

Northern Bus Garage Reconstruction Project

VIRTUAL COMMUNITY MEETING #3:
ENVIRONMENTAL CONVERSATION

11/10/2020



Agenda

- I. Project Team & Schedule
- II. Planning & Design Phase Overview
- III. Pollution Minimization
- IV. Site Remediation
- V. Environmental Design
- VI. Metrobus Fleet Update
- VII. Next Steps for Project



I. Project Team

Diana Levy
Director, Capital
Delivery
(WMATA)

Ann Chisholm
Government Relations
(WMATA)

Gail Ribas
Senior Director
Communications
(WMATA)

Jim Ashe
Environmental
Coordinator
(WMATA)

Dave Michels
Vice President
Bus Maintenance
(WMATA)

David Wehe
Project Manager
(WMATA rep)

Donzell Robinson
Communications
Consultant
(JSA)

Phil Sheridan
Project Director
(CLARK)

Community Meeting Schedule



Northern Bus Garage Replacement



VIRTUAL COMMUNITY ENGAGEMENT MEETINGS

MEETING #1
Tuesday, September 13
Project Design Update

COMPLETED

MEETING #2
Monday, November 2
Draft Design Conversation

COMPLETED

MEETING #3
Tuesday, November 10
Environmental Conversation

MEETING #4
Tuesday, November 17
Final Design Presentation

***Meeting #2 was designated as Section 106 Consulting Parties Meeting*

All meetings begin at 6 pm. For more information, visit wmata.com/NorthernBusGarage.



II. Planning & Design Phase Overview

- The National Environmental Policy Act (NEPA) governs the environmental review process for federally-funded transit projects, including the Northern Bus Garage Reconstruction Project. Three possible classes of action:
 - Categorical Exclusion (undocumented and documented)
 - Environmental Assessment
 - Environmental Impact Statement

- The Federal Transit Administration determined that the project likely would be a Documented Categorical Exclusion.

- Documented Categorical Exclusion document will be released once it is complete and approved by FTA.

NEPA Topics

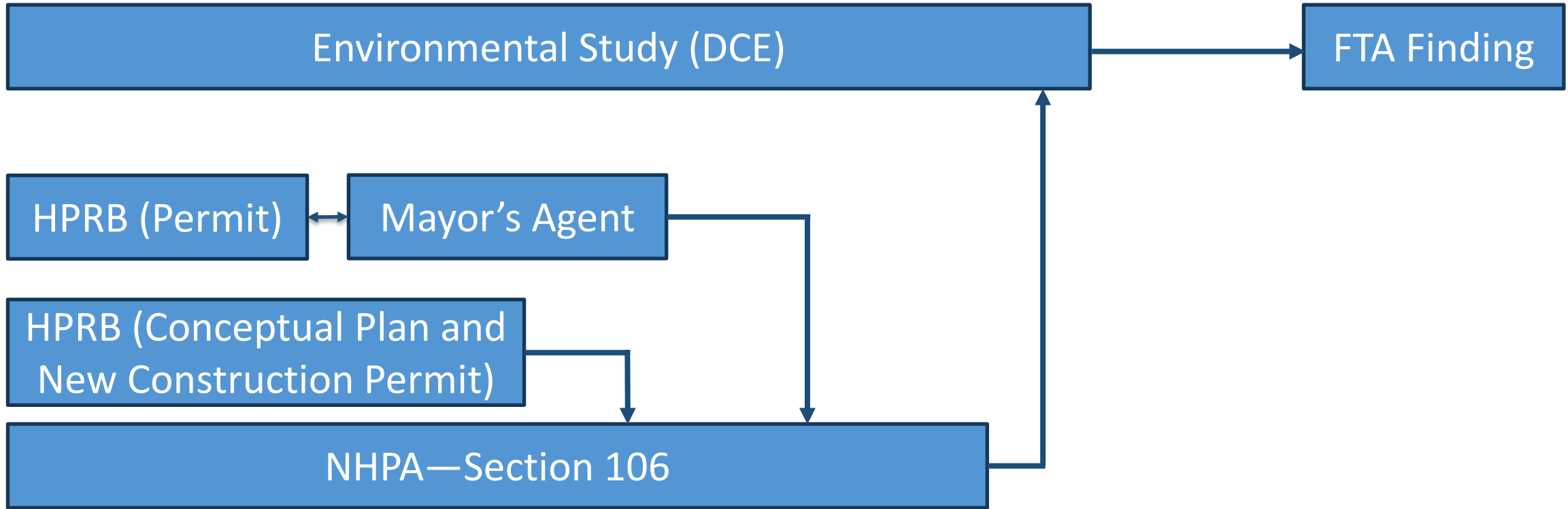
A Categorical Exclusion considers the following topics:

Detailed Project Description	Metropolitan Planning and Air Quality Conformity
CO Hot Spots	Zoning
Traffic Impacts	Cultural Resources
Noise and Vibration	Hazardous Materials
Acquisitions and Relocations	Community Disruption and Environmental Justice
Public Parkland and Recreation Areas	Ecologically Sensitive Areas/Endangered Species
Impacts on Wetlands, Floodplain Impacts, Water Quality, Navigable Waterways, and Coastal Zones	Construction Impacts

Local Historic Preservation Process

- **May 2020:** Metro presented project design to the Historic Preservation Review Board (HPRB) for conceptual plan review.
- **September 2020:** HPRB referred the interior demolition permit application for the project to the Mayor's Agent.
- Metro has requested a hearing before the Mayor's Agent hearing officer.
(This clearance is necessary to obtain a demolition permit.)
- **December 2020:** Metro will present revised design to HPRB for conceptual plan approval.
- **January 2021** (anticipated): Mayor's Agent public hearing. Hearing date has not been set.

Planning Process



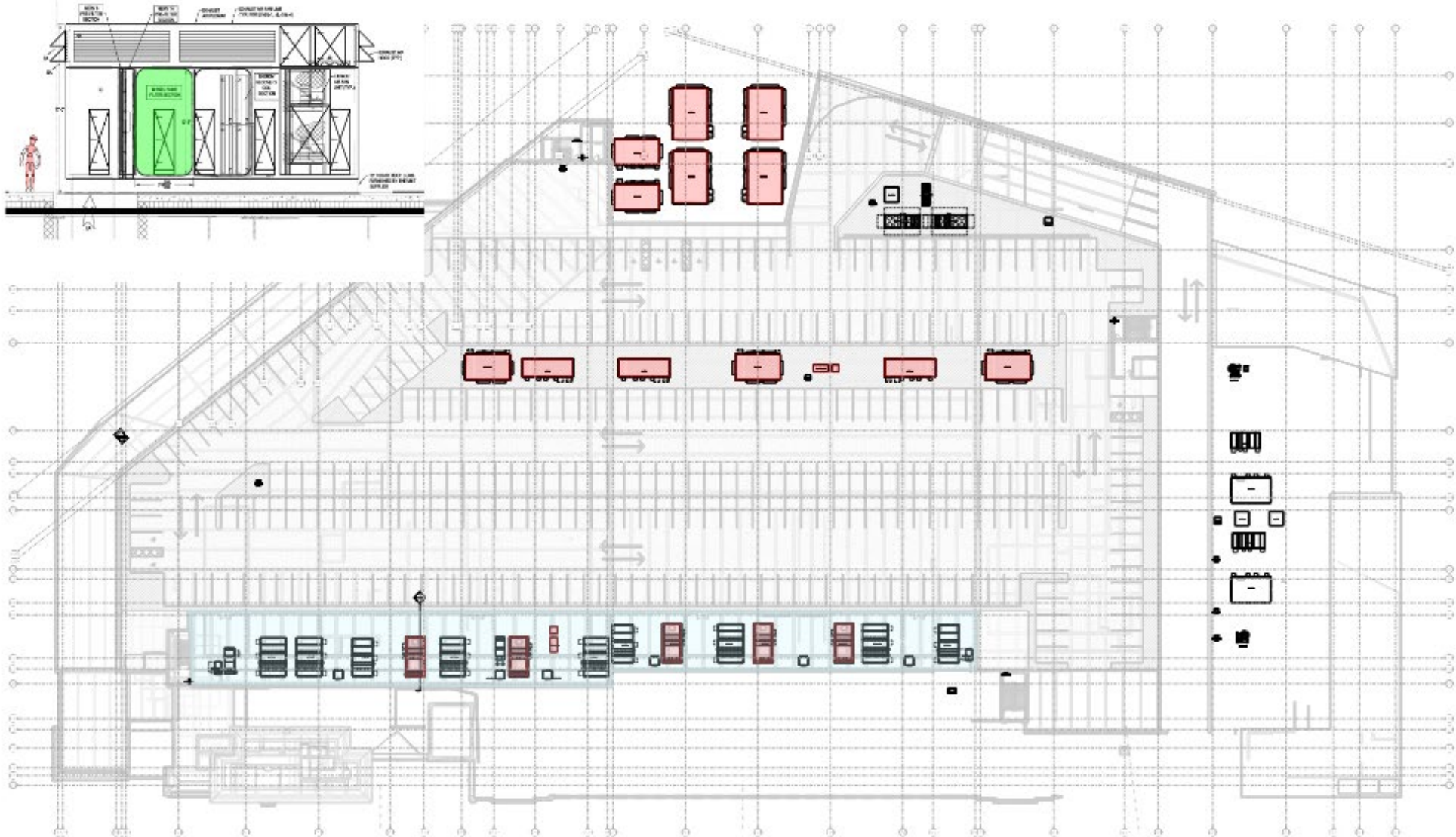
Question & Answer Period: Planning & Design Phase Overview

- Please submit your questions through the meeting chat
- If the project team is unable to respond to your question during this meeting, you may contact us at MCAP_NBG_Reconstruction_Project@wmata.com
- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

III. Pollution Minimization (Air Quality & Noise)

- The air in the bus garage will be “scrubbed” prior to leaving the facility
 - Ventilation system is designed to ‘scrub’ the exhaust air using specialized exhaust equipment that filters the air.
 - High-speed vehicle entry/exit doors will be used to maintain proper airflow & ensure bus exhaust is treated before exiting into the environment.
- The overhead doors and the building enclosure at the Decatur Street exit will also help to isolate bus operations from adjacent properties and minimize noise levels in the community.
- Metro has eliminated paint booth from project design following community input.

HVAC & Air Scrubber Locations



LEGEND

- EXHUAST UNIT W/ DRY SCRUBBER TECHNOLOGY
- PENTHOUSE - INDOOR EXHAUST UNIT W/ DRY SCRUBBER TECHNOLOGY

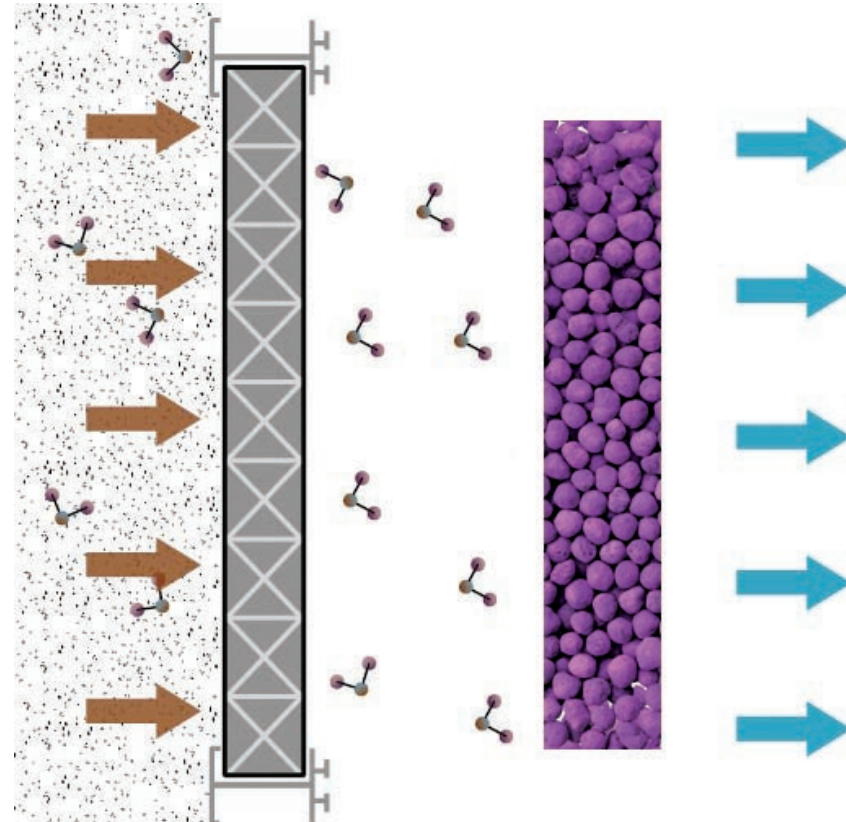
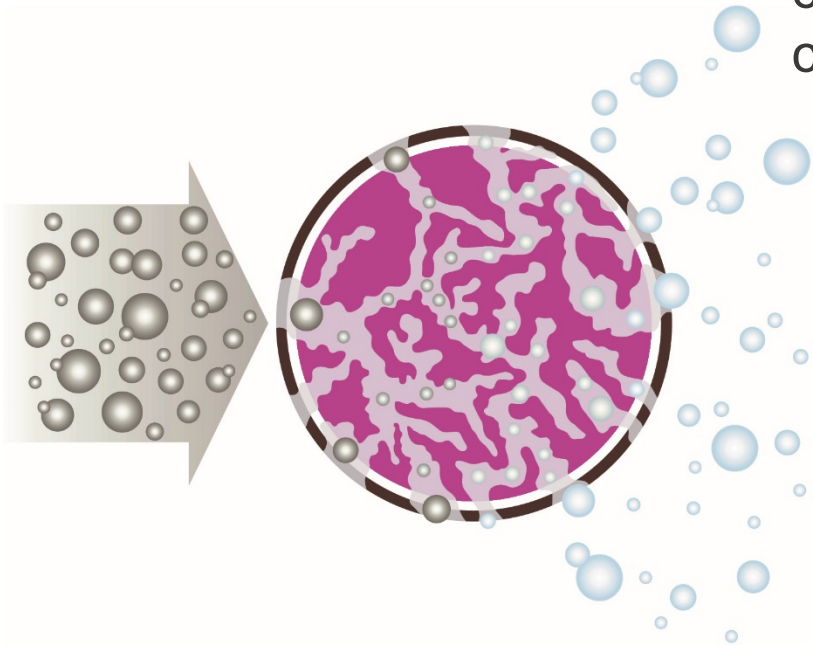
Stormwater Management

- New 120,000-gallon stormwater detention vault to manage storm flows during heavy rain events.
- New Oil-Water Separator and sand filter to pretreat runoff from buses and cars that is tracked into the building before discharge to sewer system.
- New 60,000-gallon vault system to store captured stormwater for reuse in the bus wash system (significantly reduces potable water use for facility)

Air Quality

Gas-phase Adsorption

The dry scrubber in each exhaust fan system includes a filtration process using disposable high efficiency v bank filters in order to extract contaminants. The v bank filters' chemisorptive process will remove contaminant gases by means of adsorption and chemical reaction.



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

Fuel Management

- New double lined fuel tanks (2) located underground along Buchanan Street on Metro property
 - Must be located outside the building (NFPA requirement)
 - Each tank will be installed within a concrete vault (rather than in the ground)
 - Multiple leak detection and fuel monitoring systems per tank/vault
 - Tanks will be removed after facility is converted to full Electric Bus Fleet
- Other fluid dispensing systems will have above ground storage tanks with integral leak detection and capture systems.

Question & Answer Period: Pollution Minimization

- Please submit your questions thorough the meeting chat
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IV. Site Remediation

The following contaminants have been identified on the project site and will be removed following all requirements/guidelines:

- Soil and Water Contamination
 - Consistent with site history
 - Discussing next steps with DOEE
 - Remediation anticipated
- Lead Paint — various surfaces
- Asbestos — in floor tiles
- Mercury — in thermostats and fluorescent light bulbs
- PCBs — in light ballasts
- Underground Tanks (7) — Will be removed and 'closed'




[See Appendix](#) for more detailed site remediation information.

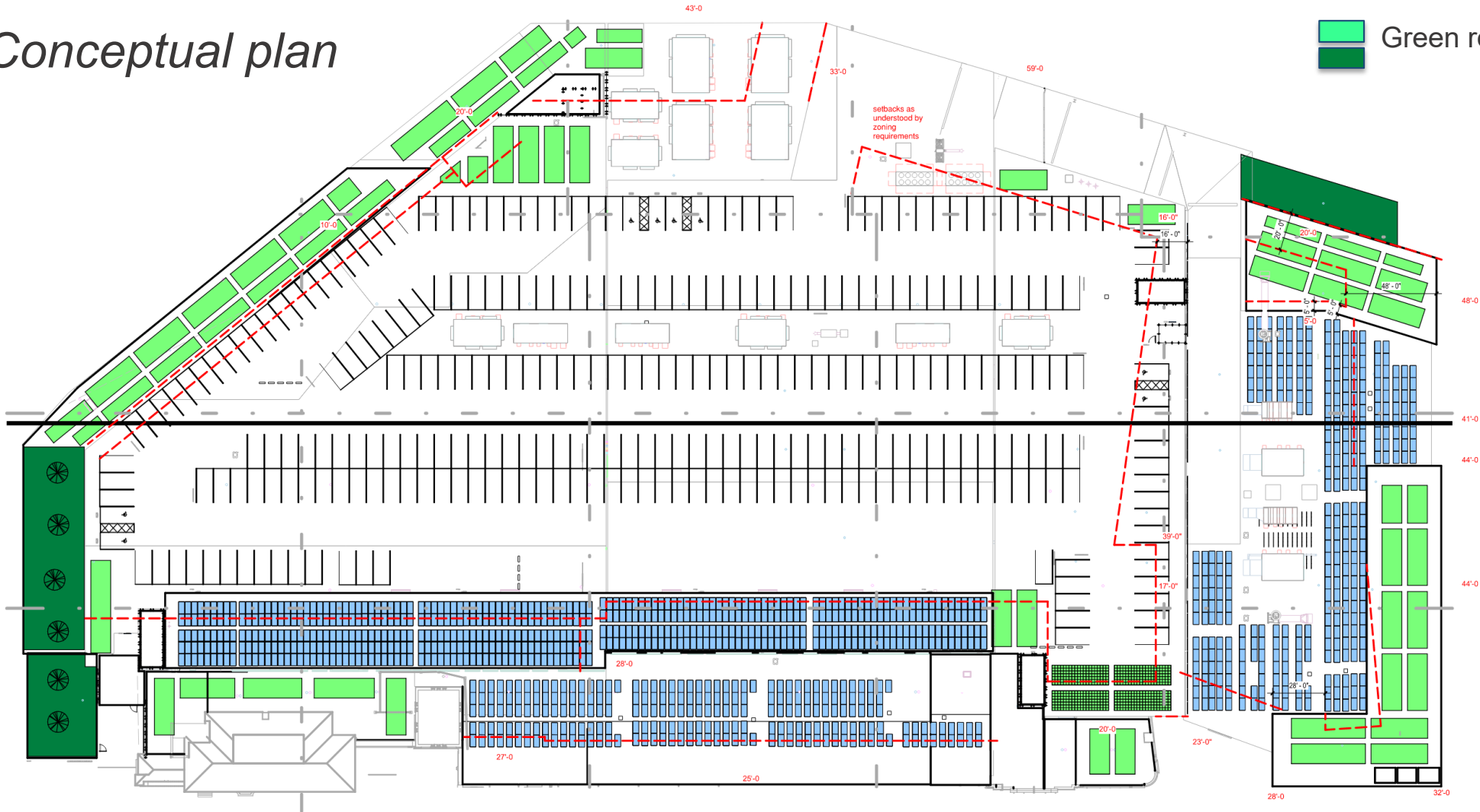
Question & Answer Period: Site Remediation

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Rooftop Environmental Features

Conceptual plan

- Key**
-  Solar (Photovoltaic) Panels
 -  Green roof features
 -  Green roof features



LEED Accreditation

- Metro is pursuing LEED accreditation for the new Northern Bus Garage
- Recent LEED-certified Metrobus garages projects include:

**Andrews Federal Center
Bus Garage (2020)**
Gold



**Cinder Bed Road
Bus Garage (2018)**
Gold



**Shepherd Parkway
Bus Garage (2012)**
Silver



Question & Answer Period: Environmental Design

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VI. Metrobus Fleet Update

- Metro operates a fleet of almost 1,600 buses serving neighborhoods and business districts across hundreds of square miles.
- We're committed to incorporating the latest technologies for the safety of our customers and the communities where we operate.
 - All new Metrobuses meet EPA Greenhouse Gas (GHG) emissions requirements: Phase 1 (2012-2016) and Phase 2 (2017-2025)
 - Metro purchases about 100 buses annually
 - More than 800 buses replaced since 2012 (over 50% of current Metrobus fleet)

Zero-Emission Bus Update

Earlier this year, Metro published a [Zero-Emission Bus Update](#) that outlines zero-emission fleet planning underway. The transition to zero-emission bus service will require significant regional investment and coordination.

Required actions for the region include:

Energy Infrastructure Investments

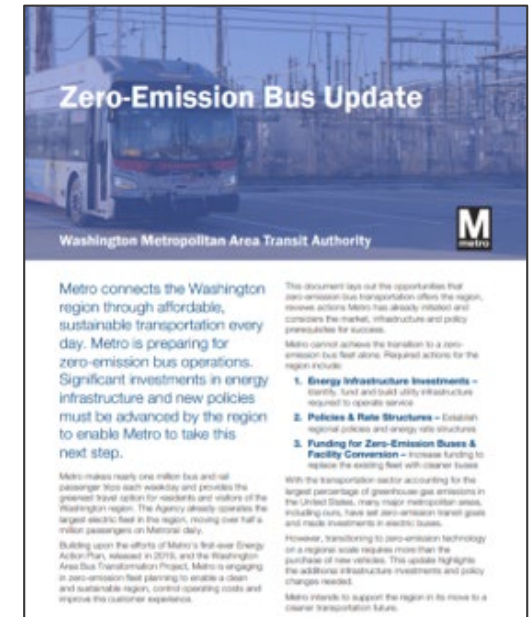
- Identify, fund and build utility infrastructure required to operate service

Policies & Rate Structures

- Establish regional policies and energy rate structures

Funding for Buses & Facility Conversion

- Increase funding to replace the existing fleet with cleaner buses



Building for the Future

- Results of the zero-emission bus test and evaluation will allow Metro to identify technologies for adoption pending funding availability.
- The Northern Bus Garage project incorporates design choices that will facilitate electric bus technology conversion, including:
 - Space to accommodate Switch Gear and Transformers
 - Plans for conduit to feed the future chargers
 - Adequate ceiling height to allow overhead electric bus charging

Electric Bus Test and Evaluation Timeline

- Phase 1: Electric Bus Summary Report – **COMPLETED**
 - Research to inform test and evaluation. Covering infrastructure, planning, electric bus fleet and estimated financial costs and requirements.
- Phase 2: Electric Bus Test and Evaluation – **IN PROGRESS**
Planned for Shepherd Parkway Bus Garage
 - Vehicle and Infrastructure design: Fall 2020 – Spring 2021
 - Procurement Process: Spring 2021 – Fall 2021
 - Bus build and infrastructure upgrades: Fall 2021 – Fall 2022
 - Performance evaluation: Fall 2022 – Winter 2023
- Phase 3: Further investment in electric bus technology is highly dependent on test/evaluation results, progress on regional policies, grid infrastructure investments, and funding availability ([see Appendix for more details](#))

Question & Answer Period: Metrobus Fleet Update

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- Summary of the Q&A will be posted to: wmata.com/NorthernBusGarage

VII. Next Steps for Project

December 2020	January 2021	TBD	TBD
Present final revised design concept to Historic Preservation Review Board	Begin Mayor's Agent process on demolition permit	Execute a Memorandum of Agreement for Section 106 (Historic Preservation)	Submit Documented Categorical Exclusion to FTA for approval

- Updates posted to wmata.com/NorthernBusGarage and shared via email
- Email MCAP_NBG_Reconstruction_Project@wmata.com to join the project's community contact list or request additional information



Appendix



Appendix A: Planning & Design Phase Overview

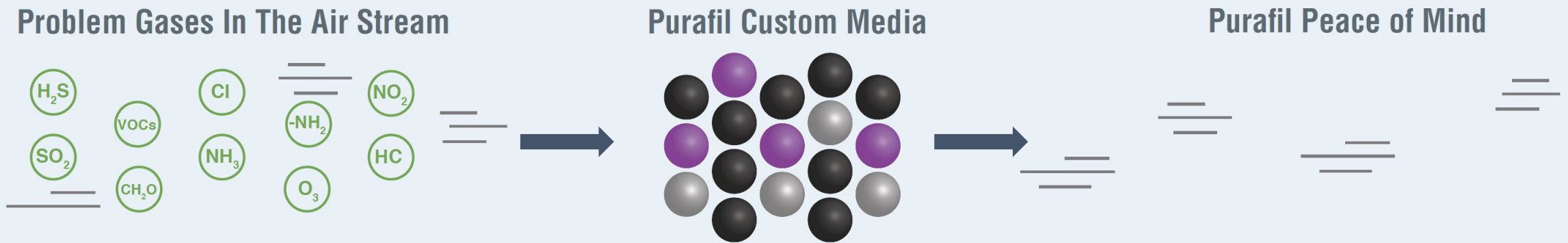
Referenced Reports

Report Description	Released as of 11/9/2020	Report Link	Notes
Documented Categorical Exclusion Report	No	To Be Announced	Not completed; will be completed after HPRB and Mayor's Agent Approvals. Estimated: Late 2021
Zero-Emission Bus Update	Yes	https://www.wmata.com/initiatives/sustainability/upload/WMATA_Zero_Emission_Bus_Update-02122020-FINAL.pdf	
Site contamination report (bus garage footprint only)	No	To Be Announced	Will be released after DOEE completes its review

Appendix B: Air Emissions Minimization

Air Quality

Removing Exhaust Fumes Through Chemisorption

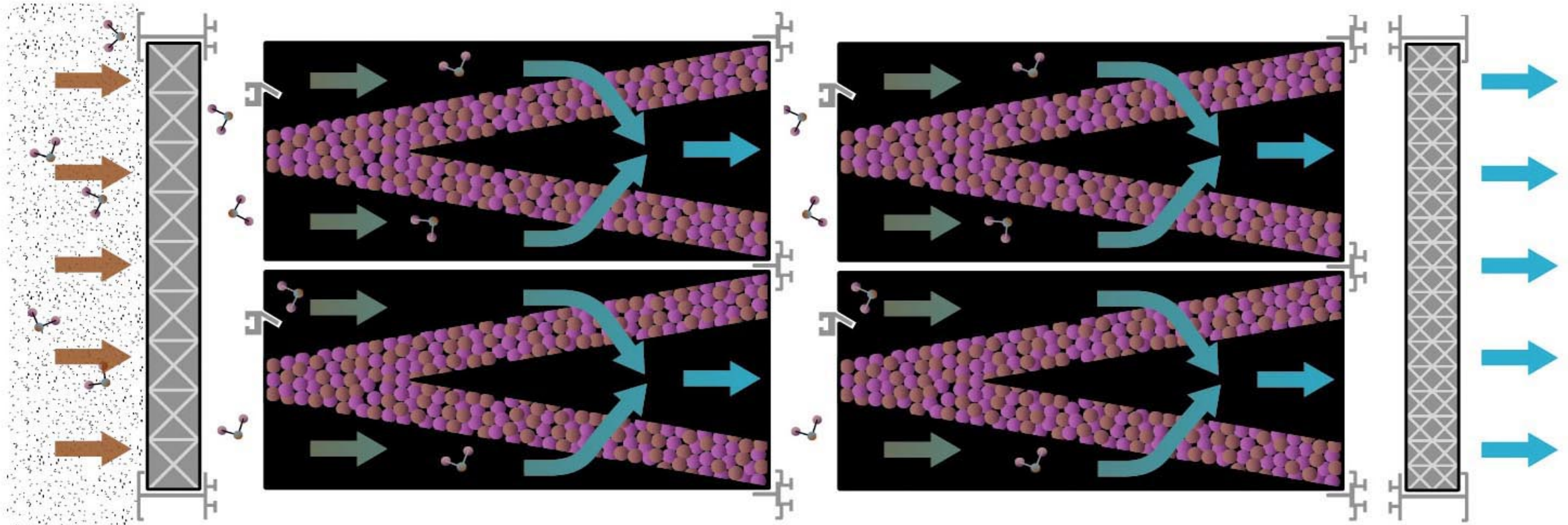


Capacity Test Results (typical) @ 99.5% Removal Efficiency		
Contaminant	Media Tested	Capacity, weight %
Aldehydes	Purafil Select	2.5
Hydrocarbons	Purakol	21.5
Nitric Oxide	Purafil Select	5.2
Nitrogen Dioxide	Purakol	6.6
Organic Acids	Purakol	22.6
Sulfur Dioxide	Purafil Select	9.5



Air Quality

Dual V-Banks in AHUs



Appendix C: Site Remediation

Site Remediation

- Groundwater and soil environmental investigation:
 - 54 soil borings and 10 temporary monitoring wells
 - water: PCB, BEHP, DRO, and chlorinated solvents and breakdown products
 - soil: PAHs, DRO, lead, arsenic, GRO, ethyl benzene
 - Results forwarded to DOEE; DOEE has asked follow-up questions
 - Project team anticipates remediation
 - During construction: soil removal and water treatment under a DOEE-approved remediation plan
 - After construction: water treatment

Site Remediation (continued)

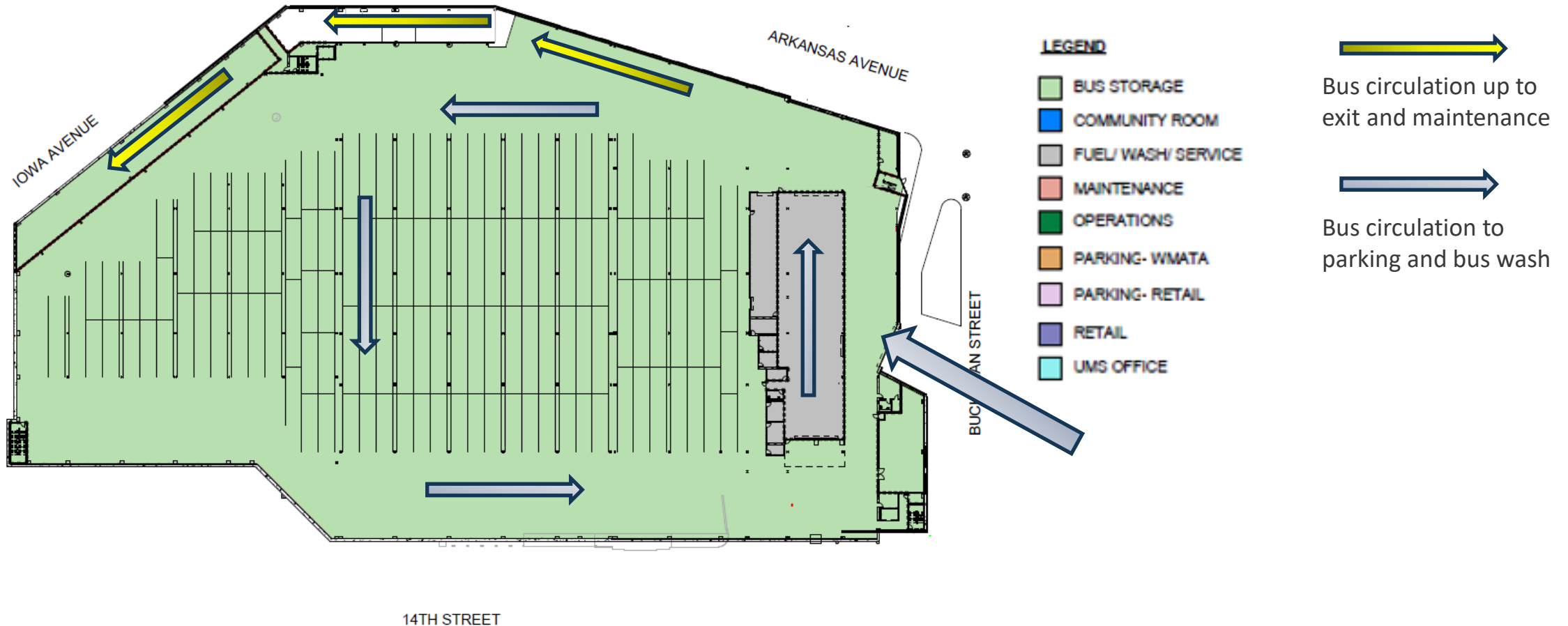
- Other remediation anticipated:
 - Lead paint: Found on some painted surfaces. All lead paints on retained (historic) surfaces will be removed. Contaminated debris will be separated and disposed.
 - Asbestos: Found in floor tile. Contaminated debris will be separated and disposed.
 - Most other asbestos materials have been abated.

Site Remediation (continued)

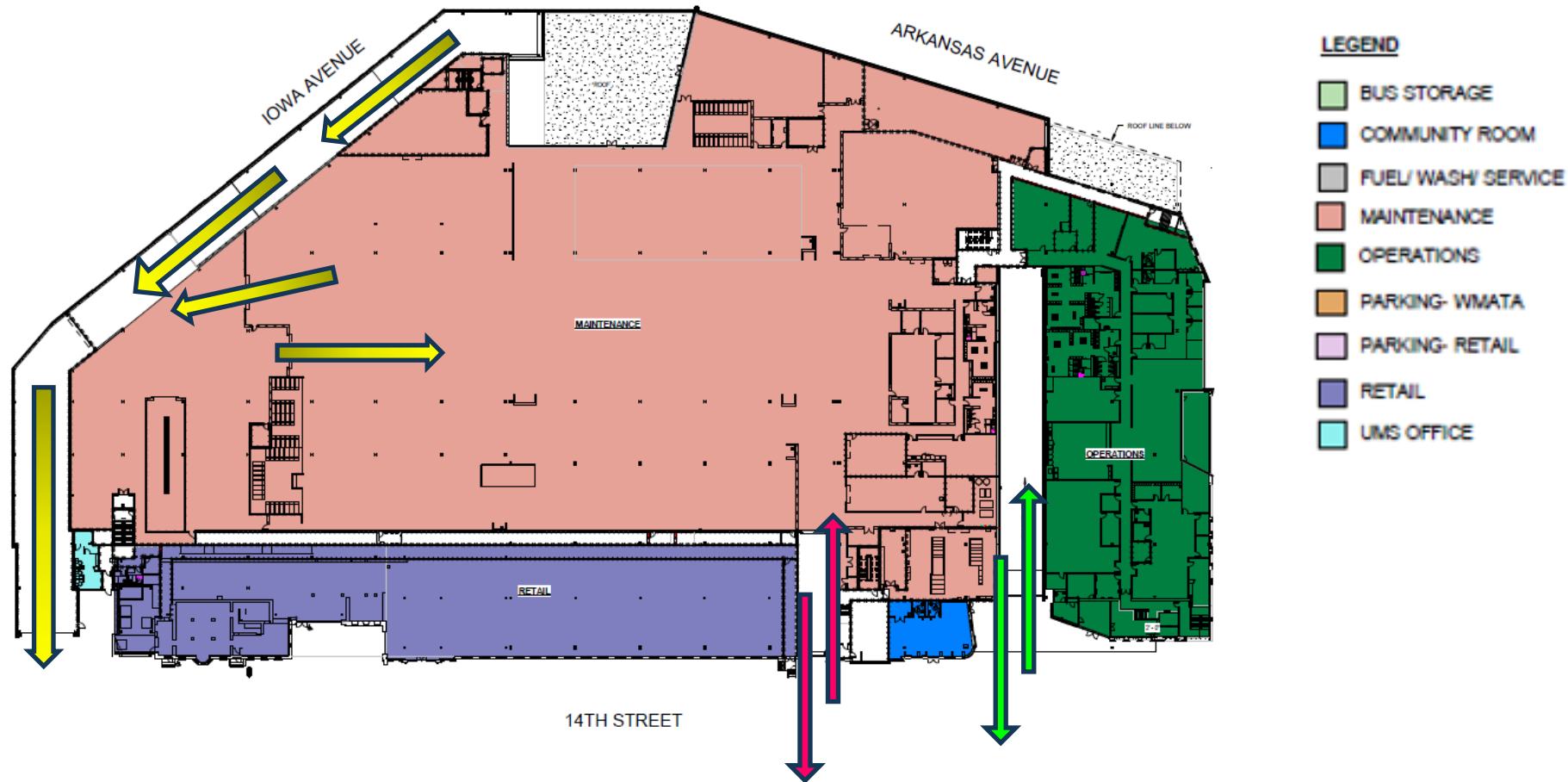
- Mercury: Found in fluorescent lights and thermostats. Contaminated material will be removed, separated, and disposed at licensed facilities.
- PCBs: Light ballasts (if identified). Material will be separated and disposed at licensed facilities.
- Existing underground storage tanks (7) will be removed under a DOEE-approved removal and remediation plan.
 - All fluids were removed from all existing underground and above ground storage tanks on the property after the building ceased operations in 2019.

Appendix D: Environmental Design

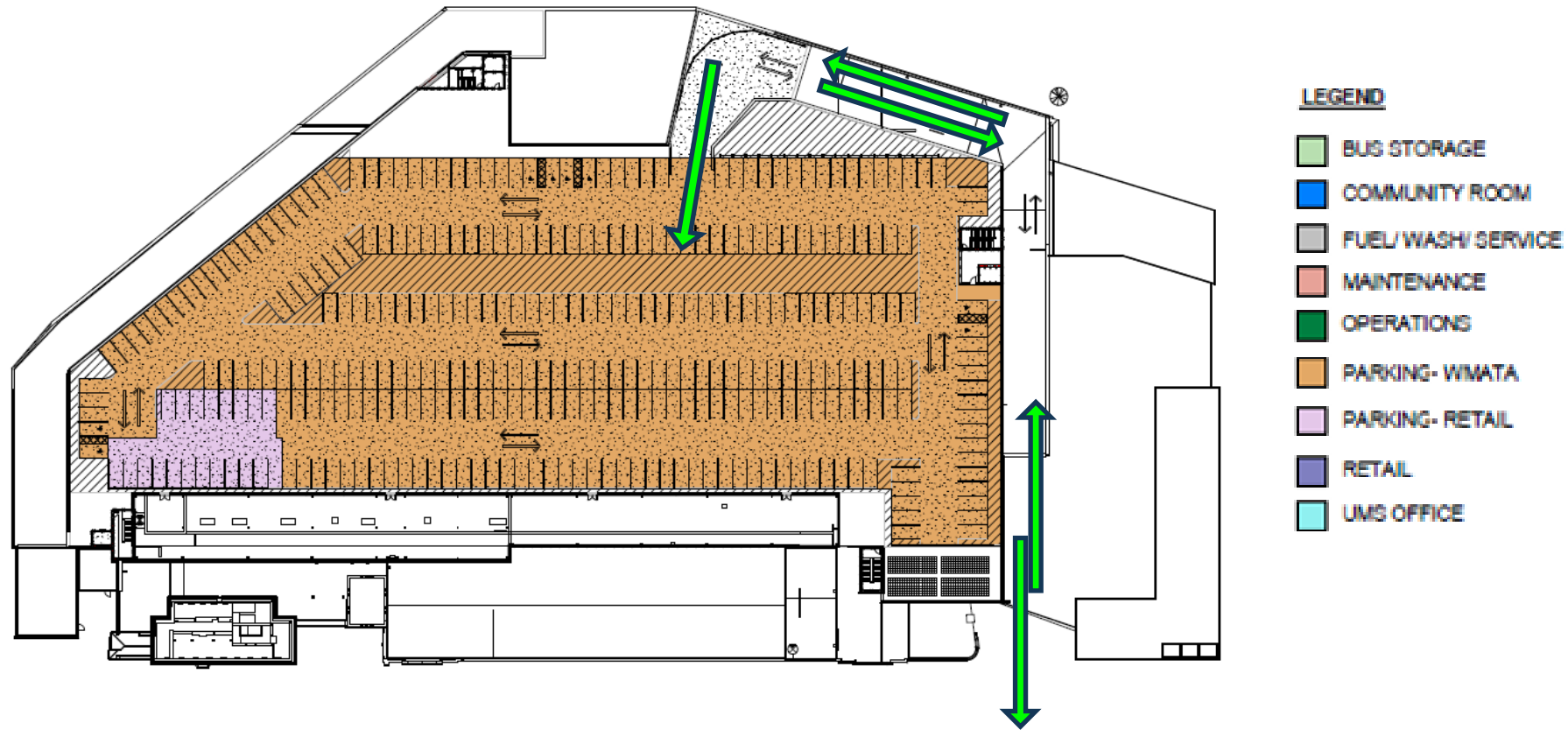
Internal Operations – Bus Storage Level



Internal Operations – Operations Level



Internal Operations – Employee Parking Level



LEED Accreditation

- Metro is pursuing LEED accreditation for the new Northern Bus Garage
- LEED Accreditation status as of November 2020 (pending final design)



LEED v4 for BD+C: New Construction and Major Renovation

Project Checklist Scorecard 40% 201105

Project Name: Northern Bus Maintenance Facility

Certified: 40 to 49 points

Silver: 50 to 59 points

Gold: 60 to 79 points

Platinum: 80 to 110

Y	?	N
1		

1			Credit	Integrative Process	1
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15 1 0 Location and Transportation 16

Y	?	N	Credit	Description	Points
		0	Prereq	LEED for Neighborhood Development Location	16
1			Credit	Sensitive Land Protection	1
2			Credit	High Priority Site	2
5			Credit	Surrounding Density and Diverse Uses	5
5			Credit	Access to Quality Transit	5
1			Credit	Bicycle Facilities	1
	1		Credit	Reduced Parking Footprint	1
1			Credit	Green Vehicles	1

7 1 2 Sustainable Sites 10

Y	?	N	Credit	Description	Points
			Prereq	Construction Activity Pollution Prevention	Required
1			Credit	Site Assessment	1
1	1		Credit	Site Development - Protect or Restore Habitat	2
		1	Credit	Open Space	1
3			Credit	Rainwater Management	3
2			Credit	Heat Island Reduction	2
	1		Credit	Light Pollution Reduction	1

11 0 0 Water Efficiency 11

Y	?	N	Credit	Description	Points
			Prereq	Outdoor Water Use Reduction	Required
			Prereq	Indoor Water Use Reduction	Required
			Prereq	Building-Level Water Metering	Required
2			Credit	Outdoor Water Use Reduction - ACP	2
6			Credit	Indoor Water Use Reduction- ACP	6
2			Credit	Cooling Tower Water Use - ACP	2
1			Credit	Water Metering	1

17 4 12 Energy and Atmosphere 33

Y	?	N	Credit	Description	Points
			Prereq	Fundamental Commissioning and Verification	Required
			Prereq	Minimum Energy Performance	Required
			Prereq	Building-Level Energy Metering	Required
			Prereq	Fundamental Refrigerant Management	Required
6			Credit	Enhanced Commissioning	6
5	2	11	Credit	Optimize Energy Performance	18
1			Credit	Advanced Energy Metering	1
2			Credit	Demand Response	2
1	1	1	Credit	Renewable Energy Production	3
1			Credit	Enhanced Refrigerant Management	1
1	1		Credit	Green Power and Carbon Offsets	2

9 4 0 Materials and Resources 13

Y	?	N	Credit	Description	Points
			Prereq	Storage and Collection of Recyclables	Required
			Prereq	Construction and Demolition Waste Management Planning	Required
5			Credit	Building Life-Cycle Impact Reduction	5
1	1		Credit	Building Product Disclosure and Optimization - Environmental Product Declarations	2
1	1		Credit	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
1	1		Credit	Building Product Disclosure and Optimization - Material Ingredients	2
1	1		Credit	Construction and Demolition Waste Management	2

10 1 5 Indoor Environmental Quality 16

Y	?	N	Credit	Description	Points
			Prereq	Minimum Indoor Air Quality Performance	Required
			Prereq	Environmental Tobacco Smoke Control	Required
2			Credit	Enhanced Indoor Air Quality Strategies	2
3			Credit	Low-Emitting Materials	3
1			Credit	Construction Indoor Air Quality Management Plan	1
2			Credit	Indoor Air Quality Assessment	2
1			Credit	Thermal Comfort	1
1	1	1	Credit	Interior Lighting	2
	1	2	Credit	Daylight	3
		1	Credit	Quality Views	1
		1	Credit	Acoustic Performance	1

5 1 0 Innovation 6

Y	?	N	Credit	Description	Points
4	1		Credit	Innovation	5
1			Credit	LEED Accredited Professional	1

3 1 0 Regional Priority 4









Y	?	N	Credit	Description	Points
	1		Credit	Regional Priority: † LT- Reduced Parking Footprint	1
1			Credit	Regional Priority: † Green vehicles	1
1			Credit	Regional Priority: † Rainwater Management	1
1			Credit	Regional Priority: † Access to Quality Transit	1

78 13 19 TOTALS Possible Points: 110

Appendix E: Metrobus Fleet Update

Zero-Emission Bus Update

Building upon the efforts of Metro's first-ever Energy Action Plan, released in 2019, and the Washington Area Bus Transformation Project, Metro is engaging in zero-emission fleet planning to enable a clean and sustainable region, control operating costs and improve the customer experience.

BENEFITS	CHALLENGES
 Cleaner air, reduced greenhouse gas and tailpipe emissions	 Additional capital investment in grid infrastructure, facilities, and vehicles
 Quieter vehicles, less vibration, increased comfort	 Major fleet and facility investments with rapidly maturing technology
 Decreased use of fossil fuels, reduced fuel costs	 Fleet lifecycle/replacement timing
 Reduced operation and maintenance costs	 Coordination/partnership

Zero-Emission Bus Update

This document lays out the opportunities that zero-emission bus transportation offers the region, reviews actions Metro has already initiated and considers the market, infrastructure and policy prerequisites for success.

The document is available on the Metro website here:

https://www.wmata.com/initiatives/sustainability/upload/WMATA_Zero_Emission_Bus_Update-02122020-FINAL.pdf

Additional Requirements for Zero-Emission Buses at NBG

- Purchase of electric buses
 - Additional incremental cost per bus (compared with conventional buses)
 - New bus purchases are distributed across the region to balance average fleet age
 - Bus procurement, build and commissioning work
- Additional facility investments
 - New utility connection from grid, switch gear and transformers
 - Bus chargers
 - Fleet charging management system
- Route redesign and investment in on-route charging as required
- Additional external conditions:
 - Electric grid investment to ensure adequate power supply to garage
 - Secure favorable electric vehicle charging rate class from Public Utility Commission