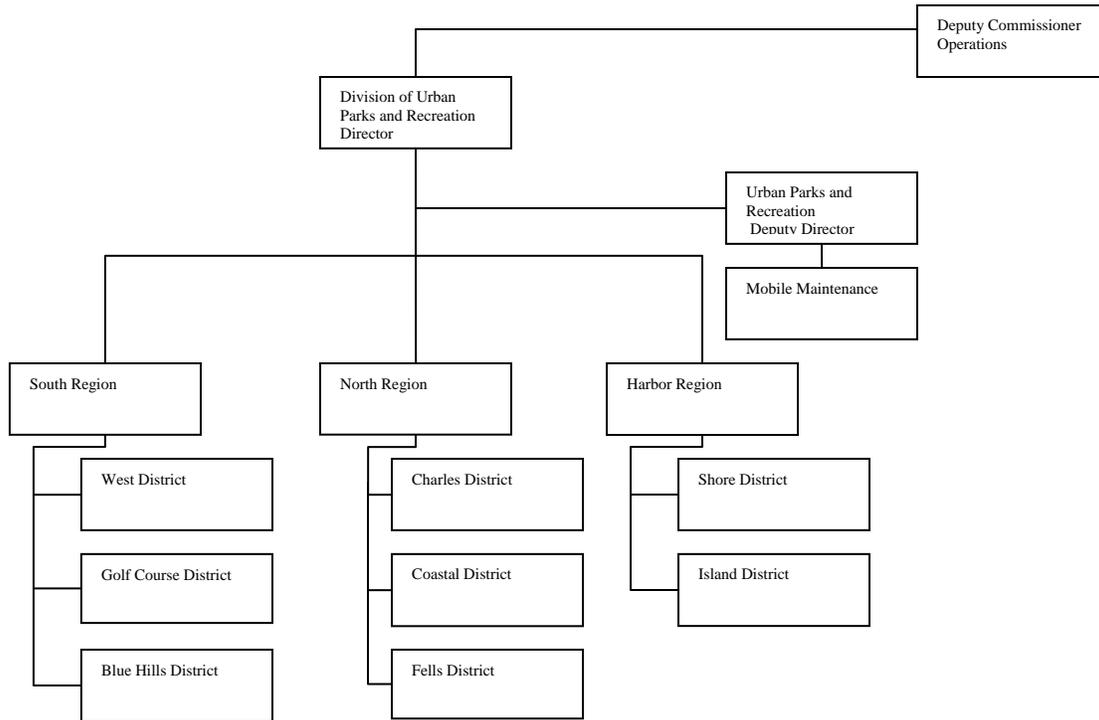
A description of each beach's key issues, capital programs, staffing, and general usage are included in an appendix.

See Appendix B -- Individual Beach Summaries: Constitution, Dorchester, Lynn & Nahant, Nantasket, Revere, South Boston, Winthrop, Wollaston

Facilities operations and management are under the supervision of the Director and Deputy Director of Urban Parks and Recreation, and District and Regional Managers. The Regional Managers have responsibility for all the urban parks in their districts, which have diverse operations ranging from beaches to ski areas to golf courses.

Exhibit 3 – DCR Division of Urban Parks Organizational Chart

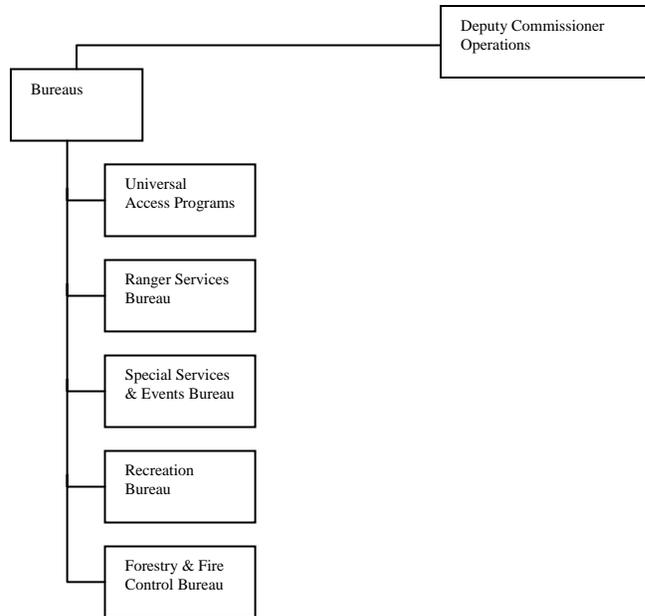
Source: DCR



The Bureaus provide services across all DCR facilities to ensure consistent implementation of policies, standards and programs. Each bureau oversees a functional area covering a broad variety of responsibilities such as permitting policies, accessibility requirements, special events programming, and safety protocols.

Exhibit 4 – DCR Bureaus Organizational Chart

Source: DCR



See Appendix C – DCR Organizational Chart

See Appendix D -- Summary of Bureau Services and Responsibilities

Capital projects at the beaches, such as repair of seawalls and building new structures, are subject to the state’s capital budgeting process. Capital projects are approved by the Legislature. The Executive Branch, through the Executive Office of Administration and Finance, convenes with the agencies to evaluate funding needs on a “fix it first” basis, authorizes the bond bills, and notifies agencies of the funded projects and their budgets. The state’s current cap on annual bond issuance is approximately \$1.1 billion. Projects that are authorized but do not receive funding remain pending and are candidates for future funding. Some may remain pending indefinitely, depending on changing priorities of the state and the agencies. The

DCR's budgeting process is described in the appendices, as are capital allocation related to the beaches. Authorized beaches-related capital projects are valued at \$62,770,000.

[See Appendix E – Commonwealth Capital Investment Plan](#)

[See Appendix F -- Beaches Capital Allocations](#)

[See Appendix G -- DCR Finance Overview](#)

Raphael and Raphael reviewed the quantitative data from various sources to assess fiscal year 2006 operating expenditures and resource utilization levels. Anecdotal information from the DCR District Managers was also considered as part of the evaluation of the service levels maintained at the beaches and how the administrative environment influences the range of service levels that the District Managers can support.

Data provided by the DCR's Finance Office were instrumental to the analysis of expenditures. In addition to routine record-keeping functions, the Finance Office supports the agency in unique analyses such as this one. Data availability and comparability, however, remain constrained by the issues discussed previously. Fiscal year 2006 expenditure data were provided, grouped by facility. Large variances in spending exist between the beaches, due in part to operating differences such as length of beach, physical plant and nourishment requirements. These variances are also due in part to the inconsistent use of the coding options available in New MMARS that is typical in the early stages of a system implementation. Payroll

data for fiscal year 2006 were provided separately. The DCR Finance Office modified payroll data from their original form as recorded in HR/CMS in order to show beach-related payroll per town (mailstop) and to include an allocation from labor yard payroll for work performed at the beaches.

While the chart of accounts for the state remains substantially the same over recent years, there has been a significant amount of effort given to developing the utility of the classifications at the “object code” level. The state’s chart of accounts, from general to specific, is:

- Fund group (capital, budgeted operating, non-budgeted operating, fiduciary)
- Fund (may be capital or operating)
- Department
- Appropriation
- Subsidiary (object class)
- Object code
- Vendor
- Contract
- Payment

In this hierarchy, DCR would be considered a department. Object classes/codes refer to expenditure categories. Object codes have changed numerous times since 2002.

Each iteration of change improves the level of detail captured for tracking and reporting. Some object codes are defined by the state; some are defined by the agency. As an example, the state requires that equipment purchases fall into object class KK. A sequence of numbers follows to indicate that the expenditure was for a specific type of equipment.

<p>See Appendix H -- Sample page from MA State Expenditure Classifications</p>
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Beyond the level of coding for the type of equipment, there has been no state-designated field to capture, for instance, “beach;” however, there are now a limited number of optional fields available to the DCR to assign an expenditure to a “unit” or “program.” The DCR determines how it can best use these additional fields. If the additional field captures beach name, then a report can be generated showing all equipment purchased for use at a particular beach. If the additional field captures equipment purchased for a particular project, then a report can be generated showing all equipment purchased related to that project. As the DCR continues to fine-tune its use of the optional fields within the object codes, it is increasingly likely that reporting options will be flexible enough to allow the data to be queried for either location or project, not exclusively one or the other. Until that time, such reports are generated manually by accessing various data sources.

Another feature of the DCR reorganization was a shift from subject-centered responsibilities to region-centered responsibilities. A manager formerly responsible for maintenance across a number of locations became responsible for a number of functions at a single district or region. While a manager’s institutional memory for the operations and expenditures related to their former responsibilities may be deep, their lack of familiarity with the new areas of responsibility may limit the usefulness of the anecdotal information they can share.

Operational practices at the beaches are becoming more clearly defined, but are broadly recognized to be at minimum acceptable levels because the DCR is understaffed for maintenance workers. The District Managers are actively involved in contributing ideas about the practices that can be realistically put in place at their

facilities. When discussing operations, they show sincere concern for work quality and the perceptions that DCR management and the public hold. The examples they give about managing staff, assigning and supervising tasks, and prioritizing in light of limited resources all illustrate resourcefulness in making the most of the available labor and budget. All participants voiced dissatisfaction with the current levels of beach maintenance and expressed interest in seeking improvement. Improvement is contingent upon having the budget for additional staff and additional equipment.

DCR beaches have a defined workplan that includes task-level detail on what routine maintenance should be performed and how frequently. Workplans are prepared for each season. They are refined over time to include more consistent and measurable ways of ensuring that the work is performed to standard. The workplan for

Constitution Beach in East Boston includes:

- Mowing/Trimming every 14 days
- Trash Barrel pickup every day
- Beach Sanitizing every 14-21 days

Work quality is overseen by the District Managers, sometimes by examination of work logs and sometimes by visual inspection.

[See Appendix I – DCR WorkPlans](#)

[See Appendix T -- DCR Waterfront Standards](#)

[See Appendix J -- Waterfront Equipment by Item and Region](#)

Deferred maintenance has had a pervasive negative effect on the condition of beach facilities and allows room for operational expenditures to appear to be less than they actually are. It also makes capital projects considerably more expensive than they were budgeted to be, as rehabilitative maintenance is more costly than consistent

upkeep. The deferred maintenance issue is not unique to the DCR. Our recommendation would be to make careful assessments of whether or not the projected costs for capital projects include an appropriate follow-on maintenance budget.

Total beach expenditures for Fiscal Year 2006 are shown below. Operating expenditures represent amounts from the operating budget as well as certain amounts coded as special projects or capital in the DCR's accounting system. Capital expenditures represent amounts from the capital budget, certain amounts coded as special projects in the DCR's accounting system, as well as expenditures from trust funds.

<p><u>Exhibit 6 -- Total Beach Expenditures by Function - Fiscal Year 2006</u> Source: DCR; modified by Raphael and Raphael LLP</p>
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FY 2006 Total Expenditures by Function

	Total
Administrative & Miscellaneous Expenses	28,758
Allocated Old Colony Labor Yard	123,789
Allocated Trash Removal	74,846
Energy Costs and Space Rental	152,312
Equipment Lease & Maintenance	49,521
Facility Operational Expenses	72,393
IT Non-Payroll Expenses	-
Operational Services	58,552
Payroll	1,128,120
Total Operating Expenditures	1,688,292
Loans and Special Payments	165,000
Capital Expenditures	11,650,911
Total Capital Expenditures	11,812,981
Total Beach Expenditures	13,501,272

<p><u>See Appendix K -- Operating Expenditures Fiscal Year 2006</u></p>

See Appendix L -- Operating Expenditures Fiscal Year 2006

See Appendix M-- Non-operating Expenditures Fiscal Year 2006

See Appendix N-- DCR Annual Report 2006

Though the DCR's budget includes preventive public safety measures, both the Department of State Police and the individual municipalities share primary responsibility for the costs and activities related to public safety at the beaches. Key components of managing public safety are the staffing and scheduling of dedicated patrols and special events, and choosing the appropriate responders for a given public safety issue. Because their budgets and reporting structures are separate, the State Police and the municipalities have managed these public safety functions independently of each other. Although communication between the State Police, DCR, and municipalities has improved in recent years, more proactive advance planning and coordination of efforts are recommended to improve cost-effectiveness.

Dedicated patrols are staffed by State Police troopers and sergeants seeking overtime opportunities. Dedicated patrols are funded by earmarked amounts in the state budget and are specifically tracked. Except where new patrols have been added, budgets for beach patrols have been the same dollar amount since at least 2003. As wages have increased, the budget supports fewer and fewer hours of patrols. The exhibit below shows that the budgeted patrol hours for the beaches listed below diminished 19% between Fiscal Years 2003 and 2007 despite the level funding. If the State Police were to have the same number of budgeted hours in Fiscal Year 2007 as in Fiscal Year 2003, it would cost an additional \$220,000.

Exhibit 7 – Dedicated Patrols Expenditures (Beaches), Fiscal Years 2003 and 2007
 Source: Department of State Police; modified by Raphael and Raphael LLP

Area Description	FY '03 Appropriation	FY '03 Avg Hourly Rate	FY '03 Budgeted Hours	FY '07 Appropriation	FY '07 Avg Hourly Rate	FY '07 Budgeted Hours
A Troop - Lynn, Kings & Nahant Beaches	49,860	52.50	950	49,860	65.00	767
A Troop - Revere Beach	40,000	52.50	762	40,000	65.00	615
A Trp - Winthrop, Revere, Constitution, Belle Isle	355,550	52.50	6,772	355,550	65.00	5,470
A Troop Totals	445,410		8,484	445,410		6,852
D Troop – Nantasket	280,000	52.50	5,333	280,000	65.00	4,308
D Troop Totals	280,000		5,333	280,000		4,308
G Trp - Mounted Unit - Lynn/Kings Beach/ Red Rock	116,500	52.50	2,219	116,500	65.00	1,792
G Troop Mounted Unit Totals	116,500		2,219	116,500		1,792
H Troop - Day Boulevard	46,666	52.50	889	46,666	65.00	718
H Troop – Wollaston Beach	35,000	52.50	667	35,000	65.00	538
H Troop Totals	81,666		667	81,666		538
	FY '03 TOTALS			FY '07 TOTALS		
MSP Total	\$923,576		17,592	\$923,576		14,209

There is a cost to the local communities also. For example, 3.8% of the total calls handled by the Hull Fire Department were in response to public safety issues at the Nantasket Beach Reservation. The total estimated cost for the Hull Fire Department to service the DCR Nantasket Beach Reservation would be \$98,181 (for calendar year 2006). Note that this is only for Nantasket, and only for Fire Department services.

Dedicated patrols staffing is increasingly effective as the Department of State Police adjusts patrols based on changing experience. Past experience shows the benefit of having heavier patrols earlier in the season to prevent undesired activity early on, increasing staffing on expected peak-use days, and reducing patrols when rain is expected in favor of having more patrols on hot days.

Special events have been a big cost driver for the State Police in the past. As the DCR and local community groups try to develop the roster of special events, event organizers should be aware of the event's public safety demands.

The estimated costs for policing a 1,000-person event where all attendees are adults differ greatly for a similar-sized event where the attendees are young adults or teenagers. The State Police report that a daytime event involving 1,000 adults could be patrolled by 7-10 troopers, depending on road closures, pedestrian traffic, handicapped access requirements, and the number of licensed vendors. A night-time concert event with an expected attendance of 1,000 teenagers would require at least 10-15 troopers, uniformed and undercover, to manage the logistical issues mentioned above, plus the increased risk of crowd conflicts. In either scenario, troopers need to be in place well before the event to assist in set-up and stay after the event to ensure that attendees exit the area safely.

Safety at the beaches has seen improvement in recent years. In the past, the public safety issues the Department of State Police faced included high-threat activities such as drug dealing, gang issues, and stabbings. Currently, the problems are more typically nuisance-level (e.g., noise control). While the State Police works in

conjunction with the public safety departments of the municipalities and the DCR, the State Police has public safety as its mission focus, and it specializes in mitigation of problems of a high-threat or criminal nature. It counts on DCR ranger staff to handle “order maintenance” activities and municipalities to augment patrols with local-level emergency response services.

[See Appendix O– State Police Assets Overview](#)

[See Appendix P– Dedicated Patrols Expenditures, 2003-2007](#)

A side note specific to the Harbor Islands: While the State Police has jurisdiction, there is currently no budget for patrols. If there was a significant increase in planned use of the Harbor Islands, the State Police budget would need to be revisited.

Optimal Scenario

A precise definition of the optimal beach management scenario is necessary as a benchmark for budgeting purposes. In early meetings numerous desires were expressed about what qualifies as “optimal;” the optimal scenario is likely to be an evolving target, but all participants materially agree that the key short-term goal is to solidify a baseline experience and that long-term goals may be subject to a great deal of variability and are best defined explicitly at a later time. Consensus as to what a short-term baseline experience looks like was affirmed in the early stages of our study. Beaches first need to be hygienic and safe during the beach season, but off-season maintenance is required as well. Beaches need to be free of trash; lavatories, water fountains, and other facilities need to be in working order; and the grounds need to be maintained throughout the year, including street sweeping, grass cutting,

snow plowing, and managing trash overflow from private-sector properties that abut DCR facilities. Long-term targets involve the implementation of new programs (some that affect all the beaches and some that are developed with a specific community in mind), capital projects, and as-yet-unidentified targets that will emerge out of the changing usage patterns that occur once the MBC initiatives are rolled out. Our budget recommendations are based on the short-term goals that have been articulated by MBC and by the DCR Facilities Managers' assessment of the resources they will need to fulfill those goals.

Prospective Budget

DCR facilities managers have identified the resources they believe will support the DCR's efforts to maintain the beaches at the short-term baseline level. Their recommendations are for purchase of additional equipment and an upward revision in the annual operating budget. The cost of additional equipment is a capital expenditure of \$1,440,000 and the cost of staff additions and equipment operation is an annual operating budget increase of \$3,347,880.

The DCR identified \$1,440,000 in additional equipment necessary for optimal beach maintenance. The annual cost of operating that equipment is estimated at \$493,500, excluding staffing requirements, which are discussed separately. The types of equipment sought include vehicles for transporting workers and equipment for beach clean-up, much of which has usefulness outside of the beach season. It is possible that the cost to purchase the additional equipment can be bonded, allowing the expenditure to be spread out over the equipment's years of service. Heavy equipment

is expected to be replaced approximately every 5 years and other equipment approximately every 10 years.

Exhibit 8 – Optimal Scenario Equipment Additions
 Source: DCR; modified by Raphael and Raphael LLP

EQUIPMENT ADDITIONS

Description	Qty	Purchase Price per Unit	Annual Operating Cost per Unit	Total Purchase Cost	Total Annual Operating Cost
North Region					
1 Ton Dump Truck	6	30,000	13,030	180,000	78,180
4 Wheel Drive Gator (2 with flat deck back for rescue and 2 with dump bodies)	4	8,000	10,850	32,000	43,400
5 Ton Dump Truck	3	75,000	13,030	225,000	39,090
Arrow Board	2	5,000	1,440	10,000	2,880
Beach Sanitizer	2	47,000	800	94,000	1,600
Catch Basin Truck as Needed for Blocked CB's for Region	1	75,000	4,450	75,000	4,450
Landscape truck with Duel Cab	1	45,000	15,800	45,000	15,800
Passenger Van	1	-	20,084	-	20,084
Pick Up Truck	4	-	20,984	-	83,936
Tractor for Beach Sanitizer	2	65,000	7,550	130,000	15,100
Trash Packer Truck	1	75,000	20,630	75,000	20,630
Total North Region				866,000	325,150
Harbor Region					
General Parks- Beaches Facility Maintenance Equipment	1	-	50,000	-	50,000
Green Machine	3	68,000	22,713	204,000	68,140
New Front End Loader	1	125,000	8,950	125,000	8,950
Trash Packer Truck - 11 cubic yd capacity	1	90,000	20,630	90,000	20,630
Trash Packer Truck - 30 cubic yd capacity	1	155,000	20,630	155,000	20,630
Total Harbor Region				574,000	118,350
Total Equipment Additions				1,440,000	493,500

The DCR also identified the need for permanent/full-time staff additions totaling \$2,787,040 in additional payroll per year, and seasonal staff additions totaling \$67,340 in additional payroll per year. Payroll costs include fringe and administrative costs paid by the state. Staffing levels are the chief resource constraint mentioned by DCR District Managers. Not enough staff are available to perform the tasks required to meet DCR workplan targets, generally. The beaches are affected by this proportionately. To add more programming, patrols, beach sanitizing, sweeping, trash pick up, and to reduce the overtime paid for weekend work, facilities managers would add full-time staff and seasonal staff.

Increasing only the levels of seasonal workers was not chosen as a primary solution because seasonal workers typically cannot do the beach maintenance work. They may lack necessary certifications for operating certain equipment, or adding beach maintenance responsibilities to their existing workload may diminish their availability to do the work they were hired to do (such as lifeguarding). Additionally, there is an 8-month maximum that a seasonal worker may work in any 12-month period; beyond 8 months, that seasonal worker may have to be re-categorized as a permanent, full-time employee. DCR's goal is to rely less heavily on seasonal workers for year-round maintenance, as honoring the 8-month cap leads to disruption in the continuity of maintenance operations.

For comparative purposes, it is important to note the differences between the composition of the payroll data for FY06 expenditures and payroll for the optimal scenario. FY06 payroll expenditures include an allocation of 40% of total maintenance staff costs. 40% was determined by the DCR as the approximate

proportion of maintenance workers' time spent on beach maintenance. The optimal scenario staffing costs show 100% of the costs required to pay for the additional hires. Their time will not be 100% dedicated to beaches, so it would be an unfair comparison to add the additional payroll costs to the FY 06 costs to arrive at forward-looking beach-related payroll expense. A proportion of the optimal scenario payroll costs will be allocable to non-beach operations. The added staff will provide benefit to across other DCR facilities as well, which has the potential to substantially reduce deferred maintenance problems.

Exhibit 9 – Optimal Scenario Full-time/Permanent Staff Additions

Source: DCR; modified by Raphael and Raphael LLP

STAFF ADDITIONS						
Description/Title	# FTE's	Salary per FTE- Annual	Fringe (paid by state, not DCR)	ITD charges	Total per FTE	TOTAL
North Region						
Laborer II (CDL), Grade 10, Unit2	5	28,516	9,302	121	37,938	189,692
Division Foreman, Grade17, Unit 2	1	40,657	13,262	121	54,040	54,040
Laborer I (CDL), Grade 9, Unit 2	4	27,437	8,950	121	36,507	146,029
Laborer II (CDL), Grade 10, Unit 2	4	28,516	9,302	121	37,938	151,753
Laborer II (CDL), Grade 9, Unit 2	5	27,437	8,950	121	36,507	182,537
MEO I, Grade 13, Unit 3	6	33,797	11,025	121	44,942	269,653
Natural Resources Specialist, Grade 21, Unit 9	1	50,686	16,534	121	67,340	67,340
Park Foreman I, Grade 15	4	36,299	11,841	121	48,260	193,040
Ranger I, Grade 14, Unit 2	6.5	34,398	11,221	121	45,740	297,308
Rec Facility Manager, Grade 12	4	30,950	10,096	121	41,166	164,664
Rec Facility Manager, Grade 20	2	47,242	15,410	121	62,773	125,546
Volunteer Services Coordinator II, Grade 15, Unit 2	1	36,299	11,841	121	48,260	48,260
Total North Region	43.5					1,889,862
Harbor Region						
Forest and Parks II, Grade 16, Unit 2	2	38,448	12,542	121	51,111	102,222
Laborer II (CDL)	6	28,516	9,302	121	37,938	227,630
Laborer II (CDL), Grade 10, Unit 2	4	28,516	9,302	121	37,938	151,753
MEO I, Grade 13, Unit 3	2	33,797	11,025	121	44,942	89,884
Natural Resources Specialist, Grade 21, Unit 9	1	50,686	16,534	121	67,340	67,340
Ranger I, Grade 14, Unit 2	3.5	34,398	11,221	121	45,740	160,089
Volunteer Services Coordinator II, Grade 15, Unit 2	1	36,299	11,841	121	48,260	48,260
Total Harbor Region	19.5					847,178
Harbor Region, Contracted Services						
Landscape Improvements Contract						50,000
Total Staff Additions	63					2,787,040

The addition of full-time staff would complement seasonal staffing levels, which would see a slight increase in the optimal scenario, as described in the exhibit below.

Full-time, year-round employees would be available to provide maintenance and event support for the months of December, January and February.

Exhibit 10 – Optimal Scenario Seasonal Staff Additions, by Month
Source: DCR; modified by Raphael and Raphael LLP

North and Harbor Regions
Seasonal Staffing
NET ADDITIONS

Description/Title	Net Additional # FTE's	Total Wages per FTE, Annual	TOTAL
North Region			
Waterfront Staff:			
Rec Fac Supervisor I	-	25,735	-
Lifeguard II	-	23,431	-
Lifeguard I	-	22,306	-
Facility Service Worker	2.58	21,277	54,966
Summer Worker	-	15,630	-
Laborer I	-	23,431	-
Beach-Park Maintenance Staff			
Coastal Ops Labor Yard:			
Laborer II	(0.13)	31,304	(3,913)
Laborer I	(0.75)	30,644	(22,983)
	-		
Park Ranger II	-	40,582	-
Park Ranger I	0.83	36,651	30,542
Visitor Services Supervisor	0.75	38,497	28,873
Total North Region	3.29		87,486
Harbor Region			
Waterfront Staff:			
Rec Fac Supervisor III	-	31,025	-
Rec Fac Supervisor I	0.25	25,735	6,434
Lifeguard II	-	23,431	-
Lifeguard I	-	22,306	-
Facility Service Worker	0.71	24,980	17,694
Summer Worker	0.25	15,630	3,907
Laborer I	(0.35)	30,644	(10,853)
Park Ranger II (grade 16)	(0.02)	40,582	(845)
Park Rangers I	0.13	34,925	4,366
Forest & Park Supervisor I	0.04	32,336	1,347
Visitor Services Supervisor I	0.56	38,497	21,655
Master Fisheries (boat operator)	-	43,017	-
Mate Fisheries (deck hand)	0.08	29,432	2,453
Beach-Park Maintenance Staff			
Shore District Ops Labor Yard:			
Laborer II	(0.21)	31,304	(6,522)
Laborer I	(1.98)	30,206	(59,782)
Total Harbor Region	(0.54)		(20,146)
Total Seasonal Staff	2.75		67,340

See Appendix Q– Current Plan Seasonal Staffing, by Month

See Appendix R– Optimal Plan Seasonal Staffing, by Month

See Appendix S– Optimal Scenario Net Additions to Seasonal Staff

Even if the Legislature provided the DCR with funding for staff, the DCR would not be able to hire staff quickly. Current hiring practices put the DCR at a staffing disadvantage even if budget were already available for new hires.

Administrative impediments include a complex and multilevel authorization process, with a 12-14 week turnaround time from requisition date to hire date. Given budget to hire the staff needed for the optimal beach maintenance scenario, the DCR would need to add human resources staff internally in order to manage the administrative process for that many open requisitions. We recommend a streamlined hiring process with carefully controlled blanket authorizations for a block of hires, or a simple reduction in the number of authorization steps.

Competitive impediments include relatively low baseline salaries and poor advancement opportunities. Baseline salary for a full-time laborer is \$24,000 and it currently takes 12 years to reach a maximum salary of \$34,000; contrast this with the town of Brookline, where the same laborer’s starting salary is \$34,000. Where advancement opportunities exist, they can be counterproductive to employee retention. In part because of both the slow authorization process for hiring and the market-lagging salaries, when an employee is encouraged to pursue an additional certification and succeeds, often the reward for professional development is so small

and so long in coming that the employee seeks advancement elsewhere. We recommend a review of salary levels and speed of recognition of achievement, and an evaluation of the non-salary benefits employees may see at DCR (such as a sense of personal pride in participating in the DCR's work).

Complements to Budget Changes

We also recommend the evaluation of some opportunities to support beach maintenance long-term through actions that do not have a direct and immediate impact on the operating budget. During the study, various suggestions were made by meeting participants about opportunities to advance the goals of the MBC initiative. Many of these are complements to the budget that do not have specific expenditures associated with them, but they have the potential to enhance the beach improvement initiative by refining procedures and seeking alternative sources of funding and assistance

We found during the course of our inquiries that proceed from the issuance of bonds are frequently used for operating expenditures rather than capital expenditures. When the state borrows money, it does so because it makes sense to match the period of borrowing with the useful life of the asset; however, to borrow money and pay interest to do things like painting or mowing makes no financial sense. This is a problem that extends beyond the DCR. The Legislature may wish to look into ways to minimize this.

Enhancement of communication across agencies would facilitate better planning and reporting of beach operations, and better community relations. There are numerous ways to achieve this. We would like to emphasize that improved communication can lead to a more efficient allocation of resources, which could be of financial benefit to the Commonwealth in the long-term.

The recruitment of “Friends of” affiliations appears to have served some communities very well. The North Region Coastal District has strong support groups: Revere Beach Beautification Committee, Friends of Lynn and Nahant Beaches, Friends of the Belle Isle Marsh, and others. During our study, the Revere Beach Partnership and the Revere Beach Beautification Committee was most often mentioned as the model of a productive DCR/affiliate relationship, although others were mentioned as well. Key elements of a good affiliate seemed to be a leadership structure designed for good succession, activities that unify the affiliate’s membership through regular social events, a physical home for the affiliate, among other things. On the DCR side, it would enhance the usefulness of the affiliates if managers were encouraged and trained to identify appropriate areas for collaboration, show support and recognition for the affiliate’s efforts, and constructively set goals and limits regarding the affiliate’s involvement.

Other programs to enlist the aid of the constituents themselves might include:

- Initiation of litter campaigns, such as Leave no Trace (pack in/pack out).
- Signage to encourage more responsible placement of trash

Appendix A - Raphael and Raphael Meeting Schedule, Participants, Topic/Highlights
Source: Raphael and Raphael LLP

Date	Attendees	Topic/Highlights
10/17/06	STH/STB, Representatives of the MBC	Gain understanding of project background and goals
10/17/06	STH/STB, Senate President Deputy Chief of Staff	Identify agencies that may have budget data to contribute
10/17/06	STH/STB, representatives of Senate Ways & Means	Gain understanding of allocation and reporting mechanisms for operating and capital budgets
10/19/06	STH/STB, Representatives of the MBC	Revisit MBC goals in light of data from previous meetings, plan & prepare for upcoming meetings
10/25/06	STH/STB, Representatives of the MBC	Present Raphael and Raphael's understanding of its role & intended approach to project; gain deeper understanding of project goals through Q&A with commissioners
11/1/06	Executive Office for Administration and Finance	Gain understanding of Administration & Finance's role, and its methods and constraints in regard to budget allocation & reporting.
11/9/06	Representatives of DCR Finance, representatives of Urban Parks	Identify budget data availability; gain understanding of DCR's role in beaches management & how other agencies/municipalities are involved with beaches
11/16/06	Comptroller and Comptroller's office staff	Gain understanding of available reports and their limitations; identify relevant reports and delivery formats
11/28/06	STH/STB, Senator Hart and staff	Update Senator Hart on research progress, revisit target report dates
11/28/06	STH/STB, representatives of MBC, Youth Group invitees	Gain understanding of goals for future use of beaches
11/29/06	Representatives of DCR Finance	Gain further understanding of report availability and limitations; identify specific reports to be provided for analysis
12/7/06	Representatives of DCR Finance	Review of reports provided
12/8/06	STH/STB, representatives of DCR Urban Parks	Gain facility-level understanding of operations
12/11/06	STH/STB, representatives of MBC	Present findings to date; gain further understanding of MBC priorities
Through 2/14/07	STH/STB, representatives of DCR Urban Parks, representatives of MBC	Ongoing technical budgeting and systems discussions, and periodic progress reports

Appendix B -- Individual Beach Summaries: Constitution, Dorchester, Lynn & Nahant,
Nantasket, Revere, South Boston, Winthrop, Wollaston
Source: DCR

Metropolitan Beaches Commission
 10/3/06 Hearing Briefing
Constitution Beach

Constitution Beach in East Boston extends over twenty-two acres and includes the Porazzo Rink Initially built by the Mass DPW in the early '50s, the beach was initially operated by the City of Boston and later transferred to the former MDC. The beach was built as partial mitigation for airport expansion and the loss of Wood Island Park. It was completely reconstruction under the Back to the Beaches program for a cost of five and a half million dollars. The new bathhouse cost an addition million-three hundred thousand dollars.

Issues:

- Airport Noise
- Vandalism
- Security
- Litter

Capital Programming

Constitution Beach	Beach Rehabilitation	2001	\$5,500,000.00
	New Bathhouse	2006	\$1,300,000.00

Staffing

Staffing based on mid July Peak Staffing for the Summer Season

Constitution Beach	FTE	Seasonal	Total
Summer 2006	2	17	19
Summer 2005	2	17	19
Summer 2004	0	19	19

The Nahant Operations out of the Nahant Labor Yard also supports the operations of the beaches. A portion of the following people's time is spent on the Nahant, Revere, Winthrop, and Constitution Beaches during the season.

Nahant Beach Operations	FTE	Seasonal	Total
Summer 2006	11	5.4	16.4
Summer 2005	9	13	22
Summer 2004	7	12	19

Metropolitan Beaches Commission
 10/3/06 Hearing Briefing
Dorchester Beaches

Tenean, Malibu and Savin Hill Beaches were originally built by the City of Boston in the early 20th Century and transferred to the former MDC in 1949. The beaches were substantially impacted by the construction of the Southeast Expressway in the early 1950s. Diminishing use contributed to neglect and by the early 90s, the beaches, particularly Malibu and Savin Hill, were in poor shape. Savin Hill underwent a three and a half million dollar reconstruction that resulted in a restored beach and promenade, new boardwalk and landscaping and attractive sight lighting. Tenean Beach had been partially reconstruction in the early 80s and the one and half million dollar effort complemented the earlier improvements. Both beaches gained tot lots, shelters, foot and body showers along with water fountains.

Permitting for the reconstructed beach at Savin Hill required mitigation in the form of salt marsh restoration sited on the nearby Neponset River.

Issues:

- Lack of Sanitary Facilities
- Maintenance
- Uncontrolled dogs and waste

Capital Program

Dorchester Shores	Beach Rehabilitation "West Link" <i>Savin Hill & Tenean Bathhouses</i>	2004 2006 20XX	\$4,750,000.00 \$1,100,000.00 \$1,700,000.00
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Staffing

Staffing based on mid July Peak Staffing for the Summer Season

Dorchester shores: Savin Hill/ Malibu/ Tenean Beach	FTE	Seasonal	Total
Summer 2006	1	14	15
Summer 2005	0.5	12	12.5
Summer 2004	0	11	11

The Shore District Operations out of the Old Colony Labor Yard also supports the operations of the beaches. A portion of the following people's time is spent on the South Boston, Dorchester and Quincy beaches during the season.

Shore District Operations	FTE	Seasonal	Total
Summer 2006	16	6	22
Summer 2005	16	13	29
Summer 2004	17	14	31

Metropolitan Beaches Commission
 10/3/06 Hearing Briefing
Lynn & Nahant

Lynn and Nahant are comprised of Lynn Shore Drive associated parkland. Nahant Beach includes a wide beach and dune system that begins at the Nahant Rotary and extends northeast a mile and a quarter to Little Nahant. The adjoining Causeway is the only vehicular access into Nahant.

Issues:

- Roadway Flooding
- Lack of sufficient Sanitary Facilities
- Litter
- General Appearance
- Lack of Amenities

Capital Program

Lynn/Nahant	Shore Drive Seawall, Parkway & Landscaping	1997	\$10,000,000.00	
	Design & Engineering to Date		\$300,000.00	
	Halfway House	2006	\$1,200,000.00	
	<i>Causeway and Beach Design</i>	<i>2007</i>		<i>\$850,000.00</i>
	<i>Causeway and Beach Rehabilitation</i>	<i>2009</i>		<i>\$15,800,000.00</i>

Staffing

Staffing based on mid July Peak Staffing for the Summer Season

Lynn Nahant Beach	FTE	Seasonal	Total
Summer 2006	1	35	36
Summer 2005	2	36	38
Summer 2004	0	59	59

The Nahant Operations out of the Nahant Labor Yard also supports the operations of the beaches. A portion of the following people's time is spent on the Nahant, Revere, Winthrop, and Constitution Beaches during the season.

Nahant Beach Operations	FTE	Seasonal	Total
Summer 2006	11	5.4	16.4
Summer 2005	9	13	22
Summer 2004	7	12	19

Metropolitan Beaches Commission
10/3/06 Hearing Briefing
Nantasket Beach

Mile long Nantasket Beach sits on the southern end of the Hull peninsula. This broad, flat beach developed as a resort in the 19th Century. It was acquired by the former Metropolitan Parks Commission in the early 20th Century. Once reached by train, trolley and steamboat, it is now accessible only by automobile. The sea's edge is defined by a series of walls and bulkheads in an irregular line. Nantasket Beach is subject to erosion and the portions of the seawall have become unstable or failed. In response, the Army Corps has proposed a beach renourishment, but the prospect of upland sand has been met with opposition by many in the town. In the interim, DCR has initiated a temporary seawall fortification for two thousand feet of threatened wall and replace another nine hundred feet of failed wall with a new revetment. DCR is now undertaking a reassessment of the wall; it's condition and beach nourishment along with a master plan for the Reservation's facilities.

Issues:

- Beach Access, particularly across the "TSF"
- Deteriorated Facilities
- Abandoned Facilities
- Maintenance
- Litter
- Security
- Overall Appearance

Capital Program

Nantasket	Murray Bathhouse	1996	\$3,000,000.00	
	Temporary Seawall Fortification	2005	\$3,400,000.00	
	Bernie King Pavilion	2005	\$1,000,000.00	
	Northern Revetment	2006	\$5,000,000.00	
	Design & Engineering To Date		\$800,000.00	
	<i>Seawall Design and Master Plan</i>	2008		\$850,000.00
	<i>Seawall Repairs</i>	2007		\$5,000,000.00
	<i>Beach Renourishment</i>	2008		\$15,600,000.00

Staffing

Staffing based on mid July Peak Staffing for the Summer Season

Nantasket Beach	FTE	Seasonal	Total
Summer 2006	2	44	46
Summer 2005	3	44	47
Summer 2004	0	51	51

Nantasket Labor Yard also supports the operations of the beaches. A portion of the following people's time is spent on Nantasket Beach, as well as the other land side parks in the Islands District of the Harbor Region.

Nantasket Beach Labor Yard	FTE	Seasonal	Total
Summer 2006	6	7	13
Summer 2005	5	7	12
Summer 2004	6	11	17

Metropolitan Beaches Commission
 10/3/06 Hearing Briefing
Revere Beach

Revere Beach Reservation occupies a two mile long barrier beach on Broad Sound. The Reservation was created in 1895; the effects of historical development, seawalls and ill-advised management practices resulted in a seriously eroded beach. The 1978 Blizzard severely damaged historic structures and accelerated the beach erosion. Simultaneously, locally initiated urban renewal eliminated former private beach amusements.

An ambitious 1978 master plan saw partial realization in the creation of Doris Park. The 1992 beach nourishment also included restoration of damaged historic structures. The nourishment was and remains controversial for some who objected to the source of sand borrow.

The current capital project will restore the historic beachside promenade north of Revere Street as well as introduce much needed storm drainage improvements. The Reservation lacks sufficient sanitary facilities.

Issues:

- Litter
- Blowing Sand
- Beach Cleaning
- Recreational Traffic
- Nighttime Noise

Capital Program

Beach Renourishment & Restoration	1992	\$12,500,000.00	
<i>Boulevard Rehabilitation</i>	<i>2008</i>		<i>\$8,800,000.00</i>

Staffing

Staffing based on mid July Peak Staffing for the Summer Season

Note – staffing is shared between Revere, Winthrop and Mary O’Malley Park.

Revere Beach/ Winthrop/ Mary O’Malley Park	FTE	Seasonal	Total
Summer 2006	1	36	37
Summer 2005	1	41	42
Summer 2004	0	55	55

Labor Yard Support -- The following staff support; Revere, Winthrop, Nahant Beach, Constitution Beach and the North Region Coastal District.

Nahant Beach Operations	FTE	Seasonal	Total
Summer 2006	11	5.4	16.4
Summer 2005	9	13	22
Summer 2004	7	12	19

Metropolitan Beaches Commission
10/3/06 Hearing Briefing
South Boston Beaches

The South Boston Beaches stretch from Castle Island and Pleasure Bay to Carson Beach. These popular and heavily used sites received over seven million dollars of upgrading through the Back to the Beaches program, including new sand, new pathways, lighting and sidewalks, three additional pedestrian crossing signals, two tot lots, landscaping, benches, shade shelters, water fountains, foot showers, bike racks, new handicapped accessible beach entrances and roadway improvements. The flagship project is the four million dollar reconstruction of the McCormack Bathhouse which restored this end of Carson Beach to active, safe and popular use.

Issues:

Security
Litter

Capital Program

South Boston Beaches	McCormack Bathhouse	1998	\$4,200,000.00
	Beaches Rehabilitation	2003	\$8,200,000.00

Staffing

Staffing based on mid July Peak Staffing for the Summer Season

South Boston beaches	FTE	Seasonal	Total
Summer 2006	1	46.5	47.5
Summer 2005	3	46	49
Summer 2004	0	71	71

The Shore District Operations out of the Old Colony Labor Yard also supports the operations of the beaches. A portion of the following people's time is spent on the South Boston, Dorchester and Quincy beaches during the season.

Shore District Operations	FTE	Seasonal	Total
Summer 2006	16	6	22
Summer 2005	16	13	29
Summer 2004	17	14	31

Metropolitan Beaches Commission
 10/3/06 Hearing Briefing
Winthrop Beach

Winthrop Beach was transferred to the State after the devastation of the Portland Gale of 1898. A seawall was built the following year. The seawall has been partially rebuilt numerous times and additional protection features such as groins and breakwaters have been added. These structural responses have not addressed the basic problems that the historical development is too far seaward and the beach system is also sand starved and the beach's orientation makes it particularly vulnerable to northeastern storms. The nourishment proposal is designed to provide a sacrificial beach which will move wave energy further seaward and protect the vulnerable wall and adjoining neighborhood.

Issues:

- Flood & Storm Damage
- Roadway Drainage
- Litter
- Uncontrolled Dogs and Waste
- Lack of Amenities

Capital Program

Winthrop Beach	Seawall Repairs	2000	\$100,000.00	
	Emergency Fortifications	2006	\$500,000.00	
	Design & Study to date		\$1,000,000.00	
	<i>Winthrop Beach Nourishment</i>	2007		\$8,000,000.00
	<i>Winthrop Beach Rehabilitation</i>	2008		\$5,170,000.00

Staffing

Staffing based on mid July Peak Staffing.

Note – staffing is shared between Revere, Winthrop and Mary O'Malley Park.

Revere Beach/ Winthrop/ Mary O'Malley park	FTE	Seasonal	Total
Summer 2006	1	36	37
Summer 2005	1	41	42
Summer 2004	0	55	55

Labor Yard Support -- The following staff support; Revere, Winthrop, Nahant Beach, Constitution Beach and the North Region Coastal District.

Nahant Beach Operations	FTE	Seasonal	Total
Summer 2006	11	5.4	16.4
Summer 2005	9	13	22
Summer 2004	7	12	19

Metropolitan Beaches Commission
 10/3/06 Hearing Briefing
Wollaston Beach

The two mile long Wollaston Beach was created in the early 20th Century with the construction of a new causeway for Quincy Shore Drive. Over the intervening century, the beach has moved seaward with roadway widening and small landside parks have been added.

Wollaston is undergoing a seven million dollar rehabilitation that will include several traffic calming features such as the new state-of-the-art traffic signal system. Amenities will include shade shelters and benches, water fountains and foot and body showers, improved access, wider sidewalks, beach renourishment, landscaping, reconstructed roadway storm drainage and a new tot lot.

Issues:

- Water Quality Problems
- Insufficient Sanitary Facilities
- Maintenance
- Litter
- Uncontrolled dogs and waste

Capital Program

Wollaston Beach	Early Resanding	1996	\$500,000.00
	Don Kent Park	1997	\$100,000.00
	Seawall Reconstruction	2004	\$3,000,000.00
	Caddy Park Tot Lot	2000	\$100,000.00
	Beach Rehabilitation	2007	\$8,200,000.00

Staffing

Staffing based on mid July Peak Staffing for the Summer Season

Wollaston Beach	FTE	Seasonal	Total
Summer 2006	4	20.5	24.5
Summer 2005	3.5	29.5	33
Summer 2004	0	41.5	41.5

The Shore District Operations out of the Old Colony Labor Yard also supports the operations of the beaches. A portion of the following people's time is spent on the South Boston, Dorchester and Quincy beaches during the season.

Shore District Operations	FTE	Seasonal	Total
Summer 2006	16	6	22
Summer 2005	16	13	29
Summer 2004	17	14	31

Appendix C -- Department of Conservation and Recreation Organizational Chart
Source: DCR

To see this appendix please visit www.savetheharbor.org

Appendix D -- Summary of Bureau Services and Responsibilities
Source: DCR

To see this appendix please visit www.savetheharbor.org

Appendix E – Commonwealth Capital Investment Plan

Source: website www.mass.gov/eeoaf/

To see this appendix please visit www.savetheharbor.org

Appendix F -- Beaches Capital Allocations

Source: DCR

Note: items shown in italics are future projects

Beach	Location	Project	Year	Cost	Projected Cost	By Beach to Date
All Beaches		New Maintenance Equipment	1996	\$3,000,000.00		\$3,000,000.00
Lynn/Nahant	Lynn	Shore Drive Seawall, Parkway & Landscaping	1997	\$10,000,000.00		
		Design & Engineering to Date		\$300,000.00		
	Nahant	Halfway House	2006	\$1,200,000.00		\$11,500,000.00
	Nahant	<i>Causeway and Beach Design</i>	2007		\$850,000.00	
	Nahant	<i>Causeway and Beach Rehabilitation</i>	2009		\$15,800,000.00	
Revere Beach	Revere	Beach Renourishment & Restoration	1992	\$12,500,000.00		\$12,500,000.00
		<i>Boulevard Rehabilitation</i>	2008		\$8,800,000.00	
Rocky Beach	Revere	<i>Beach Access and Improvements</i>	2007		\$1,000,000.00	
Winthrop Beach (this includes Short Beach)	Winthrop	Seawall Repairs	2000	\$100,000.00		
		Emergency Fortifications	2006	\$500,000.00		
		Design & Study to date		\$1,000,000.00		\$1,600,000.00
		<i>Winthrop Beach Nourishment</i>	2007		\$8,000,000.00	
		<i>Winthrop Beach Rehabilitation</i>	2008		\$5,170,000.00	
Yirrell & Donovan's Beaches	Winthrop	Landscaping & Access Improvements	2003	\$600,000.00		\$600,000.00
Constitution Beach	East Boston	Beach Rehabilitation	2001	\$5,500,000.00		
		New Bathhouse	2006	\$1,300,000.00		\$6,800,000.00
	South Boston	McCormack Bathhouse	1998	\$4,200,000.00		
		Beaches Rehabilitation	2003	\$8,200,000.00		\$12,400,000.00
Dorchester Shores	Dorchester	Beach Rehabilitation	2004	\$4,750,000.00		
		"West Link"	2006	\$1,100,000.00		\$5,850,000.00
		<i>Savin Hill & Tenean Bathhouses</i>	20XX		\$1,700,000.00	
Wollaston Beach	Quincy	Early Resanding	1996	\$500,000.00		
		Don Kent Park	1997	\$100,000.00		
		Seawall Reconstruction	2004	\$3,000,000.00		
		Caddy Park Tot Lot	2000	\$100,000.00		
		Beach Rehabilitation	2007	\$8,200,000.00		\$11,900,000.00
Nantasket	Hull	Murray Bathhouse	1996	\$3,000,000.00		
		Temporary Seawall Fortification	2005	\$3,400,000.00		
		Bernie King Pavilion	2005	\$1,000,000.00		
		Northern Revetment	2006	\$5,000,000.00		
		Design & Engineering To Date		\$800,000.00		\$13,200,000.00
		<i>Seawall Design and Master Plan</i>	2008		\$850,000.00	
		<i>Seawall Repairs</i>	2007		\$5,000,000.00	
		<i>Beach Renourishment</i>	2008		\$15,600,000.00	
	Total to date					\$79,350,000.00
	Future				\$62,770,000.00	

Appendix G -- DCR Finance Overview

Source: DCR

To see this appendix please visit www.savetheharbor.org

Appendix H -- Sample page from MA State Expenditure Classifications
Source: Comptroller's Office

To see this appendix please visit www.savetheharbor.org

Appendix I – DCR Workplans

Source: DCR

To see this appendix please visit www.savetheharbor.org

Appendix J -- Waterfront Equipment by Item and Region
Source: DCR

To see this appendix please visit www.savetheharbor.org

Appendix K - Total Beach Expenditures by Location - Fiscal Year 2006

Source: DCR; modified by Raphael and Raphael LLP

FY 2006 Total Beach
Expenditures by Location

	Operating Expenditures	Capital Expenditures	Total
Lynn and Nahant Beaches	209,392	228,461	437,853
Revere and Winthrop Beaches	201,748	926,412	1,128,160
East Boston Beaches	11,388	1,344,886	1,356,274
South Boston Beaches	429,675	1,718,812	2,148,487
Boston Harbor Islands Beaches	29,065	-	29,065
Dorchester Beaches	92,011	7,630	99,640
Quincy Beaches	188,328	3,019,113	3,207,442
Hull Beaches	328,050	4,567,666	4,895,716
Allocated Old Colony Labor Yard	123,789	-	123,789
Allocated Trash Removal	74,846	-	74,846
Total Beach Expenditures	1,688,292	11,812,981	13,501,272

While some variations in expenditures between beaches are due to the specific needs and usage patterns at the beaches, it is important to note that the coding issues described above account for an unknown portion of the variations. As an example, the \$11,388 entry for East Boston beaches expenditures is perceived by DCR and municipality officials to be a figure below actual expenditures, based on their recollection of maintenance activities in East Boston. Some expenditures related to East Boston beaches are captured in the expenditure totals of other beaches, as the coding methods in place during Fiscal Year 2006 were insufficient to fully and accurately match an expense with a specific beach. Although the matching is imperfect in Fiscal Year 2006, all expenditures are captured, and the total presented for all beaches in aggregate is accurate.

Appendix L - Operating Expenditures Fiscal Year 2006

Source: DCR; modified by Raphael and Raphael LLP

FY 2006 Total Operating Expenditures by Location

	Total Adjusted Operating
Lynn and Nahant Beaches:	
Payroll	163,197.40
Nonpayroll:	
Administrative Expenses	2,045.00
Energy Costs and Space Rental	20,811.57
Equipment Lease & Maintenance	7,568.68
Facility Operational Expenses	9,616.66
Infrastructure	190.86
IT Non-Payroll Expenses	51.73
Operational Services	<u>5,909.93</u>
Total Lynn and Nahant Beaches	<u>209,391.83</u>
Revere and Winthrop Beaches:	
Payroll	174,292.63
Nonpayroll:	
Administrative Expenses	720.00
Energy Costs and Space Rental	6,290.06
Equipment Lease & Maintenance	1,858.03
Facility Operational Expenses	7,646.49
Infrastructure	300.00
IT Non-Payroll Expenses	1,081.54
Operational Services	<u>9,558.87</u>
Total Revere Beaches	<u>201,747.62</u>

East Boston Beaches:

Payroll	-
Nonpayroll:	
Administrative Expenses	1,347.54
Energy Costs and Space Rental	7,827.81
Operational Services	<u>2,212.50</u>
Total East Boston Beaches	<u>11,387.85</u>

South Boston Beaches:

Payroll	284,099.48
Nonpayroll:	
Administrative Expenses	1,259.24
Consultant Services	1,000.00
Energy Costs and Space Rental	72,601.23
Equipment Lease & Maintenance	1,917.40
Facility Operational Expenses	49,157.89
Infrastructure	4,241.43
IT Non-Payroll Expenses	7,735.56
Operational Services	<u>7,662.64</u>
Total South Boston Beaches	<u>429,674.87</u>

Boston Harbor Islands Beaches:

Payroll	-
Nonpayroll:	
Administrative Expenses	26.00
Operational Services	969.28
Equipment Lease & Maintenance	<u>28,070.00</u>
Total Boston Harbor Islands Beaches	<u>29,065.28</u>

Dorchester Beaches:

Payroll	75,835.41
Nonpayroll:	
Administrative Expenses	491.85
Energy Costs and Space Rental	7,496.47
Facility Operational Expenses	1,700.79
IT Non-Payroll Expenses	100.86
Operational Services	<u>6,385.31</u>
Total Dorchester Beaches	<u>92,010.69</u>

Quincy Beaches:

Payroll	173,859.24
Nonpayroll:	
Administrative Expenses	593.17
Energy Costs and Space Rental	2,325.34
Facility Operational Expenses	473.86
Operational Services	<u>11,076.88</u>
Total Quincy Beaches	<u>188,328.49</u>

Hull Beaches:

Payroll	256,835.85
Nonpayroll:	
Administrative Expenses	6,171.96
Consultant Services	973.00
Energy Costs and Space Rental	34,959.92
Equipment Lease & Maintenance	10,107.16
Facility Operational Expenses	3,797.32
Infrastructure	462.96
IT Non-Payroll Expenses	265.34
Operational Services	<u>14,476.83</u>
Total Hull Beaches	<u>328,050.34</u>

Allocated Trash Removal	74,845.85
Allocated Old Colony Labor Yard	<u>123,788.73</u>
Total Allocated Costs	<u>198,634.58</u>

Summary:

Payroll	1,128,120.01
Nonpayroll	361,536.96
Allocated Costs	<u>198,634.58</u>
Total Operating Expenditures	<u>1,688,291.55</u>

Appendix M – Non-Operating Expenditures Fiscal Year 2006
Source: DCR; modified by Raphael and Raphael LLP

FY 2006 Total Non-Operating Expenditures by Location

	Adjusted Total Non- Operating
Lynn and Nahant Beaches:	
Administrative Expenses	-
Equipment Purchase	1,579
Facility Operational Expenses	-
<u>Infrastructure</u>	<u>226,882</u>
<u>Total Lynn and Nahant Beaches</u>	<u>228,461</u>
Revere and Winthrop Beaches:	
Infrastructure	925,726
<u>Operational Services</u>	<u>686</u>
<u>Total Revere Beaches</u>	<u>926,412</u>
East Boston Beaches:	
Administrative Expenses	-
<u>Infrastructure</u>	<u>1,344,886</u>
<u>Total East Boston Beaches</u>	<u>1,344,886</u>
South Boston Beaches:	
Facility Operational Expenses	-
<u>Infrastructure</u>	<u>1,718,812</u>
<u>Total South Boston Beaches</u>	<u>1,718,812</u>
Boston Harbor Islands Beaches:	
<u>Equipment Lease & Maintenance</u>	<u>-</u>
<u>Total Boston Harbor Islands Beaches</u>	<u>-</u>
Dorchester Beaches:	
Infrastructure	7,630
<u>Operational Services</u>	<u>-</u>
<u>Total Dorchester Beaches</u>	<u>7,630</u>

Quincy Beaches:

Infrastructure	3,019,113
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Total Quincy Beaches	3,019,113
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Hull Beaches:

Consultant Services	-
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Infrastructure	4,402,666
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Loans and Special Payments	165,000
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Operational Services	-
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Total Hull Beaches	4,567,666
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Total Non-Operating Expenditures	11,812,981
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Appendix N -- DCR Annual Report 2006

Source: DCR

To see this appendix please visit www.savetheharbor.org

Appendix O – State Police Assets Overview

Source: Department of State Police

State Police assets available for regular patrol, special events or emergencies:

- Uniformed patrol officers – Patrol the beaches and surrounding roadways, answer calls for service, interact with beachgoers, enforce traffic and noise violations. Large numbers can be brought in from surrounding areas in the event of an emergency. They are all trained the same way in safely controlling large crowds.
- Community Action Teams (CAT) – Supplement uniformed patrol officers, conduct selective enforcement of troublesome traffic violations such as screeching tires, loud exhaust, excessive speed and loud automobile stereos.
- Motorcycles – Can easily pass through congested traffic to reach an emergency or clear a traffic jam.
- K-9 – Very effective for crowd control, narcotics detection and searching for lost or missing persons. The dogs are very popular with adults and children. The officers are highly trained and adaptable to each situation.
- Gang Unit – This unit is comprised of Troopers and local police officers from surrounding cities and towns. They gather gang intelligence and use it to monitor gang activity and anticipated gang gatherings and movements. They patrol the beaches in an undercover capacity and relay information to the uniformed Troopers.
- Detective Unit – The narcotics section of this unit works undercover on the beaches and within the establishments along the beaches to apprehend drug dealers. In 2005, State and Revere Police raided a motel on Revere Beach Boulevard, arresting several wanted persons and drug dealers. The information that set off this investigation was gathered by a uniformed Trooper during a traffic stop on the beach.
- Air Wing – State Police Helicopters are useful in monitoring traffic congestion, crowd movement and locating missing persons. The airships have video down link and video capabilities.
- Marine Section – This unit has several different sized boats and jet skis for patrolling the waterways and searching for missing/lost persons.
- Commercial Vehicle Enforcement Section – This unit has special expertise in enforcing truck safety and violations of truck exclusions, such as on Lynn Shore Drive and other DCR roadways.
- Mounted Unit – Provides horseback patrol to certain areas where it is ecologically safe to do so. They are very popular with adults and children and are specially trained in crowd control.
- Underwater Recovery Unit – Provides divers for rescues and searches in the water.
- Governor's Auto Theft Strike Force – This unit searches for stolen vehicles and works along the beaches in an undercover capacity.
- Violent Fugitive Apprehension Section – This undercover unit tracks wanted felons. They are very effective in locating and capturing gang leaders and -drug dealers.
- Special Emergency Response Team (SERT) – Specially trained in conducting difficult searches, such as in dangerous terrain. They are also specially trained in crowd control. This unit can be assembled very quickly.
- Special Tactical Operations Team (STOP) – State Police SWAT Team.

Appendix P – Dedicated Patrols Expenditures, Fiscal Years 2003-2007
Source: Department of State Police

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Appendix Q – Current Plan Seasonal Staffing, by Month
Source: DCR; modified by Raphael and Raphael LLP

To see this appendix please visit www.savetheharbor.org

Appendix R – Optimal Plan Seasonal Staffing, by Month
Source DCR; modified by Raphael and Raphael LLP

To see this appendix please visit www.savetheharbor.org

Appendix S – Optimal Plan Seasonal Staffing – Net Additions, by Month
Source DCR; modified by Raphael and Raphael LLP

To see this appendix please visit www.savetheharbor.org

Appendix T - DCR Waterfront Standards

Source: DCR

To see this appendix please visit www.savetheharbor.org