

DRBC Storage Study Update

RFAC Meeting – December 15, 2021



Chad Pindar, P.E.

Manager, Water Resource
Planning Section

Presented to an advisory committee of the DRBC on December 15, 2021. Contents should not be published or re-posted in whole or in part without the permission of DRBC.



DRBC Storage Study Update

RFAC December 2021

Goal: to explore the feasibility of additional freshwater storage to meet future water availability, climate adaptation, drought management and flow management needs in the Delaware River Basin.

Objectives: Identify, inventory and evaluate the feasibility of options that could provide the following additional usable storage:

- * A minimum of 1 billion gallons (BG),
- * A minimum of 5 BG,
- * A minimum of 10 BG
- * A minimum of 20 BG

(The storage volumes can be met by a combination of projects/sources.)

While the DRBC has determined that there is no immediate need for additional storage options within the basin, the study is meant to be a planning level inventory of potential options that would be available if the DRBC determines that additional storage is needed in the future.



DRBC Storage Study Update

RFAC December 2021

Storage Projects Not to be Considered:

- * F.E. Walter Reservoir (outside study ongoing by the USACE)
- * Tocks Island Reservoir or any other mainstem Delaware River dam
- * Maiden Creek Reservoir (Maiden Creek upstream of Lake Ontelaunee, Berks County)
- * Trexler Reservoir (Jordan Creek, Lehigh County)
- * Hawk Mountain (East Branch Delaware River below Pepacton Reservoir)
- * New York City Delaware Basin Reservoirs (exception: review of the feasibility of the expansion of one or more of the three reservoirs can be considered)

DRBC Storage Study Update

RFAC December 2021

- * Mott MacDonald contract executed on April 9, 2021 (\$649,000, ends June 30, 2022)
- * Press release by DRBC on April 14, 2021
https://www.state.nj.us/drbc/home/newsroom/news/approved/20210414_storage-study.html
- * Kick-off meeting – May 27, 2021
- * DRBC webpage for the project went live in July 2021:
<https://www.nj.gov/drbc/programs/flow/reservoir-storage-study.html>
- * Initial Screening Workshop – July 21, 2021
- * Second Screening Workshop – November 18, 2021

DRBC Storage Study Update

RFAC December 2021

July 2021 Screening
Workshop

THIS MATERIAL IS OBSERVATIVE AND CONTAINS CONFIDENTIAL BUSINESS INFORMATION COMPILED FOR THE SOLE PURPOSE OF REVIEW BY THE DRBC COMMISSIONERS AND THEIR REPRESENTATIVES AS THEY EVALUATE THE NEED FOR ADDITIONAL WATER STORAGE IN THE BASIN AND CONSIDERATE ON THE BEST OPTIONS FOR SECURING SUCH STORAGE IF NEED IS IDENTIFIED. PURSUANT TO 16 CFR 401.111, THIS DRAFT REMAINS OBSERVATIVE AND CONFIDENTIAL WHEN DISCLOSED TO OTHER GOVERNMENT EMPLOYEES FOR USE IN THEIR WORK IN COOPERATION WITH THE DRBC.

Types of storage projects being considered



1. New dams

- Previously identified locations
- Newly identified locations



2. Modifications to existing dams/reservoirs:

- Dam raise
- Purchase/lease of existing storage
- Operational changes
- Dry dam to permanent pool



3. Quarries



4. Subsurface mine with surface pool



Delaware River Basin Commission

DELAWARE • NEW JERSEY
PENNSYLVANIA • NEW YORK
UNITED STATES OF AMERICA

DRBC Storage Study Update

RFAC December 2021

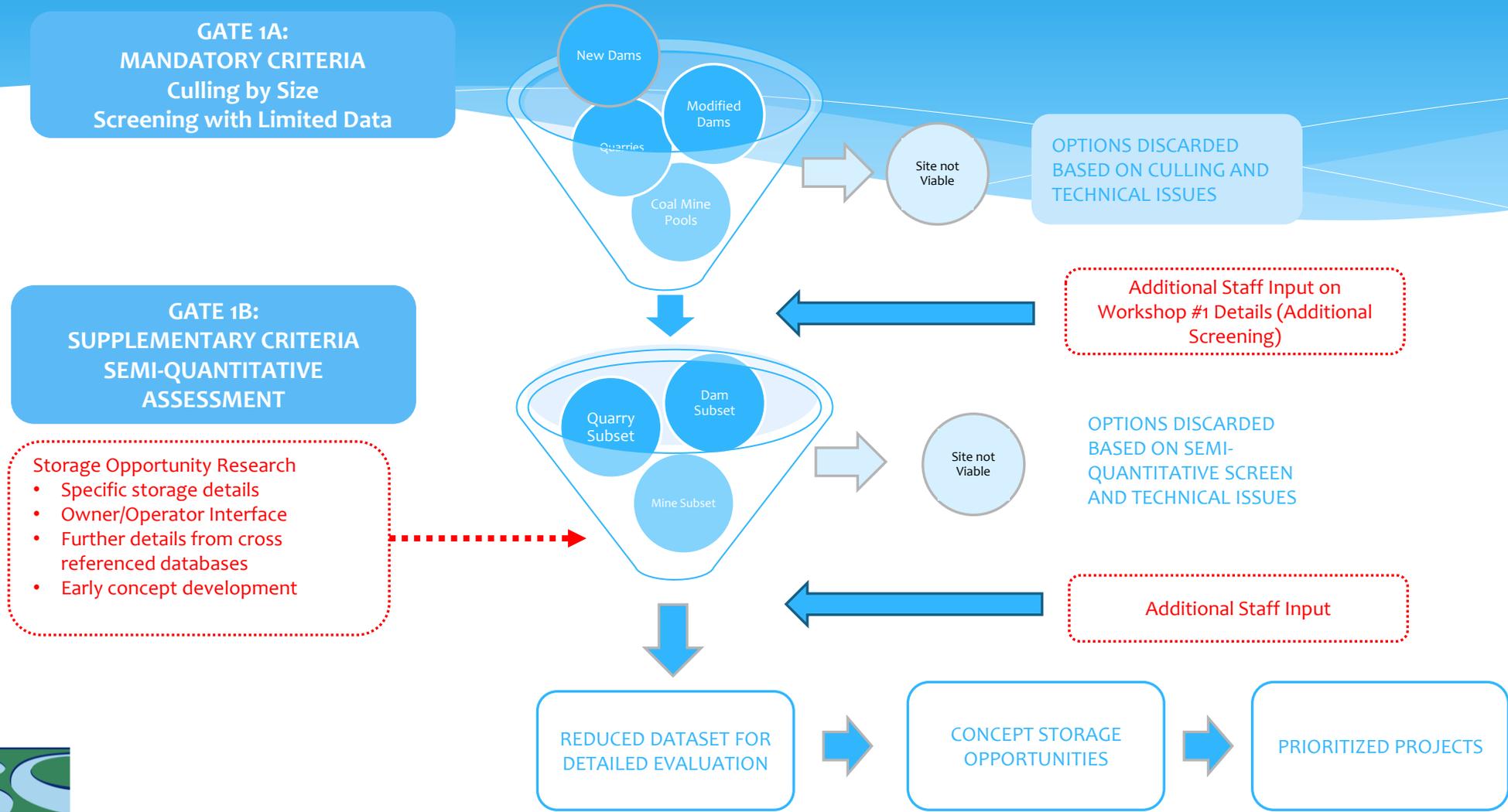
THIS MATERIAL IS UNCLASSIFIED AND CONTAINS CONFIDENTIAL BUSINESS INFORMATION COMPILED FOR THE SOLE PURPOSE OF REVIEW BY THE DRBC COMMISSIONERS AND THEIR REPRESENTATIVES AS THEY EVALUATE THE NEED FOR ADDITIONAL WATER STORAGE IN THE BASIN AND DEVELOPERS OF THE BEST OPTIONS FOR SECURING SUCH STORAGE IF NEED IS IDENTIFIED. PURSUANT TO 16 CFR 406.114, THIS DRAFT REMAINS UNCLASSIFIED AND CONFIDENTIAL WHEN DISCLOSED TO OTHER GOVERNMENT EMPLOYEES FOR USE IN THEIR WORK IN COOPERATION WITH THE DRBC.

Summary: Plausible Storage Projects for Further Evaluation

July 2021
Screening
Workshop

○ New dams	
○ Previously identified locations:	0 to 5
○ Newly identified locations:	~4
○ Modifications to existing dams/reservoirs	
○ Dam raise:	15
○ Purchase/lease or existing storage/operational changes:	5
○ Dry dam to permanent pool:	2
○ Quarries	24
○ Subsurface mine water with surface pool	~5
TOTAL	~56

Supplemental Screening



Storage Opportunity Research

- Specific storage details
- Owner/Operator Interface
- Further details from cross referenced databases
- Early concept development

DRBC Storage Study Update

RFAC December 2021

Most discussions to date with outside parties have involved owners of existing storage to explore the possibility of the acquisition of “excess storage” and/or the feasibility of expansion of an existing reservoir.

Initial reviews also indicate that there may be opportunities in quarries and deep mines (anthracite) that haven't been previously evaluated.

DRBC Storage Study Update

RFAC December 2021

Next Steps

- * Continue to work with MM on screening & evaluation criteria
- * MM developing Storage Project Summaries (SPS) for ~40 projects
- * February 2022 : Update to Water Management Advisory Committee (WMAC)
- * March 2022 : Commissioner Caucus update
- * Early 2022 : TBD – Decree Party update
- * ~ April 2022 – next Screening Workshop
- * Summer 2022 – Final Report (top 10 projects)