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June 25, 2022

Glenn D. Illing, P.E.
Professional Engineer 1
NYS Dept. of Health, Monticello District Office
50 North Street, Suite 2
Monticello, New York 12701
(845) 794-2045
email: glenn.illing@health.ny.gov

**RE: Camp FIMFO Catskill**
**SUN NG KITTATINNY RV LLC**
**3854 State Route 97**
**Barryville, NY**

**On-site Wastewater Management Design – Flow Confirmation Letter**

Mr. Illing:

LaBella Associates has computed the Design Flow Rate for all existing and proposed wastewater treatment systems for this property to be **29,080 GPD.**

As detailed in Table 1, attached, there are 9 existing septic systems with a design flow rate of 6,300 gpd.

The proposed upgrade and improvement project for the project includes the addition of 16 new septic systems with a total design flow rate of 22,780 gpd. Twelve of the systems will support the conversion of existing tent camping sites to sewered sites. The remaining four systems will handle wastewater from the backwash system for the aquatic center; convenience bathrooms at the Adventure Center; snack shop; and 4 proposed washing machines in the maintenance building.

Based on the total design flow rate, it is our understanding that the DOH will be completing the technical review of the proposed septic systems. We further understand that the existing General SPDES Permit from DEC will need to be updated to include the 16 new systems.

If you have any questions or concerns with our approach, or if you require additional information, please let us know.

Respectfully submitted,

**LaBella Associates**

Jody M. Allen, PE
Senior Civil Engineer
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October 26, 2022

E D PONS
ASSOCIATES, P.C. | STRUCTURAL ENGINEERS

**TO:** Mike Mueller
Chris Chilek
Fancy Parsley
233 Oakford Court
Scranton, PA18503

**DATE OF INSPECTION:** September 23, 2022

**SUBJECT:** Kittatinny Campgrounds
Existing Pedestrian Bridge

**PURPOSE:** Visually inspect existing pedestrian bridge to determine its condition and establish load ratings.

**INTRODUCTION:**

This report represents the professional opinion of Mr. Vincent A. Griffin, P.E. The field survey was conducted by Vincent A. Griffin, P.E. and Anthony Tompkins. No testing (non-destructive or destructive) or removal of coverings or earth backfill was done unless specifically mentioned in this report. Due care was exercised in the performance of this report, but Mr. Griffin neither makes representation nor guarantees with respect to latent deficiencies or future conditions as part of the inspection or this report.

**BRIDGE DESCRIPTION:**

The existing pedestrian bridge is a seven foot six inch (7'-6") wide by forty-feet six inch (40'-6"+/- ) long single span steel structure with timber deck and bridge rail system that spans over a creek (See photo #1). The existing bridge superstructure consists of two eighteen-inch (18") deep "S-Shaped" steel girders spaced seven feet (7'-0") on center that appear to be embedded into the earth embankments on each end of the bridge. The existing bridge substructure was not visible on either end of the bridge due to the substantial amount of plant overgrowth. Along the span, four (4) eighteen inch (18") deep steel channels laterally brace the existing steel girders. One channel is located three inches in from each end of the bridge with the next channel spaced fifteen feet (15'-0") in from the first channel. A three inch (3") deep steel "I" beam is located at mid-width of the bridge, span longitudinally between the transverse steel channels.

At the bridge surface, 3" deep timber decking of varying widths (3"x6" to 3"x12") span transversely across the width of the bridge supported by the two steel girders and the 3" deep "I" beam at midspan. The timber decking extends approximately one inch (1") beyond the steel girders flange on each side of the bridge.

A three-rail bridge rail system consisting of three (3)1"x6" rails on 4"x4" posts spaced 5'-0" on center is located along the edge of deck on both sides of the bridge. A continuous 1x6 wood plate runs over the top of each post along the bridge length. The

overall height of the pedestrian bridge rail system from top of bridge deck surface to top of continuous top plate is forty-one inches (41").

Items observed during our on-site visual inspection are noted in our photos and recommendations that follow.

**PHOTO #1 –**

Deteriorated timber deck on north end of bridge

Three-rail pedestrian bridge rail system

**PHOTO #2** – Steel beam embedded in earth embankment

Rust prevalent on steel beam surface.

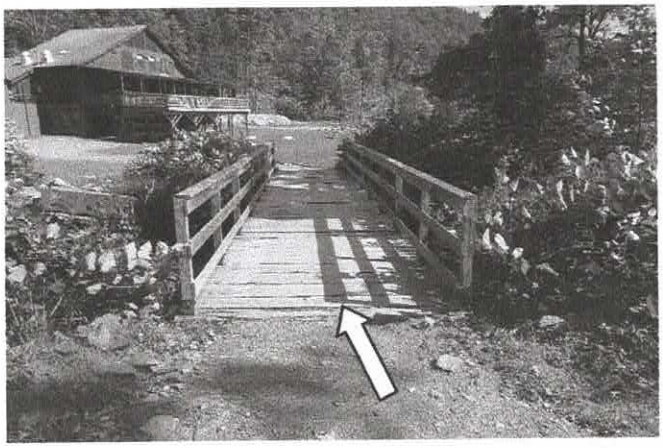

**PHOTO #3 –**

Deteriorated timber deck on south end of bridge

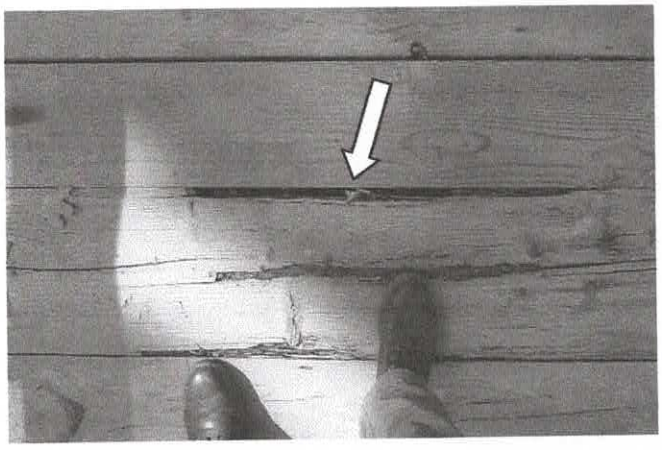

**PHOTO #4 –**

Deteriorated timber deck above the first transverse steel beam on the north end of bridge

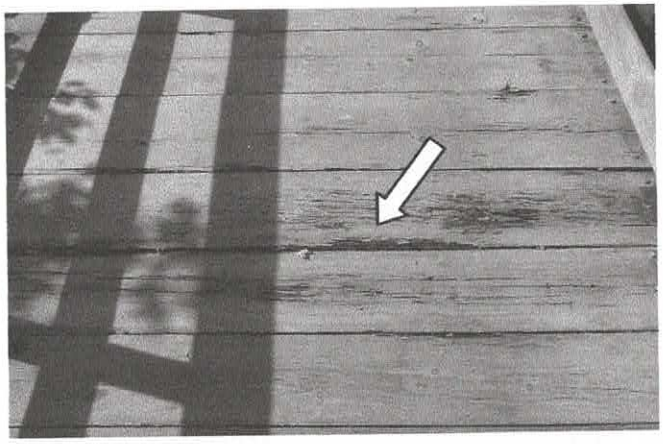

**PHOTO #5 –**

Deteriorated timber deck above the first transverse steel beam on the south end of bridge

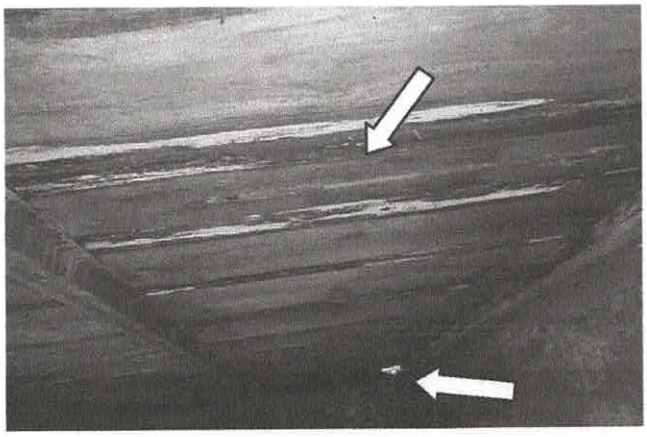

**PHOTO #6 –**

Underside of deteriorated timber deck between 1st & 2nd channel on south end of bridge

No end diaphragm present between end of bridge and adjacent finished grade as seen by the light penetrating through

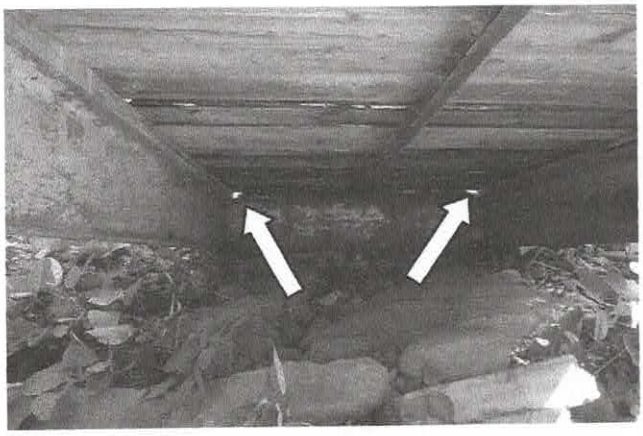

**PHOTO #7** – Underside of deteriorated timber deck between 1st & 2nd channel on north end of bridge

No end diaphragm present between end of bridge and adjacent finished grade as seen by the light penetrating through

Beams embedded in soil

Significant rusting on all steel framing

**PHOTO #8** – Beams embedded in soil on northwest end of bridge

No end diaphragm separating bridge structure from soil

Deteriorated deck

**EVALUATION/RECOMMENDATIONS:**

1. In general, the existing pedestrian bridge cannot be load rated based on the deteriorated condition of the existing timber deck. Therefore we recommend removing all existing timber decking and replace with minimum PT 4x8 decking, to span seven feet (7'-0") between existing steel fascia beams.

   NEW PT 4"x8" TIMBER DECK LOAD RATING:
   The new PT 4x8 deck would be able to support a maximum concentrated wheel load of 575# or a total maximum golf cart weight (cart+people+cargo) of 2300# for a deck span of 7'-0". This analysis is based on a single plank supporting two concentrated wheel loads with a front wheelbase of 33" and a rear wheelbase of 38" for a typical golf cart.

   There is surface rusting visible on the steel fascia beams but it is not significant and does reduce the load carrying capacity of the structure.

   EXISTING S18x70 STEEL FASCIA BEAM LOAD RATING:
   The existing steel fascia beams on each side of the bridge can support a maximum concentrated wheel load of 7.75 Kips or a total maximum vehicle weight (cart+people+cargo) of 31Kips for a deck span of 7'-0".

   Our analysis of the existing steel pedestrian bridge indicates that it should be rated for a maximum vehicle weight of **1.15 tons (2,300 pounds)**. This load rating is controlled by the capacity of the proposed new PT wood decking. If additional beams are added to reduce the new deck span, this load rating could be increased.

2. *The existing pedestrian bridge rail system does not comply with AASHTO requirements for pedestrian bridges. The following items do not comply:*

   a. *The minimum overall height of a pedestrian bridge rail system is 42" above the bridge surface. As constructed, the current bridge rail system is one inch (1") too short.*

   b. *The maximum clear opening between rails shall be such that a 6" sphere cannot pass through. As constructed, the clear space between rails is greater than six inches (6").*

   c. *The existing 1"x6" horizontal rails do not have the capacity to resist the code minimum 50 plf live load force applied transversely and vertically acting simultaneously in addition to a 200# concentrated force. Each longitudinal rail is required to meet this design load requirement. To meet this requirement, we recommend removing the 1x6 rails and replace with PT 3x6 or PT 2x8 rails minimum, spacing to comply with item (b) above.*

   d. *A safety toe rail or curb shall be provided. Currently none exist.*

*We recommend replacing the existing bridge rail system with an OSHA compliant rail system.*

This concludes my report. Please contact our office should you wish to discuss our findings.

Sincerely,

Vincent A. Griffin, P.E.
E. D. Pons Associates, P.C.

Table 1.0 – Septic System Design Table

| Site # | Area Name | Outfall # | Total Sites Requiring Sewer | Design Flow Rate @ 100 gpd/site | Design Flow Rate | Required LF of Eljens (1) | # of 60' Long Eljen Trenches Required | Type of System | **Notes** |
|---|---|---|---|---|---|---|---|---|---|
| | | | | EXISTING (2) | | | | | |
| | Bathhouse East | 001 | | | 1,000 | | | Seepage Pits | Existing Permitted by DEC |
| | Bathhouse | 006 | | | 1,200 | | | Seepage Pits | Existing Permitted by DEC |
| | 900's | 008 | 23 | | 2,300 | | | Absorption Beds | Existing Permitted by DEC |
| | Unknown | 002 | | | 600 | | | Seepage Pits | Existing Not permitted |
| | Unknown | 003 | | | 200 | | | Absorption Beds | Existing Not permitted |
| | Unknown | 004 | | | 100 | | | Seepage Pits | Existing Not permitted |
| | Unknown | 005 | | | 100 | | | Absorption Beds | Existing Not permitted |
| | Unknown | 007 | | | 400 | | | Seepage Pits | Existing Not permitted |
| | River House | 009 | | | 400 | | | Seepage Pits | Existing Not permitted |
| | | | | | 6,300 | | | | |
| | | | | PROPOSED | | | | | |
| 100s | Main Camp | 010 | 26 | 2,600 | | 619 | 11 | Eljen Trenches | |
| 200s | Beaver Run (A) | 011 | 17 | 1,700 | | 405 | 7 | Eljen Trenches | |
| | Beaver Run (B) | 012 | 8 | 800 | | 190 | 4 | Eljen Trenches | |
| 300s | Hemlock Point | 013 | 25 | 2,500 | | 595 | 10 | Eljen Trenches | |
| 400s | Trout Terrace & Secluded Summit | 014 | 33 | 3,300 | | 786 | 13 | SHALLOW Eljen Trenches | |
| 500s | Chad's Bluff | 015 | 8 | 800 | | 190 | 4 | Eljen Trenches | |
| 600s | Woodlands SS1<br>Woodlands SS2<br>Woodlands SS3<br>Woodlands SS4 | 016<br>017<br>018<br>019 | 67 | 6,700 | | 1595 | 27<br>Provide 4 systems with 7 rows per system = 28 Total | Eljen Trenches | |
| 900s | Luke's Landing (A) | Existing Outfall 008 | 23 | Outfall #008 | | | | | |
| | Luke's Landing (B) | 020 | 4 | 400 | | 95 | 2 | Eljen Trenches | |
| | Mountainside | 021 | 22 | 2,200 | | 524 | 9 | SHALLOW Eljen Trenches | |
| | Aquatic Center Backwash System | 022 | | | 400 (3) | 95 | 2 | Eljen Trenches | |
| | Adventure Center | 023 | | | 500 (4) | 120 | 2 | Eljen Trenches | |
| | Food and Beverage | 024 | | | 400 (5) | 95 | 2 | Eljen Trenches | |
| | Maintenance and Laundry | 025 | | | 480 (6) | 114 | 2 | Eljen Trenches | |
| | Total by Type | | 230 | 21,000 | 1,780 | 5,423 | 96 rows x 60' = 5,760 | | |
| | Total of All Systems | 25 (7) | | 29,080 | GPD | | | | |

(1) Based on 20 min perc rate, 0.7 GPD/SF. All perc rates were less than 20 minutes.
(2) Existing on-site systems per DEC SPDES Permit
(3) This includes 400 gallons per month for the Defender Filters for pool and 2,400 gallons per week for spa. Wastewater will be held and released daily.
(4) Check in convenience restroom and employee restroom. All visitors have access to bathroom facilities in existing bathhouses and/or camping sites.
(5) Food beverage area is primarily a snack shop with limited food prep and dishwashing, employee bathroom
(6) Water used based on 4 high efficiency washing machines, 8 loads/machine/day, 15 gallons/load = 480 gallons. Average water use for a HE machine is 13-15 gallons/cycle, average wash cycle is 60-85 minutes
(7) 9 of the systems are existing, 16 of the systems are proposed