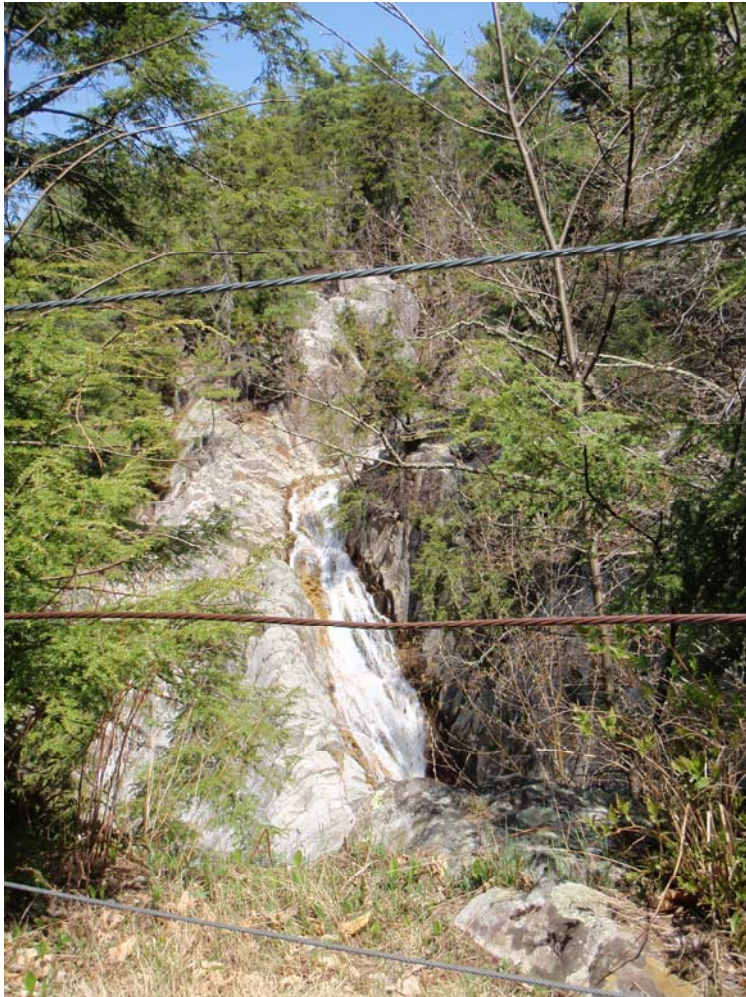

SILVER LAKE HYDROELECTRIC PROJECT
FERC Project No. 11478

Recreation Facility Design Plans



Falls of Lana from Overlook

Central Vermont Public Service Corp.
77 Grove St.
Rutland, VT 05701

August 2009

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1.0 Introduction

The Silver Lake Hydroelectric Project (Project), located on Sucker Brook in Addison County, Vermont, was issued a new license by the Federal Energy Regulatory Commission (FERC) on February 26, 2009. The Project (FERC No. 11478) is owned and operated by Central Vermont Public Service Corporation (CVPS). The Project consists of three major components: 1) Sugar Hill storage reservoir and Goshen dam, 2) Sucker Brook diversion dam, 3) and Silver Lake Development. Existing recreation facilities at the project include a viewing area at the Falls of Lana which is a scenic gorge located within the bypassed reach of Sucker Brook, foot trails at the Falls of Lana viewing area, and an access road and boat ramp at Sugar Hill reservoir (Figure 1.1-1). The lands around the Sugar Hill Reservoir boat launch and Sucker Brook Diversion Dam are owned by CVPS as part of the project. The other recreation sites are on lands of the Green Mountain National Forest under United States Forest Service (USFS) control.

The FERC License requires that CVPS provide public access to the project resources (certification condition O), and to implement the recreation enhancements proposed by Central Vermont in their license application. Under License Article 401 of the FERC license and Conditions P and Q of the Vermont Water Quality Certification, CVPS is required to develop Recreation Facility Design Plans and associated Erosion Control Plans for the Project. Specifically, certification condition P states:

Recreational facilities shall be constructed and maintained consistent with the proposed recreation plan. Prior to construction at individual facilities, final design plans and details shall be filed with the Department for review and comment. The applicant is advised to consult with the Department and the U.S. Forest Service in the development of plans. Where appropriate, filings shall include an erosion control plan that will be subject to Department approval prior to commencement of construction.

Certification condition Q states:

Upon a written request by the Department, the applicant shall design and implement erosion control measures as necessary to address erosion occurring as a result of use of project recreational facilities. Any work that exceeds minor maintenance shall be subject to prior approval by the Department and FERC.

License Article 401 requires that the Recreation Facility Design Plans and associated Erosion Control Plans be submitted to FERC within six months of license issuance (by August 26, 2009) after consultation with the Vermont Agency of Natural Resources (VANR) and the USFS. This plan has been developed to comply with the requirements of the license.

1.1 Initial Assessment and Proposed Improvements

CVPS submitted their license application for the Project to FERC in May, 1994. Appendix I of the license application contained “A Recreation and Visual Resource Evaluation for the Silver Lake Hydroelectric Project,” prepared by The Cavendish Partnership. In that report, several recommendations for site improvements were presented to reflect a balance of enhancing the public’s ability to use and enjoy the visual and recreational resources of each site without overextending the sites’ inherent capabilities.

Four sites within the project area were evaluated and the recommended site improvements were proposed in the original license application. The designs presented within have been refined based on this original information. The proposed enhancements from the license application were as follows:

1 **SUGAR HILL RESERVOIR**

It is proposed that the management level of the Sugar Hill Reservoir be maintained at its current level and the facilities be improved to meet the current demands of the site. The present pristine character should be protected while allowing the existing use including small craft boating, hiking, cross country skiing, and snowmobiling to continue. It is recommended that the following improvements be made:

1. Construct a circular drive for the counter-clockwise movement in the parking area. The drive should be wide enough to allow parking along the sides of the roadway. Drainage should be improved by the use of swales and culverts to allow for adequate removal of surface water around the perimeter of the circle.
2. Plant the interior of the circle with a mixture of native conifers and hardwoods. Even though the existing pine in the parking area is of questionable condition, attempts should be made to save the tree during construction.
3. A sign should be placed in the center of the circle facing the arriving vehicles. The sign should have a directional arrow to the right (the intended direction of traffic), welcome the user to Sugar Hill Reservoir and should display CVPS as the owner and “stewards” of the property. The sign could also graphically display the entire Silver Lake hydroelectric system (Sugar Hill to Lake Dunmore) on a simple map and describe Sugar Hill’s function within the system.
4. The access drive to the boat launch area should be filled and graded for proper drainage. The alignment of the access should be such that it aligns with the counter-clockwise movement of vehicles and trailers around the circle.
5. The boat launch should be reconstructed using a combination of crushed rock and wood. This will provide a stable durable surface for boats and trailers while retaining the natural and remote quality of the site. The ramp should be no wider than 15 feet and should extend from approximate elevation 1770 down to approximate elevation 1758. This will result in an approximate total length of 100’ and will provide access from late spring through mid-October given the current reservoir drawdown pattern.
6. Trail registers should be provided at the gate leading to the dam area and at the boat launch area. These will provide the ability to gather actual site use information to be used as resource for future planning purposes.

2 **SUCKER BROOK DAM**

Given the remoteness of Sucker Brook Dam and relative limited use, management of the site should continue at its current level. Signage could be provided for the occasional visitor that (similar the Sugar Hill sign) shows CVPS as the owner and steward and graphically displays the dam’s placement and function in the entire Silver Lake hydroelectric system.

3 **SILVER LAKE**

Because Silver Lake is currently under management by the Green Mountain National Forest and is designated in the Forest Service’s Land and Resource Management Plan as a “Semi-Primitive Recreation” campground site. CVPS involvement at the site should be fairly limited. Provisions could be made for more extensive interpretive signage that display Silver Lake’s current function in the hydroelectric system and Silver Lake’s unique history. A cooperative effort between CVPS and the Forest Service should provide interpretive signage informing the forest visitors of Silver Lake’s natural, historical contemporary heritage.

4 PENSTOCK AT THE TRAIL/ROAD CROSSING (FALLS OF LANA)

The penstock and area adjacent to its crossing with the trail/road leading from Route 53 to Silver Lake can be modified to reduce its visual impact and provide the forest visitor with valuable and interesting interpretive information. The coating should be removed from the penstock and the pipe painted a neutral green-gray color to reduce its contrast with the surrounding vegetation. Interpretive signage should be placed by the trail describing the penstock's technological function as a component of the Silver Lake system. The sides of the trail/road at the opening where the penstock crosses should be planted with trees and shrubs to reduce the contrast between the adjacent hemlock forest and opening.

The trail leading down along and beneath the penstock to viewpoints of the Falls of Lana should remain in their existing condition. Because of the substantial grade change and ruggedness of the trail any effort to construct a more gradual easily accessible trail may result in substantial damage and would not be appropriate for the remote character to the site. This is consistent with the Green Mountain National Forest's Land and Resource Management Plan which identifies this area for management as a "Semi-Primitive" recreation site. The vegetation obscuring the view of the falls from viewpoints along the penstock trail should be pruned and removed only if it is determined that such action will not cause subsequent erosion and instability of the ground around at the viewpoints.

In response to the original license application, comments were received regarding the CVPS's proposed recreation enhancements described above. CVPS provided additional information to FERC on February 21, 1995, which included additional details on the improvements recommended by the USFS at the Falls of Lana overlook.

In the FERC Environmental Assessment, it was stated that CVPS should implement the following measures:

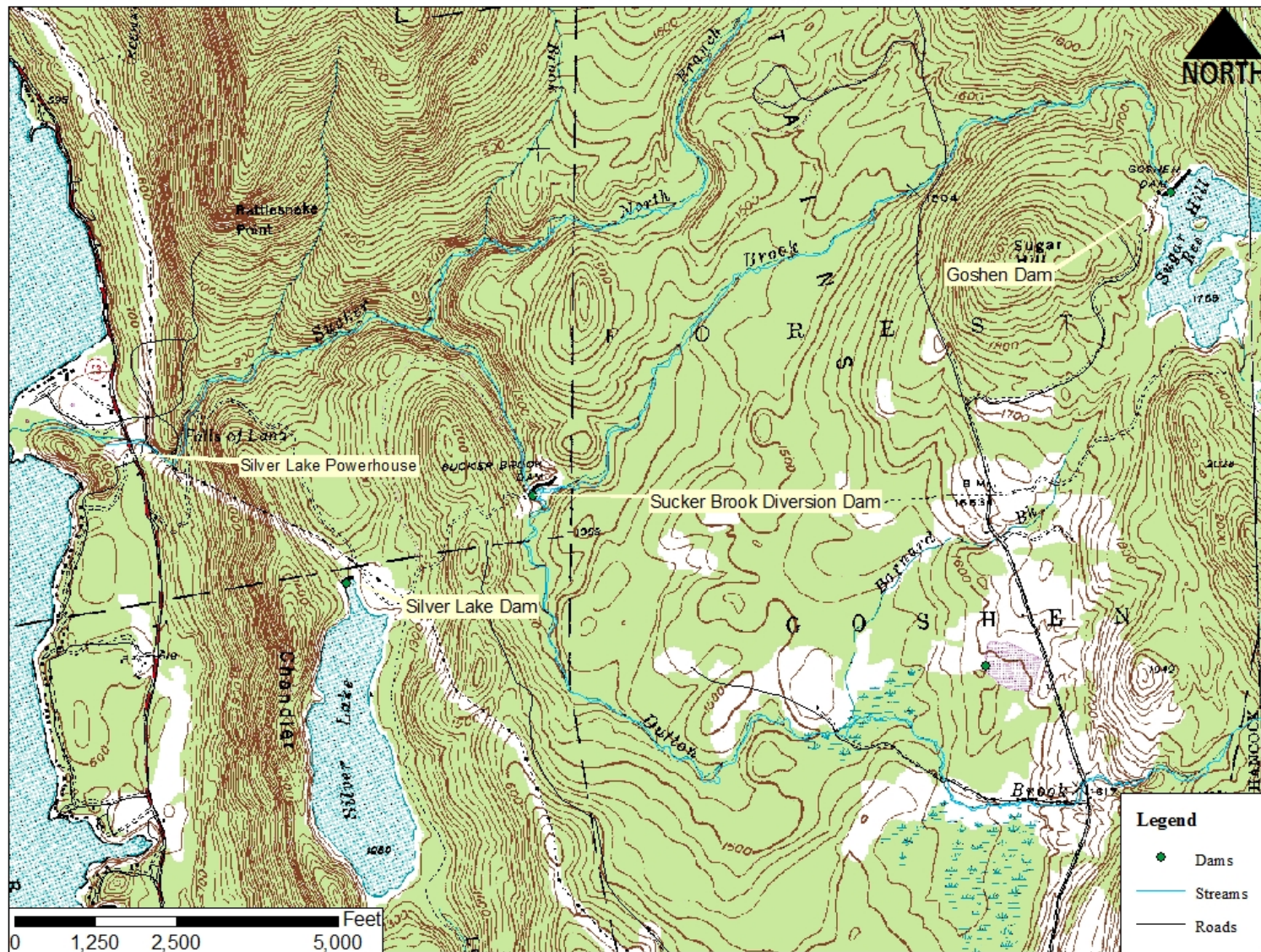
- Improve access to and recreational facilities at Sugar Hill reservoir on land owned by CVPS,
- Improve the scenic overlook at the Falls of Lana, and
- Install interpretive signage at Sucker Brook diversion dam and Silver Lake.

1.2 Consultation and Site Visits

Because the recreation enhancements were proposed during the license application process approximately 15 years ago, CVPS conducted a site walk-over with USFS representatives to revisit the proposed enhancements. The site visits were conducted on April 30, 2009 and again on May 25, 2009.

As a result of the site visits, minor modifications to the original proposed enhancements were discussed. The next section describes CVPS's proposed recreation enhancements at Silver Lake Hydroelectric Project based on the original recommendations, the site visits, and subsequent consultation with the USFS and VANR.

Figure 1.1-1: Silver Lake Hydroelectric Project.



2.0 Proposed Recreation Enhancements

The recreational enhancements proposed for each site are detailed in this section. Associated drawings are located in Appendix B due to the size of the files. Note that the revised Exhibit G drawings for this Project will be submitted to FERC, in accordance with License Article 203, once the recreation facility design plans are approved and the enhancements are complete.

2.1 Sugar Hill Reservoir

Sugar Hill Reservoir is accessible by vehicle during the summer recreation season from Forest Road #32. Existing recreation facilities at this site include a boat ramp and informal parking, accessed by a gravel road owned and maintained by CVPS. At the end of the gravel road is a turn-around used by vehicles with trailers to launch boats. The existing condition of the circular drive is shown in Plate 1, Appendix A. This site also experiences use in the winter by snowmobilers.

Recreational improvements proposed at Sugar Hill Reservoir include re-grading, resurfacing and extending the boat launch, widening the circular turn-around to allow for parking along sides of the road, planting native vegetation, and providing an ADA compliant parking area and installing a new ADA compliant trail near the base of the launch for reservoir access. Additional improvements include installing signage and a trail register at Sugar Hill Reservoir.

The road leading to the boat ramp at Sugar Hill reservoir was improved in 2008 in conjunction with construction work performed at Goshen Dam. To improve the boat launch area, the existing circular drive will be expanded to allow for a wider turning radius and for additional parking along the sides of the drive (as shown in SP2 and SP4, Appendix B). This circular drive will be re-graded to improve drainage and re-surfaced with material similar to that used for the access road improvements. The interior of the circular drive will be planted with native vegetation and mulched with forest duff. A temporary watering system will remain in place for the first season. Directional signs are proposed to direct traffic in a counter-clockwise motion and the existing informational signs related to site use restrictions on the reservoir will be re-installed.

As part of the new license requirements, there are seasonal restrictions in place that dictate the reservoir elevation. The normal surface water elevation during the summer recreation season is 1765.5 feet, msl. From May 1 through December 31, CVPS is allowed to operate the reservoir at a maximum drawdown level of 1757.5 feet, or eight feet below normal. The existing boat ramp will be extended to approximate elevation 1758 feet and resurfaced. Extension of the ramp with dense graded crushed stone and aggregate surface course is proposed for the surface material of the launch considering this site is remote and primitive. Stone will be placed to an appropriate depth along the launch and the access road down to the launch will be crowned in the middle to improve drainage (as shown in SP8, Appendix B).

Adjacent to the boat ramp, CVPS is proposing to construct an ADA compliant parking area and access path to the reservoir (as shown in SP3, Appendix B). The existing path for fishing access is shown in (Plate 2, Appendix A). Additional site improvements include placement of stone riprap along the sides of the launch, culvert replacement and the installation of a site register. The site register would enable CVPS to gather recreational use data at the project for future evaluation of facility needs. The site register at Sugar Hill Reservoir will be used exclusively by CVPS to monitor the public's use of this location for recreation.

2.2 Falls of Lana

The site visits with the USFS provided direction on the appropriate improvements to enhance the Falls of Lana overlook. It was agreed that the improvements will consist of: 1) improving the drainage on Forest Road 27 and along the informal trail adjacent to the penstock down to the existing overlook, 2) replacing the existing safety cables at the overlook, 3) removing vegetation currently obscuring the view of the falls, and 4) installing an interpretive sign on the penstock.

It was originally envisioned that CVPS would improve the existing trail leading to the viewing area at the Falls of Lana. However, the USFS does not want to improve the trail to the Falls of Lana overlook because the foot trail to the falls overlook is not a Forest Service system trail and as such, the USFS does not want to encourage use from that junction. Although the trail will not be improved, CVPS is proposing to repair the minor erosion pockets that are present between the road and the overlook by adding coarse crushed gravel to eroded areas and to divert water away from the path by adding a swale near the penstock. Minor erosion improvements would also be made at the improved overlook site. The trail will be improved such that it doesn't resemble a formal path leading people down a non-existent trail.

Likewise, a culvert was initially planned to improve drainage along Forest Road 27 at the penstock crossing location. Culverts have proven to be too maintenance intensive on other Forest Service roads and have been removed. Instead of a culvert, CVPS proposes to construct two rolling grade dips, which are designed to use a reversal in grade to force water off the trail without the need for any other structure (as shown in SP5, Appendix B).

CVPS will prune vegetation at the viewing location and coordinate the removal of two trees at the overlook. Article 405 of the license requires CVPS to avoid tree removal during April 1 through October 31 in consideration of the potential for roosting Indiana bats (federally listed endangered species). CVPS proposes to cut down two large trees during the non-hibernating season and to leave the felled trees on the ground for natural decomposition. The downed trees will be limbed and the brush placed into piles. The trunks will be cut up into smaller sections to remain on the forest floor. Smaller vegetation (e.g., shrubs and saplings) growing around the existing overlook point in the area of the safety fence will be initially removed by CVPS to improve the viewing location.

CVPS will install a more secure fencing system at the Falls of Lana overlook (as shown in SP5, Appendix B). The fence will be installed back away from the edge of the cliff by at least 5 feet for increased safety while still allowing for a view of the Falls of Lana. An interpretive sign will also be placed on the penstock.

2.3 Signage Plan

Interpretive signs are important in providing information about the significance and history of the hydroelectric project to visitors, and directing visitors to project recreational features. As part of the recreation enhancements at the Project, CVPS is developing both directional and interpretive signage for installation as follows:

- Directional and interpretive signage at Sugar Hill Reservoir
- Silver Lake interpretive sign
- Interpretive signage at Sucker Brook Diversion Dam
- Interpretive sign on penstock

In the drawing set located in Appendix B, the proposed locations of directional and interpretive signage are depicted. The content of the interpretive signage is still under development. Drafts of the interpretive signage content will be submitted to USFS and VANR for review and comment prior to finalization. In addition, a courtesy copy of the interpretive signs will be provided to the Moosalamoo Association for review of consistency with their signs across the region. Moosalamoo Association is a non-profit organization involved in cooperative activities for natural resource conservation, recreation experience enhancement, and educational and interpretative services for visitors to the 22,000-acre Moosalamoo area of the Green Mountain National Forest.

Directional signage at Sugar Hill Reservoir will include a sign in the circular turnaround area directing cars in a counter-clockwise direction as well as to identify designated parking areas (as shown in SP4 and SP6, Appendix B). Existing informational signs related to site use restrictions on the reservoir will be re-installed.

At the Sucker Brook diversion dam, an interpretive sign will be installed to describe the function of the diversion dam and related structures in the overall context of the Project. Similarly, an interpretive sign will be created for placement at the penstock, near the crossing of Forest Road 27. However, at the request of the USFS, the sign shall not direct people down the Falls of Lana overlook path.

CVPS consulted with the USFS regarding the location and content of an interpretive sign at Silver Lake. It was agreed that the existing kiosk at the Silver Lake day use area (Plate 3, Appendix A) would be used as the location for an interpretive sign to supplement the existing signs placed there by the USFS. The size of the sign (24" x 36") will be consistent with the existing USFS signs at Silver Lake.

2.4 Consideration of Disabled Needs

Additional improvements were added to the original enhancements (as described in Section 1.1 of this plan) at Sugar Hill Reservoir to consider the needs of disabled people. At Sugar Hill Reservoir a parking area has been added adjacent to the boat launch which will provide access to a trail leading to a fishing area. This trail will maintain a grade suitable for wheelchair access. There will also be an ADA compliant fishing access site as depicted in drawing SP3 in Appendix B.

The topography at the Falls of Lana, however, has afforded little opportunity for access via wheelchair.

2.5 Erosion Control

Associated erosion control measures for the development of recreational facilities are incorporated into the appropriate design drawings in Appendix B. The boat launch and road improvements at Sugar Hill Reservoir were designed to manage stormwater runoff by providing stone fill and hay bale check dams along the swales adjacent to the access road leading to the water's edge. End walls and energy dissipaters are proposed for use with the culverts which helps channel water through the pipe and alleviates associated erosion.

It is CVPS's preference that the construction of the boat launch surface at Sugar Hill Reservoir be performed while the reservoir is drawn down below 1,758 feet. This may not be feasible given the FERC license stipulates that water levels at Sugar Hill Reservoir can only be lowered below 1,757.5 during January 1 and April 30. If the proposed boat ramp improvements occur when the water level is above 1,758, then the construction contractors will be required to install a geotextile filter curtain around the construction area in order to contain the turbidity associated with the boat ramp construction.

Additional details on erosion control practices will be submitted as part of the permitting process with Vermont Department of Environmental Conservation. If the proposed impacts below ordinary high water are greater than 3,000 square feet, then authorization from the U.S. Army Corps of Engineers may be required.

3.0 Implementation Schedule

The following is the approximate schedule for the process and the improvements to be implemented.

August 26, 2009	Submit Final Recreation Facility Design Plans to FERC
Fall 2009	CVPS to Distribute Signage for Stakeholder Review
2009-2010	FERC Review and Approval Process
February 2010	Finalize Plan According to FERC Decision, as appropriate
March 2010	Solicit Proposals from Contractors to Implement Improvements
Spring 2010	Determine and Address Regulatory Requirements
April 2010	Review Contractor Proposals and Make Selection
Summer 2010	Begin Construction
Fall 2010	Complete Construction

4.0 Agency Consultation

In developing these enhancements, CVPS presented the proposed conceptual improvements and conducted site visits with the USFS since some of the improvements are being developed on lands under their control. The draft Recreation Facility Design Plans were then formally submitted to the USFS and VANR for review by letter dated June 30, 2009. A copy of the correspondence received is contained in Appendix C. The specific comments received are addressed below and were incorporated into the final facility design plans.

4.1 Responsiveness Summary

USFS Comment 1:

Section 2.1 (page 5: Sugar Hill Reservoir improvements) notes a site register box will be installed for CVPS purposes. The final sentence on page 5 may leave readers to believe the USFS will monitor or maintain the site box (it states: "The USFS monitors use of the Silver Lake day use area and campground through fee collection, and some wilderness areas have register boxes, however the site register at Sugar Hill Reservoir would exclusively monitor the public's use of this location for recreation"). During our field review with CVPS on April 30, 2009, the Forest Service commented that they "do not need a site register there for our needs (and thus we will not be responsible for maintaining or monitoring it). We currently are reducing the number of register boxes we have as they take a fair amount of effort to collect and replace sheets and maintain the boxes that get destroyed. Little, if anything, is done with the collected data."

CVPS Response:

Section 2.1 was revised to clarify that the site register at Sugar Hill Reservoir would be used exclusively by CVPS to monitor the public's use of this location for recreation.

USFS Comment 2:

Section 2.4 (page 7) does not note that there will also be an ADA compliant fishing access as identified in drawing SP3 (in addition to the ADA compliant trail).

CVPS Response:

Section 2.4 was revised for clarity.

VANR Comment 1:

Sugar Hill Reservoir Boat Ramp

The inside of the circular drive at the boat ramp is proposed for fairly dense planting. You may want to consider reducing the number of hemlocks from three to one or two placed far enough from the outside of the circle to avoid branches and roots extending over and under the roadway. I assume the landscaped area is not going to be heavily maintained and that the hemlocks are going to be allowed to grow to full size without shaping.

CVPS Response:

The planting plant was left unchanged from the draft design. The concept was to design the plantings to replicate the surrounding natural forest. The crowns of the three hemlocks will grow together, as seen naturally, and shouldn't affect the circular roadway.

VANR Comment 2:

Sugar Hill Reservoir Boat Ramp

The design of the roadway and ramp takes into consideration the potential for erosion. Most of the road is over a 10% grade, however. It will be important to maintain a good crown on the road between the circular drive and the ramp in order to reduce scour of the road surface. The drop at the entrance to Culvert B (under the ADA parking area) is four feet. That is a fairly steep transition. An alternative is to route the ditch drainage around the parking area and through Culvert C. Culvert C is specified as at a 12-inch diameter. It would have to be upsized to accommodate the additional flow. Even without routing the additional flow to that culvert, it should be upsized to 15- or 18-inch diameter. Energy dissipaters should be placed at the culvert outlets to prevent scour.

CVPS Response:

The road between the circular drive and the ramp is proposed to have a 4 % crown, as shown in the cross section on SP8, which meets the guidelines for access roads. CVPS has retained Culvert B in order to prevent the requirement to clear more trees in the riparian area to accommodate a swale or drainage ditch leading to Culvert C. To protect users from the four foot drop from the launch to the culvert entrance, a wooden guard rail is proposed, as depicted in SP 3. The size of Culvert C was increased from 12" to 15" and energy dissipaters were added to the culvert outlets, as recommended.

VANR Comment 3:

Sugar Hill Reservoir Boat Ramp

Consider using a slight curve starting at the ADA parking area in order to extend the ramp more perpendicular to the reservoir contours. As designed the lower section of the ramp ends up parallel to the contours, necessitating a cut at the end of the ramp. The launch should be headed towards deeper water.

CVPS Response:

The boat launch ramp was revised to be more user-friendly by fanning out the submerged surface into a delta shape to align better with the contour of the reservoir bottom.

VANR Comment 4:

Sugar Hill Reservoir Boat Ramp

The silt fence proposed around the ramp area can be deleted. The temporary silt fence for the roadway construction, if properly installed, may serve a functional purpose, but the one around the ramp area is unnecessary. For the most part, it is upgradient of the ramp disturbance, so contaminated runoff would not

be moving towards the fence. Also, proper installation of a silt fence in the coarse reservoir bed would be very difficult if not impossible. If a portion of the ramp construction is done in a submerged area, a silt curtain could be installed in the water to contain turbidity as proposed in Section 2.5, which indicates that CVPS's preference is to draw the reservoir below elevation 1758 feet for the ramp construction. The license allows the summer drawdown to extend as low as elevation 1757.5 feet assuming outflow augmentation below elevation 1760.5 feet has been triggered, and the ramp terminates at elevation 1758 feet. So it should be feasible to do most if not all of the work in the dry.

CVPS Response:

The silt fence was retained as a precautionary measure, but the layout was slightly revised to afford more protection from run-off during construction. CVPS will provide additional details regarding erosion control practices during the permitting process with Vermont DEC.

VANR Comment 5:

Sugar Hill Reservoir Boat Ramp

Mirafi 500X geotextile has been specified for the ramp subbase. We usually use a more permeable fabric for our ramps, such as Mirafi 160N.

CVPS Response:

The design specifications have been revised to use Mirafi 160N as the boat ramp subbase.

VANR Comment 6:

Sugar Hill Reservoir Boat Ramp

Section 2.5 (Erosion Control) indicates that stone fill and hay bale checks are to be used in the swales at the boat access. The plans only show stone fill in the ditches, which seems appropriate. I would not recommend the use of hay bale checks.

CVPS Response:

CVPS concurs, however, additional details regarding erosion control practices will be provided during the permitting process with Vermont DEC.

VANR Comment 7:

Sugar Hill Reservoir ADA Fishing Access

Regarding the ADA fishing access, please consider use of options that place the user out into the reservoir, such as a fishing pier or dock. With water levels during the recreation season varying between 1757.5 feet and 1765.5 feet, the landward location would be marginal at best for angling. The edge of water may be up to 50 feet away at times, and the fishable area would be very shallow. Use of a pier or dock would also create less of an earth disturbance and better retain the existing riparian vegetation.

CVPS Response:

CVPS recognizes that there can sometimes be limitations to fishing Sugar Hill Reservoir for any user given the water level fluctuations allowed under the new license. The ADA fishing access was developed in consultation with USFS. In their comment letter (Appendix C), Greg Smith, the District Ranger indicates, "Please pass on our absolute excitement over the ADA compliant trail and fishing access at Sugar Hill Reservoir! The willingness of CVPS to explore this opportunity (outside of original FERC license agreement) and work with the Moosalamoo Association and the Forest Service to make it a reality is commendable." The proposed fishing access improvements at this site were designed to meet the stated objective of protecting "the present pristine character" of the reservoir, and remain unchanged from the draft design.

VANR Comment 8:

Falls of Lana

Your text in Section 1.1 (p. 3) indicates that the original plan was to do some plantings in the area of the penstock crossing and to repaint a section of the penstock a neutral green-gray color. Section 2.2 does not indicate that these items are still included in the recreation plan. Please confirm.

CVPS Response:

It is correct that the plantings and repainting of the penstock will not be performed. The USFS by letter dated November 14, 1994 (as submitted in CVPS's response to the Additional Information Request Nos. 8 and 9, submitted to FERC in February, 1995) states that their preference would be to leave the exterior appearance of the penstock as is and to allow native vegetation to grow under the penstock in lieu of plantings. These issues were not raised again by the USFS in development of the recreation enhancements; therefore, CVPS is not proposing to paint the penstock, nor perform any landscape plantings at this location.

VANR Comment 9:

Falls of Lana

Plan Sheet SP5 shows the drainage dip design on the Forest Service road. The outlet area will be a fairly large area of crushed gravel and rip rap. I do not recall how this area looks. I would expect the soils to be fairly shallow here. At any rate, it would be good to give some thought to how this will look in a setting where the emphasis is on a natural appearance. Perhaps the rip rap could be top dressed with some soil to support vegetation.

CVPS Response:

The rip rap area adjacent to the drainage dip was reduced to 5' x 12' from 6' by 33'. This will still allow functionality of the swale while minimizing the visual impact.

Appendix A: Photographs.



Plate 1: Existing circular drive at Sugar Hill Reservoir boat launch.



Plate 2: Existing fishing path from boat launch at Sugar Hill Reservoir.



Plate 3: Existing USFS kiosk at the Silver Lake day use area.

Appendix B: Site Plan Drawings.

SP1 through SP8 and Topographic Survey.

Appendix C: Correspondence.

FS email 5.1.09

From: Holly Knox [mailto:hknox@fs.fed.us]
Sent: Friday, May 01, 2009 3:02 PM
To: Eliason, Beth
Cc: Fred M Putnam; Donna Marks
Subject: RE: Recreation Site Visits - Silver Lake

Hi Beth-

Thank you for organizing the field review yesterday-Mike, Jason and Terry did a great job. A few follow-ups for you to share with the three of them, please:

- 1) We do not want to install interpretive signage or trail improvements at the penstock location on Forest Road 27 (Falls of Lana location). The foot trail we followed down to the falls overlook is not a Forest Service system trail and as such, we do not want to encourage use from that junction. To be clear, we are still requesting: a) the culvert installation to address the drainage concerns under the penstock and, b) the safety improvements as well as the tree/brush removal at the overlook site. Any questions...please ask!
- 2) Tony Clark (tc@blueberryhillinn.com 247-9797) and Kathleen Wanner (kmwanner@comcast.net 747-9700) are the Moosalamoo Association contacts for Mike. I mentioned that they are very interested in seeing opportunities for people with disabilities expanded in the National Recreation Area. If there was an opportunity at Goshen Dam (as we discussed yesterday), they may be able to help obtain grant funding.
- 3) In following up on the questions that came up yesterday, I talked with Fred Putnam. He had some ideas for Goshen Dam that I was not aware of (particularly related to the Goshen Dam parking area and how to avoid the erosion problems encountered there annually). He would love to talk to Mike. His email is fputnam@fs.fed.us and his phone number is (802) 388-4362 x 121
- 4) Jason wanted the Foote of the Mountain Snowmobile Club contact. The president is Curt Cyr (343-0187) and one of the trail masters is Dave Holbrook (work number 388-9599).

I think that covers my homework assignments!

Holly

Holly Knox
Recreation and Trail Coordinator
Rochester, Middlebury, and Hector Ranger Districts
Green Mountain and Finger Lakes NFs
802.767.4261 x 530

Jason George

From: Holly Knox [hknox@fs.fed.us]
Sent: Thursday, July 23, 2009 9:20 AM
To: jgeorge@gomezandsullivan.com
Cc: Gregory D Smith
Subject: Fw: CVPS Silver Lake Recreation Facilities Design

Forest Service comments on FERC Project No. 11478 (see below!).

Thanks Jason for your work on this project-we are excited over the proposed improvements.

Holly Knox
Recreation and Trail Coordinator
Rochester, Middlebury, and Hector Ranger Districts
Green Mountain and Finger Lakes NFs
802.767.4261 x 530

----- Forwarded by Holly Knox/R9/USDAFS on 07/23/2009 09:18 AM -----

Gregory D Smith/R9/USDAFS

To "Cueto, Jeff" <Jeff.Cueto@state.vt.us>

cc Holly Knox/R9/USDAFS@FSNOTES

Subject CVPS Silver Lake Recreation Facilities Design

07/22/2009 06:12 PM

Jeff,

Thank you for calling last week requesting our thoughts on the Silver Lake recreation facilities design.

Holly Knox, our Recreation and Trail Coordinator, reviewed the proposal. It looks great. CVPS listened closely to the comments we provided and updated the plans accordingly. We have only two minor concerns:

- Section 2.1 (page 5: Sugar Hill Reservoir improvements) notes a site register box will be installed for CVPS purposes. The final sentence on page 5 may leave readers to believe the USFS will monitor or maintain the site box (it states: "The USFS monitors use of the Silver Lake day use area and campground through fee collection, and some wilderness areas have register boxes, however the site register at Sugar Hill Reservoir would exclusively monitor the public's use of this location for recreation"). During our field review with CVPS on April 30, 2009, the Forest Service commented that we do not need a site register there for our needs (and thus we will not be responsible for maintaining or monitoring it). We currently are reducing the number of register boxes we have as they take a fair amount of effort to collect and replace sheets and maintain the boxes that get destroyed. Little, if anything, is done with the collected data.
- Section 2.4 (page 7) does not note that there will also be an ADA compliant fishing access as identified in drawing SP3 (in addition to the ADA compliant trail).

Please pass on our absolute excitement over the ADA compliant trail and fishing access at Sugar Hill Reservoir!

The willingness of CVPS to explore this opportunity (outside of original FERC license agreement) and work with the Mooslamoo Association and the Forest Service to make it a reality is commendable.

Thank you.

Greg Smith

Rochester & Middlebury District Ranger
99 Ranger Road
Rochester, VT 05767
(802) 767-4261 ext. 513



Vermont Department of Environmental Conservation

Agency of Natural Resources

Dam Safety and Hydrology Section

103 South Main Street

[phone] 802-241-3758

Waterbury, VT 05671-0511

[fax] 802-244-4516

<http://www.anr.state.vt.us/dec/fed/dss.htm>

TRANSMITTED ELECTRONICALLY

July 31, 2009

Jason George, Environmental Scientist
Gomez and Sullivan Engineers, P.C.
55 North Stark Highway
Weare, NH 03281

RE: Silver Lake Hydroelectric Project – FERC No. 11478
Draft Recreation Facility Plans

Dear Mr. George:

On behalf of Central Vermont Public Service Corporation by letter dated June 30, 2009, you filed draft recreation facility design plans with the Department for the Silver Lake Hydroelectric Project in accordance with Condition P of the Project water quality certification. Construction is planned for next summer. Final plans are subject to Department approval. CVPS will be providing draft language for the interpretive signs at a later date. Herein the Department provides its comments.

Sugar Hill Reservoir Boat Ramp

The inside of the circular drive at the boat ramp is proposed for fairly dense planting. You may want to consider reducing the number of hemlocks from three to one or two placed far enough from the outside of the circle to avoid branches and roots extending over and under the roadway. I assume the landscaped area is not going to be heavily maintained and that the hemlocks are going to be allowed to grow to full size without shaping.

The design of the roadway and ramp takes into consideration the potential for erosion. Most of the road is over a 10% grade, however. It will be important to maintain a good crown on the road between the circular drive and the ramp in order to reduce scour of the road surface. The drop at the entrance to Culvert B (under the ADA parking area) is four feet. That is a fairly steep transition. An alternative is to route the ditch drainage around the parking area and through Culvert C. Culvert C is specified as at a 12-inch diameter. It would have to be upsized to accommodate the additional flow. Even without routing the additional flow to that culvert, it should be upsized to 15- or 18-inch diameter. Energy dissipaters should be placed at the culvert outlets to prevent scour.

Consider using a slight curve starting at the ADA parking area in order to extend the ramp more perpendicular to the reservoir contours. As designed the lower section of the ramp ends up parallel to the contours, necessitating a cut at the end of the ramp. The launch should be headed towards deeper water.

The silt fence proposed around the ramp area can be deleted. The temporary silt fence for the roadway construction, if properly installed, may serve a functional purpose, but the one around the ramp area is unnecessary. For the most part, it is upgradient of the ramp disturbance, so contaminated runoff would not be moving towards the fence. Also, proper installation of a silt fence in the coarse reservoir bed would be very difficult if not impossible. If a portion of the ramp construction is done in a submerged area, a silt curtain could be installed in the water to contain turbidity as proposed in Section 2.5, which indicates that CVPS's preference is

to draw the reservoir below elevation 1758 feet for the ramp construction. The license allows the summer drawdown to extend as low as elevation 1757.5 feet assuming outflow augmentation below elevation 1760.5 feet has been triggered, and the ramp terminates at elevation 1758 feet. So it should be feasible to do most if not all of the work in the dry.

Mirafi 500X geotextile has been specified for the ramp subbase. We usually use a more permeable fabric for our ramps, such as Mirafi 160N.

Section 2.5 (Erosion Control) indicates that stone fill and hay bale checks are to be used in the swales at the boat access. The plans only show stone fill in the ditches, which seems appropriate. I would not recommend the use of hay bale checks.

Sugar Hill Reservoir ADA Fishing Access

Regarding the ADA fishing access, please consider use of options that place the user out into the reservoir, such as a fishing pier or dock. With water levels during the recreation season varying between 1757.5 feet and 1765.5 feet, the landward location would be marginal at best for angling. The edge of water may be up to 50 feet away at times, and the fishable area would be very shallow. Use of a pier or dock would also create less of an earth disturbance and better retain the existing riparian vegetation.

Falls of Lana

Your text in Section 1.1 (p. 3) indicates that the original plan was to do some plantings in the area of the penstock crossing and to repaint a section of the penstock a neutral green-gray color. Section 2.2 does not indicate that these items are still included in the recreation plan. Please confirm.

Plan Sheet SP5 shows the drainage dip design on the Forest Service road. The outlet area will be a fairly large area of crushed gravel and rip rap. I do not recall how this area looks. I would expect the soils to be fairly shallow here. At any rate, it would be good to give some thought to how this will look in a setting where the emphasis is on a natural appearance. Perhaps the rip rap could be top dressed with some soil to support vegetation.

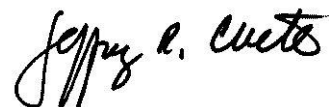
I believe the Forest Service staff already passed along the following two comments they had:

- Section 2.1 (page 5: Sugar Hill Reservoir improvements) notes a site register box will be installed for CVPS purposes. The final sentence on page 5 may leave readers to believe the USFS will monitor or maintain the site box (it states: "The USFS monitors use of the Silver Lake day use area and campground through fee collection, and some wilderness areas have register boxes, however the site register at Sugar Hill Reservoir would exclusively monitor the public's use of this location for recreation"). During our field review with CVPS on April 30, 2009, the Forest Service commented that we do not need a site register there for our needs (and thus we will not be responsible for maintaining or monitoring it). We currently are reducing the number of register boxes we have as they take a fair amount of effort to collect and replace sheets and maintain the boxes that get destroyed. Little, if anything, is done with the collected data.
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Jason George
July 31, 2009
Page 3

Please feel free to contact me if you should have questions.

Very truly yours,

A handwritten signature in black ink, reading "Jeffrey R. Cueto". The signature is written in a cursive, flowing style.

Jeffrey R. Cueto, P.E.
Chief Hydrologist

- c Peter LaFlamme, Director, Water Quality Division
- Susan Warren, Water Quality Division
- Chet Mackenzie, VT Fish and Wildlife Dept.
- Gregory Smith, US Forest Service
- Holly Knox, US Forest Service
- Steve Roy, US Forest Service
- Melissa Grader, USF&WS
- Michael Scarzello, P.E., CVPS
- Beth Eliason, CVPS

Jason George

From: Amy Diller [adiller@catamounttrail.org]
Sent: Wednesday, July 08, 2009 12:05 PM
To: Tony Clark; Eliason, Beth; Kathleen Wanner
Subject: Re: Silver Lake-Sugar Hill Reservoir Recreation Planning

Yes, thank you Beth. I'll also look forward to seeing the signage and will be happy to visit the site when the time comes.

Amy
Amy Diller
Trail Management and Protection Director
Catamount Trail Association
1 Mill Street, #350
Burlington, VT 05401
phone: 802-864-5794
fax: 802-864-5710
email: adiller@catamounttrail.org

On 7/7/09 6:53 PM, "Tony Clark" <tc@blueberryhillinn.com> wrote:

Thanks for taking the lead on this one, Beth. Look forward to seeing the signage. Tony

----- Original Message -----

From: Eliason, Beth <<mailto:beliaso@cvps.com>>

To: Tony Clark <<mailto:tc@blueberryhillinn.com>> ; Kathleen Wanner <<mailto:kmwanner@comcast.net>> ;
adiller@catamounttrail.org

Sent: Tuesday, July 07, 2009 3:47 PM

Subject: Silver Lake-Sugar Hill Reservoir Recreation Planning

Hi Tony, Kathleen, and Amy

We have submitted a draft recreation plan/design to the Agency of Natural Resources and the US Forest Service for review prior to submittal with the Federal Energy Regulatory Committee.

I have put a copy of the draft design (text and figures) on our ftp site. Please feel free to review and comment.

I think your primary interest in the planning phase (other than the handicap access at Sugar Hill) was to be able to provide comments on the signage. Unfortunately, we do not have specific sign text prepared. We are hoping to have draft sign text and photos by the end of this month. I will send that material to you as soon as I have it!

With respect to directional signs for the Catamount Trail and the Blueberry Hill trails, it may be worth a site visit to review where the existing signs are, and what could be done to optimize their placement. Since site work will not be started until 2010, this doesn't need to happen in the near future, and may make more sense once the improvements are complete.

Please let me know if you have any comments or other questions.

Thank you,

Beth Eliason, P.E.

Central Vermont Public Service Corporation

77 Grove Street

Rutland, VT 05701

Tel: 802.747.5594

Fax: 802.747.2195

beliaso@cvps.com

Jason George

From: Tony Clark [tc@blueberryhillinn.com]
Sent: Tuesday, July 07, 2009 6:54 PM
To: Eliason, Beth; Kathleen Wanner; adiller@catamounttrail.org
Subject: Re: Silver Lake-Sugar Hill Reservoir Recreation Planning

Thanks for taking the lead on this one, Beth. Look forward to seeing the signage. Tony

----- Original Message -----

From: [Eliason, Beth](#)
To: [Tony Clark](#) ; [Kathleen Wanner](#) ; adiller@catamounttrail.org
Sent: Tuesday, July 07, 2009 3:47 PM
Subject: Silver Lake-Sugar Hill Reservoir Recreation Planning

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Please let me know if you have any comments or other questions.

Thank you,

Beth Eliason, P.E.
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Tel: 802.747.5594
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