FOREST PRESERVE DETAILED PROJECT WORK PLAN

Fiscal Year 23-24

Project # O.G.S. PROJECT NO. 47251; NYS DEC ID 192-4560; CO-WP-318

Region	Project Title
4	REHABILITATE SOUTH LAKE DAM

Project Type	Town(s)	County	Management Unit
Expansion of Existing Structure/Improvement	Hunter	Greene	North South Lake Campground Intensive Use Area

Description of Desired Condition(s) for Project

The rehabilitation of South Lake Dam, which is owned and operated by the NYSDEC, is considered a Class B Intermediate Hazard Structure. To bring the dam into compliance with current dam safety regulations, it was reclassified from a Class A to a Class B in 2016. The parapet wall will be formed using concrete liners to give the appearance of stone that will blend with native features within the forest preserve. Native grasses will be planted to cover all disturbed soil areas. No trees will be planted as that is not allowed by dam safety. Due to the health and safety requirements from NYSDEC Dam Safety, this project will abate potential risk to life and property.

Key measures for the project have been identified to not only provide for public safety at and downstream of South Lake Dam but also maintaining current aesthetic, historic character, recreational opportunities, and the unique natural resource habitat the resulting dam impoundment provides.

Description of Project Specifications

The South Lake Dam is in a condition whereby its deficiencies are of such a nature that the safety of the dam cannot be assured. The recommended dam rehabilitation modifications include: - Replacement of the primary spillway CMP riser with a new precast concrete drop inlet structure that includes an elevated working platform and pedestrian bridge for access. - Re-lining the primary spillway conduit and add a flow control gate to the intake end. - Replacement of the LLO intake pipe and flow control valve. - Construction of a parapet and diversion wall system along the dam embankment crest. - Investigate and replace as necessary the plunge pool armoring. - Rip rap installation to repair erosion within the auxiliary spillway. - General Dam embankment improvements including filling of depression, adding rip rap to localize areas of erosion and removal of brush and trees that have encroached onto the embankment. Detailed Engineered drawings are attached.

Description of Measures Taken to Avoid, Mitigate and Minimize Impacts to Natural Resources

See attached "Erosion & Sediment Controls Descriptions" for proposed turbidity curtain, silt fence and construction safety fence, filter bag, and temporary cofferdam on sheet C-111. All wash water from vehicle cleaning (concrete trucks), equipment cleaning, etc. will be detained and properly treated or disposed. Sufficient oil and grease absorbing materials will be maintained on site or readily available

to contain and clean up fuel or chemical spills and leaks. Rubbish, trash and garbage, litter or other materials will be deposited in sealed containers. Any other incidental disturbances will be repaired and left in their original state.

There is a total of 1 threatened, endangered, or candidate species on this species list. Monarch Butterfly *Danaus plexippus.* No critical habitat has been designated for this species. See attached US Dept. of Interior regarding a full report on threatened and endangered species for this proposed site.

Analysis of Project Location and Design Alternatives

Several alternatives were considered for this project. Alternatives considered were 1) No Action, 2) Dam Removal 3) Alternative Parapet wall configuration, and 4) Dam Replacement

Alternative 1 – No Action, Existing Dam to Remain in Place

The “No Action” alternative is not preferred, as the existing Class B, Intermediate Hazard Dam poses a risk to human life and property if it were to fail. Over time, this risk would only increase for facility patrons, staff and the public downstream from the existing dam.

Alternative 2 – Dam Removal

Although offering a mitigative effect on the acute public safety risk presented by an inevitable uncontrolled dam failure presented in Alternative 1, a controlled removal would present undesirable impacts to both public recreation and the areas natural resources. The 84-acre North South Lake that the dam impounds is extensively used by the public for many forms of recreation. Boating, fishing, swimming, and wildlife viewing are just some of the recreational pursuits that would cease if the dam were to be removed. The intrinsic beauty and public attraction to the entire area would also be severely impacted if the lake were drained. The dam also serves as public access to the south lake recreation area. Removal would require the construction of a bridge to cross the future stream bed or the abandonment/removal of the recreational facilities as there would be no way to access that area. In addition to public health, safety and recreational enjoyment impacts, dam removal would have both short- and long-term natural resource impacts. North South Lake is regionally unique habitat in being a relatively large, high elevation, waterbody in a region dominated by fast flowing mountain valley streams. Many species dependent on this waterbody would be locally extirpated if the dam were removed. In addition, a suite of transient or migratory species that regularly use the waterbody would be displaced. The resulting 84 acres of exposed lakebed sediment would pose a significant risk to downstream environs until it naturally revegetated. Due to the high elevation, minimal depth to bedrock and topographical conditions this risk would be present for an extended period.

Alternative 3 – Alternative Parapet Wall Configuration

An alternative configuration was considered that would include the proposed parapet wall along the upstream side of the embankment crest, and the diversion wall at the auxiliary spillway would intersect the campground roadway. A stoplog closure system would be constructed across the roadway to allow traffic through the diversion wall. This alternative would require NYSDEC staff to install the stop logs prior to a flood, which may be impractical due to the remote location of the site and the other operational responsibilities leading up to a large storm. Therefore, this alternative was not selected. This alternative would involve the same amount of temporary and permanent wetland impacts (and same number of trees to be cut) as the Proposed Action.

Alternative 4 – Preferred Action, New Dam

The Project as proposed was selected as the preferred alternative because it addresses the existing deficiencies and safety concerns, and it is the least environmentally damaging practical alternative. Additionally, this alternative requires minimal maintenance and is consistent with the ongoing operations of the campground.

This structure is referenced in the 1998 approved UMP. Detailed Engineered drawings are attached.

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Description of Use of Motorized Equipment and/or Motor Vehicles (if any)

Tree clearing will involve handheld chain saws. Logging trucks will be used to haul to a location within the campground. A stump grinder/tree chipper will be used to grind woody debris to spread in an open area on the forest floor for natural decay. Grubbing machines will be used to remove roots. The Project will require the use of typical construction equipment (i.e., excavators and dump trucks) for demolition and installation activities, and for earthwork in upland areas.

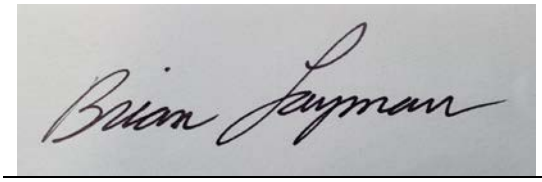
Description of Applicable Standards for Accessibility by People with Disabilities

Consistent with ADA requirements, the Department incorporates accessibility for people with disabilities into the planning, construction and alteration of recreational facilities and assets supporting them. However, there is no public access points within the scope of work for this project. Furthermore, for public safety we would not encourage access on this dam.

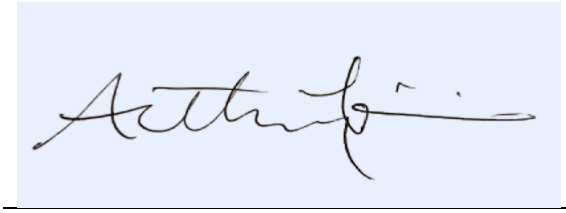
Other Relevant Considerations

Prepared by (Name & Title): Brett Byrne COS3 Date: 8/28/2023
Phone: 518-357-2343

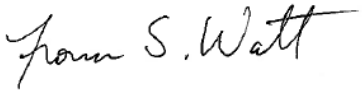
Approvals: Comments:



Regional Program Manager
Date: 9/15/2023



Regional Director
Date: 12/22/2023



Division Director
Date: 12/11/2023

REGULATORY CLEARANCE CHECKLIST – STATE LANDS and CONSERVATION EASEMENT PROJECTS					
PROGRAM	PERMIT	REQUIRED		SECURED BY	COMMENTS
		YES	NO	(NAME)	
Air Resources	Restricted Burning	☐	☒		
Mineral Resources	Mining	☐	☒		
Materials Management	Solid Waste Mgt. Fac.	☐	☒		
Water	Dam Safety Review	☒	☐	Schnabel Engineering and EDR (term contract design consultant and subconsultant) prepared the Joint Permit Application that was submitted on May 5, 2023	DEC's DSS has reviewed the 60% design submission submitted with the JPA and provided review comments, one comment remains outstanding – 100% design drawings need to be submitted to the DSS when completed (estimated to be submitted by the end of September 2023)
	Const. in Flood Hazard	☐	☒		
	Public Water Supply	☐	☒		
	SPDES	☐	☒		
Spills Management	Petro. Bulk Storage	☐	☒		
Lands and Forests	Unit Management Plan	☐	☒	1998 UMP	
	Tree Cutting	☒	☐	Schnabel Engineering and EDR (term contract design consultant and subconsultant)	EDR completed a tree survey in 2023 and prepared a Potential Summer Bat Habitat Tree Survey Memo for the project
	Protected Native Plants	☒	☐	Schnabel Engineering and EDR (term contract design consultant and subconsultant)	In June 2022 DEC received a letter from the US Fish & Wildlife Service
	Historic Preservation	☒	☐	Charles Vandrei, DEC Agency Historic Preservation Officer	DEC received a letter from NYS OPRHP noting that based upon their review, it is the opinion of the NY SHPO that no historic properties, including archaeological and/or historic resources, will be affected by the South Lake Dam rehabilitation project
Fish and Wildlife	Freshwater Wetlands	☒	☐	Schnabel Engineering and EDR (term contract design consultant and subconsultant) prepared the Joint Permit Application that was submitted on May 5, 2023	Notice of Complete Application soon to be issued along with permits per Evan Hogan, R4 RPA
	Wild Scenic & Rec. River	☐	☒		
Compliance Services	Other Protection of Waters	☐	☒		
	EAF	☐	☒		Type II action
	Negative Declaration	☐	☒		
	Env. Impact Statement	☐	☒		
	Water Quality Cert.	☒	☒	Schnabel Engineering and EDR (term contract design consultant and subconsultant) prepared the Joint Permit Application that was submitted on May 5, 2023	Notice of Complete Application soon to be issued along with permits per Evan Hogan, R4 RPA
DEC (other)	CP-17	☐	☒		
	Commissioner (aircraft,motorized equipment)	☐	☒		
	Flight Request	☐	☒		
	Contract Clearance Sh.	☐	☒		
	DOB Exemption	☐	☒		

Other Agencies	APA MOU	☐	☒		
	APA Wetlands Permit	☐	☒		
	Corps. of Engineers	☒	☐	Schnabel Engineering and EDR (term contract design consultant and subconsultant) prepared the Joint Permit Application that was submitted on May 5, 2023	Awaiting response from US ACE
	Building Permits	☐	☒		
	Local Permits	☐	☒		
	Easements	☐	☒		
	Highway Enter DOT	☐	☒		
	Wastewater Disposal	☐	☒		

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

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MEMORADUM

TO: The File

FROM: Josh Houghton

DATE: December 22, 2023

SUBJECT: South Lake Dam Tree Avoidance Discussion

Select trees at the South Lake Dam will be removed as part of the rehabilitation project as trees are not permitted on earth dams. Potential detrimental impacts trees and woody vegetation have on the safety of earthen dams are outlined in NYS DEC's Guidelines for Design of Dam, January 1989, Section 9.4, and FEMA's Technical Manual for Dam Owners Impacts of Plants on Earthen Dams, FEMA 534, September 2005. The Engineering Design Report for the South Lake Dam, prepared by Schnabel Engineering and dated March 15, 2023, discusses dam safety deficiencies observed at the dam including trees and woody vegetation encroaching on the embankment and within the auxiliary spillway discharge area.

Extensive root systems of trees and brush can provide undesirable seepage paths for water through an earthen embankment. Trees that blow down or fall over can leave large holes in the embankment surface that will weaken the embankment (loosing compacted soil) and can lead to increased erosion. Brush obscures the surface limiting visual inspection, provides a haven for burrowing animals and retards growth for grass vegetation. Trees can obstruct auxiliary spillway capacity and can inducing local turbulence and scouring around trees in auxiliary spillways. Woody vegetation root systems can clog embankment underdrain systems and can cause cracking, uplifting or displacement of concrete structures and outlet pipes. A healthy, dense stand of low-growing grass or erosion protection (rip rap) are desired cover materials for earthen embankments.

During design of the repairs and modifications needed to bring the dam into compliance with current dam safety regulations, tree cutting as well as earthwork and soil disturbance, were minimized to the greatest extent possible