NEW YORK STATE OF OPPORTUNITY. Department of Transportation

DRAFT
Individual Section 4(f) Evaluation

Route 199 over Shekomeko Creek
Culvert Crossing (CIN C824084)
Town of Pine Plains
Dutchess County
NYSDOT PIN# 8LC3.11

U.S. Department of Transportation
Federal Highway Administration
and
New York State Department of Transportation

Submitted pursuant to 49 U.S.C. 303. This evaluation was prepared in consultation with FHWA and has been reviewed for scope and content and is released for comments.

4/11/2023
DATE

Richard D. Wilder, PE
Director, Office of Design
NYS Department of Transportation

ROBERT M DAVIES
Digitally signed by ROBERT M DAVIES
Date: 2023.04.24 09:39:35 -04'00'

DATE

Robert M Davies
Director, Office of Statewide Engineering
Federal Highway Administration
New York Division

April 2023

1. Introduction – The requirements of Section 4(f) of the U.S. Department of Transportation (USDOT) Act of 1966 (now codified at 23 USC Section 138 and 49 USC Section 303) apply only to agencies within the USDOT, such as the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA). Section 4(f) prohibits the Secretary of Transportation from approving any program or project that requires the use of a Section 4(f) resource, unless there is no feasible and prudent alternative to the use of such land and all possible planning has been undertaken to minimize harm to the Section 4(f) resource. Section 4(f) resources include publicly owned parks and recreational areas, wildlife and waterfowl refuges, and historic sites (sites listed on or determined eligible for listing on the National Register of Historic Places). This evaluation was also prepared in accordance with the FHWA implementing regulations for Section 4(f) at 23 CFR Part 774, as well as the FHWA's Section 4(f) Policy Paper, July 20, 2012.

This Draft Individual Section 4(f) Evaluation has been prepared because the proposed project has more than a *de minimis* impact on a historic site and a Programmatic Evaluation is not applicable.

2. Proposed Action – The New York State Department of Transportation (NYSDOT) proposes this federally-funded project at the Route 199 culvert over a tributary of the Shekomeko Creek (hereafter simply referred to as the Shekomeko Creek), CIN C824084. Photos of the culvert and surrounding area are attached.

Project Need
The subject crossing contains structural and hydraulic deficiencies. This project is needed to address the crossing to ensure the safety of the travelling public and extend the service life for at least 70 years.

Project Purpose
This project is part of NYSDOT's federally funded Culvert Resiliency of State System program (CRoSS). The purpose of the CRoSS program is to address crossings on the State highway system which currently have poor condition ratings, with a focus on safety, infrastructure and hydraulic resiliency, in support of the state's economy and environmental stewardship responsibilities. At this specific location, the purpose of the project includes providing a structurally sound crossing in accordance with the NYSDOT roadway design procedures and standards, as well as meeting the NYSDOT hydraulic design standards.

Project Objectives
(1) Retain crossing locations at or in close proximity to the existing crossing.
(2) Restore the crossing with a general recommendation of 5 (a rating of 5 means that the crossing remains in fully functional and in a fair condition) or greater.
(3) Provide a design life of at least 70 years for the crossing.
(4) Hydraulic Resiliency – Design the crossing to accommodate the vertical flood elevation and corresponding flows from the applicable recommendations in the NYS Flood Risk Management Guidelines and Highway Design Manual HDM Chapter Ch. 8.6.1.1.
(5) Environmental Stewardship – Provide adequate aquatic organism passage (AOP) at the crossing, to the extent possible.

3. Section 4(f) Property – The Section 4(f) historic site was identified through the Section 106 process (36 CFR Part 800). In consultation with the New York State Historic Preservation Office (SHPO), the Pulver Farm and Mill Complex was determined eligible for the National Register of Historic Places (USN 02712.000056). Contributing features consist of the house, carriage house/barn, mill, stone fence, dam, head race, sluice gate, tailrace, and culvert.

Specifically, the following associated feature is within the project area: Tailrace/Culvert (USN 02712.000052). The outlet of the tailrace for the mill is integrated into the culvert, along the base of the east wall and is believed to be topped with a stone lintel.

See attached maps and photos of the project area that show the relationship of the culvert to the tailrace and the mill, plus its relationship to the overall Pulver Farm and Mill Complex. Details of the property, including the tailrace, are described below.

The Pulver Farmhouse and Mill property is eligible for the State and National Register of Historic Places under Criterion[1] A for the role that the Pulver family played in the development of the Town of Pine Plains, particularly in the northeast area around Pulver's Corner. Also, the property is eligible under Criterion C as good representation of the restrained Federal architectural style seen in the Pine Plains area. The Pulver's Farmhouse and Mill is composed of a single-family dwelling, a former carriage house/barn, and a mill with its associated hydraulic features. The farmhouse and mill are privately owned (ownership information shown on the attached plan sheet) and not accessible to the public. There are no unusual characteristics of the Section 4(f) property (flooding problems, terrain conditions, or other features) that either reduce or enhance the value of all or part of the property.

The 1784 farmhouse still retains much of its original architectural elements with minimal modifications and is still used as a residence. The house faces north and has a setback about 40 feet from the edge of Route 199. A dirt driveway on the west side of the house leads to the backyard where the former carriage house/barn is located. A stone fence runs along the east side of the dirt driveway for about 200-feet where it becomes an unconsolidated pile of stone. This pile continues for another 145-feet before ending.

The nineteenth-century mill (USN 02712.000054) contributes to the property's eligibility. The mill is 36-feet in length (east to west), 21-feet in width (north to south), and one and one-half stories tall. The mill is setback less than 10 feet from Route199, and it is situated on the eastern edge of the creek. It retains integrity, including, but not limited to, the wheel pit and its hydraulic components. The structure is abandoned, and the floor severely deteriorated such that access is difficult and unsafe.

Associated features to the mill complex include the headrace and sluice gate located south of the mill, the remains of the stone dam located southwest of the mill, and the tailrace located within the subject culvert (C824084) with associated fieldstone walls on both sides of the waterway north of the culvert. As stated above, the tailrace is within the project area. Currently no water appears to flow through the hydraulic features (sluice, headrace, mill, or tailrace), likely due to deterioration of the features and dam.

The existing culvert (Culvert C824084) is owned by NYSDOT and carries the Shekomeko Creek under Route 199 and is constructed of a combination of designs that were incorporated over the years.

A culvert was originally constructed in this location circa 1909, which is still extant as the section where water flows through two corrugated metal pipes (weirs) with a fieldstone headwall (although the metal pipes may be replacements). The weirs consist of two corrugated metal pipes within the fieldstone headwall; one pipe approximately 4-feet in diameter that always carries flow, and

[1] The criteria applied to evaluate properties for the National Register are defined in 36 CFR 60.4 as A through D:
The quality of significance in American history, architecture, archeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and
(a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
(b) that are associated with the lives of persons significant in our past; or
(c) that embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
(d) that have yielded, or may be likely to yield, information important in prehistory or history.

one pipe approximately 3-feet in diameter that is elevated up the rock channel slope and carries flow only when the water level is high. Stone retaining walls are present north (downstream) of the culvert and extend approximately 100' north.

In 1915, the road (currently known as Route 199) was improved, and the culvert expanded (approximately 32-feet long total) to the south with a three-sided concrete structure including concrete walls and a top slab while the bottom is exposed to rock. The tailrace outlet of the adjacent mill was retained and integrated into the expanded culvert (c. 1915). Water flows into the culvert from the south and then sharply drops approximately 24-inches off a bedrock ledge within the 1915 culvert, assumed to be man-made, possibly to meet the outlet elevation of the tailrace. After this drop, the stream is then constricted to flow through the original 1909 portion of the culvert headwall with weirs. Along the base of the east wall is the tailrace outlet with a stone lintel on top. Along the east bank, the wing wall extends about 6-feet south from the culvert opening and rests on the same bedrock that the mill's foundation rests upon. On the west bank of the culvert's entrance is a gabion basket. The opening of the south side is 6-feet high with two layers of concrete slab above the opening. Immediately north of the culvert is the original field stone wall that delineates the tailrace for the mill. The height of the north side is 9-feet with a 16-inch layer of gabion on top of a layer of poured concrete

More recently, a system of gabions placed at the top outer edge of the culvert was built to reinforce and support the road shoulder. Also, a concrete buttress was installed inside the southern culvert portion circa 2015 to reinforce the east abutment (directly above the tailrace opening). Photos from before and during the buttress installation are attached.

The tailrace is visible in the basement of the Mill leaving the foundation of the Mill in the northwest corner of the basement. We presume the tailrace was originally constructed by excavating a channel into the bedrock from the ground above and then a stone roof installed, and the areas above filled in by soil and rock fill. The location where the tailrace enters the culvert is also clearly identified, with the rock channel within the culvert. Per the 2017 cultural resource survey report, a "stone lintel", or roof, is purported to cap the tailrace channel that was excavated through the rock between the mill basement and culvert.

After the 2017 cultural resource survey was performed, NYSDOT located photographs from the pouring of the concrete buttress circa 2015 and photos from inspection reports between 2010 and 2014. Some of those photos are attached. These photos seem to show the tailrace area as being filled in with large rocks. These photos indicate to the Project Engineer that the excavated rock channel of the tailrace was filled in with large rocks at some point in time. It is not clear whether this was done as a full abandonment of the formerly open tailrace, a conversion of the formerly open tailrace to a French-drain type of system, or if it is fill above a lintel stone (cap) with an open tailrace below.

A site visit was undertaken in February 2023 in an attempt to determine if there was a true void under the noted lintel stone. A solid metal probing rod was repeatedly pushed under the lintel stone. The probing found indications of significant sediment being trapped between the stone and the bedrock channel floor. It could not be determined whether this is sediment from the flow through the culvert, or from flow through the tailrace. While probing, separate personnel observed the standing water within the mill basement and did not see any obvious sign of disturbance such as bubbling, water movement, or sediment transport. However, with the depth and extent of sedimentation unknown, the results of the probing investigation were inconclusive. It is unsafe to enter the Mill building to probe or otherwise investigate the tailrace at its inlet within the structure.

4. Use and Impacts on the Section 4(f) Property – Three alternatives, Alternative A – Replacement on Same Alignment, Alternative B – Rehabilitation and Alternative C- Replacement

on a New Alignment have been considered for this project. Each alternative uses and/or impacts the Section 4(f) property identified in the APE for C824084. Below are descriptions of the alternatives.

Alternative A - Replacement on Same Alignment: The NYSDOT proposes to correct hydraulic deficiencies by replacing the existing culvert with a new structure that has a longer span across the stream. This alternative would replace the existing culvert with a pre-cast three-sided concrete frame, on cast-in-place footings doweled into the bedrock channel that would have a structural rating of 7.

Structural: Due to the proximity of the existing mill building and the presence of bedrock that the existing culvert and mill building are built upon, and the desire to retain the channel wall at the outlet and inlet in the northeast and southeast quadrants (to minimize or avoid impact or disruption to the bedrock and mill building), the new culvert alignment is proposed to retain the line of the east abutment and be widened entirely on the west side to improve hydraulic performance. In the northeast quadrant, where the culvert connects with the eastern stone wall (approximately 100-feet in length), a portion of the stone wall no more than 15-feet long would be removed and re-set to line up with the proposed abutment accommodating the proposed culvert, in order to reconstruct the wall/culvert interface. In the northwest quadrant, a portion of the existing stone wall will be removed including dismantling the stone wall for approximately 30-feet north of the proposed culvert outlet to allow for the proposed concrete wing walls to reconnect to the stone wall to remain north (downstream) of the opening. Concrete wingwalls would be placed on either side of the upstream opening and include regrading of the upstream bank.

The tailrace outlet is currently located within the culvert and partially submerged underneath a stone lintel on the east wall of the culvert. The east wall of the culvert is built on top of bedrock, and the tailrace appears to be cut through this bedrock, under the east abutment wall. The floor of the tailrace is underneath a rock noted as a lintel stone that may or may not have been a cap to the tailrace channel. The tailrace floor elevation within the culvert matches the elevation of the stream channel bedrock, which is stable and able to accept the foundation of the new structure. After the existing culvert is removed, a new cast-in-place footing will be formed on the sloping bedrock channel, on the same line as the existing east abutment. Where the bedrock has previously been excavated for the tailrace, either a taller footing, or pre-cast segment with taller abutment wall, will be required for the structure. This will require removal of any rock fill, including visible or hidden lintel stones that conflict with the placement of the new structure, as well as blockage of the tailrace, regardless of the configuration. Weep holes or similar appurtenances can be incorporated to provide some positive drainage for the tailrace, in the event the mill basement becomes flooded.

The proposed structure would be designed with a design life of at least 70 years and a design rating of 7.

Hydraulic: The proposed structure would be designed with a longer span across the stream (12') removal of the headwall weir structure and +/- 16' sloped area to remove the existing bedrock drop near the culvert inlet would result in a hydraulic opening suitable to carry the 50 and 100-year events with a 1.87' and 1' drop on the highwater elevation respectively. The resulting freeboard in the 100-year event is 1.75'. This would accommodate the vertical flood elevation and corresponding flows from the applicable recommendations in the NYS Flood Risk Management Guidelines and Highway Design Manual.

Aquatic Passage: The existing bedrock (2') shelf at the culvert opening would be reduced to a slope approximately 16' in length and equal to the width of the proposed opening (12') to allow for improved hydraulics and aquatic organism passage.

Crossing location*:* The crossing location would not change under this alternative.

There would be no additional impacts to the Section 4(f) property: no impacts to the mill structure or its other associated hydraulic components, and no impact to the farmhouse, carriage house, or dam, head race, sluice gate.

Alternative B - Rehabilitate Existing Culvert: The alternative to rehabilitate the existing culvert was considered. The underside of the concrete roof slab shows signs of heavy spalling, including one spalled area that is 10-feet long, 2-feet wide, and up to 2-inches deep, exposing the bottom steel reinforcing. The two corrugated steel pipes located in the northern half of the culvert are in very deteriorated condition, with 50% to 80% of the pipe invert affected by corrosion and perforations allowing water to undermine the pipes. The edge of the top slab has deteriorated and spalled to a point that bridge rail integrity is affected. The bridge rail posts are no longer properly supported due to the spalled and cracked concrete. The inlet end abutment has a wide diagonal crack 4-feet long and, 1- to 1.5-inches wide. Additional abutment stem cracking is also present.

Structural: To address the structural factors the NYSDOT investigated whether a structural improvement could be made to the eastern culvert wall in the area of the tailrace. In this condition a special foundation would be designed to span over the tailrace. However, the tailrace would need to be stable and relatively uniform underneath the special foundation, which would necessitate an intact lintel-stone that can be proven to meet current NYSDOT design loading standards. Photos from before the buttress installation indicate that it is highly unlikely this configuration exists, and if it does, it is unclear whether a load rating would be feasible for lintel stones of unknown dimensions. In fact, while the existing abutment is not reinforced and therefore was not designed to span a void underneath (such as the tailrace) the later installation of the concrete buttress is a clear indication that spanning the tailrace (c. 1915) eventually became structurally unsound. In addition, no record plans exist that could be used to load rate the portion of the structure to remain, and structural work in the form of a concrete buttress has already been performed. This option would involve reconstruction of the east culvert wall and further modifications to the tailrace which are contributing features of the eligible property.

Hydraulic: To address the hydraulic resiliency and aquatic passage objective, this alternative would remove the corrugated metal pipes and some stonework at the outlet of the culvert and make modifications to provide a consistent box cross section through the entire culvert to the extent practicable. This alternative does not meet the project objectives because the projected Q100 headwater elevation would still overtop the roadway based on modeling results. This would not accommodate the vertical flood elevation and corresponding flows from the applicable recommendations in the NYS Flood Risk Management Guidelines and Highway Design Manual.

Aquatic Passage: Additionally, aquatic organism passage would not be improved due to the 2-foot-high rock ledge near the culvert inlet to remain.

Crossing location*:* The crossing location would not change under this alternative.

The rehabilitation alternative incorporates substantive structural concerns or compromises. Sound engineering judgment indicates that rehabilitation does not seem reasonable.

Alternative C - Replacement on New Alignment:

The culvert C824084 which carries Route 199 over the Shekomeko Creek was evaluated to address if it could be relocated so that it bypasses the Section 4(f) properties including the tailrace, culvert, mill building, dam/sluice gate/headrace, farmhouse, and carriage house.

A realignment of Route 199 to the south to avoid the mill building, dam/sluice gate/headrace, farmhouse, culvert and carriage house would result in a significant shift as these elements are located south of Route 199. A significant amount of land acquisition would be required due to current alignment of Route 199; beginning at the western connection near the intersection of Schultz Hill Road the proposed alignment would sweep well to the south to avoid the Pulver complex and reconnect farther east along Route 199 as the road continues away from the APE in a southeasterly direction. Chase Road would need to be reconfigured to intersect with the new alignment. Due to the historic nature of the area, this route may likely impact additional historic properties, beyond the current APE that are as-yet unidentified.

An alignment to the north of the current APE and Section 4(f) properties would require a sweep a minimum of 100-feet north of the current location since the stone wall of the tailrace in the northeast quadrant extends that distance. As with the southern potential route, based on the historic nature of the area, there may be additional historic properties beyond the current APE that are as-yet unidentified that would be impacted. In addition, it is possible that acquisitions along this northern alignment would involve displacement/relocation of residences and involve reconstruction of the intersection at Chase Road and Route 199. This northern option would likely encounter environmental factors such as wetlands. The possible realignment is estimated at $4 million to construct, as opposed to the less than $1 million for the replacement on the existing alignment alternative.

Under both the south or north alignment options the existing culvert structure (a contributing element of the Section 4(f) property) would need to be removed since it does not meet the conditions for hydraulic resiliency and aquatic organism passage, and it will otherwise continue to deteriorate below the current condition rating and pose a potential hazard to the public.

As described above, both alignment options would result in substantial additional construction and future maintenance costs and would cause other environmental, economic, and social issues of such a magnitude that would likely outweigh the importance of protecting the Section 4(f) properties. Therefore, this alternative, in either option, does not seem reasonable.

Structural: Improved structural capacity rating on a new structure downstream of the current location.

Hydraulic: Improved hydraulic opening at a new location downstream.

Aquatic Passage: Improved aquatic passage at another location downstream.

Crossing location: Impact (removal) to the culvert, a contributing feature, acquisition of additional properties, wetlands impacts, potentially incur yet unidentified archeological / historic features. This option would not satisfy the project objectives.

5. Avoidance Alternatives – The following alternative avoids any use of Section 4(f) properties:

Alternative D -No Build or "Null" Alternative: The "Null" Alternative would result in the continued deterioration of the structure and continuation of the culvert to not provide appropriate hydraulic capacity of the creek. This alternative would not meet the project's stated purpose and need. Therefore, this alternative does not seem to be feasible or prudent as defined in 23 CFR 774.17.

Structural: No improvement

Hydraulic: No improvement

Aquatic Passage: No improvement

Crossing location*:* No change in location.

6. Least Overall Harm Analysis – If the avoidance analysis concludes there is no feasible and prudent avoidance alternative, then FHWA may approve, from among the remaining alternatives that use Section 4(f) property, only the alternative that causes the least overall harm in light of the statute's preservation purpose. The least overall harm to Section 4(f) property is determined by balancing the following factors set forth in 23 CFR 774.3(c)(1)):

(i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);
(ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection.
(iii) The relative significance of each Section 4(f) property.
(iv) The views of the official(s) with jurisdiction over each Section 4(f) property.
(v) The degree to which each alternative meets the purpose and need for the project.
(vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and
(vii) Substantial differences in costs among the alternatives.

By balancing the seven factors, four of which concern the degree of harm to Section 4(f) properties, FHWA will be able to consider all relevant concerns to determine which alternative would cause the least overall harm in light of the statute's preservation purpose.

Alternative	Ability to mitigate adverse impacts to 4(f) property	Severity of harm after mitigation	Relative Significance of each 4(f) property	View of the OWJ (SHPO)	Degree to which purpose and need are met	Magnitude of adverse impacts to non 4(f) resources	Estimated Cost
Alt A. Replacement on alignment	high **	medium	low	MOA, Adverse Impact MOA; culvert and tailrace	high	low	1 million
Alt. B Rehabilitation on alignment	high	low	low	Anticipated Adverse Impact; culvert and tailrace	low	low	1 million
Alt. C Replacement on new alignment	low	medium	medium	Anticipated Adverse Impact; Mill complex, culvert, tailrace	low	high	3 million

*Without substantial rehabilitation or replacement, the crossing will eventually have to be closed. Future costs are those required to provide an adequate (lengthy) detour
** Refer to Section 7 for further detail.

The least overall harm analysis is required when multiple alternatives that use Section 4(f) property remain under consideration. The avoidance alternative (no-build) does not appear feasible or prudent. Of the non-avoidance alternatives only Alternative A replacement appears reasonable while Alternatives B - Rehabilitation and Alternative C - Realignment appear unreasonable.

The final determination of whether there is no feasible and prudent avoidance alternative to the use of land from Section 4(f) properties will be presented in the Final Section 4(f) Evaluation.

7. Measures to Minimize Harm – As mentioned earlier, due to the proximity of the existing mill building and the presence of bedrock that the existing culvert and mill building are built upon, the new culvert will be widened entirely to the west to minimize or avoid impact or disruption to the bedrock and mill building.

Measures to minimize and mitigate adverse effects were developed in consultation with the SHPO and FHWA through the Section 106 process. Due to the impacts to the historic tailrace (outlet and walls), NYSDOT proposed the following mitigation measures, which are listed in the MOA and MOA Amendment (described in the next section):

A. Following demolition of the existing culvert, wingwalls, and northwest quadrant retaining wall, the stones will be salvaged for reuse as stone facing on the new culvert wingwalls as described below.
   1. The stone wall in the northwest quadrant of the culvert will be demolished. A new concrete wingwall will be constructed in this quadrant which will be faced with the salvaged stone so as to mimic the existing appearance (material, size, and pattern) of the stone wall.
   2. In the northeast quadrant of the culvert, where the structure connects with a stone wall, the wall/culvert interface will be reconstructed with concrete and faced with the salvaged stone so as to mimic the existing appearance (material, size, and pattern) of the remaining stone wall.
   3. Formed concrete in the southeast quadrant will be removed. This quadrant of the concrete culvert ties into an exposed bedrock wall of the stream. No stone facing is proposed where the culvert connects to the bedrock wall.
   4. Gabion baskets in the southwest quadrant will be removed. This quadrant ties into a very short stone wall. The salvaged stone will be used to face the new wingwall in this quadrant.

B. The NYSDOT will avoid impacts to the remainder of the stone wall in the northeast quadrant of the culvert, a contributing feature of the National Register Eligible property.

C. Prior to demolition, the NYSDOT shall direct an architectural historian meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) to record the stone walls and culvert. The recordation will follow the SHPO Structure Documentation guidelines using digital photography.
   1. The draft documentation will be prepared in report form and submitted to the NYSDOT for review. The field recordation and submission of draft documentation shall be completed a minimum of 90-days prior to the start of construction.
   2. The NYSDOT will provide the draft documentation to the SHPO and the FHWA for review and comment.
   3. The NYSDOT will distribute the final report to the SHPO and a second original report to an appropriate local repository, identified in consultation with the SHPO. An additional digital copy of the report will be uploaded to the SHPO's Cultural Resource Information System (CRIS).

   This recordation stipulation is complete.

8. Coordination – This Section 4(f) evaluation is being provided for coordination and comment to the official with jurisdiction over the Section 4(f) resource and the Department of the Interior (DOI) (23 CFR Section 774.5). The SHPO is identified as the Official with Jurisdiction.

Through the Section 106 process, coordination between the NYSDOT, FHWA, and SHPO has occurred for the consideration of avoidance alternatives, impacts to the properties, and measures to minimize harm. A Memorandum of Agreement (MOA) between the NYSDOT, FHWA, and SHPO has been signed. The MOA was signed June 29, 2018 and filed under NYSDOT PIN 8009.11.121 (SHPO project 17PR06196). An MOA Amendment was signed June 2, 2022 and filed under NYSDOT PIN 8LC3.11 (SHPO project 17PR06196). These documents are attached.

In accordance with 23 CFR § 774.5(a), this Draft Individual Section 4(f) Evaluation will be provided to the DOI for review and comment.

Once this Draft Individual Section 4(f) Evaluation has been circulated, any identified issues and further coordination will be addressed in the Final Section 4(f) Evaluation.

0 1.25 2.5 5 Miles

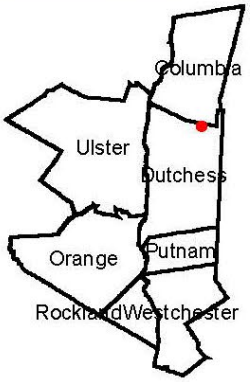
N

SITE LOCATION MAP

Rt. 199 Culvert Replacement
CIN C824084
Town of Pine Plains
Dutchess County

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION 8

PIN	DATE	FIGURE
8009.11	3/8/2018	1



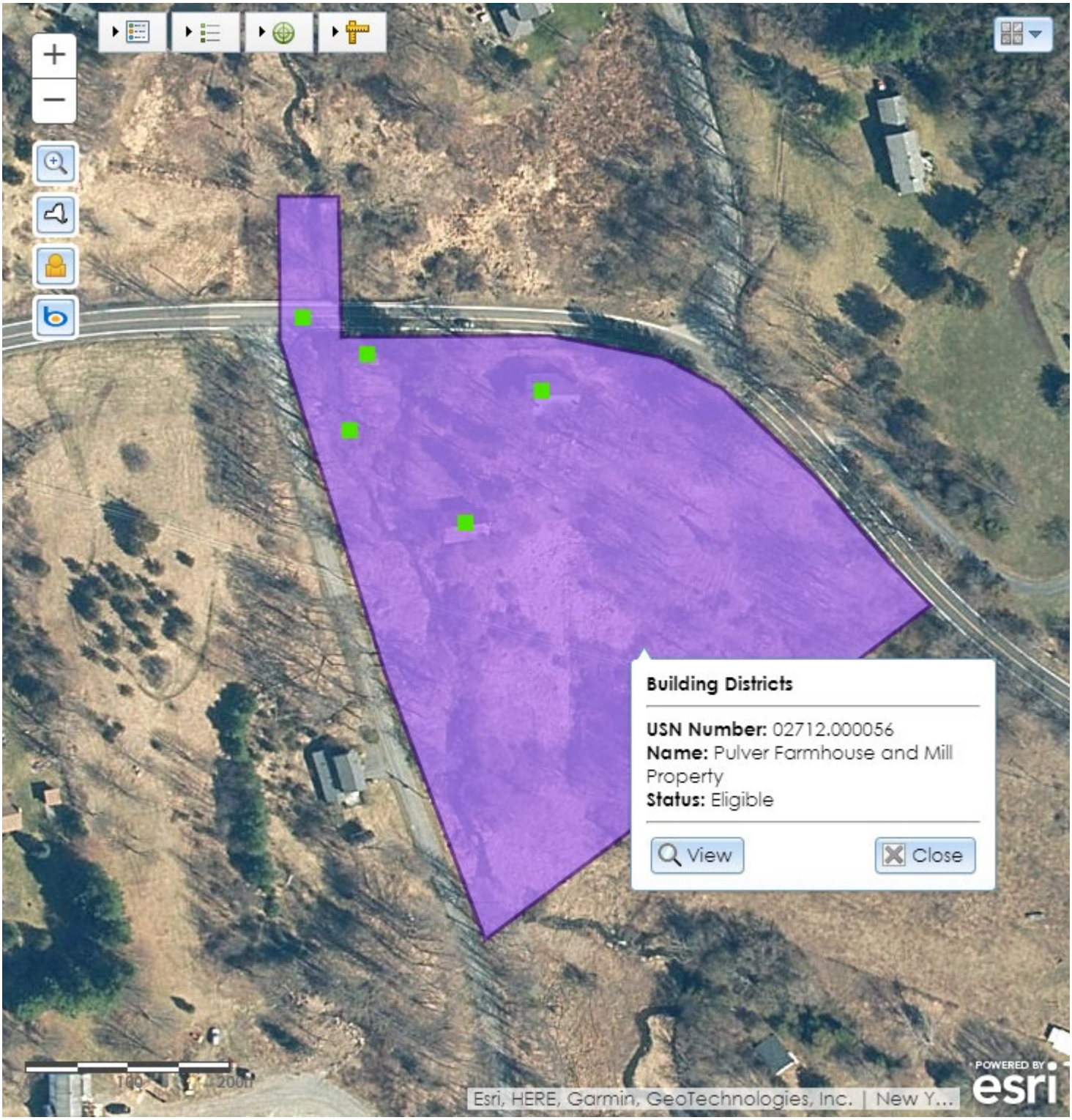
SITE FEATURES

Rt. 199 Culvert Replacement
CIN C824084
Town of Pine Plains
Dutchess County

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION 8

PIN	DATE	FIGURE
8009.11	3/8/2018	2

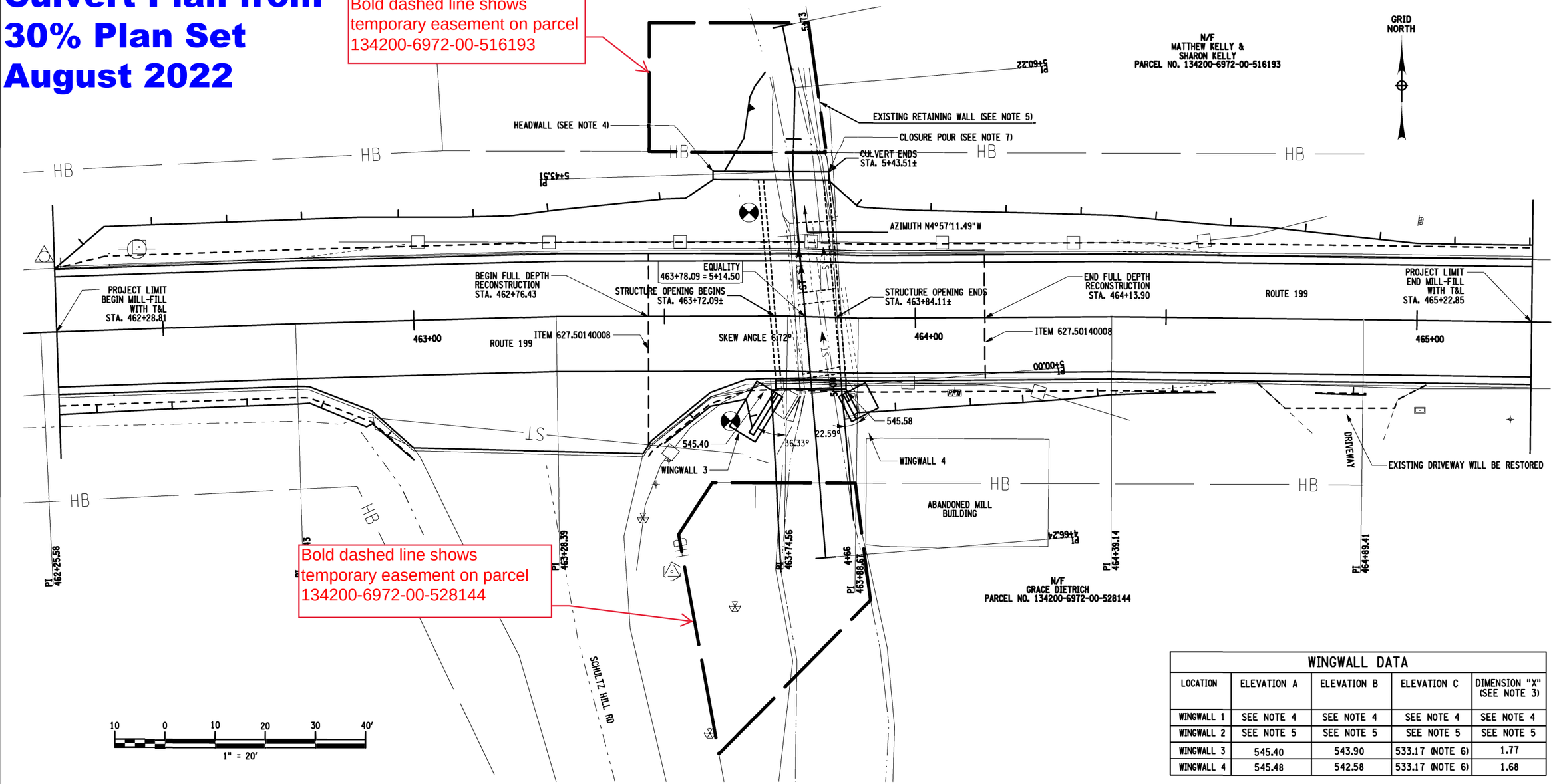
Limits of the Pulver Farmhouse and Mill Property
as viewed in SHPO's Cultural Resource Information System
accessed 12/1/2022



Culvert Plan from 30% Plan Set August 2022

Bold dashed line shows temporary easement on parcel 134200-6972-00-516193

Bold dashed line shows temporary easement on parcel 134200-6972-00-528144



WINGWALL DATA				
LOCATION	ELEVATION A	ELEVATION B	ELEVATION C	DIMENSION "X" (SEE NOTE 3)
WINGWALL 1	SEE NOTE 4	SEE NOTE 4	SEE NOTE 4	SEE NOTE 4
WINGWALL 2	SEE NOTE 5	SEE NOTE 5	SEE NOTE 5	SEE NOTE 5
WINGWALL 3	545.40	543.90	533.17 (NOTE 6)	1.77
WINGWALL 4	545.48	542.58	533.17 (NOTE 6)	1.68

NOTES:

1. STATIONING MATCHES RECORD PLANS (SH 1314); INCREASES WEST TO EAST. SHEET ORIENTED FOR EASE OF USE.
2. LOCATION OF BYPASS TO BE DETERMINED BY CONTRACTOR AND APROVED BY E.I.C. IT MUST REMAIN WITHIN HIGHWAY BOUNDARY AND EASMENTS.
3. DIMENSION "X" WILL BE MEASURED ALONG THE FACE OF THE WINGWALL.
4. WINGWALL 1 TO BE SUBSTITUTED BY LENGTHENED HEADWALL.

NOTES (CONTINUED):

5. WINGWALL 2 TO BE SUBSTITUED BY EXISTING RETAINING WALL.
6. ELEVATION C TO BE DETERMINED LATER DUE TO PRESENCE OF BEDROCK.
7. CLOSURE POUR TO EXISITNG RETAINING WALL IN NE QUADRANT.

CONSTRUCTION HYDRAULIC DATA	
CULVERT	FLOW
LOW FLOW	2 CFS
2 YEAR	90 CFS

HYDRAULIC DATA			
DRAINAGE AREA 1.9 SQ. MILES		BASIC FLOOD	DESIGN FLOOD
RECURRENCY INTERVAL	(YEARS)	100	50
PEAK DISCHARGE	(FT.³/S)	526	431
HIGH WATER ELEVATION AT POINT OF MAX. BACKWATER	EXISTING	546.53	546.21
	PROPOSED	543.78	542.81
AVG. VELOCITY THRU STRUCT. (FT/S)		7.0	6.5

AFFIX SEAL: ON:

ALTERED BY: ON:

DRAFT

AS-BUILT REVISIONS
DESCRIPTION OF ALTERATIONS:

CULVERT REPLACEMENT
NY ROUTE 199
SH #1314 (LAFAYETTEVILLE-PINE PLAINS-WINCHELL, PART 2)
TOWN OF PINE PLAINS
COUNTY: DUTCHESS REGION: 08

PIN 8LC3.11
UTILITY QUALITY LEVEL D

BRIDGES

CULVERTS
c824084

ALL DIMENSIONS IN ft UNLESS OTHERWISE NOTED

CULVERT PLAN
c824084- RT 199 OVER SHEKOMEKO CREEK TRIB

CONTRACT NUMBER

DRAWING NO. GNP-01
SHEET NO.

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

PROJECT MANAGER R. FRUSCIANTE
CHECK C. RITTENDALE
DRAFTING M. PFISTER
CHECK R. FRUSCIANTE
DESIGN C. RITTENDALE
JOB MANAGER C. RITTENDALE
DESIGN SUPERVISOR M. TIANO

FILE NAME = c824084_cph_cul_01.dgn
DATE/TIME = 03-AUG-2022 12:50
USER = crittendale

Looking east at the mill, with the culvert on the left side of the photograph.

View north showing the south end of the culvert. The culvert was built directly on the surrounding bedrock. Note the concrete block on the east side (that was installed after culvert construction) that extends into the culvert.

Interior current view of the culvert, looking north. Note concrete block extends into culvert.

Current view of the opening in the bedrock at the midpoint of the culvert (east wall). This opening, found at the waterline at the midpoint of the east side of culvert (under the concrete block), is the outlet of the tailrace. The tailrace extends to the north side of the culvert, bordered by stone retaining walls.

North side of Rt 199, looking north at the Shekomeko Creek and stone walls of the tailrace on the east and west sides of the creek.

Photo prior to installation of concrete buttress.

Photo during forming of concrete buttress, circa 2015.

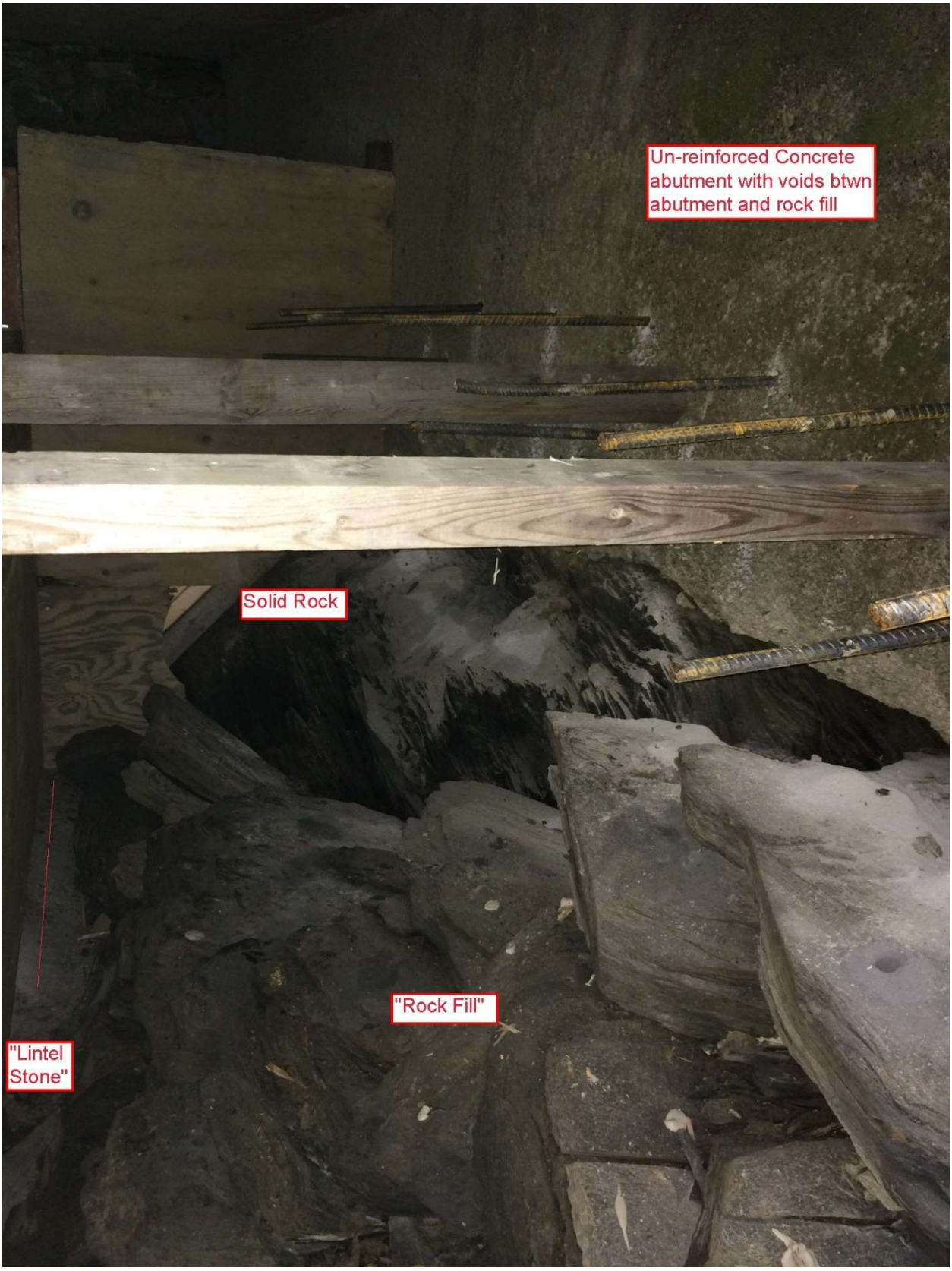


Photo during forming of concrete buttress, circa 2015.

Investigation of tailrace outlet with probing rod. 2/15/2023.

Investigation of tailrace. Probing rod is general line of tailrace. 2/15/2023.

Memorandum of Agreement
June 2018

MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION
THE NEW YORK STATE HISTORIC PRESERVATION OFFICER, AND
THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION
REGARDING THE ROUTE 199 CULVERT REPLACEMENT
TOWN OF PINE PLAINS, DUTCHESS COUNTY, NEW YORK
PIN 8009.11.121/CIN C824084
17PR06196

WHEREAS, the Federal Highway Administration (FHWA) is advancing a federally-funded undertaking in coordination with the New York State Department of Transportation (NYSDOT) for the replacement of the culvert carrying NY Route 199 over an un-named tributary of the Shekomeko Creek (CIN C824084) pursuant to 36 CFR Part 800, the regulation implementing Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108); and

WHEREAS, the undertaking consists of replacing the existing culvert carrying a tributary of Shekomeko Creek under Route 199 and three of the associated wingwalls, by demolishing the existing structure and replacing it at a location slightly westward of the existing culvert; and

WHEREAS, the NYSDOT defined an area of potential effects (APE) (see attached plan) extending approximately 150 feet in length along the tributary of the Shekomeko Creek, and 95 feet east along Route 199, and conducted an architectural survey to identify historic properties within the APE; and

WHEREAS, in consultation with the New York State Historic Preservation Office (SHPO), the Pulver Farm and Mill Complex was determined eligible for the National Register of Historic Places, and hydraulic features associated with the 19th century mill building were identified as contributing features; and

WHEREAS, the FHWA in coordination with the NYSDOT and in consultation with the SHPO, has determined that the undertaking will have an adverse effect on the National Register Eligible Pulver Farm and Mill Complex, due to the proposed removal of the culvert and associated wingwalls/retaining walls, contributing features of the eligible property; and

WHEREAS, in accordance with 36 CFR § 800.6(a)(1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination with specified documentation, and the ACHP has chosen *not to* participate in the consultation pursuant to 36 CFR § 800.6(a)(1)(iii); and

NOW, THEREFORE, the FHWA, NYSDOT, and the SHPO agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

The FHWA in coordination with the NYSDOT shall ensure that the following measures are carried out:

I. RECONSTRUCT WING WALLS WITH STONE FROM DEMOLITION

A. The NYSDOT will reconstruct new concrete wingwalls for the replacement structure using salvaged stone from the existing culvert as follows:
    1. Existing stone will be used to reface the new concrete wingwall in the northwest quadrant of the culvert.
    2. Gabion baskets and formed concrete in the southwest and southeast quadrants, respectively, will be removed. Existing stone will be used to face the new wingwalls in these quadrants to provide a more consistent appearance.

B. The NYSDOT will avoid the stone wall in the northeast quadrant of the culvert, a contributing feature of the National Register eligible property.

II. RECORDATION

Prior to demolition, the NYSDOT shall direct an architectural historian meeting the Secretary of the Interior's Professional Qualification Standards (36 CFR Part 61) to record the stone walls and culvert carrying the tributary of the Shekomeko Creek under Route 199. The recordation will follow the SHPO Structure Documentation guidelines (see attached) using digital photography.

A. The draft documentation will be prepared in report form and submitted to the NYSDOT for review. The field recordation and submission of draft documentation shall be completed a minimum of 90 days prior to the start of construction.

B. The NYSDOT will provide the draft documentation to the SHPO and the FHWA for review and comment.

C. The NYSDOT will distribute the final report to the SHPO and a second original report to an appropriate local repository, identified in consultation with the SHPO. An additional digital copy of the report will be uploaded to the SHPO's Cultural Resource Information System (CRIS).

III. DURATION

This Memorandum of Agreement (MOA) will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, the FHWA may consult with the other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation VI below.

IV. MONITORING AND REPORTING

Each year following the execution of this MOA until it expires or is terminated, the NYSDOT shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in the NYSDOT's efforts to carry out the terms of this MOA.

V. **DISPUTE RESOLUTION**

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, the FHWA shall consult with such party to resolve the objection. If the FHWA determines that such objection cannot be resolved, the FHWA will:

A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide the FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. The FHWA will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, the FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

C. The FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VI. **AMENDMENTS**

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all the signatories is filed with the ACHP.

VII. **TERMINATION**

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other signatories to attempt to develop an amendment per Stipulation VI, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, the FHWA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. The FHWA shall notify the signatories as to the course of action it will pursue.

Attachments:
SHPO Structure Documentation Guidelines
Map showing Area of Potential Effect (APE) and location of the Route 199 culvert

EXECUTION of this MOA by the FHWA, SHPO, and NYSDOT and implementation of its terms evidence that FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORY:

FEDERAL HIGHWAY ADMINISTRATION

_____ Date 06/29/18

Robert Davies, District Engineer, New York Division

EXECUTION of this MOA by the FHWA, SHPO, and NYSDOT and implementation of its terms evidence that FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

SIGNATORY:

NEW YORK STATE HISTORIC PRESERVATION OFFICER

R. Daniel MacKay Date 6-4-2018

R. Daniel MacKay, Deputy Commissioner, State Historic Preservation Officer

EXECUTION of this MOA by the FHWA, SHPO, and NYSDOT and implementation of its terms evidence that FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

INVITED SIGNATORY:

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

_____ Date 6/6/18

Lance MacMillan, Acting Regional Director, Region 8

SHPO Structure Documentation

The culvert carrying the tributary of Shekomeko Creek under Route 199 and associated wingwalls/retaining walls in the Town of Pine Plains, Dutchess County, New York is to have its current conditions documented using the following format:

Photographs

- Photographs submitted as documentation should be clear, well-composed, and provide an accurate visual representation of the property and its significant features. Submit as many photographs as needed to depict the current condition and significant features of the property.
- Digital photographs should be taken using a ten (10) mega pixel or greater digital SLR camera.
- Images should be saved in Tag Image File format (TIFF) or RAW format images. This allows for the best image resolution. RGB color digital TIFFs are preferred.
- Selected images for documentation package should be printed as follows: 1-3, 8 by 10 inch views of the overall facility. Sufficient 5 by 7 inch additional images to fully document the present condition of all elevations the facility (several interior images representing open spaces as well as representative images of typical rooms).
- Several historic images (if available) depicting the facility should be reprinted at the 5 by 7 inch size and included in the documentation.
- Images should be printed on a high quality color printer on compatible high quality photographic paper stock (HP printer use HP Paper, Epson printer use Epson paper)
- Each photograph must be numbered and that number must correspond to the photograph number on a photo log or key. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.
- Write the label information within the white margin on the front of the photograph using an archival photo labeling pen. Label information can also be generated by computer and printed directly in the white margin (no adhesive labels).
- Do not print information on the actual image – use only the photo margin or back of the photograph for labeling.
- At a minimum, photographic labels must include the following information: Photograph number, Name of the Property, County, and State.
- Photos should be placed in archival quality photo sleeves. Two (2) sets of images should be produced.

Historic Narrative

A brief narrative history pertaining to development and construction of the culvert and associated wingwalls/retaining walls should be prepared. Historic period documentation, *if available,* should also be included.

Plans/Drawings

Copies of construction plans, *if available,* should be reproduced and included in the documentation package.

CD Copy

The final report (including images and a PDF version of the Historic Narrative) should be saved on digital media (CD, DVD, or USB thumb drive) and included with each of the two final bound documentation packages.

Report

Two original printed, hard copies of the report are requested: one copy of the report should be mailed to OPRHP, Division for Historic Preservation, PO Box 189, Waterford, NY, 12188 for forwarding to the State Archives. The second original copy of the report should be sent to an appropriate local repository such as a historical society or library. Completed reports are to be submitted no later than *six months* after demolition begins.

~93 METERS/305 FEET
HOUSE #268
< 50 YEARS OLD

RETAINING WALLS

TAIL RACE

NE QUAD

~157 METERS/515 FEET
PULVER FAMILY
CEMETERY

NW QUAD

C824084

TAIL RACE OPENING

NY ROUTE 199

CHASE ROAD

SW QUAD

MILL

SE QUAD

STONE WALL

RUBBLE STONE WALL

SCHULTZ HILL ROAD

HEAD RACE

SLUICE GATE

DAM

3488

WORKSHOP/
CARRIAGE HOUSE/
BARN

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15,16,17 18 19 20 21 22 23 24 25 26 27 28

LEGEND

- PROJECT LIMITS
- WATER
- GUIDE RAIL
- STONE WALL
- STANDING STRUCTURE
- NATIONAL REGISTER ELIGIBLE (NRE)
- DRIVEWAY
- 17 PHOTO ANGLE

N

0 10' 25' 50' 100'

5 0 5 10 15 20 25 m

SCALE 1:500

SHEET 1 OF 1

PIN 8009.11.121

NYS ROUTE 199 OVER TRIBUTARY OF SHEKOMEKO CREEK
C822004

HAMLET OF PULVER'S CORNERS
TOWN OF PLEASANT VALLEY
DUTCHESS COUNTY, NEW YORK
NOVEMBER 2017

DRAWN BY: HEATHER B B CLARK
PHASE I - ARCHITECTURE SURVEY
NEW YORK STATE MUSEUM
CULTURAL RESOURCE SURVEY PROGRAM

Memorandum of Agreement Amendment
June 2022

AMENDMENT TO

MEMORANDUM OF AGREEMENT AMONG THE FEDERAL HIGHWAY ADMINISTRATION, THE NEW YORK STATE HISTORIC PRESERVATION OFFICER, AND THE NEW YORK STATE DEPARTMENT OF TRANSPORTATION

REGARDING THE ROUTE 199 CULVERT REPLACEMENT TOWN OF PINE PLAINS, DUTCHESS COUNTY, NEW YORK

PIN 8009.11.121/8LC3.11, CIN C824084
17PR06196

WHEREAS, the Agreement was executed on June 29, 2018; and

WHEREAS, the culvert replacement project (the Project) progressed under Project Identification Number (PIN) 8009.11.121 was placed on hold subsequent to the execution of the Agreement; and

WHEREAS, the Project is now being progressed under PIN 8LC3.11 with modifications to the originally proposed design; and

WHEREAS, the undertaking was originally described in the Agreement as replacing the existing culvert carrying a tributary of Shekomeko Creek under Route 199 and three of the associated wingwalls, by demolishing the existing structure and replacing it at a location slightly westward of the existing culvert; and

WHEREAS, the undertaking now consists of replacing the existing culvert and all four of the associated wingwalls by demolishing the existing structure and replacing it with a wider structure that is enlarged in the westward direction. In the northwest quadrant, where the culvert connects with a stone wall approximately 30 feet in length that contributes to the National Register eligibility of the Pulver Farm and Mill Complex, the entire stone wall will be removed, new wingwall constructed, and the area regraded. In the northeast quadrant, where the culvert connects with a stone wall approximately 100 feet in length that contributes to the National Register eligibility of the Pulver Farm and Mill Complex, a portion of the stone wall no more than 15 feet long will be removed to accommodate the proposed culvert, and the wall/culvert interface reconstructed. Removal and replacement of the wingwalls in the southeast and southwest quadrants will not impact any features contributing to the National Register eligibility of the Pulver Farm and Mill Complex; and

WHEREAS, the NYSDOT revised the Area of Potential Effect (APE, see attached) and submitted it to the New York State Historic Preservation Office (SHPO) on October 16, 2021 who confirmed on November 9, 2021 that no additional architectural or archaeological surveys were warranted; and

WHEREAS, the Federal Highway Administration (FHWA), in coordination with the NYSDOT and in consultation with the SHPO, determined on November 30, 2021 that the undertaking continues to have an adverse effect on the National Register Eligible

Pulver Farm and Mill Complex due to the proposed removal of the culvert and associated wingwalls/retaining walls, which are contributing features of the eligible property; and

WHEREAS, the FHWA will send a copy of this executed amendment to the Advisory Council on Historic Preservation (ACHP); and

NOW, THEREFORE, in accordance with Section VI of the Agreement, the FHWA, the SHPO, and the NYSDOT agree to amend the Agreement as follows:

1. Amend Stipulation I (titled "RECONSTRUCT WING WALLS WITH STONE FROM DEMOLITION") to be replaced in its entirety with the following:

   A. Following demolition of the existing culvert, wingwalls, and northwest quadrant retaining wall, the stones will be salvaged for reuse as stone facing on the new culvert wingwalls as described below.
      1. The stone wall in the northwest quadrant of the culvert will be demolished. A new concrete wingwall will be constructed in this quadrant which will be faced with the salvaged stone so as to mimic the existing appearance (material, size, and pattern) of the stone wall.
      2. In the northeast quadrant of the culvert, where the structure connects with a stone wall, the wall/culvert interface will be reconstructed with concrete and faced with the salvaged stone so as to mimic the existing appearance (material, size, and pattern) of the remaining stone wall.
      3. Formed concrete in the southeast quadrant will be removed. This quadrant of the concrete culvert ties into an exposed bedrock wall of the stream. No stone facing is proposed where the culvert connects to the bedrock wall.
      4. Gabion baskets in the southwest quadrant will be removed. This quadrant ties into a very short stone wall. The salvaged stone will be used to face the new wingwall in this quadrant.
   B. The NYSDOT will avoid impacts to the remainder of the stone wall in the northeast quadrant of the culvert, a contributing feature of the National Register eligible property.

2. Amend the first sentence of Stipulation III so it reads as follows:

   This MOA will be null and void if its stipulations are not carried out within five (5) years from the date of the execution of this Amendment.

Attachment:

Map showing revised APE and location of the Route 199 culvert, dated 10/22/2021

SIGNATORY:

FEDERAL HIGHWAY ADMINISTRATION

By: ROBERT M DAVIES Digitally signed by ROBERT M DAVIES Date: 2022.06.02 15:29:17 -04'00' Date: _____

Robert M. Davies, Project Delivery Engineer/Team Leader, New York Division

SIGNATORY:

NEW YORK STATE HISTORIC PRESERVATION OFFICE

By: R Daniel Mackay Date: 6/1/2022

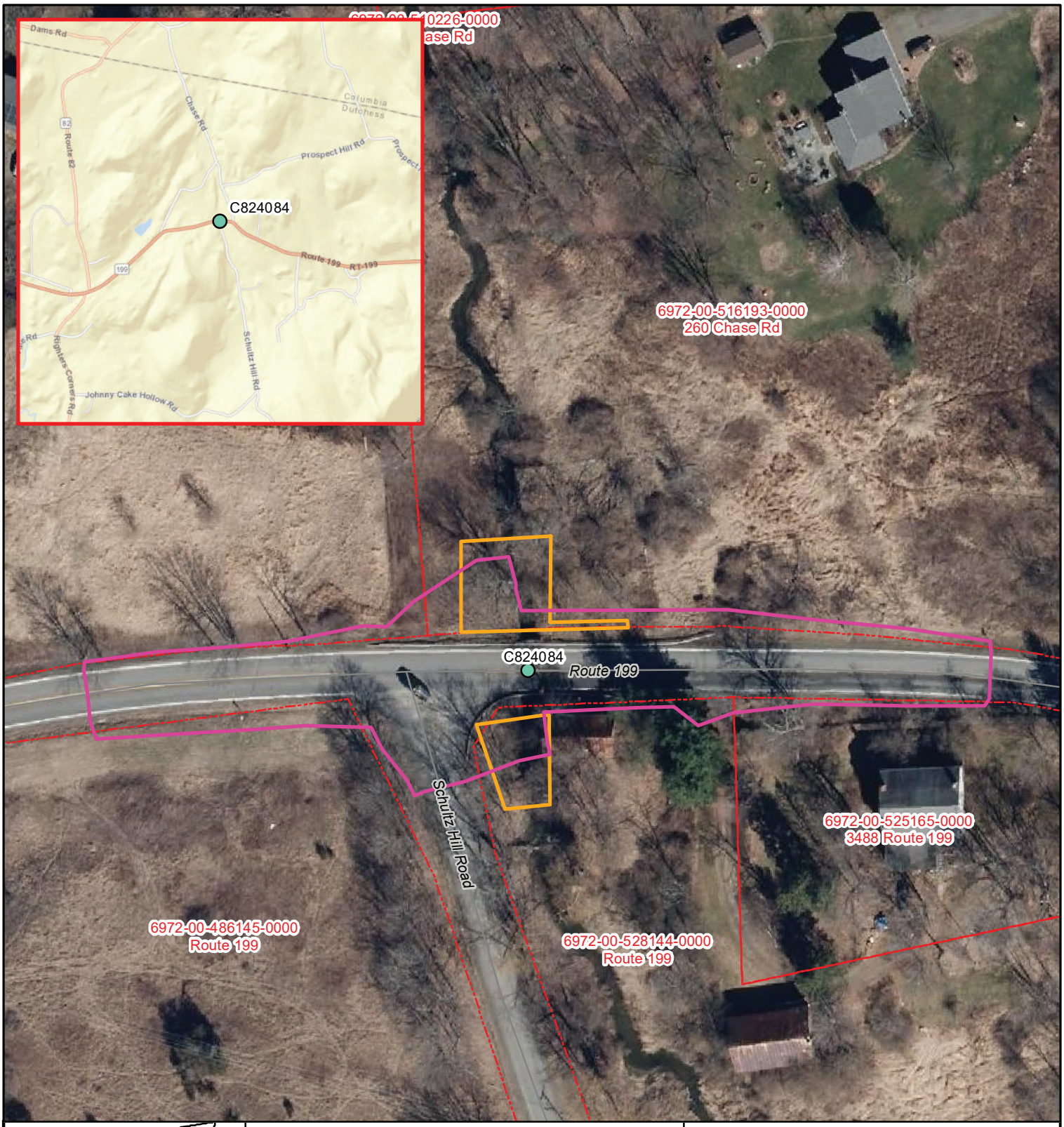
R. Daniel Mackay, Deputy Commissioner, State Historic Preservation Officer

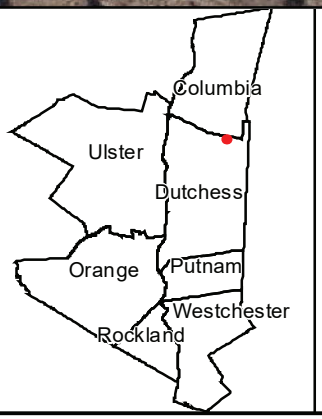
INVITED SIGNATORY:

NEW YORK STATE DEPARTMENT OF TRANSPORTATION

By: Lance MacMillan Date: 4/19/2022

Lance MacMillan, Regional Director, Region 8





Currently-proposed disturbance limits

2017 survey limits

Tax parcels (approx)

1 inch = 75 feet

0 25 50 100 Feet

N

PROJECT LOCATION MAP

RT 199 OVER TRIBUTARY OF SHEKOMEKO CREEK (CIN C824084)
TOWN OF PINE PLAINS
DUTCHESS COUNTY

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION 8

PIN	DATE	FIGURE
8LC3.11	10/22/2021	1