

Larry Hogan, Governor Boyd Rutherford, Lt. Governor Jeannie Haddaway-Riccio, Secretary

September 16, 2019

The Honorable Nancy J. King Chair, Budget and Taxation Committee 3 West Senate Office Building Annapolis, Maryland 21401

The Honorable Maggie McIntosh Chair, Appropriations Committee 121 House Office Building Annapolis, Maryland 21401

Re: Submission of Critical Maintenance Program Report Agency: Maryland Department of Natural Resources Report Authority: Joint Chairmen's Report, Page 88

Dear Chairs:

The Department of Natural Resources, along with Department of Budget and Management and Department of General Services are required to report on the backlog of deferred, critical maintenance projects on public lands managed by the Department of Natural Resources.

In order for all three agencies to provide accurate information, we are asking for an extension on this Joint Chairmen's report. We hope to have the final report submitted on or before Monday, December 16, 2019.

Thank you for your consideration. If you should have any questions, please call James W. McKitrick, Director, Legislative and Constituent Services at 410-260-8112 or email at jamesw.mckitrick@maryland.gov.

Sincerely,

Jeannie Haddaway-Riccio Secretary

cc: Sarah Albert, Legislative Library James W. McKitrick



Larry Hogan, Governor Boyd Rutherford, Lt. Governor Jeannie Haddaway-Riccio, Secretary

December 13, 2019

The Honorable Larry Hogan Governor State House Annapolis, Maryland 21401

The Honorable Nancy J. King Chair, Budget and Taxation Committee 3 West Senate Office Building Annapolis, Maryland 21401

The Honorable Maggie McIntosh Chair, Appropriations Committee 121 House Office Building Annapolis, Maryland 21401

Re: Submission of Critical Maintenance Program Report Agency: Maryland Department of Natural Resources Report Authority: Joint Chairmen's Report, Page 88

Dear Governor and Chairs:

The Department of Natural Resources, along with Department of Budget and Management and Department of General Services are required to report on the backlog of deferred, critical maintenance projects on public lands managed by the Department of Natural Resources. The enclosed report is intended to fulfill this requirement.

If you should have any questions, please call James W. McKitrick, Director, Legislative and Constituent Services at 410-260-8112 or email at jamesw.mckitrick@maryland.gov.

Sincerely,

Jeannie Haddaway-Riccio Secretary

Enclosure

cc: Sarah Albert, Legislative Library James W. McKitrick



Critical Maintenance Program Report

In coordination with the Department of Budget and Management and the Department of General Services

2019 Joint Chairmen's Report Page 88

Submitted by: Jeannie Haddaway-Riccio Secretary, Maryland Department of Natural Resources

Submitted to: The Honorable Larry Hogan Governor

Senate Budget and Taxation Committee Nancy J. King, Chair

House Appropriations Committee Maggie McIntosh, Chair The Maryland Department of Natural Resources (DNR) owns and manages over 120 facilities across the state. It has approximately 2,000 buildings, 700 miles of roads, 29 dams, numerous bridges, and various other structures under its purview that must be maintained in order to meet the needs and demands of our residents and visitors as well as the department's units, including the Maryland Park Service, Fishing and Boating Services, Maryland Forest Service, Wildlife and Heritage Service, and Natural Resources Police.

The department annually undertakes projects to replace roofs, air conditioning units, heating systems, water supply pipes, doors, and windows. Interior renovations and refurbishment projects include replacing flooring and ceilings, painting, and replacing and upgrading lighting and plumbing fixtures. The department also repairs and resurfaces thousands of feet of roads and parking lots, replaces hundreds of roadway culverts and storm drains, and repairs and replaces numerous other features of the facility's infrastructure that have reached the point of requiring "critical maintenance" in order to remain functional.

The department's Critical Maintenance program was officially formed in 1990 for the repair and replacement of the department's physical plant that requires planning and manpower beyond the scope of routine custodial maintenance. Despite the department's broad range of assets, a majority of projects on the Critical Maintenance project list can be classified as one of the following:

- Minor bathhouse or comfort station renovation and upgrade (i.e., installing new plumbing fixtures, partitions, lights)
- Exterior sheathing, and window and door replacement (i.e., new roofing, siding, flashing, windows and doors)
- Interior renovations (i.e., installing new carpet, tile, ceiling tile, shelving, appliances, light fixtures)
- Basic sitework (i.e., road repairs, culvert replacement, fence and gate installation)

Critical Maintenance program efforts occur through the cooperation between project managers in the department's Engineering and Construction (E&C) unit and facility managers working in the other units. Each year, E&C reaches out to the Maryland Park Service, Fishing and Boating Services, Maryland Forest Service, Wildlife and Heritage Service, and Natural Resources Police to develop the Critical Maintenance project list.

E&C personnel coordinate existing condition surveys, inspect facilities, prepare project scopes, design documents, bid documents, coordinate the advertising and award process for projects valued below \$50,000 in house, and work closely with staff from the Department of General Services (DGS) for projects estimated over \$50,000. DNR has procurement authority for projects estimated up to \$50,000, and advertises and awards approximately 75 to 100 contracts each year. Contracts over \$50,000 are awarded by DGS.

Unfortunately, beginning in 2016, E&C has experienced a large turnover in the engineering department, including the loss of its director, chief of critical maintenance, and four critical maintenance engineers. These gaps have had a decisive impact on project completion. With the loss of six highly experienced staff members, it has taken some time to get the unit back to normal capacity where the backlog remains growing at a quick pace. Productivity was lost due to the time and energy it took to recruit, hire, and train replacements. Fortunately, these positions have now been filled with qualified staff who have more experience with digital design and file sharing technology.

The Critical Maintenance program backlog is currently estimated at \$51,417,154 and is made up of 538 projects. However, an increase in Critical Maintenance funding due to Chapter 10 of 2016, in concert with increases in DNR's ability to administer the program will continue to support the department's efforts in addressing the backlog. Any future diversion of funds from the Critical Maintenance program will increase the cost of backlogged projects, push projects from repair to full replacement, and — most importantly — reduce the visitor's enjoyment of DNR facilities.

An update of the Maryland Park Service's 2016 Strategic Park Investment Plan summarizing the best practices of comparable federal, state, and local park systems as well as private-sector systems and recommendations of any practices that should be adapted and implemented on DNR's public lands.

The 2019 Joint Chairmen's Report requested an update on the status of recommendations contained in the *2016 Strategic Park Investment Plan*, which was developed in response to a Joint Chairmen's Report request by the General Assembly. Among other things, the 2016 Strategic Park Investment Plan expanded upon a 2013 Five-Year Strategic Plan, discussed resources needed to secure a National Gold Medal Award from the National Recreation and Park Association (NRPA), and addressed planning for future park accessibility needs.

Important progress has been made on a number of the recommendations outlined in the 2016 Strategic Park Investment Plan, including: (1) provision of eight new classified positions to staff the new and expanded parks; (2) hiring of a new Business Development Manager to support the agency's efforts to enhance the state park system's fiscal sustainability and visitor services; (3) funding 15 new long-term contractual positions to support critical park operational functions; (4) continued funding to replace vehicles and heavy maintenance equipment; and (5) being selected as a finalist for the NRPA Gold Medal Award.

The Maryland Park Service 2016 Strategic Park Investment Plan outlined the following priority goals: ensure public safety, renovate aging infrastructure, improve visitor experiences, preserve historic structures, and generate revenue to support park operations. In addition, the 2016 plan also included a master plan of priority capital projects for each park. DNR's current goals and priorities, based on best practices of comparable federal, state, and local park systems, as well as private-sector systems, are as follows:

- Critical Maintenance projects will be determined in order of priority to improve aging infrastructure, ensure public safety, preserve historic structures and improve the visitor experience.
- Restore the North Point State Park waterfront to enhance the visitor experience by providing a more scenic natural shoreline, expanded access to the Chesapeake Bay for picnicking and fishing, and anticipated enhancement of park revenues through an increase in shoulder season visitation.
- Improvements to Greenbrier State Park contact station to provide better traffic flow and enhance the visitor experience and public safety.
- Replace the Assateague State Park camper registration building to improve visitor experience and replace an aging building with one that is designed to meet clean and renewable energy, and coastal resiliency standards.
- Renovate the Mt. Airy Mansion to preserve the colonial-era building, improve the visitor experience, and increase revenues through facility rentals at Rosaryville State Park.
- Invest in state park water and sewer improvements, which are essential to addressing the liabilities associated with aging infrastructure.

Discussion of ways to expedite the completion of Critical Maintenance projects, including the delegation of additional procurement authority to DNR from DGS.

In 2005, DGS signed a Memorandum of Understanding with DNR to increase the delegation of procurement authority for construction and related services from \$25,000 to \$50,000. The reason behind the delegation was the cost inflation for many common DNR project materials. During development of a formal delegation agreement, both parties agreed that DNR would take on projects up to \$50,000 on the basis that the department could effectively move projects autonomously.

During the ensuing 14 years, DNR has been very successful developing, bidding, awarding, and completing the additional projects. The increased autonomy greatly reduced DGS staff time for relatively small projects and helped increase DNR completion rates for projects.

Construction Material	2005	2019	Increase
4" Asphalt Road Base	\$9.15	\$17.88	95.4%
18" Storm Drain	\$34.00	\$53.17	56.4%
Concrete Block for Foundation	\$0.77	\$1.42	84.4%
Asphalt Shingle Roof	\$121	\$234	93.4%

Exhibit 1. Construction Cost Escalation by Commonly Used Material, 2005 to 2019

The cost of projects since DNR was granted its \$50,000 procurement authority from DGS in 2005 has again risen sharply. **Exhibit 1** shows that since 2005, the cost of materials that are widely utilized for Critical Maintenance projects have nearly doubled. Given this dramatic rise, an increase to DNR's procurement authority from \$50,000 to \$100,000 would recognize increased labor and material costs, and allow some modest adjustment of the scale and scope of projects in line with addressing some of the deferred maintenance backlog in an efficient manner.

Fiscal Year	Project <\$50K	\$50K< Project <\$100K	Total Projects	DNR Procurement	DGS Procurement
2020	44	13	57	\$1.880M	\$1.279M
2021	44	36	80	\$3.903M	\$9.097M
2022	65	26	91	\$3.395M	\$9.605M
2023	73	19	92	\$3.113M	\$9.887M

Exhibit 2. DNR's Assumed Increase in Number of Projects and Procurement Funding 2020-2023

In the process of completing this report, DNR worked with DGS and the Department of Budget and Management to model the assumed workload in E&C and DGS under an increased \$100,000 procurement authority. The assessment assumes the authority will cover all projects handled by E&C, including Critical Maintenance projects, Waterway Improvement Fund projects, and general construction. **Exhibit 2** shows that under the hypothetical change in the procurement policy, DNR would assume responsibility for as many as 36 additional projects in the upcoming fiscal year. This would bring DNR's total projects from 44 to 80. As for DGS, its procurement staff would expect to concentrate on the 25 remaining projects with an estimated cost over \$100,000, projects that account for \$9,097,000, or an assumed 70% of DNR's Critical Maintenance budget.

While the number of Critical Maintenance projects managed independently by DNR is assumed to increase in the range of 26% and 82% between 2020 and 2023, E&C has the current administrative resources to absorb the increased procurement process workload. To meet the new

workload, E&C staff must process approximately one additional project every 10 days. E&C employs two full-time administrative staff to handle procurement responsibilities. In aggregate, each project takes approximately five and a half hours to process. Given the relatively small number of DNR-procured projects and the time commitment for each, the two existing full-time positions can be optimized. As stated below, E&C can further absorb the additional workload by bundling projects of similar nature, as this practice is frequently disrupted by a relatively low procurement authority threshold.

In addition to exploring an increase in delegated procurement authority, E&C has taken a number of steps to maximize production and reduce delays in project scheduling in order to decrease the Critical Maintenance backlog. The following are items that are currently being utilized by E&C to increase productivity:

- Standardizing architectural and engineering (A/E) for common structures. E&C is currently finalizing a standard design for bathhouses and comfort stations to be utilized for all future structures. This will reduce staff time spent on individual projects.
- Practicing "project bundling" where E&C has been identifying Critical Maintenance projects of similar nature or location on the backlog list in order to reduce the number of individual projects that need to be processed through procurement.
- Realigned assignments to better match staff work areas to where they live to reduce travel time, gas expenses, and increase productivity. E&C now has two Critical Maintenance engineers working and living in western Maryland, one in southern Maryland, and another staff member on the Lower Eastern Shore.
- Services have recently benefited from an investment in GPS survey systems for the field crews and updated AutoCad for the project engineers, reducing time on site, drafting time, and otherwise boosting staff efficiency.
- All Critical Maintenance engineers now have AutoCad capability, and E&C has created a central digital filing system that allows access to engineering files that previously were stored on individual computers. This allows for a sharing of designs and specifications that reduces the time required in the preconstruction phase.
- E&C, in conjunction with the Maryland Park Service, has placed added emphasis on using materials such as LED lighting and paving fabrics to reduce cracking and prolong surface quality. This equipment lasts longer, requires less maintenance, and are more efficient in an overall effort to reduce long term maintenance cost at DNR facilities.
- DNR is exploring authority to secure A/E services for some projects, such as waterway or smaller capital projects. Since 1984, DNR's Shore Erosion Control program has had the authority to procure A/E services. With this authority, DNR procures A/E services for many small civil engineering jobs.

Comparative analysis of adding maintenance technicians at parks and other public lands with large acreage or high visitation or both and recommendations for establishing construction crews in each region.

Currently, E&C has one "in-house" land construction crew, and one "in-house" marine construction crew to execute basic repair, renovation, and restoration projects for each managing land unit. The original purpose of the crews was to provide support for the units that do not have staffed maintenance crews. The crews typically take on projects with unclear scopes of work. Because of this, the department has the advantage of avoiding expensive change orders under a typically procured construction contractor. With E&C staff completing the work, DNR only has to absorb the additional material cost.

In general, the estimated cost of many projects is relatively minimal, so the scale and scope of these construction efforts would be such that a four-man crew can complete a project in one to four weeks. The "in-house" crews' ability to come under budget on the Critical Maintenance projects leaves a balance that is utilized on the many emergency projects that take place every year. This is particularly useful in addressing a growing number of emergencies or storm damage projects. Because of its advantages, DNR is considering the establishment of "in-house" Critical Maintenance crews under each of the four park regions, with each crew consisting of a supervisor, building construction inspector and two park technicians.

Adding a new classified park technician positions at popular and heavily-utilized state parks such as Assateague, Deep Creek Lake, Gunpowder, Patapsco, Point Lookout, Rocky Gap, and Sandy Point, could improve DNR's capacity to perform basic repair, renovation, and restoration projects effectively and efficiently, and reduce the Critical Maintenance backlog. However, due to the sheer number of parks where a new crew member would be required, it is not realistic that the department would be able to maintain resources for the remainder of its baseline programming if this option were implemented.

An assessment of the costs and benefits of enhancing DNR's asset management system in order to track the useful life of Critical Maintenance and park improvement projects and forecast when preventive maintenance or replacements are due to be made.

DNR has recognized that its Asset Inventory Management System (AIMS) database is outdated, and does not include the functionality and flexibility offered by more modern systems. The current system is over 10 years old and lacks certain features that would make it more usable by both field staff performing maintenance and making repairs and engineers reviewing construction documents and preparing bid packages. Furthermore, AIMS requires a full-time administrator to ensure that records are kept up-to-date.

DNR is working with DGS on the potential of utilizing their new Computerized Maintenance Management System, which would allow facility management and maintenance staff to easily access important information — particularly using a smartphone app — and could facilitate better record keeping by individuals involved in property management and maintenance activities. A password protected web-based system would facilitate convenient and timely access to important property records such as the size and age of buildings, as well as maintenance records, GPS coordinates, and photographs. It is DNR's intention to utilize its in-house field crews to perform a detailed inventory and inspection of the facilities in which they are working.

DNR is one of several state agencies currently serving on DGS's Facilities Work Group, which is focused on identifying statewide facilities issues and developing recommended solutions. The workgroup began in January 2019, and has held monthly meetings to review different general topics of concern. One of the major topics has been data management for the volume of facilities the state maintains.

A discussion of ways to enhance funding to achieve a greater reduction in the growing backlog of maintenance projects and to maintain a much lower backlog thereafter.

As outlined above, there are many newly-implemented and pending operational changes in the department to address the Critical Maintenance project backlog. Staff vacancies have likewise been addressed. It is possible that DNR can make some progress on the existing and continually growing backlog without additional personnel.

In terms of enhanced funding, the department is currently exploring ways to leverage existing state resources through public-private partnerships. This model is potentially promising for private investment in the restoration and beneficial reuse of DNR-owned historic structures, which due to their age, frequently have backlogged Critical Maintenance projects. Working with the Maryland Historical Trust, a unit of the Maryland Department of Planning, to open their Historic Revitalization Tax Credit Program to DNR curatorships would also have a similar and co-beneficial impact.

Most of all, the department is grateful to Governor Hogan and the Maryland General Assembly for the additional funding for the Critical Maintenance program in the form of guaranteed transfer tax repayments under Chapter 10 of 2016. The additional funds to the program have allowed the department to pursue more projects than originally planned in prior year Capital Improvement Programs.

If the statute is altered by the Maryland General Assembly to decrease the amount of annual funding to the Critical Maintenance program, however, it is unlikely that DNR would be able to meaningfully decrease backlogs. Any future diversion of funds from the Critical Maintenance program will increase the cost of backlogged projects, push projects from repair to full replacement, and reduce the visitor's enjoyment of DNR facilities.