



Committee: T&E
Committee Review: Completed
Staff: Keith Levchenko, Senior Legislative Analyst
Purpose: preliminary decisions – straw vote expected
Keywords: #GudeLandfillRemediation, DEP, Recycling and Resource Management

AGENDA ITEM #7
 April 21, 2020
Worksession

SUBJECT

FY21-26 Capital Improvements Program - Recycling and Resource Management: Gude Landfill Remediation

EXPECTED ATTENDEES

Adam Ortiz, Director, Department of Environmental Protection (DEP)
 Patty Bubar, Deputy Director, DEP
 Willie Wainer, Chief, Division of Recycling and Resource Management, DEP

FISCAL SUMMARY

FY21-26 versus Amended FY19-24 Expenditures (in 000's)

	Total Cost	Thru FY18	Six-Year Total	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	Beyond 6-Years
FY19-24 Amended	28,700	1,000	27,700	500	8,400	12,300	6,500					
FY21-26 CE Rec	61,746	1,000	58,928	363	707	456	18,329	11,493	12,105	10,687	5,858	748
change from amended (\$,%)			31,228 112.7%			(11,844)	11,829	11,493	12,105			748
Committee Rec	61,746	1,000	58,928	363	707	456	18,329	11,493	12,105	10,687	5,858	748
change from amended (\$,%)	33,046	-	31,228 112.7%			(11,844)	11,829	11,493	12,105			748
change from CE Rec (\$,%)	-	-	- 0.0%			-	-	-	-	-	-	-

- Cost and schedule updated to reflect the current project scope and latest design work
- Total Project Cost is \$61.7 million (up \$31.2 million, 127 percent) based on a revised cost estimate after completion of 60% design documents
- Construction to begin in FY22 and be completed in FY27
- Approved expenditures (\$28.7 million) funded with Solid Waste Disposal Fund Current Revenue previously allocated and factored into the Solid Waste Disposal Fund's fiscal plan. The cost increase is likely to require revenue bonds

OTHER ISSUES

- Current project scope includes: waste excavation and relocation, capping the top of the landfill (toupee cap), installation of additional gas extraction wells, and an evaluation of a variety of potential future land-use activities (including passive recreation, a solar PV array, and DEP/DOT operations (such as yard trim and DOT material and salt storage)

COMMITTEE RECOMMENDATION

- Approve as recommended by the County Executive

This report contains:

T&E Committee March 2, 2020 Council Staff Report

Gude Landfill Remediation Presentation Slides – March 2, 2020

Pages 1-©6

Slide #1-10

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Worksession

MEMORANDUM

February 26, 2020

TO: Transportation & Environment Committee

FROM: Keith Levchenko, Senior Legislative Analyst

SUBJECT: **FY21-26 Capital Improvements Program – Recycling and Resource Management: Gude Landfill Remediation¹**

Summary

Gude Landfill Remediation

- Ongoing project to implement the recommendations included in the Assessment of Corrective Measures (ACM) Report approved by the Maryland Department of the Environment in July 2016 as part of a 2013 Consent Order
- Cost and schedule updated to reflect the current project scope and latest design work
 - Total Project Cost is \$61.7 million (up \$31.2 million, 127 percent based on a revised cost estimate after completion of 60% design documents)
 - Construction to begin in FY22 and be completed in FY27
- Approved expenditures (\$28.7 million) funded with Solid Waste Disposal Fund Current Revenue previously allocated and factored into the Fund's fiscal plan and the FY18 Operating Budget. The cost increase is likely to require revenue bonds
- No change in project scope which includes: waste excavation and relocation, capping the top of the landfill (toupee cap), installation of additional gas extraction wells, and an evaluation of a variety of potential future land-use activities (including passive recreation, a solar PV array, and DEP/DOT operations (such as yard trim and DOT material and salt storage)
- **Council Staff recommends approval as recommended by the County Executive**

Meeting Participants

- Patty Bubar, Acting Director, Department of Environmental Protection (DEP)
- Willie Wainer, Chief, Division of Resource and Recovery Management (RRM), DEP
- Anthony Skinner, Chief, Business Section, RRM, DEP
- Mary Beck, Capital Budget Manager, Office of Management and Budget
- Rich Harris, Fiscal and Policy Analyst, Office of Management and Budget

¹ Key words: #GudeLandfillRemediation, DEP, Recycling and Resource Management

Attachments to this Memorandum

- Excerpt from the County Executive's FY21-26 Recommended Budget Capital Improvements Program – Solid Waste Management – Sanitation Category (©1-4)
- Gude Landfill Passive Land Use Planning Preferred Conceptual Master Plan – September.19, 2019 (©5-6)

Gude Landfill Remediation Expenditure Schedule (PDF on ©3-4)

	Total Cost	Thru FY18	6-Year Cost	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	B6Y
FY19-24 Latest Approved	28,700	1,000	27,700	500	8,400	12,300	6,500	-				
FY19-24 CE Recommended	61,746	1,000	58,928	363	707	456	18,329	11,493	12,105	10,687	5,858	748
change from approved	33,046	-	31,228			(11,844)	11,829	11,493	12,105			
percent change from approved	115.1%	0.0%	112.7%			-96.3%	182.0%	n/a	n/a			n/a

This project provides for the planning and construction of a toupee cap (capping the top area) at the closed Gude Landfill in order to remediate low-level environmental contamination. The recommended total project cost is \$61.7 million (a \$33 million increase or 115.1%) based on a new cost estimate after completion of 60% design documents. The old estimate \$28.7 million was a placeholder amount first included in the CIP in 2017 based on preliminary design under the old project scope (bioremediation). The source of funds for the approved expenditures is Solid Waste Disposal Fund current revenue.² The Recommended CIP assumes the use of Solid Waste Disposal Fund revenue bonds to cover the increased project cost.

The project schedule has also been revised based on the current design documents. The original schedule was also a placeholder schedule left over from the old project scope. The latest construction schedule, which includes waste extraction and relocation required for the capping effort, now assumes a start date of July 2021 (FY22 instead of FY20) with completion in FY27 (instead of FY22).

While the project cost increase is substantial, given that the general scope of the project is fixed based on MDE's prior approval of the revised Assessment of Corrective Measures study (discussed more below) **Council Staff recommends approval of this ongoing project as recommended by the County Executive. If necessary, the choice of funding source to cover the increased cost can be revisited during the Council's review of the DEP Operating Budget.**

Project Background

DEP staff will provide a background presentation on the project for the T&E Committee.

The Gude Landfill site encompasses 162 acres, of which approximately 140 acres were used for waste disposal. The landfill operated from 1964 to 1982 and received approximately 4.8 million tons of municipal solid waste. Since its closure, DEP has managed a number of post-closure activities. In 2008, the Maryland Department of the Environment (MDE) directed DEP to investigate groundwater

² Prior to the approval of the project in 2017, DEP reserved \$28.7 million within the Solid Waste Disposal Fund when the County began its planning work on future potential corrective measures at the Gude Landfill.

contamination. The County and MDE entered into a consent order in May 2013 involving landfill assessment and remediation.

The County has completed several studies related to site remediation, including: A Nature and Extent study (2010), an Assessment of Corrective Measures (ACM) report (2014 and revised in 2016), and continued sampling and other tests. This work was done in coordination with MDE. DEP's initial 2014 Assessment of Corrective Measures report recommended bioremediation as DEP's preferred approach. This remediation work would address widespread low level Volatile Organic Compound (VOC) contamination in groundwater, gas migration, and leachate seeps into surface water runoff.

However, based on feedback from MDE that the proposed corrective measures also address limited metals exceedances in addition to VOC exceedances, MDE encouraged DEP to consider a solution of capping the top of the landfill (a toupee cap), which would substantially reduce rainwater infiltration and the generation of leachate and help reduce all types of contamination. DEP reviewed this approach and amended its ACM report³ to support a toupee cap solution. MDE approved the ACM report in July 2016.

Design work began in March 2018 and is scheduled to conclude in July 2021 with the awarding of the construction contract.

Community Outreach and Potential Reuses of the Site

DEP has met regularly with the Gude Landfill Concerned Citizens (GLCC) group, most recently on January 16, 2020.

DEP has noted that there will be no community use of the site during construction, for safety and liability reasons. Last year DEP noted that in the interim the site was being used for soil/fill dirt storage from the Purple Line project. The additional soil will lessen the need to acquire soil later during the construction of the toupee cap.

Several years ago, the GLCC provided comments regarding potential future reuses for the site. The GLCC's recommendations included light and passive reuses such as: natural vegetation and habitat, community garden plots, a dog park, model airplane area, a hiker/biker trail system, play areas and fields (for light use), and a solar panel array.

The project design contract includes the following scope of work regarding planning for the future reuses of the site.

The Design Engineer shall evaluate a variety of potential land use activities for the closed Gude Landfill site. The Design Engineer shall evaluate the land use activities from feasibility through constructability at the landfill site and develop a ranking system along with a comparative analysis of the activities. The Design Engineer shall perform land use and permitting research to identify any potential barriers or conflicts that may impact the land use activities, which shall be documented and presented as part of the comparative analysis. A list of potential land use activities is provided below (not included in any specific order or preference):

³ The Assessment of Corrective Measures report, along with many other documents related to the Gude Landfill Remediation effort, is available at: <http://www.montgomerycountymd.gov/sws/facilities/gude/>.

- Passive Recreational – Natural Vegetation and Habitat, Community Garden Plots or Greenhouses, Dog Park, Model Airplane Area, Walking/Hiking/Biking Trail System, and Playground Areas and Fields;
- Renewable Energy – Solar Panel Array; and
- Operational – Emergency Debris Storage and Staging as well as the relocation of Yard Waste Processing (leaves, grasses, branches, logs, trunks, etc.) and DOT Material Processing (soil, concrete, asphalt) operations from the Shady Grove Processing Facility and Transfer Station; and DOT salt storage operations from other sites within the County.

Some conceptual work by the design contractor regarding future passive reuse is attached on ©5-6. Approximately \$2.4 million is included in the latest project cost estimate for development of these various reuses.

Attachments

F:\Levchenko\DEP\Solid Waste\CIP\T&E 3 2 2020 Recycling and Resource Management CIP Guide Landfill Remediation.docx



Recycling and Resource Management

PROGRAM DESCRIPTION AND OBJECTIVES

The principal objectives of Montgomery County's Recycling and Resource Management program are to: ensure that the solid waste generated in the County is managed in a safe, environmentally sound manner; encourage the reduction of waste generated by residents and businesses in the County; recycle as much as feasible of the resources contained in, and extractable from, solid waste; and minimize the use of landfilling. The major elements in the management of solid waste are to:

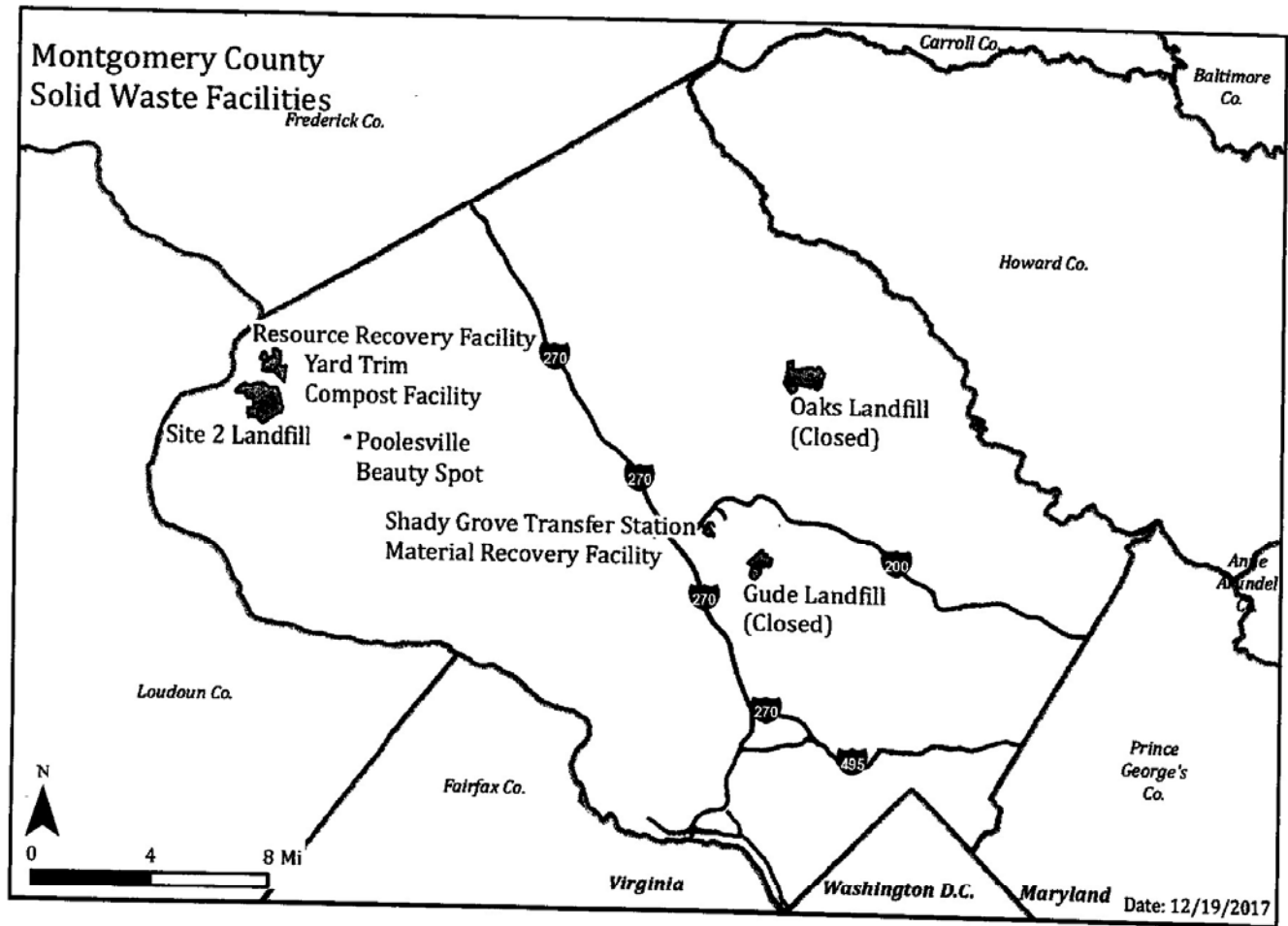
- reduce and recycle 70 percent of waste generated by 2020;
- continue implementation of the ban on all recyclable materials at all waste disposal facilities and encourage greater on-site management of yard trim by homeowners;
- operate the mass burn, Resource Recovery Facility (RRF) located in Dickerson;
- provide rail transport of solid waste from the Solid Waste Transfer Station to the RRF; and
- beneficially reuse or recycle RRF ash and rubble delivered to the Transfer Station at private facilities, transport any non-processible waste, and bypass waste for disposal to a private out-of-County landfill.

PROGRAM CONTACTS

Contact Anthony Skinner of the Department of Environmental Protection at 240.777.6438 or Richard H. Harris of the Office of Management and Budget at 240.777.2796 for more information regarding this department's capital budget.

CAPITAL PROGRAM REVIEW

The FY21-26 Capital Program for Solid Waste Management contains one ongoing project, Gude Landfill Remediation, totaling \$58.9 million over six years. This represents an increase of \$31.2 million or 127 percent compared to the FY19-24 Amended CIP of \$27.7 million, due to updated estimates from a Maryland Department of the Environment-approved scope. The scope, design, and cost are subject to final Maryland Department of the Environmental review, and continued cost refinements are expected.





Gude Landfill Remediation (P801801)

Category	Recycling and Resource Management	Date Last Modified	01/03/20
SubCategory	Recycling and Resource Management	Administering Agency	Environmental Protection
Planning Area	Upper Rock Creek Watershed	Status	Ongoing

EXPENDITURE SCHEDULE (\$000s)

Cost Elements	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Planning, Design and Supervision	6,955	1,363	707	4,795	456	771	932	905	877	854	90
Construction	54,791	-	-	54,133	-	17,558	10,561	11,200	9,810	5,004	658
TOTAL EXPENDITURES	61,746	1,363	707	58,928	456	18,329	11,493	12,105	10,687	5,858	748

FUNDING SCHEDULE (\$000s)

Funding Source	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Current Revenue: Solid Waste Disposal	28,700	1,363	707	26,630	456	18,329	7,845	-	-	-	-
Revenue Bonds	33,046	-	-	32,298	-	-	3,648	12,105	10,687	5,858	748
TOTAL FUNDING SOURCES	61,746	1,363	707	58,928	456	18,329	11,493	12,105	10,687	5,858	748

APPROPRIATION AND EXPENDITURE DATA (\$000s)

Appropriation FY 21 Request	-	Year First Appropriation	FY18
Appropriation FY 22 Request	10,955	Last FY's Cost Estimate	28,700
Cumulative Appropriation	9,900		
Expenditure / Encumbrances	1,796		
Unencumbered Balance	8,104		

PROJECT DESCRIPTION

This project provides for the remediation of low-level environmental contamination at the Gude Landfill. The Maryland Department of the Environment (MDE) approved an Assessment of Corrective Measures (ACM) report for Gude Landfill in July 2016 which specifically outlines the approved Corrective Measure Alternative (CMA) for this remediation project. The MDE approved CMA will include toupce capping (regrading and capping the top of the landfill and selected slope areas with a synthetic liner and two feet of soil) and increased gas collection through the installation of additional gas extraction wells. These remediation measures will reduce infiltration of rainwater into the landfill resulting in the generation of less leachate, fewer leachate seeps, and better control of landfill gas migration.

LOCATION

600 E. Gude Drive, Rockville, Maryland

ESTIMATED SCHEDULE

The Gude Landfill Remediation project construction will begin in FY22 and is scheduled to be completed in FY27.

COST CHANGE

Costs increased due to updated estimates from a Maryland Department of the Environment-approved scope. A delay in construction is also reflected as DEP considers phasing to reduce costs. New 60% design documents based on the phasing and an updated cost estimate are expected in early 2020. The scope, design, and cost are subject to final MDE review, and continued cost refinements are expected.

PROJECT JUSTIFICATION

The County and MDE entered a consent order in May 2013 which outlined requirements for assessing low-level groundwater contamination, gas migration, and other problems at the Gude Landfill. The Consent Order included provisions requiring a Work Plan and schedule to be established for assessing potential risks to human health and the environment, and development of an ACM report and implementation schedule. After consultation with industry experts, community groups, MDE, and County government leadership, the Department of Environmental Protection's (DEP) initial proposal to MDE in 2014 addressed the low-level groundwater contamination at the site with installation of bioremediation wells on the property. MDE's assessment of this bioremediation corrective measure in April 2015 determined that additional corrective measures would need to be included in the bioremediation approach to address all of MDE's requirements. A revised ACM report was submitted to MDE in April 2016 addressing all MDE's comments and selecting corrective measures consisting of a toupee cap, additional landfill gas collection, and stormwater drainage improvements. The County has been mandated to perform work outlined in the consent order. Moving forward with the remediation of Gude Landfill, as required by MDE, will also address concerns raised by the adjacent community and allow planning for future reuses of the property.

FISCAL NOTE

The source of the additional funding will likely be Solid Waste (Disposal Fund) Revenue Bonds. Discussions are under way with Finance and the Office of Management and Budget pursuant to this option, but it may change if another financing method is more advantageous.

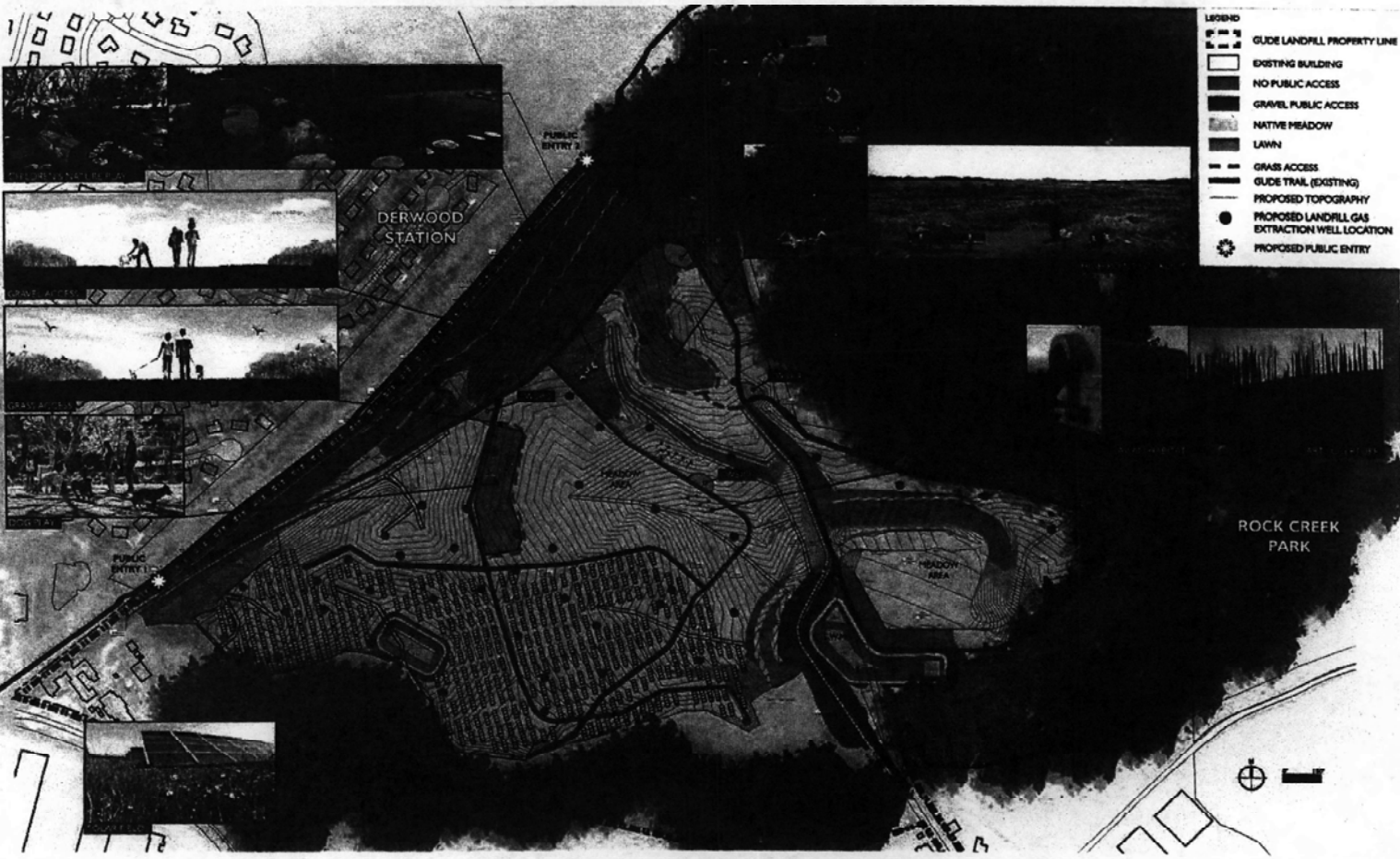
DISCLOSURES

A pedestrian impact analysis has been completed for this project.

COORDINATION

Northeast Maryland Waste Disposal Authority (NMWDA), Maryland Department of the Environment (MDE), Department of Permitting Services, Health and Human Services, the Maryland-National Capital Park and Planning Commission, the U.S. Army Corps of Engineers, the Gude Landfill Concerned Citizens (GLCC), County social service agencies, and adjacent property owners.

PREFERRED CONCEPTUAL MASTER PLAN



PREFERRED CONCEPTUAL MASTER PLAN - LAND USE ACTIVITIES

DESTINATIONS

- HIGHPOINT LOOKOUT & KITE FLYING 2 AC
- CHILDREN'S NATURE PLAY 1.5 AC
- DOG PLAY OFF LEASH 2 AC
- DISC GOLF 5 AC

RECREATION TRAIL NETWORK

- PRIMARY TRAIL - GRAVEL SURFACE 15,000 LF
- SECONDARY TRAIL - GRASS SURFACE 2,000 LF

RENEWABLE ENERGY

- SOLAR FIELD 25 AC

STORMWATER FACILITIES

- PONDS 6 AC

WAYSTATIONS & ENVIRONMENTAL EDUCATION

- WAYSTATION #1 - WEATHER STATION
- WAYSTATION #2 - STORMWATER/DRAINAGE
- WAYSTATION #3 - ART INSTALLATION
- WAYSTATION #4 - POLLINATOR AND AVIAN HABITAT

HABITAT CREATION & ECOLOGICAL AWARENESS

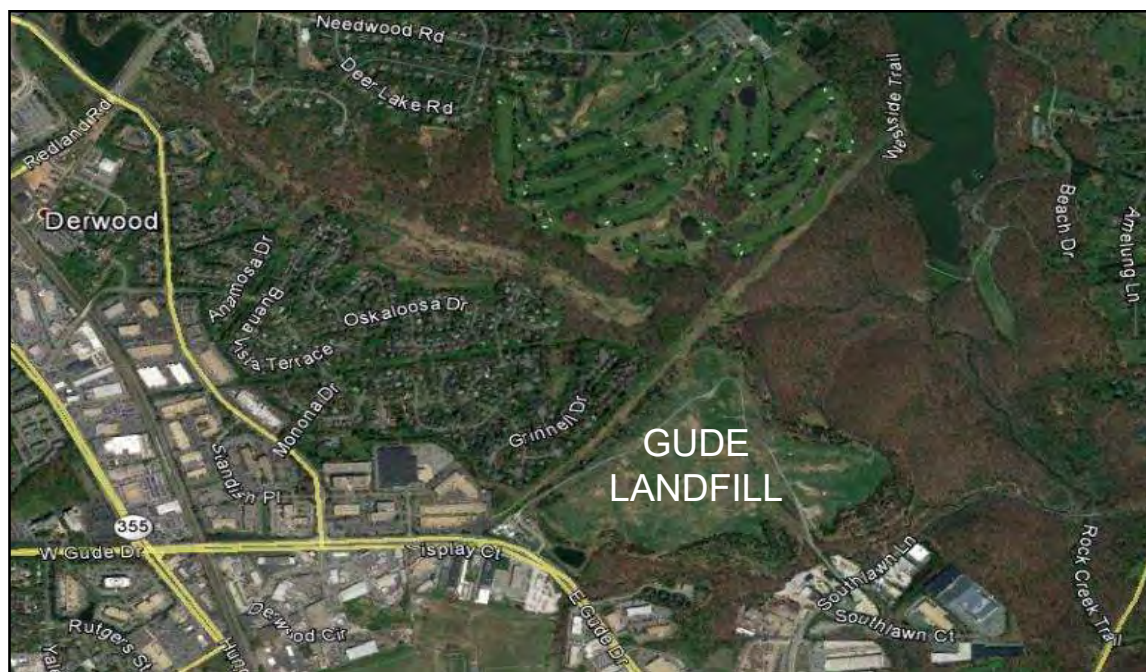
- NATIVE MEADOW 55 AC
- INCLUDING: BIRDWATCHING
- ENVIRONMENTAL ART
- BIRD HOUSES
- PRESERVED EXISTING FOREST 60 AC



Gude Landfill Remediation Project

Project Overview and CIP Budget

Transportation and Environment (T&E) Committee Meeting
March 2, 2020



Gude Landfill – History

- Landfill Operated: 1964 to 1982
- Post-Closure Care Maintenance Activities:
 - DEP monitors groundwater and surface water quality
 - DEP extracts and flares landfill gas
 - DEP monitors landfill gas
 - DEP maintains the existing soil cap system



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Gude Landfill – MDE Consent Order

- Maryland Department of the Environment (MDE) directed DEP to initiate comprehensive site investigations to characterize groundwater contamination in 2008
- The County and MDE entered into a consent order in May 2013 to formalize requirements for the landfill assessment and remediation

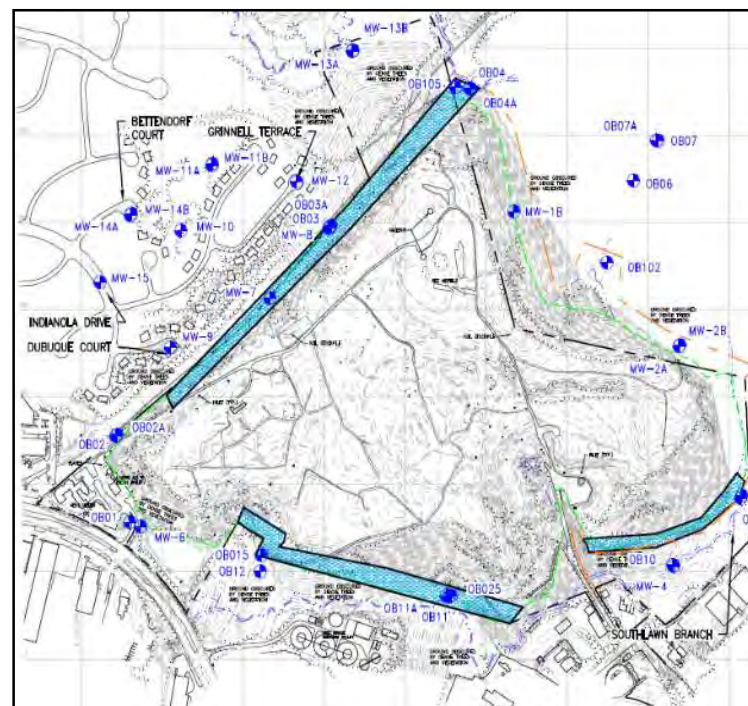


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Gude Landfill – Remedial Action Objectives

- **Groundwater:** U.S. EPA's drinking water maximum contaminant levels (MCLs) will not be exceeded in the groundwater at the Gude Landfill property boundary
- **Landfill Gas (LFG):** Methane will not exceed lower explosive limit (LEL) at the Gude Landfill property boundary
- **Leachate:** No non-storm water discharges (leachate) will occur to waters of the State



Gude Landfill – Landfill Cap Limit

- Cap limit follows the existing tree line and top of steep slopes around the north, east, and south sides of the Landfill
- Trees will be removed on the northwest slope so the slope can be capped



Map Legend:

Property Boundary – Yellow Line

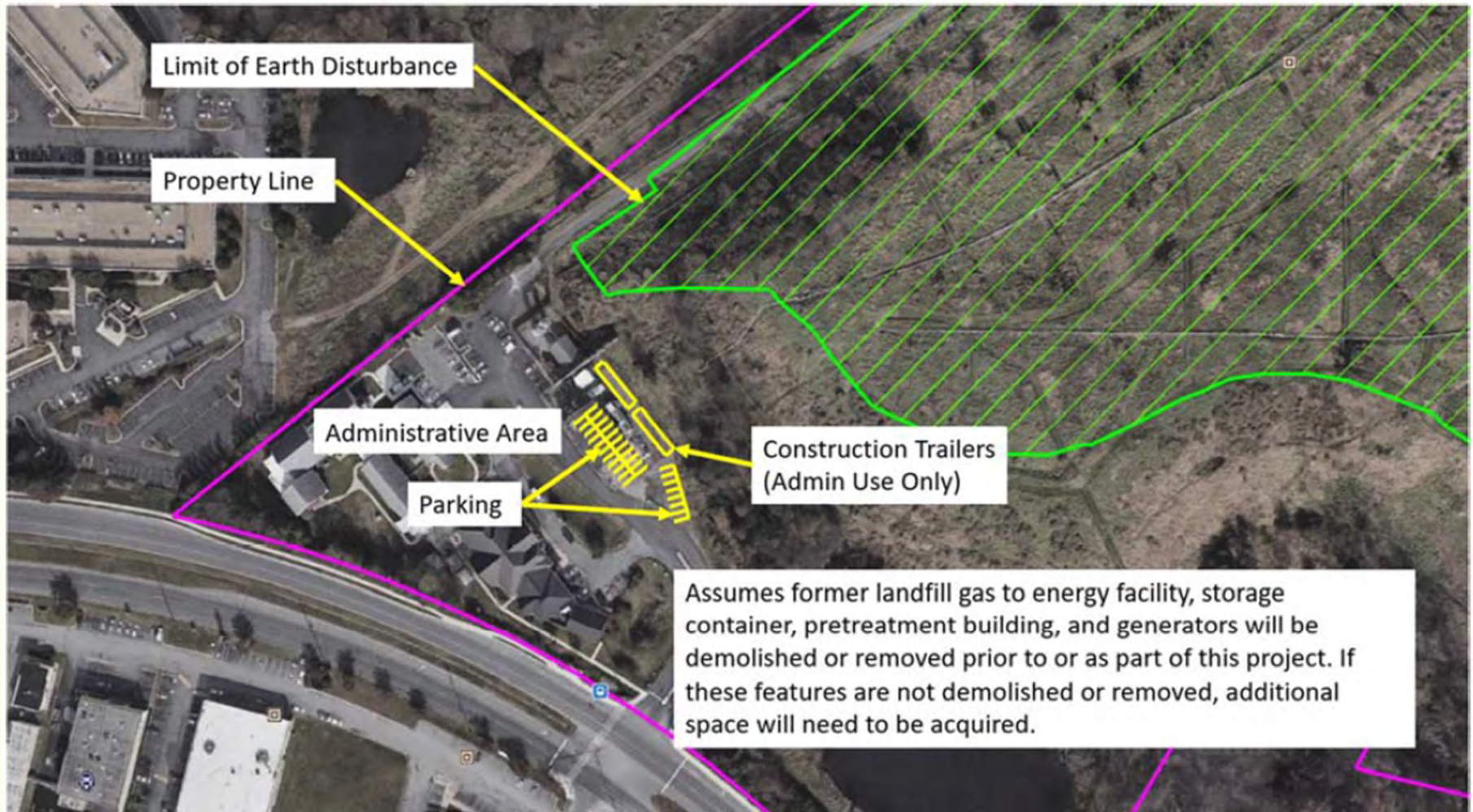
Limit of Waste – Blue Line

Toupe' Cap – Green Line

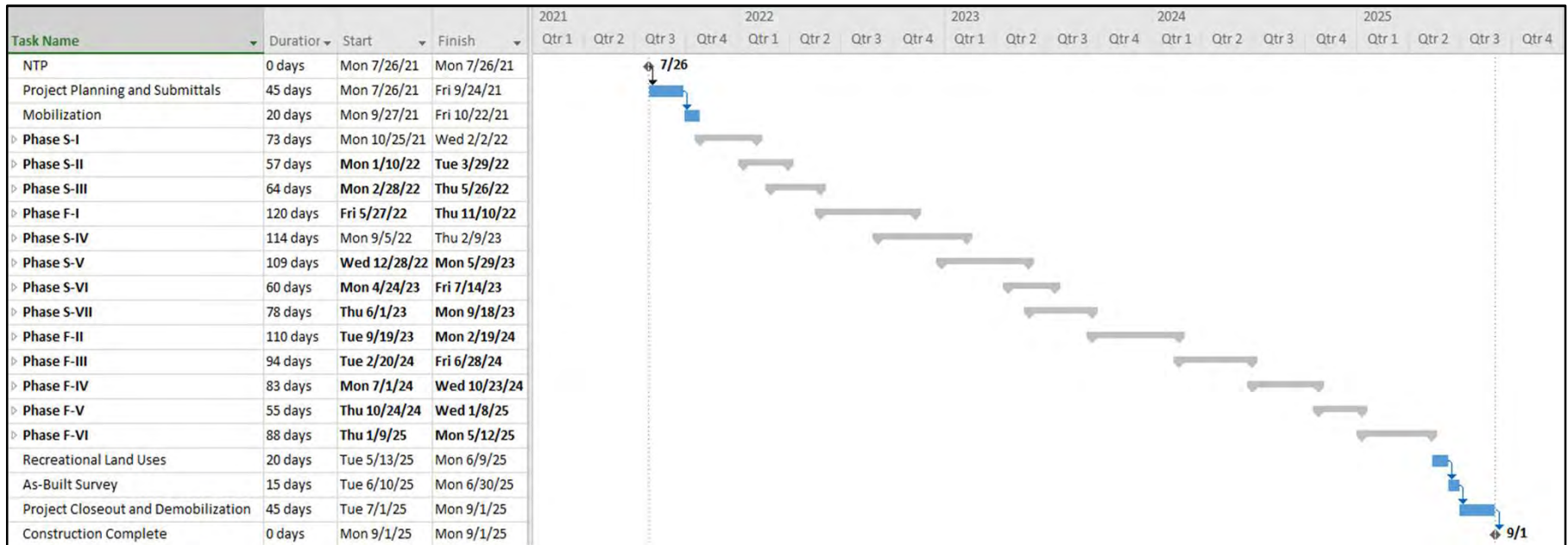


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Gude Landfill – Construction Staging Area



Gude Landfill – Proposed Construction Schedule



Key Design Milestone Dates:

- 60% Revised Design Review complete - 3/16/20
- 90% Design Submittal – 6/11/20
- 90% Design Review complete – 8/6/20
- 100% Design Submittal – 10/22/20
- Construction Contract Award – 7/26/21



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Gude Landfill – Beneficial Land Use

- **Capital Improvement Plan (CIP) Budget includes funding for passive land use and site restoration**
 - Avian habitat
 - Nature play equipment & mulched play area
 - Educational signage
 - Dog park
 - Seating areas
 - Disc golf equipment
 - Landscaping



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Gude Landfill – Beneficial Land Use

PREFERRED CONCEPTUAL MASTER PLAN



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Gude Landfill – CIP Budget Expenditure Schedule

Cost Elements	Total	Thru FY19	Est FY20	Total 6 Years	FY 21	FY 22	FY 23	FY 24	FY 25	FY 26	Beyond 6 Years
Planning, Design, Supervision	6,955,000	1,363,000	707,000	4,795,000	456,000	771,000	932,000	905,000	877,000	854,000	90,000
Construction	54,791,000	---	---	54,133,000	---	17,558,000	10,561,000	11,200,000	9,810,000	5,004,000	658,000
Total Expenditures	61,746,000	1,363,000	707,000	58,928,000	456,000	18,329,000	11,493,000	12,105,000	10,687,000	5,858,000	748,000



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