

LOCKHEED MARTIN 

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Don't Ask, Don't Tell

5 [YbXU'



- Middle River Complex

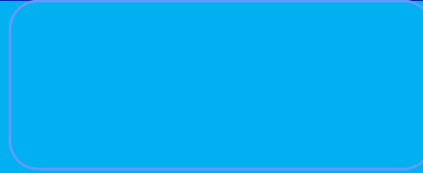
- Sediment Feasibility Study – proposed remedy

- Short updates on:

- Proposed Consent Agreement
 - Groundwater remedy underway
 - Surface water sampling results in Dark Head Cove
 - Soil remedy planning



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- ≤ for High level of concern
- A for Medium level of concern
- @ for Low level of concern

High	Medium	Low	Issue
			Walkways, stairs, ramps, etc.
			Use space, etc.

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- Surface Water - No chemicals detected above water quality standards
- PCBs (Polychlorinated Biphenyls)
 - Are located in shallow sediments near the bulkhead
 - Represent human health and ecological risks
 - Are bioaccumulative (will build up in the food chain)
- PAHs (Polycyclic Aromatic Hydrocarbons)
 - Are located near the bulkhead and Martin State Airport
 - Are less of a risk driver than PCBs
- Metals (e.g., cadmium, copper, chromium)
 - Are present in Cow Pen Creek and Dark Head Cove
 - Are potentially toxic to benthic macroinvertebrates (i.e., worms)
 - Are more elevated in deep sediments





- Human Health

- No acute risks identified or anticipated
- Some risks posed by fish consumption
- Site fish tissue concentrations are similar to local area-wide conditions

- Ecological

- No predicted impacts to fish, birds or mammals
- Potential impacts to benthic macroinvertebrates (e.g., worms)

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- *Reduce, to the extent practicable*:*

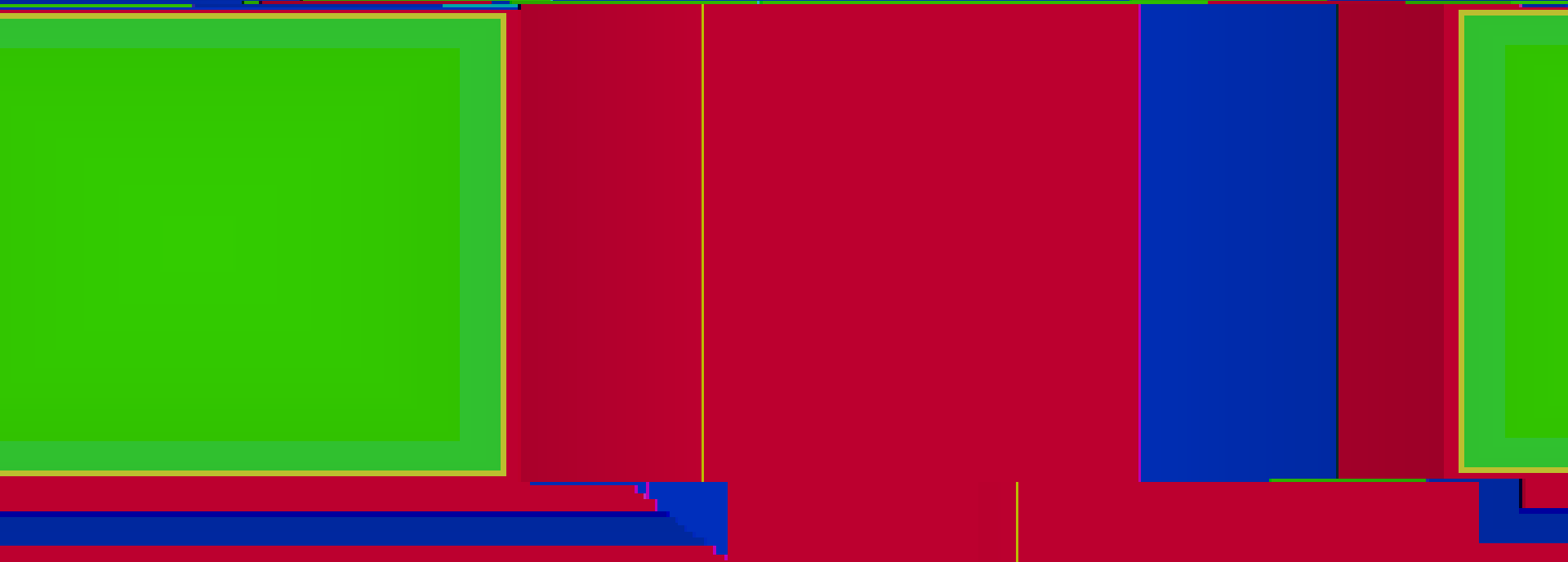
- *RAO 1: human health risks associated with the consumption of resident fish - by reducing bioavailable sediment concentrations Cie (hum)-38shg55Tntocc*

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- CowM>

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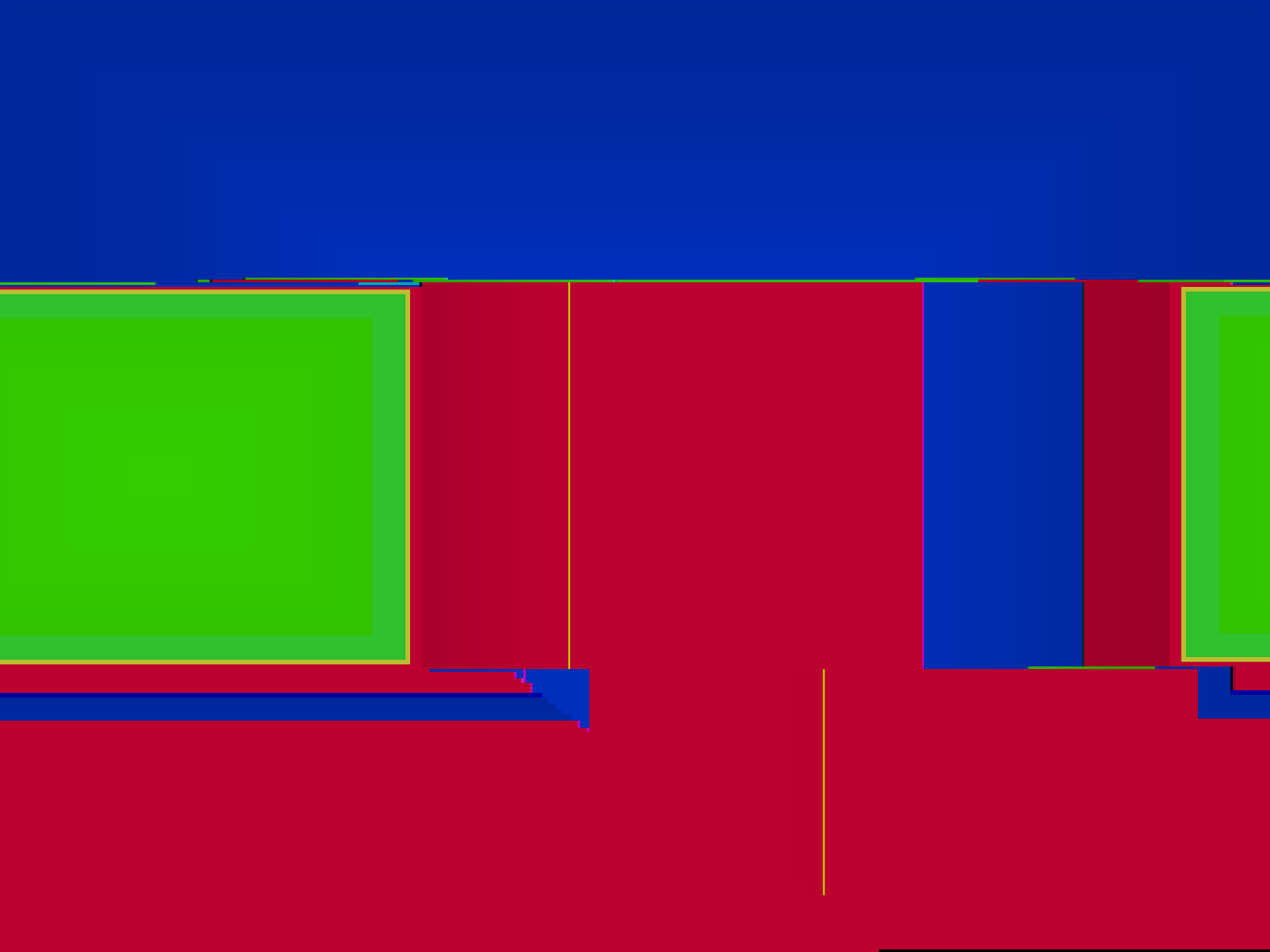
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BUh i fU`'FYWc jYfm`



7cb jYbh]cbU`'gYX] aYbh`WUd`



In situ HfYU_h a Ybh' 5 dd`jWU_h]cbg''



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Based on EPA's Feasibility Study guidance

- **Threshold Criteria**

- Protection of Human Health and the Environment
- Compliance with Regulations

- **Balancing Criteria**

- Long Term Effectiveness
- Short Term Effectiveness (impacts)
- Reduction in toxicity, mobility, volume through treatment
- Implementability
- Cost

- **Modifying Criteria**

- Community Acceptance
- Regulatory Acceptance

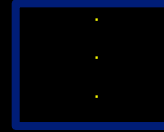


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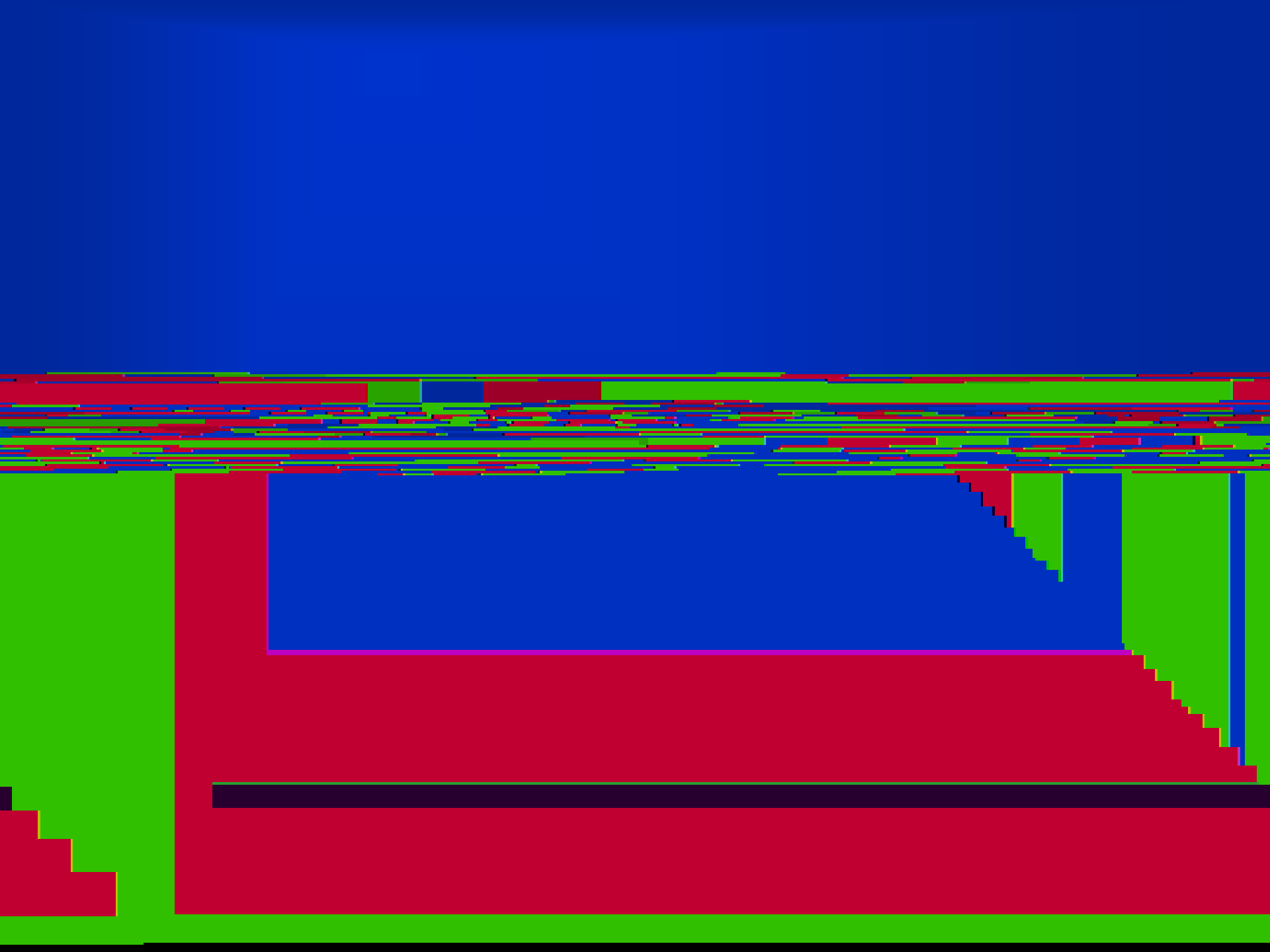


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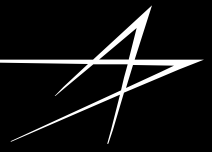


Alternatives	Value	Decision Scores	Comments
			4G Removal Instn. MNP. 0.634
			4H Removal Instn. MNP. 0.624
			4I Removal Instn. MNP. 0.614
			4J Removal Instn. MNP. 0.604
			4K Removal Instn. MNP. 0.594
			4L Removal Instn. MNP. 0.584
			4M Removal Instn. MNP. 0.574
			4N Removal Instn. MNP. 0.564
			4O Removal Instn. MNP. 0.554
			4P Removal Instn. MNP. 0.544
			4Q Removal Instn. MNP. 0.534
			4R Removal Instn. MNP. 0.524
			4S Removal Instn. MNP. 0.514
			4T Removal Instn. MNP. 0.504
			4U Removal Instn. MNP. 0.494
			4V Removal Instn. MNP. 0.484
			4W Removal Instn. MNP. 0.474
			4X Removal Instn. MNP. 0.464
			4Y Removal Instn. MNP. 0.454
			4Z Removal Instn. MNP. 0.444
			4AA Removal Instn. MNP. 0.434
			4AB Removal Instn. MNP. 0.424
			4AC Removal Instn. MNP. 0.414
			4AD Removal Instn. MNP. 0.404
			4AE Removal Instn. MNP. 0.394
			4AF Removal Instn. MNP. 0.384
			4AG Removal Instn. MNP. 0.374
			4AH Removal Instn. MNP. 0.364
			4AI Removal Instn. MNP. 0.354
			4AJ Removal Instn. MNP. 0.344
			4AK Removal Instn. MNP. 0.334
			4AL Removal Instn. MNP. 0.324
			4AM Removal Instn. MNP. 0.314
			4AN Removal Instn. MNP. 0.304
			4AO Removal Instn. MNP. 0.294
			4AP Removal Instn. MNP. 0.284
			4AQ Removal Instn. MNP. 0.274
			4AR Removal Instn. MNP. 0.264
			4AS Removal Instn. MNP. 0.254
			4AT Removal Instn. MNP. 0.244
			4AU Removal Instn. MNP. 0.234
			4AV Removal Instn. MNP. 0.224
			4AW Removal Instn. MNP. 0.214
			4AX Removal Instn. MNP. 0.204
			4AY Removal Instn. MNP. 0.194
			4AZ Removal Instn. MNP. 0.184
			4BA Removal Instn. MNP. 0.174
			4BB Removal Instn. MNP. 0.164
			4BC Removal Instn. MNP. 0.154
			4BD Removal Instn. MNP. 0.144
			4BE Removal Instn. MNP. 0.134
			4BF Removal Instn. MNP. 0.124
			4BG Removal Instn. MNP. 0.114
			4BH Removal Instn. MNP. 0.104
			4BI Removal Instn. MNP. 0.094
			4BJ Removal Instn. MNP. 0.084
			4BK Removal Instn. MNP. 0.074
			4BL Removal Instn. MNP. 0.064
			4BM Removal Instn. MNP. 0.054
			4BN Removal Instn. MNP. 0.044
			4BO Removal Instn. MNP. 0.034
			4BP Removal Instn. MNP. 0.024
			4BQ Removal Instn. MNP. 0.014
			4BR Removal Instn. MNP. 0.004

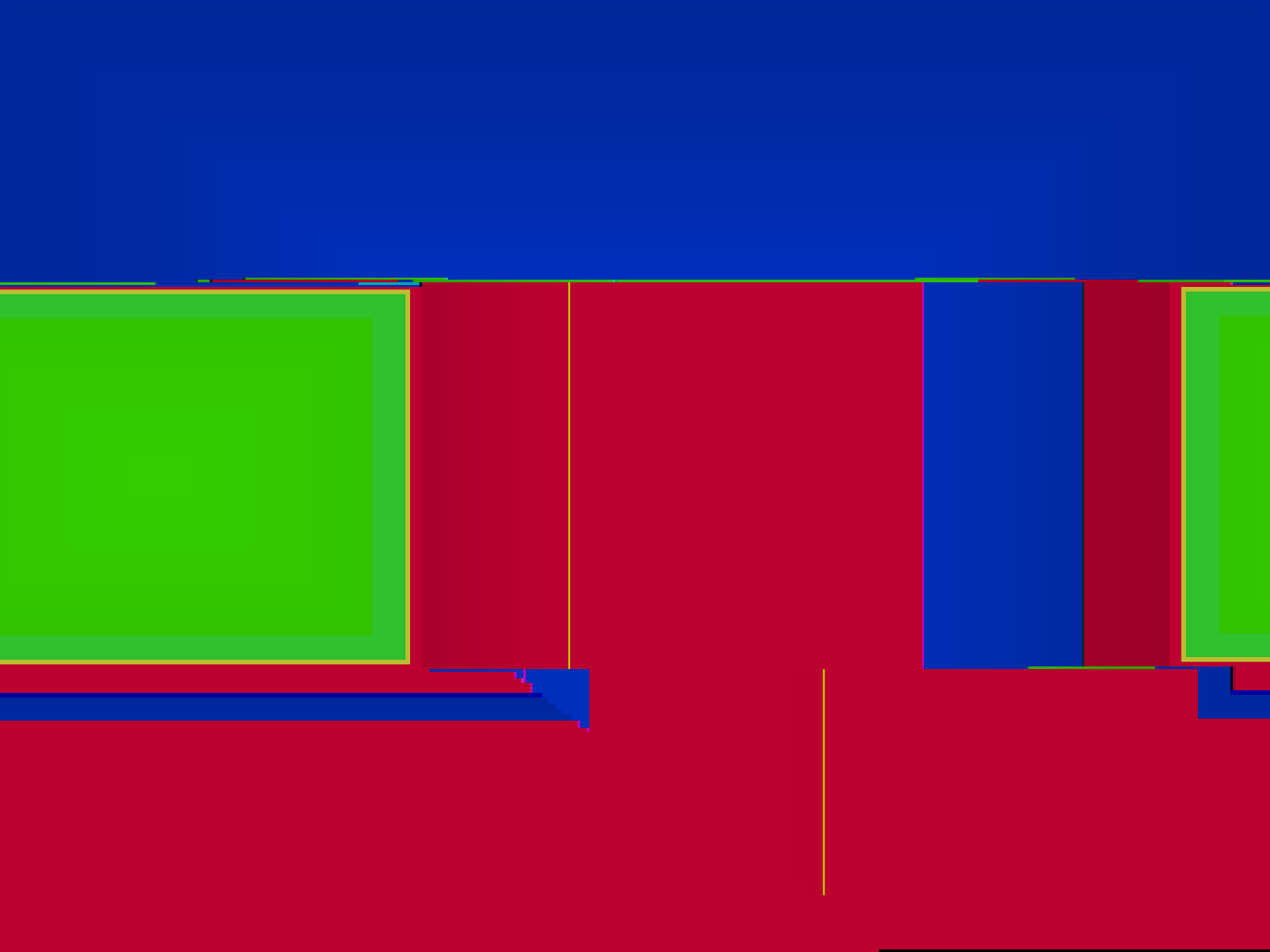




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FY a c jU` k]h` *in Situ* HfYUh a Ybh` /` ABF` 



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- Feasibility Study Document

- Submitted to Maryland Department of the Environment and U.S. Environmental Protection Agency
- Available at Essex Public Library and Lockheed Martin Website

- Public Information Session TONIGHT!!

- Wilson Point Fire Hall – February 28th

- Public Comment Period

- February 28th to March 1st

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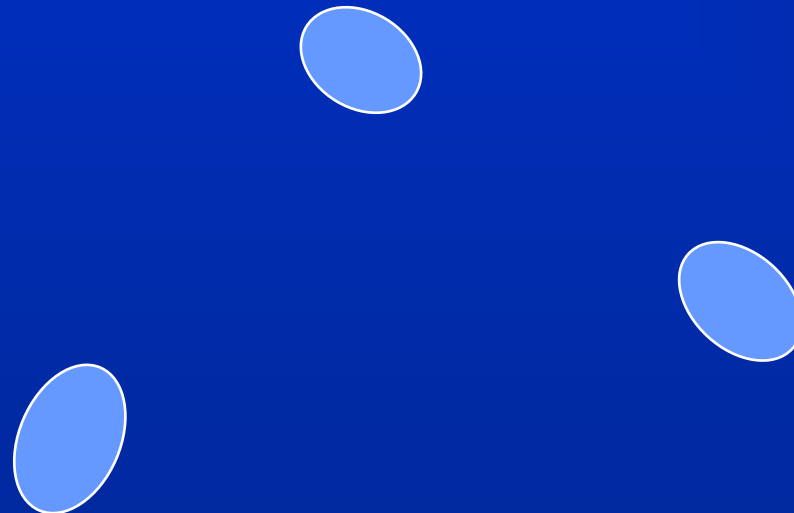


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 - Short updates on:

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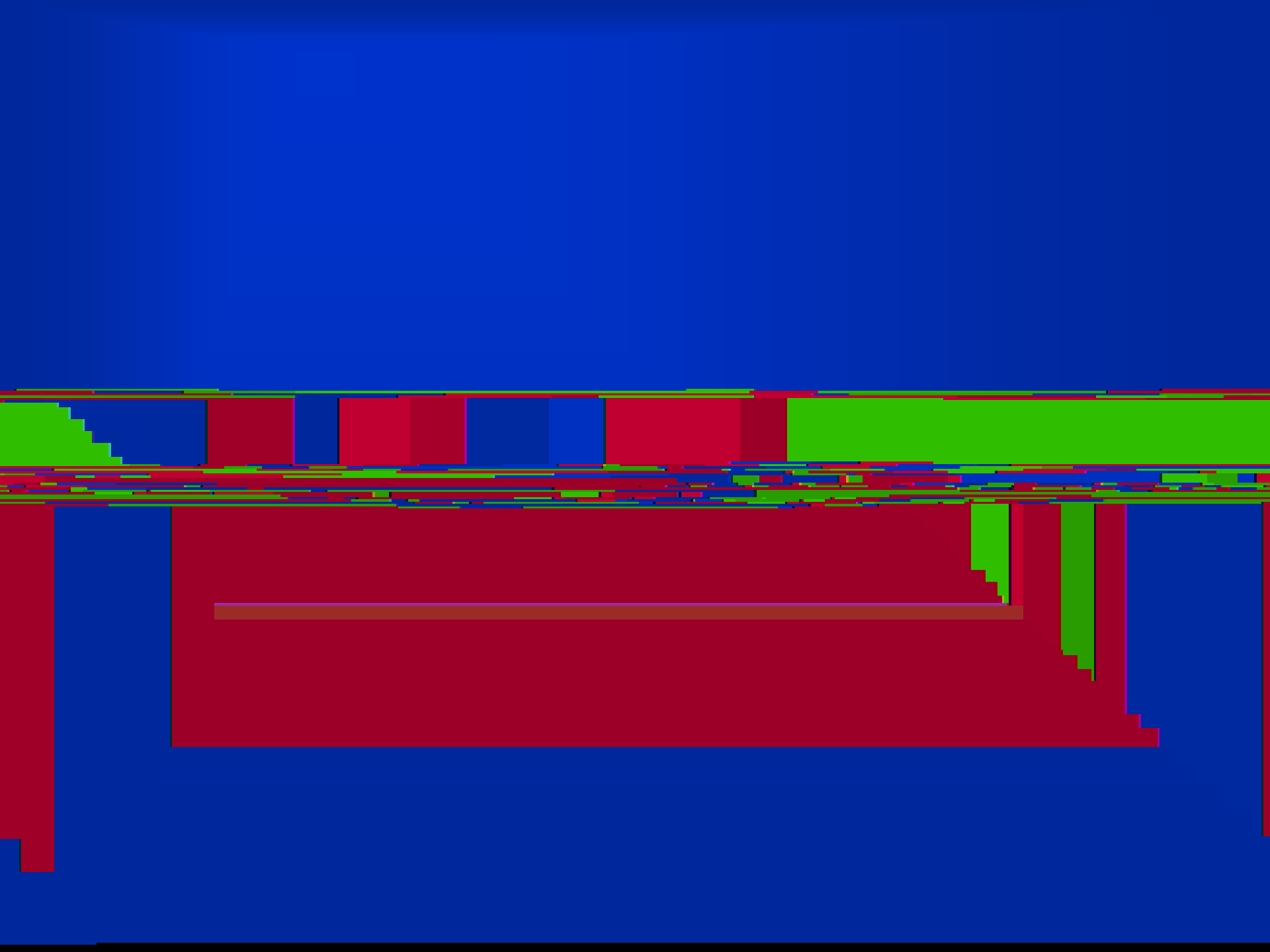


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Permit	Status
US Army Corps of Engineers (USACE) & Maryland Department of the Environment (MDE) State Programmatic General Permit - Impacts to Waters of the US/State	Approval granted January 24, 2013
Maryland Historic Trust and Maryland Department of Natural Resources Project Review	Review completed Activities will have no effect on regulated resources
Baltimore County Soil Conservation District (SCD) Erosion and Sediment Control (E&S) Plan Approval	SCD in final review stage Expect approval by late Feb or early March 2013
Baltimore County Grading Plan Approval	County Soil Conservation District review in progress. Expect Approval in late Feb or Early March 2013
Baltimore County Stormwater Variance	Variance granted on January 7, 2013
MDE Notice of Intent (NOI) for coverage under the Construction Stormwater General Permit	Will be granted after Soil Conservation District Grading Plan approval and Inspection by County of installed Erosion and Sediment Control systems.

- Permitting – 2013
- Complete Design – early 2013
- Construction – site preparation begins in Spring 2013
 - Swale Relocation
 - Pre-remediation of soil
 - Groundwater system construction
- Tracer Injection Testing – Early 2014
- First Substrate Injection – Mid 2014

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- Industrial cleanup goal
 - Consistent with past and anticipated future land use
- Excavate impacted soils within top 2'
 - Remove impacted soils to reduce site-wide risk
 - Excavate, transport, and dispose impacted soil off-site
 - Backfill with imported clean fill
 - Restore surface to grade with in-kind material

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PAHs (BaPEq)	0.14	0.20	0.37	2.9
PCB (mg/kg)	1	--	--	10

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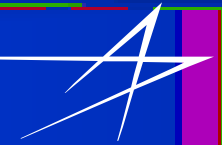
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Revise Response Action Plans	2013	2013
Design	2014	2014 - 2015
Remediation	2014 - 2015	2015 - 2016
Reporting and Approval	2016	2017

Thank you for your participation!

